



IR Ingersoll-Rand®

**Ingersoll-Rand Products
for Industrial Supply**

Proven Source. Proven Solutions.



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COMPRESSORS



37
**IMPACT
TOOLS**



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**ASSEMBLY
TOOLS**



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**FINISHING
TOOLS**



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**CONSTRUCTION
TOOLS**



205
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EQUIPMENT**



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IR MOTORS



305
ACCESSORIES

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ONE-STOP REPLACEMENT COMPONENT SHOPPING?

GET IN THE AROZONE.

Where it comes to saving time and transaction expense, one-stop industrial component shopping has never been more critical.

This is where ARO® comes in. By providing the very best in fluid transfer, motion control and air preparation components, you now have the breadth of choice needed to provide a single-source solution to a world of application and replacement demands.

Fluid Transfer Pumps

- Diaphragm air-operated, low (4.6 GPM) to high (145 GPM) flow
- Drum, stand-alone, or complete pre-assembled packages
- Lubrication oil, grease, stand-alone or pre-assembled packages, dispensing accessories
- Air preparation components sizes for every air driven pump

Motion Control Components

- Valves: solenoid and pilot type, manual and mechanical
- Cylinders: disposable, repairable, NFPA
- Accessories: mounts, switches, brackets and more

Air Preparation Components

- Filter/Regulator/Lubricators: 3 distinct sizes/series, trios, piggyback, stand-alone models
- Accessories: safety shut-off valves, wall mounts, manifolds, and more.



ARO® fluid transfer pumps include the world-famous "Unstallable" diaphragm pumps. Preferred by fluid handling professionals for their ice-free and stall-free operation, ARO Diaphragm Pumps deliver reliability with big user savings.



ARO® motion control and air preparation components include the Alpha® valve, Economair® cylinder and Module Air® air prep lines. Routinely used throughout industry, these lines have made their own name for their precision, durability and overall efficiency.

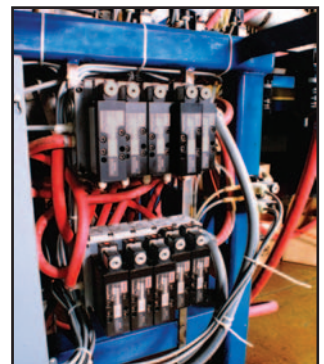




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Light Industrial Air Compressors

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- ▶ Reciprocating
- ▶ Rotary Screw
- ▶ Air Care
- ▶ Desiccant Dryers
- ▶ Air Treatment and
Accessory Equipment

Proven Source. Proven Solutions.



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Putting Air to Work

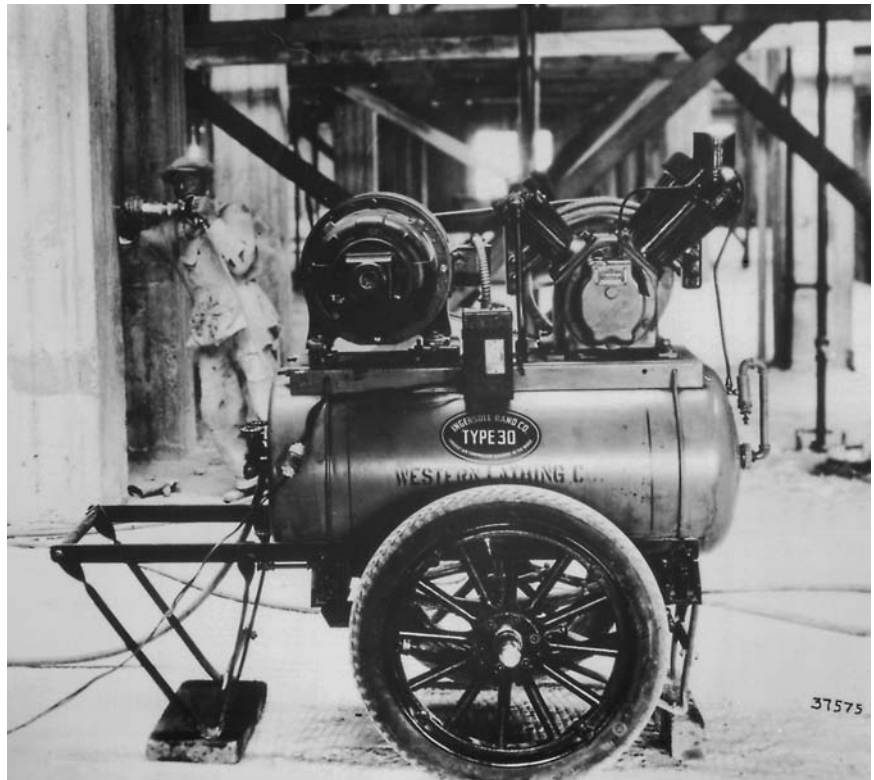
For over 65 years, Ingersoll-Rand has been the world leader in air compressors and air system accessories. We understand the needs and requirements for air systems and the business demands that are faced every day. Increasing energy costs and reduced margins require increased reliability and efficiency from not only your air compressor, but your entire air system.

Simply stated, your air system is much more than an air compressor. It's the complete system – the piping, filters, dryers, drains, hoses, valves and point-of-use tools. And it all needs to work at peak efficiency with the quality and reliability to get the job done.

Solutionizing™ from Ingersoll-Rand

We no longer consider ourselves an “air compressor company.” We are moving far from the typical point-solution for your business to become a provider of complete air solutions that save money from the compressor room all the way to the point-of-use. Ingersoll-Rand is totally focused and dedicated to reducing your operational costs through efficient, reliable and energy-saving products, innovative maintenance services, controls and financing to maximize performance across your entire air system.

No matter the size of your operation, Ingersoll-Rand is the source for complete and cost-effective air solutions for your business.



Solutionizing™

1. Focusing on the energy costs of the fourth largest utility used in industrial facilities (compressed air)
2. Saving our customers money by providing energy-saving products, services and solutions
3. Increasing the reliability, quality and uptime availability of the compressed air systems
4. Packaging products and services to create new and custom solutions that meet market needs.

Light Industrial Air Compressors Complete Air System

Air Solutions

1 | Air Compressors

- 0-40 HP Capacity Models
- Designed For Both Heavy Shop & Light Industrial Use
- Legendary Performance
- Single & 2-Stage Reciprocating & Rotary Models
- Complete Compressor Accessories

2 | Air Dryers

- Refrigerated Models from 15 to 200 CFM
- Lightweight, Compact, Easily Floor or Wall-Mounted
- Easy-to-Read Diagnostic Controls

Air Accessories

3 | Air Filter/Regulators & Lubricators

- Individual units, Combo Trios and Piggyback Models
- Multiple Port Sizes, 1/8" - 1-1/2"
- Modular Compatibilities
- Safety Shut-Offs

4 | Safety Blow Guns

- Meets OSHA Requirements
- Lightweight, Rugged Composite Construction
- Multiple Pressure Range Models
- Complete Gun Accessories

5 | Coil Hose

- 1/4, 3/8, 1/2" ID
- Ideal for Use with Tools, Hoses, Spray Guns, Cylinders
- Self-Retracting for Critical Space Savings
- Chemical-resistant Construction

6 | Balancers

- Multiple Capacity Models: 2-60 lbs.
- Light/ Medium and Heavy Duty Models
- Composite and Metallic Constructed Models
- Ideal for Ergonomic and Productivity Improvement

Industrial Tools

7 | Impact Wrenches

- Complete Product Selection Available.
- Super, Heavy, & Standard Duty Rankings Match Any Requirement
- Twin-Hammer, Jumbo-Hammer, & Ball & Cam Mechanisms
- Pistol/Inside Grip/Outside Grip/Straight Configuration: Air/Electric
- 3/8" to 1" Square Drives

8 | Drills

- Production & Precision Air Drills: Speed, Accuracy, & Power From 0.25-0.75 hp
- Pistol, In-line, & Angle Models
- Spindles & Chucks To Meet Any Drilling Application
- Ergonomic Design

9 | Angle Wrenches

- Direct Drive & Adjustable Cushion Models
- Standard & High-Capacity Lines
- 7 Model Series, Including Precision Shut-Off & High-Capacity Reversible Shut-Off Types
- Multiple Torque Ranges Up To 265 Nm

10 | Sanders

- Full Range Of Models
- Ergonomics, Power, & Speed
- Non-Vac, Vac-Ready, & Venturi-Vac Models Available
- New Self-Generated Vacuum System Option

11 | Die Grinders

- Power, Comfort, & Versatility
- Full Line Of Models
- Cut/Retard/Timer
- Ergonomic Design

12 | Screwdrivers

- Fastening Solutions From 0.25 in.-lb To 450 Nm
- Ergonomic Design
- Superior Torque, Speed, & Accuracy
- Four Clutch Types
- Available In Air & Electric

Industrial Lifting Equipment

13 | Hoists

- Broad Range: Manual, Air, Electric & Gas
- Manual: Rope, Wire & Chain Styles
- Air: Classic, Ultra-Low & Lube-Free (USDA-Approved)
- Electric: Quantum & Ultra-Low
- UL and C-UL Listed

Providing integrated solutions with a proven portfolio of industrial products.

2

Solutionizing— The Complete Compressed Air System

A complete compressed air system is much more than an air compressor. It's the complete system – the piping, filters, dryers, drains, hoses, valves and point-of-use tools. And it all needs to work at peak efficiency with the quality and reliability to get the job done.

Reciprocating or Rotary Compressor

Designed to efficiently compress air from an initial intake pressure to a higher pressure, providing high-quality air with minimal maintenance.

Tank (Air Receiver)

Used for the storage of compressed air, also provides additional compressed air cooling, aiding in the removal of moisture.

Aftercooler

Beltguard-mounted aftercooler utilizes directional airflow from compressor's flywheel, discharged air from compressor is cooled prior to entering air receiver. Water vapor condenses into a liquid within receiver. Stand-alone models with moisture separator available as well. An aftercooler is essential if a compressed air dryer is to be installed.

Electronic Drain Valve (EDV 2000 or ADV Kit)

Allows liquid to be removed from receiver. Reliable, low-cost alternative to manual draining. Proper draining of system components extends the life of tools, valves and other compressed air equipment, reducing overall maintenance costs.

Refrigerated Air Dryer

Cools compressed air by mechanical refrigeration. Economical way to remove harmful moisture from a compressed air system. Models include DryStar, ThermoStar, Thermal Mass or High Temperature (HTD).

Separators

Designed to separate compressed oil from condensate.

Coalescing Filters

General-purpose or high-efficiency filters designed to remove oil, water, mists and liquids from compressed air.

Filters, Regulators & Lubricators

Proper conditioning of compressed air is essential to ensure maximum performance and service life for pneumatic power tools and equipment.

Filters

Designed to remove airborne solid and liquid contaminants which may plug small orifices and hinder performance, or cause excessive wear and premature equipment failure.

Regulators

Provide controlled, consistent air pressure as required for specific pneumatic equipment when connected to the complete compressed air system.

Lubricators

Ensure that pneumatic devices receive the required lubrication to maintain operating performance, reduce wear and prolong service life.

SimplAir® SL Compressed Air Piping

Designed to provide an efficient, low-cost method of installing air compressor systems using bendable tubes and a unique round aluminum extrusion, anodized to prevent corrosion.

Point-of-Use Provider (PUP) Filter

3-in-1 solution for the bottom of a compressed air drop. In one compact unit, the PUP is a coalescing filter, an automatic drain and a manifold for multiple distribution.

Point-of-Use Provider Manifold

Provides a simple, cost-effective solution to the untidy array of tees and elbows normally used to create outlets.

Air Hose

Premium IR rubber air hose, specifically designed for heavy-duty applications.

Spring Rewind Reels

Single hose, spring rewind reels have a narrow frame and compact mounting base. A heavy-duty spring motor provides self-contained rewind power. Reels can hold 50 feet of 3/8-inch or 1/2-inch hose.

Quick Release Couplings

Hardened wear points and load-bearing areas and precision-machined surfaces for durability in the toughest applications.

Ball Valves

Forged body ball valve provides extended service life. Full flow design assures maximum system efficiency.

Air Tools

Complete line of Ingersoll-Rand automotive and industrial tools are available.

Light Industrial Air Compressors

Compressor Selection

Questions to Answer

What will compressed air be used for?

The type of work being performed is probably the most important factor in selecting a compressor.

Where will compressor be located?

Indoors: heated environment to prevent air lines from freezing while providing sufficient ventilation to cool compressor where elevated temperatures may exist. Outdoors: protection against ambient environment and provisions for cold-weather starting.

How much pressure (psi) is needed?

Compressor discharge pressure (psi: pounds per square inch) must exceed the psi requirement of all pneumatic tools or equipment being operated.

How much air flow (cfm) is needed?

cfm (cubic feet per minute) is the measure of air flow the compressor can create. cfm is stated in two different forms: piston displacement (PD) or actual cubic feet per minute (Acfm). Always consider Acfm, as it reflects the amount of useable compressed air.

What horsepower is required?

Horsepower is directly proportional to the cfm rating of the compressor. The higher the horsepower, the more air (cfm) the compressor can deliver. Do not rely solely on horsepower when specifying or selecting an air compressor.

What type and size tank is needed?

The tank provides a reserve of air to meet peak flow and pressure demands. The larger the receiver, the more reserve available. Tanks are available in vertical and horizontal designs; configuration is dependent upon available floor space.

What are the electrical requirements?

Identify available incoming electrical service before specifying an air compressor. Always have a qualified electrician review electrical requirements.

Air Compressor Selection Guide

Class	Environment	Duty/Design Life	Air Power	Technology	Configuration	Compressor
Home Use	Do-It-Yourself Home/Yard Hobbies/Projects	Light Duty Occasional Use Moderate Life	Up to 6 cfm 125 psi Max.	Reciprocating Direct Drive Single-Stage	Small Tank Electric Motor Portable	Reciprocating Twin Stack
Contractor	Sub-Contractors Job Site or Shop Roofing, Framing Maintenance/Repair	Intermittent Duty Heavy Use Long Life	Up to 14.3 cfm 135 psi Max.-single stage 175 psi Max.-two stage	Reciprocating Oil Lubricated Belt or Direct Drive Single-Stage	Small-Moderate Tank Gas or Electric Portable	Reciprocating Twin Stack Wheelbarrow Air Sled
Professional	Mechanics, Pros Shops/Garages Light Automotive Commercial/Trades	Intermittent to Continuous Duty Heavy Use Extended Life	Up to 18.1 cfm 135 psi Max.	Reciprocating Oil Lubricated Belt Drive Single-Stage	Large Tank 230V Motor Stationary	Reciprocating Garage Mate SS3L3 SS5L5
Industrial	Shop Operators Light Industrial Heavy Automotive – Body Shops, etc.	Continuous Duty Heavy Use Extended Life	Up to 100 cfm 175 psi Max.	Reciprocating Oil Lubricated Belt Drive Two-Stage	Large Tank 200/230/460/575V Motor Stationary	Reciprocating Type-30 Premier TS Series
	Shop Operators Light Industrial Heavy Automotive Process/Operations	Continuous Duty Heavy Use Extended Life High Efficiency	Up to 194 cfm 200 psi Max.	Rotary	Large Tank 200/230/460/575V Motor Stationary	Rotary SSR Series SE Series SSR UP-Series

Know Your Power Source

All residential and commercial buildings have 115V/60Hz power.

Many residential, commercial and industrial buildings have 230V/single phase/60Hz power, but this should be confirmed.

When electric power is not available, purchase a gas engine driven compressor. Do not use a gas engine compressor indoors.

When you select an Ingersoll-Rand reciprocating air compressor, you've selected a compressor that is world renowned for its quality and reliability. Engineered for high-performance, reliability and efficiency, Ingersoll-Rand reciprocating compressors provide easy operation, low maintenance, and a 100% duty cycle for a reliable air supply.

Single- and Two-Stage Air Compressors

Single-Stage:

Single-stage models compress air to a final pressure in one stroke. They generally are used for pressures between 70 psi and 90 psi (maximum pressure to 135 psi).

Ingersoll-Rand Single-Stage Design

- **Oversized belt wheel** provides reliable design and cooler operation
- **Durable cast-iron cylinders**, heads and frame are designed for continuous operation and extended pump life
- **Extended service intervals** – IR synthetic lubricant provides 2,000-hour oil change intervals (four times longer than mineral based lubricants)
- **High-efficiency stainless steel finger valves** are simple, efficient and easy to maintain
- **Manual thermal overload protection** of the motor. No starter required
- **Sight glass** makes it easy to check oil level
- **Provides 135 psi operation**



Two-Stage:

A two-stage model (1) compresses air to an intermediate pressure in the first stage, (2) removes heat of compression through an intercooler, and (3) compresses air to a final pressure in a second compression stage. Two-stage compressors are more efficient and are generally used for pressures above 100 psi (maximum pressure to 175 psi).

Ingersoll-Rand Two-Stage Design

- **Removable cylinders** are easy to repair, provide enhanced cooling
- **Durable cast-iron cylinders**, heads and frame are designed for continuous operation and extended pump life
- **15,000 hour extended pump life**
- **Finned copper intercooler** runs cool in even the most demanding conditions
- **Traditional bicycle crankshaft with wrist pin bearings**
- **Splash lubrication** is simple, reliable, and does not require an oil pump, making it inexpensive and easy to maintain
- **Provides 175 psi operation**

Light Industrial Air Compressors

Reciprocating Air Compressors

Portable Twin Stack

The Ingersoll-Rand Twin Stack hand-carry air compressor is designed to provide power, durability and portability on the job site. From interior trim and finish, to roofing and decking, framing and sheathing or heavier construction applications, the Twin Stack can do the job. Built to last, this oil-lube compressor with durable cast-iron cylinders is designed for the toughest 100% continuous duty applications. The Twin Stack includes a 1/4-inch universal coupler, conveniently mounted regulator and pressure gauge, 4.5-gallon twin tanks, All Season Select lubricant and a power cord.

- Lightweight and compact hand-carry size
- Durable cast-iron construction
- Extended pump life – double the life of similar oil-free products



Model	hp	Voltage	Tank	Acfm @ 40 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
DD2T2	2	115-1-60	4.5-gal twin	5.3	125	3/8	21 x 15 x 17	58

Portable Garage Mate

Designed for professionals and serious do-it-yourselfers, the versatile Garage Mate is ideal for the home, shop or job site. Delivering maximum air, the Garage Mate can power impact guns, ratchets, grinders, drills, nailers, paint sprayers, sanders and more. The Garage Mate features a cast-iron, oil-lubricated pump for solid, reliable performance. Belt-driven for quiet operation (75-80dBA), all models are equipped with a pressure switch, pressure gauge, regulator, safety valve, manual drain and six-foot power cord.

- 100% continuous duty for tough applications
- Durable cast-iron construction
- Quiet operation: 75-80dBA



Model	Peak hp	Running hp	Voltage	Tank	Acfm @ 90 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
SS3R2-GM	4	2	115-1-60	24-gal vert	5.7	135	3/8	23 x 25 x 51	185
SS3F2-GM	4	2	115-1-60	30-gal hor	5.7	135	3/8	46 x 25 x 35	185

Air power (cfm), not horsepower (hp), defines compressor performance. Not all horsepower is rated equally. Ingersoll-Rand rates motors at applied load or running hp, while many competitive products are rated at peak hp (higher hp but not necessarily more delivered air/cfm).

Portable Wheelbarrow

Ingersoll-Rand electric and gas engine driven Wheelbarrow air compressors are lightweight with a low-profile design providing maximum maneuverability on the job site. Built to last, these cast-iron, oil-lube compressors are designed for the toughest 100% continuous duty applications. Includes pressure switch, regulator and gauge, two quick disconnects to power multiple tools and twin 8-gallon capacity tanks. Electric model features a belt drive to provide quiet operation (76dBA), a six-foot power cord and dual voltage (2 hp model only). Where electric power is not readily available, the gas-driven model is powered by either a 5.5 hp Honda or Briggs & Stratton high-performance engine.

- Designed for maximum maneuverability on the job site
- Durable cast-iron construction
- 100% continuous duty for tough applications
- Includes two quick disconnects to power multiple tools

Electric

Model	Peak hp	Running hp	Voltage	Tank	Acfm @ 90 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight
SS3J2-WB	5	2	115/230-1-60	8-gal twin	5.7	135	3/8	43 x 18 x 25	175
SS3J3-WB	7.9	3	230-1-60	8-gal twin	11.3	135	3/8	43 x 18 x 25	175

Air power (cfm), not horsepower (hp), defines compressor performance. Not all horsepower is rated equally. Ingersoll-Rand rates motors at applied load or running hp, while many competitive products are rated at peak hp (higher hp but not necessarily more delivered air/cfm).

Gas-Driven

Model	Running hp	Engine	Tank	Acfm @ 90 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
SS3J5.5GB-WB	5.5	Briggs & Stratton	8-gal twin	11.8	135	3/8	43 x 18 x 25	175
SS3J5.5GH-WB	5.5	Honda	8-gal twin	11.8	135	3/8	43 x 18 x 25	175

Air power (cfm), not horsepower (hp), defines compressor performance. Not all horsepower is rated equally. Ingersoll-Rand rates motors at applied load or running hp, while many competitive products are rated at peak hp (higher hp but not necessarily more delivered air/cfm).



Electric



Gas-Driven

Light Industrial Air Compressors

Reciprocating Air Compressors

Portable Air Sled

Ingersoll-Rand electric and gas engine driven Air Sled compressors are ergonomically designed, offering a rugged frame support to meet the rigorous demands of field handling. Whether base-mounted or fully packaged, your Air Sled can be customized to fit your application. Built to last, these cast-iron, oil-lube compressors are designed for the toughest applications. Base package includes pressure gauge, manual drain, two quick disconnects to power multiple tools and twin 8-gallon capacity tanks. Electric model is belt-driven to provide quiet operation (76dBA) and includes a six-foot power cord. Where electric power is not readily available, the gas-driven model is powered by a premium Honda engine. Available options include regulation panel, cart assembly, hose rack and weatherproof cover.

- Ergonomically designed with rugged frame support to meet the rigorous demands of field handling
- Durable cast-iron construction
- Two quick disconnects to power multiple tools

Electric

Model	Compressor Pump	hp	Voltage	Tank	Acfm @ 90 psi	Max psi	NPT Outlet (in)	Base Package Dimensions LxWxH (in)	Net Weight (lbs)
SS3J3-AS	Single-Stage	3	230-1-60	8-gal twin	11.3	135	3/8	38 x 18 x 26	174
2340S5-AS	Two-Stage	5	230-1-60	8-gal twin	14.3	175	1/2	38 x 21 x 32	306

Gas-Driven

Model	Compressor Pump	hp	Engine	Tank	Acfm @ 90 psi	Max psi	NPT Outlet (in)	Base Package Dimensions LxWxH (in)	Net Weight (lbs)
SS3J5.5GH-AS	Single-Stage	5.5	Honda	8-gal twin	11.8	135	3/8	38 x 19 x 27	177
2340S9GH-AS	Two-Stage	9	Honda	8-gal twin	14.3	175	1/2	42 x 21 x 32	312

Available Options

Description	Item Number
Cart Assembly (two-wheel cart assembly and handle)	282-010
Regulation Panel	283-010
Hose Rack	281-010
Weatherproof Cover	280-010
Lifting Slings	282-020

All options ship loose.



Electric – Single-Stage
(Base package plus cart assembly, regulation panel and hose rack options)



Gas-Driven – Single-Stage
(Standard base package)



Gas-Driven – Two-Stage
(Base package plus cart assembly, regulation panel and hose rack options)

Portable Type-30 TS-Series Two-Stage Gasoline Engine Driven

Ingersoll-Rand Type-30 TS-Series Two-Stage compressors meet the needs of fleet or field service applications. Featuring truck-bed mounting, the TS-Series includes electronic ignition, idle engine control, a 30-gallon ASME receiver, an OSHA approved, fully enclosed belt guard and a weather-resistant powder-coat paint finish.

- Durable cast-iron construction
- 175 psi maximum operating pressure
- Extended pump life



Model	hp	Engine	Tank	Acfm @ 175 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
TS7F13GH	13	Honda	30-gal hor	19	175	1/2	45 x 19 x 40	400
TS7F12.5G	12.5	Koler	30-gal hor	24	175	1/2	45 x 18 x 40	400
TS7F11.5GKA	11.5	Kawasaki	30-gal hor	25.1	175	1/2	45 x 18 x 40	400

Stationary Electric-Driven Single-Stage

Our Single-Stage electric air compressors are ideal for most anyone from the do-it-yourselfer, to the professional air compressor user. Each compressor features durable cast-iron construction, 100% continuous duty cycle for the toughest applications and extended pump life for years of trouble-free service.

- Industrial quality design
- Durable cast-iron construction
- 135 psi maximum operating pressure



Model	Peak Running hp	hp	Voltage	Tank	Acfm @ 40 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
SS3L3	7.9	3	230-1-60	60-gal vert	11.3	135	3/8	20 x 23 x 66	300
SS5L5	11.8	5	230-1-60	60-gal vert	18.1	135	1/2	20 x 30 x 71	310

Air power (cfm), not horsepower (hp), defines compressor performance. Not all horsepower is rated equally. Ingersoll-Rand rates motors at applied load or running hp, while many competitive products are rated at peak hp (higher hp but not necessarily more delivered air/cfm).

Light Industrial Air Compressors

Reciprocating Air Compressors

Stationary Electric-Driven Two-Stage – Type-30 TS Series

Designed for heavy shop or industrial use, Ingersoll-Rand Two-Stage electric air compressors provide the quality and performance that are ideal for most applications and users, including: automotive service and body shops; fleet maintenance; machine shops; production and manufacturing lines; construction; wood working shops; dry cleaners; car washes; maintenance/repair shops and farms.

Value Packaged

Economically priced, Ingersoll-Rand Two-Stage Value Packaged air compressors are perfect for automotive, commercial or light industrial applications where a dependable air supply is required. The value package includes the added features of a mounted and wired starter, automatic start/stop pressure switch control, oil sight glass and ASME coded tank.

- Durable cast-iron, two-stage design offers extended pump life for years of trouble-free service
- 175 psi maximum operating pressure
- 100% continuous duty for tough applications
- Automatic start/stop control/pressure switch operation
- Includes motor starter, oil sight glass (10-15 hp only), manual drain and ASME tank



Model	hp	Tank	Acfm @ 175 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
TS4L5	5	60-gal vert	15.5	175	1/2	20 x 30 x 71	400
TS4N5	5	80-gal vert	15.5	175	1/2	31 x 26 x 73	490
TS51N5V	5	80-gal vert	17	175	1/2	31 x 26 x 73	550
TS7N7.5V	7.5	80-gal vert	25	175	3/4	39 x 25 x 75	550
TS10E10V	10	120-gal hor	34	175	3/4	72 x 28 x 48	650
TS15E15V	15	120-gal hor	50	175	1	72 x 28 x 51	700

Available voltages: 230/1/60 (5-7.5 hp only), 200/3/60, 230/3/60, 460/3/60, 575/3/60.
Please specify voltage required when placing your order.

Fully Packaged

Ingersoll-Rand high-performance Two-Stage Fully Packaged air compressors are designed for the most demanding automotive, heavy-duty commercial or industrial applications where a dependable air supply is essential. Each Fully Packaged air compressor comes complete with a pre-installed magnetic motor starter, air-cooled aftercooler, and an electric drain valve to remove harmful moisture, plus the added protection of a low oil level shutdown switch.



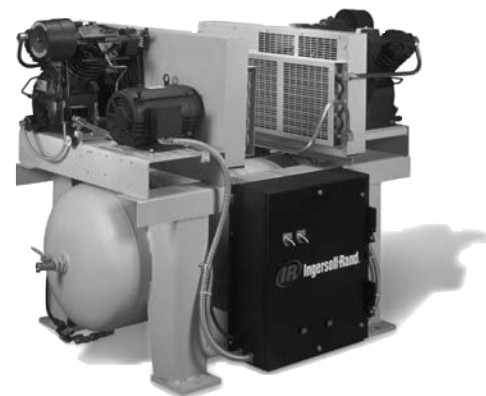
- Durable cast-iron, two-stage design offers extended pump life for years of trouble-free service
- 175 psi maximum operating pressure
- 100% continuous duty for tough applications
- Includes magnetic motor starter, air-cooled aftercooler, electronic drain valve, low oil level shutdown switch and ASME tank

Model	hp	Tank	Acfm @ 175 psi	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
TS51N5-FP	5	80-gal vert	17	175	1/2	33 x 26 x 73	550
TS7N7.5-FP	7.5	80-gal vert	25	175	3/4	41 x 25 x 75	550
TS10E10-FP	10	120-gal hor	34	175	3/4	72 x 28 x 48	650
TS15E15-FP	15	120-gal hor	50	175	1	72 x 34 x 51	700

Available voltages: 230/1/60 (5-7.5 hp only), 200/3/60, 230/3/60, 460/3/60, 575/3/60.
 Please specify voltage required when placing your order.

Stationary Electric-Driven Duplex

Ingersoll-Rand Duplex compressors offer two individual compressor pumps and motors mounted on a single unit, providing 100% built-in backup or additional air power for those larger capacity jobs. The Duplex is ideal in applications where available power does not allow for a single larger compressor.



- 24-hour continuous duty cycle for the toughest applications
- Durable cast-iron construction
- 100% built-in backup or additional air for larger capacity jobs

Model	hp	Tank	Acfm @ 175 psi per Pump	Max psi	NPT Outlet (in)	Package Dimensions LxWxH (in)	Net Weight (lbs)
2-2475D5	5	80-gal hor	16.8	175	3/4	69 x 58 x 48	950
2-2475E5	5	120-gal hor	16.8	175	3/4	77 x 49 x 48	1300
2-2475E7.5	7.5	120-gal hor	24.3	175	3/4	77 x 49 x 48	1350
2-2545E10	10	120-gal hor	35	175	3/4	81 x 52 x 62	1560
2-2545A10	10	240-gal hor	35	175	3/4	94 x 52 x 67	1885
2-7100E15	15	120-gal hor	50	175	1	80 x 52 x 62	1960
2-7100A15	15	240-gal hor	50	175	1	93 x 51 x 67	2285

Available voltages: 230/1/60 (5-7.5 hp only), 200/3/60, 230/3/60, 460/3/60, 575/3/60.
 Please specify voltage required when placing your order.
 Duplex packages are available through 30 hp.

Light Industrial Air Compressors

Reciprocating Air Compressors

Start-Up Kits

Start-Up Kits include all the parts needed to maintain your compressor for one year, plus the added protection of extended warranty coverage.

Kit Includes:

- All Season Select® lubricant – a synthetic, all-temperature blend designed to increase efficiency, reduce wear and prevent carbon buildup
- Replacement filter elements
- Engine oil and filters are also included in kits for gas-driven compressors
- Two-year extended warranty (pump only)

Electric Start-Up Kits

Compressor Model	CCN
2340, 2475	32305880
2545, 7100, 2545N7.5-PS, 7100E10-PS	32305898
15T, 3000	32305906
2000-PS	20102877
SS3F2-GM, SS3J2-WB, SS3L3, SS3R2-GM, SS3J3-AS, SS3J3-WB, SS3R2-GM	97338099
SS5L5	20100251
TS5 Unenclosed	32332827
UP6R-5	85584324
TS10 Unenclosed	85582740
UP6R-10	38029856
TS7	22180145
TS15	22180129
UP6R-7	22180152
UP6R-15	22180137
TS-7 Honda	22235337
TS-7 Kohler	2223539

Ingersoll-Rand also offers extended warranties up to five years. In order to qualify, compressors must have started and run continuously on All Season Select® lubricant.

Gas Start-Up Kits

Compressor Model	CCN
2475F11GH (Honda)	32312936
2475F11.5 GKA (Kawasaki)	32498511
2475F12.5 G (Kohler)	32305872
2475F15GIR (IR)	49816150
SS3J5.5GB-WB (Briggs & Stratton)	97338610
SS3J5.5GH-WB (Honda)	97339501
SS3J5.5GH-AS (Honda)	97339501
2340S9GH-AS (Honda)	20103420



Maintenance Kits

Ingersoll-Rand T30 Maintenance Kits are designed to offer all the parts necessary to perform factory recommended annual maintenance on your Type-30 reciprocating compressor. Conveniently packaged, kits offer a 20-30% savings over individual parts purchase.

Kit Includes:

- One fill of All Season Select® lubricant
- Air filter element(s) – enough for one replacement
- All replacement gaskets and O-rings necessary to clean and inspect valves
- Easy-off “Maintenance Reminder” sticker – allows you to check when the next service should be done



Compressor Model	CCN
2340	38485314
2475	38485330
2545	38485298
7100*	38485322
3000*	38485306
TS5 Unenclosed	38029831
UP6R-5	38029849
TS10 Unenclosed	38029864
UP6R-10	38029872
TS-7	22222020
TS-15	22222046
UP6R-7	22222012
UP6R-15	22222038

Ingersoll-Rand also offers extended warranties up to five years. In order to qualify, compressors must have started and run continuously on All Season Select® lubricant.

**Discharge safety relief included.*

Light Industrial Air Compressors

Reciprocating Air Compressors

Overhaul Kits

Overhaul Kits offer an inexpensive alternative to buying a new or replacement compressor pump and include all the parts needed to rebuild your Type-30 compressor pump.

Kit Includes:

- Ring/gasket kits
- Valve/gasket kits
- Shaft seal kits
- Connecting rod/bearing kits
- Filter element



Compressor Model	CCN
2340	32319451
2475	32319469
2545	32319477
7100	32319485
3000	32319493
2000-PS	20103115
TS5	85581486
TS10	85582427
TS7	22185440
TS15	22185128
UP6R-5	22222053
UP6R-7	22191639
UP6R-10	22191738
UP6R-15	22191647

An extended one-year parts warranty is available if the overhaul is performed by a qualified Ingersoll-Rand technician using genuine Ingersoll-Rand parts and lubricant.

All Season Select® Lubricant

All Season Select® lubricant is a synthetic, all-temperature blend that is designed to increase efficiency, reduce wear and prevent carbon buildup. It performs four times longer than petroleum-based lubricants. Recommended 2,000 hours of service between lubricant change-out under normal operating conditions.



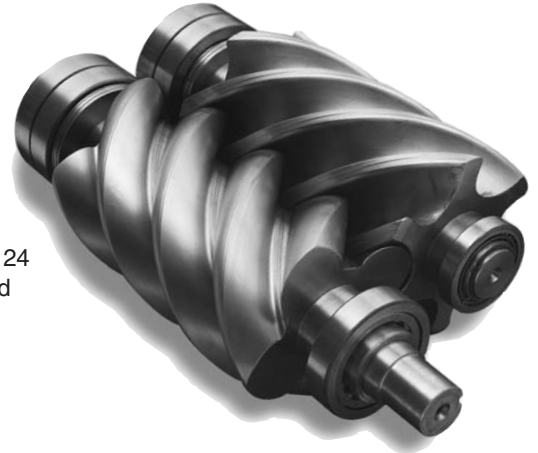
Coolant/Lubricant	Base Stock	Viscosity Index	Hours	ISO Viscosity Grade	SAE Grade
All Season Select®	Diester	128	2,000	68/150	20W40

All Season Select®	CCN
Box of quarts (12) 1-qt	32318883
(4) 1-gal	32319766

When you choose an Ingersoll-Rand rotary screw air compressor, you've selected the compressor rated highest in the world for its quality and reliability. Engineered for high-performance, reliability and efficiency, Ingersoll-Rand rotary screw compressors provide easy operation, low maintenance and a reliable air supply.

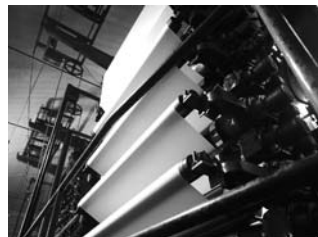
Rotary Compressor

The rotary screw air compressor has become the most popular source of compressed air for industrial applications. A major reason is its simple compression concept. Air enters a sealed chamber where it is trapped between two contra-rotating rotors. As the rotors intermesh, they reduce the volume of trapped air and deliver it compressed to the proper pressure level. This simple compression concept, with continuous contact cooling, allows the rotary screw air compressor to operate with temperatures approximately one half that generated by a reciprocating compressor. This lower temperature enables the rotary screw air compressor to operate in a "fully loaded" continuous duty cycle 24 hours per day, 365 days per year, if necessary. Its ability to operate for extended periods of time makes the rotary compressor ideal for demanding industrial applications.



Why Rotary?

- Designed to provide pulsation-free air 24 hours a day
- 100% continuous duty
- Quiet operation
- Energy efficient at full load
- Extended service intervals
- Reliable long life
- Improved air quality



Light Industrial Air Compressors

Rotary Screw Air Compressors

SSR UP-Series 7.5-30 hp

Ingersoll-Rand has taken the power of air to a new level with the SSR Universal Product (UP-Series) rotary screw air compressor. The SSR UP-Series design was inspired by workplace demands as detailed to us by many hundreds of compressor users. Ingersoll-Rand engineers applied our expertise and world-class technologies to create a new standard of performance and value through design innovations.

Performance that Pays

The SSR UP-Series gives you advantages in both performance and value. For example, the high-efficiency, low-speed motor and airend reduce energy usage, extending the life of the unit, giving you a lower total cost of ownership.

All-Around Quiet

Quiet operation is one of the most valued benefits resulting from the performance break-throughs on the UP-Series. A number of factors contribute to reduced compressor noise levels, including: a high-efficiency airend and motor; a horizontal separator, specially designed to dampen noises; a centrifugal fan, and a compartmentalized enclosure system that is designed for superior acoustic (sound) containment.

Long-Term Value

Air compressors prove their value by giving you ongoing and reliable performance. A large part of the UP-Series' value comes from its many design innovations. You benefit with longer equipment life. Additionally, the separator features a design that makes changes simple. A cooling air pre-filter, which traps airborne dirt particles, protects against cooler blockage.

Ultra Plus Coolant

The factory fill of Ultra Plus Coolant offers unmatched performance and improved compressor efficiency. This advanced synthetic lubricant reduces friction and delivers lower rates of wear than possible with conventional oils. It also saves on maintenance costs, since its superior performance allows drain intervals to be extended to 9,000 hours before a required change.

Optional Features

The UP-Series also features the following options: a single package which combines an integral dryer with filter and bypass; NEMA 4 protection which includes TEFC motor and Star-Delta starter; Heavy-Duty intake filter; Intellisys® microprocessor control panel with full operating control which displays discharge pressure and temperatures, fault warnings, shutdowns and additional operating diagnostics that minimize downtime.

- Compact, space-saving design
- 100% continuous duty cycle
- Ultra Plus Coolant
- Quiet operation: 69dBA or less



The compartmentalized design features two acoustic chambers that effectively restrict noise to below 70dBA.



The centrifugal fan, driven by the main motor shaft, offers quiet operation in its acoustic enclosure.



A segregated cooling system simplifies ducting and further lowers noise levels.



Accessible service panels eliminate rear access, so when permitted, the unit can be placed close to walls to save space.

Light Industrial Air Compressors

Rotary Screw Air Compressors



Model	hp	cfm @ Max psi	Air Receiver Pressure (psi)	Max dBA Enclosed	Options
UP6-7-125	7.5	28	125	65	80/120-gal hor tank
UP6-7-150	7.5	25	150	65	80/120-gal hor tank
U6P-7-210	7.5	17.5	210	65	80/120-gal hor tank
U6P-10-125	10	38	125	68	80/120-gal hor tank
U6P-10-150	10	34	150	68	80/120-gal hor tank
U6P-10-210	10	24	210	68	80/120-gal hor tank
U6P-15-125	15	55	125	69	80/120-gal hor tank
U6P-15-150	15	50	150	69	80/120-gal hor tank
U6P-15-210	15	38	210	69	80/120-gal hor tank
UP6-20-125	20	83	125	68	120/240-gal hor tank
UP6-20-150	20	75	150	68	120/240-gal hor tank
UP6-20-200	20	58	200	68	120/240-gal hor tank
UP6-25-125	25	102	125	69	120/240-gal hor tank
UP6-25-150	25	92	150	69	120/240-gal hor tank
UP6-25-200	25	75	200	69	120/240-gal hor tank
UP6-30-125	30	125	125	69	120/240-gal hor tank
UP6-30-150	30	112	150	69	120/240-gal hor tank
UP6-30-200	30	92	200	69	120/240-gal hor tank

Available voltages include: 200/208-3-60, 230/460-3-60, 380-3-60, 575-3-60. Please specify voltage before placing your order.

Dimensions & Weight

Mounting	hp	Dimensions (in)			Net Weight (lbs)
		L	W	H	
Base-Plate Mounted	7.5	41	28.9	36	650
	10	41	28.9	36	650
	15	41	28.9	36	650
	20	50.5	35.8	41.3	1,186
	25	50.5	35.8	41.3	1,206
	30	50.5	35.8	41.3	1,292
Tank-Mounted	7.5	53.6	28.9	60.7	925
80-Gallon Receiver	10	53.6	28.9	60.7	925
	15	53.6	28.9	60.7	925
Tank-Mounted	7.5	74.7	28.9	60.7	960
120-Gallon Receiver	10	74.7	28.9	60.7	960
	15	74.7	28.9	60.7	960
	20	74.4	35.8	70.6	1,510
	25	74.4	35.8	70.6	1,530
	30	74.4	35.8	70.6	1,616
Tank-Mounted	20	91.2	35.8	76.4	1,779
240-Gallon Receiver	25	91.2	35.8	76.4	1,799
	30	91.2	35.8	76.4	1,885

Light Industrial Air Compressors

Rotary Screw Air Compressors

UP-Series Start-Up Kits

Ultra Plus Coolant-based Start-Up Kits provide improved protection for UP-Series rotary screw air compressors. Each kit contains all the parts needed to correctly start up and maintain your compressor for a full year, plus the added protection of an extended two-year warranty.*

Kit Includes:

- Coolant filter (1)
- Ultra Plus Coolant (1 gallon)

Compressor Model	CCN
UP 7.5-15 hp	38339297
UP 20-30 hp	38028577

**Ingersoll-Rand also offers extended warranties up to five years. In order to qualify, compressors must have started and run continuously on Ultra Plus Coolant while using only genuine Ingersoll-Rand replacement parts. Ask your local Ingersoll-Rand representative about this program.*



UP-Series Maintenance Kits

The competitively priced Maintenance Kit includes all parts required for every 3,000-hour or annual maintenance of your UP-Series rotary compressor.

Kit Includes:

- Coolant filter (1)
- Air filter element (1)
- Separator cartridge (1)
- Package pre-filter (1)
- Ultra Plus Coolant (for top-off) (1 gallon)

Compressor Model	CCN
UP 7.5-15 hp	22469183
UP 20-30 hp	38028585

After 9,000 hours or two years of service, the Maintenance Kit plus three additional gallons of Ultra Plus Coolant for complete coolant change-out are recommended. Ultra Plus Coolant is available in 1-gallon, 5-gallon or 55-gallon drums.



UP-Series Ultra Plus Coolant

Ingersoll-Rand's exclusive Ultra Plus Coolant, an advanced synthetic lubricant based on molecular chemistry used in today's aerospace technologies, was developed to improve the efficiency and value of Ingersoll-Rand's UP-Series rotary screw air compressors.

- Reduces friction and delivers lower rates of wear than possible with conventional lubricants
- Lower maintenance costs – superior performance allows drain intervals to be extended to 9,000 hours
- There's no better way to protect your investment! With the use of Ultra Plus Coolant, you receive the added protection of an extended 24-month warranty (standard warranty 12 months or 18 months from date of shipment)



Coolant/Lubricant	Base Stock	Viscosity Index	Hours	ISO Viscosity Grade	SAE Grade
Ultra Coolant	Inhibited Polyol Ester	150	9,000 (2 yr)	32	10/20

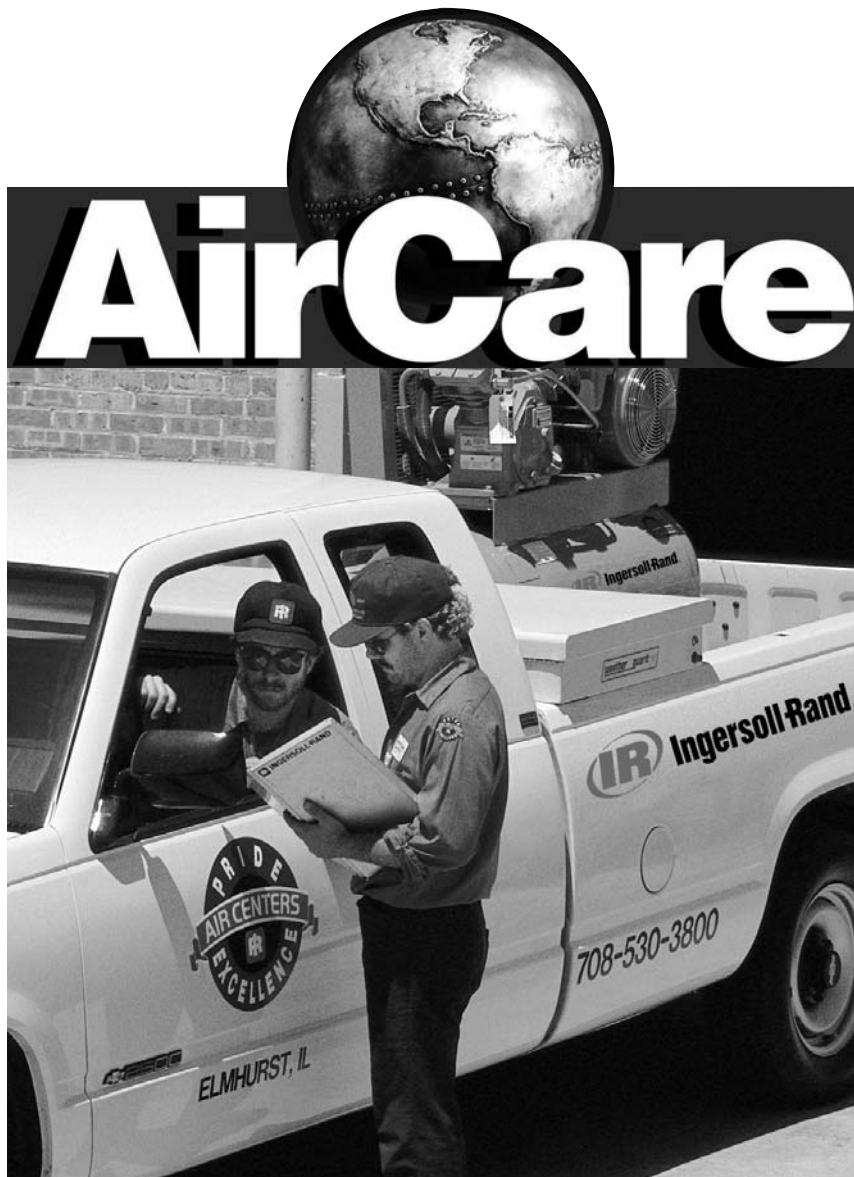
Ultra Coolant	CCN
Gallons	54772595
Pail	54772603
Drum	54772611

Our Pledge: An Absolute Commitment to Customer Satisfaction

As the owner of an Ingersoll-Rand air compressor, you've made a critical investment for your company. The additional investment of the exclusive Ingersoll-Rand AirCare Program ensures that you receive a responsive and flexible contract program providing planned maintenance for increased system reliability.

AirCare keeps your system operating at peak efficiency by a thorough knowledge of technology, state-of-the-art monitoring equipment and ongoing training of Ingersoll-Rand's service professionals. Our service professionals represent the industry's largest investment in ongoing training and equipment – an investment that benefits our customers in every step of the AirCare program.

- Reduced maintenance costs
- Reduced energy usage through optimization
- Fewer unexpected maintenance requirements and reduced downtime for scheduled maintenance
- Extended five-year warranty coverage offered with the purchase of preventative maintenance or inspection agreement



Light industrial products covered by the AirCare program include: Premier Series reciprocating compressors; SSR, SE and UP-Series rotary screw air compressors; ThermoStar and Thermal Mass refrigerated dryers; and ThermoZorb desiccant dryers.

Contact your local Ingersoll-Rand authorized service provider for availability and details.

Light Industrial Air Compressors

Air Treatment and Accessory Equipment

Refrigerated Air Dryers

Ingersoll-Rand refrigerated air dryers protect your tools, machinery and equipment from harmful moisture while saving energy and reducing system downtime. The unique design improves dryer efficiency and minimizes maintenance through fewer moving parts. The easy-to-read diagnostic controls provide a constant indication of dryer performance. Units are compact, lightweight and can be easily floor or wall mounted. IR refrigerated air dryers are ideal for paint spraying/coating operations or pneumatic instrumentation applications, and use environmentally friendly refrigerants – R134A or 407C.

Refrigerated DryStar

The economically priced DryStar cools compressed air by mechanical refrigeration to a 33-39°F pressure dewpoint. Condensed water is removed through an automatic drain valve. Featuring low power consumption, DryStar dryers are simple to install with a quick fit electrical connection. Each DS dryer uses environmentally friendly R134A refrigerant.

Ratings are based on 100°F inlet air temperature and 100 psiG inlet air pressure.

Maximum inlet temperature is 140°F, maximum pressure is 232 psiG.



Model	Nominal Air Flow Scfm	Maximum Pressure (psiG)	Maximum Absorbed Power (kW)	Air Connection NPT (in)	Dimensions HxWxD (in)	Approx. Weight (lbs)
DS5	5	232	.24	3/8	17.9 x 7.8 x 17.7	40
DS10	10	232	.24	3/8	17.9 x 7.8 x 17.7	40
DS15	15	232	.27	3/8	17.9 x 7.8 x 17.7	44
DS25	25	232	.36	1/2	20.9 x 11.1 x 23.6	70
DS35	35	232	.51	1/2	20.9 x 11.1 x 23.6	74
DS50	50	232	.69	3/4	23.8 x 13.9 x 27.6	100
DS75	75	232	.88	3/4	23.8 x 13.9 x 27.6	122

Refrigerated ThermoStar

ThermoStar refrigerated air dryers cool compressed air by mechanical refrigeration to a 33-39°F pressure dewpoint. Condensed water is removed through a timed solenoid automatic drain valve. A precooler maximizes the refrigeration efficiency, and a compact heat exchanger insures the smallest possible footprint. Each TS dryer uses environmentally friendly R407C refrigerant and features a standard controller with on/off main switch (separate power on line and alarm lamps), and electric drain valve with adjustable operation set points. Ratings are based on 100°F inlet air temperature and 100 psiG inlet air pressure. Maximum inlet temperature is 122°F; maximum pressure is 175 psiG.



Model	Nominal Air Flow Scfm	Maximum Pressure (psiG)	Maximum Absorbed Power (kW)	Electrical Supply	Dimensions LxWxH (in)	Air Connections	Approx. Weight (lbs)
TS-75	75	175	0.58	115-1ph-60 Hz	19 x 20 x 30	1" NPT	139
TS-100	100	175	0.73	115-1ph-60 Hz	24 x 22 x 31	1-1/2" NPT	143
TS-150	150	175	0.83	208/230V-1ph-60 Hz	24 x 22 x 31	1-1/2" NPT	146
TS-200	200	175	1.19	208/230V-1ph-60 Hz	24 x 22 x 31	1-1/2" NPT	154

Refrigerated Thermal Mass

Ingersoll-Rand Thermal Mass dryers use a simple refrigeration system to cool a liquid solution (thermal mass) that in turn cools the compressed air, removing harmful moisture from your air stream. This method allows the refrigeration compressor to shut down during periods of low flow, resulting in reduced power costs when compared to other designs (i.e. direct expansion or flooded evaporator, which typically run continuously at partial load). Thermal Mass dryers also reduce the number of system components required to dry the air (hot gas bypass and thermostatic expansion valves are eliminated). This system requires the lowest refrigerant charge of all designs, resulting in lower charging costs and reduced environmental impact.



This cycling refrigerated dryer provides the greatest energy savings as compared to all other refrigeration dryer technology. This design has the lowest operating kW, the lowest pressure drop and cycles off in periods of low demand.

TMS Model	Nominal Air Flow Scfm	Maximum Pressure (psiG)	Maximum Absorbed Power (kW)	Electrical Supply	Pressure Drop psiG	Dimensions LxWxH (in)	Connections Inlet/Outlet NPT	Weight (lbs)
TMS12	12	232	0.23	115-1ph-60 Hz	.4	18 x 14 x 20	1/2" M	83
TMS20	20	232	0.25	115-1ph-60 Hz	.9	18 x 14 x 20	1/2" M	88
TMS30	30	232	0.41	115-1ph-60 Hz	1.7	20 x 15 x 23	1/2" M	114
TMS35	35	232	0.60	115-1ph-60 Hz	1.9	20 x 15 x 23	1/2" M	128
TMS50	50	232	0.35	115-1ph-60 Hz	2	24 x 23 x 30	1" F	216
TMS70	70	232	0.41	115-1ph-60 Hz	2.2	24 x 23 x 30	1" F	238
TMS80	80	232	0.60	115-1ph-60 Hz	2.6	24 x 23 x 30	1" F	236
TMS100	100	232	0.65	115-1ph-60 Hz	2.3	24 x 23 x 30	1" F	271
TMS140	140	232	0.94	115-1ph-60 Hz	2.2	35 x 27 x 42	1-1/2" F	396
TMS200	200	232	1.20	230-1ph-60 Hz	1.9	35 x 27 x 42	1-1/2" F	452

Refrigerated High Temperature Dryer

The HTD Series dryers are direct expansion, non-cycling refrigerated dryers that are designed to accept exceptionally hot inlet compressed air under adverse conditions. HTD dryers are available from 25 to 100 cfm flow range and all models include an integral aftercooler, separator/filter, refrigeration circuit and automatic drain valve. Environmentally friendly R134A and R22 refrigerants are used.



Model ¹	Scfm m3/Min	Maximum Pressure psiG	Electrical Requirements	Input Power (kW)	Full Load Amps	Dimensions (in)			Inlet/Outlet Connection (in)	Weight (lbs)
						L	W	H		
HTD25	25/0.7	175	115-1-60	.68	6.3	12.6	29.8	27.2	1/2	174
HTD35	35/1.0	175	115-1-60	.68	7.0	12.6	29.8	27.2	3/4	176
HTD50	50/1.4	175	115-1-60	.97	9.5	14.6	29.8	46.1	3/4	256
HTD75	75/2.1	175	230-1-60	1.36	6.5	14.6	29.8	46.1	3/4	278
HTD100	100/2.8	175	230-1-60	1.70	8.1	14.6	38.6	48.5	1	325

1) All models listed are air cooled.
 2) Capacity ratings to deliver a 50-54°F (10-11°C) pressure dew point and are based on 125 psig inlet air pressure, 180°F (82°C) inlet air temperature, 100% relative humidity, 95°F (35°C) ambient air temperature and 5 psig maximum pressure drop.
 3) Shipping weight is approximate.

Light Industrial Air Compressors

Desiccant Air Dryers

Desiccant ThermoZorb Modular Series

The TZM Series Heatless, Modular Desiccant Air Dryers are perfect for outdoors or low ambient applications! Modular designed desiccant air dryers have been specially designed to provide compressed air pressure dewpoint of -40F. Ratings are based on 100F inlet air temperature and 100 PSIG inlet air pressure. Maximum pressure is 150 PSIG.



Model	Air Flow (SCFM)	Max. PSI	Voltage	L x W x H	Weight
TZM3	3	150	N/A	7 x 4 x 15	11
TZM6	6	150	N/A	7 x 4 x 19	16
TZM13	13	150	N/A	7 x 4 x 28	20
TZM24	24	150	N/A	10 x 6 x 28	55
TZM32	32	150	N/A	10 x 6 x 35	66
TZM42	42	150	N/A	10 x 6 x 41	80
TZM53	53	150	N/A	10 x 6 x 44	82
TZM65	65	150	N/A	11 x 8 x 61	115
TZM88	88	150	N/A	11 x 8 x 70	132
TZM106	106	150	N/A	21 x 8 x 56	198
TZM130	130	150	N/A	21 x 8 x 63	220
TZM176	176	150	N/A	21 x 8 x 72	264

Desiccant ThermoZorb Heatless Regenerative

The ThermoZorb Series dryer is a heatless desiccant dryer made up of two ASME vessels filled with desiccant material, which are assembled together with inlet and outlet manifolds. One chamber is in operation (drying), while the opposite chamber is regenerating using the pressure swing adsorption (PSA) method. A small volume of the dried compressed air is used to regenerate the saturated desiccant bed by expanding dried air from line pressure to atmospheric pressure, removing the water adsorbed by the desiccant material. These dryers are supplied with mounted filters.

All Models are supplied with 115V-1Ph-60Hz electrics. Ratings are based on a 100°F inlet air temperature, 100 psiG inlet air pressure to deliver a -40°F pressure dew point. Maximum inlet air temperature is 120°F, and maximum inlet air pressure is 150 psiG.



Model (4)	Capacity (scfm)	Inlet NPT (in)	Outlet NPT (in)	Dimensions LxWxH (in)	Weight (lbs)
TZ100	100	1	1	35 x 22 x 65	310
TZ160	160	1	1	37 x 22 x 68	420
TZ220	220	1.50	1.50	41 x 22 x 83	640

Compressed Air Filters

IR filters come in four different series, GP=General Purpose (1 micron/.5 ppm), HE=High Efficiency (.01 micron/.01 ppm), AC=Activated Carbon (.003 ppm), and DP=Dust Protection (1 micron). GP and HE include auto float drains, while AC and DP have manual drains. All filters come with a differential pressure indicator. Ratings are based on 100F inlet air temperature and 100 PSIG inlet air pressure. Maximum pressure is 232 PSIG; ambient temperature is 35°F-150°F. Max temp for AC is 86°F.



Model	Air Flow (SCFM)	Max PSI	H x W	Weight
IRGP19	19	232	10 x 4	3
IRGP40	40	232	11 x 4	3
IRGP64	64	232	12 x 4	3
IRGP123	123	232	14 x 5	5
IRGP216	216	232	17 x 5	6

Coalescing Filters

Model	Air Flow (SCFM)	Max PSI	H x W	Weight
IRHE19	19	232	10 x 4	3
IRHE40	40	232	11 x 4	3
IRHE64	64	232	12 x 4	3
IRHE123	123	232	14 x 5	5
IRHE216	216	232	17 x 5	6

Dust Filters

Model	Air Flow (SCFM)	Max PSI	H x W	Weight
IRDP19	19	232	10 x 4	3
IRDP40	40	232	11 x 4	3
IRDP64	64	232	12 x 4	3
IRDP123	123	232	14 x 5	5
IRDP216	216	232	17 x 5	6

Activated Carbon

Model	Air Flow (SCFM)	Max PSI	H x W	Weight
IRAC19	19	232	10 x 4	3
IRAC40	40	232	11 x 4	3
IRAC64	64	232	12 x 4	3
IRAC123	123	232	14 x 5	5
IRAC216	216	232	17 x 5	6

Receiver Tanks and Kits

All receiver tanks are ASME coded and rated for 200 PSI. Horizontal tanks have pressed steel feet and vertical tanks are supplied with base ring configuration. Receiver accessory kits are supplied with electric drain valve, pressure gauge, and safety relief valve.

Receiver Size	Config.	Part #	Rec. Kit 1/2" NPT	Rec. Kit 1/2" NPT
30 Gal	Horiz.	38020129	38003430	38003059
80 Gal	Vertical	38016200	38003430	38003059
120 Gal	Vertical	38002747	38003430	38003059
200 Gal	Vertical	38002754	38003430	38003059
240 Gal	Vertical	38002762	38003430	38003059

Light Industrial Air Compressors

Filters/Regulators/Lubricators

Filter/Regulator – PiggyBack

The Filter/Regulator combination is designed to be compact and easy to use and maintain. The Filter/Regulator is designed with:

- Push-pull, non-rising knob allows one-hand adjustment
- Balanced valve-type diaphragm regulation assures positive pressure adjustment
- Regulator offers in-line reparability. Valve and diaphragm can be replaced without removing unit from line
- Automatic drain has 1/8-inch NPT connection for draining away contaminants
- 10 psiG minimum operating pressure

Automatic Drain - metal bowl with sight glass & gauge



Port Size NPT (in)	Flow Scfm	ARO Part Number	Weight (lbs)
1/4	93	P29221-614	2.05
3/8	135	P29231-614	2.03
1/2	140	P29241-614	2.00

Pressure Range psiG (bar) 5-125 (.4-8.6) Models shown come with Auto Drain, metal bowl & 40 micron element.

Regulators

Module/Air 2000 Series regulators are designed to provide quick response and accurate pressure regulation over a wide range of applications. Two gauge ports allow for more versatility in mounting and usage of the unit. Three spring options allow for spring changes, instead of entire regulator changes, to meet most air pressure applications.

- Regulator can be mounted either up or down, increasing user flexibility
- Regulator can be panel-mounted up to 1/4-inch thickness. Hole diameter is 1-7/8-inch
- Pressure Range: 5-125 (.4-8.6) psig (bar) with 0-160 lb. gauge

Relieving-Type with Gauge (5-125 psig)



Port Size NPT (in)	Flow Scfm	ARO Part Number	Weight (lbs)
1/4	100	R27221-600	1.38
3/8	130	R27231-600	1.34
1/2	150	R27241-600	1.30

CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero psiG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.

Max. Inlet Pressure:	Metal Bowl - 175 psiG (12 bar)
Operating Temperature Range:	Metal Bowl - 0° to 175°F (-18° to 79°C)
Filter Element:	40 micron
Filter Drain:	Automatic
Pressure Range in Regulator:	5 to 125 psiG (.3 to 8.6 bar)
Gauge:	0 to 160 psi
Gauge Port:	1/4" NPT

Automatic Drain - metal bowl with sight glass

Port Size NPT (in)	ARO Part Number	Weight (lbs)
1/4	C28221-611	4.1
3/8	C28231-611	4.0
1/2	C28241-611	3.9

Two-piece modular models include (1) 104171 T-Bracket and (1) 32321044 gauge.

Module/Air 2000 Series – PiggyBack

The Module/Air 2000 Series “PiggyBack” units are compact to save space and provide more design flexibility. With common outlets, the Module/Air 2000 saves on space, setup time and piping costs.

Filter/Regulator/Lubricator

The Filter/Regulator/Lubricator combination offers everything in one complete, compact design.





Heavy-Duty Lubricators

Extra rugged Heavy-Duty Series lubricators deliver the reliable lubrication needed for long service life of air line systems and equipment.

Port Size NPT (in)	ARO Part Number
1/2	26341-011
3/4	26351-011
1	26361-011

Models shown provide metal bowl, standard knob and quick fill adapter.



Heavy-Duty Filters

These ARO Heavy-Duty Series filters extend the life of air-operated equipment while reducing maintenance costs. These units efficiently remove solid particles from compressed air lines – making them the perfect choice for large flow applications.

Port Size NPT (in)	ARO Part Number
1/2	25341-011
3/4	25351-011
1	25361-011

Note: Models shown come with Auto Drain, metal bowl and 40 micron element.



Heavy-Duty Accessories

ARO Part Number	Description
29390	5 Micron Element
29391	20 Micron Element
29392	40 Micron Element
Y27-54-C	1/2" Pipe Nipple/Adapter
Y27-55-C	3/4" Pipe Nipple/Adapter
Y27-56-C	1" Pipe Nipple/Adapter
29397	Bowl Guard
29967	Metal Bowl
29969-2	Automatic Drain
Y57-1	Twist Drain
29235	Quick-Fill Adapter
100066	Gauge 0-60 psiG
100067	Gauge 0-160 psiG
100083	Gauge 0-300 psiG
29960	Service Kit, Relieving Type
29999	Mounting Bracket (U-Bolt Type)
29077	Mounting Bracket, L-Type
29002	Spring, 5-125 lb. (Gold)
29119	Spring, 0-50 lb. (Green)
29120	Spring, 10-250 lb. (Silver)

Heavy-Duty Regulators

These ARO Heavy-Duty Series regulators provide accurate and quick response to flow demands and line pressure changes, giving air-powered equipment the precise air pressure control needed.

Port Size NPT (in)	ARO Part Number
1/2	27344-000
3/4	27354-000
1	27364-000

Note: Models shown provide relieving control with standard knob.

Pressure range = 5-125 psig.

Light Industrial Air Compressors

PacE I & II Air System Pressure Controller

Benefits

- Energy savings – 7% for every 14 psi reduction in system pressure
- Single point system control
- Protection for all downstream equipment
- Prolonged compressor and equipment life
- Simple installation and operation
- Reduced maintenance costs



CCN	Description
PacE	
38334314	Complete Unit
38036281	Repair Kit
PacE II	
38041166	Complete Unit
88317359	Replacement control valve (no repair kit available)
88317375	Tamper Proof cap
88317367	Replacement pilot regulator (complete)

Technical Specifications

	PacE	PacE II
Connection Size (female)	1" NPT	2" NPT
Maximum Flow	250 scfm	650 scfm
Maximum Inlet Pressure	232 psig	150 psig
Control Range	144 psig – 7 psig	150 psig – 7 psig
Max Operating Temp	176°F (80°C) -4°F (-20°C)	176°F (80°C) -4°F (-20°C)
Sensitivity	0.2% of full span	0.2% of full span
Repeatability	±0.5% of full span	± 0.5% of full span

EDV-2000 Electronic Drain Valve

The EDV-2000 is a full-feature automatic electronic drain valve that cost-effectively removes condensate from compressors, receivers, dryers, aftercoolers, filters and drip legs. Each EDV-2000 includes an electric drain, manual blowdown valve, and a strainer/ball valve, which prevents debris from clogging the drain valve. The maximum pressure is 250 psi.

- Manual test button
- Two-year warranty
- Prevents rusting
- Delivers drier air to extend the life of tools and pneumatic equipment
- Eliminates manual draining



Voltage		Inlet Pipe Connection	Outlet Pipe Connection	Orifice (in)
110/120V	230/240V			
37995925	37995933	0.50 NPT	0.25 NPT	3/32
54410931	37995909	0.50 NPT	0.25 NPT	7/16
37995891	37995917	0.50 NPT	0.50 NPT	7/16
38000865	38000873	0.50 BSP	0.25 BSP	7/16
38000808	38000881	0.50 BSP	0.50 BSP	7/16
54579248*	97339402*	JIC-14	0.25 NPT	3/32

*JIC connection for field retrofits on T30 compressors.

Replacement Strainer/Ball Valve Assemblies

CCN	Description
54381090	1/2" x 1/4" male NPT valve connection
37996337	1/2" x 1/2" male NPT valve connection
38000154	Stainless steel filter screen
54381090	JIC - 14 x 1/4" NPT

ADV-Automatic Drain Valve Kit

Designed to cost-effectively remove water from your air compressor tank. The easy-to-install ADV Kit includes a full-feature automatic electronic drain with a timer, solenoid and 115V power cord; (2) discharge tubes; (1) straight connector; (1) 90 degree elbow; (1) floor mounting bracket; (1) mounting bracket stud and installation instructions. Suitable for 20 to 24-inch-diameter vertical tanks and most horizontal tanks. NEMA 4 electric components.

- Prevents rusting
- Delivers drier air to extend the life of tools and pneumatic equipment
- Eliminates manual draining



Voltage	Weight (lbs)	Dimensions LxWxH (in)	Cord Length	Maximum Pressure	Timer Interval	Drain Cycle
115V	1-1/2	4-3/4 x 3-1/2 x 2	6' w/AC plug	250 psi	.5-45 sec	.5-10 sec

ADV-Automatic Drain Valve Kit CCN# 38004420.

Light Industrial Air Compressors

Drain Valves

System Saver Drains (SSD-Plus)

The Ingersoll-Rand System Saver Drains have an electronic level sensing capability which only discharges when condensate is present, thus preventing unnecessary loss of valuable compressed air. This intelligent sensing system operates with all levels of condensate from 100% oil to 100% water. The System Saver Drains can be purchased as a bare drain valve or as a kit. The kit simplifies installation by supplying not only the bare drain valve, but also a ball valve and an adapter fitting.

- Designed to complement all compressed air systems including compressors, filters, water separators, dryers, coolers and receivers
- Easy mounting and installation – no additional mounting brackets required
- Zero air loss, zero energy loss, less maintenance and easy-to-access components
- One-year diaphragm seal guarantee, five-year warranty on the electronics and valve housing



Model	Maximum Operating Pressure psiG	Electrical Requirements	Input Power (watts)	Compressor Capacity Scfm	Refrigerator Dryer Scfm	Connections	
						Inlet	Outlet
SSD7-Plus	232	110-1-60/50 230-1-60/50	26 W	175	303	1/2" NPT (1) 1-4" NPT (1)	3/8" i/d hose 10mm
SSD14-Plus	174	110-1-60/50 230-1-60/50	26 W	349	607	1/2" NPT (2)	5/16" i/d hose 8mm

Pneumatic No-Loss Drain (PNLD)

The Ingersoll-Rand Pneumatic No-Loss Drain (PNLD) is a heavy-duty industrial drain valve that will not waste compressed air. The PNLD does not require the use of electricity, any pre-setting or manual intervention. The drain is compatible with all types of lubricants and has a 7/16th discharge orifice to prevent clogging.

The maximum pressure is 200 psiG, and the operating temperature range is 35°F to 150°F.

- Designed to complement all compressed air systems including compressors, filters, water separators, dryers, coolers and receivers
- Easy mounting and installation – no additional mounting brackets required
- Zero air loss, zero energy loss, less maintenance and easy-to-access components
- Three-year warranty



Model	Compressor Capacity Scfm	CCN	Connections			Condensate Capacity (oz)	Dry Weight (lbs)	Single Cycle Discharge @ 100 psiG (oz)
			Inlet	Outlet	Pilot			
PNLD16	400	42528661	1/2" NPT (top) 3/8" NPT (bottom)	3/8" NPT	n/a	16	7	12

The PolySep addresses the inability of the traditional gravity separators to handle emulsions, such as polyglycol lubricant. The unique design of the PolySep system utilizes a proprietary adsorption module to "break" the chemical bond and entrain the emulsified lubricant within the adsorption module. The solids are collected in the adsorption module and the cleaned condensate safely disposed of into the sanitary sewer.

ADVANTAGES OF THE POLYSEP CONDENSATE SEPARATOR:

- Works with biodegradable (polyglycol) fluids and Ultra Coolant
- Also works with Mineral Oil, PAO's, Polysol Esters & Diesters
- No electricity – rated for 250 psi
- Fully automatic
- Multiple capacities - allows for systems that use multiple equipment with different lubricant to be sent to one location for separation
- Easy to maintain - adsorption modules are sized to operate 8,000-hrs/1 year under standard operating conditions. Adsorption modules are self-contained and are very easy to change out and dispose of.
- One-year warranty.



Model	CCN	Max Capacity SCFM	Max HP	Adsorption Module Volume	Air Inlet (NPT)	Condensate Inlets (3) Total	Oil Outlet	Water Outlet	Dimensions LxWxH (in)	Weight (lbs)
PS-030	38041596	30	10	1	N/A	½" (1)	1/2"	½"		15
PS-060	42528455	60	15	1	N/A	1/2"	N/A	3/4"	11.5x11.5x27.5	25
PS-125	38339040	125	30	5	N/A	1/2"	N/A	3/4"	28.5x19.5x30.8	-
PS-250	42528463	250	60	15	1/4"	1/2"	3/4"	3/4"	44.5x19.5x37.8	140

PS Replacement Adsorption Modules

Model	CCN
PS-030	38041604
PS-060	42528505
PS-125	38339057
PS-250	42528513

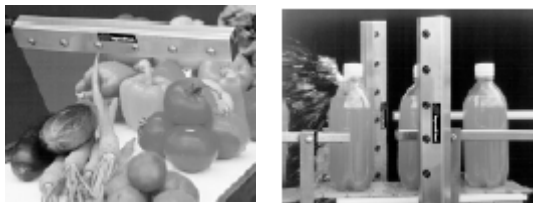


PolySep Installation Kit
CCN: 38338273

Light Industrial Air Compressors

Point-of-Use Products

AIR KNIVES



CCN	Description
Aluminum Air Knife	
38037602	6" (15cm) Aluminum Air Knife
38037610	12" (30cm) Aluminum Air Knife
38037628	18" (46cm) Aluminum Air Knife
38037636	24" (61cm) Aluminum Air Knife

Air Knife Shim Set

The compressed air exhausts through a gap, which is set with a shim, positioned between the cap and the body of the air knife. Adding shims to open the gap may easily increase force and flow through the air knife.

CCN	Description
Aluminum Air Knife Shim Sets	
38037644	6" (15cm) Aluminum Air Knife Shim Set
38037651	12" (30cm) Aluminum Air Knife Shim Set
38037669	18" (46cm) Aluminum Air Knife Shim Set
38037677	24" (61cm) Aluminum Air Knife Shim Set

Applications

- Parts drying after wash
- Sheet cleaning in strip mills
- Conveyor cleaning
- Part or component cooling
- Web drying or cleaning
- Environmental separation
- Pre-paint blowoff
- Bag opening/fill operations
- Scrap removal on converting operations

Advantages

- Quiet – 69 dBA for most applications
- Minimal air consumption
- 40:1 air application
- Uniform airflow across entire length
- Variable force and flow
- No moving parts

Performance – example of a 12" (30cm) air knife

Pressure Supply		Air Consumption per inch (25mm)		Velocity at 6" (15cm) from target		Sound Level @ 3' (91cm)	Force per inch (2.5cm) @ 6" (15cm) from target	
PSIG	BAR	SCFM	SLPM	FPM	M/S	dBA	Ounces	Grams
20	1.4	1.1	31	5000	25.4	57	0.6	17
40	2.8	1.7	48	7000	35.6	61	1.1	31
60	4.7	2.3	65	9600	48.8	65	1.8	51
80	5.5	2.9	82	11,800	57.9	69	2.5	71
100	6.9	3.5	99	13,500	66	72	3.2	91

Note: For all other models offered, the above numbers decrease or increase proportionally to the size of the air knife. If the above sample is for a 12", then to calculate a 6", simply divide all numbers by 2.

A L U M I N U M P I P I N G

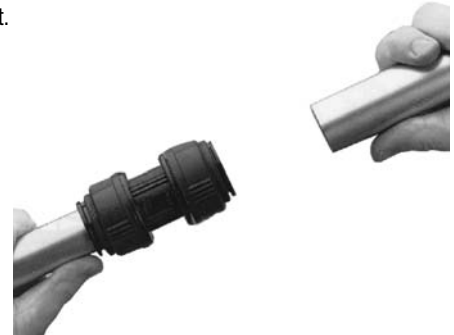
Simplair EL

Simplair EL is designed to provide an efficient, low-cost method of installing compressed air piping systems.

EL is a unique round aluminum extrusion, manufactured in-line with Simplair's advanced piping concept.

Benefits:

- **Good-quality air**
- **Higher flow rates**
- **More efficient air delivery**
- **Easy and fast installation**
- **Reduced pressure loss**
- **Piping can be formed by using a Simplair pipe bender (CCN 54599568)**



Simplair EL is available in 3 sizes: 15mm (5/8"), 22mm (1"), and 28mm (1-1/4").

Diameter (mm)	SCFM @ 103 PSIG	SCFM @ 118 PSIG	SCFM @ 147 PSIG
15 (5/8")	36	38	42
22 (1")	75	86	111
28 (1-1/4")	126	148	175

Tubing

Part No.	Tube OD	Tube Length	PK Qty
22285282	15 (5/8")	3 meters (10 ft.)	10
38332540	22 (1")	3 meters (10 ft.)	10
38332656	28 (1-1/4")	3 meters (10 ft.)	10

Easy to Use Push-In System for Piping System

The Simplair EL way of push-in fittings and pipe provide the ideal connection from the compressed air receiver, throughout the entire distribution system, right to the point-of-use. Using the Simplair EL system, a compressed air system can be installed quickly and easily, considerably reducing the need for specialist staff and reducing production downtime.

No need to prepare threaded pipe or apply solvent, all the connections can be made with a simple push-in action. The system is then immediately ready for use. Complex systems can be assembled much more rapidly than with traditional methods. They are also easy to disconnect, therefore, systems are easy to alter or extend.

Equal Elbow

Part No.	Tube OD
38039756	15 (5/8")
38332565	22 (1")
38332672	28 (1-1/4")



Equal Tee

Part No.	Tube OD
38039764	15 (5/8")
38332573	22 (1")
38332680	28 (1-1/4")



Straight Connector

Part No.	Tube OD
38039772	15 (5/8")
38332557	22 (1")
38332664	28 (1-1/4")



Stem Elbow

Part No.	Tube OD
38039780	15 (5/8")
38332664	28 (1-1/4")



Reducer

Part No.	Stem OD	Tube OD
38039798	-	15 (5/8")
38332581	28 (1-1/4")	22 (1")



Light Industrial Air Compressors Piping and Distribution

Water Trap Tee

Part No.	Tube OD
38332631	22 (1")



Water Trap Tee Converter

Part No.	Size
38332714	28 (1-1/4")



Brass Wing Back

Part No.	Stem OD	Thread BSP	Thread NPT
38039855	15 (5/8")	1/2"	1/2"

Male Brass Stem Adaptor

Part No.	Stem OD	Thread BSP	Thread NPT
38039822	15 (5/8")	1/2"	1/2"
38332599	22 (1")	-	-
38332607	22 (1")	1"	-
38332698	28 (1-1/4")	1"	-
38332961	22 (1")	-	-
38332615	22 (1")	-	1"
38332706	28 (1-1/4")	-	1"



Accessories

Plug

Part No.	Tube OD	Color
38039830	15 (5/8")	Black
38332649	22 (1")	Black
38332722	28 (1-1/4")	Black



Ball Valves – with Compression Ends

Part No.	Tube OD
88315635	15 (5/8")
88306139	22 (1")
88306402	28 (1-1/4")

Pipe Cutter

Part No.	Tube OD
88162466	15-28 (5/8" – 1-1/4")



Spare Nuts for Ball Valves

Part No.	Tube OD
88315650	15 (5/8")
88306410	22 (1")
88306436	28 (1-1/4")

Pipe Clips and Spacers

Clip Part No.	Tube OD	Color
38039848	15 (5/8")	Black
38332730	22 (1")	Black
38332755	28 (1-1/4")	Black



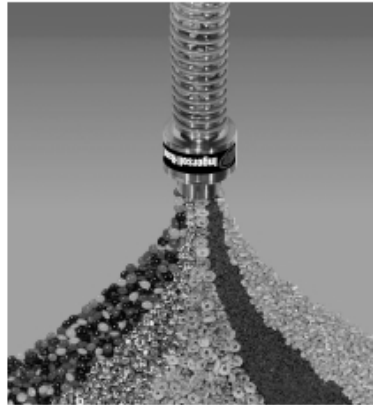
Spacer Part No.	Tube OD	Color
38332748	15-28 (5/8" – 1-1/4")	Black

Spare Ferrules for Ball Valves

Part No.	Tube OD
88315643	15 (5/8")
88306428	22 (1")
88306444	28 (1-1/4")

LINE VACUUMS

Line vacuum conveyors are ideal for moving large volumes of material over long distances. A small amount of compressed air is injected through directed nozzles to produce a vacuum on one end and high output flows on the other, with instantaneous response. The material flow rate is controlled with a pressure regulator.



Applications

- Hopper loading
- Fiber tensioning
- Material conveying
- Waste/trim removal
- Chip removal
- Part transfer
- Filling operations

Advantages

- Compact
- Quiet
- No moving parts
- Fits standard hose or tube
- Aluminum or stainless steel
- Fives sizes
- High throughput capability

CCN	Description	Air Consumption		Vacuum	
		SCFM	SLPM	H ₂ O	kPa
Aluminum Line Vacuums – 80 PSIG (5.5 BAR)					
38037685	¾" (19mm) Aluminum Line Vacuum	10.7	303	-72	-18
38037693	1" (25mm) Aluminum Line Vacuum	14.7	416	-42	-11
38037701	1-1/4" (32mm) Aluminum Line Vacuum	25.9	733	-42	-11
38037719	1-1/2" (38mm) Aluminum Line Vacuum	33	934	-36.8	-9
38037727	2" (51mm) Aluminum Line Vacuum	45	1274	-28.5	-7

AIR AMPLIFIERS

Air amplifiers are a simple, low cost way to move air, smoke, fumes, and light materials. Using a small amount of compressed air as their power source, air amplifiers pull in large volumes of surrounding air to produce high volume and high velocity outlet flows. Quiet and efficient air amplifiers create output flows up to 25 times their consumption rate.

Applications

- Vent welding smoke
- Cool hot parts
- Dry wet parts
- Clean machined parts
- Distribute heat in molds/ovens
- Ventilate confined areas
- Wipe hose, wire, fiber optics
- Exhaust tank fumes

Advantages

- Compact, lightweight, portable
- No electricity
- No moving parts – no maintenance
- Ends are easily ducted
- Instant on/off
- Variable force and flow

Light Industrial Air Compressors Point-of-Use Products

AIR AMPLIFIERS (continued)

CCN	Description	SCFM	Air Consumption		Vacuum	
			SLPM	RATIO	SCFM	SLPM
Air Amplifiers – 80 PSIG (5.5 BAR)						
38037743	3/4" (19mm) Air Amplifier	6.1	173	12	73	2,066
38038030	1-1/4" (32mm) Air Amplifier	8.1	229	18	146	4,132
38038048	2" (51mm) Air Amplifier	15.5	439	22	341	9,650

CCN	Description
Air Amplifier Shim Sets	
38038055	3/4" (19mm) Air Amplifier Shim Set
38038063	1-1/4" (32mm) Air Amplifier Shim Set
38038071	2" (51mm) Air Amplifier Shim Set



ADJUSTABLE SPOT COOLER

This spot cooler is a low cost, reliable, maintenance free solution to a variety of industrial spot cooling problems. With the turn of a knob, you can select to temperature best suited to your application.

It can produce:

Temperatures from -30° to + 70°F (-34° to 21°C)

Flow rates from 15 to 30 SCFM (425 to 825 SLPM)

Refrigeration up to 2000 Btu/hr (504 Kcal/hr)



CCN	Description
Adjustable Spot Cooler	
38037735	Adjustable Spot Cooler (one cold outlet)

Applications

- Adjusting thermostats
- Cooling solder
- Cooling machined plastics
- Setting hot melts
- Cooling welding horns
- Cooling molded plastics
- Electronic component cooling
- Cooling gas samples

Advantages

- No moving parts
- No electricity or chemicals
- Small, lightweight
- Low cost
- Maintenance free
- Instant cold air
- Quiet – less than 75 dBA
- Swivel magnetic base
- Interchangeable generators

WARRANTY

Ingersoll-Rand Company warrants that the Equipment manufactured by it and delivered hereunder shall be free of defects in material and workmanship for a period of twelve (12) months from the date of placing the Equipment in operation or eighteen (18) months from the date of shipment, whichever shall occur first. The foregoing warranty period shall apply to all Equipment, except for the following: (A) Compressors that are operated solely on All Season T30 Select synthetic compressor lubricant will have their bare compressor warranted for the earlier of twenty-four (24) months from the date of initial operation or thirty (30) months from the date of shipment. (B) Replacement parts will be warranted for six (6) months from the date of shipment. Should any failure to conform to this Warranty be reported in writing to the Company within said period, the Company shall, at its option, correct such nonconformity by suitable repair to such Equipment, or furnish a replacement part F.O.B. point of shipment, provided the purchaser has installed, maintained and operated such equipment in accordance with good industry practices and has complied with specific recommendations of the Company. Accessories or equipment furnished by the Company, but manufactured by others, shall carry whatever warranty the manufacturer conveyed to Ingersoll-Rand Company and which can be passed on to the Purchaser. The Company shall not be liable for any repairs, replacements, or adjustments to the Equipment or any costs of labor performed by the Purchaser without the Company's prior written approval.

The Company makes no performance warranty unless specifically stated within its proposal and the effects of corrosion, erosion and normal wear and tear are specifically excluded from the Company's Warranty. In the event performance warranties are expressly included, the Company's obligation shall be to correct in the manner and for the period of time provided above.

THE COMPANY MAKES NO OTHER WARRANTY OF REPRESENTATION OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

Correction by the Company of nonconformities, whether patent or latent, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of the Company and its Distributors for such nonconformities with respect to or arising out of such Equipment.

LIMITATION OF LIABILITY

THE REMEDIES OF THE PURCHASER SET FORTH HEREIN ARE EXCLUSIVE, AND THE TOTAL LIABILITY OF THE COMPANY, ITS DISTRIBUTORS AND SUPPLIERS WITH RESPECT TO CONTRACT OR THE EQUIPMENT AND SERVICES FURNISHED, IN CONNECTION WITH THE PERFORMANCE OR BREACH THEREOF, OR FROM THE MANUFACTURE, SALE, DELIVERY, INSTALLATION, REPAIR OR TECHNICAL DIRECTION COVERED BY OR FURNISHED UNDER CONTRACT, WHETHER BASED ON CONTRACT, WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE SHALL NOT EXCEED THE PURCHASE PRICE OF THE UNIT OF EQUIPMENT UPON WHICH SUCH LIABILITY IS BASED.

THE COMPANY, ITS DISTRIBUTORS AND ITS SUPPLIERS SHALL IN NO EVENT BE LIABLE TO THE PURCHASER, ANY SUCCESSORS IN INTEREST OR ANY BENEFICIARY OR ASSIGNEE OF THE CONTRACT FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL OR PUNITIVE DAMAGES ARISING OUT OF THIS CONTRACT OR ANY BREACH THEREOF, OR ANY DEFECT IN, OR FAILURE OF, OR MALFUNCTION OF THE EQUIPMENT, WHETHER OR NOT BASED UPON LOSS OF USE, LOSS PROFITS OR REVENUE, INTEREST, LOST GOODWILL, WORK STOPPAGE, IMPAIRMENT OF OTHER GOODS, LOSS BY REASON OF SHUTDOWN OR NON-OPERATION, INCREASED EXPENSES OF OPERATION, COST OF PURCHASE OF REPLACEMENT POWER, OR CLAIMS OF PURCHASER OR CUSTOMERS OF PURCHASER FOR SERVICE INTERRUPTION WHETHER OR NOT SUCH LOSS OR DAMAGE IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE.

**Questions? Parts? Service?
1-800 AIR SERV**

**Visit our website:
www.air.ingersoll-rand.com**

Impact Tools

- ▶ 3/8" - 1" Drive
- ▶ New Titanium Impact Tools
- ▶ Industrial and Maintenance Class Tools
- ▶ Air and Electric Impact Tools
- ▶ Torque Control Impact Tools
- ▶ Full Line of Industrial Grade Sockets

Proven Source. Proven Solutions.



Proven Source

Throughout its history, Ingersoll-Rand has earned a global reputation for creating tools that solve problems, build productivity, and put more power in the hands of the user. Ingersoll-Rand has been manufacturing impact tools for over seventy years, starting out as the original pioneer, and today leading the marketplace in design and development of the broadest impact tool selection in the world.

Proven Solution

Ingersoll-Rand continues to create innovative products that provide solutions for customers. Our impact tool line is no different. Recent design



Model 2925B2Ti

improvements, such as the incorporation of titanium, make our tools stronger and lighter than any other impact tool on the market. The latest 2115 and 2135 Titanium series impact tools both lead the industry as the most powerful and lightest weight tools in their class. Ingersoll-Rand is constantly evolving its product categories and you can expect continued innovations providing productivity solutions.

Industrial Production Class Impact Tools

The toughest industrial applications in the world run 24-hours a day, 7 days a week, 365 days a year...that's why Ingersoll-Rand is dedicated to manufacturing impact tools that can hold up to your toughest jobs. Ingersoll-Rand Industrial Production Class impact tools are designed with durability in mind, from the vanes turning the motor to the hammer frames and anvils. Proprietary hardening and treatment processes, innovative ergonomic design, and excellence in manufacturing all add up to the longest lasting, hardest hitting impact tools in the business.



Model 232TGSL

Maintenance / Automotive Class Impact Tools

Ingersoll-Rand impact tools are the brand of choice for professional automotive mechanics and the racing teams of NASCAR. Maintenance / Automotive class impact tools are designed for those applications that aren't as demanding as those for industrial production. Applications best suited for tools in this class involve intermittent use such as basic maintenance and light production.

Air Impact Tools Introduction

Throughout the section, page headings let you know what category the tool falls in. For assistance in determining the correct tool for your application please contact your Ingersoll-Rand sales representative or Ingersoll-Rand customer service.



High Performance Ergonomics

Three Types of Impact Tool Mechanisms



Twin-Hammer

A simplified, yet highly effective design that holds each of the reversible hammers in full engagement or disengagement with centrifugal force. The twin-hammer mechanism delivers more power per pound, and is less sensitive to air pressure fluctuations than any other design.

- Smooth, balanced blow
- High power-to-weight ratio
- Suitable for hard or soft-draw applications



Jumbo Hammer

Similar in concept to the twin-hammer mechanism, but employing a single hammer.

- Simplified design
- Reversible hammers
- Direct drive

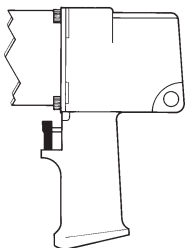
Ball and Cam

Precision mechanism converts motor torque into powerful rotary impacts. The ball and cam mechanism is ideal for soft draw applications, and is utilized in larger Impact Tools, as well as in all torque control and electric Impact Tools.

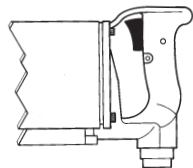
- Air or electric
- Does not stall
- A time-tested design



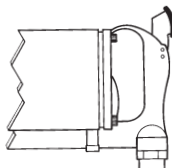
Configurations



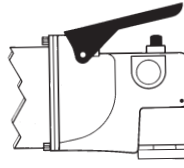
Pistol



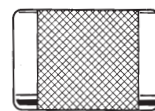
Inside Grip



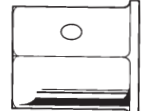
Outside Grip



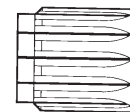
Straight



Quick Change



Square Drive



Spline Drive



Ingersoll-Rand takes pride in the fact that we produce the best industrial products available. However, even the most robust designs require maintenance. When your IR tool, or other IR equipment, requires maintenance or repair, insist on Genuine IR parts and service. Remember, nothing keeps your equipment and tools running better than the original parts they were designed to work with.



Vanes

State of the art, fiber reinforced, engineered polymers ensure top performance from critical parts. IR is constantly looking for ways to increase the power and durability of their impacts.



Vanes w/motor

Tight production tolerances, robust designs and optimized performance provide the user with the best of both worlds: performance and reliability.



Endplates

Easily serviceable parts, simplified components and unique features give the longest tool life available, and the shortest downtime. Meaning increased productivity for our customers.



Hammer frame and anvil

Proprietary hardening and treatment processes reduce wear and drastically extend tool life. Working with industry leaders, IR tools are the best by design.



Cylinder and hammers

Unique metallurgy and chemical treatment processes have been perfected over the 70+ years that Ingersoll-Rand has been producing impact tools. These processes reduce the susceptibility of many components to wear that most other tools experience. From the very start, IR has worked to make their industrial products the very best that they can be.



Call 1-866-474-8665

Ingersoll-Rand, the leader in industrial impact tools, is continuously striving for excellence. Through improvement in design and process, our products are the best they can be. Why settle for less? Demand IR genuine parts and services for your business.

A New Standard of Performance

280 ft.-lbs. of Torque in a tool weighing just 2.4 lbs.



The IR2115PTi 3/8" Drive Model

Ultimate productivity means using the right tool for the job. That's why we're building a Titanium team, with the 2115PTi 3/8" drive model—the perfect tool for tight spaces, where access is critical, and power and control can really make a difference. Like the 2135PTi, it delivers class-leading torque output in an even smaller size, measuring just 1.7" across the hammer case. It incorporates the same great design features, including an enhanced Twin Hammer impact mechanism for fast bolt removal, a professional touch trigger for smooth, precise power delivery, and more.

Two tools for two types of tasks.
The IR Titanium Team is ready.

from the Leader in Impact Tools.

1000 ft.-lbs. of Nut Busting Torque in a tool weighing just 3.9 lbs.



The IR2135PTi
1/2" Drive Model

Ingersoll-Rand has pioneered the use of Titanium to create impact tools that deliver class-leading power in the most compact, lightweight packages available. The new 2135PTi 1/2" drive model produces 700 ft.-lbs. of traditional torque output, and 1000 ft.-lbs. of Nut Busting Torque—it will remove a bolt tightened to 1000 ft.-lbs. in just 6 seconds. Its seven vane motor and efficient air flow help reach peak torque quickly, and get more work done in less time. But all of this power is easy to control, with a comfortable ergonomic handle and grip, convenient pushbutton forward reverse controls for one-handed operation, a four-position power management dial, plus a 360-degree swivel inlet and through-handle exhaust. Its exclusive combination of Titanium and composite construction will withstand the toughest operating conditions, and help you establish a new standard of productivity.

Air Impact Tools

3/8" Industrial Production Class

IR 2902P1

3/8" Air Impact Wrench

The 2902P1 is Ingersoll-Rand's most durable 3/8" impact wrench. It's designed for serious industrial and production environments that require tools that will last.

- Steel hammer case
- Epoxy coated motor housing and handle
- Built in power regulator
- Jumbo hammer mechanism



IR 1702P1

3/8" Air Impact Wrench

The 1702P1 is our most popular, industrial 3/8" impact. A great all purpose tool, the 1702P1 is designed for those applications not as demanding as those for the 2902P1.

- Steel hammer case
- Built in power regulator
- Pressure feed impact mechanism lubrication



IR 1702SB1

3/8" Air Impact Wrench

Our newest 3/8" drive model combines power and economy for general service applications. It provides adjustable power output in forward and reverse with handle exhaust to direct air away from the operator and the work.

- 160 ft.-lbs. of maximum torque
- Two-piece housing for easy service
- Comfortable ergonomic handle design



Hanger not included

IR 2115PTi

3/8" Air Impact Wrench

The 2115PTi is Ingersoll-Rand's smallest, lightest, & hardest hitting 3/8" industrial impact wrench. Incorporating a titanium hammer case and a composite body for added durability.

- Small size is great for tight spots
- 280 ft.-lbs. max torque
- Only 2.4 lbs.
- Ergonomic, composite handle for operator comfort



Options Available

Series 1702

- Vertical hanger No. 1901-365 (B)
- Exhaust muffler kit No. 212-K23 (P)
- Horizontal hanger No. 1901-366

Series 2902

- Vertical hanger No. 1901-365 (B)
- Horizontal hanger No. 1901-366 (P&B)

Series 2903

- Vertical hanger No. 2908-365
- Horizontal hanger No. 1901-366

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque ft.-lb.	Nm	Recomm. Torque Range ft.-lb.	Nm	Weight, less socket lb.	kg	Length, less socket in.	mm	Side to Center Distance in.	mm	Size Hose Recomm. in.	mm	cfm
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Super Duty Impact Tools

2902P1	3/8" square	Pistol	10,000	1500	140	190	20-120	27-163	2 1/2	1.25	5 1/2	140	1 3/8	35	5/16	8	15
2903P2	3/8" square	Pistol	6000	1200	205	278	30-170	41-230	4 13/16	2.18	5 5/8	143	1 3/8	35	3/8	10	21
2115PTi	3/8" square	Pistol	15,000	1500	250F	339	25-250	34-312	2.4	1.1	5 3/4	146	1 1/8	29	3/8	10	17
	280R				378												
2115P4Ti	1/4" hex QC	Pistol	15,000	1500	250F	339	25-230	34-312	2.4	1.1	5 3/4	146	1 1/8	29	3/8	10	17
	Reverse Bias				280R	378											

Heavy Duty Impact Tools

1702SB1	3/8" square	Straight	10,000	1500	105	142	13-85	18-115	2 1/2	1.12	5 7/8	149	1	25	5/16	8	13
1702P1	3/8" square	Pistol	10,000	1500	125	170	20-100	27-136	2 3/4	1.25	5 1/2	140	1 3/8	35	5/16	8	15
1702P4	1/4" hex QC	Pistol	10,000	1500	125	170	20-100	27-136	2 3/4	1.25	5 1/2	140	1 3/8	35	5/16	8	15

"QC" designates a Quick Change chuck.

Note: All of the above square drive Impact Tools furnished with pin-type retainer. Performance figures are at 90 psi (620kPa) air pressure.

IR2115Ti

**3/8" Titanium Duty
 Mini Air Impact Wrench**

The new IR2115Ti is the world's most powerful and compact 3/8" impact. The streamlined titanium hammer case allows the user to access fasteners that other bulky impacts can't reach. The 280 ft.-lbs. of torque

will remove even the toughest nuts and bolts. The IR2115Ti excels on all of your automotive applications: transmissions, brakes, exhaust, body repair, and under hood.

- 280 ft.-lbs. maximum torque
- 15,000 rpm
- 2.4 lbs.
- Titanium Strength



IR212

**3/8" Super Duty
 Air Impact Wrench**

Tremendous power and longer life make this wrench the popular choice of professional mechanics for exhaust systems, air conditioning, radiators, body shop, and bench work. Still the most powerful 3/8" pistol-grip on the market, it offers all the advantages of the Single Hammer Impact Mechanism for removing and replacing bolts up to 7/16" without a struggle.

- Power up to 180 ft.-lbs
- Unaffected by air pressure changes
- More torque, less vibration
- Pistol-style yet extremely compact and lightweight
- Built-in power regulator prevents over-torquing
- Handle exhaust



IR215

**3/8" Heavy Duty
 Air Impact Wrench**

Our newest 3/8" drive model combines power and economy for general service applications. It provides adjustable power output in forward and reverse with handle exhaust to direct air away from the operator and the work.

- 160 ft.-lbs. of maximum torque
- Two-piece housing for easy service
- Comfortable ergonomic handle design



IR216

**3/8" Super Duty
 In-Line Air Impact Wrench**

The IR216 puts power and ergonomics in the palm of your hand. This durable in-line wrench is handy for the small cramped spaces common to small engine repair and other general service work. The butterfly-style throttle valve lets you adjust speed smoothly in either direction in one continuous motion.

- The most powerful 3/8" palm-grip wrench you can get
- 175 ft.-lbs. of torque
- Contoured composite butterfly throttle for comfort and control
- Recessed regulator dial



Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Free Spd. (rpm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
3/8" Square Drive										
IR211	Heavy Duty	150 (204)	10,000	2.4 (1.09)	6.6 (168)	2.5 (71)	11 (311)	104/117	1/4	3/8 (10)
IR212	Super Duty	180 (245)	10,000	2.89 (1.31)	6 (152)	2.5 (71)	11 (311)	97.5/110.5	1/4	3/8 (10)
IR215	Heavy Duty	160 (217)	9,500	2.89 (1.31)	6.125 (156)	3.0 (84)	13 (364)	80.6/93.6	1/4	3/8 (10)
IR216	Super Duty	175 (232)	8,000	2.89 (1.31)	6.125 (156)	3.0 (85)	13 (368)	97.5/110.5	1/4	3/8 (10)
IR2115Ti	Titanium Duty	260 (354)	14,500	2.65 (1.20)	5.625 (143)	4 (113)	17 (476)	94.9/107.9	1/4	3/8 (10)

*Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Impact Tools

1/2" Industrial Production Class

IR 2906P1

1/2" Air Impact Wrench

The 2906P1 is Ingersoll-Rand's most durable 1/2" impact wrench. It's designed for serious industrial and production environments that require a tool to last 24 hours a day, 7 days a week.

- Steel hammer case
- Built in lubricator
- Built in power regulator
- Two-piece motor housing



IR 2707P1

1/2" Air Impact Wrench

The 2707P1 is designed for applications not as demanding as those for the 2906P1, making it a great general purpose industrial tool.

- Steel hammer case
- Built in power regulator
- Pressure feed impact mechanism lubrication



IR 2135PTi

1/2" Air Impact Wrench

The 2135PTi is Ingersoll-Rand's newest 1/2" impact wrench and incorporates titanium technology to create the lightest weight, hardest hitting impact in its class.

- Titanium hammer case is light weight and durable
- 700 ft.-lbs. of maximum torque
- Only 3.95lbs.
- Ergonomic, composite handle for operator comfort



IR 2705P1

1/2" Air Impact Wrench

Designed for light industrial use, the 2705P1 is an economical alternative for an industrial grade tool. It's well suited for industrial maintenance applications.

- Steel hammer case
- Built in power regulator
- Epoxy coated motor housing and handle



Options Available

Series 2903, 2908

- Vertical hanger No. 2908-365

Series 2705

- Vertical hanger No. 904-366

Series 2135

- Vertical hanger No. 2131-366

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm.		cfm
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	

Super Duty Impact Tools

2906P1	1/2" square	Pistol	5000	1200	500	678	40-350	54.2-475	6	2.72	67/8	175	111/32	34	3/8	10	23
2903P1	1/2" square	Pistol	6000	1200	220	298	30-185	41-250	4 ⁹ / ₁₆	2.18	5 ⁵ / ₈	143	1 ³ / ₈	35	3/8	10	21

Heavy Duty Impact Tools

2707P1	1/2" square	Pistol	7750	1300	450	610	40-275	54-373	6	2.72	6 ¹ / ₂	165	1 ³ / ₈	35	5/16	8	26
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Standard Duty Impact Tools

2135PTi	1/2" square Reverse Bias	Pistol	9500	1250	625 700	848 949	50-600	68-814	3.95	1.79	7.34	186	1 ³ / ₈	35	3/8	10	24
2131P7	7/16" hex QC Reverse Bias	Pistol	9500	1250	625 700	848 949	50-600	68-814	3.95	1.79	7.34	186	1 ³ / ₈	35	3/8	10	24
2705P1	1/2" square	Pistol	8500	1200	400	542	40-200	54-271	5 ⁵ / ₈	2.55	6 ³ / ₄	171	111/32	34	3/8	10	23
2125PTi	1/2" square Reverse Bias	Pistol	15,000	1500	290 280	339 378	25-230	34-312	2.4	1.1	5 ³ / ₄	146	1 ¹ / ₈	29	3/8	10	17

All of the above square drive Impact Tools furnished with pin-type retainer. Performance figures are at 90 psi (620 kPa) air pressure.

IR231HA

1/2" Super Duty Air Impact Wrench

The 231 Series has set the standard for impact performance for over three decades. Refined engineering design has perfected the performance that has made the IR231 series the most popular impact ever, rivaled only by IR's composite impacts. IR's elite mechanism is the perfect balance between superior power and proven durability.

- Handle exhaust directs air away from user
- Contoured comfort handle
- 590 ft.-lbs. maximum torque
- Pressure feed lubrication system
- Adjustable Power Regulation



IR231HA-2

1/2" Super Duty Air Impact Wrench Extended Anvil

Featuring a 2" extended anvil with all the performance benefits found in the IR231HA. Ideal for tire changing and use with flip sockets.

IR244A

1/2" Super Duty

Air Impact Wrench

Bring out the "big gun" for tire-changing, shock and spring work, front end work, and other heavy automotive and truck work. The impact mechanism pumps out 500 ft.-lbs. torque at a free speed of 7,000 rpm to get the job done fast.

- Powerful, with smooth, balanced blows
- Pressure Feed Lubrication System automatically greases the impact mechanism



IR244A-2

1/2" Super Duty Extended Anvil

Air Impact Wrench

Specifically designed for heavy tire changes, this is the "twin" of the IR244, but with a 2" extended anvil you use with flip sockets.

IR235

1/2" Heavy Duty

Air Impact Wrench

Ingersoll-Rand has packed more power, features, and durability into its most economical 1/2" drive impact wrench. This tool delivers 375 ft.-lbs. of maximum torque with a free speed of 9,500 rpm, to make easier work of general service applications.

- 375 ft.-lbs. of maximum torque
- Handle exhaust
- Balanced design with easy-to-use controls, tease trigger
- Full power in reverse; adjustable power in forward
- High output impact mechanism



IR232TGSL

Street Legal™ ThunderGun®

1/2" Super Duty

Air Impact Wrench

This is our fastest 1/2" impact wrench... and as close as you can get to the real racing tools preferred by NASCAR tire changers. It features 625 ft.-lbs. of torque in reverse, with 10,000 rpm to deliver pit crew power, speed, and durability for shop tasks.

- Distinctive appearance, similar to the IR ThunderGun racing tool
- Adjustable power regulator
- Our fastest 1/2" impact wrench!



Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Av. Free Spd. (rpm)	Weight lbs. (kg)	Sound Length in. (mm)	Air Air Consump. cfm (l/min)	Min. @ Load cfm (l/min)	dBA (Press./Power)	Inlet NPTF in.	Hose Size in. (mm)
IR231HA	Super Duty.	590 (816)	8,000	5.8 (2.63)	7.3 (185)	4.2 (119)	22 (623)	91.2/104.2	1/4	3/8 (10)
IR231HA-2	Spr.Dty.Ext.Anv.	590 (816)	8,000	6.1 (2.76)	9.5 (241)	4.8 (136)	23 (651)	89/102	1/4	3/8 (10)
IR244A	Super Duty	500 (680)	7,000	6 (2.72)	7.3 (185)	5.4 (153)	21 (595)	105/109.3	1/4	3/8 (10)
IR244A-2	Spr.Dty.Ext.Anv.	500 (680)	7,000	6.28 (2.85)	9.5 (241)	5.4 (153)	21 (595)	105/109.3	1/4	3/8 (10)
IR235	Heavy Duty	375	9,500	5.42 (2.46)	7.75 (197)	4 (113)	17 (474)	104.2/111.6	1/4	3/8 (10)
IR232TGSL	Super Duty.	625 (847)	10,000	6 (2.72)	7.3 (185)	5.4 (153)	21 (595)	105/109.3	1/4	3/8 (10)

*Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Impact Tools

1/2" Maintenance/Automotive Class*

IR2125QTi

1/2" Titanium Duty

Mini Air Impact Wrench

The 1/2" drive version of the new IR2115Ti Titanium Impact. Superior power in a lightweight package.



IR231C

1/2" Super Duty

Air Impact Wrench

The classic IR231 is the most popular tool in its class. Introduced over 25 years ago and continuously refined, it offers the sheer power and performance features to tackle the toughest jobs with ease – as well as proven durability and economy.



- Exclusive impact mechanism
- Pressure-feed lubrication
- Adjustable power regulator
- Easy to service two-piece construction
- Contoured handle for comfort and control

IR225

1/2" Heavy Duty

Air Impact Wrench

The new IR225 "mini" air impact wrench brings power and speed to motorcycle service, small engine repair and transmission work, and other applications involving tight spaces. Plus, its many comfort and convenience features make it a great value.



- 325 ft.-lbs. of maximum torque
- Six-position power management in forward and reverse
- Handle exhaust directs air away from the operator and the work

1/2" Drive Impact Tool Sockets

Cat. No.	Description
74411	1/2" drive set (7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, metal tray)
73412	1/2" drive deep set (3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, metal tray)
74466M	1/2" drive metric set (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, metal tray)
73467M	1/2" drive deep metric set (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, metal tray)



Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Av. Free Spd. (rpm)	Weight lbs. (kg)	Sound Length in. (mm)	Air Air Consump. cfm (l/min)	Min. @ Load cfm (l/min)	dBA (Press./Power)	Inlet NPTF in.	Hose Size in. (mm)
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1/2" Square Drive

IR2125QTi	Titanium Duty	260 (312)	14,500	2.65 (1.2)	5.625 (143)	4 (113)	17 (476)	94.9/107.9	1/4	3/8 (10)
IR225	Heavy Duty	325 (441)	7,500	4.25 (1.93)	6.625 (168)	4 (113)	16.3 (456)	90.5/103.5	1/4	3/8 (10)
IR231C	Super Duty	600 (816)	8,000	5.8 (2.63)	7.3 (185)	4.2 (119)	22 (623)	102/115	1/4	3/8 (10)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR2135Ti

1/2" Titanium Duty Air Impact Wrench

The Titanium IR2135Ti delivers 1,000 ft.-lbs. of Nut Busting Torque in a gun that weighs just 3.95 lbs! The 7-vane power plant drives enough torque to break away a nut tightened to over 1,000 ft.-lbs. in under six seconds.

- 1,000 ft.-lbs. of Nut Busting Torque
- Traditional max. torque of 700 ft.-lbs.
- New ergonomically designed handle
- Easy-to-use forward/reverse push buttons
- Professional touch trigger for precision control
- Power control dial
- Titanium Technology



IR2135QTi

1/2" Titanium Duty Air Impact Wrench

Powerful and Quiet! New technology developed by IR has reset the standard for quiet technology coupled with raw power. The quiet version of IR's strongest 1/2" impact is perfect for high volume tire shops and other applications involving frequent use.

- Patented technology silences the tool without sacrificing the power required for tough applications
- New ergonomically designed handle
- Titanium Technology



IR2135Ti-2

1/2" Titanium Duty Air Impact Wrench Extended Anvil

Featuring a 2" extended anvil with all the performance benefits found in the IR2135Ti. Not many lug nuts can stand in the way of Titanium power. Ideal for tire changing and use with flip sockets.

IR2135QTi-2

1/2" Titanium Duty Air Impact Wrench Extended Anvil

Featuring a 2" extended anvil with all the performance benefits found in the IR2135QTi. Ideal for tire changing and use with flip sockets.

IR2130

1/2" Heavy Duty Air Impact Wrench

The new IR2130 has all the performance and features you have come to expect from the IR family of Impact wrenches. This Impact features a powerful twin hammer mechanism and a new composite housing, yielding superior ergonomics in a lightweight package.

- 600 ft.-lbs. of maximum Torque
- Full stroke tease throttle
- Easy glide forward/reverse switch
- Multi position power management
- Lightweight reinforced aluminum hammercase



Protect your tool investment with Ingersoll-Rand Impact Tool boots. Tool boots cover the front end of your impact and prevent knicks and scratches from marring the look of your new tool. They are also a great way to individualize and differentiate your tool from everyone else's.

Model	Impact Tool
2131-P32	2131, 2131P, 2131QT-2, 2131QT
2135-P32	2135Ti, 2135Ti-2, 2135PTi, 2135PTi-2
202-P32	212
2112-P32	2112
235-P32	235
231-P32	231C
244-P32	244A
225-P32	225
255-P32	255
2141-P32	2141
2161-P32	2161
295-P32	295



IR2130-2

1/2" Heavy Duty Air Impact Wrench Extended Anvil

Featuring a 2" extended anvil with all the performance benefits found in the IR2130. Ideal for tire changing and use with flip sockets.

Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Free Spd. (rpm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
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1/2" Square Drive

IR2130	Heavy Duty	600 (814)	9,500	4.2 (1.9)	7.25 (184)	4.4 (124.6)	22 (623)	96.6/109.6	1/4	3/8 (10)
IR2130-2	Heavy Duty	600 (814)	9,500	4.55 (2.05)	9.25 (235)	4.4 (124.6)	22 (623)	96.6/109.6	1/4	3/8 (10)
IR2135Ti	Titanium Duty	700 (950)	9,500	3.95 (1.79)	7.34 (186.4)	5 (142)	24 (680)	101/114	1/4	3/8 (10)
IR2135Ti-2	Titanium Duty.	700 (950)	9,500	4.4 (2.0)	9.34 (237)	5 (142)	24 (680)	101/114	1/4	3/8 (10)
IR2135QTi	Titanium Duty	700 (950)	9,500	4.05 (1.84)	7.34 (186.4)	5 (142)	24 (680)	86/96	1/4	3/8 (10)
IR2135QTi-2	Titanium Duty.	700 (950)	9,500	4.4 (2.0)	9.34 (237)	5 (142)	24 (680)	86/96	1/4	3/8 (10)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR2925P Series Impact Tools

A new generation of Impact Tools

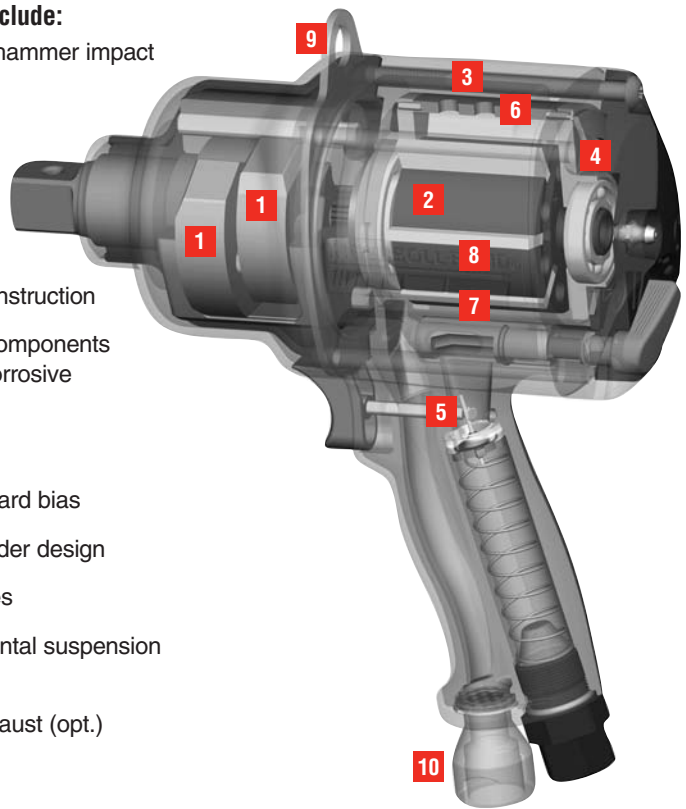
The unique features of the 2925 Series extend to pistol grip configurations in the 2925P Models. They offer an unmatched combination of performance and control, with the durability to withstand the toughest operating conditions.

External features include:

- Titanium hammer case
 - Ergonomic handle design
 - Smooth contoured profile with integral grip ledge
 - Three-piece housing
 - Handle exhaust
 - Contoured trigger
 - Minimum side-to-center distance
 - Enhanced pressure-feed lubrication system
 - Low profile reverse lever
 - Three-position power regulation and forward/reverse control
- Position #1 = Full
#2 = Approx. 88%
#3 = Approx. 77%

Internal features include:

- 1 Enhanced twin-hammer impact mechanism
- 2 Supermotor™
- 3 Through-bolt construction
- 4 Corrode-X™ (Components impervious to corrosive contaminants)
- 5 Tilt throttle
- 6 Reverse or forward bias
- 7 Concentric cylinder design
- 8 Composite vanes
- 9 Balanced horizontal suspension bail (opt.)
- 10 Piped-away exhaust (opt.)



IR2161

The IR2161 models

The IR2161 heavy duty models are ideal for applications a little less demanding than those for the IR2925.

Features that distinguish the IR2161 from the IR2925 models include:



- Enhanced single-hammer mechanism
- Maximum torque of 1250 ft.-lbs.
- Smooth, high-gloss cast aluminum finish
- 6-Vane high-output air motor
- Smooth, contoured exterior profile

External features include:

- Ergonomic handle design
- Smooth contoured profile
- Three-piece housing
- Handle exhaust

- 360° swivel air inlet
 - Contoured trigger
 - Minimum side-to-center distance
 - Enhanced pressure-feed lubrication system
 - Three-position power regulation and forward/reverse control
- Position #1 = Full
#2 = Approx. 88%
#3 = Approx. 77%
- Ribbed lever surface

Internal features include:

- An enhancement to the original single-hammer mechanism provides increased durability and performance (patent applied for)
- 6-Vane high-output air motor
- Through-bolt construction
- 360° swivel air inlet
- Tilt throttle
- Concentric cylinder design
- Balanced horizontal suspension bail (opt.)
- Piped-away exhaust (opt.)



The IR2141P delivers an exceptional blend of performance, control, and durability

TwinHammer Plus™ mechanism

(patent pending)
Ingersoll-Rand introduced the original twin hammer mechanism, and we've continually refined it for smooth, efficient power delivery...and now 30 percent greater durability.

Six-vane high-output air motor

High efficiency motor quickly delivers maximum torque.

Through bolt construction

Facilitates fast, easy maintenance. Eliminates sharp edges and protrusions on the housing.

4 power positions

Enables the operator to tailor the power output to the application.



1,200 ft.-lbs. of Pure Power

Best in class torque performance, and best in class power-to-weight ratio.

Contoured trigger

Provides a comfortable finger position for easy starts and smooth operation.

One hand operation forward/reverse buttons

(patented design)
Quick, easy directional changes

Durable and lightweight composite housing

Gives the operator the comfort, agility, access and control for the most demanding conditions.

Ergonomically designed handle for increased comfort

Provides a comfortable, secure grip and excellent control.

In-handle exhaust

Directs air away from the operator and the work.

360° swivel inlet

(patented design)
Helps eliminate air hose twisting and binding.



The new 2141P 3/4-inch drive air impact wrench tackles the toughest jobs in the plant with a new level of productivity.

Air Impact Tools

3/4" Industrial Production Class

IR 2925P1Ti

3/4" Air Impact Wrench

Our flagship 3/4" industrial impact wrench, the 2925P1Ti has a titanium hammer case for even greater durability. It's built to provide optimal control and withstand the toughest operating conditions.

- Titanium hammer case
- Ergonomic handle design
- Three position power regulation
- Three-piece motor housing
- Model 2925RBP1Ti is reversed biased with 1600 ft-lbs max torque



IR 1720B1

3/4" Air Impact Wrench

The IR 1720B1 is our most popular 3/4" drive industrial impact wrench in a D handle configuration. Designed for applications not as durable as those for the 2925B2Ti, the 1720B1 is a tough, general purpose industrial impact tool for production or heavy maintenance use.

- 1,000 ft-lbs maximum torque
- Optional dead handle available
- Steel hammer case



IR 1720P1

3/4" Air Impact Wrench

The 1720P1 is designed for those applications that are not as demanding as those for the 2925P1Ti. A great general purpose industrial 3/4" impact wrench.

- Steel hammer case
- Built in lubricator
- B1 model; D handle design



IR 2141P

3/4" Air Impact Wrench

Weighing just 7 lbs and only 8.2" long, the 2141P is the smallest 3/4" impact on the market. The composite, ergonomic design is durable and comfortable and the 1200 ft-lbs of max torque will get the job done quickly.

- Twin Hammer Plus mechanism for smooth, efficient power
- High output, six vane motor
- Four position power regulator



Options Available

Models 2161P, 2171P

- Piped-away exhaust kit No. 2161-123
- Horizontal suspension bail No. 2161-366
- Boot 2161-P32

Series 2925

- Piped-away exhaust kit No. 2161-123
- Horizontal suspension bail No. 2161-366
- Number 4 spline anvil No. 2910-A526

Series 2920B

- 2910B-726-6: 6" extended 3/4" anvil
- Horizontal hanger No. 910-366
- 5/8" hex quick change anvil No. 2910B-A926-10
- Power regulator valve kit No. 2920-K32

Series 1720

- 3/4" drive x 6" (152 mm) hog ring style
- Extended anvil No. 265-A626-6
- Horizontal hanger No. 910-366
- Power regulator Kit No. 2920-K329
- Reverse valve Kit No. 1720-K329
- Dead handle 834-48
- Dead handle bracket 2910B-364

Series 2141P

- Piped-away exhaust kit
- Horizontal suspension bail
- Tool boot

Air Impact Tools

3/4" Industrial Production Class



Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm.		cfm
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	
Super Duty Impact Tools																	
2925P1Ti	3/4" square	Pistol	5200	1050	1450	1972	350-1100	476-1496	11 ⁷ / ₈	5.39	8 ⁷ / ₈	225	1 ³ / ₄	44	1/2	13	60
2925RBP1Ti	3/4" square	Pistol	5200	1050	1600 R	2176	400-1400	544-1904	11 ⁷ / ₈	5.39	8 ⁷ / ₈	225	1 ³ / ₄	44	1/2	13	60
	Reverse Bias				1300 F	1768	300-950	408-1292									
2920B1	3/4" square	Grip	5000	950	1100	1495	250-800	339-1085	13 ³ / ₁₆	5.98	12 ¹ / ₂	318	1 ²⁹ / ₃₂	49	1/2	13	36
2920B9	3/4" sq. at 90°	Grip	5000	950	550	949	125-400	203-678	23 ¹¹ / ₁₆	10.75	17 ¹ / ₂	445	1 ¹⁵ / ₁₆	33	1/2	13	36
Heavy Duty Impact Tools																	
2161P	3/4" square	Pistol	5750	1025	1250	1700	250-900	340-1224	11 ¹ / ₄	5.10	8 ¹ / ₂	216	1 ³ / ₄	44	1/2	13	55
1720P1	3/4" square	Pistol	5500	1000	1000	1360	200-600	271-813	11 ⁷ / ₈	5.39	7 ⁵ / ₈	194	1 ²⁹ / ₃₂	48	1/2	13	40
1720B1	3/4" square	Grip	5500	1000	1000	1360	200-600	271-813	13 ³ / ₁₆	6.27	11 ³ / ₄	299	1 ²⁹ / ₃₂	48	1/2	13	40
Standard Duty Impact Tools																	
2141P	3/4" square	Pistol	7250	1175	1200R	1492	200-900	271-1220	7.0	3.2	8.2	208	1 ³ / ₄	44	1/2	13	40
					1000F	1492											
2141P3	#4 spline	Pistol	7250	1175	1200R	1492	200-900	271-1220	7.0	3.2	8.2	208	1 ³ / ₄	44	1/2	13	40
					1000F	1492											

Note: IR2925 number 4 spline models are available by converting the standard square drive anvil with number 4 spline anvil part number 2910-A526. The same performance figures apply.

Performance figures are at 90 psi (620 kPa) air pressure.

Angle head gear ratio on model 2920B9 is 2 to 1.

† Side to center distance of angle head. Height of angle head to shoulder of square drive is 3¹/₂" (89 mm).

**2920B9 Hammer Case is plated ductile iron.

◆ Approx. 50% torque reduction.

I.T.: Inside Throttle

O.T.: Outside Throttle

Air Impact Tools

3/4" Maintenance/Automotive Class*

IR252

3/4" Standard Duty

Air Impact Wrench

The IR252 is an economical standard duty 3/4" wrench for engine teardowns or general maintenance. This is a good lightweight 3/4" wrench with a high power rating for its compact size.

- Full power in reverse; 3-position adjustable power in forward
- 750 ft.-lbs. of torque
- Handle exhaust
- Integral 360 degree swivel inlet
- Lightweight and easy to operate
- Long, trouble-free life insured by oil bath lubrication



IR258

3/4" Heavy Duty

Air Impact Wrench

The IR258 delivers 1000 ft.-lbs. of maximum torque for work on trucks, heavy equipment, and agricultural machinery. It features an excellent power-to-weight ratio for ease of use, as well as a three-speed power regulator for tailoring output in forward and reverse.

- In-handle exhaust directs air flow away from the operator and the work
- 360 degree swivel inlet helps eliminate twisted hoses
- Fully adjustable power in forward and reverse



IR261

3/4" Super Duty

Air Impact Wrench

The highly-regarded IR261 model combines compact size with high output, which makes it perfect for everything from spring work to pinion nut and track pad removal and major engine teardowns.

- Jumbo hammer mechanism
- Up to 1,100 ft.-lbs. of torque
- Trouble-free, longer performance aided by the Pressure-Feed Lube System
- Compact and only 7-5/8" long
- Handle exhaust

For optional power regulator please order part #2920-K329



IR261-3

3/4" Super Duty Extended Anvil

Air Impact Wrench

Same specifications as the IR261-6 model, but with 3" extended anvil.

IR261-6

3/4" Super Duty Extended Anvil

Air Impact Wrench

A popular truck tire tool, this model includes all the high-performance features of the IR261. You'll be able to reach lug nuts in deep truck wheels easily with its 6" extended anvil. The tool itself is lightweight and very compact.



Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Free Spd. (rpm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./ Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR252	Standard Duty	750 (1,020)	6,500	8.6 (3.9)	9 (229)	7.5 (212)	28 (793)	92.1/105.1	3/8	1/2 (13)
IR258	Heavy Duty	1,000 (1,360)	6,200	10.77 (4.89)	9.8 (249)	8 (226)	30 (835)	93.7/106.7	3/8	1/2 (13)
IR261	Super Duty	1,100 (1,496)	5,500	12.4 (5.62)	8.8 (224)	9.5 (269)	38 (1076)	101.1/114.1	3/8	1/2 (13)
IR261-3	Super Duty Ext.Anv.	1,100 (1,496)	5,500	13 (5.90)	11.8 (300)	9.5 (269)	38 (1076)	101.1/114.1	3/8	1/2 (13)
IR261-6	Super Duty Ext.Anv.	1,100 (1,496)	5,500	13.7 (6.21)	14.8 (376)	9.5 (269)	38 (1076)	101.1/114.1	3/8	1/2 (13)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR2141

3/4" Ultra Duty

Air Impact Wrench

Power means productivity. With best-in-class torque, the 2141 delivers plenty of it in the smallest, lightest package available. Delivers best power-to-weight ratio and best size ratio in its class as well. Great maneuverability for tight, awkward spaces.

- Weighs just 7 lbs.
- Only 8.2" long
- 1200 ft.-lbs. maximum torque
- TwinHammer Plus™ mechanism for 30 percent greater durability
- Contoured professional touch trigger and ergonomically designed handle for increased comfort



IR2161XP

3/4" Ultra Duty

Air Impact Wrench



The IR2161 combines a six-vane high output air motor, through-bolt construction, ergonomic handle and housing design to create an impact tool that offers increased power and durability like no other.

- Most powerful 3/4" impact in the industry
- Maximum torque 1,250 ft.-lbs.
- Full power reverse
- 3-position power regulator
- 360 degree swivel inlet



IR2161XP-6

3/4" Ultra Duty

Air Impact Wrench



The IR2161-6 offers all of the ergonomic, power and durability enhancing features as the IR2161XP but with an extended anvil for those hard to reach applications.

- Jumbo Hammer mechanism
- Up to 1,250 ft.-lbs. of torque
- Trouble-free, longer performance aided by the Pressure-Feed Lube System
- Compact and only 7-5/8" long
- Handle exhaust



C28241-800

Ingersoll-Rand ARO Filter-Regulator-Lubricator (FRL)

Take care of your pneumatic equipment with Ingersoll-Rand ARO brand filters, regulators, and lubricators. Designed to clean, control and lubricate your air lines, ARO FRLs will make sure you get the most out of your tools. They are available in complete FRL packages, individual components, and in piggyback configurations, with a variety of air flows to choose from.



C28241-800 (Modular)

Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Free Spd. (rpm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
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3/4" Square Drive

IR2141	Ultra Duty	1,200 (1,627)	7,250	7 (3.2)	8.2 (208)	9.5 (269)	40 (1133)	99	3/8	1/2 (13)
IR2161XP	Ultra Duty	1,250 (1,695)	6,000	11.8 (5.35)	8.5 (216)	10 (283)	46 (1303)	98/111	3/8	1/2 (13)
IR2161XP-6	Ultra Duty	1,250 (1,695)	6,000	13.1 (5.95)	14.5 (368)	10 (283)	46 (1303)	98/111	3/8	1/2 (13)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Impact Tools

1" Industrial Production Class

IR 2940B2

1" Air Impact Wrench

The 2940B2 is our most popular 1" industrial impact wrench. Designed to withstand tough steel erection, power generation or petrochemical applications, the 2940B2's durability and power are legendary.

- Powder coated ductile iron hammer case
- Powder coated motor housing and handle
- Straight dead handle
- Two-piece motor housing
- Built in lubricator



IR 2940P2

3/4" Air Impact Wrench

Similar features and benefits as the 2940B2 but in a pistol grip design.

- Spade style dead handle
- Integral power regulator



Options Available

Series 2940

- Piped-away exhaust muffler kit
No. 2940-KM184 (A & B models only)
- Horizontal hanger consisting of
 - One horizontal hanger No. 2934-366
 - Two hanger spacers No. 2934-140
 - *1" drive x 6" (152 mm) extended anvil No. 2940-314-6

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm.		cfm
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	

Super Duty Impact Tools

2940A1**	No. 5 spline	Grip O.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940A2	1" square	Grip O.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940B1**	No. 5 spline	Grip I.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940B2	1" square	Grip I.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940P2	1" square	Pistol	4000	810	2000	2710	1000-1600	1360-2170	22 ⁷ / ₈	10.4	9 ⁷ / ₈	251	2 ³ / ₁₆	56	3/4	19	58

*Approx. 15% torque reduction.

**No. 5 spline 1⁵/₈" OD 14 teeth.

Performance figures are at 90 psi (620 kPa) air pressure.

O.T.: Outside Trigger

I.T.: Inside Trigger

IR 2934B9

1" Air Impact Wrench

The 2934B9 has a 90° angle head for vertical applications. Powerful twin hammer design and spade handle come standard.

- Powder coated ductile iron hammer case
- Powder coated motor housing and handle
- Spade style handle
- Two-piece motor housing
- Integral muffler



IR 2934P2

1" Air Impact Wrench

Ingersoll-Rand's 2934P2 is a 1" pistol grip impact wrench built for tough applications and weighs under 9lbs.

- Powder coated ductile iron hammer case
- Powder coated motor housing and handle
- Spade style handle
- Two-piece motor housing
- Built in power regulator



Options Available

Series 1734

- No. 5 spline 280-A514-6
- *6" square anvil: 280-726-6
- Hanger: 2934-366
- Exhaust deflector kit: 2934-K23
- Piped-away exhaust with muffler: 2940-KM184
- Piped-away exhaust without muffler: 2940-K184

IR 1712B2

1" Air Impact Wrench

One of our more popular 1" industrial impact wrenches, the 1712B2 puts out 1350 ft-lbs max torque and weighs just over 11 lbs.

- Ductile iron hammer case
- Powder coated motor housing and handle
- Two-piece motor housing
- Inside throttle and spade style dead handle



Series 2934

- 90° Angle drive is available for all square drive models.
- Order angle attachment No. 2934A90 and hex nose hammer case No. 2934-A827. This hammer case must be used to replace the standard hammer case. Note that these items are furnished as standard equipment on Model 2934B9

- *1" drive x 6" (152 mm) extended anvil No. 2934-314-6
- Horizontal hanger consisting of:
 - One horizontal hanger No. 2934-366
 - Two hanger spacers No. 2934-140
- Piped-away exhaust muffler kit No. 2940-KM184. (A & B models only)

Series 1712

- *1" drive x 6" (152 mm) extended anvil No. 280-726-6
- 2934-366 horizontal hanger

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm.		cfm
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	

Super Duty Impact Tools

2934A2	1" square	Grip O.T.	6600	750	1500	2030	500-1100	678-1490	18½	8.39	11¼	286	2³/₁₆	56	¾	19	47
2934B1**	No. 5 spline	Grip I.T.	6600	750	1500	2030	500-1100	678-1490	18½	8.39	11¼	286	2³/₁₆	56	¾	19	47
2934B2	1" square	Grip I.T.	6600	750	1500	2030	500-1100	678-1490	18½	8.39	11¼	286	2³/₁₆	56	¾	19	47
2934B9	1" sq. at 90°	Grip I.T.	5300	780	750	1624	250-500	678-1355	35¾	16.2	18⅝	473	1¹⁵/₈	141	¾	19	47
2934P2	1" square	Pistol	5300	825	1500	2030	500-1100	678-1490	20	9.07	8⅝	219	2³/₁₆	56	¾	19	47

Heavy Duty Impact Tools

1734A1**	No. 5 spline	Grip O.T.	6000	800	1400	1904	450-1000	612-1860	18⅝	8.34	11¼	286	2³/₁₆	56	¾	19	47
1712B2	1" square	Grip I.T.	6000	800	1350	1836	450-1000	612-1860	18¼	8.28	11¼	286	2³/₁₆	56	¾	19	47
1712P2	1" square	Pistol	6000	800	1350	1836	450-1000	612-1860	18¼	8.28	11¼	286	2³/₁₆	56	¾	19	56

*Approx. 15% torque reduction.
Performance figures are at 90 psi (620 kPa) air pressure.
Angle head gear ratio on model 2934B9 B is 1 to 1.

**No. 5 spline 1½" OD 14 teeth.
† Side to center distance of angle head. Height of angle head to shoulder of square drive is 4¾" (111 mm).
I.T.: Inside Trigger
O.T.: Outside Trigger

Air Impact Tools

1" Industrial Production Class

IR 2925P3Ti

1" Air Impact Wrench

The IR 2925P3Ti has the same features and benefits as the 3/4" 2925P1Ti but with a 1" anvil.

- Titanium hammer case
- Ergonomic handle design
- Three position power regulation
- Three-piece motor housing



IR 2925RB2Ti

1" Air Impact Wrench

Similar in design to the 3/4" 2925RB1Ti but with more power, the 2925RB2Ti is reverse biased and puts out 1700 ft-lbs.

- Titanium hammer case
- Ergonomic D shaped handle design
- Three position power regulation
- Corrosion resistant component package



IR 2171P

1" Air Impact Wrench

With a six vane high output motor, through bolt construction and ergonomic design, the 2171P offers great features and power and an economical price.

- 1250 ft-lbs. max torque
- 3-position power regulator
- 360° swivel inlet
- Steel hammer case



IR 1720P3

1" Air Impact Wrench

The 1720P3 puts out 1100 ft-lbs. max torque and is a good choice for light industrial applications that are not as demanding as those for the 2925 series, such as industrial maintenance.

- Steel hammer case
- B3 model; inside throttle and dead handle



Options Available

Models 2161P, 2171P

- Piped-away exhaust kit No. 2161-123
- Horizontal suspension bail No. 2161-366
- Boot 2161-P32

Series 2925

- Piped-away exhaust kit No. 2161-123
- Horizontal suspension bail No. 2161-366
- Number 4 spline anvil No. 2910-A526

Series 2920B

- 2910B-726-6: 6" extended 3/4" anvil
- Horizontal hanger No. 910-366
- 5/8" hex quick change anvil No. 2910B-A926-10
- Power regulator valve kit No. 2920-K32

Series 1720

- 3/4" drive x 6" (152 mm) hog ring style
- Extended anvil No. 265-A626-6
- Horizontal hanger No. 910-366
- Power regulator Kit No. 2920-K329
- Reverse valve Kit No. 1720-K329
- Dead handle 834-48
- Dead handle bracket 2910B-364

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque ft.-lb.	Maximum Torque Nm	Recomm. Torque Range ft.-lb.	Recomm. Torque Range Nm	Weight, less socket lb.	Weight, less socket kg	Length, less socket in.	Length, less socket mm	Side to Center Distance in.	Side to Center Distance mm	Size Hose Recomm. in.	Size Hose Recomm. mm	cfm
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Super Duty Impact Tools

2925P3Ti	1" square	Pistol	5200	1050	1450	1972	350-1100	476-1496	11 ⁷ / ₈	5.39	8 ⁷ / ₈	225	1 ³ / ₄	44	1/2	13	60
2925B2Ti	1" square	Grip I.T.	6500	900	1600	2170	350-1400	475-1904	14	6.35	12 ⁹ / ₈	314	1 ⁵ / ₈	41	1 ¹ / ₂	13	60
2925RB2Ti	1" square Reverse Bias	Grip I.T.	6500	900	1700R 1500F	2305 2034	F300-1300 R400-1500	407-1763 544-2034	14	6.35	12 ⁹ / ₈	314	1 ⁵ / ₈	41	1 ¹ / ₂	13	60
2925RBP3Ti	1" square Reverse Bias	Pistol	5200	1050	1600 R 1300 F	2176 1768	400-1400 300-950	544-1904 408-1292	11 ⁷ / ₈	5.39	8 ⁷ / ₈	225	1 ³ / ₄	44	1/2	13	60
2920B3	1" square	Grip	5000	950	1100	1495	250-800	339-1085	13 ³ / ₁₆	5.98	12 ¹ / ₂	318	1 ²⁹ / ₃₂	49	1/2	13	36

Heavy Duty Impact Tools

2171P	1" square	Pistol	5750	1025	1250	1700	250-900	340-1224	11 ¹ / ₄	5.10	8 ¹ / ₂	216	1 ³ / ₄	44	1/2	13	55
1720P3	1" square	Pistol	5500	1000	1100	1490	250-750	340-1016	11 ⁷ / ₈	5.39	7 ⁹ / ₈	194	1 ²⁹ / ₃₂	48	1/2	13	40
1720B3	1" square	Grip	5500	1000	1100	1490	250-750	340-1016	13 ³ / ₁₆	6.27	11 ³ / ₄	299	1 ²⁹ / ₃₂	48	1/2	13	40

IR271

1" Super Duty

Air Impact Wrench

The shortest 1" drive air impact wrench is also one of the most powerful. It combines a very compact size with high power output, making it ideal for tire changing, spring work, pinion nut and tractor pad removal, and shock work.

- Impressive power-to-size ratio
- Up to 1,100 ft.-lbs. of torque
- Pressure-Feed Lube System for longer service life
- Dead handle improves operator control



IR280

1" Super Duty

Air Impact Wrench

Here's the ultimate in quality, the 1" drive wrench with 1,600 ft.-lbs. torque to handle tough jobs in cramped spaces.

- Built-in Pressure-Feed Lube System
- The side handle adjusts to suit you
- Built-in oil reservoir provides continuous misting of the air motor



IR280-6

1" Super Duty Extended Anvil

Air Impact Wrench

High production truck tire changing requires the brute force only the Jumbo Hammer Impact mechanism delivers. Reach into deep truck wheels easily with the 6" extended anvil wrench, designed for high production truck tire changing.



IR280-S6

#5 Spline Super Duty Extended Anvil

Air Impact Wrench

A standard 6" extended #5 spline drive anvil gives you additional flexibility for certain high production truck tire changing jobs, plus all the power of the rest of the IR280 wrenches.

Lubricants and Greases

Proper lubrication of air tools is a must to prevent excessive wear of moving parts: to prevent possible rust and corrosion of bare, unprotected surfaces; and to provide smooth operation of motors and impact mechanisms. The Ingersoll-Rand full line of oils and greases has been tested thoroughly and is recommended without reservation.



Model 10P Air Line Lubrication



Model 105-LBK1 Air Care Kit

Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Free Spd. (rpm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR271	Super Duty	1,100 (1,496)	5,500	12.5 (5.67)	8.9 (226)	9.5 (269)	39 (1104)	101.1/114.1	3/8	1/2 (13)
IR280	Super Duty	1,600 (2,176)	6,000	22 (9.98)	13 (330)	10 (283)	55 (1557)	109.1/122.1	1/2	1/2 (13)
IR280-6	Super Duty Ext.Anv.	1,600 (2,176)	6,000	23.8 (10.80)	18.5 (470)	10 (283)	55 (1557)	109.1/122.1	1/2	1/2 (13)
IR280-S6	#5 Spline SD.Ext.Anv.	1,600 (2,176)	6,000	23.8 (10.80)	18.5 (470)	10 (283)	55 (1557)	109.1/122.1	1/2	1/2 (13)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

1" Maintenance/Automotive Class*

IR285A

1" Heavy Duty

Air Impact Wrench

The IR285A model combines exceptional power, durability, and operator convenience. It delivers 1,450 ft.-lbs. of maximum torque, with a 5,000 rpm free speed and high efficiency, 6-vane motor. The integral 360 degree swivel inlet makes kinked hoses a thing of the past, and along with the swept-back side handle, provides excellent maneuverability.

- 1,450 ft.-lbs. maximum torque
- Superior balance; "angled-down" exhaust
- High efficiency 6-vane air motor
- Three-position power regulator

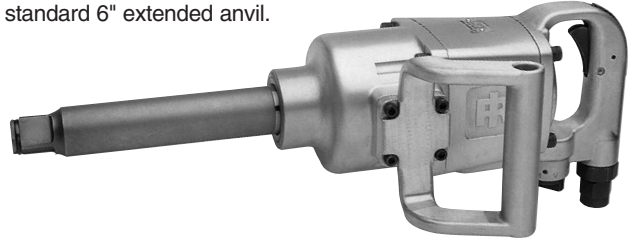


IR285A-6

1" Heavy Duty Extended Anvil

Air Impact Wrench

The same quality features of the IR285 with a standard 6" extended anvil.



IR285A-S6

#5 Spline Heavy Duty Extended Anvil

Air Impact Wrench

A standard 6" extended #5 spline drive anvil and the other quality features of the IR285. The extended anvil makes these tools perfect for the demanding world of truck tire service.

IR290

1" Super Duty

Air Impact Wrench

Designed for getting into cramped spaces with big power, the IR290 has a three-way adjustable handle. It's a good choice for spring work, tractor pads, bus maintenance, and off-road and farm equipment.

- Up to 1,600 ft.-lbs. of torque
- Pressure-Feed Lube System for long life
- Adjustable side handle for better control.



For optional thread on muffler order part #2910-674

IR290-S

#5 Spline Super Duty

Air Impact Wrench

You get a standard #5 short spline drive anvil and the same quality features as the IR290.

IR293

1" Super Duty

Air Impact Wrench

This is the most powerful 1" wrench for spring work, tractor pads, bus maintenance, and off-road and farm equipment work. The built-in Pressure-Feed Lube System protects the unique Twin Hammer Impact mechanism as it delivers the ultimate in power.

- Up to 2,000 ft.-lbs. of torque
- Most powerful 1" wrench
- Long-lasting tool
- Handle exhaust



IR293-S

#5 Spline Super Duty

Air Impact Wrench

Ultimate power and all the other advantages of the IR293 are built into this tool along with a standard #5 short spline drive anvil.

Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Free Spd. (rpm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
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1" Square Drive

IR285A	Heavy Duty	1,450 (1,972)	5,000	22 (9.98)	13.2 (335)	10 (283)	37 (1047)	107/120	1/2	1/2 (13)
IR285A-6	Hvy.Dty.Ext.Anv.	1,450 (1,972)	5,000	25.2 (11.43)	20.1 (511)	10 (283)	37 (1047)	107/120	1/2	1/2 (13)
IR285A-S6	#5Sp.HD.Ext.Anv.	1,450 (1,972)	5,000	25.2 (11.43)	20.1 (511)	10 (283)	37 (1047)	107/120	1/2	1/2 (13)
IR290	Spr.Dty.	1,600 (2,176)	6,000	21.9 (9.93)	9.75 (248)	10 (283)	60 (1699)	104.6/117.6	1/2	1/2 (13)
IR290-S	#5Sp.Spr.Dty.	1,600 (2,176)	6,000	21.9 (9.93)	10 (254)	10 (283)	60 (1699)	104.6/117.6	1/2	1/2 (13)
IR293	Spr.Dty.	2,000 (2,720)	3,500	22.8 (10.34)	11.3 (287)	12 (340)	64 (1812)	90.3/103.3	1/2	1/2 (13)
IR293-S	#5Sp.Spr.Dty.	2,000 (2,720)	3,500	22.8 (10.34)	11.3 (287)	12 (340)	64 (1812)	90.3/103.3	1/2	1/2 (13)

IR295

1" Heavy Duty

Air Impact Wrench

A new, improved 1" drive tool perfect for truck and heavy equipment maintenance, the IR295 offers power and convenience at an affordable price. It's compact and lightweight, and perfect for working on suspension components, tractor pads, and other big capacity general repair functions.

- Handle exhaust directs air away from the work
- Top-mounted dead handle
- 3-position power regulator provides torque management



IR295-S

#5 Spline 1" Heavy Duty

Air Impact Wrench

The IR295-S offers all the features and benefits of the IR295, but with a standard #5 short spline drive anvil.

IR2190Ti

1" Titanium Duty Air Impact Wrench

The newest member on the Titanium Team. Designed specifically for tire changing, the chainsaw handle provides comfortable control for the operator. The Titanium IR2190Ti delivers devastating torque in a lightweight package.

- Titanium Hammer Case provides super strength with reduced weight
- Narrow Hammer case provides better access to the wheel well
- Chainsaw handle for enhanced ergonomic operation
- Durable anvil bushing for extended life
- Roll cage inlet design protects the tool during extreme use



IR2190Ti-6

1" Titanium Duty Air Impact Wrench Extended Anvil

Same specifications as the 2190Ti with a 6" extended anvil.

IR2190DTi-6

1" Titanium Duty

Air Impact Wrench

A traditional "D" handle coupled with the features and benefits of the Titanium 2190Ti-6



IR2171XP

1" Ultra Duty

Air Impact Wrench

The new IR2171 combines a six-vane high output air motor, through-bolt construction, ergonomic handle and housing design to create an impact tool that offers increased power and durability like no other.

- High power-to-weight ratio
- Maximum torque 1,250 ft.-lbs.
- Full power reverse
- 3-position power regulator
- 360 degree swivel inlet



Model Number	Performance Rating	Maximum Torque ft.-lb. (Nm)	Free Spd. (rpm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
1" Square Drive										
IR295	Heavy Duty	1,450 (1,972)	5,000	22 (9.98)	10.5 (267)	10 (283)	37 (1047)	N/A	3/8	1/2 (13)
IR295-S	#5 Spline Heavy Duty	1,450 (1,972)	5,000	21.18 (9.61)	10.5 (267)	10 (283)	37 (1047)	N/A	3/8	1/2 (13)
IR2190Ti	Titanium Duty	1,650 (2,238)	6,800	14 (6.4)	15.38 (391)	12 (336)	58 (1624)	103.8/116.8	1/2	1/2 (13)
IR2190Ti-6	Titanium Duty	1,650 (2,238)	6,800	16 (7.3)	21.48 (546)	12 (336)	58 (1624)	103.8/116.8	1/2	1/2 (13)
IR2190DTi-6	Titanium Duty	1,650 (2,238)	6,800	16 (7.3)	21.48 (546)	12 (336)	58 (1624)	103.8/116.8	1/2	1/2 (13)
IR2171XP	Ultra Duty	1,250 (1,695)	6,000	13.1 (5.95)	12.5 (318)	10 (282)	46 (1303)	98/111	1/2	1/2 (13)

*Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Impact Tools

Impact Tool Selection Guide

This chart will assist you in recommending a particular Impact Tool for a specific application. The figures used are based on 70% of the tension proof load of a given size and grade bolt. For example, a Grade 5 bolt has a proof load of 94,200 psi (649,509 kPa). A 1/2"-13 UNC Grade 5 bolt has a tensile stress area — the cross section at the root of the thread — of 0.1282 in.² (82.7 mm²). So therefore it has an actual proof load of 12,076 lbs. (53,715 newtons). 70% of this proof load is 8453 lbs. (14,523 newtons). By looking at the chart, we find that in order to put 8450 lbs. (37,586 newtons) of tension on the 1/2" (13 mm) UNC Grade 5 bolt, we must apply 70 ft.-lbs. (94.9 Nm) torque. To do this, we recommend the Series 2906 Impact Tool.

It should be remembered that 70% of the proof load is normally the amount of tension needed to assure a properly tightened joint.

Bolt Grade	Bolt Diameter, in.		1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4
	Bolt Diameter, mm		6	8	10	11	13	14	16	19	22	25	29	32
	Hex Size, Max.	1/2	19/32	11/16	25/32	7/8	31/32	11/16	1 1/4	17/16	15/8	1 13/16	2	
	Inches, Min.	3/8	15/32	9/16	21/32	3/4	27/32	15/16	1 1/8	1 5/16	1 1/2	1 11/16	1 7/8	
Grade 1	Torque	ft.-lbs.	3	6	11	18	28	43	55	97	155	230	340	480
		Nm	4.07	8.14	14.9	24.4	38	58.3	74.6	132	210	312	461	651
	Impact Tool Recommended				2902	2903	2903	2903	2906	2906	2161	2161	2925	2925
	Tension	lbs.	730	1,210	1,800	2,460	3,280	4,200	5,200	7,000	10,600	14,000	18,200	23,000
		kN	3.24	5.38	8.01	10.9	14.6	18.7	23.1	31.1	47.1	62.3	80.9	102
Grade 5	Torque	ft.-lbs.	8	16	28	46	70	110	140	250	405	600	770	1,080
		Nm	10.8	21.7	38	62.4	95	149	190	339	549	814	1,044	1,464
	Impact Tool Recommended			2902	2903	2903	2906	2906	2161	2161	2925	2934	2934	2934
	Tension	lbs.	1,900	3,100	4,600	6,350	8,450	10,900	13,500	20,000	27,400	36,000	41,000	52,000
		kN	8.4	13.8	20.4	28.2	37.6	48.5	60	89	122	160	182	231
ASTM-A325	Torque	ft.-lbs.							200	355	570	850	1,060	1,495
		Nm							271	481	773	1,153	1,437	2,027
	Impact Tool Recommended							2906	2161	2925	2934	2940	2940	2940
	Tension	lbs.						19,000	28,000	39,000	51,000	56,000	71,000	71,000
		kN						44.5	124	173	227	249	316	316
Grade BB ASTM-A354	Torque	ft.-lbs.	8	15	27	43	66	106	131	234	376	565	830	1,170
		Nm	10.8	20.3	36.6	58.3	89.5	144	178	317	510	766	1,125	1,586
	Impact Tool Recommended			2902	2903	2903	2906	2906	2161	2161	2925	2934	2940	2940
	Tension	lbs.	1,780	2,930	4,340	5,950	7,950	10,190	12,660	18,700	25,870	33,940	44,240	56,000
		kN	7.9	13	19.3	26.5	35.4	45.3	56.3	83.1	115	151	196	249
Grade BC ASTM-A354	Torque	ft.-lbs.	10	20	35	56	86	138	173	306	495	742	1,090	1,530
		Nm	13.6	27.1	47.5	75.9	117	187	234	415	671	1,006	1,478	2,075
	Impact Tool Recommended		2902	2903	2903	2906	2906	2161	2161	2925	2934	2940	2945	2945
	Tension	lbs.	2,340	3,850	5,700	7,815	10,430	13,380	16,610	24,550	33,960	44,550	58,070	73,500
		kN	10.4	17.1	25.3	34.8	46.4	59.5	74	109	151	198	258	327
Grade 8 ASTM-A354	Torque	ft.-lbs.	11	23	40	65	99	159	198	350	566	848	1,245	1,750
		Nm	14.9	31.2	54.2	88.1	134	216	268	475	767	1,150	1,688	2,373
Grade BD	Impact Tool Recommended		2902	2903	2903	2906	2906	2161	2925	2934	2934	2940	2950	2950
	Tension	lbs.	2,740	4,400	6,510	8,930	11,920	15,290	18,980	28,050	38,800	50,900	66,360	84,000
		kN	12.2	19.6	28.9	39.7	53	68	84.4	125	172	226	295	374
ASTM-A490	Torque	ft.-lbs.							250	435	715	1,070	1,580	2,125
		Nm							339	590	970	1,451	2,142	2,882
	Impact Tool Recommended							2161	2925	2934	2940	2945	2950	2950
	Tension	lbs.						24,000	35,000	49,000	64,000	80,000	102,000	102,000
		kN						107	156	218	285	356	454	454

Air Impact Tools

Impact Tool Selection Guide



Only certain Impact Tools are shown in this chart. Compare the required torque shown in this chart with torque range figures shown in the Impact Tool specifications tables to select other suitable tools.

Bolt Grade	Bolt Diameter, in.		1 ³ / ₈	1 ¹ / ₂	1 ⁵ / ₈	1 ³ / ₄	2	2 ¹ / ₄	2 ¹ / ₂	2 ³ / ₄	3	3 ¹ / ₄	3 ¹ / ₂	3 ³ / ₄	4
	Bolt Diameter, mm		35	38	41	44	51	57	64	70	76	83	89	95	102
	Hex Size, Max.		2 ³ / ₁₆	2 ³ / ₈	2 ⁹ / ₁₆	2 ³ / ₄	3 ¹ / ₈	3 ³ / ₈	3 ⁷ / ₈	4 ¹ / ₄	4 ⁵ / ₈	5	5 ³ / ₈	5 ³ / ₄	6 ¹ / ₈
	Inches, Min.		2 ¹ / ₈	2 ¹ / ₄	2 ⁷ / ₁₆	2 ⁵ / ₈	3	3 ¹ / ₂	3 ³ / ₄	4 ¹ / ₈	4 ¹ / ₂	4 ⁷ / ₈	5 ¹ / ₄	5 ⁵ / ₈	6
Grade 1	Torque	ft.-lbs.	660	860											
		Nm	895	1,166											
	Impact Tool Recommended		2925	2934											
			1712												
	Tension	lbs.	28,400	34,600											
		kN	126	154											
Grade 5	Torque	ft.-lbs.	1,470	1,950											
		Nm	1,933	2,644											
	Impact Tool Recommended		2940	2950											
			2934	2945											
	Tension	lbs.	64,000	77,000											
		kN	285	342											
ASTM-A325	Torque	ft.-lbs.	1,960	2,600											
		Nm	2,658	3,526											
	Impact Tool Recommended		2950	5980	These bolts are used on structural steel applications. Torque and tension values are based on running the nut beyond the proof load of the bolt by the turn of the nut method. For detailed information consult the bolt manufacturer.										
			2945												
	Tension	lbs.	85,000	103,000											
		kN	378	458											
Grade BB ASTM-A354	Torque	ft.-lbs.	1,580	2,080	2,700	3,400	5,150	7,500	10,300	13,100	17,100	21,800	27,500	34,000	41,300
		Nm	2,142	2,820	3,661	4,610	6,983	10,170	13,967	17,764	23,188	29,561	37,290	46,104	56,003
	Impact Tool Recommended		2945	2950	5980	5980	5982	5982	588	588	588	599	599	599	599
							5980								
	Tension	lbs.	69,050	83,550	99,680	116,480	155,120	199,360	248,640	285,080	341,780	403,725	470,400	542,850	620,025
		kN	307	371	443	518	690	887	1,106	1,268	1,520	1,796	2,092	2,414	2,758
Grade BC ASTM-A354	Torque	ft.-lbs.	2,075	2,440	3,545	4,465	6,785	9,815	13,600	16,550	21,645	27,700	34,760	42,980	52,360
		Nm	2,814	3,309	4,807	6,054	9,200	13,309	18,442	22,442	29,351	37,561	47,134	58,281	71,000
	Impact Tool Recommended		2950	5980	5980	5980	5982	5982	588	588	588	599	599	599	599
	Tension	lbs.	90,630	109,620	130,830	152,880	203,950	261,660	326,340	361,100	432,910	517,690	595,840	687,610	787,370
		kN	403	488	582	680	907	1,164	1,452	1,606	1,926	2,303	2,650	3,058	3,493
Grade 8 ASTM-A354	Torque	ft.-lbs.	2,375	3,135											
		Nm	3,220	4,251											
Grade BD	Impact Tool Recommended		2950	5980											
	Tension	lbs.	103,570	125,330											
		kN	461	557											
ASTM-A490	Torque	ft.-lbs.	2,780	3,700											
		Nm	3,770	5,017											
	Impact Tool Recommended		5980	5980	These bolts are used on structural steel applications. Torque and tension values are based on running the nut beyond the proof load of the bolt by the turn of the nut method. For detailed information consult the bolt manufacturer.										
			2950												
	Tension	lbs.	121,000	148,000											
		kN	538	658											

Air Impact Tools

Torque Control Impact Tools

IR Torque Control Impact Tools are designed for applications requiring fastener tightening control. The tools shut off automatically when preset torque levels are reached. Depending upon the model, built-in or detachable torsion bars sense torque levels, and signal a mechanical shut-off device to prevent over-torquing. These tools combine a ball and cam impact mechanism with a heavy-walled aluminum hammer case for maximum strength, minimum weight.





Options & Accessories

Series 5020T and Model 5020TDQ

- Torque setting clamp No. 5020T-951 (for Series 5020T only)
- Horizontal hanger:
 - One horizontal hanger No. 5020-366
 - includes spacers & screws
 - Two horizontal hanger spacers No. 504-140
 - Two horizontal hanger cap screws No. 504-376A
- Vertical hanger No. 5020-365

Series 5040T and Model 5040TDQ

- Vise-type torque setting jig No. 5040T-A951 (for Series 5040T only)
- Horizontal hanger:
 - One horizontal hanger No. 5040-366. Includes the following; Two horizontal hanger spacers No. 504-140 and two horizontal hanger cap screws No. 504-376A
- Vertical hanger No. 5040-365



Model	Drive Description	Torque Range		Type Torsion Bar	Free Speed rpm	Impacts per minute	Weight		Length		Side to Center Distance		cfm
		ft.-lb.	Nm				lb.	kg	in.	mm	in.	mm	
5020TAL1	3/8" square	6-17	8-23	AB	1400	2100	4	1.81	9	229	1 1/16	27	10
5020TAH1	3/8" square	10-30	13-40	AB	1400	2100	4	1.81	9	229	1 1/16	27	10
5020TDQ	7/16" hex Q.C.	10-30	13-40	NAD	1400	2100	4 3/16	1.9	11	279	1 1/16	27	10
5040TAL1	1/2" square	20-45	27-61	AB	1500	2150	6 1/4	2.84	10 1/2	267	1 3/8	35	15
5040TAM1	1/2" square	40-65	54-88	AB	1500	2150	6 1/4	2.84	10 1/2	267	1 3/8	35	15
5040TAH1	1/2" square	60-90	81-122	AB	1500	2150	6 1/4	2.84	10 1/2	267	1 3/8	35	15
5040TDQ	7/16" hex Q.C.	20-90	27-122	NAD	1500	2150	6 7/8	3.12	13 3/4	349	1 3/8	35	15

All of the above square drive Impact Tools are furnished with pin-type retainer.

Series 5020 and 5040 Impact Tools have 1/4" NPT air inlet: 1/4" (6 mm) size hose is recommended.

Performance figures are at 90 psi (620 kPa) air pressure.

AB = Adjustable, Built-in torsion bar. NAD = Non-adjustable, Detachable torsion bar.

Weights shown are with torsion bar, less socket. Weights of models with detachable torsion bars are with heaviest torsion bars. Lengths shown are with torsion bar, less socket.

Models ending in L1 are equipped with light torsion bar.

Models ending in M1 are equipped with medium torsion bar.

Models ending in H1 are equipped with heavy torsion bar.

Air Impact Tools

Torque Control Impact Tools

Non-adjustable Detachable Torsion Bars and Kits for Models 5020TDQ and 5040TDQ

- No. 5040TDQ–KP637 torsion bar kit (consists of one each non-adjustable torsion bar with pin-type retainer and No. 5040TDQ–637 torsion bar case)

- No. 5040TDQ–KB637 torsion bar kit (consists of one each non-adjustable torsion bar with ball-type retainer and No. 5040TDQ–637 torsion bar case)

Torsion Bar Number		Model 5020TDQ Torque Range		Model 5040TDQ Torque Range		Color Code
With 1/2" Square Drive Pin-Type Retainer	With 1/2" Square Drive Ball-Type Retainer	ft.-lb.	Nm	ft.-lb.	Nm	
5040TDQ–P535–1	5040TDQ–B535–1	6-10	8.14-13.6	20-25	27.1-33.9	Red
5040TDQ–P535–2	5040TDQ–B535–2	8-12	10.8-16.3	22-30	29.8-40.7	Orange
5040TDQ–P535–3	5040TDQ–B535–3	10-14	13.6-19	25-35	33.9-47.5	Yellow
5040TDQ–P535–4	5040TDQ–B535–4	12-16	16.3-21.7	30-40	40.7-54.2	Green
5040TDQ–P535–5	5040TDQ–B535–5	14-18	19-24.4	35-45	47.5-61.0	Blue
5040TDQ–P535–6	5040TDQ–B535–6	16-20	16.3-27.1	40-50	54.2-67.8	Violet
5040TDQ–P535–7	5040TDQ–B535–7	18-22	24.4-29.8	45-55	61.0-74.6	Red
5040TDQ–P535–8	5040TDQ–B535–8	20-24	27.1-32.5	50-60	67.8-81.4	Orange
5040TDQ–P535–9	5040TDQ–B535–9	22-26	29.8-35.2	55-65	74.6-88.1	Yellow
5040TDQ–P535–10	5040TDQ–B535–10	24-28	32.5-38	60-75	81.3-101	Green
5040TDQ–P535–11	5040TDQ–B535–11	26-29	35.2-39.3	70-85	94.9-115	Violet
5040TDQ–P535–12	5040TDQ–B535–12	27-30	36.6-40.7	75-90	102-122	Blue

Torque Control Impact Tool Operation

The Torque Control Impact Tool converts the torque of the air motor into powerful rotary impacts when a certain resistance to turning is met. The Ingersoll-Rand principle of compressing a sturdy hammer spring and suddenly releasing this energy to strike a powerful rotary blow makes it possible to quickly and efficiently run fasteners.

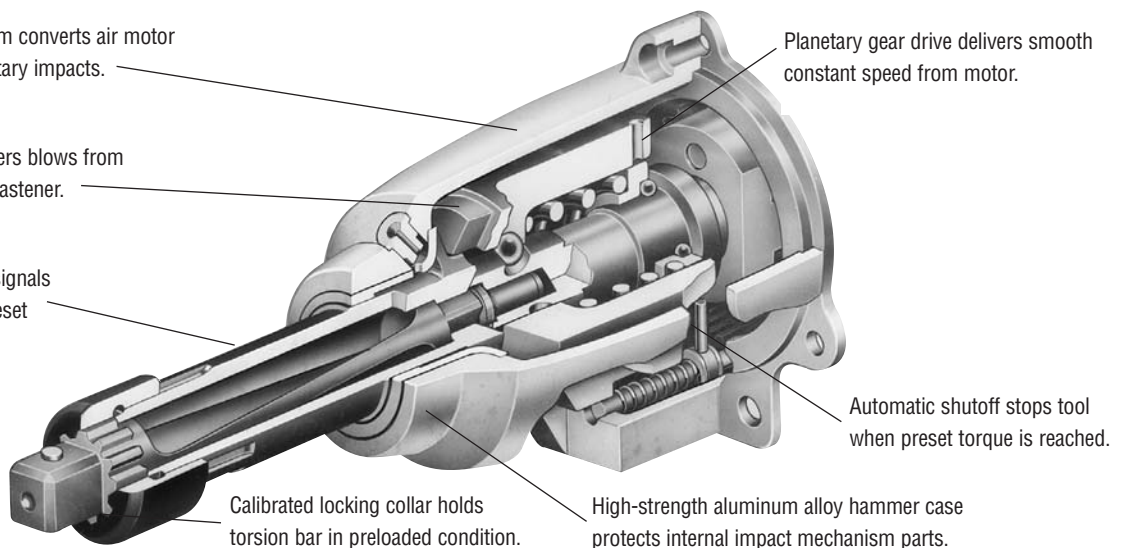
The Torque Control Impact Tool also incorporates a torsion bar and an automatic shut-off valve. Torque control is obtained by preloading the torsion bar to the torque desired. When the resistance of the fastener being run becomes equal to the torque preloaded in the torsion bar, the extra clearance in the flutes of the locking collar allows the torsion bar to flex a few degrees beyond its original setting.

Acting like a spring, the torsion bar snaps back, supplying additional impetus to the hammer, causing the hammer to rebound higher and trip the automatic shut-off valve, instantly stopping the tool. By varying the setting of the torsion bar, using different torsion bars and/or different size tools, torques from 6 to 90 ft.-lbs. (8.14 to 122 Nm) can be accurately obtained time after time.

Ball and cam mechanism converts air motor torque into powerful rotary impacts.

Tough steel anvil transfers blows from impact hammer to the fastener.

Adjustable torsion bar signals shutoff device when preset torque is reached.



Electric Impact Tools



For applications where the use of compressed air is not practical, IR offers a complete line of electric Impact Tools in 3/8, 1/2, 3/4 and 1-inch drive sizes. All models are ranked according to the Super Duty/Heavy Duty/Standard Duty ratings, and incorporate the same high quality of design and construction that has made Ingersoll-Rand the world leader in Impact Tools.

Electric Impact Tools

3/8" to 1" Industrial Production Class



■ 8005



■ 8055

Features

- Full ball bearing construction throughout for maximum performance
- High quality, heat treated steel gears for longer life
- Full power in reverse for removing bolts, nuts, studs and lag screws
- Lightweight cast aluminum housing and handle reduce operator fatigue
- Heavy duty 3-conductor cord – grounding required
- Delivers high torque for maximum efficiency



■ 8056



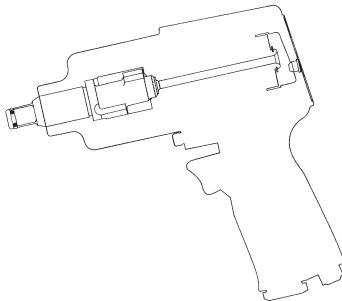
■ 8049

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket lb.	Length, less socket in.	Side to Center Distance in.	amps	volts	Chord Length
					ft.-lb.	Nm	ft.-lb.	Nm						
8005	3/8" square	Pistol	2000	2200	85	115	5-50	7-68	4 1/2	10 1/8	1 3/8	3.0	120 AC	10'
8049	1/2" square	Pistol	1900	2000	290	393	30-180	41-244	6 3/4	11 11/16	1 5/8	5.0	120 AC	10'
8053	1/2" square	Pistol	1900	1900	330	448	50-225	68-305	7	10 1/4	1 5/8	5.0	120 AC/DC	15'
8053QC	7/16" hex QC	Pistol	1900	1900	300	407	50-200	68-272	7	11	1 5/8	5.0	120 AC/DC	15'
8055	3/4" square	Pistol	1700	1725	450	610	100-375	136-509	10	11 7/8	1 3/4	7.5	120 AC/DC	8'
8062	5/8" hex QC	Pistol	1700	1725	400	542	100-350	136-475	10	12 7/8	1 3/4	7.5	120 AC/DC	8'
8056	1" square	Grip	800	900	750	1017	300-600	407-814	32 1/2	14 1/8	2 3/8	10.0	120 AC/DC	15'

Tools comply with OSHA requirements and are UL listed.

Drive Size	Super Duty		Heavy Duty		Standard Duty		Torque Control		Electric	
	Series	Page	Series	Page	Series	Page	Series	Page	Series	Page
3/8"	2902	44	1702	44			5020	57	8005	60
3/8"	2903	44	2904	44						
7/16" Quick Change					2131	45	5020	57		
7/16" Quick Change							5040	57		
1/2"	2906	45	2707	45	2705	45	5040	57	8053	60
1/2"					2904	45			8049	60
1/2"					2131	45				
5/8"	2908	51								
5/8" Quick Change									8062	60
3/4"	2925	51	1720	51					8055	60
3/4"			2161P	51						
1"	2934	52	1734	52	1720	51			8056	60
1"	2940	53	1712	52	2171P	51				

Pressure-Feed Lubrication System



Ingersoll-Rand uses a “pressure-feed” lubrication system on all Twin-Hammer and Jumbo Hammer Impact Mechanisms. This exclusive system allows the operator to externally inject grease into a chamber through a grease fitting in the rear of the motor housing.

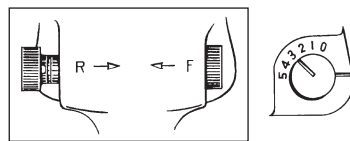
Air pressure from the motor force feeds the right amount of grease from the chamber and through the rotor, distributing a film of protective grease

on the hammer mechanism. This system insures the continuous lubrication of critical hammer parts, resulting in longer, trouble-free life.

Use Cat. No. R000A2-228 Metal Grease Gun and Cat. No. 100 Grease, or equivalent. This grease has the right viscosity to flow through the small orifice in the rotor and anvil.

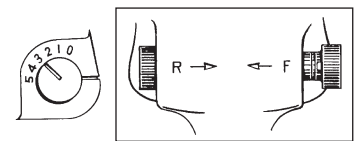
Power Regulator System

Some Twin-Hammer and Jumbo Hammer tools are equipped with a combination power regulator/reverse valve. This design allows operators to adjust power output, to prevent over-torquing on delicate work, in one direction—while maintaining full power in the opposite direction. The power output in either direction is designated by the numbers “0” thru “5”. Number 5 designates maximum power.



Forward:

Regulator on 3 reduces power output. Switching to **reverse** automatically maintains full power.



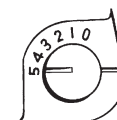
Reverse:

Regulator on 3 reduces power output. Switching to **forward** automatically maintains full power.

Regulator on 5:

Forward, maximum power output

Reverse, maximum power output



Impact Tools

Air Impact Tools – Industrial Production Class

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm.		cfm
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	

3/8" Impact Tools

2902P1	3/8" square	Pistol	10,000	1500	140	190	20-120	27-163	2 1/2	1.25	5 1/2	140	1 3/8	35	5/16	8	15
2903P2	3/8" square	Pistol	6000	1200	205	278	30-170	41-230	4 13/16	2.18	5 5/8	143	1 3/8	35	3/8	10	21
2115PTi	3/8" square	Pistol	15,000	1500	250F 280R	339 378	25-250	34-312	2.4	1.1	5 3/4	146	1 1/8	29	3/8	10	17
2115P4Ti	1/4" hex QC Reverse Bias	Pistol	15,000	1500	250F 280R	339 378	25-230	34-312	2.4	1.1	5 3/4	146	1 1/8	29	3/8	10	17
1702SB1	3/8" square	Straight	10,000	1500	105	142	13-85	18-115	2 1/2	1.12	5 7/8	149	1	25	5/16	8	13
1702P1	3/8" square	Pistol	10,000	1500	125	170	20-100	27-136	2 3/4	1.25	5 1/2	140	1 3/8	35	5/16	8	15
1702P4	1/4" hex QC	Pistol	10,000	1500	125	170	20-100	27-136	2 3/4	1.25	5 1/2	140	1 3/8	35	5/16	8	15

1/2" Impact Tools

2906P1	1/2" square	Pistol	5000	1200	500	678	40-350	54.2-475	6	2.72	6 7/8	175	1 11/32	34	3/8	10	23
2903P1	1/2" square	Pistol	6000	1200	220	298	30-185	41-250	4 13/16	2.18	5 5/8	143	1 3/8	35	3/8	10	21
2707P1	1/2" square	Pistol	7750	1300	450	610	40-275	54-373	6	2.72	6 1/2	165	1 3/8	35	5/16	8	26
2135PTi	1/2" square	Pistol	9500	1250	625 700	848 949	50-600	68-814	3.95	1.79	7.34	186	1 3/8	35	3/8	10	24
2131P7	7/16" hex QC Reverse Bias	Pistol	9500	1250	625 700	848 949	50-600	68-814	3.95	1.79	7.34	186	1 3/8	35	3/8	10	24
2705P1	1/2" square	Pistol	8500	1200	400	542	40-200	54-271	5 5/8	2.55	6 3/4	171	1 11/32	34	3/8	10	23
2125PTi	1/2" square	Pistol	15,000	1500	290 280	339 378	25-230	34-312	2.4	1.1	5 3/4	146	1 1/8	29	3/8	10	17

3/4" Impact Tools

2925P1Ti	3/4" square	Pistol	5200	1050	1450	1972	350-1100	476-1496	11 7/8	5.39	8 7/8	225	1 3/4	44	1/2	13	60
2925RBP1Ti	3/4" square Reverse Bias	Pistol	5200	1050	1600 R 1300 F	2176 1768	400-1400 300-950	544-1904 408-1292	11 7/8	5.39	8 7/8	225	1 3/4	44	1/2	13	60
2920B1	3/4" square	Grip	5000	950	1100	1495	250-800	339-1085	13 3/16	5.98	12 1/2	318	1 29/32	49	1/2	13	36
2920B9	3/4" sq. at 90°	Grip	5000	950	550	949	125-400	203-678	23 11/16	10.75	17 1/2	445	1 15/16	133	1/2	13	36
2161P	3/4" square	Pistol	5750	1025	1250	1700	250-900	340-1224	11 1/4	5.10	8 1/2	216	1 3/4	44	1/2	13	55
1720P1	3/4" square	Pistol	5500	1000	1000	1360	200-600	271-813	11 7/8	5.39	7 5/8	194	1 29/32	48	1/2	13	40
1720B1	3/4" square	Grip	5500	1000	1000	1360	200-600	271-813	13 3/16	6.27	11 3/4	299	1 29/32	48	1/2	13	40
2141P	3/4" square	Pistol	7250	1175	1200R 1000F	1492 1492	200-900	271-1220	7.0	3.2	8.2	208	1 3/4	44	1/2	13	40
2141P3	#4 spline	Pistol	7250	1175	1200R 1000F	1492 1492	200-900	271-1220	7.0	3.2	8.2	208	1 3/4	44	1/2	13	40

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm.		cfm
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	
2940A1**	No. 5 spline	Grip O.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940A2	1" square	Grip O.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940B1**	No. 5 spline	Grip I.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940B2	1" square	Grip I.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 ¹ / ₄	311	2 ³ / ₁₆	56	3/4	19	58
2940P2	1" square	Pistol	4000	810	2000	2710	1000-1600	1360-2170	22 ⁷ / ₈	10.4	9 ⁷ / ₈	251	2 ³ / ₁₆	56	3/4	19	58
2934A2	1" square	Grip O.T.	6600	750	1500	2030	500-1100	678-1490	18 ¹ / ₂	8.39	11 ¹ / ₄	286	2 ³ / ₁₆	56	3/4	19	47
2934B1**	No. 5 spline	Grip I.T.	6600	750	1500	2030	500-1100	678-1490	18 ¹ / ₂	8.39	11 ¹ / ₄	286	2 ³ / ₁₆	56	3/4	19	47
2934B2	1" square	Grip I.T.	6600	750	1500	2030	500-1100	678-1490	18 ¹ / ₂	8.39	11 ¹ / ₄	286	2 ³ / ₁₆	56	3/4	19	47
2934B9	1" sq. at 90°	Grip I.T.	5300	780	750	1624	250-500	678-1355	35 ³ / ₄	16.2	18 ⁵ / ₈	473	1 ⁵ / ₈	41	3/4	19	47
2934P2	1" square	Pistol	5300	825	1500	2030	500-1100	678-1490	20	9.07	8 ⁵ / ₈	219	2 ³ / ₁₆	56	3/4	19	47
1734A1**	No. 5 spline	Grip O.T.	6000	800	1400	1904	450-1000	612-1860	18 ³ / ₈	8.34	11 ¹ / ₄	286	2 ³ / ₁₆	56	3/4	19	47
1712B2	1" square	Grip I.T.	6000	800	1350	1836	450-1000	612-1860	18 ¹ / ₄	8.28	11 ¹ / ₄	286	2 ³ / ₁₆	56	3/4	19	47
1712P2	1" square	Pistol	6000	800	1350	1836	450-1000	612-1860	18 ¹ / ₄	8.28	11 ¹ / ₄	286	2 ³ / ₁₆	56	3/4	19	56
2925P3Ti	1" square	Pistol	5200	1050	1450	1972	350-1100	476-1496	11 ⁷ / ₈	5.39	8 ⁷ / ₈	225	1 ³ / ₄	44	1/2	13	60
2925B2Ti	1" square	Grip I.T.	6500	900	1600	2170	350-1400	475-1904	14	6.35	12 ³ / ₈	314	1 ⁵ / ₈	41	1 1/2	13	60
2925RB2Ti	1" square Reverse Bias	Grip I.T.	6500	900	1700R 1500F	2305 2034	F300-1300 R400-1500	407-1763 544-2034	14	6.35	12 ³ / ₈	314	1 ⁵ / ₈	41	1 1/2	13	60
2925RBP3Ti	1" square Reverse Bias	Pistol	5200	1050	1600 R 1300 F	2176 1768	400-1400 300-950	544-1904 408-1292	11 ⁷ / ₈	5.39	8 ⁷ / ₈	225	1 ³ / ₄	44	1/2	13	60
2920B3	1" square	Grip	5000	950	1100	1495	250-800	339-1085	13 ³ / ₁₆	5.98	12 ¹ / ₂	318	1 ²⁹ / ₃₂	49	1/2	13	36
2171P	1" square	Pistol	5750	1025	1250	1700	250-900	340-1224	11 ¹ / ₄	5.10	8 ¹ / ₂	216	1 ³ / ₄	44	1/2	13	55
1720P3	1" square	Pistol	5500	1000	1100	1490	250-750	340-1016	11 ⁷ / ₈	5.39	7 ⁵ / ₈	194	1 ²⁹ / ₃₂	48	1/2	13	40
1720B3	1" square	Grip	5500	1000	1100	1490	250-750	340-1016	13 ³ / ₁₆	6.27	11 ³ / ₄	299	1 ²⁹ / ₃₂	48	1/2	13	40

Impact Tools

Air Impact Tools – Maintenance/Automotive Class

Model Number	Performance Rating	Working Torque Range ft.-lb. (Nm)	Maximum Torque ft.-lb. (Nm)	Blows Per Min.	Free Spd. (rpm)	Standard Bolt Cap. in. (mm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consump. cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Press./ Power)	Air Inlet NPTF in. in. (mm)	Min. Hose Size in. (mm)
3/8" Square Drive													
IR211	Hvy.Dty.	20-125 (27-170)	150 (204)	1,500	10,000	3/8 (10)	2.4 (1.09)	6.6 (168)	2.5 (71)	11 (311)	104/117	1/4	3/8 (10)
IR212	Spr.Dty.	20-150 (27-204)	180 (245)	1,500	10,000	7/16 (11)	2.89 (1.31)	6 (152)	2.5 (71)	11 (311)	97.5/110.5	1/4	3/8 (10)
IR215	Hvy.Dty.	15-300 (20-176)	160 (217)	1,600	9,500	7/16 (11)	2.89 (1.31)	6.125 (156)	3.0 (85)	13 (368)	80.6/93.6	1/4	3/8 (10)
IR216	Spr.Dty.	15-160 (20-217)	175 (232)	1,800	8,000	7/16 (11)	2.89 (1.31)	6.125 (156)	3.0 (85)	13 (368)	97.5/110.5	1/4	3/8 (10)
IR2112	Ult.Dty.	25-200 (34-272)	260 (354)	1,500	14,500	7/16 (11)	2.65 (1.20)	5.625 (143)	4 (113)	17 (476)	94.9/107.9	1/4	3/8 (10)
1/2" Square Drive													
IR2121	Ult.Dty.	25-200 (34-272)	260 (312)	1,500	14,500	7/16 (11)	2.65 (1.2)	5.625 (143)	4 (113)	17 (476)	94.9/107.9	1/4	3/8 (10)
IR225	Hvy.Dty.	25-200 (34-272)	325 (441)	1,200	7,500	1/2 (13)	4.25 (1.93)	6.625 (168)	4 (113)	16.3 (456)	90.5/103.5	1/4	3/8 (10)
IR231C	Spr.Dty.	25-300 (34-408)	470 (610)	1,200	8,000	9/16 (14)	5.8 (2.63)	7.3 (185)	4.2 (119)	22 (623)	102/115	1/4	3/8 (10)
IR231H	Spr.Dty.	25-300 (34-408)*	470 (610)	1,200	8,000	9/16 (14)	5.8 (2.63)	7.3 (185)	4.2 (119)	22 (623)	91.2/104.2	1/4	3/8 (10)
IR231H-2	Spr.Dty.Ext.Anv.	50-400 (68-544)*	450 (610)	1,250	8,000	9/16 (14)	6.0 (2.72)	9.3 (180)	4.8 (136)	23 (651)	91.2/104.2	1/4	3/8 (10)
IR235	Hvy.Duty	25-225 (34-306)	375 (510)	1,200	9,500	1/2 (13)	5.42 (2.46)	7.75 (197)	4 (113)	17 (474)	104.2/111.6	1/4	3/8 (10)
IR244A	Spr.Dty.	40-350 (54-476)	500 (680)	1,300	7,000	5/8 (16)	6.0 (2.72)	7.3 (185)	5.4 (153)	21 (595)	105/109.3	1/4	3/8 (10)
IR244A-2	Spr.Dty.Ext.Anv.	40-350 (54-476)	500 (680)	1,300	7,000	5/8 (16)	6.28 (2.85)	9.5 (241)	5.4 (153)	21 (595)	105/109.3	1/4	3/8 (10)
IR2131A	Ult.Dty.	50-400 (68-544)**	450 (612)	1,250	9,500	9/16 (14)	4.5 (2.04)	7.1 (180)	4.8 (136)	23 (651)	89/102	1/4	3/8 (10)
IR2131A-2	Ult.Dty.Ext.Anv.	50-400 (68-544)**	450 (612)	1,250	9,500	9/16 (14)	4.8 (2.18)	9.1 (231)	4.8 (136)	23 (651)	89/102	1/4	3/8 (10)
IR2131QT	Ultra Duty	50-400 (68-544)**	450 (612)	1,250	9500	9/16 (14)	4.5 (2.04)	7.1 9180	4.8 (136)	23 (651)	82	1/4	3/8 (10)
IR2131QT-2	Ultra Duty	50-400 (68-544)**	450 (612)	1,250	9500	9/16 (14)	4.8 (2.18)	9.1 (231)	4.8 (136)	23 (651)	82	1/4	3/8 (10)
3/4" Square Drive													
IR252	Std.Dty.	100-500 (136-680)	750 (1,020)	1,200	6,500	1 (25)	8.6 (3.9)	9 (229)	7.5 (212)	28 (793)	92.1/105.1	3/8	1/2 (13)
IR258	Heavy Duty	200-800 (272-1,088)	1,000 (1,360)	1,100	6,200	1 (25)	10.77 (4.89)	9.8 (249)	8 (226)	30 (835)	93.7/106.7	3/8	1/2 (13)
IR261	Spr.Dty.	200-900 (272-1,224)	1,100 (1,496)	1,000	5,500	1 (25)	12.4 (5.62)	8.8 (224)	9.5 (269)	38 (1076)	101.1/114.1	3/8	1/2 (13)
IR261-3	Spr.Dty.Ext.Anv.	200-900 (272-1,224)	1,100 (1,496)	1,000	5,500	1 (25)	13 (5.90)	11.8 (300)	9.5 (269)	38 (1076)	101.1/114.1	3/8	1/2 (13)
IR261-6	Spr.Dty.Ext.Anv.	200-900 (272-1,224)	1,100 (1,496)	1,000	5,500	1 (25)	13.7 (6.21)	14.8 (376)	9.5 (269)	38 (1076)	101.1/114.1	3/8	1/2 (13)
IR2141	Ult.Dty.	200-900 (271-1,220)	1,200 (1,627)	1,175	7,250	1 (25)	7 (3.2)	8.2 (208)	9.5 (269)	40 (1133)	00/000	3/8	1/2 (13)
IR2161XP	Ult.Dty.	300-1,000 (407-1,356)	1,250 (1,695)	1,025	6,000	1 (25)	11.8 (5.35)	8.5 (216)	10 (283)	46 (1303)	98/111	3/8	1/2 (13)
IR2161XP-6	Ult.Dty.	300-1,000 (408-1,360)	1,250 (1,695)	1,025	6,000	1 (25)	13.1 (5.95)	14.5 (368)	10 (283)	46 (1303)	98/111	3/8	1/2 (13)
1" Square Drive													
IR280	Spr.Dty.	150-1,000 (204-1,360)	1,600 (2,176)	750	6,000	1 1/4 (32)	22 (9.98)	13 (330)	10 (283)	55 (1557)	109.1/122.1	1/2	1/2 (13)
IR271	Spr.Dty.	200-900 (272-1,224)	1,100 (1,496)	1,000	5,500	1 1/4 (32)	12.5 (5.67)	8.9 (226)	9.5 (269)	39 (1104)	101.1/114.1	3/8	1/2 (13)
IR280-6	Spr.Dty.Ext.Anv.	150-1,000 (204-1,360)	1,600 (2,176)	750	6,000	1 1/4 (32)	23.8 (10.80)	18.5 (470)	10 (283)	55 (1557)	109.1/122.1	1/2	1/2 (13)
IR280-S6	#5Sp.SD.Ext.Anv.	150-1,000 (204-1,360)	1,600 (2,176)	750	6,000	1 1/4 (32)	23.8 (10.80)	18.5 (470)	10 (283)	55 (1557)	109.1/122.1	1/2	1/2 (13)
IR285A	Hvy.Dty.	100-1,000 (136-1,360)	1,450 (1,972)	750	5,000	1 1/4 (32)	22 (10)	13.2 (335)	10 (283)	37 (1047)	107/120	1/2	1/2 (13)
IR285A-6	Hvy.Dty.Ext.Anv.	100-1,000 (136-1,360)	1,450 (1,972)	750	5,000	1 1/4 (32)	25.2 (11.43)	20.1 (511)	10 (283)	37 (1047)	107/120	1/2	1/2 (13)
IR285A-S6	#5Sp.HD.Ext.Anv.	100-1,000 (136-1,360)	1,450 (1,972)	750	5,000	1 1/4 (32)	25.2 (11.43)	20.1 (511)	10 (283)	37 (1047)	107/120	1/2	1/2 (13)
IR290	Spr.Dty.	150-1,000 (204-1,360)	1,600 (2,176)	800	6,000	1 1/4 (32)	21.9 (9.93)	9.75 (248)	10 (283)	60 (1699)	104.6/117.6	1/2	1/2 (13)
IR290-S	#5Sp.Spr.Dty.	50-1,000 (204-1,360)	1,600 (2,176)	800	6,000	1 1/4 (32)	21.9 (9.93)	10 (254)	10 (283)	60 (1699)	104.6/117.6	1/2	1/2 (13)
IR293	Spr.Dty.	1,000-1,600 (1,360-2,176)	2,000 (2,720)	810	3,500	1 3/8 (35)	22.8 (10.34)	11.3 (287)	12 (340)	64 (1812)	90.3/103.3	1/2	1/2 (13)
IR293-S	#5Sp.Spr.Dty.	1,000-1,600 (1,360-2,176)	2,000 (2,720)	810	3,500	1 3/8 (35)	22.8 (10.34)	11.3 (287)	12 (340)	64 (1812)	90.3/103.3	1/2	1/2 (13)
IR295	Hvy.Dty.	100-1,000 (136-1,360)	1,450 (1,972)	750	5,000	1 1/4 (32)	22 (9.98)	10.5 (267)	10 (283)	37 (1047)	N/A	3/8	1/2 (13)
IR295-S	#5Sp.Hvy.Dty.	100-1,000 (136-1,360)	1,450 (1,972)	750	5,000	1 1/4 (32)	21.18 (9.61)	10.5 (267)	10 (283)	37 (1047)	N/A	3/8	1/2 (13)
IR2080-6	Ult.Dty.	150-1,200 (204-1,627)	1,600 (2,305)	950	6,800	1 1/4 (32)	16 (7.3)	21.48 (546)	12 (336)	58 (1624)	103.8/116.8	1/2	1/2 (13)
IR2171XP	Ult.Dty.	300-1,000 (408-1,358)	1,250 (1,695)	1,025	6,000	1 (25)	13.1 (5.95)	12.5 (318)	10 (282)	46 (1303)	98/111	1/2	1/2 (13)
IR2080	Ult.Dty.	150-1,200 (204-1627)	1,600 (2,305)	950	6,800	1 1/4 (32)	14 (6.4)	15.38 (391)	12 (336)	58 (1624)	103.8/116.8	1/2	1/2 (13)

* 590 ft.-lbs. of maximum torque in reverse bias ** 600 ft.-lbs. of maximum torque in reverse bias

WARRANTY

IMPACT TOOLS

Ingersoll-Rand warrants to the original user its impact tool products to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any product proves defective within its original one year warranty period, it should be returned to an appropriate Ingersoll-Rand Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which IR has determined to have been misused or abused, improperly maintained by the purchaser: or where the malfunction or defect can be attributed to the use of non-genuine IR parts.

IR makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set for the above. IR's maximum liability is limited to the purchase price of the Product and in no event shall IR be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the Product, whether based on contract, tort, or otherwise.

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Proven Source. Proven Solutions.



Production processes throughout industry are changing rapidly. Tolerances have tightened. The quest for efficiency brings almost constant reexamination in the best use of resources. Accuracy and precision in assembly and fastening operations have taken on new significance. These considerations are fast becoming the critical measure of product quality in a super-competitive global marketplace.

Likewise, assembly technicians today are the key factors in ultimate product quality – men and women who depend on resources that encourage and maximize the skills that they bring to their tasks. Today's assembly technicians deserve tools that contribute to quality of performance...and quality of life.

As a major worldwide supplier of assembly tools, systems, and accessories, Ingersoll-Rand is a valuable technology resource for your business. The Ingersoll-Rand assembly tool line covers virtually every application in the plant facility, from the most basic drill...to award winning angle wrenches with precision torque control and electronic interfaces.

But there is more to today's assembly function than the tools of the trade. Ingersoll-Rand is also an information resource for your business. By encouraging a complete review of the complex issues surrounding a rapidly changing marketplace, IR can assist in more effective and productive workplace configurations, as well as tool selections. For this reason, each section of this catalog begins with helpful details that should make easier, better choices.

Your selection and purchase of assembly tools has a direct effect on process and product quality. Your decision can make a difference in improved efficiency, and in properly tightened fasteners. The real cost of assembly tools reflects the following considerations:

Cost of acquisition

- Purchase price, as well as installation costs

Cost of operation

- Power consumption
- Training for operators and service technicians
- Positive vs. negative ergonomics and safety factors
- Frequency of repair and time requirements
- Inventory of spare tools, replacement parts, and service parts

Cost of related equipment

- Equipment specific to the tools of one manufacturer

Cost of quality

- Quality control audit procedures
- Correction of improperly tightened fasteners
- Warranty claims
- Loyalty of satisfied customers vs. long-term effects of lost customers

Cost of salvage

- Residual value of a tool or components



Some of these considerations may seem obvious, while others are often difficult to identify...or quantify. All contribute to the total cost of precision fastening. All reflect the new significance of assembly operations and processes.

On the following page, The Forces at Work explores related issues of rising importance throughout industrial production – the relationship between performance factors and human factors. Whatever the consideration, you can rely on your Ingersoll-Rand representative or distributor for expert consultation, as well as superior products.

The Forces at Work

“Highly sophisticated, mechanical products subject to rigid requirements of standardization and interchangeability.” This is how a recognized industry authority described threaded fasteners. This is not a reference to advanced equipment designed for fastening or measurement functions, but a definition of the seemingly simple screws, bolts, and nuts on which the process is based.

Imagine the additional impact of precise fastening requirements and evaluation:

- Clamp loads and fastener tension
- Hard draw versus soft draw joints
- Stress and strain curves
- Yield points
- Bolt signatures and appropriate fastening methods

All of these issues are addressed in the product sections which follow, and also in related materials available from Ingersoll-Rand. They represent the specification performance aspect of fastening and assembly.

A very different, yet equally important set of forces is also at work. They represent the human factors, or ergonomics – a widely and often too casually used term that describes the interaction of task, tool, and tool user.

Every **task** in fastening and assembly is different. The size, the shape, the tolerance of the workpiece. The setting, the positioning, the process in the workplace.

Tool users represent varying degrees of size and strength. They are tall. Small. Male. Female. Hand sizes, grip forces, and natural movements reflect a wide range of proportions.

The **tool** is the link.

Ingersoll-Rand considers this human performance aspect an essential element in all of its new product development activity in power tools. All of our recent and new designs reflect the extensive input of assembly technicians and production managers, as well as plant health and safety experts.

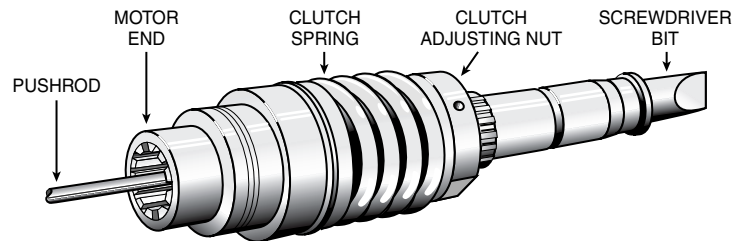
There are many forces at work in the dynamic field of fastening and assembly. Critical tolerance joints. Standards of consistency for product quality and safety. Specification performance. Human performance.

IR Assembly Solutions address the interaction of task, tool, and tool user... with a unique fusion of ergonomics and performance.

Selection of the appropriate clutch arrangement for your application is the first critical step in screwdriver specification. IR offers four basic types – adjustable precision shut-off, adjustable cushion clutch, positive jaw, and direct drive. The following introduction, coupled with the "Types of Joints" table on the following page, will help you define your requirements.

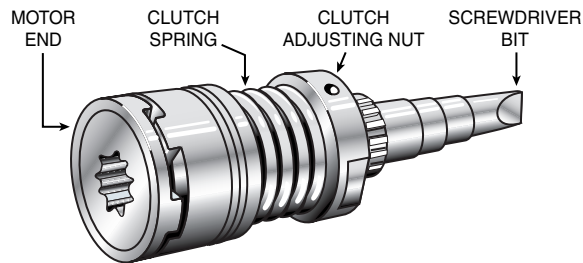
Adjustable Precision Shut-Off Clutch

Designed for critical fastening applications involving plastics, composites, or metals that require precise torque control. Automatic shut-off reduces air consumption and torque reaction.



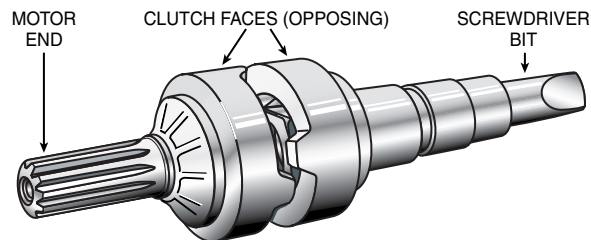
Adjustable Cushion Clutch

Steel balls rolling between indented plates provide smooth disengaging at preset torque while minimizing vibration to the operator. Very good general purpose torque limiting clutch.



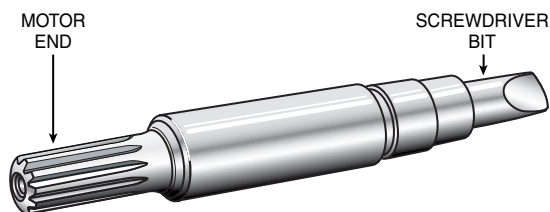
Positive Jaw Clutch

Designed for applications where driving torque may exceed final seating torque as in wood and self-tapping applications. Applied torque is controlled by the operator and can be limited by regulating air line pressure.



Direct Drive

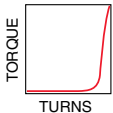

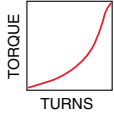

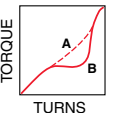

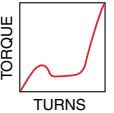

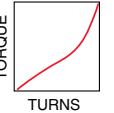

Designed for soft pull applications in wood and other materials not requiring critical torque control. Applied torque is controlled by the operator and can be limited by regulating air line pressure.



Air Screwdrivers

Clutch Selection Chart

Types of Joints

	Free Running-Slam (Hard Drive)	Compressing Gaskets (Soft Draw)	Self-Tapping Screws	Sheet Metal Screws	Wood Screws
Select the Clutch to Fit Your Job	  <p>Resistance low at start and during rundown but peaks suddenly as bolt head seats.</p>	  <p>Turning resistance gradually increases as squeeze progresses to final turn.</p>	  <p>Initial resistance high through tapping travel, easing off until sudden (B) or gradual (A)</p>	  <p>Starting torque builds until penetration made, then resistance slacks off until head seats.</p>	  <p>Low resistance at start builds gradually through entire rundown until head seats.</p>
Adjustable Precision Shut-Off Clutch	EXCELLENT for all screw sizes where precise torque control is required.	BEST for all screw sizes where precise torque control is required.	BEST for all screw sizes except where tapping torque exceeds final torque.	EXCELLENT for all size screws—not suitable if tapping torque exceeds stripping torque.	Not recommended
Adjustable Cushion Clutch	VERY GOOD for most screw sizes where torque control is IMPORTANT.	VERY GOOD for most screw sizes where torque control is IMPORTANT.	VERY GOOD for all screw sizes where tapping torque does not exceed final torque.	GOOD for most screws where final torque exceeds tapping torque.	FAIR for all screw sizes.
Positive Jaw Clutch	FAIR for all sizes where close torque control is not required.	GOOD for most screws where close torque control is not required.	GOOD where tapping torque greatly exceeds final torque.	VERY GOOD where sheets are not aligned...GOOD where tapping torque is higher than final torque.	BEST for all screw sizes.
Direct Drive	GOOD for all screw in hands of experienced operators.	GOOD for large and medium screws – must be adjusted to run rather slowly for small screws.	Not recommended unless stripping torque is considerably higher than tapping torque.	Not recommended unless stripping torque is considerably higher than tapping torque.	GOOD for large and sizes medium screws – must be adjusted to turn slowly for small screws.

Screw Torque Guide

Maximum Torque for Screws

Torquing values for screws are offered as a guide. Tests were conducted on dry, or near dry, product. Fastener tension is held at a factor somewhat less than yield point.

Screw Size	Low Carbon Steel		18-8 Stainless		Brass		Silicon Bronze		Aluminum 2024-T4		316 Stainless		Monel	
	in.-lb.	Nm	in.-lb.	Nm	in.-lb.	Nm	in.-lb.	Nm	in.-lb.	Nm	in.-lb.	Nm	in.-lb.	Nm
2 - 56	2.2	.25	2.5	.28	2.0	.23	2.3	.26	1.4	.16	2.6	.29	2.5	.28
2 - 64	2.7	.31	3.0	.34	2.5	.28	2.8	.32	1.7	.19	3.2	.36	3.1	.35
3 - 48	3.5	.40	3.9	.44	3.2	.36	3.6	.41	2.1	.24	4.0	.45	4.0	.45
3 - 56	4.0	.45	4.4	.50	3.6	.41	4.1	.46	2.4	.27	4.6	.52	4.5	.51
4 - 40	4.7	.53	5.2	.59	4.3	.49	4.8	.54	2.9	.33	5.5	.62	5.3	.60
4 - 48	5.9	.67	6.6	.75	5.4	.61	6.1	.69	3.6	.41	6.9	.78	6.7	.76
5 - 40	6.9	.78	7.7	.87	6.3	.71	7.1	.80	4.2	.48	8.1	.92	7.8	.88
5 - 44	8.5	.96	9.4	1.06	7.7	.87	8.7	.98	5.1	.58	9.8	1.11	9.6	1.09
6 - 32	8.7	.98	9.6	1.09	7.9	.89	8.9	1.01	5.3	.60	10.1	1.14	9.8	1.11
6 - 40	10.9	1.23	12.1	1.37	9.9	1.12	11.2	1.27	6.6	.75	12.7	1.44	12.3	1.39
8 - 32	17.8	2.01	19.8	2.24	16.2	1.83	18.4	2.08	10.8	1.22	20.7	2.34	20.2	2.28
8 - 36	19.8	2.24	22.0	2.49	18.2	2.01	20.4	2.31	12.0	1.36	23.0	2.60	22.4	2.53
10 - 24	20.8	2.35	22.8	2.58	18.6	2.10	21.2	2.40	13.8	1.59	23.8	2.69	25.9	2.93
10 - 32	29.7	3.36	31.7	3.58	25.9	2.93	29.3	3.31	19.2	2.17	33.1	3.74	34.9	3.94
1/4 - 20	65.0	7.35	75.2	8.50	61.5	6.95	68.8	7.77	45.6	5.15	78.8	8.90	85.3	9.64
1/4 - 28	90.0	10.20	90.0	10.20	77.0	8.70	87.0	9.83	57.0	6.44	99.0	11.20	106.0	12.00
15/16 - 18	129.0	14.60	132.0	14.90	107.0	12.10	123.0	13.90	80.0	9.04	138.0	15.60	149.0	16.80
15/16 - 24	139.0	15.70	142.0	16.10	116.0	13.10	131.0	14.80	86.0	9.72	147.0	16.60	160.0	18.10

Source: "Fasteners" published by Industrial Fasteners Institute.

Air Screwdrivers

1 Series Industrial Production Class



Ingersoll-Rand Quality And Performance At An Affordable Price

The new 1 Series air screwdrivers from Ingersoll-Rand combine proven quality and performance with economy for a variety of light assembly applications. They deliver accuracy and durability, comfort and control to build productivity in the 1.5 to 46 in.-lbs. category. The 1 Series models are available in straight, pistol-grip, and angle configurations, with automatic shut-off or cushion clutches, and speeds ranging from 500 to 2800 rpm. They are lightweight, with coated grip areas for easy handling, and will help enhance the productivity of your assembly tasks.



Model	Speed (rpm)	Torque (in-lb)	Weight (lb)	Length (in)	Bit Holder
Inline --- Push-to-Start --- Automatic Shut-off-Clutch					
1RPLS1	2800	3.50 - 13.00	1.00	8.38	1/4" QC
1RPMS1	1650	2.50 - 20.00	1.06	8.75	1/4" QC
1RPNS1	1000	1.50 - 30.00	1.06	8.75	1/4" QC
1RPQS1	500	1.50 - 45.00	1.06	8.75	1/4" QC
Inline --- Lever Start --- Auto Shut-Off Clutch					
1RLNS1	1000	1.50 - 30.00	1.13	9.19	1/4" QC
Pistol Grip --- Push-to-Start --- Auto Shut-off Clutch					
1RTMS1	1650	2.50 - 20.00	1.50	8.56	1/4" QC
1RTNS1	1000	1.50 - 30.00	1.50	8.56	1/4" QC
1RTQS1	500	1.50 - 45.00	1.50	8.75	1/4" QC
Angle Head --- Lever Start --- Auto Shut-off Clutch					
1RLN2S3	700	2.00 - 46.00	1.75	12.50	1/4" QC
1RLN2S5	700	2.00 - 46.00	1.75	12.50	1/4" SQ
Inline --- Push-to-Start --- Cushion Clutch					
1RPMC1	1650	2.50 - 20.00	1.06	8.75	1/4" QC
1RPNC1	1000	1.50 - 30.00	1.06	8.75	1/4" QC
Inline --- Lever Start --- Cushion Clutch					
1RLNC1	1000	1.50 - 30.00	1.13	9.19	1/4" QC
Pistol Grip --- Trigger Start --- Cushion Clutch					
1RAMC1	1650	2.50 - 20.00	1.50	8.56	1/4" QC
1RANC1	1000	1.50 - 30.00	1.50	8.56	1/4" QC



High Performance Ergonomics

Air Screwdrivers

Industrial Production Class Adjustable Precision Shut-Off Clutch

Features

- Torque range (soft draw)
15 to 100 in.-lb.
- Recommended for assembling where precise torque control is required

Standard Equipment

- Clutch spring(s)
- 41 Series has the Skinsulate housing



41PA8TPQ4

Adjustable Precision Shut-Off Clutch Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	Clutch Spring**	CFM
	in.-lb.	Nm						
Reversible Pistol Handle (Trigger Permit)								
41PA16TPQ4	15 - 60	1.7 - 6.8	1600	3.00	9.80	0.86	L, M	28
41PA10TPQ4	15 - 80	1.7 - 9.0	1000	3.00	9.80	0.86	L, M, H	28
41PA8TPQ4	15 - 100	1.7 - 11.3	800	3.00	9.80	0.86	L, M, H	28
Reversible Pistol Handle (Push to Start)								
41PA24PSQ4	15 - 40	1.7 - 4.5	2400	2.80	9.40	0.86	L	28
41PA16PSQ4	15 - 60	1.7 - 6.8	1600	3.00	9.80	.86	L, M	28
41PA10PSQ4	15 - 80	1.7 - 9.0	1000	3.00	9.80	.86	L, M, H	28
41PA8PSQ4	15 - 100	1.7 - 11.3	800	3.00	9.80	.86	L, M, H	28
Reversible Pistol Handle (Trigger Start)								
41PA24TSQ4	15 - 40	1.7 - 4.5	2400	2.80	9.40	0.86	L	28
41PA16TSQ4	15 - 60	1.7 - 6.8	1600	3.00	9.80	0.86	L, M	28
41PA10TSQ4	15 - 80	1.7 - 9.0	1000	3.00	9.80	0.86	L, M, H	28
41PA8TSQ4	15 - 100	1.7 - 11.3	800	3.00	9.80	0.86	L, M, H	28

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Size	Installed Spring
41	78	1/4"	5/16"	Heaviest

*T = located at the end of the model number indicates top air inlet

**Clutch Spring: L = Light, M = Medium, H = Heavy.

Performance figures are at 90 psi (620 kPa).

Q4, S1 = 1/4" Quick Change Chuck

S3 = Requires Bit Guide or Finder

Features

- Torque range (soft draw) 15 to 100 in.-lb.
- Recommended for assembling where precise torque control is required

Standard Equipment

- Suspension bail
- Clutch spring(s)
- 41 Series has the Skinsulate housing



41SA10PSQ4

Adjustable Precision Shut-Off Clutch Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	Clutch Spring**	CFM
	in.-lb.	Nm						
Reversible Straight Handle (Push to Start)								
41SA17PSQ4	15 - 60	1.7 - 6.8	1700	2.70	10.90	0.80	L, M	30
41SA10PSQ4	15 - 80	1.7 - 9.0	1000	2.70	10.90	0.80	L, M, H	30
41SA8PSQ4	15 - 100	1.7 - 11.3	800	2.70	10.90	0.80	L, M, H	30
Reversible Straight Handle (Lever Permit)								
41SA25LPQ4	15 - 40	1.7 - 4.5	2500	2.50	10.40	0.80	L	30
41SA17LPQ4	15 - 60	1.7 - 6.8	1700	2.70	10.90	0.80	L, M	30
41SA10LPQ4	15 - 80	1.7 - 9.0	1000	2.70	10.90	0.80	L, M, H	30
41SA8LPQ4	15 - 100	1.7 - 11.3	800	2.70	10.90	0.80	L, M, H	30

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Size	Installed Spring
41	78	1/4"	5/16"	Heaviest

**Clutch Spring: L = Light, M = Medium, H = Heavy.
 Performance figures are at 90 psi (620 kPa).
 Q4, S1 = 1/4" Quick Change Chuck
 S3 = Requires Bit Guide or Finder

Air Screwdrivers

Industrial Production Class Adjustable Cushion Clutch

Features

- Torque range (soft draw)
10 to 110 in.-lb.
- Recommended for assembling that requires a torque limiting clutch



Standard Equipment

- Clutch spring(s)
- 41 Series has the Skinsulate housing



5RALC1



41PC8TSQ4

Adjustable Cushion Clutch Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	Clutch Spring**	CFM
	in.-lb.	Nm						
Reversible Pistol Handle (Trigger Start)								
5RAK1	14 - 25	1.6 - 2.8	2600	2.56	8.75	0.81	L	17
41PC25TSQ4	10 - 40	1.1 - 4.5	2500	2.80	8.90	0.80	L	20
5RALC1	13 - 35	1.5 - 4.0	2000	2.56	8.75	0.81	L	17
5RALC3	13 - 35	1.5 - 4.0	2000	2.56	9.00	0.81	L	17
7RALC1	15 - 75	1.7 - 8.5	1800	3.13	10.00	0.88	L, M	27
41PC17TSQ4	10 - 60	1.1 - 6.0	1700	3.00	9.40	0.80	L, M	20
41PC10TSQ4	10 - 80	1.1 - 9.0	1000	3.00	9.40	0.80	L, M	20
7RAMC1	20 - 110	2.3 - 12.5	1000	3.38	10.56	0.88	M, H	27
5RANC1	13 - 70	1.5 - 8.0	900	2.81	9.50	0.81	L, H	17
5RANC3	13 - 70	1.5 - 8.0	900	2.81	9.75	0.81	L, H	17
41PC8TSQ4	10 - 100	1.1 - 11.3	800	3.00	9.40	0.80	L, M, H	20

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Size	Installed Spring
5	75	¼"	¼"	L
41	78	¼"	⅝"	Heaviest
7	79	¼"	⅝"	Lightest

*T = located at the end of the model number indicates top air inlet

**Clutch Spring: L = Light, M = Medium, H = Heavy.

Performance figures are at 90 psi (620 kPa).

Q4, S1 = ¼" Quick Change Chuck

S3 = Requires Bit Guide or Finder

Features

- Torque range (soft draw) 3.0 to 110 in.-lb.
- Recommended for assembling that requires a torque limiting clutch

Standard Equipment

- Suspension bail
- Clutch spring(s)
- Dead handle (Model 7RLMC1 & 5RLNC1)
- 41 Series has the Skinsulate housing



41SC8LTQ4



7RLMC1

Adjustable Cushion Clutch Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	Clutch Spring**	CFM
	in.-lb.	Nm						
Reversible Straight Handle (Lever Throttle)								
41SC25LTQ4	10 - 40	1.1 - 4.5	2500	2.80	10.40	0.80	L	20
5RLLC1	13 - 40	1.5 - 4.6	2100	2.56	10.00	0.81	L	16
5RLLC3	13 - 40	1.5 - 4.6	2100	2.56	10.25	0.81	L	16
7RLLC1	15 - 75	1.7 - 8.5	2100	2.88	11.31	0.88	L, M	27
41SC17LTQ4	10 - 60	1.1 - 6.8	1700	3.00	10.90	0.80	L, M	20
5RLNC1	13 - 75	1.5 - 8.5	1000	2.81	10.75	0.81	L, H	16
5RLNC3	13 - 75	1.5 - 8.5	1000	2.81	11.00	0.81	L, H	16
41SC10LTQ4	10 - 80	1.1 - 9.0	1000	3.00	10.90	0.80	L, M	20
7RLMC1	20 - 110	2.3 - 12.5	1200	3.06	11.88	0.88	M, H	13
41SC8LTQ4	10 - 100	1.1 - 11.3	800	3.00	10.90	0.80	L, M, H	20
Reversible Straight Handle (Push-to-Start)								
41SC25PSQ4	10 - 40	1.1 - 4.5	2500	2.80	10.40	0.80	L	20
41SC17PSQ4	10 - 60	1.1 - 6.8	1700	3.00	10.90	0.80	L, M	20
41SC10PSQ4	10 - 80	1.1 - 9.0	1000	3.00	10.90	0.80	L, M	20
41SC8PSQ4	10 - 100	1.1 - 11.3	800	3.00	10.90	0.80	L, M, H	20

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Size	Installed Spring
5	75	1/4"	1/4"	L
41	78	1/4"	5/16"	Heaviest
7	79	1/4"	5/16"	Lightest

*T = located at the end of the model number indicates top air inlet
 **Clutch Spring: L = Light, M = Medium, H = Heavy.
 Performance figures are at 90 psi (620 kPa).
 Q4, S1 = 1/4" Quick Change Chuck
 C3, S3 = Requires Bit Guide or Finder

Air Screwdrivers

Industrial Production Class Positive Jaw Clutch

Features

- Torque range (soft draw)
14 to 165 in.-lb.
- Recommended for assembling that requires more driving torque than final seating torque

Standard Equipment

- Dead handle (Model 7RANP1 only)
- 41 Series has the Skinsulate housing



5RALP1



41PP25TSQ4



41SP10LTQ4

Positive Jaw Clutch Model Specifications

Model	Torque (Soft Draw)*				Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	CFM
	50 psi		90 psi						
	in.-lb.	Nm	in.-lb.	Nm					
Reversible Pistol Handle (Trigger Start)									
5RAKP1	14	1.6	25	2.8	2600	1.88	7.25	.81	17
5RALP1	19	2.2	35	4.0	2000	1.88	7.25	.81	17
41PP25TSQ4	25	2.8	45	5.1	2500	2.30	7.20	.80	20
41PP17TSQ4	37	4.1	65	7.3	1700	2.50	7.60	.80	20
5RANP1	39	4.4	70	8.0	900	2.13	8.00	.81	17
41PP10TSQ4	50	5.7	90	10.2	1000	2.50	7.60	.80	20
7RAMP1	63	7.2	115	13.1	1000	3.13	9.34	.88	27
41PP8TSQ4	67	7.6	120	13.6	800	2.50	7.60	.80	20
7RANP1	91	10.3	165	18.8	700	3.13	9.34	.88	27
Reversible Straight Handle (Lever Throttle)									
41SP25LTQ4	25	2.8	45	5.1	2500	2.30	8.60	.80	20
41SP17LTQ4	37	4.1	65	7.3	1700	2.50	9.10	.80	20
41SP10LTQ4	50	5.7	90	10.2	1000	2.50	9.10	.80	20
41SP8LTQ4	67	7.6	120	13.6	800	2.50	9.10	.80	20

Q4, P1 = 1/4" Quick Change Chuck

* Torque may be adjusted by varying the air pressure.

Air Inlet: All Models 1/4" NPT.

Size Hose Recommended: Series 41, 7, 5/16" All others 1/4".

Features

- Torque range (soft draw)
14 to 120 in.-lb.
- Recommended for soft pull applications not requiring critical torque control

Standard Equipment

- Suspension bail
(for lever throttle models only)
- 41 Series has the Skinsulate housing



41PD10TSQ4



41SD10LTQ4

Direct Drive Model Specifications

Model	Torque (Soft Draw)*				Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	CFM	
	50 psi		90 psi							
	in.-lb.	Nm	in.-lb.	Nm						
Reversible Pistol Handle (Trigger Start)										
5RAKD1	14	1.6	25	2.8	2600	1.88	7.25	.81	17	
5RALD1	19	2.1	35	4.0	2000	1.88	7.25	.81	17	
41PD25TSQ4	25	2.8	45	5.1	2500	2.10	6.90	.80	20	
41PD17TSQ4	37	4.1	65	7.3	1700	2.30	7.40	.80	20	
5RAND1	39	4.4	70	8.0	900	2.13	8.00	.81	17	
7RALD1	39	4.4	70	8.0	1800	2.75	8.63	.88	27	
41PD10TSQ4	50	5.7	90	10.2	1000	2.30	7.40	.80	20	
41PD8TSQ4	67	7.6	120	13.6	800	2.30	7.40	.80	20	
Reversible Straight Handle (Lever Throttle)										
41SD25LTQ4	25	2.8	45	5.1	2500	2.10	8.10	.80	20	
41SD17LTQ4	37	4.1	65	7.3	1700	2.30	8.90	.80	20	
41SD10LTQ4	50	5.7	90	10.2	1000	2.30	8.90	.80	20	
41SD8LTQ4	67	7.6	120	13.6	800	2.30	8.90	.80	20	

Q4, D1 = 1/4" Quick Change Chuck

* Torque may be adjusted by varying the air pressure.

Air Inlet: Series 3, 1/8" NPT. All others 1/4" NPT.

Size Hose Recommended: Series 41, 7, 5/16".

All others 1/4".

Air Screwdrivers

Maintenance/Automotive Class* Direct Drive

IR371

Standard Duty

Pistol-Grip Reversible Screwdriver

A new economical maintenance tool, the IR371 is an excellent choice for soft-draw applications. This tool is well-suited for service work on HVAC systems, instrument panels, and trim components. It delivers reliable performance for driving of sheet metal, self tapping, and wood screws.

- Positive action clutch, for full torque throughout rundown
- Convenient one-handed operation, with reverse control at trigger
- Variable speed throttle for easy starts
- Through-handle exhaust
- Compact, lightweight and maneuverable



Model Number	Performance Rating	Free Speed (rpm)	Chuck Size in. (mm)	Rated Power hp (kW)	Net Weight lbs. (kg)	Overall Length in. (mm)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)
IR371	Standard Duty	1,800	1/4 Hex	.44 (.33)	2.54 (1.15)	7.4 (188)	4 (113)	29 (825)	78/91	1/4	3/8 (10)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Screwdrivers (Angle)

Industrial Production Class Adjustable Precision Shut-Off Clutch



Features

- Torque range (soft draw)
20 to 130 in.-lb.
- Recommended for assembling where precise torque control is required

Standard Equipment

- Suspension bail
- Clutch spring(s)



41AA9LTH4

Adjustable Precision Shut-Off Clutch Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.	Angle Head Side to Center in.	Height to Base of Bit in.	Clutch Spring**	CFM
	in.-lb.	Nm							
Reversible Angle (Lever Start)									
41AA24LTH4	20 - 40	2.2 - 4.5	2400	3.60	13.50	0.58	1.50	L	31
41AA16LTH4	25 - 58	2.8 - 6.5	1650	3.80	13.50	0.58	1.50	L	31
41AA9LTH4	25 - 90	2.8 - 10.2	950	3.90	14.20	0.58	1.50	L, M	31
41AA6LTH4	23 - 130	2.6 - 14.7	600	4.00	14.20	0.65	1.90	L, M, H	31

**Clutch Spring: L = Light, M = Medium, H = Heavy.

S9L, S5L, S9XL = Requires standard 1/4" hex detented shank bit

H4 = Requires standard 1/4" hex insert bit

S1L, S1XL = 1/4" quick change

Square drive tools available – see Air Nutrunners section

Air Screwdrivers (Angle)

Adjustable Cushion Clutch

Features

- Torque range (soft draw)
35 to 110 in.-lb.
- Recommended for assembling that requires a torque limiting clutch

Standard Equipment

- Suspension bail
- Clutch spring(s)



5RLN2C3

Adjustable Cushion Clutch Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.	Angle Head Side to Center in.	Height to Base of Bit in.	Clutch Spring**	CFM
	in.-lb.	Nm							
Reversible Angle (Lever Start)									
5RLK2C3	10 - 40	1.1 - 4.5	1800	3.125	12.375	0.53	0.53	L, H	16
5RLL2C3	15 - 55	1.7 - 6.2	1300	3.125	12.375	0.53	0.53	L, H	16
5RLN2C3	15 - 110	1.7 - 12.4	600	3.125	13.125	0.53	0.53	L, H	16

Tool Series	Sound Approx. dBA	Air Inlet NPT	Hose Size	Installed Spring
5	75	1/4"	1/4"	L
41	78	1/4"	5/16"	Heaviest

C3, C9L = Requires standard 1/4" hex detented shank bit

C1L = 1/4" quick change

**Clutch Spring: L = Light, M = Medium, H = Heavy.

Performance figures are at 90 psi (620 kPa)

Square drive tools available – see Air Nutrunners section

Air Screwdriver Accessories

Description	Series 41 Part Number	Series 5 Part Number	Series 7 Part Number
Horizontal Hanger (for Pistol Models only)	IR48934	7RA-A366	7RA-A366
Dead Handle	IR48931	728N-A48	R1A-A48
Dead Handle Adapter (two required for above)		5A-49	7A-49
31" Exhaust Hose	IR46490 (hose) IR46477 (clip)		
Piped-Away Exhaust Kit (Straight Models only)		5L-K184	7L-K284
Comfort Grip (Straight Lever)	New Skinsulate Housing	CG-5RL	CG-7RL
Comfort Grip (Straight Push-to-Start)		—	—
Comfort Grip (Pistol) Small		CG-5RA	CG-7RA
Top Air Inlet Kit (use with Push-to-Start Auto Shut-Off only)	IR48995		
Suspension Bail (Straight Models only)	R46328	5RL-365	7L-365

Air Screwdriver Accessories

Ergo-Grip™ and Bio Brace™

Give your assembly tool operators the comfort advantage...

- Both of these accessories enhance operator comfort by allowing the operator to reduce grip pressure
- Soft, resilient foam coating.
- More consistent torque output is achieved by encouraging completion of the tool shut-off cycle

Ingersoll-Rand Screwdrivers Series & Speed	Ergo-Grip Part No.	Bio Brace Part No.
Series 3 (1650 rpm or less)	SEG3A-IR	—
Series 3 (over 1650 rpm)	SEG3A-IR	—
Series 41 (1700 rpm or less)	SEG4-IR	SBB4-AR41
Series 41 (over 1700 rpm)	SEG4H-IR	—
VersaTec (all speeds)	—	SBB4-VS

Replacement Foam Grip Kit	
Part No. SEG3-CGK	For Series SEG3
Part No. SEG3A-CGK	For Series SEG3A
Part No. SEG4-CGK	For Series SEG4



Ergo-Grip™

Rotating against a spring mechanism, the Ergo-Grip modifies start-up and shut-off reaction experienced by the operator. Provides a flange which enables the operator to apply axial pressure through the heel of the hand. Easy to install – unscrew the clutch housing, slip on the Ergo-Grip, and reattach the clutch housing.



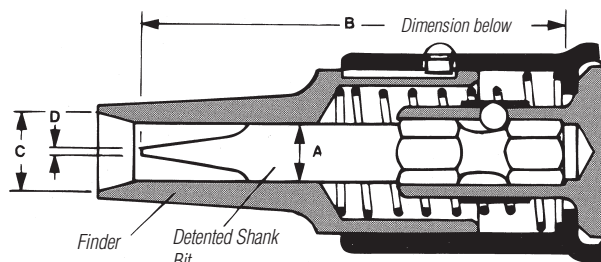
Bio Brace™

The Bio Brace modifies start-up and shut-off reaction force experienced by the operator. Rotating against a padded lever, torque reaction is referred to the operator's arm. Eliminates need for a dead handle, freeing the operator's other hand. Provides a flange which enables the operator to apply axial pressure through the heel of the hand.



Standard 1/4" Hex Detented Shank Bits and Non-Rotating Finders

For use with all screwdriver models ending with a "3"



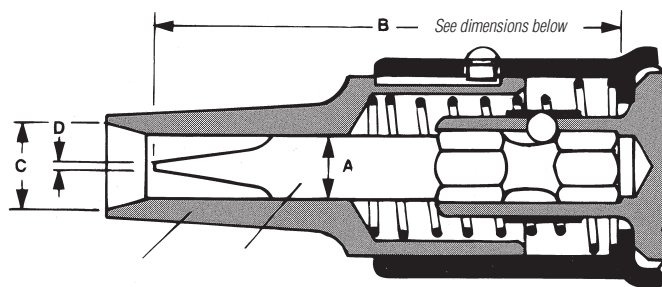
Selection Guide

Tool Series	Clutch Type	Handle	rpm	Ratio	Spring Identification		Torque (Soft Draw)	
					Part No.	Duty/Color	Min. - Max.	Nm
41PA, 41SA Reversible	Precision Shut-Off	Pistol or Straight	2400/2500	24, 25	IR48096	Light (Green)	15 - 40	1.69 - 4.52
			1600/1700	16, 17	IR48096	Light (Green)	15 - 40	1.69 - 4.52
					IR48095	Medium (Brown)	25 - 60	2.82 - 6.78
			1000	10	IR48096	Light (Green)	15 - 40	1.69 - 4.52
					IR48095	Medium (Brown)	25 - 60	2.82 - 6.78
					IR48047	Heavy (Yellow)	35 - 80	3.95 - 9.04
			800	8	IR48096	Light (Green)	15 - 40	1.69 - 4.52
					IR48095	Medium (Brown)	25 - 60	2.82 - 6.78
					IR48047	Heavy (Yellow)	35 - 100	3.95 - 11.30
41AA Reversible	Precision Shut-Off	Angle	2400	24	IR48096	Light (Green)	20 - 40	2.26 - 4.52
			1650	17	IR48096	Light (Green)	25 - 58	2.82 - 6.60
			950	10	IR48096	Light (Green)	25 - 58	2.82 - 6.60
					IR48095	Medium (Brown)	25 - 90	2.82 - 10.17
			600	6	IR48096	Light (Green)	23 - 52	2.50 - 5.8
					IR48095	Medium (Brown)	23 - 81	2.50 - 9.10
		IR48047	Heavy (Yellow)	35 - 130	3.95 - 14.69			
41PC, 41SC Reversible	Cushion Clutch	Pistol or Straight	2500	25	IR47066	Light (Yellow)	10 - 40	1.13 - 4.52
			1700	17	IR47066	Light (Yellow)	10 - 40	1.13 - 4.52
					IR46728	Medium (Blue)	15 - 60	1.69 - 6.78
			1000	10	IR47066	Light (Yellow)	10 - 40	1.13 - 4.52
					IR46728	Medium (Blue)	15 - 80	1.69 - 9.04
			800	8	IR47066	Light (Yellow)	10 - 40	1.13 - 4.52
		IR46728	Medium (Blue)	15 - 80	1.69 - 9.04			
		IR46473	Heavy (Gray)	45 - 100	5.08 - 11.30			
5RA, 5RL Reversible	Cushion Clutch C1, C3	Pistol or Straight	2600	K	5C1-L583	Light (Black)	14 - 25	1.60 - 2.84
			2000	L	5C1-L583	Light (Black)	13 - 35	1.48 - 3.98
			2100				13 - 40	1.48 - 4.55
			900	N	5C1-L583	Light (Black)	13 - 54	1.48 - 6.14
					5C1-H583	Heavy (Green)	55 - 70	6.26 - 7.96
			1000	N	5C1-L583	Light (Black)	13 - 54	1.48 - 6.30
		5C1-H583	Heavy (Green)	55 - 75	6.26 - 8.53			
5RL Reversible	Cushion Clutch 2C3, 2C5, 2C6	Angle	1800	K	5C1-L583	Light (Black)	10 - 40	1.14 - 4.55
					5C1-H583	Heavy (Green)	15 - 35	1.71 - 3.98
			1300	L	5C1-L583	Light (Black)	15 - 55	1.71 - 6.26
					5C1-H583	Heavy (Green)	20 - 55	2.28 - 6.26
			600	N	5C1-L583	Light (Black)	15 - 80	1.71 - 9.10
					5C1-H583	Heavy (Green)	50 - 110	5.69 - 12.51
7RA, 7RL Reversible	Cushion Clutch C1	Pistol or Straight	1800, 2100	L	7C-L583A	Light (Black)	15 - 55	1.71 - 6.26
					7C-583A	Medium (Yellow)	15 - 75	1.71 - 8.53
			1000, 1200	M	7C-583A	Medium (Yellow)	20 - 85	2.28 - 9.67
					7C-H583A	Heavy (Green)	25 - 110	2.84 - 12.51
7RL Reversible	Cushion Clutch 3C6	Angle	1400	L	7C-L583A	Light (Black)	25 - 80	2.84 - 9.10
					7C-583A	Medium (Yellow)	25 - 110	2.84 - 12.51
			800	M	7C-583A	Medium (Yellow)	25 - 90	2.84 - 10.24
					7C-H583A	Heavy (Green)	25 - 130	2.84 - 14.79

Air Screwdriver Accessories

Standard 1/4" Hex Detented Shank Bits and Non-Rotating Finders

- For use with all screwdriver models ending with a "3"
- Finders for 41 Series screwdrivers are located in the parts bulletin



Bit Part Number	Bit Dia. 'A' in.	Blade Thickness 'D' in.	Finder Part Number	Screw Head Opening 'C' in.
-----------------	---------------------	-------------------------------	-----------------------	----------------------------------

Bit and Finder Dimensions

XF164	.122	.026	F164F1	.22
XF165	.154	.032	F165F1	.25
XF166	.187	.034	F166F1	.28
XF167	.215	.036	F167F1	.31
XF168	.250	.038	F168F1	.34
XF169	.275	.042	F169F1	.38
XF1610	.312	.046	F1610F1	.41
XF1612	.360	.050	F1612F1	.47
XF1645	.134	.028	F1645F1	.20
XF244	.122	.026	F244F	.22
XF246	.187	.034	F246F	.28
XF247	.215	.036	F247FF	.31
XF248	.250	.038	F248F	.34
XF250	.312	.046	F250F	.41
XF2512	.360	.050	F2512F	.47

Bits with Rotating Finders for Use with All Screwdrivers



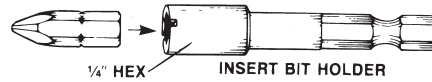
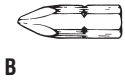
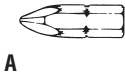
Round Head Machine Screw Size	Part Number
----------------------------------	-------------

1/4" Hex Shank Bits

No. 6	XR306
No. 8	XR308
No. 10	XR3010
No. 12	XR3012

1/4" Hex Shank Insert Bit Holders

For use with all screwdriver models



Type of Bit Holder	Part Number
--------------------	-------------

Bit Holder	
Magnetic	M631-4
Non-Magnetic	RX2-631-4

Insert Bit Part Number	Length in.	Point Size	Round Head	Flat or Oval Head	Binding Machine Head and Pan Head	Fillister Machine Head	Truss Head
------------------------	------------	------------	------------	-------------------	-----------------------------------	------------------------	------------

1/4" Hex Shank Insert Bits

A	For	XPB071	1	No. 1	2, 3, 4	2, 3, 4	2, 3, 4, 5	2, 3, 4	2, 3, 4, 5
	Phillips Head	XPB072	1	No. 2	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 10	5, 6, 8, 10	6, 8, 10
		XPB073	1	No. 3	12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"
B	For	XPZB071	1	No. 1	2, 3, 4	2, 3, 4	2, 3, 4, 5	2, 3, 4	2, 3, 4, 5
	Pozidriv Head	XPZB072	1	No. 2	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 10	5, 6, 8, 10	6, 8, 10
		XPZB073	1	No. 3	12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"

1/4" Hex Detented Shank Socket Drivers and Sockets

For use with all screwdriver models



Size of Square Drive in.	Socket Driver Part Number and Length
--------------------------	--------------------------------------

Socket Drivers		
A	2"	4"
1/4	7102	-
3/8	-	7106

Power Hex to Square Adapters

Power Hex to Square Adapters are used to furnish a square drive when inserted into a hex quick change chuck. They are furnished to fill applications where a driver extension is needed.

Hex Magnetic Socket for Self-Tapping Screws Part Number	Hex Socket Part Number	Square Socket Part Number	Hex Socket Part Number	Hex and Square Machine Screw Nuts	Hex Head Machine and Cap Screws	Distance Across Flats in.
Sockets 1/4" Square Drive						
6906PKM	6906H	-	-	2, 3	3, 4, 5	3/16
6908PKM	6908H	-	-	4	6, 8	1/4
6910PKM	6910H	-	7210H	5, 6	10, 12	5/16
6911PKM	6911H	-	7211H	8	-	11/32
6912PKM	6912H*	7212S*	7212H	10	1/4"	3/8
6914PKM	6914H	7214S*	7214H	12, 1/4"	-	7/16
6916PKM	6916H	7216S*	7216H	-	5/16"	1/2
-	-	7218S*	7218H	5/16"	3/8"	9/16
-	-	7220S*	7220H	3/8"	7/16"	5/8
3/8" Square Drive						
Screw and Nut Size Chart						

Air Screwdriver Accessories

Standard 1/4" Hex Detented Shank Bits

For use with all screwdriver models











A



B





C

							Point Size	Bit Part No. and Length			
		Round Head	Flat or Oval Head	Binding Machine Head and Pan Head	Fillister Machine Head	Truss Head		1 ¹⁵ / ₁₆ "	2 ³ / ₄ "	3 ¹ / ₂ "	6"
A	For	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4, 5	No. 1	XP161	XP221	XP281	XP481
	 Phillips Head	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 10	5, 6, 8, 10	6, 8, 10	No. 2	XP162	XP222	XP282	XP482
		12 to 5/16"	12 to 1/4"	12 to 1/4"	12 to 5/16"	12, 1/4"	No. 3	XP163	XP223	XP283	XP483
B	For	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4, 5	No. 1	XPZ161	–	–	–
	 Pozidriv Head	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 10	5, 6, 8, 10	6, 8, 10	No. 2	XPZ162	–	–	–
		12 to 5/16"	12 to 1/4"	12 to 1/4"	12 to 5/16"	12, 1/4"	No. 3	XPZ163	–	–	–
C	For Reed and Prince Head										
	 Reed and Prince Head	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4, 5	No. 1	XRP161	–	–	–



D

				Hex Across Flats (AF) in.	Bit Part Number
		Cap Screws	Safety Set Screws		
D	For hex Socket Head	2, 3	8	5/64	HX1325
		4, 5	10	3/32	HX133
		6	–	7/64	HX1335
		–	1/4"	1/8	HX134
		8	–	9/64	HX1345
		10	5/16"	5/32	HX135
		1/4", 3/8"	3/8"	3/16	HX136
		–	7/16"	7/32	HX137
		5/16"	–	1/4	HX138

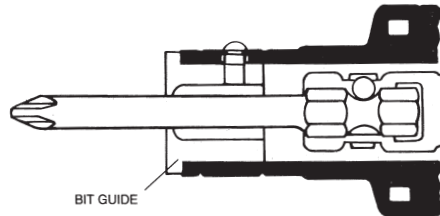
Bit Guide

For use with all pistol and lever screwdriver models ending with a "3"

Point Size	Part Number
------------	-------------

For use with bit lengths 1¹⁵/₁₆" and 2³/₄"

No. 1 Point	5RA-P730-1
No. 2 Point	5RA-P730-2
No. 3 Point	5RA-P730-3



Advantages

- Increased torque accuracy
- Decreased bit run out
- Decreased workpiece damage
- Decreased bit wobble

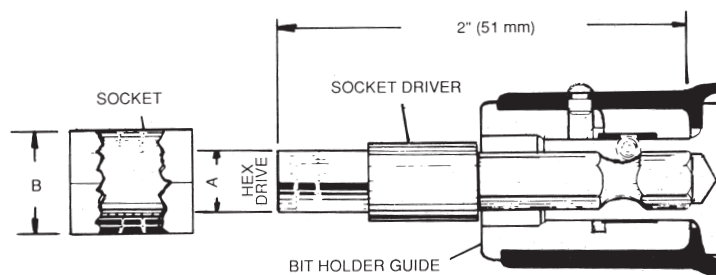
Square Drive to Hex Adapters

1/4" Hex Shank Socket Driver		Socket			
Part Number	A in.	Part Number	A in.	B in.	B mm
HD168	1/4	HS8	1/4	7/16	11.1
HD1610	5/16	HS10	5/16	1/2	12.7

Sockets and Socket Drivers

For Hex Head Self-Tapping Screws

For driving hex head, self-tapping screws. The Driver takes a long bearing in the Socket, leaving only enough depth of opening on the opposite end to engage the full thickness of the screw head. The Socket is pinned to the Driver and when worn, may be removed and turned end for end on the Driver, thus doubling the normal life of the Socket.



Air Nutrunners



Focused innovation is transforming and expanding the Ingersoll-Rand line of air nutrunners and angle wrenches.

The standard and high capacity lines of IR air angle wrenches incorporate seven different model series, which vary according to type of clutch, reverse mechanism, and torque capacity. Reversible adjustable precision shut-off models include Series 41 models, with a torque range of 20-130 in.-lb. The high capacity reversible shut-off types include Series 6, 8, and 9 models, with a torque range of 3.8 to 24 ft.-lb. Reversible adjustable cushion clutch types include Series 5 and 7 models, with a torque range of 10-110 ft.-lb., as do the reversible stall types with a torque range of 40-265 in.-lb. High capacity reversible stall types include models from the Series 6, 8, and 9 lines.

The D Series air tools are available in straight, angle, and fixtured versions covering a torque range of 9 to 60 Nm. Transducer models add the electronic interface capability, and cover a torque range of 9 to 60 Nm. Likewise, the high capacity transducer types incorporate Series 6, 8, and 9 models, with a torque range of 4.8 to 90 ft.-lb.



IR Torque Management Systems perform basic to highly advanced monitoring and control functions. The TMS units are available in six different configurations, dependent on the type of tools employed. Air tool applications include the TMAC system, for torque monitoring and angle control, with dual or single spindles. The TMC system provides torque monitoring and control with dual or single spindles, while the TM system simply provides torque monitoring, again with dual or single spindles.

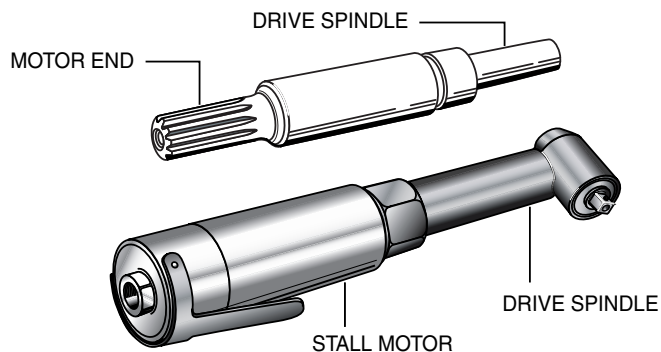
Production processes and levels of precision are changing rapidly – and Ingersoll-Rand is changing with them – to anticipate and meet your requirements.

Ingersoll-Rand angle wrenches incorporate various types of drive and clutch configurations to match the types of joints and fasteners involved in specific applications. On the next several pages you will find a basic review of angle wrench functions, along with additional details on fastening torque issues – stress and strain curves, types of joints, and torque values. Your IR representative or distributor can also assist with specific expertise that will help you make the best tool and system selection.

Select the Tool to Fit Your Assembly Needs

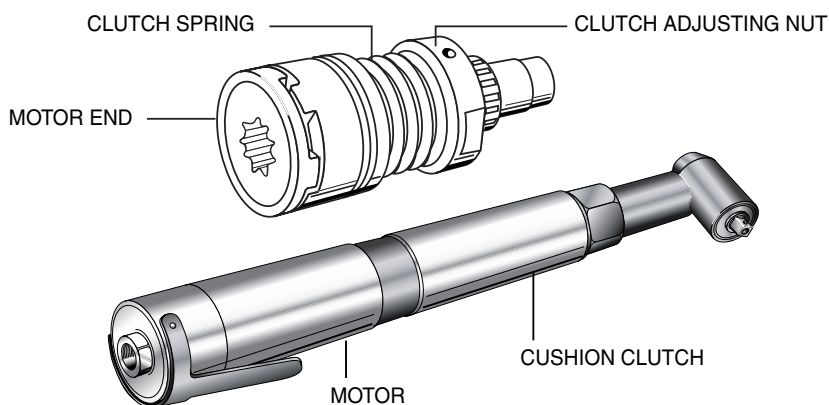
Direct Drive Tools

Motor runs to stall providing reasonably consistent torque repeatability. Applied torque can be adjusted by regulating air pressure, but must be absorbed by the operator or reaction device. Recommended for non-critical applications.



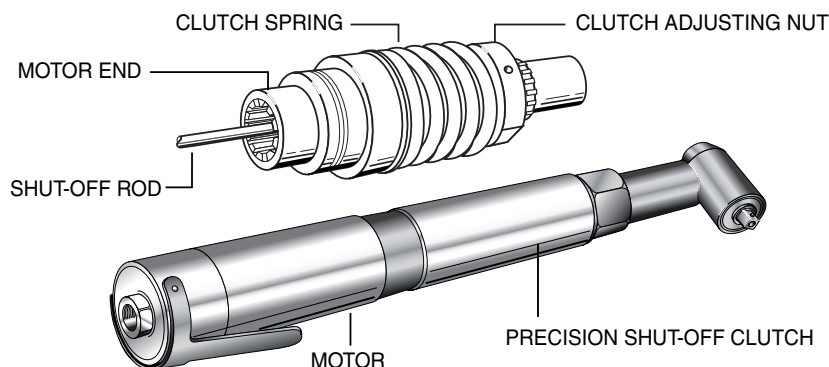
Adjustable Cushion Clutch Tools

Steel balls rolling between indented plates provide smooth disengagement at preset torque while minimizing vibration to the operator. Very good general purpose torque limiting clutch.



Adjustable Precision Shut-Off Clutch Tools

Tool shuts off when preset torque is achieved, providing excellent repeatability with minimal torque reaction. The most accurate clutch available. Automatic shut-off reduces air consumption. Recommended for assemblies where precise torque control is required.

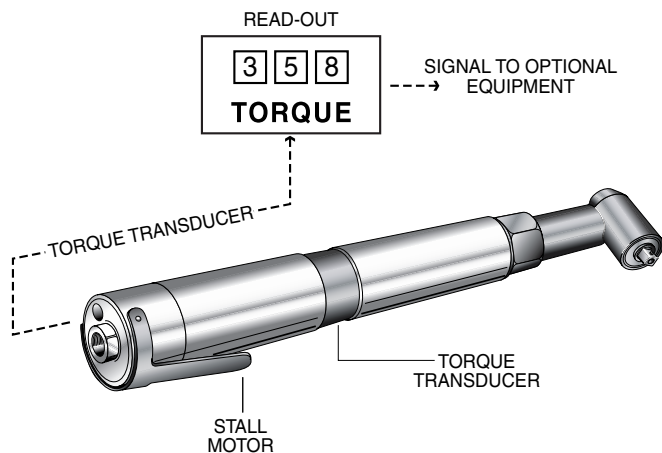


Air Nutrunners

Tool Selection Options

Torque Monitored Tools

Applied torque is monitored dynamically by an electronic transducer. May be used in either stall or shut-off type tools. No direct control of tension. Recommended where measure and assurance of torque accuracy is important.

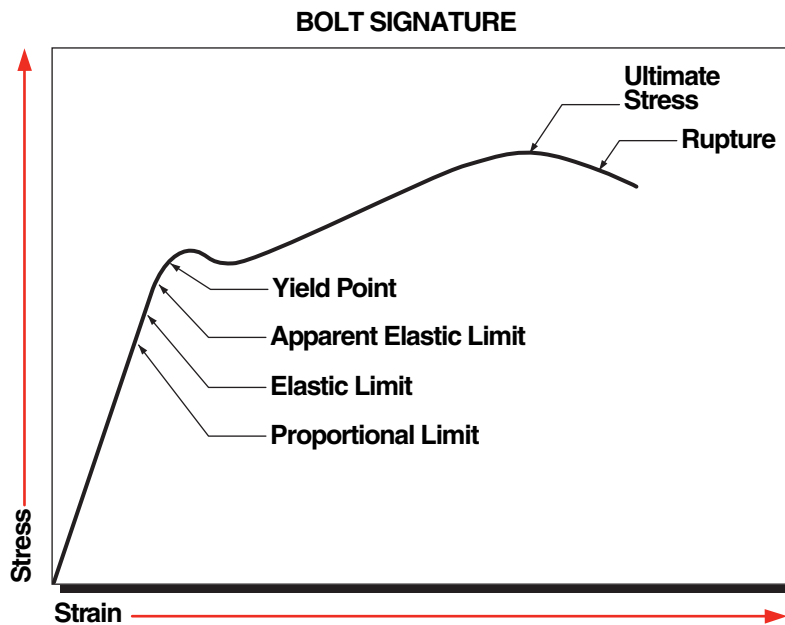


Air Nutrunners

Stress-Strain Curves

Tension in the fastener is all-important in joining two pieces together. Let's look more closely at what happens to the fastener as the tension increases. The usual way that this is represented is in a stress-strain curve like the one above. The stress or the tension in the bolt is plotted vertically. The strain or the resultant elongation of the bolt is plotted horizontally. This is also referred to as the bolt signature.

As the stress increases from zero, the strain is proportional at first. It's also true in this region of lower stress that the bolt is elastic – if we remove the stress, the bolt returns to its original length. But with further increase in stress we pass the elastic limit. Now if the force were to be removed, the bolt would not return to its original length. With further tension we reach the yield point of the fastener. As the name implies, it no longer resists stretching and gives or yields, with only modest increase in the tension. With still further increases in stress, the bolt does elongate further at a relatively rapid rate, finally rupturing.



Now think about this: the strain, the elongation of the bolt, is proportional to the amount by which we rotate the fastener. (That's the whole idea behind the screw. A certain number of degrees of rotation is equal to a proportional travel of the nut along the bolt.) And correspondingly, there's a direct relationship between the torque we

apply and the tension we achieve for each particular bolt and lubrication condition. As a result, we can replace stress and strain with torque and degrees of fastener rotation.

The table on the following page gives an estimate of this torque.

Suggested Tightening-Torque Values for Nonferrous Threaded Fasteners

Torque Table

The following suggested tightening torques provide an excellent starting point for determining torque requirements. Remember, you may need to increase or reduce these numbers somewhat based on the individual joint.

Bolt Size	18-8 Stainless Steel	Brass	Silicon Bronze	Aluminum 2024-T4	316 Stainless Steel	Monel	Nylon
2 - 56	2.5	2.0	2.3	1.4	2.6	2.5	0.44
2 - 64	3.0	2.5	2.8	1.7	3.2	3.1	
3 - 48	3.9	3.2	3.6	2.1	4.0	4.0	
3 - 56	4.4	3.6	4.1	2.4	4.6	4.5	
4 - 40	5.2	4.3	4.8	2.9	5.5	5.3	1.19
4 - 48	6.6	5.4	6.1	3.6	6.9	6.7	
5 - 40	7.7	6.3	7.1	4.2	8.1	7.8	
5 - 44	9.4	7.7	8.7	5.1	9.8	9.6	
6 - 32	9.6	7.9	8.9	5.3	10.1	9.8	2.14
6 - 40	12.1	9.9	11.2	6.6	12.7	12.3	
8 - 32	19.8	16.2	18.4	10.8	20.7	20.2	4.30
8 - 36	22.0	18.0	20.4	12.0	23.0	22.4	
10 - 24	22.8	18.6	21.2	13.8	23.8	25.9	6.61
10 - 32	31.7	25.9	29.3	19.2	33.1	34.9	8.20
1/4" - 20	75.2	61.5	68.8	45.6	78.8	85.3	16.00
1/4" - 28	94.0	77.0	87.0	57.0	99.0	106.0	20.80
5/16" - 18	132.0	107.0	123.0	80.0	138.0	149.0	34.90
5/16" - 24	142.0	116.0	131.0	86.0	147.0	160.0	
3/8" - 16	236.0	192.0	219.0	143.0	247.0	266.0	
3/8" - 24	259.0	212.0	240.0	157.0	271.0	294.0	
7/16" - 14	376.0	317.0	349.0	228.0	393.0	427.0	
7/16" - 20	400.0	327.0	371.0	242.0	418.0	451.0	
1/2" - 13	517.0	422.0	480.0	313.0	542.0	584.0	
1/2" - 20	541.0	443.0	502.0	328.0	565.0	613.0	
9/16" - 12	682.0	558.0	632.0	413.0	713.0	774.0	
9/16" - 18	752.0	615.0	697.0	456.0	787.0	855.0	
5/8" - 11	1110.0	907.0	1030.0	715.0	1160.0	1330.0	
5/8" - 18	1244.0	1016.0	1154.0	798.0	1301.0	1482.0	
3/4" - 10	1530.0	1249.0	1416.0	980.0	1582.0	1832.0	
3/4" - 16	1490.0	1220.0	1382.0	958.0	1558.0	1790.0	
7/8" - 9	2328.0	1905.0	2140.0	1495.0	2430.0	2775.0	
7/8" - 14	2318.0	1895.0	2130.0	1490.0	2420.0	2755.0	
1" - 8	3440.0	2815.0	3185.0	2205.0	3595.0	4130.0	
1" - 14	3110.0	2545.0	2885.0	1995.0	3250.0	3730.0	
1 1/8" - 7	413.0	337.0	383.0	265.0	432.0	499.0	
1 1/8" - 12	390.0	318.0	361.0	251.0	408.0	470.0	
1 1/4" - 7	523.0	428.0	485.0	336.0	546.0	627.0	
1 1/4" - 12	480.0	349.0	447.0	308.0	504.0	575.0	
1 1/2" - 6	888.0	727.0	822.0	570.0	930.0	1064.0	
1 1/2" - 12	703.0	575.0	651.0	450.0	732.0	840.0	

This table is offered as the suggested maximum torquing values for threaded products and is only a guide. Actual tests were conducted on dry, or near-dry, products. Mating parts were wiped clean of chips and foreign matter. A lubricated bolt requires less torque to attain the same clamping force as a nonlubricated bolt. All values shown on chart except for nylon represent a safe working torque; in the case of nylon only, the figures represent breaking torque.

Air Nutrunners

Industrial Production Class Adjustable Precision Shut-Off Clutch

Features

- Torque range (soft draw)
20 to 130 in.-lb.

Standard Equipment

- Vertical hanger



41AA9LTS6

Adjustable Precision Shut-Off Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.			Square Drive in.	Clutch Spring**	CFM
	in.-lb.	Nm				in.	in.			
Reversible Angle (Lever Start)										
41AA24LTS4	20 - 40	2.2 - 4.5	2400	3.60	13.50	0.58	1.5	1/4	L	31
41AA16LTS4	25 - 58	2.8 - 6.5	1650	3.80	13.50	0.58	1.50	1/4	L	31
41AA9LTS6	25 - 90	2.8 - 10.2	950	3.90	14.20	0.58	1.50	3/8	L, M	31
41AA6LTS6	23 - 130	2.6 - 14.7	600	4.00	14.20	0.65	1.90	3/8	L, M, H	31

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Size	Installed Spring
41	79	1/4"	5/16"	Heaviest

Designed for use on close quarter applications.

Not intended for continuous disassembly.

***Clutch Spring: L = Light, M = Medium, H = Heavy.*

Performance figures are at 90 psi (620 kPa).

Features


- Torque range (soft draw)
3.8 to 85 ft.-lb.



6WRTN3



9TN53

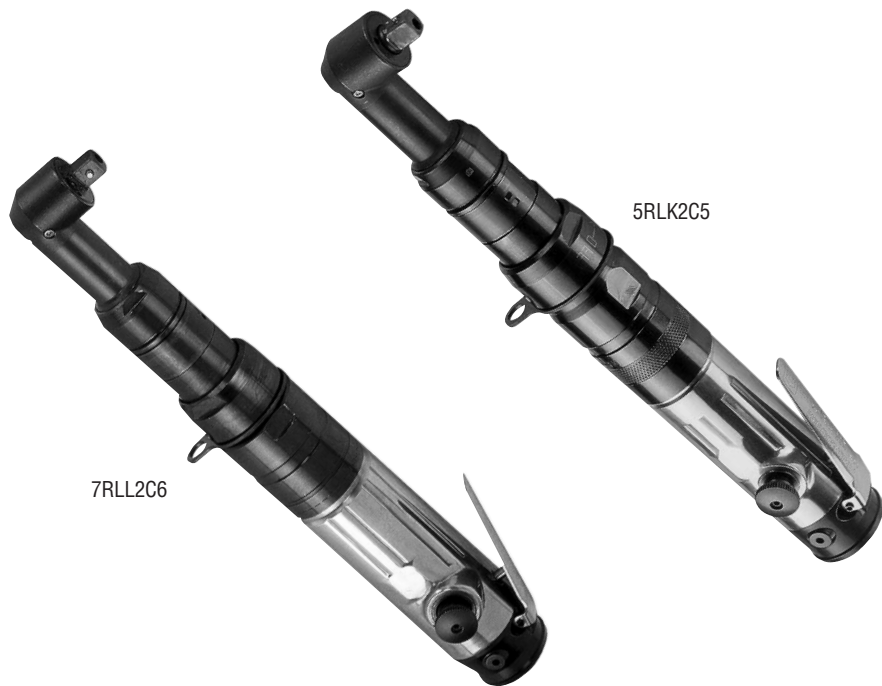
Model	Torque Range (Soft Draw)				Free Speed rpm	Weight lb.	Length in.			Square Drive in.	CFM
	50 psi Pressure		90 psi Pressure					in.	in.		
	ft.-lb.	Nm	ft.-lb.	Nm							
Reversible (Lever Throttle)											
6WRTL3	3.8	5.2	6.7	9.1	1250	3.25	11.38	.69	1.50	3/8	26
6WRTM3	5.3	7.2	9.5	12.2	875	3.50	12.13	.69	1.50	3/8	26
6WRTN3	6.4	8.7	11.5	14.9	750	3.50	12.13	.69	1.50	3/8	26
6WRTP3	8.1	11.0	14.5	19.0	550	3.50	12.13	.69	1.50	3/8	26
6WRTQ3	10.6	14.4	19.0	25.8	425	3.50	12.13	.69	1.50	3/8	26
6WRTR3	13.4	18.2	24.0	32.5	350	3.50	12.13	.69	1.50	3/8	26
Nonreversible (Lever Throttle)											
6WTL3	4.2	5.7	7.5	10.2	1450	3.00	10.63	.69	1.50	3/8	26
6WTM3	5.9	8.0	10.5	14.2	1000	3.25	11.38	.69	1.50	3/8	26
6WTN3	7.0	9.5	12.5	16.9	850	3.25	11.38	.69	1.50	3/8	26
6WTP3	9.2	12.5	16.5	22.4	650	3.25	11.38	.69	1.50	3/8	26
6WTQ3	12.0	16.3	21.5	29.2	500	3.25	11.38	.69	1.50	3/8	26
6WTR3	15.4	20.9	27.5	37.3	400	3.50	11.38	.69	1.50	3/8	26
8TM32	16.0	21.7	23.0	31.3	1110	5.38	15.75	.67	1.50	3/8	55
8TN32	21.0	28.5	30.0	40.8	840	5.69	16.63	.67	1.50	3/8	55
9TM53	27.0	36.6	40.0	54.4	780	6.50	16.50	.86	1.63	1/2	65
8TP53	28.0	38.0	40.0	54.4	610	5.94	16.75	.86	1.63	1/2	55
8TQ53	35.0	47.5	50.0	68.0	520	5.94	16.75	.86	1.63	1/2	53
9TN53	35.0	47.5	50.0	68.0	630	7.06	17.50	.86	1.63	1/2	65
9TP53	42.0	57.0	65.0	88.4	500	7.06	17.50	.86	1.63	1/2	65
9TQ83	50.0	67.8	85.0	115.6	355	7.50	17.63	.97	1.81	1/2	65

Tool Series	Air Inlet NPT	Air Hose
6	1/4"	3/8"
8	1/2"	1/2"
9	1/2"	1/2"

Industrial Production Class Adjustable Cushion Clutch

Features

- Torque range (soft draw)
10 to 130 in.-lb.



Adjustable Cushion Clutch Models Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.			Square Drive in.	Clutch Spring**	CFM
	in.-lb.	Nm				in.	in.			
Reversible Angle (Lever Start)										
5RLK2C5	10 - 40	1.1 - 4.6	1800	3.13	12.38	0.53	1.31	1/4	L	17
5RLL2C5	15 - 55	1.7 - 6.3	1300	3.13	12.38	0.53	1.31	1/4	L	17
7RLL2C6	15 - 100	1.7 - 11.3	1400	3.38	13.19	0.53	1.31	3/8	H	27
7RLL3C6	25 - 110	2.8 - 12.5	1400	4.75	14.31	0.69	1.50	3/8	M	27
7RLM3C6	25 - 130	2.8 - 14.8	800	5.00	14.31	0.69	1.50	3/8	M	27
5RLN2C6	15 - 110	1.7 - 12.5	600	3.38	13.13	0.53	1.31	3/8	H	17

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Size	Installed Spring
5	75	1/4"	1/4"	Lightest
7	80	1/4"	5/16"	Lightest

**Clutch Spring: L = Light, M = Medium, H = Heavy.
Performance figures are at 90 psi (620 kPa).

Features

- Torque range (soft draw)
40 to 265 in.-lb.



7RLM3D6

Direct Drive/Stall Model Specifications

Model	Torque Range (Soft Draw)		Free Speed rpm	Weight lb.	Length in.			Square Drive in.	CFM
	in.-lb.	Nm				in.	in.		
Reversible Angle (Lever Start) except as noted									
5RLK2D6	40	4.6	1800	2.69	10.13	0.53	1.31	3/8	17
5RLL2D6	55	6.3	1300	2.69	10.13	0.53	1.31	3/8	17
5LL2D6*	60	6.8	1500	2.38	9.38	0.53	1.31	3/8	16
7RLL3D6	100	11.3	1400	3.25	11.00	0.69	1.50	3/8	27
5RLN2D6	110	12.5	600	3.00	10.88	0.53	1.31	3/8	17
7RLM3D6	175	19.8	800	3.50	11.63	0.69	1.50	3/8	27
7RLN3D6	265	29.9	500	3.50	11.63	0.69	1.50	3/8	27

Tool Series	Sound Approx. dBa	Air Inlet NPT	Air Hose
5	75	1/4"	1/4"
7	80	1/4"	5/16"

* Nonreversible model.
Performance figures are at 90 psi (620 kPa).

Air Nutrunners

Industrial Production Class Direct Drive/Stall Models

Features

- Torque range (soft draw)
3.8 to 85 ft.-lb.



Direct Drive/Stall Model Specifications

Model	Torque Range (Soft Draw)				Free Speed rpm	Weight lb.	Length in.			Square Drive in.	CFM
	50 psi Pressure ft.-lb.	Nm	90 psi Pressure ft.-lb.	Nm				in.	in.		
Reversible (Lever Throttle)											
6WRSL3	3.8	5.2	6.7	9.1	1175	3.00	10.50	.69	1.50	3/8	26
6WRSM3	5.3	7.2	9.5	12.2	825	3.25	11.25	.69	1.50	3/8	26
6WRSN3	6.4	8.7	11.5	14.9	700	3.25	11.25	.69	1.50	3/8	26
6WRSP3	8.1	11.0	14.5	19.0	550	3.25	11.25	.69	1.50	3/8	26
6WRSQ3	10.6	14.4	19.0	25.8	400	3.25	11.25	.69	1.50	3/8	26
8RSL32	12.0	16.3	18.0	24.5	1200	5.50	16.13	.67	1.50	3/8	55
6WRSR3	13.4	18.2	24.0	32.6	325	3.25	11.25	.69	1.50	3/8	26
8RSM32	15.0	20.3	23.0	31.3	930	5.50	16.13	.67	1.50	3/8	55
8RSN32	19.0	25.8	30.0	40.8	700	5.81	17.00	.67	1.50	3/8	55
9RSM53	25.0	33.9	40.0	54.4	665	6.56	16.75	.86	1.63	1/2	65
8RSP53	26.0	35.3	40.0	54.4	510	6.06	17.13	.86	1.63	1/2	55
9RSN53	32.0	43.4	50.0	68.0	535	7.19	17.75	.86	1.63	1/2	65
8RSQ53	32.0	43.4	50.0	68.0	430	6.06	17.13	.86	1.63	1/2	55
9RSP53	39.0	52.9	58.0	78.9	425	7.19	17.75	.86	1.63	1/2	65
9RSQ83	45.0	61.0	82.0	111.5	300	7.63	17.88	.97	1.81	1/2	65
Nonreversible (Lever Throttle)											
8SM32	16.0	21.7	23.0	31.3	1110	4.75	14.38	.67	1.50	3/8	55
8SN32	21.0	28.5	30.0	40.8	840	5.06	15.25	.67	1.50	3/8	55
8SP53	28.0	38.0	40.0	54.4	610	5.31	15.38	.86	1.63	1/2	55
9SQ83	50.0	67.8	85.0	115.6	355	6.69	15.88	.97	1.81	1/2	65

Tool Series	Air Inlet NPT	Air Hose
6	1/4"	3/8"
8	1/2"	1/2"
9	1/2"	1/2"



Power Quick Change Chucks

For greatest versatility on screwdriving jobs, snap a Quick Change Chuck on your angle wrench. A variety of hex shank bits can be inserted and changed by merely pushing on the spring loaded collar.

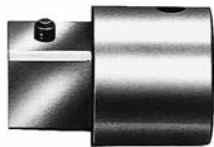
Square Driver Size, in. Female	Part Number	Hex Chuck Size, in. Female
3/8	2U-A925-4	1/4
3/8	502-A925-7	7/16
1/2	4U-A925-7	7/16



Power Universal Joints

Universal joints make it easy to work around difficult angles and hard-to-reach nuts.

Driver Description	Part Number	Length in.	Major Diam. in.
3/8" Sq.	7270P	23/8	15/16
1/2" Sq.	7470P	23/4	11/8



Power Socket Adapters

Socket adapters are used to increase or decrease driver size to accommodate available sockets.

Driver Size, in. Female	Male	Part Number
3/8	1/2	2U-215



Power Driver Extensions

Used when extra length is needed for close quarters applications.

Square Driver Size in.	Part Number	Length in.
3/8	7175P	3
1/2	7181P	5



Power Screwdriver Adapters

For Phillips, Pozidriv or Reed & Prince Screws, use these Screwdriver adapters with the Insert Bits listed below.

Square Driver Size in.	Part Number
3/8	2U-812
1/2	4U-812



Power Square Insert Bits

The square shank Phillips, Reed & Prince and Hexagon bits listed are used with the above adapters.

Description	Part Number
Phillips Bit No. 2 Point	SPB082-5
Phillips Bit No. 3 Point	SPB083-5
Phillips Bit No. 4 Point	SPB084-5



Independent Power Regulators

These Regulators can be screwed into the air inlet and adjusted to reduce the torque output.

Pipe Tap Size in.	Part Number
1/4	AV11-A915

Air Ratchets

Compact. Convenient. Real time-savers. Air ratchet wrenches have become essential elements in every serious toolbox. They combine access and power to make jobs more productive and profitable. And Ingersoll-Rand ratchets feature unique qualities that you won't find anywhere else.





The IR1103 model packs all the features you need into a compact size, measuring just 7 1/2 inches in length and weighing just 1 3/4 pounds! Its two-speed power grip ring and ample power and speed mean you'll get in and out of the tightest spaces with ease. The IR1103 is so versatile and convenient, it may just change the way you work.

Ingersoll-Rand also offers the exclusive IR111 Reactionless Ratchet™, which eliminates the effects of torque kickback after running down nuts and bolts. That's why we call it the Knuckle Saver™. Whatever your requirements, IR can offer a ratchet to fit your budget and your toolbox.



The XP mark identifies tools upgraded with enhanced features to deliver Extra Performance.

Model Number	Performance Rating	Square Drive in.	Maximum Torque ft.-lb. (Nm)	Free Speed (rpm)	Weight lb. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR103	Standard Duty	1/4	20 (27)	200	1.1 (0.50)	6.5 (165)	2.5 (71)	15 (410)	87.7/100.7	1/4	1/4 (6)
IR1033	Standard Duty	3/8	20 (27)	200	1.1 (0.50)	6.5 (165)	2.5 (71)	15 (410)	87.7/100.7	1/4	1/4 (6)
IR1103	Ultra Duty	1/4	25 (34)	270	1.35 (0.61)	7.5 (190)	4 (113)	21 (600)	89/102.2	1/4	1/4 (6)
IR1133	Ultra Duty	3/8	25 (34)	270	1.35 (0.61)	7.5 (190)	4 (113)	21 (600)	89/102.2	1/4	1/4 (6)
IR104	Standard Duty	1/4	20 (27)	200	1.1 (0.50)	7.8 (198)	2.5 (71)	13 (368)	90.8/103.8	1/4	1/4 (6)
IR107XP	Heavy Duty	3/8	50 (68)	160	2.49 (1.13)	10.5 (267)	4 (113)	18 (504)	92.5/105.5	1/4	5/16 (8)
IR1077XP	Heavy Duty	1/2	50 (68)	160	2.49 (1.13)	10.5 (267)	4 (113)	18 (504)	92.5/105.5	1/4	5/16 (8)
IR1200	Ultra Duty	3/8	60 (81)	270	2.53 (1.2)	10.75 (273)	4 (113)	16 (453)	98/111	1/4	5/16 (8)
IR1210	Ultra Duty	1/2	60 (81)	270	2.53 (1.2)	10.75 (273)	4 (113)	16 (453)	98/111	1/4	5/16 (8)
IR109XP	Super Duty	3/8	70 (95)	300	3.1 (1.4)	11.9 (302)	4 (113)	24 (672)	93.6/106.6	1/4	5/16 (8)
IR1099XP	Super Duty	1/2	70 (95)	300	3.1 (1.4)	11.9 (302)	4 (113)	24 (672)	93.6/106.6	1/4	5/16 (8)
IR111	Super Duty	3/8	50 (68)	300	2.7 (1.22)	10.5 (267)	4 (113)	12 (340)	89.6/102.6	1/4	5/16 (8)
IR1111	Super Duty	1/2	50 (68)	300	2.7 (1.22)	10.5 (267)	4 (113)	12 (340)	89.6/102.6	1/4	5/16 (8)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Ratchets

Maintenance/Automotive Class* Air Ratchets

IR1003

1/4" Stubby Standard Duty

Air Ratchet Wrench

The "Stubby" lets you squeeze into very snug spaces without feeling squeezed while you run small fasteners. Excellent for body shop repair jobs and light duty work under the dashboard.

- The smallest air ratchet, only 6-1/2" long
- Lightweight, only 1-1/8 lbs.
- 20 ft.-lbs. maximum torque



IR1103

1/4" Ultra Duty

Air Ratchet Wrench

The IR1103 puts the power and speed of a larger tool neatly in the palm of your hand. It's perfect for under the hood, under the dash, collision repair, and more-wherever access is the key.

- Exclusive TwinPawl Plus™ head design for durability and long life
- Two-speed power grip ring; ergonomic textured grip
- 25 ft.-lbs. of maximum torque; 270 rpm



IR1033

3/8" Stubby Standard Duty

Air Ratchet Wrench

Same specifications as the IR103 model, but with 3/8" drive.

IR1133

3/8" Ultra Duty

Air Ratchet Wrench

Same specifications as the IR1103 model, but with 3/8" drive.

IR104

1/4" Standard Duty

Air Ratchet Wrench

Made to fit in the palm of your hand, this compact ratchet is great for small engine repair, headlight service work, and bench work. So easy to maintain, just dip the head in oil.

- Extra compact
- Easy to maintain
- 20 ft.-lbs. maximum torque



IR107XP

3/8" Heavy Duty

Air Ratchet Wrench

Based on the industry's most popular ratchet, the 107XP delivers an extra measure of durability with an advanced head design, plus a host of other features.

- 50 ft.-lbs. of maximum torque
- Variable speed lever-style throttle
- 360° adjustable exhaust directs air away from the operator and the work



IR1077XP

1/2" Heavy Duty

Air Ratchet Wrench

Same specifications as the IR107XP model, but with 1/2" drive.



Model Number	Performance Rating	Square Drive in.	Working Torque Range ft.-lb. (Nm)	Maximum Torque ft.-lb. (Nm)	Free Speed (rpm)	Standard Bolt Size in. (mm)	Weight lb. (kg)	Length in. (mm)	Av. Air Consumption CFM (l/min)	@ Load CFM (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR103	Standard Duty	1/4	5-20 (7-27)	20 (27)	200	3/8 (10)	1.1 (0.50)	6.5 (165)	2.5 (71)	15 (410)	87.7/100.7	1/4	1/4 (6)
IR1033	Standard Duty	3/8	5-20 (7-27)	20 (27)	200	3/8 (10)	1.1 (0.50)	6.5 (165)	2.5 (71)	15 (410)	87.7/100.7	1/4	1/4 (6)
IR1103	Ultra Duty	1/4	5-25 (7-34)	25 (34)	270	3/8 (10)	1.75 (0.79)	7.5 (190)	4 (113)	21 (608)	89/102.2	1/4	1/4 (6)
IR1133	Ultra Duty	3/8	5-25 (7-34)	25 (34)	270	3/8 (10)	1.75 (0.79)	7.5 (190)	4 (113)	21 (608)	89/102.2	1/4	1/4 (6)
IR104	Standard Duty	1/4	5-20 (7-27)	20 (27)	200	3/8 (10)	1.1 (0.50)	7.8 (198)	2.5 (71)	13 (368)	90.8/103.8	1/4	1/4 (6)
IR107XP	Heavy Duty	3/8	10-45 (14-61)	50 (68)	160	3/8 (10)	2.49 (1.13)	10.5 (267)	4 (113)	18 (504)	92.5/105.5	1/4	5/16 (8)
IR1077XP	Heavy Duty	1/2	10-45 (14-61)	50 (68)	160	3/8 (10)	2.49 (1.13)	10.5 (267)	4 (113)	18 (504)	92.5/105.5	1/4	5/16 (8)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR1200 

3/8" Ultra Duty

Air Ratchet Wrench

Superior comfort and control meet durability and productivity in this tough, high-speed ratchet.

- Lightweight composite handle for superior comfort and grip
- New head design features IR exclusive slip resistant friction disc for longer life and added durability



R1210 

1/2" Ultra Duty

Air Ratchet Wrench

Same specifications as the IR1200 Model, but with 1/2" drive.

IR109XP 

3/8" Super Duty

Air Ratchet Wrench

This is the fastest ratchet in its class, with an optimized gear ratio and airflow for Extra Performance, coupled with exceptional durability.

- 70 ft.-lbs. maximum torque at 300 rpm free speed
- Exclusive IR TwinPawl Plus™ head design for exceptional durability
- 360° adjustable exhaust directs air away from the operator and the work



IR1099XP 

1/2" Super Duty

Air Ratchet Wrench

Same specifications as the IR109XP model, but with 1/2" drive.



IR111 

The Knuckle Saver™ 3/8" Super Duty

Reactionless Air Ratchet Wrench

This revolutionary Reactionless Ratchet™ has a unique reactionless mechanism. It makes gearing unnecessary and it absorbs kickback when the nut runs tight.

- The fastest air ratchet you can buy
- Up to 50 ft.-lbs. torque
- Rear exhaust directs air away from work
- External grease fitting



IR1111 

The Knuckle Saver™ 1/2" Super Duty

Reactionless Air Ratchet Wrench

Same specifications as the IR111 model, but with 1/2" drive.

Model Number	Performance Rating	Square Drive in.	Maximum Torque ft.-lb. (Nm)	Free Speed (rpm)	Weight lb. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR1200	Ultra Duty	3/8	60 (81)	270	2.53 (1.2)	10.75 (273)	4 (113)	16 (453)	98/111	1/4	5/16 (8)
IR1210	Ultra Duty	1/2	60 (81)	270	2.53 (1.2)	10.75 (273)	4 (113)	16 (453)	98/111	1/4	5/16 (8)
IR109XP	Super Duty	3/8	70 (95)	300	3.1 (1.4)	11.9 (302)	4 (113)	24 (672)	93.6/106.6	1/4	5/16 (8)
IR1099XP	Super Duty	1/2	70 (95)	300	3.1 (1.4)	11.9 (302)	4 (113)	24 (672)	93.6/106.6	1/4	5/16 (8)
IR111	Super Duty	3/8	50 (68)	300	2.7 (1.22)	10.5 (267)	4 (113)	12 (340)	89.6/102.6	1/4	5/16 (8)
IR1111	Super Duty	1/2	50 (68)	300	2.7 (1.22)	10.5 (267)	4 (113)	12 (340)	89.6/102.6	1/4	5/16 (8)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Industrial Production Air Drills



Compact size and excellent power-to-weight ratios distinguish the Ingersoll-Rand line of air drills for production and maintenance applications. Choose from three different series, with models suited to various levels of precision and capacity. They include pistol-grip, straight, and angle configurations, along with tappers and specific accessories.



In addition, IR offers the Series 5, 6, and 7 models, all with Skinsulate comfort grip surfaces for enhanced control. Series 5 models produce .4 hp and cover the 900-5000 rpm range, adding reversible pistol-grip models. Series 6 models deliver .51

hp in the 350 to 20,000 rpm range in pistol-grip and lever throttle variations, with easy to service modular design. Cantilever-mounted planetary gears also offer easy accessibility, without the need to press from the gear frame. Series 7 models share these features in pistol-grip configurations, covering the 600-20,000 rpm range with a .75 hp output.

Production angle drills in Series 5, 6 and 7 provide 360 degree angle head rotation for ideal tool, task, and tool user orientation and throttle position. They cover a 400-6000 rpm range.

The Series 728 models are powerful, economical solutions for general-purpose maintenance applications. They deliver .5 hp and cover a 950-3800 range. In addition, IR offers

powerful, accurate tappers for threading holes on-site, as well as lightweight riveters and hammers for related assembly applications.

And...for super duty specialty applications in maintenance or construction, IR offers a complete line of large-configuration low-speed drills and angle drills. These reversible or non-reversible units feature ball bearing support for long life, self-closing throttles and built-in lubricators. Consult your IR representative or distributor for more details on these models.

Whatever the need, IR can respond with a high performance drill perfectly matched to your application. Consult the Drill Selection Chart to define your requirements.

Drills

Selection Chart

Suggested surface speeds for high speed steel drills in various materials

Material	Speed in SFM
Alloy Steel (300 to 400 Brinell)	20 to 30
Stainless Steel	30 to 40
Automotive Steel Forgings	40 to 50
Tool Steel, 1.2C	50 to 60
Steel, .4C to .5C	70 to 80
Mild Machinery, .2C to .3C	80 to 110
Hard Chilled Cast Iron	30 to 40
Medium Hard Cast Iron	70 to 100
Soft Cast Iron	100 to 150
Malleable Iron	80 to 90
Monel Metal	40 to 50
High Tensile Strength Bronze	70 to 150
Ordinary Brass and Bronze	200 to 300
Aluminum and its alloys	200 to 300
Magnesium and its alloys	250 to 400
Slate, Marble and Stone	15 to 25
Bakelite and similar material	100 to 150
Wood	300 to 400

Note: Carbon steel twist drills should be run at speeds of 40 to 50 percent of those given above.

$$\text{Drilling Speed (rpm)} = 0.75 \times \text{Free Speed (rpm)}$$

Hole Diameter In.	Surface Speed, Feet Per Minute												
	30	40	50	60	70	80	90	100	110	150	200	300	400
Drilling Speed, rpm (Optimum Operating Speed – Not Cataloged Free Speed)													
1/16	1800	2400	3000	3600	4200	4900	5500	6100	6700	9000	12,000	18,000	24,000
1/8	900	1200	1500	1800	2100	2400	2700	3000	3400	4600	6100	9200	12,000
3/16	600	800	1000	1200	1400	1600	1800	2000	2200	3100	4100	6100	8100
1/4	450	600	750	900	1100	1200	1400	1500	1700	2300	3100	4600	6100
5/16	350	500	600	750	850	1000	1100	1200	1300	1800	2400	3700	4900
3/8	300	400	500	600	700	800	900	1000	1100	1500	2000	3000	4000
1/2	200	300	400	450	550	600	650	750	850	1100	1500	2300	3000

1-Series Air Drills

Legendary IR Performance and Durability

The new 1-Series air drills from Ingersoll-Rand combine power and speed in a compact package to deliver productivity-enhancing performance. Seven new models in pistol grip, inline, and angle configurations provide the flexibility you need to tackle drilling jobs in both open and confined spaces. Pistol grip and inline models feature a 1/4" capacity chuck while the precision angle drills offer the popular 1/4"-28 female threaded spindle, allowing you to match the bit to the job at hand. With speeds ranging from 600 to 3800 rpm, 1-Series drills allow users in aerospace, woodworking, and general industry environments to easily handle a wide variety of materials and hole sizes. The black coated grip area on all models allows for easy handling and improved productivity.

1-Series drills offer an unparalleled value - performance and reliability for day-in, day-out production drilling. Exactly the kind of solution you'd expect from Ingersoll-Rand.



1-Series Performance Specifications

Model	Free Speed (rpm)	Stall Torque (in-lb)	Stall Torque (Nm)	Length (in)	Length (mm)	Weight (lb)	Weight (kg)	Chuck or Spindle	Side to Center (in)	Side to Center (mm)	Air Usage (CFM)	Inlet
Pistol Grip Drills												
1P38ST4	3800	20	2.3	6.25	159	1.44	0.65	1/4" chuck	21/32	16.5	11	1/4" NPT
1AL1	2800	15	1.7	6.25	159	1.44	0.65	1/4" chuck	21/32	16.5	11	1/4" NPT
1P09ST4	900	67	7.6	6.75	172	1.50	0.68	1/4" chuck	21/32	16.5	11	1/4" NPT
1P06ST4	600	100	11.3	6.75	172	1.50	0.68	1/4" chuck	21/32	16.5	11	1/4" NPT
Angle Drills - Lever Throttle - 90 Degrees												
1LJ1A1	3700	10	1.1	8.63	219	1.19	0.54	1/4" x 28 female	21/64	8.0	11	1/4" NPT
1LL1A1	2700	14	1.6	8.13	206	1.13	0.51	1/4" x 28 female	21/64	8.0	11	1/4" NPT
Inline Drills - Lever Throttle												
1S30MF4	3000	17	1.9	7.31	186	1.13	0.51	1/4" chuck	21/32	16.5	11	1/4" NPT

* Other speeds are forthcoming; additional model configurations available on request.



High Performance Ergonomics

Series 5

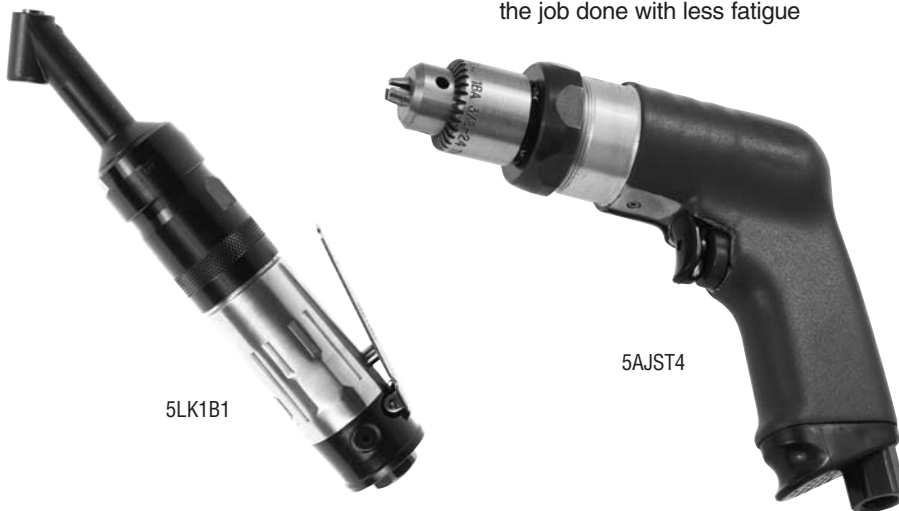
- 900-5000 rpm
- .40 hp
- Chuck capacity 1/4" to 1/2"

Features

- Double row ball bearings assure maximum TIR of .005" for precise, concentric holes
- Variable speed control allows slow speed starting and high speed for fast drilling
- Skinsulate housing for operator comfort and productivity. (Pistol Only)
- Excellent power-to-weight ratio gets the job done with less fatigue

Standard Equipment

- Drill chuck and key
- Vertical hanger
- For Model 5LN3, Dead handle assembly and required adapters:
 - 728N-A48 Dead handle assembly
 - 5A-49 Adapter (two required)
- For Model 5RAN2T8, Dead handle assembly and required adapters:
 - RIA-A48 Dead handle assembly
 - 5A-ST49 Adapter (two required)



Accessories

- For H, J, K and L ratio models
 - 5A-309 Chuck shield
 - 5L-K184 Piped-away exhaust kit
 - 7RA-A366 Horizontal hanger



Model	Free Speed rpm	Stall Torque		Length with Chuck		Weight with Chuck		Chuck Capacity		Side to Center Distance		CFM
		in.-lb.	Nm	in.	mm	lb.	kg	in.	mm	in.	mm	
Reversible Pistol-Grip												
5RALST6	2000	35	4.0	6.19	173	2.25	1.0	3/8	10	13/16	21	17
5RANST6	900	70	8.0	8.25	210	3	1.4	3/8	13	13/16	21	17
5RANST8	900	70	8.0	8.25	210	3	1.4	1/2	13	13/16	21	17
Nonreversible Pistol-Grip												
5AHST4	5000	20	2.3	6.81	173	2	.09	1/4	6	13/16	21	17
5AJST4	4500	20	2.3	6.81	173	2	.09	1/4	6	13/16	21	17
5AKST4	3000	30	3.4	6.81	173	2	.09	1/4	6	13/16	21	17
5ALST4	2200	40	4.5	6.81	173	2	.09	1/4	6	13/16	21	17
5ANST6	1000	80	9.0	8.13	206	2.75	1.2	3/8	10	13/16	21	17
Nonreversible Lever Throttle												
5LJ1	4800	20	2.3	8.06	205	2.06	.09	1/4	6	13/16	21	16
5LK1	3100	30	3.4	8.06	205	2.06	.09	1/4	6	13/16	21	16
5LL1	2300	40	4.5	8.06	205	2.06	.09	1/4	6	13/16	21	15
5LN3	1000	80	9.0	9.38	238	3.25	1.5	3/8	10	13/16	21	15

Air Inlet = 1/4" NPT

Recommended Hose = 1/4" (6mm)

Performance figures are at 90 psi (620 kPa)

Spindle = 3/8" x 24

Sound Level = Approx. 75 dBA

To order without chuck delete last digit.

Air Drills

Industrial Production Drills

Series 6

- 350 - 20,000 rpm
- .51 hp
- Chuck capacity 1/4" to 3/8"

Features

- Double row ball bearing construction assures maximum TIR of .005" for precise, concentric holes
- Variable speed control permits slow speed starting and high speed for fast drilling
- Skinsulate housing for operator comfort and productivity
- Cantilever-mounted planetary gears are easily accessible without need to press from gear frame; simplifies maintenance

Standard Equipment

- Drill chuck and key
- Dead handle on Model 6LR3

Accessories

- 6WS-366 Horizontal hanger
- 7L-365 Vertical hanger
- 7L-K284 Piped-away exhaust kit (lever models only)
- Dead Handle
 - R1A-A48 Assembly
 - 6A-49 Adapters (two required)



6LH1



6ALST4



Model	Free Speed rpm	Stall Torque		Length with Chuck		Weight with Chuck		Chuck Capacity		Side to Center Distance		CFM
		in.-lb.	Nm	in.	mm	lb.	kg	in.	mm	in.	mm	
Pistol-Grip												
6ADST4	20,000	7	.8	7.00	178	2.19	1.00	1/4	6	51/64	21	20
6AHST4	6000	23	2.6	7.00	178	2.19	1.00	1/4	6	51/64	21	20
6AJST4	5100	27	3.1	7.00	178	2.19	1.00	1/4	6	51/64	21	20
6AJJST4	3950	35	4.0	7.00	178	2.19	1.00	1/4	6	51/64	21	20
6AKST4	3100	45	5.1	7.00	178	2.19	1.00	1/4	6	51/64	21	20
6ALST4	2150	64	7.3	7.00	178	2.19	1.00	1/4	6	51/64	21	20
6AMST6	1500	89	10.1	8.00	203	2.75	1.25	3/8	10	51/64	21	20
6ARST6	500	220	25.1	8.25	210	3.00	1.36	3/8	10	51/64	21	20
6ASST6	350	313	35.7	8.25	210	3.00	1.36	3/8	10	51/64	21	20
Lever Throttle												
6LH1	6000	23	2.6	7.91	201	2.13	.95	1/4	6	51/64	21	20
6LJ1	5100	27	3.1	7.91	201	2.13	.95	1/4	6	51/64	21	20
6LJJ1	3950	35	4.0	7.91	201	2.13	.95	1/4	6	51/64	21	20
6LK1	3100	45	5.1	7.91	201	2.13	.95	1/4	6	51/64	21	20
6LL1	2150	64	7.3	7.91	201	2.13	.95	1/4	6	51/64	21	20
6LR3	500	220	25.1	9.19	233	2.94	1.33	3/8	10	51/64	21	20

Air Inlet = 1/4" NPT

Recommended Hose = 3/8" (10mm)

Performance figures are at 90 psi (620 kPa)

Spindle = 3/8" x 24

Sound Level = Approx. 74 dBA

To order without chuck delete last digit.

Series 7

- 600 - 20,000 rpm
- .75 hp
- Chuck capacity 1/4" to 1/2"

Features

- Double row ball bearing construction assures maximum TIR of .005" for precise, concentric holes
- Variable speed control permits slow speed starting and high speed for fast drilling
- Skinsulate housing for operator comfort and productivity
- Cantilever-mounted planetary gears are easily accessible without need to press from gear frame; simplifies maintenance

Standard Equipment

- Drill chuck and key
- Vertical hanger
- Horizontal hanger
- Dead handle on N and Q ratio models

Accessories

- R1A-48 Dead handle and 7A-49 Dead handle adapter (2 adapters required)
- For D, H, J, JJ, and K ratio models
7AH-K309 Chuck shield kit
- 7RA-A366 Horizontal hanger



7AMST6



Model	Free Speed rpm	Stall Torque		Length with Chuck		Weight with Chuck		Chuck Capacity		Side to Center Distance		CFM
		in.-lb.	Nm	in.	mm	lb.	kg	in.	mm	in.	mm	
Pistol-Grip												
7ADST4	20,000	10	1.13	7.44	189	2.25	1.02	1/4	6	7/8	22	25
7AHST4	6000	33	3.73	7.44	189	2.31	1.05	1/4	6	7/8	22	25
7AJST4	4800	40	4.52	7.44	189	2.31	1.05	1/4	6	7/8	22	25
7AJST4	4000	47	5.53	7.44	189	2.31	1.05	1/4	6	7/8	22	25
7AKST6	3200	58	6.55	7.63	194	2.38	1.08	3/8	10	7/8	22	25
7ALST6	2400	78	8.81	7.44	198	2.69	1.22	3/8	10	7/8	22	25
7AMST6	1400	130	14.69	8.50	216	2.94	1.33	3/8	10	7/8	22	25
7ANST8	900	185	20.91	8.75	222	3.19	1.45	1/2	13	7/8	22	25
7AQST8	600	270	30.51	8.75	222	3.25	1.47	1/2	13	7/8	22	25

Air Inlet = 1/4" NPT

Recommended Hose = 5/16" (8mm)

Performance figures are at 90 psi (620 kPa)

Spindle = 3/8" x 24

Sound Level = Approx. 82 dBa

Air Drills

Industrial Production Angle Drills

Series 5, 6, and 7

- 400 - 3250 rpm
- 1/4"-1/2" Chuck capacity

Features

- Maximum TIR runout of .005" ensures precision holes for critical applications
- Infinitely variable speed allows slow speed starting and high speed drilling
- Angle head may be rotated 360° to allow ideal orientation with the throttle
- Ergonomically designed housing provides a secure surface for operator grip
- Modular design allows maximum parts interchangeability and easy, low cost maintenance

Accessories

- 7L-365 Vertical hanger
- 6WS-366 Horizontal hanger
- 7L-K284 Piped-away exhaust kit



6LL2A42



7LN3A44

Model	Free Speed rpm	Stall Torque		Length with Chuck		Height of Head with Chuck		Weight with Chuck		Chuck Capacity		Side to Center Distance		CFM
		in.-lb.	Nm	in.	mm	lb.	kg	lb.	kg	in.	mm	in.	mm	
7LJ2A41	3250	51	5.6	10.00	254	2.97	75	3.00	1.36	1/4	6	17/32	14	26
5LK2A41	2000	45	5.1	9.41	240	2.97	75	2.63	1.20	1/4	6	17/32	14	15
6LK2A41	2000	65	7.3	9.47	240	2.97	75	2.75	1.25	1/4	6	17/32	14	20
7LL3A42	1550	112	12.7	10.38	263	3.66	93	3.44	1.56	3/8	10	11/16	18	26
5LL2A41	1500	60	6.8	9.41	240	2.97	75	2.63	1.20	1/4	6	17/32	14	15
6LL2A42	1400	95	10.7	9.53	242	3.19	81	2.81	1.27	3/8	10	17/32	14	20
7LM3A43	900	170	18.7	11.06	281	3.91	99	4.00	1.79	3/8	10	11/16	18	26
5LN2A43	700	120	13.6	10.19	258	3.59	91	3.44	1.60	3/8	10	17/32	14	15
6LP3A43	600	190	21.7	10.63	270	3.91	99	3.75	1.70	3/8	10	11/16	18	20
7LN3A44	600	255	28.1	11.06	281	4.13	105	4.19	1.90	1/2	12	11/16	18	26
6LR3A44	400	320	36.2	10.69	271	4.13	105	4.00	1.81	1/2	13	11/16	18	20

Air Inlet = 1/4" NPT

Recommended Hose = 1/4" (6mm)

Spindle = 3/8" x 24

Performance figures are at 90 psi (620 kPa)

Production Angle Drills Model Specifications

Model	Free Speed rpm	Stall Torque		Length with Chuck		Weight with Chuck		Chuck Capacity		Side to Center Distance		CFM
		in.-lb.	Nm	in.	mm	lb.	kg	in.	mm	in.	mm	
Lever Throttle Angle Drills (90 Degree Angle Head)												
6LH1A1	6000	23	2.6	9.69	246	1.13	28	2.13	.95	²¹ / ₆₄	8	20
7LH1A1	6000	31	3.5	10.38	263	1.13	28	2.25	1.02	²¹ / ₆₄	8	26
6LJ1A1	5100	27	3.1	9.69	246	1.13	28	2.13	.95	²¹ / ₆₄	8	20
5LH1A1	4800	20	2.3	9.81	249	1.13	28	2.19	1.00	²¹ / ₆₄	8	15
7LJ1A1	4800	40	4.5	10.38	263	1.13	28	2.25	1.02	²¹ / ₆₄	8	26
6LJJ1A1	3950	35	4.0	9.69	246	1.13	28	2.13	.95	²¹ / ₆₄	8	20
7LK1A1	3200	57	6.4	10.38	263	1.13	28	2.25	1.02	²¹ / ₆₄	8	26
6LK1A1	3100	45	5.1	9.69	246	1.13	28	2.13	.95	²¹ / ₆₄	8	20
5LK1A1	3000	31	3.5	9.81	249	1.13	28	2.19	1.00	²¹ / ₆₄	8	15
5LL1A1	2200	40	4.5	9.81	249	1.13	28	2.19	1.00	²¹ / ₆₄	8	15
6LL1A1	2150	64	7.3	9.69	246	1.13	28	2.13	.95	²¹ / ₆₄	8	20

Lever Throttle Angle Drills (45 Degree Angle Head)

5LH1B1	4800	20	2.2	9.75	248	1.27	32	2.13	1.00	²¹ / ₆₄	9	15
5LK1B1	3000	31	3.5	9.75	248	1.27	32	2.13	1.00	²¹ / ₆₄	9	15

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Recommended
5	75	1/4"	1/4" (6mm)
6	74	1/4"	1/4" (6mm)
7	81	1/4"	1/4" (6mm)

Repeated stalling of these models is not recommended.
Performance figures are at 90 psi (620 kPa) air pressure.

Air Drills

Industrial Maintenance Drills

Series 728

- 1250 to 3800 rpm
- 0.5 hp

Models with keyless chucks now available!



Features

- Powerful and economical
- Excellent for general purpose applications

Standard Equipment

- Dead handle assembly on Model 728NA3

Model	Free Speed rpm	Stall Torque		Length with Chuck		Weight with Chuck		Chuck Capacity		Side to Center Distance		CFM
		in.-lb.	Nm	in.	mm	lb.	kg	in.	mm	in.	mm	
728JA1	3800	30	3.4	7.0	177	2.4	1.1	3/8	8	29/32	23	19
728LA2	2550	54	6.1	7.3	184	2.5	1.2	3/8	10	29/32	23	19
728NA3	1250	120	14.0	8.4	212	3.1	1.4	1/2	13	29/32	23	19
728J6K	3800	30	3.4	7.0	177	2.4	1.1	3/8	13	29/32	23	19
728L6K	2550	54	6.1	7.3	184	2.5	1.2	3/8	10	29/32	23	19
728N8K	1250	120	14.0	8.4	212	3.1	1.4	1/2	13	29/32	23	19

Air Inlet = 1/4" NPT

Recommended Hose = 1/4" (6mm)

Spindle = 3/8" x 24

Performance figures are at 90 psi (620 kPa) air pressure.

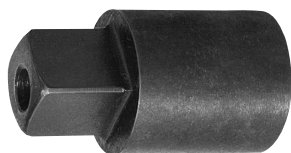
Keyless Chucks – 3/8" Part # 728-99-KC5

1/2" Part # 728-99-KC8



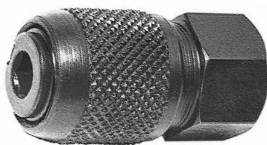
Drill Chucks

Chuck Size	Part Number	Thread	Key Part Number	Standard Equipment on Air Drills
0 - 1/4" (6mm) Medium Duty	ROH-99	3/8" x 24	R1H-J253	5A, 5L (D,H,J,K,K2,L,L2), 7L (J2)
0 - 1/4" (6mm) Heavy Duty	ROA-99	3/8" x 24	R00A-J253	6A (K,H,J,JJ,K,L), 6L (H,J,JJ,K,K2,L), 7A (D,H,J,JJ)
0 - 3/8" (10mm) Heavy Duty	6A-99	3/8" x 24	R0J-J253	6A (M,P), 6L (L2,M,M2,P), 7A (K), 7L (L3), 728JA1, 5A, 5L (N,N2), 5R, 6A (R,S), 6L (P3,R), 7A (L,M), 7L (M3)
0 - 3/8" (10mm) Standard Duty	7801-99-6	3/8" x 24	728N-253	728LA2
0 - 3/8" Keyless (10 mm)	728-99-KC5	3/8" x 24	—	728J6K, 728L6K
0 - 1/2"	7803-99	3/8" x 24	R1T-J253	—
0 - 1/2" (13mm) Standard Duty	7806-99-8	3/8" x 24	728N-253	728NA3, 7806
0 - 1/2" Keyless (13mm)	728-99-KC8	3/8" x 24	—	728N8K
5/64" - 1/2" (2-13mm) Heavy Duty	ROK-99	3/8" x 24	R1T-J253	5R, 7A (N,Q), 7L (N3)



Square Drive Adapter

Chuck Size	Part Number	Thread
3/8"	RH-P212-3/8	3/8" x 24



Quick Change Screwdriver Bit Adapter

Hexagon Drive Size	Part Number	Thread
1/4"	RH-A925-4	3/8" x 24

Maintenance/Automotive Class* Air Drills



An air drill's chuck does most of the work. That's why all Ingersoll-Rand air drills are engineered with high quality chucks that resist wear and tear. Our new family of air drills have industrial grade chucks and keyless chuck versions that are extra tough for drilling, sawing, valve guide reaming, cylinder honing, and wire brushing. They are more powerful, efficient, and durable than previous models, with smooth, quiet operation.

** Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.*



The complete line includes 3/8" and 1/2" air drills. Reversible drills in each size make it easy to back out tight screws. With free speeds of up to 2500 rpm, several 3/8" air drills make fast work of driving and removing screws. The 1/2" air drills run at a free speed of 400-500 rpm to deliver higher power necessary for heavy drilling. The IR7804R and IR7807R models provide extra convenience with angle head configurations. All are compact and lightweight for easy handling. Their variable speed throttles make Ingersoll-Rand air drills easy to start holes and maintain control as you work.

Model Number	Performance Rating	Free Speed (rpm)	Chuck Size in. (mm)	Rated Power hp (kW)	Net Weight lbs. (kg)	Overall Length in. (mm)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)
3/8" Chuck											
IR7802	Heavy Duty	2,500	3/8 (10)	.5 (.38)	2.4 (1.09)	7.8 (198)	4 (113)	20 (556)	90.1/103.1	1/4	3/8 (10)
IR7802R	Heavy Duty	2,000	3/8 (10)	.5 (.38)	2.5 (1.13)	6.4 (163)	4 (113)	26 (736)	92.8/105.8	1/4	3/8 (10)
IR7802RKC	Heavy Duty	2,000	3/8 (10)	.5 (.38)	2.5 (1.13)	6.4 (163)	4 (113)	26 (736)	92.8/105.8	1/4	3/8 (10)
IR7804R	Super Duty	1,200	3/8 (10)	.5 (.38)	2.7 (1.22)	8.4 (213)	4 (113)	15 (425)	91.4/104.4	1/4	3/8 (10)
IR7807R	Standard Duty	1,800	3/8 (10)	.33 (.25)	2.47 (1.12)	8.1 (206)	4 (113)	17 (485)	89/102	1/4	3/8 (10)
1/2" Chuck											
IR7803	Heavy Duty	500	1/2 (13)	.5 (.38)	3.2 (1.45)	9 (229)	4 (113)	21 (595)	88.8/101.8	1/4	3/8 (10)
IR7803R	Heavy Duty	400	1/2 (13)	.5 (.38)	3.3 (1.50)	8.7 (221)	4 (113)	27 (764)	92.9/105.9	1/4	3/8 (10)

NOTE: KC Denotes Keyless Chuck models.

R Denotes reversible models.

All Pistol Grip Drills are available with Jacobs® Keyless Chucks.

When ordering this option, place "KC" at the end of the part number, ie: 7802KC.

*Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Drills

Maintenance/Automotive Class* Air Drills

IR7802

3/8" Heavy Duty

Air Drill

With its industrial grade 3/8" chuck, this economical choice includes high quality features for general drilling and hole sawing jobs. The planetary gear reduction balances the load on bearings and gears for increased tool life.

- Variable speed throttle
- Lightweight, compact drill
- Handles smoothly



IR7802R

3/8" Heavy Duty

Air Reversible Drill

Use this economical, high quality 3/8" drill for all your general purpose drilling, honing, reaming, and hole sawing. With its reversible 1/2 hp motor, you can also drive and remove screws, including backing out tight screws without a struggle.

- Reversible motor with a quick reverse lever
- Variable speed throttle for starting holes easily
- Handles smoothly, a lightweight, compact drill



IR7802RKC

3/8" Heavy Duty

Air Reversible Drill/Keyless Chuck

Same features and specifications as the IR7802R, but with a keyless chuck for fast and easy bit changes.

Replacement Chucks and Chuck Keys

Capacity	Cat. No. (boxed)	Thread	Chuck Key Cat. No.	Tool No.
3/8" (10 mm)	728-99-KC5	3/8"x24	(keyless)	7802, 7802R, 7811
3/8" (10 mm)	7802-99	3/8"x24	R000B2J70-J253	7802, 7802R, 7811R
1/2" (13 mm)	728-99-KC8		(keyless)	7806, 7803, 7803R, 7816R
1/2" (13 mm)	7803-99	3/8"x24	7803-253	7803, 7803R, 7816R



Model Number	Performance Rating	Free Speed (rpm)	Chuck Size in. (mm)	Rated Power hp (kW)	Net Weight lbs. (kg)	Overall Length in. (mm)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)
3/8" Chuck											
IR7802	Heavy Duty	2,500	3/8 (10)	.5 (.38)	2.4 (1.09)	7.8 (198)	4 (113)	20 (556)	90.1/103.1	1/4	3/8 (10)
IR7802R	Heavy Duty	2,000	3/8 (10)	.5 (.38)	2.5 (1.13)	6.4 (163)	4 (113)	26 (736)	92.8/105.8	1/4	3/8 (10)
IR7802RKC	Heavy Duty	2,000	3/8 (10)	.5 (.38)	2.5 (1.13)	6.4 (163)	4 (113)	26 (736)	92.8/105.8	1/4	3/8 (10)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR7804R

3/8" Super Duty

Air Angle Reversible Drill

This premium quality drill provides the convenience of an angle head for working in confined areas. Variable speed lever throttle adds precision for all applications.

- Rear exhaust keeps exhaust air away from the work area
- Forward/reverse control locks in both positions
- Plenty of power and torque, with 1/2 hp motor and 1,200 rpm free speed



IR7807R

3/8" Standard Duty

Air Angle Reversible Drill

One in a new family of economical, standard duty tools, the IR7807R is an excellent choice for service work requiring a compact, low profile angle head. It's a durable, reliable tool for drilling in all types of materials, including sheet metal, wood, and composites.

- Durable Jacobs multi-craft chuck
- Reversible, with convenient control
- Comfortable lever throttle
- Grease plug for easy preventative maintenance
- Precision machine gearing ensures maximum power transfer and durability



IR7803

1/2" Heavy Duty

Air Drill

Here's the economical choice for power, a high quality air drill designed for drilling, hole sawing, cylinder honing, and any other job that calls for a 1/2" size. Its quality features for long life, include the industrial grade 1/2" chuck, ball and needle bearing construction, and double reduction planetary gearing.

- No-load speed of 500 rpm
- Auxiliary side handle



IR7803R

1/2" Heavy Duty

Air Reversible Drill

A powerful choice for drilling, honing, reaming, and hole sawing, this drill has extra advantages. The reversible motor lets you drive and remove screws too. Even the tightest screws back out with ease under the force of the 1/2 hp motor.

- Quick reverse lever
- Variable speed throttle
- Heavy duty ball and needle bearing
- More power and long tool life
- Planetary gear reduction balances the load



Model Number	Performance Rating	Free Speed (rpm)	Chuck Size in. (mm)	Rated Power hp (kW)	Net Weight lbs. (kg)	Overall Length in. (mm)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)
3/8" Chuck											
IR7804R	Super Duty	1,200	3/8 (10)	.5 (.38)	2.7 (1.22)	8.4 (213)	4 (113)	15 (425)	91.4/104.4	1/4	3/8 (10)
IR7807R	Standard Duty	1,800	3/8 (10)	.33 (.25)	2.47 (1.12)	8.1 (206)	4 (113)	17 (485)	89/102	1/4	3/8 (10)
1/2" Chuck											
IR7803	Heavy Duty	500	1/2 (13)	.5 (.38)	3.2 (1.45)	9 (229)	4 (113)	21 (595)	88.8/101.8	1/4	3/8 (10)
IR7803R	Heavy Duty	400	1/2 (13)	.5 (.38)	3.3 (1.50)	8.7 (221)	4 (113)	27 (764)	92.9/105.9	1/4	3/8 (10)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Drill Accessories

Designed specifically to match your Ingersoll-Rand air drills and saws, these are high quality parts constructed for great strength and durability.

Replacement Chucks and Chuck Keys

Capacity	Cat. No. (boxed)	Thread	Chuck Key Cat. No.	Tool No.
3/8" (10 mm)	728-99-KC5	3/8"x24	(keyless)	7802, 7802R, 7811
3/8" (10 mm)	7802-99	3/8"x24	R000B2J70-J253	7802, 7802R, 7811R
1/2" (13 mm)	728-99-KC8		(keyless)	7806, 7803, 7803R, 7816R
1/2" (13 mm)	7803-99	3/8"x24	7803-253	7803, 7803R, 7816R

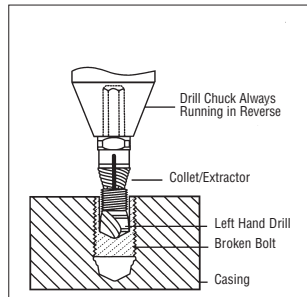
Saw Blades

High speed, flexible, heat treated saw blades for use with IR 329.

Cat. No.	Quantity	Description
329-F500 6	6	Fine 32 teeth/inch (red)
329-C500 6	6	Coarse 24 teeth/inch (gray)

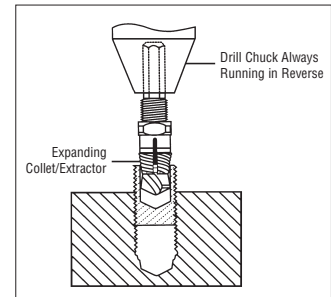


Broken Bolt? The answer is...Drill-Out® Power Extractor



Step 1: Drilling

Choose the correct size DRILL-OUT. Place the DRILL-OUT into a 3/8" reversible variable speed drill, thread the collet back to the chuck and drill on a centered hole to a depth just before extractor engagement (3/8" – 1/2").



Step 2: Extracting

Turn the collet five (5) turns from chuck. Bring the drill up to the recommended RPM speed and plunge the DRILL-OUT into the hole. The collet will engage the broken bolt and extract it.

Ordering Information

Drill-Out Size	Part Number
1/4 (6 mm)	DO-1/4
5/16 (8 mm)	DO-5/16
3/8 (10 mm)	DO-3/8
1/2 (13 mm)	DO-1/2
4 piece kit	DO-4C

Lightweight Riveters

For driving 1/8"- 3/8" (3-10mm) rivets



AVC10A1



AVC13A1

Features

- Accurate and easily controlled tease throttle
- Standard beehive retainer – allows use of a wide variety of accessories
- Built-in power regulators on A1 and B1 Models – the operator can change power on the job with no downtime
- Model 772 – Unitized “easy-out” throttle valve assembly
- Model 772 – Furnished with two retainers for use with a wide variety of accessories

Model	Cold Rivet Capacity		Diameter		Handle	Length		Weight		Piston		Blows per Minute	Bore		For Use with Rivet Set Shank Diameter	CFM
	Aluminum	mm	in.	mm		Less	mm	Less	kg	Stroke	mm		in.	mm		

Industrial/Aerospace

AVC10A1	1/8	3	1/8	3	Pistol	6	152	2 ³ / ₁₆	1.28	17/8	48	3200	9/16	14	.401	12
AVC10C1	1/8	3	1/8	3	Straight	6 25/32	172	2 ¹ / ₁₆	.94	17/8	48	3200	9/16	14	.401	12
AVC12A	13/16	5	3/16	5	Pistol	7 ³ / ₄	197	3 ³ / ₈	1.53	3	76	2100	9/16	14	.401	13
AVC13A1	1/4	6	1/4	6	Pistol	8 ³ / ₄	222	3 ¹¹ / ₁₆	1.67	4	101	1725	9/16	14	.401	13
AVC26A1	3/8	10	5/16	8	Pistol	11 ⁵ / ₁₆	287	5 ¹ / ₈	2.32	6	152	1120	3/4	19	.498	14
AVC26B1	3/8	10	5/16	8	Goose Neck	13 ¹⁵ / ₁₆	354	7	3.18	6	152	1120	3/4	19	.498	14

General Purpose

772	For light duty cutting & hammering		Pistol	7 ³ / ₈	187	3 ⁵ / ₈	1.64	2 ¹ / ₄	57	3000	3/4	19	.401	–
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Air Inlet = 1/4" NPT, Recommended Hose = 5/16" (8mm), AVC 26 use 1/2" (13mm), Performance figures are at 90 psi (620 kPa)

Features

- Air-thrown reverse valve for instant reversal
- Ergonomically designed for operator comfort and high production
- Variable throttle for maximum control and minimum tap breakage
- Modular design makes servicing easy and economical

Standard Equipment

- Dead handle assembly for Model 7RAQT4: RIA-A48 handle 7A-49A adapter (two required)



7RAQT4

Tappers

Examples of Popular Models

Model	Free Speed rpm	Chuck Capacity		Tapping Capacity		Weight		Length		Side to Center Distance		CFM
		in.	mm	in.	mm	lb.	kg	in.	mm	in.	mm	
7RAQT4	475	.383	13	1/2	3	3.38	1.5	11.81	300	.875	22	27

Tool Series	Sound Approx. dBa	Air Inlet NPT	Hose Size	Horse Power
7	79	1/4"	5/16"	.50

Performance figures are at 90 psi (6.2 BAR) air pressure.

Air and Electric Screwdrivers

Support Products/Workstations

Parallel Torque Arms (maximum weight 10 lbs.)



IRBP3-E30

Features/Benefits

- **Air Bias Support System**
 - Air adjustment by mini-regulator with air cylinder, for proper positioning of different size tools
 - Eliminates the clumsy spring adjustment of competitive models
 - Tool positioning is effortless

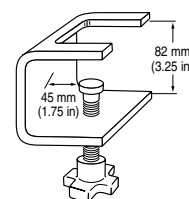
- **Parallel Arm Torque Absorber**
 - Absorbs torque reaction up to 120 in. lbs.
 - Increases torque repeatability through shift changes by reducing operator influence on fastener
 - Keeps tools off the floor
- **Steel & Aluminum Construction**
 - Anodized finish
 - Lightweight
 - Heavy duty for high volume production
 - Corrosion resistant
- **Auto-Orientation System**
 - Tool fixture is designed to allow constant perpendicular orientation of the tool, which ensures proper fastener alignment

Model Number	Size (Length)	Tool Use	Torque Absorber
IRBP3-N30	30"	Air	Yes
IRBP3-E30*	30"	Electric	Yes

*Includes clamps to fit high torque Delvo (49380) & VersaTec (49380-1) tools.

Accessories

- 48732-1 Bench clamp for mounting arm in place



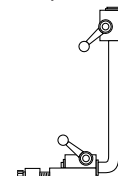
- P29144-620 Filter/Regulator (1/4")



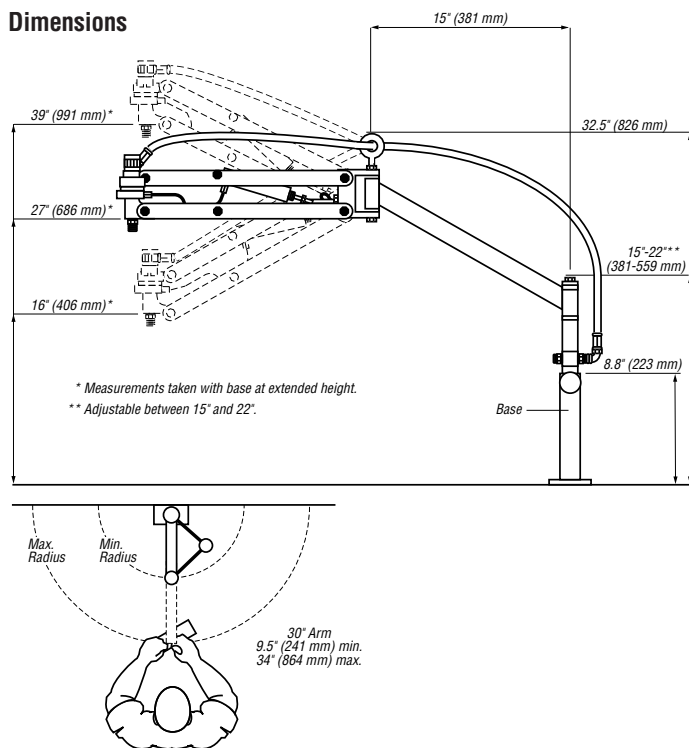
- L26141-120 Lubricator (1/4")



- IR49541 Swivel Mount Kit Grip and Angle Tools (adapts pistol to the workstation)



Dimensions



Single Arm Workstations (maximum weight 15 lbs.)



IRBS3-N30 (hose, FRL and balancer not included)



IRBS3-E0

Features/Benefits

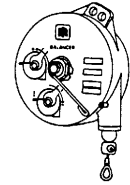
- **Steel Construction with E-Coat**
 - Lightweight but durable for continuous duty
 - Corrosion resistant
- **Flexible**
 - Your choice of 30" or 24" lengths for electric or air tools
- **Balancer Hanger**
 - All arms are equipped with a roller mounted balancer hanger for smooth motion of the tool
- **Electric Cord Clamp Kit**
 - Standard with appropriate models

Options

- **Single Arm Torque Absorber**
 - Telescoping torque arm improves flexibility. Eliminates torque reaction from the tool
- IR48723-2 24"
- IR48723-3 30"

Accessories

- **Balancers** – choice of balancers
 - $\frac{7}{8}$ to 2 $\frac{1}{4}$ lb. = BLD1
 - 2 to 4 lb. = BLD2
 - 4 to 6 lb. = BLD3



P29144-620

Filter/Regulator ($\frac{1}{4}$ "



L26141-120

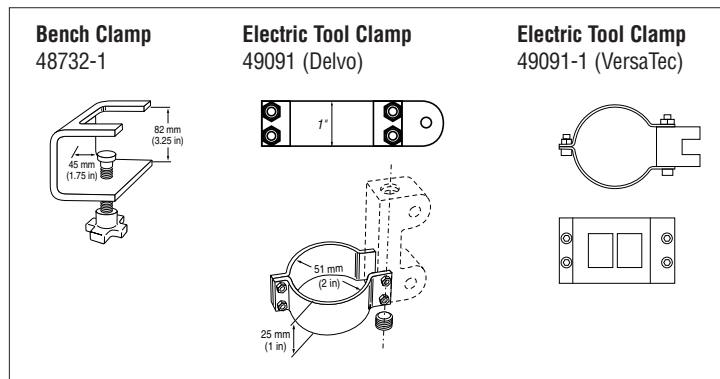
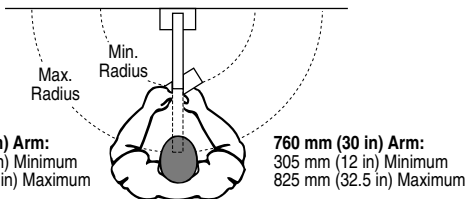
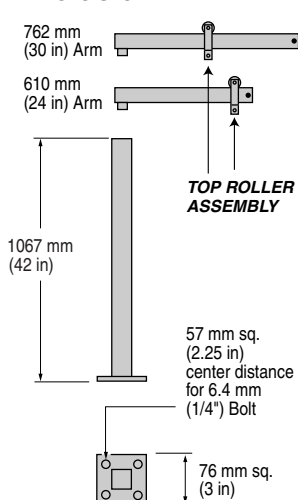
Lubricator ($\frac{1}{4}$ "



Model Number	Size (Length)	Tool Use	Torque Absorber
IRBS2-N0	24"	Air	No
IRBS2-N24	24"	Air	Yes
IRBS2-E0	24"	Electric	No
IRBS2-E24*	24"	Electric	Yes
IRBS3-N0	30"	Air	No
IRBS3-N30	30"	Air	Yes
IRBS3-E0	30"	Electric	No
IRBS3-E30*	30"	Electric	Yes

*Includes clamps to fit high torque Delvo & VersaTec models.

Dimensions



Air Screwdrivers

Warranty

WARRANTY

ASSEMBLY TOOLS

Ingersoll-Rand warrants to the original user its assembly tool products to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any product proves defective within its original one year warranty period, it should be returned to an appropriate Ingersoll-Rand Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which IR has determined to have been misused or abused, improperly maintained by the purchaser: or where the malfunction or defect can be attributed to the use of non-genuine IR parts.

IR makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set for the above. IR's maximum liability is limited to the purchase price of the Product and in no event shall IR be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the Product, whether based on contract, tort, or otherwise.

Questions? Parts? Service?
1-866-IR4 TOOLS

Visit our website:
www.irtools.com

Finishing Tools

- ▶ Cyclone Industrial Production Class Grinders and Sanders
 - ▶ Revolution Light Industrial Class Grinders
 - ▶ Routers and Trimmers
 - ▶ Random Orbital Sanders
 - ▶ Needle, Chisel, and Piston Scalers
 - ▶ Automotive/Maintenance Air Hammers
- Proven Source. Proven Solutions.**





Advancements in manufacturing and production have transformed the world of industrial finishing. While the need for traditional, heavy-duty material removal continues in many segments, increases in precision and reductions in waste have changed overall demands. New materials require different tool speeds and attachments. A greater focus on product quality has tightened the standards of finishing. Parts and components must match surrounding surfaces with impeccable accuracy. With these changes in materials and processes, exactness and finesse in finishing operations have taken on new significance.

Likewise, finishing technicians are a key factor in producing ultimate product quality. These are men and women who depend on resources that encourage and maximize their special set of skills. Today's operators deserve and require tools that contribute to quality of performance...and quality of life.

Ingersoll-Rand has provided tools for industry for more than a century, combining the best engineering talent, top-quality materials, and the strongest support in the business. Our classic designs have set performance standards that endure today. Our latest introductions reflect emerging trends in tool use, changing technology, and new materials. Whatever the application, Ingersoll-Rand industrial tools bring out the best in your operator's skills, and contribute to the ultimate quality of your products and processes.

As a major worldwide supplier of finishing tools, systems, and accessories, Ingersoll-Rand is a valuable technology resource. Ingersoll-Rand offers a variety of finishing tools — from heavy metal grinding to precision sanding — that will match your needs and requirements.

Cyclone Finishing Tools

Cited by the Industrial Design Excellence Award program for their pioneering ergonomic design, Ingersoll-Rand's Cyclone finishing tools were created for a wide variety of tasks. These innovative tools are lighter and easier to maneuver, yet have more power and less vibration than competitive models. There's a complete range of speeds and configurations, plus a full selection of Cyclone accessories.

Sanders / Polishers / Buffers

Reflecting the rapidly changing demands of industrial finishing, sanders, polishers and buffers have emerged as a key segment. Constant process improvement throughout industry now results in less waste on castings and molded parts, shifting emphasis from material removal to surface finishing. The Ingersoll-Rand line of sanders, buffers and polishers includes models based on the popular Cyclone ...and now features a complete range of Cyclone random orbital sanders as well.

These products reflect the IR philosophy of High Performance Ergonomics—user oriented design that provides real-world productivity benefits...based on a systematic, objective measure of ergonomic factors for validation and value.



High Performance Ergonomics

Finishing Tools

Choosing and Using Grinder Accessories

For safety and performance, always select the proper abrasive wheel for your job. Cup wheels remove large amounts of metal and are good for open spaces. Depressed center wheels are ideal for use in rough grinding operations and all-around heavy material removal. In applications where a horizontal grinder is required, choose Type One wheels.

Choose tools with enough horsepower to drive the abrasive wheel you are using, and allow the grinder's speed to work for you. Bearing down on under-powered tools slows the rpm output and reduces overall efficiency.

Grinder Safety Tips

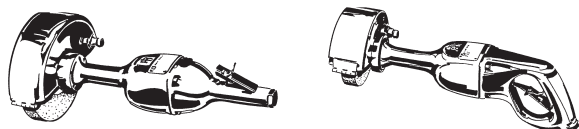
Always use eye protection. Use only recommended equipment and adapters. Inspect grinding wheels closely for any imperfections or damage such as cracks, pitting, or broken edges. Always make sure that the tool speed does not exceed the maximum operating speed marked on the wheel or wheel package. Use correct size guards, flanges, blotters, spindles, and mounting practices to ensure operator safety.

Mounting a Grinding Wheel

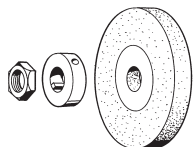
When mounting a grinding wheel on any portable power tool, be sure to:

- Inspect the grinding wheel closely for any imperfections or damage such as cracks, pitting or broken edges.
- Verify that the tool's spindle does not exceed the maximum operating speed marked on the wheel or wheel package.
- Use correct size guards, flanges, blotters, spindles and mounting practice as shown below.

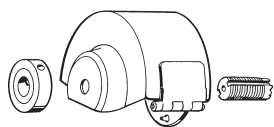
Horizontal Grinders



TYPE 1 Straight Wheels



Wheel Sizes: 6" and 8"



Spindle Sizes: 5/8" (16mm) and 1" (25mm)

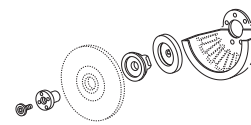
Vertical and Angle Grinders



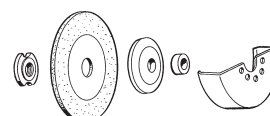
TYPE 27 Depressed Center Flat Wheels



Threaded Wheel Sizes: 7" and 9"
Type: Spindle Sizes: 5/8" and 7/8"



Threaded Wheel Sizes: 7" and 9"
Type: Spindle Sizes: 5/8" and 7/8"

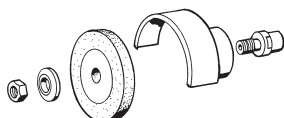


Spindle Size: 3/8"

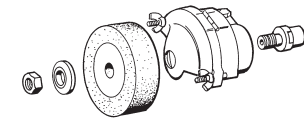
Small Horizontal Grinders



TYPE 1 Straight Wheels



Wheel Sizes: 2", 3" and 4"
Spindle Sizes: 3/8"
(10mm) and 1/2" (12mm)



Wheel Sizes: 2", 3" and 4"
Spindle Sizes: 3/8"
(10mm) and 1/2" (12mm)

TYPE 28 Depressed Center Saucer Wheels

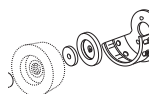


Threaded Wheel Sizes: 7" and 9"
Type: Spindle Sizes: 5/8" and 7/8"



Non-Threaded Wheel Sizes: 7" and 9"
Type: Spindle Sizes: 5/8" and 7/8"

TYPE 6 and 11 Cup Wheels



Wheel Sizes: 5" and 6"
Spindle Sizes: 5/8" and 7/8"

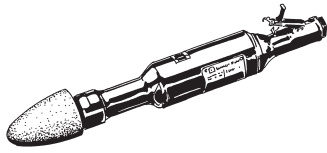
TYPE 13-1" Thick Saucer Wheels



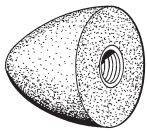
Wheel Size: 7"
Spindle Size: 5/8"

WARNING: Always use eye protection. Use only recommended equipment and adapters. Consult parts bulletin for details. Do not use if actual tool rpm is greater than nameplate rpm. Check rpm each shift or upon changing accessory. For further safety information, consult ANSIB7.1 and ANSIB186.1.

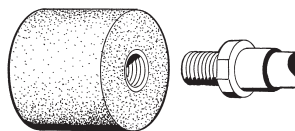
Cone and Plug Wheel Grinders



TYPE 16, 17, 18, 18R and 19 Cone and Plug Wheels



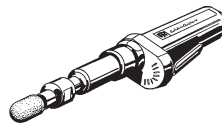
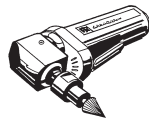
Wheel Sizes: 1 1/4" and 3" (max. dia.)



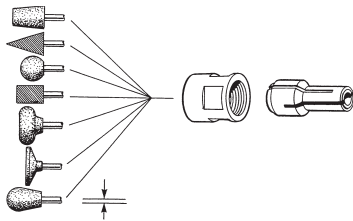
Spindle Sizes: 3/8", 1/2" and 5/8"

There's more to today's finishing process than the tools of the trade. Ingersoll-Rand is an information resource for your business, and can assist in creating more effective and productive workplace configurations, as well as tool recommendations. Your selection and purchase of finishing tools has a direct effect on process and product quality. Your decision can make a difference in finishing efficiency – and in the improved quality and durability of finishes. So before you make your next purchase decision, contact your local IR representative or distributor for assistance and information regarding the latest IR product and technology developments.

Collet Type Grinders



Mounted Wheels and High Speed Steel or Carbide Burs



Collet Sizes: 1/8", 1/4" and 3/8"

(3, 6 and 10mm)

Mandrel Diameters: 1/8", 1/4" and 3/8"

(3, 6 and 10mm)

Finishing Tools

Cyclone Industrial Production Class



For the best in power, comfort, and versatility, Ingersoll-Rand created the Cyclone Finishing Tools Series to match a wide variety of finishing tasks. With a complete range of models, speeds, and configurations, plus a full selection of accessories, Cyclone tools combine versatility with innovation. Included in the line are three multi-purpose accessory tools — CycloCut, CycloFile, and CycloRout/Trimmer — that offer specialty finishing capabilities for the most challenging situations.

Cited by the Industrial Design Excellence Award Program for their pioneering ergonomic design, Cyclone finishing tools will help your business reduce costs and improve working conditions. These innovative tools are lighter and easier to use than competitive finishing tools, yet have more power and less vibration — you'll feel the difference when you work.



The ergonomic design of Cyclone finishing tools provides a unique combination of performance and proven user satisfaction.

Through pioneering efforts to provide workers with lighter, quieter, more comfortable tools, IR is extending a tradition of excellence in finishing tool design and performance.

Innovative Ergonomics

The unique D-shaped housing makes it easier to grip and operate the tool — it's a natural fit to the human hand. Advanced composites keep the housing from becoming cold to the touch, and reduce vibration so effectively, you can work steadily with less hand fatigue.

Comfort, Safety, and Control

The unique high-profile safety flange not only protects the operator's hand from the work, but also provides a pivot-point for improved control while preventing accidental throttle-starts. If preferred, the standard flange can be replaced with an optional low-profile flange. As the operator varies speed to match the task, the standard low-profile throttle responds smoothly; where required or specified, it can also be replaced with an optional locking lever.

Durability And Reliability

Cyclone housings feature one-piece construction: advanced composites molded over a steel liner. Angle heads and extensions are of steel construction.

Remarkably Simple To Service

You can take apart and reassemble a Cyclone finishing tool in just minutes. Once inside, you'll find fewer parts than any other tool in the industry. The



patented "drop-in" motor and vanes make routine maintenance easy. These features make repairs quick and fast, but Cyclone tools' outstanding durability means service is less likely — less down-time, lower cost.

Three Exhaust Options

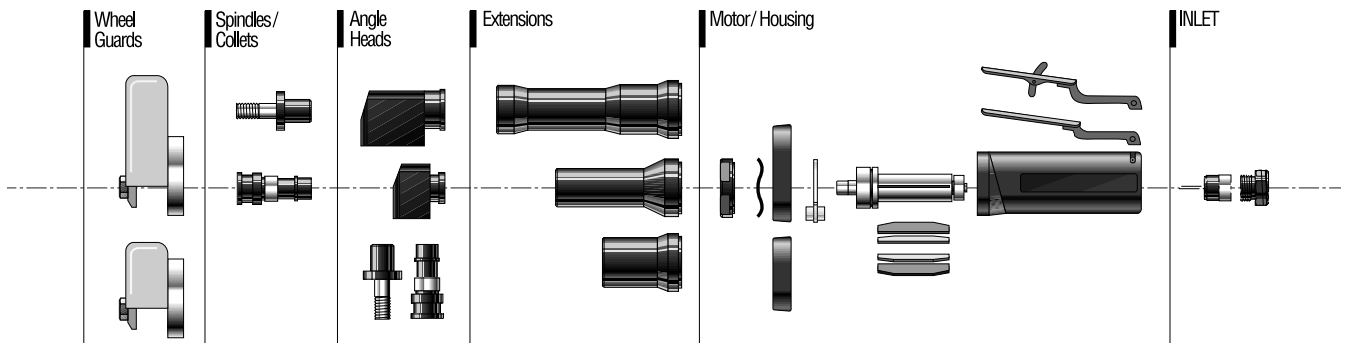
The patented Flow Ring offers the flexibility of front or rear exhaust without additional equipment. Piped-away exhaust is also available.

Finishing Tools

Cyclone Industrial Production Class

Modular Design For Simplicity

The finishing tools within each Cyclone series share most parts in common, reducing your inventory requirements and simplifying maintenance.



Product Identification Guide

TYPICAL MODEL CD350RG4L

Series	Type	rpm	Exhaust	Spindle Type	Accessories
C = .35 Cyclone	D = Die Grinder	X100 = Rated rpm	R = Rear	G4 = 1/4" Collet	L = Locking Lever
T = .70 Cyclone	X = Extended		F = Front	S4 = 1/4" - .20 THD (Angle)	C = Concentric Flange
H = 1.0 Cyclone	A = Angle			H63 + P63 = 3" Guarded	
	XA = Extended Angle			H64 + P64 = 4" Guarded	
	XD = 2" Extended			P1045 = 4 1/2" Guarded	

- NOTES:
1. Exhaust direction can easily be switched from rear to front with no additional parts.
 2. Low profile concentric flange comes with locking lever and rear exhaust only.
 3. 1/4" Erickson Collet and Collet Wrenches are standard.



C Series

The C Series is a compact, versatile .35 hp tool used for light material removal: cleaning rough castings, deburring parts after machining, weld-cleaning, and other finishing tasks. Offering superior power in a small package, the C Series includes straight, angle, and extended straight versions.

T Series

For general finishing work and heavier material removal, T-Series grinders provide more power, .70 hp, with low vibration. Used for grinding, cutting, cleaning, and polishing, these tools are available in a variety of configurations for comfortable operation in tight spaces and contours. The T-Series includes straight, extended, angle, and extended angle tools.

H Series

When you need the torque and horsepower for heavy material removal with burs, coated abrasives, and grinding wheels, the 1.0 hp H-Series grinders give you the ultimate in power and control. Choose from straight, extended, angle, and extended-angle configurations.

Cyclone Industrial Production Straight Extended Grinders

Carbide Bur and Mounted Wheel



Standard Equipment

- 1/4" Erickson collet
DG110-700-G4 (C)
G160HD-700-1/4 (T and H)
- Collet wrenches
DG20-69A 7/16" x 11/16" (C)
DG10-69 1/2" x 9/16" (T and H)
DG120-69 5/8" x 3/4" (T and H)

Accessories

- DG110-700-G2 1/8" collet (C)
- DG120-700-G6 3/8" collet (T and H)
- LG1-A400 (C) locking lever
- LG2-A400 locking lever
- LG1R-23 (C) concentric flange
- LG3R-23 (T and H) concentric flange
- LG1-A1015 (C) variable-speed regulator
- LG2-K284 exhaust deflector (T and H)

G4 = 1/4" Erickson collet

Model	Rated Power hp	Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	cfm
CX200RG4 ●	.35	20,000	13/16	93/16	3/4	11
CX250RG4 ● ■	.35	25,000	13/16	93/16	3/4	12
CX300RG4 ● ■	.35	30,000	13/16	93/16	3/4	14
TX120RG4	.70	12,000	25/8	127/16	3/4	24
TX180RG4 ● ■	.70	18,000	25/8	127/16	3/4	23
TX200RG4 ● ■	.70	20,000	25/8	127/16	3/4	31
TX250RG4 ■	.70	25,000	25/8	127/16	3/4	26
HX120RG4 ● ■	1.00	12,000	27/8	135/16	31/32	43
HX150RG4 ■	1.00	15,000	27/8	135/16	31/32	40
HX180RG4 ●	1.00	18,000	27/8	135/16	31/32	43

Air Inlet: All Models 1/4" NPT.

Size Hose Recommended: Series C, 5/16". Series T and H, 3/8".

All standard models have dual exhaust capabilities except TX120 and HX120, which are rear exhaust only.

Exhaust direction can easily be switched from front to rear.

Performance figures are at 90 psi air pressure.

To order front exhaust, replace "R" with "F" in model number. To order locking lever, add "L" to end of model number. To order concentric/low profile flange, add "C" to end of model number. Examples: CD200FG4, CD200RG4L, CD200RG4C.

● Not Available with "C"

■ Not Available with "L"

Carbide Bur and Mounted Wheel

Standard Equipment

- 1/4" Erickson collet
G160HD-700-1/4 (T and H)
DG110-700-G4 (C)
- Collet wrenches
DG20-69A 7/16" x 11/16" (C)
DG10-69 1/2" x 9/16" (T and H)
DG120-69 5/8" x 3/4" (T and H)

Accessories

- DG110-700-G2 (C) 1/8" collet
- DG120-700-G6 (T and H) 3/8" collet
- LGI-K1 bur kit includes:
DG10-RF case (4 1/4" x 9 3/4")
DG20-RF 20 (9" foam insert)
(7 3/4" molded part)
IRSD-1 Bur (1/4" ball)
IRSF-1 Bur (1/4" tree radius)
IRSA-1 Bur (1/4" cylindrical)
IRSL-1 Bur (1/4" cone)
- LG1-K284 (C) exhaust kit
- LG2-K284 (T and H) exhaust kit
- LG1R-23 (C) concentric flange
- LG3R-23 (T and H) concentric flange
- LG1-A400 (C) locking lever
- LG2-A400 (T and H) locking lever
- LG2K-302 carrying case



CD350RG4



TD180RG4



HD180RG4



TD250RG4K

G4 = 1/4" Erickson collet

Model	Rated Power hp	Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	cfm
CD200RG4	.35	20,000	1 3/16	6 3/16	3/4	11
CD250RG4	.35	25,000	1 3/16	6 3/16	3/4	12
CD250RG4K	.35	25,000	1 3/16	6 3/16	3/4	12
CD300RG4 ●	.35	30,000	1 3/16	6 3/16	3/4	14
CD350RG4	.35	32,000	1 3/16	6 3/16	3/4	15
TD120RG4 ● ■	.70	12,000	1 5/8	7 3/4	3/4	20
TD180RG4 ●	.70	18,000	1 5/8	7 3/4	3/4	23
TD200RG4 ●	.70	20,000	1 5/8	7 3/4	3/4	24
TD250RG4	.70	25,000	1 5/8	7 3/4	3/4	26
TD250RG4K	.70	25,000	1 5/8	7 3/4	3/4	26
HD120RG4 ●	1.00	12,000	1 7/8	8 9/16	31/32	43
HD150RG4 ● ■	1.00	15,000	1 7/8	8 9/16	31/32	40
HD180RG4 ● ■	1.00	18,000	1 7/8	8 9/16	31/32	43
HD180RG4K	1.00	18,000	1 7/8	8 9/16	31/32	43

Air Inlet: All Models 1/4" NPT.

Size Hose Recommended: Series C, 5/16". Series T and H 3/8".

All standard models have dual exhaust capabilities except TD120 and HD120, which are rear exhaust only.

Exhaust direction on other units can easily be switched from front to rear.

Performance figures are at 90 psi air pressure.

To order front exhaust, replace "R" with "F" in model number. To order locking lever, add "L" to end of model number. To order concentric/low profile flange, add "C" to end of model number. Examples: CD200FG4, CD200RG4L, CD200RG4C.

● Not Available with "C"

■ Not Available with "L"

Finishing Tools

Cyclone Industrial Production Straight Grinders

Type 1 Wheel



CD200RH63



TXD180RH63



HX180RH63

H63 = 3/8" - 24 Spindle, 3" Guard

H64 = 3/8" - 24 Spindle, 4" Guard

Standard Equipment

- Wheel guard, flanges and nut

Accessories

- LG1-A400 (C) locking lever
- LG2-A400 (T and H) locking lever
- LG1R-23 (C) concentric flange
- LG2R-23 (T and H) concentric flange

Model	Rated Power hp	Maximum Wheel Size in.	Free Speed rpm	Weight lb.	Length in.	Side to Center Distance in.	cfm
CD200RH63 ●	.35	3 x 1/4	20,000	17/16	6 1/8	3/4	11
CD250RH63 ●	.35	3 x 1/4	25,000	17/16	6 1/8	3/4	12
TXD180RH63	.70	3 x 1/2	18,000	2 5/8	9 5/16	3/4	23
TX180RH63 ●	.70	3 x 1/2	18,000	3 1/4	12 5/16	3/4	23
HX150RH64 ●	1.0	4 x 1/4	15,000	3 11/16	13 3/16	31/32	40
HXD180RH63 ●	1.0	3 x 1/2	18,000	3 11/16	10 3/16	31/32	43
HX180RH63 ●	1.0	3 x 1/2	18,000	3 11/16	13 3/16	31/32	43
HX180RH64 ●	1.0	4 x 1/4	18,000	3 11/16	13 3/16	31/32	43
HX120RH64 ●	1.0	4 x 1/4	12,000	3 11/16	13 3/16	31/32	43

To order front exhaust, replace "R" with "F" in model number. To order locking lever, add "L" to end of model number. To order concentric/low profile flange, add "C" to end of model number. Examples: CD200FG4, CD200RG4L, CD200RG4C.

● Not Available with "C"

Air Inlet = 1/4"

Pencil Grinders

Carbide Bur and Mounted Stone

Standard Equipment

- Collet with 1/8" insert
- Collet wrenches – 47579, 47580
- 6' long x 7/32" ID (1.8m x 6mm) air hose and 18" long exhaust overhose



DG600G2

Accessories

- 3mm Collet – 47568-2
- 3/32" Collet – 47568-3
- DG600G2K grinder kit
Kit contains Model DG600G2 die grinder plus a molded carrying case, collet wrenches, exhaust hose assembly, inlet hose assembly and six 1/8" shank carbide burs – ball, tapered, tree and assorted cylindrical.

Model	Free Speed rpm	Throttle Style	Standard Collet Size in.	Exhaust Location	Spindle Offset in. mm	Tool Length in. mm	Air Consumption @ Free Speed cfm L/s	Sound Level @ Free Speed dB(A)	Std. Collet Insert Part#
DG600G2	60,000	Twist	1/8	Rear	.34 9	5.3 136	7 3.3	77	47568-1
DG600G2K	60,000	Twist	1/8	Rear	.34 9	5.3 136	7 3.3	77	47568-1

Grinders have 1/8" NPT inlet; 7/32" hose is recommended. Performance figures are at 90 psi air pressure.

Finishing Tools Cyclone Industrial Production Angle Grinders



Carbide Bur and Mounted Wheel



CA200RG4



TA120RG4

Standard Equipment

- 1/4" Erickson collet
- Collet body wrench
- Collet nut wrench

Accessories

- LG1-K284 (C) exhaust kit
- LG2-K284 (T and H) exhaust kit
- DG110-700-G2 1/8" collet (C)
- DG120-700-G6 3/8" collet (T and H)
- LG1-A400 (C) locking lever
- LG2-A400 (T and H) locking lever
- LG1R-23 (C) concentric flange
- LG3R-23 (T and H) concentric flange
- LG2-A48A dead handle (T and H)

G4 = 1/4" Erickson collet

Model	Rated Power hp	Free Speed rpm	Weight lb.	Length in.	Height Over Spindle in.	Side to Center Distance in.	cfm
CA120RG4	.35	12,000	1 ⁵ / ₁₆	6 ¹ / ₁₆	3	3/4	12
CA200RG4	.35	20,000	1 ⁵ / ₁₆	6 ¹ / ₁₆	3	3/4	14
TA120RG4	.70	12,000	2 ³ / ₈	7 ¹³ / ₁₆	3 ¹ / ₃₂	3/4	26
TA180RG4 ●	.70	18,000	2 ³ / ₈	7 ¹³ / ₁₆	3 ¹ / ₃₂	3/4	26
HA90RG4 ●	1.00	9,000	2 ⁵ / ₈	8 ¹³ / ₁₆	3 ¹ / ₃₂	3/4	43
HA120RG4 ●	1.00	12,000	2 ⁵ / ₈	8 ¹³ / ₁₆	3 ¹ / ₃₂	3/4	43
Extended Angle Grinders							
TXA135RG4	.70	13,500	2 ¹ / ₂	10 ³ / ₈	3	3/4	25
TXA140RG4	.70	14,000	2 ¹ / ₂	10 ³ / ₈	3	3/4	25

Air Inlet: All Models 1/4" NPT.

Size Hose Recommended: Series C, 5/16".
Series T and H, 3/8".

All standard models have dual exhaust capabilities.

Exhaust direction can easily be switched from front to rear.

Performance figures are at 90 psi air pressure.

To order front exhaust, replace "R" with "F" in model number.

To order locking lever, add "L" to end of model number. To order concentric/low profile flange, add "C" to end of model number. Examples: CD200FG4, CD200RG4L, CD200RG4C.

● Not Available with "C"

Finishing Tools

Cyclone Industrial Production Angle Grinders

Type 1 Angle Cutoff Tools



TXA160RH64

H63 = 3/8" - 24 Spindle, 3" Guard

H64 = 3/8" - 24 Spindle, 4" Guard

Model	Rated Power hp	Free Speed rpm	Weight lb.	Length Along Throttle in.	Height Over End of Spindle in.	Side to Center Distance in.	cfm
CA200RH63	.35	20,000	1 ⁹ / ₁₆	6 ¹ / ₈	2 ¹¹ / ₁₆	³ / ₄	14
TXA140RH64 ●	.70	14,000	3 ¹ / ₆	10 ³ / ₆	2 ¹¹ / ₁₆	3 ¹ / ₃₂	25
TXA160RH64	.70	16,000	3 ¹ / ₆	10 ³ / ₆	2 ¹¹ / ₁₆	3 ¹ / ₃₂	25
TA150RH64*	.70	15,000	2 ¹¹ / ₁₆	7 ¹¹ / ₁₆	2 ¹¹ / ₁₆	3 ¹ / ₃₂	26
TA180RH64*	.70	18,000	2 ¹¹ / ₁₆	7 ¹¹ / ₁₆	2 ¹¹ / ₁₆	3 ¹ / ₃₂	26
HXAX125RH64**●	1.00	12,500	3 ¹ / ₆	11	2 ¹¹ / ₁₆	3 ¹ / ₃₂	43

* Optional LG2-A48A Ergo Handle available.

** Model incorporates the small CA Series extended angle head on an H Series motor.

Air Inlet: All models 1/4" NPT.

Size Hose Recommended: Series C, 5/16". Series T and H, 3/8".

● Not Available with "C"

Accessories

- LG1-A400 (C) locking lever
- LG2-A400 (T and H) locking lever
- LG1R-23 (C) concentric flange
- LG2R-23 (T and H) concentric flange

Type 27 & 28 Wheels



CA200RP63

HXA120RP64

P63 = 3/8"-24 Spindle, 3" Guard

P64 = 3/8"-24 Spindle, 4" Guard

P1045 = 5/8"-11 Spindle, 4 1/2" Guard (Plain Hole Wheels Only)

Standard Equipment

- Wheel guard, flanges and nut
- Spindle and wheel nut wrenches

Accessories

- LG1-K284 (C) exhaust kit
- LG2-K284 (T and H) exhaust kit
- LG1-A400 (C) locking lever
- LG2-A400 (T and H) locking lever
- LG1R-23 (C) concentric flange
- LG3R-23 (T and H) concentric flange

Model	Rated Power hp	Free Speed rpm	Weight lb.	Length Along Throttle in.	Height Over End of Spindle in.	Side to Center Distance in.	cfm
Angle Grinders							
CA200RP63 ●	.35	20,000	1 9/16	6 1/16	1 7/8	3/4	14
TA180RP63 ●	.70	18,000	2 9/16	7 11/16	2 17/32	3 1/32	26
TA120RP64	.70	12,000	2 11/16	7 11/16	2 17/32	3 1/32	26
TXA135RP64	.70	13,500	2 15/16	10 3/8	2 11/32	3 1/32	25
TXA140RP64	.70	14,000	2 5/16	10 3/8	2 11/32	3 1/32	25
HA120RP1045*	1.00	12,000	3	8 13/16	2 9/16	3 1/32	43
HA120RP64	1.00	12,000	2 5/8	8 13/16	2 9/16	3 1/32	43
HA90RP64 ●	1.00	9,000	2 5/8	8 13/16	2 9/16	3 1/32	43
Extended Angle Grinders							
HXA120RP64 ●	1.00	12,000	3 13/16	11 13/16	2 1/2	3 1/32	43
HXA120RP1045**	1.00	12,000	3 7/8	11 13/16	2 1/2	3 1/32	43

* Optional LG2-A48A Dead Handle.

** Standard LG2-A48A Dead Handle.

Air Inlet: All Models 1/4" NPT.

Size Hose Recomm.: Series C, 5/16". Series T and H, 3/8".

All standard models have dual exhaust capabilities.

Exhaust direction can easily be switched from front to rear.

Performance figures are at 90 psi air pressure.

To order front exhaust, replace "R" with "F" in model number. To order locking lever, add "L" to end of model number. To order concentric/low profile flange, add "C" to end of model number. Examples: CD200FG4, CD200RG4L, CD200RG4C.

● Not Available with "C"

Accessories

Description	Series CA, CD and CX Part Number	Series TA, TD, HA, HD, HX and HXA Part Number	Series TXA Part Number
1/8" Erickson Collet	DG110-700-G2	-	DG110-700-G2
1/4" Erickson Collet	DG110-700-G4	G160HD-700-1/4	DG110-700-G4
3/8" Erickson Collet	-	DG120-700-G6	-
Spindle Wrench	DG20-69A	DG10-69	DG10-69
Collet Nut Wrench	DG20-69A	DG120-69	DG120-69
Wheel Nut Wrench	D32-26	D32-26	D32-26
Inlet Hose Assembly	RO-130	R1A-130	R1A-130
Exhaust Hose Assembly	LG1-K284	LG2-K284	LG2-K284
Side Handle Kit	-	LG2-A48A*	-
3" & 4" Type 1 Inner Wheel Flange ■	DG120-86 3/8" Hole	DG120-86	DG120-86
3" & 4" Type 1 Outer Wheel Flange ■	DG120-16 3/8-24 Thrd Hole	DG120-16	DG120-16

* Available for angle tools only. ■ To use Cutoff Wheels on Type 27 Arbor

Revolution Light Industrial Grinders



Reshaping The Industry's View of High-Quality Tools.

High performance at an affordable price

Ingersoll-Rand has created a new line of finishing tools designed for non-production industrial applications. The Revolution Series meets the need for high quality tools at an affordable price. Its ergonomic design and light weight makes it comfortable and easy to use for material removal and finishing. Available with straight, extended or 90-degree angle heads, multiple speeds and attachments, the Series has a configuration for any surface preparation job. The quality and durable performance of Ingersoll-Rand is now within reach with the Revolution Series.

Designed in the tradition of quality.

The Revolution Series is the latest example of Ingersoll-Rand's tradition of engineering quality. Recognized for high performance, Ingersoll-Rand has won five Business Week/IDSA product design excellence awards. IR user-oriented features are always based on real-world research and testing to ensure they meet the operators' needs for optimal comfort and productivity.

Finishing Tools Revolution Light Industrial Grinders



The proof is in your hands.

Power

Powerful .3 hp air motors deliver plenty of strength in speeds from 12,000 to 35,000 rpm. The Revolution Series offers the torque and muscle required for a wide range of applications.

- automotive
- general assembly
- metal fabrication
- plant maintenance
- production prep
- aerospace
- shipbuilding
- utilities
- tool and die

Performance

Its precision gearing and components contribute to a long and reliable life. Whether removing material, weld cleaning, deburring, cutting, blending, grinding, sanding, or polishing, the Revolution Series offers smooth operation and maximum performance at an affordable price.

Comfort

Weighing only .9 to 1.2 pounds, the Revolution Series requires minimal operator effort. And, its compact, contoured shape fits naturally in the operator's hands for easy maneuverability. A composite surface area covering the polished aluminum housing provides excellent grip and control, while insulating the operator from temperature effects. And, operating at only 77 dBA, these low-vibration tools are very quiet.

Within reach

The Revolution Series is reshaping the industry's view of finishing tools, with Ingersoll-Rand quality at an affordable price. Contact your Ingersoll-Rand distributor or representative today to check out the new Revolution Series.

Call 1-800-376-TOOL or visit www.irtools.com for more information.



Finishing Tools Revolution Light Industrial Grinders



These units feature:



Internal wick lubricator extends gear life on angle tools.



Aluminum motor cap resists abrasion and removes easily for service access.



Composite grip over rugged aluminum housing reduces vibration and noise.



Integral trigger safety lock adds convenience and control while protecting against accidental starts.



Wrap around exhaust ports direct air away from work and operator. A threaded fitting allows for optional piped-away exhaust.



Angle models feature a compact, infinitely rotatable head with a removable cover.

Finishing Tools Revolution Light Industrial Grinders



Revolution Finishing Tools



Product Identification Guide

Model#	3	2 5	S	C	4
	Horsepower	rpm	S = Straight	C = Collet	4 = 1/4" collet
	.3	12,000-35,000	A = Angle	G = Guard	3 = 3" guard
			X = Extended		

	Model Number	Power (hp)	Max. Free Speed (rpm)	Wt. (lbs.)	Length (inches)	Height Over Spindle (inches)	Side to Center Distance (inches)	Configuration	Air Consumption (cfm)
Straight	325SC4	.3	25,000	13/16	6	N/A	3/4	1/4" collet	15
	330SC4	.3	30,000	13/16	6	N/A	3/4	1/4" collet	15
	335SC4	.3	35,000	13/16	6	N/A	3/4	1/4" collet	15
	325XC4	.3	25,000	1 1/4	9	N/A	3/4	1/4" collet, 3" extended	15
	330XC4	.3	30,000	1 1/4	9	N/A	3/4	1/4" collet, 3" extended	15
Angle	312AC4	.3	12,000	1 1/8	6 1/8	2 17/32	3/4	1/4" collet angle	15
	314AC4	.3	14,000	1 1/8	6 1/8	2 17/32	3/4	1/4" collet angle	15
	320AC4	.3	20,000	1 1/8	6 1/8	2 17/32	3/4	1/4" collet angle	15
	312AG3	.3	12,000	1 3/8	6 1/4	2 17/32	3/4	3" angle guarded 3/8"-24 spindle	15
	314AG3	.3	14,000	1 3/8	6 1/4	2 17/32	3/4	3" angle guarded 3/8"-24 spindle	15
	320AG3	.3	20,000	1 3/8	6 1/4	2 17/32	3/4	3" angle guarded 3/8"-24 spindle	15

Air inlet for all models is 1/4" NPT. All models are rear exhaust. 5/16" air hose recommended.
Performance figures are at 90 psi.
Collet wrenches included.

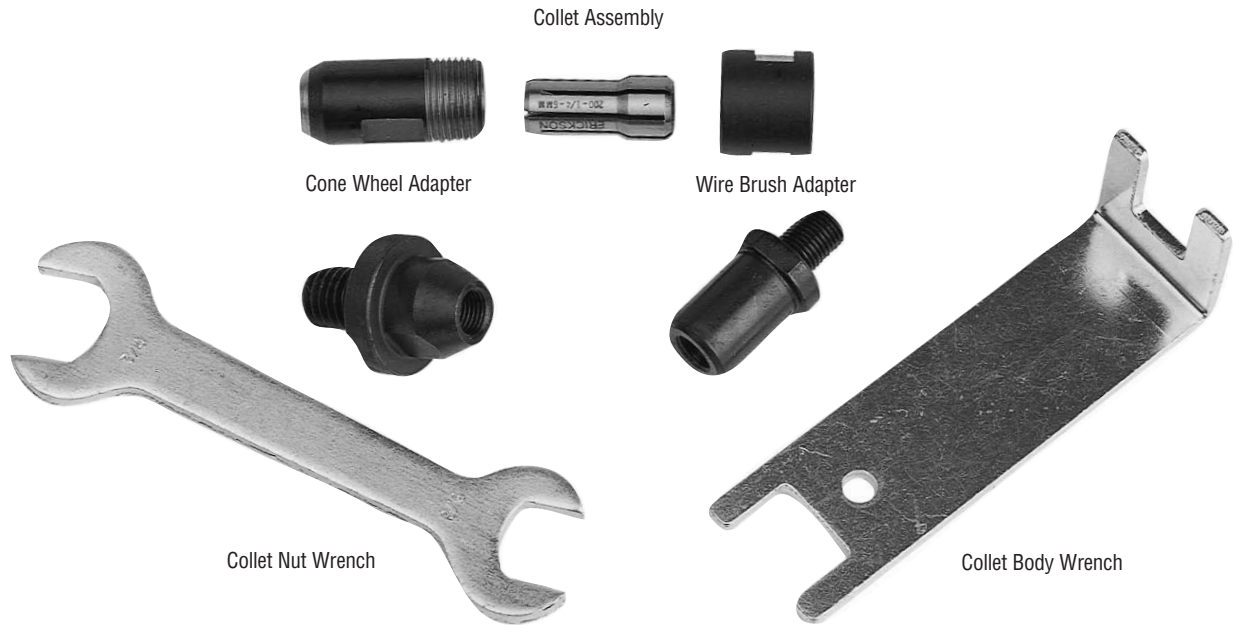


For continuous-duty production applications, ask your distributor or IR representative about our full line of Cyclone™ finishing tools.

Finishing Tools

Industrial Grinders General Accessories

Type 1 Wheel Grinder Accessories



Description	Series TX and HX Part Number	Series 61H Part Number
1/4" Erickson Collet	G160HD-700-1/4	RO-A390-1/4*
3/8" Erickson Collet	DG120-700-G6	-
Collet Body Wrench	DG10-69	DG120-69
Collet Nut Wrench	DG120-69	DG20-69A
3/8"-24 Cone Wheel Adapter	LE2-104-L6 (3/8"-24 F x 3/8"-24 Male)	
Type 1 Wheel Flange Nut Wrench	-	DG10-69
Inlet Hose Assembly	R1A-130	-
Wire Brush Adapter	LS2-A4-B10 (3/8"-24 F x 5/8"-11 Male)	
Controller Wrench		R15-169

*When ordering this two-piece Collet Assembly, Wheel End Bearing Cap No. 61H-K-19 and Dust Washer No. 61H-35 must also be ordered.



Carbide Grinding Burs

Ingersoll-Rand now offers a perfect complement to its innovative grinders and finishing tools – a complete range of versatile, durable, high-precision burs. IR carbide burs reflect unrivaled quality of manufacture, as well as superior quality of service...in types, styles, and sizes; easy and quick ordering and delivery, and extended product life.

Consider the cutting edge differences:

Hand-ground construction eliminates the harmonic frequencies that cause “bur bounce”. This means less operator effort to hold the bur on the work piece, resulting in longer grinder and bur life and less operator fatigue.

Flexible shanks for hard-to-reach places are an integral part of our product offering. You can choose from diameters of 1/8", 3/16", 1/4" and 3/8" ...in lengths up to 50", with any shape bur.

Extended length shanks provide still more versatility, whether you need a 10" long steel shank, a 9" flexible shank, or a 6" long solid carbide bur.

Quick turnaround for all of our bur products means improved efficiency for your operation. Our manufacturing flexibility makes possible a five day order-to-shipment cycle, in most cases.

The Ingersoll-Rand Carbide Bur Refurbishing Program offers another option, extending the life of used burs. Our refurbishing center will sharpen, recondition or salvage your used carbide grinding burs as appropriate, at a fraction of new replacement cost.

Carbide grinding burs can be found in the Air System Accessories section of this catalog.

Finishing Tools

Air Engraving Pen Kit

Features

- Knurled zoom throttle provides positive control
- Steel housing dampens vibration, improves operator control
- Variable speed permits tool to be used on a wide selection of materials
- Carbide tipped stylus holds percussive point
- Easy to repair, reducing down-time
- Three sets of tool flats eliminate need for special repair tools

EP50K Engraving Pen Kit

- Model EP50 Engraving Pen
- (Medium stylus standard.) Flexible hose (DG100-130: 6' x 3/16")
- Three assorted styluses (Fine, Medium, Coarse)
- Molded plastic carrying case (#DG10-RF)

Optional Equipment

- Fine point stylus EP50-515 (Black)
- Medium point stylus EP50-516 (Steel color)
- Coarse point stylus EP50-517 (Green)
- Hose assembly (includes 1/8" NPT fittings) DG100-130
- Stylus Grinding Collet EP50-514



The Ingersoll-Rand EP50 Engraving Pen is designed to meet your industrial engraving needs. Variable zoom throttle permits a wide range of engraving possibilities from hard alloys to brittle ceramics. The Engraving Pen can be easily disassembled with standard mechanic's tools. Comfort, quietness and power have been ergonomically designed into this versatile tool. The Engraving Pen, including a standard stylus, can be purchased separately as Model EP50.

Model	Weight		Length		Side to Center Distance		Blows per Minute	Hose Conn. Pipe Tap in.	Size Hose Recomm.	
	oz.	kg	in.	mm	in.	mm			in.	mm
EP50	5	.14	5 ⁵ / ₈	137	5 ⁵ / ₁₆	.8	18,750	1/8	5 ⁵ / ₁₆	5

Sound level of EP50 is 75.5 dBA.

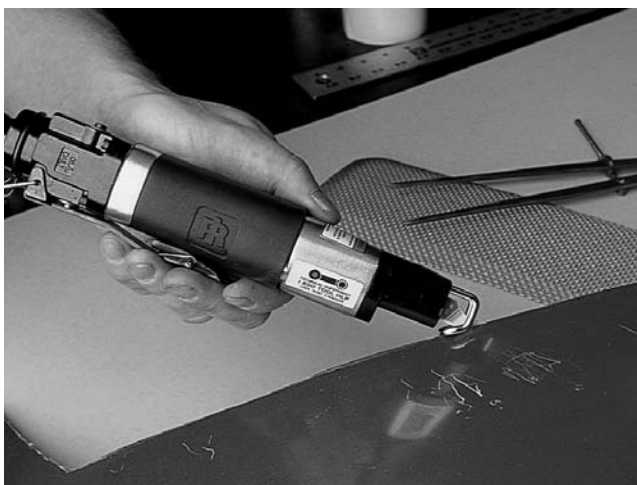
Medium point stylus included with EP50 tool.



With high-strength steels, advanced plastics, and new composite materials in today's cars and trucks, you need versatile tools for precise, controlled cutting. Ingersoll-Rand cutting tools are the reliable choice of auto body and repair shops, used for everything from muffler and exhaust work to sun roof installations and body repairs.

** Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.*

Maintenance/Automotive* Air Cutting Tools & Grinders



The Ingersoll-Rand air shear, air nibbler, and air reciprocating saw give you speed and power plus tight accuracy for intricate shapes and details. For example, the IR4429 reciprocating saw features increased durability and a composite handle surface for greater comfort and control. It also includes an easy-to-use exhaust hose attachment for a cleaner working environment.

All three of these high quality heavy duty cutting tools make clean cuts in materials including cold rolled steel, most plastics, aluminum, tin, and other materials of up to 18-20 gauge thicknesses. The IR326 air cut-off tool cuts off mufflers and tail pipes quickly, efficiently, and quietly. It also cuts sheet metal, nuts and bolts.

Our air die grinders are economical, long-life tools with throttle levers designed to prevent accidental starting and to give you excellent speed control. All IR air grinders are compact, lightweight, easy to handle, and include all bearing construction for the utmost durability. Our two brand new grinders, the IR3102 and IR3108 feature a strong and ergonomic composite housing, keeping your hands warm even after running the grinder for hours!

Model Number	Performance Rating	Strokes Per Min.	Free Speed (rpm)	Weight lb. (kg)	Length in. (mm)	Avg. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)	Rated Power hp (kW)	Collet Size in.
IR301	Standard Duty	N/A	20,000	.99 (.45)	5 (127)	3 (85)	14 (390)	90/103	1/4	3/8 (10)	.25 (.19)	1/4
IR302	Heavy Duty	N/A	18,000	.97 (.44)	2.9 (74)*	3 (85)	12 (340)	98.4/111.4	1/4	3/8 (10)	.33 (.25)	1/4
IR307A	Standard Duty	N/A	27,000	.69 (.31)	4.75 (121)	3 (85)	14 (390)	84.7/97.7	1/4	3/8 (10)	.25 (.19)	1/4
IR308	Heavy Duty	N/A	25,000	1.16 (.53)	5.63 (143)	3 (85)	20 (566)	95.1/108.1	1/4	3/8 (10)	.33 (.25)	1/4
IR3102	Super Duty	N/A	20,000	1.27 (.58)	6.75 (171)	3 (85)	18 (510)	90/101	1/4	3/8 (10)	.33 (.25)	1/4
IR3108	Super Duty	N/A	25,000	1.27 (.58)	6.75 (171)	3 (85)	18 (510)	92/103	1/4	3/8 (10)	.33 (.25)	1/4
IR325	Heavy Duty	3,200	N/A	2.1 (.95)	7.3 (185)	4 (113)	17 (481)	90.2/103.2	1/4	3/8 (10)	N/A	N/A
IR326	Heavy Duty	N/A	18,000	2.3 (1.04)	8.88 (226)	10 (283)	25 (708)	94.3/107.3	1/4	3/8 (10)	N/A	N/A
IR3445	Super Duty	N/A	12,000	3.7 (1.7)	9.25 (235)	9 (252)	26.5 (742)	82.7/95.6	1/4	3/8 (10)	.8 (.6)	5/8-11
IR7802S	Heavy Duty	4,200	N/A	2.8 (1.27)	9.4 (239)	4 (113)	21 (595)	N/A	1/4	3/8 (10)	N/A	N/A
IR429	Heavy Duty	10,000	N/A	1.32 (0.60)	8.25 (210)	8 (226)	7 (198)	87.3/100.3	1/4	3/8 (10)	N/A	N/A
IR4429	Super Duty	5,750	N/A	1.63 (0.74)	9.25 (235)	7 (196)	7 (196)	69.2/82.2	1/4	3/8 (10)	N/A	N/A

*Height

**Spindle Size

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR301

Standard Duty

Multi-Purpose Air Angle Die Grinder

Part of an expanded line of economical, standard duty grinders, the IR301 packs valuable features into a compact package. Use it for grinding, edge-breaking, deburring, porting, and polishing. Wherever space is tight, its right-angle configuration provides easy access.

- Compact, lightweight, easy to handle
- Self-locking throttle
- Ball bearing construction for durability
- Precision machined gearing delivers maximum power transfer



Also available in kit options.
See page 31 for details.

IR302

Heavy Duty

Air Angle Die Grinder

When a straight tool isn't practical for working in confined areas, this is the economical die grinder with a right angle head to use. It's compact and well-designed for grinding, porting, polishing, deburring, and breaking sharp edges.

- Durable and long-lasting
- All ball bearing construction
- Precision-machined steel gears
- Positive grip 1/4" capacity collet chuck
- Self-locking throttle lever



IR307A

Standard Duty

Mini Air Die Grinder

Part of an expanded line of economical, standard duty grinders, the IR307A combines performance and versatility in a lightweight, compact package. It can be used with all types of accessories for porting, weld breaking, and smoothing sharp edges... as well as deburring, polishing, and grinding.

- Superior maneuverability
- Standard 1/4" collet for all types of accessories
- Safety lever prevents accidental starts
- Front exhaust helps keep work surface clean
- Versatile and reliable



Also available in kit options.
See page 31 for details.

IR308

Heavy Duty

Air Die Grinder

A durable yet economical choice offering longer life and higher free speed at 25,000 rpm. A general purpose tool designed for porting, light weld grinding, and breaking sharp edges.

- Ball bearing construction for longer tool life
- Comes with two collet wrenches
- Self-locking throttle lever
- Positive grip 1/4" capacity collet chuck



Model Number	Performance Rating	Free Speed (rpm)	Weight lb. (kg)	Length in. (mm)	Avg. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)	Rated Power hp (kW)	Collet Size in.
IR301	Standard Duty	20,000	.99 (.45)	5 (127)	3 (85)	14 (390)	90/103	1/4	3/8 (10)	.25 (.19)	1/4
IR302	Heavy Duty	18,000	.97 (.44)	2.9 (74)*	3 (85)	12 (340)	98.4/111.4	1/4	3/8 (10)	.33 (.25)	1/4
IR307A	Standard Duty	27,000	.69 (.31)	4.75 (121)	3 (85)	14 (390)	84.7/97.7	1/4	3/8 (10)	.25 (.19)	1/4
IR308	Heavy Duty	25,000	1.16 (.53)	5.63 (143)	3 (85)	20 (566)	95.1/108.1	1/4	3/8 (10)	.33 (.25)	1/4

*Height

Finishing Tools

Air Cutting Tools & Grinders

IR301 Kits

Surface Conditioning & Die Grinder Kits

Ingersoll-Rand has packed the IR301 in a strong, blowmolded plastic case for the various kits shown below:

Model #	Kit Description
IR301-2MK	Includes the IR301 along with four coarse and four medium grit 2" 3M Roloc™ surface conditioning pads and a disc holder
IR301-3MK	Includes the IR301 along with four coarse and four medium grit 3" 3M Roloc™ surface conditioning pads and a disc holder
IR301-32MK	Includes the IR301 along with two coarse and two medium grit 2" & two coarse and two medium grit 3" 3M Roloc™ surface conditioning pads and a disc holder
IR301-K	Die Grinder Kit including the IR301 with 10 mounted grinding tips

IR307-K Kit

Die Grinder Kit

Ingersoll-Rand has packed the IR307A in a strong, blowmolded plastic case complete with 10 mounted grinding tips.



IR3102

Super Duty Air Die Grinder

For the ultimate performance and versatility in a lightweight package with superior maneuverability, the IR3102 is the perfect choice. With all ball bearing constructions, you get longer lasting life and advanced durability, along with a composite grip for superior ergonomics and comfort. Use this powerful die grinder in various applications including porting, weld braking, deburring, polishing, and grinding, just to name a few.

- Powerful 1/3 horsepower motor
- Lightweight yet durable design
- All ball bearing construction
- Safety release throttle
- Positive grip 1/4" capacity collet chuck
- Ergonomic and durable composite housing
- Multi-positional head



IR3108

Super Duty Air Die Grinder

For the ultimate performance and versatility in a lightweight package with superior maneuverability, the IR3108 is the perfect choice. With all ball bearing constructions, you get longer lasting life and advanced durability, along with a composite grip for superior ergonomics and comfort. Use this powerful die grinder in various applications including porting, weld braking, deburring, polishing, and grinding, just to name a few.

- Powerful 1/3 horsepower motor
- Lightweight yet durable design
- All ball bearing construction
- Safety release throttle
- Positive grip 1/4" capacity collet chuck
- Ergonomic and durable composite housing



Model Number	Performance Rating	Strokes Per Min.	Free Speed (rpm)	Weight lb. (kg)	Length in. (mm)	Avg. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)	Rated Power hp (kW)	Collet Size in.
IR3102	Super Duty	N/A	20,000	1.27 (.58)	6.75 (171)	3 (85)	18 (510)	90/101	1/4	3/8 (10)	.33 (.25)	1/4
IR3108	Super Duty	N/A	25,000	1.27 (.58)	6.75 (171)	3 (85)	18 (510)	92/103	1/4	3/8 (10)	.33 (.25)	1/4

Finishing Tools

Air Cutting Tools & Grinders



IR325

Heavy Duty

Air Nibbler

Get a bigger bite and better angle cuts with our air nibbler. Instead of shearing or sawing, the tool actually “nibbles” cold rolled steel, plastic, tin, aluminum, and other metals, up to 18 gauge thicknesses at a rate of more than 6 ft. per minute. It’s ideal for paint and auto body shops, tinsmiths, and sheet metal shops.

- Cuts out quarter panels without distorting the edges of the material
- Starts cuts in the center of a panel
- Holds a tight 1/4” radius with great accuracy
- Easy to operate and control
- Balanced, lightweight tool



IR326

Heavy Duty

Air Cut-Off Tool

Exhaust replacement is this powerful tool’s specialty. Now you can cut off mufflers and tail pipes quickly, efficiently, and quietly. It has an 18,000 rpm motor that can handle the toughest exhaust replacements and cut sheet metal, nuts and bolts.

- 3/8" arbor x 2 7/8" wheel size.
- Fast, quiet operation
- Contoured lever throttle with positive self-locking action
- Built-in speed regulator
- 360 degree rotatable chrome-plated spark guard



IR3445

Super Duty

Air Angle Grinder

The IR3445 is the perfect choice for high performance finishing. This 4" Air Angle Grinder combines a unique motor controller that virtually eliminates overspeeding...with a powerful .8hp motor to provide plenty of power for rust and material removal.

- Rear exhaust with piped-away option
- Composite grip for improved comfort
- Locking lever with tease throttle
- Lightweight design



IR7802S

Heavy Duty

Air Shear

The versatile cutting shear that makes clean cuts in cold rolled steel up to 20 gauge without chips. Ideal for body shops, sheet metal shops, air conditioning fabricators, plastic fabricators, heating contractors, and machine shops.

- Cuts squares, angles, and circles
- Long-life tool with heavy duty cutting blades
- Shears most types of plastics and all types of aluminum, tin, and steel



Model Number	Performance Rating	Strokes Per Min.	Free Speed (rpm)	Weight lb. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)	Rated Power hp (kW)	Collet Size in.
IR325	Heavy Duty	3,200	N/A	2.1 (.95)	7.3 (185)	4 (113)	17 (481)	90.2/103.2	1/4	3/8 (10)	N/A	N/A
IR326	Heavy Duty	N/A	18,000	2.3 (1.04)	8.88 (226)	10 (283)	25 (708)	94.3/107.3	1/4	3/8 (10)	N/A	N/A
IR3445	Super Duty	N/A	12,000	3.7 (1.7)	9.25 (235)	9 (252)	26.5 (742)	82.7/95.6	1/4	3/8 (10)	.8 (.6)	5/8-11
IR7802S	Heavy Duty	4,200	N/A	2.8 (1.27)	9.4 (239)	4 (113)	21 (595)	N/A	1/4	3/8 (10)	N/A	N/A

Finishing Tools

Air Cutting Tools & Grinders

IR814

Super Cut

Eight Piece Bur Kit – Wood Case

Contains eight of the most popular types of carbide grinding burs.

IRSA-3 IRSD-1

IRSA-5 IRSD-3

IRSC-1 IRSF-3

IRSC-3 IRSF-5



IR429

Heavy Duty

Air Reciprocating Saw

The IR429 is a versatile air saw for cutting intricate shapes and light radius curves in all types of plastics, fiberglass, and composite materials, as well as aluminum and sheet metal. This reduced vibration tool is excellent for body shop repair, muffler and exhaust work, and sun roof installations.

- Comes with six high-speed steel cutting blades and two hex wrenches
- Cuts flat and curved surfaces
- Durable, long-life tool



IR4429

Super Duty

Air Reciprocating Saw

With increased comfort, performance, and durability, the IR4429 is a premium tool designed for all types of cutting tasks. It offers a wealth of features for body, exhaust, and muffler work.

- Composite grip area for increased comfort and control
- Piped-away exhaust for a cleaner work area
- Tease trigger with lock-off for smooth operation and protection against accidental starts
- Adjustable guard, integral power regulator, low vibration



IR429/4429 Blades Accessories

329-500 Package of 6 blades, 3 each fine (32 teeth) and 3 each coarse (24 teeth)

329-F500 Package of 6 blades, fine 32 teeth per inch

329-C500 Package of 6 blades, coarse 24 teeth per inch



Model Number	Performance Rating	Strokes Per Min.	Free Speed (rpm)	Weight lb. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)	Rated Power hp (kW)	Collet Size in.
IR429	Heavy Duty	10,000	N/A	1.32 (.60)	8.25 (210)	9 (252)	7 (198)	87.3 (100.3)	1/4	3/8 (10)	N/A	N/A
IIR4429	Super Duty	5,750	N/A	1.63 (0.74)	9.25 (235)	7 (196)	7 (196)	69.2/82.2	1/4	3/8 (10)	N/A	N/A

18,000-32,000 rpm

CycloRout/Trimmer

Created as part of the complete Cyclone line of finishing tools, the CycloRout/Trimmer is a multi-purpose accessory tool. The attachment's adjustable nose-piece assures positive depth-of-cut for precision channel and bevel cuts. Ideal for cleaning up edges, cutting out panels, and trimming metal, composites, plastics, and wood. Take off the router/trimmer attachment and you're ready for general deburring and material-removal tasks. CycloRout/Trimmer is an essential finishing tool for aerospace and automotive industries, as well as metal work, woodworking, and general maintenance.



HD180RT4

Features

- Pioneering design combines outstanding durability and comfort via advanced composites over solid steel structure
- Rear exhaust directs air, dust and cuttings away from the operator and the workpiece
- Rugged all-steel Erickson collet assures smooth accurate cuts and minimum runout
- Sturdy steel nosepiece with double-shielded bearing provides minimum vibration and better work quality
- Adjustable nosepiece for positive depth-of-cut and quick accessory changes

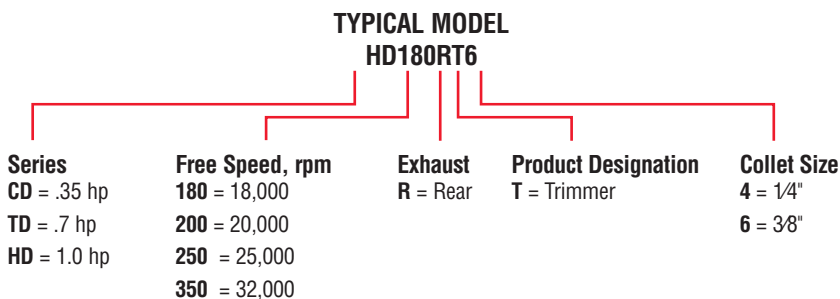
Standard Equipment

- Erickson collet
- Collet body wrench
- Collet nut wrench
- Coupling nut wrench

Accessories

- CD-RK4 1/4" (1/2"-20)
- TD-RK4 1/4" (1/2"-20)
- TD-RK6 3/8" (5/8"-11)
- LG3R-23 concentric flange
- LG2-A400 locking throttle lever

Product Identification Guide



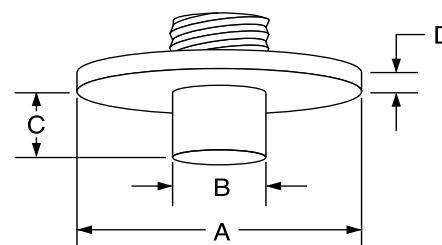
Model	Bit Shank in.	Free Speed rpm	Weight lb.	Length without Bit Guide in.	Side to Center Distance in.
CD250RT4	1/4	25,000	1 ⁵ / ₈	6 ⁷ / ₈	3/4
CD350RT4	1/4	32,000	1 ⁵ / ₈	6 ⁷ / ₈	3/4
TD200RT4	1/4	20,000	2 ³ / ₈	8 ³ / ₈	3/4
TD200RT6	3/8	20,000	2 ³ / ₈	8 ³ / ₈	3/4
TD250RT4	1/4	25,000	2 ³ / ₈	8 ³ / ₈	3/4
TD250RT6	3/8	25,000	2 ³ / ₈	8 ³ / ₈	3/4
HD180RT4	1/4	18,000	2 ¹ / ₂	9 ³ / ₁₆	3 ¹ / ₃₂
HD180RT6	3/8	18,000	2 ¹ / ₂	9 ³ / ₁₆	3 ¹ / ₃₂

All standard models have dual exhaust capabilities. Exhaust direction can be easily switched from front to rear. Performance figures are at 90 psi air pressure.

Trimmer Guides (see drawing at right).

Part Number	For Bits with Shank Size in.		A in.	B in.	C in.	D in.
	Thread					
R120-128-2	1/4	1/2 - 20	1 ¹ / ₂	3/8	3/8	1/8
R120-128-7	1/4	1/2 - 20	2 ¹ / ₂	1/2	1/2	3/16
LG2-129-1	3/8	5/8 - 18	2 ¹ / ₂	1/2	3/8	1/8

Guides for 1/4" models have 1/2" - 20 UNF thread.
Guides for 3/8" models have 5/8" - 18 UNF thread.



Industrial Production Sanders / Polishers / Buffers



Reflecting the rapidly changing demands of industrial finishing, sanders, polishers and buffers have emerged as key segments. Constant process improvements throughout industry now result in less waste on castings and molded parts, shifting emphasis from material removal to surface finishing. The Ingersoll-Rand line of sanders, buffers and polishers includes models based on the popular Cyclone tools. All give you the ability to match capacity and attachments precisely to the workpiece and material, for finessing a high-quality finish.

The design of Ingersoll-Rand's Sanders/Polishers/Buffers reflects the industry-wide changes in both processes and materials.

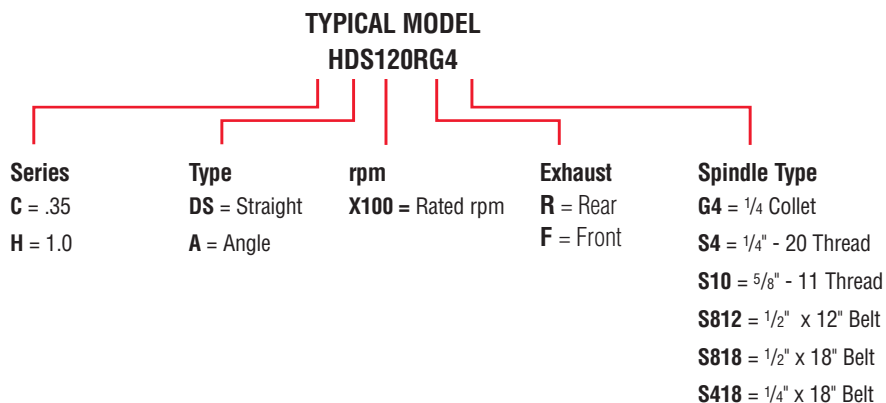
CycloFinish Sanders / Polishers / Buffers

CycloFinish Sanders, Polishers, and Buffers have been developed as part of the Cyclone finishing tool line for specific use in surface preparation and final finishing applications. The CycloFinish tools — offered in both angle and straight configurations — are lower-speed versions of the highly successful Cyclone Series. They are

based on the .70 and 1.0 horsepower T and H series, with a variety of speed offerings and accessories for sanding, polishing, blending and smoothing operations. The CycloFinish models are multi-purpose accessory tools used in aerospace, shipbuilding, utilities, woodworking and furniture production, vehicle and marine assembly, and general maintenance.

Like all Cyclone Series finishing tools, the CycloFinish line has fewer internal parts than other competitive products in the category. The patented “drop-in” motor requires no alignment or shims. Vanes can be removed or replaced quickly. This innovative design reduces the expense of down-time, repair, and replacement parts.

Product Identification Guide





HA60RS10



HDS30RG4*



HXA120RS10

Standard Equipment

Collet Models

- Erickson collet
- Collet wrenches H models
- Ergo handle

Accessories

C Series

- Rear exhaust kit LG1-K284
- Low-profile concentric flange LG1-23R
- Safety locking lever LG1-A400
- Variable-speed regulator LG1-A1015
- Color-coded abrasive kits
- 2" Pad LG1-K2
- 3" Pad LG1-K3

H Series

- Wire brush adapter LS2-A4-B10 straight
- Rear exhaust kit LG2-K284
- Safety locking lever LG2-A400
- Low-profile concentric flange LG3R-23
- 77A-AM825-5 5" medium pad
- 77A-AM825-7 7" medium pad
- 77A-BM825-7 7" firm pad

G4 = 1/4" Collet
S10 = 5/8" Arbor

Model (Rear Exhaust)	Maximum Free Speed rpm	Standard Spindle	Overall Length in.	Weight lb.	Side to Center Distance in.	cfm
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Straight Tools

HDS90RG4	9,000	1/4" collet	13 3/4	4 1/8	1 3/16	43
HDS60RG4	6,000	1/4" collet	13 3/4	4 1/8	1 3/16	43
HDS45RG4	4,500	1/4" collet	12 7/8	3 13/16	1 3/16	43
HDS30RG4	3,000	1/4" collet	12 7/8	3 13/16	1 3/16	43
HDS10RG4	1,000	1/4" collet	13 3/4	4 1/8	1 3/16	43

Angle Tools

CA120RS4	12,000	1/4" - 20	6 1/16	1 5/16	3/4	12
CA200RS4	20,000	1/4" - 20	6 1/16	1 5/16	3/4	14

Sanders

HXA19RS10	1,900	5/8" - 11	13 3/8	4 9/16	1 3/16	43
HXA27RS10	2,700	5/8" - 11	13 3/8	4 9/16	1 3/16	43
HA40RSG4	4,000	1/4" collet	8 3/16	2 5/8	1 3/16	43
HA40RS10	4,000	5/8" - 11	8 3/16	2 5/8	1 3/16	43
HA50RS10	5,000	5/8" - 11	8 3/16	2 5/8	1 3/16	43
HA60RSG4	6,000	1/4" collet	8 3/16	2 5/8	1 3/16	43
HA60RS10	6,000	5/8" - 11	8 3/16	2 5/8	1 3/16	43
HXA60RS10	6,000	5/8" - 11	11 3/16	3 5/16	1 3/16	43
HA80RS10	8,000	5/8" - 11	8 3/16	2 5/8	1 3/16	43
HXA80RS10	8,000	5/8" - 11	11 3/16	3 5/16	1 3/16	43
HA100RS10	10,000	5/8" - 11	8 3/16	2 5/8	1 3/16	43
HXA100RS10	10,000	5/8" - 11	11 3/16	3 5/16	1 3/16	43
HA120RS10	12,000	5/8" - 11	8 3/16	2 5/8	1 3/16	43
HXA120RS10	12,000	5/8" - 11	11 3/16	3 5/16	1 3/16	43
HA140RS10	14,000	5/8" - 11	8 3/16	2 5/8	1 3/16	43

Air Inlet: 1/4" NPT.
Size Hose Recommended: 3/8".

Performance figures are at 90 psi air pressure.
Sound levels range 76-82 dBA.
All models are easily switched to rear or front exhaust.

* Shown with LS2-A4-B10 adapter and pump wheel.
* Pump wheel sold separately.

Finishing Tools

Industrial Production Sanders / Polishers / Buffers

CycloFinish Tools

Standard Equipment

- One 60 grit belt
- One 80 grit belt
- One 100 grit belt



CA120RS812

(Shown without standard shield)

Accessories

- LG1-K284 Rear Exhaust Kit
- DG110-700-G2 (C) Erickson Collet 1/8"
- LG1-A350-812 1/2" x 12" Belt sander attachment
- LG1-A350-818 1/2" x 18" Belt sander attachment
- LG1-A350-418 1/4" x 18" Belt sander attachment

Attachments may be mounted on either a CA120RG4 or CA200RG4 Cyclone tool.

Sanding Belts/10 pack

- LG1-SB418-60-10, 60 grit 1/4" x 18" belt
- LG1-SB418-80-10, 80 grit 1/4" x 18" belt
- LG1-SB418-100-10, 100 grit 1/4" x 18" belt
- LG1-SB818-60-10, 60 grit 1/2" x 18" belt
- LG1-SB818-80-10, 80 grit 1/2" x 18" belt
- LG1-SB818-100-10, 100 grit 1/2" x 18" belt
- LG1-SB812-60-10, 60 grit 1/2" x 12" belt
- LG1-SB812-80-10, 80 grit 1/2" x 12" belt
- LG1-SB812-100-10, 100 grit 1/2" x 12" belt

Note - Surface feet per minute at 12,000 rpm = 2700
Surface feet per minute at 20,000 rpm = 4500

Model	Rated Power hp	Maximum Free Speed rpm	Standard Spindle	Length with Belt Attachment	Weight lb.	Belt Size	cfm
CA120RS812	.35	12,000	1/4" collet	10 ³ / ₄ "	1 ¹ / ₂	1/2 x 12"	12
CA120RS418	.35	12,000	1/4" collet	14"	1 ⁵ / ₈	1/4 x 18"	12
CA120RS818	.35	12,000	1/4" collet	14"	1 ³ / ₄	1/2 x 18"	12
CA200RS812	.35	20,000	1/4" collet	10 ³ / ₄ "	1 ¹ / ₂	1/2 x 12"	14
CA200RS418	.35	20,000	1/4" collet	14"	1 ⁵ / ₈	1/4 x 18"	14
CA200RS818	.35	20,000	1/4" collet	14"	1 ³ / ₄	1/2 x 18"	14

Air Inlet: All Models 1/4" NPT.

Size Hose Recommended: All Models 5/16".

Performance figures are at 90 psi air pressure.

Sound levels range 76-82 dBA.

To order your CycloFinish tool preset for front exhaust, refer to model numbers above and substitute F for R.



Cyclone Sanders – Another Performance Standard from Ingersoll-Rand

Cyclone grinders and finishing tools have established new standards for ergonomic design, power, and speed in material removal applications. Ingersoll-Rand has extended the same innovative philosophy to random orbital sanders, establishing another performance standard – with the Cyclone Series.

Cyclone Select Series

The ultimate in lightweight, efficient design, with comfort and performance to match. One-piece precision-molded composite housing, with color-keyed grip rings that meet operator hand sizes. Available in non-vac and vac-ready models.

VenturiVac System

This version of the Select Series features unique new self-generated vacuum system – the most powerful and effective available!

Cyclone Standard Series

These models incorporate traditional aluminum housings with textured comfort grips. Available in non-vac, vac-ready, and venturi-vac models.

All Cyclone sanders deliver unsurpassed reliability, with moisture-resistant composite rotors, fully machined counterweights, and large counterweight bearings. All are lube-free, when used with conventional air systems. Their high performance air motors ensure high speed under load, and the finest in swirl-free finishes.

Cyclone Industrial Production Random Orbital Sanders

Cyclone Select Series

The Select Series composite housing keeps overall weight at just 1.83 lbs., with reduced vibration and quiet operation at just 78 dBa.

- High efficiency air motors deliver true 12,000 rpm performance.
- One sander fits all hand sizes, with interchangeable soft rubber grip rings that fit securely around the top of the housing:
- Black for medium hands (standard)
- Grey for small hands
- Blue for large hands



- Vacuum-ready models extract dust and particulates through and around the pad...and then up and directly out a dedicated port, keeping foreign matter away from the motor. Special shroud material prevents surface marring, and lightweight, flexible hoses provide excellent maneuverability

Another unique feature:

Non-vacuum models can easily be converted to vacuum-ready status with the simple addition of a vacuum adapter, petal pad, and different shroud, if desired.

Choose from four non-vac models, with 5-inch or 6-inch pads, and duck or vinyl pad faces, four vacuum-ready models, for use with central or portable vacuum systems, Or... 2 CycloVac models, self-generated vacuum models. Select short shrouds for maximum workpiece visibility, or long shrouds for maximum dust evacuation.

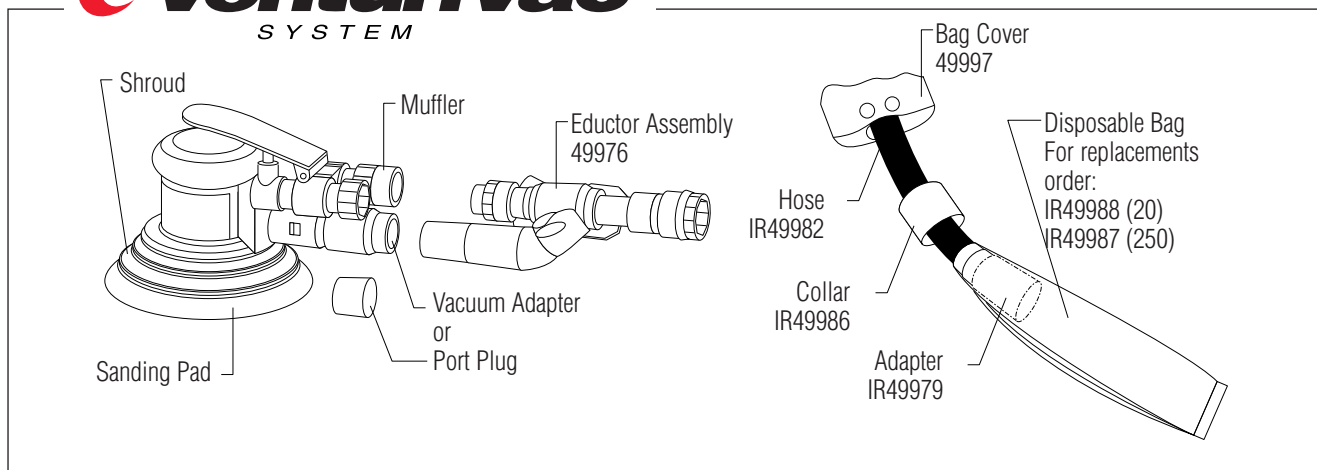


Cyclone Random Orbital Sanders VenturiVac System

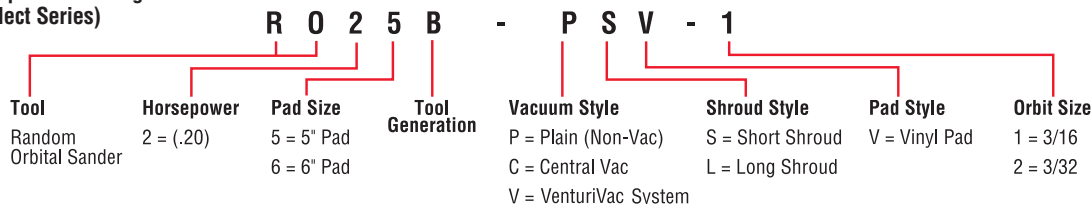
- Unique “double bagging” integral vacuum system that provides a cleaner work environment. This arrangement also promotes the proper disposal of collected particulates for maximum total effect
- Delivers twice the vacuum power of the nearest competitor, and uses a disposable dust bag enclosed in a protective cover
- The sander’s eductor assembly employs a nozzle to produce a high velocity “vac” of tool exhaust air that entrains the air and dust from the sanding area. The diffuser then channels both streams of air through the hose and into the collection bag
- The result: A truly effective, self-contained, self-generated vacuum sanding system in one compact, convenient package



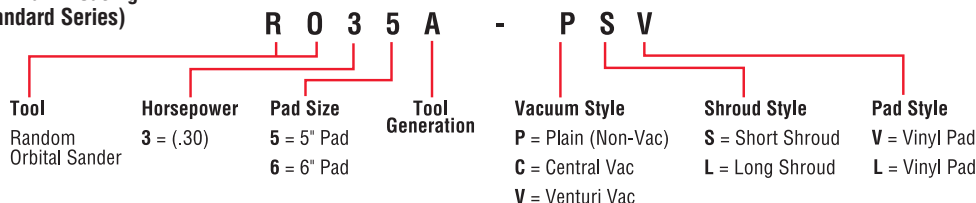
- Available in 5" and 6" pad models, with disposable vacuum bags prepackaged in quantities of 20 or 250. Other Select Series models can be converted to the VenturiVac System with an available kit



Composite Housing (Select Series)



Aluminum Housing (Standard Series)



IR Model Selection Chart

	Pad Type	Shroud	Composite .2 hp 3/16" Diameter Orbit	Composite .2 hp 3/32" Diameter Orbit	Aluminum .3 hp 3/16" Diameter Orbit
5" Diameter					
			Cyclone Select	Cyclone Select	Standard
Non-Vac	Vinyl	Short	R025B-PSV-1	R025B-PSV-2	R035A-PSV
Non-Vac - Long Handle	Vinyl	Short	NA	NA	R035A-PSV-L
Central Vac	Vinyl	Short	R025B-CSV-1	R025B-CSV-2	R035A-CSV
		Long	R025B-CLV-1	R025B-CLV-2	NA
VenturiVac	Vinyl	Long	R025B-VLV-1	R025B-VLV-2	R035A-VLV
6" Diameter					
Non-Vac - Short Shroud	Vinyl	Short	R026B-PSV-1	R026B-PSV-2	R036A-PSV
Non-Vac - Short Shroud / Long Handle	Vinyl	Short	NA	NA	R036A-PSV-L
Central Vac	Vinyl	Short	R026B-CSV-1	R026B-CSV-2	R036A-CSV
		Long	R026B-CLV-1	R026B-CLV-2	NA
VenturiVac - Long Shroud	Vinyl	Long	R026B-VLV-1	R026B-VLV-2	R036A-VLV

*Most popular model

Sanding pads have industry-standard hole pattern for "thru-the-pad" vacuum pickup. For use with coated sanding discs with pre-punched holes.

Air inlet: 1/4" NPT Female

Recommended air pressure: 90psi (6.2 bar)

Recommended hose size: 5/16" (8mm) I.D.

Std Equipment: 3 49973

Bag

1 49997

Bag Cover

1 IR49979

Adapter

1 IR49982

Hose

1 IR49986

Collar

Specifications

Model Number	Pad Size		Rated Max Free Speed rpm	Power hp	Air Consumption @ Free Speed scfm	Spindle Thread (female)	Weight		
	in.	mm					Palm Style	Long Handle	
Non-Vacuum									
R025A-PSV	5	127	12,000	0.20	15.8	5/16" - 24	1.83	0.83	NA
R026A-PSV	6	152	12,000	0.20	15.8	5/16" - 24	1.92	0.87	NA
R035A-PSV	5	127	10,000	0.30	18.5	5/16" - 24	2.3	1.0	2.6 1.2
R036A-PSV	6	152	10,000	0.30	18.5	5/16" - 24	2.3	1.0	2.6 1.2
Vacuum-Ready									
R025A-CSV	5	127	12,000	0.20	15.8	5/16" - 24	1.83	0.83	NA
R025A-CLV	5	127	12,000	0.20	15.8	5/16" - 24	1.92	0.87	NA
R026A-CSV	6	152	12,000	0.20	15.8	5/16" - 24	1.92	0.87	NA
R026A-CLV	6	152	12,000	0.20	15.8	5/16" - 24	1.92	0.87	NA
R035A-CSV	5	127	10,000	0.30	18.5	5/16" - 24	2.4	1.1	NA
R036A-CLV	5	127	10,000	0.30	18.5	5/16" - 24	2.4	1.1	NA
VenturiVac									
R025A-VLV	5	127	12,000	0.20	15.8	5/16" - 24	1.92	0.87	NA
R026A-VLV	6	152	12,000	0.20	15.8	5/16" - 24	1.92	0.87	NA
R035A-VLV	5	127	10,000	0.30	18.5	5/16" - 24	2.4	1.1	NA
R036A-VLV	6	152	10,000	0.30	18.5	5/16" - 24	2.4	1.1	NA

Finishing Tools

Cyclone Industrial Production Random Orbital Sanders

Standard Series

- Select from non-vac models, vac-ready models for use with central or portable vacuum systems, or venturi-vac models with a self-contained hose and dust collection bag in the Cyclone Standard Series
- Non-vac models can be converted to vac-ready status with an available conversion kit (Part# 04331302)
- Comfortable cushion grip provides excellent feel and control



IR Sanding Pad Selection

	Pad #	Low Profile 3/8" Premium Pads Description	Pad #	Description	Pad #	High Profile 5/8" Premium Pads Description	Pad #	Description
5" Pads								
Vacuum (Elite Composite Series)	49096-1	Vinyl; Petal Pattern Face	4330916	Hook & Loop	NA		NA	
Non-Vacuum (Elite Composite Series)	49878-1	Vinyl; Flat Face	49877-1	Duck; Canvas Face	46860	Vinyl; Flat Face	46866	Duck; Canvas Face
Non-Vacuum (Standard Aluminum Series)	49094-1	Vinyl; Diamond Face	4095-1	Duck; Canvas Face				
			351-825-6A	Vinyl; Diamond Face				
6" Pads								
Vacuum (Cyc. Select Composite Series) Standard 5 Hole	49099-1	Vinyl; Petal Pattern Face	49694	Hook & Loop	NA		NA	
Non-Vacuum (Cyc. Select Composite Series)	46879-1	Vinyl; Flat Face	49880-1	Duck; Canvas Face	46861	Vinyl; Canvas Face	46867	Duck; Canvas Face
Non-Vacuum (Standard Aluminum Series)	49097-1	Vinyl; Diamond Face	49098-1	Duck; Canvas Face	NA		NA	

*Most popular model

Sanding pads have industry-standard hole pattern for "thru-the-pad" vacuum pickup. For use with coated sanding discs with pre-punched holes.

Air inlet: 1/4" NPT Female

Recommended air pressure: 90psi (6.2 bar)

Recommended hose size: 5/16" (8mm) I.D.

Accessories

Pad Wrenches

Use to remove sanding pad.
Included with every tool.



351-69 for Standard non-vacuum models.
354-69 for all Standard vacuum models.

Spanner Wrenches

Use to remove the lock ring
securing the motor assembly.



48869 for all Select models.
44548 for all Standard Series models.

Grip Rings

Alternate grip rings for Select models.

IR49801 Small, Grey (optional)
49798 Medium, Black (standard)
IR49799 Large, Blue (optional)



Vacuum Adapters

49802 (Select)
04331302 (Standard)

Vacuum Hoses

IR49600 6' (1.8m) Hose
Equipped with molded
1" I.D. cuffs at each end.



Dust Collection Bag (Select)

48275-1
Dust Collection Bag



CycloVac Disposable Vacuum Bags

IR49988 Vacuum Bag (20 Pack)
IR49987 Vacuum Bag (250 Pack)
49973 Vacuum Bag (single)

CycloVac Conversion Kits

RSVK-5 Conversion Kit 5"
RSVK-6 Conversion Kit 6"
(To convert non-vac tools to
Vac-ready or VenturiVac
vacuum)

Service Kits

Contains all the necessary genuine I-R
replacement parts for proper preventa-
tive maintenance.

IR49837 (Select) IR49846 (Standard)



With all the changes in automotive materials like clear coat finishes, composites, and plastics, you need sanders to match the different jobs. Ingersoll-Rand has the most complete line of sanders and polisher/buffers, from traditional styles for heavy material removal to the newest models for excellent control and brilliant surfaces.

The newest IR4100 Series sanders are also specially designed to keep the air around you and your work surface clean. There are Jet-Vac™ and vacuum-assist models that help maintain a clean, dust-free environment.

These sanders feature internal components designed to run on totally dry air. This also means no oil on the work surface or in the workplace.

** Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.*

Finishing Tools

Maintenance/Automotive* Air Sanders & Buffers



All the latest advances have been designed into Ingersoll-Rand's random orbital and orbital sanders. Every detail is shaped to fit your hand perfectly, with a choice of standard and "mini" grips and a wide finger ridge for better feel and control. The IR4100 series even offers a choice of three interchangeable grip rings. The lever throttle takes the pressure off your palm. Vibration and sound are reduced to a minimum. You get the power and precision you need so you can do your best, most sophisticated work.

You can choose from a variety of air sanders, including orbital and air geared sanders, straight line, angle, or vertical sanders. For buffing and polishing paint, metal, or plastic to a high gloss, professional finish, you have a choice of two polisher/ buffers with variable speed control lever throttles to help eliminate paint burning.

All Ingersoll-Rand sanders are designed for long-life service and swirl-free finishes.

Model Number	Performance Rating	Free Speed (rpm)	Rated Power hp (kW)	Pad Diameter in. (mm)	Vacuum Ready	Weight lbs. (kg)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)	Spindle in.
IR311A	Heavy Duty	10,000	.25	6 (150)	No	4.2 (1.91)	4 (113)	17 (481)	85.6/98.6	1/4	3/8 (10)	5/16 -24
IR312	Heavy Duty	8,000	.30 (.22)	3 3/8 x 6 3/4 (92 x 171) ^b	No	4.6 (2.09)	6 (170)	12 (340)	94.1/107.1	1/4	3/8 (10)	N/A
IR313	Heavy Duty	5,000	N/A	7 (175)	No	4.2 (1.91)	8 (226)	23 (651)	99.3/112.3	1/4	3/8 (10)	5/8-11
IR314	Heavy Duty	2,500	N/A	7 (175)	No	4.2 (1.91)	8 (226)	22 (623)	97.3/110.3	1/4	3/8 (10)	5/8-11
IR315	Heavy Duty	3,000 ^a	N/A	2 3/4 x 17 1/2 (70 x 455) ^b	No	6.6 (2.99)	8 (226)	9 (255)	93.3/106.3	1/4	3/8 (10)	N/A
IR317	Heavy Duty	18,000	N/A	5 (125)	No	2.3 (1.04)	12 (340)	25 (708)	96.5/109.5	1/4	3/8 (10)	N/A
IR318	Heavy Duty	2,800	N/A	7 (175)	No	4.5 (2.04)	6 (170)	21 (595)	90.5/103.5	1/4	3/8 (10)	5/8-11
IR319	Heavy Duty	5,000	N/A	7 (175)	No	4.5 (2.09)	6 (170)	20 (566)	90.8/103.8	1/4	3/8 (10)	5/8-11
IR327	Heavy Duty	22,000	.5 (.38)	3/8 (10) ^c	No	1.6 (.73)	15 (425)	28 (793)	90.9/103.9	1/4	3/8 (10)	3/8 (10) ^c
IR327LS	Heavy Duty	3,000	.5 (.37)	3/8 (10) ^c	No	1.13 (.51)	14 (396)	27 (756)	95/108	1/4	3/8 (10)	3/8 (10) ^c
IR328B	Heavy Duty	900	.25	8 (203)	No	4.7 (2.13)	4 (113)	16 (453)	90.45/93.7	1/4	3/8 (10)	N/A
IR4151	Ultra Duty	12,000	.20 (.15)	6 (152)	Yes	1.92(.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)	N/A
IR4151-5	Ultra Duty	12,000	.20 (.15)	5 (127)	Yes	1.92(.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)	N/A
IR4151-HL	Ultra Duty	12,000	.20 (.15)	6 (152)	Yes	1.92(.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)	N/A
IR4151-2	Ultra Duty	12,000	.20 (.15)	6 (152)	Yes	1.92 (.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)	N/A
IR4152	Ultra Duty	12,000	.20 (.15)	6 (152)	Yes	1.92(.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)	N/A
IR4152-HL	Ultra Duty	12,000	.20 (.15)	6 (152)	Yes	1.92(.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)	N/A

a 1" Length Strokes (per min) b Rectangular Pad Size c Chuck Size

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR311A

Heavy Duty

Air Dual Action Quiet Sander – 6" Pad

A built-in silencer muffles noise as you work with this economical dual action sander. It's a quality sander used for feather edging, metal preparation and finish work on body filler. And its dual action pad motion produces swirl-free finishes.

- Low Vibration
- Dependable performance
- Balanced ball bearing construction
- Adjustable built-in regulator for positive speed control



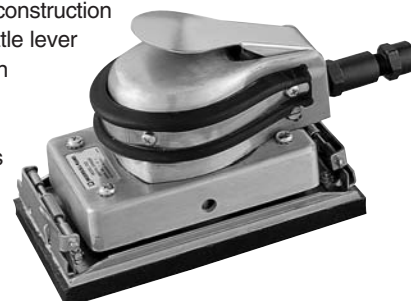
IR312

Heavy Duty

Air Orbital Sander – 3-2/3" x 6-3/4" Pad

The IR312 air orbital sander has a free speed up to 8,000 rpm to make fast work of smoothing fiberglass, wood, and body filler and to take care of any sanding job on paint, metal, and fiberglass. And you can run the IR312 with one hand, using the compact, contoured palm-grip.

- Low vibration plus longer-life
- Balanced ball bearing construction
- Automatic release throttle lever with positive stop action
- Built-in regulator for positive speed control
- Positive locking clamps



IR313

Heavy Duty

Air Angle Sander – 7" Pad

With up to 5,000 rpm free speed, you can work faster on light and heavy sanding jobs, including roughing body filler, removing rust, and smoothing welds.

- Heavy duty motor handles tough jobs
- Lightweight, only 4.2 lbs.
- Ball bearing construction for long life



IR314

Heavy Duty

Air Angle Polisher/Buffer – 7" Pad

A versatile tool with a high free speed range of 1,500-2,500 for buffing and polishing a wide range of surfaces – paint, metal, and plastic – to a high-gloss, professional finish. With its heavy duty motor, this polisher can handle the toughest jobs.

- Long-life, ball bearing construction
- Dead handle and spindle for easy handling
- Built-in regulator
- Up to 2,500 rpm in free speed



Model Number	Performance Rating	Free Speed (rpm)	Rated Power hp (kW)	Pad Diameter in. (mm)	Vacuum Ready	Weight lbs. (kg)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)	Spindle in.
IR311A	Heavy Duty	10,000	.25	6 (150)	No	4.2 (1.91)	4 (113)	17 (481)	85.6/98.6	1/4	3/8 (10)	5/16 -24
IR312	Heavy Duty	8,000	.30 (.22)	3 2/3 x 6 3/4 (92 x 171) ^b	No	4.6 (2.09)	6 (170)	12 (340)	94.1/107.1	1/4	3/8 (10)	N/A
IR313	Heavy Duty	5,000	N/A	7 (175)	No	4.2 (1.91)	8 (226)	23 (651)	99.3/112.3	1/4	3/8 (10)	5/8-11
IR314	Heavy Duty	2,500	N/A	7 (175)	No	4.2 (1.91)	8 (226)	22 (623)	97.3/110.3	1/4	3/8 (10)	5/8-11

^b Rectangular Pad Size

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Maintenance/Automotive* Air Sanders & Buffers

IR315

Heavy Duty

Air Twin Piston Straight Line Sander – 2-3/4" x 17-1/2" Pad

The twin piston design keeps extra power in reserve to prevent stalling and tackle sanding jobs like smoothing down body filler or shaping and leveling large flat surfaces.

- 3,000 reciprocating strokes per minute
- Quick action paper clamps
- Smooth, reliable power



IR317

Heavy Duty

Air High-Speed Sander – 5" Pad

For small jobs and hard-to-reach places, the IR317 is an economical high-speed sander ideal for light sanding, feather edging, and rust removal.

- Easy to handle, compact and lightweight
- Built-in power regulator
- Comes with three backing pads, 317-825 1 each 3", 1 each 4", and 1 each 5" (stackable)



IR318

Heavy Duty

Air Vertical Polisher/Buffer – 7" Pad

Buff and polish all painted surfaces easily. This compact, lightweight vertical polisher/buffer gives you the results you want, even on the tough jobs. The variable speed control lever throttle helps eliminate paint burning. Comes complete with a 7" backing pad.

- Long tool life from the planetary gear reduction feature
- Plenty of power from the 1 hp motor
- Handle exhaust directs air away from work area



IR319

Heavy Duty

Air Vertical Sander – 7" Pad

A high quality sander made to handle demanding jobs like rust removal and sanding metal and body filler, the IR319 comes complete with one 7" backing pad.

- Longer gear life plus better gearing for better power
- Planetary gear reduction feature
- Lever throttle for speed control
- Handle exhaust directs air away from work area



Model Number	Performance Rating	Free Speed (rpm)	Rated Power hp (kW)	Pad Diameter in. (mm)	Vacuum Ready	Weight lbs. (kg)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)	Spindle in.
IR315	Heavy Duty	3,000 ^a	N/A	2 ³ / ₄ x17 ¹ / ₂ (70x455) ^b	No	6.6 (2.99)	8 (226)	9 (255)	93.3/106.3	1/4	3/8 (10)	N/A
IR317	Heavy Duty	18,000	N/A	5 (125)	No	2.3 (1.04)	12 (340)	25 (708)	96.5/109.5	1/4	3/8 (10)	N/A
IR318	Heavy Duty	2,800	N/A	7 (175)	No	4.5 (2.04)	6 (170)	21 (595)	90.5/103.5	1/4	3/8 (10)	5/8-11
IR319	Heavy Duty	5,000	N/A	7 (175)	No	4.5 (2.04)	6 (170)	20 (566)	90.8/103.8	1/4	3/8 (10)	5/8-11

^a 1" Length Strokes (per min)

^b Rectangular Pad Size

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IR328B

Heavy Duty

Air Geared Orbital Sander – 8" Pad

The smooth strength and power of this air geared orbital sander lets you remove heavy material and body filler on large, flat surfaces leaving a clean, swirl-free finish.

- Dual action pad motion (5/32" orbit)
- A long-life, vibration-free performance
- Balanced ball bearing construction



6135A

Polishing Pad

8" diameter, 2" thick polyester foam. For use with IR314, IR318 or any polisher with a 5/8"-11 spindle.



IR327

Heavy Duty

Air High-Speed Tire Grinder

With a free speed up to 22,000 rpm and powerful 1/2- hp motor, the IR327 will make quick work of patchwork and roughing up low areas for recapping, tire scuffing and cleaning tire moldings.

- Lever throttle for easy operation
- Rear exhaust keeps air away from you and your work



IR327LS

Heavy Duty

Air Low-Speed Tire Buffer

Designed for conveniences, the many features of the IR327LS make it the ideal tool for every tire shop. The quick change chuck, built-in regulator and lever-style throttle make patchwork, roughing areas for recapping and cleaning tire moldings a breeze.

- Lever-style tease trigger with lock-off for easy operation and protection against accidental start-up
- Quick change chuck for easy buffing wheel change
- Piped-away exhaust (included) directs air away from work area and operator
- Convenient hanger-keeps tool within easy reach



Model Number	Performance Rating	Free Speed (rpm)	Rated Power hp (kW)	Pad Diameter in. (mm)	Vacuum Ready	Weight lbs. (kg)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)	Spindle in.
IR327	Heavy Duty	22,000	.5 (.38)	3/8 (10) ^C	No	1.6 (.73)	15 (425)	28 (793)	90.9/103.9	1/4	3/8 (10)	3/8 (10) ^C
IR327LS	Heavy Duty	3,000	.5 (.37)	3/8 (10) ^C	No	1.13 (.51)	14 (396)	27 (756)	95/108	1/4	3/8 (10)	3/8 (10) ^C
IR328B	Heavy Duty	825	.25	8 (203)	No	4.7 (2.13)	4 (113)	16 (453)	90.45/93.7	1/4	3/8 (10)	N/A

^C Chuck Size

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Maintenance/Automotive* Air Sanders & Buffers

IR4151

Ultra Duty

Vacuum-Ready Air Random Orbital Sander

This vacuum-ready, low vibration model produces an ultra-high quality finish and connects easily to central or portable vacuum systems. The IR4151 extracts dust and particles through and around the pad keeping foreign matter away from the motor. The vacuum sanding pad features a unique design and large 1/2" diameter holes for efficient operation. Virtually all dust is instantly channeled away from the work.

- 12,000 rpm free speed for swirl-free finishes
- Durable, lightweight composite design weighs less than 2 lbs

IR4151-5 & IR4151-HL

Same specifications as the IR4151

model, but with a 5" pad size (IR4151-5) or hook & loop style pad (IR4151-HL).



IR4151-2

Ultra Duty

Vacuum-Ready Two-Handed Random Orbital Sander

The extra long handle and high speed/low vibration performance of the IR4151-2 combine to provide superior control and flawless finishes for technicians who prefer two-handed sanding. It covers easily to vacuum operation, and incorporates all of the other features that make the 4151 Series one of the most advanced range of tools available for quality-critical paint and body work.



IR4152

Ultra Duty

Vacuum-Ready Air Random Orbital Sander

The IR4152 sets a new standard in elite automotive finish work. This fine 3/32" orbit sander helps set the standard for high quality paint finishes. The IR4152 utilizes a precision ground counterbalance to reduce vibration. The lubrication-free motor package eliminates worry of exhaust contaminants harming the work surface.

IR4152-HL

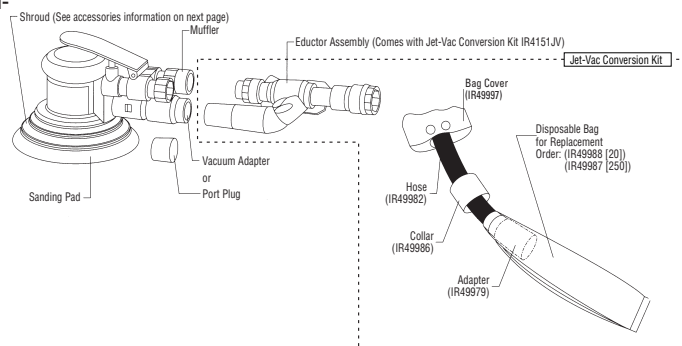
Same specifications as the IR4152 sander, but with a hook & loop style pad.



IR4151JV

Jet-Vac Dust Extraction

Combine any IR4151 or IR4152 sander with the powerful Jet-Vac dust extraction system. Influenced by jet engine technology, the Jet-Vac tool sucks up more air than it takes to actually run the tool!



Model Number	Performance Rating	Free Speed (rpm)	Rated Power hp (kW)	Pad Diameter in. (mm)	Orbit Diameter in. (mm)	Weight lbs. (kg)	Average Air Consumption cfm (l/min.)	@ Load cfm (l/min.)	Sound dBA (Pressure/Power)	Air Inlet in.	Min. Hose Size in. (mm)
IR4151	Ultra Duty	12,000	.20 (.15)	6 (152)	3/16 (5.0)	1.92 (.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)
IR4151-5	Ultra Duty	12,000	.20 (.15)	5 (127)	3/16 (5.0)	1.92 (.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)
IR4151-HL	Ultra Duty	12,000	.20 (.15)	6 (152)	3/16 (5.0)	1.92 (.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)
IR4151-2	Ultra Duty	12,000	.20 (.15)	6 (152)	3/16 (5.0)	1.92 (.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)
IR4152	Ultra Duty	12,000	.20 (.15)	6 (152)	3/32 (2.5)	1.92 (.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)
IR4152-HL	Ultra Duty	12,000	.20 (.15)	6 (152)	3/32 (2.5)	1.92 (.87)	8 (226)	15.5 (440)	78/91	1/4	5/16 (8)

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IR4100 Series Major Components and Accessories

Premium Quality Low-Profile Pads

Non-Vac, 3/8" (9.5mm) thick

6" Vinyl	IR49879-1
6" Duck	IR49880-1
5" Vinyl	49094-1
5" Duck	IR49877-1

**Vacuum, 3/8" (9.5mm) thick
(6" petal pattern provided with every sander)**

6" Petal Pattern	49099-1
6" Hook and Loop	49694
5" Petal Pattern	IR49096-1

Vacuum Adapters – 3154

Port Adapter	49802
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Shrouds

Short (Standard on 4151)	IR48266-1
Long	48878

Jet-Vac Vacuum Bags

Jet-Vac Dust Collection Bag (External)	49997
20 Quantity Pack (Disposable)	IR49988
250 Quantity Pack (Disposable)	IR49987

Jet-Vac Conversion Kit

6" Pad	4151JV
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Includes:

Part No.	Description	Quantity
48878	6" shroud	1
49973	Disposable bag	3
49997	Cloth bag cover	1
49976	Eductor assembly	1
49979	Bag adapter	1
49982	Hose	1
49986	Collar	1

Service Kit

(for preventative maintenance)

IR49837 Pad Wrench (included with every tool)	354-69
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Spanner Wrenches

Use to remove the lock ring securing the motor assembly	44548
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The full range of Ingersoll-Rand sanding, backing, and polishing pads will help you do every sanding, polishing, and grinding job to your satisfaction.

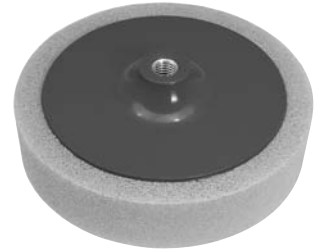
315-39 Straight Line Sanding Pad

For use with IR315. Non-metallic material reduces side strap wear caused by metallic sanding pads. Fits other similar brands of straight-line sanders.



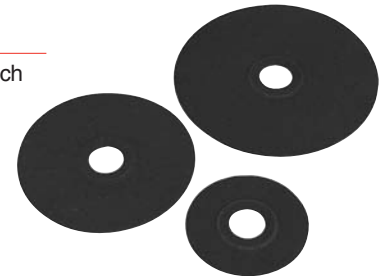
6135A Polishing Pad

8" diameter, 2" thick polyester foam. For use with IR314, IR318 or any polisher with a 5/8"-11 spindle.



317-825 Backing Pads

For use with IR317, one each 3", 4", 5" backing pads.



For IR313, IR314, IR318, and IR319

Cat. No.	Dia.	Description
Standard Duty		
313-825-7	7"	Rigid backing pad
Heavy Duty		
6130A	7"	Flexible backing pad



Dual Action Backing Pad for IR310 and IR311

Standard Duty		
310-825-6	6"	Firm pad for medium to heavy stock removal, cloth backed
311A-825-6	6"	Vinyl pad
Heavy Duty		
6120A	6"	Firm edge for firm support, cloth backed
6121A	6"	Soft edge for medium support, cloth backed
6122A	5"	Firm edge for firm support, cloth backed
6123A	5"	Soft edge for medium support, cloth backed

Dual Action Backing Pad for IR328

Standard Duty		
328A-826	8"	Pad assembly

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Industrial Production Needle & Chisel Scalers



Needle and Chisel

Comfort, Performance and Reliability

When it is time to get serious about removing materials, grip into IR's new pistol grip scalers. These heavy duty needle scalers and weld flux scalers have a constant duty rating and are ideally suited for multiple applications on any surface.

- Rust removal
- Weld splatter and slag removal
- Paint removal
- Chipping and cutting concrete block
- Peening
- Cleaning sand castings
- Marine repairs and maintenance
- Removing other unwanted surface deposits



Model Specifications	WT w/ Accessories	Length w/o Accessories	BPM	Piston Stroke	Air Consumption	Air Inlet	Bore	Chisel Shank	No. of 3mm Needles (Flat)	Description
170PG	6.62 lbs.	12.4	3,000	1.4	5.5 cfm	1/4" NPT	.925	N/A	19	Needle Scaler
180PG	8.88 lbs.	13.5	2,200	1.54	8 cfm	1/4" NPT	1.125	N/A	28	Needle Scaler
170PG-CS*	5.32 lbs.	12.4	3,000	1.4	5.5 cfm	1/4" NPT	.925	1/2"	N/A	Chisel Scaler
180PG-CS*	6.81 lbs.	12.4	2,200	1.54	8 cfm	1/4" NPT	1.125	1/2"	N/A	Chisel Scaler

170PG-KIT includes: The 170PG needle scaler, the 1/2" shank chisel holder, 3 needle packs and 3 chisels. Needles included are one pack each of chisel tip, pointed tip, and flat tip 3 mm needles. There are 19 needles per pack. The needles are 7" long and made of carbon steel. The chisels included are one each of the following 1/2" square, 7" long chisels: a 3/4" flat, a 1-3/8" offset (weld flux), and a 2" flat chisel.

180PG-KIT includes: The 180PG needle scaler, the 1/2" shank chisel holder, 3 needle packs and 3 chisels. Needles included are one pack each of chisel tip, pointed tip, and flat tip 3 mm needles. There are 28 needles per pack. The needles are 7" long and made of carbon steel. The chisels included are one each of the following 1/2" square, 7" long chisels: a 3/4" flat, a 1-3/8" offset (weld flux), and a 2" flat chisel.

*1/2" square shank is standard on both units (5/8" hex is optional for the 180PG-CS).



Industrial Production Needle & Chisel Scalers

These units feature:

- Lever throttle control
- Heavy duty ergonomic rubber grip
- All hardened steel parts for long life
- Easy convertability from needle scaler to chisel scaler
- ½" square shank for chisels
- Adjustable bayonet type oval front tube
- Built-in chisel and needle retainer

Variable control throttle lever for precise control



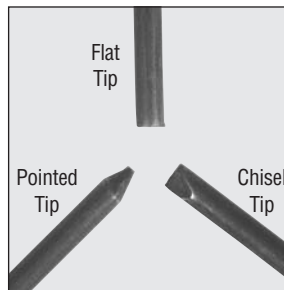
Easily adjustable bayonet oval front tube



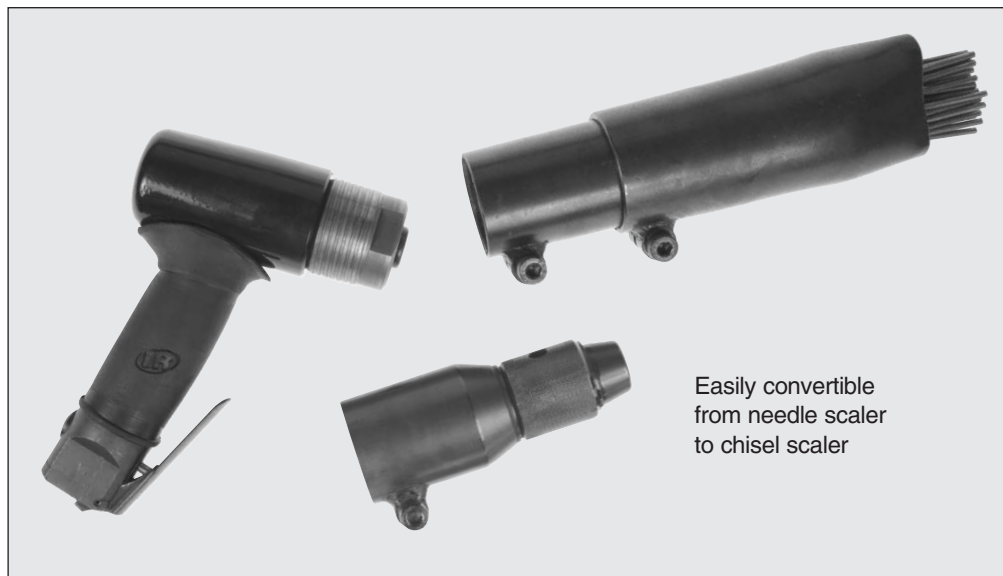
Heavy duty ergonomic rubber grip improves comfort and productivity



Multiple needle tips available for all your applications



Easily convertible from needle scaler to chisel scaler



	WARNING Always wear eye protection when operating or performing maintenance on this tool.
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Optional Needles & Needle Scaler Accessories	Part No. For Ordering
Needle Holder (2 mm)	
for 170PG	22038194
for 180PG	22038202
Needle Holder (4 mm)	
for 180PG	22038210
Front Tube - Round	
for 170PG	22038228
for 180PG	22038236
Needles (2 mm)	
flat tip, 7" long, carbon steel (qty: 100)	22038525
Needles (3 mm)	
flat tip, 5" long, carbon steel (qty: 19)	NS11-22-19
flat tip, 5" long, carbon steel (qty: 100)	22038533
flat tip, 5" long, beryllium copper (qty: 19)	NS11-B22-19
flat tip, 5" long, stainless steel (qty: 19)	NS11-S22-19
flat tip, 7" long, carbon steel (qty: 19)	NS11-122-19
flat tip, 7" long, carbon steel (qty: 100)	89940597
flat tip, 7" long, carbon steel (qty: 1000)	22038541
flat tip, 7" long, beryllium copper (qty: 100)	22038558
flat tip, 7" long, beryllium copper (qty: 500)	22038566
chisel tip, 7" long, carbon steel (qty: 100)	22038574
chisel tip, 7" long, carbon steel (qty: 1000)	22038582
pointed tip, 7" long, carbon steel (qty: 100)	22038590
pointed tip, 7" long, carbon steel (qty: 1000)	22038608
Needles (4 mm)	
flat tip, 7" long, carbon steel (qty: 100)	22038616
flat tip, 7" long, carbon steel (qty: 500)	22038624
chisel tip, 7" long, carbon steel (qty: 100)	22038632
chisel tip, 7" long, carbon steel (qty: 500)	22038640
pointed tip, 7" long, carbon steel (qty: 100)	22038657
pointed tip, 7" long, carbon steel (qty: 500)	22038665
Optional Chisels & Chisel Scaler Accessories	Part No. For Ordering
Chisel Holder Assembly (5/8" Hex Shank)	
for 180PG	22039705
Chisels (5/8" Hex Shank)	
Straight Scaling, 2" wide blade, 7" overall, spark resistant	22038699
Straight Scaling, 1" wide blade, 7" overall	22038707
Straight Scaling, 2" wide blade, 7" overall	22038715
Straight Scaling, 4" wide blade, 7" overall	22038723
Angle Scaling, 1" wide blade, 7" overall	22038731
Chisels (1/2" Square Shank)	
Blank, 7/8" overall, steel	WF-14-7-1/8
Flat Scaling, 3/4" wide blade, 7" overall, steel	WF-14-7-1/8
Gouge, 5/8" wide blade, 6" overall, steel	WF-14G-6
Straight Scaling, 1 1/8" wide blade, 6 1/2" overall, steel	WF-14B-6-1/8
Straight Scaling, 1 1/8" wide blade, 11 1/2" overall, steel	WF-14B-11-1/2
Straight Scaling, 2" wide blade, 7" overall, steel	89940613
Straight Scaling, 3" wide blade, 7" overall, steel	22038749
Straight Scaling, 2" wide blade, 7" overall, spark resistant	22038756
Angle Scaling, 1 1/8" wide blade, 6 1/8" overall	WF-14A-6-1/8
Scrapers (5/8" Hex Shank)	
Straight, 4" wide flex blade, 11" overall	22038772
Straight, 8" wide steel blade, 11" overall	22038780
Straight, 12" wide steel blade, 11" overall	22038798
Straight, 4" wide beveled blade, 11" overall	22038806
Straight, 8" wide beveled blade, 11" overall	22038814
Straight, 12" wide beveled blade, 11" overall	22038822
Scrapers Blades	
4" wide flex blade (qty: 5)	22038830
8" wide steel blade (qty: 5)	22038848
12" wide steel blade (qty: 5)	22038855
4" wide beveled blade (qty: 5)	22038863
8" wide beveled blade (qty: 5)	22038871
12" wide beveled blade (qty: 5)	22038889
Scraper Blade Holder	22038897
Locknuts for Scraper Blade Holder (qty: 10)	22038913

Industrial Production Needle & Chisel Scalers

For applications requiring specialized, heavy-duty finishing tools. Check out our scalers, needle scalers, piston scalers, chipping hammers, and accessories on the next few pages.

Scalers/Needle Scalers

Features

- Long nozzle section extends retainer life and permits the use of a variety of accessories
- Positive chisel retainer is simple to operate
- Strengthened head block holds up under the most extreme conditions

Standard Equipment

- Positive lock chisel retainer



Model	Throttle	Weight less Chisel		Length		Piston Stroke		Bore		Blows per Minute	Hose Connector Pipe Tap in.	Size Hose Recomm.		cfm
		lb.	kg	in.	mm	in.	mm	in.	mm			in.	mm	
172L	Lever	3 ¹¹ / ₁₆	1.69	7 ⁵ / ₈	194	9/ ₁₆	14	15/ ₁₆	24	5,500	1/4	5/ ₁₆	8	12
182G	Grip	5 ⁵ / ₁₆	2.41	12 ¹³ / ₁₆	325	1 ¹ / ₁₆	27	15/ ₁₆	24	4,000	1/4	5/ ₁₆	8	13
182L	Lever	4 ¹ / ₁₆	1.84	9	229	1 ¹ / ₁₆	27	15/ ₁₆	24	4,000	1/4	5/ ₁₆	8	13

Performance figures are at 90 psi (620 kPa) air pressure.

Needle Scaler Kit

182K1 Scaler Kit

- Model 182L scaler
- Complete NS11A needle attachment (with 5" long needles)
- One extra set of NS11–22–19 needles (5" long)
- One set of NS11–122–19 needles (7" long)
- One WF–14A–6½ angle chisel
- One WF–14B–6½ straight chisel
- One WF–14F–7 flat chisel
- PKB-1 or vinyl carrying case



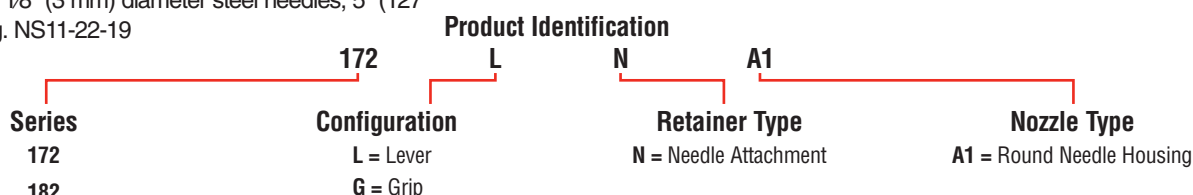
Features

- Adjustable bayonet-type needle housing lock allows adjustment without special tools
- Choice of three needle materials permits custom selection for various surfaces
- Rubber-faced throttle valve means positive sealing
- Tested and approved in accordance with MIL-S-23492A (Ships)
- Precision heat-treated needles for maximum performance



Standard Equipment

- Lever throttle
- Nineteen 1/8" (3 mm) diameter steel needles, 5" (127 mm) long. NS11-22-19



Model	Needle Housing Shape	Weight		Length		Piston Stroke		Bore		Blows per Minute	Hose Connector Pipe Tap in.	Size Hose Recomm. cfm	
		lb.	kg	in.	mm	in.	mm	in.	mm			in.	mm
172LNA1	Round	5 1/4	2.38	13 3/4	349	5/16	14	15/16	24	5,500	1/4	5/16	8 12
182LNA1	Round	5 3/4	2.61	15	381	1 1/16	27	15/16	24	4,000	1/4	5/16	8 13

Performance figures are at 90 psi (620 kPa) air pressure.

IR125

Standard Duty Needle Scaler

For surface preparation work involving the cleaning or removal of paint, rust, dirt, or weld slag, the IR125 is a durable, dependable, economical solution.

- 19 needles
- Each needle 1/8" (3.2mm)
- 4,600 blows per minute at free speed

Chisels available for the IR125

Type	Width/Length 7"	Part No.
Blank		PF2200-391
Chisel	3/4" (19mm)	PF2200-392
Wide Chisel	1 3/8" (35mm)	PF2200-393
Angle Chisel	1 3/8" (35mm)	PF2200-394
Scraper	2" (50mm)	PF2200-390
Scraper	3" (75mm)	PF2200-390-3
Diamond Point	1/4" (6mm)	PF2200-3230
Round Nose	1/4" (6mm)	PF2200-3231
Cape Chisel	1/4" (6mm)	PF2200-3232

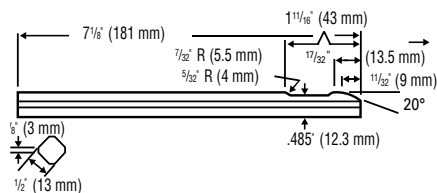


Model Number	Performance Rating	Needle Type	Needle Qty.	Needle Size in. (mm)	Free Speed (rpm)	Bore Diameter in. (mm)	Stroke Length in. (mm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR125	Standard Duty	Needle Scaler	19	1/8 (3.2)	4,600	1 (25)	1 1/8 (28.6)	6.22 (2.82)	18.3 (465)	8 (226)	15 (425)	99.6/112.6	1/4	5/16 (8)

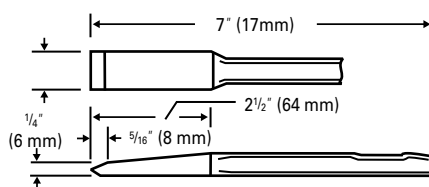
*MRO Tools are designed for maintenance and automotive applications involving intermittent use.

Chisels and Star Drills for Series 172 and 182 Scalers

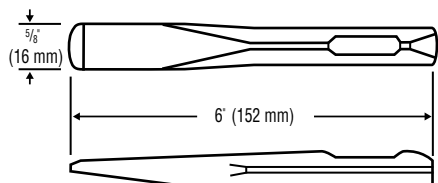
WF-14-71/8 Chisel Blank



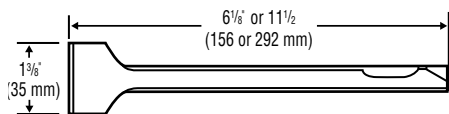
WF-14F-7 Flat Scaling Chisel



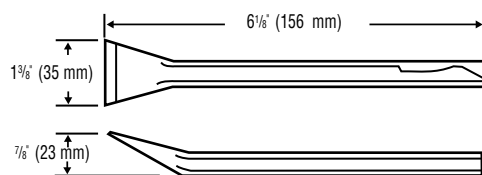
WF-14G-6 Gouge Chisel



WF-14B-6 1/8 or WF-14B-11 1/2 Straight Scaling Chisel



WF-14A-6 1/8 Angle Scaling Chisel



Needle Scaler Attachments

Needle Scaler Attachments are available for use on Series 172 or 182 Scalers already in service. Order by one of the symbols shown.

Attachment Symbol	Description	
NS11A	5" (127 mm) Steel Needles Std.	Round
NS11AS	5" (127 mm) Stainless Steel Needles	Needle
NS11A7	7" (178 mm) Extended Steel Needles	Housing
NS11BB	5" (127 mm) Beryllium Copper Needles	Rectangular
NS11BS	5" (127 mm) Stainless Steel Needles	Needle
NS11B7	7" (178 mm) Extended Steel Needles	Housing

Replacement Needles

Set of 19 Needles

Part Number	Description
NS11-22-19	5" (127 mm) Steel Needles-Standard
NS11-B22-19	5" (127 mm) Beryllium Copper Needles-Optional
NS11-S22-19	5" (217 mm) Stainless Steel Needles-Optional
NS11-122-19	7" (178 mm) Extended Steel Needles-Optional

Finishing Tools

Industrial Production Piston Scalers

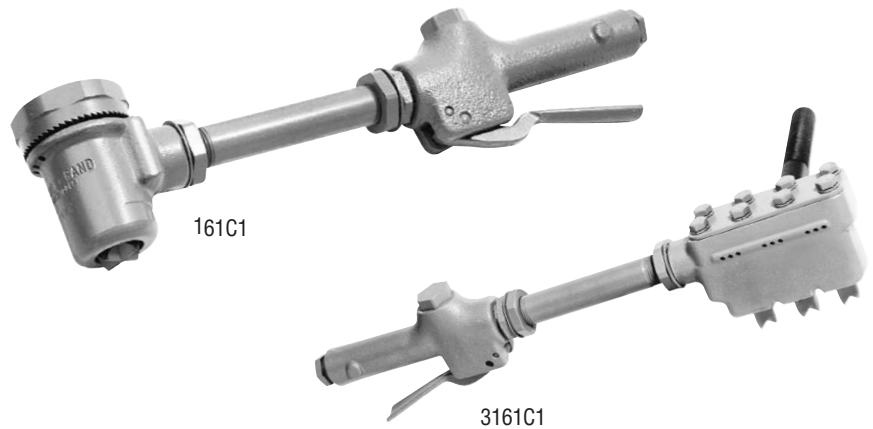


Features

- The handle containing the lever throttle on Model 3161C1 is interchangeable with the dead handle — thus it may be used parallel to, or at 90° to the three pistons
- The vibration and rotation of the piston does the scaling. A chisel is not used with this tool

Standard Equipment

- 2³/₄" (70 mm) short steel piston (one for Model 161C1, three for Model 3161C1)



Model	Piston Description	Blows per Minute	Operating Height		Length		Side to Center Distance		Weight		Throttle	cfm
			in.	mm	in.	mm	in.	mm	lb.	kg		
161C1	One Short Steel	3300	4 1/8	105	13 1/4	337	1 3/16	30	6 1/2	2.94	Lever	9
3161C1	Three Short Steel	3800	4	102	*15 3/8	*391	7/8	22	9 3/8	4.25	Lever	15

*With Lever Throttle attached to narrow end of Barrel.

Both of the above Scalers have 1/4" NPT air inlet, 5/16" (8 mm) size hose is recommended.

Performance figures are at 90 psi (620 kPa) air pressure.

Pistons for Models 161C1 and 3161C1 Scalers

For Model 161C1 one required	Description
N16-5A	Short Steel 2 ³ / ₄ " (70 mm)-Standard

For Model 3161C1 three required	Description
316-5	Short Steel 2 ⁵ / ₈ " (67 mm)-Standard
316-C5	Short Carbide-Tipped 2 ⁵ / ₈ " (67 mm)
316-L5	Long Steel 3 ⁵ / ₈ " (92 mm)
316-CL5	Long Carbide-Tipped 3 ⁵ / ₈ " (92 mm)

Air Hammers

Maintenance/Automotive* Air Hammers

Hit harder with less effort and more accuracy as you do general repairs, exhaust system and front end work, bushing driving, and tough cutting jobs, using Ingersoll-Rand air hammers. The IR132 gives you added accuracy and control at 1,725 blows per minute with its “tease throttle” and built-in power regulator. The IR121 has a professional touch trigger for excellent control at 3,000 blows per minute and a tough one-piece alloy barrel for long life.



**Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.*

Air Hammers

Maintenance/Automotive* Air Hammers



Ingersoll-Rand air hammers are designed so you can let the tool do the work, whether it's cutting, punching, chipping, or scraping. Each air hammer comes with a coil spring retainer for fast and easy chisel changes. You can also get the Ingersoll-Rand air hammer kit, which includes the five piece chisel kit, or buy them separately.

Model Number	Performance Rating	Shank Opening in. (mm)	Blows Per Minute @90psi	Bore Diameter in. (mm)	Stroke Length in. (mm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR115	Standard Duty	.401 (10.1)	5,000	3/4 (19)	15/8 (41)	2.6 (1.18)	6.1 (155)	2 (57)	14 (396)	101.3/114.3	1/4	3/8 (10)
IR116	Standard Duty	.401 (10.1)	3,500	11/16 (17.5)	25/8 (67)	3.4 (1.54)	7.8 (198)	3 (85)	15 (425)	104.4/117.4	1/4	3/8 (10)
IR117	Standard Duty	.401 (10.1)	2,000	11/16 (17.5)	31/2 (89)	4.1 (1.86)	9.9 (251)	3 (85)	14 (396)	103.5/116.5	1/4	3/8 (10)
IR121	Super Duty	.401 (10.1)	3,000	3/4 (19)	29/32 (58)	3.5 (1.59)	7.63 (194)	3 (85)	15 (425)	98.3/111.3	1/4	3/8 (10)
IR132	Super Duty	.401 (10.1)	1,725	9/16 (14)	4 (102)	3.4 (1.54)	8.5 (216)	3 (85)	11 (311)	N/A	1/4	5/16 (8)

Model Number	Performance Rating	Needle Type	Needle Qty.	Needle Size in. (mm)	Free Speed (rpm)	Bore Diameter in. (mm)	Stroke Length in. (mm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR125	Standard Duty	Needle Scaler	19	1/8 (3.2)	4,600	1 (25)	11/8 (28.6)	6.22 (2.82)	18.3 (465)	8 (226)	15 (425)	99.6/112.6	1/4	5/16 (8)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Air Hammers

Maintenance/Automotive* Air Hammers

IR115

Standard Duty Air Hammer

This powerful, yet economical high-speed air hammer, is designed for light exhaust system work and general cutting, chipping and scraping.

- Up to 5,000 blows per minute
- Alloyed steel barrel and heat-treated piston for longer life
- Built-in power regulator and trigger control



Replacement Retainer

Spring Retainer 115-183

IR116

Standard Duty Air Hammer

The economical air hammer for fast cutting action, especially for medium exhaust system, panel cutting, and general repair work.

- Up to 3,500 blows per minute
- Handles a range of cutting applications
- Longer life alloyed steel barrel and heat-treated piston



Replacement Retainer

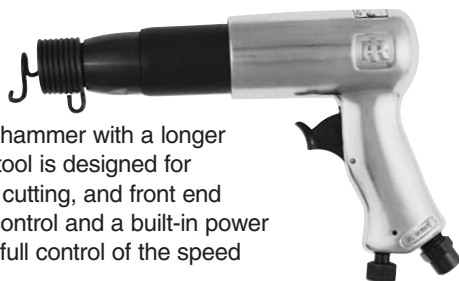
Spring Retainer 115-183

IR117

Standard Duty Air Hammer

An economical air hammer with a longer piston stroke, this tool is designed for exhaust work, bolt cutting, and front end work. The trigger control and a built-in power regulator give you full control of the speed and power.

- Longer stroke piston
- Alloyed steel barrel and heat-treated piston for longer life
- Up to 2,000 blows per minute



Replacement Retainer

Spring Retainer 115-183

IR121

Super Duty Air Hammer

Make fast work of body panel crimping and cutting, bushing driving, shearing and general front end work with this air hammer, a super duty tool that produces up to 3,000 blows per minute.

- Professional touch trigger for total control
- Long-life tool with a tough one piece alloy barrel
- Easy to maintain, with an "easy out" throttle valve assembly



Replacement Retainers

Spring Retainer (as shown) AVC10-183A
Bee-hive AVC1-83

IR121K6/121K6

Air Hammer Kit

The IR121 is available in kit form with a blowmolded plastic case with a removable lid. To order the complete kit (which includes 6 chisels) use model number IR121K6.

Model Number	Performance Rating	Shank Opening in. (mm)	Blows Per Minute @90psi	Bore Diameter in. (mm)	Stroke Length in. (mm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR115	Standard Duty	.401 (10.1)	5,000	3/4 (19)	15/8 (41)	2.6 (1.18)	6.1 (155)	2 (57)	14 (396)	101.3/114.3	1/4	3/8 (10)
IR116	Standard Duty	.401 (10.1)	3,500	11/16 (17.5)	25/8 (67)	3.4 (1.54)	7.8 (198)	3 (85)	15 (425)	104.4/117.4	1/4	3/8 (10)
IR117	Standard Duty	.401 (10.1)	2,000	11/16 (17.5)	31/2 (89)	4.1 (1.86)	9.9 (251)	3 (85)	14 (396)	103.5/116.5	1/4	3/8 (10)
IR121	Super Duty	.401 (10.1)	3,000	3/4 (19)	29/32 (58)	3.5 (1.59)	7.63 (194)	3 (85)	15 (425)	98.3/111.3	1/4	3/8 (10)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

IR132 

**Super Duty
 Air Hammer**

Professionals who want the best choose this tool for front end work, heavy exhaust work, riveting, king pin removal, bushing driving, and bolt shearing.

- Extra-sensitive tease throttle controls starting strokes
- Up to 1,725 blows per minute
- Longer stroke piston



Replacement Retainers

Bee-hive (as shown) AVC1-83
 Spring Retainer AVC10-183A

IR116K, IR117K

Air Hammer Kits

Ingersoll-Rand Air Hammer Kits include air hammer and the matching five-piece chisel kit. Or you can buy the Chisel Kit separately.

IR116-K5

Chisel Kit

Five-piece chisel set in a plastic pouch with .401" shank diameters to match your Ingersoll-Rand Air Hammer.

Kit includes:

- Edging Tool
- Tail Pipe Cutter
- Straight Chisel
- Cutting Chisel
- Punch



Model Number	Performance Rating	Shank Opening in. (mm)	Blows Per Minute @90psi	Bore Diameter in. (mm)	Stroke Length in. (mm)	Weight lbs. (kg)	Length in. (mm)	Av. Air Consumption cfm (l/min)	@ Load cfm (l/min)	Sound dBA (Pressure/Power)	Air Inlet NPTF in.	Min. Hose Size in. (mm)
IR132	Super Duty	.401 (10.1)	1,725	9/16 (14)	4 (102)	3.4 (1.54)	8.5 (216)	3 (85)	11 (311)	N/A	1/4	5/16 (8)

* Maintenance/Automotive class tools are designed for maintenance and automotive applications involving intermittent use.

Safety Information for Finishing Tools

In General...

- Always operate, inspect and maintain tools in accordance with American National Standards Institute Safety Code for Portable Air Tools (ANSI B186.1).
- For safety, top performance, and maximum durability of parts, operate tools at 90 psi (6.2 bar/620 kPa) maximum air pressure at the inlet.
- Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
- Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on a tool, or before performing any maintenance on a tool.
- Keep hands, loose clothing and long hair away from rotating end of tools.
- Anticipate and be alert for sudden changes in motion during start up and operation of any power tool.
- Check for excessive speed and vibration before operating.
- Tool shafts may continue to rotate briefly after throttle is released.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel, or jet fuel.
- Do not remove any labels. Replace any damaged label.
- Use accessories recommended by Ingersoll-Rand.

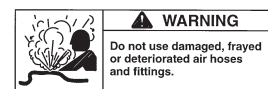
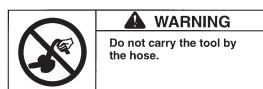
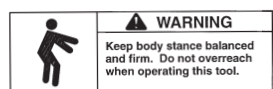
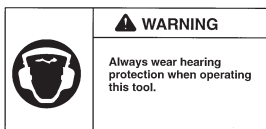
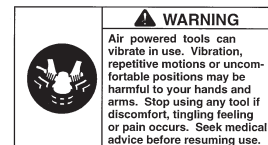
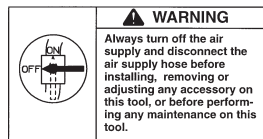
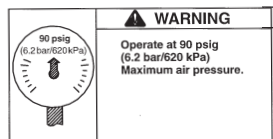
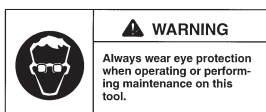
Note: Always read the operators' manual before using any air tool.

When Using Grinders...

- Do not use tools if actual free speed exceeds the nameplate rpm.
- Before mounting a wheel, after all tool repairs and whenever a grinder is issued for use, check the free speed of the grinder with a tachometer to make certain its actual speed at 90 psig (6.2 bar/620 kPa) does not exceed the rpm stamped or printed on the nameplate. Grinders in use on the job must be similarly checked at least once each shift.
- Always use the Ingersoll-Rand wheel guard furnished with the grinder. Failure to do so could result in injury.
- Do not use a grinder without the recommended wheel guard. Do not use any wheel for which the operating speed listed on the blotter is lower than the actual free speed of the grinder.
- Inspect all grinding wheels for chips or cracks prior to mounting. Do not use a wheel that is chipped or cracked or otherwise damaged. Do not use a wheel that has been soaked in water or any other liquid.
- Make certain the grinding wheel properly fits the arbor. The wheel should not fit too snugly or too loosely. Plain hole wheels should have about 0.007" (0.17mm) maximum diametral clearance. Do not use reducing bushings to adapt a wheel to any arbor unless such bushings are supplied by or recommended by the wheel manufacturer.
- After mounting a new wheel, hold the grinder under a steel workbench or inside a casting and run it for at least 60 seconds. Make certain no one is within the operating plane of the grinding wheel. If the wheel is defective, improperly mounted or the wrong size and speed, this is the time it will usually fail.
- When starting a cold wheel, apply it to the work slowly until the wheel gradually warms up. Make smooth contact with the work, and avoid any bumping action or excessive pressure.
- Always replace a damaged, bent or severely worn wheel guard. Do not use a wheel guard that has been subjected to a wheel failure.
- Make certain the wheel flanges are at least 1/3 the diameter of the grinding wheel, free of nicks and burrs and sharp edges. Always use the wheel flanges furnished by the manufacturer; never use a makeshift flange or a plain washer.
- Guard opening must face away from operator. Bottom of wheel must not project beyond guard.
- Always use a wheel blotter between each wheel flange and the wheel. The blotters must be at least as large in diameter as the wheel flanges.
- Do not attempt to disassemble the controller. The controller is available only as a unit and is guaranteed for the life of the tool if it is not abused.

Warning Label Identification

Failure to observe the following warnings could result in injury.



WARRANTY

FINISHING TOOLS

Ingersoll-Rand warrants to the original user its finishing tool products to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any product proves defective within its original one year warranty period, it should be returned to an appropriate Ingersoll-Rand Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which IR has determined to have been misused or abused, improperly maintained by the purchaser: or where the malfunction or defect can be attributed to the use of non-genuine IR parts.

IR makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set for the above. IR's maximum liability is limited to the purchase price of the Product and in no event shall IR be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the Product, whether based on contract, tort, or otherwise.

**Questions? Parts? Service?
1-866-IR4 TOOLS**

**Visit our website:
www.irtools.com**

Construction Tools

- ▶ Air and Electric Pavement Breakers
 - ▶ Diggers
 - ▶ Jackhammers/Rockdrills
 - ▶ Rivet Busters and Chipping Hammers
 - ▶ Backfill Tampers and Sand Rammers
 - ▶ Spike Drivers and Tie Tampers
 - ▶ Air Saws and Construction Drills
 - ▶ Full Line of Steel, Chisels and Retainers
- Proven Source. Proven Solutions.**



Ingersoll-Rand . . . On the job for more than a century. Ingersoll-Rand.

Ingersoll-Rand has a unique heritage in construction that dates back to the company's founding in 1871. Simon Ingersoll invented the world's first rock drill, and revolutionized productivity on the job-site with the wide array of compressors, tools, and related products that followed. He built a business and an industry, with the power and tools that helped create wonders such as the Hoover Dam and monuments like Mt. Rushmore. Those who followed him continued this pioneering spirit, adding tools for every job, and new refinements to make them even more powerful, efficient, and durable.



Today, Ingersoll-Rand offers one of the most comprehensive lines of construction tools available, as well as portable air compressors that have become the industry standards. Our pavement breakers and diggers deliver more power with fewer parts and easier maintenance than competitive tools, covering every weight class up to 90 pounds, and including a full selection of accessories.

Construction Tools



Our line of jackhammers, rock drills, rivet busters, and chipping hammers deliver superior power and speed in a variety of configurations to suit operator preferences and specific applications. IR tampers, rammers, spike drivers and tie tampers feature proven designs for minimal maintenance. Plus, our vibe-reduced demolition tools incorporate Vibrasmooth™ technology to absorb impact reaction before it reaches the operator, for a new level of ergonomics and comfort.

As a full-line tool and equipment provider, IR can also offer service and maintenance tools such as impact wrenches, surface preparation tools, drills, pumps, and saws for turnaround contractors, as well as pullers, hoists, and winches for related material handling tasks.

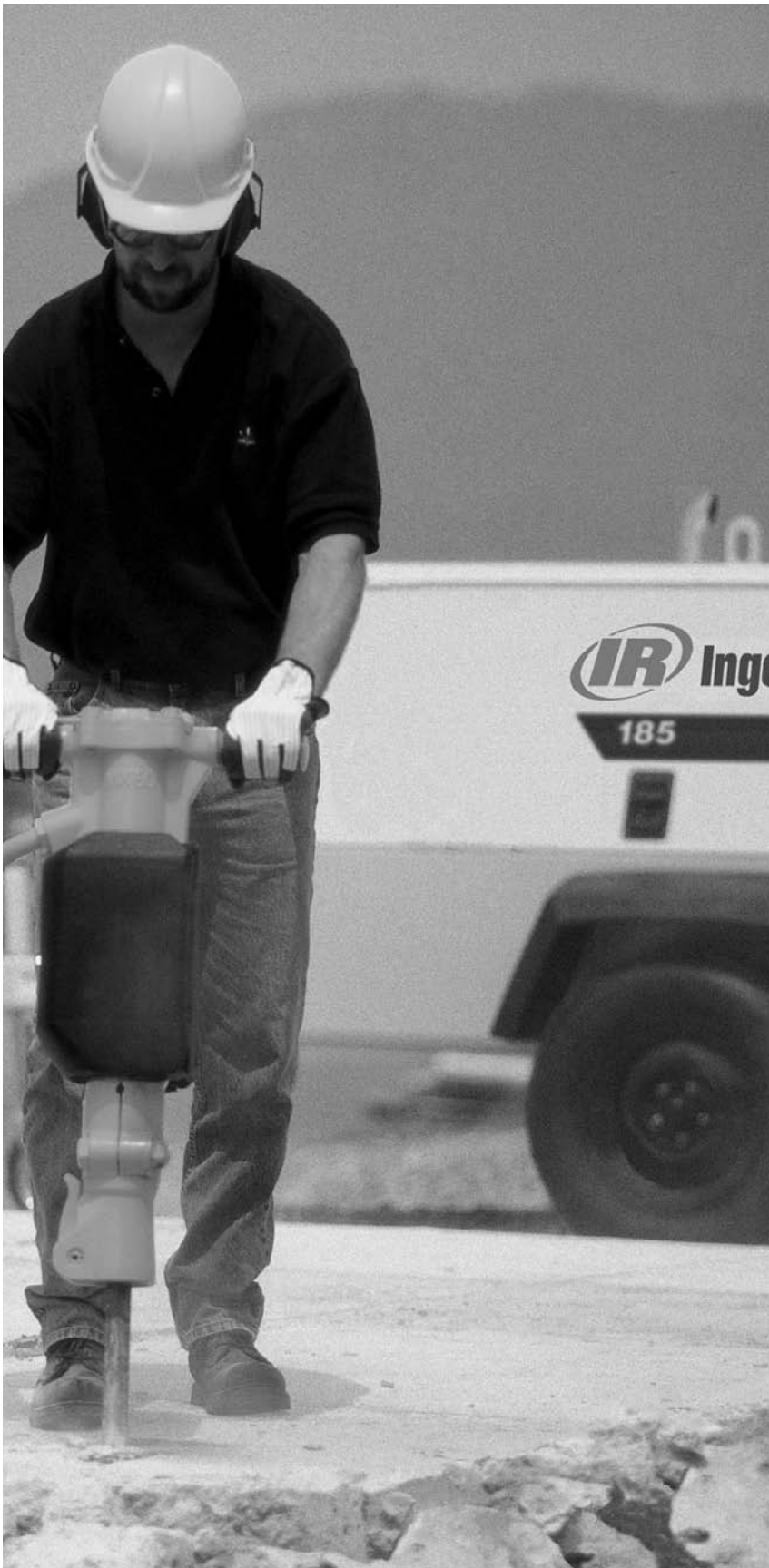
We complete the picture with merchandisers for effective product presentation in sales or rental facilities, popular accessories for each product type, and powerful examples from the extensive portable compressor line.

Ingersoll-Rand is breaking new ground with solutions for the job site, backed by a unique heritage, proven performance, and strong support.



Proudly supporting the following associations:





Ingersoll-Rand features a full line of pavement breakers that offer more power and fewer parts than many of the competitive models. These units have been specifically designed in an effort to both improve productivity, by increasing power, and cut costs by reducing parts and costly wear items.

In the 35 lb and 50 lb class, IR's "PB" series of breakers features a single housing design, that eliminates the need for high maintenance items such as side rods and springs, which can cost over \$200 when they break. These units also feature a power-stroke piston that directly impacts the steel accessory, increasing the impact energy and eliminating the need for another costly wear item, the anvil block.

To further reduce contracting costs, both of these models also have many interchangeable parts which eliminates the need to carry excess inventory for a contractor.

In the 60 lb and 90 lb class, IR's "MX" series of breakers also offers a host of category leading features designed to improve productivity and reduce costs over older conventional breakers. In particular, the "MX" breakers offer the following features: an adjustable exhaust that eliminates dust blow back in tight areas; a non-metallic valve cartridge to eliminate rust; a patented non-pressed, spring loaded anvil bushing that improves control and allows the bushing to be serviced without the need for a hydraulic press.

Similar to the smaller units, the MX60 and MX90 have a built in lubricator, power stroke piston, one piece housing design, and interchangeable parts in an effort to reduce costly wear items and improve productivity. Lastly, all the units feature a latch type front-head that is foot operated for rapid steel changing.

Construction Tools

Pavement Breakers

High wear items such as these side rods, springs, and anvil blocks can cost you over \$200 when they break . . .

That's why IR pavement breakers don't have them! In fact, IR breakers have 30% less parts and wear items than conventional breakers.



Competitive brand breaker



Ingersoll-Rand 60 and 90 lb Breaker

Advantages, Inside and Out:

State-of-the-art *composite materials* are used to eliminate rust and to ensure consistent performance of valve and throttle.

Internal lubricator:

For continuous tool protection.

Drop-in valve cartridge:

Simplifies maintenance and reduces overall operating cost.

Power-Strok™ piston cycle:

Transfers blow energy directly to the tool improving productivity

One-piece breaker housing:

Eliminates the need for side rods and springs. Fewer parts mean lower operating cost.

Four-bolt backhead:

Contoured to fit the operator's leg, and is easily removed for routine maintenance.

Ergonomically designed:

Handles, grips, throttle lever, and breaker housing provide maximum operator comfort and productivity.

Variable exhaust deflector:

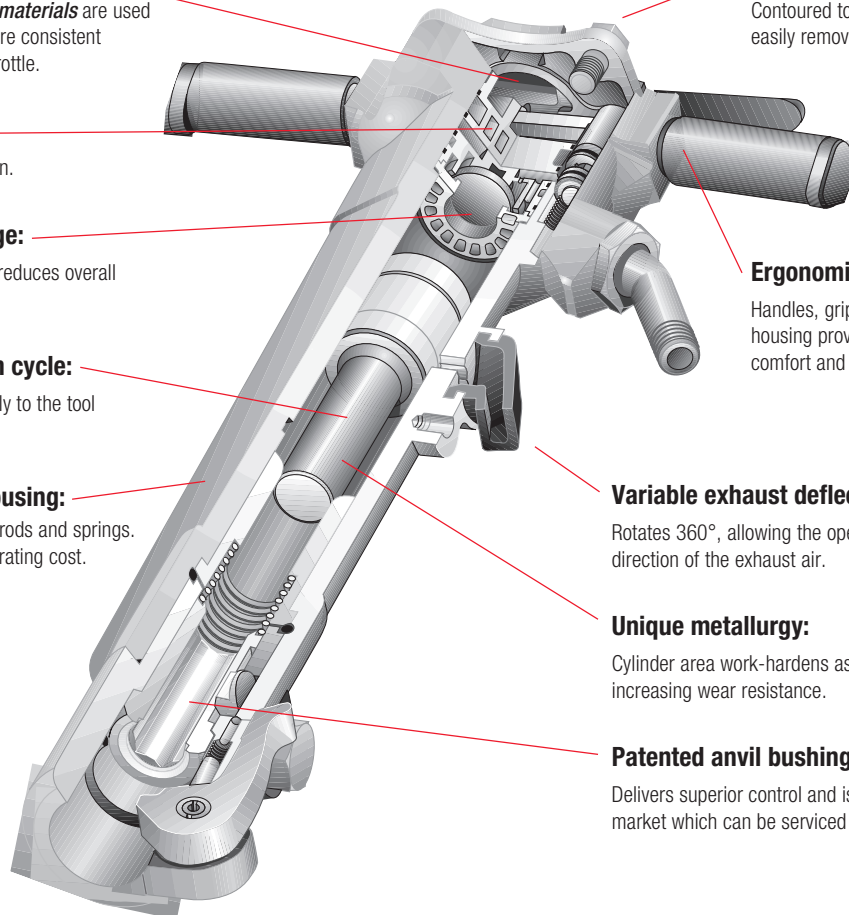
Rotates 360°, allowing the operator to choose the direction of the exhaust air.

Unique metallurgy:

Cylinder area work-hardens as the tool is used, increasing wear resistance.

Patented anvil bushing:

Delivers superior control and is the only unit on the market which can be serviced without a press!

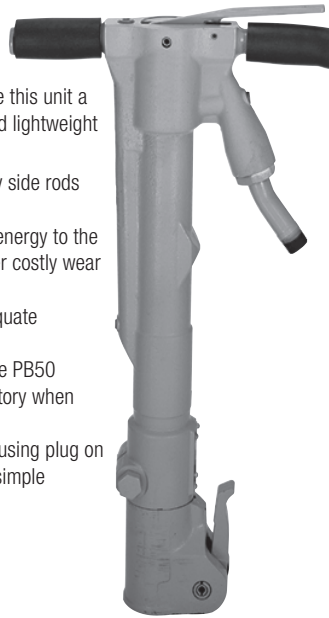


PB35AL8

35 lb Class Breaker

Proven reliability and productivity make this unit a favorite for bridge deck resurfacing and lightweight demolition of concrete and asphalt.

- One piece housing eliminates costly side rods and springs
- Power-stroke piston delivers more energy to the work surface and eliminates another costly wear item, the anvil block
- Built in lubricator helps assure adequate lubrication
- Many interchangeable parts with the PB50 series helps eliminate excess inventory when carrying both models
- Two roll pins and removal of the housing plug on the top head make service access simple
- 1 in. x 4-1/4 in. shank



PB35AS8

35 lb Class Breaker

All the same features and specifications as the PB35AL8 with the addition of a muffler.



PB50AL1

50 lb Class Breaker

These powerful units are perfect for general demolition, yet easy to handle. They serve as economical alternatives to heavier 60 lb and 90 lb breakers.

- One piece housing eliminates costly side rods and springs
- Power-stroke piston delivers more energy to the work surface and eliminates another costly wear item, the anvil block
- Built in lubricator helps assure adequate lubrication
- Many interchangeable parts with the PB35 series helps eliminate excess inventory when carrying both models
- Two roll pins and removal of the housing plug on the top head make service access simple
- 1-1/8 in. x 6 in. shank



PB50AS1

50 lb Class Breaker

All the same features and specifications as the PB50AL1 with the addition of a muffler.



Part Number	Model	Chuck Size Hex w/Collar in.	Piston Stroke in.	mm	Bore in.	mm	Blows per Minute	Length w/o Accessory in.	mm	Weight w/o Accessory lb.	kg	CFM
Muffled Paving Breakers												
51357176	PB35AS8	1 x 4 1/4	6 1/4	159	1 3/4	44	1250	24 19/32	625	43	20	48
52085586	PB50AS1	1 1/8 x 6	6 1/4	159	1 3/4	44	1150	27 1/2	699	55	25	62
Non-Muffled Paving Breakers												
51296358	PB35AL8	1 x 4 1/4	6 1/4	159	1 3/4	44	1250	24 19/32	625	40	18	48
52085560	PB50AL1	1 1/8 x 6	6 1/4	159	1 3/4	44	1150	27 1/2	699	52	24	62

Air inlet: 3/4" NPT.

Size Hose Recommended: 3/4" (for hose lengths exceeding 50', use larger dia. hose).

Performance figures are at 90 psi (6.3 bar) air pressure.

Construction Tools

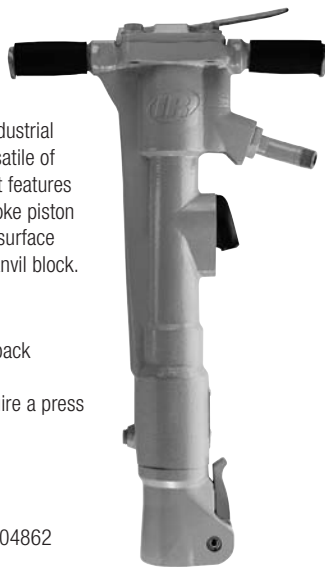
Pavement Breakers

MX60A & B

60 lb Class Breaker Fixed Handle

Ideal for medium to heavy asphalt removal, demolition, utility work, and industrial maintenance. This unit is the most versatile of the IR breakers with unmatched product features and benefits . . . such as the power-stroke piston which delivers more power to the work surface and eliminates a costly wear item, the anvil block.

- No costly side rods and springs
- Composite valve eliminates rusting
- Directional exhaust eliminates blow back
- Built in lubricator
- Hand serviceable shank doesn't require a press to service
- Backhead conforms to operators leg
- 1-1/8 in. x 6 in. shank = MX60A
- 1-1/4 in. x 6 in. shank = MX60B
- Muffler sold separately, part no. 04704862

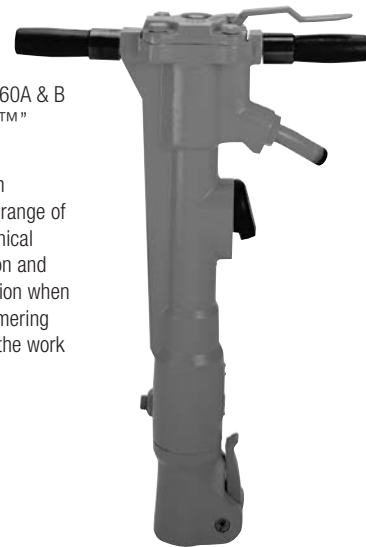


MX60AF & BF

60 lb Class Breaker Flex-Handle™

All the same features as the MX60A & B with the additional "Flex-Handle™" feature.

IR Flex-Handles provide vibration dampening in a full 360 degree range of movement. Competitive mechanical springs only work in one direction and lose their ability to absorb vibration when fully compressed, or when hammering while pulling the breaker out of the work surface.



MX90A & B

90 lb Class Breaker Fixed Handle

Our most productive breaker, the MX90 is the hardest hitting breaker in its class, and is ideal for performing heavy demolition work on thick concrete, asphalt and rock.

- No costly side rods and springs
- This unit features a power-stroke piston which delivers more power to the work surface and eliminates a costly wear item, the anvil block
- Composite valve eliminates rusting
- Directional exhaust eliminates blow back
- Built in lubricator
- Many interchangeable parts with the MX60
- Hand serviceable shank doesn't require a press to service
- Backhead conforms to operators leg
- 1-1/8 in. x 6 in. shank = MX90A
- 1-1/4 in. x 6 in. shank = MX90B
- Muffler sold separately, part no. 51953453

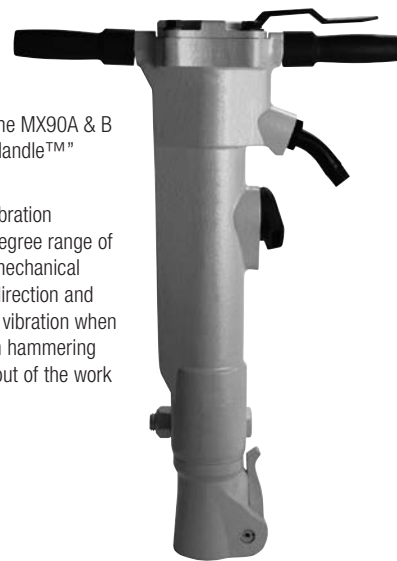


MX90AF & BF

90 lb Class Breaker Flex-Handle™

All the same features as the MX90A & B with the additional "Flex-Handle™" feature.

IR Flex-Handles provide vibration dampening in a full 360 degree range of movement. Competitive mechanical springs only work in one direction and lose their ability to absorb vibration when fully compressed, or when hammering while pulling the breaker out of the work surface.



Part Number	Model	Chuck size Hex w/Collar in.	Weight w/o Accessory lb.	Weight w/o Accessory kg	Length w/o Accessory in.	Length w/o Accessory mm	Piston Bore in.	Piston Bore mm	Piston Stroke in.	Piston Stroke mm	Blows per Minute	Air Connection in.	Muffler Kit Part no.	CFM	
Standard Models															
51957207	MX60A	1 1/8 x 6	69	31.4	27.5	686	2.06	52.3	5.75	146	1250	3/4 NPT	52080298	75	
51957181	MX60B	1 1/4 x 6	69	31.4	27.5	686	2.06	52.3	5.75	146	1250	3/4 NPT	52080298	75	
51955136	MX90A	1 1/8 x 6	86	39.0	27.5	686	2.62	66.5	5.75	146	1250	3/4 NPT	51953453	89	
51955110	MX90B	1 1/4 x 6	86	39.0	27.5	686	2.62	66.5	5.75	146	1250	3/4 NPT	51953453	89	
Vibration Reduced Flex-Handled Models															
51957215	MX60AF	1 1/8 x 6	69	31.4	27.5	686	2.06	52.3	5.75	146	1250	3/4 NPT	52080298	75	
51957199	MX60BF	1 1/4 x 6	69	31.4	27.5	686	2.06	52.3	5.75	146	1250	3/4 NPT	52080298	75	
51955284	MX90AF	1 1/8 x 6	86	39.0	27.5	686	2.62	66.5	5.75	146	1250	3/4 NPT	51953453	89	
51955268	MX90BF	1 1/4 x 6	86	39.0	27.5	686	2.62	66.5	5.75	146	1250	3/4 NPT	51953453	89	

Air inlet: 3/4" NPT.

Size Hose Recommended: 3/4" (for hose lengths exceeding 50', use larger dia. hose).

Performance figures are at 90 psi (6.3 bar) air pressure.

Construction Tools

Vibe Reduced Paving Breakers



IR30 and 45VR

These powerful units are designed to deliver power and durability for a variety of construction and maintenance applications.

- Vibration dampening handle designed to reduce the shock to the operator causing less fatigue
- Latch type retainer
- Noise dampening mufflers are standard on all units
- Mufflers can rotate to accommodate left or right handed operators, or to direct exhaust



IR60 and 90VR

These powerful units are designed to deliver power and durability for a variety of construction and maintenance applications.

- Vibration dampening handle designed to reduce the shock to the operator causing less fatigue
- Latch type retainer
- Noise dampening mufflers are standard on all units
- Mufflers can rotate to accommodate left or right handed operators, or to direct exhaust



Part Number	Model	Chuck Size Hex w/Collar in.	Piston Stroke		Piston Bore		Weight w/o Accessory		Length w/o Accessory		Blows per Minute	CFM	Air Inlet in.
			in.	mm	in.	mm	lb.	Kg	in.	mm			
85043040	IR30VRD	7/8" X 3-1/4"	6.61	168	1.42	36	33	15	25.4	644	1080	27	3/4 NPT
85043032	IR30VRC	1" X 4-1/4"	6.61	168	1.42	36	33	15	26.4	670	1080	27	3/4 NPT
85043024	IR45VRC	1" X 4-1/4"	5.35	136	1.65	42	46	21	25.9	659	1320	46	3/4 NPT
85043016	IR45VRA	1-1/8" X 6"	5.35	136	1.65	42	46	21	27.3	694	1320	46	3/4 NPT
85043008	IR45VRB	1-1/4" X 6"	5.35	136	1.65	42	46	21	27.3	694	1320	46	3/4 NPT
85042992	IR60VRA	1-1/8" X 6"	6.38	162	1.77	45	66	30	28.9	735	1200	60	3/4 NPT
85042984	IR60VRB	1-1/4" X 6"	6.38	162	1.77	45	66	30	28.9	735	1200	60	3/4 NPT
85042976	IR90VRA	1-1/8" X 6"	7.95	202	1.77	45	88	40	31.5	800	960	64	3/4 NPT
85042968	IR90VRB	1-1/4" X 6"	7.95	202	1.77	45	88	40	31.5	800	960	64	3/4 NPT

Construction Tools

Diggers

93 Series Digger

20 lb Class / "D" Grip

Time tested valve durability in dusty conditions make IR diggers one of the most reliable and requested tools in their class. The lighter of the two IR series, the 93 digger is ideal for digging in clay, hardpan and frozen ground as well as horizontal concrete demolition, tunneling, and bridgework.

- Multiple latch configurations
- "D" handle grip
- Extra long nozzles for long life
- Three finger trigger
- 7/8 in. x 3-1/4 in. shank

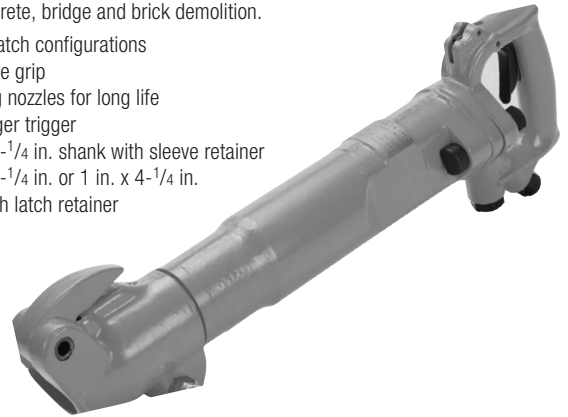


95 Series Diggers

30 lb Class / "D" Grip

Our larger 30 lb class offering provides the same-time tested durability of the lighter 93 series. However, this unit is ideal for heavier digging, foundation work, pipeline and utility work as well as heavier concrete, bridge and brick demolition.

- Multiple latch configurations
- "D" handle grip
- Extra long nozzles for long life
- Three finger trigger
- 7/8 in. x 3-1/4 in. shank with sleeve retainer
- 7/8 in. x 3-1/4 in. or 1 in. x 4-1/4 in. shank with latch retainer

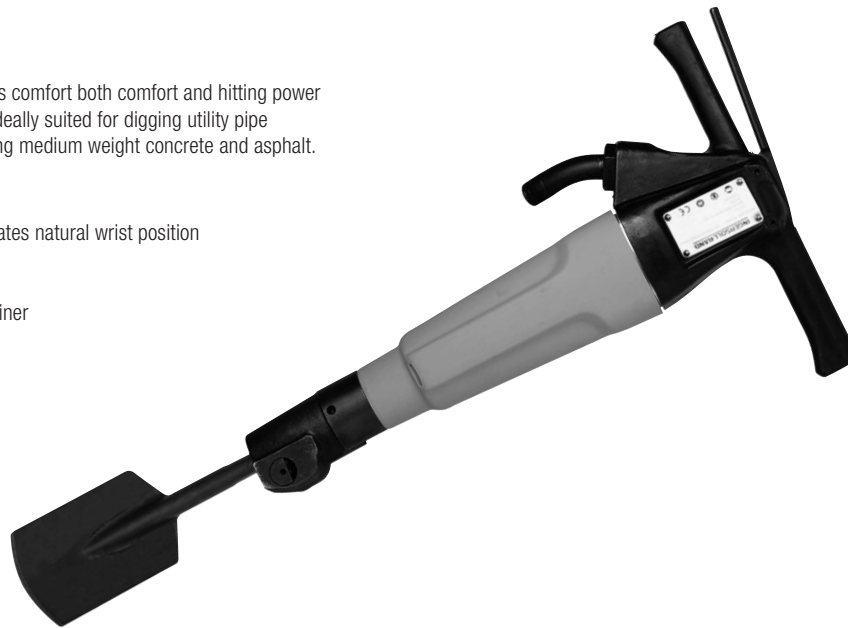


DT11TL1

29 lb Breaker / "T" Handle Digger

At only 29 lbs this powerful tool combines comfort both comfort and hitting power to make utility work easier. This tool is ideally suited for digging utility pipe trenches as well as breaking and removing medium weight concrete and asphalt.

- Powerful 6 in. stroke
- Integral muffler
- Optimum diameter handle accommodates natural wrist position
- Solid steel cylinder
- Forged steel front head
- 7/8 in. x 3-1/4 in. shank with latch retainer



Model	Retainer Type	Shank Size Hex w/Collar in.	Handle Type	Trigger Type	Piston		Bore		Blows per Minute	Length w/o Accessory		Weight w/o Accessory		CFM
					Stroke in.	mm	in.	mm		in.	mm	lb.	kg	
Lightweight with Inside Trigger Grip Handle														
93A1	Sleeve	7/8 x 3 1/4	D-Grip	Inside	2 1/2	64	1 1/16	43	2350	18 7/8	479	22	10	45
93A4	Hitch	7/8 x 3 1/4	D-Grip	Inside	2 1/2	64	1 1/16	43	2350	17 7/8	454	21	9.5	45
93LA1	Latch	7/8 x 3 1/4	D-Grip	Inside	2 1/2	64	1 1/16	43	2350	18 7/8	479	23	10.4	45
Medium Weight with Inside Trigger Grip Handle														
95A1	Sleeve	7/8 x 3 1/4	D-Grip	Inside	4	102	1 1/16	43	1850	21 7/8	556	27	12.3	47
95LA1	Latch	7/8 x 3 1/4	D-Grip	Inside	4	102	1 1/16	43	1850	21 7/8	556	28	12.7	47
95LA3	Latch	1 x 4 1/4	D-Grip	Inside	4	102	1 1/16	43	1850	21 7/8	556	30	13.6	47
DT11TL1	Latch	7/8 x 3 1/4	T-Handle	Top	4	102	1 1/16	43	1550	24	610	29	13.2	47

All Diggers have a 3/8" NPT inlet.

A 1/2" (13mm) size hose recommended. (for hose lengths exceeding 25', use larger dia. hose)
Sound level is 95 dBA.

Performance figures are at 90 psi (620 kPa) air pressure.

Construction Tools Pavement Breaker Accessories



Steel Description	Product	Most Popular Under Collar Length	Hex Shank Part Number and Size			
			7/8" x 3-1/4"	1" x 4-1/4"	1-1/8" x 6"	1-1/4" x 6"
Moil Point (Standard Duty) Used for all purpose general demolition		14" 18"	50050269 50050277	50050368 50050376	50050475 50055524	50055680 50055698
Moil Points (Super Duty)		14" 18"	22041495 22041602	22041057 22041065	22041073 22041081	22041099 22041107
1" Narrow Chisel (Standard Duty) Used for general demolition		14" 18"	50199207 50199215	50197805 50197821	50197904 50197912	50196385 50196401
1" Narrow Chisel (Super Duty)		14" 18"	22041503 22041610	22041115 22041123	22041131 22041149	22041156 22041164
1-1/2" Supercut Chisel Especially designed for breaking concrete		16"	N/A	22040463	22040471	22040489
3" Chisels Concrete demolition and asphalt cutting		14" 18"	50195288 50195296	50195320 50195338	50114883 50193747	50193879 50193887
3" Digging Chisel Digging and deeper asphalt cutting		16"	22040968	22040976	22040984	50186014
3-3/4" Combo Cutter Great for manhole reconstruction		11-1/2"	N/A	N/A	22040612	22040620
5" Asphalt Cutter Asphalt cutting and removal		11"	22040935	50190404	50185982	50185990
5-1/2" Clay Spade Trench digging and trimming		16"	50189596	50189554	50189562	50189570
Pipe Driver Pipe Size 1"		11"	N/A	N/A	22040505	22040513
Pipe Driver Pipe Size 1-1/2"		11"	N/A	N/A	22040547	22040554
Ground Rod Driver Drives/Rod up to 1", Socket 3" deep		8"	N/A	22040588	22040596	22040604
Detachable Shank		7-3/4"	22040927	50187830	50187848	50187855
2" Tent Stake Driver ⁽¹⁾		N/A	22040638	22040638	22040638	22040638
2-1/2" Tent Stake Driver ⁽¹⁾		N/A	22040646	22040646	22040646	22040646
Tamping Pad 8" Square ⁽¹⁾ Compacting and backfilling		N/A	50187897	50187897	50187897	50187897
3 Piece Sign Post Driver Includes: Shank, Post Block, 3-1/2" IO Driver		7-3/4"	22040778	22040943	22041008	22041016

(1) Used with detachable shank.

Other steel and lengths available through IRAX Catalog: Form - 52225G.

Super Duty moil points and chisels are rounded under the collar and have more mass and strength for longer life and less sharpening.

Construction Tools

Jackhamers™ / Rockdrills

JRD30-A and B

30 lb Class Rockdrill

At 29 lbs, this tool is light enough for horizontal drilling, yet incorporates the speed, stamina, hole-cleaning capacity and easy handling that have made IR Jackhamers™ the standards of comparison. This tool is ideal for a variety of wet or dry drilling jobs, requiring holes up to 1-1/2 inches wide and 10 feet deep in concrete or soft to medium rock.

- Easy access adjustable 3 speed throttle
- Reversible pawls
- Directional exhaust
- JRD30-A = 7/8 in. x 3-1/4 in. shank
- JRD30-B = 7/8 in. x 4-1/4 in. shank



Part Number	Model	Shank Size Hex w/Collar in.	Weight w/o Accessory		Length w/o Accessory		Blows per Minute	Air Inlet Size (NPT)		Max Bit Diameter		Max Hole Depth		Piston Stroke		Bore		CFM
			lb.	kg	in.	mm		in.	mm	in.	mm	ft.	mm	in.	mm	in.	mm	
JRD30-A	JRD30-A	7/8 x 3 1/4	29	13.2	19 1/2	495	2700	3/4	19	1 1/2	38	10	254	1 7/16	37	2 3/8	60	73
JRD30-B	JRD30-B	7/8 x 4 1/4	29	13.2	19 1/2	495	2700	3/4	19	1 1/2	38	10	254	1 7/16	37	2 3/8	60	73

³/₄" (19mm) hose size is recommended.

Performance figures are at 90 psi (620 kPa) air pressure.

Description	Product	Under Collar Length	Hex Shank Part Number and Size		
			7/8" x 3-1/4"	7/8" x 4-1/4"	1" x 4-1/4"
"H" Thread-Jack Rods		18"	50283266	51242014	50713031
		24"	50283506	51233690	50354596
		30"	51305639	51242030	51305704
		36"	50712728	51234052	50713049
		48"	50283555	51234060	50283183
		60"	50712736	51242063	50713056

Description	Product	Bit Size		Part Number	
		in.	mm	Single Use	Multi Use
"H" Thread-Carbide Bits		1-1/2	38	51248367	51248300
		1-3/4	44	51248383	51248326
		2	52	51248409	51248342
		2-1/4	57	N/A	51356723
		2-1/2	64	51293017	N/A

1-1/4 in. x 4-1/4 in. Hex Shank Rope Thread Jackrod are available in the IRAX catalog along with other sizes of jackrod and bits.

Rivet Buster Steel and Retainers

Description	Product	Length		Part Number
		in.	mm	
Moil Point: 12 in.		12	305	9001-297 12
Chisels		9-1/2	241	9001-276-9-1/2
		12	305	9001-276-12
		18	457	9001-276-18
Side Cut Chisel: 9-1/2 in.		12	305	9001-277-9-1/2
Ripper Chisel: 9-1/2 in.		9-1/2	241	9001-295 9-1/2
Assembled Unit shows position of sleeves and bumper				

Description	Product	Rivet Diameter		Part Number
		in.	mm	
Black Out Punches: 9-1/2 in.		3/8	10	9001-278
		1/2	13	9001-279
		5/8	16	9001-280
		3/4	19	9001-281
		7/8	22	9001-282
		1	25	9001-283
		1-1/8	29	9001-284

Retainers & Accessories	Product	Barrel Threaded 9001, 11001	Barrel Grooved 8001A, 9001A, 11001A
Retainer		N/A	89938443
Retainer		9001-200	N/A
Upper Sleeve		9001-220	9001-220
Lower Sleeve		9001-201	9001-201

Retainers & Accessories	Product	Barrel Threaded 9001, 11001	Barrel Grooved 8001A, 9001A, 11001A
Bumper		9001-203	9001-203
Lock Clip		9RB-207	N/A
Spring Lock		N/A	89938450
Key		9001-208	N/A
Pin		FMD2-667	N/A

Construction Tools

Rivet Busters

DT9DL1, DS1 and DH1 6 in. Stroke Rivet Buster

This rivet buster provides the hard-hitting performance of a small breaker, without the added weight. The unit features the use of standard hex steel, and weighs just 20-22 lbs, depending on retainer selection.

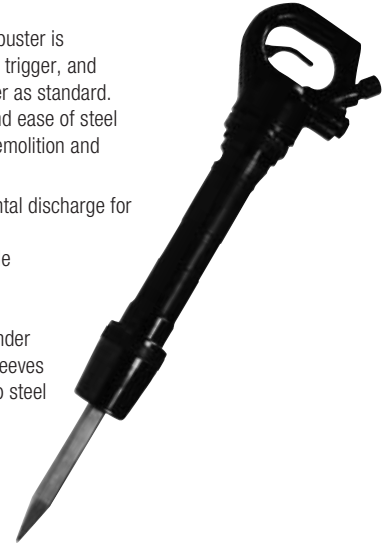
- Enclosed "D" handle
- Inside 3 finger trigger
- Latch retainer: DT9TL1
- Sleeve retainer: DT9DS1
- Hitch retainer: DT9DH1
- Takes 7/8 in. x 3-1/4 in. hex steel
- Integral muffler
- Solid steel cylinder



8001A 8 in. Stroke Rivet Buster

Our general duty eight inch rivet buster is configured with a "D" grip, inside trigger, and grooved barrel spring lock retainer as standard. This provides ease of handling and ease of steel changing for a variety of tough demolition and removal projects.

- Piston bridge prevents accidental discharge for increased safety
- Rugged steel forged "D" handle
- Three finger inside trigger
- Steel throttle valve
- Case hardened alloy steel cylinder
- Heavy duty upper and lower sleeves
- Takes industry standard jumbo steel



9001 and 9001A 9 in. Stroke Rivet Buster

Whether your job involves heavy duty foundry applications, bridge deck work, rivet removal, tank cutting and ripping, or general brick or concrete demolition, the 9001 provides an ideal solution to handle your toughest job. Your choice of threaded retainer, (Model 9001) or grooved barrel spring lock retainer, (Model 9001A).

- Piston bridge prevents accidental discharge for increased safety
- Swan neck handle
- Outside forged steel trigger
- Steel throttle valve
- Case hardened alloy steel cylinder
- Directional exhaust deflector
- Takes industry standard jumbo steel



11001 and 11001A 11 in. Stroke Rivet Buster

For production rivet removal and heavy demolition, our longest stroke rivet buster is the heaviest hitting unit in IR's rivet buster line. It features all of the same features and benefits of the 9001, including the integral piston bridge for added safety, a choice of retainers, and the swan neck handle.



Model No.	Retainer Type	Shank Size Hex w/Collar in.	Handle Type	Trigger Type	Piston Stroke		Bore in.	Bore mm	Blows per Minute	Length w/o Accessory		Weight w/o Accessory		CFM
					in.	mm				in.	mm	lbs	kg	
DT9DL1	Latch	7/8 x 3 1/4	D Grip	Inside	5 15/16	150	1 11/16	42.5	1560	22 1/2	565	22	10	47
DT9DS1	Screw	7/8 x 3 1/4	D Grip	Inside	5 15/16	150	1 11/16	42.5	1560	22 1/2	565	22	10	47
DT9DH1	Hitch	7/8 x 3 1/4	D Grip	Inside	5 15/16	150	1 11/16	42.5	1560	22 1/2	565	22	10	47

3/4 in. male NPT air inlet. A 3/4 in. (19 mm) size hose recommended. (for hose lengths exceeding 100 ft, use larger dia. hose). Sound level is 95 dBA. Performance figures are at 90 psi (20 kPa) air pressure.

Model	Length ⁽¹⁾ in.	Stroke in.	Retainer Type	Handle Type kg	Steel Type	Weight ⁽¹⁾ lbs	BPM	Bore in.	CFM	Air Inlet in. (NPT)
8001A	22 1/2	8	Grooved barrel with lock spring	"D" handle	Jumbo	30	1140	1 3/16	44	1/2
9001A	22 1/2	9	Grooved barrel with lock spring	Swan neck	Jumbo	24.75	900	1 1/16	40	1/2
9001	22 1/2	9	Threaded barrel with lock clip	Swan neck	Jumbo	24.75	900	1 1/16	40	1/2
11001A	24 1/2	11	Grooved barrel with lock spring	Swan neck	Jumbo	30.21	800	1 1/16	45	1/2
11001	24 1/2	11	Threaded barrel with lock clip	Swan neck	Jumbo	30.21	800	1 1/16	45	1/2

“K” Series

General / Light Duty

Weighing just 8 lbs, and offered only in a 1 1/4 in. stroke, this tool is IR’s smallest line of chippers, but features the same time-tested features that have made our chippers leaders in the industry. Available in .580 and .680 round shank. Uses oval collar accessories.

- Grooved barrel, lock spring retainer
- Swan neck handle
- Outside trigger
- Time tested valve durability
- Replaceable piston



“D” Series

Construction Duty / 4 Bolt

Compare the weight of this 4 bolt to the competition! This rugged tool features the best power to weight in its class for increased job site productivity. In addition, this unit features a convenient “D” shaped handle and outside trigger, along with a strong four bolt backhead for easy serviceability.

- Time tested valve design
- Die cast aluminum handle
- Directional exhaust
- Tease throttle
- Over-molded steel collar
- Available in 2, 3 or 4 in. stroke
- Choice of .580 hex or .680 round shank
- Accepts oval collar accessories



Model	Weight less Chisel		Length		Piston Stroke		Bore		Blows per Minute	Chisel Retainer	Hose Connector Pipe Tap in.	Size Hose Recomm.		CFM
	lb.	kg	in.	mm	in.	mm	in.	mm				in.	mm	
With .580” Hex Nozzle — for use with Hex Shank Oval Collar Chisels														
K2LA1	6	2.72	10 ⁷ / ₈	276	1 ³ / ₄	44	⁷ / ₈	22	3600	None	1/4	1/2	13	18
K2LA1SA	8	3.63	12	305	1 ³ / ₄	44	⁷ / ₈	22	3600	Plain Arrow	1/4	1/2	13	18
With .680” Round Nozzle — for use with Round Shank Oval Collar Chisels														
K2LA2	6	2.72	10 ⁷ / ₈	276	1 ³ / ₄	44	⁷ / ₈	22	3600	None	1/4	1/2	13	18
K2LA2SA	8	3.63	12	305	1 ³ / ₄	44	⁷ / ₈	22	3600	Plain Arrow	1/4	1/2	13	18

Performance figures are at 90 psi (620 kPa) air pressure.

Series	Model/ Part No.	Chisel Bushing	Retainer in.	Blows/ minute	Weight w/o Retainer lbs	Length w/o Retainer in.	Length w Retainer in.	Air SCFM	Stroke in.	Bore in.
D	2DA1SA	Hex	Std	2200	11 ³ / ₄	13 ³ / ₄	13 ³ / ₄	28	2 ¹ / ₄	1 ¹ / ₈
D	3DA1SA	Hex	Std	1900	13	14 ³ / ₄	17	31	3	1 ¹ / ₈
D	4DA1SA	Hex	Std	1600	14	15 ³ / ₄	18	34	4	1 ¹ / ₈
D	2DA2SA	Round	Std	2200	11 ³ / ₄	13 ¹ / ₄	13 ³ / ₄	28	2 ¹ / ₄	1 ¹ / ₈
D	3DA2SA	Round	Std	1900	13	14 ³ / ₄	17	31	3	1 ¹ / ₈
D	4DA2SA	Round	Std	1600	14	15 ³ / ₄	18	34	4	1 ¹ / ₈

Hex Bushings – Measures .580 hex, Round Bushing – Measures .680 round
 7/8"-24 NPT air inlet bushing is standard on “D” series chippers. 3/8" NPT bushing supplied as accessory.
 (1) Weight of standard retainer and spring equals 2 lbs.

Construction Tools

Chipping Hammers

“A” Series

Industrial Duty

Renowned for its valve life and handle durability, this classic tool is widely used throughout industry and construction. It is ideal for light demolition work, bridge decking, concrete surface preparation, metal removal, form stripping, and many other applications. It is available in a 1, 2, 3 or 4 in. piston stroke with your choice of .580 hex or .680 round shank. Uses oval collar accessories.

- Grooved barrel, lock spring retainer
- Swan neck handle
- Outside trigger
- Time tested valve durability
- Replaceable piston
- Long nozzle for extra life



3A2SA
*Units ending in 'A' include a retainer as standard. Those ending in 'S' do not.

“W” Series

Heavy Duty

Same tough specifications as the “A” series units, but with a heavy duty front end featuring a threaded barrel and rubber buffered retainer for increased steel and retainer life. Uses round collared accessories.



W3A2
Screw on retainers are standard on all 'W' units.

Model	Weight less Chisel		Length		Piston Stroke		Bore		Blows per Minute	Chisel Retainer	Hose Connector Pipe Tap	Size Hose Recomm.		CFM
	lb.	kg	in.	mm	in.	mm	in.	mm				in.	mm	
'A' Series Industrial Duty Chippers														
With .580" Hex Nozzle — uses Hex Shank Oval Collar Chisels														
1A1S	12 ³ / ₄	5.78	13 ¹ / ₂	343	1	25	1 ¹ / ₈	28	2500	None	³ / ₈	¹ / ₂	13	28
1A1SA	14 ³ / ₄	6.69	15 ¹ / ₂	394	1	25	1 ¹ / ₈	28	2500	Plain	³ / ₈	¹ / ₂	13	28
2A1S	13 ¹ / ₈	5.95	14	356	2	51	1 ¹ / ₈	28	2300	None	³ / ₈	¹ / ₂	13	28
2A1SA	15 ¹ / ₈	6.86	16	406	2	51	1 ¹ / ₈	28	2300	Plain	³ / ₈	¹ / ₂	13	28
3A1S	14 ⁵ / ₈	6.63	15 ⁷ / ₈	403	3	76	1 ¹ / ₈	28	1725	None	³ / ₈	¹ / ₂	13	29
3A1SA	16 ⁵ / ₈	7.54	17 ⁷ / ₈	454	3	76	1 ¹ / ₈	28	1725	Plain	³ / ₈	¹ / ₂	13	29
4A1S	15 ¹ / ₂	7.03	16 ⁷ / ₈	429	4	102	1 ¹ / ₈	28	1480	None	³ / ₈	¹ / ₂	13	29
4A1SA	17 ¹ / ₂	7.94	18 ⁷ / ₈	480	4	102	1 ¹ / ₈	28	1480	Plain	³ / ₈	¹ / ₂	13	29
With .680" Round Nozzle — uses Round Shank Oval Collar Chisels														
1A2S	13 ³ / ₄	5.78	13 ¹ / ₂	343	1	25	1 ¹ / ₈	28	2500	None	³ / ₈	¹ / ₂	13	28
1A2SA	14 ³ / ₄	6.69	15 ¹ / ₂	394	1	25	1 ¹ / ₈	28	2500	Plain	³ / ₈	¹ / ₂	13	28
2A2S	13 ¹ / ₈	5.95	14	356	2	51	1 ¹ / ₈	28	2300	None	³ / ₈	¹ / ₂	13	28
2A2SA	15 ¹ / ₈	6.86	16	406	2	51	1 ¹ / ₈	28	2300	Plain	³ / ₈	¹ / ₂	13	28
3A2S	14 ⁵ / ₈	6.63	15 ⁷ / ₈	403	3	76	1 ¹ / ₈	28	1725	None	³ / ₈	¹ / ₂	13	29
3A2SA	16 ⁵ / ₈	7.54	17 ⁷ / ₈	454	3	76	1 ¹ / ₈	28	1725	Plain	³ / ₈	¹ / ₂	13	29
4A2S	15 ¹ / ₂	7.03	16 ⁷ / ₈	429	4	102	1 ¹ / ₈	28	1480	None	³ / ₈	¹ / ₂	13	29
4A2SA	17 ¹ / ₂	7.94	18 ⁷ / ₈	480	4	102	1 ¹ / ₈	28	1480	Plain	³ / ₈	¹ / ₂	13	29
'W' Series Heavy Duty Chippers														
With .580" Hex Nozzle — to use Hex Shank Round Collared Accessories														
W1A1	14 ³ / ₄	6.69	15 ⁷ / ₈	403	1	25	1 ¹ / ₈	28	2500	N/A	³ / ₈	¹ / ₂	13	28
W2A1	15 ¹ / ₂	7.03	16 ³ / ₈	416	2	51	1 ¹ / ₈	28	2300	N/A	³ / ₈	¹ / ₂	13	28
W3A1	16 ⁵ / ₈	7.54	18 ¹ / ₄	464	3	76	1 ¹ / ₈	28	1725	N/A	³ / ₈	¹ / ₂	13	29
W4A1	17 ¹ / ₂	7.94	19 ¹ / ₄	489	4	102	1 ¹ / ₈	28	1480	N/A	³ / ₈	¹ / ₂	13	29
With .680" Round Nozzle — to use Round Shank Round Collared Accessories														
W1A2	14 ³ / ₄	6.69	15 ⁷ / ₈	403	1	25	1 ¹ / ₈	28	2500	N/A	³ / ₈	¹ / ₂	13	28
W2A2	15 ¹ / ₂	7.03	16 ³ / ₈	416	2	51	1 ¹ / ₈	28	2300	N/A	³ / ₈	¹ / ₂	13	28
W3A2	16 ⁵ / ₈	7.54	18 ¹ / ₄	464	3	76	1 ¹ / ₈	28	1725	N/A	³ / ₈	¹ / ₂	13	29
W4A2	17 ¹ / ₂	7.94	19 ¹ / ₄	489	4	102	1 ¹ / ₈	28	1480	N/A	³ / ₈	¹ / ₂	13	29

Performance figures are at 90 psi (620 kPa) air pressure.
For hose lengths exceeding 50', use larger dia. hose.

DT10 Series Demolition Tools

23 lb Horizontal Demolition

Using IR's exclusive Vibrasmooth™ technology to dampen the impact reaction before it reaches the operator, these tools provide exceptional power to weight ratios, for a combination of productivity and operator comfort not found in traditional tools. Designed for horizontal demolition, these units also feature optional retainers such as latch, hitch, or sleeve and have an integral composite muffler for sound reduction.

- "D" handle with 3 finger trigger
- Both hands are isolated
- Solid steel cylinder
- Life time warranty on composite housing
- Shank options: 7/8 x 3-1/4 in. and 1 x 4-1/4 in.



DT13 Series Demolition Tools

28 lb Vertical Demolition

Same Vibrasmooth™ technology and specs as the DT10, with a "T" handle for vertical demolition. This unit is ideal for medium weight demolition such as curb and walkway removal as well as utility digging. The grips are positioned to accommodate natural wrist position. When the throttle is depressed, it lies flush and provides hand grips of equal size.



DT13TL1

Retainers Types

Hitch: Thread-on Key Way (multiple accessory options such as spades and diggers)

Latch: Traditional Latch Type (multiple accessory options)

Screw: Thread-on Sleeve (chisels and points up to 1 in. only)








Note: Hitch retainer must be completely threaded off to change chisels. It allows shank and collar to be inserted through side hole when using a spade or chisel with a wide blade that will not fit through 1 in. opening in screw retainer.

Model	Retainer Type	Shank Size Hex w/Collar in.	Handle Type	Trigger Type	Piston Stroke		Bore		Blows per Minute	Length w/o Accessory		Weight w/o Accessory		CFM
					in.	mm	in.	mm		in.	mm	lb.	kg	
DT10DS1	Screw	7/8 x 3 1/4	D-Grip	Inside	5 15/16	150	1 11/16	42.5	1560	26 3/8	670	23	10	62
DT10DH1	Hitch	7/8 x 3 1/4	D-Grip	Inside	5 15/16	150	1 11/16	42.5	1560	26 3/8	670	23	10	62
DT10DL1	Latch	7/8 x 3 1/4	D-Grip	Inside	5 15/16	150	1 11/16	42.5	1560	26 3/8	670	23	10	62
DT10DL2	Latch	1 x 4 1/4	D-Grip	Inside	5 15/16	150	1 11/16	42.5	1560	26 3/8	670	23	10	62
DT13TL1	Latch	7/8 x 3 1/4	T-Handle	Top	5 15/16	150	1 11/16	42.5	1560	27 1/8	690	28	13	62
DT13TL2	Latch	1 x 4 1/4	T-Handle	Top	5 15/16	150	1 11/16	42.5	1560	27 1/8	690	28	13	62





All IRGO-PICs have a 3/4" male NPT air inlet. A 3/4" at 90 psi (620 kPa) air pressure.






Construction Tools

Chipping Hammer Steel and Retainers

Description	Product	Most Popular Under Collar Length	Series: K2L, 1, 2, 3, 4A and D		Series: W1, W2, W3 and W4	
			.680 Round Shank Oval Collar	.580 Hex Shank Oval Collar	.680 Round Shank Round Collar	.580 Hex Shank Round Collar
1" Flat Chisel		12"	HH1-215F-12	HH1-214F-12	H3R-215F-12	H3R-214F-12
		18"	HH1-215F-18	HH1-214F-18	H3R-215F-18	H3R-214F-18
Moil Point		12"	HH1-215M-12	HH1-214M-12	H3R-215M-12	H3R-214M-12
		18"	HH1-215M-18	HH1-214M-18	N/A	H3R-214M-18
Diamond Point		12"	HH1-215D-12	HH1-214D-12	H3R-215D-12	H3R-214D-12
2" Scaling Chisel		12"	HH1-323-12	HH1-324-12	H3R-423-12	H3R-424-12
		18"	N/A	N/A	N/A	N/A
Bushing Tool		9"	HH1-215-9	HH1-214T-9	N/A	N/A

Other Steels available through IRAX Catalog, Form 52225G: Spark Resistant Chisels, Blanks, Cape, Gouge, Round Nose, Fuller, Caulking, Ripper Chisel, Tooth Chisel, Paper Box Stripping Chisel.

Retainers	Product	Barrel Area Type	Series: K2L, 1, 2, 3, 4A and D	Series: W1, W2, W3 and W4
Standard Standard on all chippers ending in "SA"		Grooved	HH1-1190	N/A
Optional Quick Change		Grooved	HH1-1191	N/A
Optional Quick Change		Grooved	HH1-3400-3	N/A
Lock Spring Used on all grooved barrel retainers above		Grooved	HH1-1194	N/A
Rubber Buffered ⁽¹⁾ Standard on all "W" series chippers		Threaded	N/A	HHW1-A300
Optional Economy Type		Threaded	N/A	HHW2-200
Optional Quick Change		Threaded	N/A	HHW1-3450

Description	Product	Part No.
Upper Buffer Washer (2 Pieces)		H3R-31
Lower Buffer Washer (2 Pieces)		HHW1-213
Lower buffer Washer Ring		R000A2-103
Rubber Bumper		H3R-203
Lock Clip		24SR-207

(1) "W" Series chipper w/rubber buffered retainer, part no. HHW1-A300, includes the parts above.

Note:

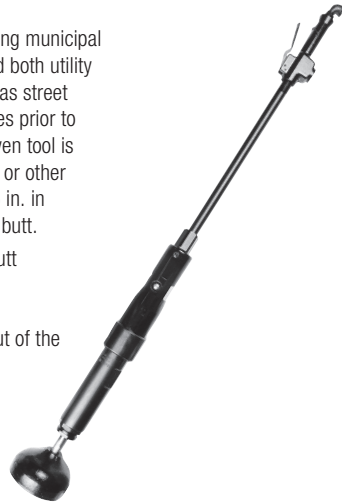
Operating percussive tools without impacting a work surface (dry firing) or without proper lubrication subjects the tool to premature wear and damage. IR recommends using an in-line oiler (part no. 6LUB12) on your compressor with medium weight rock drill oil (part no. 51378693).

341A2M

Tamper

At 35 lbs, this tamper is a favorite among municipal and utility crews for compacting around both utility line repairs and new installations such as street lights, fire hydrants, and telephone poles prior to pouring concrete. In addition, this proven tool is ideal for backfilling around foundations or other tight areas. Fits in openings down to 6 in. in standard version, or 3 in. with optional butt.

- Standard 5³/₄ in. round malleable butt
- Built in lubricator
- Built in muffler
- Dual action sand wiper keeps dirt out of the barrel
- 7/8 in. tapered rod
- Plated piston
- Optional front end butts
 - 3 in. steel butt: 34SR-383



441A2

Tamper

This unit features all of the same rugged design features as the 35 lb model, but adds extra weight and power to extend deep into the soils and substructures for those applications where deeper backfill is necessary. This unit weighs 47 lbs and has a 1 in. threaded tapered rod to accommodate optional front-end butts.

- 5³/₄ in. round malleable butt is standard
- Optional front end butt
 - 1/2 in. moon: 44SR-HM183-5



130A1M

“Bench” Sand Rammer

Ideal for compacting sand molds in a foundry or casting facility, the short size, light weight and long throttle lever allow this unit to be used on smaller models that are set up waist high. Its unique double-action “sand wiper” seal excludes dirt and grit from inside the tool for reduced wear and long life.

- Time tested valve design
- 11⁹/₁₆ lbs
- Optional front end butts
- 2¹/₂ in. butt standard
- Round piston rod
- Built in muffler



241A1M

“Floor” Sand Rammer

This unit features a long handle, heavier stroke, two times the weight, and double the BPM of the 130A1M. This unit is easily held from a standing position while compacting very large molds at floor level.

- Time tested valve design
- Front end seal excludes dirt and grit
- 47¹/₈ lbs
- 3 in. butt standard
- Optional front end butts
- Round piston rod



Optional Accessories

Description of Butt	Part Number
For Model 130A1M — 1/2” Tapered Rod	
Malleable Butt 2 ¹ / ₂ ” (64 mm) diameter (Std.)	12SR-83
Rubber Tipped Butt 2 ³ / ₈ ” (60 mm) diameter	14SR-83R-23/8
Rubber Topping-off Butt 3 ²⁹ / ₃₂ ” (99 mm) diameter	14SR-83R-4
Rubber Tipped Peen	14SR-93R

Description of Butt	Part Number
For Model 241A1M — 5/8” Tapered Rod	
Malleable Butt 3” (76 mm) diameter (Std.)	22SR-83-3x3/4
Rubber Tipped Butt 3” (76 mm) diameter	24SR-83R-3
Rubber Tipped Butt 5” (127 mm) diameter	24SR-83R-5

Model	Type	Weight w/Butt		Length w/Butt		Barrel Bore		Piston Stroke		Blows per Minute	Butt Diameter		CFM
		lb.	kg	in.	mm	in.	mm	in.	mm				
130A1M	Bench	11 ⁹ / ₁₆	5.24	21 ¹ / ₂	546	1	25	2 ¹ / ₂	63	870	–	–	14
241A1M	Floor	26 ⁷ / ₈	12.2	52 ³ / ₄	1340	1 ⁵ / ₁₆	33	4	102	1590	–	–	29
341A2M	–	34 ⁷ / ₈	15.8	52 ³ / ₄	1340	1 ⁵ / ₈	41	4	102	1550	5 ³ / ₄	146	29
441A2	–	47 ¹ / ₈	21.4	50 ⁷ / ₈	1292	2	51	4	102	1750	5 ³ / ₄	146	36

Model 130A1M has 1/4" NPT air inlet; 3/8" (10 mm) hose is recommended.
 Model 241A1M has 3/8" NPT air inlet; 1/2" (13 mm) hose is recommended.
 Both Tampers have 3/8" NPT air inlet; 1/2" (13 mm) size hose is recommended.
 Performance figures are at 90 psi (620 kPa) air pressure.

Rail Tools: Spike Drivers and Tie Tamper

60 lb Spike Drivers

- MX60-SD: Fixed Handle
- MX60F-SD: Flex Handle

Looking to improve the productivity of rail maintenance and installation crews? In comparative field testing, rail crews have discovered that the 60 lb IR spike driver, performs as fast as competitive 90 lb tools, giving you the productivity of a large tool with one third less weight. IR spike drivers transfer 20 percent more blow energy to the spike than traditional tools by incorporating the same hard hitting power-stroke piston technology found in our pavement breakers. The units are available with optional flex handles for enhanced operator comfort and productivity.

- Built in lubricator
- No side rods or springs to wear
- Composite valve eliminates valve rust
- Power-stroke piston
- Fronthead guides and supports spike



90 lb Spike Drivers

- MX90-SD: Fixed Handle
- MX90F-SD: Flex Handle

For those crews requiring maximum production, IR offers the larger 90 lb tool with all the same rugged design and performance specifications as the 60 lb tool.

Optional Accessories

- MX60 muffler (52080298)
- MX90 muffler (51953453)



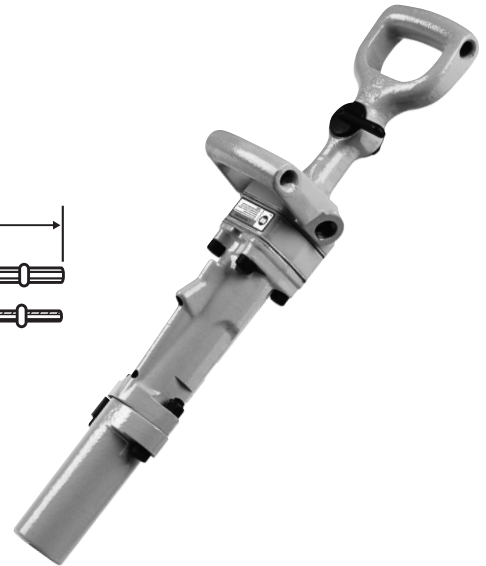
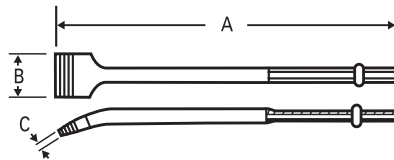
Standard Models	Part Number	Weight w/o Accessory		Length Accessory		Piston Bore		Piston Stroke		Blows per Minute bpm	Air Consumption @ 90 psi		Air Connection in.
		lb.	kg	in.	mm	in.	mm	in.	mm		cfm	1/sec	
MX60-SD	51997922	69	31.4	27.5	686	2.06	52.3	5.75	146	1250	75	35.4	3/4 NPT
MX90-SD	51997948	86	39.0	27.5	686	2.62	66.5	5.75	146	1250	89	40.1	3/4 NPT
MX60F-SD	51997930	69	31.4	27.5	686	2.06	52.3	5.75	146	1250	75	35.4	3/4 NPT
MX90F-SD	51997955	86	39.0	27.5	686	2.62	66.5	5.75	146	1250	89	40.1	3/4 NPT

Air inlet: 3/4" NPT.
 Size Hose Recommended: 3/4" (for hose lengths exceeding 50', use larger dia. hose).
 Performance figures are at 90 psi (6.3 bar) air pressure.

MT4 Tie Tamper

Built for fluffing up railroad ballast, this tool features a forged-steel housing and handles, as well as precision engineered valving and pistons for long life and durability. With top and rear handles, this tool is balanced for improved comfort and handling. Multiple steel options are available to meet all applications in rock, gravel, slag, dirt, cinder, sand, or chat ballast. Hose can be attached from either side to reduce interference when working in pairs.

- Chrome plated piston
- Low air consumption
- Excellent power balance will not crush ballast
- Chrome plated nozzle for long life
- Wing throttle



Tie Tamper Steels

Part Number	A	B	C	Description
MT2-12-3/8	24"	3"	3/8"	Plain face, for spot tamping and low lifts
MT2-12-5/8	24"	3"	5/8"	Plain face, for rock ballast of 29 mesh or larger
MT2-12-7/8	24"	3"	7/8"	Plain face, for small rock ballast, gravel and slag
MT2-12-3/4	24"	3"	3/4"	Plain face, for dirt, cinder, gravel, sand or chat ballast
MT2-S12-5/8	24"	3"	5/8"	Toothed face, for stone ballast
MT2-12-11/8	24"	3"	1 1/8"	Plain face, for dirt, cinder, gravel, sand or chat ballast

Model	Weight w/Butt		Length w/Butt		Barrel Bore		Piston Stroke		Blows per Minute	Hose connection	Recommended		CFM
	lb.	kg	in.	mm	in.	mm	in.	mm		Pipe Tap	Hose Size	in.	
MT4	40 1/4	18.3	29 1/4	743	2	51	1 1/16	43	1400	3/4	3/4	19	9

Performance figures are at 90 psi (620 kPa) air pressure.



Hoses

Part Number	Description
22040679	Yellow 3/4" x 50' hose with double banded Universals on both ends. 300 psi
22040687	Red 1/2" x 8' whip hose. Double banded Universal to 3/8" NPT straight male. 250 psi
22041453	Red 1/2" x 8' whip hose. Double banded Universal to 1/2" NPT straight male. 250 psi
22041461	Red 1/2" x 8' whip hose. Double banded Universal to 1/2" NPT swivel male. 250 psi
22041479	Red 1/2" x 8' whip hose. Double banded Universal to 7/8"-24 NPT swivel male. 250 psi

Whip hoses with swivels use heavy duty swivels

Needle Pressure Gauge

Part Number	Description
NPG-A1	Gauge Kit

IR tools are rated at 90 psi. Pressure above or below can effect performance. For best performance check with an IR gauge.



Swivel Inlet



Part Number	Description	Duty Type
HH1-A165	3/8" NPT x 1/2" Hose Barb	General Duty
HH1-SW7/8	7/8" - 24 x 1/2" Hose Barb	General Duty
HH1-VSW7/8	7/8" - 24 x 1/2" Hose Barb	Heavy Duty
HH1-VSW1/2	1/2" NPT x 1/2" Hose Barb	Heavy Duty

Oilers

Oil Capacity	3 oz.	5 oz.	8 oz.	16 oz.
Part Number	3LUB8	6LUB12	8LUB12	16LUB16
NPT Pipe Size	1/2"	3/4"	3/4"	1"

Rule of thumb: 1/2 oz. per hour.



Oil

Description	Light - 1 Gallon	Medium - 1 Gallon	Heavy - 1 Gallon
Part Number	51378701	51378693	51378784
Temperature Range	Below 20° F	20° - 90° F	Above 90° F

Couplers

Hose/Pipe Thread	Universal to Female	Universal to Hose Barb	Universal to Male	OSHA Shut off Valve	Universal 3 Way	Universal Coupler Gasket	Hose Clamp
3/8"	N/A	N/A	UM-37-M	N/A	UW-300-B	UG-100	MT1-AL34-3/8
1/2"	UF-50-M	UH-50-M	UM-50-M	N/A	UW-300-B	UG-100	MT1-AL34-1/2
3/4"	UF-75-M	UH-75-M	UM-75-M	170-6	UW-300-B	UG-100	MT1-AL34-3/4
1"	UF-100-M	UH-100-M	UM-100-M	178-8	UW-300-B	UG-100	MT1-AL34-1



Construction Tools

Saws

Reciprocating Saws

Standard Equipment

- Built-in Lubricator
- Muffled Exhaust
- Self-locking Trigger

SRA010K2 Kit

- Model SRA010A1 Saw
- Blade Assortment of seven blades for cutting a variety of materials (205885: 5 each 6 in. blades 2 each 4 in. blades)
- Metal Carrying Case (SRA010A1-4)

(Example of saw blade)



Features

- Grip handle with self-locking throttle to promote operator safety.
- Rotatable exhaust deflector with muffler for quiet operation — piped-away exhaust hose available.
- Heavy-duty thrust bearings for extended life.



SRA010A1

Model	Strokes per Minute	Length of Stroke		Length Over Front of Saw Guide		Weight		Side to Center Distance		Maximum Power		Air Inlet Size NPT		Size Hose Recomm.		CFM
		in.	mm	in.	mm	lb.	kg	in.	mm	hp	kW	in.	mm	in.	mm	
SRA010A1	1600	5/8	16	17 1/4	438	8 1/4	3.7	1 5/8	41	.65	.48	1/4	6	5/16	8	21

Performance figures are at 90 psi (620 kPa) air pressure.

Circular Saws

Features

- Self-locking throttle
- Air power means no motor burnout from stalls
- Exclusive self-regulating motor with patented controller for more power with less weight
- Depth and angle of cut are easily adjusted

Standard Equipment

Model S80

- Grip Handle with Lock-off Throttle
- 8 1/4 in. (210 mm) diameter Combination Chisel Tooth Blade
- 5/8 in. (16 mm) diameter Round Hub
- Depth Gauge Bracket for adjusting depth of cut from 3/16 to 3 in. (5 mm to 76 mm) with 8 1/4 in. (210 mm) diameter blade
- Built-in Lubricator

Optional Accessories

Model S80

- Metal Carrying Case S80-4*
- Availability subject to prior sale*

Model S120

- Grip Handle with Lock-off Throttle
- 12 in. (305 mm) diameter Crosscut Wood Sawing Blade. Model No. B12-257R
- Pin-type Blade Flange
- Depth Gauge Bracket for adjusting depth of cut from 1 3/8 to 4 3/8 in. (35 mm to 111 mm) with 12 in. (305 mm) blade
- Built-in Lubricator

Optional Accessories

Model S120

- Abrasive Blade Flange Kit S12-A86
- Depth Gauge Bracket for adjusting depth of cut from 0 to 4 3/8 in. (0 to 111 mm) with 12 in. (305 mm)
- Blade, S12-506

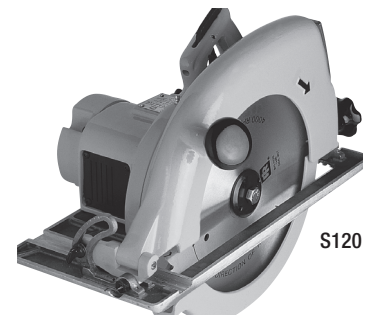
Blades for use with Model S120

- (12 in. diameter with 1 in. diameter arbor hole) Part No./Description
- B12-257R cross cut, ripping, planer blade*
- B12-257Z insulating board*

*Availability subject to prior sale.



S80



S120

Model	Free Speed rpm	Weight w/o Blade		Maximum Power		Speed at Max. Power rpm	Blade Diameter		Arbor Hole Diameter		Max. Depth of Cut		Min. Depth of Vertical Cut		CFM
		lb.	kg	hp	kW		in.	mm	in.	mm	in.	mm	in.	mm	
S80	4000	14 1/2	6.6	2	1.49	2500	8 1/4	210	5/8	16	3	76	3/16	5	67
S120	2050	27 1/4	12.4	3.2	2.4	1400	12	305	1	25	4 3/8	111	1 3/8	35	93

Sound level for S80 is 85 dBA.

Model	Size of Shoe		Max. Depth of Cut at 45° Angle		Max. Thickness of Material for 45° Cut		Length		Width		Dist. from Blade to End of Motor Casing		Dist. from Center of Blade to Front of Shoe		NPT Air Inlet	Size Hose Recomm.	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm			
S80	7 7/8 x 12	200 x 305	2 1/2	64	1 3/4	102	13 3/4	350	8 3/4	222	5 7/8	149	1 7/8	48	1/2	—	*3/4 *19
S120	8 1/2 x 18 1/2	216 x 470	4	45	2 7/8	73	19 7/8	505	10 5/16	262	8 5/16	211	8 5/16	211	1/2	—	*3/4 *19

*Recommended for maximum performance; however a whip of 1/2" (13 mm) hose up to 00 feet (3.7 meters) long can be used with only slight reduction in performance. Performance figures are at 90 psi (620 kPa) air pressure.

22 Series Models

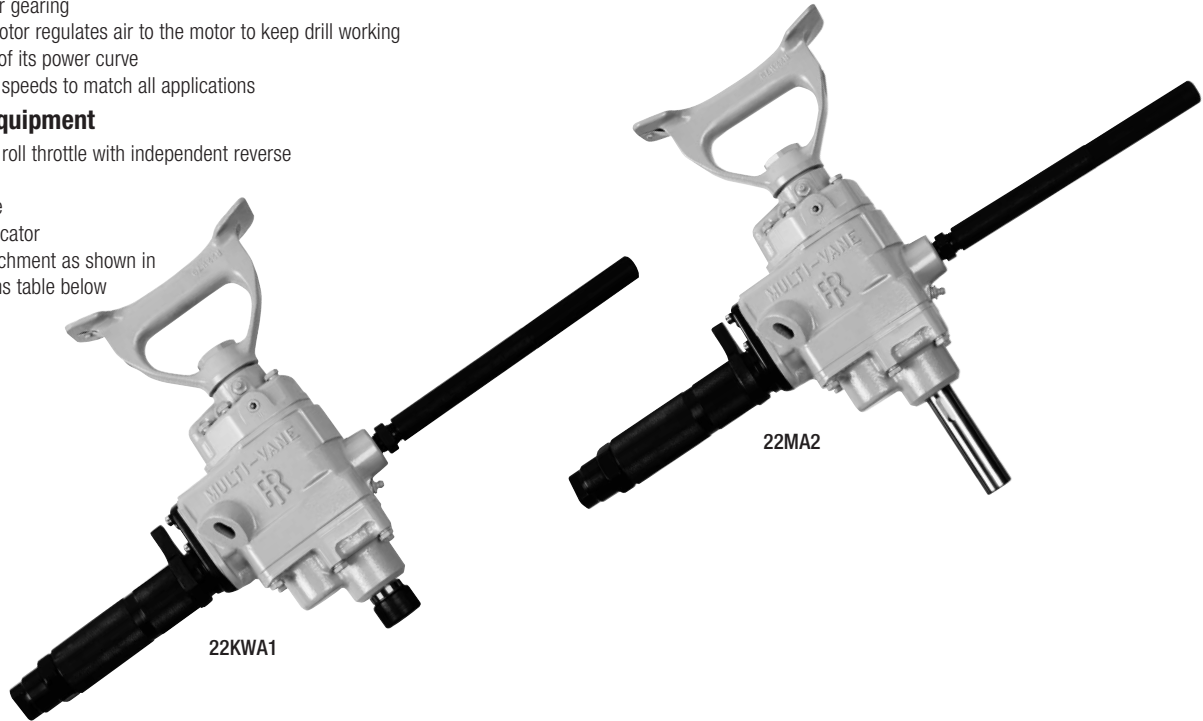
Features

- Ball bearing support for long life and efficient operation
- Durable spur gearing
- Governed motor regulates air to the motor to keep drill working at the peak of its power curve
- Selection of speeds to match all applications

Standard Equipment

- Self-closing roll throttle with independent reverse
- Breast plate
- Dead handle
- Built-in lubricator
- Spindle attachment as shown in specifications table below

IR offers large drills in straight and angle configurations, ideal for opening and closing large valves, or drilling large diameter holes with a variety of available attachments.



Model	Free Speed rpm	Capacity in Steel				Spindle	Spindle Attachment	Weight		Height over Spindle		Side to Center Distance		CFM
		Drilling in.	mm	Reaming in.	mm			lb.	kg	in.	mm	in.	mm	
22JA1	1025	9/16	14	3/8	10	Stub Taper, Th'ded	5/64-1/2" Chuck	15	6.8	16 3/8	416	1 7/16	36	55
22KA1	725	9/16	14	7/16	11	Stub Taper, Th'ded	5/64-1/2" Chuck	15 1/4	6.92	17 9/8	448	1 7/16	36	55
22MA2	350	7/8	22	5/8	16	No. 2 Morse Taper Socket		14 1/4	6.46	18 5/8	473	1 7/16	36	55
22NA1	280	7/8	22	5/8	16	Stub Taper, Th'ded	5/8" Square Drive	16 1/2	7.48	20 3/8	517	1 7/16	36	55
22KWA1	725	—	—	—	—	Stub Taper, Th'ded	1/2" Shank Wood	14 1/4	6.46	17 1/4	438	1 7/16	36	55

Series 22 Drills have 3/8" NPT air inlet, 1/2" (13 mm) size hose recommended. Performance figures are at 90 psi (620 kPa) air pressure. If feed screw is ordered separately and installed, length of feed is 2 1/2" (63 mm).

20 Series Models

Features

- Small side-to-center distance is ideal for close-quarter applications
- Bearing support in motor and gearing for efficient operation
- Ratchet handle feed screw for compactness

Standard Equipment

- Self-closing Nonreversible
- Lever Throttle
- Feed Screw and Ratchet Handle (R30-48 Ratchet Handle)
- Built-in Lubricator



Model	Free Speed rpm	Capacity in Steel				Morse Taper Socket	Length of feed		Weight		Spindle		Height over Length		Side to Center Distance		CFM
		Drilling in.	mm	Reaming in.	mm		lb.	kg	in.	mm	in.	mm	in.	mm	in.	mm	
20LB	310	7/8	22	5/8	16	No. 2 Morse Taper	1 3/4	44	14 3/4	6.69	6 7/8	175	21 3/4	552	1 1/16	30	46
20SLB	310	7/8	22	5/8	16	No. 3 Morse Taper	1 3/8	35	17 3/4	8.05	6 7/8	175	21 3/4	552	1 1/16	30	46

Construction Tools

Large Drills

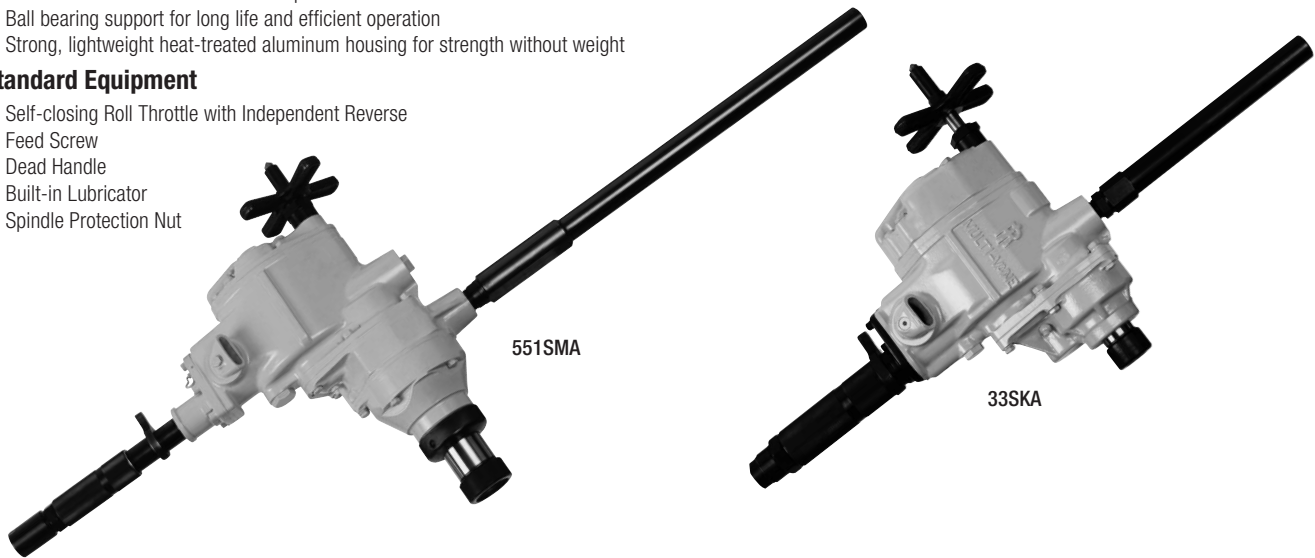
33, 44, and 551 Series Models

Features

- Graduated roll throttle for excellent speed control
- Ball bearing support for long life and efficient operation
- Strong, lightweight heat-treated aluminum housing for strength without weight

Standard Equipment

- Self-closing Roll Throttle with Independent Reverse
- Feed Screw
- Dead Handle
- Built-in Lubricator
- Spindle Protection Nut



Model	Free Speed rpm	Capacity in Steel				Morse Taper Socket	Length of feed		Weight		Height over Spindle		Side to Center Distance		CFM
		Drilling in. mm	Reaming in. mm	in. mm	in. mm		in.	mm	lb.	kg	in.	mm	in.	mm	
33SJA	450	1	25	1 ⁵ / ₁₆	24	No. 3 Morse Taper	4 ¹ / ₄	108	25 ³ / ₄	11.7	14	355	1 ⁷ / ₈	47	85
33SKA	300	1 ¹ / ₄	32	1	25	No. 3 Morse Taper	4 ¹ / ₄	108	25 ³ / ₄	11.7	14	355	1 ⁷ / ₈	47	85
33SMA	185	1 ¹ / ₄	32	1 ¹ / ₄	32	No. 3 Morse Taper	4 ¹ / ₄	108	31	14.1	16 ¹³ / ₁₆	427	1 ¹⁵ / ₁₆	49	85
44SMA	155	2	51	2	51	No. 4 Morse Taper	4 ¹ / ₄	108	43 ³ / ₄	19.8	18 ¹ / ₄	463	2 ⁵ / ₁₆	59	102
551SMA	120	3	76	2 ¹ / ₂	64	No. 5 Morse Taper	5	127	69	31.3	21 ⁷ / ₈	556	2 ¹⁵ / ₁₆	75	160
551SOA	77	Heavy		Heavy		No. 5 Morse Taper	5	127	69 ¹ / ₂	31.5	21 ⁷ / ₈	556	2 ¹⁵ / ₁₆	75	160

Series 33S and 44 Drills have 1/2" NPT air inlet, 3/4" (19 mm) size hose recommended.

Series 551 Drills have 1" NPT air inlet; 1" (25 mm) size hose recommended.

Performance figures are at 90 psi (620 kPa) air pressure.

Large Drills Accessories

Description	Part No.
Series 22	
Suspension Ring	T05-365
Feed Screw	T04-A3
No. 2 Morse Taper Socket	DE-323A-2
No. 3 Morse Taper Socket	DE-323A-3
0 to 1/2" (0 to 13mm)	—
3-Jaw Key Chuck	DE-99C 5/64-1/2
1/2" Square Dr. Socket Adapter	DE-215A†
5/8" Square Dr. Socket Adapter	DE-215B
Chuck Nut*	DE-347A
Wood Bit Chuck	R22W-151
Wood Bit Chuck Wrench	K-27
Series 22 and 33	
Nonreversible lockout spacer kit	R22/R33-K518

*Required whenever any spindle equipment is to be mounted on Series 22 Drills. Unless a Drill has threaded spindle (will not fit 22MA2, 2XMA2), none of the above accessories can be added to the spindle.

See specifications for Series 2X and 22 Drills to verify that spindle is threaded before ordering above spindle equipment.

†Availability subject to prior sale.

Socket Adapters for Large Drills

Square Drive in.	Morse Taper No.	Part Number
3/4	3	R4J-214
1	5	R5SM-214

Large Drills Accessories

Description	Series 33S Part Number	Model 44SMA Part Number	Series 551S Part Number
Grip Handle	R33H-A41	TB-A41	TA-A41
Suspension Ring	TC-365	TB-365	TC-365
Breast Plate	TC-A79	Disc	
Feed Screw Cover	TC-461	TB-461	TA-461
Feed Screw	R3H-A291	Disc	TA-A291
Chuck Nut*	T12-347	T01-347	TISE-347
Wood Bit Chuck for 1/2" (13 mm) dia. shank bits (#3 MT)	R33SW-151-1/2	—	—
Wood Bit Chuck for 5/8" (16 mm) dia. shank bits (#3 MT)	R33SW-151-5/8	—	—

*Required whenever any spindle equipment is to be mounted on any spindle.

Construction Tool Merchandiser

Contractors can look for this display at their local IR distributor to provide the best solution in air compressors and construction tools. This compact and professional display is aimed at supporting same store sales and rental growth for dealers while assisting contractors in selecting a wide variety of IR tools and accessories to complete a multitude of jobs.



(For more details, see form no. 52837)

Tool Stands

When looking over tools to rent or buy, you might notice it displayed on this sturdy stand which positions the tool at a slight angle. Available in 3/4 in. shank or 1 in. shank.

- Part No.: MX-28 = 1 in. shank
- Part No.: DT-28 = 3/4 in. shank



Manual Chain Hoist Display Stand

This functional stand makes it easy to display and select a wide variety of manual chain hoists. Item number DS-1.



Ratchet Puller Display

This professional display presents and promotes customer selection of all-purpose ratchet pullers. Item number DSP-1.



Construction Tools Warranty

WARRANTY

CONSTRUCTION TOOLS

Ingersoll-Rand warrants to the original user its construction tool products to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any product proves defective within its original one year warranty period, it should be returned to an appropriate Ingersoll-Rand Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which IR has determined to have been misused or abused, improperly maintained by the purchaser: or where the malfunction or defect can be attributed to the use of non-genuine IR parts.

IR makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set for the above. IR's maximum liability is limited to the purchase price of the Product and in no event shall IR be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the Product, whether based on contract, tort, or otherwise.

**Questions? Parts? Service?
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- ▶ Trolleys

Proven Source. Proven Solutions.



Ingersoll-Rand Tool and Hoist Division

Ingersoll-Rand offers one of the broadest lines of lifting equipment available. Our hoists are capable of providing solutions in applications throughout the world. From food processing to mining, automotive assembly to construction, IR hoists can be found in the most demanding industries.

The Ingersoll-Rand manual lifting family includes wire and rope pullers, lever chain powered hoists for excellent spotting or fast production needs. Ingersoll-Rand also offers a wide variety of plain, geared, or powered trolleys as well as tractors to support and mobilize your Ingersoll-Rand hoist.

Solutions to special applications, such as spark hazard or food processing environments can be accommodated by our manufacturing specialists. Ingersoll-Rand... the *Proven Source* and *Proven Solution* to your lifting equipment needs.

Hoist Limited Warranty

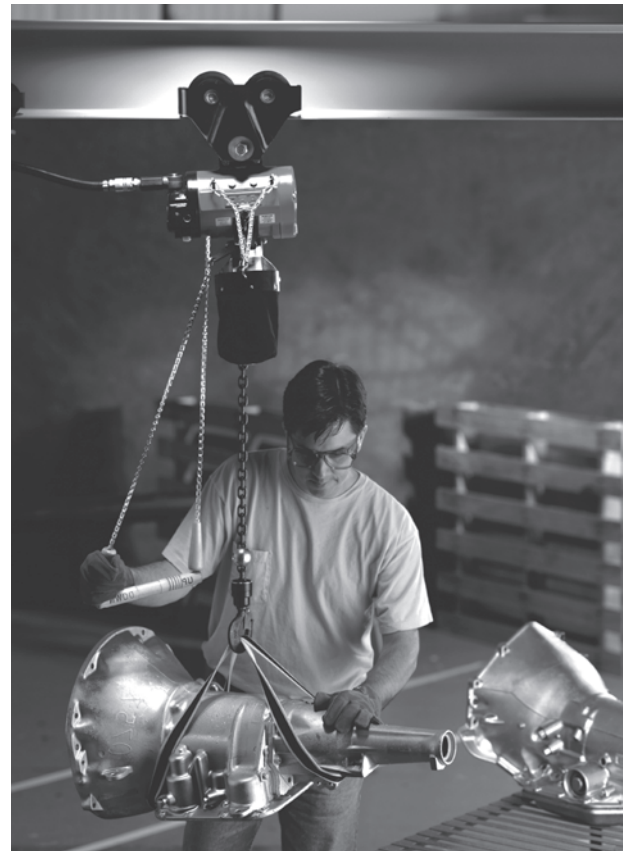
Ingersoll-Rand Company (I-R) warrants its hoists to be free of defects in material and workmanship for one year from the date of purchase. I-R will repair, without cost, any hoist found to be defective, including parts and labor charges, or at its option, will replace such hoists or refund the purchase price. Repairs or replacements are warranted for the remainder of the original warranty period.

If any I-R hoist proves defective within its original one year warranty period, it should be returned to any Authorized Material Handling Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to hoists which I-R has determined to have been misused or abused, improperly maintained by the purchaser; or where the malfunction or defect can be attributed to the use of non-genuine I-R parts. I-R makes no other warranty, and implied warranties including any warranty of merchantability or fitness for a particular purpose are hereby disclaimed. I-R's liability is limited to the purchase price of the hoists and in no event shall I-R be liable for consequential, indirect, or special damages of any nature arising from the sale or use of I-R hoists.

Note:

Some states do not allow limitations on incidental or consequential damages or how long an implied warranty lasts so that the above limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.



ROUGHNECK™



SILVER SERIES™

PALAIR™ PREMIUM



LO-PRO™

ULTRA-LO™



Industrial Lifting Equipment

P Series Puller

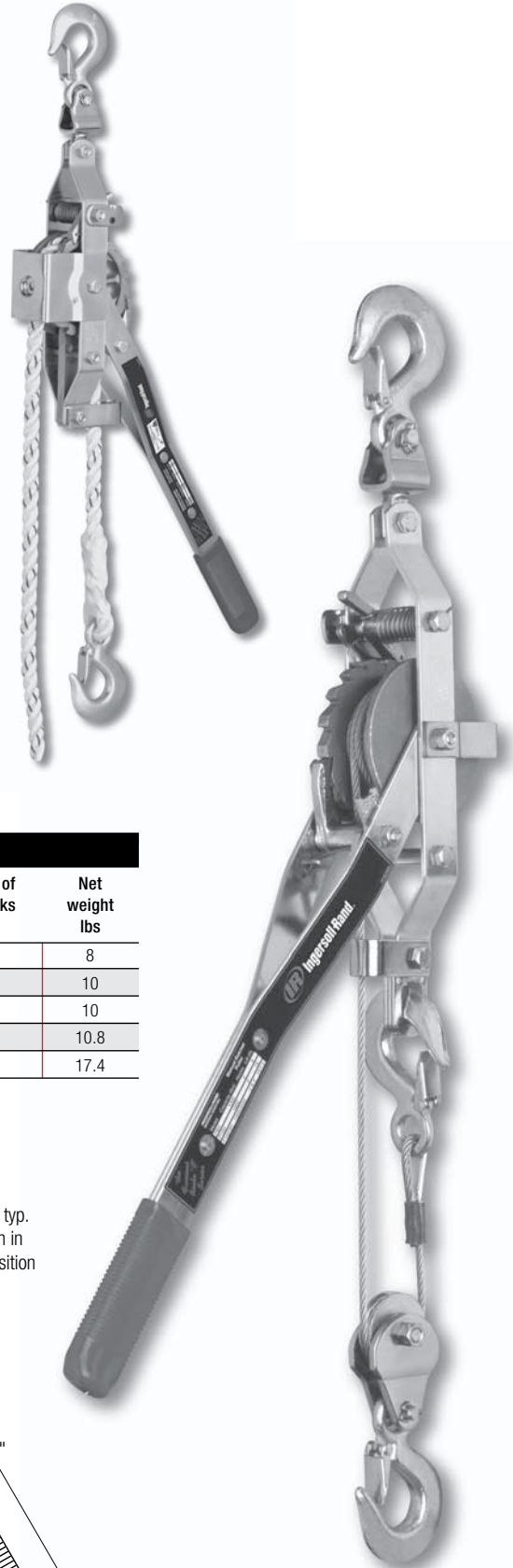
1000 and 2000 lb Capacity

Features / Wire Puller:

- 4:1 design factor. Meets ASME B30.21.
- Handle and frame are heavy gauge steel with rivet construction and slip-resistant grip. All steel parts are plated for years of useful life.
- Exclusive long life "buttress tooth" cast gear design has no laminated plates to separate or wear and provides maximum strength.
- Sturdy steel drive and holding pawls have long life, stainless steel springs. All pivot points are hardened steel.
- Safety latch hooks are drop forged steel, heat treated and plated for corrosion resistance. Top hook rotates 360° for easy operation.
- Cast-aluminum drum has a "through-the-drum" anchor, larger diameter and a drum guard. This means the wire rope won't come loose, bends less so it lasts longer and spools evenly while rewinding.
- Galvanized aircraft quality wire rope is preformed to prevent kinks.
- One year warranty.

Features / Rope Puller:

- Two models with either 25 or 75 foot rope length.
- Standard with oversized $\frac{5}{8}$ inch diameter high strength polyester rope.
- Rope has less chance to mar surfaces or kink and is easier to manage than wire cable.
- Rope is non-conductive and can be stored or used separately.
- Rope pullers can handle long pulls or reaches limited only by the length of rope available.
- The Ingersoll-Rand rope puller is easy to pay out rope and will not bind the rope in the drum after pulling a load.

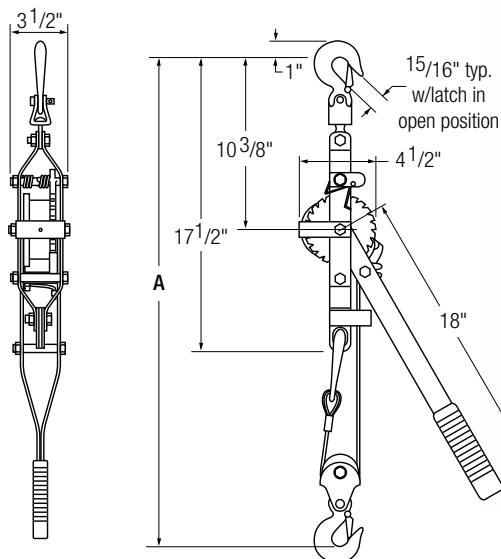


P Series Specifications and Dimensions

Model no.	No. of lines	Rated cap. lifting 4:1 lbs	Min. 'A' dist. btwn hooks in.	Lifting distance ft	Cable diameter in.	No. of hooks	Net weight lbs
P15H	Single	1000	19 $\frac{1}{2}$	15	$\frac{3}{16}$	2	8
P15D3H	Single	1000	21	15	$\frac{3}{16}$	3	10
P15D3H	Double	2000	27 $\frac{1}{2}$	7 $\frac{1}{2}$	$\frac{3}{16}$	3	10
PR-25	Single	1100	24	23	$\frac{5}{8}$	2	10.8
PR-75	Single	1100	24	73	$\frac{5}{8}$	2	17.4

Note:

Dimensions are subject to change.



1700 – 4000 lb Capacity

Features / Cable Puller:

- 4:1 design factor lifting, lowering and pulling. Meets ASME B30.21.
- Overload safety handle designed to noticeably bend.
- Lightweight aluminum frame.
- Alloy steel load hook with safety latches.
- One piece cast aluminum drum.
- Buttress tooth design improves load gear life.
- Solid steel drive and holding dog, not laminated plates.
- Galvanized aircraft quality wire rope.
- Ratchet and pawl system provides safe, "one notch at a time" lowering.
- Cable guide and shield protects wire rope and spools cable evenly on drum.
- Reversible handle changes position easily, so pull is always possible in the right direction against the load.
- Easy to repair, replacement parts available.
- Plated external parts for corrosion resistance.

Features / Strap Puller:

An extension of our premium C Series, the C Series strap pullers offer the following unique features:

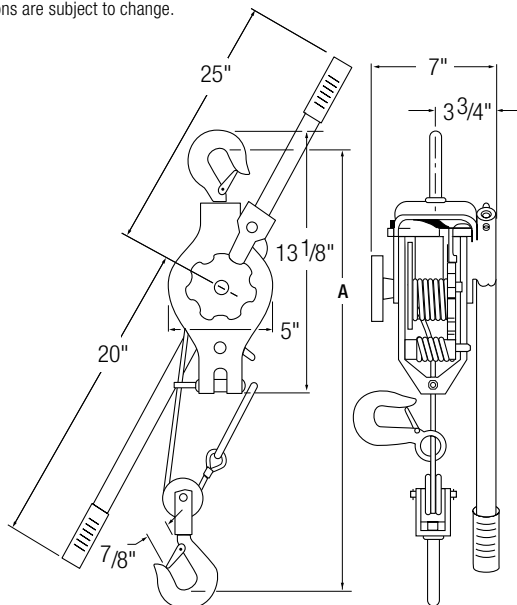
- Three hooks allow 2 ton capacity; 6 foot pull with double line and 1 ton capacity with 12 foot pull using single line.
- Non-conductive, corrosion resistant, high strength synthetic strap will not kink or bind.
- Easy pay out of strap for fast set-up.



C Series Specifications

Model no.	No. of lines	Rated cap. lifting 4:1 lbs	Min. 'A' dist. btwn hooks in.	Lifting distance ft	Cable diameter in.	No. of hooks	Net weight lbs
C400H	Single	1700	17	20	1/4	2	16
C400H	Double	3400	22	10	1/4	3	16
C400S	Single	2000	17	12	3/32 x 1 7/8	2	16
C400S	Double	4000	22	6	3/32 x 1 7/8	3	16

Note:
Dimensions are subject to change.



Overload safety handle is designed to bend when an overload is detected. Once the handle begins to bend, any additional force will result in additional bending limiting the hoist from lifting beyond it's capacity.

L5H “Premium” Series Lever Chain Hoist

3/4 – 6 metric ton Line Pull Capacity

Features

Our “top of the line” lever chain hoist. The ultimate in performance, endurance.

Enhanced safety

- Unique, innovative “Torsion-Lok” brake system ensures positive brake engagement.
- Free chain knob with color-coded red/green indicator window shows at a glance if hoist is in “load” or “free chain” position.
- Easy to read instructions are conveniently located on handle, and color coordinated with free chain knob.
- Wide throat, forged alloy steel load hooks have slip resistant barbed tips to better retain slings.
- Patented cast steel chain anchor prevents chain end from being pulled through hoist.

Improved performance

- Simple and convenient single-hand “free chaining” allows smooth, trouble-free operation in vertical or horizontal position.
- 360° rotation handle needs only 15° handle movement to ratchet and position loads, a big plus in tight places.
- Available in standard lifts of 5, 10, 15 and 20 feet.

Rugged construction

- Meets ASME B30.21 and HST-3M standards.
- High-strength, cold-formed, stamped steel construction decreases weight while increasing impact resistance.
- Open frame design for easy cleaning and inspection.
- Grade 100 alloy chain.
- Plated fasteners and springs increase reliability and durability.
- A comfortable slip resistant rubber grip handle - even with a glove.
- Top and bottom hooks rotate 360°. Top hook articulates, for flexibility in hard to reach places.

Options

- Plated load chain provides corrosion resistance.
- Overload slip clutch factory set to slip at 150% of rated capacity.
- Bullard bottom hooks for single fall models only.
- Non-standard lifts.



L5H Series Specifications

Model no.	Capacity		Pull to lift rated load lbs	Net wt of chain per ft of lift lbs	No. of chain falls	Load chain size mm	Ship wt w/5 ft of lift lbs
	metric tons	lbs					
L5H150	3/4	1650	35	.57	1	6.3 x 19.2	15
L5H200	1 ⁽¹⁾	2000	43	.57	1	6.3 x 19.2	16
L5H300	1-1/2	3300	40	.74	1	7.1 x 21.2	21
L5H400	2 ⁽¹⁾	4000	49	.74	1	7.1 x 21.2	22
L5H600	3	6600	73	1.19	1	9.0 x 27.2	34
L5H1200	6	13200	77	2.38	2	9.0 x 27.2	62

Note:

Standard lift 5, 10, 15, and 20 ft.

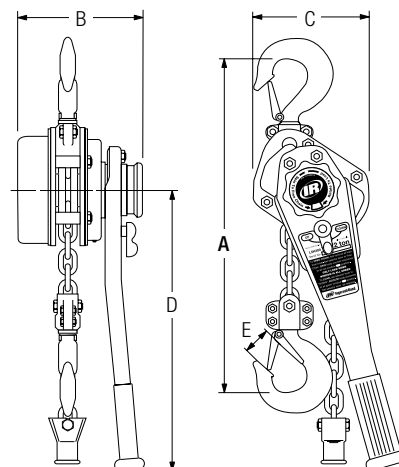
(1) U.S. tons. 2000 lb rating for the 1 ton and 2 ton models only.

L5H Series Dimensions (in.)

Model no.	A (min)	B	C	D	E
L5H150	12.25	6	5	10.12	1.06
L5H200	12.25	6	5	10.12	1.06
L5H300	13.75	6.63	5.75	14.5	1.34
L5H400	13.75	6.63	5.75	14.5	1.34
L5H600	16.75	7.88	7.13	14.5	1.69
L5H1200	22.25	7.88	9.5	14.5	1.88

Note:

Dimensions are subject to change.



Industrial Lifting Equipment

LV “Classic” Series Lever Chain Hoist



3/4 – 6 metric ton Line Pull Capacity

Features:

A rugged, dependable lever chain hoist with capacities and features that make it ideal for all industrial lifting, pulling and positioning applications.

Enhances safety

- Forged steel alloy load hooks have wide throat openings with slip resistant barbed tips to better retain slings.

Improved performance

- Minimal effort in compact design.
- Heat treated gears and pinions.
- 360° rotation handle needs only 15° handle movement to ratchet and position loads. A big plus in tight places.
- Responsive load control through six pinion gear teeth and a four pocket load sheave.
- Easy free chaining operation.
- Single fall, 3 ton model for increased portability.
- Double reduction gearing for superior spotting characteristics.
- A comfortable slip resistant rubber grip handle - even with a glove.
- Available in standard lifts of 5, 10, 15 and 20 feet.

Rugged construction

- Meets ASME B30.21 and HST-3M design and performance standards.
- High-strength, cold-formed, all stamped steel construction decreases weight while increasing external impact resistance.
- Open frame design for easy cleaning and inspection.
- Grade 100 alloy chain.

Options:

- Plated load chain provides corrosion resistance.
- Aircraft handling, free chain lockout kits.
- Bullard bottom hooks for single fall models only.
- Non-standard lifts.



LV Series Specifications

Model no.	Capacity		Pull to lift rated load lbs	Net wt of chain per ft of lift lbs	No. of chain falls	Load chain size mm	Ship wt w/5 ft of lift lbs
	metric tons	lbs					
LV150	3/4	1650	35	.57	1	6.3 x 19.2	15
LV300	1-1/2	3300	40	.74	1	7.1 x 21.2	21
LV600	3	6600	73	1.19	1	9.0 x 27.2	36
LV1200	6	13200	77	2.38	2	9.0 x 27.2	59

Note:

Standard lift 5, 10, 15, and 20 ft.

LV Series Dimensions (in.)

Model no.	A (min)	B	C	D	E
LV150	11.6	5.8	5.0	9.8	1.1
LV300	12.8	6.4	5.8	14.2	1.3
LV600	15.6	7.6	7.1	14.2	1.7
LV1200	23.2	7.6	9.3	14.2	1.9

Note:

Dimensions are subject to change.

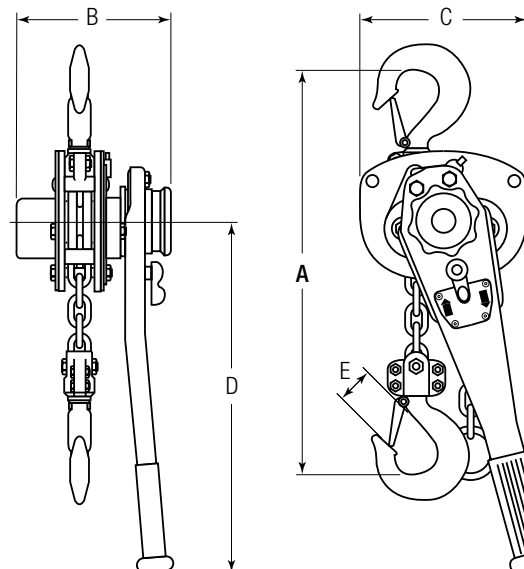
New Option “L” Aircraft Handling, Free Chain Lockout Kits¹

Part no.	Used on models
LV150-KLOCK	All LV150
LV300-KLOCK	All LV300
LV600-KLOCK	All LV600 and LV1200



Note:

(1) Kits replace free chain latch on LV models with a fixed member prohibiting disengagement and the ability to free chain.



Industrial Lifting Equipment

SL “Silver” Series Lever Chain Hoist

Table of Contents

Ingersoll-Rand Tool and Hoist Division

Ingersoll-Rand offers one of the broadest lines of lifting equipment available. Our hoists are capable of providing solutions in applications throughout the world. From food processing to mining, automotive assembly to construction, IR hoists can be found in the most demanding industries.

The Ingersoll-Rand manual lifting family includes wire and rope pullers, lever chain powered hoists for excellent spotting or fast production needs.

Ingersoll-Rand also offers a wide variety of plain, geared, or powered trolleys as well as tractors to support and mobilize your Ingersoll-Rand hoist.

Solutions to special applications, such as spark hazard or food processing environments can be accommodated by our manufacturing specialists.

Ingersoll-Rand... the *Proven Source* and *Proven Solution* to your lifting equipment needs.

Hoist Limited Warranty

Ingersoll-Rand Company (I-R) warrants its hoists to be free of defects in material and workmanship for one year from the date of purchase. I-R will repair, without cost, any hoist found to be defective, including parts and labor charges, or at its option, will replace such hoists or refund the purchase price. Repairs or replacements are warranted for the remainder of the original warranty period.

If any I-R hoist proves defective within its original one year warranty period, it should be returned to any Authorized Material Handling Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to hoists which I-R has determined to have been misused or abused, improperly maintained by the purchaser; or where the malfunction or defect can be attributed to the use of non-genuine I-R parts. I-R makes no other warranty, and implied warranties including any warranty of merchantability or fitness for a particular purpose are hereby disclaimed. I-R's liability is limited to the purchase price of the hoists and in no event shall I-R be liable for consequential, indirect, or special damages of any nature arising from the sale or use of I-R hoists.

Note:

Some states do not allow limitations on incidental or consequential damages or how long an implied warranty lasts so that the above limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.



ROUGHNECK™

SILVER SERIES™



PALAIR™ PREMIUM

LO-PRO™

ULTRA-LO™



1/2 – 20 metric ton Lifting Capacity

Features:

Our top of the line manual chain hoist, the VL2 Series exclusive hand chain guide provides smooth, even operation and eliminates jamming when operated away from the load area. Perfect for construction, maintenance, rigging and shipbuilding.

- "Accu-Feed™" hand chain guide articulates for smooth operation and allows for operation from either side away from load being lifted.
- All steel construction for external impact resistance.
- Forged steel alloy load hooks with non-slip design have extra wide throat openings for easy rigging.
- Premium alloy steel grade 100 load chain.
- Thrust bearing bottom block on 3 ton and above helps prevent chain twisting or kinking.
- Chain anchor prevents jamming at the hook's lowest position.
- Needle bearings reduce friction and provide low hand chain pull.
- **Overload Protection** to deter and reduce downtime and repair costs resulting from abuse.
- Available in standard lifts of 10, 15 and 20 feet. Hand chain is 2 feet less than lift.

Options:

- Spark and corrosion resistant models.
- Spark and corrosion resistant load and hand chain.
- Non standard lifts.
- Chain buckets.
- Protective coatings.
- Bullard bottom hooks for single fall models only.



Nylon bushed VL2 hoist hand chain guide. Zinc plated hand chain shown

VL2 Series Specifications

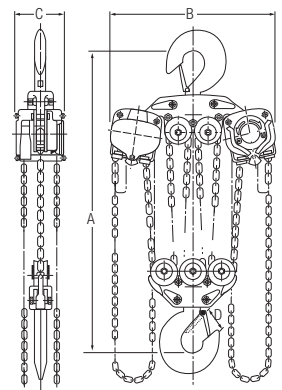
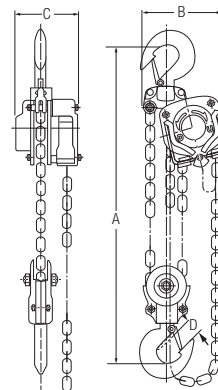
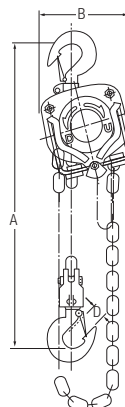
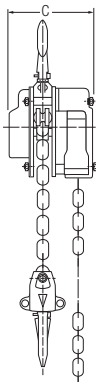
Model no.	Capacity		Pull to lift rated load lbs	Chain o'hauled to lift load 1 ft	Net wt of chain per ft of lift lbs	No. of chain falls	Load chain size mm	Ship wt w/10 ft of lift lbs
	metric tons	lbs						
VL2-005	1/2	1100	55	25	.356	1	5.0 x 15.0	20
VL2-010	1	2200	73	28	.569	1	6.3 x 19.2	26
VL2-015	1 1/2	3300	74	57	.744	1	7.1 x 21.2	45
VL2-020	2	4400	76	73	1.030	1	8.0 x 24.2	50
VL2-030	3	6600	76	112	1.488	2	7.1 x 21.2	52
VL2-050	5	11000	85	181	2.38	2	9.0 x 27.2	94
VL2-080	8	17600	90	272	3.57	3	9.0 x 27.2	150
VL2-100	10	22000	90	362	4.76	4	9.0 x 27.2	188
VL2-150	15	33000	2 x 90	2 x 272	7.14	6	9.0 x 27.2	395
VL2-200	20	44000	2 x 90	2 x 362	9.52	8	9.0 x 27.2	485

Note: Standard lift 10, 15, and 20 ft.

VL2 Series Dimensions (in.)

Base model	A (min)	B	C	D
VL2-005	12	5 11/16	5	1 1/16
VL2-010	13 5/8	6 3/16	5 13/16	1 3/16
VL2-015	14 5/8	6 7/8	5 13/16	1 11/32
VL2-020	16 3/4	8	7 1/16	1 15/32
VL2-030	19 7/8	8 1/8	5 13/16	1 19/32
VL2-050	25	10 9/8	7 1/16	1 7/8
VL2-080	29 1/8	13 5/8	7 1/16	2 5/8
VL2-100	29 15/16	14 7/16	7 1/16	2 5/8
VL2-150	33 1/2	29 3/8	8 3/16	3 7/16
VL2-200	34 1/4	34 3/8	8 3/16	3 7/16

Note: Dimensions are subject to change.



1/2 through 2 tons

3 through 10 tons

15 and 20 tons

Industrial Lifting Equipment

MCH5 “Classic” Series Manual Chain Hoist

1/2 – 5 metric ton Lifting Capacity

Features:

Downsized version of the VL2 for applications with lower duty cycles. Ideal for maintenance use application.

- Compact design for limited headroom applications.
- High strength steel frame and gear case built to be durable for the rugged needs of construction and maintenance rigging.
- Heat-treated spur gear is efficiently designed to provide smooth load handling and low hand chain pull.
- Open frame design for self-cleaning, quick load sheave inspection and easy hoist maintenance.
- Designed to international standards, non-slip load hooks and top hooks are fitted with hook latches.
- Premium alloy steel grade 100 load chain.
- Standard lifts 10, 15, and 20 feet available from stock.

Options:

- Spark and corrosion resistant load and hand chain.
- Overload protection.
- Chain buckets.
- Bullard bottom hooks for single fall models only.



MCH5 Series Specifications

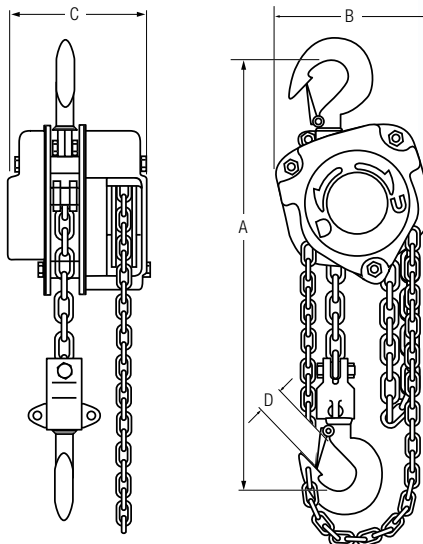
Model no.	Capacity		Pull to lift rated load lbs	Chain o'hauled to lift load 1 ft	Net wt of chain per ft of lift lbs	No. of chain falls	Load chain size mm	Ship wt w/10 ft of lift lbs
	metric tons	lbs						
MCH5-005	1/2	1100	59	25	.356	1	5.0 x 15.0	20
MCH5-010	1	2200	76	39	.569	1	6.3 x 19.2	26
MCH5-015	1 1/2	3300	78	58	.744	1	7.1 x 21.2	45
MCH5-020	2	4400	80	75	1.03	1	8.0 x 24.2	50
MCH5-030	3	6600	81	116	1.488	2	7.1 x 21.2	52
MCH5-050	5	11000	89	187	2.38	2	9.0 x 27.2	94

Note:
Standard lift 10, 15, and 20 ft.

MCH5 Series Dimensions (in.)

Base model	A (min)	B	C	D
MCH5-005	12	5 ¹¹ / ₁₆	5	1 ¹ / ₁₆
MCH5-010	13 ⁵ / ₈	6 ³ / ₁₆	5 ³ / ₄	1 ³ / ₁₆
MCH5-015	14 ⁵ / ₈	6 ⁷ / ₈	5 ³ / ₄	1 ³ / ₈
MCH5-020	16 ³ / ₄	8	7	1 ⁷ / ₁₆
MCH5-030	19 ⁷ / ₈	8 ¹ / ₈	5 ³ / ₄	1 ¹¹ / ₁₆
MCH5-050	25	10 ³ / ₈	7	1 ⁷ / ₈

Note:
Dimensions are subject to change.



Industrial Lifting Equipment SMA "Silver" Series Manual Chain Hoist



1/2 – 5 metric ton Lifting Capacity

Features:

A NEW design for the year 2000 workplace with safety and performance in mind. Meets or exceeds world specifications including ASME B30.16. A value line product with premium features at a Great Price.

- Overload Protection to deter and reduce downtime and repair costs resulting from abuse.
- All steel, low headroom, light weight construction.
- Self-adjusting disc type double pawl mechanical load brake.
- Hardened roller bearings for maximum efficiency and durability.
- Improved 4 layer finish of nickel, copper, nickel, and chrome complementing our Silver Series lever hoist companion product.
- Ideally suited for the Rental and Construction markets.
- Standard lift (L) is 10 feet, Hand chain drop (D) is 2 feet less than lift (unless specified).

Options:

- Bullard bottom hooks for single fall models only.

SMA Series Specifications

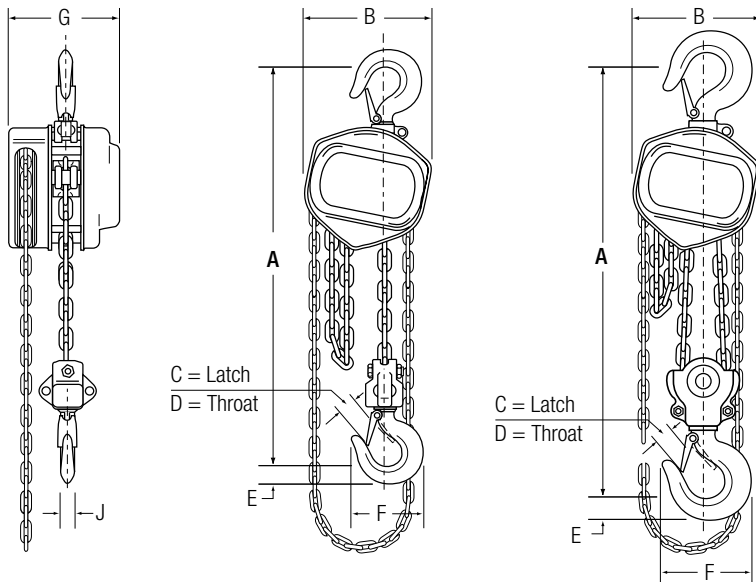
Model no.	Capacity		Pull to lift rated load lbs	Chain o'hauled to lift load 1 ft	Net wt of chain per ft of lift lbs	No. of chain falls	Load chain size mm	Ship wt w/10 ft of lift lbs
	metric tons	lbs						
SMA005	1/2	1100	48	25	.55	1	6.3 x 18	18
SMA010	1	2200	75	39	.55	1	6.3 x 18	26
SMA015	1 1/2	3300	84	58	.80	1	8.0 x 24	39
SMA020	2	4400	81	75	1.10	2	6.3 x 19	35
SMA030	3	6600	90	116	1.60	2	8.0 x 24	55
SMA050	5	11000	97	187	1.40	2	10.0 x 30	86

Note:
Standard lift 10

SMA Series dimensions (in.)

Model	A (min)	B	C	D	E	F	G	J
SMA005	11.6	5.3	.82	.85	.60	2.8	4.2	.59
SMA010	13.0	5.7	1.0	1.1	.78	3.6	5.1	.75
SMA015	16.1	7.6	1.1	1.2	.97	4.1	5.8	.87
SMA020	17.7	5.7	1.2	1.3	1.1	4.5	5.1	.98
SMA030	20.7	7.6	1.4	1.5	1.4	5.1	5.8	1.1
SMA050	24.0	8.3	1.5	1.7	1.7	5.9	6.6	1.3

Note:
Dimensions are subject to change.



OVERLOAD PROTECTION
For Your Safety

Industrial Lifting Equipment

THV "Lo-Pro" Series Manual Chain Hoist

1/2 – 10 metric ton Lifting Capacity

Features:

Low headroom "Army Style" type trolley hoist

- Utilizes our premium VL2 hoist with a "low profile" trolley.
- All steel construction for external impact resistance.
- Forged steel alloy load hooks with non-slip design have extra wide throat openings for easy rigging.
- Premium grade 100 alloy steel load chain.
- Contour trolley wheel design provides maximum beam contact on flat or tapered beams.
- Thrust bearing bottom block helps prevent chain twisting or kinking.
- Overload Protection to deter and reduce downtime and repair costs resulting from abuse.
- Needle bearings reduce friction and provide low hand chain pull.
- Overload clutch.

Options:

- Spark and corrosion resistant models available.
- Trolley shaft extensions for wider flanges.
- Trolley lugs and rubber bumpers.
- Chain containers.
- Choice of plain or geared trolleys.
- Variable lengths of lift for special requirements.
- Special inquiries invited.
- Bullard bottom hooks for single fall models only.



THV Series Specifications

Model no.	Capacity		Pull to lift rated load lbs	Chain o'hauled to lift load 1 ft	Net wt of chain per ft of lift lbs	No. of chain falls	Load chain size mm	Ship wt w/10 ft of lift lbs	Std flange adjustment in.	Shipping wt trolley type	
	metric tons	lbs								Plain	Geared
THV005	1/2	1100	55	25	.95	1	5.0 x 15.0	15	2.5 – 5	35	38
THV010	1	2200	73	39	1.16	1	6.3 x 19.2	29	2.5 – 5	50	54
THV020	2	4400	76	75	1.51	1	8.0 x 24.2	37	3 – 5	90	96
THV030	3	6600	76	116	2.08	2	7.1 x 21.2	44	3 – 5	120	128
THV050	5	11000	85	187	3.00	2	9.0 x 27.2	55	3 – 5	205	255
THV080	8	18000	90	281	4.21	3	9.0 x 27.2	60	4 – 6	385	420
THV100	10	22000	90	375	5.42	4	9.0 x 27.2	60	4 – 6	455	480

Note:

Standard lift 10

Standard hand chain length for hoist and trolley is 2 feet less than lift.

THV Series Dimensions (in.)

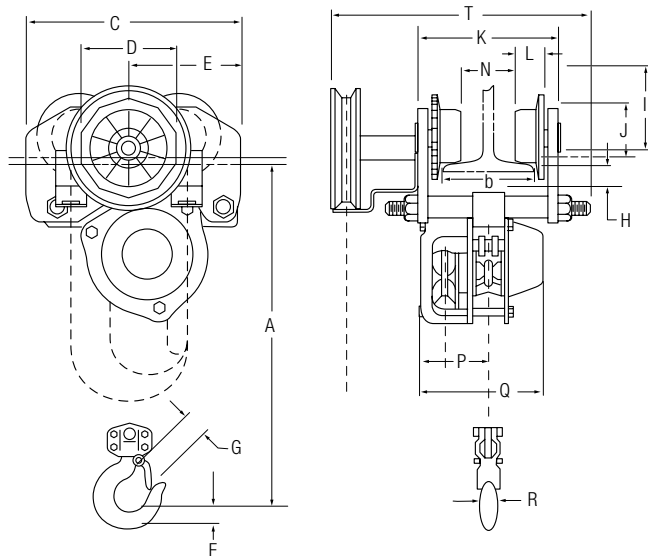
Base model	A (min)	C	D	E	F	G	H	I
THV005	10 ⁵ / ₈	10	4 ¹ / ₂	5 ¹ / ₂	³ / ₄	1 ¹ / ₁₆	1 ¹ / ₂	4 ¹ / ₄
THV010	12 ¹¹ / ₁₆	10	4 ¹ / ₂	5 ¹ / ₂	⁷ / ₈	1 ¹ / ₈	1 ¹ / ₂	4 ¹ / ₄
THV020	15 ³ / ₁₆	12 ⁵ / ₈	5 ³ / ₈	7 ¹ / ₈	1 ³ / ₈	1 ¹ / ₂	1 ¹ / ₈	5
THV030	17 ³ / ₈	14	6 ¹ / ₄	7 ⁷ / ₈	1 ¹ / ₂	1 ⁵ / ₈	1 ¹ / ₂	5 ³ / ₄
THV050	21 ¹ / ₂	17 ¹ / ₂	7	10 ¹ / ₂	1 ⁷ / ₈	1 ³ / ₄	1 ⁷ / ₁₆	6 ⁵ / ₈
THV080	26 ³ / ₄	20 ¹ / ₂	7 ³ / ₄	9 ⁷ / ₈	2 ⁷ / ₈	2 ¹ / ₂	1 ³ / ₁₆	7 ³ / ₈
THV100	27 ⁵ / ₈	20 ¹ / ₂	7 ³ / ₄	9 ⁷ / ₈	2 ⁷ / ₈	2 ¹ / ₂	1 ³ / ₁₆	7 ³ / ₈

THV Series Dimensions (in.) continued

Base model	J	K	L	N	P	Q	R	T ¹
THV005	2 ³ / ₄	b + 1 ⁷ / ₈	1 ³ / ₈	b - 1 ⁷ / ₈	2 ³ / ₄	6 ¹ / ₄	1/2	11 ⁵ / ₈
THV010	2 ³ / ₄	b + 1 ⁷ / ₈	1 ³ / ₈	b - 1 ⁷ / ₈	2 ³ / ₄	6 ³ / ₈	5/8	11 ⁵ / ₈
THV020	3 ³ / ₈	b + 2	1 ¹ / ₂	b - 2 ¹ / ₈	3 ¹ / ₂	7 ¹ / ₄	7/8	11 ⁵ / ₈
THV030	4	b + 2 ¹ / ₈	1 ⁵ / ₈	b - 2 ³ / ₈	3 ¹ / ₈	6 ³ / ₄	1 ¹ / ₈	12
THV050	4 ³ / ₄	b + 2 ³ / ₄	2 ¹ / ₈	b - 2 ⁷ / ₈	3 ¹ / ₂	7 ¹ / ₂	1 ³ / ₈	14 ¹ / ₂
THV080	6 ¹ / ₈	b + 3 ¹ / ₄	2 ³ / ₈	b - 3 ¹ / ₂	4	8 ¹ / ₄	2 ¹ / ₈	18 ³ / ₄
THV100	6 ¹ / ₈	b + 3 ¹ / ₄	2 ³ / ₈	b - 3 ¹ / ₂	4	8 ¹ / ₄	2 ¹ / ₈	18 ³ / ₄

Note:

(1) Applicable for geared trolleys only.



1/4 – 25 US Ton Lifting Capacity

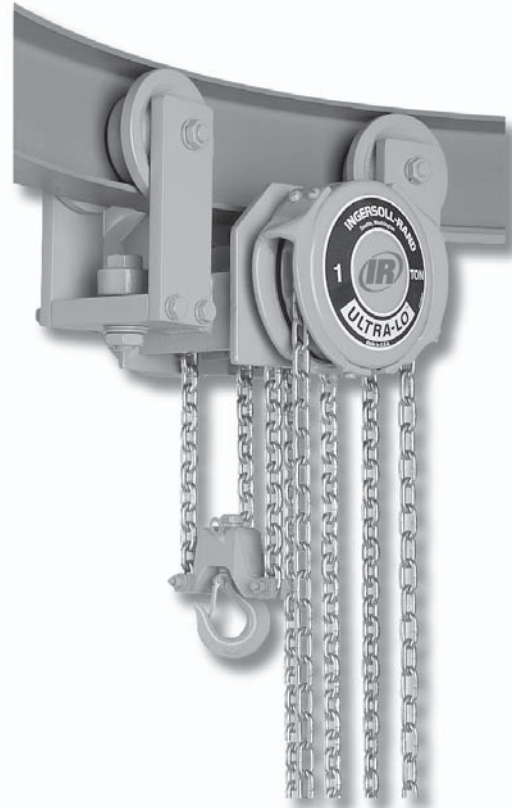
Features:

Ingersoll-Rand’s ULM2 and ULM2S have been designed to offer our lowest headroom possible, maximizing lifting capacities for areas with height restrictions.

- All steel construction for external impact resistance.
- Forged steel load hooks.
- Chill-hardened, machine tread trolley wheels with 2 precision bearings per wheel.
- Swivel trolleys available to travel extremely tight radius, (as tight as 21 feet) for track without sacrificing headroom for capacities up to 6 ton.
- Custom built for easy installation.
- Low headroom capacities available from 1/4 through 25 ton.
- 2 roller thrust bearings used in trolley capacities 3 tons and larger for longer life and reliability.
- Corrosion resistant zinc plated hand chain.
- Designed and built to ANSI B30.16.

Options:

- Stainless steel and bronze parts available for spark resistant features.
- Corrosion resistant finish.
- Overload clutch for all capacities.
- Chain container for all capacities and all lifts up to 50 feet.
- Track clamps.
- Hand wheel extensions.
- Zinc plated load chain.



ULM2 and ULM2S Series Specifications

Model no.	Capacity		Pull to lift rated load lbs	Chain o’hauled to lift load 1 ft	No. of chain falls per side	Load chain size mm	Straight track flange adj in.	Min curve radius in.	Max width for min curve radius in.	Ship wt trolley type lbs	
	US tons	lbs								Plain	Geared
ULM2 Series											
ULM2-015	1½	3000	41	87	1 x 1	7.14	3.33-8.00	78	–	207	230
ULM2-020	2	4000	54	87	1 x 1	7.14	3.33-8.00	78	–	210	233
ULM2-030	3	6000	42	176	2 x 2	7.14	4.00-8.00	78	–	305	355
ULM2-040	4	8000	56	176	2 x 2	7.14	4.00-8.00	90	–	308	340
ULM2-050	5	10000	79	165	1 x 1	13.49	4.63-8.00	102	–	574	633
ULM2-060	6	12000	94	165	1 x 1	13.49	4.63-8.00	102	–	574	633
ULM2-080	8	16000	64	355	2 x 2	9.53	4.63-8.00	114	–	650	773
ULM2-100	10	20000	87	330	2 x 2	13.49	5.00-8.00	–	–	1022	1105
ULM2-120	12	24000	104	330	2 x 2	13.49	5.00-8.00	–	–	1022	1105
ULM2-160	16	22000	68	710	4 x 2	9.53	5.00-8.00	–	–	1600	1681
ULM2-200	20	40000	87	732	4 x 2	13.49	6.00-8.00	–	–	1950	2110
ULM2-240	24	48000	104	732	4 x 2	13.49	6.00-8.00	–	–	1950	2110
ULM2-250	25	50000	104	732	4 x 2	13.49	6.00-8.00	–	–	1950	2110
ULM2S Series											
ULM2S003	¼	500	17	33	1 x 1	7.14	3.00-5.38	21	3.38	110	127
ULM2S005	½	1000	35	33	1 x 1	7.14	3.00-5.38	21	3.38	127	144
ULM2S010	1	2000	70	33	1 x 1	7.14	3.00-5.38	21	3.38	127	144
ULM2S015	1½	3000	57	66	2 x 2	7.14	3.31-6.00	30	4.00	245	267
ULM2S020	2	4000	76	66	2 x 2	7.14	3.31-6.00	30	4.00	251	270
ULM2S030	3	6000	42	170	2 x 2	7.14	4.00-6.00	42	5.88	345	375
ULM2S040	4	8000	58	170	2 x 2	7.14	4.00-6.00	48	5.88	350	380
ULM2S050	5	10000	73	170	2 x 2	7.14	4.63-8.00	48	7.88	466	496
ULM2S060	6	12000	90	170	2 x 2	7.14	4.63-8.00	48	7.88	466	496

Note:

Standard lift is 8 ft.

Maximum flange thickness for ULM2S003–030 is 1/2 in., ULM2S040–060 is 5/8 in.

Industrial Lifting Equipment

ULM2/S "Ultra-Lo" Series Manual Chain Hoist

1/4 – 25 US Ton Lifting Capacity

ULM2 and ULM2S Beam Flange Chart (in.)

Plain and geared trolleys for straight and curved track

	Capacity US Tons	Fits flange width for straight track	Max flange width for min curve radius	flange thickness for radius min	max
ULM2 Series					
ULM2-015, ULM2-020	1 1/2, 2	3 3/8 – 8	–	–	–
ULM2-030, ULM2-040	3, 4	4 – 8	–	–	–
ULM2-050, ULM2-060, ULM2-080	5, 6, 8	4 5/8 – 8	–	–	–
ULM2-100, ULM2-120	10, 12	5 – 8	–	–	–
ULM2-160, ULM2-200	16, 20	5 1/2 – 8	–	–	–
ULM2-240, ULM2-250	24, 25	6 – 8	–	–	–
ULM2S Series					
ULM2S003, ULM2S005, ULM2S010	1/4, 1/2, 1	3 – 5 3/8	3 3/8	21	1/2
ULM2S015, ULM2S020	1 1/2, 2	3 3/8 – 6	4	30	1/2
ULM2S030, ULM2S040	3, 4	4 – 6	5 7/8	42	5/8
ULM2S050, ULM2S060	5, 6	4 5/8 – 8	7 7/8	48	7/8

Note:

Contact Technical Sales for wider beam flange applications.

ULM2 Series Dimensions (in.)

Capacity U.S. Tons	A (min)	B	C	D	E	E1	F	G	H	J	L	M	N ¹	P ²	R	S
1 1/2 & 2	6 1/4	20 3/8	10 3/16	10 3/16	5 1/8	5 1/8	8 3/4	8 1/4	5/8	1 1/8	1 1/8	4 1/2	1/2	6" @ 12.5#	13 1/16	6
3	7 3/8	20 3/8	10 3/16	10 3/16	6 1/2	6 5/8	10 5/8	10 5/8	9/16	1 11/32	1 11/32	6 3/8	1/2	8" @ 18.4#	13 1/16	8
4	8	20 3/8	10 3/16	10 3/16	6 1/2	6 5/8	10 5/8	10 5/8	9/16	1 11/16	1 11/32	6 3/8	1/2	8" @ 18.4#	13 1/16	8
5 & 6	8 3/4	26 1/4	13 1/8	13 1/8	7 3/8	7 3/8	12	12	29/32	1 11/16	1 11/32	7 3/16	9/16	10" @ 25.4#	16 1/2	9
8	11	26 1/4	13 1/8	13 1/8	8 3/8	8 3/8	14	13 1/2	9/16	2 1/16	1 11/16	8 1/4	9/16	10" @ 25.4#	16 1/2	10
10 & 12	11 1/2	26 1/4	13 1/8	13 1/8	8 1/2	9 3/4	15 5/8	14 3/8	9/16	2 1/4	1 3/4	9 3/4	5/8	12" @ 31.8#	16 1/2	11 11/16
16	13 5/8	30 3/8	15 3/16	15 3/16	11 7/8	11 7/8	18 5/8	18 5/8	9/16	3	2	11 3/4	3/4	15" @ 42.9#	18 7/8	13 1/2
20, 24 & 25	17 1/4	30 3/8	15 3/16	15 3/16	12 1/8	12 3/8	19 1/4	19	3/4	3 5/8	2	11 3/4	5/8	18" @ 54.7#	18 7/16	13 1/2

Note:

(1) At under beam roller

(2) Minimum standard I-Beam for proper wheel running clearance. Contact factory for smaller beams. Customer must verify their beam is adequate for applied loads.

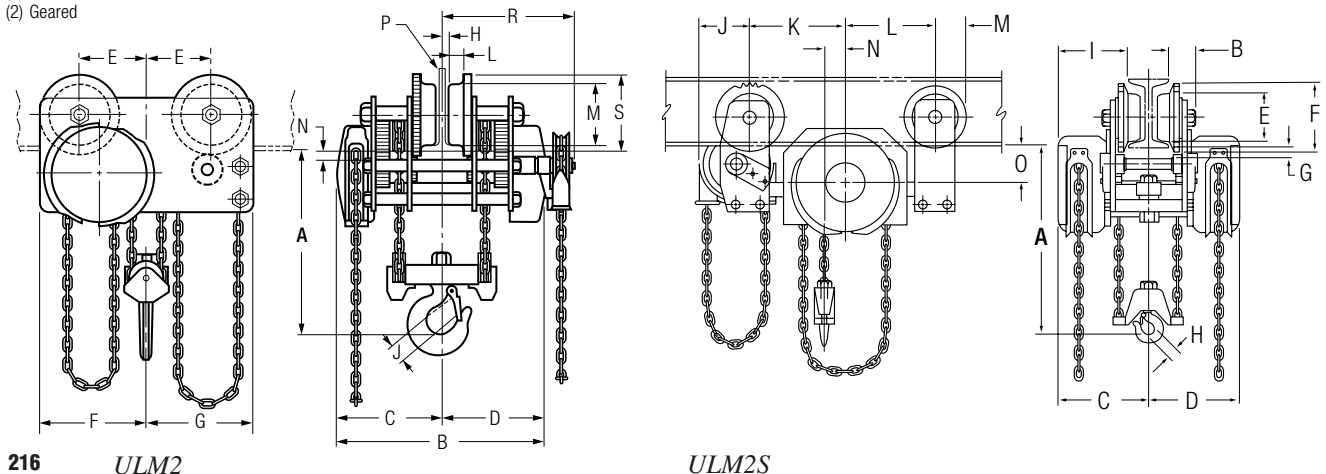
ULM2S series dimensions (in.)

Capacity U.S. Tons	A (min)	B	C	D	E	F	G ¹	G ²	H	I	J	K ²	L ²	M	N	O
1/4 thru 1	6 1/4	2	6 9/16	6 9/16	3 3/4	5	2 3/16	1 1/8	3 1/32	4 11/16	3 3/4	7 1/4	6 1/2	2 1/2	1 3/8	2 15/16
1 1/2 & 2	6 3/4	2 3/16	9 1/8	9 1/8	4 1/2	6	5 5/8	5 5/8	1 1/8	7 3/16	6 1/4	11 3/8	7 5/8	3	3	1 7/8
3	8 3/4	2 9/16	9 7/8	9 7/8	6 3/8	8	15 1/16	15 1/16	1 11/32	8 1/8	6 1/8	11 9/16	7 11/16	4	3	1 7/8
4	9 1/4	2 9/16	9 7/8	9 7/8	6 3/8	8	15 1/16	15 1/16	1 11/16	8 1/8	6 1/8	11 9/16	7 11/16	4	3	3 7/16
5 & 6	9 15/16	2 13/16	10 1/8	10 1/8	7 3/16	9	7 7/8	7 7/8	1 11/16	8 1/2	6 15/16	11 9/16	8 13/16	4 1/2	3	3 7/8

Note:

(1) Plain

(2) Geared

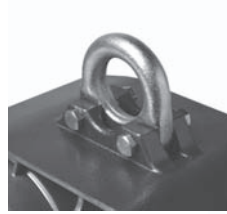


1/8 – 5 metric ton Lifting Capacity

Features:

1. Eyebolt suspension:

An eyebolt suspension is standard with motorized and plain trolleys. Unlike rigid suspensions, the eyebolt suspension allows the hoist to pivot and align itself to the direction of load pull, reducing stress and wear. (Hook suspension can be substituted).



2. Overload clutch for asset protection:

The overload clutch is factory set to limit Quantum from lifting loads in excess of 150% of rated hoisting capacity.



3. Gear case:

Smooth and compact design with a helical/spur gear combination providing “grab free” movement and quiet, reliable operation. Optimum lubrication – Gears are lubricated with a semiliquid grease instead of oil, which is less likely to leak, eliminates oil level checks and clings to the gears even after long idle periods. Quantum will even work upside down.

4. Chain guide and wheel:

A “floating” chain guide precisely feeds chain onto a machined-matched five-pocket chain wheel. This system insures smooth, jam resistant operation, and extends load chain, and chain wheel life.



5. Optimized load chain:

Quantum load chain is precision formed from alloy steel, case hardened and zinc plated. The plating is an IR proprietary process, which resists corrosion better than any standard plating offered for load chain. Controlled elongation: Quantum chain is engineered to elongate a minimum of 10%. This ability to stretch reduces the possibility of catastrophic failure under sudden loading.



6. Motors:

High starting torque – Quantum motors are a totally enclosed non-ventilated (TENV) squirrel cage design. The H4 duty classification of the three phase models allows for 300 starts and 30 minutes “on time” per hour. Class F insulation allows a total thermal rating of 145° C at a 1.0 service factor, instead of the more common Class B insulation of 120° C. Quantum motors can take the heat!

Phased to your needs – Single phase motors are available as 115 or 230 volt. Because single-phase motors are subject to low voltages that create higher motor temperatures, these Quantum hoists are equipped with “klixons,” bimetal heat switches that prevent motor burnout. *Three phase motors* – are available in 230, 380, 460, and 575 volts, single and dual speeds. The 230/460 volt, single speed motors are field reconnectable.

Dual speed motors – feature 4, 5, or 6 to 1 high to low speed ratios instead of the typical 3 to 1 ratios. The advantages are unsurpassed load control, reduced cycle time and improved productivity. The overload clutch and Class F insulation eliminate the cost of “klixons.”

7. Brake:

Metal discs stack up against wear – Quantum has a state-of-the-art AC motor brake employing all-steel discs. Multiple stacking significantly increases braking surface area, reducing wear and extending life. This system eliminates the breakage common with fiber discs and the heavier steel springs and DC solenoids they require. Quantum brake discs are guaranteed for the life of the hoist.



8. Electrical controls:

Safety-first pendent – Quantum’s safety-first pendent control handles are comfortable and fit securely in the operator’s hand. Each low voltage (42 volt) control handle integrates a large, red emergency stop button. Operating buttons are clearly marked with high contrast arrows, feature soft push action, and are horizontally aligned for easier operation.

Emergency shut-off – Activated from the pendent handle, the mainline contactor disconnects the power to the hoist and trolley motor providing “shut-off protection” in an emergency situation.

Easy accessibility – Quantum enclosures are weatherproof, NEMA 3R rated. The removal of just four fasteners (slot-head on the electrical parts cover and allen-head on the mechanical parts cover) allows access to components. Since electrical and mechanical components can be accessed separately, service is quick and clean.

9. Limit switches:

Fail-safe limits – Quantum limit levers are recessed in the hoist enclosure. This clean, obstruction-free assembly virtually eliminates accidental activation of switches. Upper and lower switches are activated by the hook and end stop, eliminating time-consuming adjustments.



Industrial Lifting Equipment

Quantum Series Electric Chain Hoist

1/8 – 5 metric ton Lifting Capacity

Design Features:

- UL and C-UL listed (except 380 volt units). Complete unit listed number is 5D48.
- Meets I-R's interpretation of ANSI B30.16 and pertinent European FEM standards.
- Small compact light weight, high tensile strength, die cast aluminum housing.
- NEMA 3R hoist enclosure and NEMA 4X pendant enclosure can be used outdoors.
- Universal tread trolley wheels fit tapered or flat flange beams.
- Hook, eyebolt, push trolley or motorized trolley suspensions.
- Safety lugs on all trolleys.
- Anti-tip lugs on motorized trolleys.
- Well balanced, modular design.

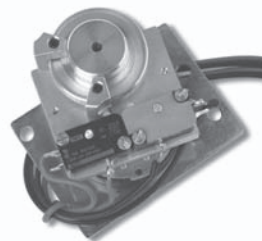
Options:

- Trolley brake.
- Chain container.
- External strain relief.
- Power cord lengths.
- Geared limits.
- Handy Handle.
- 110 Volt controls.
- Inertia type mechanical load brake.
- Pendant with vertical aligned buttons.
- Pendant with additional 2 or 4 aligned buttons.
- Bullard top and bottom hooks.

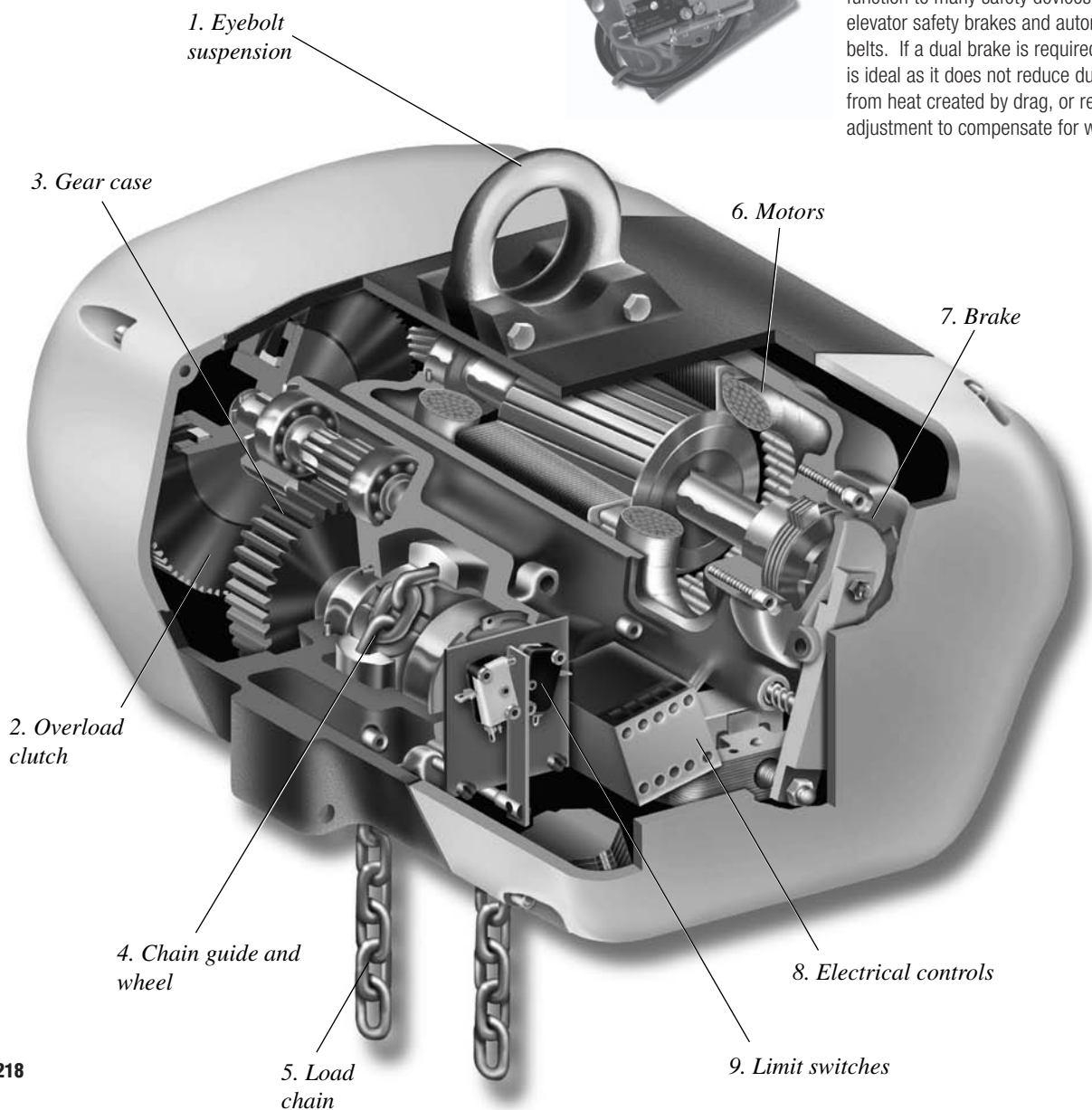


Optional pendant handle with additional buttons

Optional geared limit switch



- Inertia type mechanical load brake. This option specifies a bolt-on inertia mechanical load brake. The inertia type brake responds to overspeed of the load. It's similar in function to many safety devices including elevator safety brakes and automotive seat belts. If a dual brake is required this option is ideal as it does not reduce duty cycle, from heat created by drag, or require adjustment to compensate for wear.



1/8 – 5 metric ton Lifting Capacity

Quantum Series specifications

Base model	Cap. metric tons	Chain falls	Lift spd fpm	Motor hp used	Amperage						Chain & pendent wt (lbs/ft)	Eye & hook wt (lbs)	Curve radius min	S beam min	Push trolley, PT Series		Wt ⁽¹⁾ lbs
					Single phase		Three phase								Flange Width (in.)		
					115V	230V	230V	460V	575V	380V					A	D	
Single Phase (Single Speed)																	
Q50-1NS12	1/8	1	36	0.3	13	6.7	n/a	n/a	n/a	n/a	.24	49	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	69
Q50-1NS25	1/4	1	36	0.7	13	6.7	n/a	n/a	n/a	n/a	.37	54	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	74
Q50-1NS50	1/2	1	18	0.7	13	6.7	n/a	n/a	n/a	n/a	.37	54	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	74
Q100-1NS50	1/2	1	32	1.2	16	8.0	n/a	n/a	n/a	n/a	.70	104	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	124
Q50-2NS100	1	2	9	0.7	13	6.7	n/a	n/a	n/a	n/a	.74	60	36	5	3 – 5 ¹ / ₄	3 – 8 ¹ / ₁₆	80
Q100-2NS100	1	2	16	1.2	16	8.0	n/a	n/a	n/a	n/a	1.40	123	36	5	3 – 5 ¹ / ₄	3 – 8 ¹ / ₁₆	178
Q200-1NS100	1	1	16	1.2	16	8.0	n/a	n/a	n/a	n/a	1.18	139	36	5	3 – 5 ¹ / ₄	3 – 8 ¹ / ₁₆	211
Q200-2NS200	2	2	8	1.2	16	8.0	n/a	n/a	n/a	n/a	2.36	167	48	6	3 ¹¹ / ₃₂ – 6	3 ¹¹ / ₃₂ – 8 ¹ / ₁₆	222
Q500-1NS200	2	1	12	1.8	n/a	10.0	n/a	n/a	n/a	n/a	1.52	157	48	6	3 ¹¹ / ₃₂ – 6	3 ¹¹ / ₃₂ – 8 ¹ / ₁₆	212
Q500-2NS300	3	2	6.2	1.4	n/a	10.0	n/a	n/a	n/a	n/a	3.04	173	60	8	4 – 6 ¹ / ₄	4 – 8 ¹ / ₁₆	279
Q500-2NS400	4	2	6.2	1.9	n/a	10.0	n/a	n/a	n/a	n/a	3.04	173	60	10	4 ²¹ / ₃₂ – 7 ¹ / ₄	4 ²¹ / ₃₂ – 8 ¹ / ₁₆	279
Three Phase (Single Speed)																	
Q50-1NS12	1/8	1	36	0.3	n/a	n/a	2.4	1.2	1.0	1.2	.24	49	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	69
Q50-1NS25	1/4	1	36	0.6	n/a	n/a	2.4	1.2	1.0	1.2	.24	49	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	69
Q50-1HS25	1/4	1	64	1.2	n/a	n/a	4.2	2.1	1.7	2.1	.37	54	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	74
Q50-1NS50	1/2	1	36	1.4	n/a	n/a	3.8	1.9	1.6	1.6	.37	54	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	74
Q100-1HS50	1/2	1	64	2.4	n/a	n/a	11.0	5.7	4.6	5.0	.70	100	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	120
Q50-2NS100	1	2	18	1.4	n/a	n/a	3.8	1.9	1.6	1.9	.74	60	36	5	3 – 5 ¹ / ₄	3 – 8 ¹ / ₁₆	90
Q100-1NS100	1	1	32	2.4	n/a	n/a	7.6	3.8	3.1	3.3	.70	100	36	5	3 – 5 ¹ / ₄	3 – 8 ¹ / ₁₆	130
Q100-2NS200	2	2	16	2.4	n/a	n/a	7.6	3.8	3.1	3.3	1.40	116	48	6	3 ¹¹ / ₃₂ – 6	3 ¹¹ / ₃₂ – 8 ¹ / ₁₆	171
Q300-1NS200	2	1	32	4.8	n/a	n/a	16.0	7.8	6.3	6.8	1.18	149	48	6	3 ¹¹ / ₃₂ – 6	3 ¹¹ / ₃₂ – 8 ¹ / ₁₆	204
Q200-2NS300	3	2	16	3.6	n/a	n/a	12.0	6.0	4.8	6.0	2.36	161	60	8	4 – 6 ¹ / ₄	4 – 8 ¹ / ₁₆	236
Q300-2NS400	4	2	16	4.8	n/a	n/a	16.0	7.8	6.3	6.8	3.04	173	60	10	4 ²¹ / ₃₂ – 7 ¹ / ₄	4 ²¹ / ₃₂ – 8 ¹ / ₁₆	279
Q500-2NS500	5	2	12.5	4.7	n/a	n/a	17.0	8.4	6.8	7.1	3.04	173	60	10	4 ²¹ / ₃₂ – 7 ¹ / ₄	4 ²¹ / ₃₂ – 8 ¹ / ₁₆	279
Three Phase (Dual Speed)																	
Q50-1ND12	1/8	1	36/6	0.3	n/a	n/a	3.6	1.8	1.5	1.8	.24	51	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	71
Q50-1ND25	1/4	1	36/6	0.6	n/a	n/a	3.6	1.8	1.5	1.6	.24	51	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	76
Q50-1HD25	1/4	1	50/8	1.2	n/a	n/a	4.4	2.2	1.8	2.2	.37	56	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	78
Q50-1ND50	1/2	1	36/6	1.4	n/a	n/a	4.4	2.2	1.8	2.1	.37	56	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	76
Q100-1HD50	1/2	1	64/16	2.4	n/a	n/a	9.8	4.9	4.0	4.9	.70	108	36	4	2 ¹¹ / ₁₆ – 4 ¹¹ / ₁₆	2 ¹¹ / ₁₆ – 8 ¹ / ₁₆	128
Q50-2ND100	1	2	18/3	1.4	n/a	n/a	4.4	2.2	1.8	2.1	.74	62	36	5	3 – 5 ¹ / ₄	3 – 8 ¹ / ₁₆	92
Q100-1ND100	1	1	32/8	2.4	n/a	n/a	8.0	4.0	3.2	3.5	.70	108	36	5	3 – 5 ¹ / ₄	3 – 8 ¹ / ₁₆	138
Q100-2ND200	2	2	16/4	2.4	n/a	n/a	8.0	4.0	3.2	3.5	1.40	125	48	6	3 ¹¹ / ₃₂ – 6	3 ¹¹ / ₃₂ – 8 ¹ / ₁₆	180
Q300-1ND200	2	1	32/8	4.8	n/a	n/a	16.0	7.8	6.3	6.8	1.18	156	48	6	3 ¹¹ / ₃₂ – 6	3 ¹¹ / ₃₂ – 8 ¹ / ₁₆	211
Q200-2ND300	3	2	16/3	3.6	n/a	n/a	12.0	6.0	4.8	6.0	2.36	165	60	8	4 – 6 ¹ / ₄	4 – 8 ¹ / ₁₆	240
Q300-2ND400	4	2	16/4	4.8	n/a	n/a	16.0	7.8	6.3	6.8	3.04	178	60	10	4 ²¹ / ₃₂ – 7 ¹ / ₄	4 ²¹ / ₃₂ – 8 ¹ / ₁₆	284
Q500-2ND500	5	2	12.5/3	4.7	n/a	n/a	17.0	8.4	6.8	7.1	3.04	178	60	10	4 ²¹ / ₃₂ – 7 ¹ / ₄	4 ²¹ / ₃₂ – 8 ¹ / ₁₆	284

Notes:

Multiply speeds shown by .83 for 380V / 50 Hz units

(1) 10 foot lift capacity only.



Eyebolt and Hook suspension



Motorized Trolley Suspension



PT Series Plain Trolley with Hook Suspension

Industrial Lifting Equipment

Quantum Series Electric Chain Hoist

1/8 – 5 metric ton Lifting Capacity

Quantum Series Motorized Trolley Specifications – M1, M3 and M4																
Base Model	Capacity metric tons	Lifting speed fpm			Motor hp	3 Phase Amperage				S beam hght min in.	Min curve radius in.	Flange width (in.)				WT ⁽¹⁾ lbs
		M1	M2	M4		230V	460V	575V	380V			A	B	C	D	
Three Phase (Single Speed)																
Q50-1NS12	1/8	39	39	63	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	109
Q50-1NS25	1/4	39	39	63	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	109
Q50-1HS25	1/4	39	39	63	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	114
Q50-1NS50	1/2	39	39	63	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	114
Q100-1HS50	1/2	39	39	63	.03	1.5	0.75	0.85	0.6	4	48	3 - 5 ¹⁵ / ₃₂	5 ¹ / ₂ - 7 ⁵³ / ₆₄	7 ⁷ / ₈ - 10 ³ / ₁₆	10 ¹ / ₂ - 12 ⁵ / ₈	174
Q50-2NS100	1	39	39	63	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	120
Q100-1NS100	1	39	39	63	.03	1.5	0.75	0.85	0.6	6	60	3 - 5 ¹⁵ / ₃₂	5 ¹ / ₂ - 7 ⁵³ / ₆₄	7 ⁷ / ₈ - 10 ³ / ₁₆	10 ¹ / ₂ - 12 ⁵ / ₈	174
Q100-2NS200	2	39	39	63	.03	1.5	0.75	0.85	0.6	6	60	3 - 5 ¹⁵ / ₃₂	5 ¹ / ₂ - 7 ⁵³ / ₆₄	7 ⁷ / ₈ - 10 ³ / ₁₆	10 ¹ / ₂ - 12 ⁵ / ₈	190
Q300-1NS200	2	39	39	63	.03	1.5	0.75	0.85	0.6	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	263
Q200-2NS300	3	39	39	63	.03	1.5	0.75	0.85	0.6	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	281
Q300-2NS400	4	39	39	63	.03	1.5	0.75	0.85	0.6	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	287
Q500-2NS500	5	39	39	63	.04	3.0	1.5	1.7	1.2	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	287
Three Phase (Dual Speed)																
Q50-1ND12	1/8	39	39/13	63/21	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	114
Q50-1ND25	1/4	39	39/13	63/21	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	111
Q50-1HD25	1/4	39	39/13	63/21	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	116
Q50-1ND50	1/2	39	39/13	63/21	.03	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	116
Q100-1HD50	1/2	39	39/13	63/21	.03	1.5	0.75	0.85	0.6	4	48	3 - 5 ¹⁵ / ₃₂	5 ¹ / ₂ - 7 ⁵³ / ₆₄	7 ⁷ / ₈ - 10 ³ / ₁₆	10 ¹ / ₂ - 12 ⁵ / ₈	182
Q50-2ND100	1	39	39/13	63/21	.04	1.5	0.75	0.85	0.6	4	48	1 ³¹ / ₃₂ - 3 ⁷ / ₈	3 ¹⁵ / ₁₆ - 5 ⁷ / ₈	5 ²⁹ / ₃₂ - 7 ²⁷ / ₃₂	7 ⁷ / ₈ - 9 ⁷ / ₁₆	122
Q100-1ND100	1	39	39/13	63/21	.04	1.5	0.75	0.85	0.6	6	60	3 - 5 ¹⁵ / ₃₂	5 ¹ / ₂ - 7 ⁵³ / ₆₄	7 ⁷ / ₈ - 10 ³ / ₁₆	10 ¹ / ₂ - 12 ⁵ / ₈	182
Q100-2ND200	2	39	39/13	63/21	.04	1.5	0.75	0.85	0.6	6	60	3 - 5 ¹⁵ / ₃₂	5 ¹ / ₂ - 7 ⁵³ / ₆₄	7 ⁷ / ₈ - 10 ³ / ₁₆	10 ¹ / ₂ - 12 ⁵ / ₈	199
Q300-1ND200	2	39	39/13	63/21	.04	1.5	0.75	0.85	0.6	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	270
Q200-2ND300	3	39	39/13	63/21	.04	1.5	0.75	0.85	0.6	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	285
Q300-2ND400	4	39	39/13	63/21	.04	1.5	0.75	0.85	0.6	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	292
Q500-2ND500	5	39	39/13	63/21	.04	3.0	1.5	1.7	1.2	10	72	2 ³ / ₁₆ - 4 ¹¹ / ₁₆	4 ²³ / ₃₂ - 7 ¹ / ₁₆	7 ³ / ₃₂ - 9 ¹³ / ₃₂	9 ⁷ / ₁₆ - 11 ¹³ / ₁₆	292

Notes:

Multiply speeds shown by .83 for 380V / 50 Hz units

(1) 10 foot lift capacity only.

Quantum Series Handy Handle

Pendent Control

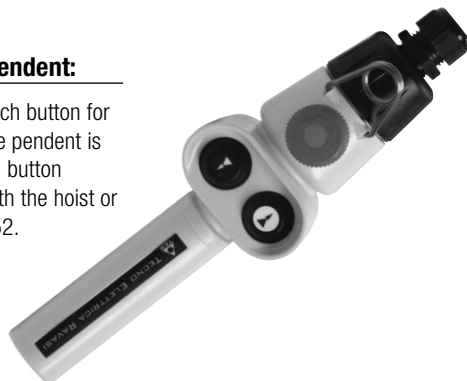
NEW Handy Handle Control:

Ergonomically designed to provide control and operation at the hook as a robotic power extension of the operator's arm. The load can be positioned and controlled with one hand, freeing the other hand to position the load.

The Handy Handle can be ordered separately as a kit, to convert any 1/8, 1/4 and 1/2 ton single line Quantum hoist, or as an "H" control option on a new hoist. Each Handy Handle is standard with single or dual speed thumb control lever switches and includes the Quantum red stop safety button. A socket connection at the bottom allows the standard hook to be easily replaced by custom end effectors or grabs.

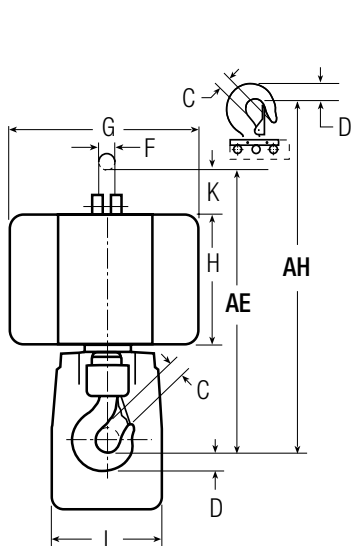
NEW Ergonomic "Charlie" Pendant:

Features horizontal two speed switch button for up and down hoist operations. The pendant is not available with additional switch button functions. Ordered as an option with the hoist or separately. Part number 04557252.

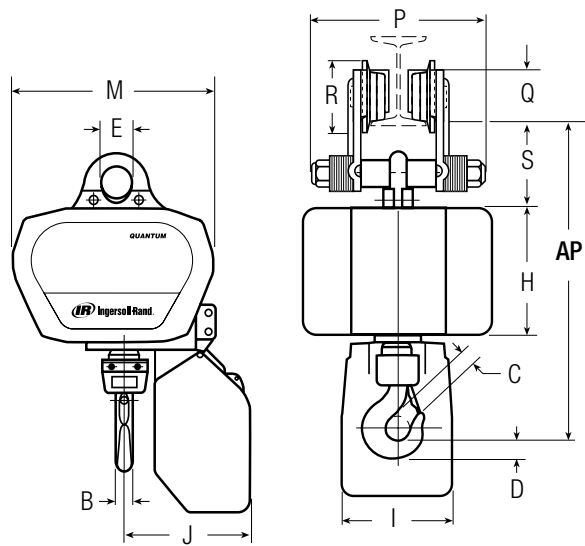


1/8 – 5 metric ton Lifting Capacity

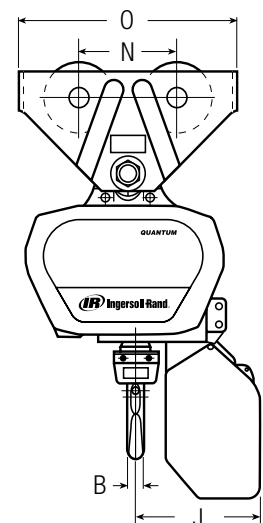
Quantum Series Dimensions (in.)																
Base model	Capacity metric tons	Eye bolt AE	Hook mount AH	Push trolley AP	Motor trolley AM	B	C	D	E	F	G	H	I	J	K	
Single Phase (Single Speed)																
Q50-1NS12	1/8	15 ⁵ / ₈	17 ¹ / ₂	18 ¹ / ₈	n/a	29 ²⁹ / ₃₂	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	5 ⁵ / ₈	2 ¹ / ₈	
Q50-1NS25	1/4	16 ³ / ₁₆	18 ¹³ / ₃₂	18 ³ / ₄	n/a	1	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	5 ³ / ₄	2 ¹ / ₈	
Q50-1NS50	1/2	16 ³ / ₁₆	18 ¹³ / ₃₂	18 ³ / ₄	n/a	1	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	5 ³ / ₄	2 ¹ / ₈	
Q100-1NS50	1/2	19 ¹ / ₈	21 ¹ / ₂	21 ⁵ / ₈	n/a	1 ³ / ₁₆	1 ³ / ₈	1 ³ / ₁₆	2	5 ⁵ / ₈	12 ¹³ / ₃₂	9 ¹ / ₈	7 ⁵ / ₁₆	8 ¹ / ₈	3	
Q50-2NS100	1	16 ³ / ₁₆	18 ¹³ / ₃₂	18 ³ / ₄	n/a	1	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	6 ³ / ₄	2 ¹ / ₈	
Q100-2NS100	1	22	24 ¹ / ₂	24 ¹ / ₂	n/a	1 ³ / ₁₆	1 ³ / ₈	1 ³ / ₁₆	2	13 ¹³ / ₁₆	12 ¹³ / ₃₂	9 ¹ / ₈	7 ⁵ / ₁₆	9 ¹ / ₂	3	
Q200-1NS100	1	21 ¹³ / ₁₆	22 ³ / ₁₆	24 ⁵ / ₁₆	n/a	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	9 ¹³ / ₁₆	5 ¹³ / ₃₂	
Q200-2NS200	2	26 ¹ / ₂	26 ²⁹ / ₃₂	28 ²⁹ / ₃₂	n/a	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	11 ¹ / ₂	5 ¹³ / ₃₂	
Q500-1NS200	2	21 ²⁹ / ₃₂	22 ⁵ / ₁₆	24 ¹³ / ₃₂	n/a	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	9 ²⁹ / ₃₂	5 ¹³ / ₃₂	
Q500-2NS300	3	26 ³ / ₄	27 ¹ / ₈	29 ⁵ / ₁₆	n/a	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	11 ¹ / ₂	5 ¹³ / ₃₂	
Q500-2NS400	4	26 ³ / ₄	27 ¹ / ₈	29 ⁵ / ₁₆	n/a	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	11 ¹ / ₂	5 ¹³ / ₃₂	
Three phase (Single and Dual speed)																
Q50-1NS12	1/8	15 ⁵ / ₈	17 ¹ / ₂	18 ¹ / ₈	17 ¹ / ₂	29 ²⁹ / ₃₂	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	5 ⁵ / ₈	2 ¹ / ₈	
Q50-1NS25	1/4	15 ⁵ / ₈	17 ¹ / ₂	18 ¹ / ₈	17 ¹ / ₂	29 ²⁹ / ₃₂	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	5 ⁵ / ₈	2 ¹ / ₈	
Q50-1HS25	1/4	16 ³ / ₁₆	18 ¹³ / ₃₂	18 ³ / ₄	18 ¹ / ₈	1	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	5 ³ / ₄	2 ¹ / ₈	
Q50-1NS50	1/2	16 ³ / ₁₆	18 ¹³ / ₃₂	18 ³ / ₄	18 ¹ / ₈	1	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	5 ³ / ₄	2 ¹ / ₈	
Q100-1HS50	1/2	19 ¹ / ₈	21 ¹ / ₂	21 ⁵ / ₈	21 ¹³ / ₃₂	1 ³ / ₁₆	1 ³ / ₈	1 ³ / ₁₆	2	13 ¹³ / ₁₆	12 ¹³ / ₃₂	9 ¹ / ₈	7 ⁵ / ₁₆	8 ¹ / ₈	3	
Q50-2NS100	1	16 ³ / ₁₆	18 ¹³ / ₃₂	18 ³ / ₄	18 ¹ / ₈	1	1 ¹ / ₈	1 ¹ / ₈	1 ⁵ / ₈	5 ⁵ / ₈	10 ²⁹ / ₃₂	7 ³ / ₁₆	6 ¹ / ₈	6 ³ / ₄	2 ¹ / ₈	
Q100-1NS100	1	19 ¹ / ₈	21 ¹ / ₂	21 ⁵ / ₈	21 ¹³ / ₃₂	1 ³ / ₁₆	1 ³ / ₈	1 ³ / ₁₆	2	13 ¹³ / ₁₆	12 ¹³ / ₃₂	9 ¹ / ₈	7 ⁵ / ₁₆	8 ¹ / ₈	3	
Q100-2NS100	2	22	26 ¹ / ₂	24 ¹ / ₂	24 ¹³ / ₃₂	1 ³ / ₁₆	1 ³ / ₈	1 ³ / ₁₆	2	13 ¹³ / ₁₆	12 ¹³ / ₃₂	9 ¹ / ₈	8 ¹³ / ₁₆	9 ¹ / ₂	3	
Q300-1NS200	2	21 ²⁹ / ₃₂	22 ⁵ / ₁₆	24 ¹³ / ₃₂	24 ¹ / ₈	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	9 ²⁹ / ₃₂	5 ¹³ / ₃₂	
Q200-2NS300	3	26 ¹ / ₂	26 ²⁹ / ₃₂	29 ¹ / ₈	28 ⁵ / ₈	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	11 ¹ / ₂	5 ¹³ / ₃₂	
Q300-2NS400	4	26 ¹ / ₂	26 ²⁹ / ₃₂	29	28 ⁵ / ₈	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	11 ¹ / ₂	5 ¹³ / ₃₂	
Q500-2NS500	5	26 ³ / ₄	27 ¹ / ₈	29 ⁵ / ₁₆	28 ²⁹ / ₃₂	1 ¹ / ₂	1 ¹ / ₂	1 ⁵ / ₈	3	1 ¹ / ₂	15 ¹ / ₈	9 ¹³ / ₃₂	8 ¹³ / ₁₆	11 ¹ / ₂	5 ¹³ / ₃₂	



Eyebolt and Hook suspension



PT Series Plain Trolley with Hook Suspension



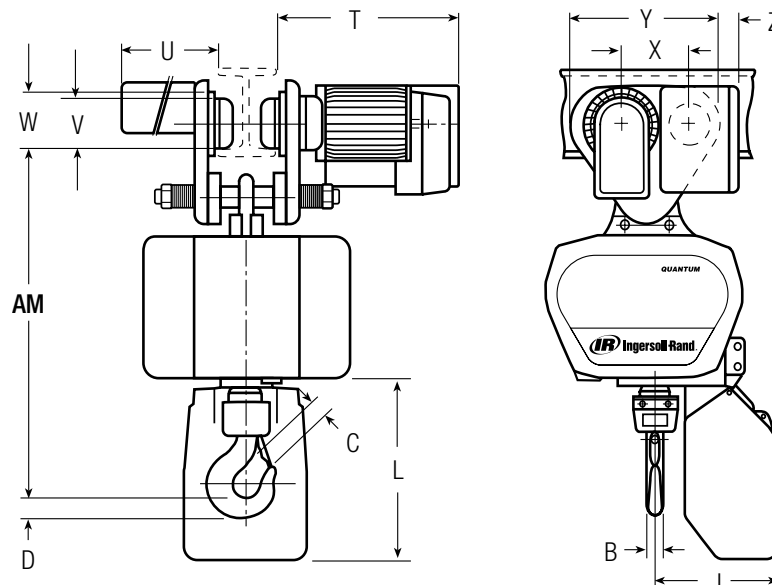
Industrial Lifting Equipment

Quantum Series Electric Chain Hoist

1/8 – 5 metric ton Lifting Capacity

Quantum Series Dimensions (in.)																
Base model	Cap. metric tons	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Single Phase (Single Speed)																
Q50-1NS12	1/8	6 ¹⁵ / ₁₆	10	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	4 ⁵ / ₈	10 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	8 ⁵ / ₈	2 ³ / ₁₆
Q50-1NS25	1/4	6 ¹⁵ / ₁₆	10	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	4 ⁵ / ₈	10 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	8 ⁵ / ₈	2 ³ / ₁₆
Q50-1NS50	1/2	6 ¹⁵ / ₁₆	10	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	4 ⁵ / ₈	1 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	5 ¹ / ₈	2 ³ / ₁₆
Q100-1NS50	1/2	11	12 ³ / ₄	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	5 ¹ / ₂	10 ⁵ / ₈	8 ⁵ / ₁₆	3 ³ / ₁₆	4 ³ / ₁₆	4 ¹³ / ₁₆	9 ¹³ / ₁₆	1 ¹ / ₂
Q50-2NS100	1	6 ¹⁵ / ₁₆	10	5 ⁵ / ₈	12 ⁵ / ₈	10	2 ¹³ / ₁₆	4 ³ / ₁₆	4 ⁵ / ₈	10 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	8 ⁵ / ₈	2 ³ / ₁₆
Q100-2NS100	1	11	12 ³ / ₄	5 ⁵ / ₈	12 ⁵ / ₈	10	2 ¹³ / ₁₆	4 ³ / ₁₆	5 ¹ / ₂	10 ⁵ / ₈	8 ⁵ / ₁₆	3 ³ / ₁₆	4 ³ / ₁₆	4 ¹³ / ₁₆	9 ¹³ / ₁₆	1 ¹ / ₂
Q200-1NS100	1	12 ³ / ₄	13 ³ / ₁₆	5 ⁵ / ₈	12 ⁵ / ₈	10	2 ¹³ / ₁₆	4 ³ / ₁₆	7 ¹⁵ / ₁₆	10 ¹³ / ₁₆	8 ¹ / ₂	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆
Q200-2NS200	2	12 ³ / ₄	13 ³ / ₁₆	6 ¹ / ₂	14 ¹⁵ / ₁₆	11 ³ / ₁₆	4 ⁵ / ₁₆	5 ³ / ₄	7 ¹⁵ / ₁₆	10 ⁵ / ₈	8 ⁵ / ₁₆	3 ³ / ₁₆	4 ³ / ₁₆	4 ¹³ / ₁₆	9 ¹³ / ₁₆	1 ¹ / ₂
Q500-1NS200	2	12 ³ / ₄	13 ³ / ₁₆	6 ¹ / ₂	14 ¹⁵ / ₁₆	11 ³ / ₁₆	4 ⁵ / ₁₆	5 ³ / ₄	7 ¹⁵ / ₁₆	10 ¹³ / ₁₆	8 ¹ / ₂	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆
Q500-2NS300	3	12 ³ / ₄	13 ³ / ₁₆	6 ¹ / ₂	14 ³ / ₁₆	12 ⁷ / ₁₆	4 ⁵ / ₁₆	5 ³ / ₄	8	10 ¹³ / ₁₆	8 ¹ / ₂	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆
Q500-2NS400	4	12 ³ / ₄	13 ³ / ₁₆	6 ³ / ₄	15 ⁷ / ₁₆	14 ¹⁵ / ₁₆	4 ⁷ / ₁₆	6 ³ / ₁₆	8	10 ¹³ / ₁₆	9 ³ / ₄	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆
Three Phase (Single and Dual Speed)																
Q50-1ND12	1/8	6 ¹⁵ / ₁₆	10	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	4 ⁵ / ₈	10 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	8 ⁵ / ₈	2 ³ / ₁₆
Q50-1ND25	1/4	6 ¹⁵ / ₁₆	10	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	4 ⁵ / ₈	10 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	8 ⁵ / ₈	2 ³ / ₁₆
Q50-1HD25	1/4	6 ¹⁵ / ₁₆	10	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	4 ⁵ / ₈	10 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	8 ⁵ / ₈	2 ³ / ₁₆
Q50-1ND50	1/2	6 ¹⁵ / ₁₆	10	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	4 ⁵ / ₈	1 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	5 ¹ / ₈	2 ³ / ₁₆
Q100-1HD50	1/2	11	12 ³ / ₄	4 ¹ / ₂	10	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ⁷ / ₁₆	5 ¹ / ₂	10 ⁵ / ₈	8 ⁵ / ₁₆	3 ³ / ₁₆	4 ³ / ₁₆	4 ¹³ / ₁₆	9 ¹³ / ₁₆	1 ¹ / ₂
Q50-2ND100	1	6 ¹⁵ / ₁₆	10	5 ⁵ / ₈	12 ⁵ / ₈	10	2 ¹³ / ₁₆	4 ³ / ₁₆	4 ⁵ / ₈	10 ¹ / ₂	8 ³ / ₁₆	2 ³ / ₄	3 ¹³ / ₁₆	4 ³ / ₁₆	8 ⁵ / ₈	2 ³ / ₁₆
Q100-1ND100	1	11	12 ³ / ₄	5 ⁵ / ₈	12 ⁵ / ₈	10	2 ¹³ / ₁₆	4 ³ / ₁₆	5 ¹ / ₂	10 ⁵ / ₈	8 ⁵ / ₁₆	3 ³ / ₁₆	4 ³ / ₁₆	4 ¹³ / ₁₆	9 ¹³ / ₁₆	1 ¹ / ₂
Q100-2ND100	2	11	12 ³ / ₄	6 ¹ / ₂	14 ¹⁵ / ₁₆	11 ³ / ₁₆	4 ⁵ / ₁₆	5 ³ / ₄	5 ¹ / ₂	10 ⁵ / ₈	8 ⁵ / ₁₆	3 ³ / ₁₆	4 ³ / ₁₆	4 ¹³ / ₁₆	9 ¹³ / ₁₆	1 ¹ / ₂
Q300-1ND200	2	12 ³ / ₄	13 ³ / ₁₆	6 ¹ / ₂	14 ¹⁵ / ₁₆	11 ³ / ₁₆	4 ⁵ / ₁₆	5 ³ / ₄	7 ¹⁵ / ₁₆	10 ¹³ / ₁₆	8 ¹ / ₂	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆
Q200-2ND300	3	12 ³ / ₄	13 ³ / ₁₆	6 ¹ / ₂	14 ³ / ₁₆	14 ⁹ / ₁₆	4 ⁵ / ₁₆	5 ³ / ₄	8	10 ¹³ / ₁₆	8 ¹ / ₂	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆
Q300-2ND400	4	12 ³ / ₄	13 ³ / ₁₆	6 ³ / ₄	15 ⁷ / ₁₆	14 ¹⁵ / ₁₆	4 ⁷ / ₁₆	6 ³ / ₁₆	8	10 ¹³ / ₁₆	8 ¹ / ₂	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆
Q500-2ND500	5	12 ³ / ₄	13 ³ / ₁₆	6 ³ / ₄	15 ⁷ / ₁₆	14 ¹⁵ / ₁₆	4 ⁷ / ₁₆	6 ³ / ₁₆	8	10 ¹³ / ₁₆	9 ³ / ₄	4	4 ³ / ₄	5 ²⁹ / ₃₂	12 ³ / ₁₆	5 ¹ / ₁₆

Notes:
Multiply speeds shown by .83 for 380V / 50 Hz units.



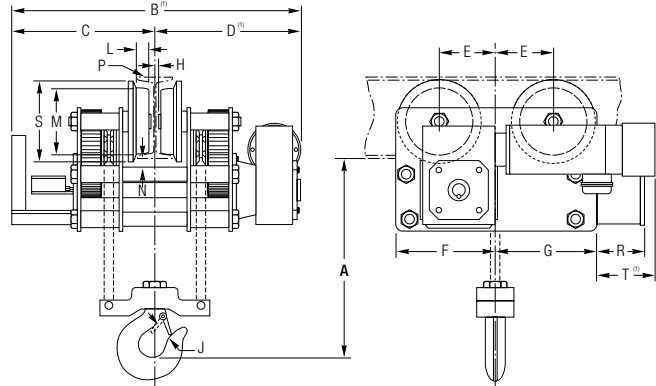
Motorized Trolley Suspension

1/4 – 24 US Ton Lifting Capacity

Features:

Ingersoll-Rand's complete line of worm gear driven electric and air low headroom hoists provide smooth, quiet, trouble-free operation. Tested in accordance with ANSI B30.16 overhead hoist standards.

- Large diameter chain wheels for improved chain wear.
- Worm gear drive for maximum control and durability.
- Plain, motorized, and hand chain trolleys.
- Dual up and down limits for added safety.
- NEMA-12 control enclosure and weather resistant Pendant controls.
- Design flexibility allows custom configurations to be offered and priced on request.
- Dual braking from the self-braking worm drive and spring applied motor brake.
- Explosion-Proof units and spark and corrosion resistant features can be customer defined to fit the most demanding applications and priced on request.
- Quick response time to quotes and reduced lead-time on delivery.



Also offered as ULA2 air chain hoist. Contact Technical Sales for more information.

ULE2 Electric Series Specifications⁽³⁾

Model no.	Capacity		Hoist speed ft	Motor tly speed fpm	Motor hp (kw) @ rpm	Min curve ² radius ft	Net weight		
	US tons	kg					Plain lbs	Motorized lbs	
ULE2_010-8-6	1	909	10	35	2 (1.5) @1800	6.5	440	470	480
ULE2_015-8-6	1 1/2	1364	10	35	2 (1.5) @1800	6.5	440	470	480
ULE2_020-8-6	2	1818	10	35	2 (1.5) @1800	6.5	440	470	480
ULE2_030-8-6	3	2727	5	35	2 (1.5) @1800	6.5	540	570	580
ULE2_040-8-6	4	3636	5	35	2 (1.5) @1800	6.5	540	570	580
ULE2_050-8-6	5	4545	7	35	4 (3.0) @1200	8.5	1280	1340	1310
ULE2_060-8-6	6	5455	7	35	4 (3.0) @1200	8.5	1280	1340	1310
ULE2_080-8-6	8	7273	4	20	4 (3.0) @1200	9.5	1350	1480	1400
ULE2_100-8-6	10	9091	3.5	20	4 (3.0) @1200	10.0	1730	1810	1780
ULE2_120-8-6 ¹	12	10909	3.5	20	4 (3.0) @1200	n/a	1730	1810	1780
ULE2_160-8-6 ¹	16	14545	2	20	4 (3.0) @1200	n/a	2300	2380	2350
ULE2_200-8-6 ¹	20	18182	1.7	20	4 (3.0) @1200	n/a	2650	2810	2750
ULE2_240-8-6 ¹	24	21818	1.7	20	4 (3.0) @1200	n/a	2650	2810	2750

Notes:

Standard lift is 10 ft.

(1) For over 10 U.S. Ton capacity, straight track operation is recommended.

(2) Curve radius must be specified on orders, since wheels must be modified to negotiate curves. Curves less than minimum radius may be fitted upon application. Consult Customer Service for further information.

(3) ULA2 air hoist specifications and dimensions are similar. Consult Customer Service if accurate data is required.

ULE2 Electric Series Dimensions⁽³⁾ (in.)

Capacity U.S. Tons	A (min)	B	C	D	E	E1	F	G	H	J	L	M	N	P ¹	R	S	T ²
ULE2_010-8-6	7	33	16 1/2	16 1/2	7 3/4	7 3/4	12	10	5/8	1 1/8	1 1/8	4 1/2	15/16	6" I@ 12.5#	6	6	9 1/4
ULE2_015-8-6	7	33	16 1/2	16 1/2	7 3/4	7 3/4	12	10	5/8	1 1/8	1 1/8	4 1/2	15/16	6" I@ 12.5#	6	6	9 1/4
ULE2_020-8-6	7	33	16 1/2	16 1/2	7 3/4	7 3/4	12	10	5/8	1 1/8	1 1/8	4 1/2	15/16	6" I@ 12.5#	6	6	9 1/4
ULE2_030-8-6	8	33	16 1/2	16 1/2	9	9	14	13	9/16	1 11/32	1 11/32	6 3/8	31/32	8" I@ 18.4#	6	8	5 1/2
ULE2_040-8-6	8 1/2	33	16 1/2	16 1/2	9	9	14	13	9/16	1 11/16	1 11/32	6 3/8	31/32	8" I@ 18.4#	6	8	5 1/2
ULE2_050-8-6	9 1/2	50 1/2	23 1/2	24 7/8	7 3/8	7 3/8	12	15	7/8	1 11/16	1 11/32	7 3/16	15/16	10" I@ 25.4#	6	9	12
ULE2_060-8-6	9 1/2	50 1/2	23 1/2	24 7/8	7 3/8	7 3/8	12	15	7/8	1 11/16	1 11/32	7 3/16	15/16	10" I@ 25.4#	6	9	12
ULE2_080-8-6	12	50 1/2	23 1/2	24 7/8	8 3/8	8 7/8	14	13 1/2	9/16	2 1/16	1 11/16	8 1/4	1 1/8	10" I@ 25.4#	6	10	12
ULE2_100-8-6	12 1/2	50 1/2	23 1/2	24 7/8	8 1/2	9 3/4	15 5/8	14 3/8	9/16	2 1/4	1 3/4	9 3/4	7/8	12" I@ 31.8#	6	11 11/16	10
ULE2_120-8-6	12 1/2	50 1/2	23 1/2	24 7/8	8 1/2	9 3/4	15 5/8	14 3/8	9/16	2 1/4	1 3/4	9 3/4	7/8	12" I@ 31.8#	6	11 11/16	10
ULE2_160-8-6	14 1/2	54 1/2	25 1/2	26 15/16	11 7/8	11 7/8	18 5/8	18 5/8	9/16	3	2	11 3/4	1	15" I@ 42.9#	6	13 1/2	3 1/2
ULE2_200-8-6	18	54 1/2	25 1/2	26 15/16	12 1/8	12 3/8	19 1/4	19	3/4	3 5/8	2	11 3/4	1	18" I@ 54.7#	6	13 1/2	2 1/2
ULE2_240-8-6	18	54 1/2	25 1/2	26 15/16	12 1/8	12 3/8	19 1/4	19	3/4	3 5/8	2	11 3/4	1	18" I@ 54.7#	6	13 1/2	2 1/2

Notes:

(1) Minimum standard I-Beam for proper wheel running clearance. Contact factory for smaller beams. Customer must verify their beam is adequate for applied loads.

(2) For standard motor and brake only.

(3) ULA2 air hoist specifications and dimensions are similar. Consult Customer Service if accurate data is required.

Industrial Lifting Equipment

7740B Series Air Chain Hoist

300 lbs Lifting Capacity

Features:

The 7740B air chain hoist has been engineered for production and utility applications for loads up to 300 lbs.

- Light weight and compact design for ease of movement to different work locations.
- Rotary vane air motor.
- Self-adjusting brake holds load securely.
- May be operated between 60 and 100 psi.
- Pull chain control provides accurate spotting control.
- Standard lift is 10 feet; additional lifts are available.
- Standard pull chain length is 6 feet or 4 feet less than lift.
- Steel snap hooks.
- Hook or eye bolt mounted available.

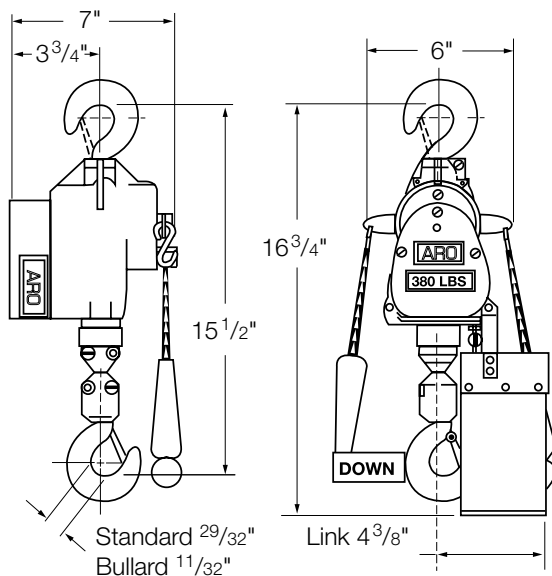
Options:

- Manual trolley
- Bullard hooks
- Chain basket



7740B Series Specifications

Description	
Rated capacity (lbs)	300
Control type	Pull chain
Suspension	Hook or eyebolt
Falls of chain	1
Lifting speed w/ rated load variable from 1 to...fpm	16
Lowering speed w/ rated load variable from 1 to...fpm	17
Air consumption at max rated load scfm	28
Air inlet size, (in.)	1/4 NPT
Recommended hose size (in.)	3/8 I.D.
Max. length of load chain basket will hold (ft)	
Canvas basket (P/N 44120) for link type load chain	10
Metal basket (P/N 44595) for roller type load chain	10
Load chain type	
Link chain	44523
Weight of hoist (lbs)	15.25
Hook on trolley model	SP005 or PT005



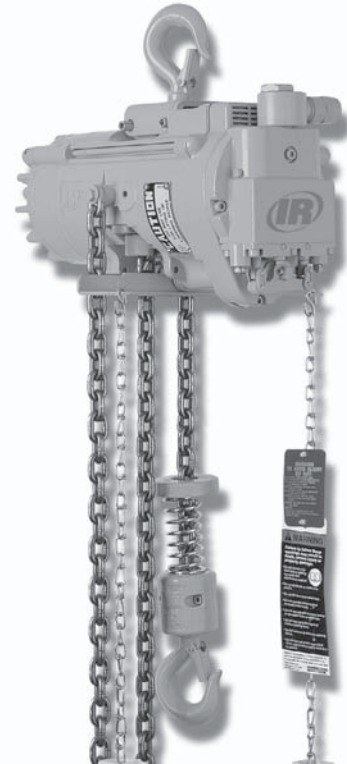
1/4 – 6 metric ton Lifting Capacity

Benefits of using an Ingersoll-Rand air chain hoist:

- 100% duty cycle. Air hoists can be operated continuously, as air motors don't heat up!
- Environment. Dust, dirt, moisture and corrosive gases are kept out of the motor by the air pressure that runs it. This basic fact makes air hoists the first choice in foundries, electroplating shops, etc.
- No electrical hazard. As no electricity is used, the freedom from electrical shock and the use of air power in explosive environments are obvious advantages. This is why air hoists are used extensively in flammable environments found in chemical plants, refineries, etc. Spark resistant models are also available.
- Accurate load spotting. Simple pull chain speed and directional controls provide precise spotting capabilities. Easy to operate pendent air valves provide a variable control signal with adjustable response by a variable orifice. For even more precise control MLKS slow speed models are available.
- Most parts interchangeable. Motor, brake and throttle parts are interchangeable with all current Ingersoll-Rand air chain hoists.
- Low maintenance. Ingersoll-Rand air chain hoists are designed and constructed for trouble-free maintenance. The inherent durability of air power contrasts with the potential problems of electrical systems!

Features:

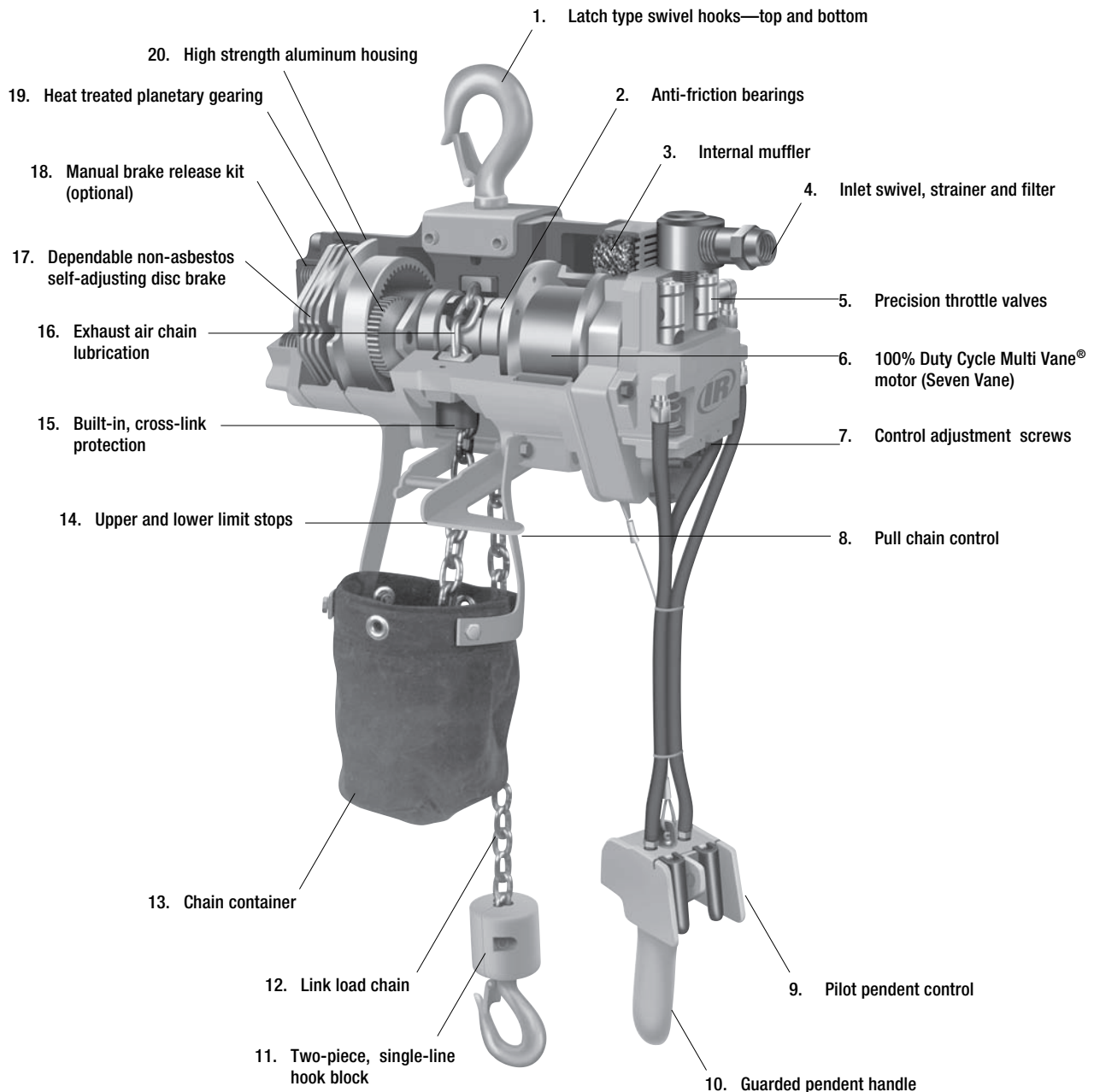
1. Latch type swivel hooks—top and bottom, meet OSHA requirements, supported by anti-friction roller bearings. Bullard Burnham hooks are available for all models, except spark resistant.
2. Anti-friction bearings. All bearings are either ball or roller type to minimize power-robbing friction.
3. Internal muffler. Reduces sound level to 85 dBA. Located internally in the valve chest for protection against damage. Element is woven to prevent corrosion and clogging.
4. Inlet swivel and strainer. Combined to allow easy hookup from any direction. Swivel reduces hose fatigue, especially on hook-mounted units. Strainer nipple provides that extra assurance of clean air for maximum wear protection.
5. Precision throttle valves. For smooth operation and metering of air. Valves are poppet type for ease of maintenance.
6. 100% Duty Cycle Multi Vane® motor. High torque, low maintenance design with air porting under vanes for smooth operation, positive starting, good control and long life.
7. Control adjustment screws. Provide sensitivity and maximum speed control for pendent models. Adjustment of screws will provide maximum control for each hoisting application.
8. Pull chain control. Provides maximum load spotting capability. Simple conversion from pull chain to pendent control because no internal modification is necessary.
9. Pilot pendent control. Furnishes a variable pressure signal to the valve chest where flow to hoist is metered accordingly. Air to run hoist motor does not travel through pendent, thus pendent length does not affect performance. Control hoses are small, very flexible and easily converted to different lengths.
10. Guarded pendent handle. One-piece, cast-aluminum for maximum durability. Guards on either side of levers are cast-in for protection against accidental operation. All functional parts are of corrosion and spark resistant materials.
11. Two-piece, single-line hook block. Two-piece "clam shell" design entraps chain links and hook bearing without using small load bearing pins or fasteners.
12. Link load chain. Zinc plated steel chain is standard. Stainless steel chain is available for the 1/4 ton through 1 ton spark resistant models.
13. Chain container. Fabric or metal container, as an accessory, to keep slack chain out of the way.
14. Upper and lower limit stops. Prevent dangerous overtravel of the hook in either direction, reducing possible damage to hoist or load.
15. Built-in, cross-link protection. Slack chain is guided into drive wheels by a specially designed opening which prevents dangerous cross-linking of chain.
16. Exhaust air chain lubrication. A small amount of exhaust air flows over chain and drive wheel. This flow helps to lubricate chain from spent in-line lubrication of motor.



Industrial Lifting Equipment

MLK and HLK Series Air Chain Hoist

1/4 – 6 metric ton Lifting Capacity



17. Dependable non-asbestos, self-adjusting disc brake. Air-operated disc brake balances brake effort to motor torque by sensing the air pressure in the valve chest. This provides precise control and eliminates back drop problems encountered with some mechanical brakes. If the air supply is interrupted, the pressure release causes instantaneous, automatic braking. The new brake design is protected from impact by a cast housing and is self-adjusting for the full life of the brake.

18. Manual brake release kit. Available as an accessory, this kit allows the operator to safely lower a suspended load in the event of a power failure.

19. Heat-treated planetary gearing. Planetary gearing system provides high torque capability by splitting the torque path, thereby dividing and balancing the load over more teeth. This assures longer life and reduced maintenance.

20. High strength aluminum housing. Strong yet lightweight for maximum portability and weather resistance.

1/4 – 6 metric ton Lifting Capacity

Features:

The MLK family of hoists is suitable for A5/H5 severe duty use in the 1/4 - 1 metric ton range. The MLK is designed to be used as a high speed production hoist; the MLKS* is ideal for slow speed spotting.

The HLK Series uses many of the same components as the MLK family of hoists.

The HLK family incorporates a larger chain wheel to accommodate 3/8 in. diameter chain and a lower gear ratio to handle increased load capacities. HLK series hoists range from 1 through 6 metric tons and are severe duty rated.

Refer to trolley specifications section for plain, geared and motorized trolleys.

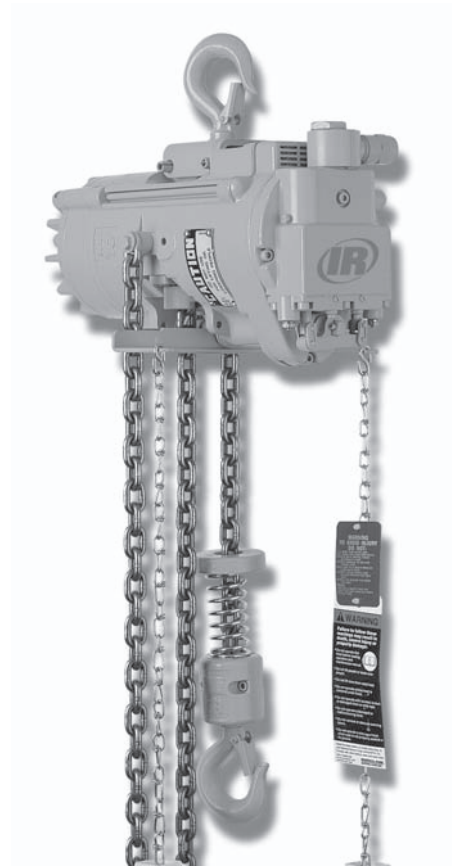
Spark-Resistant Features:

MLKR and HLKR spark-resistant hoists have been designed to give maximum protection in explosive or other hazardous environments.

Components for spark-resistance are as follows:

- Bronze hooks.
- Bronze trolley wheels.
- Stainless steel (one part reeving) or aluminum (two part reeving) lower hook blocks.
- Aluminum stop ring (1/4 ton models).
- Stainless steel load chain.
- Stainless steel pendent levers and bronze valve caps.
- Spark-resistant pull chains.

The load capacity and speeds of MLKR and HLKR units are reduced. A restricted motor is used to accomplish this, as stainless steel chain is not hardened and strength is less than standard alloy chain. Refer to trolley section for plain, geared and motorized trolley specifications.



All MLK and HLK Specifications

Model no.	Capacity		No of chain falls	Weight per foot of lift lbs	-2A ¹ top lug lbs	-2C ¹ top hook lbs	-2D ¹ rigid trolley lbs	-2F ¹ geared trolley lbs	-3H air trolley lbs
	metric tons	lbs							
ML250K, KS, KR	1/4	550	1	0.56	48	48	76	101	103
ML500K, KS	1/2	1100	1	0.56	48	48	76	101	103
ML500KR	1/2	1100	2	1.12	61	61	89	114	116
ML1000K, KS	1	2200	2	1.12	61	61	89	114	116
HL1000K, KR	1	2200	1	1.3	86	84	106	109	116
HL1500K	1 1/2	3300	1	1.3	86	84	164	167	174
HL2000K	2	4400	2	2.6	125	125	203	206	213
HL3000K	3	6600	2	2.6	125	125	203	206	213
HL4500K	4 1/2	10000	3	3.9	184	193	392	395	402
HL6000K	6	13200	4	5.2	234	248	442	445	452

Notes:

All weights are for model with 10 feet of lift and pendent.

(1) Pull chain control; deduct 3 lbs where noted.

Industrial Lifting Equipment

MLK and HLK Series Air Chain Hoist

1/4 – 6 metric ton Lifting Capacity

Hoist Operating Data (at 90psi)						
Series	Rated load		Half load (fpm)		No load (fpm)	
	up	down	up	down	up	down
MLK and MLKS Series^{1,2}						
ML250KS ³	40.0	90.0	53.0	71.0	71.0	53.0
ML250K	101.0	117.0	145.0	111.0	171.0	99.0
ML500KS ³	22.0	66.0	30.0	44.0	44.0	32.0
ML500K	55.0	97.0	80.0	72.0	106.0	59.0
ML1000KS ³	11.0	33.0	15.0	22.0	22.0	16.0
ML1000K	28.0	49.0	40.0	36.0	53.0	30.0
HLK and HLKR Series^{1,2}						
HL1000K	26.0	37.0	31.0	30.0	40.0	26.0
HL1500K	16.0	26.0	22.0	22.0	28.0	16.0
HL2000K	13.0	18.0	15.0	15.0	20.0	13.0
HL3000K	8.0	13.0	11.0	11.0	14.0	8.0
HL4500K	4.6	10.0	7.5	8.4	10.5	6.6
HL6000K	3.5	7.6	5.8	6.2	8.4	4.8
MLKR and HLKR Series						
ML250KR ³	26.0	38.0	34.0	36.0	42.0	30.0
ML500KR ³	13.0	20.0	17.0	18.0	21.0	15.0
HL1000KR	26.0	37.0	31.0	30.0	40.0	26.0

Notes:

Minimum hose size: 1/2" up to 12 ft long and 3/4" over 12 ft. to 50 ft length.

(1) MLK and HLK hoist performance is based on 70 cfm at 90 psi air supply at hoist inlet. Pendant control models use approximately 4 scfm more air.

(2) The ML250KS (1/4 ton), ML500KS (1/2 ton), ML1000KS (1 ton) are standard MLK air chain hoists equipped with special cylinders for slower (S) speeds and "piston motor like" load spotting characteristics.

(3) MLKS MLKR hoist performance is based on 45 cfm at 90 psi air supply at hoist inlet. Pendant control models use approximately 4 scfm more air.

Chain Container			
Hoist Series	Chain capacity ¹ ft.	Metal container part no.	Fabric container part no.
MLK	13	ML10-K749	NA
MLK	17	NA	ML50K-K749-17
MLK	26	ML20-K749A	NA
MLK	40	ML20-K749-20	NA
MLK	45	NA	ML50K-K749-45
MLK	80	MLK-K750-80	NA
HLK	20	HLK-K750-20	HLK-K749-20
HLK	40	HLK-K750-40	HLK-K749-40
HLK	85	HLK-K750-80	NA

Notes:

(1) Chain containers are for 1 part single lines. For 2 part lines, divide capacity by two; for 3 part lines by three, etc.



Metal Container



Fabric Container

Link Load Chain			
Hoist Series	Type	Bulk part no.	Chain size dia/pitch mm
MLK	Zinc plated ¹	M745Z	6.4/19.5
MLK	Stainless Steel ²	M745S	6.4/19.5
HLK	Zinc plated ¹	H745Z	9.5/25.7
HLK	Stainless Steel ²	H745S	9.5/25.7

Notes:

(1) Standard

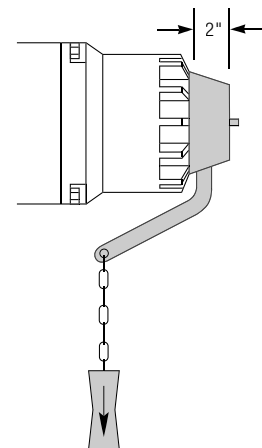
(2) For spark resistant models only

Epoxy Coating

Available on all models. Consists of surface preparation, metal primer and 2 coats of epoxy enamel. Specify separately.

Manual Brake Release Kit (M)

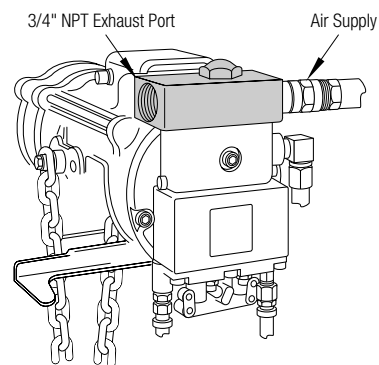
For all MLK and HLK hoists. Part no. MLK-K390



Piped Away Exhaust Kits for MLK and HLK Hoists

Part no. MHLK-KEXH

This two-piece kit replaces swivel air inlet on hoist. Noise is reduced with addition of piped away exhaust hose. Use 1" dia. exhaust hose to minimize reduction in lift speed.



1/4 – 6 metric ton Lifting Capacity

Filters, Regulators, Lubricators

Part no.	Size (in.) NPTF	Flow rate scfm	Adj pressure range psig	Bowl capacity	Height x width in.	Part no.
Filters, Regulators, Lubricators						
C28241-800	1/2	110	5 – 125	6 oz	8 1/4" x 10 7/16"	
C28453-810	3/4	150	5 – 125	32 oz	15 1/4" x 11 3/4"	
C31-08-G00	1	331	10 – 125	24 oz	11" x 12 1/4"	
Filter, Lubricator						
C28241-700	1/2	110	n/a	6 oz	8 1/4" x 5 3/4"	
C28453-810	3/4	150	5 – 125	32 oz	15 1/4" x 11 3/4"	
C36-08-000	1	331	n/a	24 oz	11" x 9 1/4"	

Recoil Nylon Air Hose with Fittings

Part no.	Hose I.D. in.	Max length ft	Hose length working length ft	Compact size in.	Compact coil O.D. in.	Male NPT fitting in.
Swivel both ends						
N12-12B	1/2	12	9	5	9	1/2
N12-25B	1/2	25	18	9	9	1/2
N12-50B	1/2	50	41	18	9	1/2
N34-12B	3/4	12	10	4 1/2	12 1/2	3/4
N34-25B	3/4	2	17	9	12 1/2	3/4
N34-50B	3/4	50	35	16	12 1/2	3/4



Hooks

Hoist series	Cap. metric tons	Bullard-Burnham top or bottom hook part no.	Bronze latch type ¹ top or bottom hook part no.
MLK	1/4	CE110-KBB377	MLK-KRS304
MLK	1/2	CE110-KBB377	ML500KR-K377
MLK	1	CE120-KBB377	–
HLK	1	HLK-ABB377	HLK-SR377
HLK	1 1/2	HLK-ABB377	HL1500K-SR377
HLK	2	HL2000K-ABB377	HL2000K-SR377
HLK	3	HL3000K-ABB377	HL3000K-SR377
HLK	4 1/2	HL4500K-ABB377	HL4500K-SR377
HLK	6	HL6000K-ABB377	HL6000K-SR377



Bullard-Burnham hook

Notes:

Bullard-Burnham hooks are not available for spark resistant models.
(1) Not pictured

Hose Trolleys

Part no.	Flange width (in.)
7703	2.33 to 5.00
D10-8888	5.00 to 8.75

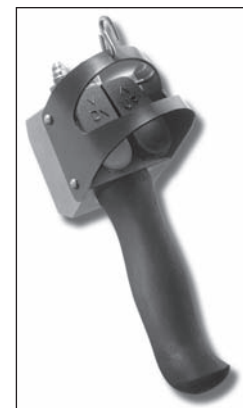
Note:

Maximum hanging weight per unit is 35 lbs.
Can be adjusted to fit 1/2" to 1 1/4" O.D. hose.



EZ Grip Ergonomic Handle (P/N EZG-A269)

The EZ Grip handle is a rugged, durable construction handle with three mounting options. The handle can be used as a pendent control, rigid mount, or with an optional ball and socket mount. EZ Grip can be used on most air actuated devices, and can be operated with or without gloves.



*Optional EZ Grip
Pendent Handle*

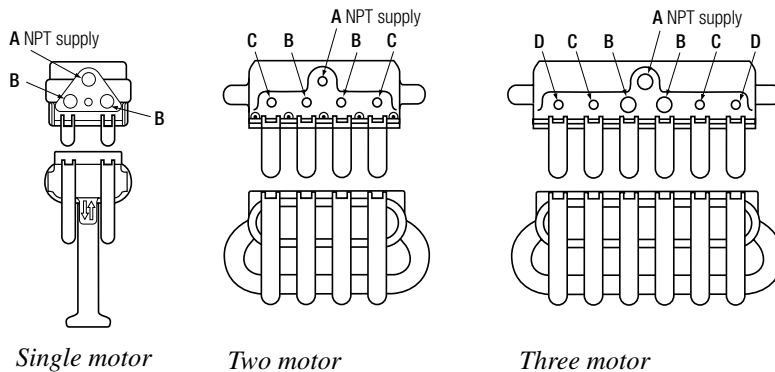
Industrial Lifting Equipment

MLK and HLK Series Air Chain Hoist

1/4 – 6 metric ton Lifting Capacity

Pendent Handles

Type/ Part no.	NPT air inlet			
	A	B	C	D
Single motor				
MLK-A269C	1/8	1/8	-	-
EZG-A269	3/8	1/8	-	-
MR-269C	3/8	3/8	-	-
C6H20A-A169B	1/2	1/2	-	-
Two motor				
PILOT-A122B	3/8	1/8	1/8	-
MLK-K122B	3/8	1/8	3/8	-
MR-A122C	3/8	3/8	3/8	-
C6H20A-A122B	1/2	1/2	3/8	-
Three motor				
PILOT-A132B	3/8	1/8	1/8	1/8
MLK-K132B	3/8	1/8	3/8	3/8
MR-A132C	3/8	3/8	3/8	3/8
C6H20A-A132B	1/2	1/2	3/8	3/8



Note:

When a pendent controlled hoist is purchased with a pendent controlled power trolley or tractor, the required two or three motor pendent is furnished at no extra cost in place of the individual pendants, when specified.

Pull Chain Conversion

Part no.	Description
MLK-K415A	Wooden directional and crossbar handles only.
CA110-B240	Standard chain (specify total length of both chains).
D02-1413	Aluminum spark resistant chain (specify total length of both chains).



Pendent Conversion Kit

Part no.	Description
MLK-AL269C	MLK, HLK and HLKR hoists. Specify length.



Quick Exhaust Valves/for improved response time

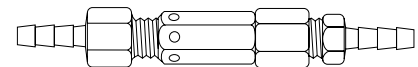
Part no.	For use on series	Control type	Style	Pendent length ft	Quantity recommended ¹
20417	All MLK and	Pilot	Push-on	21 – 50	2
20417	HLK hoists		1/4" NPT hose	51 – 75	4
MR-939-6	TIR trolleys	Full flow	Push-on	21 – 50	2
MR-939-6	MTK tractor		3/8" NPT hose	51 – 75	4

Note:

(1) The first pair of full flow valves will be installed between 5 to 7 ft. (1.5 to 2.1 m) from the pendent handle. Any additional valves will equally divide the remaining hose length.

Appx air flow

NPT air inlet	scfm
1/8 in.	15 ¹
3/8 in.	100
1/2 in.	200



Part no. 20417. Part no. MR-939-6 not shown.

Note:

(1) For pilot air only

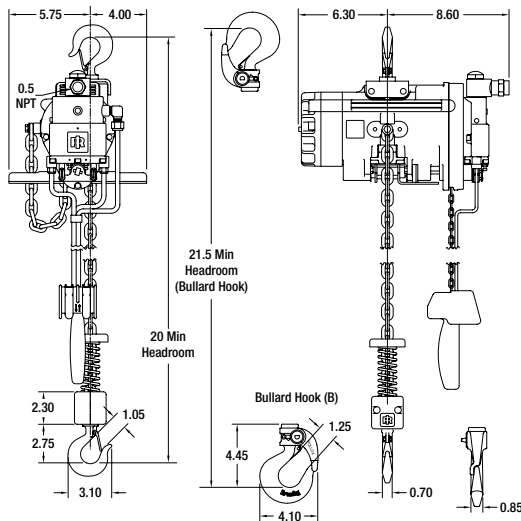
Drawbar Hitch Kits for use with MTK Tractor

Series hoist to be towed	Drawbar kit part no.
HL1000K, HL1500K, HL2000K and HL3000K with rigid trolley	No kit required; standard drawbar kit included with MTK tractor fits these hoists
All MLKs with rigid trolley	MR-K1

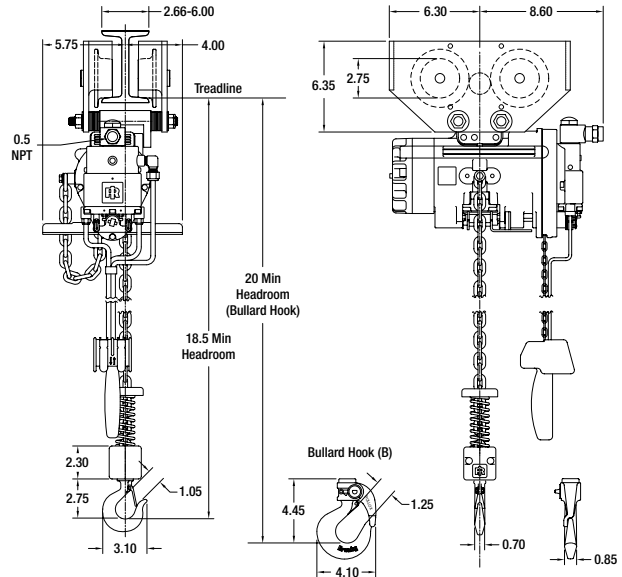
1/4 – 1 metric ton Lifting Capacity

MLK, MLKS and MLKR Series Dimensions for 1/4 through 1 ton

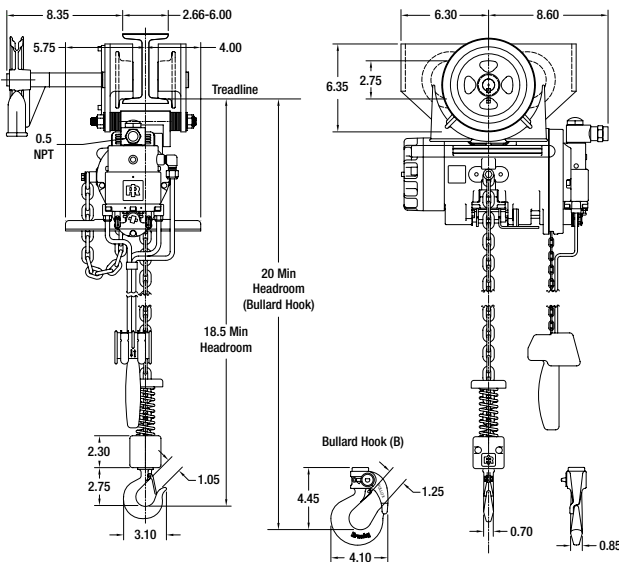
1/4 and 1/2 ton MLK Hook Mounted Hoists



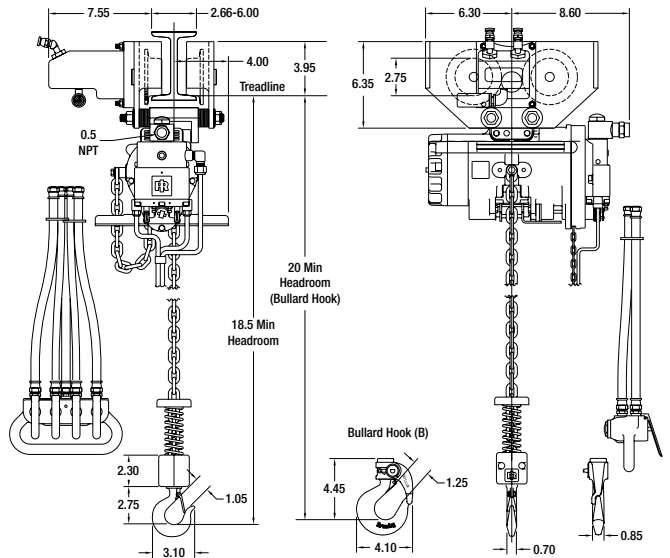
1/4 and 1/2 ton MLK Plain Hook-on Trolley Mounted Hoists



1/4 and 1/2 ton MLK Geared Hook-on Trolley Mounted Hoists



1/4 and 1/2 ton MLK Motorized Trolley Lug Mounted Hoists



*Chain container capacities are for 1 part single lines. For 2 part lines, divide capacity by 2.

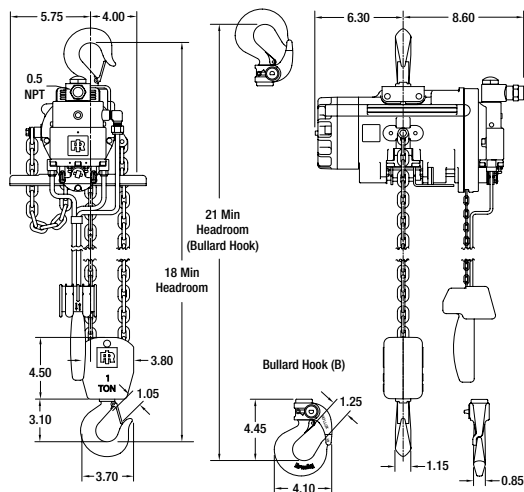
Industrial Lifting Equipment

MLK and HLK Series Air Chain Hoist

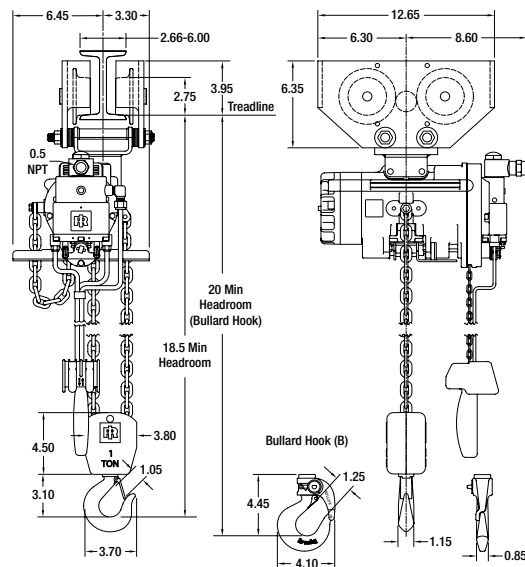
1/4 – 1 metric ton Lifting Capacity

MLK, MLKS and MLKR Series Dimensions for 1/4 through 1 ton

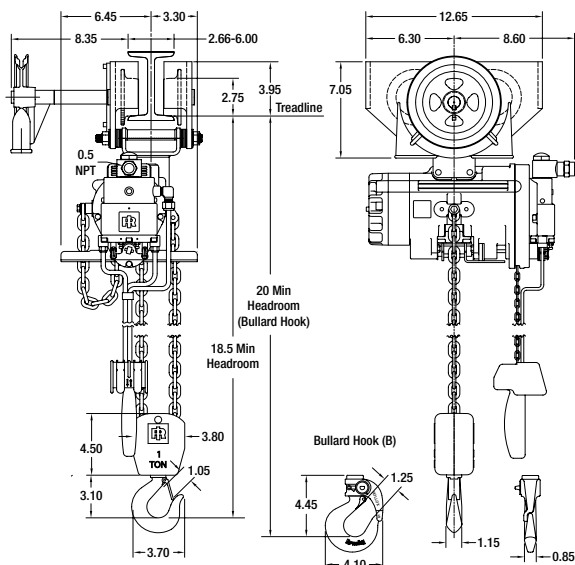
1 ton MLK Hook Mounted Hoists



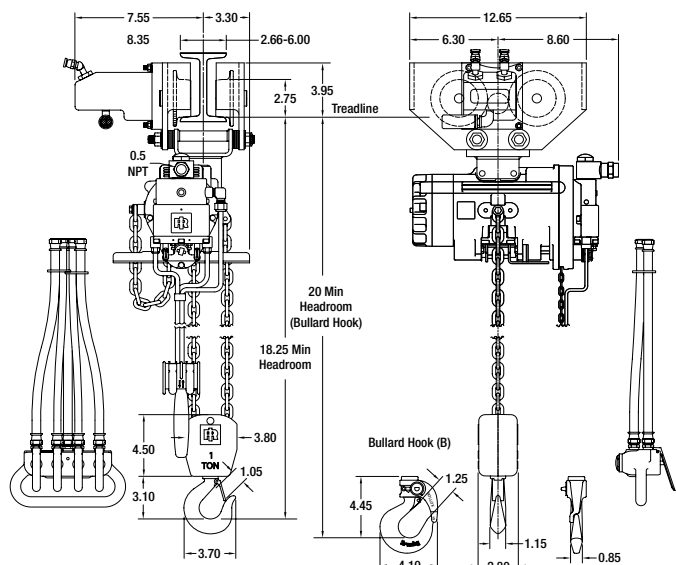
1 ton MLK Plain Hook-on Trolley Mounted Hoists



1 ton MLK Geared Hook-on Trolley Mounted Hoists



1 ton MLK Motorized Trolley Lug Mounted Hoists

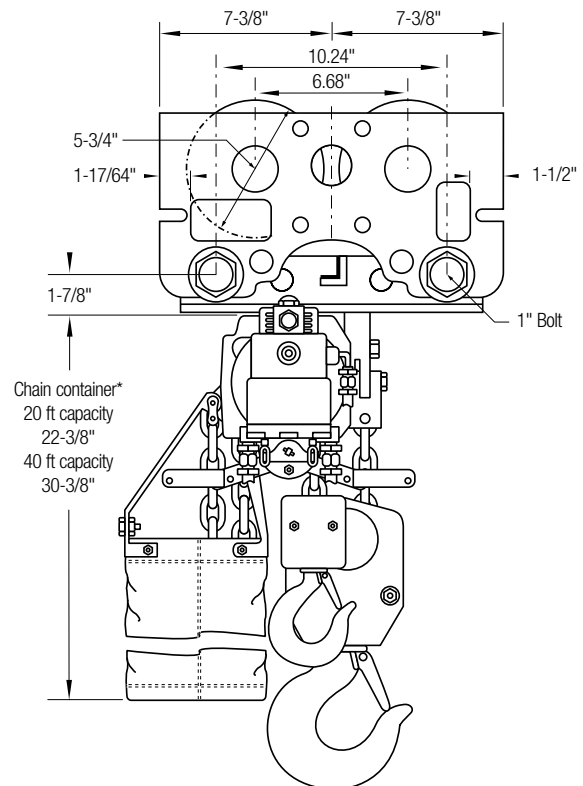
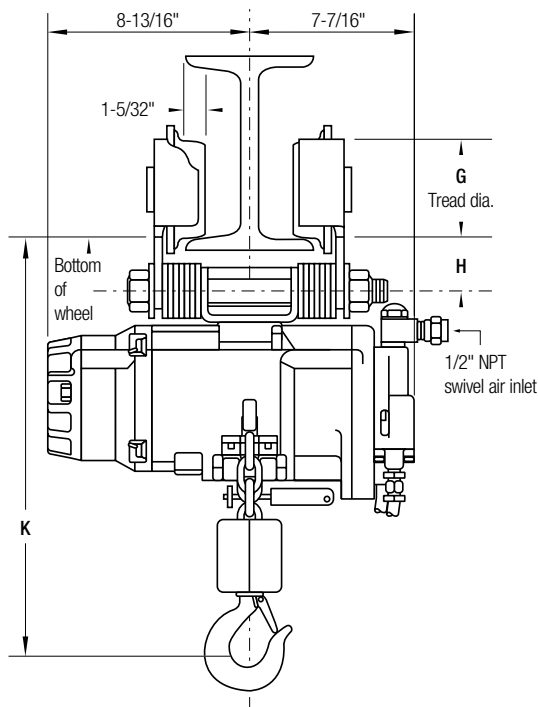
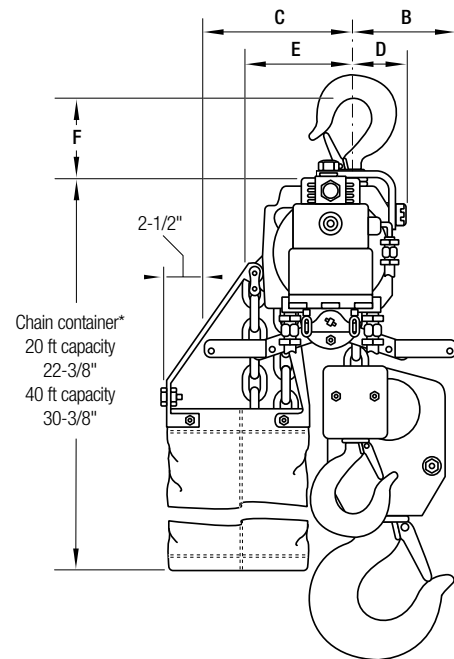
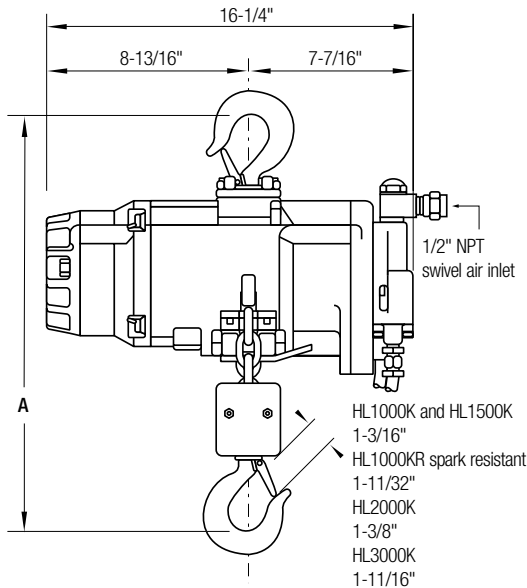


*Chain container capacities are for 1 part single lines. For 2 part lines, divide capacity by 2.

1 – 3 metric ton Lifting Capacity

HLK Series Dimensions for 1 through 3 ton and HLKR Series 1 ton (in.)

Series	A (min)	B	C	D	E	F	G	H	K
HL1000K/R	18 ¹ / ₂	4 ³ / ₄	7 ¹ / ₄	2 ⁷ / ₁₆	5 ⁷ / ₁₆	3 ¹ / ₂	4 ¹ / ₂	2 ³ / ₈	18 ¹ / ₈
HL1500K	18 ¹ / ₂	4 ³ / ₄	7 ¹ / ₄	2 ⁷ / ₁₆	5 ⁷ / ₁₆	3 ¹ / ₂	4 ¹ / ₂	2 ³ / ₈	18 ⁷ / ₈
HL2000K	23	3 ⁵ / ₈	8 ³ / ₈	2 ³ / ₈	6 ⁹ / ₁₆	5 ³ / ₄	4 ¹ / ₂	2 ³ / ₈	21 ⁵ / ₈
HL3000K	25	3 ⁵ / ₈	8 ³ / ₈	2 ³ / ₈	6 ⁹ / ₁₆	6 ¹ / ₄	4 ¹ / ₂	2 ³ / ₈	22 ⁵ / ₈



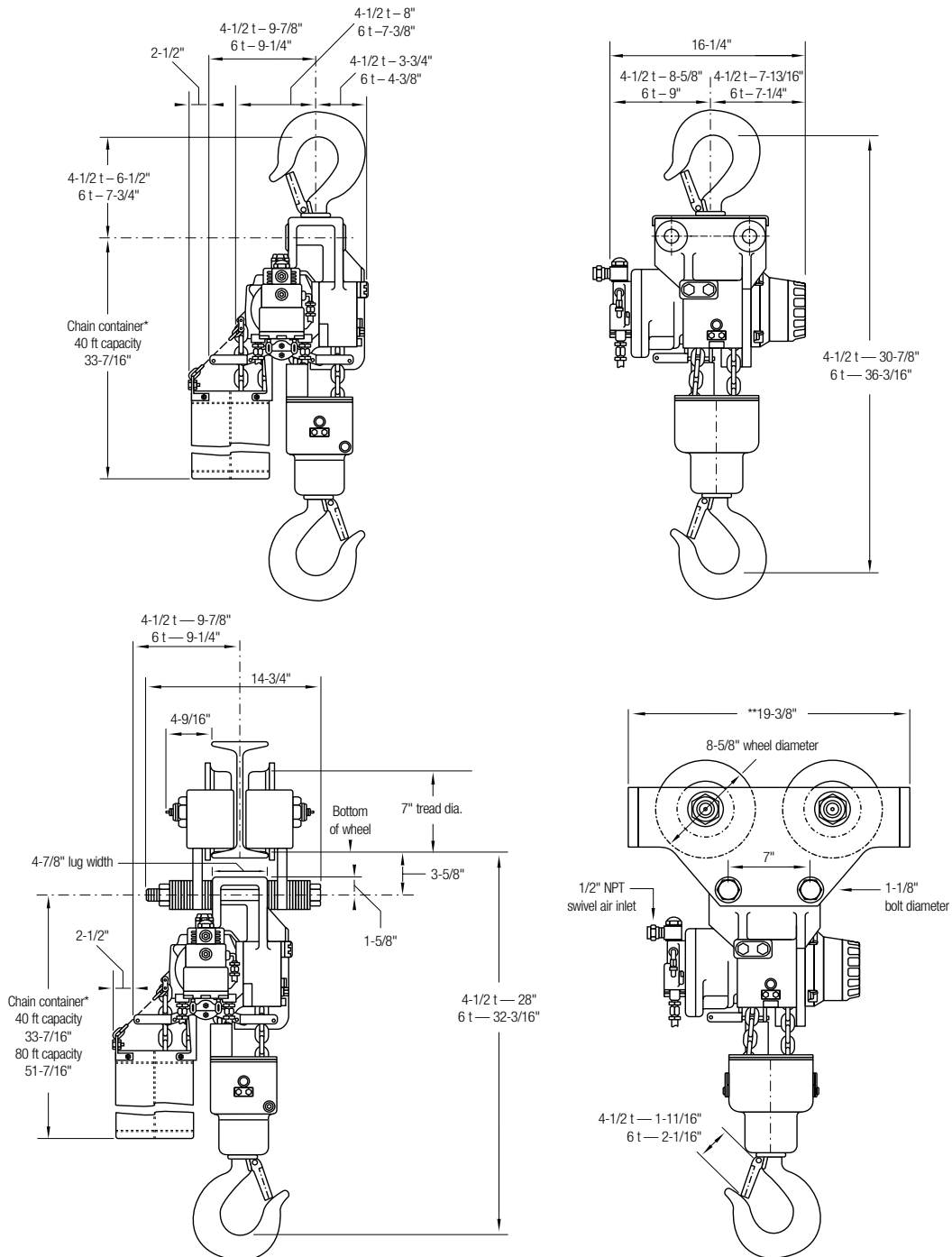
*Chain container capacities are for 1 part single lines (1 and 1¹/₂ t). For 2 part lines, divide capacity by 2.

Industrial Lifting Equipment

MLK and HLK Series Air Chain Hoist

4-1/2 – 6 metric ton Lifting Capacity

HLK Series Dimensions for 4 1/2 and 6 ton



* Chain container capacities are for single line. For 3 part 4 1/2 ton units, divide capacity by 3. For 4 part 6 ton units, divide capacity by 4.

** For additional geared and motorized trolley dimensions refer to TIR dimensions in the TIR trolley section.

Industrial Lifting Equipment

Palair Series “Lube Free” Air Chain Hoist



550 – 2200 lbs Lifting Capacity

NEW DESIGN

Refinements to the Lube-Free Palair and Palair Premium air chain hoists have greatly increased their durability. The Palair Hoists meets the demands of oil free and corrosion resistant applications from food processing to metal foundries.

Standard PAL and PALP Features:

- The Palair Plus lube-free hoist can be operated without supply air lubrication. No oil mist is exhausted to the surrounding environment. Excellent for “clean rooms”, food processing areas, textile industry, or any area where exhaust oil mist cannot be tolerated.
- Gear motor made from a high-strength, durable composite material
- Two moving part motor design provides high reliability and low maintenance.
- Pendant allows variable up and down speeds.
- Ergonomically designed, no external pipes or mechanical linkages.
- **NEW** low pressure disc brake is spring set, air released and is self adjusting for wear.
- Planetary gears for long life and high duty cycle.
- **NEW** high strength polymer chain guide for fast smooth running with minimum wear.
- Limit switches—both upper and lower limit switches are enclosed and protected in the hoist body.
- Load hooks full 360° rotation, on ball bearings for PAL or non-metallic bushings for PALP.
- Internal air exhaust reduces sound levels to below 85 dBA.

Options:

- Trolleys available: hook-on plain, hook-on geared, rigid lug plain, rigid lug geared, and motorized.
- Trolley extension shafts for extended flanges.
- Spark and corrosion resistant options.

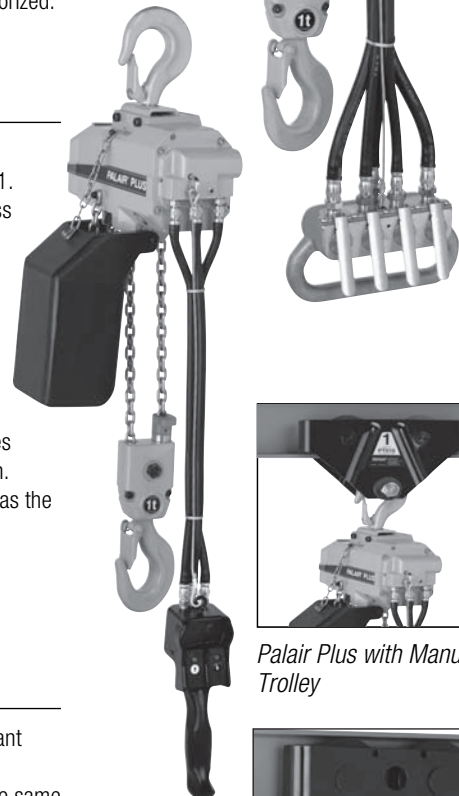
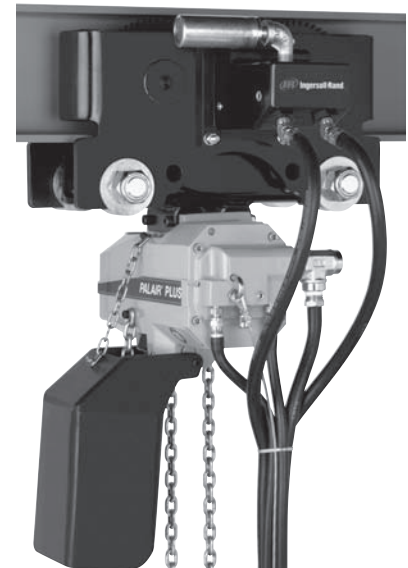
Palair Premium PALP Series Features:

The first U.S.D.A. accepted air chain hoist in the United States.

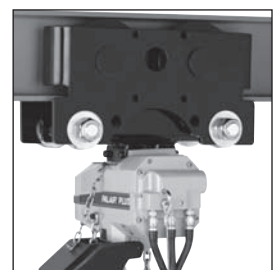
- U.S.D.A. acceptance for meat and poultry equipment as listed in the FSIS Directive 11220.1.
- Corrosion resistance materials - metal parts are either 300 series stainless steel, electroless nickel treated or Nickel Composite finished.
 - Electroless nickel is a high-heat chemical treatment applied to aluminum components and provides high wear durability and will not flake off like paint.
 - 300 series stainless steel is highly corrosion resistant and is used for load hooks, bottom blocks and load chain for models with these stainless steel options.
 - Nickel composite is a FDA approved proprietary finish used on ferrous metals to provide superior resistance to corrosion.
- A combination of stainless steel or electroless nickel hooks, hook blocks, and chain provides spark and corrosion resistance with the lifting parts for your “clean environment” application.
- The gear motor requires no air supply lubrication, therefore exhaust air is as clean and dry as the air supplied.
- Double protected - gear case is sealed and uses U.S.D.A. H-1 type grease.
- All bearings are permanently lubricated and sealed on both sides for U.S.D.A. acceptance.
- Washable and steam cleanable.
- No flaking of paint chips. Nonmetal parts are unpainted to prevent contamination.

Palair™ Premium - goes beyond U.S.D.A. requirements.

- Lubri-Link Green™ - Ingersoll-Rand’s exclusive U.S.D.A. accepted food grade chain lubricant provides the load chain with the recommended protection it needs.
- Trolley hoist applications - Nickel Composite plain hook-on PT-NC series trolley provides the same level of corrosion resistance protection as the hoist.
- Stainless steel piped away exhaust kit allows the exhaust air to be piped away from the application.
- Abrasion, and oil resistant bright yellow pendant hose is highly visible, approved for food contact and easy to clean.



Palair Plus with Manual Trolley



PAL Series Palair Plus Lug Mounted



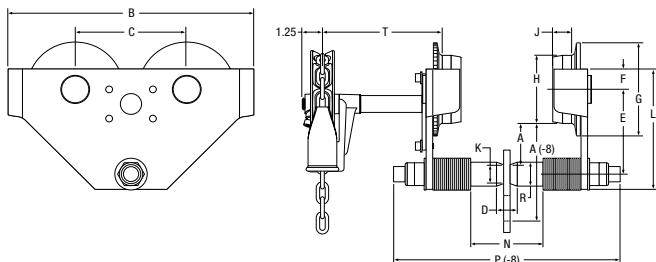
Industrial Lifting Equipment

Palair Series “Lube Free” Air Chain Hoist

550 – 2200 lbs Lifting Capacity

PT Trolley Dimensions (in.)

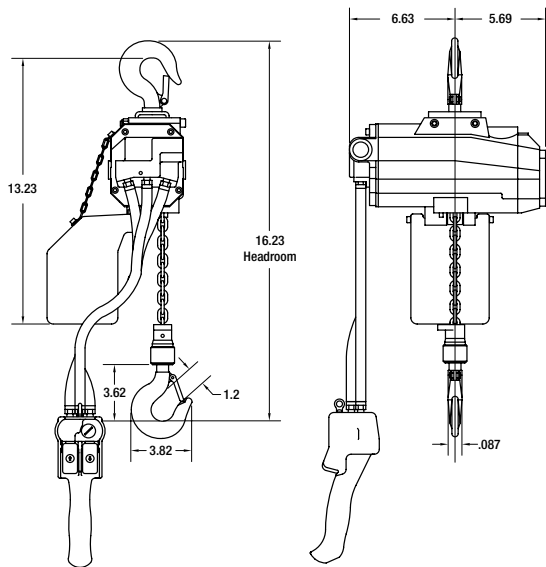
Model no.	A	A (-8)	B	C	D	E	F	G	H	J	K	L	N	P (-8)	R	S
PT005-8	2.63	5.88	10	4.5	1	4	1.13	3.5	2.06	0.75	0.75	6.63	3.94	12.25	1.25	1.56
PT010-8	2.5	5.94	13	5.19	1.25	4.44	1.56	4.19	2.75	0.75	1	6.94	4.25	12.88	1.5	1.56



Palair Premium Hook Mounted

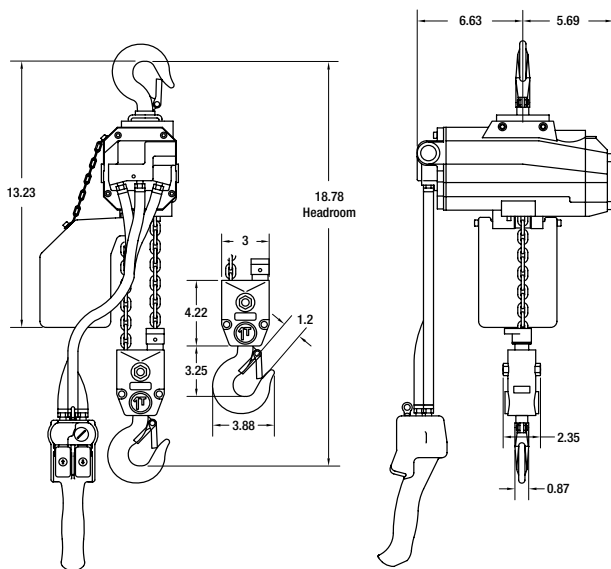


1/2 ton Palair Plus and Palair Premium Hook Mounted Hoists



PT010-8

1 ton Palair Plus and Palair Premium Hook Mounted Hoists



Lubri-Link™ Green

Ingersoll-Rand's U.S.D.A. accepted chain lubricant. It's nonaerosol plastic bottle is so environmentally safe it can be air freighted.

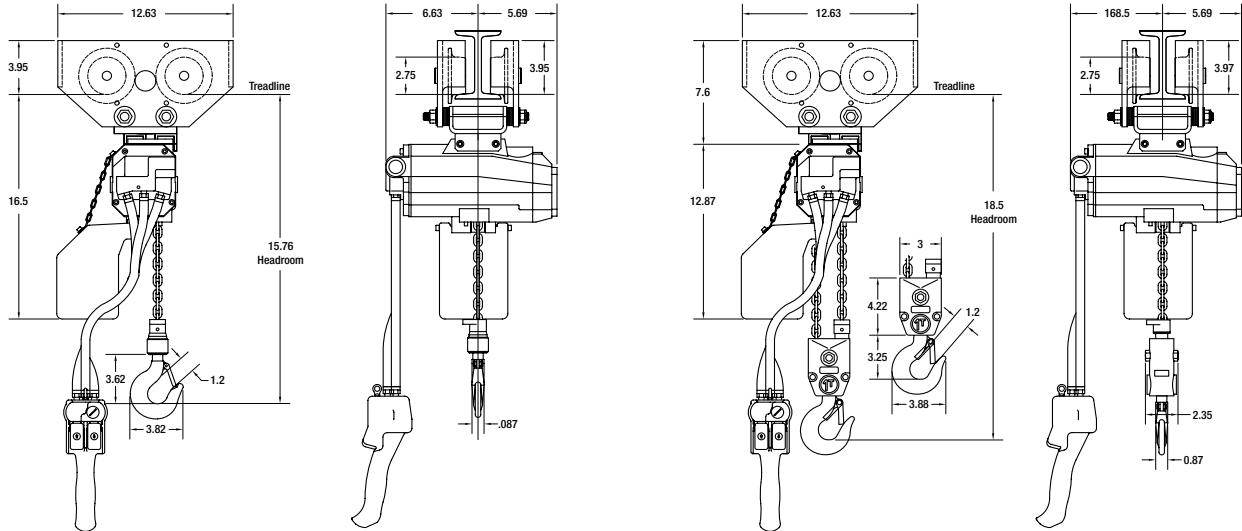
- Triples the time between application.
- Triples the life of hoist load chain and sprocket.
- Triples the barrier shield against rust and corrosion.

Industrial Lifting Equipment Palair Series “Lube Free” Air Chain Hoist

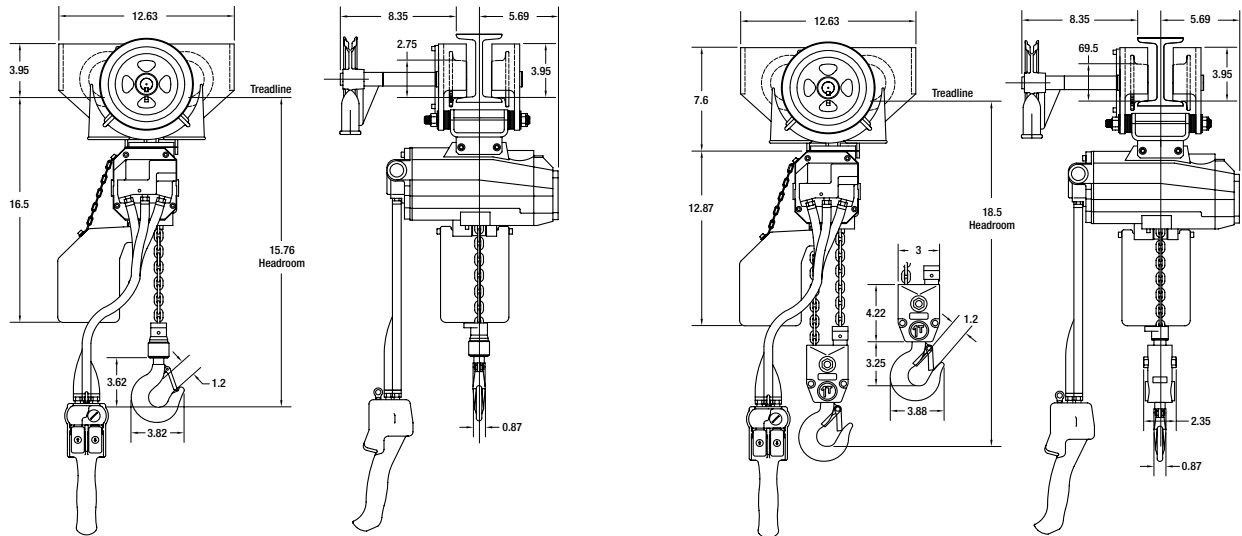


550 – 2200 lbs Lifting Capacity

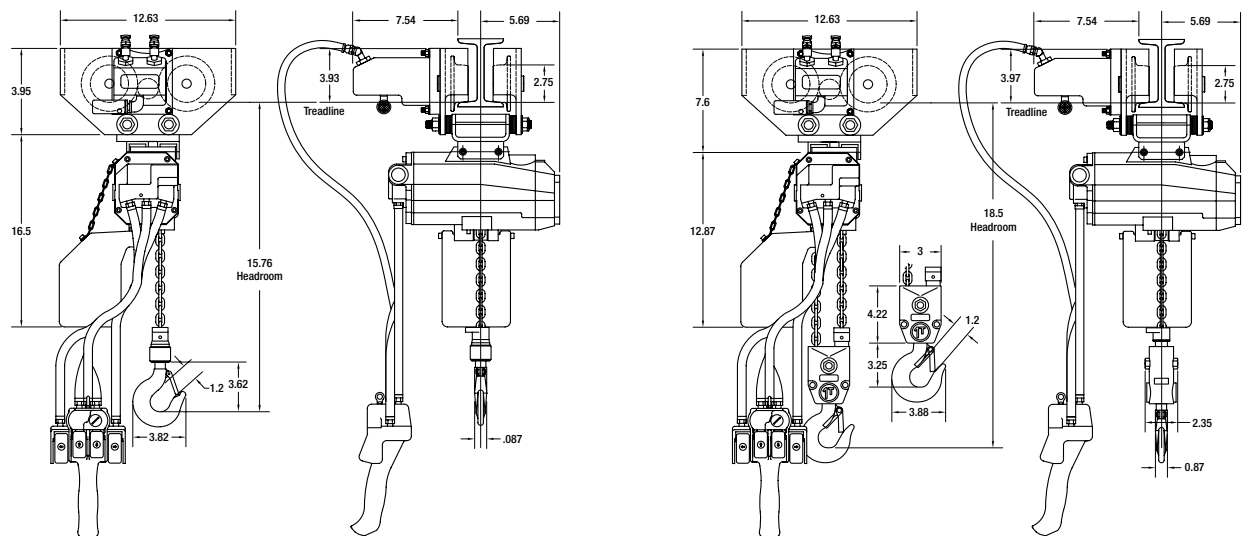
1/2 and 1 ton Palair Plus and Palair Premium Plain Hook-on Trolley Mounted Hoists



1/2 and 1 ton Palair Plus and Palair Premium Geared Hook-on Trolley Mounted Hoists



1/2 and 1 ton Palair Plus and Palair Premium Motorized Trolley Lug Mounted Hoists



Industrial Lifting Equipment

Trolley and Tractor Selection Guide

1/2 – 20 metric ton Lifting Capacity

Ingersoll-Rand offers a wide variety of plain, geared or powered trolleys for use with the MLK and HLK Series air chain hoists. We also offer the MTK air powered tractor to push and pull a trolley mounted hoist or other suspended or supported rolling load.

Ingersoll-Rand trolleys are available in either hook-on or rigid mount style. For maximum convenience and lifting system integrity, it is recommended that the trolley be ordered at the same time as the hoist by using the appropriate model driver suspension code. On the following pages you will find information relating to the various trolleys and the MTK tractor offered by Ingersoll-Rand. The chart below cross references all air chain hoist models and sizes with the recommended trolleys.

Be sure to follow safe installation and operating procedures with any overhead system. Please call an authorized I-R distributor or I-R representative for assistance with application and selection.

Hoist - Trolley Compatibility					
For use with hoist series	Plain hook-on	Plain rigid	Geared hook-on	Geared rigid	Motorized rigid
Standard trolleys (Suspension code) ¹					
ML250/500K/KS	PT005-8	RT010S-P00AP	GT010-8-10	RT010S-G08AP	RT010S-307AP
ML1000K/S	PT010-8	RT010S-P00AP	GT010-8-10	RT010S-G08AP	RT010S-307AP
MLKR (All)	PT005-8SB	RT010B-P00AP	GT010-8-10SB	RT010S-G08AP	RT010S-307AP
HL1000K	PT010-8	TIR6600S-P00AP	GT010-8-10	TIR6600S-G08AP	TIR6600S-307AP
HL1000KR	PT010-8SB	TIR6600B-P00AP	GT010-8-10SB	TIR6600B-G08AP	TIR6600B-307AP
HL1500K	PT020-8	TIR6600S-P00AP	GT020-8-10	TIR6600S-G08AP	TIR6600S-307AP
HL2000K	PT020-8	TIR6600S-P00AP	GT020-8-10	TIR6600S-G08AP	TIR6600S-307AP
HL3000K	PT030-8	TIR6600S-P00AP	GT030-8-10	TIR6600S-G08AP	TIR6600S-307AP
PAL 1/4 & 1/2t	PT005-8	RT010S-P00AT	GT010-8-10	RT010S-G08AT	RT010S-307AT
PAL 1t	PT010-8	RT010S-P00AT	GT010-8-10	RT010S-G08AT	RT010S-307AT
HL4500K	PT050-8	TIR132S-P00AP	GT050-8-10	TIR132S-G08AP	TIR132S-307AP
HL6000K	TIR132S-P00H	TIR132S-P00AP	GT050-8-10	TIR132S-G08AP	TIR132S-307AP

Note:

- (1) If trolley fits directly to the standard hoist lug mount, an adapter is not included.
- (2) If converting from hook mount, adaptors must be added in the model configuration.



PT Series



GT Series



TVP Series



TVG Series



TIR Series



SP Series



SG Series



BC Series

1/2 – 20 metric ton Capacity

Features

PT plain and GT hand geared hook-on style trolley rated for manual or powered hoists having the versatility to fit most types of beams with compatibility to all hoist brands.

- The 5:1 design factor allows use with both manual or powered hoists. Meets pertinent U.S. (ASME/ANSI and CMAA), Canadian and European standards.
- The side plates, including the rail sweeps/drop stops, are made of cold formed steel for strength, durability and even load distribution.
- The wheels are cast iron with the “Universal” tread fits either flat or tapered beams.
- Wheels run on sealed, “Lube-for-Life” ball bearings. Smoother rolling with less effort and maintenance.

Options:

- FDA approved nickel composite plated finish for corrosion resistance.
- Solid Bronze alloy wheels for maximum spark resistance.
- Wider hanger shaft capabilities allow standard trolleys fit almost any S-Beam or patented track beam. **Extension shaft kits are stocked.**
- Additional gearing in the 20 ton trolley allows operation by one hand chain.
- Painted black for “Universal” coordination with hoists of all colors.



PT and GT Hook-On Trolley Specifications

Model No.	Capacity		Flange adjustment in.	Min. beam height in.	Min. curve radius in.	Weight lbs	Kit no. (Order separate)	Flange Adjustment in.	Weight lbs
	tons	lbs							
Standard Series									
PT005-8	1/2	1100	2.63-8.00	4	36	19.7	PT005-WFK	8-13	5.5
PT010-8	1	2200	3.00-8.00	5	36	30.7	PT010-WFK	8-13	9.5
GT010-8-10	1	2200	3.00-8.00	5	36	43.7	PT010-WFK	8-13	9.5
PT020-8	2	4400	3.32-8.00	6	48	60.5	PT020-WFK	8-13	10
GT020-8-10	2	4400	3.32-8.00	6	48	73.5	PT020-WFK	8-13	10
PT030-8	3	6600	3.94-8.00	7	42	73.2	PT030-WFK	8-13	16.3
GT030-8-10	3	6600	3.94-8.00	7	42	86.2	PT030-WFK	8-13	16.3
PT050-8	5	11000	4.64-8.00	8	60	110.3	PT050-WFK	8-13	24.8
GT050-8-10	5	11000	4.64-8.00	8	60	123.3	PT050-WFK	8-13	24.8
PT100-12	10	22000	7.00-13	10	83	205	NA	NA	NA
GT100-12-10	10	22000	7.00-13	10	83	227	NA	NA	NA
GT200-12	20	44000	7.00-13	12	138	540	NA	NA	NA

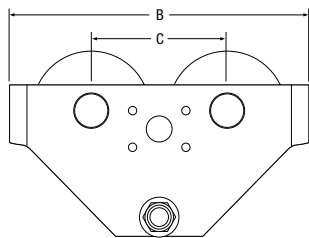
Industrial Lifting Equipment

PT and GT Series Trolley

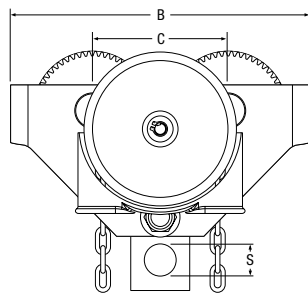
1/2 – 20 metric ton Capacity

PT and GT Hook-On Trolley Dimensions (in.)

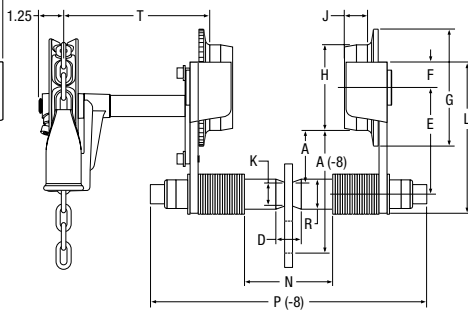
Model no.	A	A (-8)	B	C	D	E	F	G	H	J	K	L	M	N	P	P (-8)	R	S	T
PT005-8	2.63	5.88	10	4.5	1	4	1.13	3.5	2.06	0.75	0.75	6.63	---	3.94	---	12.25	1.25	1.56	---
PT010-8	2.5	5.94	13	5.19	1.25	4.44	1.56	4.19	2.75	0.75	1	6.94	---	4.25	---	12.88	1.5	1.56	---
GT010-8-10	2.5	5.94	13	5.19	1.25	4.44	1.56	4.19	2.75	0.75	1	6.94	---	4.25	---	12.88	1.5	1.56	7.81
PT020-8	2.56	6.06	14.94	6.75	1.25	5.25	1.25	5.81	4.25	1.13	1.19	7.5	---	4.31	---	13.81	1.5	1.56	---
GT020-8-10	2.56	6.06	14.94	6.75	1.25	5.25	1.25	5.81	4.25	1.13	1.19	7.5	---	4.31	---	13.81	1.5	1.56	7.75
PT030-8	2.56	7.88	14	6.38	1.56	5.5	1.56	5.75	4.5	1.13	1.44	8.56	---	5.38	---	14.13	1.94	2.56	---
GT030-8-10	2.56	7.88	14	6.38	1.56	5.5	1.56	5.75	4.5	1.13	1.44	8.56	---	5.38	---	14.13	1.94	2.56	8.06
PT050-8	2.81	8.13	15.5	7.06	1.56	5.75	2.19	6.19	4.5	1.56	1.44	9.81	---	6.63	---	15.63	2.5	2.56	---
GT050-8-10	2.81	8.13	15.5	7.06	1.56	5.75	2.19	6.19	4.5	1.56	1.44	9.81	---	6.63	---	15.63	2.5	2.56	8.5
PT100-12	11.79	---	17.91	19.29	20.79	5.02	7.87	2.00	7.44	5.94	4.21	1.77	3.23	17.09	3.70	---	1.00	---	---
GT100-12-10	11.79	---	17.91	19.29	20.79	5.02	7.87	2.00	7.44	5.94	4.21	1.77	3.23	17.09	3.70	---	1.00	---	---
GT200-12-10	10.47	---	25.28	24.49	22.52	6.73	11.81	2.60	10.79	7.87	5.91	2.76	4.33	18.03	4.49	---	4.92	---	---



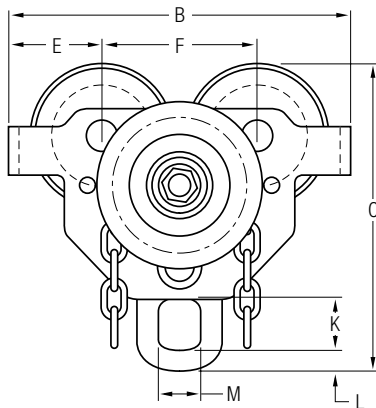
PT010 - PT050
plain trolley / without lug



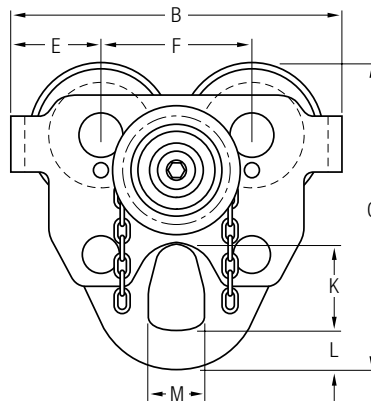
GT010 - GT050
geared trolley



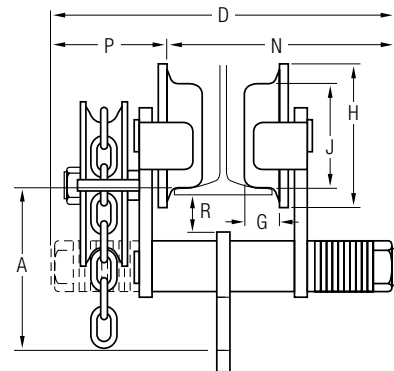
PT010 - PT050 & GT010 - GT050
plain & geared trolley



GT100
geared trolley



GT200
geared trolley



GT100 and GT200
geared trolley

Industrial Lifting Equipment

TVP and TVG “Direct Mount” Series Trolley



1/2 – 10 metric ton Capacity

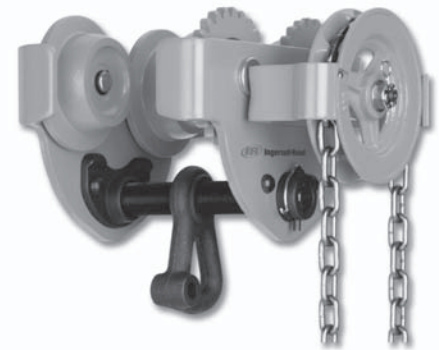
Features:

Our “TVP” Plain and “TVG” Geared premium grade, universal trolleys offer unique features for the safe, smooth transport of loads on all types of beams.

- Patented, quick adjustable, “Threaded Bolt” suspension shaft fits a wide variety of beam widths. No hand tools are required to assemble and adjust the trolley.
- Trolley wheels and side plates rotate freely on the threaded suspension shaft. This allows the trolley to maintain an even load on all four wheels, even if the wheels encounter irregularities such as welded joints on the beam surface.
- The suspension shaft holders also serve to prevent wheel-flanges from “running up” on the rail surface.
- Design factor of 5:1 allows TVP and TVG to be used with both manual and powered hoists per ANSI B30.16.
- The suspension shaft stopper pin is firmly held by a clamp which assures safe operation as well as easy installation.
- Unique suspension lug allows either standard hook-on or **direct mounting to the MCH5 and VL2 chain hoist using the top hook pin**. This provides a more rigid mounting and saves headroom. (1/2 through 2 ton models only)
- Universal solid cast wheels fit both flat and tapered beams.
- Steel side plates incorporate integral bumpers which also serve as drop stops.
- Industrial grade, maintenance free, sealed ball bearings are used in all trolley wheels for smoother operation with less effort.



TVP Series Geared Trolley



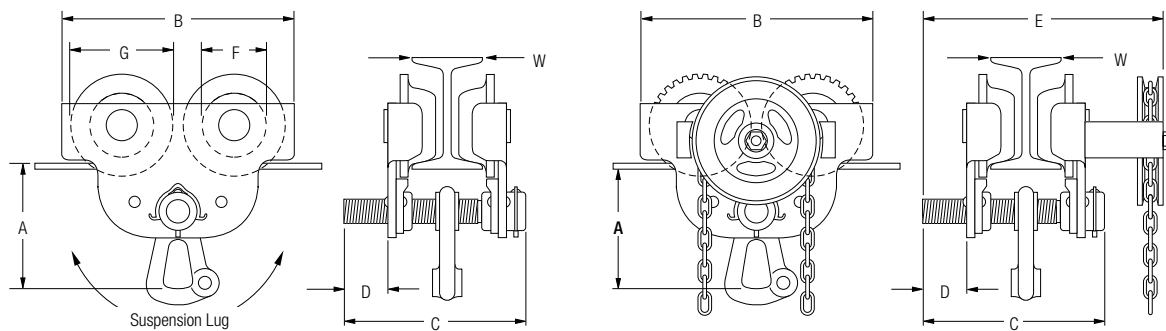
TVG Series Geared Trolley

TVP/TVG Trolley Series Specifications

Model no.	Capacity		Standard flange adjustment in.	Minimum beam height in.	Minimum curve radius in.	Net weight TVP / TVG lbs
	metric tons	lbs				
TVP005	1/2	1100	2 ³ / ₈ – 4 ¹⁵ / ₁₆	3 ¹⁵ / ₁₆	35 ⁷ / ₁₆	13.2 / na
TVP/G010	1	2200	2 ³ / ₈ – 4 ¹⁵ / ₁₆	4 ¹⁵ / ₁₆	51 ³ / ₁₆	22 / 30.8
TVP/G020	2	4400	2 ¹⁵ / ₁₆ – 6 ¹ / ₈	5 ²⁹ / ₃₂	59 ¹ / ₁₆	40.7 / 51.7
TVP/G030	3	6600	3 ⁹ / ₃₂ – 6 ¹¹ / ₁₆	6 ⁵⁷ / ₆₄	78 ³ / ₄	57.2 / 73.7
TVP/G050	5	11000	3 ¹⁵ / ₁₆ – 6 ⁷ / ₈	7 ⁷ / ₈	102 ³ / ₈	96.8 / 117.7
TVP/G100	10	22000	5 ²⁹ / ₃₂ – 6 ⁷ / ₈	7 ⁷ / ₈	(1)	211.2 / 222.2

Note:

(1) TVP100 and TVG100 is a two trolley system. Curved track is not recommended.



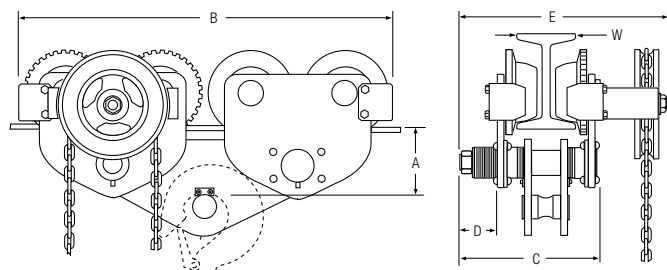
TVP005, TVP/TVG010-050, 1/2-5 metric ton plain trolley

TVP/TVG Trolley Series Dimensions (in.)

Model no.	A	B	C	D ¹	E ²	F	G
TVP005	4 ³ / ₄	7 ²³ / ₃₂	7 ¹ / ₂	4 ¹⁵ / ₁₆	—	2 ⁹ / ₁₆	3 ⁵ / ₁₆
TVP/G010	4 ⁷ / ₈	10	7 ¹ / ₂	4 ¹⁵ / ₁₆	10 ¹ / ₂	3 ⁵ / ₃₂	4 ⁵ / ₁₆
TVP/G020	4 ⁷ / ₈	11 ¹³ / ₁₆	9 ¹ / ₈	6 ¹ / ₈	11 ¹⁵ / ₁₆	3 ¹⁵ / ₁₆	5 ³ / ₃₂
TVP/G030	7 ¹ / ₁₆	13 ³ / ₈	10 ⁵ / ₃₂	6 ¹¹ / ₁₆	13 ¹¹ / ₃₂	4 ⁷ / ₁₆	5 ⁷ / ₈
TVP/G050	7 ⁷ / ₈	15 ¹ / ₁₆	10 ⁵ / ₈	6 ⁷ / ₈	13 ⁵ / ₈	4 ¹⁵ / ₁₆	6 ²¹ / ₃₂
TVP/G100	7 ⁷ / ₈	31 ¹ / ₈	10 ⁵ / ₈	6 ⁷ / ₈	13 ⁵ / ₈	4 ¹⁵ / ₁₆	6 ²¹ / ₃₂

Notes:

- (1) “D” dimension is equal to the dimension shown minus the beam flange width.
- (2) “E” dimension applies to geared (TVG) trolleys only.



TVP/TVG100, 10 metric ton geared trolley

Industrial Lifting Equipment

RT and TIR Series Trolley

1/4 – 6 metric ton Capacity

Features

RT and TIR trolleys are supplied as standard equipment for MLK, HLK and Palair hoists when specified. The TIR trolley may also be used as a hook-on trolley with any hoist..

- Meets ANSI B30.16 for hoisting requirements - 5:1 safety factor (minimum).
- All steel construction.
- Universal wheels fit both flat and tapered beam flanges.
- Rail sweeps are integral with the side plates.
- Cast iron wheels roll easily on permanently greased sealed bearings.
- 7 ft pendent control or 8 ft hand chain length.
- Tight turning radius.
- Standard 3 ton trolley fits 3 1/4 - 6 in. flange width, 6 ton a 4 1/4 - 7 1/4 in. flange width.
- Modular trolley frame allows conversions for hook-on, plain rigid, geared and motorized configurations in the field.
- Motorized trolley has automatic disc brake to control stopping.
- Low air consumption uses only 35 scfm for motorized version.

Options

- Bronze wheels.
- Wide flange kit for 3 ton fits beam flange widths from 6 – 12 in.
- Hook-on adapters.

RT and TIR Trolley Series Specifications

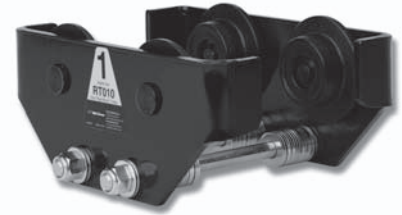
Trolley type	Min. curve radius (in.)	Standard flange adjustment (in.)	Trolley weight (lbs)
RT Trolley Series (1 metric ton maximum capacity)			
Plain rigid	28	2.66 - 6	31
Geared rigid	53	2.66 - 6	31
Motorized	55	2.66 - 6	31
TIR6600 Trolley Series (3 metric ton maximum capacity)			
Plain hook-on	42	3.25 - 6	31
Plain rigid	42	3.25 - 6	34
Geared hook-on	42	3.25 - 6	34
Geared rigid	42	3.25 - 6	37
Motorized	42	3.25 - 6	35
Plain	42	3.25 - 6	25
TIR132 Trolley Series (6 metric ton maximum capacity)			
Plain hook-on	60	4.25 - 7.25	154
Plain rigid	60	4.25 - 7.25	150
Geared hook-on	60	4.25 - 7.25	157
Geared rigid	60	4.25 - 7.25	153
Motorized	60	4.25 - 7.25	155

Motorized trolley specifications

Hoist capacity		Trolley speed on beam ¹ fpm
metric tons	lbs	
1/4	550	95
1/2	1100	93
1	2200	88
1 1/2	3300	84
2	4400	80
3	6600	71
4 1/2	9900	60
6	12000	45

Note:

(1) Beam in good condition



RT plain trolley



TIR6600 plain trolley



TIR6600 motorized trolley



TIR6600 hook-on adapter

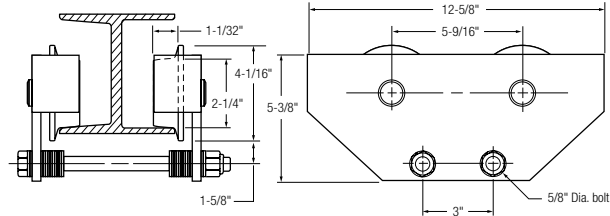


MLK rigid lug adapter

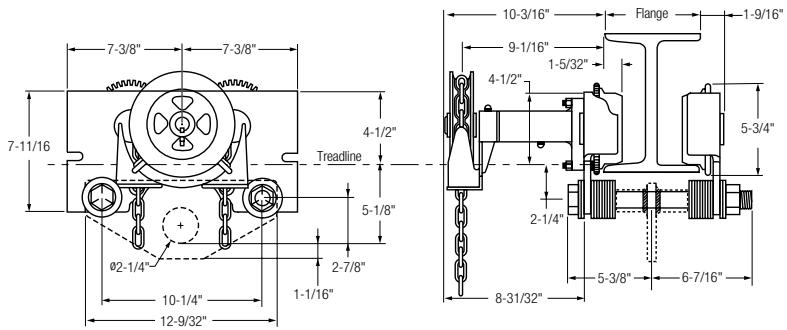
1/4 – 6 metric ton Capacity

RT, TIR6600 and TIR132 Dimensions

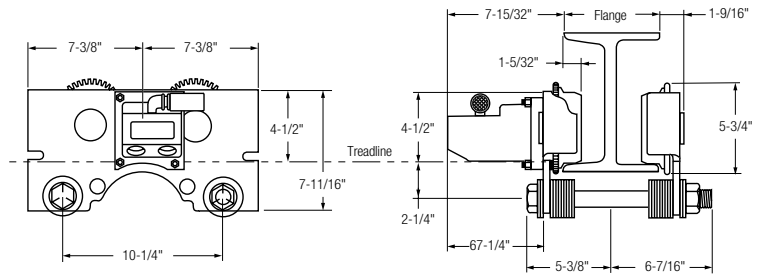
RT Plain Rigid, Geared Rigid and Motorized Trolley



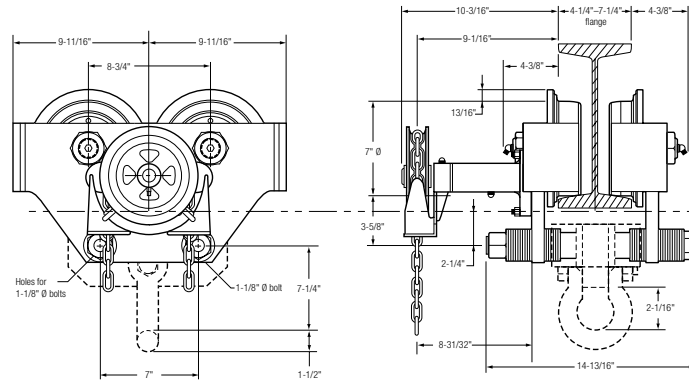
TIR6600 Plain, Geared and Lug Mounted Trolley



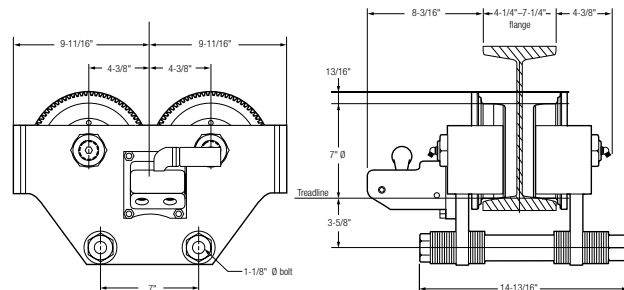
TIR6600 Motorized Trolley



TIR132 Plain, Geared and Hook Mounted Trolley



TIR132 Motorized Trolley



Industrial Lifting Equipment

BC Series Beam Clamp

1 – 10 metric ton Capacity

Beam Clamp features:

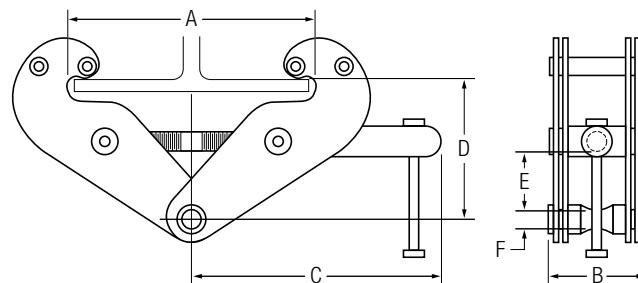
Beam Clamps provide a temporary or permanent mount to a wide range of tapered or flat beams. These units have been designed and verified, by actual pull testing, to achieve minimum design factor of 5:1 for vertical lifting with powered or manual hoist meeting ASME B30.16. Quick and simple installation is achieved by hand without tools. Units accommodate hook-mounted hoist or load blocks with minimal loss of headroom. The clamp jaws are designed to reduce beam stress by applying the load inside of the flange edge.

- Quick installation by hand.
- Low headroom design adjust to fit a wide range of flat or tapered beams.
- Meets ASME B30.16 for use with powered or manual hoists.
- Each unit is serialized, supplied with a test certificate and manual.
- Metric rated for vertical lifting at 2200 lbs per ton.



BC Series Beam Clamp specifications and dimensions (in.)

Model no.	Capacity metric tons	Weight lbs	Beam width					
			A	B	C	D	E	F
BC-1	1	4	2 ⁵ / ₁₆ - 9 ¹ / ₁₆	3 ³ / ₁₆	8 ³ / ₄	4 - 6 ⁵ / ₁₆	1 ¹ / ₈	1 ³ / ₁₆
BC-2	2	5	2 ⁵ / ₁₆ - 9 ¹ / ₁₆	3 ⁵ / ₈	8 ³ / ₄	4 - 6 ⁵ / ₁₆	1 ¹ / ₈	7 ⁷ / ₈
BC-3	3	9	3 ⁵ / ₃₂ - 12 ⁵ / ₈	4 ⁵ / ₈	10 ³ / ₄	6 ⁵ / ₈ - 9 ¹ / ₂	2 ⁷ / ₁₆	1 ⁵ / ₁₆
BC-5	5	11	3 ⁹ / ₁₆ - 12 ⁵ / ₈	4 ¹³ / ₁₆	10 ³ / ₄	6 ⁵ / ₈ - 9 ¹ / ₂	2 ³ / ₈	1 ³ / ₁₆
BC-10	10	11	3 ⁹ / ₁₆ - 14 ³ / ₈	5 ¹⁵ / ₁₆	11 ¹ / ₆₄	6 ¹¹ / ₁₆ - 9 ¹ / ₄	1 ³¹ / ₃₂	1 ³⁷ / ₆₄



6 metric ton towing Capacity

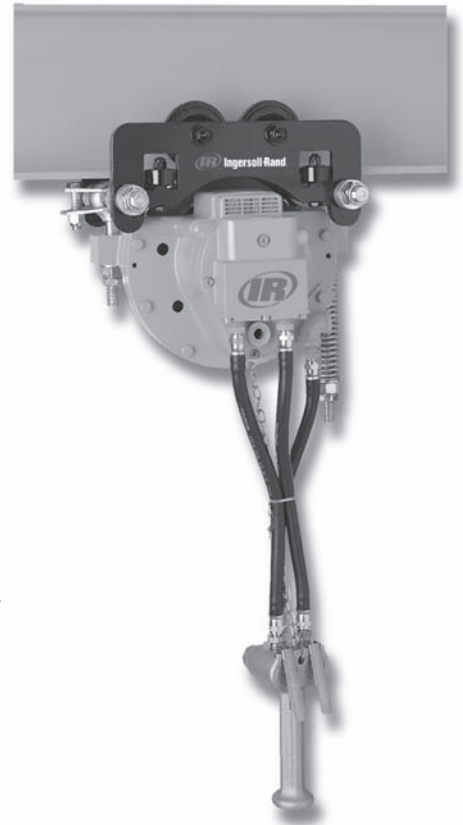
Features

The MTK Tractor requires less air, making it less expensive to operate. Designed to be used with any hoist or even alone to push, pull or position loads on beams.

- Up to 6 metric ton towing capacity.
- Interchangeability with MLK and HLK parts.
- Balanced gear package and air motor provides a range of speed from slow creep to 165 fpm.
- Million cycle performance tested air motor with spring-loaded vanes provides instant starting and slow speed control.
- Heat treated planetary gearing assures longer life and reduced maintenance.
- Self-adjusting, spring applied, nonasbestos disc brake is air released for smooth starts and stops.
- Drive tire is made from extremely durable polyurethane material with a temperature rating of 185° F providing excellent “adjustable” gripping characteristics for positive traction.
- Tight turning radius of 30 in.
- “Universal” solid cast iron wheels will fit both flat and tapered beams.
- Wheels are greasable for longer life.
- Standard tractor fits beam flange width of 2²¹/₃₂ - 6¹/₄ in.
- Roller guides made from high alloy steel keep tractor running smoothly.
- Tractor operates with a full flow (live air) pendent enhancing load spotting control.
- 7 ft pendent length is standard.
- Tow bar included with tractor.

Options

- Free wheel kit - permits moving of tractor without supplying air to tractor. Attaches directly to tractor without modification.
- Wide flange kit - fits 6¹⁷/₆₄ - 12 in. beam flange.
- Pull chain operation.
- Bronze wheels for spark resistant applications.
- Gasket repair and manual brake release kits.
- Drawbar hitch kit (standard on all new HLKs)
- External brake release kit - air releases auto disc brake without running tractor.



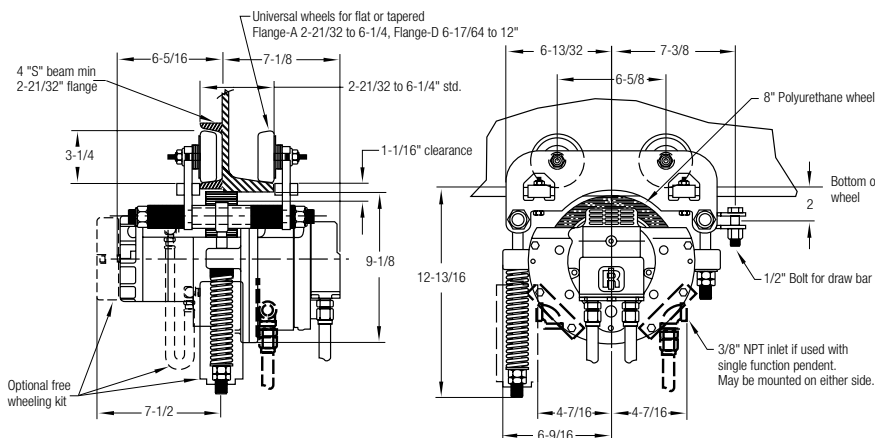
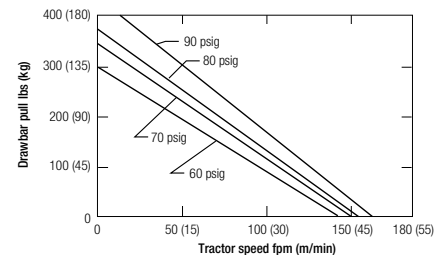
MTK Tractor Specifications¹

Drawbar pull (lbs)	Capacity/metric tons		Max speed fpm	Pendent length (ft)	Turning radius in.	Beam flange width (in.)	
	flat, dry good	curved, slick, poor				standard	optional
0	0	0	165	7	30	2 ²¹ / ₃₂ - 6 ¹ / ₄	6 ¹⁷ / ₆₄ - 12
100	1 ¹ / ₂	3 ³ / ₄	117	7	30	2 ²¹ / ₃₂ - 6 ¹ / ₄	6 ¹⁷ / ₆₄ - 12
200	3	1 ¹ / ₂	86	7	30	2 ²¹ / ₃₂ - 6 ¹ / ₄	6 ¹⁷ / ₆₄ - 12
300	4 ¹ / ₄	2 ¹ / ₄	57	7	30	2 ²¹ / ₃₂ - 6 ¹ / ₄	6 ¹⁷ / ₆₄ - 12
400	6	3	21	7	30	2 ²¹ / ₃₂ - 6 ¹ / ₄	6 ¹⁷ / ₆₄ - 12

Notes:

(1) At 90 psi inlet pressure. Average air consumption is 35 scfm. Range is 25 - 45 scfm depending on load and air pressure.

Draw Bar Load vs Tractor Speed



Drawbar Hitch Kits with MTK Tractor

Series hoist to be towed	Drawbar kit part no.
HL1000K, HL1500K, HL2000K and HL3000K with rigid trolley	No kit required; standard drawbar kit included with MTK tractor fits these hoists
All MLKs with rigid trolley	MR-K1
HL4500K and HL6000K	NA

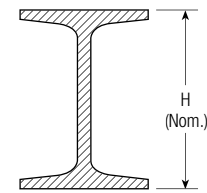
Industrial Lifting Equipment

I-Beam Specifications

The following table shows the standard size (H dimension), flange widths (W dimensions) and weights for both American Standard I-beams and Wide Flange H-beams. I-beams designated with an asterisk (*) denote New Series applications which conform to ASTM A6 standards, effective September 1, 1978.

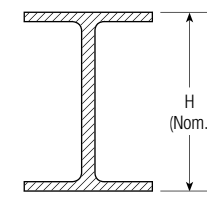
Wide Flange						American Standard					
H in.	W in.	Weight per ft/lbs	H in.	W in.	Weight per ft/lbs	H in.	W in.	Weight per ft/lbs	H in.	W in.	Weight per ft/lbs
6	3.940	8.5	10	10.117	66.0	16*	6.985	36	4	2.663	7.7
6*	4.0	9.0	10*	10.130	68.0	16	7.0	40	4	2.796	9.5
6	4.0	12.0	10	10.170	72.0	16*	6.995	40	5	3.004	10.0
6*	4.0	12.0	10	10.190	77.0	16	7.039	45	5	3.284	14.75
6	4.030	16.0	10*	10.190	77.0	16*	7.035	45	6	3.332	12.5
6*	4.030	16.0	10*	10.625	88.0	16	7.073	50	6	3.565	17.25
6*	5.990	15.0	10	10.275	89.0	16*	7.070	50	7	3.662	15.3
6	5.995	15.5	10	10.340	100.0	16*	7.120	57	7	3.860	20.0
6	6.020	20.0	10*	10.340	100.0	16	8.464	58	8	4.001	18.4
6*	6.018	20.0	10	10.415	112.0	16*	10.235	67	8	4.171	23.0
6	6.080	25.0	10*	10.415	112.0	16*	10.295	77	10	4.661	25.4
6*	6.080	25.0	12	3.968	14.0	16*	10.365	89	10	4.944	35.0
8	3.940	10.0	12*	3.970	14.0	16*	10.425	100	12	5.0	31.8
8*	3.940	10.0	12*	3.990	16.0	16	11.502	88	12	5.078	35.0
8	4.0	13.0	12	4.0	16.5	16	11.5	96	12	5.252	40.8
8*	4.0	13.0	12	4.005	19.0	18	6.0	35	12	5.477	50.0
8	4.015	15.0	12*	4.007	19.0	18*	6.0	35	15	5.501	42.9
8*	4.015	15.0	12	4.030	22.0	18	6.015	40	15	5.640	50.0
8	5.250	17.0	12*	4.030	22.0	18*	6.015	40	18	6.001	54.7
8*	5.250	18.0	12*	6.490	26.0	18*	6.060	46	18	6.251	70.0
8	5.268	20.0	12	6.497	27.0	18	7.477	45	20	6.25	65.4
8*	5.270	21.0	12*	6.520	30.0	18	7.5	50	20	6.385	75.0
8	6.495	24.0	12	6.525	31.0	18*	7.5	50	20	7.060	86.0
8*	6.5	24.0	12*	6.560	35.0	18	7.532	55	20	7.200	96.0
8	6.535	28.0	12	6.565	36.0	18*	7.530	55	24	7.001	79.9
8*	6.535	28.0	12	8.0	40.0	18	7.558	60	24	7.125	90.0
8	7.995	31.0	12*	8.005	40.0	18*	7.555	60	24	7.245	100.0
8*	7.995	31.0	12	8.042	45.0	18*	7.635	71	24	7.875	105.9
8	8.020	35.0	12*	8.045	45.0	18	8.715	64	24	8.050	121.0
8*	8.020	35.0	12	8.077	50.0	18	8.75	70			
8	8.070	40.0	12*	8.080	50.0	18	8.787	77			
8*	8.070	40.0	12	10.0	53.0	18*	11.035	76			
8	8.110	48.0	12*	9.995	53.0	18*	11.090	86			
8*	8.110	48.0	12	10.014	58.0	18*	11.145	97			
8	8.220	58.0	12*	10.010	58.0	18*	11.200	106			
8*	8.220	58.0	14	5.0	22.0	18*	11.265	119			
8	8.280	67.0	14*	5.0	22.0	18	11.75	96			
8*	8.280	67.0	14	5.025	26.0	21	6.5	44			
10	3.950	11.5	14*	5.025	26.0	21*	6.5	44			
10*	3.960	12.0	14	6.730	30.0	21*	6.530	50			
10	4.0	15.0	14*	6.730	30.0	21*	6.555	57			
10*	4.0	15.0	14	6.75	34.0	21	8.215	55			
10	4.010	17.0	14*	6.745	34.0	21	8.240	62			
10*	4.010	17.0	14	6.770	38.0	21*	8.240	62			
10	4.020	19.0	14*	6.770	38.0	21	8.270	68			
10*	4.020	19.0	14	8.0	43.0	21*	8.270	68			
10	5.75	21.0	14*	7.995	43.0	21	8.295	73			
10*	5.75	22.0	14	8.031	48.0	21*	8.295	73			
10	5.762	25.0	14*	8.030	48.0	21*	8.355	83			
10*	5.770	26.0	14	8.062	53.0	21*	8.420	93			
10	5.799	29.0	14*	8.060	53.0	21	8.962	82			
10*	5.810	30.0	14	10.0	61.0	24	7.005	55			
10	7.960	33.0	14*	9.995	61.0	24*	7.005	55			
10*	7.960	33.0	14	10.035	68.0	24*	7.040	62			
10	7.985	39.0	14	10.035	68.0	24	8.961	68			
10*	7.985	39.0	14	10.072	74.0	24*	8.965	68			
10	8.020	45.0	14*	10.070	74.0	24	8.965	76			
10*	8.020	45.0	14	12.0	78.0	24*	8.990	76			
10	10.0	49.0	14	14.5	87.0	24	9.015	84			
10*	10.0	49.0	14*	10.130	82.0	24*	9.020	84			
10	10.030	54.0	16	5.5	26.0	24	9.065	94			
10*	10.030	54.0	16	5.525	31.0	24*	9.065	94			
10	10.080	60.0	16*	5.525	31.0	-	-	-			
10*	10.080	60.0	16	6.692	36.0	-	-	-			

American Standard



Tapered "S" Beam

Wide Flange



Flat "H" Beam

WARRANTY

LIFTING EQUIPMENT

Ingersoll-Rand warrants to the original user its lifting equipment products to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any product proves defective within its original one year warranty period, it should be returned to an appropriate Ingersoll-Rand Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which IR has determined to have been misused or abused, improperly maintained by the purchaser: or where the malfunction or defect can be attributed to the use of non-genuine IR parts.

IR makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set for the above. IR's maximum liability is limited to the purchase price of the Product and in no event shall IR be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the Product, whether based on contract, tort, or otherwise.

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1-866-IR4 TOOLS**

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Air Motors

- ▶ .11hp to 30hp
- ▶ 18ft-lb. to 1090ft-lb. Torque Ratings
- ▶ Geared and Non-Geared Models
- ▶ Vane and Piston Driven Models
- ▶ Reversible and Non-Reversible Types

Proven Source. Proven Solutions.





IR AIR POWER

Creating sheer power from the natural environment, Ingersoll-Rand air motors are flexible, efficient alternatives to electric sources—perfect for a wide range of industrial applications. Consider these advantages:

- Infinitely variable speeds and torques via pressure regulation or air valves—no costly controls required
- Instant starting, stopping and reversing eliminates the delays of motor speed-up or slow-down periods
- Will not overheat or burn out, even when overloaded or run to stall
- Safe operation in hazardous conditions, with no electrical sparks or hydraulic fluids
- Cool running characteristics minimize the effects of hot, wet or dusty surroundings
- Low maintenance, based on simplicity of design and strength of construction
- Excellent design flexibility—a function of compact size, light weight, and high power output
- Temperature range—up to 150°F with standard lubrication and up to 300°F with high temperature lubrication

A FULL SPECTRUM OF SOLUTIONS

Ingersoll-Rand offers well over 170 cataloged models of air motors, with an extensive range of options:

- Reversible and non-reversible types
- 0.11 to 30 horsepower
- Square drive shafts (available on series M002, M004, M007, 1801, 1841, 3800, 3840, 4800 and 4840)
- Vane or piston configurations
- 23 rpm to 12,250 rpm speed ratings
- Geared and non-geared varieties
- 0.18 ft-lb. to 1090 ft-lb. torque ratings

In addition, Ingersoll-Rand maintains data on hundreds of special application air motors that have solved problems for design engineers around the world over the years. You can access this invaluable resource by contacting your Ingersoll-Rand representative or distributor with details of your situation.

With over 125 years of engineering and manufacturing leadership, Ingersoll-Rand is the expert in air power.

IR AIR MOTOR PERFORMANCE CURVES

The performance curves shown throughout this catalog can assist you in matching specific air motor models to requirements. Performance data within one series may vary slightly, depending on gear ratios. When this occurs, median performance for that series is indicated. Follow these guidelines for interpreting the performance curves:

Horsepower

1. Locate operating speed on the correct horizontal axis of the bottom chart
2. Read Horsepower from the correct curve in the bottom chart

Torque

1. Locate operating speed on the correct horizontal axis of the bottom chart
2. Read Torque from the correct curve in the bottom chart

Air Consumption

1. Locate operating speed on the correct horizontal axis on the bottom chart
2. Read Air Consumption from the correct curve in the top chart

Maximum Allowable Shaft Radial Load

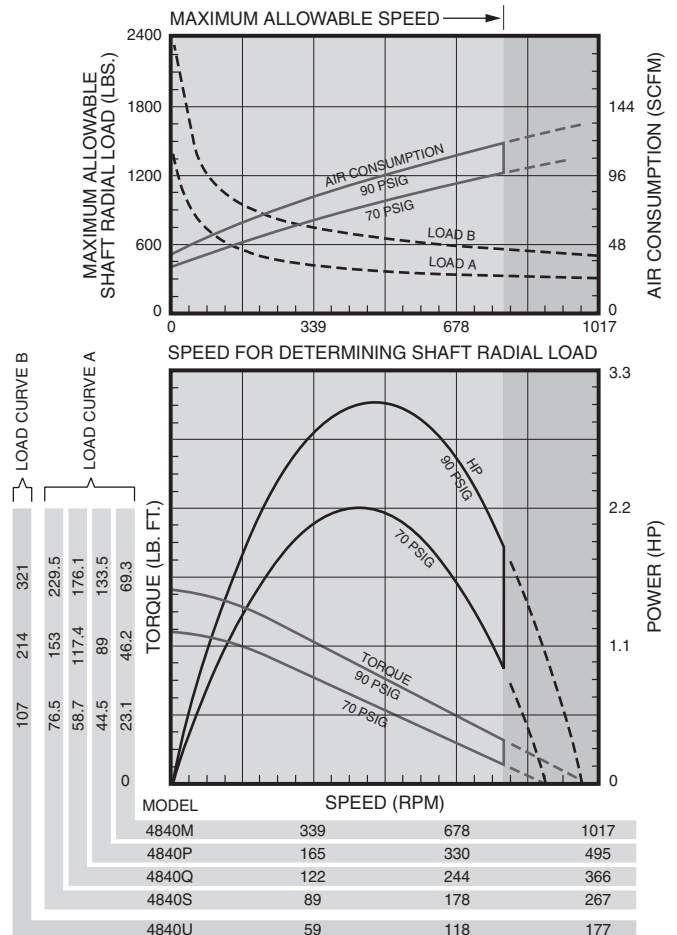
On applications where Shaft Radial Load is a factor:

1. Locate operating speed on the horizontal axis of the top chart
2. Read Shaft Radial Load on the correct Load Curve in the top chart



Two 1/3 Horsepower Motors

The Ingersoll-Rand reversible Series M004 Air Motor shown weighs only 2 3/8 lbs. It has integral gear reduction of 33 to 1 and a free speed of 450 rpm. The comparable horsepower 110 volt electric motor, with a free speed of 1725 rpm, weighs 15 1/2 lbs.



AIR MOTOR SELECTION AND CHARACTERISTICS

Ingersoll-Rand offers two basic types of Air Motors:

Vane Motors

Are smaller, lighter and less expensive than piston motors of similar power. Simple in design and construction, they can be operated in most any position. Vane motors are available in a broad range of speeds, torques and power and are the most widely used type of air motor.

Radial Piston Motors

Operate at lower speeds than vane motors. Have excellent starting and speed control. Especially good for "lugging" heavy loads at slow speed. Standard operational position is horizontal.

Reversible/Non-Reversible Air Motors

Non-reversible air motors are rated at slightly higher speeds, torques, and horsepower than reversible motors of the same family.

Air Pressure

When selecting air motors, remember that the specification listings show only one set of performance figures, at a particular pressure —90 psig. Air motors are designed to produce optimum performance at this pressure.

Many other speeds, torques and power can be obtained from the same motor by regulating the pressure, air supply or exhaust. While they will operate at pressures below 40 psig, their performance may not be consistent. They can also be operated above 100 psig, but often at the expense of increased maintenance.

A good rule to follow is to size an air motor based on approximately 70% of the lowest available air pressure. This will allow additional power for starting and possible overloading. See page 50 for performance characteristics at various air pressures.

Maximum Power

Ungoverned air motors develop maximum horsepower at approximately 50% of free (unloaded) speed while governed motors reach their peak horsepower at about 80% of free speed. The only governed motors in this catalog are the 22 and 55 Series listed on pages 26 and 27.

Desired Operating Speed

The desired operating speed, not the free and unloaded speed should be considered when selecting air motors.

Ungoverned air motors should not be run unloaded. The performance curves in this catalog indicate the maximum speeds at which the motor should be operated. The nameplate stamped speed is present for identification only.

Required Torque

Equally important as the speed at which an air motor is to be run is the required torque. The combination of the two factors—speed and torque—determine the power of the desired motor. Care should be taken to differentiate between stall (maximum) and running torques when selecting air motors.

Speed and Torque

Starting torques are approximately 75% of stall torques.

Operating or running torques at any speed can be approximated from motor performance curves—or calculated using the formula:

$$\text{Torque (lb.-ft.)} = \frac{\text{Horsepower} \times 5250}{\text{speed (revolutions per minute)}}$$

$$\text{Torque (Nm)} = \frac{\text{Kilowatts} \times 9550}{\text{speed (revolutions per minute)}}$$

Shaft Radial Loads

When an air motor is to be used with a pulley, sprocket, or gear on the shaft, the overhung load (perpendicular to the shaft), commonly called "shaft radial loading" must be considered. It is shown in the performance curves and is generally assumed to be applied at the mid-point of the keyway of the shaft.

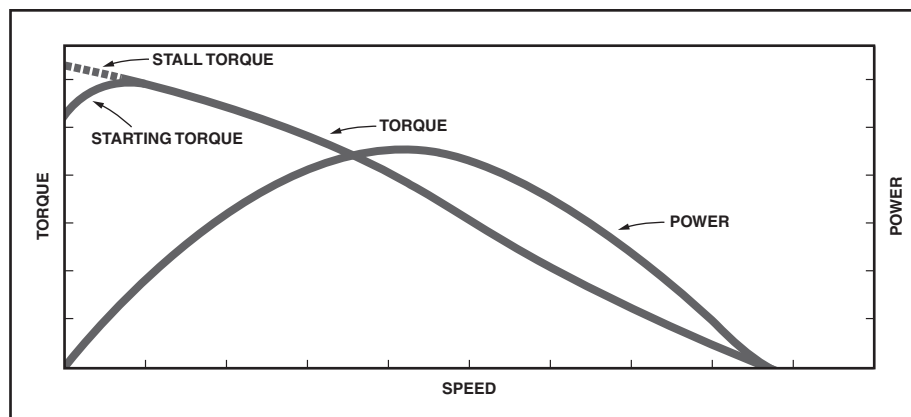


Fig. 1. Torque and power curves for a typical air motor. Torque is maximum at zero speed and zero at free speed. Any loading will slow the motor. As the load increases, the speed decreases and the torque increases until the motor stalls. If the load is decreased, the motor speed increases and its torque output decreases to match the applied load.

Air Motors

Selection and Characteristics

AIR MOTOR SELECTION AND CHARACTERISTICS (CONT.)

Air System and Supply

Once an air motor has been selected, it is important to ensure that the desired air pressure is available at the motor, **while the motor is operating**. A pressure reading at the compressor does not mean that the same pressure will be available to an operating air motor, because of possible restrictions and friction losses in the air system. Exhaust restrictions can also affect air motor operation, and are often the cause of performance problems.

Inlet Controls

When installing reversible air motors, a four-way valve or two three-way valves should be used to prevent blockage of the secondary Exhaust Port. This is the opposite Rotation Port to that which is being pressurized.

Replacing Electric Motors with Air Motors

Electric motors, with the exception of series wound direct current motors, have entirely different performance characteristics than air motors. Therefore, their torque and speed curves will not match. Many electric motors are oversized to allow for overloading and lower power air motors can be used as replacements.

Ingersoll-Rand Assistance

Your Ingersoll-Rand Air Motor distributor and factory representative are anxious to help with motor problems, applications and selections.

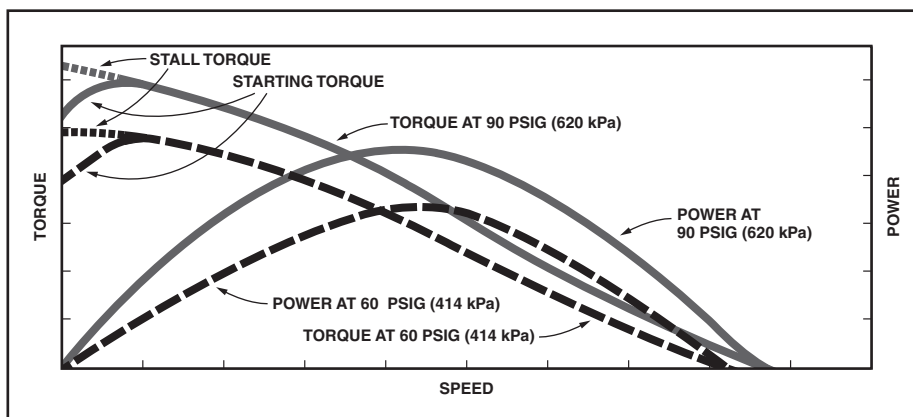


Fig. 2. Typical Air Motor torque and power curves at two different air pressures. Note that speed, torque and power decrease as the air pressure decreases.

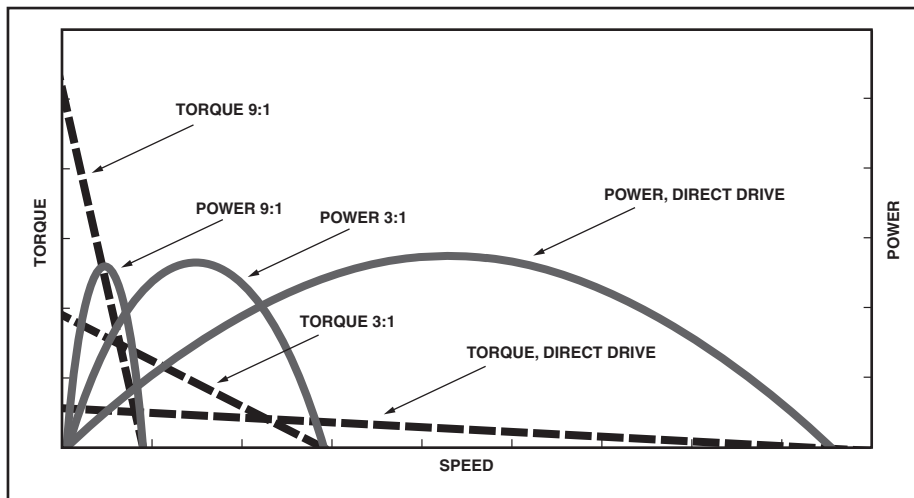


Fig. 3. Torque and power curves for geared and nongear motors. Note that reducing rpm by gearing steepens the torque curve while maintaining power. Gearing is often used to reduce the speed and increase the torque of air motors. The greater the gear reduction, the steeper will be the torque curve; thus, the higher speed motor will be more susceptible to a drop in speed as a load is applied than the slower speed motor with additional gearing.

**HOW TO DETERMINE PERFORMANCE CHARACTERISTICS
AT AIR PRESSURES OTHER THAN 90 PSIG**

As air pressure changes, the performance characteristics will change by the percentages given below.

Ungoverned Air Motors

Air Pressure (psig)	Free Speed (rpm)	Air Consumption at Free Speed (scfm)	Maximum Power (hp)	Speed at Maximum Horsepower (rpm)	Torque at Maximum Horsepower (lb.-ft.)	Air Consumption at Max. Power (scfm)	Stall or Starting Torque (lb.-ft.)
40	80%	45%	30%	80%	37.5%	45%	45%
50	84%	56%	44%	84%	52.4%	56%	56%
60	88%	67%	58%	88%	65.9%	67%	67%
70	92%	78%	72%	92%	78.3%	78%	78%
80	96%	89%	86%	96%	89.6%	89%	89%
90	100%	100%	100%	100%	100.0%	100%	100%
100	104%	111%	114%	104%	109.6%	111%	111%

Example: Knowing the performance characteristics of a Model 3840P reversible ungoverned Air Motor at 90 psig (620 kPa) it is a simple matter to determine its characteristics at another air pressure. Using the percentages from the table for 60 psig (414 kPa), the performance becomes:

Characteristic	Performance At 90 psig	Percentage Reduction	Performance At 60 psig
Maximum Power (hp)	1.35	x 58%	= .78
Free Speed (rpm)	440	x 88%	= 387
Speed at Max Power (rpm)	215	x 88%	= 189
Max (Stall) Torque (lb.-ft.)	53.5	x 67%	= 35.8
Torque at Max Power (lb.-ft.)	33	x 65.9%	= 21.7
Starting Torque (lb.-ft.)	40	x 67%	= 26.8
Air Consumption at Free Speed (scfm)	54	x 67%	= 36.2
Air Consumption at Max HP (scfm)	44	x 67%	= 29.5

Air Supply or Exhaust Regulation

Reducing or restricting the amount of air supplied to the motor has a similar effect to reducing the air pressure.

Choking or restricting the exhaust has a somewhat different effect, with the speed decreasing much more than the torque.

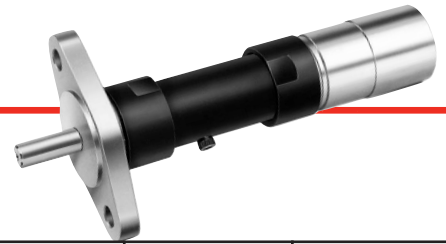
The effects of changes in pressure, air supply and exhaust regulation are summarized in the table at the right:

Exact variations in performance with "choked" motors are not tabulated; however, "on the job" tests will usually produce the desired results; sometimes from a combination of pressure adjustments and inlet and exhaust restrictions.

Air Regulation	Speed	Torque
Reduced air pressure, or restricting volume of air to motor	Reduced	Greatly Reduced
Choking or restricting exhaust	Greatly Reduced	Reduced

Air Motors

Series M002 Multi-Vane Air Motors



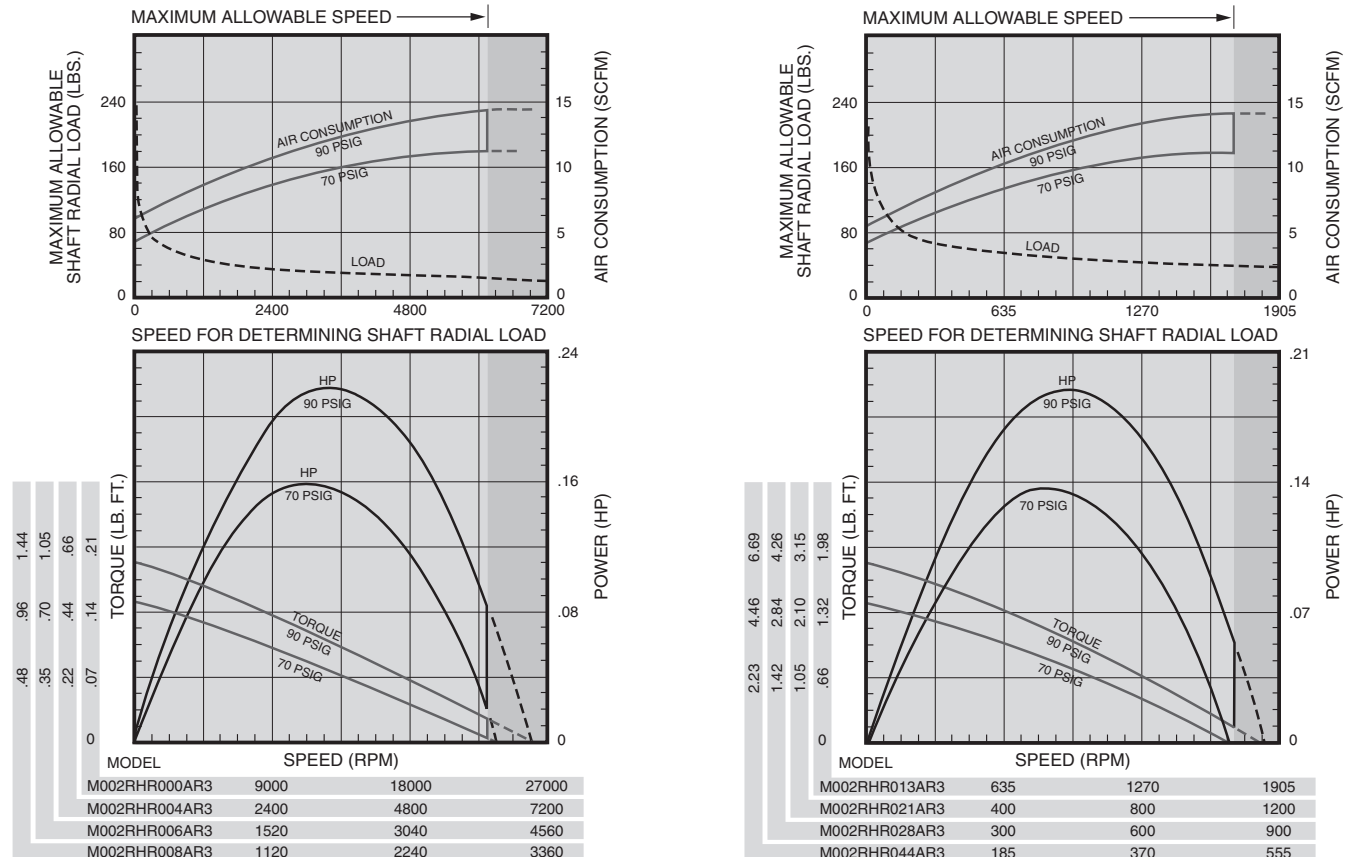
SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.	kg
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
M002RHR000AR3	0.25	0.19	12,250	26,000	0.15	0.20	0.20	0.27	12.0	0.34	1	0.46
M002RHR004AR3	0.22	0.16	3250	6920	0.45	0.61	0.61	0.83	11.9	0.34	1	0.46
M002RHR006AR3	0.22	0.16	2060	4385	0.72	0.98	0.96	1.30	11.9	0.34	1½	0.49
M002RHR008AR3	0.22	0.16	1520	3240	0.98	1.33	1.31	1.78	11.9	0.34	1	0.46
M002RHR013AR3	0.19	0.14	880	1840	1.36	2.50	1.82	2.47	11.8	0.33	1½	0.50
M002RHR021AR3	0.19	0.14	555	1165	2.16	2.93	2.88	3.90	11.8	0.33	1½	0.50
M002RHR028AR3	0.19	0.14	410	860	2.92	3.96	3.90	5.29	11.8	0.33	1½	0.50
M002RHR044AR3	0.19	0.14	262	545	4.61	6.25	6.15	8.34	11.8	0.33	1½	0.50
M002RHR101AR3	0.16	0.12	112	228	*8.32	*11.2	*11.1	*15.0	11.7	0.33	1¾	0.54
M002RHR159AR3	0.16	0.12	71	145	*13.1	*17.7	*17.5	*23.7	11.7	0.33	1¾	0.54
Reversible												
M002RVR000AR3	0.20	0.15	11,500	23,000	0.13	0.18	0.18	0.24	9.8	0.28	1	0.46
M002RVR004AR3	0.17	0.13	3045	6090	0.40	0.54	0.54	0.73	9.7	0.27	1	0.46
M002RVR006AR3	0.17	0.13	1930	3860	0.64	0.87	0.86	1.17	9.7	0.27	1½	0.49
M002RVR008AR3	0.17	0.13	1425	2850	0.87	1.18	1.16	1.57	9.7	0.27	1	0.46
M002RVR013AR3	0.14	0.10	820	1645	1.17	1.58	1.56	2.11	9.6	0.27	1½	0.50
M002RVR021AR3	0.14	0.10	520	1045	1.85	2.51	2.47	3.35	9.6	0.27	1½	0.50
M002RVR028AR3	0.14	0.10	385	770	2.50	3.39	3.34	4.53	9.6	0.27	1½	0.50
M002RVR044AR3	0.14	0.10	240	485	3.96	5.37	5.28	7.16	9.6	0.27	1½	0.50
M002RVR101AR3	0.11	0.08	104	209	*6.78	*9.19	*9.05	*12.2	9.5	0.27	1¾	0.54
M002RVR159AR3	0.11	0.08	66	132	*10.7	*14.5	*14.2	*19.3	9.5	0.27	1¾	0.54

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

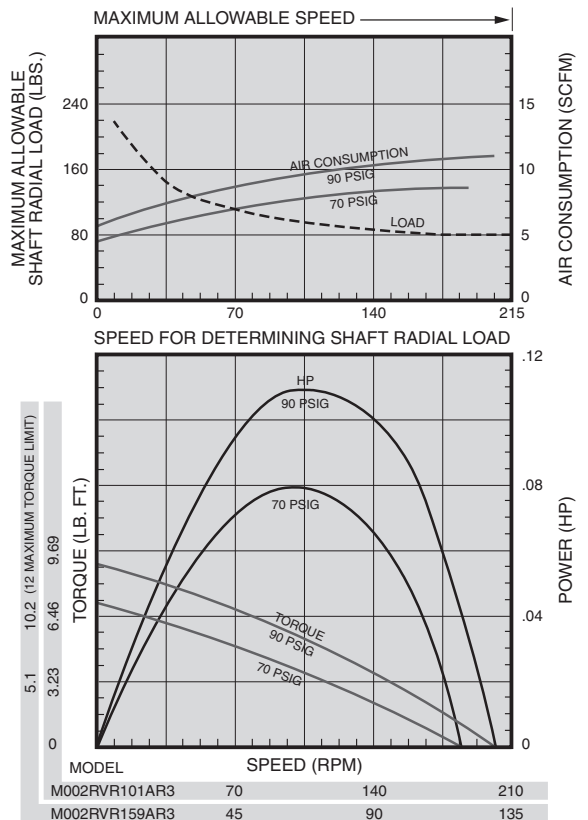
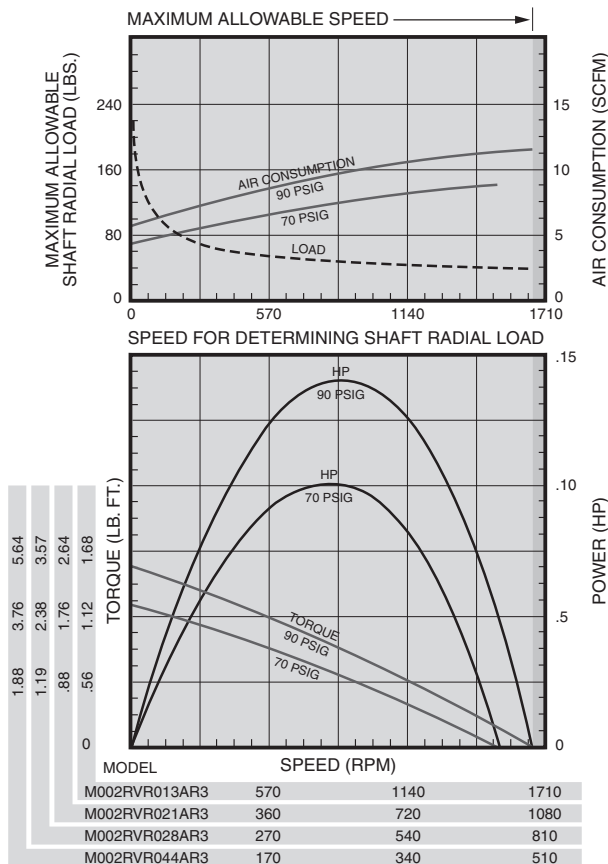
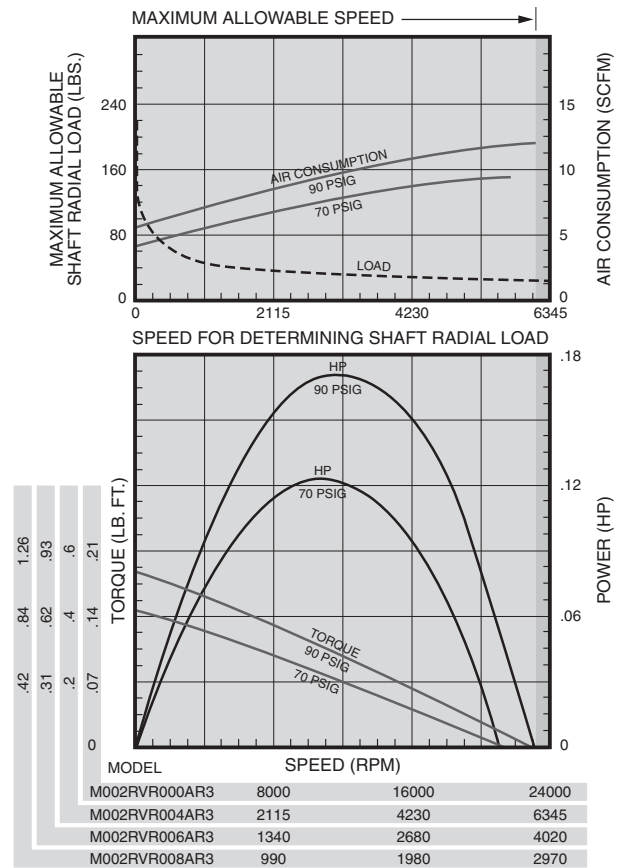
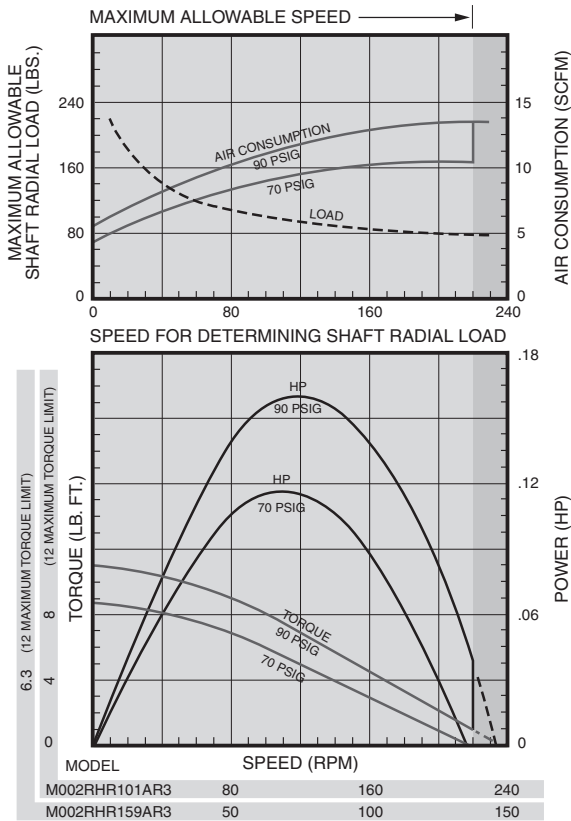
* Applications with these models must be limited to 12 lb.-ft. (16.3 Nm) torque.

Performance figures are at 90 psig (620 kPa) air pressure.



Air Motors

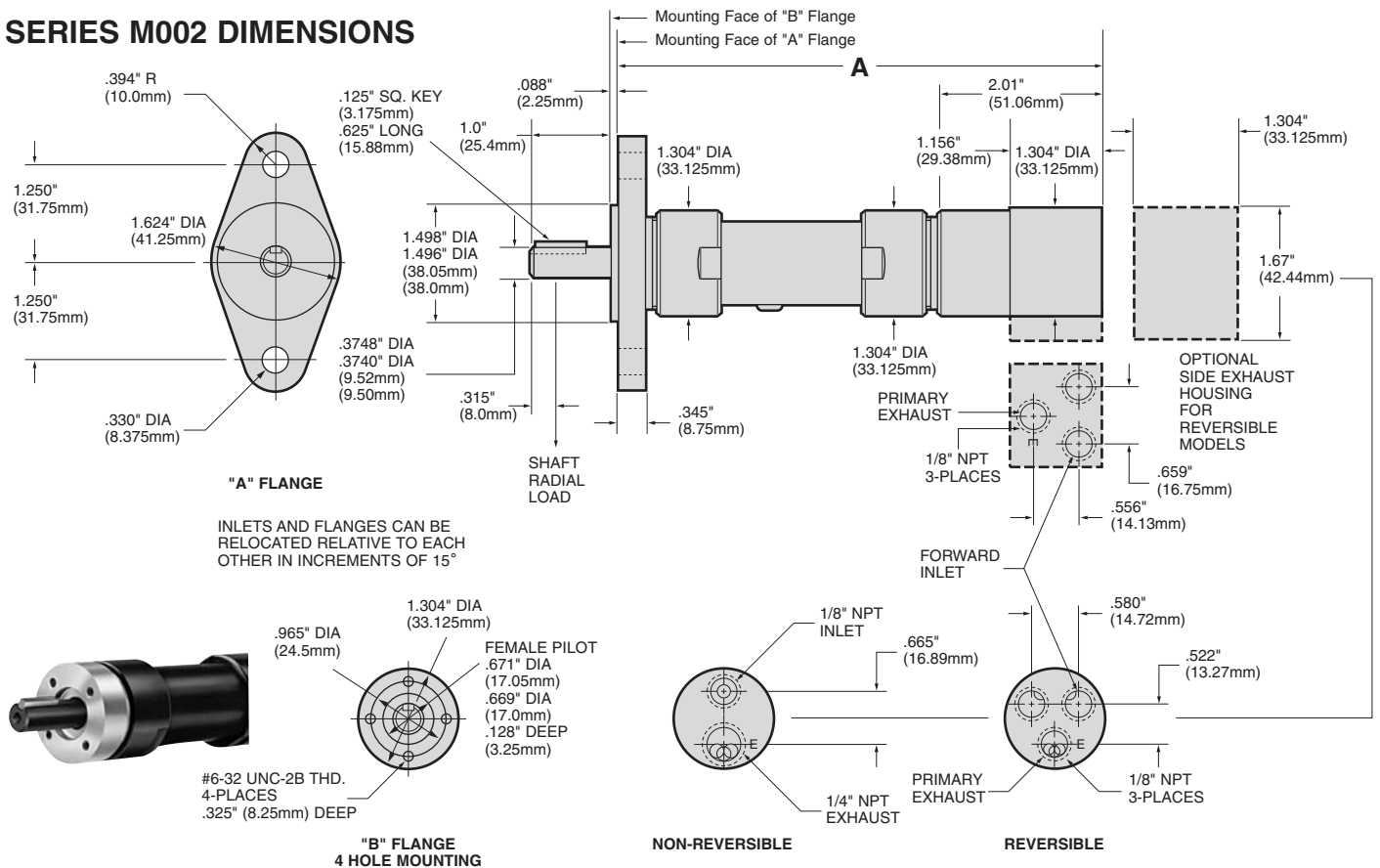
Series M002 Multi-Vane Air Motors



Air Motors

Series M002 Multi-Vane Air Motors

SERIES M002 DIMENSIONS



SERIES M002 MODEL NUMBER SYMBOLIZATION



HP = Approximate horsepower range (.11 to .25)

Rotation = RV Reversible
 RH Non-Reversible, Right Hand from Rear of Motor (CCW facing shaft)
 LH Non-Reversible, Left Hand from Rear of Motor (CW facing shaft)

Air Inlet & Exhaust = R Rear, S Side (Side Inlet and Exhaust available on Reversible Models only)

Gear Ratio = 028 is 1 to 28, 044 is 1 to 44, etc.

Flange = A 2 Hole Flange, B 4 Hole Face Mounting

Shaft = R3 3/8" Round Keyed
 T3 3/8"-24 UNF-2A Threaded.
 Threaded Shaft Extension is 1" (25.4mm) with Threaded Length from Shaft End of .87" (22mm).
 Threaded Shaft Pilot at End is .315" (8mm) Dia. Max. by .374" (9.5mm) Long

S3 3/8" Square Drive
 Square Shaft Extension is 1.791" (45.5mm)

DIMENSIONS

Gear Ratios (Refer to Model No.)	A	
	in.	mm
000, 004, 008	4.989	126.73
006, 013, 021, 028, 044	5.510	139.93
101, 159	6.020	152.91

EQUIPMENT OPTIONS

Furnished with Cataloged Models	Standard Options	Extra Options
2 Hole Flange Mounting	4 Hole Face Mounting	R1440-212-1 3/8" Square Drive Adapter, 1" long with 3/8"-24 Female threads for use with Threaded Shaft.
3/8" Round Keyed Shaft	3/8"-24 Threaded Shaft	Required for 3/8" Adapter (2) R2J-561 set screws (1) 8U-722 Bail
	Side Inlet and Exhaust Housing (for Reversible Models only)	

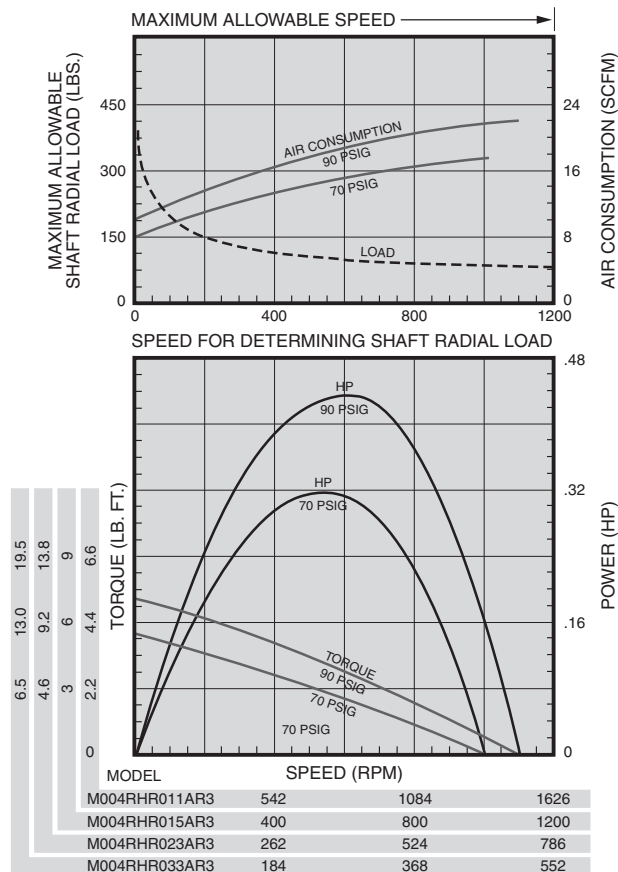
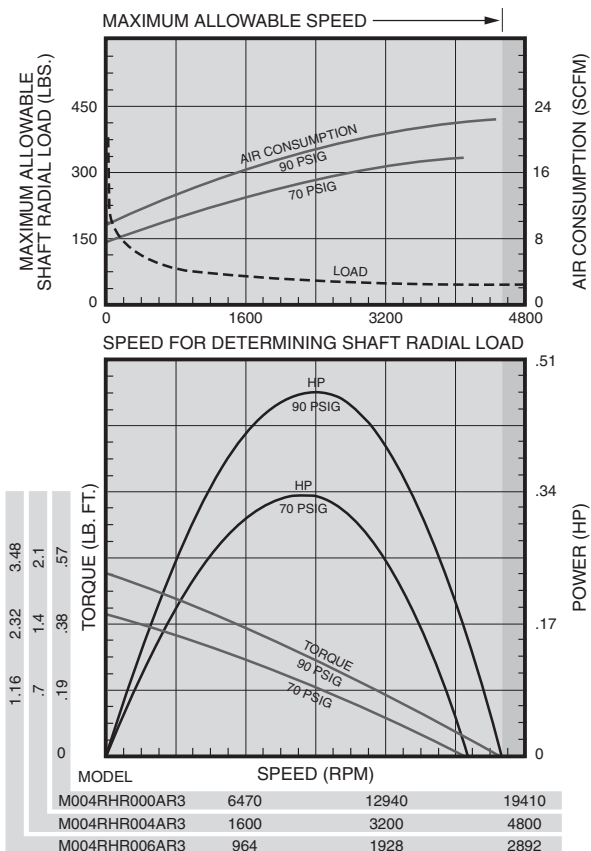
Note: On all Series M002, M004, and M007 Air Motors, performance is the same for both directions of rotation. On Non-Reversible models, direction of rotation may be easily changed without the need of additional parts by inverting cylinder.

SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm		rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
M004RHR000AR3	0.50	0.37	10,000	18,000	0.40	0.54	0.53	0.72	20.0	0.57	2 ¹ / ₁₆	0.95
M004RHR004AR3	0.47	0.35	2470	4450	1.46	1.98	1.94	2.63	19.5	0.55	2 ¹ / ₁₆	1.00
M004RHR006AR3	0.47	0.35	1490	2680	2.42	3.28	3.22	4.37	19.5	0.55	2 ¹ / ₁₆	1.00
M004RHR011AR3	0.44	0.33	825	1490	3.92	5.32	5.22	7.08	19.0	0.54	2 ³ / ₁₆	1.09
M004RHR015AR3	0.44	0.33	610	1095	5.32	7.21	7.10	9.63	19.0	0.54	2 ³ / ₁₆	1.09
M004RHR023AR3	0.44	0.33	395	715	8.10	11.0	10.8	14.6	19.0	0.54	2 ³ / ₁₆	1.09
M004RHR033AR3	0.44	0.33	280	505	11.5	15.6	15.4	20.8	19.0	0.54	2 ³ / ₁₆	1.09
M004RHR050AR3	0.41	0.31	175	315	*16.5	*22.4	*22.1	*30.0	18.5	0.52	2 ¹ / ₁₆	1.22
M004RHR083AR3	0.41	0.31	106	190	*27.5	*37.3	*36.7	*49.7	18.5	0.52	2 ¹ / ₁₆	1.22
M004RHR167AR3	0.41	0.31	53	95	*55.0	*74.5	*73.3	*99.4	18.5	0.52	2 ¹ / ₁₆	1.22
Reversible												
M004RVR000AR3	0.40	0.30	8000	16,000	0.32	0.43	0.42	0.57	19.0	0.54	2 ¹ / ₁₆	0.95
M004RVR004AR3	0.37	0.28	1975	3955	1.13	1.53	1.51	2.05	18.5	0.52	2 ¹ / ₁₆	1.00
M004RVR006AR3	0.37	0.28	1190	2380	1.88	2.55	2.51	3.40	18.5	0.52	2 ¹ / ₁₆	1.00
M004RVR011AR3	0.34	0.25	660	1325	3.00	4.07	4.00	5.42	18.0	0.51	2 ³ / ₁₆	1.09
M004RVR015AR3	0.34	0.25	485	975	4.07	5.52	5.43	7.36	18.0	0.51	2 ³ / ₁₆	1.09
M004RVR023AR3	0.34	0.25	315	635	6.23	8.45	8.30	11.2	18.0	0.51	2 ³ / ₁₆	1.09
M004RVR033AR3	0.34	0.25	225	450	8.85	12.0	11.8	16.0	18.0	0.51	2 ³ / ₁₆	1.09
M004RVR050AR3	0.31	0.23	140	280	*12.3	*16.7	*16.5	*22.4	17.5	0.50	2 ¹ / ₁₆	1.22
M004RVR083AR3	0.31	0.23	84	169	*20.6	*27.9	*27.5	*37.3	17.5	0.50	2 ¹ / ₁₆	1.22
M004RVR167AR3	0.31	0.23	42	85	*41.3	*56.0	*55.0	*74.5	17.5	0.50	2 ¹ / ₁₆	1.22

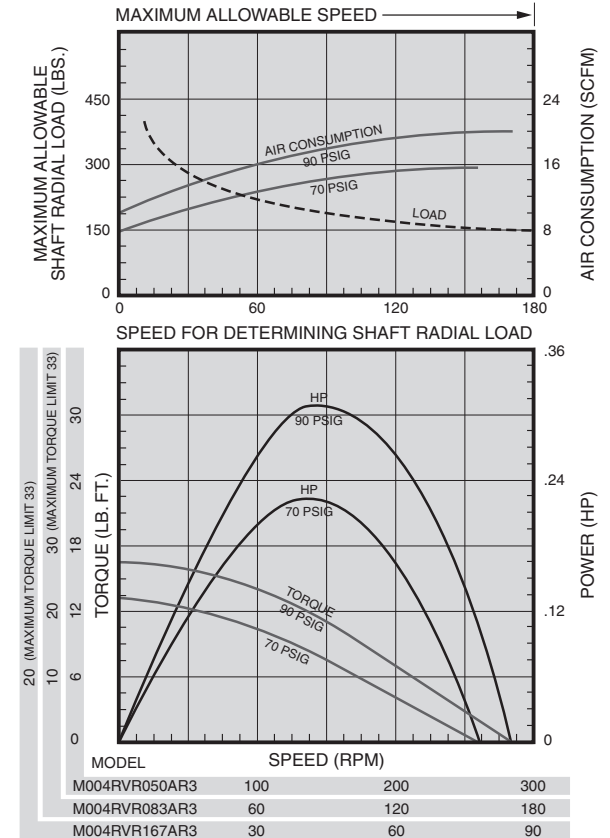
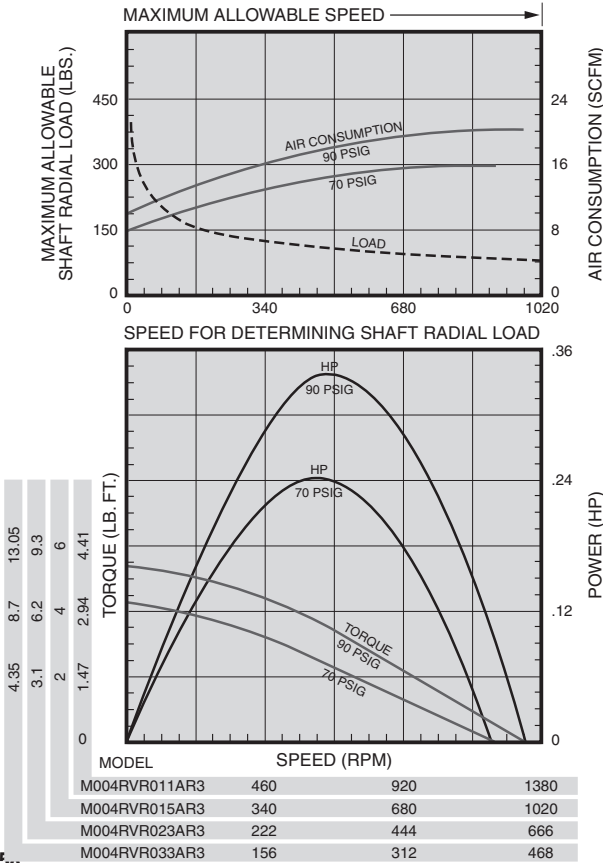
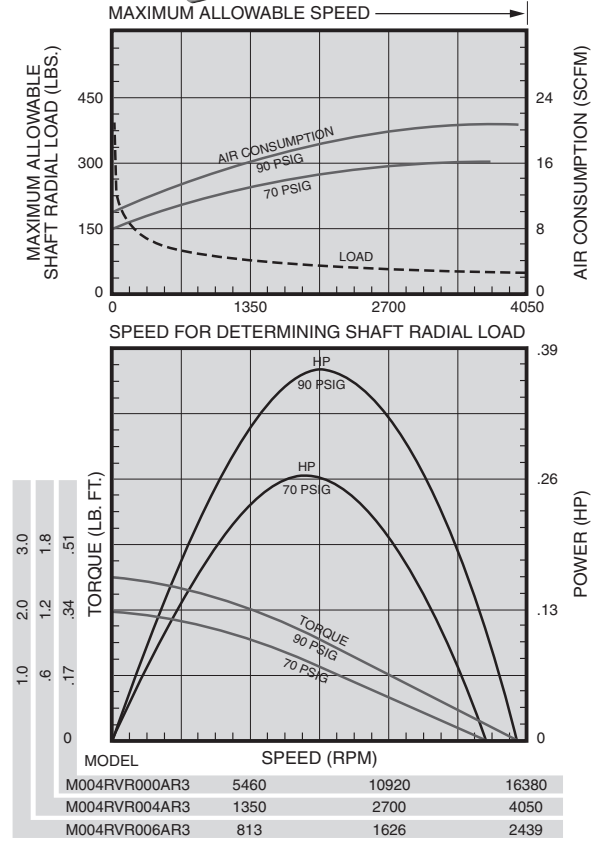
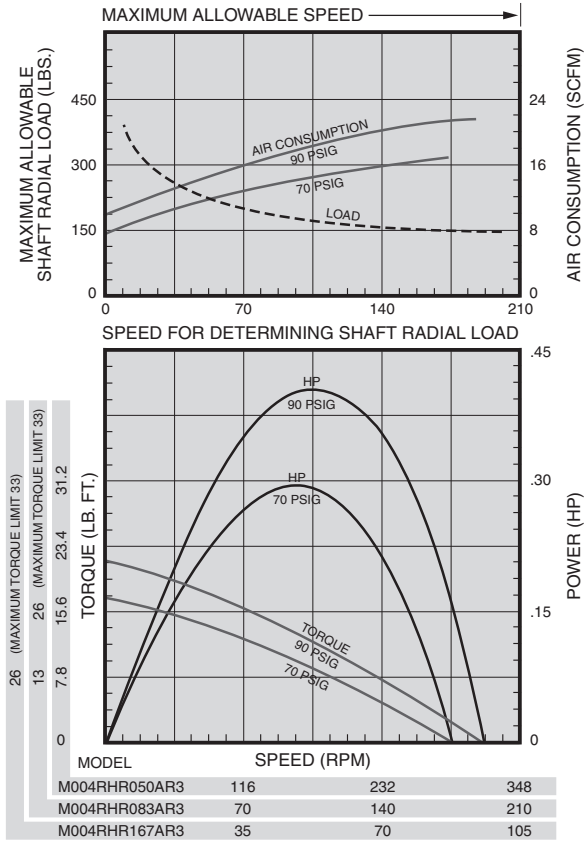
▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

* Applications with these models must be limited to 33 lb.-ft. (44.7 Nm) torque. Performance figures are at 90 psig (620 kPa) air pressure.



Air Motors

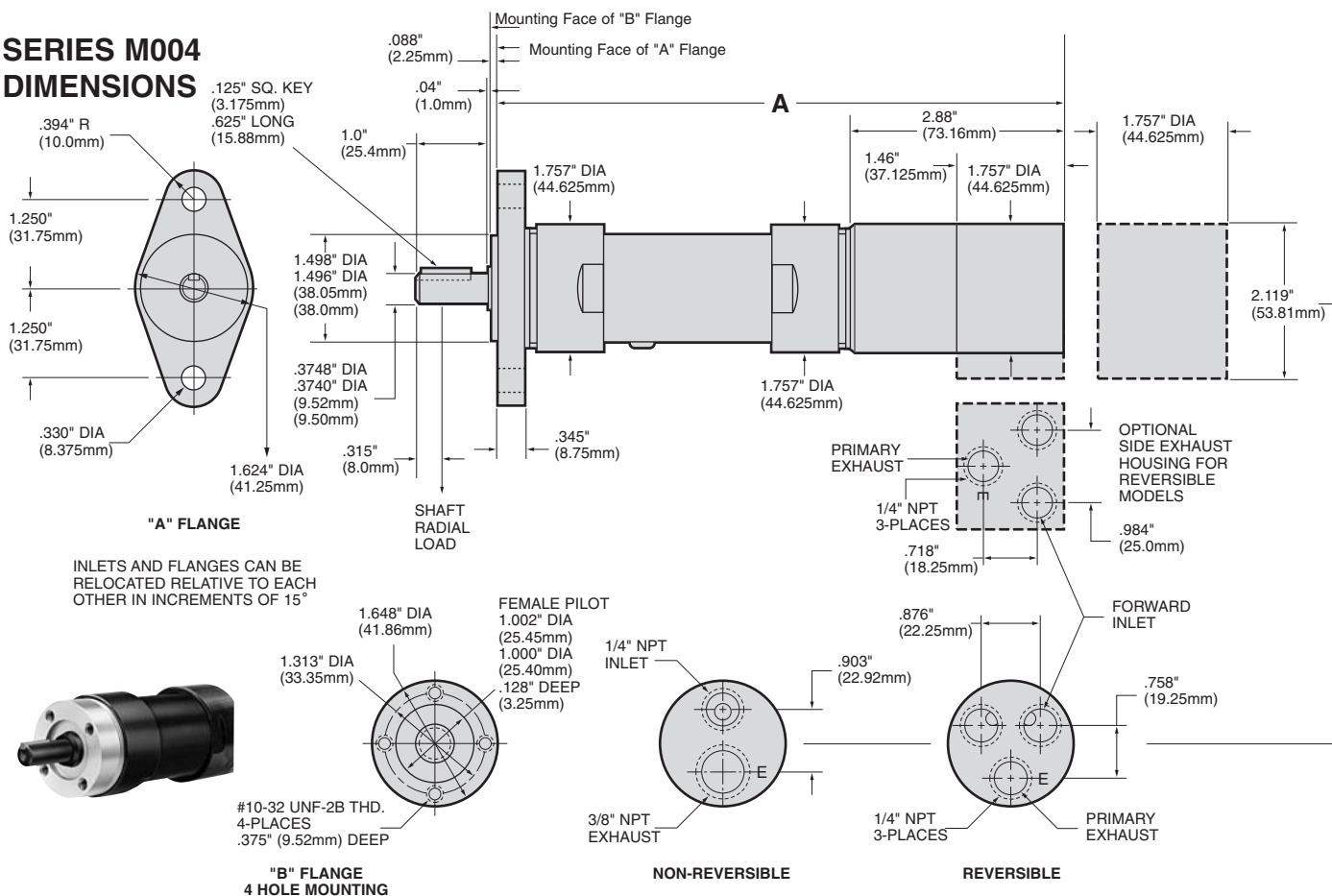
Series M004 Multi-Vane Air Motors



Air Motors Series M004 Multi-Vane Air Motors



SERIES M004 DIMENSIONS



SERIES M004 MODEL NUMBER SYMBOLIZATION



HP = Approximate horsepower range (.31 to .50)

Rotation = RV Reversible
RH Non-Reversible, Right Hand from Rear of Motor (CCW facing shaft)
LH Non-Reversible, Left Hand from Rear of Motor (CW facing shaft)

Air Inlet & Exhaust = R Rear, S Side (Side Inlet and Exhaust available on Reversible Models only)

Gear Ratio = 023 is 1 to 23, 033 is 1 to 33, etc.

Flange = A 2 Hole Flange, B 4 Hole Face Mounting

Shaft = R3 3/8" Round Keyed
T3 3/8"-24 UNF-2A Threaded
Threaded Shaft Extension is .512" (13mm)
Full Thread Length is .424" (10.75mm)
S3 3/8" Square Drive
Square Shaft Extension is 1.791" (45.5mm)

DIMENSIONS

Gear Ratios (Refer to Model No.)	A	
	in.	mm
000, 004, 006	6.248	158.69
011, 015, 023, 033	6.984	177.38
050, 083, 167	7.745	196.73

EQUIPMENT OPTIONS

Furnished with Cataloged Models	Standard Options	Extra Options
2 Hole Flange Mounting	4 Hole Face Mounting	R1440-212-1 3/8" Square Drive Adapter, 1" long with 3/8"-24 Female threads for use with Threaded Shaft.
3/8" Round Keyed Shaft	3/8"-24 Threaded Shaft	
	Side Inlet and Exhaust Housing (for Reversible Models only)	Required for 3/8" Adapter (2) R2J-561 set screws

Note: On all Series M002, M004, and M007 Air Motors, performance is the same for both directions of rotation. On Non-Reversible models, direction of rotation may be easily changed without the need of additional parts by inverting cylinder. See Assembly Instruction form number listed in price sheet.

Air Motors

Series M007 Multi-Vane Air Motors



SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m³/m	lb.	kg
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
M007RHR000AR4	0.85	0.63	11,000	22,000	0.58	0.79	0.77	1.04	36	1.02	3 ¹ / ₁₆	1.4
M007RHR004AR4	0.82	0.61	2445	4890	2.39	3.24	3.19	4.33	36	1.02	3 ¹ / ₁₆	1.4
M007RHR006AR4	0.82	0.61	1675	3350	3.50	4.75	4.66	6.32	36	1.02	3 ¹ / ₁₆	1.4
M007RHR009AR4	0.82	0.61	1230	2460	4.76	6.45	6.34	8.60	36	1.02	3 ¹ / ₁₆	1.4
M007RHR012AR4	0.79	0.59	870	1740	6.19	8.39	8.25	11.2	36	1.02	3 ¹ / ₂	1.6
M007RHR015AR4	0.79	0.59	685	1370	7.80	10.6	10.4	14.1	36	1.02	3 ¹ / ₂	1.6
M007RHR021AR4	0.79	0.59	470	940	11.5	15.6	15.3	20.7	36	1.02	3 ¹ / ₂	1.6
M007RHR027AR4	0.79	0.59	370	740	14.5	19.7	19.3	26.2	36	1.02	3 ¹ / ₂	1.6
M007RHR037AR4	0.79	0.59	270	540	19.7	26.7	26.3	35.7	36	1.02	3 ¹ / ₂	1.6
M007RHR044AR4	0.79	0.59	232	465	23.2	31.5	30.9	41.9	36	1.02	3 ¹ / ₂	1.6
M007RHR063BR6	0.79	0.59	161	321	33.5	45.4	44.7	60.6	36	1.02	7 ¹ / ₈	3.2
M007RHR086BR6	0.79	0.59	118	236	45.7	62.0	60.9	82.6	36	1.02	7 ¹ / ₈	3.2
M007RHR119BR6	0.76	0.57	82	163	60.5	82.0	80.7	109.0	36	1.02	7 ¹ / ₈	3.4
M007RHR151BR6	0.76	0.57	65	129	76.5	104.0	102.0	138.0	36	1.02	7 ¹ / ₈	3.4
M007RHR188BR6	0.76	0.57	52	103	96.0	130.0	128.0	174.0	36	1.02	7 ¹ / ₈	3.4
M007RHR275BR6	0.76	0.57	35	70	*140.0	*190.0	*187.0	*254.0	36	1.02	7 ¹ / ₈	3.4
M007RHR374BR6	0.76	0.57	26	52	*191.0	*259.0	*254.0	*344.0	36	1.02	7 ¹ / ₈	3.4
Reversible												
M007RVR000AR4	0.70	0.52	10,000	20,000	0.47	0.64	0.63	0.85	33	0.93	3 ¹ / ₁₆	1.4
M007RVR004AR4	0.67	0.50	2225	4450	1.94	2.63	2.59	3.51	33	0.93	3 ¹ / ₁₆	1.4
M007RVR006AR4	0.67	0.50	1520	3045	2.84	3.85	3.78	5.13	33	0.93	3 ¹ / ₁₆	1.4
M007RVR009AR4	0.67	0.50	1120	2240	3.86	5.23	5.14	6.97	33	0.93	3 ¹ / ₁₆	1.4
M007RVR012AR4	0.64	0.48	790	1580	4.97	6.74	6.63	8.99	33	0.93	3 ¹ / ₂	1.6
M007RVR015AR4	0.64	0.48	625	1250	6.29	8.53	8.38	11.4	33	0.93	3 ¹ / ₂	1.6
M007RVR021AR4	0.64	0.48	425	855	9.2	12.5	12.2	16.5	33	0.93	3 ¹ / ₂	1.6
M007RVR027AR4	0.64	0.48	335	675	11.6	15.7	15.5	20.1	33	0.93	3 ¹ / ₂	1.6
M007RVR037AR4	0.64	0.48	245	495	15.8	21.4	21.1	28.6	33	0.93	3 ¹ / ₂	1.6
M007RVR044AR4	0.64	0.48	210	420	18.6	25.2	24.8	33.6	33	0.93	3 ¹ / ₂	1.6
M007RVR063BR6	0.64	0.48	146	292	26.9	36.5	35.9	48.7	33	0.93	7 ¹ / ₈	3.2
M007RVR086BR6	0.64	0.48	107	215	36.7	49.8	48.9	66.3	33	0.93	7 ¹ / ₈	3.2
M007RVR119BR6	0.61	0.46	74	148	48.1	65.3	64.1	87.0	33	0.93	7 ¹ / ₈	3.4
M007RVR151BR6	0.61	0.46	58	117	61.0	82.7	81.3	110.0	33	0.93	7 ¹ / ₈	3.4
M007RVR188BR6	0.61	0.46	47	94	76.5	104.0	102.0	138.0	33	0.93	7 ¹ / ₈	3.4
M007RVR275BR6	0.61	0.46	32	64	*111.0	*151.0	*148.0	*201.0	33	0.93	7 ¹ / ₈	3.4
M007RVR374BR6	0.61	0.46	23	47	*152.0	*206.0	*202.0	*274.0	33	0.93	7 ¹ / ₈	3.4

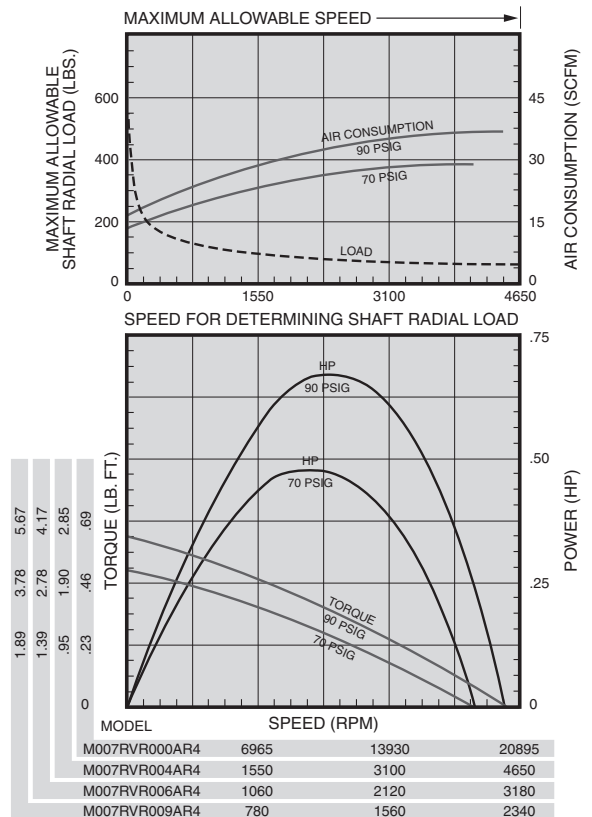
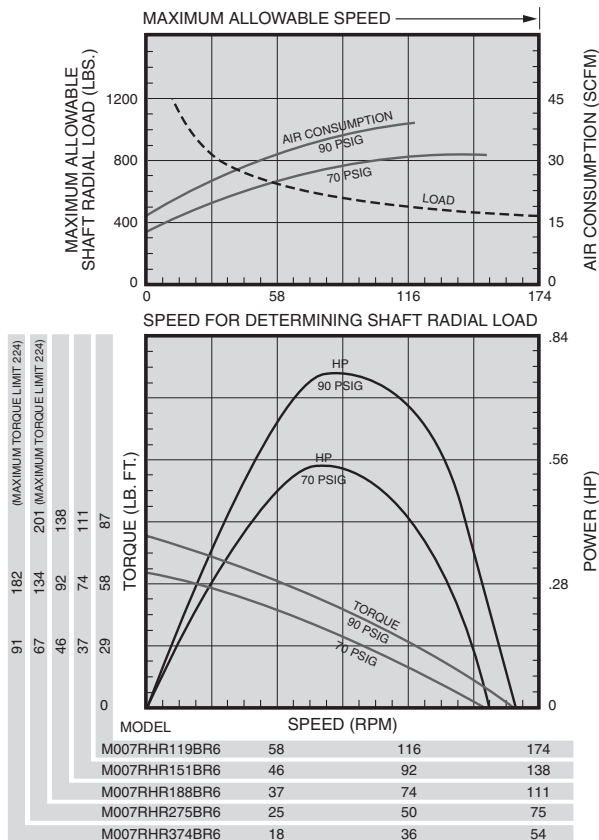
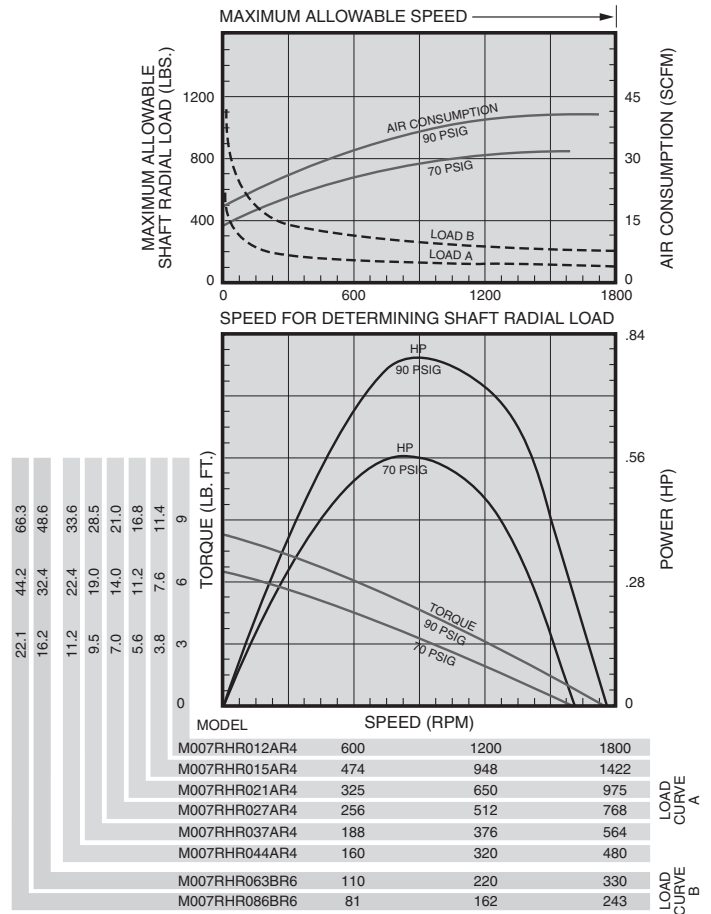
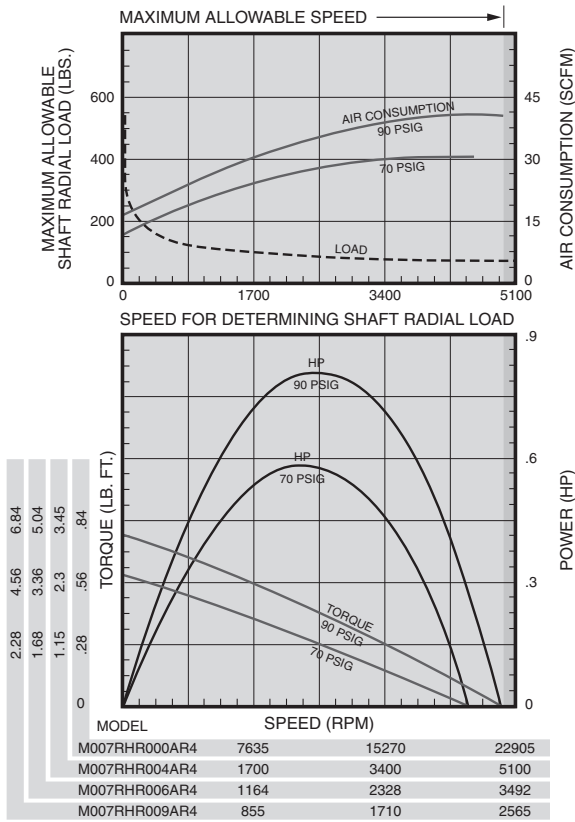
▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

* Applications with these models must be limited to 224 lb.-ft. (304 Nm) torque.

Performance figures are at 90 psig (620 kPa) air pressure.

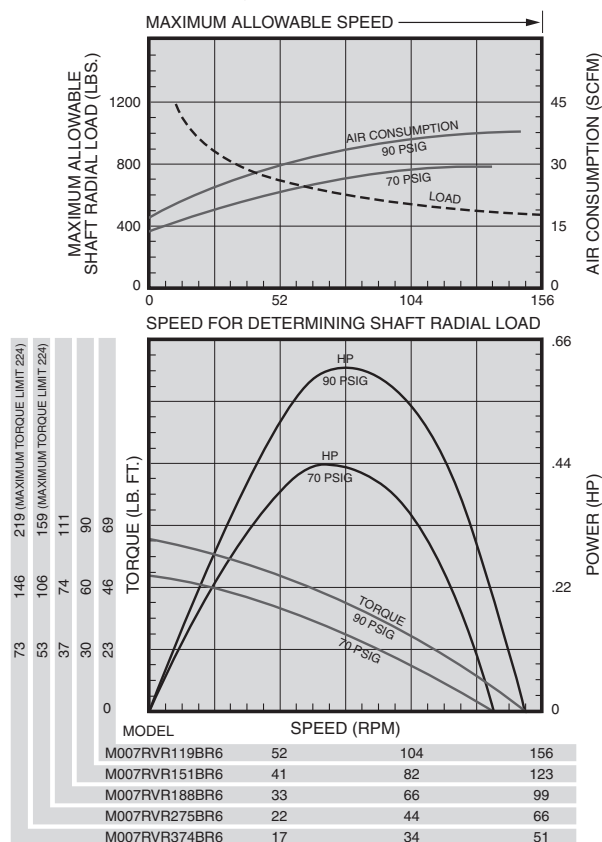
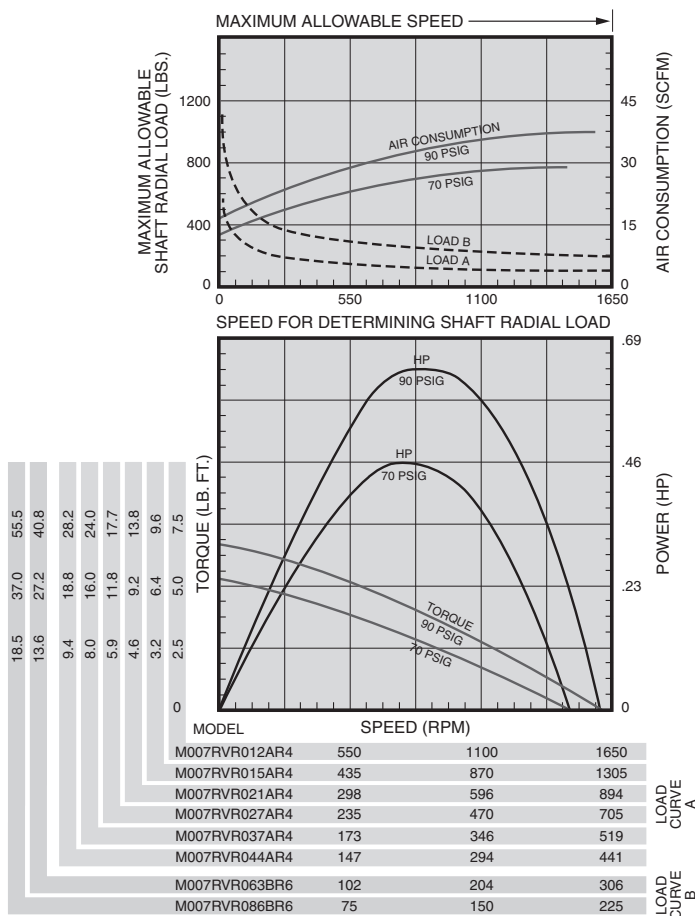
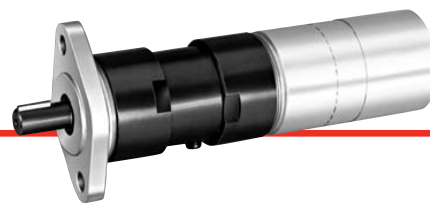
Note: On all Series M002, M004, and M007 Air Motors, performance is the same for both directions of rotation. On Non-Reversible models, direction of rotation may be easily changed without the need of additional parts by inverting cylinder. See Assembly Instruction form number listed in price sheet.

Air Motors Series M007 Multi-Vane Air Motors



Air Motors

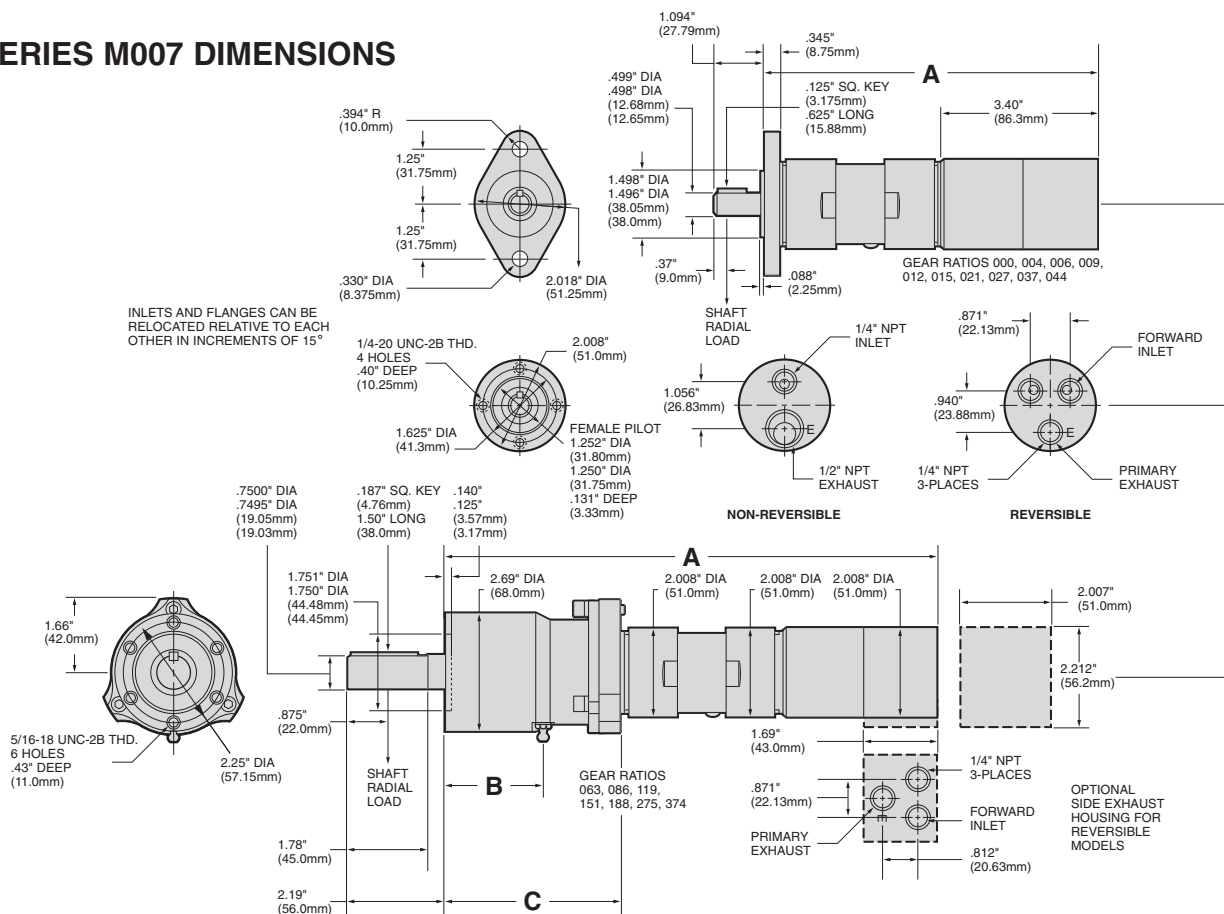
Series M007 Multi-Vane Air Motors



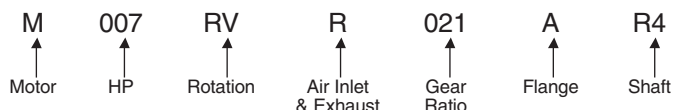
EQUIPMENT OPTIONS

Furnished with Cataloged Models	Standard Options	Extra Options
2 Hole Flange Mounting on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	4 Hole Flange Mounting on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	½" Square Drive Shaft on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044
6 Hole Face Mounting on Gear Ratios: 063, 086, 119, 151, 188, 275, 374	Side Inlet and Exhaust Housing (for Reversible Models only)	⅝" Square Drive Shaft on Gear Ratios: 063, 086, 119, 151, 188, 275, 374
½" Round Keyed Shaft on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	¾"—24 or ½"—20 Threaded Shaft on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	
¾" Round Keyed Shaft on Gear Ratios: 063, 086, 119, 151, 188, 275, 374		

SERIES M007 DIMENSIONS



SERIES M007 MODEL NUMBER SYMBOLIZATION



HP = Approximate horsepower range (.61 to .85)

Rotation = RV Reversible

RH Non-Reversible, Right Hand from Rear of Motor (CCW facing shaft)

LH Non-Reversible, Left Hand from Rear of Motor (CW facing shaft)

Air Inlet & Exhaust = R Rear, S Side (Side Inlet and Exhaust available on Reversible Models only)

Gear Ratio = 021 is 1 to 21, 027 is 1 to 27, etc.

Flange = A 2 Hole Flange, B 4 Hole Face Mounting (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios), B 6 Hole Face Mounting (on 063, 086, 119, 151, 188, 275, 374 gear ratios).

Shaft = R4 1/2" Round Keyed (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

R6 3/4" Round Keyed (on 063, 086, 119, 151, 188, 275, 374 gear ratios).

S4 1/2" Square Drive (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

Shaft Extension 1.31" (33.27mm)

S5 5/8" Square Drive (on 063, 086, 119, 151, 188, 275, 374 gear ratios).

Shaft Extension 1.25" (31.75mm)

T3 3/8"-24 UNF-2A Threaded (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

Shaft Extension .512" (13mm)

T4 1/2" 20 UNF-2A Threaded (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

Shaft Extension .512" (13mm)

DIMENSIONS

Gear Ratios (Refer to Model No.)	A		B		C	
	in.	mm	in.	mm	in.	mm
000, 004, 006, 009	7.362	187.0				
012, 015, 021, 027, 037, 044	8.133	206.56				
063, 086	9.343	237.3	.41	10	2.3	58.4
119, 188, 275, 374, 151	10.937	277.8	2.19	56	3.9	99.0



Air Motors

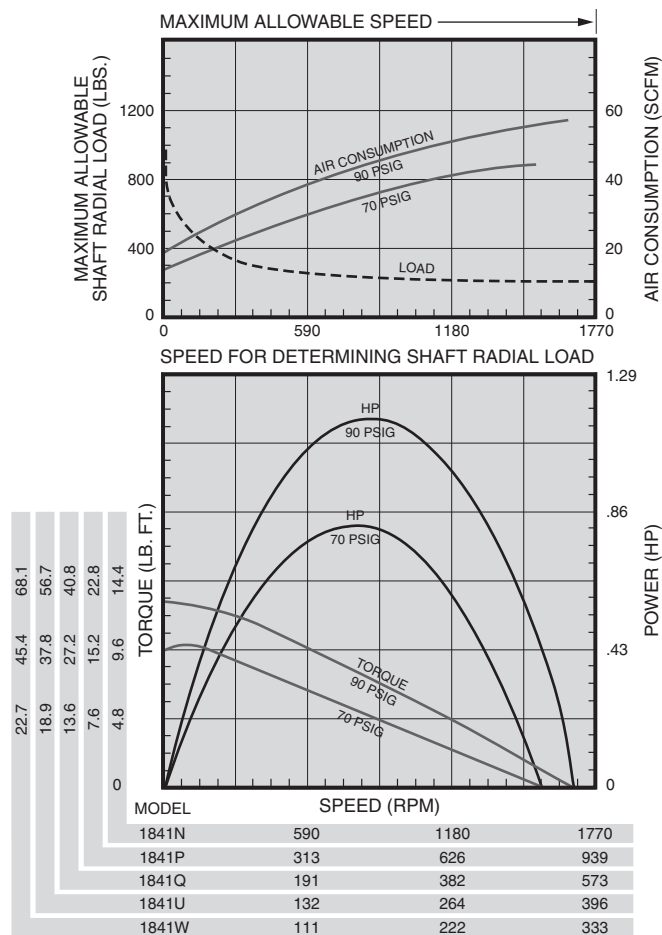
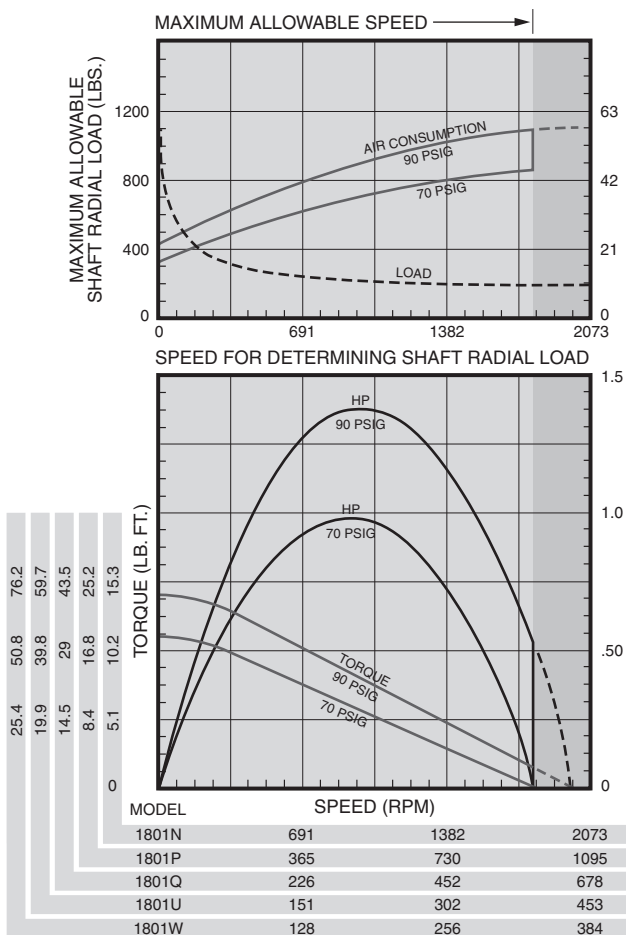
Series 1801 and 1841 Multi-Vane Air Motors



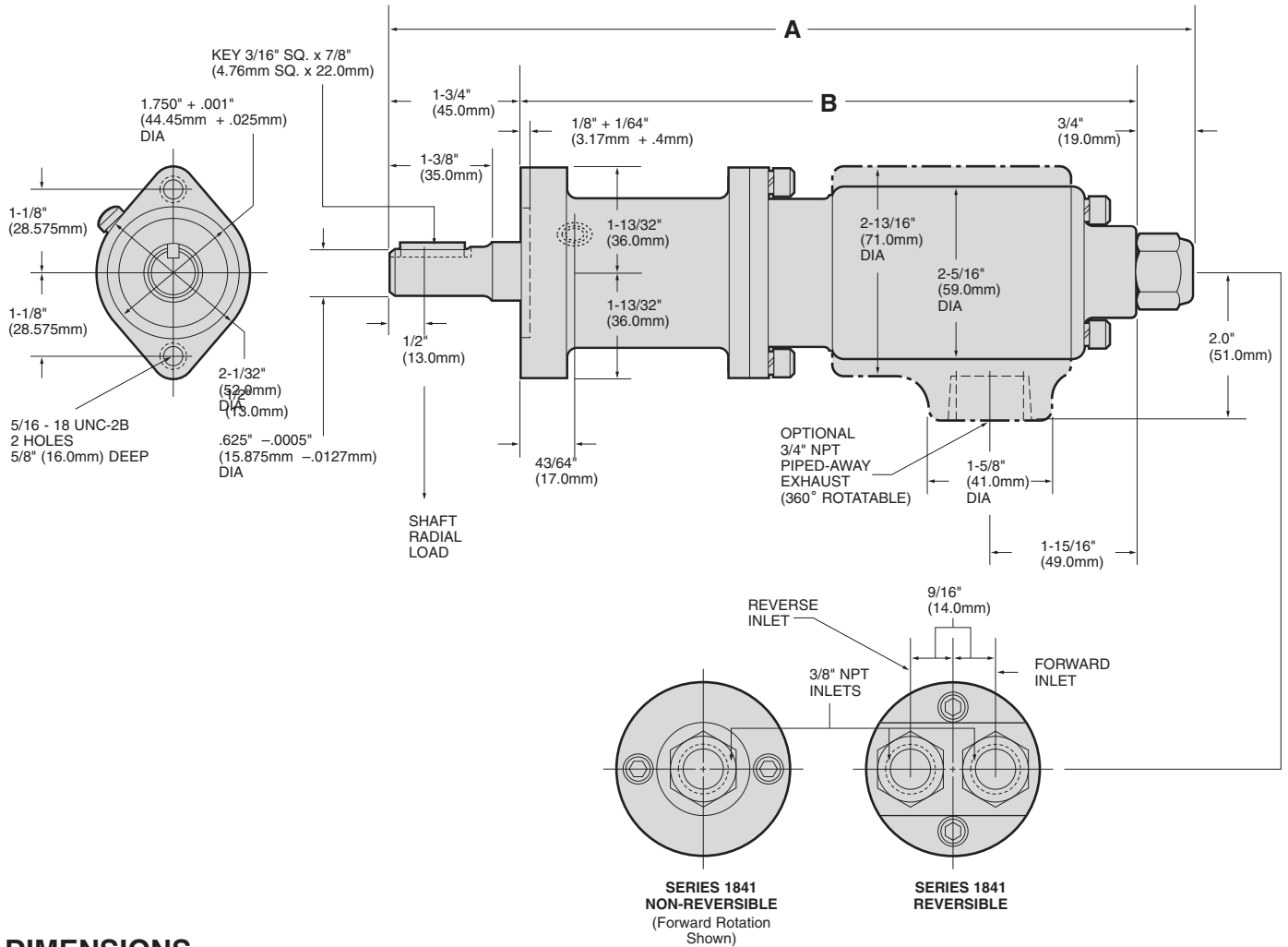
SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.	kg
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
1801N	1.40	1.04	918	1990	10.5	14.2	14	19.0	46	1.3	5%	2.44
1801P	1.35	1.01	500	1050	17.2	23.3	23	31.2	46	1.3	5%	2.61
1801Q	1.35	1.01	300	650	30.0	40.7	40	54.2	46	1.3	5%	2.61
1801U	1.35	1.01	205	435	41.0	55.6	55	74.6	46	1.3	5%	2.61
1801W	1.35	1.01	175	370	52.0	70.5	70	94.9	46	1.3	5%	2.61
Reversible												
1841N	1.2	.89	800	1700	9.3	12.6	12.5	17.0	43	1.22	5%	2.50
1841P	1.1	.82	430	900	15.0	20.3	20.0	27.1	43	1.22	5%	2.67
1841Q	1.1	.82	260	550	27.0	36.6	36.0	48.8	43	1.22	5%	2.67
1841U	1.1	.82	175	380	37.0	50.2	50.0	67.8	43	1.22	5%	2.67
1841W	1.1	.82	150	320	45.0	61.0	60.0	81.4	43	1.22	5%	2.67

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.



SERIES 1801 AND 1841 DIMENSIONS



DIMENSIONS

Models	A		B	
	in.	mm	in.	mm
1801N, 1841N	9 ⁷ / ₁₆	240	6 ¹ / ₁₆	176
1801P, 1801Q, 1801U, 1801W, 1841P, 1841Q, 1841U, 1841W	10 ¹ / ₁₆	275	8 ⁵ / ₁₆	211

EQUIPMENT OPTIONS

Furnished with Cataloged Models	Extra Options
2 Hole Face Mounting	R1801-A123 Exhaust Deflector Assembly with 3/4" Pipe Tap
	*1/2" Square Drive Shaft on Gear Ratios: P, Q, U Shaft Extension 1.19" (30.23mm)
	*5/8" Square Drive Shaft on Gear Ratios: W Shaft Extension 1.19" (30.23mm)

*To order Motor with Square Drive Shaft, add the suffix "2" to the Model Number. Example: 1841Q2.

Air Motors

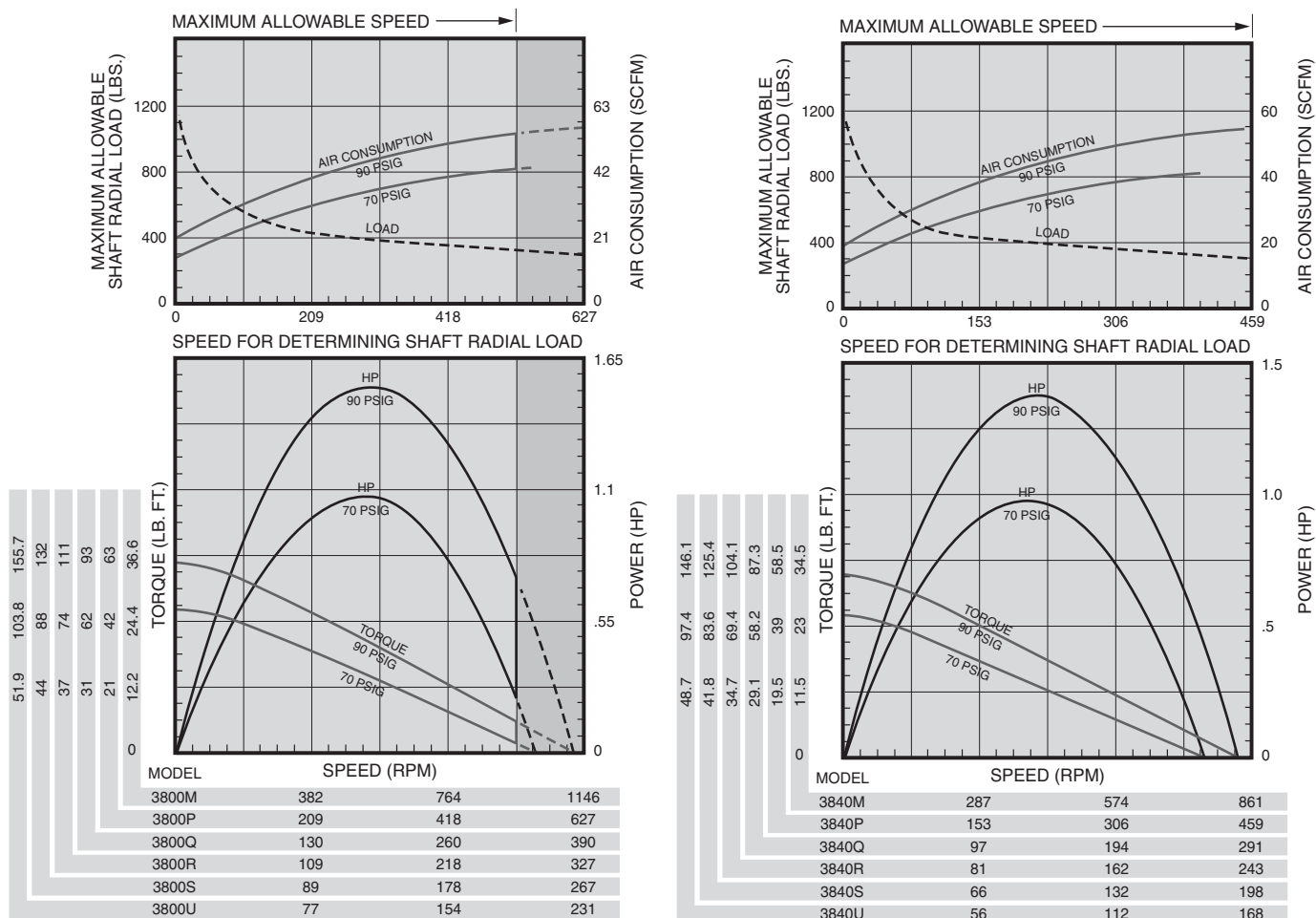
Series 3800 and 3840 Multi-Vane Air Motors



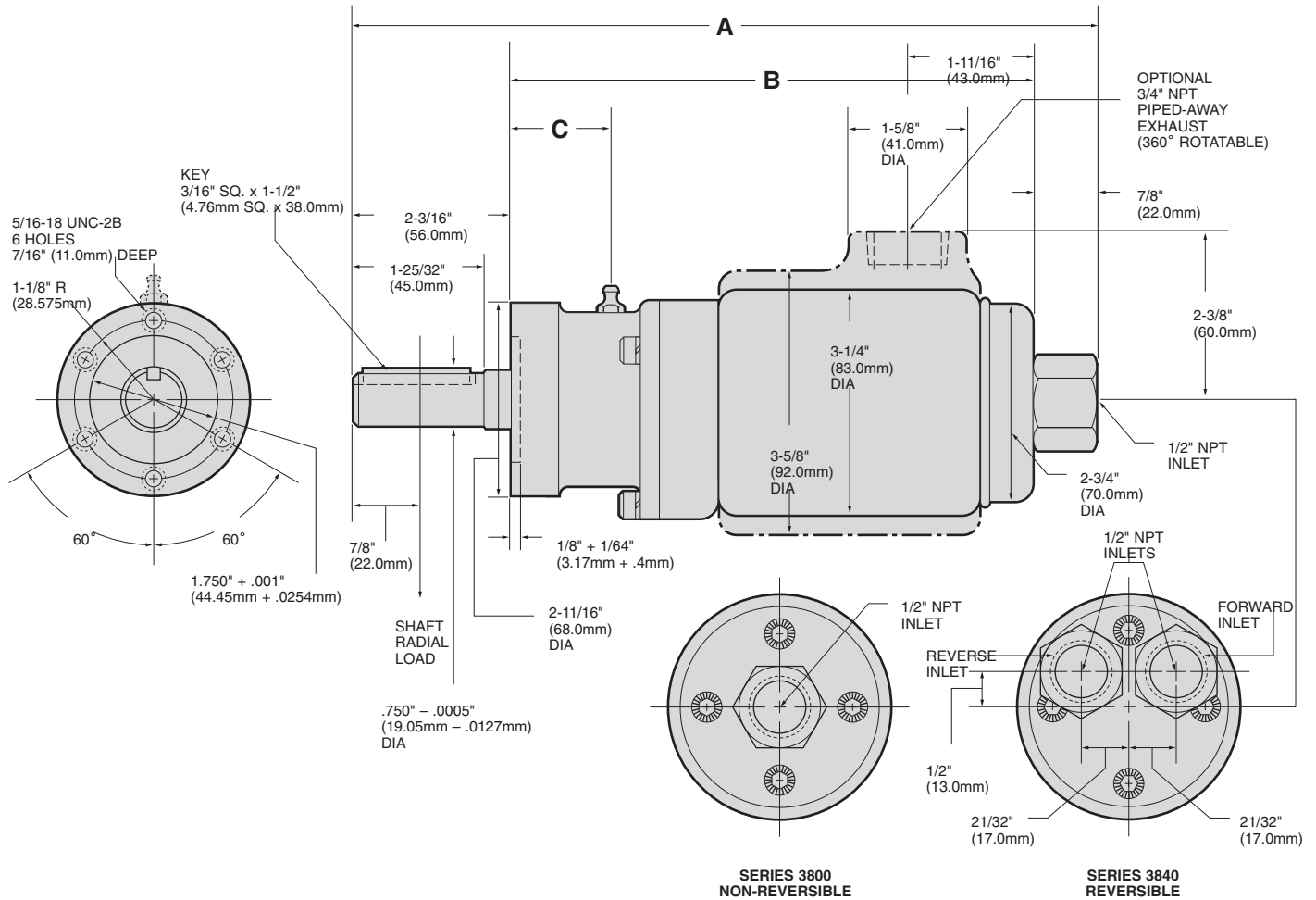
SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.	kg
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
3800M	1.55	1.16	520	1100	24	32.5	33	44.8	48	1.36	7½	3.23
3800P	1.45	1.08	285	600	42	57	56.5	76.6	48	1.36	8½	3.86
3800Q	1.45	1.08	180	375	62	84	83.5	113	48	1.36	8½	3.86
3800R	1.45	1.08	150	320	72	98	96	130	48	1.36	8½	3.86
3800S	1.45	1.08	120	255	88	119	118	160	48	1.36	8½	3.86
3800U	1.45	1.08	105	220	105	142	140	189	48	1.36	8½	3.86
Reversible												
3840M	1.40	1.04	390	825	23	31.2	31.5	42.7	44	1.25	7%	3.35
3840P	1.35	1.01	215	440	40	54.2	53.5	72.6	44	1.25	8%	3.97
3840Q	1.35	1.01	130	280	60	81.4	80	106	44	1.25	8%	3.97
3840R	1.35	1.01	122	238	69	93	92	125	44	1.25	8%	3.97
3840S	1.35	1.01	100	190	86	116	115	156	44	1.25	8%	3.97
3840U	1.35	1.01	83	162	100	135	134	181	44	1.25	8%	3.97

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.



SERIES 3800 AND 3840 DIMENSIONS



DIMENSIONS

MODELS	A		B		C	
	in.	mm	in.	mm	in.	mm
3800M, 3840M	10 ¹ / ₁₆	256	7	178	1 ¹ / ₁₆	27
3800P, 3800Q, 3800R, 3800S, 3800U	11 ³ / ₁₆	299	8 ¹ / ₁₆	221	2 ³ / ₁₆	56
3840P, 3840Q, 3840R, 3840S, 3840U						

EQUIPMENT OPTIONS

Furnished with Cataloged Models	Extra Options
6 Hole Face Mounting	R3800-A123 Exhaust Deflector Assembly with 3/4" Pipe Tap
	*5/8" Square Drive Shaft Shaft Extension 1.25" (31.75mm)

*To order Motor with Square Drive Shaft, add the suffix "2" to the Model Number. Example: 3840Q2.

Air Motors

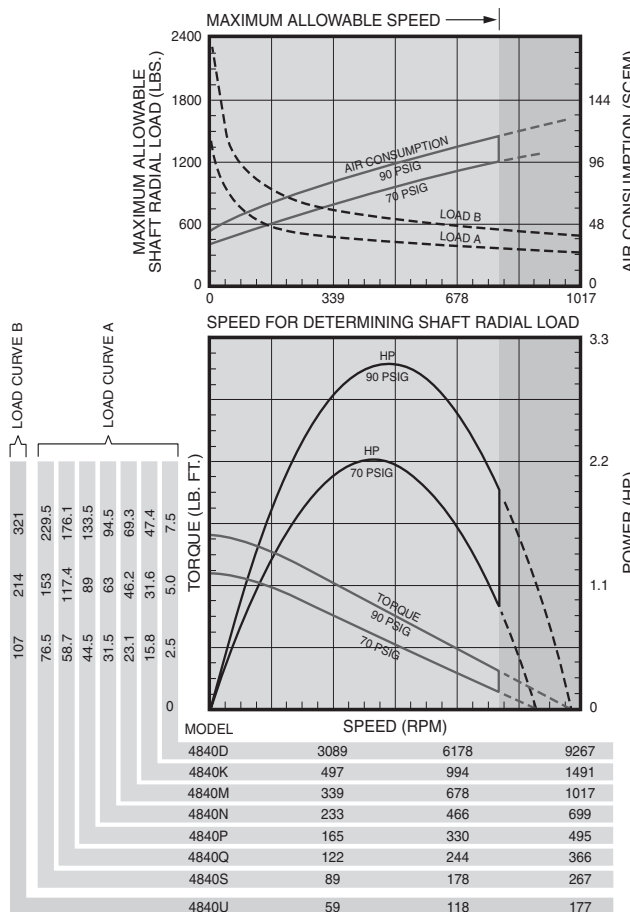
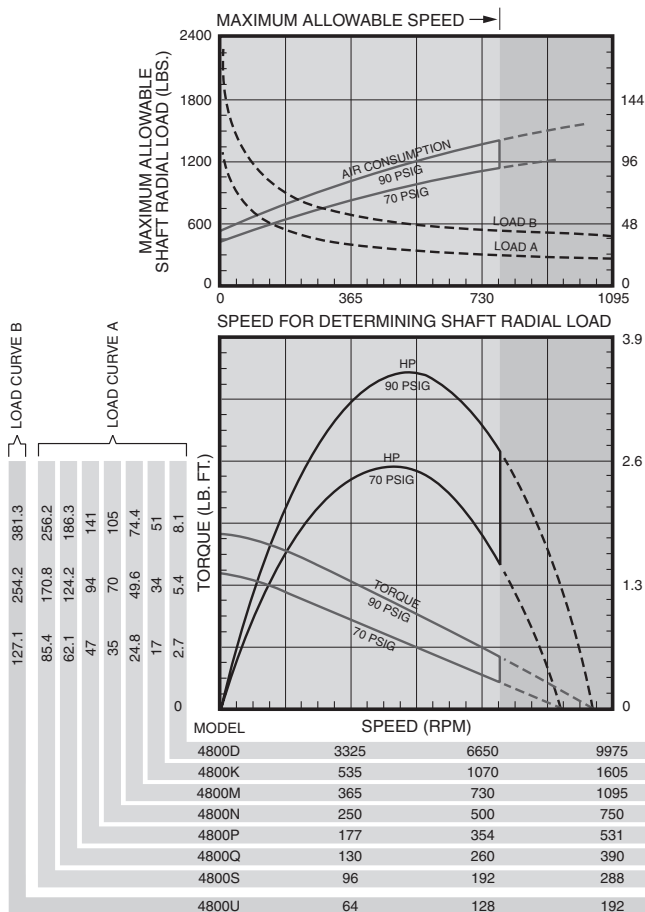
Series 4800 and 4840 Multi-Vane Air Motors



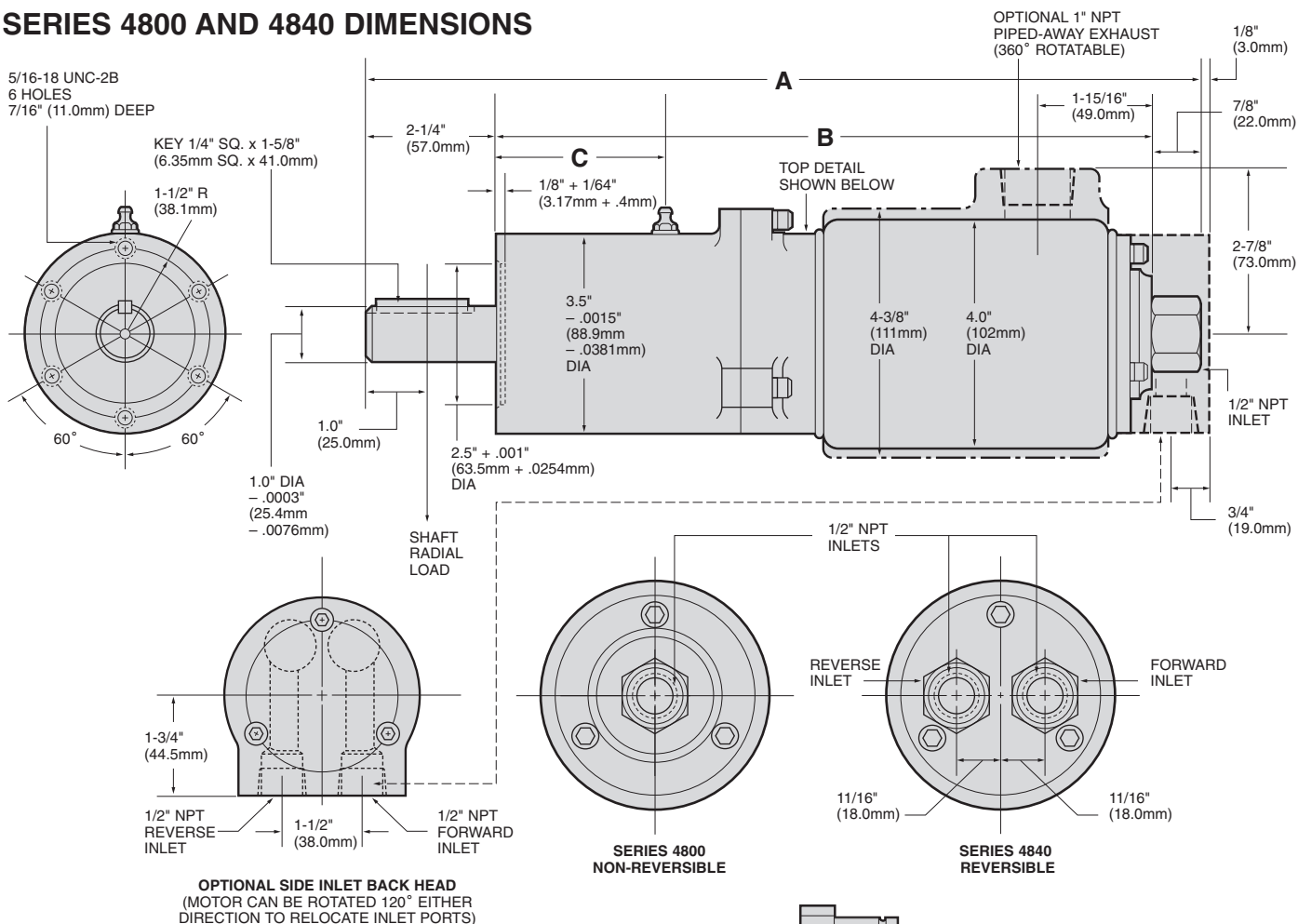
SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp		rpm	rpm	lb.-ft.		lb.-ft.		scfm		lb.	
4800D	3.8		5250	9850	5.8		7.7		98		15¼	
4800K	3.7		821	1538	35.3		47		95		15¼	
4800M	3.7		560	1050	51		69		95		15¼	
4800N	3.7		387	726	75		100		95		15¼	
4800P	3.5		260	510	98		131		95		19¾	
4800Q	3.5		194	375	129		173		95		19¾	
4800S	3.5		146	275	178		238		95		19¾	
4800U	3.5		97	185	265		354		95		19¾	
4840D	3.3		4550	9100	5.2		6.9		95		15¼	
4840K	3.2		711	1429	32		42.7		95		15¼	
4840M	3.2		485	975	47.3		63.0		95		15¼	
4840N	3.2		336	675	67.7		90.2		95		15¼	
4840P	3		228	475	93		125		95		20¾	
4840Q	3		167	350	123		165		95		20¾	
4840S	3		125	255	161		215		95		20¾	
4840U	3		83	170	225		300		95		20¾	

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

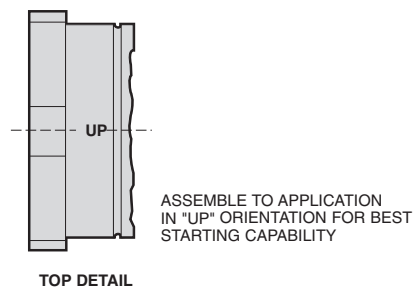


SERIES 4800 AND 4840 DIMENSIONS



DIMENSIONS

MODELS	A		B		C	
	in.	mm	in.	mm	in.	mm
4800D, 4800K, 4800M, 4800N 4840D, 4840K, 4840M, 4840N	12½	308	9	229	29/32	23
4800P, 4800Q, 4800S, 4800U 4840P, 4840Q, 4840S, 4840U	14½	368	11½	289	2"	73



EQUIPMENT OPTIONS

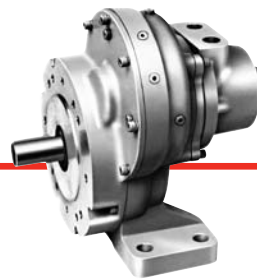
Furnished with Cataloged Models	Extra Options
6 Hole Face Mounting	R4800-A123 Exhaust Deflector Assembly with 1" Pipe Tap ** R4901-102 Side Inlet Backhead Requires (3) 518-104 Screws
	* 5/8" Square Drive Shaft on Gear Ratio: M Shaft Extension 1.38" (35.5mm) * 3/4" Square Drive Shaft on Gear Ratios: P, Q, S, U Shaft Extension 1.47" (37.44mm)

*To order Motor with Square Drive Shaft, add the suffix "2" to the Model Number. Example: 4840Q2.

**Contact I-R for Model Number with these options.

Air Motors

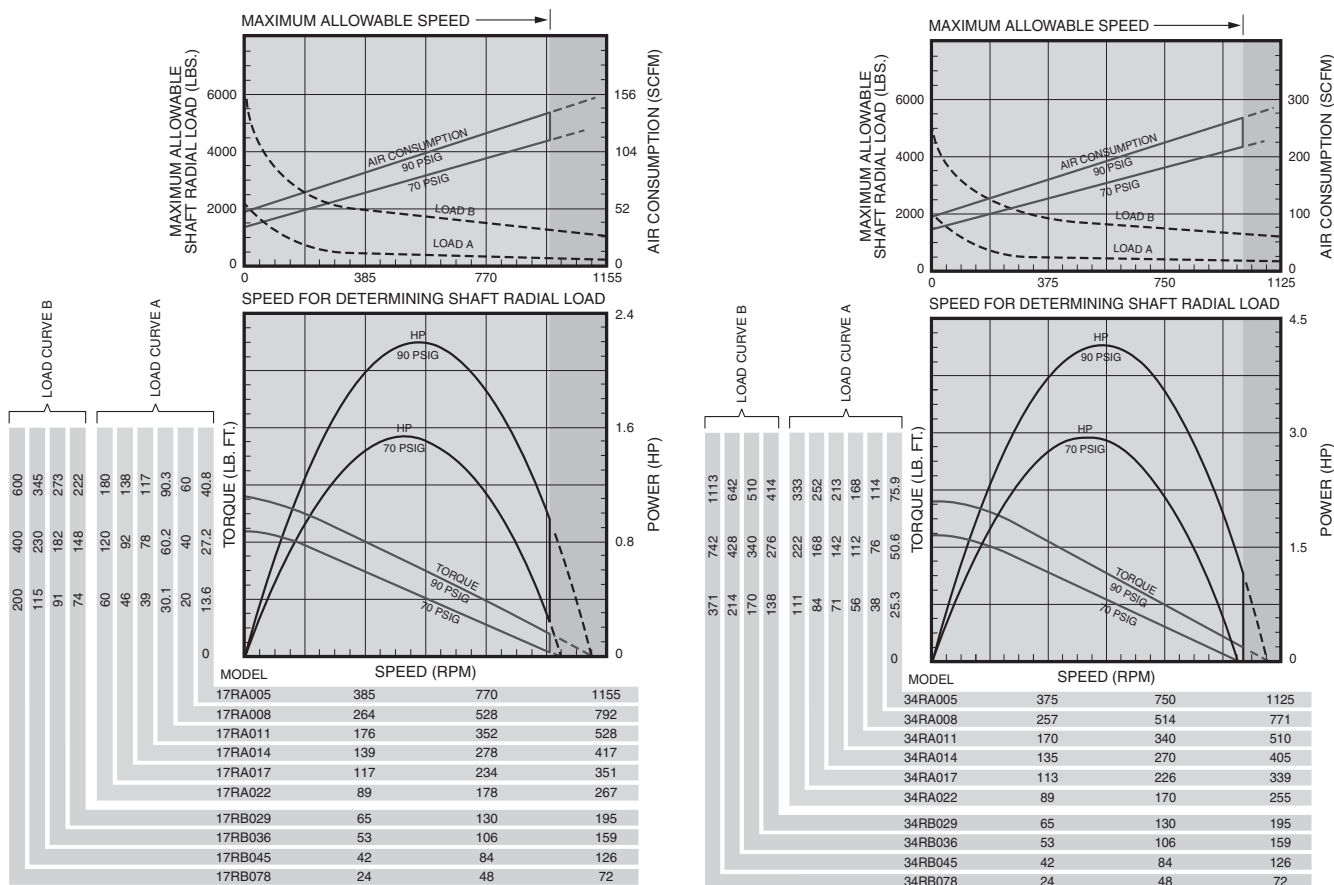
Series 17RA, 17RB, 34RA and 34RB Multi-Vane Air Motors



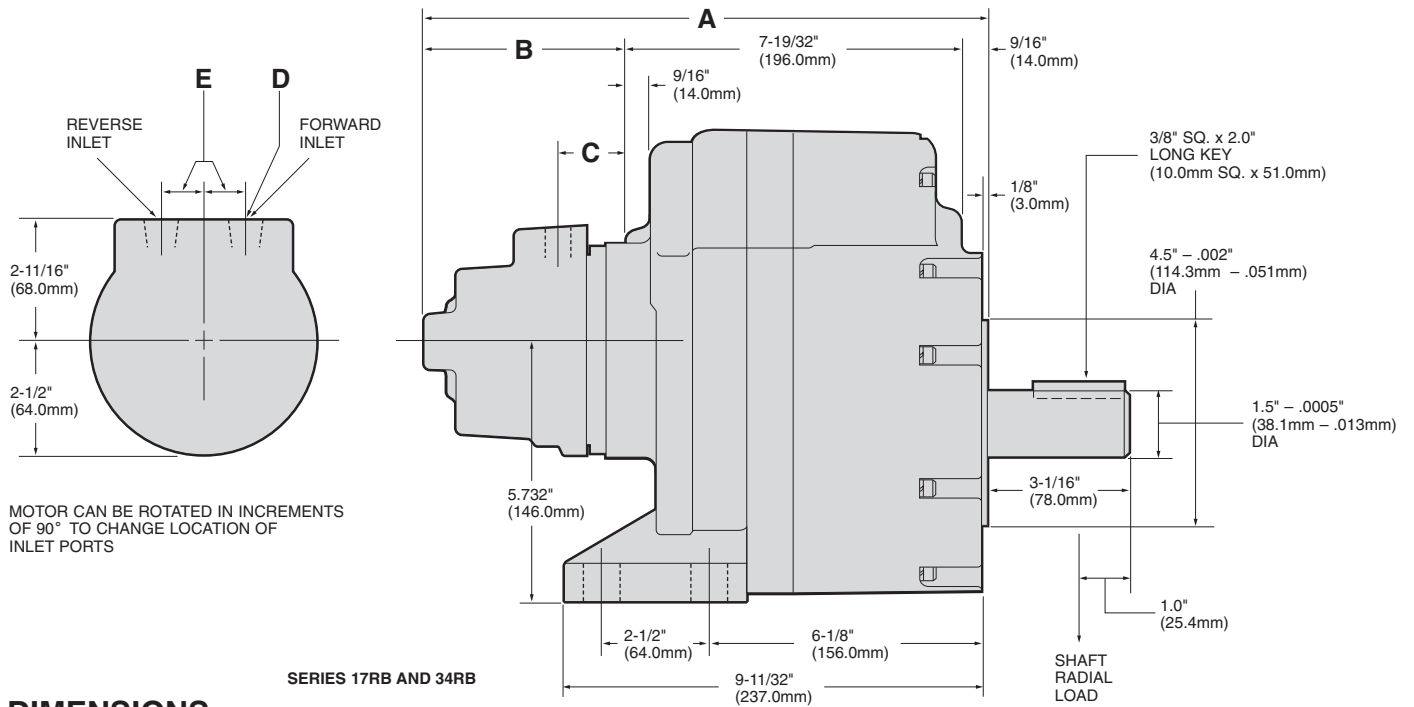
SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m³/m	lb.	kg
Reversible												
17RA005	2.3	1.72	562	1110	24	32.5	37	50.2	103	2.92	40	18.1
17RA008	2.3	1.72	383	760	35	47.5	54.5	73.9	103	2.92	40	18.1
17RA011	2.3	1.72	254	505	53	71.9	82	111	103	2.92	40	18.1
17RA014	2.3	1.72	201	400	67	91	104	141	103	2.92	40	18.1
17RA017	2.3	1.72	169	335	80	109	124	168	103	2.92	40	18.1
17RA022	2.3	1.72	129	255	105	142	163	221	103	2.92	40	18.1
17RB029	2.2	1.64	97	187	120	163	201	273	100	2.83	72	32.7
17RB036	2.2	1.64	79	152	148	201	248	336	100	2.83	72	32.7
17RB045	2.2	1.64	62	121	187	254	312	423	100	2.83	72	32.7
17RB078	2.2	1.64	36	69	327	443	545	739	100	2.83	72	32.7
34RA005	4.1	3.06	560	1080	41	60	69	93.6	183	5.18	43	19.5
34RA008	4.1	3.06	385	740	65	88	101	137	183	5.18	43	19.5
34RA011	4.1	3.06	255	490	98	133	152	206	183	5.18	43	19.5
34RA014	4.1	3.06	201	390	124	168	192	260	183	5.18	43	19.5
34RA017	4.1	3.06	168	325	148	201	229	311	183	5.18	43	19.5
34RA022	4.1	3.06	128	245	195	264	301	408	183	5.18	43	19.5
34RB029	4	2.98	99	187	224	304	374	507	180	5.1	75	34
34RB036	4	2.98	80	152	277	376	462	627	180	5.1	75	34
34RB045	4	2.98	63	121	348	472	581	788	180	5.1	75	34
34RB078	4	2.98	36	69	606	822	1010	1370	180	5.1	75	34

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

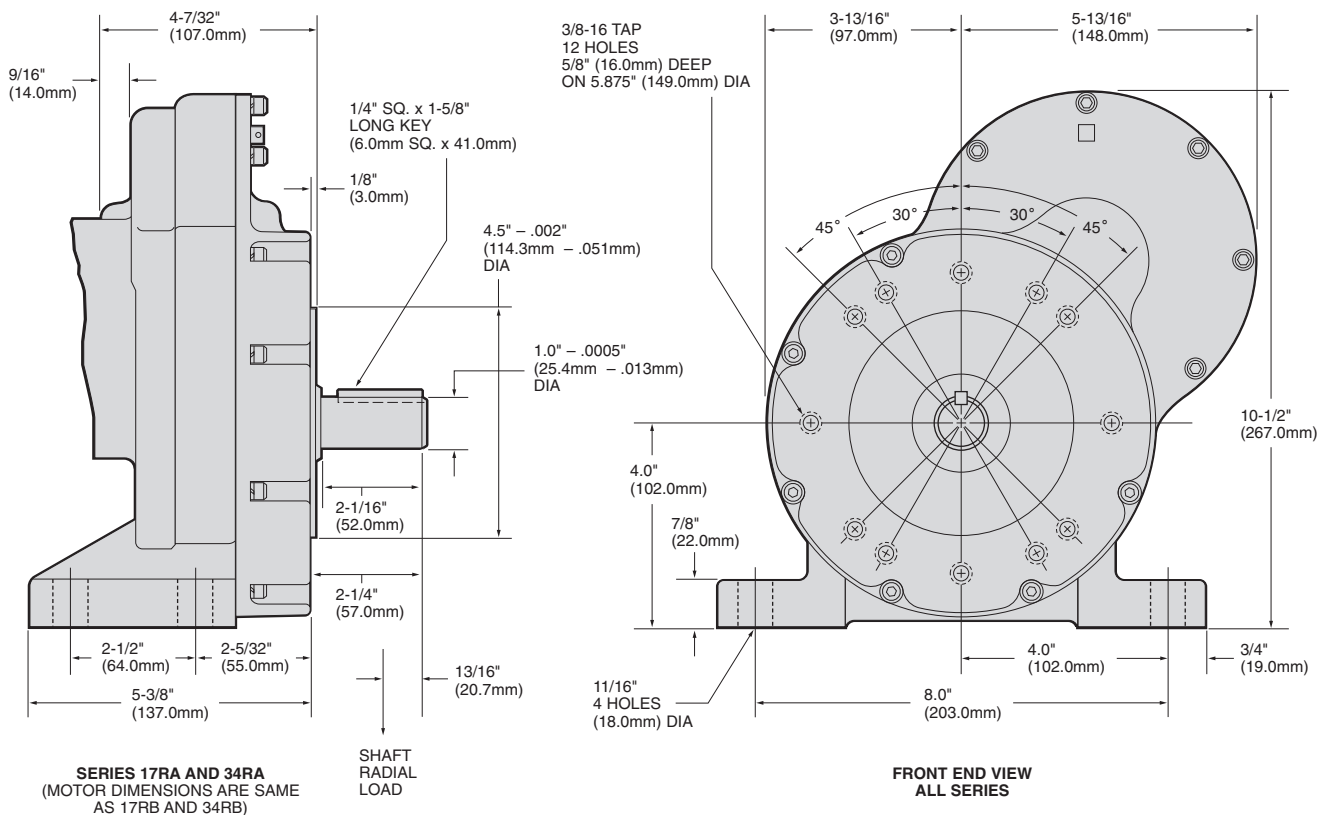


SERIES 17RA, 17RB, 34RA, 34RB DIMENSIONS



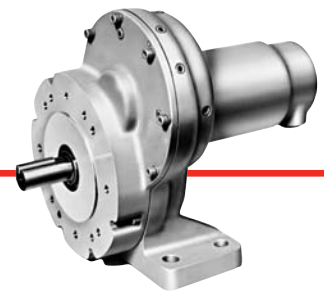
DIMENSIONS

SERIES	A		B		C		D	E	
	in.	mm	in.	mm	in.	mm		NPT	in.
17RB	13 1/16	332	4 29/32	125	2 3/16	56	3/8"	7/8	22
34RB	14 13/16	376	6 21/32	169	2 5/32	58	1/2"	1 1/16	30



Air Motors

Series 48RA and 48RB Multi-Vane Air Motors



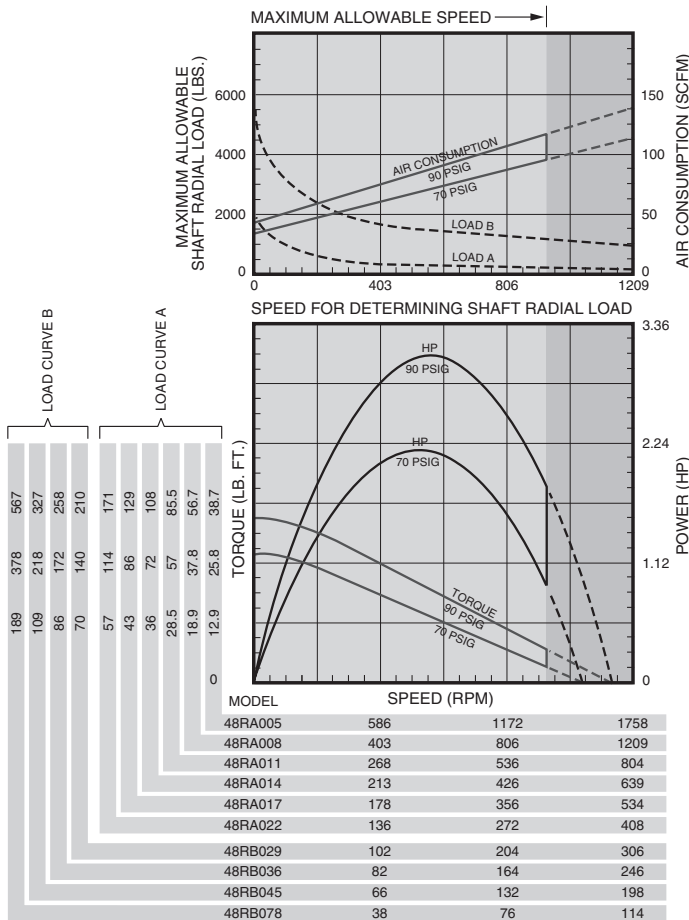
SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp		rpm	rpm	lb.-ft.		lb.-ft.		scfm		lb.	
48RA005	3.1		930	1690	26		35		95		44	
48RA008	3.1		638	1160	38		51.5		95		44	
48RA011	3.1		423	772	57		77.5		95		44	
48RA014	3.1		332	612	72		98		95		44	
48RA017	3.1		278	511	86		117		95		44	
48RA022	3.1		213	390	113		154		95		44	
48RB029	3		162	292	135		189		90		75	
48RB036	3		131	236	167		234		90		75	
48RB045	3		105	188	209		295		90		75	
48RB078	3		60	108	364		513		90		75	

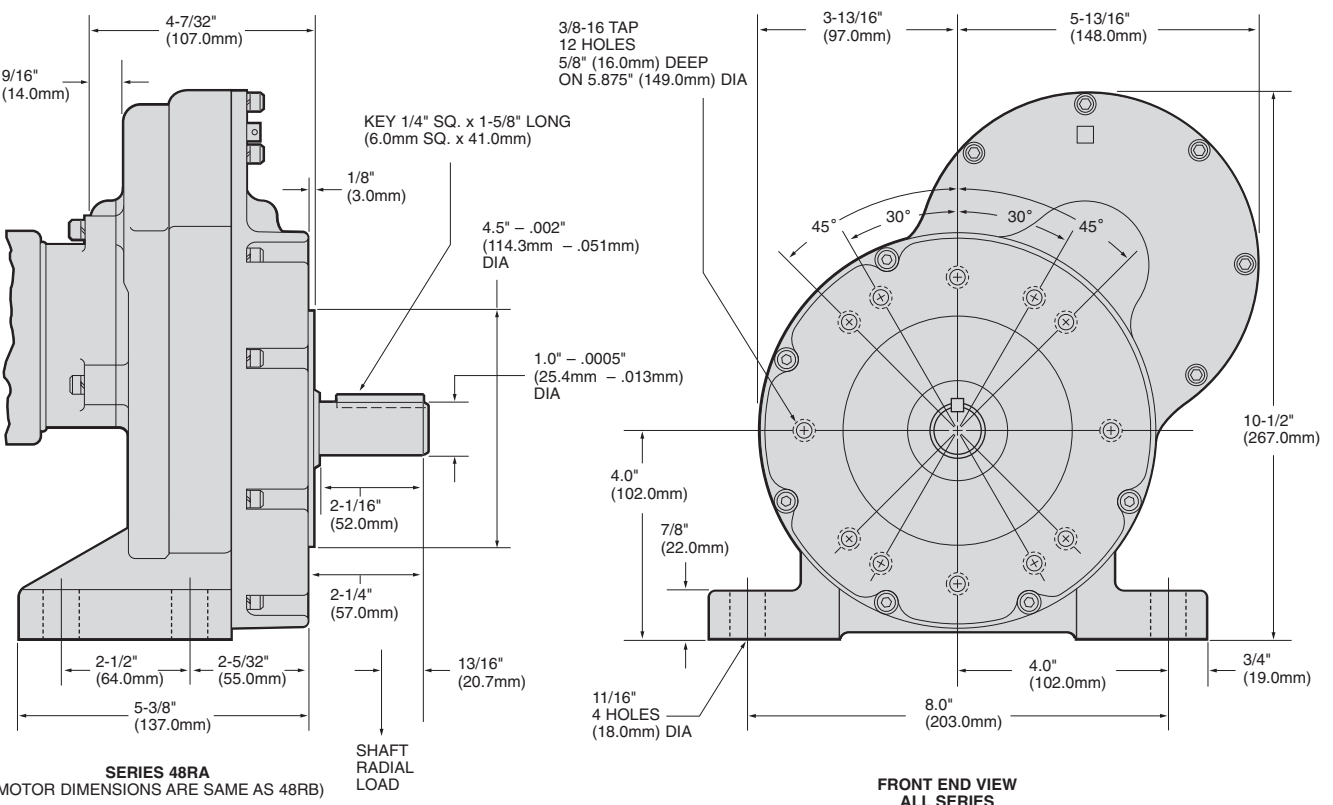
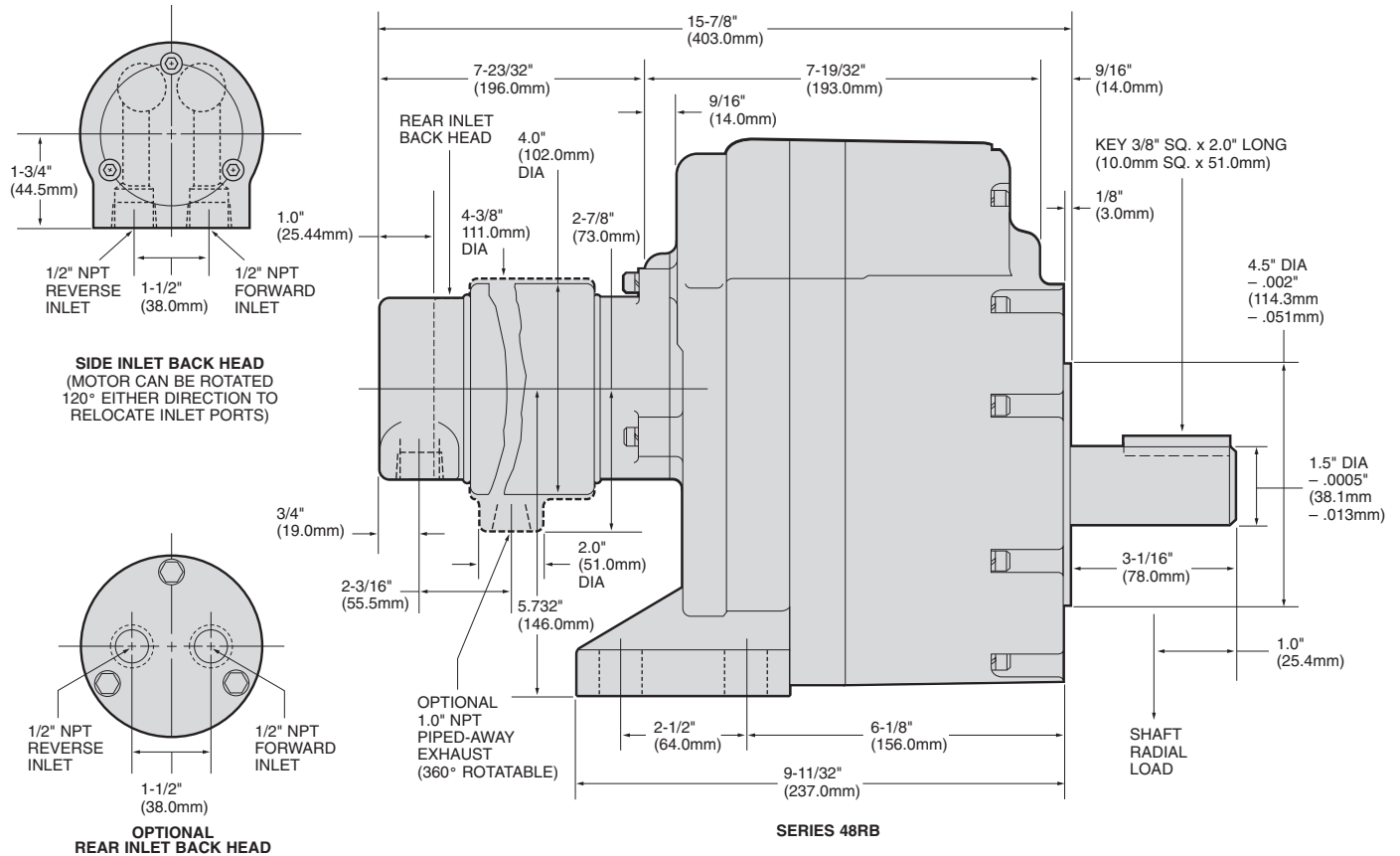
▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

EQUIPMENT OPTIONS

Furnished with Cataloged Models	Standard Options
Side Inlet Backhead	R4840-102 Rear Inlet Backhead

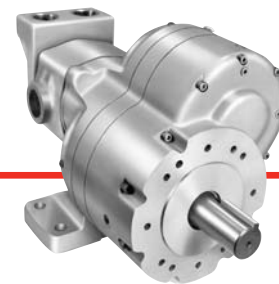


SERIES 48RA AND 48RB DIMENSIONS



Air Motors

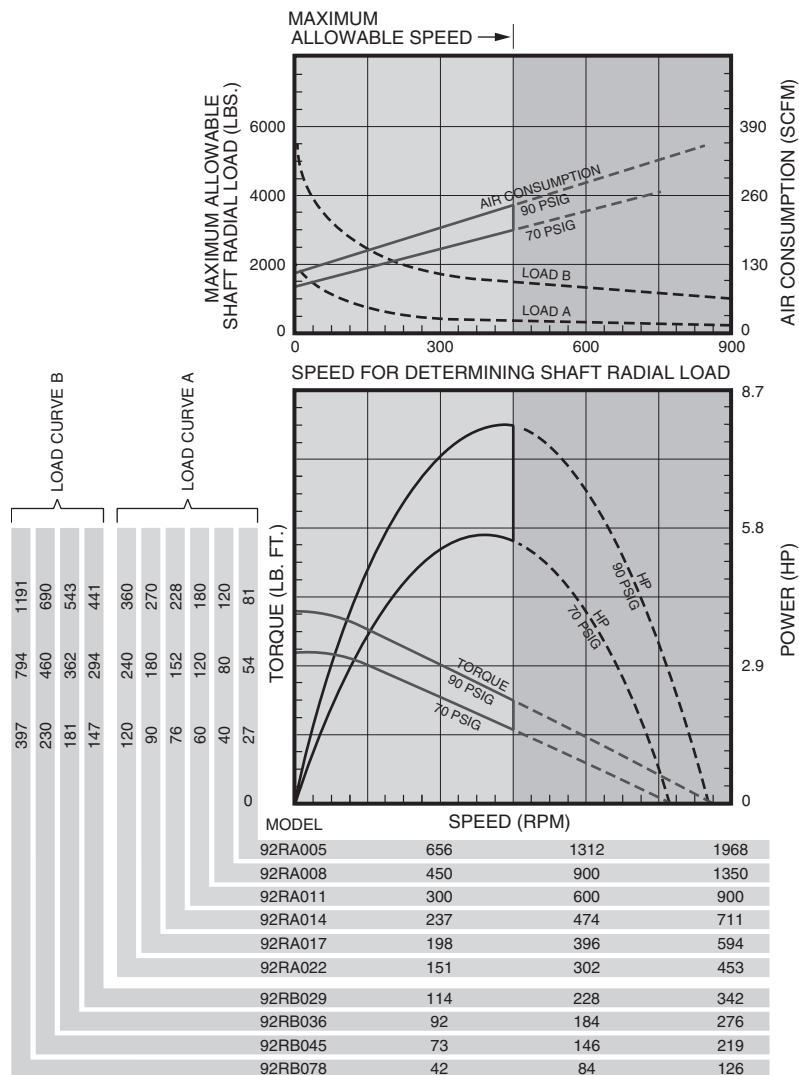
Series 92RA and 92RB Multi-Vane Air Motors



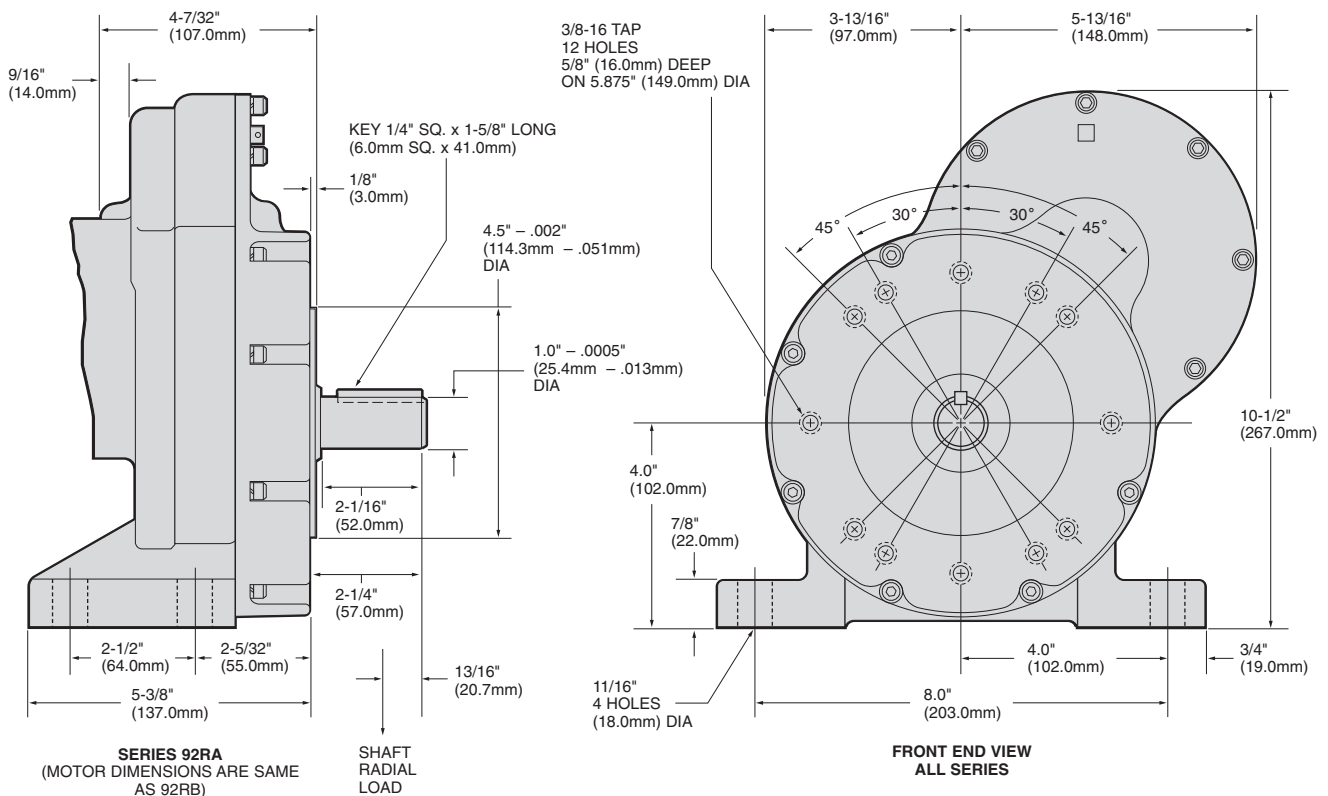
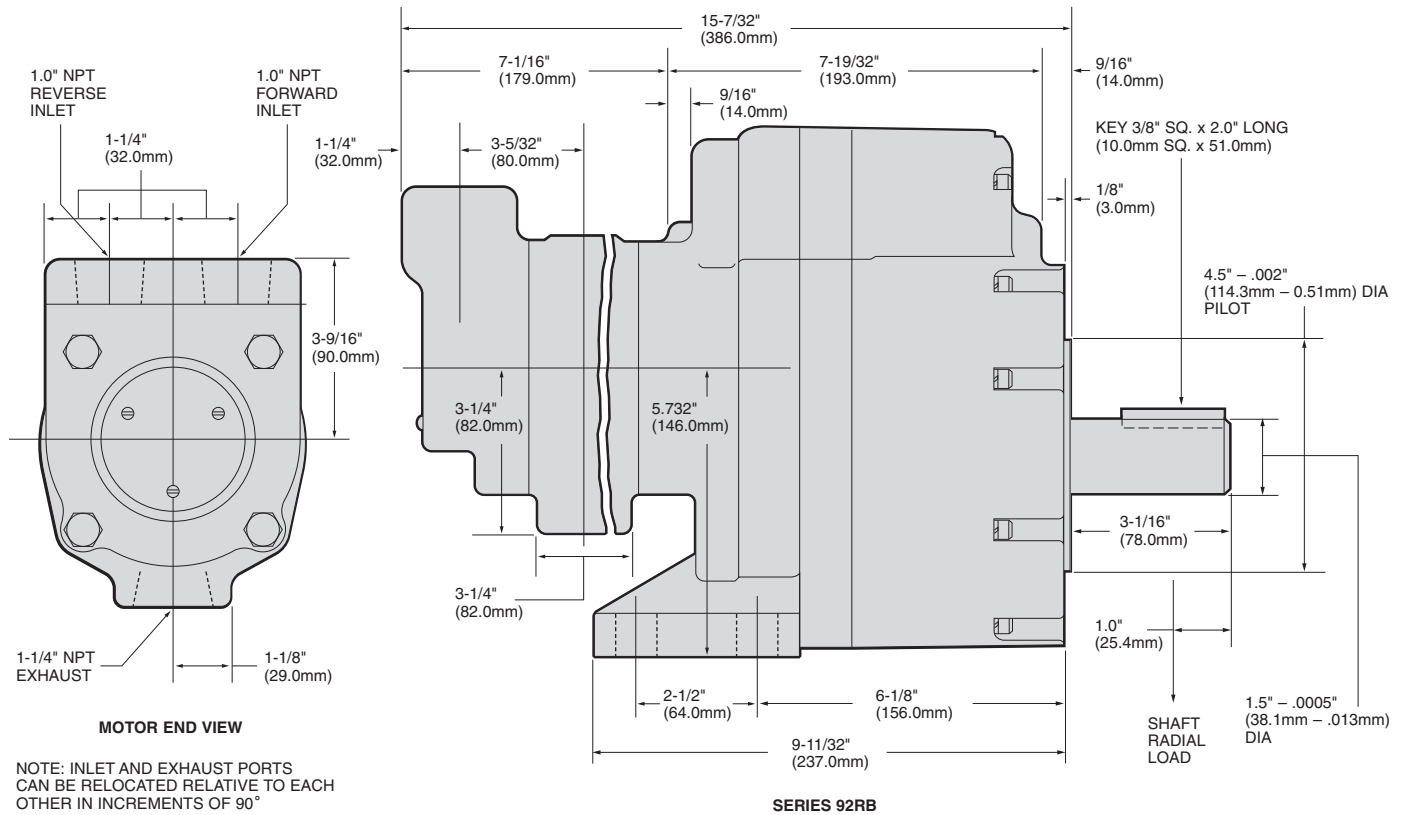
SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m³/m	lb.	kg
Reversible												
92RA005	8.15	6.08	910	1390	56	75.9	75	102	230	6.51	46	20.9
92RA008	8.15	6.08	620	1296	80	109	109	148	230	6.51	46	20.9
92RA011	8.15	6.08	415	852	120	163	164.5	223	230	6.51	46	20.9
92RA014	8.15	6.08	327	682	152	206	208	282	230	6.51	46	20.9
92RA017	8.15	6.08	274	571	180	244	248	336	230	6.51	46	20.9
92RA022	8.15	6.08	209	435	235	319	326	442	230	6.51	46	20.9
92RB029	7.9	5.89	160	327	280	380	402	545	225	6.37	78	35.4
92RB036	7.9	5.89	130	264	345	468	497	674	225	6.37	78	35.4
92RB045	7.9	5.89	103	210	440	597	626	849	225	6.37	78	35.4
92RB078	7.9	5.89	59	120	770	1044	1090	1478	225	6.37	78	35.4

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

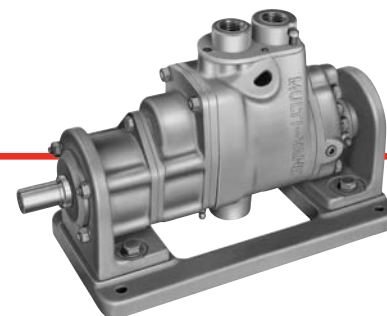


SERIES 92RA AND 92RB DIMENSIONS



Air Motors

Model 22N51-W/RC Multi-Vane Air Motors

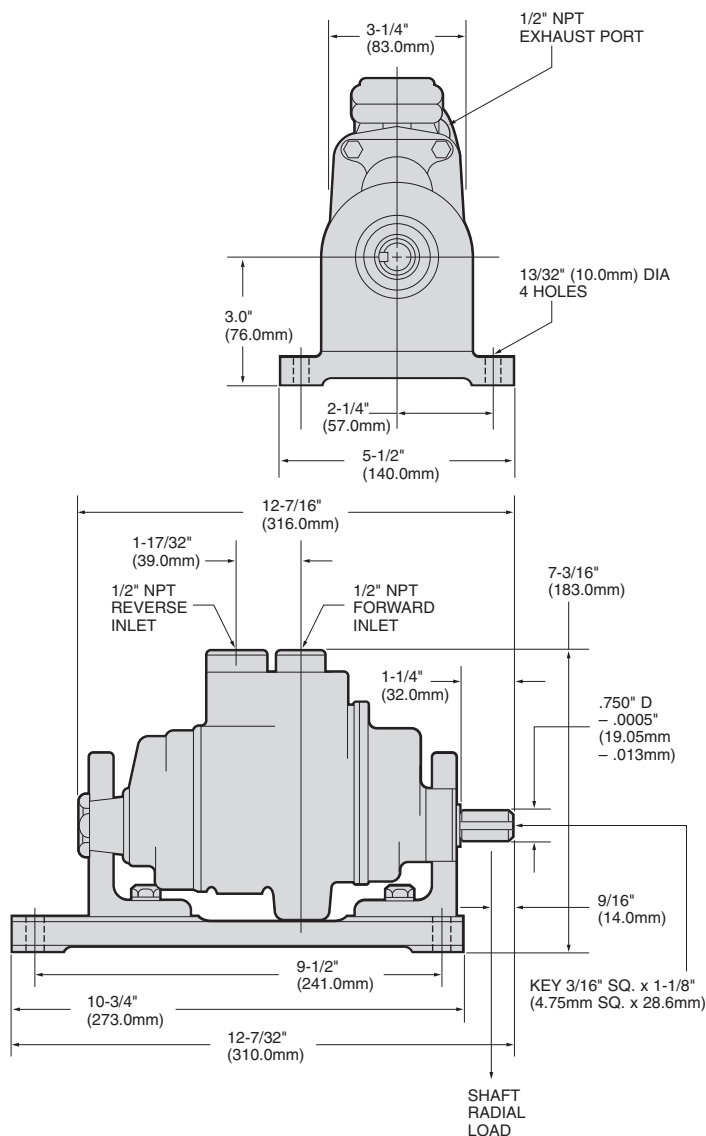
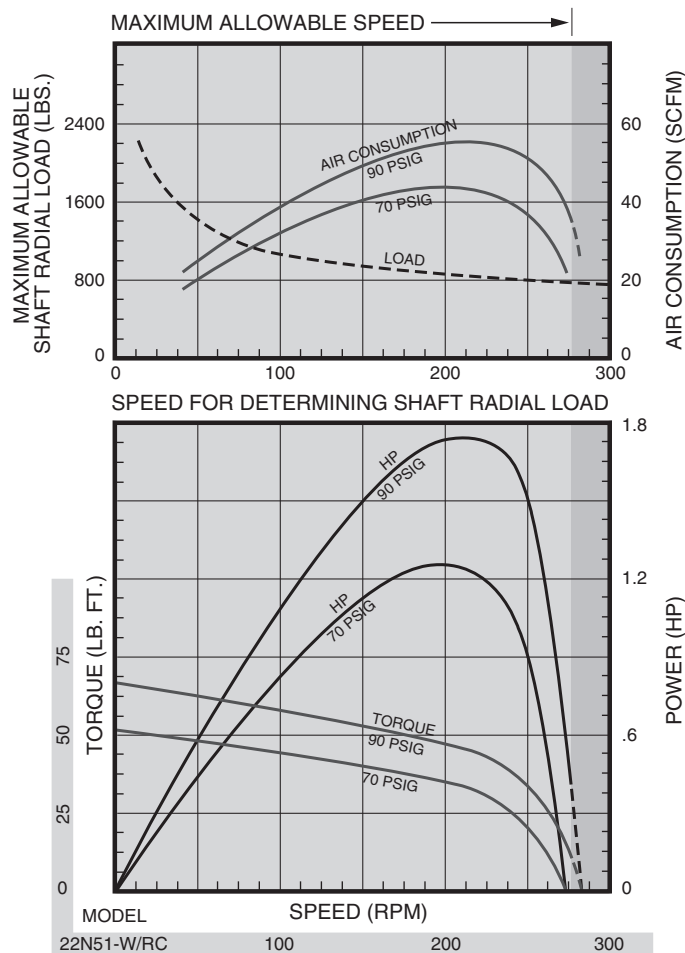


SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm		rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.
Reversible												
22N51-W/RC	1.75	1.31	208	280	49	66.4	66	89.5	55	1.6	21	9.5

Performance figures are at 90 psig (620 kPa) air pressure.

MODEL 22N51-W/RC DIMENSIONS

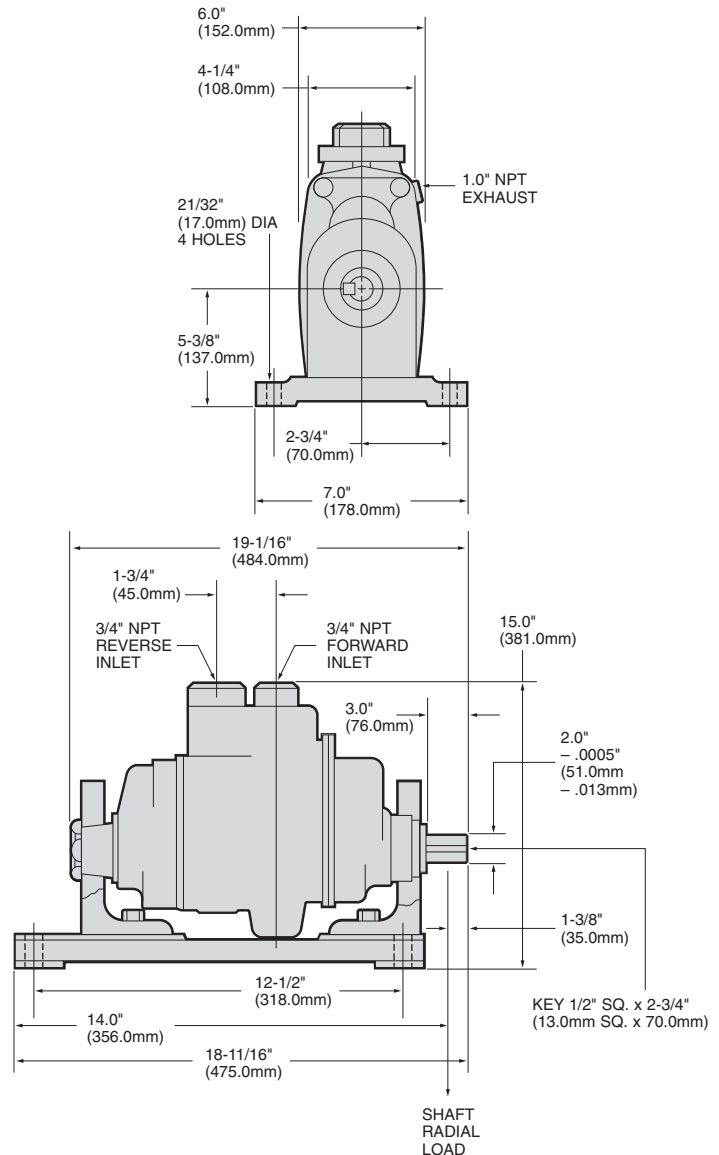
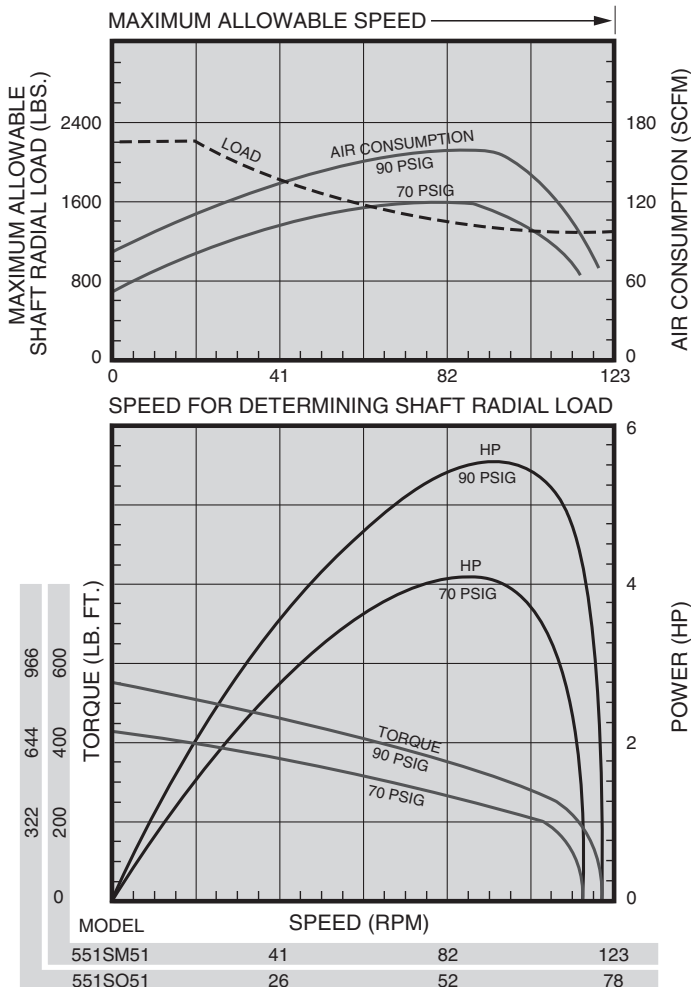


SPECIFICATIONS

Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.	kg
Reversible												
551SM51-W/RC	5.6	4.18	95	120	400	542	545	739	160	4.53	93	42.2
551SO51-W/RC	5.6	4.18	59	77	650	881	885	1200	160	4.53	93	42.2

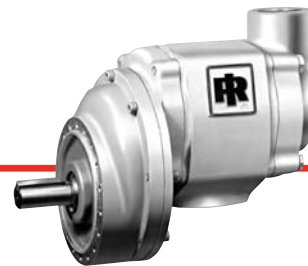
▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

SERIES 551 DIMENSIONS



Air Motors

Series 92RM and 992RM Multi-Vane Air Motors

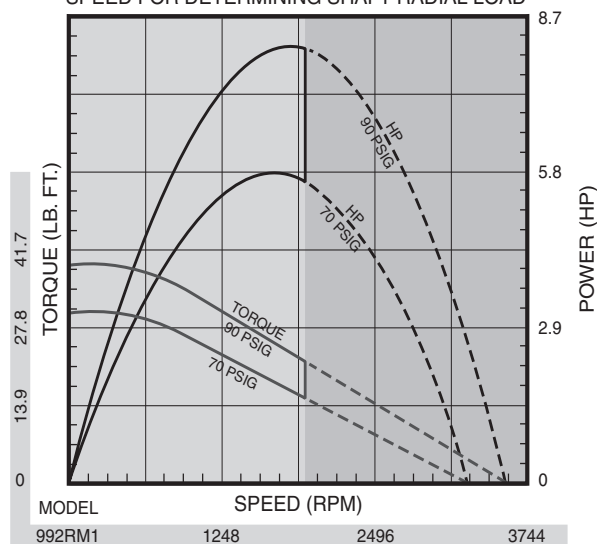
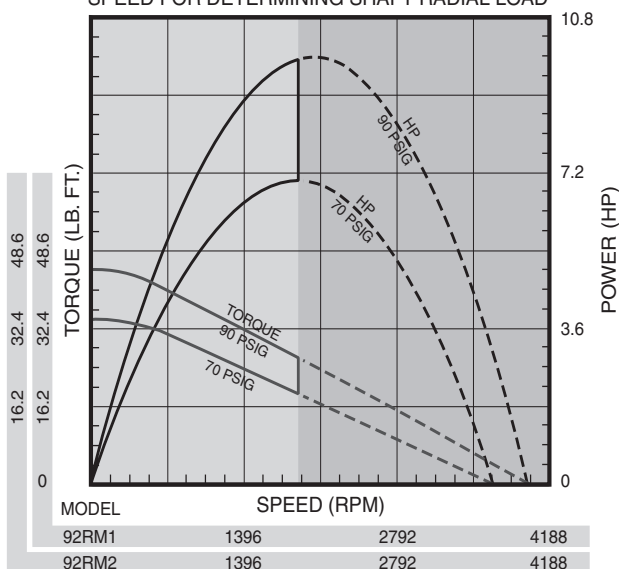
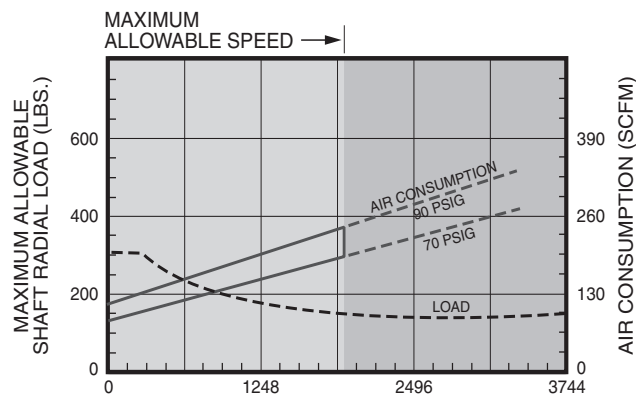
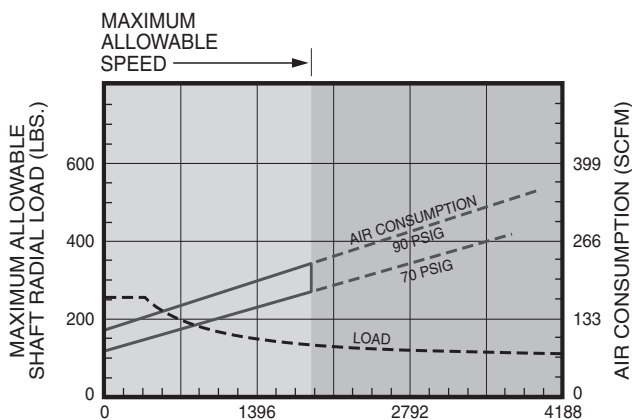


SPECIFICATIONS

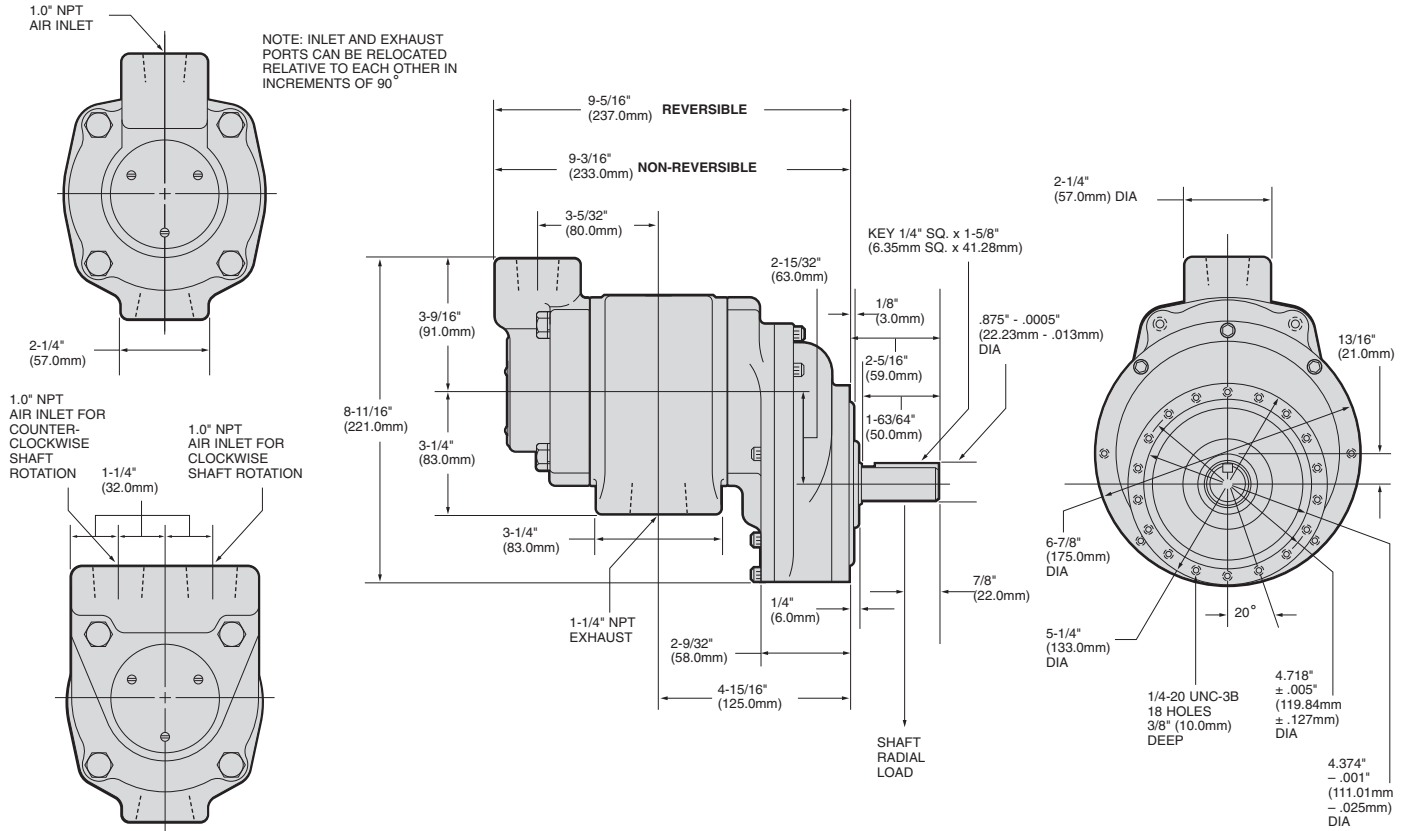
Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp		rpm	rpm	lb.-ft.		lb.-ft.		scfm		lb.	
92RM1	9.9		2095	3980	33		45		240		24¼	
92RM2	9.9		2095	3980	33		45		240		24¼	
992RM1	8.15		1730	3600	28.7		39		230		25¼	

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

Direction of rotation of Model 92RM1 is clockwise, and of Model 92RM2 is counter clockwise when facing the shaft end of the motor.

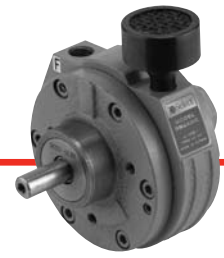


SERIES 92RM AND 992RM DIMENSIONS



Air Motors

Series Select Multi-Vane Air Motors



SPECIFICATIONS

Series	Max Power		Speed at Max Power	Free Speed	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.	kg
reversible												
SM1AM	0.33	0.25	7600	15,200	0.29	0.39	0.38	0.52	17	0.5	1.5	0.7
SM1UP	0.60	0.37	6000	12,500	0.45	0.6	0.6	0.81	42	1.2	1.75	0.8
SM2AM	0.88	0.66	3000	8,070	1.7	2.3	2.3	3.1	48	1.4	7.5	3.4
SM4AM	1.5	1.1	3000	7900	2.6	3.5	4.1	5.6	67	1.9	8.25	3.7
SM6AM	3.6	2.7	3000	7900	5.3	7.2	8.7	11.8	120	3.4	16.25	7.4
SM8AM	4.8	3.6	2500	7000	10	13.6	14	19	152	4.3	22.5	10.2

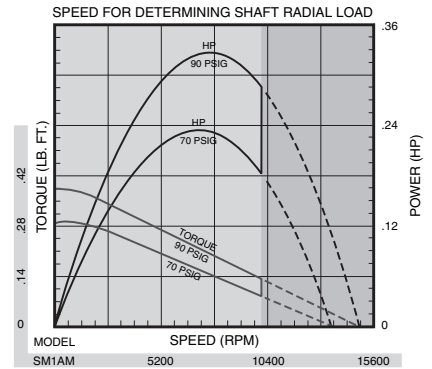
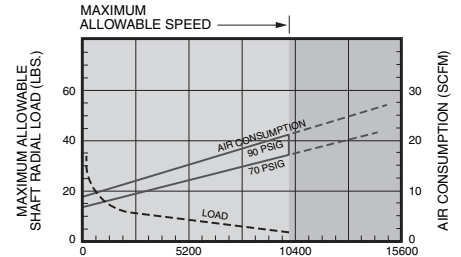
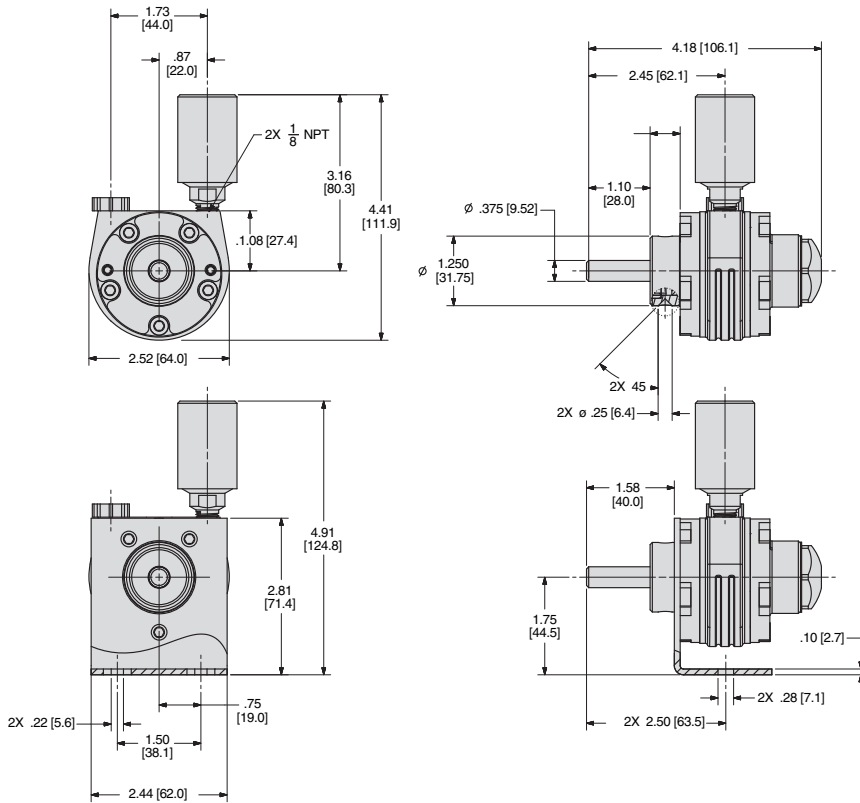
MODEL DESIGNATION BREAKOUT

Select Series Air Motor	Power Series	Shaft/Interface	Rotation	Mounting
SM	1AM 1UP 2AM 4AM 6AM 8AM	A = Round shaft w/ square key (Round shaft on SM1AM series) B = Round shaft with Woodruff Key (#3) C = Round shaft with flat on the shaft	L=Left Hand Bias (CCW) R=Right Hand Bias (CW) None=Reversible	N=NEMA mount None= Face or Footmount (Footmount is an optional accessory)

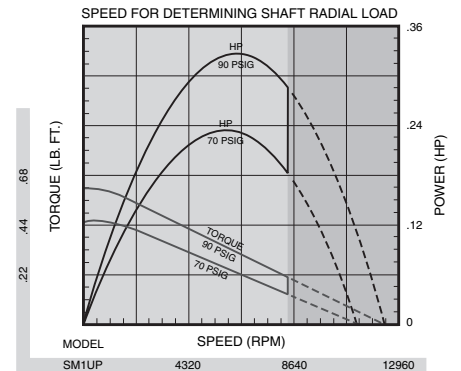
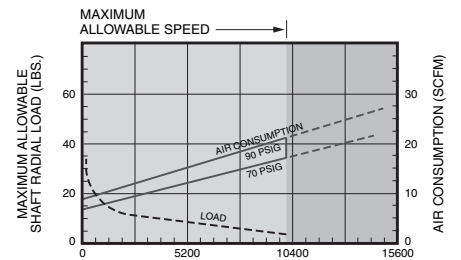
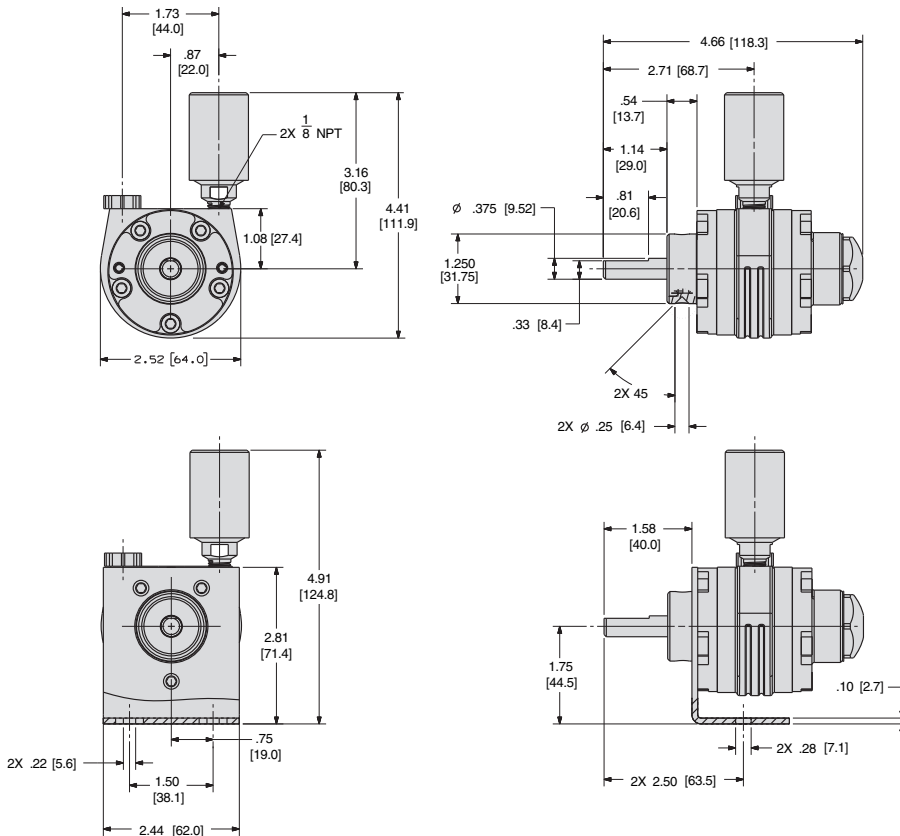
EQUIPMENT OPTIONS

Series	Furnished with Cataloged Models	Optional Accessories
SM1AM	3 Hole Face Mounting Muffler	SM1AM-AG587 Footmount
SM1UP	3 Hole Face Mounting Muffler	SM1AM-AG587 Footmount
SM2AM	3 Hole Face Mounting Muffler NEMA 56C Flange with Model SM2AMAN	SM2AM-AH636 Footmount
SM4AM	3 Hole Face Mounting Muffler NEMA 56C Flange with Model SM4AMAN	SM4AM-AH634 Footmount
SM6AM	3 Hole Face Mounting Muffler NEMA 56C Flange with Model SM6AMAN	SM6AM-AH634 Footmount
SM8AM	3 Hole Face Mounting Muffler NEMA 182C, 184C Flange Mount with Model SM8AMAN	SM8AM-AH640 Footmount

SM1AM and SM1AM-AG587 FOOTMOUNT DIMENSIONS



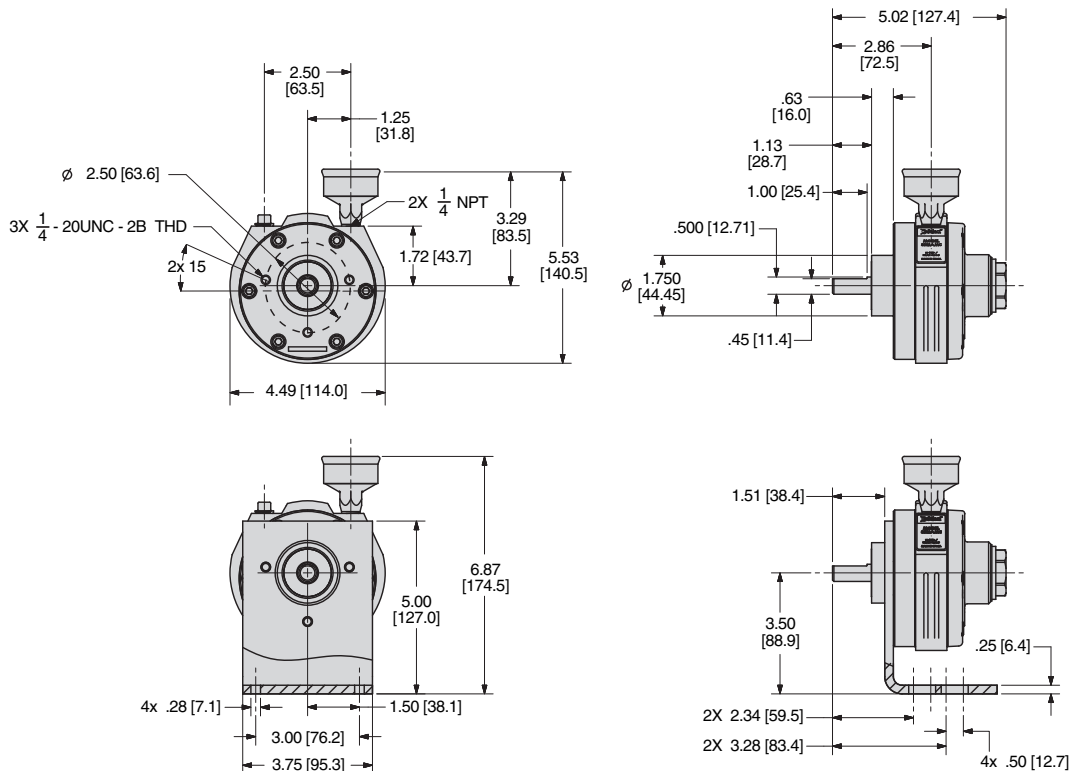
SM1UP and SM1AM-AG587 FOOTMOUNT DIMENSIONS



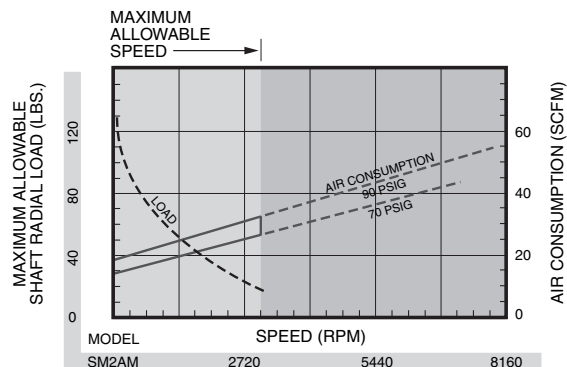
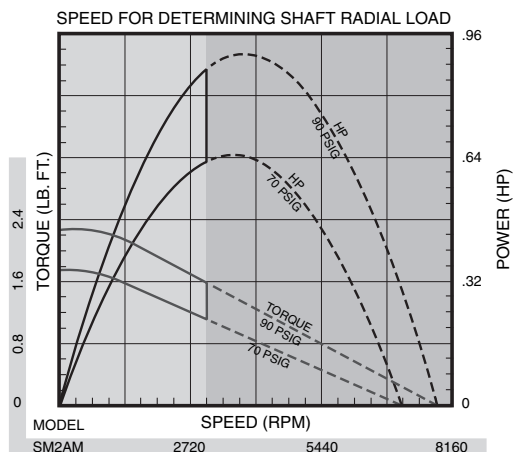
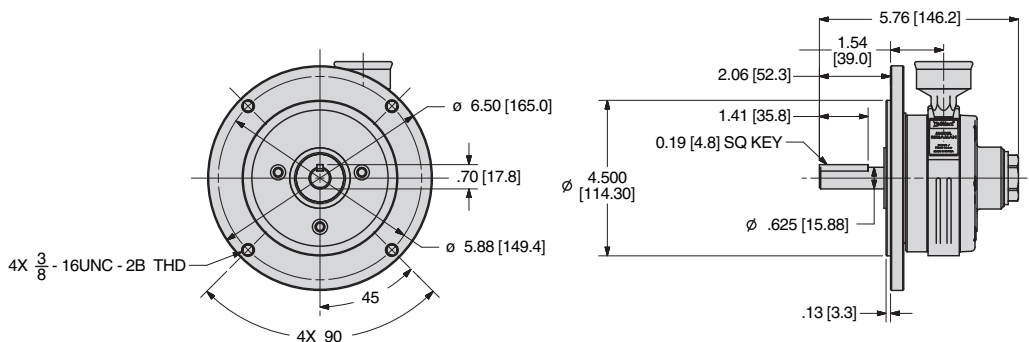
Air Motors

Series Select Multi-Vane Air Motors

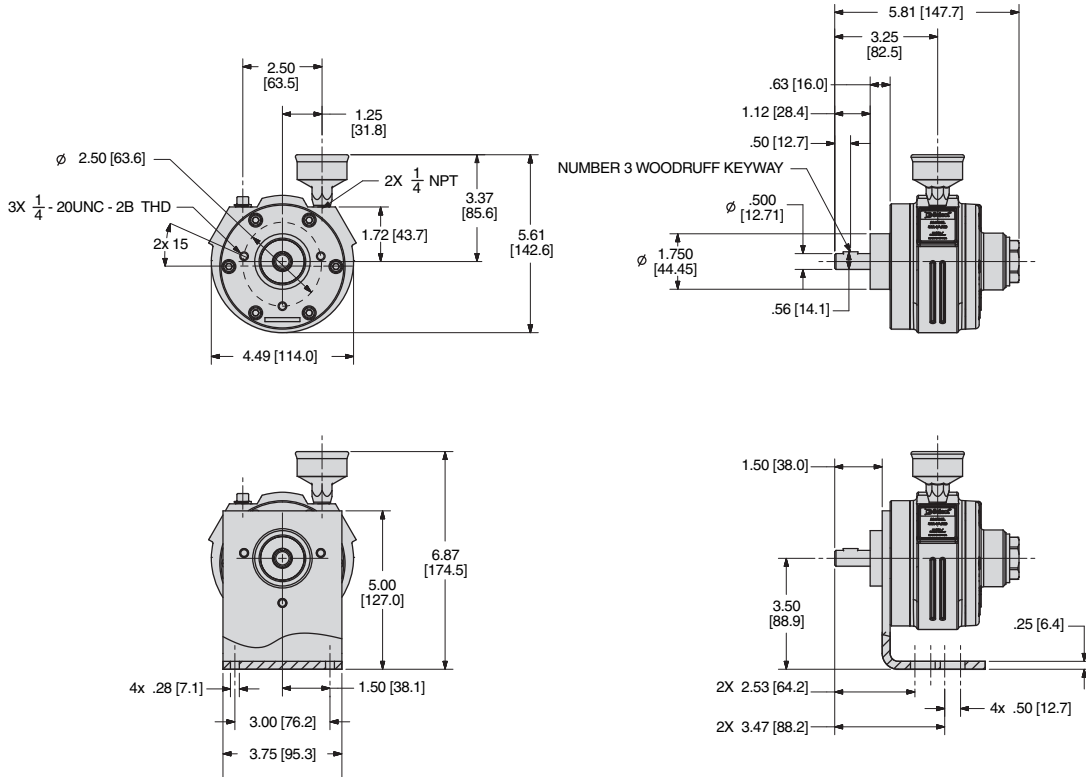
SM2AMC and SM2AM-AH636 FOOTMOUNT DIMENSIONS



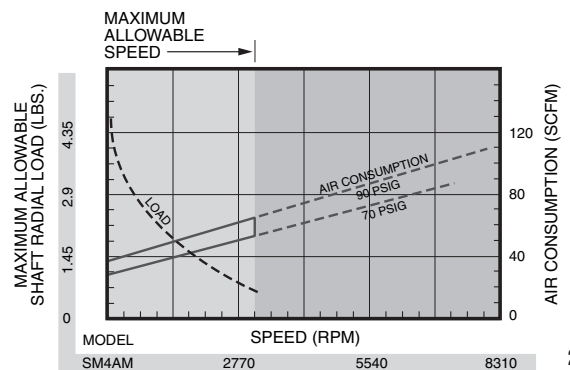
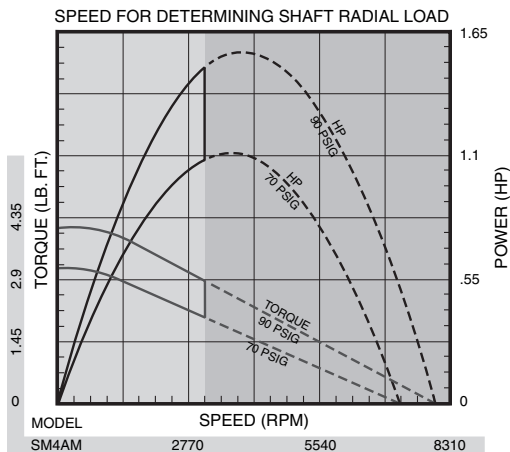
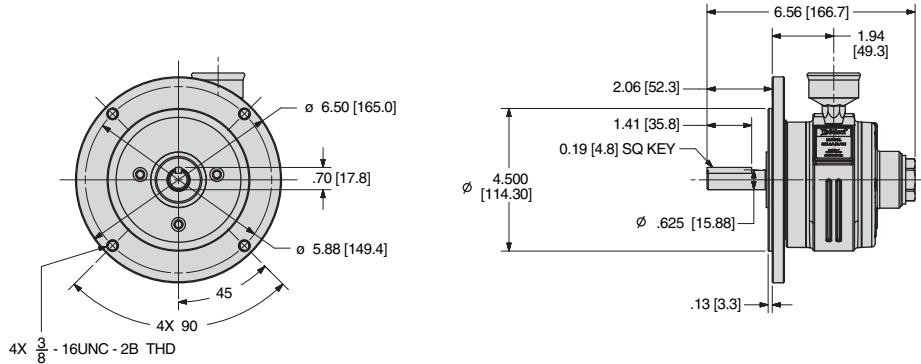
SM2AMAN NEMA MOUNT DIMENSIONS



SM4AMB and SM4AM-AH634 FOOTMOUNT DIMENSIONS



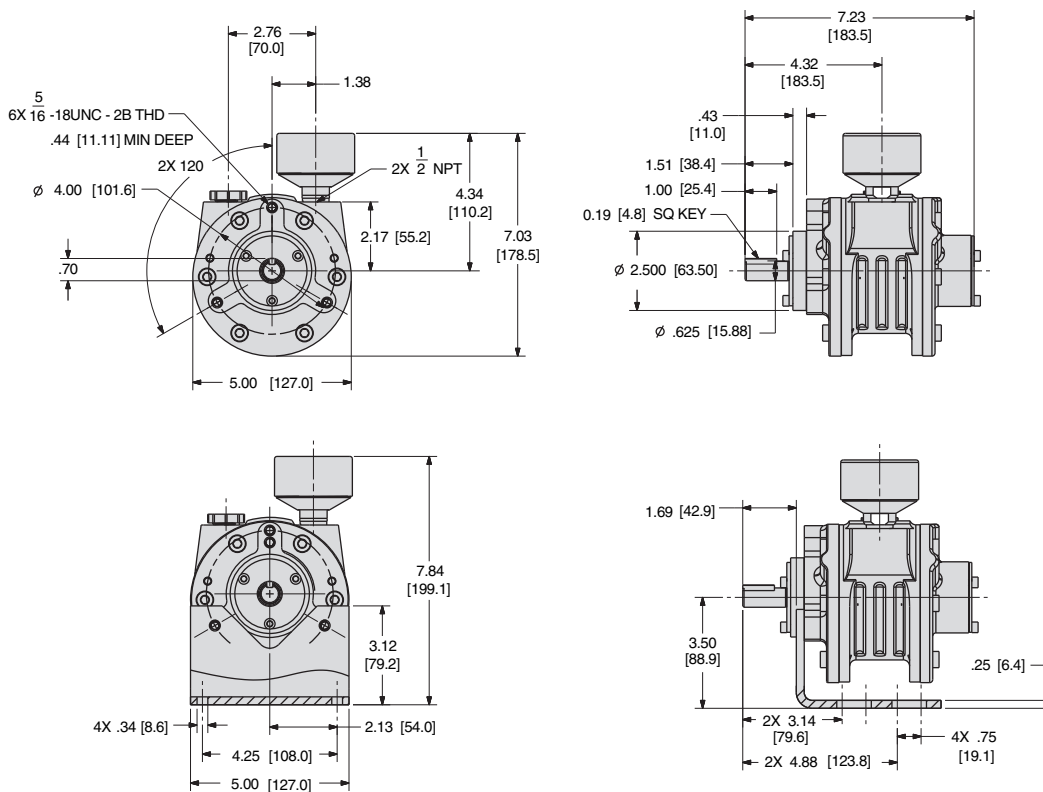
SM4AMAN NEMA MOUNT DIMENSIONS



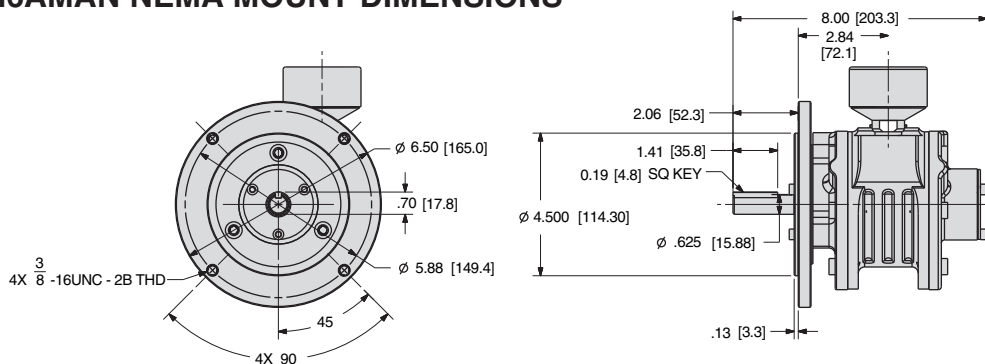
Air Motors

Series Select Multi-Vane Air Motors

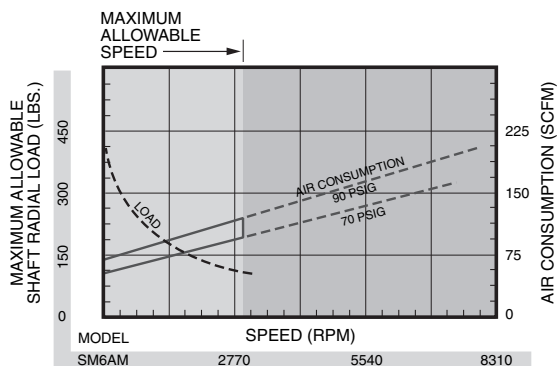
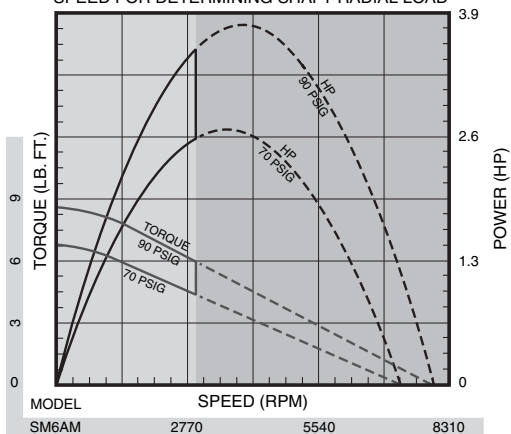
SM6AMA and SM6AM-AH636 FOOTMOUNT DIMENSIONS



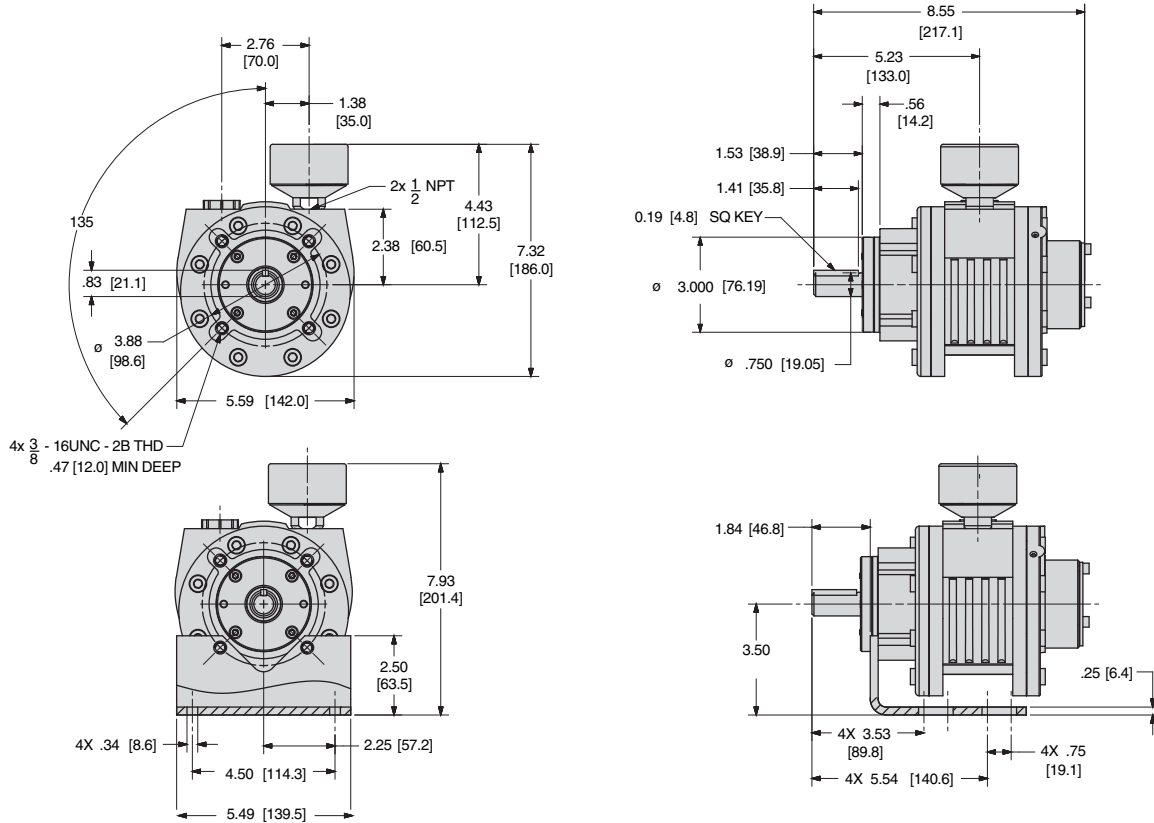
SM6AMAN NEMA MOUNT DIMENSIONS



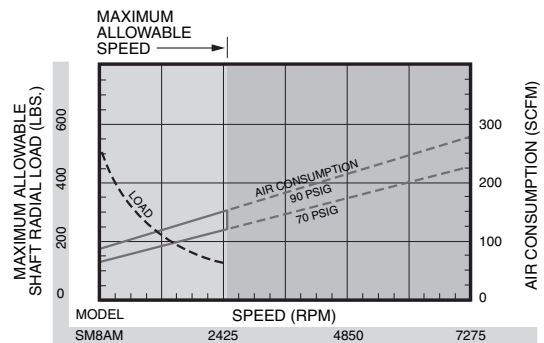
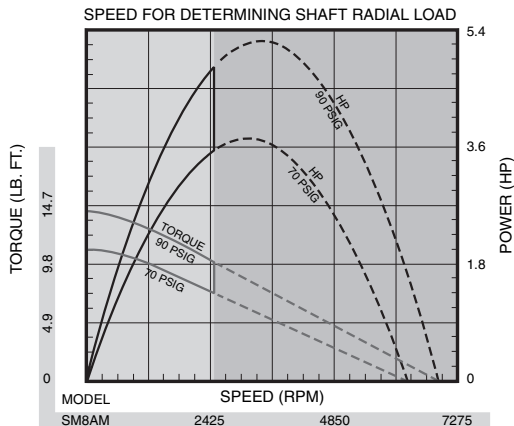
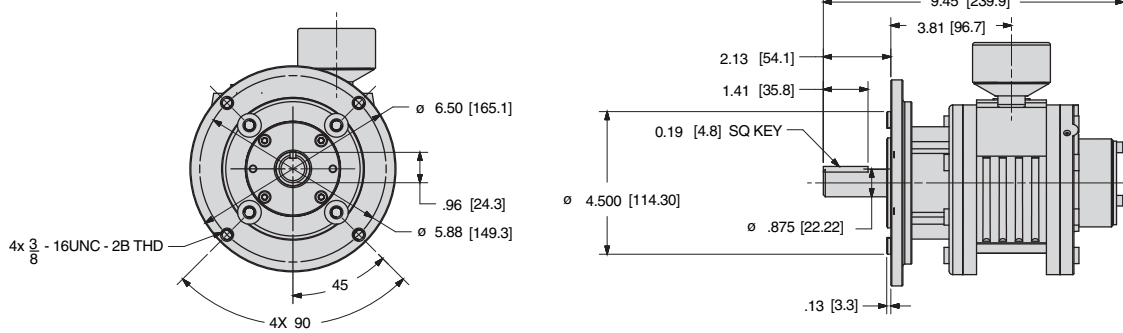
SPEED FOR DETERMINING SHAFT RADIAL LOAD



SM8AMA AND SM8AM-AH640 FOOTMOUNT DIMENSIONS

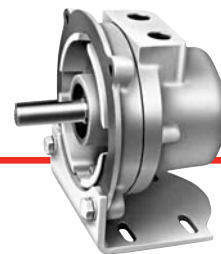


SM8AMAN NEMA MOUNT DIMENSIONS



Air Motors

Series MVA and MOV0 Multi-Vane Air Motors

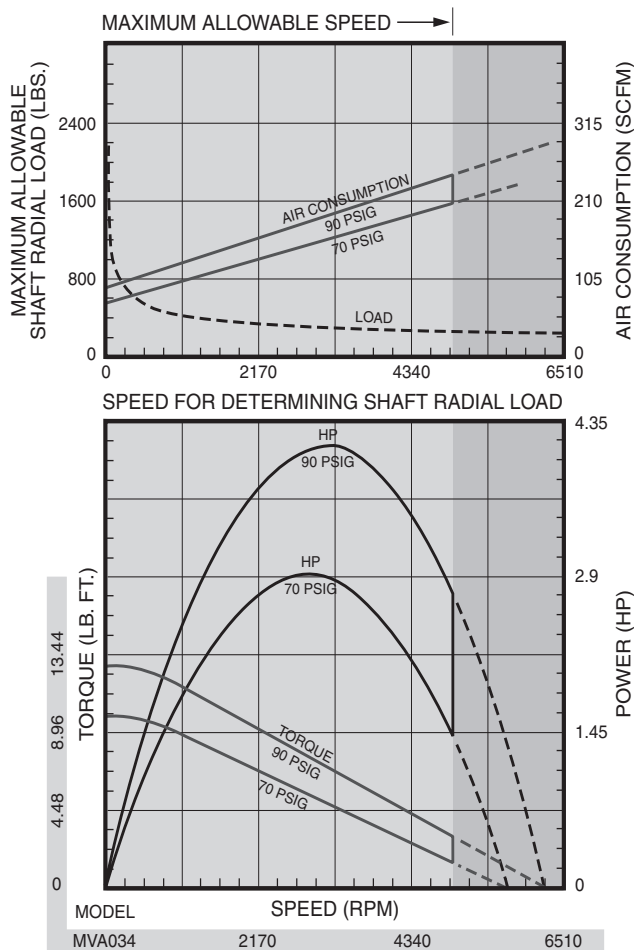
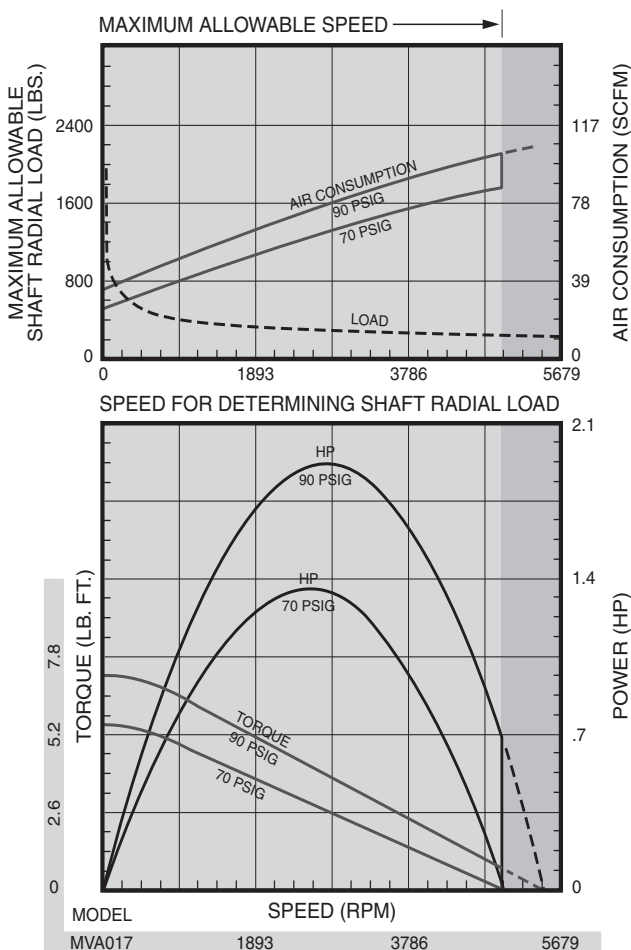


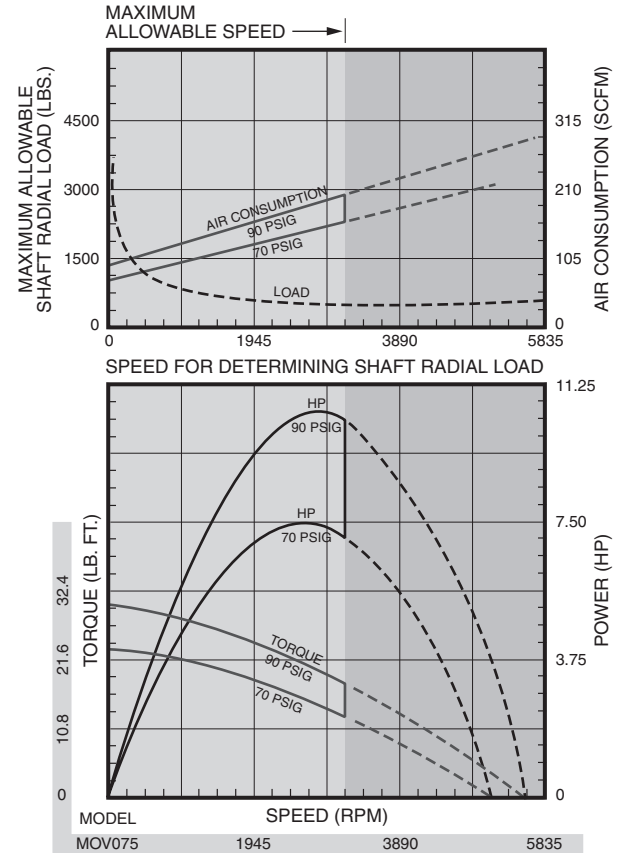
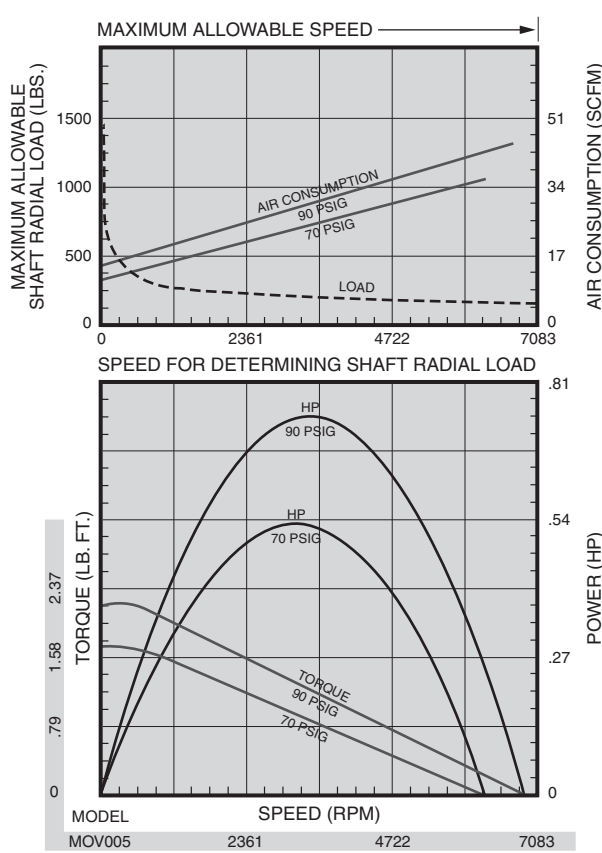
SPECIFICATIONS

Model*	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.	kg
Reversible												
MVA017A	1.93	1.44	2800	5450	4.5	6.1	7	9.5	76	2.15	12½	5.67
MVA017B	1.93	1.44	2800	5450	4.5	6.1	7	9.5	76	2.15	12½	5.67
MVA034A	4.15	3.09	3000	6250	8.3	11.3	12.8	17.4	181	5.12	16½	7.48
MVA034B	4.15	3.09	3000	6250	8.3	11.3	12.8	17.4	181	5.12	16½	7.48
MOV005AA	.75	.56	3300	6800	1.65	2.2	2.2	2.98	30	.84	6½	2.95
MOV075AA	10.5	7.8	2600	5600	22.5	30.5	30	40.7	260	7.36	64	29

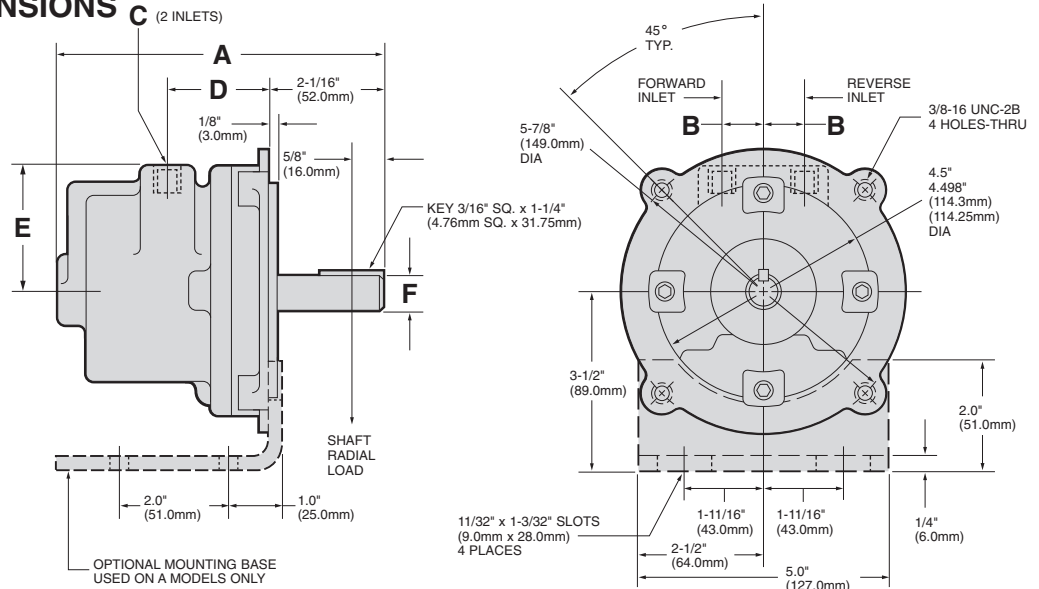
▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

* "A" suffix denotes foot mount model, "B" suffix denotes flange mount models.





SERIES MVA DIMENSIONS

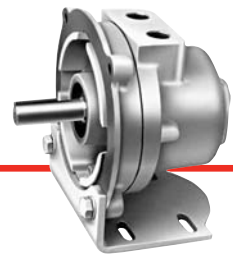


DIMENSIONS

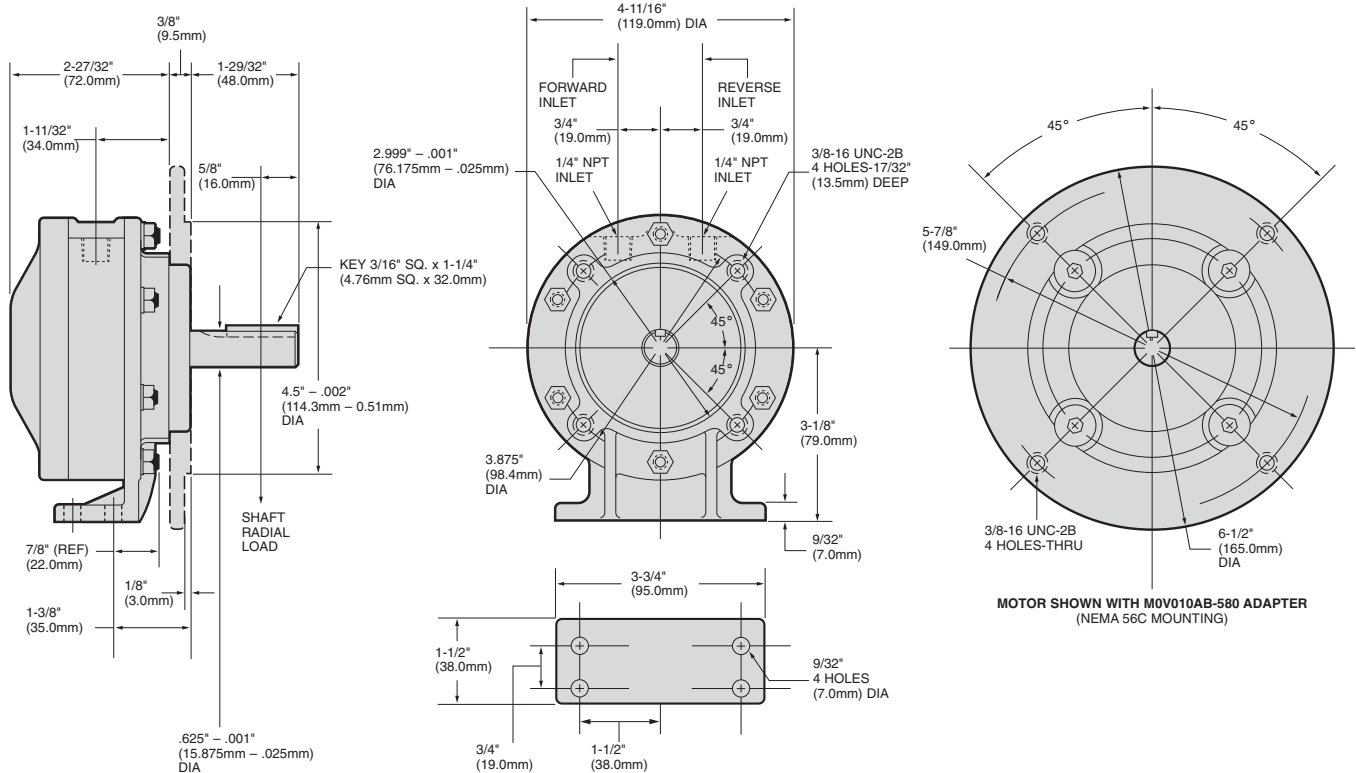
SERIES	A		B		C	D		E		F DIA.	
	in.	mm	in.	mm		NPT	in.	mm	in.	mm	in.
MVA017	6 ¹ / ₁₆	170	7/8	22	3/8"	1 ¹ / ₂	48	2 ¹ / ₂	64	.6250	15.88
										.6245	15.86
MVA034	8 ⁷ / ₁₆	214	1 ¹ / ₁₆	30	1/2"	2	51	2 ³ / ₄	67	.8750	22.23
										.8745	22.21

Air Motors

Series MVA and MOV0 Multi-Vane Air Motors



MODEL MOV005AA DIMENSIONS



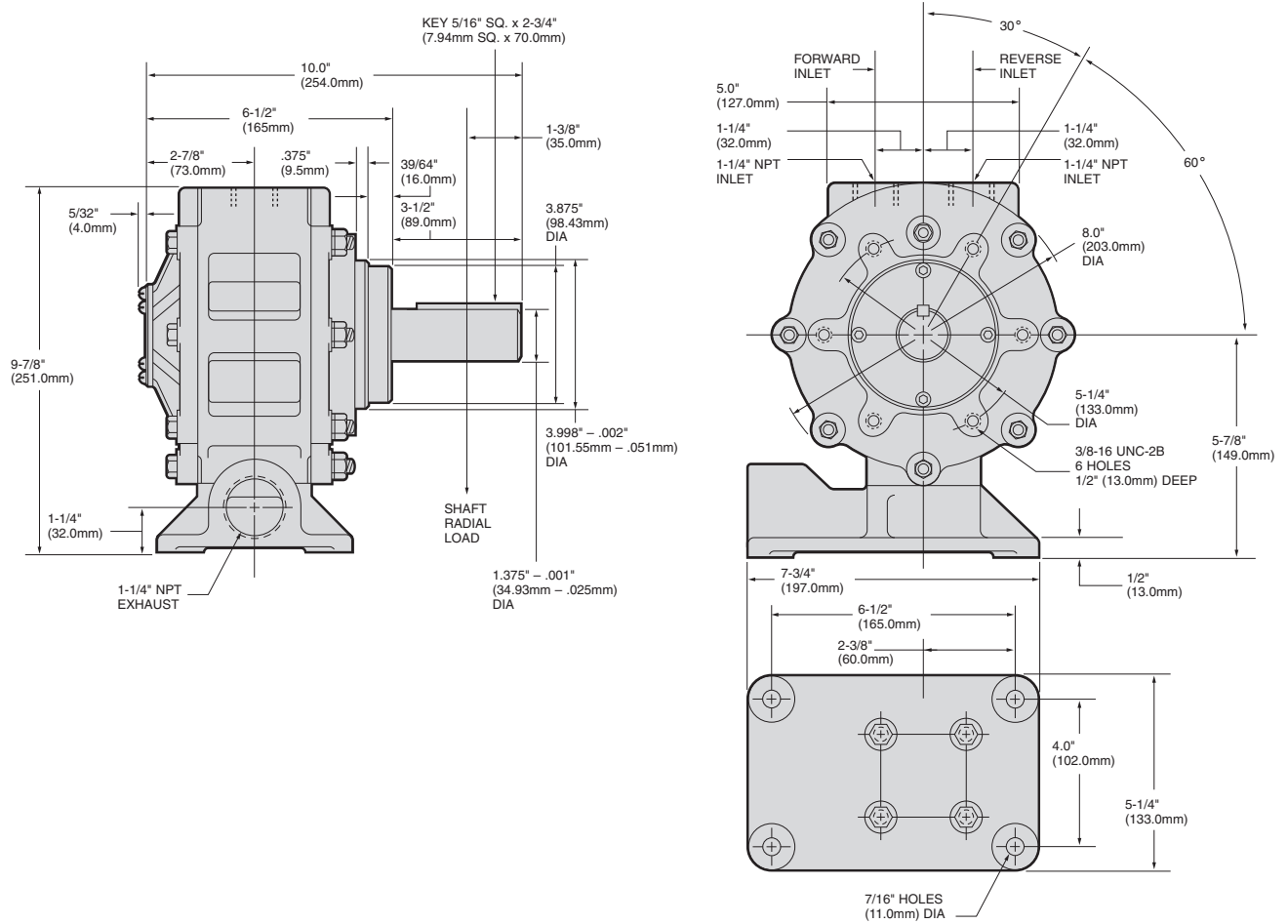
EQUIPMENT OPTIONS

Models	Furnished with Cataloged Models	Standard Options
MVA017A	*Foot Mounting	
MVA017B	NEMA C Face 56C Frame Size	MVA008-K4 Mounting Foot Kit
MVA034A	**Foot Mounting	MOV010AA-674 Muffler
MVA034B	NEMA C Face 182C Frame Size	MVA008-K4 Mounting Foot Kit MOV010AA-674 Muffler
MOV005AA	Foot/4 Hole Face Mounting	MRV015-AC 980 Muffler
MOV075AA	Foot/6 Hole Face Mounting	150BM-A674 Muffler

* Removal of Foot Mounting results in Motor having NEMA C Face Mounting, 56C Frame Size.

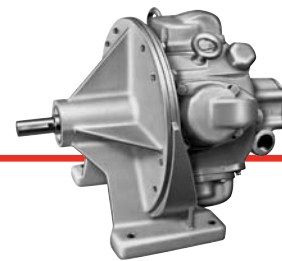
** Removal of Foot Mounting results in Motor having NEMA C Face Mounting, 182C Frame Size.

MODEL MOV075AA DIMENSIONS



Air Motors

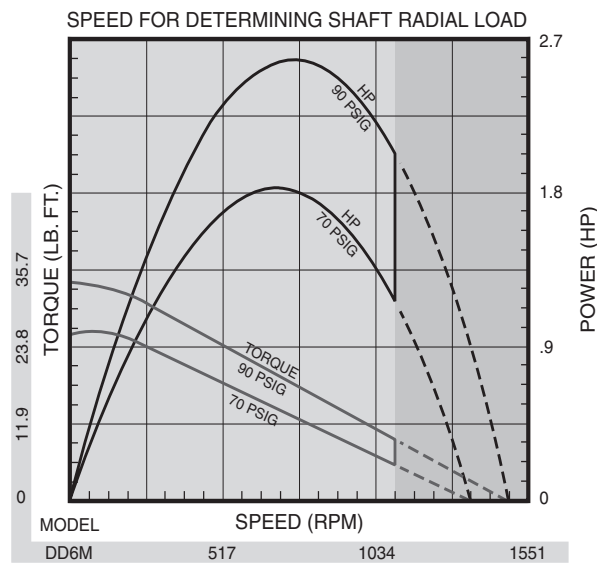
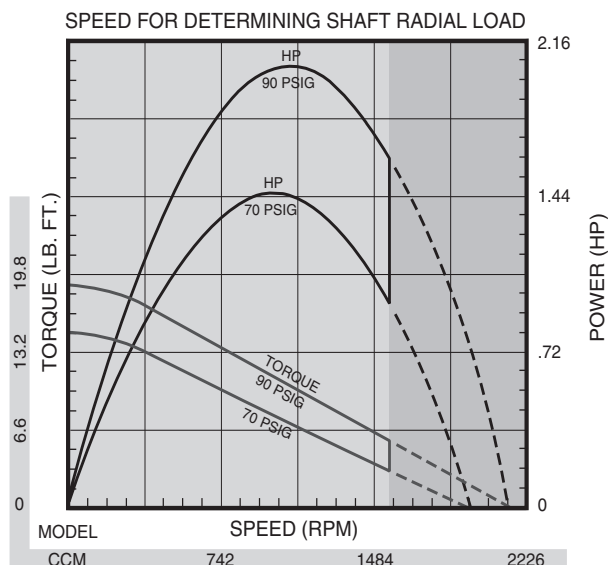
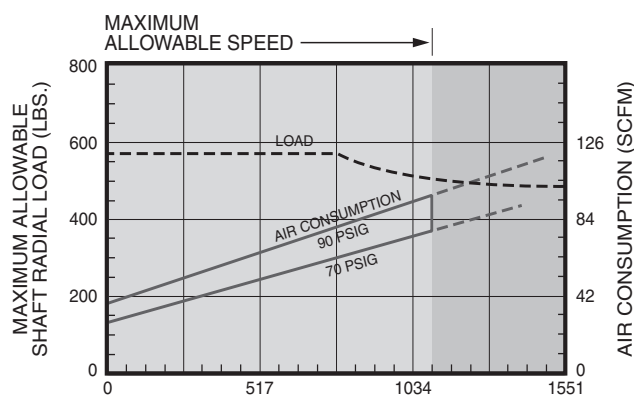
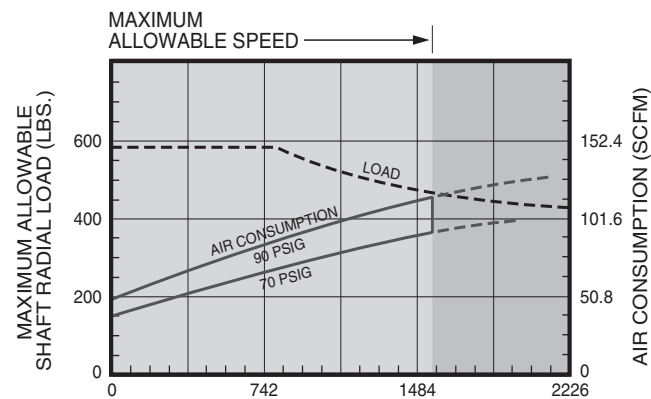
Direct and Geared Drive Piston Air Motors



SPECIFICATIONS

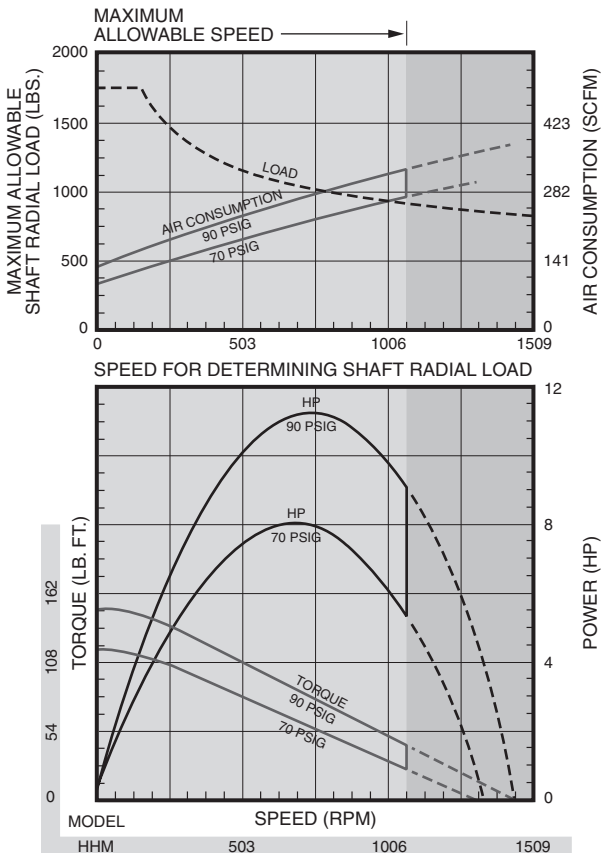
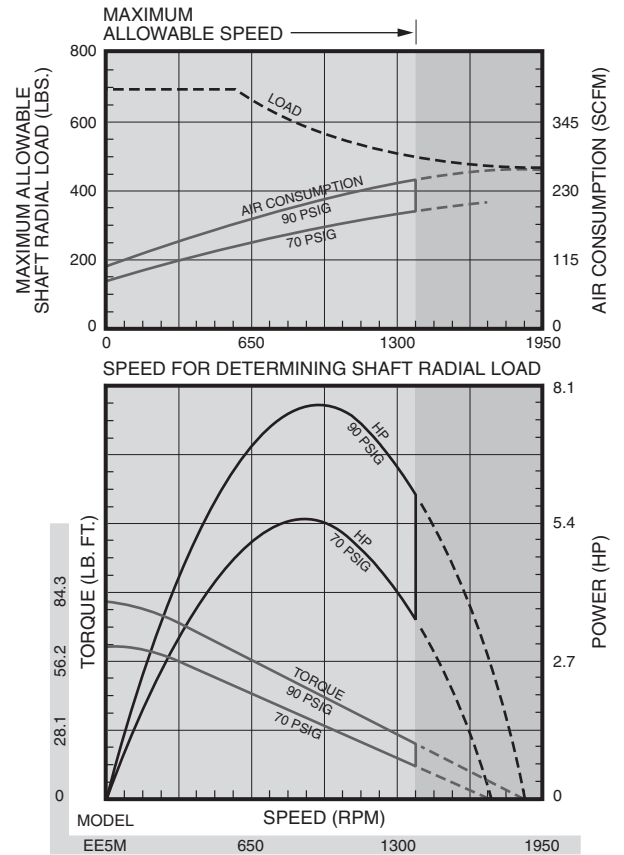
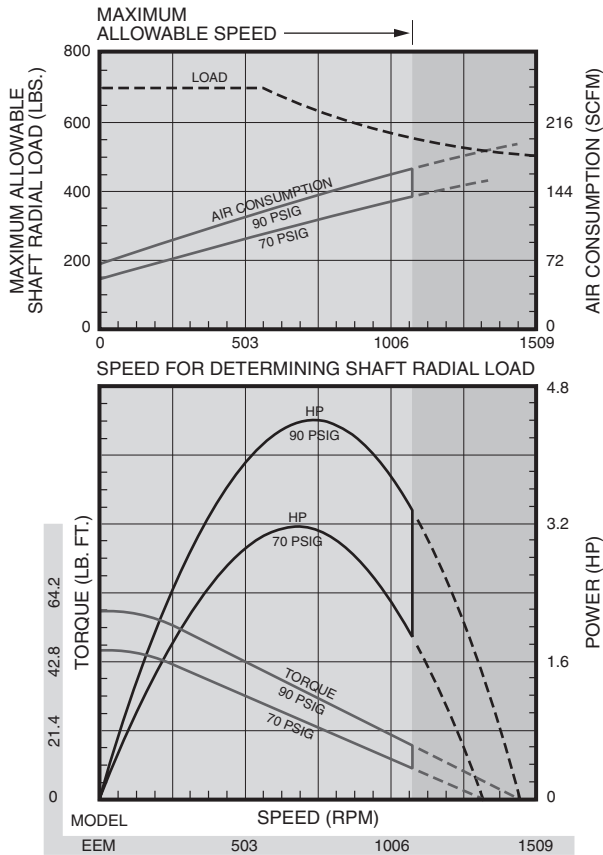
Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque	Air Consumption at Max. Power		Weight	
	hp		rpm	rpm	lb.-ft.		lb.-ft.	scfm		lb.	
CCM	2.05		1075	2140	13.2		18.8		97		135
DD6M	2.6		750	1490	24		34.2		79		135
EEM	4.4		735	1450	41		59		137		200
EE5M	7.8		950	1875	60		80.5		220		210
HHM	11.3		730	1450	106		152		270		235
HH5M	15.2		750	1500	146		195		400		250
KK6M	25		755	1500	260		325		680		475
EE3G	5		275	560	122		175		155		200
EE53G	6.8		305	600	154		205		220		220
EE9G	4.7		92	190	357		510		155		210
EE59G	6.5		100	200	450		600		220		230

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. All of the above motors are furnished less valve and piping as standard. Performance figures are at 90 psig (620 kPa) air pressure.



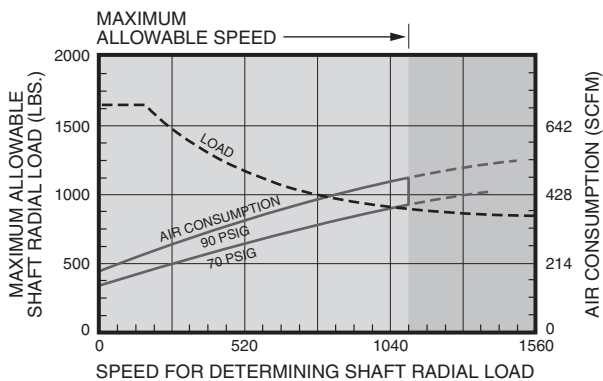
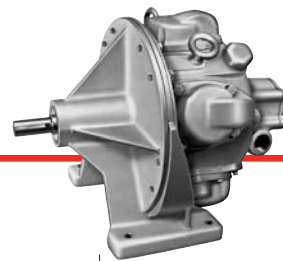
Air Motors

Direct and Geared Drive Piston Air Motors

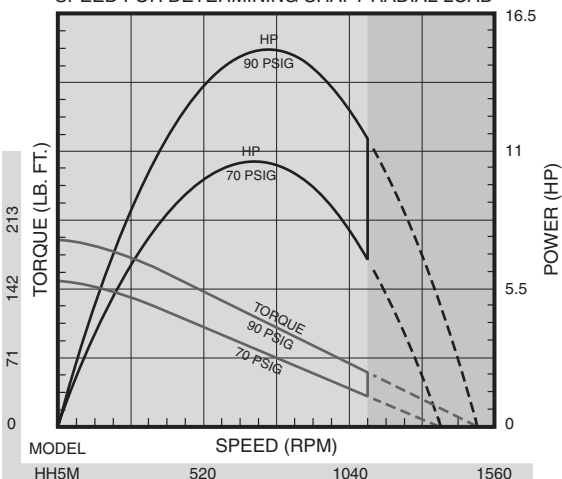


Air Motors

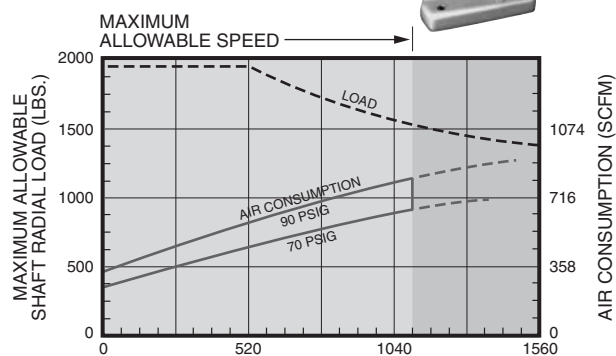
Direct and Geared Drive Piston Air Motors



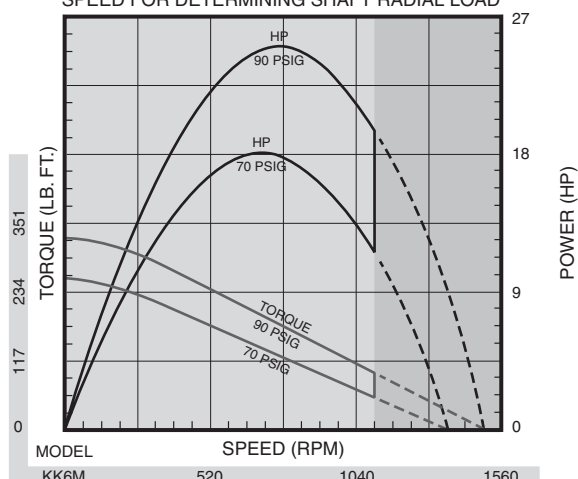
SPEED FOR DETERMINING SHAFT RADIAL LOAD



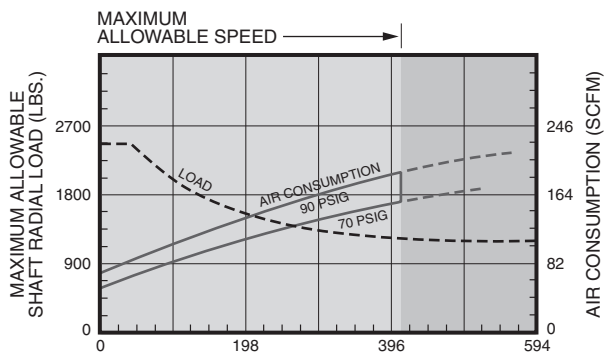
MODEL HH5M



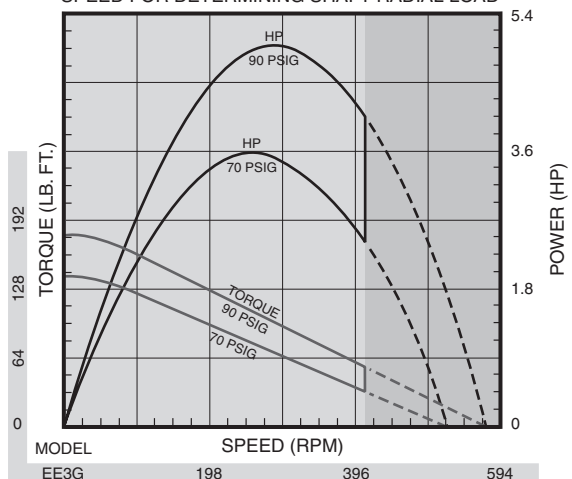
SPEED FOR DETERMINING SHAFT RADIAL LOAD



MODEL KK6M



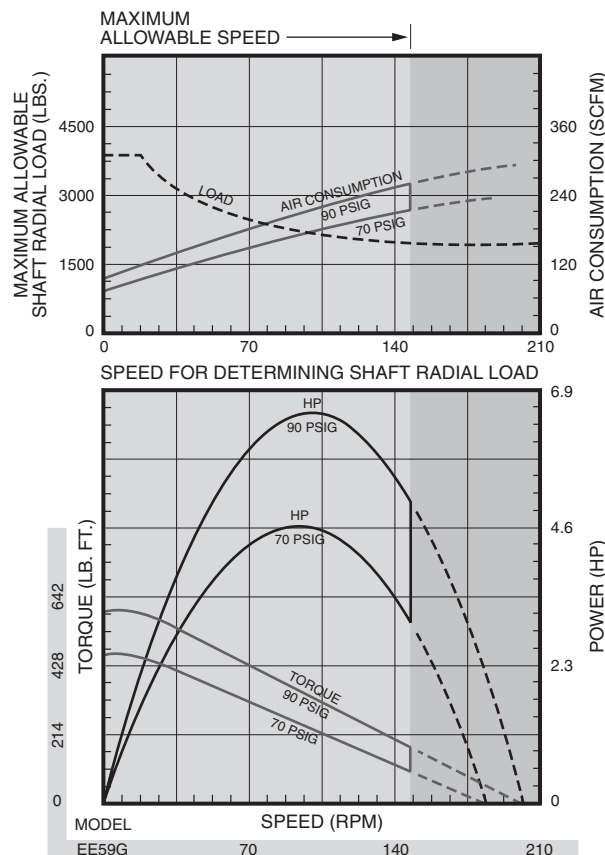
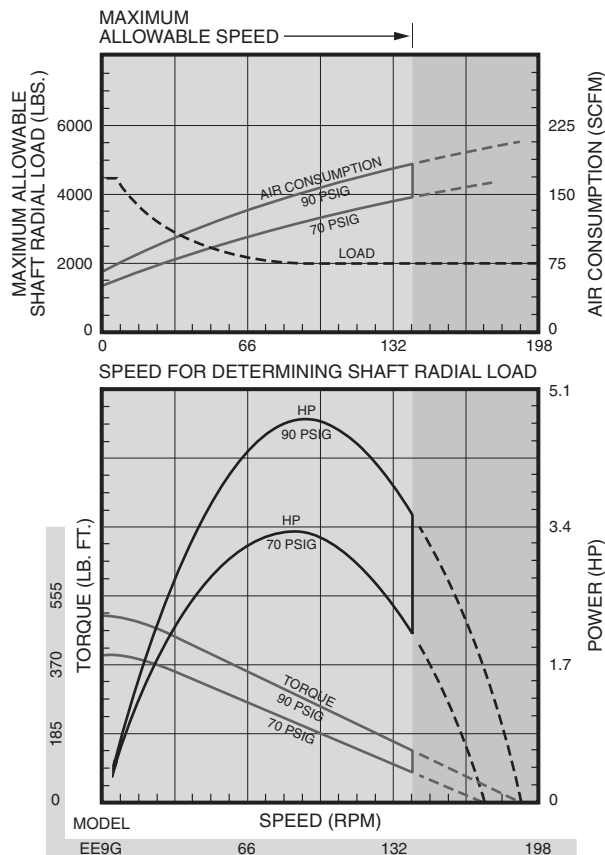
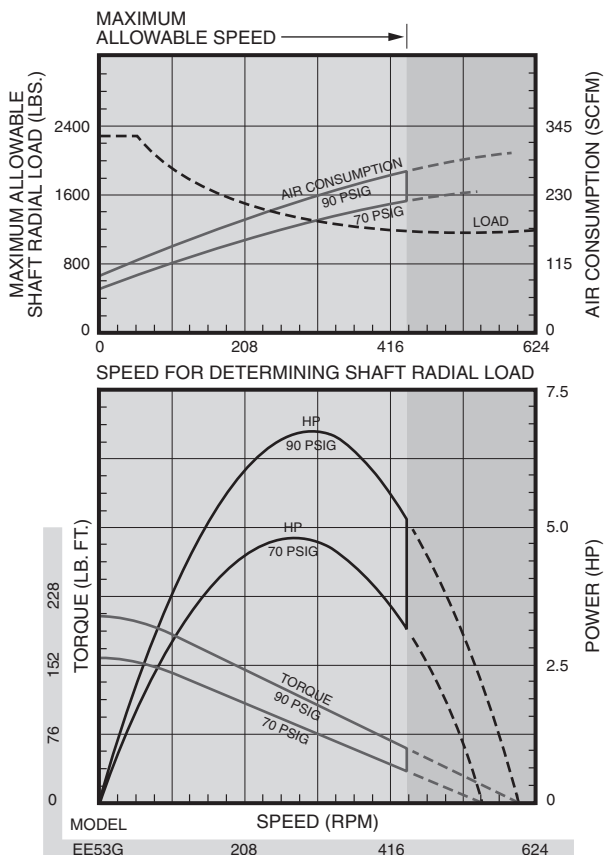
SPEED FOR DETERMINING SHAFT RADIAL LOAD



MODEL EE3G

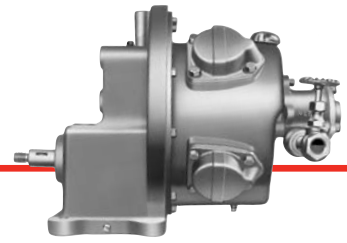
Air Motors

Direct and Geared Drive Piston Air Motors

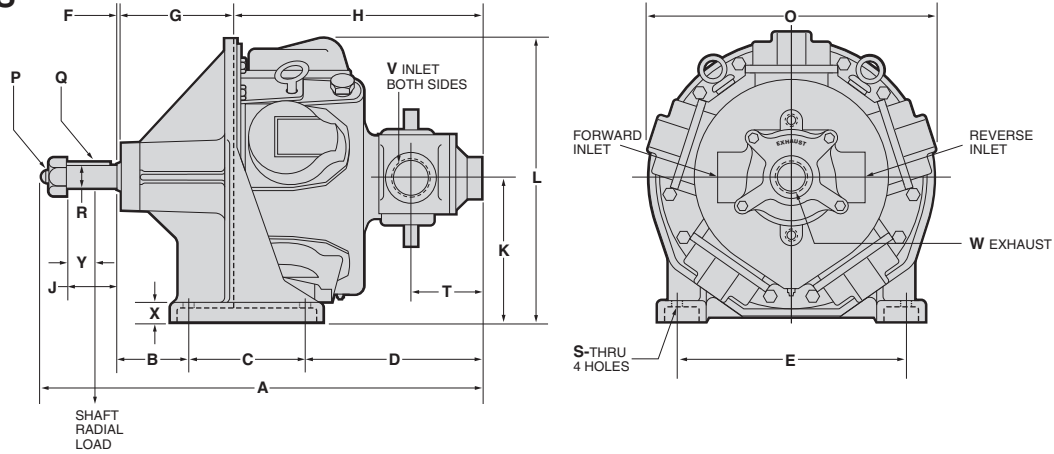


Air Motors

Direct and Geared Drive Piston Air Motors



DIRECT DRIVE DIMENSIONS



DIMENSIONS IN INCHES

Model	A	B	C	D	E	F	G	H	J	K	L	O	P** Thd.	Q Key	R*	S Dia.	T	V NPT	W NPT	X	Y
CCM, DD6M	23 ³ / ₁₆	3 ³ / ₁₆	7 ⁷ / ₁₆	7 ⁷ / ₁₆	10 ¹ / ₂	2 ⁵ / ₃₂	7 ¹ / ₃₂	11 ¹ / ₁₆	3	8 ⁸ / ₁₆	15 ¹⁵ / ₁₆	13 ³ / ₄	1"-8	¼ x ¼	1.125	2 ⁵ / ₃₂	2 ¹ / ₁₆	¾	1	7 ⁷ / ₁₆	2 ¹ / ₁₆
EEM, EE5M	27	3 ¹ / ₁₆	9 ⁹ / ₁₆	9 ⁹ / ₁₆	12 ¹² / ₁₆	2 ⁵ / ₃₂	9 ¹ / ₃₂	12 ¹ / ₁₆	3	9 ⁹ / ₁₆	16 ¹⁶ / ₁₆	15	1"-8	¼ x ¼	1.125	2 ⁵ / ₃₂	2 ¹ / ₁₆	1	1	7 ⁷ / ₁₆	2 ¹ / ₁₆
HHM	24 ³ / ₁₆	4 ⁴ / ₁₆	7	9 ⁹ / ₁₆	13 ¹³ / ₁₆	¾	7	14	3	8 ⁸ / ₁₆	17 ¹⁷ / ₁₆	17 ¹⁷ / ₁₆	+	¾ x ¾	1.375	2 ¹ / ₃₂	3 ³ / ₁₆	1	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₁₆
HH5M	24 ³ / ₁₆	4 ⁴ / ₁₆	7	9 ⁹ / ₁₆	13 ¹³ / ₁₆	¾	7	14	3	8 ⁸ / ₁₆	17 ¹⁷ / ₁₆	17 ¹⁷ / ₁₆	+	¾ x ¾	1.375	2 ¹ / ₃₂	3 ³ / ₁₆	1	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₁₆
KK6M	30 ³⁰ / ₁₆	4 ⁴ / ₁₆	8 ⁸ / ₁₆	12 ¹² / ₁₆	13 ¹³ / ₁₆	¾	7 ¹ / ₁₆	18 ¹⁸ / ₁₆	4 ⁴ / ₁₆	12 ¹² / ₁₆	22 ²² / ₁₆	22	+	¾ x ¾	1.625	2 ¹ / ₃₂	4 ⁴ / ₁₆	1 ¹ / ₄	1 ¹ / ₂	1 ¹ / ₂	1 ¹ / ₂

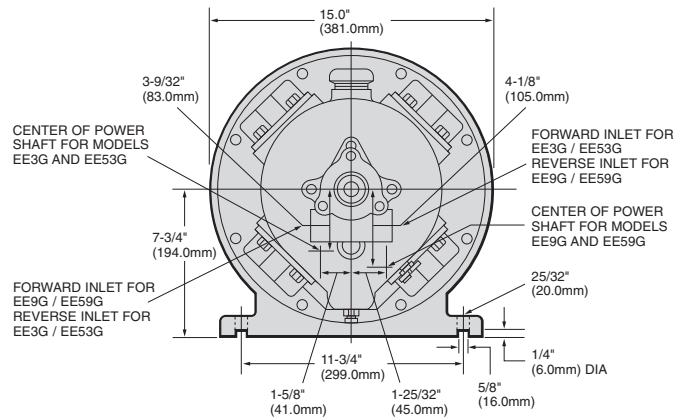
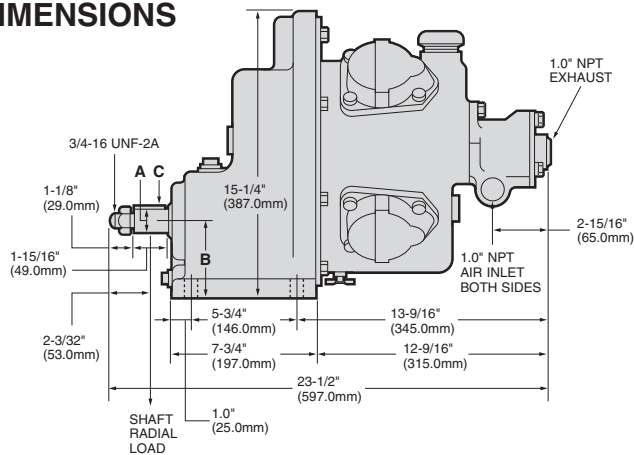
+ The end of the shaft is not threaded on these Motors and no nut is used. *Tolerance: +0 -0.0005" **Thd.-UNC2A.

DIMENSIONS IN MILLIMETERS

Model	A	B	C	D	E	F	G	H	J	K	L	O	P Thd.	Q Key	R*	S Dia.	T	X	Y
CCM, DD6M	599	95	197	200	267	20	188	284	76	222	397	349	1"-8	6 x 6	28	20	68	22	68
EEM, EE5M	686	97	248	236	318	20	242	318	76	237	427	381	1"-8	6 x 6	28	20	75	22	68
HHM	614	110	178	251	343	5	178	356	76	225	438	438	+	10 x 10	35	17	97	32	33
HH5M	614	110	178	251	343	5	178	356	76	225	438	438	+	10 x 10	35	17	97	32	33
KK6M	768	121	219	321	343	3	195	462	108	308	565	559	+	10 x 10	41	17	110	35	48

+ The end of the shaft is not threaded on these Motors and no nut is used. *Tolerance: +0 -0.13mm

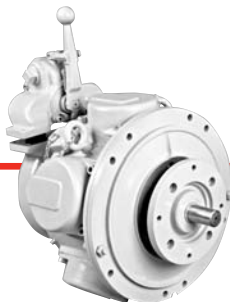
GEARED DRIVE DIMENSIONS



DIMENSIONS

MODELS	A*		B		KEY C	
	in.	mm	in.	mm	in.	mm
EE3G, EE53G	1.251	31.78	4 ¹ / ₂	114	¼ x ¼ x 1 ²⁵ / ₃₂	6 x 6 x 45
EE9G, EE59G	1.501	38.13	3 ³ / ₈	92	¾ x ¾ x 1 ¹ / ₁₆	10 x 10 x 43

*Tolerance: +0 -0.0005" (0.13mm)

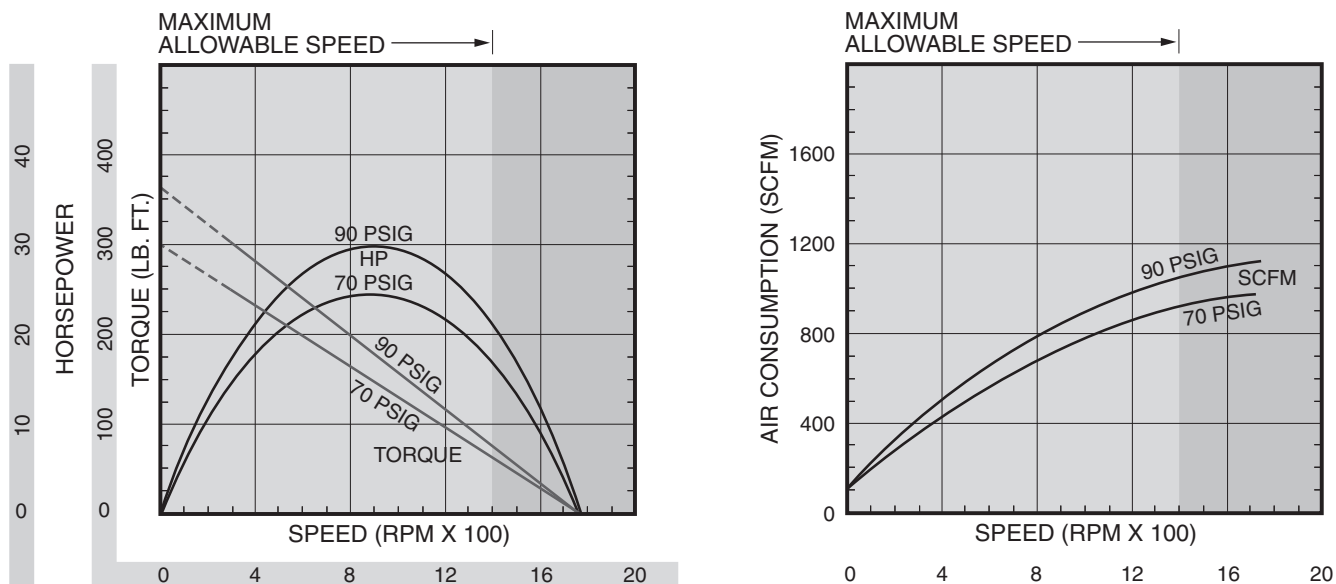


SPECIFICATIONS

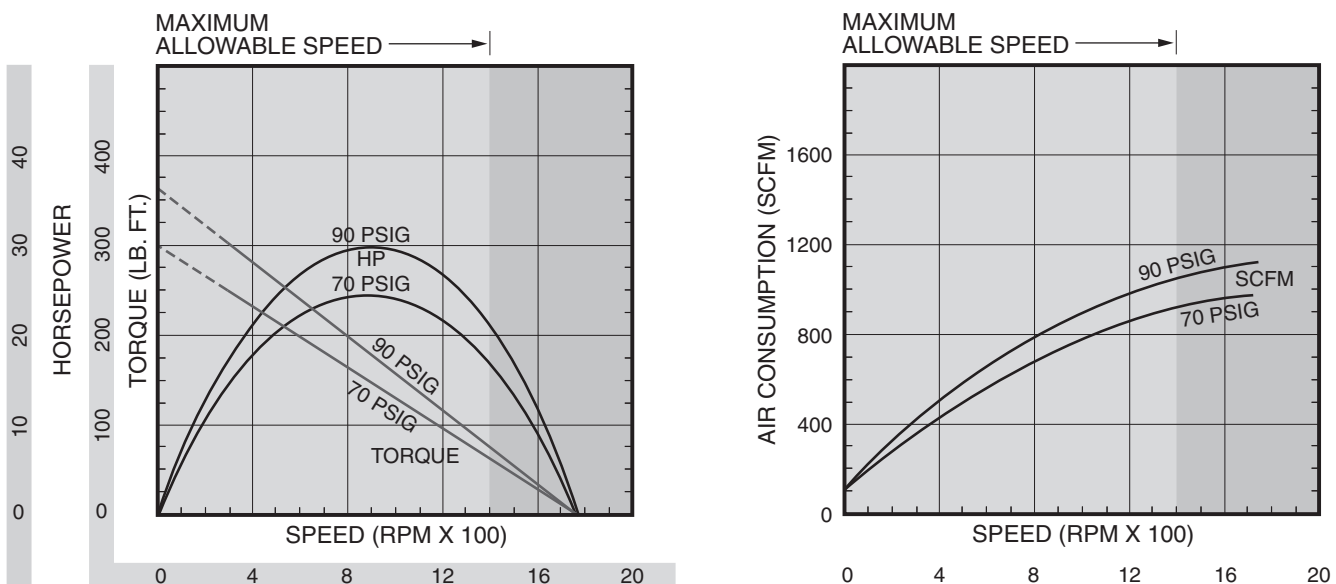
Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m ³ /m	lb.	kg
Reversible												
KK5B546	29	21.6	900	1800	183	248	300	407	795	22.5	—	—
KK5B550	30	22.3	880	1750	202	274	325	441	850	24.1	—	—

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve. Performance figures are at 90 psig (620 kPa) air pressure.

KK5B550 – STD ROTARY VALVE

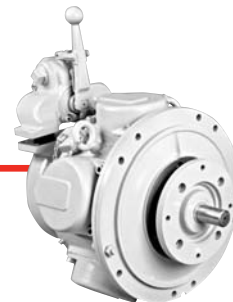


KK5B546 – STD ROTARY VALVE

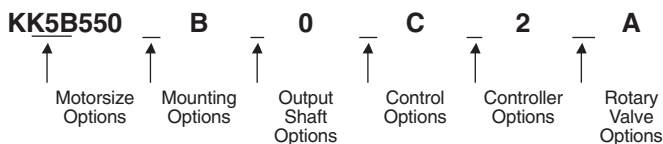


Air Motors

KK5B Piston Air Motors

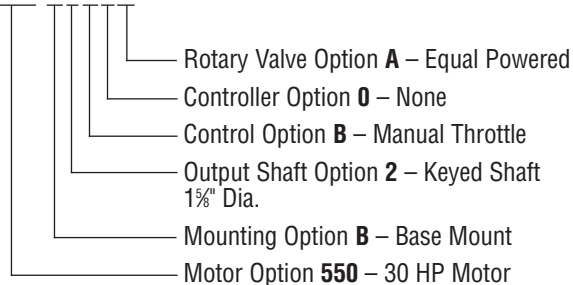


KK5B MODEL NUMBER SYMBOLIZATION



EXAMPLE

KK5B550-B2B0A



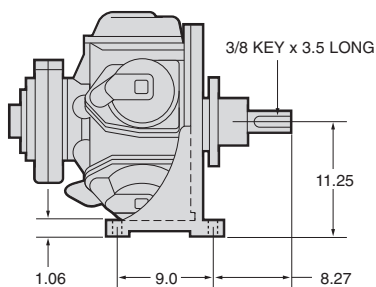
Option	Code	Description	Weight		Part Number
			lb.	kg	
Motor Options	546 550	29 Horsepower Motor 30 Horsepower Motor	251 251	113 113	KK5B546 KK5B550
Mounting Options	A B	Flange Mount, STD with SAE C 2 & 4 Bolt Mount Base Mount, Stationary Mounting	45	20	Standard K5B - Foot
Output Shaft Options	0 1 2	*SAE C, STD with SAE C 14 Tooth Female Spline Input **NEMA 213TC and 215TC, Keyed Shaft 1 7/8" dia. ***Keyed Shaft 1 7/8" dia.	13 24	6 11	Standard K5B - NEMA - 213 K5B - Shaft - 1.625
Control Options	A B C	None Manual Throttle, Control Mounted Directly on Motor Pilot Air Control, Required for Remote Controller Options	19 9	19 4	Standard K5B - Manual K5B - Pilot
Controller Options	0 1 2	None Pendant Control, STD 2 Button Pendant Panel Control, Required for Remote Stationery Mounted Control			Standard MLK-K269C UWD - A686
Rotary Valve Options	A B C	Equal Powered Biased Powered CCW Biased Powered CW			Standard POA POA

*Flange Gasket Required

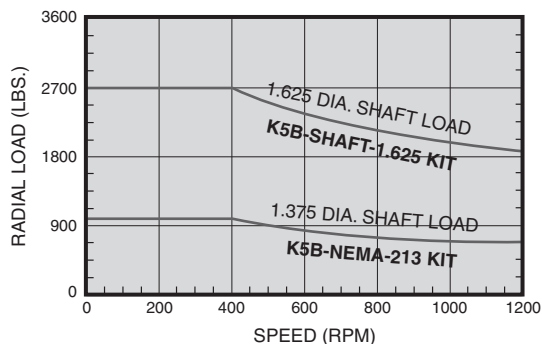
**Single Bearing Mount

***Double Bearing Mount

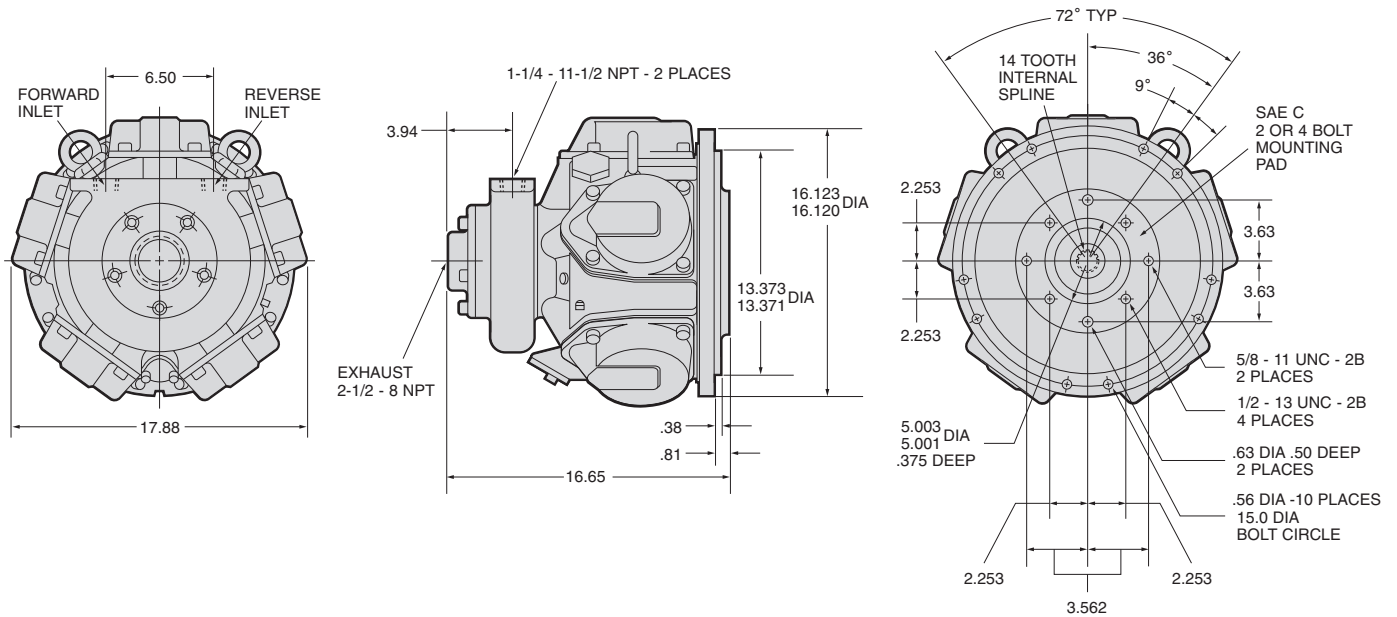
EXAMPLE KK5B550 - B2A0A ARRANGEMENT



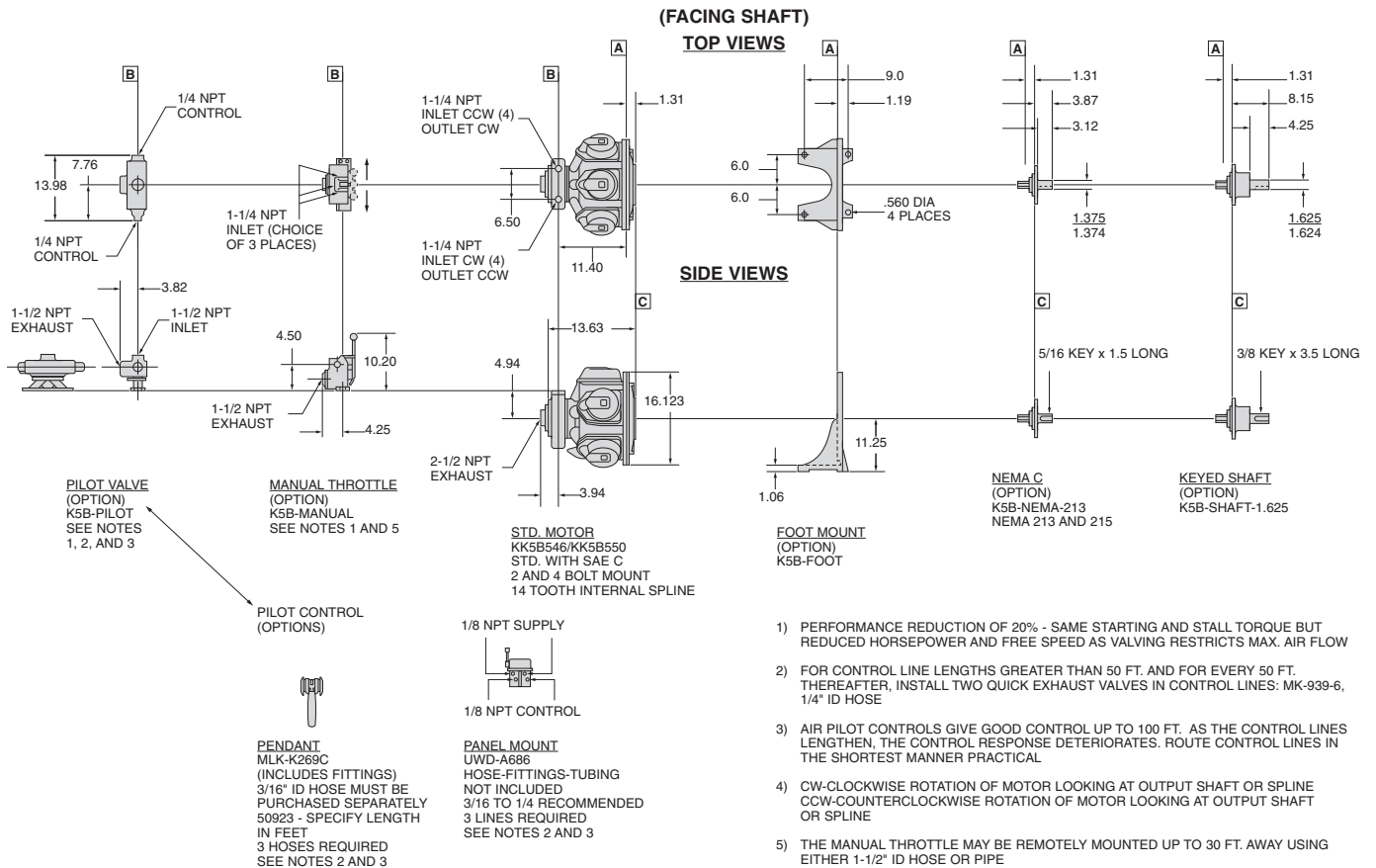
KK5B MOTOR



KK5B PISTON AIR MOTOR

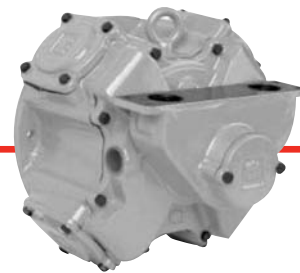


TOP AND SIDE VIEWS



Air Motors

MMP150 Air Motors



MODEL CODE EXPLANATION

Example: MMP150-A-0-B-2-A

MMP150 - A 0 B 2 A

Series: **MMP150 Air Motor**

Interface/Shaft Options:

- A = **Standard Spline**
- B = NEMA 215TC
- C = Hydraulic SAE "B" Adapter
- D = Keyed Shaft (Fenner RM410)

Mounting Options:

- 0 = **Standard**
- 1 = Base Mount

Control Options:

- A = **None**
- B = Manual Valve
- C = Panel Mount Valve
- D = Pendant
- E = Accu-Trol™

Rotary Valve Bias Options:

- 0 = Equal, Bias Rotation*
- 1 = CCW (counter-clockwise), Standard Bias Rotation*
- 2 = **CW (clockwise), Reverse Bias Rotation***

Power Options:

- A = **Air**
- B = Natural Gas

*As viewed from crankshaft end of motor.

PERFORMANCE

Model	Max. Power		Speed at Max. Power	Free Speed	Starting Torque		Stall Torque		Air Consumption at Max. Power	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m³/m
MMP 150	16.0	11.9	1800	3800	61.0	82.7	78.0	105.8	425	12.0

Performance figures are at 90 psig (6.2 Bar) air pressure.

Figure 1: MMP150 Air Motor Performance
425 cfm Air Supply at 90 psi

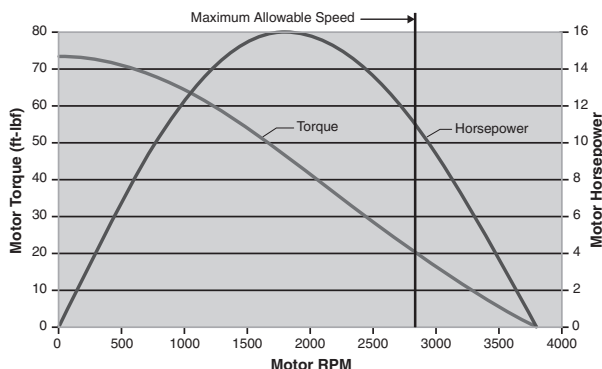
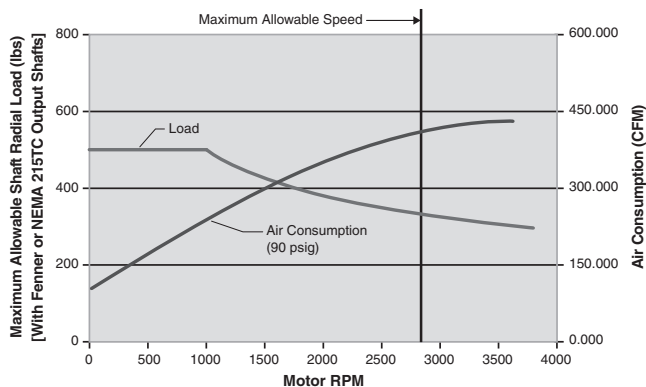
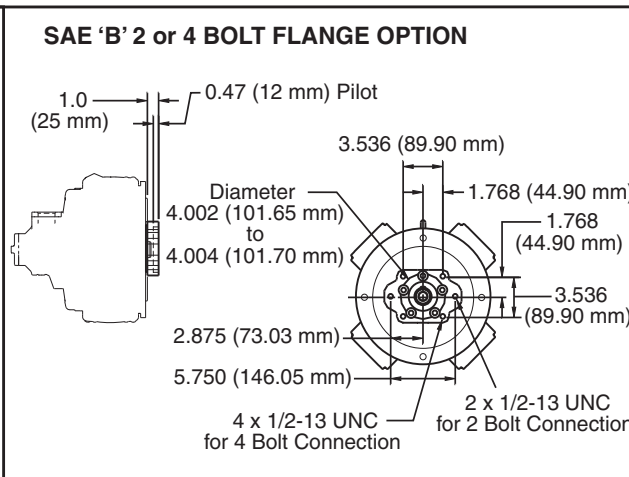
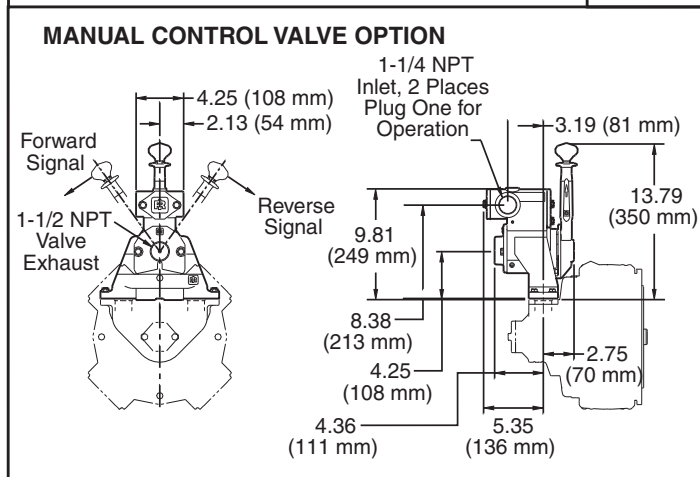
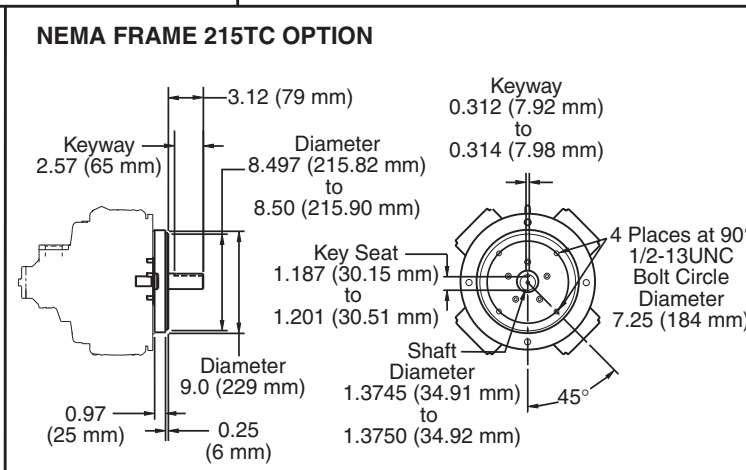
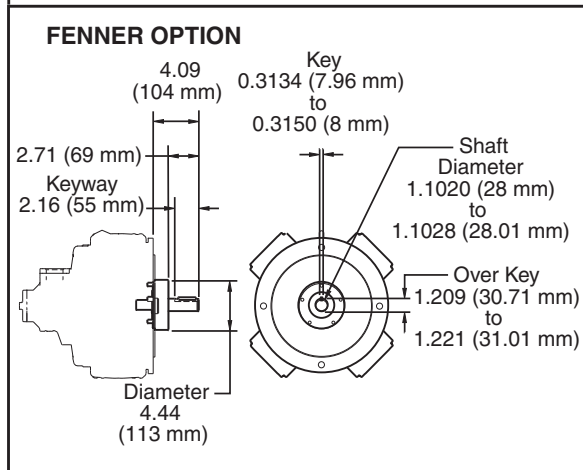
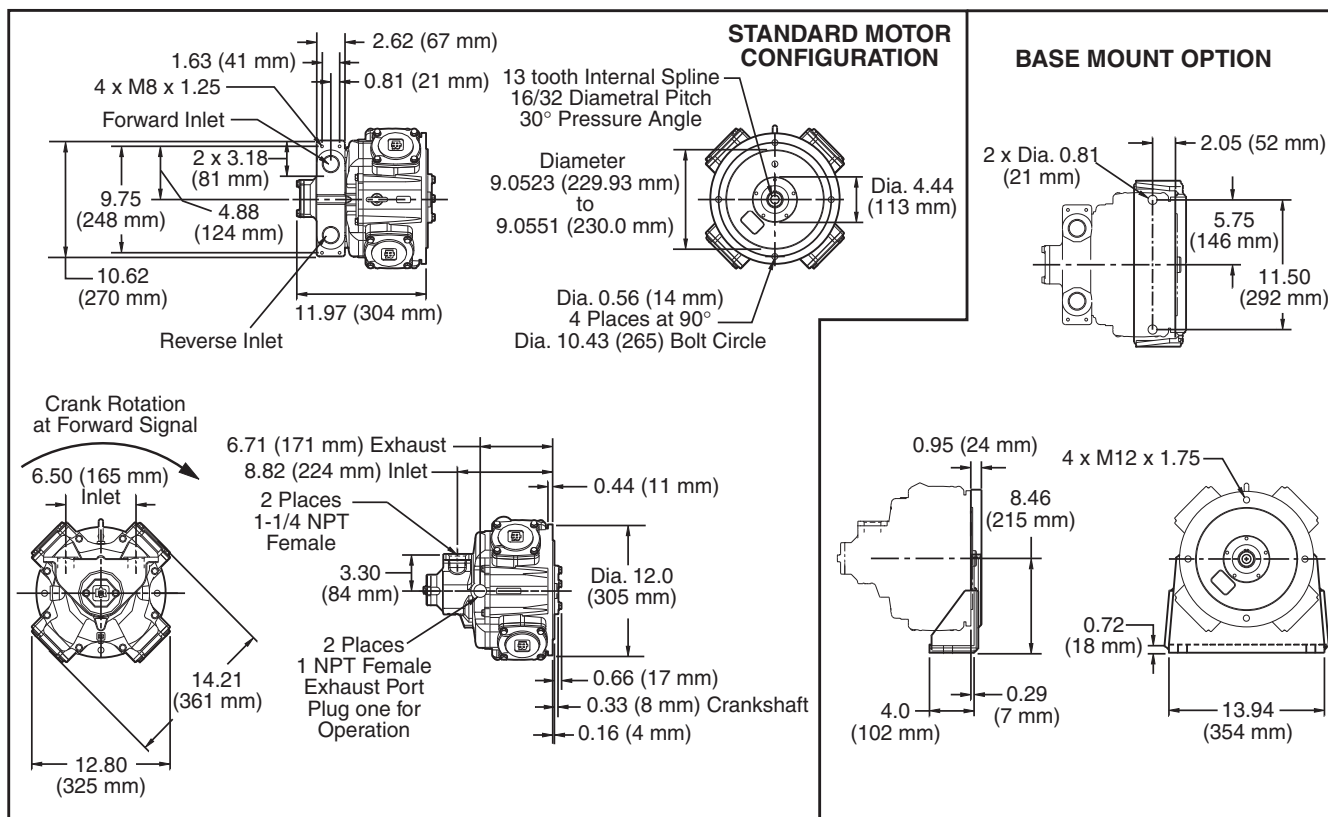


Figure 2: MMP150 Air Motor Performance





Air Motors

Components and Equipment

FILTERS, REGULATORS AND LUBRICATORS

Ingersoll-Rand and ARO Filters, Regulators and Lubricators give increased Motor performance, reduce repair costs and extend Motor life.

Filters



For Motors	Part No.	NPT Size	Flow Rate scfm	Bowl Cap. oz.	Height in.	Width in.	Depth in.
Series M002, M004, M007, Models MRV003, MOV005AA	F25221-400	¼"	54	2.87	7.00	2.60	2.60
Model MVA008B, Series 1801, 1841	F25231-400	¾"	100	2.87	7.00	2.60	2.60
Models MRV015, MVA017A, MVA017B, Series 3800, 3840, 4800, 4840, 17RA, 17RB, 48RA, 48RB, Models 22N51, AAM	F25241-400	½"	122	2.87	7.00	2.60	2.60
Models MRV040, MRV050, MVA034A, MVA034B, Series 34RA, 34RB, 551, Models CCM, DD6M	F25451-110	¾"	345	32.00	11.70	4.75	4.75
Model MOV075AA, Series 92RA, 92RB, 92RM, 992RM, Models EEM, EE5M, HHM, EE3G, EE9G, EE53G, EE59G	F25461-110	1"	345	32.00	11.70	4.75	4.75
Models HH5M, KK6M	F42-0A-000	1¼"	860	13.00	14½"	8½"	8½"
Models KK5B546, KK5B550	F35-0B-C28	1½"	1280	12.50	19.07	7.80	7.75

Regulators



For Motors	Part No.	NPT Size	Flow Rate scfm	Adj. Pressure Range psi	Height in.	Width in.	Depth in.
Series M002, M004, M007, Models MRV003, MOV005AA	R27221-600	¼"	100	0 - 200	4.75	2.60	2.60
Series 1801, 1841	R27231-600	¾"	130	0 - 200	4.75	2.60	2.60
Models MRV015, MVA017A, MVA017B, Series 3800, 3840, 4800, 4840, 17RA, 17RB, 48RA, 48RB, Models 22N51, AAM	R27241-600	½"	150	0 - 200	4.75	2.60	2.60
Models MRV040, MRV050 Series 551, Models CCM, DD6M	R27251-100	¾"	180	5 - 250	7.10	4.25	4.25
Models MVA034A, MVA034B, Series 34RA, 34RB	R38-06-F0G0-28	¾"	491	0 - 125	7.83	3.94	3.94
Model MOV075AA, Series 92RA, 92RB, 92RM, 992RM, Models EEM, EE5M, HHM, EE3G, EE9G, EE53G, EE59G	R38-08-F0G0-28	1"	491	0 - 125	7.83	3.94	3.94
Models HH5M, KK6M	R30-0A-G00	1¼"	800	0 - 125	10.30	4.30	4.30
Models KK5B546, KK5B550	R40-0B-G00	1½"	1200	0 - 125	11.90	5.30	5.30

Lubricators



For Motors	Part No.	NPT Size	Flow Rate scfm	Bowl Cap. oz.	Height in.	Width in.	Depth in.
Series M002, M004, M007, Models MRV003, MOV005AA	L26221-100	¼"	75	6.00	7.70	2.60	2.60
Series 1801, 1841	L26231-100	¾"	100	6.00	7.70	2.60	2.60
Models MVA017A, MVA017B, Series 17RA, 17RB,	L26241-100 * ½" connection	½"	110	6.00	7.70	2.60	2.60
Models MRV015, 22n51-W/RC, Series 3800, 3840	L28-04-LK00-28	½"	184	6.11	9.36	2.39	2.39
Models MRV040, MRV050, MVA034A, MVA034B, Series 34RA, 34RB, 551, Models CCM, DD6M	L28-06-LK00-28	¾"	200	6.11	9.36	2.90	2.90
Model MOV075AA, Series 92RA, 92RB, 92RM, 992RM, Models EEM, EE5M, HHM, EE3G, EE9G, EE53G, EE59G	L38-08-LL00-28	1"	440	19.00	10.67	3.94	3.94
Models HH5M, KK6M	L40-0A-000	1¼"	927	26.00	11.61	5.50	5.00
Models KK5B546, KK5B550	L40-0B-000	1½"	927	26.00	11.61	5.50	5.00



Combination FRL's (Filter/Regulator/Lubricator)

For Motors	Part No.	NPT Size	Flow Rate scfm	Adj. Pressure Range psi	Bowl Capacity oz.	Height in.	Width in.	Depth in.
Series M002, M004, M007, Models MRV003, MOV005AA	C28221-800	¼"	54	0 - 125	Filter = 2.87 Lubricator = 6.00	8.25	9.43	4.00
Series 1801, 1841	C28231-800	¾"	100	0 - 125	Filter = 2.87 Lubricator = 6.00	8.25	9.43	4.00
Models MRV015, 22N51 Series 3800, 3840, 17RA, 17RB	C28241-800	½"	110	0 - 125	Filter = 2.87 Lubricator = 6.00	8.25	9.43	4.00
Models MVA017A, MVA017B, Series 4800, 4840, 48RA, 48RB, 17RA, 17RB,	C28-04-FKG0-28	½"	135	0 - 125	Filter = 2.87 Lubricator = 6.11	11.44	6.10	4.35
Models MRV040, MRV050, Series 551, Models CCM, DD6M	C28453-810	¾"	180	0 - 125	Filter = 32.0 Lubricator = 32.0	15.25	11.75	11.75
Model MVA034A, MVA034B, 34RA, 34RB	Must use individual units or 1" model	¾"	—	—	—	—	—	—
Model MOV075AA, Series 92RA, 92RB, 92RM, 992RM, Models EEM, EE5M, HHM, EE3G, EE9G, EE53G, EE59G	C31-08-G00	1"	331	0 - 125	Filter = 2.0 Lubricator = 26.0	11.20	15.30	5.70

LIQUIDATOR FILTERS

You can depend on Ingersoll-Rand and ARO Liquidator Filters™ when you need clean, dry air and your regular filter can't handle high volumes of liquid contaminants. Note that a lubricator should be installed between the Air Motor and the Liquidator.

Features

Two stage filtration cartridges remove 99% of liquid contaminants. Four micron filter element removes 99% of all dirt particles 4 microns or larger. Quick release bowls enable easy cartridge replacement. Automatic first stage float drain with manual override. Manual second stage flex-drain. Clear polycarbonate bowl with metal guard provides for quick inspection.

Benefits

Reduces liquid contaminants.
Increases Air Motor life.
Cuts maintenance costs.

Liquidator Filters

Female NPT	IR Part Number	Flow Rate scfm	Female NPT	ARO Part Number	Flow Rate scfm
¼"	8842-W1-035	35	¼"	F25221-300	40
¾"	8843-W1-035	35	¾"	F25231-300	51
½"	8844-W1-090	90	½"	F25241-300	53
¾"	8846-W1-090	90	¾"	F25452-310	50
1"	8828-W2-000	175	1"	F25462-310	150
1½"	8830-W1-000	400	1½"	F25472-310	150
2"	8834-W1-000	700	—	—	—

LUBRICATION

Proper lubrication of Air Motors is a must to prevent excessive wear of moving parts; to prevent possible rust and corrosion of bare, unprotected surfaces. Ingersoll-Rand oils and greases have been tested thoroughly and are recommended without reservation. Refer to Operation Manuals and Parts Lists for lubrication instructions.

Oils

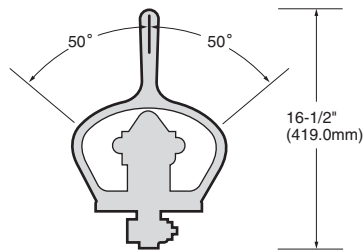
Part Number	Oil Number	Quantity	Recommended Use
10P 10G	10	1 pt 1 gal	Fractional horsepower Air Motors
50P 50G	50	1 pt 1 gal	One horsepower and larger Air Motors

Greases

Part Number	Grease Number	Quantity lb.	Recommended Use
28 1 LB 28 8 LB	28	1 8	Motor gearing and bearings

Air Motors Accessories

SELF-CLOSING VALVES



NO. EU-A685

Self-Closing 4-Way Valve. Air inlet pipe tap $\frac{3}{4}$ " NPT, Motor connection pipe tap 1" NPT, exhaust pipe tap $\frac{3}{4}$ " NPT.

MUFFLERS

Part Number	MALE NPT Size
MRV003A-AF350**	$\frac{1}{8}$ "
MRV015A-AC980*	$\frac{1}{4}$ "
SRA010A1-A212***	$\frac{3}{8}$ "
MRV040A-AC990**	$\frac{1}{2}$ "
MOV010AA-674*	$\frac{1}{2}$ "
3BM-WM07	$\frac{3}{4}$ "
3BM-A674*	1"
150BM-A674*	$1\frac{1}{4}$ "
SS350-A674*	$1\frac{1}{2}$ "
ST500-674	2"
SS800-A674*	$2\frac{1}{2}$ "

* High scfm Capacity

** Medium scfm Capacity

*** Low scfm Capacity

$\frac{3}{8}$ " SQUARE DRIVE ADAPTERS

These $\frac{3}{8}$ " Square Drive Adapters have a $\frac{3}{8}$ "-24 female thread, for use with Series M002 and M004 Motors equipped with threaded shafts.

Part Number	Description
R1440-212-1	$\frac{3}{8}$ " square drive, 1" long
R1440-212-3	$\frac{3}{8}$ " square drive, 3" long

NO. K5B-REMOTE

Self-closing 4-Way Valve. Air inlet pipe tap $1\frac{1}{2}$ " NPT, Motor connection pipe tap $1\frac{1}{2}$ " NPT, exhaust pipe tap $1\frac{1}{2}$ " NPT.

MOUNTING FEET

Motor	Part Number
MRV003A	MRV003A-AG587
MRV005C	MRV003A-AG587
MRV009C	MRV015B-AH636
MRV015A	MRV015A-AH634
MRV040A	MRV015A-AH634
MRV050A	MRV050A-AH640
MVA017B	MVA008-K4
MVA034B	MVA008-K4

TAPPED EXHAUST DEFLECTORS FOR PIPED AWAY EXHAUST

Motor Series	Part Name	Part Number	Pipe Tap NPT
1801 1841	Exhaust Deflector Assembly	R1801-A123	$\frac{3}{4}$ "
3800 3840	Exhaust Deflector Assembly	R3800-A123	$\frac{3}{4}$ "
4800 4840	Exhaust Deflector Assembly	R4800-A123	1"

"SPECIAL" AIR MOTORS

While there are over 300 standard Air Motors in the complete Ingersoll-Rand line, we realize that even this broad selection won't fill every need, every time. Virtually all components of our motors, from output shafts and housings to gear ratios, can be modified. Therefore we welcome the opportunity to design and build Air Motors to our customers' specifications when required.

Generally, yearly quantities of 100 plus are cost-effective. However, the opportunity to quote on lower volumes is always welcomed.

Frequently custom designed Air Motors can reduce OEM costs by easing product assembly, increasing performance, and avoiding the need to make special parts to incorporate the Air Motor in a product. We have the engineering capabilities to provide you with truly "turnkey" power units.

WARRANTY

AIR MOTORS

Ingersoll-Rand warrants to the original user its air motors products to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any product proves defective within its original one year warranty period, it should be returned to an appropriate Ingersoll-Rand Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which IR has determined to have been misused or abused, improperly maintained by the purchaser: or where the malfunction or defect can be attributed to the use of non-genuine IR parts.

IR makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set for the above. IR's maximum liability is limited to the purchase price of the Product and in no event shall IR be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the Product, whether based on contract, tort, or otherwise.

**Questions? Parts? Service?
1-866-IR4 TOOLS**

**Visit our website:
www.airmotors.com**

Air System Accessories

- ▶ Filters, Regulators, and Lubricators
- ▶ Couplers and Connectors
- ▶ Tool Balancers
- ▶ Carbide Grinding Burs
- ▶ Construction Tool Steel, Chisels, and Retainers
- ▶ Air Tool Tune-Up Kits

Proven Source. Proven Solutions.



Notes

A series of horizontal lines for taking notes, starting with a red line at the top and followed by numerous gray lines.

You're Not Ready Until You Select Ingersoll-Rand Air System Accessories!

The full performance potential of the finest tools and the most skilled tool users depends on accessories – where capabilities meet the task.

From the quality and condition of the air supply...right through to the precision fit and durability of components at the end of the tool, IR accessories from Ingersoll-Rand make the most of the performance and intelligence that your resources bring to the job.

Ingersoll-Rand offers a comprehensive line of IR air line and air tool accessories for virtually every industrial and construction application. They reflect the same thorough engineering and rigorous manufacturing standards as all Ingersoll-Rand products.

Built with the best materials and processes available, IR accessories also help you address emerging issues in your industry. For example, you'll find a steadily increasing number of items and refinements designed to improve workplace ergonomics. And throughout the line, countless design details and product configurations contribute to the efficiency of air power-an added benefit from the recognized experts.

Recent additions to the IR line include a full line of air line couplers and connectors, new filters/regulators/ lubricators, blow guns, and air line breakers. We even offer a comprehensive carbide grinding bur line, as well as a refurbishing program.

Whatever the situation – specifying new tools and equipment, upgrading or replacing existing systems, or meeting a new challenge with a system-wide solution...you can achieve full performance potential. Premium quality, competitively priced IR accessories from Ingersoll-Rand will complete the job.



Air System Accessories

Accessory Selection Guide

	Screwdrivers					Angle Wrenches	
	Q2/3 Series	4 Series	5 Series	ARO Duratec 7 Series	20 & 50 Series	Q2/3 Series	5 Series
Balancers	BLD1	BLD2	BLD2	BLD3	BLD1 / BLD2	BLD1	BLD2
Comfort Grips	CG-3RL CG-3RP CG-3RT	CG-4RL CG-4RP CG-4RT	CG-5RA CG-5RL	CG-7RA CG-7RL	CG-6X8**	CG-3RL	CG-6X8**
Couplers	PRSGF22	PRSGF22	PRSGF22	PRSGF33	PRSGF22	PRSGF22	PRSGF22
Filters-Regulators-Lubricators	C28121-800	C28121-800	C28121-800	C28231-800	C28121-800	C28121-800	C28121-800
Greases	23,28,66,67,68	23,28,66,67,68	23,28,66,67,68	23,28,66,67,68	N/A	23,28,66,67,68	23,28,66,67,68
Hoses*	N14-12B	N14-12B	N14-12B	N38-12B	N14-12B	N14-12B	N14-12B
Liquidators	8842-W1-020	8842-W1-035	8842-W1-035	8842-W1-035	8842-W1-035	8842-W1-020	8842-W1-035
Oils	10P	10P	10P	10P	10P	10P	10P
Plugs	MSPM21	Prpm22	Prpm22	Prpm32	Prpm22	MSPM21	Prpm22
Swivel Fittings	ASC-1/4	ASC-1/4	ASC-1/4	AS-3/8	ASC-1/4	ASC-1/4	ASC-1/4
Tune-up Kits	3RA-TK2 3RL-TK2	4RA-TK1 4RL-TK1	5RA/5RL-TK1	7A-S/D-TK1 7RA-S/D-TK1	N/A	3RL-TK2	5L-NS-TK1 5RL-NS-TK1

	Large Grinders				ARO
	61H	77 Series	88 Series	99 Series	Horizontal & Vertical
Balancers	BMDS-4	BMDS-4	BMDS-6	BMDS-6	BMD2/BMD4
Comfort Grips	CG-6X8**	CG-6X8**	CG-88V	CG-99V	CG-6X8
Couplers	PRSGF33	PRSGF33	540ATH	540ATH	MSCF44
Filters-Regulators-Lubricators	C28241-800	C28241-800	C28453-810	C28453-810	C28241-800
Greases	67,68	67,68	67,68	67,68	N/A
Hoses**†	BH8A†	BH8A†	BH12A†	BH12A†	N12-12B
Liquidators	8843-W1-035	8843-W1-035	8844-W1-090	8846-W1-090	8844-W1-090
Oils	50P	50P	50P	50P	10P
Plugs	Prpm33	Prpm33	MSPM44	MSPM44	MSPM44
Swivel Fittings	AS-3/8	AS-3/8	AS-1/2	AS-1/2	AS-1/2
Tune-up Kits	61H-TK1	77H/77A-TK3	88V/88H-TK3	99V/99H-TK3	N/A

	Impact Tools					
	221,223	1701,1702	1709,1720	1712	231,2131, 2705A	2707
Balancers	BMDS-4	BLD2	BMDS-6	BMDL-10	BMDS-4	BMDS-4
Comfort Grips	CG-221 CG-223	CG-1702P	CG-1720P	CG-2934BA	CG-2705	CG-2707
Couplers	PRSGF33	PRSGF22	MSCF44	540ATH	PRSGF33	PRSGF33
Filters-Regulators-Lubricators	C28231-800	C28121-800	C28241-800	C28453-810	C28231-800	C28231-800
Greases	100	100	100	100	100	100
Hoses*	N38-12B	N14-12B	N12-12B	N34-12B	N38-12B	N38-12B
Liquidators	8843-W1-035	8842-W1-020	8843-W1-035	8844-W1-090	8843-W1-035	8842-W1-035
Oils	10P	10P	10P	50P	10P	10P
Plugs	Prpm32	Prpm22	MSPM43	MSPM44	Prpm32	Prpm32
Swivel Fittings	ASC-1/4	ASC-1/4	AS-3/8	AS-1/2	ASC-1/4	ASC-1/4
Tune-up Kits	221-TK1 223-TK1	1702B-TK2 1702P-TK2	1709P-TK2 1720P-TK2	1712B/1712P-TK3	231-TK3 2131-TK3 2705-TK3	2707-TK2

*For 25' length—replace 12B with 25B **Sheet stock—trim to fit your specific tool †Specify length

Air System Accessories

Accessory Selection Guide



				Drills					
6 Series	7 Series	100,150 8 & 9 Series	ARO 50,80 Duratec Nutsetters	Q2/3 Series	5 Series	6 Series	7 Series	ARO Duratec 20 & 50 Series	728 Series
BLD3	BMDS-6	BLD1/BLD2/BMDS-6	BLD1	BLD2	BLD3	BLD3	BLD1/BLD2	BLD2	BLD1
CG-6WT	CG-7RLD	CG-6X8**	CG-6X8	CG-6X8**	CG-6X8**	CG-6A	CG-7A	CG-6X8	CG-728
CG-6WRT									
PRSGF33	PRSGF33	540ATH	PRSGF33	PRSGF22	PRSGF22	PRSGF33	PRSGF33	PRSGF22	PRSGF22
C28231-800	C28231-800	C28241-800	C28241-800	C28121-800	C28121-800	C28231-800	C28231-800	C28121-800	C28121-800
23,28,66,67,68	23,28,66,67,68	23,28,66,67,68	N/A	23,28,66,67,68	23,28,66,67,68	23,28,66,67,68	23,28,66,67,68	N/A	23,28,66,67,68
N38-12B	N38-12B	N12-12B	N38-12B	N14-12B	N14-12B	N38-12B	N38-12B	N14-12B	N14-12B
8843-W1-035	8843-W1-035	8844-W1-090	8843-W1-035	8842-W1-020	8842-W1-020	8842-W1-035	8842-W1-035	8842-W1-035	8842-W1-035
10P	10P	10P	10P	10P	10P	10P	10P	10P	10P
Prpm32	Prpm32	MSPM44	Prpm33	MSPM21	Prpm22	Prpm32	Prpm32	Prpm22	Prpm22
AS-3/8	AS-3/8	AS-1/2	AS-3/8	ASC-1/4	ASC-1/4	AS-3/8	AS-3/8	ASC-1/4	ASC-1/4
6WT-TK1	7L-S/D-A/T-TK1	N/A	N/A	3A-TK2	5A/5L-TK1	6-DRILLS-TK1	7A-DRILLS-TK1	N/A	728-TK3
7RL-S/D-A/T-TK1						7L-DRILLS-TK1			

Small Grinders			ARO Die and Right Angle		Polishers-Sanders	
CA, CD, CX	TA, TAS, TD, TDS, TX, TXA	HA, HAS, HD, HDS, HX, HXA, HXD			7 Series	ARO Angle, Orbital, Random
BLD2	BLD2	BLD3	BLD1/BLD2		BLD2	BLD2
CG-CDA	CG-6X8	CG-6X8	CG-6X8		CG-6X8	CG-6X8
PRSGF22	PRSGF22	MSCF32	PRSGF22		PRSGF22	PRSGF22
C28231-800	C28231-800	C28231-800	C28121-800		C28231-800	C28121-800
67,68	67,68	67,68	N/A		67,68	N/A
R0-130	R0-130	R1A-130	N14-12B		R0-130	N14-12B
8842-W1-020	8842-W11-035	8842-W1-035	8842-W1-035		8842-W1-035	8842-W1-035
10P	10P	10P	10P		10P	10P
Prpm22	Prpm22	Prpm32	Prpm22		Prpm22	Prpm22
ASC-1/4	ASC-1/4	ASC-1/4	ASC-1/4		ASC-1/4	ASC-1/4
N/A	N/A	N/A	N/A		7S60-TK2	N/A

2908P,2920						
2902	2903P,2906	2921	1734,2934	2940,2945,2950	5020	5040
BLD2	BMDS-4	BMDS-6	BMDL-10	BMDL-10	BLD2	BMDS-4
CG-6X8	CG-2906	CG-2920	CG-2934BA	CG-2934BA	CG-6X8	CG-6X8
PRSGF22	PRSGF33	MSCF44	540ATH	540ATH	PRSGF22	PRSGF33
C28121-800	C28231-800	C28241-800	C28453-810	C28453-810	C28121-800	C28231-800
100	100	100	100	100	100	100
N14-12B	N38-12B	N12-12B	N34-12B	N34-12B	N14-12B	N38-12B
8842-W1-020	8842-W1-020	8843-W1-035	8846-W1-090	8846-W1-090	8842-W1-020	8846-W1-090
10P	10P	10P	50P	50P	10P	10P
Prpm22	Prpm32	MSPM43	MSPM44	MSPM44	Prpm22	Prpm32
ASC-1/4	ASC-1/4	AS-3/8	AS-1/2	AS-1/2	ASC-1/4	ASC-1/4
N/A	2903P-TK2 2906P-TK1	2908P-TK2 2920B-TK2 2920P-TK2	2934-TK3 1712B/1712P-TK3	2940-TK3 2945-TK2 2950-TK2	5020-TK2	5040-TK2

Filters, Regulators and Lubricators - Product Selection

Features

ARO Has The Right Combination . . .

Air preparation units for peak performance & longer service life.

Proper conditioning of compressed air is essential to ensure maximum performance and service life from pneumatic power tools and equipment. The small initial investment for installation of air preparation units in an air line system will pay long-term dividends in increased productivity, consistent quality and decreased maintenance costs. ARO offers an extensive line of air line filters, regulators and lubricators, including individual units, piggybacks and combos, to meet your exact air preparation requirements.

Filters

ARO compressed air filters are designed to remove airborne solid and liquid contaminants which may plug small orifices and hinder performance, or cause excessive wear and premature equipment failure. Several filter elements are offered, including models with coalescing elements for removal of oil aerosols and particles down to .3 micron.

- Pipe Sizes from 1/8" thru 2" NPT
- Flows to 1300 SCFM (198 dm³/s)
- Maximum Inlet Pressures to 250 PSIG (17 bar)

Regulators

ARO air line regulators provide controlled, consistent air pressure as required for specific pneumatic equipment connected to the air system. Standard relieving-type regulators are offered in a variety of adjustable pressure ranges, with convenient spring options for easy conversion should requirements change. Non-relieving models are also offered for applications where the venting of downstream overpressure is undesirable. A Miniature Series regulator is available for fluid applications.

- Pipe Sizes from 1/8" thru 2" NPT
- Flows to 440 SCFM (208 dm³/s)
- Maximum Inlet Pressures to 300 PSIG (21 bar)

Lubricators

ARO fog-type lubricators help ensure that pneumatic devices receive the required lubrication to maintain operating performance, reduce wear and prolong service life. They are designed to provide the correct amount of oil required for most general applications in a pneumatic system, delivering a constant ratio of oil to CFM. Precise oil feed adjustment allows the proper oil delivery rate. Lubricators should be installed close to the downstream application to ensure effective distribution of oil to the pneumatic components.

- Pipe Sizes from 1/8" thru 1-1/2" NPT
- Flows to 220 SCFM (104 dm³/s)
- Maximum Inlet Pressures to 250 PSIG (17 bar)



ARO Module/Air 1000 Series
Pages 254 thru 271



ARO Module/ Air 2000® Series
Pages 272 thru 292



ARO Heavy-Duty Series
Pages 293 thru 299

ARO F-R-L Product Selection Chart

NPT Port Series	Flow-SCFM (dm ³ /s)						Pressure Range in Reg. PSIG (bar)
	Filter Size	STD.	Coal	Regulator	Piggy-Back	Lubricator	
Miniature	1/8"	28 (13)	15 (6)	13 (6)	12 (6)	41 (19)	0-125 (0-8.6)
	1/4"	38 (18)	17 (8)	13 (6)	12 (6)	60 (28)	0-125 (0-8.6)
Module/ Air 2000	1/4"	54 (25)	40 (19)	100 (47)	93 (44)	75 (35)	0-200 (0-13.8)
	3/8"	100 (47)	51 (24)	135 (61)	135 (64)	100 (47)	0-200 (0-13.8)
	1/2"	122 (58)	53 (25)	140 (71)	140 (66)	110 (52)	0-200 (0-13.8)
Heavy-Duty	1/2"	82 (39)	—	256 (121)	—	65 (31)	0-250 (0-17)
	3/4"	87 (41)	—	287 (135)	—	75 (35)	0-250 (0-17)
	1"	88 (42)	—	293 (138)	—	75 (35)	0-250 (0-17)
Super-Duty	3/4"	345 (163)	50 (24)	180 (85)	—	150 (71)	160 (75.5)
	1"	345 (163)	150 (71)	200 (94)	—	300 (141)	275 (129.8)
	1-1/4"	445 (210)	150 (71)	440 (207)	—	300 (141)	275 (129.8)
	1-1/2"	445 (210)	300 (141)	440 (207)	—	300 (141)	275 (129.8)
	2"	1300 (613)	300 (141)	1000 (472)	—	—	—



ARO Super-Duty Series
Pages 300 thru 306

When selecting an FRL or individual filter, regulator and lubricator units, the air consumption of the tools or equipment to be serviced should be correlated with the flow capacity of the FRL. **ARO Filters, Regulators and Lubricators are designed to flow in excess of that indicated in the maximum recommended flow table shown below.** This table gives recommended flows for pipe sizes at listed pressures and should be used as a guide in sizing piping and equipment for compressed air systems.

**Maximum Recommended Air Flow (scfm)
thru A.N.S.I. Standard Weight Schedule 40 Pipe.**

Applied Pressure PSIG	Nominal Standard Pipe Size – Inches										
	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3
5	0.5	1.2	2.7	4.9	6.6	13	27	40	80	135	240
10	0.8	1.7	3.9	7.7	11.0	21	44	64	125	200	370
20	1.3	3.0	6.6	13.0	18.5	35	75	110	215	350	600
40	2.5	5.5	12.0	23.0	34.0	62	135	200	385	640	1100
60	3.5	8.0	18.0	34.0	50.0	93	195	290	560	900	1600
80	4.7	10.5	23.0	44.0	65.0	120	255	380	720	1200	2100
100	5.8	13.0	29.0	54.0	80.0	150	315	470	900	1450	2600
150	8.6	20.0	41.0	80.0	115	220	460	680	1350	2200	3900
200	11.5	26.0	58.0	108.0	155.0	290	620	910	1750	2800	5000
250	14.5	33.0	73.0	135.0	200	370	770	1150	2200	3500	6100

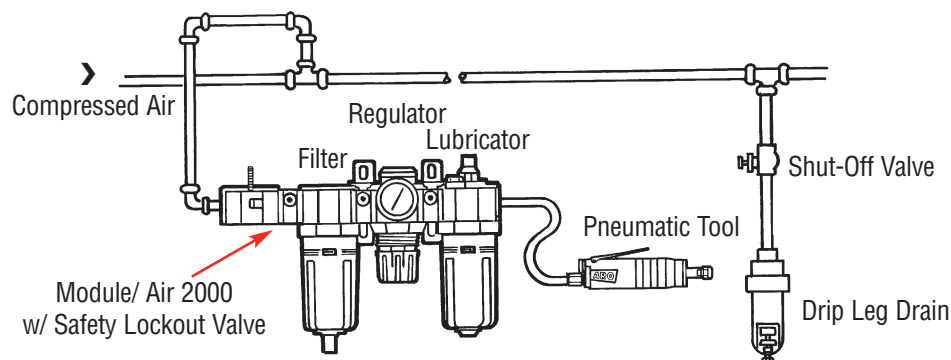
The flow values in the chart above are based upon a pressure drop (ΔP) as set forth in the following schedule:

Pressure Drop (ΔP) per 100 ft. of Pipe	Pipe Size - Inches
10% of Applied Pressure	1/8, 1/4, 3/8, 1/2
5% of Applied Pressure	3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2, 3

Installation

The filter, regulator and lubricator should be installed in the order shown in the illustration below. If a coalescing filter is required, it should be installed downstream from a standard filter. Individual take-off lines to the FRL and air tool or equipment should be from the top of the compressed air line. Make sure that air flow markings are followed for proper flow direction through the FRL units.

To trap and expel water, sludge and other contaminants which may collect on the bottom of the air line, a drip leg drain should be used. Drip leg drains should be installed at low points in the piping system and at the far end of the distribution system.



The New “Mod 1000” Modular Air Treatment in a Miniature Package!

Where’s YOUR Module/Air 1000 Zone?

- Packaging
- Robotics
- Food/Beverage
- Woodworking
- Printing/Textile
- Material Handling
- Medical/Dental
- Car Wash
- Animation
- Laundry

High tech appearance

enhances the overall look of any machine or fixture.

Units have threaded ports

in the housing allowing the user to mix pipe nipples and modular configurations to meet application requirements.

Totally Modular design permits removal of unit(s) from line. This allows for quick easy repair and reduced downtime.

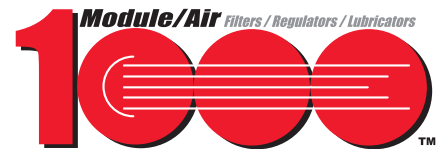


Safety lock-out valve

meets OSHA regulation 1910.147 which requires protection from unexpected start-up of a machine during service or maintenance.

Modular clamp connects any two units together in a modular format.

(Screws are combination phillips and slotted head type)



T-type wall mounting bracket provides a rugged wall mount with excellent wall to unit clearance for installing connections.



**Filter-Regulator
“Piggyback”**



Standard Filter & Coalescing Filter
Provides 99.9% contaminant removal



Regulator Flexibility
Mount regulator up or down

Lubricator -

Screwdriver adjustment slot has an optional tamper resistant cap which prevents unauthorized adjustment of oil delivery.



Quick change bowl

1/4 turn bayonet attachment. For safety, bowl cannot be removed when pressurized.



To Remove To Attach

Bowl options provide the user with a bowl to fit any application.



Nylon Composite

Poly bowl w/bowl guard



Self-Locking non-rising regulator knob

allows easy one hand adjustment. Pull down to adjust, push up to lock.



Safety Lock-out Valve

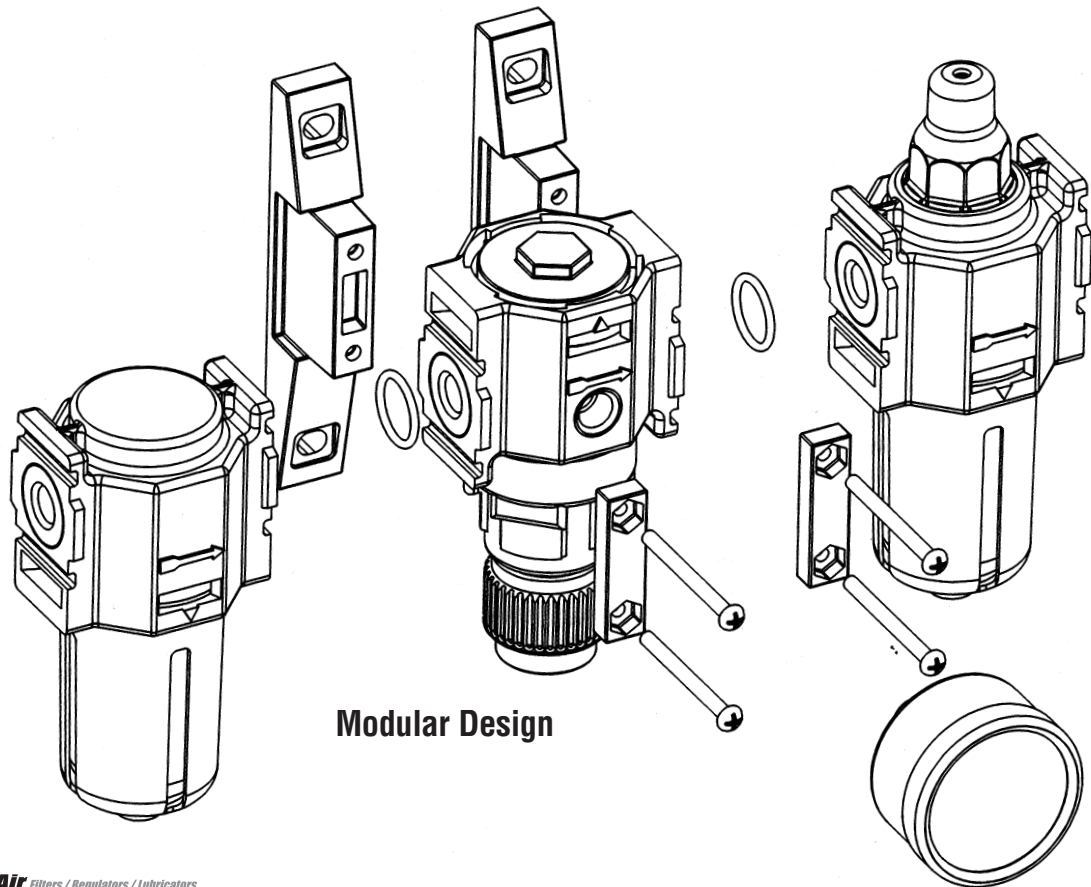
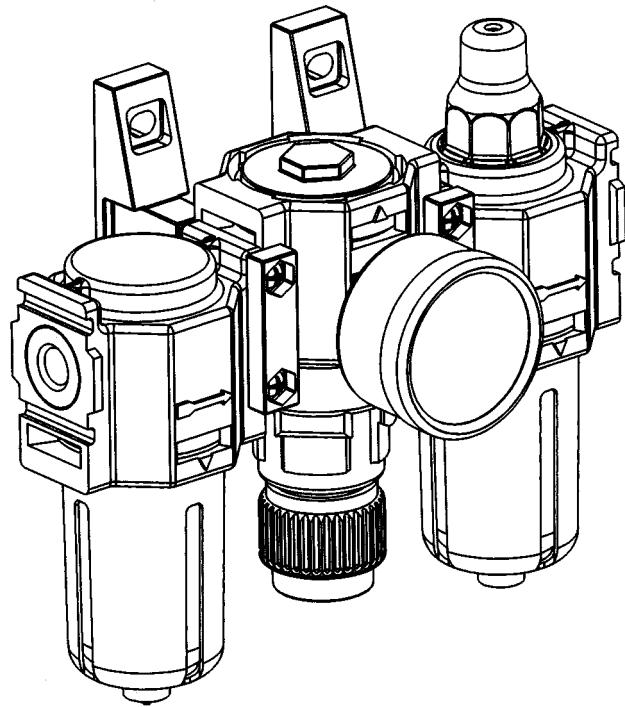
Protection from unexpected start-up



Manifold Block

Provides additional circuit design

Air Systems Accessories
Module/Air 1000 Schematic



Modular Design



Features

Modular Clamp Kit

One clamp kit is required to connect any two units or accessories together in the modular format. Kit includes: two clamps, one o-ring and screws. To assemble, simply put the o-ring and clamp between the units and tighten screws for a secure seal.

T-Type Wall Mounting Brackets

These brackets provide easy wall mounting. They are excellent for mounting a single unit or multiple units which are in the modular arrangement. T-type mount gives good wall to unit clearance for installing fittings and other connections. Kit includes a bracket, clamp, two screws and o-ring.

Modular Manifold Kit

The manifold block is an excellent way to provide circuit design flexibility. Manifold has two 1/8" NPT ports which allow for clean regulated air to be sent to signal or run other equipment. Kit includes: manifold only. Order 104263 clamp kits as needed.

Lockout, 3-Way Shut-off Valve

Meets OSHA regulation 1910.147. This lockout valve provides a safety lock-out to prevent accidental machine start-up. When slider valve is shifted into the lock-out position, inlet air is blocked and downstream air is exhausted to atmosphere. Unit has threaded ports for plumbing directly to an air line or can be mounted in the modular arrangement. Order 104263 Clamp kits as needed.

Ordering

Model No.	Description
104263	Clamp Kit (fits all port sizes)

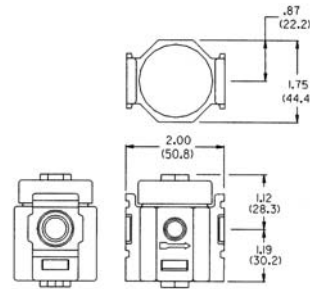


Model No.	Description
104262	T-Type Bracket Kit

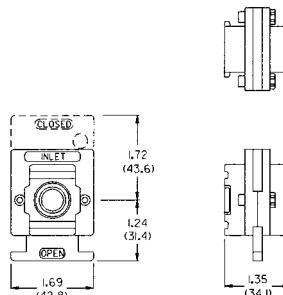


Threads are NPT.

Model No.	Description
104254-1	1/8" Manifold Kit
104254-2	1/4" Manifold Kit



Model No.	Description
104253-1	1/8" NPT Ports
104253-2	1/4" NPT Ports



Air Systems Accessories

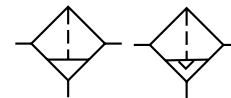
Module/Air 1000 Filter Units

Features

1/8" and 1/4" Port Sizes

ARO® Module/Air 1000 Series filters are designed to separate condensed water, rust, scale and other debris from the air lines which may cause wear and premature failure of air tools, valves, cylinders, air motors and other air driven equipment. Filter units should be installed upstream of the regulator or lubricator to protect them from contamination. These filters are ideal for OEM and MRO applications.

- Glass reinforced, composite bodies with threaded brass inserts are light weight, corrosion resistant and have no paint to chip. Combination units can be pipe nipped or clamped together in a modular configuration.
- Bowl guard has full length slots for easy visual checking of liquid. A composite bowl is also available.
- Warning and technical information is printed in English, Spanish, French and German on all bowl units.
- A quick-change bowl with bayonet attachment and line-up arrow heads provides easy bowl removal and filter element replacement.
- Air inlet arrow is molded into base.
- 20 micron filter element is standard. 5 micron element available at no extra charge.
- Standard and automatic drain available.
- Bowl has external 1/8" NPT male thread, for piping away moisture.



Manual Drain Automatic Drain

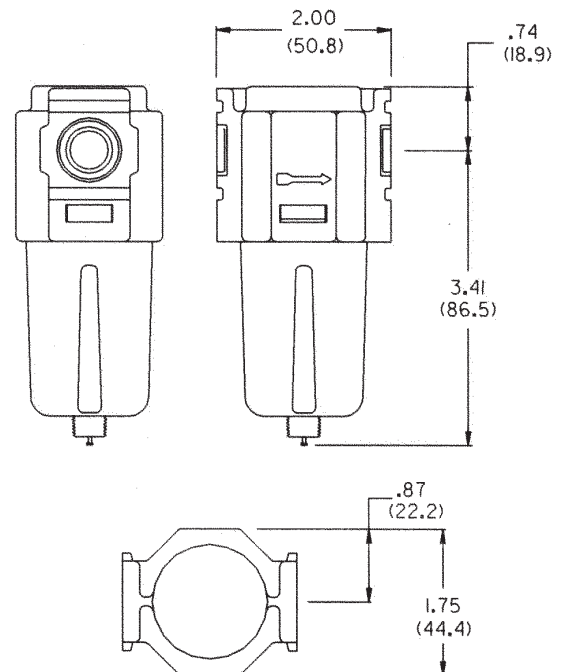
Performance Specifications

Materials of Construction	
Body:	Glass Reinforced, Composite Nylon
Bowl:	Polycarbonate w/ Bowl Guard Standard
Bowl Guard:	Composite with Sight Windows
Seals:	Buna-N
Drain:	Push Type
Filter Element:	Porous Polypropylene

Operating Conditions	
Temperature Range:	0° to 125° F (-18° to 52° C)
Max. Inlet Pressure:	Polycarbonate Bowl – 150 PSIG (10.4 bar) Composite Bowl – 150 PSIG (10.4 bar)
Sump Capacity:	.60 oz. (18 ml)
Flow:	Air flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (0.4 bar) pressure drop 1/8" = 28 scfm (13 dm ³ /s) 1/4" = 38 scfm (18 dm ³ /s)

Dimensional Data

Dimensions in Inches (mm)



Air Systems Accessories

Module/Air 1000 Filter Units



From the chart below select the model number associated with port size, bowl and drain option required. If other options are needed, use menu below the chart to select the proper model number. For BSP threads, consult factory.

Note: Not all menu combinations are valid. See price book to verify.

Port Size NPT	Flow scfm	Bowl Size oz. (ml)	Filter Element (Micron)	Weight lbs. (kg.)	Manual Push Drain		Automatic Drain	
					Composite Bowl	Polycarbonate Bowl w/Guard	Composite Bowl	Polycarbonate Bowl w/guard
Standard Filters								
1/8"	28	1.10 (33)	20	1.48 (.68)	F25111-220	F25111-200	F25111-221	F25111-201
1/4"	38	1.10 (33)	20	1.46 (.66)	F25121-220	F25121-200	F25121-221	F25121-201
Coalescing Filters								
1/8"	15	1.10 (33)		1.48 (.68)	F25111-320	F25111-300	F25111-321	F25111-301
1/4"	17	1.10 (33)		1.46 (.66)	F25121-320	F25121-300	F25121-321	F25121-301

Basic Model No.	Port Size NPT
F25111-XXX	1/8" with Brass Insert
F25121-XXX	1/4" with Brass Insert
F25131-XXX	1/8" Molded Threads (No Inserts)
F25141-XXX	1/4" Molded Threads (No Inserts)

Drain Option

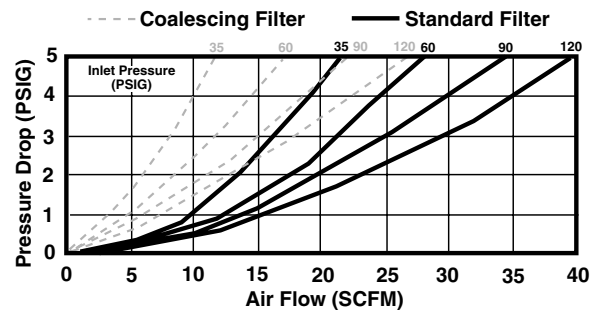
- 0 - Manual Push Drain
- 1 - Automatic Drain

Bowl Option

- 0 - Polycarbonate w/guard
- 2 - Composite Nylon

Filter Element

- 2 - 20 micron
- 3 - .01 micron Coalescing
- 4 - 5 micron



Coalescing Filters

These high efficiency filters are designed for applications where the delivered air must be free of oil and fine particles. For applications in paint spraying, instrumentation controls, and other compressed air applications. Use in conjunction with an upstream filter. See example at right. Filter units should also be installed upstream of the regulator or lubricator to protect them from contamination. These filters are ideal for OEM and MRO applications.



Standard Filter Coalescing Filter

Accessories



104263 Clamp Kit

Kit Includes:
Screws and O-ring



104262 T-Type Wall Mount Bracket Kit

Kit Includes:
T-Bracket, Clamp, Screws and O-ring

Model No.	Description
104264	Automatic Drain
29660-2	20 Micron Filter Element
29660-1	5 Micron Filter Element
29586	.01 Micron Filter Element (Coalescing)
104259	Composite Bayonet Bowl
104258	Polycarbonate Bowl w/Guard
104257	Service Kit

Air Systems Accessories

Module/Air 1000 Regulator Units

Features

1/8" and 1/4" Port Sizes

ARO® Module/Air 1000 Series regulators are designed to provide quick response and accurate pressure regulation over a wide range of applications. Two gauge ports allow for more versatility in mounting and usage of the unit. Three spring options provide high-range low-range pressure capabilities.

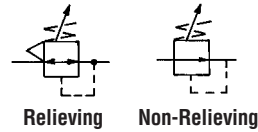
- Glass reinforced, composite bodies with threaded brass inserts are light weight, corrosion resistant and have no paint to chip. Combination units can be pipe nipples or clamped together in a modular configuration.
- Non-rising, self locking adjustment knob cannot be vibrated loose. Increase/decrease arrows on the knob allows easy adjustment.
- Regulator can be mounted either up or down, increasing user flexibility.
- Regulator offers in-line repairability. Diaphragm can be replaced without removing unit from line.
- Regulator can be wall or panel mounted up to 3/16" thickness. Hole diameter is 1-3/16".
- A tamper-resistant knob is available.
- Order regulator with or without gauge.

Performance Specifications

Materials of Construction	
Body:	Glass Reinforced Composite
Seals:	Buna-N
Diaphragm:	Buna-N
Valve Spring:	Stainless Steel
Spring Housing:	Glass Filled Nylon
Cap and Knob:	High Impact ABS
Gauge Port:	1/8" NPT

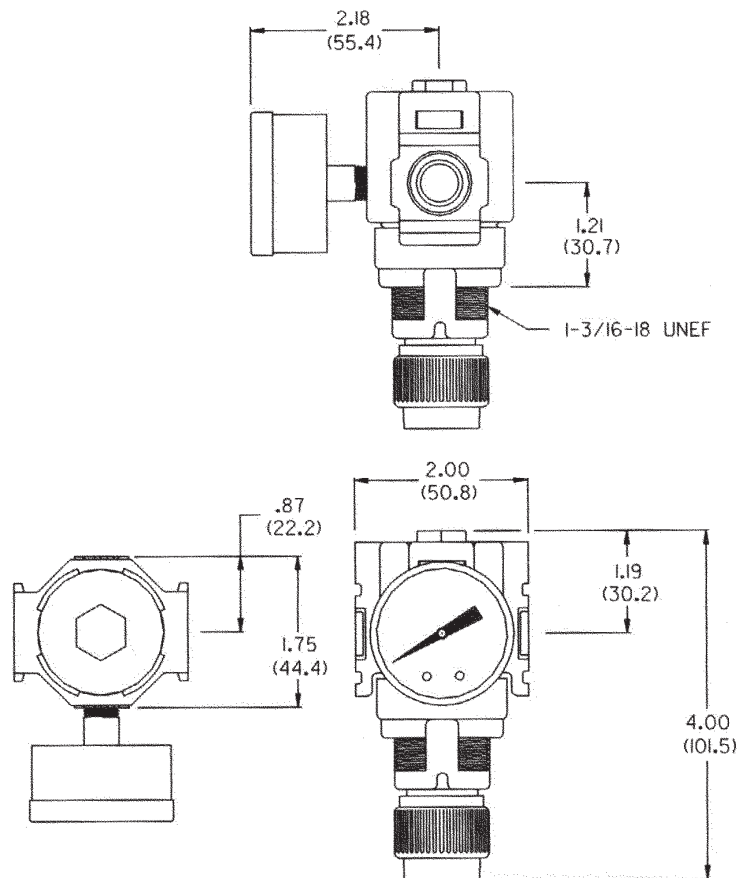
Operating Conditions	
Temperature Range:	0° to 125° F (-18° to 52° C)
Max. Inlet Pressure:	250 PSIG (17 bar)
Flow:	Air flow is at 100 PSIG (6.9 bar) inlet and 90 PSIG (6.2 bar) outlet 1/8" = 13 scfm (6 dm ³ /s) 1/4" = 13 scfm (6 dm ³ /s)

CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.



Dimensional Data

Dimensions in Inches (mm)



Ordering

From the chart below select the model number associated with port size, pressure range, relieving and control option required. If other options are needed, use menu below the chart to select the proper model number. For BSP threads, consult factory.

Note: Not all menu combinations are valid. See price book to verify.



Port Size NPT	Flow scfm	Weight lbs. (kg.)	Relieving Type Regulators			
			Without Gauge		With Gauge	
			5-125 PSIG	0-50 PSIG	5-125 PSIG	0-50 PSIG
1/8"	13	1.38 (.63)	R27111-100	R27111-200	R27111-600	R27111-700
1/4"	13	1.34 (.61)	R27121-100	R27121-200	R27121-600	R27121-700

Basic Model No.	Port Size NPT
R27111-XXX	1/8" with Brass Insert
R27121-XXX	1/4" with Brass Insert
R27131-XXX	1/8" Molded Thread (No Insert)
R27141-XXX	1/4" Molded Thread (No Insert)

Control Option

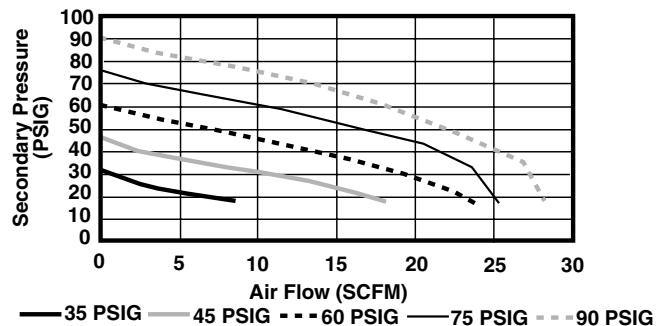
- 0 - Standard Knob
- 3 - Tamper Resistant

Relieving Option

- 0 - Relieving
- 2 - Non-Relieving

Pressure Range PSIG (bar)

- 1 - 5-125 (.4 - 8.6) No gauge
- 2 - 0-50 (0 - 3.5) No gauge
- 4 - 0-15 (.0 - 1) No gauge
- 6 - 5-125 (.4-8.6) w/gauge 0-150 lb. (#100095-160)
- 7 - 0-50 (0-.35) w/gauge 0-60 lb. (#29863)



Accessories



104263 Clamp Kit

Kit Includes:

Two Clamps, Screws and O-Rings



100095-160



104262 T-Type Wall Mount Bracket Kit

Kit Includes:

T-Bracket, Clamp, Screws, and O-Rings

Model No.	Description
29668	Mounting Bracket
104094	Panel Mount Nut
104039	Stub Mount
104255	Service Kit, Relieving
104256	Service Kit, Non-Relieving
104109	Tamper Resistant Knob Kit
29863	Gauge 0-60 PSIG
100095-160	Gauge 0-150 PSIG
29850	Gauge 0-160 PSIG
29846	Gauge 0-15 PSIG
104265	Nut & Bracket Kit (Includes 104094 Nut & 29668 Bracket)
29539	Spring 5-125 lb. (Gold)
29540	Spring 0-50 lb. (Green)
29754-1	Spring 0-25 lb. (Blue)
29622	Spring 0-15 lb. (Black)

Air Systems Accessories

Module/Air 1000 Lubricator Units

Features

1/8" and 1/4" Port Sizes

ARO® Module/Air 1000 Series lubricator features an adjustment needle on top of the transparent sight dome with finer threads and improved tolerances between the needle and seat. This allows for easy drip rate adjustment. The required amount of lubrication can be efficiently delivered for longer life of tools, cylinders, valves, pumps, air motors and other air operated equipment. Light weight, non-detergent oils, like ARO pneumatic lubricating oil (part number 29665) is recommended.

- The oil adjustment feature has a tamper-resistant plug (104027) which helps prevent unauthorized adjustment of oil.
- Transparent sight dome has 360° Visibility.
- Bayonet bowl provides easy removal to allow quick oil refill.
- Glass reinforced, composite bodies with threaded brass inserts are light weight, corrosion resistant and have no paint to chip. Combination units can be pipe nipped or clamped together in a modular configuration.



Less Drain

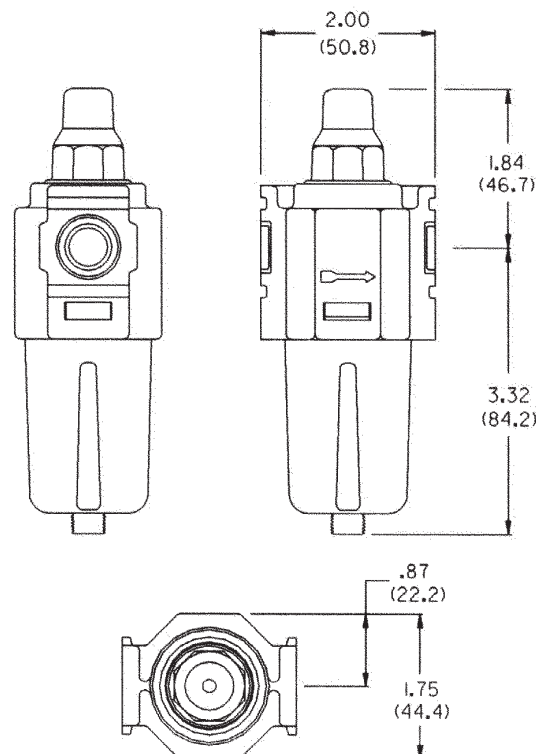
Performance Specifications

Materials of Construction	
Body:	Glass Reinforced Bodies
Bowl:	Polycarbonate w/Bowl Guard Standard
Bowl Guard:	Composite with Sight Windows
Seals:	Buna-N
Sight Dome:	Nylon

Operating Conditions	
Temperature Range:	0° to 125° F (-18° to 52° C)
Max. Inlet Pressure:	Polycarbonate Bowl – 150 PSIG (10.4 bar) Composite Bowl – 150 PSIG (10.4 bar)
Oil Capacity:	1.10 oz. (33 ml)
Flow:	Air flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (0.4 bar) pressure drop 1/8" = 41 scfm (91 dm3/s) 1/4" = 60 scfm (28 dm3/s)

Dimensional Data

Dimensions in Inches (mm)



Ordering

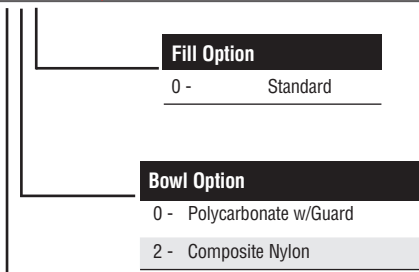
From the chart below select the model number associated with port size, and bowl option required. If other options are needed, use menu below the chart to select the proper model number. For BSP threads, consult factory.



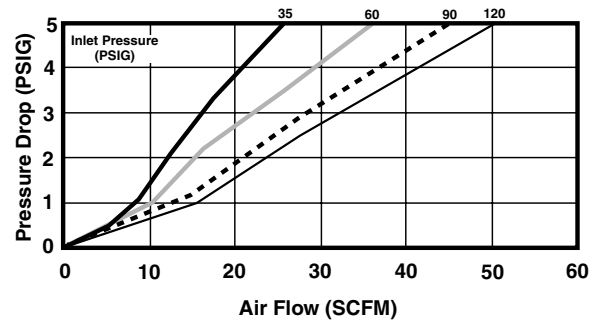
Note: Not all menu combinations are valid. Call Customer Service to verify.

Port Size NPT	Flow scfm	Bowl Size Oz. (ml)	Weight lbs. (kg.)	Composite Bowl	Poly Bowl w/Guard
1/8"	41	1.10 (33)	1.50(.68)	L26111-120	L26111-100
1/4"	60	1.10 (33)	1.44 (.65)	L26121-120	L26121-100

Basic Model No.	Port Size NPT
L26111-XXX	1/8" with Brass Insert
L26121-XXX	1/4" with Brass Insert
L26131-XXX	1/8" Molded Thread (No Insert)
L26141-XXX	1/4" Molded Thread (No Insert)



Adjustment Option
1 - Standard



Accessories



104263 Clamp Kit

Kit Includes:
Two Clamps, Screws and O-Rings



104262 T-Type Wall Mount Bracket Kit

Kit Includes:
T-Bracket, Clamp, Screws, and O-Rings

Model No.	Description
29665	Lubricating Oil (1 quart)
104260	Polycarbonate Bowl w/Guard
104261	Composite Bowl
104027	Tamper-Resistant Plug
104226	Sight Dome Repair Kit
104181	Service Kit

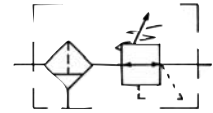
Module/Air 1000 Filter-Regulator “Piggyback”

Features

1/8" and 1/4" Port Sizes

ARO® Module/Air 1000 Series “Piggyback” units are compact to save space, giving more design flexibility. These units have one common inlet/outlet for both the filter and regulator. This saves on space, set-up time and piping costs.

- Glass reinforced, composite bodies with threaded brass inserts are light weight, corrosion resistant and have no paint to chip. Combination units can be pipe nipples or clamped together in a modular configuration.
- Non-rising, self locking adjustment knob cannot be vibrated loose.
- Increase/decrease arrows on the knob allows easy adjustment.
- Regulator offers in-line repairability. Diaphragm can be replaced without removing unit from line.
- Bayonet bowl attachment with line-up arrow heads provides easy filter element removal. Arrow heads assure user of locked position.
- Standard and automatic drains available.
- Bowl has external 1/8" NPT thread, for piping away moisture.
- Polycarbonate bowl with guard or composite corrosion resistant bowl available.
- Air inlet arrow is molded into housing for easy air line hookup.



Relieving with manual drain

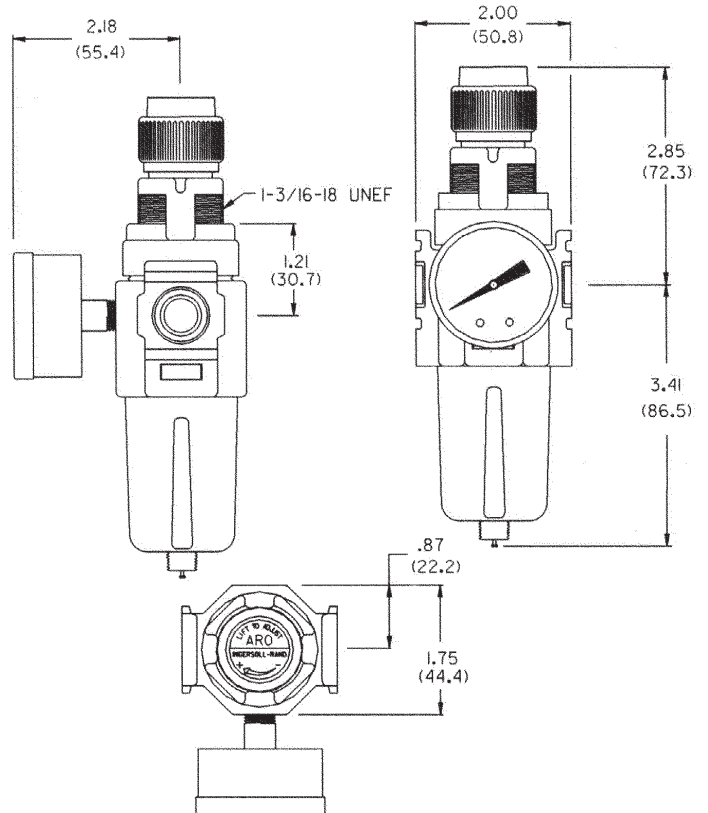
Performance Specifications

Materials of Construction	
Body:	Glass Reinforced Bodies
Bowl:	Polycarbonate w/Bowl Guard Standard
Bowl Guard:	Composite w/Sight Windows
Composite Bowl:	Nylon
Seals:	Buna-N
Drain:	Push Type
Filter Element:	Porous Polypropylene
Diaphragm:	Buna-N
Spring Housing:	Glass Filled Nylon
Valve Spring:	Stainless Steel

Operating Conditions	
Temperature Range:	0° to 125° F (-18° to 52° C)
Max. Inlet Pressure:	Poly Bowl – 150 PSIG (10.4 bar) Composite Bowl – 150 PSIG (10.4 bar)
Flow:	Air flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (0.4 bar) pressure drop 1/8" = 13 scfm (6 dm ³ /s) 1/4" = 13 scfm (6 dm ³ /s)

Dimensional Data

Dimensions in Inches (mm)



CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.

Ordering

From the chart below select the model number associated with port size, pressure range and drain option required. If other options are needed, use menu below the chart to select the proper model number. For BSP threads, consult factory.

Note: Not all menu combinations are valid. See price book to verify.



Port Size NPT	Flow scfm	Weight lbs. (kg.)	Filter Element (Micron)	Pressure Range PSIG (bar)	Composite Bowl		Poly Bowl w/Bowl Guard	
					Push Drain	Automatic Drain	Push Drain	Automatic Drain
1/8"	13	2.05 (.93)	20	5-125 (.4-8.6)	P29112-120	P29112-124	P29112-100	P29112-104
1/4"	13	2.03 (.92)	20	5-125 (.4-8.6)	P29122-120	P29122-124	P29122-100	P29122-104

Basic Model No.	Port Size NPT
P2911X-XXX	1/8" with Brass Inserts
P2912X-XXX	1/4" with Brass Inserts
P2913X-XXX	1/8" Molded Thread (No Insert)
P2914X-XXX	1/4" Molded Thread (No Insert)

Filter Element

2 - 20 Micron
 4 - 5 Micron

Control/Drain Option

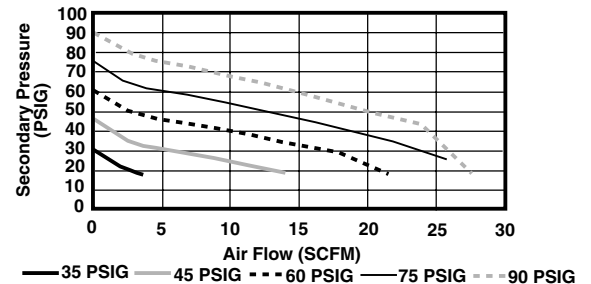
0 - Standard Knob/Manual Drain
 3 - Tamper Resistant Knob/Manual Drain
 4 - Standard Knob/Auto Drain

Relieving Bowl Option

0 - Relieving / Poly w/Guard
 2 - Relieving / Composite
 3 - Non-Relieving / Poly w Guard

Pressure Range PSIG (bar)

1 - 5-125 (.4-8.6) no gauge
 2 - 0-50 (0-3.5) no gauge
 4 - 0-15 (.0-1) no gauge
 6 - 5-125 (.4-8.6) w/gauge
 7 - 0-50 (0-3.5) w/gauge



Accessories



104263 Clamp Kit

Kit Includes:
Two Clamps, Screws and O-Rings



100095-160



104262 T-Type Wall Mount Bracket Kit

Kit Includes:
T-Bracket, Clamp, Screws, and O-Rings

Model No.	Description
29668	Mounting Bracket
104094	Panel Mount Nut
104039	Stud Mount
104255	Service Kit, Relieving
104256	Service Kit, Non-Relieving
104109	Tamper Resistant Kit
29863	0-60 PSIG Gauge
100095-160	0-150 PSIG Gauge
29846	0-15 PSIG Gauge
29850	0-160 PSIG Gauge
104258	Poly Bowl w/Guard
104259	Composite Bowl
104265	Nut & Bracket Kit (Includes 104094 Nut and 29668 Bracket)
29660-1	5 Micron Element
29660-2	20 Micron Element
104264	Pulse Drain Kit

Air System Accessories

Module/Air 1000 Combination Units

Performance Specifications

Filter-Regulator-Lubricator	
Max. Inlet Pressure:	150 PSIG (10.4 bar)
Operating Temperature:	0° to 125°F (-18° to 52°C)
Filter Element:	20 Micron
Pressure Range in Regulator:	5 to 125 PSIG (.4 to 8.6 bar)
Gauge:	0 to 150 PSI
Gauge Port:	1/8 NPT

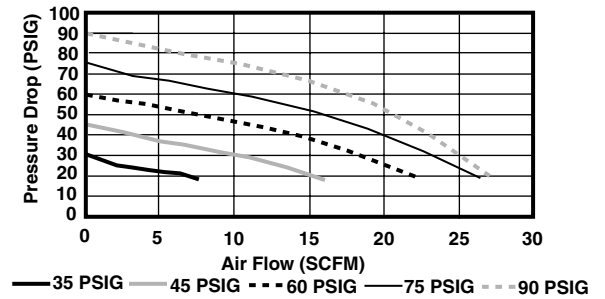
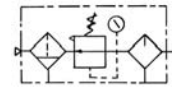


Ordering

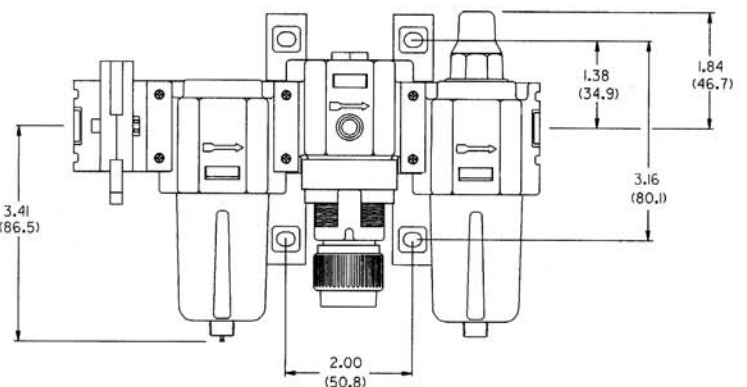
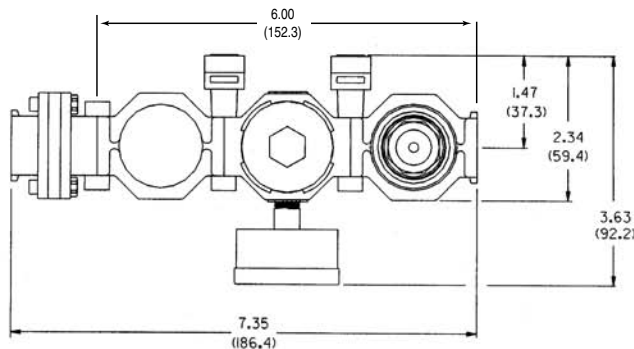
Select the basic model number which represents the port size and bowl option required. If other options are required, order each unit separately. Units are shipped assembled. For BSP threads, consult factory.

Port Size NPT	Models		Weight lbs. (kg.)	Components		
	With T-Mounts	Without T-mounts		Filter	Regulator	Lubricator
Push Drain • Polycarbonate Bowl with Bowl Guard						
1/8"	C28111-800	C28112-800	5.54 (1.88)	F25111-200	R27111-600	L26111-100
1/4"	C28121-800	C28122-800	5.42 (2.46)	F25121-200	R27121-600	L26121-100
Automatic Drain • Polycarbonate Bowl with Bowl Guard						
1/8"	C28111-801	C28112-801	5.54 (1.88)	F25111-201	R27111-600	L26111-100
1/4"	C28121-801	C28122-801	5.42 (2.46)	F25121-201	R27121-600	L26121-100

Notes: Order lock-out valve separately and attach to filter inlet with clamp kit (104263). To order modular model with pipe nipples, place a "3" in the sixth position of the model number. Example: C28XX3-XXX



Dimensional Data Dimensions Inches (mm)



Performance Specifications

Piggyback Lubricator

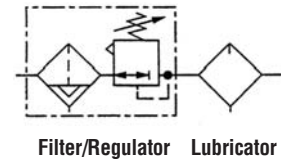
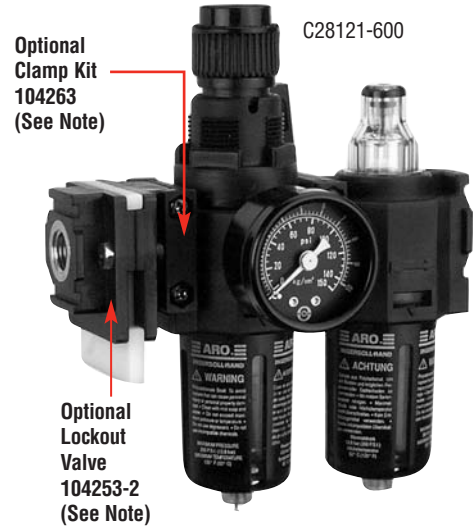
Max. Inlet Pressure:	150 PSIG (10.4 bar)
Operating Temperature:	0° to 125°F (-18° to 52°C)
Filter Element:	20 Micron
Pressure Range in Regulator;	5 to 125 PSIG (.4 to 8.6 bar)
Gauge:	0 to 150 PSI
Gauge Port:	1/8 NPT

Ordering

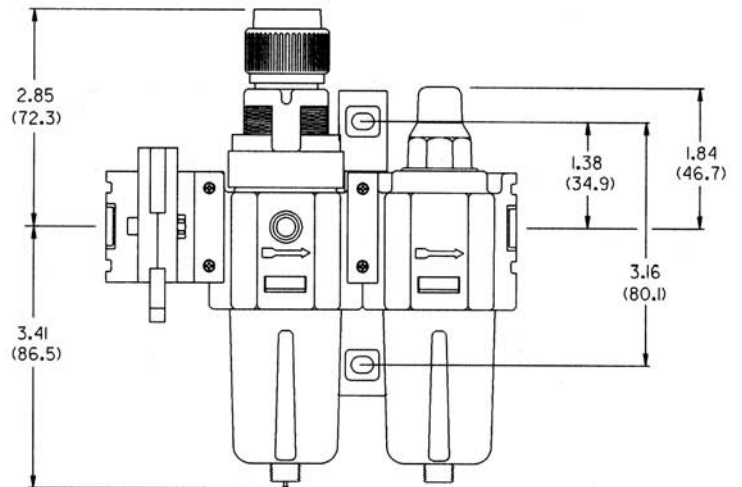
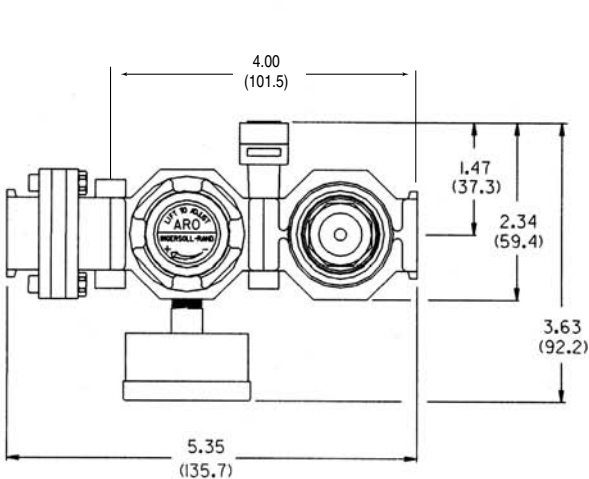
Select the basic model number which represents the port size and bowl option required. If other options are required, order each unit separately. Units are shipped assembled. For BSP threads, consult factory.

Port Size NPT	Models		Weight lbs. (kg.)	Components	
	With T-Mounts	Without T-mounts		Filter/Regulator	Lubricator
Push Drain • Polycarbonate Bowl with Bowl Guard					
1/8"	C28111-600	C28112-600	4.14 (1.88)	P29112-600	L26111-100
1/4"	C28121-600	C28122-600	4.06 (1.84)	P29122-600	L26121-100
Automatic Drain • Polycarbonate Bowl with Bowl Guard					
1/8"	C28111-601	C28112-601	4.14 (1.88)	P29112-604	L26111-100
1/4"	C28121-601	C28122-601	4.06 (1.84)	P29122-604	L26121-100

Notes: Order lock-out valve separately and attach to filter inlet with clamp kit (104263).
To order modular model with pipe nipples, place a "3" in the sixth position of the model number. Example: C28XX3-XXX



Dimensional Data Dimensions Inches (mm)



Air System Accessories

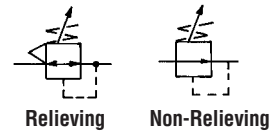
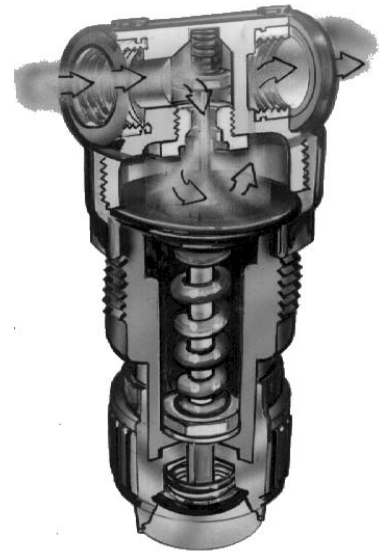
Composite Mini Series Regulators

Features

1/8" and 1/4" Port Sizes (Ideal for water & low flow application)

ARO Miniature Series Regulators are the ideal choice where a small, compact unit is required to provide accurate control of either air or water flow. It's diaphragm design provides a durable, no-leak seal especially effective in water and low-flow applications. Offering exceptional repeatability, the ARO Mini Regulator quickly returns to within 1% of its initial setting after any change in downstream pressure, when used in the mid-range of it's rated regulatory capability. This regulator is constructed of materials approved by the National Sanitation Foundation (NSF).

- A corrosion-resistant, glass-reinforced composite body can be ordered with either molded threads or corrosion-resistant, zinc-plated steel inserts.
- A stainless steel valve spring is the only metallic part to come in contact with the regulated medium.
- Buna N diaphragm is fabric-reinforced for superior sealing in water and low-flow applications.
- Regulator can be panel-mounted up to a thickness of 3/16".
1-3/16" - 18 spring housing thread allows easy panel mounting.
- A non-rising, locking adjustment knob cannot be vibrated loose. Simply pull and rotate the knob to adjust the downstream pressure setting. A tamper resistant adjustment knob is also available.



Performance Specifications

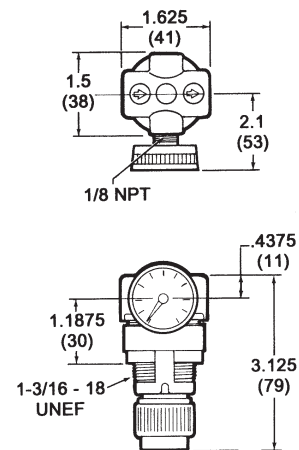
Materials of Construction	
Body:	Glass-reinforced composite
Seals:	Buna N
Diaphragm:	Buna N
Valve Seat:	Acetal resin
Spring Housing:	Glass-filled nylon
Knob:	Acetal resin
Valve Spring:	Stainless Steel

Performance Specifications	
Max. Inlet Pressure:	250 PSIG (17 bar)
Pressure Range in Regulator:	0 to 125 PSIG (0 to 8.6 bar)
Operating Temperature Range:	0° to 150° F (-18° to 65° C)
Weight:	1/8" = .25 lbs. (115 g) 1/4" = .22 lbs. (100 g)
* Air Flow:	1/8" = 13 SCFM (6 dm ³ /s) 1/4" = 13 SCFM (6 dm ³ /s)
** Water Flow:	1/8" = 1.75 GPM (6.6 L /min.) 1/4" = 2 GPM (7.6 L /min.)
Gauge Port:	1/8" NPT

* Air flow is at 125 PSIG (8.6 bar) inlet and 100 PSIG (6.9 bar) outlet

** Water flow is at 60 PSIG (4.1 bar) inlet and 40 PSIG (2.8 bar) outlet.

Dimensional Data



CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.

Air System Accessories

Composite Mini Series Regulators



Ordering

1/8" and 1/4" Port Sizes (Ideal for water & low flow application)

Select the basic model number associated with the thread type (brass or molded threads) and port size (1/8" or 1/4") desired from the table below. For BSP threads, consult factory.

Note: Not all menu combinations are valid. See price book to verify.

PORT SIZE	BASIC MODEL	THREAD TYPE
1/8"	127112- X X X	With Insert (Steel Thread)
1/4"	127122- X X X	With Insert (Steel Thread)
1/8"	127132- X X X	Molded Thread (No Insert) for water service
1/4"	127142- X X X	Molded Thread (No Insert) for water service



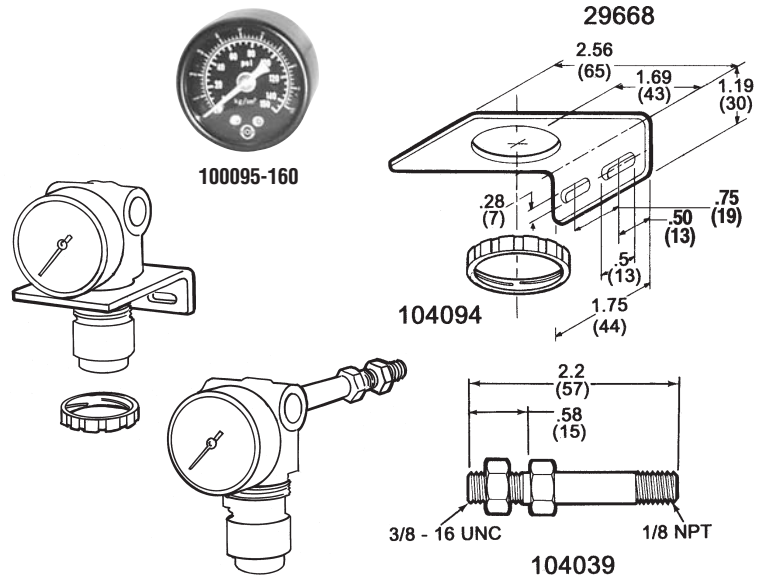
127122-600
(Shown with 29850 Gauge)

Pressure Range* PSIG bar			Relieving Option	Control Option
0 = 5-125 1 = 0-50 2 = 0-25 3 = 0-15	.4-8.6 .0-3.5 .0-1.7 .0-1	No gauge No gauge No gauge No gauge	0 = Relieving (for air service) 2 = Non-Relieving (for air or water service)	0 = Standard Knob 3 = Tamper Resistant Knob
6 = 5-125 7 = 0-50 8 = 0-15	.4-8.6 .0-3.5 .0-1.0	W/ 0-160 lb. gauge (#29850) W/ 0-60 lb. gauge (#29863) W/ 0-15 lb. gauge (#29846)		

Shaded area indicates best-selling models

Accessories

Model	Description
29846	Gauge 0-15 PSIG (0-1 bar)
29755-1	Gauge 0-30 PSIG (0-2 bar)
29863	Gauge 0-60 PSIG (0-4 bar)
29850	Gauge 0-160 PSIG (0-11 bar)
100095-160	Gauge 0-150 PSIG (0-10 bar)
29539	Spring 5-125 lb. (Gold)
29540	Spring 0-50 lb. (Green)
29754-1	Spring 0-25 lb. (Blue)
29622	Spring 0-15 lb. (Black)
29668	Mounting Bracket
104094	Panel Mounting Nut
104039	Stud Mount
104158	Service Kit- Relieving Type
104159	Service Kit- Non-Relieving Type
104109	Tamper-Resistant Knob Kit
104265	Nut & Bracket Kit (Includes 104094 Nut & 29668 Bracket)



Air System Accessories

Module/Air 1000 Brass Regulators

Features

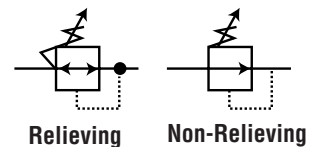
Miniature Series (1/8")

For Accurate, Low-Cost Control of Air and Water Flow

- Corrosion Protection - Brass body with internal stainless steel valve spring provides corrosion protection against regulated fluids.
- Accurate, Reliable Control - Non-rising, locking adjustment knob maintains the desired setting.
- Mounting Flexibility - Panel mounting nut is part of the regulator and is included at no additional cost. Industry standard 1-3/16" - 18 threaded spring housing enables easy panel mounting (max. panel thickness is 3/16"). Available mounting bracket and stud mount provide a choice of wall mountings. Compact size is ideal for installations where space is limited.
- Durability - Brass construction makes this regulator the perfect choice for your most rugged and demanding air and water applications.



Graphic Symbols



Relieving

Non-Relieving

Applications

- Medical and Dental Equipment
- Beverage Dispensing Equipment
- Lawn Irrigation Systems
- Water Purification Systems
- Car Wash Equipment
- Miniature Pneumatic Plumbing Circuits

Performance Specifications

Max. Inlet Press.:	250 PSIG (17 bar)
Max. Adjusted Press.:	125 PSIG (8.6 bar)
Operating Temp.:	0° to 150°F (-18° to 65°C)
Weight:	1/8" = .25 lbs. (115 g) 1/4" = .22 lbs. (100 g)
Air Flow*:	1/8" = 13 SCFM 1/4" = 13 SCFM
Water Flow**:	1/8" = 1.75 GPM 1/4" = 2.0 GPM

* Air flow is at 125 PSIG (8.6 bar) inlet and 100 PSIG (6.9 bar) outlet.

** Water flow is at 60 PSIG (4.1 bar) inlet and 40 PSIG (2.8 bar) outlet.

WARNING: These regulators are designed for use in industrial compressed air or water systems only. Never use these regulators where pressure or temperature can exceed the rated operating conditions. See SPECIFICATIONS.

Ordering

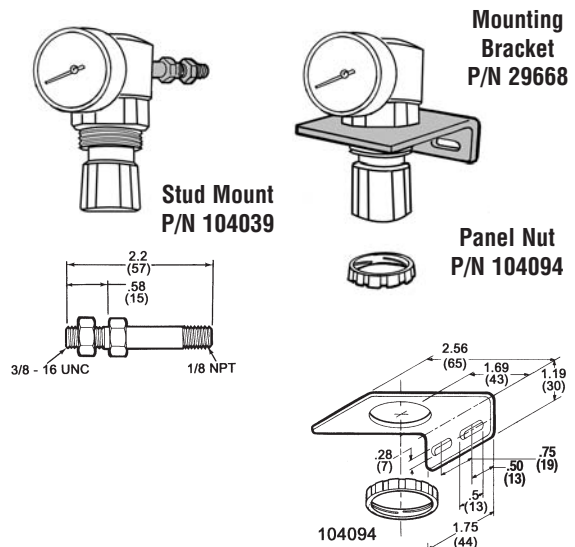
Model Number	Port Size NPT	Gauge Port NPT	Type
B27112-020	1/8"	1/8"	Non-Relieving
B27122-020	1/4"	1/8"	Non-Relieving
B27112-000	1/8"	1/8"	Relieving
B27122-000	1/4"	1/8"	Relieving

Accessories

Part Number	Description
29850	*Gauge 0-160 PSIG (0-11 bar)
29668	Mounting Bracket
104094	Panel Mounting Nut (Included with regulator)
104039	Stud Mounting

*Gauge has polycarbonate lens.

Dimensional Data



Accessory Kits



Filters

Kit Number:	Description:	Kit Contents:
29586	Coalescing .01-Micron Element	(1) Element
29660-1	5 Micron Element	(1) Element
29660-2	20-Micron Element	(1) Element
104257	Service Kit	(2) O-Rings
104258	Polycarbonate Bowl w/guard	(1) Polycarbonate bowl w/Guard (1) Valve, (1) O-Ring
104259	Composite Bowl	(1) Composite Bowl, (1) Valve, (1) O-Ring
104264	Automatic Drain Kit	(1) Pulse Drain, (1) O-Ring

Regulators

Kit Number:	Description:	Kit Contents:
104039	Stud Mount	(1) Stud and Mounting Nut
104109	Tamper Resistant Knob Kit	
104255	Service Kit (Relieving)	(1) Spring, (1) Washer, (1) Diaphragm, (1) O-Ring
104256	Service Kit (Non-Relieving)	(1) Spring, (1) Washer, (1) Diaphragm, (1) O-Ring
104265	Mounting Nut Bracket Kit	(1) Mounting Nut, (1) Wall Bracket

Lubricators

Kit Number:	Description:	Kit Contents:
104181	Service Kit	(1) Compensating Valve and O-Rings
104260	Polycarbonate Bowl w/Guard	
104261	Composite Bowl	(1) Composite Bowl, (1) O-Ring

Modular Components

Kit Number:	Description:	Kit Contents:
104253-1	Safety Lockout/Tagout	1/8" NPT Threads
104253-2	Safety Lockout/Tagout	1/4" NPT Threads
104253-1-B	Safety Lockout/Tagout	1/8" BSP Threads
104253-2-B	Safety Lockout/Tagout	1/4" BSP Threads
104254-1	Manifold	1/8" NPT Manifold, (1) Pipe Plug
104254-2	Manifold	1/4" NPT Manifold, (1) Pipe Plug
104254-1-B	Manifold	1/8" BSP Manifold, (1) Pipe Plug
104254-2-B	Manifold	1/4" BSP Manifold, (1) Pipe Plug
104262	T-Bracket Mounting Kit	(1) Bracket, (1) O-Ring, (2) Screws
104263	Clamp Kit	(2) Clamps, (1) O-Ring, (2) Screws
Y237-2	Pipe Nipple	1/8" NPT Threads
Y27-2-C	Pipe Nipple	1/4" NPT Threads

Air System Accessories

Module/Air 2000

Features

1/4", 3/8", & 1/2" Ports

Durable black finish with silkscreened graphics (no labels), enhances the overall look of any machine or fixture.



Units have threaded ports in the housing allowing users to mix pipe nipples and modular configurations to meet their needs.

Totally modular design

permits removal of unit(s) from line without disturbing the hard piping. This allows for easy repair and reduced downtime.



Safety lock-out valve meets OSHA regulation 1910.147 which requires protection from unexpected start-up of a machine during service or maintenance.

Modular end pipe adapters provide plumbing flexibility and allow for reduced inventory by stocking one size FRL and the various sizes of adapters.



Filter with optional service life indicator shows when element is clogged and needs service.

Modular spacer has retained o-rings and screws to prevent loss during routine maintenance and to simplify assembly. (Screws are 5/32" or 4 mm allen head type.)

Patented double seal push drain is easy to operate and requires no tools for service. Optional automatic drain eliminates manual draining.



Filter-Regulator "Piggyback"



Filter-Coalescing Filter
Provides 99.9% contaminant removal



Regulator Flexibility
Mount regulator up or down



Safety Lock-out Valve
Protection from unexpected start-up

T-type wall mounting bracket provides a rugged heavy-duty wall mount with excellent wall to unit clearance for installing connections.

Right angle panel bracket provides for a cleaner installation and also doubles as a mounting bracket. Flow enters from behind panel thru the panel brackets.

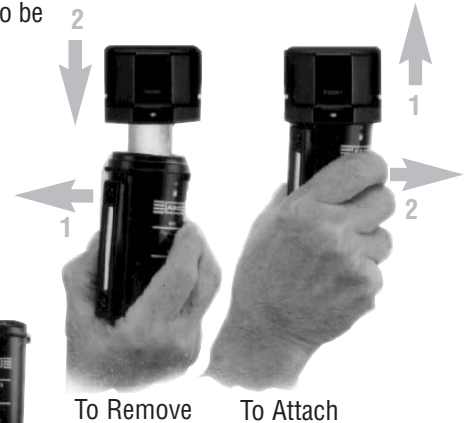
Lubricator has large fill port which can be serviced under pressure simplifying routine maintenance. Screwdriver adjustment slot has an optional tamper resistant cap which prevents unauthorized adjustment of oil delivery.



Quick change bowl with bayonet attachment. For safety, bowl cannot be removed when pressurized. One quarter (1/4) turn bayonet attachment allows sight glass to be positioned in 900 increments.

Push-pull non-rising regulator knob allows easy one hand adjustment. Pull down to adjust, push up to lock.

Three bowl options provide the user with a bowl to fit any application.



Metal w/sight glass



Poly bowl w/bowl guard



Metal

To Remove

To Attach



Manifold Block
Provides additional circuit design



Pipe Adapters
1/4", 3/8", 1/2" and 3/4" Pipe Sizes



Right Angle panel Brackets
For cleaner installation

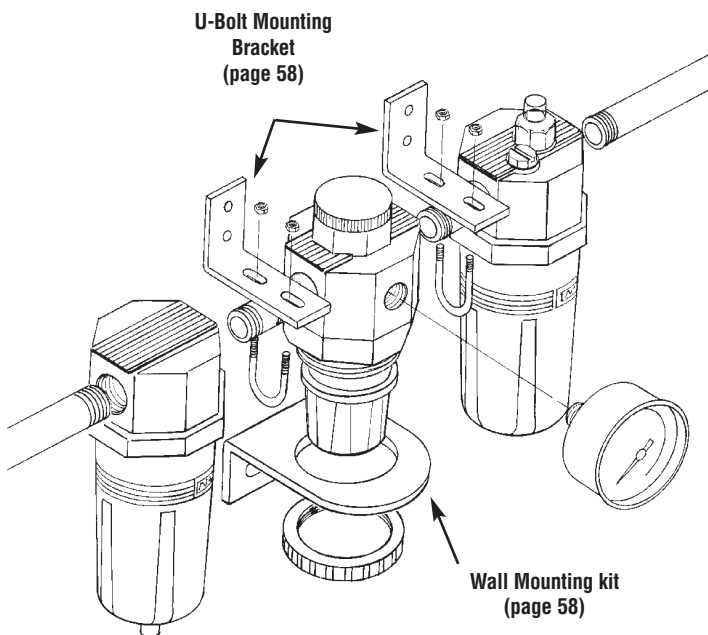
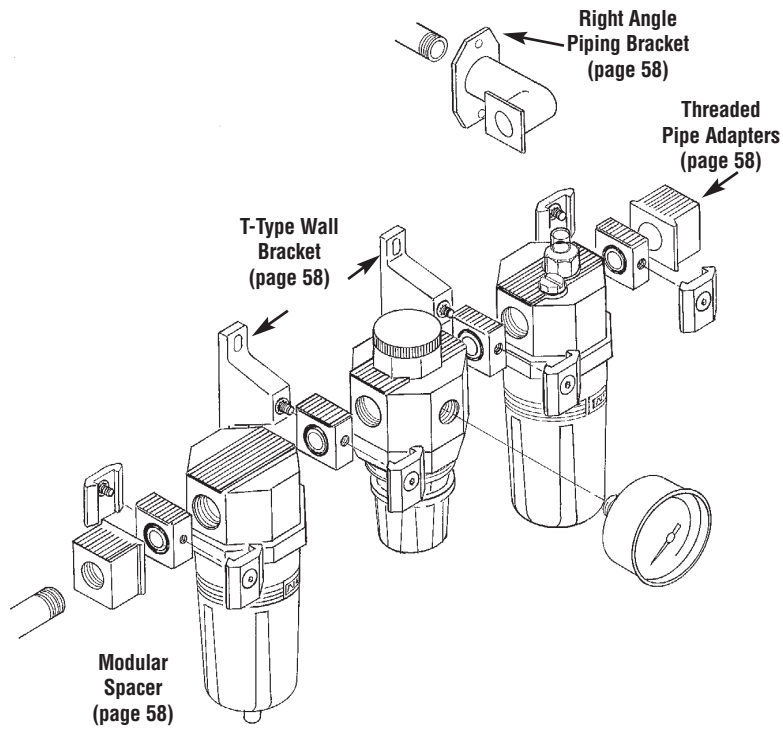
Air System Accessories

Module/Air 2000 Filter-Regulator-Lubricator

Features

The modular FRL with pipe nipple capability!

Individual components have threaded ports, allowing either modular configurations or pipe nipple connections.



Performance Specifications

1/4", 3/8" & 1/2" Ports

Max. Inlet Pressure:	Polycarbonate Bowl - 150 PSIG (10.4 bar) Metal Bowl - 175 PSIG (12 bar)
Operating Temperature Range:	Polycarbonate Bowl - 0° to 125° F (-18° to 52°C) Metal Bowl - 0° to 175°F (-18° to 79°C)
Filter Element:	40 micron
Pressure Range in Regulator:	5 to 125 PSIG (.3 to 8.6 bar)
Gauge:	0 to 160 PSI
Gauge Port:	1/4" NPT
Filter Drain:	Manual (standard); Automatic (optional)



Ordering

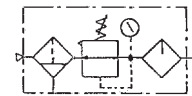
Select the basic model number which represents the port size and bowl option required. Modular models listed include Gauge and "T" Brackets, and are shipped assembled. Pipe nipped models include Gauge and Nipples, and are shipped unassembled. If other options are required, order each unit separately.

For BSP threads, add -B to end of model number.

NOTE: To order modular models without "T" Brackets, place a "2" in sixth position of model number. Example: CXXXX2-XXX. See page 58 for Mounting Brackets for pipe nipped models.

NOTE: Not all menu combinations are valid. See price book to verify.

GRAPHIC SYMBOL

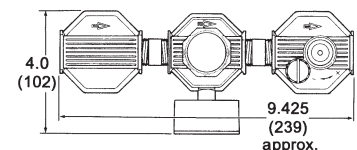
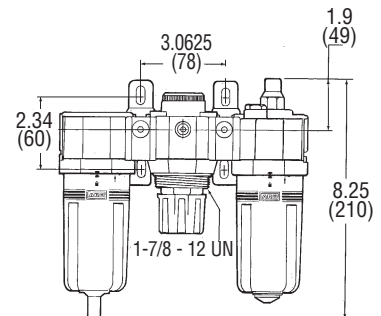
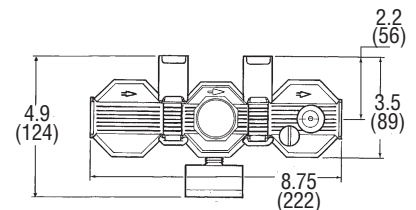


Models & Dimensions, in. (mm)

Port Size NPT	Models		Weight lbs. (kg)	Filter	Components Regulator	Lubricator
	Modular	Nipped				
push drain • metal bowl with sight glass						
1/4"	C28221-810	C28223-810	5.5 (2.5)	F25221-110	R27221-600	L26221-110
3/8"	C28231-810	C28233-810	5.4 (2.4)	F25231-110	R27231-600	L26231-110
1/2"	C28241-810	C28243-810	5.3 (2.4)	F25241-110	R27241-600	L26241-110
push drain • polycarb. bowl with bowl guard						
1/4"	C28221-800	C28223-800	5.5 (2.5)	F25221-100	R27221-600	L26221-100
3/8"	C28231-800	C28233-800	5.4 (2.4)	F25231-100	R27231-600	L26231-100
1/2"	C28241-800	C28243-800	5.3 (2.4)	F25241-100	R27241-600	L26241-100
automatic drain • metal bowl with sight glass						
1/4"	C28221-811	**	5.5 (2.5)	F25221-111	R27221-600	L26221-110
3/8"	C28231-811	**	5.4 (2.4)	F25231-111	R27231-600	L26231-110
1/2"	C28241-811	**	5.3 (2.4)	F25241-111	R27241-600	L26241-110
automatic drain • polycarb bowl with bowl guard						
1/4"	C28221-801	**	5.5 (2.5)	F25221-101	R27221-600	L26221-100
3/8"	C28231-801	**	5.4 (2.4)	F25231-101	R27231-600	L26231-100
1/2"	C28241-801	**	5.3 (2.4)	F25241-101	R27241-600	L26241-100

NOTE: Three piece modular models include (2) 104171 T-Brackets and (1) 100067 Gauge. Pipe Nipped models include (1) 100067 Gauge and (2) appropriate size pipe nipples.

For pipe nipped FRL combo units with automatic drain, order individual filter, regulator and lubricator components and pipe nipples.



Air System Accessories

Module/Air 2000 "Piggyback" Lubricator

Performance Specifications

1/4", 3/8" & 1/2" Ports

Max. Inlet Pressure:	Polycarbonate Bowl - 150 PSIG (10.4 bar) Metal Bowl - 175 PSIG (12 bar)
Operating Temperature Range:	Polycarbonate Bowl - 0° to 125° F (-18° to 52°C) Metal Bowl - 0° to 175° F (-18° to 79°C)
Filter Element:	40 micron
Filter Drain:	Manual (standard); Automatic (optional)
Pressure Range in Regulator:	5 to 125 PSIG (.3 to 8.6 bar)
Gauge:	0 to 160 PSI
Gauge Port:	1/4" NPT

Ordering

Select the basic model number which represents the port size and bowl option required. Modular models listed include Gauge and "T" Brackets, and are shipped assembled. Pipe nipped models include Gauge and Nipple, and are shipped unassembled. If other options are required, order each unit separately.

For BSP threads, add -B to end of model number.

NOTE: To order modular models without "T" Brackets, place a "2" in sixth position of model number. Example: CXXXX2-XXX. See page 58 for Mounting Brackets for pipe nipped models.

NOTE: Not all menu combinations are valid. See price book to verify.

Models & Dimensions, in. (mm)

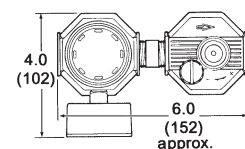
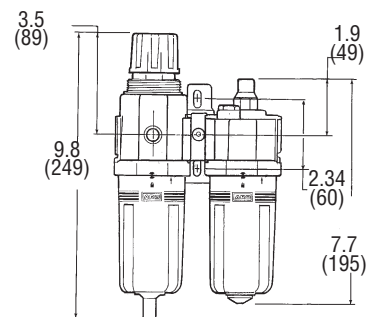
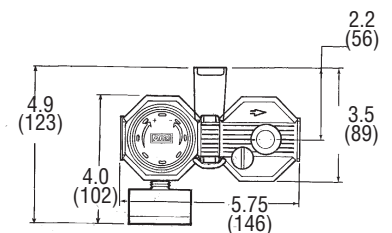
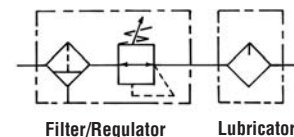
Port Size NPT	Models		Weight lbs. (kg)	Components	
	Modular	Nipped		Filter	Lubricator
push drain • metal bowl with sight glass					
1/4"	C28221-610	C28223-610	4.1 (1.9)	P29221-610	L26221-110
3/8"	C28231-610	C28233-610	4.0 (1.8)	P29231-610	L26231-110
1/2"	C28241-610	C28243-610	3.9 (1.8)	P29241-610	L26241-110
push drain • polycarb. bowl with bowl guard					
1/4"	C28221-600	C28223-600	4.1 (1.9)	P29221-600	L26221-100
3/8"	C28231-600	C28233-600	4.0 (1.8)	P29231-600	L26231-100
1/2"	C28241-600	C28243-600	3.9 (1.8)	P29241-600	L26241-100
automatic drain • metal bowl with sight glass					
1/4"	C28221-611	**	4.1 (1.9)	P29221-614	L26221-110
3/8"	C28231-611	**	4.0 (1.8)	P29231-614	L26231-110
1/2"	C28241-611	**	3.9 (1.8)	P29241-614	L26241-110
automatic drain • polycarb bowl with bowl guard					
1/4"	C28221-601	**	4.1 (1.9)	P29221-604	L26221-100
3/8"	C28231-601	**	4.0 (1.8)	P29231-604	L26231-100
1/2"	C28241-601	**	3.9 (1.8)	P29241-604	L26241-100

NOTE: Two piece modular models include (1)104171 T-Brackets and (1) 100067 Gauge. Pipe Nipped models include (1) 100067 Gauge and (1) appropriate sized pipe nipple.

For pipe nipped FRL combo units with automatic drain, order individual filter/regulator and lubricator components and pipe nipples.



**C28241-610
(Modular)**



Performance Specifications

1/4", 3/8" & 1/2" Ports

Max. Inlet Pressure:	Polycarbonate Bowl - 150 PSIG (10.4 bar) Metal Bowl - 175 PSIG (12 bar)
Operating Temperature Range:	Polycarbonate Bowl - 0° to 125° F (-18° to 52°C) Metal Bowl - 0° to 175° F (-18° to 79°C)
Filter Element:	40 micron
Filter Drain:	Manual (standard); Automatic (optional)

Ordering

Select the basic model number which represents the port size and bowl option required. Modular models listed include Gauge and "T" Brackets, and are shipped assembled. Pipe nipped models include Gauge and Nipple, and are shipped unassembled. If other options are required, order each unit separately.

For BSP threads, add -B to end of model number.

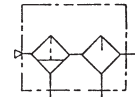
Note: To order modular models without "T" Brackets, place a "2" in sixth position of model number.
Example: CXXXX2-XXX. See page 58 for Mounting Brackets for pipe nipped models.

Note: Not all menu combinations are valid. See price book to verify.



C28241-700
(Modular)

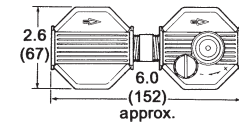
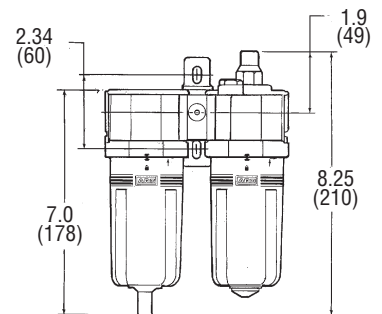
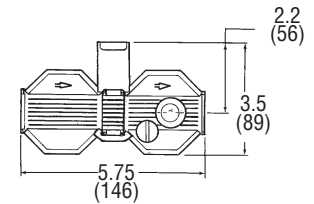
GRAPHIC SYMBOL



Models & Dimensions, in. (mm)

Port Size NPT	Models		Weight lbs. (kg)	Components	
	Modular	Nipped		Filter	Lubricator
push drain • metal bowl with sight glass					
1/4"	C28221-710	C28223-710	3.6 (1.6)	F25221-110	L26221-110
3/8"	C28231-710	C28233-710	3.5 (1.6)	F25231-110	L26231-110
1/2"	C28241-710	C28243-710	3.3 (1.5)	F25241-110	L26241-110
push drain • polycarb. bowl with bowl guard					
1/4"	C28221-700	C28223-700	3.6 (1.6)	F25221-100	L26221-100
3/8"	C28231-700	C28233-700	3.5 (1.6)	F25231-100	L26231-100
1/2"	C28241-700	C28243-700	3.3 (1.5)	F25241-100	L26241-100
automatic drain • metal bowl with sight glass					
1/4"	C28221-711	**	3.6 (1.6)	F25221-111	L26221-110
3/8"	C28231-711	**	3.5 (1.6)	F25231-111	L26231-110
1/2"	C28241-711	**	3.3 (1.5)	F25241-111	L26241-110
automatic drain • polycarb bowl with bowl guard					
1/4"	C28221-701	**	3.6 (1.6)	F25221-101	L26221-100
3/8"	C28231-701	**	3.5 (1.6)	F25231-101	L26231-100
1/2"	C28241-701	**	3.3 (1.5)	F25241-101	L26241-100

NOTE: Modular models include (1)104171 T-Bracket. Pipe Nipped models include (1) appropriate sized pipe nipple.
For pipe nipped FRL combo units with automatic drain, order individual filter, lubricator components and pipe nipple.



Air System Accessories

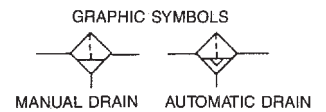
Module/Air 2000 Filters

Features

1/4", 3/8" & 1/2" Ports

ARO Module/Air 2000® Series filters are designed to remove from the air any rust, scale, condensed water and other debris which may cause wear and premature failure of air tools, valves, cylinders, air motors and other air-driven equipment. Filter units should be installed upstream of the regulator and lubricator to protect them from contamination. These filters are ideal for OEM and MRO applications.

- Units have threaded ports for direct connection to pipe plumbing or, when used with modular port adapter kits, a single unit or combination of units can be piped into the air system in a modular arrangement.
- Rugged zinc die-cast bowl guard has large, full-length slots for easy visual checking of liquid. Other bowl options include a metal bowl with sight glass and a plain metal bowl. NOTE: See cautions on the use of polycarbonate bowls. (Page 326)
- Warning and technical information is printed in English, Spanish, French and German on standard units.
- The quick-change bowl with bayonet attachment provides easy bowl removal and filter element replacement. Bayonet attachment design allows sight gauge location at 90° increments.
- Optional filter service life indicator shows when element is clogged and needs changing. See page 281 for more information.
- 40 micron filter element with 12% more filter area.
- Automatic Drain has 1/8" NPT connection for drain line. 10 PSIG minimum operating pressure.

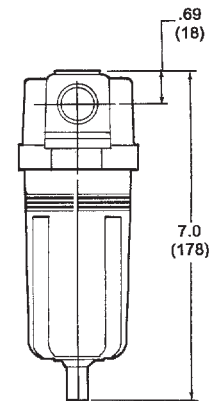
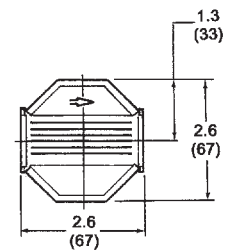


Performance Specifications

Models & Dimensions, in. (mm)

Body:	Zinc die-cast
Bowls:	Polycarbonate or Zinc die-cast
Bowl Guard:	Zinc die-cast
Sight Glass:	Polyimide-Nylon 12
Seals:	Buna N
Drain:	Brass and Buna N
Filter Element:	Porous polypropylene
Sump Capacity:	2.87 oz. (85 cc)
Filter Area:	8.24 sq. in. (5318 mm ²)
Max. Inlet Pressure:	Polycarbonate bowl - 150 PSIG (10.4 bar) Metal bowl - 175 PSIG (12 bar)
Operating Temperature Range:	Polycarbonate Bowl - 0° to 125° F (-18° to 52°C) Metal Bowl - 0° to 175° F (-18° to 79°C)
* Flow:	1/4" = 54 scfm (25 dm ³ /s) 3/8" = 100 scfm (47 dm ³ /s) 1/2" = 122 scfm (58 dm ³ /s)

* Air flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (0.4 bar) pressure drop.



Air System Accessories

Module/Air 2000 Oil Removal Coalescing Filters

Features

1/4", 3/8" & 1/2" Ports

These high efficiency filters are designed for paint spraying, instrumentation controls, and other compressed air applications where the delivered air must be free of oil and fine particles. These filters are ideal for OEM and MRO applications.

- One-piece coalescing filter element removes 99.9% of oil aerosols and particles down to .3 micron.
- Units have threaded ports for direct connection to pipe plumbing.
- Warning and technical information is printed in English, Spanish, French and German on standard units.
- Bayonet bowl attachment provides easy bowl removal and filter element replacement.
- Optional filter service life indicator shows when element needs changing. See page 281.

Ordering

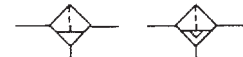
From the chart below, select the model number associated with port size and bowl/drain option required. If other options are needed, use menu below.

Specifications, dimensions and accessories same as standard filter, see pages 278 and 279.

Port Size Npt	Flow Scfm	Flow (Dm3/s)	Model	Bowl Size Oz. (ml)	Weight Lbs. (kg)
push drain • metal bowl with sight glass					
1/4"	40	(17)	F25221-310	6.0 (177)	1.48 (.68)
3/8"	51	(24)	F25231-310	6.0 (177)	1.46 (.66)
1/2"	53	(25)	F25241-310	6.0 (177)	1.43 (.65)
push drain • polycarb. bowl with bowl guard					
1/4"	40	(17)	F25221-300	6.0 (177)	1.48 (.68)
3/8"	51	(24)	F25231-300	6.0 (177)	1.46 (.66)
1/2"	53	(25)	F25241-300	6.0 (177)	1.43 (.65)
automatic drain • metal bowl with sight glass					
1/4"	40	(17)	F25221-311	6.0 (177)	1.48 (.68)
3/8"	51	(24)	F25231-311	6.0 (177)	1.46 (.66)
1/2"	53	(25)	F25241-311	6.0 (177)	1.43 (.65)
automatic drain • polycarb bowl with bowl guard					
1/4"	40	(17)	F25221-301	6.0 (177)	1.48 (.68)
3/8"	51	(24)	F25231-301	6.0 (177)	1.46 (.66)
1/2"	53	(25)	F25241-301	6.0 (177)	1.43 (.65)



GRAPHIC SYMBOLS



Pre-Filters are essential for long coalescing life.

Recommended Installation

Use in conjunction with an upstream filter. Filter units should also be installed upstream of the regulator or lubricator to protect them from contamination.



STANDARD PRE-FILTER COALESCING FILTER

Additional Models Available

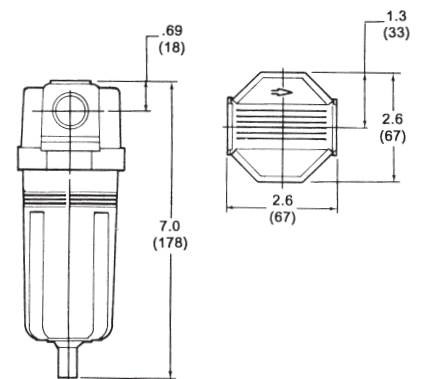
NOTE: Not all menu combinations are valid. See price book to verify.

	Base Model			
1/4"	F2522	X	- 3	X X
3/8"	F2523	X	- 3	X X
1/2"	F2524	X	- 3	X X

Select the basic model number associated with the port size desired. From the table below, select the number representing the filter options required. For BSP threads, add -B to the end of model number.

X	X	X
Filter Service Indicator	Bowl Option	Drain Option

1 = None	0 = Polycarbonate w/ guard	0 = Manual Push Drain
2 = With Service Indicator	1 = Metal w/sight glass	1 = Automatic Drain
	2 = Metal	

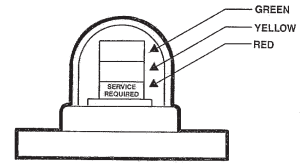


Features

1/4", 3/8" & 1/2" Ports

Units equipped with the Filter Service Indicator are designed to indicate when the filter element is clogged and needs to be serviced. The highly visible rising collar is seen from any angle. Pressure is monitored at two different points in a system (inlet and outlet) and acts on opposite sides of a diaphragm sensor. A change in pressure (pressure drop) causes the collar to rise, indicating element is clogged.

- Pop-up three-color indicator provides visual monitoring of filter element efficiency.
- Service life indicator changes from green to red when element is clogged and needs changing.
- The rising collar is visible from 360°.



Ordering

From the chart below, select the model number associated with port size and bowl and drain option required. If other options are needed, refer to menu on page 279. Specifications, options and accessories same as standard filter, see pages 278 and 279.

Port Size Npt	Flow Scfm	Flow (Dm ₃ /S)	Model with Standard Element	Flow scfm	Flow (Dm ₃ /S)	Model with Coalescing Element
push drain • metal bowl with sight glass						
1/4"	54	(25)	F25222-110	40	(17)	F25222-310
3/8"	100	(47)	F25232-110	51	(24)	F25232-310
1/2"	122	(58)	F25242-110	53	(25)	F25242-310
push drain • polycarb. bowl with bowl guard						
1/4"	54	(25)	F25222-100	40	(17)	F25222-300
3/8"	100	(47)	F25232-100	51	(24)	F25232-300
1/2"	122	(58)	F25242-100	53	(25)	F25242-300

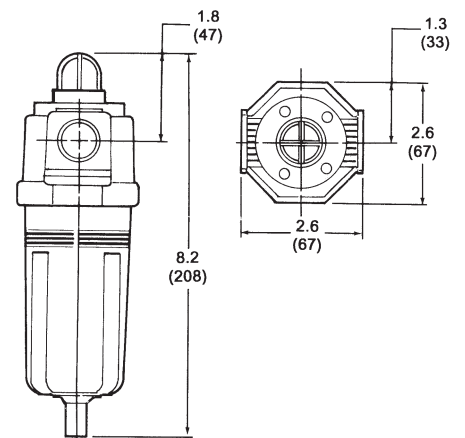


F25242-300

Accessories

Coalescing Filter Accessories

104068	Automatic Drain for filter bowl.
104107	Mounting Bracket (for use with pipe nipples)
104149	Push Drain Kit for filter bowl
104176	Filter Service Kit (Includes O-ring and Manual Drain)
104182	Sight Glass Service Kit (Includes 2 O-rings and Sight glass)
100032	Coalescing Filter Element
104202	Polycarbonate bowl w/guard
104204	Metal bowl w/ sight glass
104206	Metal bowl



Air System Accessories

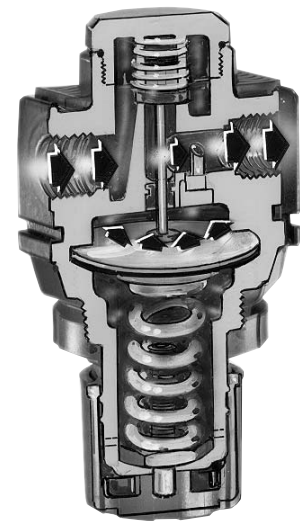
Module/Air 2000 Regulators

Features

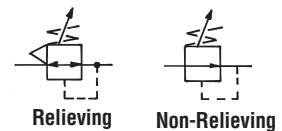
1/4", 3/8" & 1/2" Ports

ARO Module/Air 2000® Series regulators are designed to provide quick response and accurate pressure regulation over a wide range of applications. Two gauge ports allow for more versatility in mounting and usage of the unit. Three spring options allow for spring changes, instead of entire regulator changes, to meet most air pressure applications.

- Units have threaded ports for direct connection to pipe plumbing or, when used with modular port adapter kits, a single unit or combination of units can be piped into the air system in a modular arrangement.
- Push-pull, non-rising knob allows one-hand adjustment. Pull to adjust, push to lock. Arrows on the knob indicate direction of pressure increase/ decrease.
- Regulator can be mounted either up or down, increasing user flexibility.
- Balanced valve-type diaphragm regulation assures positive pressure adjustment and rapid response to inlet pressure changes.
- Regulator offers in-line repairability. Valve and diaphragm can be replaced without removing unit from line.
- Regulator can be panel-mounted up to 1/4" thickness. Hole diameter is 1-7/8".
- Buna N diaphragm and seals provide excellent elasticity and longer life.
- A tamper-resistant clamp is available. Units can be preset and locked to specific requirements.
- Order regulator with or without gauge.



GRAPHIC SYMBOLS



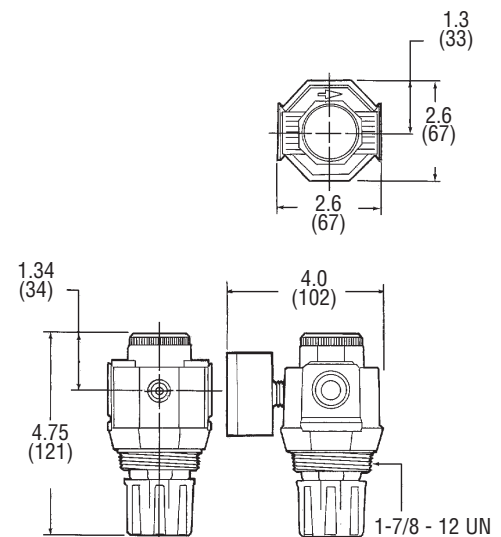
Performance Specifications

Models & Dimensions, in. (mm)

Body:	Zinc die-cast						
Seals:	Buna N						
Diaphragm:	Buna N						
Valve:	Brass						
Spring Housing:	Glass-Filled Nylon						
Cap and Knob:	High Impact ABS						
Max. Inlet Pressure:	200 PSIG (13.8 bar)						
Pressure Range in Regulator:	0 to 200 PSIG (0 to 13.8 bar)						
Operating Temperature Range:	0° to 180° F (-18° to 82°C)						
Gauge Port:	1/4" NPT						
*Flow:	<table border="0"> <tr> <td>1/4" =</td> <td>100 scfm (47 dm³/s)</td> </tr> <tr> <td>3/8" =</td> <td>130 scfm (61 dm³/s)</td> </tr> <tr> <td>1/2" =</td> <td>150 scfm (71 dm³/s)</td> </tr> </table>	1/4" =	100 scfm (47 dm ³ /s)	3/8" =	130 scfm (61 dm ³ /s)	1/2" =	150 scfm (71 dm ³ /s)
1/4" =	100 scfm (47 dm ³ /s)						
3/8" =	130 scfm (61 dm ³ /s)						
1/2" =	150 scfm (71 dm ³ /s)						

*Air flow is at 100 PSIG (6.9 bar) inlet and 90 PSIG (6.2 bar) outlet.

CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.



Air System Accessories

Module/Air 2000 Regulators



Ordering

1/4", 3/8" & 1/2" Ports

From the chart below, select the model number associated with port size and gauge option required. If other options are needed, use menu at bottom.

Port Size Npt	Flow Scfm	Models (Dm3/s)	Models Spring Range		Weight Lbs. (Kg)
			0 To 50 Psig (0-3.5 Bar)	5-125 Psig (.4-8.6 Bar)	
relieving-type without gauge					
1/4"	100	(47)	R27221-200	R27221-100	1.38 (.63)
3/8"	130	(61)	R27231-200	R27231-100	1.34 (.61)
1/2"	150	(71)	R27241-200	R27241-100	1.30 (.59)
relieving-type with gauge					
1/4"	100	(47)	R27221-700	R27221-600	1.38 (.63)
3/8"	130	(61)	R27231-700	R27231-600	1.34 (.61)
1/2"	150	(71)	R27241-700	R27241-600	1.30 (.59)

Additional Models Available

Select the basic model number associated with the port size desired. From the table below, select the numbers representing the regulator options required. For BSP threads, add -B to end of model number.

Port Size Basic Model

NOTE: Not all menu combinations are valid. See price book to verify.

1/4" R27221 - X X X

3/8" R27231 - X X X

1/2" R27241 - X X X

Shaded area indicates best-selling models

*Pressure Range PSIG (bar)

- 1 = 5 - 125 (.4-8.6) no gauge
- 2 = 0 - 50 (0-3.5) no gauge
- 3 = 10 - 200 (.7-13.8) no gauge
- 6 = 5 - 125 (.4-8.6) w/ 0 - 160 lb.
- 7 = 0 - 50 (0-3.5) w/ 0 - 60 lb.
- 8 = 10 - 200 (.7-13.8) w/ 0 - 300 lb.

Relieving Option

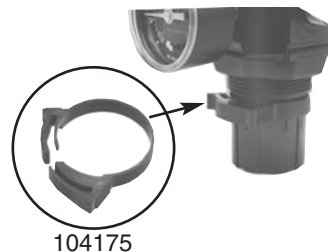
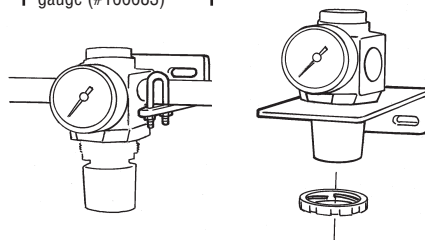
- 0 = Relieving
- 2 = Non-Relieving
- gauge (#100067)
- gauge (#100066)
- gauge (#100083)

Control Option

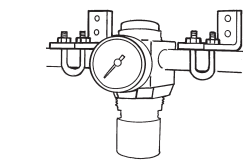
- 0 = Standard Knob

Accessories

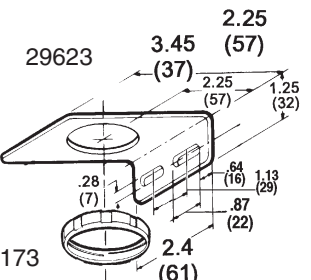
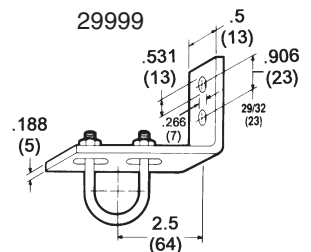
Model No.	Description
100066	Gauge 0 - 60 PSIG
100067	Gauge 0 - 160 PSIG
100083	Gauge 0 - 300 PSIG
104107	Mounting Bracket
104172	Wall Mounting Kit (includes Panel Nut & Bracket.)
104173	Panel Mount Nut
104175	Tamper Resistant Kit
104177	Service Kit, Relieving Type
104178	Service Kit, Non-Relieving Type
104209	Knob Repair Kit
29594	Spring, 5 - 125 lb. (Gold)
29595	Spring, 0 - 50 lb. (Green)
29596	Spring, 10 - 200 lb. (Silver)
29623	Wall Mounting Bracket
29999	U-Bolt Mounting Bracket



R27241-600

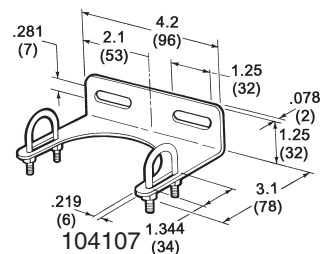


29999



104173

104172 (includes Bracket & Nut)



104107

Air System Accessories

Precision/Air Regulator

Features

1/4" & 3/8" Ports

Precision/Air regulators are high precision, multi-stage pressure regulators. The highest degree of regulation and repeatability are achievable by reacting to down stream pressure fluctuations as small as 0.01 PSIG (0.07 KPA) above set pressure. Action occurs as downstream pressure is piloted to the control chamber to act on a finely tuned stainless steel measuring capsule. A continuous bleed of less than 0.08 SCFM (0.15 m/hr.) works on the pilot diaphragm causing appropriate movement of the supply valve or the relief valve. Movements as small as .0001 inches (.0025mm) will cause the main valve to correct to the proper position. Relief flows of up to 10 SCFM can be achieved on the high relief model (-100 models). Exhaust is achieved through the exhaust vents located in the side of the body.

- The Precision/Air Regulator controls output pressure with an accuracy of 0.1%, and has very low sensitivity to changes in supply pressure and flow.
- This regulator has been designed to eliminate need for any readjustment of the regulated pressure after long "down time." At start-up, the regulated pressure will return to its output setting.
- The regulated pressure is held constant over substantial changes in flow due to the high-gain pneumatic servoamplifier. Particularly good from dead end to 203.4 m3/hr. (12 SCFM).
- The unit may be installed in any position. It can be panel mounted or supported by in-line plumbing.

Performance Specifications

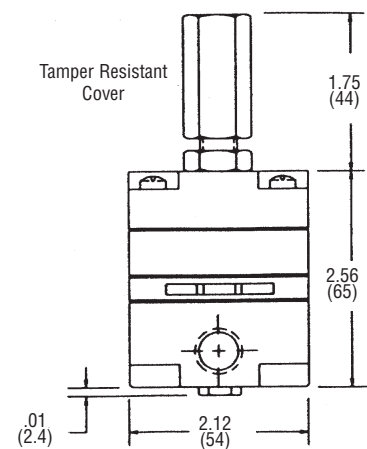
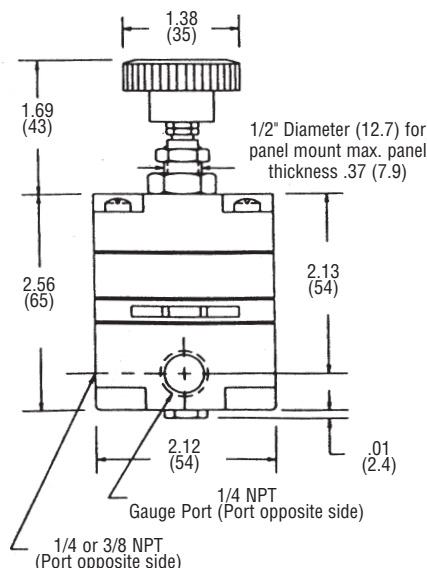
Models & Dimensions, in. (mm)

Body:	Zinc die-cast
Diaphragm:	Buna N
Metering Capsule:	Stainless Steel
Knob:	Phenolic Plastic
Flow Capacity:	14 SCFM (25 m3/hr.)
Exhaust Capacity:	Up to 10 SCFM
Sensitivity:	.125 Inches (3.2 mm) Water Column
Total Air Consumption:	6 SCFH (.17 m3/hr.)
Pilot Bleed Rate:	0.08 SCFM (0.15 m3/hr.)
Supply Pressure Variation:	Less than .005 PSIG (.03 kpa) @ 25 PSIG variance
Maximum Supply Pressure:	150 PSIG (1050 kpa) A filter with 5 micron element should be installed ahead of unit.
Operating Temperature Range:	20° to 150°F (-7° to 66°C)



APPLICATIONS

- Air gauging
- Gas mixing
- Web tensioning
- Roll loading
- Air hoists



Ordering

1/4" & 3/8" Ports

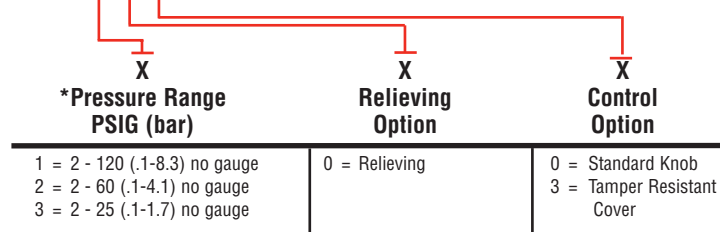
PORT SIZE NPT	FLOW 2 to 120 PSIG (.4-8.6 bar)	MODELS		WEIGHT lbs. (kg)
		Spring Range		
1/4"	PR4021-100	PR4021-200	PR4021-300	1.4 (.64)
3/8"	PR4031-100	PR4031-200	PR4031-300	1.4 (.64)

Additional Models Available

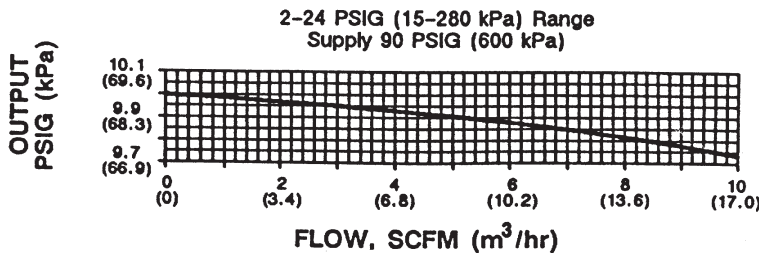
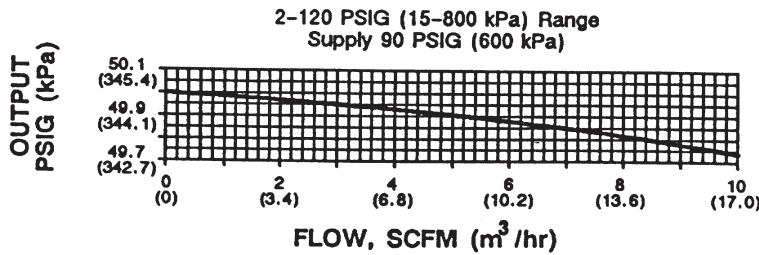
Port Size Basic Model

1/4" PR4021 - X X X

3/8" PR4031 - X X X

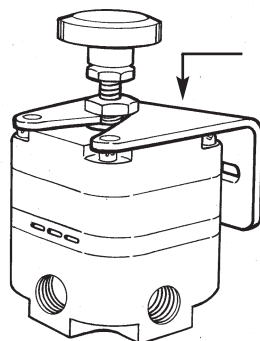


Flow Characteristics



Accessories

Precision/Air Regulators



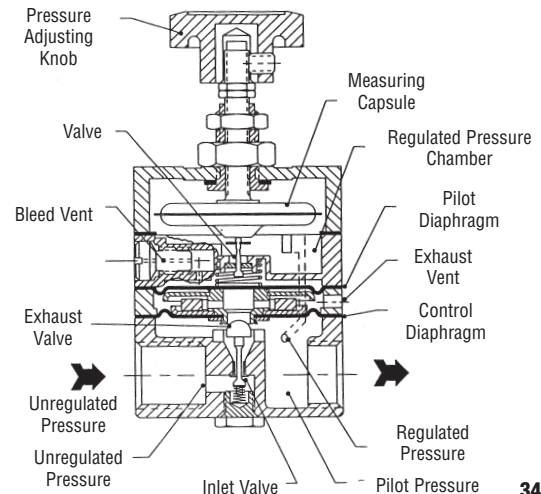
Wall Mount
Bracket
P/N 29077

See Page 48
For Bracket
Dimensions

Service Kits

100207-1 2 - 25 lb. or 2 - 60 lb. Spring Range

100207-2 2 - 120 lb. Spring Range



Module/Air 2000 Piggyback Filter/Regulator

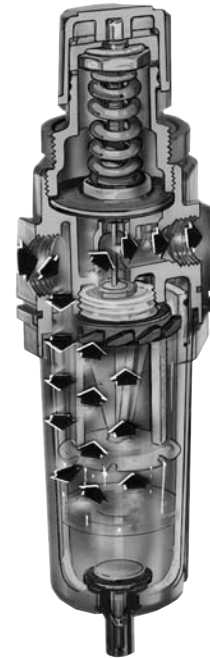
Features

1/4", 3/8" & 1/2" Ports

ARO Module/Air 2000® Series “Piggyback” units are compact to save space, giving more design flexibility. The filter and regulator have a common inlet and a common outlet. This saves on space, set-up time and piping costs.

- Units have threaded ports for direct connection to pipe plumbing or, when used with modular port adapter kits, a single unit or combination of units can be piped into the air system in a modular arrangement.
- Push-pull, non-rising knob allows one-hand adjustment. Pull to adjust, push to lock. Arrows on the knob indicate pressure increase and decrease.
- Balanced valve-type diaphragm regulation assures positive pressure adjustment and rapid response to inlet pressure changes.
- Regulator offers in-line repairability. Valve and diaphragm can be replaced without removing unit from line.
- Bayonet bowl attachment provides easy filter element removal.
- Inlet / outlet is stamped into housing for easy air line hookup.
- Automatic drain has 1/8" NPT connection for draining away contaminant's.
- 10 PSIG minimum operating pressure.

NOTE: See cautions on the use of polycarbonate bowls. (Page 326)

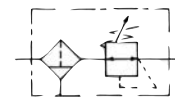


Performance Specifications Models & Dimensions, in. (mm)

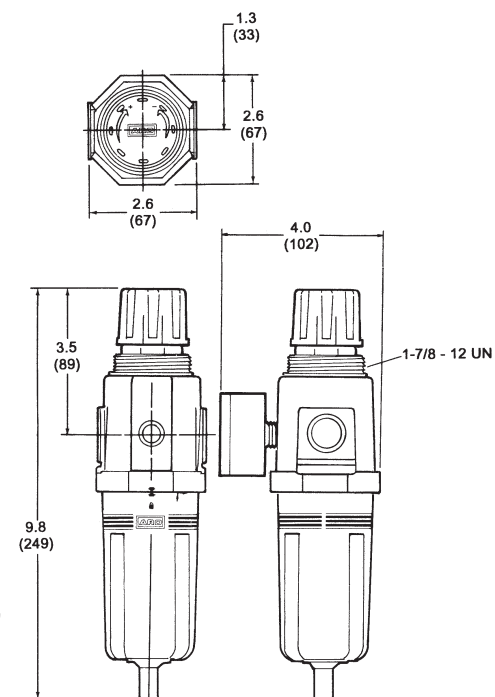
Body:	Zinc die-cast
Bowls:	Polycarbonate or Zinc die-cast
Bowl Guard:	Zinc die-cast
Sight Glass:	Polyimide-Nylon 12
Seals:	Buna N
Drain:	Brass and Buna N
Filter Element:	Porous polypropylene
Diaphragm:	Buna N
Valve:	Brass
Spring Housing:	Glass-Filled Nylon
Max. Inlet Pressure:	Polycarbonate bowl - 150 PSIG (10.4 bar) Metal bowl - 175 PSIG (12 bar)
Operating Temperature Range:	Polycarbonate Bowl - 0° to 125° F (-18° to 52°C) Metal Bowl - 0° to 175° F (-18° to 79°C)
Gauge Port:	1/4" NPT
*Flow:	1/4" = 93 scfm (44 dm ³ /s) 3/8" = 135 scfm (64 dm ³ /s) 1/2" = 140 scfm (66 dm ³ /s)

* Air flow is at 100 PSIG (6.9 bar) inlet and 90 PSIG (6.2 bar) outlet.

GRAPHIC SYMBOLS



Relieving with manual drain



CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.

Air System Accessories Module/Air 2000 Piggyback Filter/Regulator



Ordering

Port Size Npt	Flow Scfm	Model (Dm3/s)	Bowl Size W/o Gauge	Filter Element W/ Gauge	Weight Oz. (MI)	(Micron)	Lbs. (Kg)
push drain • metal bowl with sight glass							
1/4"	93	(44)	P29221-110	P29221-610	6.0 (177)	40	2.05 (.93)
3/8"	135	(64)	P29231-110	P29231-610	6.0 (177)	40	2.03 (.92)
1/2"	140	(66)	P29241-110	P29241-610	6.0 (177)	40	2.00 (.91)
push drain • polycarb. bowl with bowl guard							
1/4"	93	(44)	P29221-100	P29221-600	6.0 (177)	40	2.05 (.93)
3/8"	135	(64)	P29231-100	P29231-600	6.0 (177)	40	2.03 (.92)
1/2"	140	(66)	P29241-100	P29241-600	6.0 (177)	40	2.00 (.91)
automatic drain • metal bowl with sight glass							
1/4"	93	(44)	P29221-114	P29221-614	6.0 (177)	40	2.05 (.93)
3/8"	135	(64)	P29231-114	P29231-614	6.0 (177)	40	2.03 (.92)
1/2"	140	(66)	P29241-114	P29241-614	6.0 (177)	40	2.00 (.91)
automatic drain • polycarb bowl with bowl guard							
1/4"	93	(44)	P29221-104	P29221-604	6.0 (177)	40	2.05 (.93)
3/8"	135	(64)	P29231-104	P29231-604	6.0 (177)	40	2.03 (.92)
1/2"	140	(66)	P29241-104	P29241-604	6.0 (177)	40	2.00 (.91)



P29221-600

*Note: 10-175 PSI pressure range can be ordered only with Metal Bowl or Metal Bowl with Sight Glass.

Additional Models Available

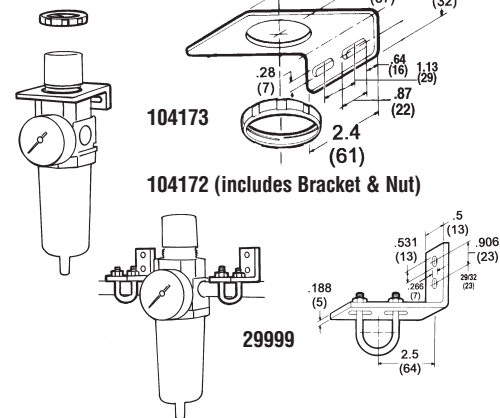
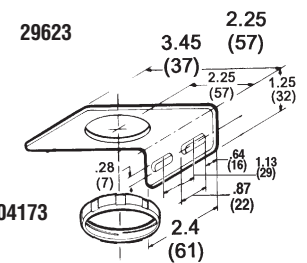
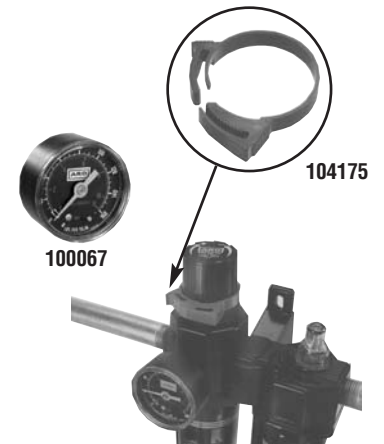
Select the basic model number associated with the port size desired. From the table below, select the numbers representing the options required. For BSP threads, add -B to end of model number.

Port Size Basic Model NOTE: Not all menu combinations are valid. See price book to verify.

1/4" P2922X - X X X
 3/8" P2923X - X X X
 1/2" P2924X - X X X

Shaded area indicates best-selling models

Filter Element	*Pressure Range PSIG (bar)	Relieving / Bowl Option	Control Option / Drain
1 = 40 Micron	1 = 5 - 125 (.4-8.6) No Gauge	0 = Relieving/ Poly w/ Guard	0 = Standard Knob/ Manual
4 = 5 Micron	2 = 0 - 50 (0-3.5) No Gauge	1 = Relieving/ Metal w/ Sight Glass	
	3 = 10 - 175 (.7-12.1) No Gauge*	2 = Relieving/ Metal	4 = Standard/ Auto Drain
	6 = 5 - 125 (.4-8.6) w/ Gauge		
	7 = 0 - 50 (0-3.5) w/ Gauge		
	8 = 10 - 175 (.7-12.1) w/ Gauge*		



Accessories

"Piggyback"

Model	Description	Model	Description
100066	Gauge 0-60 PSIG	104182	Sight Glass Service Kit
100067	Gauge 0-160 PSIG	104202	Poly Bowl w/ Guard
100083	Gauge 0-300 PSIG	104204	Metal Bowl w/ Sight Glass
104107	Mounting Bracket	104206	Metal Bowl
104149	Push Drain Kit	29594	Spring, 5-125 lb. (Gold)
104172	Wall Mounting Kit (includes Panel Nut & Bracket)	29595	Spring, 0-50 lb. (Green)
104173	Panel Mount Nut	29596	Spring, 10-200 lb. (Silver)
104175	Tamper Resistant Kit	29623	Mounting Bracket
104179	Service Kit, Relieving Type	29999U	Bolt Mounting Bracket
104180	Service Kit, Non-Relieving Type	104068	Automatic Drain
		104209	Knob Repair Kit

Air System Accessories

Module/Air 2000 Lubricators

Features

1/4", 3/8" & 1/2" Ports

ARO Module/Air 2000® oil-fog lubricator features an adjustment needle on top of the transparent sight dome. The adjustment needle features finer threads and improved tolerances between the needle and seat. Lubricator drip rate adjustment is easier to set. The required amount of lubrication can be efficiently delivered for longer life of tools, cylinders, valves, pumps, air motors and other air-operated equipment.

- Lubricator can be filled while under pressure. This avoids the inconvenience of system pressure shut-down and the resulting downtime.
- The oil adjustment screw has an optional tamper-resistant cap which helps prevent unauthorized adjustment of oil.
- Increase / decrease markings on castings show direction to turn adjustment screw for easy oil drip set-up.
- Warning and technical information is printed in English, Spanish, French and German on standard units.
- Bayonet bowl attachment provides easy removal.
- Units have threaded ports for direct connection to pipe plumbing or, when used with modular port adapter kits, a single unit or combination of units can be piped into the air system in a modular arrangement.

NOTE: See cautions on the use of polycarbonate bowls. (Page 326)



GRAPHIC SYMBOL

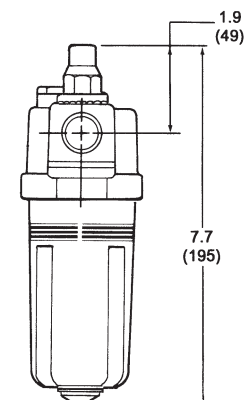
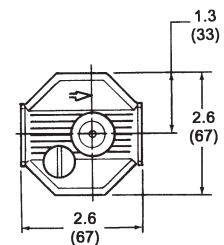


LESS DRAIN

Performance Specifications Models & Dimensions, in. (mm)

Body:	Zinc die-cast
Bowls:	Polycarbonate or Zinc die-cast
Bowl Guard:	Zinc die-cast
Sight Glass:	Polyimide-Nylon 12
Seals:	Buna N
Sight Dome:	Polycarbonate
Oil Capacity:	6 oz. (177 ml)
Max. Inlet Pressure:	Polycarbonate bowl — 150 PSIG (10.4 bar) Metal bowl — 175 PSIG (12 bar)
Operating Temperature Range:	Polycarbonate Bowl - 0° to 125° F (-18° to 52°C) Metal Bowl - 0° to 175° F (-18° to 79°C)
*Flow:	1/4"=75 scfm (35 dm 3/s) 3/8" = 100 scfm (47 dm 3/s) 1/2" = 110 scfm (52 dm 3/s)

*Air flow is at 90 PSIG (6.2 bar) inlet and 10 PSIG (0.7 bar) pressure drop.



Air System Accessories

Module/Air 2000 Lubricators



Ordering Information

1/4", 3/8" & 1/2" Ports

Port Size NPT	Flow scfm	Flow (dm 3/s)	Model	Bowl Size oz. (ml)	Weight lbs. (kg)
Metal bowl with sight glass					
1/4"	75	(35)	L26221-110	6.0 (177)	1.50 (.68)
3/8"	100	(47)	L26231-110	6.0 (177)	1.44 (.65)
1/2"	110	(52)	L26241-110	6.0 (177)	1.36 (.62)
Polycarb. bowl with bowl guard					
1/4"	75	(35)	L26221-100	6.0 (177)	1.50 (.68)
3/8"	100	(47)	L26231-100	6.0 (177)	1.44 (.65)
1/2"	110	(52)	L26241-100	6.0 (177)	1.36 (.62)

From the chart at left, select the model number associated with port size and bowl option required. If other options are preferred, use menu below.

Additional Models Available

Select the basic model number associated with the port size desired. From the table below, select the numbers representing the lubricator options required. For BSP threads, add -B to end of model number.

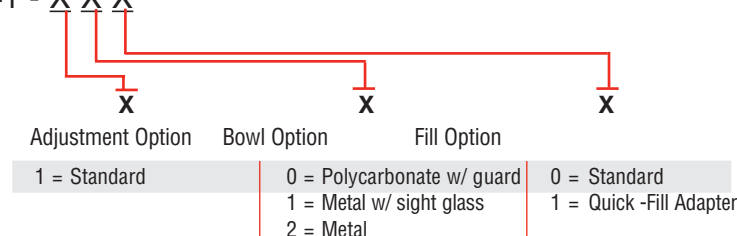
Port Size Basic Model

1/4" L26221 - X X X

3/8" L26231 - X X X

1/2" L26241 - X X X

Shaded area = Best-Selling Models



L26241-100



29665



104211

Lubricator

Model No.	Description
104027	Tamper-Resistant Plug
104107	Mounting Bracket
104181	Service Kit
104182	Sight Glass Service Kit
104203	Polycarbonate Bowl w/ guard
104205	Metal Bowl w/ sight glass
104207	Metal Bowl
104211	Metal Bowl w/ sight glass and Quick-Fill Adapter
104226	Sight Dome Service Kit
29235	Quick-Fill Adapter
29665	Lubricating Oil (1 qt.) For additional details, see page 319.

Air System Accessories

Module/Air 2000 Lubricators

Features

Modular Spacer Kit

Spacer has retained O-rings and allen head screws for ease of assembly/disassembly. One spacer kit is required to connect any two units or accessories together in the modular format. Kit includes: the spacer block, two clamps and two O-rings. Screws take a size 4mm or 5/32" allen head wrench. To assemble, simply put the spacer between the units and tighten screws for a secure seal. Fits all port sizes.

On Pipe Port Adapters, Manifold Kits, 3-Way Shut-off Valves and Piping Bracket Kit, Threads are NPT.

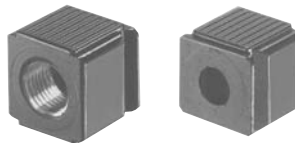
Model 104167



Threaded 1/4"- 3/4" NPT Pipe Adapters

Threaded pipe adapter blocks allow a single unit or multiple units to be plumbed into an air system in the modular arrangement. These pipe adapters allow for ease of service when removing a unit from the line. The adapters can also be used to pipe different diameters (in and out) in the plumbing set-up. Kit includes two adapters and two spacer kits (Model 104167). See page 308 for mounting dimensions.

Model
104168-2 1/4" NPT Ports
104168-3 3/8" NPT Ports
104168-4 1/2" NPT Ports
104168-6 3/4" NPT Ports



T-Type Wall Mounting Brackets

These brackets provide heavy duty wall mounting. They are excellent for mounting a single unit or multiple units which are in the modular arrangement. T-type mount gives good wall-to-unit clearance for installing fittings and other connections. Kit includes a spacer, bracket and clamp.

Model 104171



Right Angle Piping Bracket Kit

90° elbow brackets provide for neater air installations by bringing air into the backside of units and hiding all pipe connections. Kit includes two 90° elbows and two spacer kits (Model 104167). See page 308 for mounting dimensions.

Model 104169



Wall Mounting Kit

May be used to mount FRL combo units which include a regulator, "Piggyback" Filter/Regulator units, or individual regulators. Kit includes Model 29623 Bracket and Model 104173 Panel Mounting Nut. Bracket and Nut may be ordered individually.

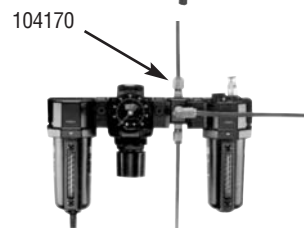
Model 104172



Modular Manifold Block Kit

This manifold can be installed before or after any unit in the modular arrangement, providing four additional 1/4" NPT ports for greater circuit design flexibility. When installed between the regulator and lubricator, clean, regulated air can be used to signal other equipment. Kit includes: manifold, two spacers, three pipe plugs, four clamps and O-rings.

Model 104170

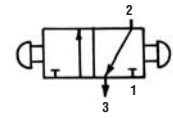


Manifold creates four additional 1/4" NPT outlet ports

Accessories

Safety Shutoff, Lockout Valve

Meets OSHA Lockout/Tagout regulation 1910.147. Exhaust-type safety shutoff valve can be used in the modular arrangement or in-line, depending on application requirements. The safety shut-off valve should be installed upstream from the F-R-L unit, and it is excellent for isolating and depressurizing a downstream unit requiring maintenance. The valve operates by pushing the lever down (closed position), exhausting downstream air. The valve may be locked in the exhausted position. When using the valve in the modular arrangement, it is secured to the unit with a modular spacer or T-type modular bracket.



3 Port - 2 Position

Performance Specifications

Models & Dimensions, in. (mm)

Max. Inlet:	175 PSIG (12 bar)
Max. Temperature:	0° to 125° F (-18° to 52°C)
Body:	Zinc die-cast
Seals:	Buna N
Slide:	Delrin



Shown in modular arrangement with Module/Air 2000 FRL



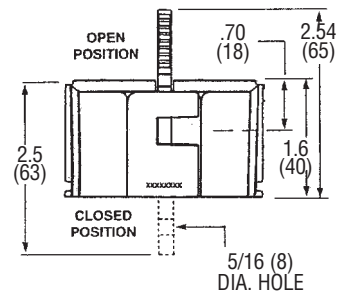
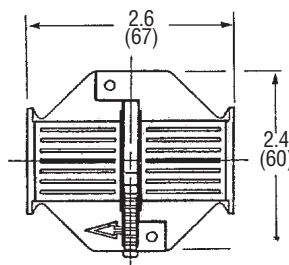
Shown as individual unit.

Ordering

MODEL	PORT SIZE
104174-2	1/4" NPT
104174-3	3/8" NPT
104174-4	1/2" NPT
100085	Lockout Hasp

Note

ARO Safety Lockout Valves meet OSHA Lockout/Tagout regulation 1910.147, which requires protection from unexpected start up of a machine during service or maintenance.



Air System Accessories

Air System Components

Accessories

Pressure Switch

Pressure Switch allows the sensing of high or low pressure thresholds. Use with Model 104170 Manifold Block. Features include:

- Water resistant
- External pressure adjustment with allen screw
- Can be wired normally open or normally closed
- Computer-compatible since it allows electrical current to flow or to be stopped.

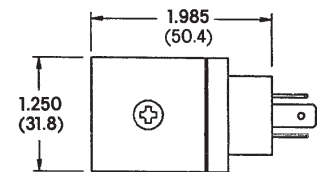
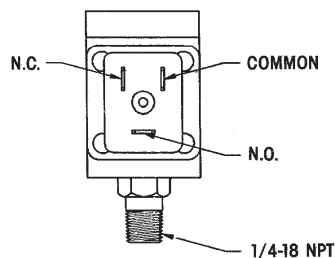
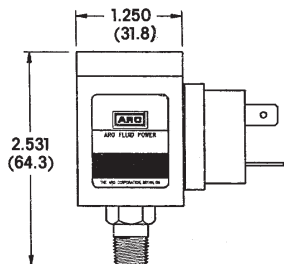
Performance Specifications

Models & Dimensions, in. (mm)

Medium:	Compressed Air
Max. Operating Pressure:	150 PSI (10.4 bar)
Adjustable Pressure Range:	20 to 100 PSI (1.4 to 6.9 bar)
Differential Pressure:	5 to 10 PSI (0.3 to 0.9 bar)
Operating Temperature Range:	-40° to 300° F
Weight:	11 oz.
Contact Type:	N.O./ N.C.
Contact Ratings:	5 Amps at 125 VDC 5 Amps at 250 VAC
Contact:	Silver Alloy wiping contact with snap action
Accuracy:	20% accuracy or better. Switch is ± 2 or 5% of set point (whichever is greater)
Cycle Life:	1,000,000 plus
Thread:	1/4-18 NPT male

Ordering

MODEL	DESCRIPTION
104196	Switch only (without connector)
Coil Connectors	
104196-CHW	Switch with molded cable connector, 36" leads
104196-CSN	Switch with strain relief connector
104196-CDW	Switch with 1/2" conduit connector, 18" leads



Model 104196



104196-CHW



104196-CDW



104196-CSN

Air System Accessories

Module/Air 3000 Piggyback Lubricator



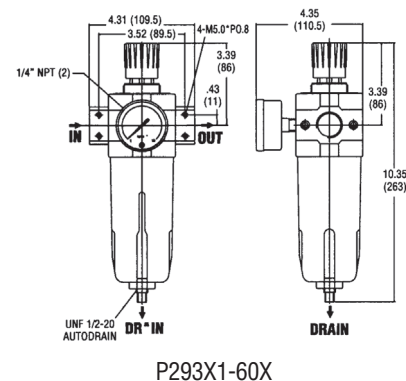
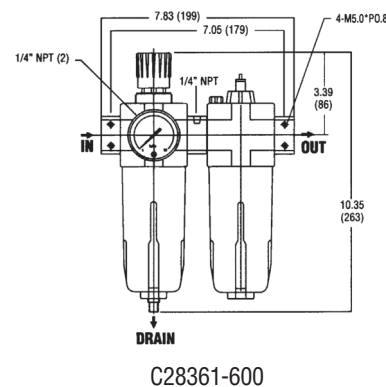
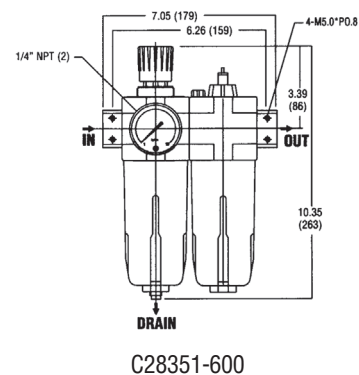
Features

- The Module/Air 3000 Heavy-Duty Series units extends the life of air operated equipment while reducing operating costs. These units efficiently remove solid particles from compressed air lines-making them the perfect choice for large flow applications.
- Polycarbonate bowl with metal guard standard
- Automatic drain has pipe connection for draining away contaminants.
- Push-pull, non-rising adjustment knob.
- Bracket and Gauge comes standard with all units.



Performance Specifications

Construction:	Piston Type Regulation
Material:	Body/Aluminum Die-Cast Bowl/Polycarbonate
Filter Element:	40 Micron (Standard)
Temperature Range:	14 to 140 F (-10 to 60 C)
Pressure Range:	5 to 170 PSI (.4 to 11.7 bar)
Max. Pressure:	170 PSI (11.7 bar)
Max. Flow Rate:	Piggyback, 300 scfm Lubricator, 320 scfm
Media:	Compressed Air
Bowl Capacity:	Filter, 7 oz. Lubricator, 8 oz.
Seals:	Buna-N
Weight:	Piggyback-Lube, 4.6 lbs. (2105 g) Piggyback, 3 lbs. (1360 g)



Ordering

MODEL	DESCRIPTION
P29351-600	Piggyback, 3/4" NPT, w/Gauge & Bracket
P29361-600	Piggyback, 1" NPT, w/Gauge & Bracket
P29351-604	Piggyback, 3/4" NPT, w/Gauge, Bracket & Auto Drain
P29361-604	Piggyback, 1" NPT, w/Gauge, Bracket & Auto Drain
C28351-600	Piggyback/Lube Combo, 3/4" NPT, w/Gauge & Bracket
C28361-600	Piggyback/Lube Combo, 1" NPT, w/Gauge & Bracket
100067	Gauge, 0-160 PSI
104282	Bracket
104283	Auto Drain
104284	Filter Element, 40 Micron (Standard)
104285	Filter Element, 5 Micron
104286	Filter Bowl
104287	Lubricator Bowl

Air System Accessories

Heavy-Duty Series Filter-Regulator-Lubricator

Features

1/2", 3/4" & 1" Ports

For application and feature/ benefit information for the combination units on this page, refer to individual component pages: Filters - page 47

Regulators - page 48

Lubricators - page 49

Performance Specifications

Max. Inlet Pressure:	200 PSIG (13.8 bar)
Operating Temperature Range:	0° to 125° F (-18° to 52° C)
Filter Element:	40 Micron
Bowl:	Polycarbonate w/ Bowl Guard
Pressure Range in Regulator:	5 to 125 PSI (.4 to 8.6 bar)
Gauge:	0 to 160 PSI



28368

Ordering

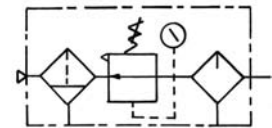
PORT SIZE	MODEL	LBS. (kg)	COMPONENTS				PIPE NIPPLE
			FILTER	REGULATOR	LUBRICATOR	GAUGE	

Select the basic model number which represents the port size desired. If other options are desired, order each component separately.

1/2"	28343	10.16 (4.61)	25341-020	27344-000	26341-020	100067	Y27-54-C
3/4"	28353	10.12 (4.59)	25351-020	27354-000	26351-020	100067	Y27-55-C
1"	28363	9.37 (4.25)	25361-020	27364-000	26361-020	100067	Y27-56-C

NOTE: Shipped unassembled. For assembled unit, change the last digit from 3 to 8. Example: 28358.

GRAPHIC SYMBOL



Performance Specifications

Filter-Regulator

Max. Inlet Pressure:	200 PSIG (13.8 bar)
Operating Temperature Range:	0° to 125° F (-18° to 52° C)
Filter Element:	40 Micron
Bowls:	Polycarbonate w/ Bowl Guard
Pressure Range in Regulator:	5 to 125 PSI (.4 to 8.6 bar)
Gauge:	0 to 160 PSI

Ordering

PORT SIZE	MODEL	GAUGE PORT	WEIGHT LBS. (kg.)	COMPONENTS		PIPE	
				FILTER	REGULATOR	GAUGE	NIPPLE

Select the basic model number which represents the port size desired. If other options are desired, order each component separately.

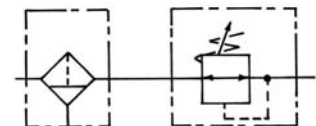
1/2"	28344	1/4"	7.11 (3.22)	25341-020	27344-000	100067	Y27-54-C
3/4"	28354	1/4"	7.06 (3.20)	25351-020	27354-000	100067	Y27-55-C
1"	28364	1/4"	6.46 (2.93)	25361-020	27364-000	100067	Y27-56-C

NOTE: Shipped unassembled. For assembled unit, change the last digit from 4 to 9. Example: 28349



28369

GRAPHIC SYMBOL



Air System Accessories

Heavy-Duty Series Filter-Regulator-Lubricator



Performance Specifications

1/2", 3/4" & 1" Ports

Max. Inlet Pressure:	200 PSIG (13.8 bar)
Operating Temperature Range:	0° to 125° F (-18° to 52° C)
Filter Element:	40 Micron
Bowl:	Polycarbonate with metal guard
Lubricator:	Combination Fog-Type / Drop-Type

Ordering

PORT SIZE	MODEL	WEIGHT LBS. (kg)	COMPONENTS		PIPE NIPPLE
			FILTER	LUBRICATOR	

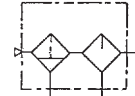
Select the basic model number which represents the port size desired. If other options are desired, order each component separately.

1/2"	28342	6.61 (3)	25341-020	26341-020	Y27-54-C
3/4"	28352	6.52 (2.96)	25351-020	26351-020	Y27-55-C
1"	28362	6.13 (2.78)	25361-020	26361-020	Y27-56-C

NOTE: Shipped unassembled. For assembled unit, change the last digit from 2 to 7. Example: 28347

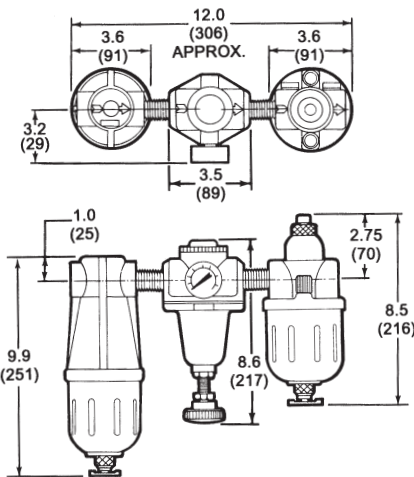


GRAPHIC SYMBOL

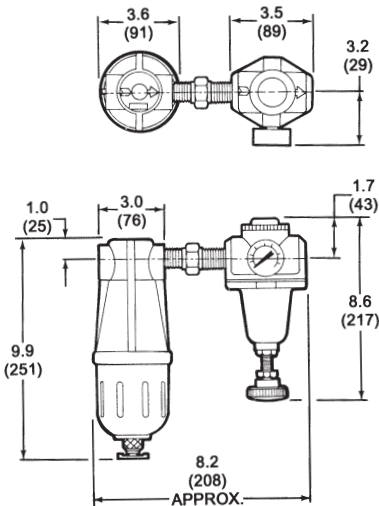


Heavy Duty Series

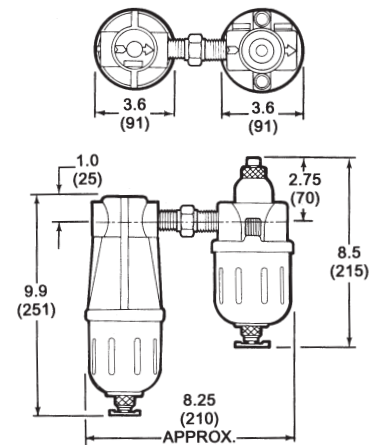
Filter-Regulator-Lubricator



Filter-Regulator



Filter-Lubricator



Air System Accessories

Heavy-Duty Series Filters

Features

1/2", 3/4" & 1" Ports

These ARO Heavy-Duty Series filters extend the life of air-operated equipment while reducing maintenance costs. These units efficiently remove solid particles from compressed air lines – making them the perfect choice for large flow applications.

- The baffle and filter assembly is completely encased, leaving the entire bowl for sump.
- Polycarbonate bowl and metal guard standard.
- Tie-rod filter assembly permits quick, easy service.
- Twist drain is brass construction with large passage area for draining.
- Optional automatic drain has 1/8" pipe outlet for draining away contaminant's.

Performance Specifications

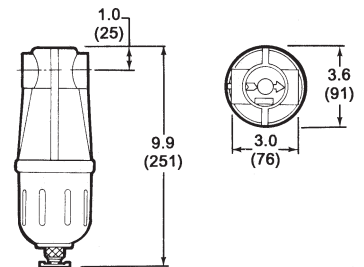
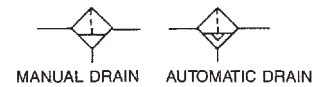
Sump Capacity:	10 oz. (295 ml)	Body:	Zinc Die Cast
Filter Area:	9.1 in. (5871 mm)	Bowls:	Polycarbonate or Steel
Max. Inlet Pressure:	Polycarbonate Bowl -	Bowl Guards:	Steel With E-Coat Finish
	200 PSIG (13.8 bar)	Seals:	Buna-N
Oper. Temp. Range:	Metal Bowl -	Drain:	Brass Twist Type
	250 PSIG (17 bar)	Element:	Sintered Bronze
Oper. Temp. Range:	Polycarbonate bowl -		5, 20, 40 Micron
	0° to 125° F (-18° to 52° C)		
Weight:	Metal Bowl -		
	0° to 200° F (-18° to 93° C)		
*Flow:	1/2" = 3.62 lbs. (1.65 kg),		
	3/4" = 3.48 lbs. (1.58 kg)		
	1" = 3.26 lbs. (1.48 kg)		
*Flow:	1/2" = 82 SCFM (39 dm ³ /s),		
	3/4" = 87 SCFM (41 dm ³ /s)		
	1" = 88 SCFM (42 dm ³ /s)		

*Air flow is at 125 PSIG (8.6 bar) and 100 PSIG (6.9 bar) outlet.



25361-020

GRAPHIC SYMBOLS



Ordering

Select basic model representing the port size desired. Add number representing filter options required.

PORT SIZE	BASIC MODEL			
1/2"	25341-	X	X	X
3/4"	25351-	X	X	X
1"	25361-	X	X	X

Filter Element Bowl Option Drain Option

0 = 40 micron #29392	2 = Polycarbonate w/ guard #29397	0 = Manual
1 = 20 micron #29391	1 = Metal Bowl #29967	1 = Auto Drain #29969-2
2 = 5 micron #29390		

Shaded area = Best-Selling Models



29397

29967

29969-2

Accessories

Filter

MODEL	DESCRIPTION	MODEL	DESCRIPTION	MODEL	DESCRIPTION
29397	Bowl Guard	29390	5 Micron Element	104020	Service Kit
29967	Metal Bowl	29391	20 Micron Element	104069	Polycarbonate Bowl
29969-2	Automatic Drain	29392	40 Micron Element	Y57-1	Twist Drain

Air System Accessories

Heavy-Duty Series Regulators



Features

1/2", 3/4" & 1" Ports

These ARO Heavy-Duty Series regulators provide accurate and quick response to flow demands and line pressure changes, giving air-powered equipment the precise air pressure control needed.

- Zinc die-cast bodies are corrosion-resistant.
- Units can be panel-mounted.
- Balanced valve eliminates chatter and increases accuracy.
- Diaphragms and seals are nylon reinforced for enhanced elasticity and seal life.
- Easy-turn adjustment knob provides precise regulation under any pressure.

Performance Specifications

Max. Inlet Pressure:	250 PSIG (17 bar)	Spring Housing:	Zinc Die Cast
Press. Range in Reg.:	0 to 250 PSIG (0 to 17 bar)	Body:	Zinc Die Cast
Oper. Temp. Range:	0° to 200° F (-18° to 93° C)	Seals:	Buna-N
Gauge Port:	1/4" NPT	Diaphragm:	Buna-N
Weight:	1/2" = 3.30 lbs. (1.5 kg), 3/4" = 3.21 lbs. (1.45 kg) 1" = 2.82 lbs. (1.28 kg)	Valve:	Brass
*Flow:	1/2" = 256 SCFM (121 dm ³ /s), 3/4" = 287 SCFM (135 dm ³ /s) 1" = 293 SCFM (138 dm ³ /s)	Knob:	High Impact ABS

*Air flow is at 125 PSIG (8.6 bar) and 100 PSIG (6.9 bar) outlet.

Ordering

Select the basic model number which represents the port size desired. From table below, select the number representing regulator options required. Order accessories separately.

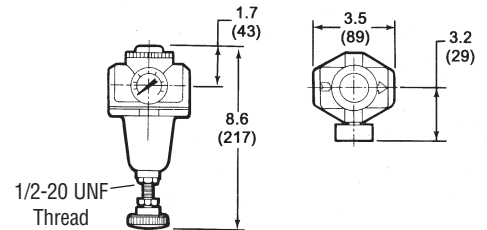
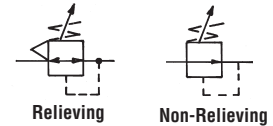
PORT SIZE	BASIC MODEL	Options		
1/2"	2734 X - X 0 X	Relieving Option	Pressure Range* PSIG bar	Control Option
3/4"	2735 X - X 0 X			
1"	2736 X - X 0 X			
		4 = Relieving	0 = 5-125 .4-8.6	0 = Standard Knob
		7 = Non-Relieving	6 = 5-125 with 0-160 Gauge	or Panel Mount
			1 = 0-50 .0-3.5	3 = Tamper-Resistant
			2 = 10-250 .7-17	

Shaded area = Best-Selling Models

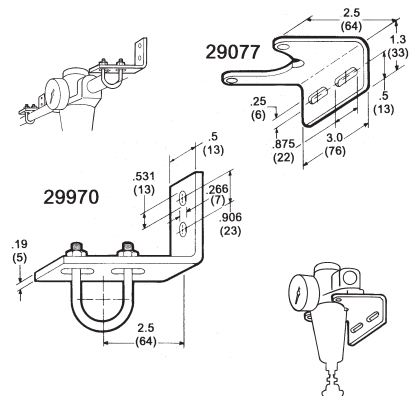


27364-600

GRAPHIC SYMBOLS



***CAUTION:** Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.



Accessories

Regulator

MODEL	DESCRIPTION	MODEL	DESCRIPTION
100066	Gauge 0-60 PSIG (0-4 bar)	29970	Mounting Bracket (U-Bolt Type), 3/4" and 1" Pipe
100067	Gauge 0-160 PSIG (0-11 bar)	29960	Service Kit, Relieving Type
100083	Gauge 0-300 PSIG (0-21 bar)	29995	Service Kit, Non-Relieving Type
29077	Mounting Bracket, L-Type	29002	Spring, 5-125 lb. (Gold)
29999	Mounting Bracket (U-Bolt Type), 1/4", 3/8" and 1/2" Pipe	29119	Spring, 0-50 lb. (Green)
		29120	Spring, 10-250 lb. (Silver)

Air System Accessories

Heavy-Duty Series Lubricators

Features

1/2", 3/4" & 1" Ports

Extra rugged Heavy-Duty Series lubricators deliver the reliable lubrication needed for long service life of air line system and equipment. Units are convertible from drop-type to fog-type by rotating sight dome 180 degrees. For best results, lubricator should be located as close as possible to equipment being lubricated.

- Zinc die-cast bodies are corrosion-resistant.
- Tie-rod construction simplifies unit disassembly for quick and easy servicing.
- Two separate fill plugs allow unit to be filled from front or back. Lubricators can be filled under pressure. A quick-fill adapter is available for fast, easy filling.
- Polycarbonate bowl allows visual monitoring. Metallic bowl available for applications involving the use of harsh chemicals. Standard bowl guard protects polycarbonate bowl.

Performance Specifications

Max. Inlet Pressure:	250 PSIG (17 bar) Metal 200 PSIG (13.8 bar) Polycarbonate	Body:	Zinc Die Cast
Oper. Temp. Range:	Polycarbonate bowl - 0° to 125° F (-18° to 52° C)	Bowls:	Polycarbonate or Steel
	Metal Bowl - 0° to 200° F (-18° to 93° C)	Bowl Guards:	Steel With E-Coat Finish
Oil Capacity:	10 oz. (295 ml)	Sight Glass:	Polyimide Nyloniz
Weight:	1/2" = 2.98 lbs. (1.35 kg),	Seals:	Buna-N
	3/4" = 2.83 lbs. (1.28 kg)		
	1" = 2.70 lbs. (1.22 kg)		
*Flow:	1/2" = 65 SCFM (31 dm ³ /s), 3/4" = 75 SCFM (35 dm ³ /s) 1" = 75 SCFM (35 dm ³ /s)		

* Flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (0.4 bar) pressure drop.



26361-020



26361-220
with tamper
Resistant Cap

Ordering

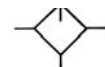
Select the basic model number which represents the port size desired. From table below, select the number representing lubricator options required.

PORT SIZE	BASIC MODEL			
1/2"	26341-	X	X	X
3/4"	26351-	X	X	X
1"	26361-	X	X	X

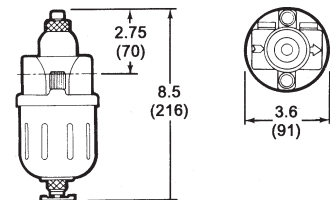
Adjustment	Bowl Option	Fill Option
0 = Standard Knob	2 = Polycarbonate w/ guard #29397	0 = Standard
1 = 1/8" Allen Wrench	1 = Metal Bowl #29967	1 = Quick Fill Adapter #29235
2 = Tamper Resistant		

Shaded area = Best-Selling Models

GRAPHIC SYMBOL



Manual Drain



Accessories

Lubricator

MODEL	DESCRIPTION	MODEL	DESCRIPTION
104069	Polycarbonate Bowl	29665	ARO Lubricating Oil (1 Quart). See pg. 71.
29967	Metal Bowl	104023	Service Kit
29397	Bowl Guard	Y57-1	Twist Drain
29235	Quick-Fill Adapter		



29235



29967

Air System Accessories

Super-Duty Flow Filter-Regulator-Lubricator



Features

3/4", 1", 1-1/4" & 1-1/2" Ports

For application and feature/ benefit information for the combination units on this page, refer to individual component pages:

- Filters - page 296
- Regulators - page 297
- Lubricators - page 298

Performance Specifications

Max. Inlet Pressure:	250 PSIG (20.7 bar)
Operating Temperature Range:	0° to 175° F (-18° to 79° C)
Filter Element:	40 Micron Sintered Bronze
Bowl:	Metal Bowl/w Sight Glass
Pressure Range in Regulator:	5 to 125 PSI (.4 to 8.6 bar)
Gauge:	0 to 160 PSI



C28453-810

Ordering

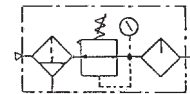
PORT SIZE	MODEL	WEIGHT	COMPONENTS				PIPE NIPPLE
			FILTER	REGULATOR	LUBRICATOR	GAUGE	
NPT		LBS. (kg)					

Select the basic model number which represents the port size desired. If other options are desired, order each component separately.

3/4"	C28453-810	11.50 (5.23)	F25451-110	R27451-100	L26451-110	100067	Y27-55-C
1"	C28463-810	11.50 (5.23)	F25461-110	R27461-100	L26461-110	100067	Y27-56-C
1-1/4"	C28473-810	11.50 (5.23)	F25471-110	R27471-100	L26471-110	100067	Y27-57-C
1-1/2"	C28483-810	10.50 (4.77)	F25481-110	R27481-100	L26481-110	100067	Y27-58-C

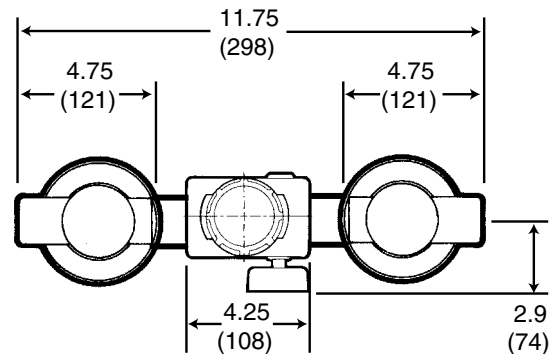
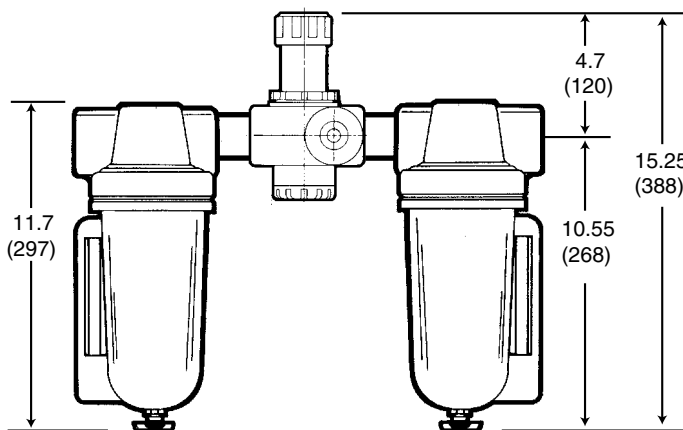
NOTE: Combinations models are shipped unassembled.

GRAPHIC SYMBOL



Dimensional Data

Super-Duty



Air System Accessories

Super-Duty High Flow Filters

Features

3/4", 1", 1-1/4" & 1-1/2" Ports

ARO Super-Duty filters are specifically designed for use in applications where large air flow and bowl capacities are required. The removal of liquid and solid contaminants by these filters protects air tools, valves, cylinders and pumps.

- Aluminum die-cast housings are lightweight and corrosion-resistant.
- 40 micron sintered bronze filter element has a large surface area and can be cleaned and replaced for long service life.
- Filter utilizes a depth-type element assembly that can be disassembled and cleaned without the use of tools or removal from the air line.
- Metal bowl with sight glass is standard. Bowl also features a spiral ramp thread to permit quick disconnect for easy filter maintenance.

Performance Specifications

Bowl Capacity:	32 oz. (946 ml)
Max. Inlet Pressure:	250 PSIG (17 bar)
Oper. Temp. Range:	0° to 175° F (-18° to 79° C)
Weight:	3/4" = 5.0 lbs. (2.27 kg) 1" = 5.0 lbs. (2.27 kg) 1-1/4" = 4.65 lbs. (2.11 kg) 1-1/2" = 4.30 lbs. (1.95 kg)
*Flow:	3/4" = 345SCFM (163 dm3/s), 1" = 345 SCFM (163 dm3/s) 1-1/4" = 445 SCFM (210 dm3/s), 1-1/2" = 445 SCFM (210 dm3/s)
Body:	Aluminum
Bowl:	Aluminum
Sight GlasS:	Pyrex
Seals:	Buna-N
Element:	Sintered Bronze 40 Micron

Note: *Maximum Flow at 90 PSIG (6.9 bar) inlet pressure and 5 PSIG (.4 bar) pressure drop.

Ordering

Select basic model representing the port size desired.
Add number representing filter options required.

PORT SIZE	BASIC MODEL		
3/4"	F25451-X	X	X
1"	F25461-X	X	X
1-1/4"	F25471-X	X	X
1-1/2"	F25481-X	X	X

Filter Element	Bowl Option	Drain Option
1 = 40 micron #104119	1 = Metal w/Sight Glass	0 = Manual 1 = Auto Drain

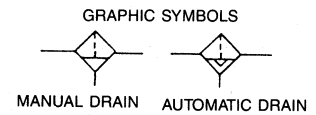
Accessories

Filter

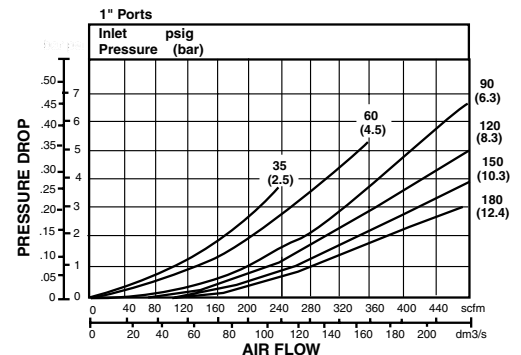
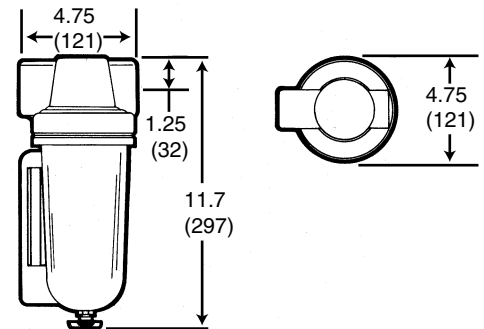
Model	Description	Model	Description
104116	Service Kit	104068	Automatic Drain
104163	Sight Glass Kit	104241	Twist Drain
104119	40 Micron Element	104235	5 Micron Element
104115	U-Bolt Mounting Brack		



F25481-110



Dimensional Data



Air System Accessories

Super-Duty High Performance Coalescing Filters

Features

3/4", 1" & 1-1/4" Ports

ARO Super-Duty high performance oil removal filters are designed to remove 99% of the oil and water aerosols found in all compressed air lines.

- Pop-up filter service indicator is standard. Indicator changes from green to red when element needs to be replaced.
- Super efficient coalescing filter element removes particles down to 0.01 micron.

Performance Specifications

Bowl Capacity:	32 oz. (946 ml)
Max. Inlet Pressure:	250 PSIG (17 bar)
Oper. Temp. Range:	0° to 175° F (-18° to 79° C)
Weight:	1-1/4" = 4.65 lbs. (2.11 kg),
*Flow:	3/4" = 50 SCFM (24 dm ³ /s), 1" = 150 SCFM (71 dm ³ /s), 1-1/4" = 150 SCFM (71 dm ³ /s)
Body:	Aluminum
Bowl:	Aluminum
Sight Glass:	Pyrex
Seals:	Buna-N
Drain:	Twist Type
Element:	Synthetic Fiber and Polyurethane Foam

*Flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (.4 bar) pressure drop.



F25462-310

Ordering

Select basic model representing the port size desired. Add number representing filter options required.

PORT SIZE	BASIC MODEL		
3/4"	F2545X-3	X	X
1"	F2546X-3	X	X
1-1/4"	F2547X-3	X	X

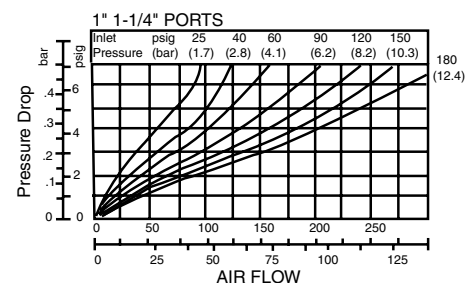
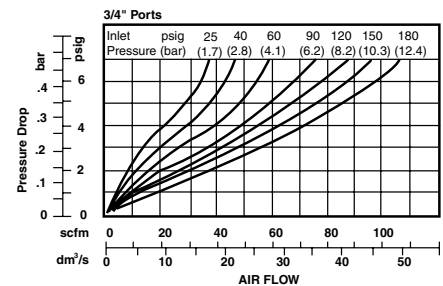
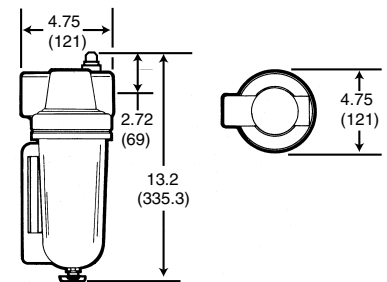
Shaded area indicates Best-Selling Models

Filter Service Indicator	Filter Element	Bowl Option	Drain Option
2 = With Mechanical (Standard)	3 = Coalescing	1 = Metal Bowl w/Sight Glass	0 = Manual Drain 1 = Auto Drain

Accessories

Model	Description	Model	Description
104068	Automatic Drain	104231	Coalescing Element
104115	U-Bolt Mounting Bracket	104241	Twist Drain
104116	Service Kit	104246	Mechanical Filter Service Indicator
104163	Sight Gauge Kit		

Dimensional Data



Air System Accessories

Super-Duty High Flow Coalescing Filters



Features

1-1/2" & 2" Ports

ARO Super-Duty high performance oil removal filters are designed to remove 99% of the oil and water aerosols found in all compressed air lines.

- Pop-up filter service indicator is standard. Indicator changes from green to red when element needs to be replaced.
- Super efficient coalescing filter element removes particles down to 0.01 micron.

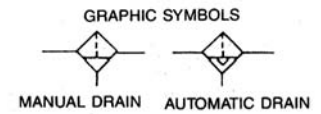
Performance Specifications

Sump Capacity:	6 oz. (946 ml)
Max. Inlet Pressure:	250 PSIG (17 bar)
Oper. Temp. Range:	0° to 175° F (-18° to 79° C)
Weight:	1-1/2"= 16.0 lbs. (7.27 kg) 2"= 6.5 lbs. (7.5 kg)
*Flow:	1-1/2"= 440 SCFM (207 dm ³ /s) 2"= 1000 SCFM (472 dm ³ /s)
Body:	Aluminum
Bowl:	Aluminum
Sight Glass:	Pyrex
Seals:	Buna-N
Element:	Synthetic Fiber and Polyurethane Foam

*Flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (.4 bar) pressure drop.



F25492-310



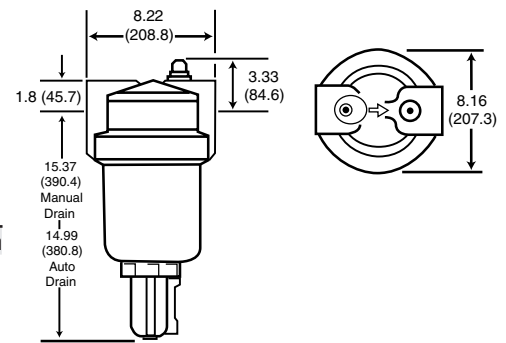
Ordering

Select basic model representing the port size desired. Add number representing filter options required.

PORT SIZE	BASIC MODEL	
1-1/2"	F2548X-3XX	Shaded area indicates Best-Selling Models
2"	F2549X-3XX	

Filter Service Indicator	Filter Element	Bowl Option	Drain Option
2 = With Mechanical (Standard)	3 = Coalescing	1 = Metal Bowl w/Sight Glass	0 = Manual Drain 1 = Auto Drain

Dimensional Data

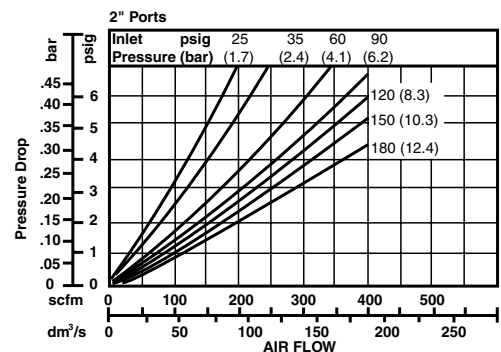


NOTE: For maximum element service life, install a general purpose filter with a 5 micron element upstream of the coalescing filter.

Accessories

Model	Description	Model	Description
104068	Automatic Drain	104230	Sight Glass Kit
104115	U-bolt Mounting Bracket	104232	Coalescing Element
104229	Service Kit	104241	Twist Drain

*Flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (.4 bar) pressure drop.



Air System Accessories

Super-Duty High Flow Regulators

Features

3/4", 1", 1-1/4 & 1-1/2" Ports

Super-Duty Series regulators are used in large flow compressed air systems to help maintain constant outlet pressure. Gauge ports are 1/4" full flow and can be used as auxiliary outlet ports.

- Units can be mounted to a panel that is 1/16" min. to 5/32" max. thickness.
- Aluminum Die Cast body is light weight and corrosion resistant.
- Non-rising adjustment knob can be locked. Easy adjustment under any pressure.
- Buna N diaphragms and seals provide excellent elasticity and long seal life.
- Balanced valve design gives accurate and quick response to flow demands.

Performance Specifications

Max. Inlet Pressure:	300 PSIG (20.7 bar)
Press. Range in Reg.:	5 to 250 PSIG (.4 to 17 bar)
Oper. Temp. Range:	0° to 175° F (-18° to 79° C)
Weight:	3/4" = 3.51 lbs. (1.60 kg), 1" = 3.22 lbs. (1.46 kg) 1-1/4" = 2.90 lbs. (1.31 kg), 1-1/2" = 2.58 lbs. (1.17 kg)
*Flow:	3/4" = 180 SCFM (85 dm ³ /s), 1" = 200 SCFM (94 dm ³ /s) 1-1/4" = 440 SCFM (207 dm ³ /s), 1-1/2" = 440 SCFM (207 dm ³ /s)
Spring Housing:	Aluminum
Body:	Aluminum
Seals:	Buna-N
Diaphragm:	Buna-N
Valve:	Aluminum & Nylon
Knob:	High Impact ABS

*Air flow is at 150 PSIG (10.4 bar) and 90 PSIG (6.9 bar) outlet.

Ordering

Select the basic model number which represents the port size desired. From table below, select the number representing lubricator options required.

PORT SIZE	BASIC MODEL			
3/4"	R27451-	X	X	X
1"	R27461-	X	X	X
1-1/4"	R27471-	X	X	X
1-1/2"	R27481-	X	X	X

Shaded area indicates Best-Selling Models

Pressure Range
PSIG (Bar)

Relieving Option

Control Option

1= 5 - 125 (.4 - 8.6) No gauge	0= Relieving	0= Standard Knob
2= 5 - 50 (.4 - 3.5) No gauge		
3= 10 - 250 (.7 - 17) No gauge		

Accessories

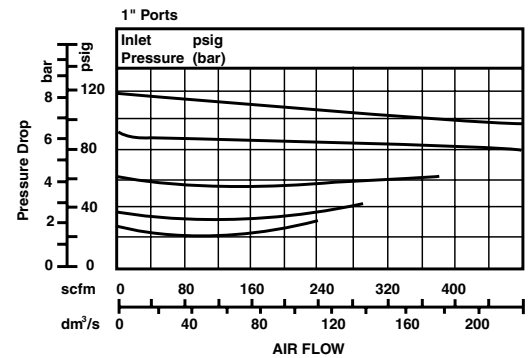
Model	Description	Model	Description
100066	Gauge 0-60 PSIG (0-4)	104115	U-Bolt Mounting Bracket
100067	Gauge 0-160 PSIG (0-11)	104120	Spring, 5-50 lb.
100083	Gauge 0-300 PSIG (0-21)	104121	Spring, 5-125 lb.
104117	Service Kit, Relieving Type	104122	Spring, 15-250 lb.
104114	Panel Nut & Mounting Bracket		

*CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.



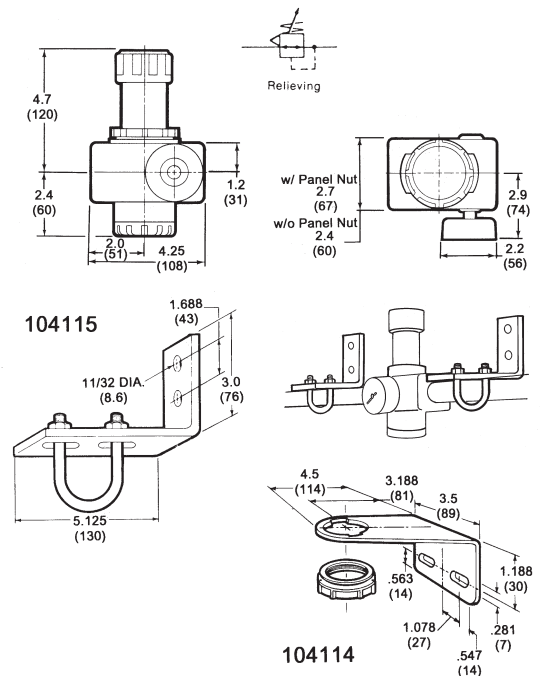
R27461-100

(order gauges separately)



Dimensional Data

GRAPHIC SYMBOL



Air System Accessories

Super-Duty High Flow Regulators



Features

2" Ports

Super-Duty High Flow regulators are used in large flow compressed air systems to help maintain constant outlet pressure. Gauge ports are full flow and can be used as auxiliary outlet ports.

- Aluminum Die Cast body is light weight and corrosion resistant.
- Non-rising adjustment knob can be locked. Easy adjustment under any pressure.
- Balanced valve design gives accurate and quick response to flow demands.
- Exceptionally high relief flow.

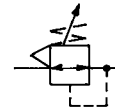
Performance Specifications

Max. Inlet Pressure:	450 PSIG	Spring Housing	Aluminum
Press. Range in Reg:	15 to 250 PSIG (1.0 to 17 bar)	Body	Aluminum
Oper. Temp. Range:	0° to 175° F (-18° to 79° C)	Seals	Buna-N
Weight:	2" = 9 lbs. (4.1 kg)	Diaphragm	Buna-N
*Flow:	2" = 1000 SCFM (472 dm ³ /s)	Valve	Teflon
-	-	Knob	High Impact ABS

*Air flow is at 100 PSIG (10.4 bar) and 90 PSIG (6.9 bar) outlet.



R27491-100



Ordering

Dimensions, in. (mm)

Select model representing port size and pressure range desired.

Order gauge and accessories separately.

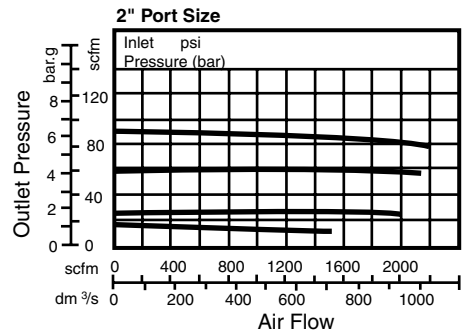
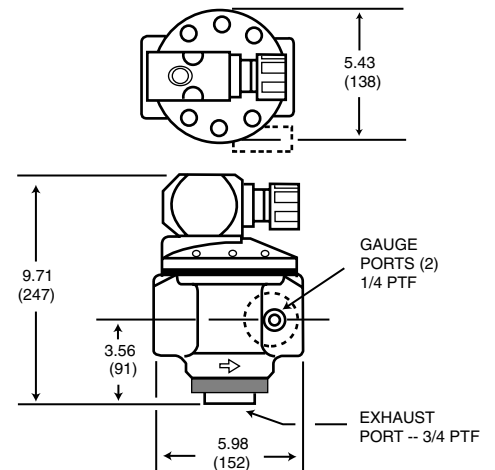
PORT SIZE NPT	MODEL	GAUGE PORT NPT	EXHAUST PORT NPT	PRESSURE RANGE* PSIG	BAR
2"	R27491-100	1/4"	3/4"	5-125	.4-8.6
2"	R27491-200	1/4"	3/4"	5-50	.4-5
2"	R27491-300	1/4"	3/4"	15-250	1.1-17

Shaded area indicates Best-Selling Models

NOTE: All models are relieving type only.

*CAUTION: Outlet pressure adjustment ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG secondary pressure and, generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.

Dimensional Data



Air System Accessories

Super-Duty High Flow Lubricators

Features

3/4", 1", 1-1/4 & 1-1/2" Ports

ARO Super-Duty High Flow lubricators are designed for application in compressed air systems where a constant ratio of oil-to-air is desired over widely varying air flows. They provide lubrication to air tools, cylinders, and other air-powered equipment. Recommended for lengthy, complex piping systems or multiple points of lubrication.

- Bodies feature aluminum die-cast construction for corrosion resistance.
- Oil feed adjustment has a screw driver adjustment that offers tamper-resistant capability. Automatic flow sensing delivers oil in proportion to air flow.
- Bowl is aluminum with glass sight gauge and has a spiral ramp thread to permit quick disconnect for easy maintenance.
- Optional quick-fill adapter and fill pump are available for lubricator filling and maintenance. See accessories below.



L26481-110

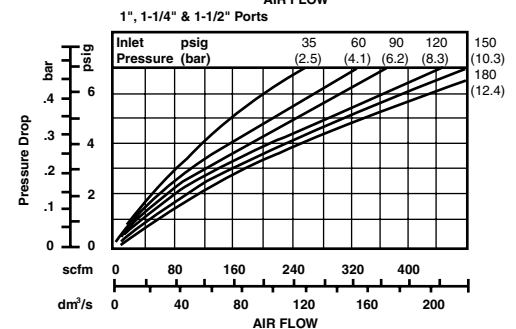
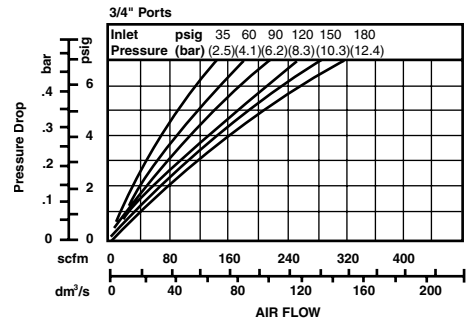
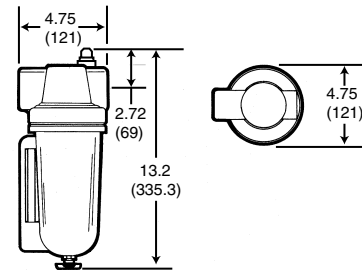


Performance Specifications

Max. Inlet Pressure:	250 PSIG (17 bar)
Oper. Temp. Range:	0° to 175° F (-18° to 79° C)
Oil Capacity:	32 oz. (946 ml)
Weight:	3/4" = 4.60 lbs. (2.09 kg), 1" = 4.30 lbs. (1.95 kg), 1-1/4" = 3.94 lbs. (1.79 kg), 1-1/2" = 3.58 lbs. (1.62 kg)
*Flow:	3/4" = 190 SCFM (90 dm ³ /s), 1" = 200 SCFM (94 dm ³ /s), 1-1/4" = 220 SCFM (104 dm ³ /s), 1-1/2" = 220 SCFM (104 dm ³ /s)
Body:	Aluminum
Sight Glass:	Pyrex
Seals:	Buna-N

* Flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (.4 bar) pressure drop.

Dimensional Data



Ordering

Select basic model representing the port size desired. Add number representing filter options required.

PORT SIZE	BASIC MODEL		
3/4"	L26451-X	X	X
1"	L26461-X	X	X
1-1/4"	L26471-X	X	X
1-1/2"	L26481-X	X	X

Adjustment	Bowl Option	Fill Option
1 = Standard	1 = Metal Bowl w/Sight Glass	0 = Standard

Accessories

Model	Description
104118	Service Kit
29665	ARO Lubricating Oil. (See page 71).
104124	Sight Feed Dome Kit
104163	Sight Gauge Kit
29235	Quick-Fill Adapter (1/8"-27 Threads)
104115	U-Bolt Mounting Bracket
104241	Twist Drain Kit



29665



29235

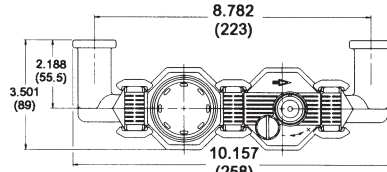
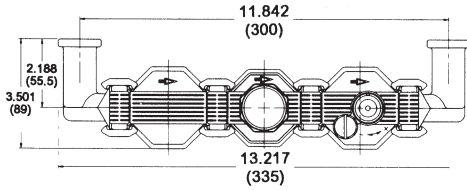
Air System Accessories

FRL Mounting Options

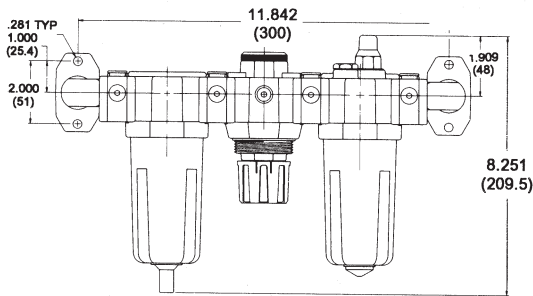


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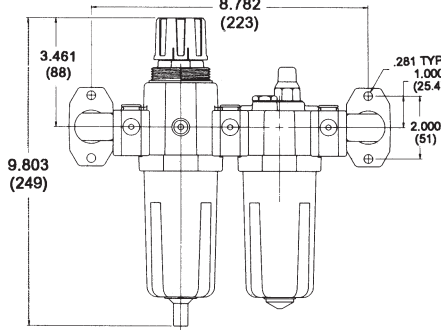
Module/Air 2000 Series



104169 Right-Angle Piping Brackets



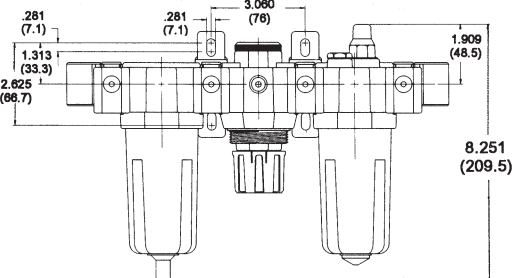
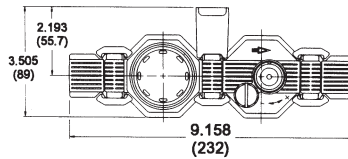
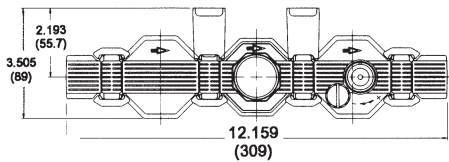
Filter-Regulator-Lubricator with Right-Angle Brackets



Piggyback-Lubricator with Right-Angle Brackets

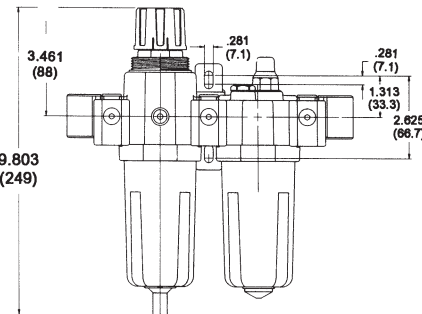


104171 T-Type Mounting Brackets



Threaded Pipe Adapters
 104168-2 1/4" Threads
 104168-3 3/8" Threads
 104168-4 1/2" Threads
 104168-6 3/4" Threads

Filter-Regulator-Lubricator with Pipe Adapters



Piggyback-Lubricator with Pipe Adapters



Panel Mounting
 Use 104173
Panel Mounting Nut
 Use 29722 Panel Mount Gauge



104172 Mounting Kit
 Includes 29623 Bracket &
 104173 Panel Mounting Nut



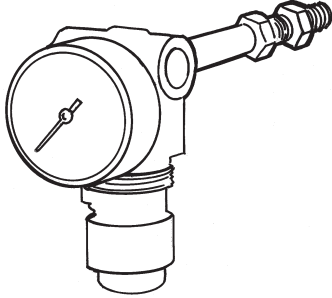
29999 U-Bolt Mounting Bracket
 For 1/4", 3/8" & 1/2" pipe

Air System Accessories

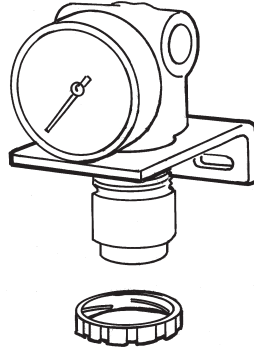
FRL Mounting Options

Features

Miniature Series



104039 Stud Mount
For use on Piggyback and Regulator units.



29668 Mounting Bracket with 104094 Panel Mounting Nut
For Use on Piggyback and Regulator units.



Panel Mounting
Use 104094 Panel Mounting Nut
Use 29722 for Panel Mount Gauge

Heavy Duty Series



U-Bolt Mounting Brackets
29999 for 1/2" pipe
29970 for 3/4" & 1" pipe



29077 L- Type Mounting Bracket

Super Duty Series



104114 Panel Nut & Mounting Bracket

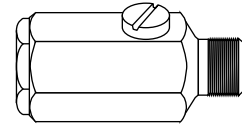


104115 U- Bolt Mounting Bracket
For both 1 1/4" & 1 1/2" pipe

Inline Series Filters or Lubricators

Tool	Specifications	Filter	Lubricator
1/4" NPT Female x Male			
3, 4, 5, 55 Series	Part Number	F01-02-000	L01-02-000*†
Scalers	Flow Rate	17 Scfm	22 Scfm
3/8" - 1/2" Impact Tools	Bowl Capacity	N/A	1/4 oz.
Riveters	Length x Width	2 1/2" x 1"	3" x 1-1/8" Hex
3/8" NPT Female x Male			
Chippers	Part Number	N/A	L01-03-000*†
Diggers	Flow Rate	N/A	22 Scfm
Grinders up to 1 hp	Bowl Capacity	N/A	1/4 oz.
Tampers	Length x Width	N/A	3" x 1-1/8" Hex
3/4" Impact Tools			

†L01 Series have a fixed lubrication rate
*Female NPT



Lubricator

Independent Power Regulators

Independent Power Regulators can be screwed into the air inlet of an Impact tool and can be adjusted to reduce the torque output of the tool.

Pipe Tap Size in.	Part Number
1/8 Adjustable	502-A1015
1/4 Adjustable (Aluminum)	6102A (4 Click Stops)
1/4 Adjustable (Steel)	AV11-A915 (22 Click Stops)
1/4 Speed Controller, Exhaust Kit	LG1-A1015 (Adjusts with S/D)



Portable Air Line Lubricators

Operate at full system pressure. With Models ending in "C", the flow of lubricant is continuous as long as the tool is operating. The other Models inject a measured amount of lubricant each time the tool is started. Both types are fully adjustable, light-weight, rugged and suitable for all conditions. Easy to install, adjustable oil feed and visible oil supply make these units ideal for portable or stationary tool applications.



Part Number	3LUB8	6LUB12	8LUB12	16LUB16	16LUB16C*
Oil Capacity	3 oz.	5 oz.	8 oz.	16 oz.	16 oz.
NPT Pipe Size	1/2"	3/4"	3/4"	1"	1"
Max. Air Flow Capacity @ 70 psi-483 kPa	30 cfm	45 cfm	80 cfm	200 cfm	200 cfm
Max. Working Pressure	300 psig	250 psig	300 psig	250 psig	250 psig
Length	4 1/2"	6"	7"	10"	10"
Width	2 1/4"	2 3/4"	3 1/2"	4 1/4"	4 1/2"
Height	2 1/4"	2 3/4"	3 1/2"	3 3/4"	4 3/4"
Weight	7/8 lb	1 1/2 lb	2 lb	4 1/4 lb	4 1/4 lb

*Constant Feed

Air System Accessories

Gauges

Performance Specifications

1/8" & 1/4" NPT
For Compressed Air or Inert Gas

GRAPHIC SYMBOL

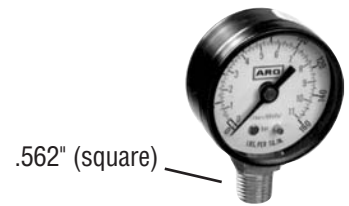


Lens:	Polycarbonate or Glass
Connection Location:	Centered back or bottom
Scale:	Dual - PSIG and bar
Accuracy:	2% of full scale at mid range. 3% of full scale at other ranges
Max. Inlet Pressure:	100% of full scale on gauge
Max. Operating Temp:	150° F (65°C)
Media:	Compressed air or inert gas

CAUTION: The accuracy of pressure gauge indicator can change, both during shipment (despite care in packaging) and during the service life.

Model Number	Thread NPT	Dual Range PSIG (bar)	Case Material	Lens	Diameter in. (mm)
Bottom Ported Gauges					
29724	1/8"	0-60 (0-4)	Steel	Polycarbonate	1.5 (38)
29725	1/8"	0-160 (0-11)	Steel	Polycarbonate	1.5 (38)
29727	1/4"	0-60 (0-4)	Steel	Polycarbonate	2.0 (51)
29728	1/4"	0-160 (0-11)	Steel	Polycarbonate	2.0 (51)
Back Ported Gauges					
29755-1	1/8"	0-30 (0-2)	Steel	Polycarbonate	1.5 (38)
29846	1/8"	0-15 (0-1)	Plastic	Polycarbonate	1.5 (38)
29863	1/8"	0-60 (0-4)	Steel	Polycarbonate	1.5 (38)
29883	1/8"	0-160 (0-4)	Steel	Glass	2.0 (38)
29850	1/8"	0-160 (0-11)	Plastic	Polycarbonate	1.5 (38)
29975	1/8"	0-160 (0-11)	Steel	Glass	1.5 (38)
Back Ported Gauges (w/Black Face & Neon Needle)					
100066	1/4"	0-60 (0-4)	Plastic	Polycarbonate	2.0 (51)
100090	1/4"	0-60 (0-4)	Steel	Glass	2.0 (51)
100067	1/4"	0-160 (0-11)	Plastic	Polycarbonate	2.0 (51)
100091	1/4"	0-160 (0-11)	Steel	Glass	2.0 (51)
100083	1/4"	0-300 (0-21)	Plastic	Polycarbonate	2.0 (51)
Panel-Mounted/Back Ported Gauges*					
29720	1/8"	0-15 (0-1)	Steel	Polycarbonate	1.5 (38)
29721	1/8"	0-60 (0-4)	Steel	Polycarbonate	1.5 (38)
29722	1/8"	1-160 (0-11)	Steel	Polycarbonate	1.5 (38)

*NOTE: Require 1.625" (41.275 mm) diameter hole for mounting.



.562" (square)

29725



100067



29722

Performance Specifications

1/8" & 1/4" NPT
For Compressed Air or Inert Gas

Case Material	Metal
Lens	Polycarbonate
Connection Location	Centered Back
Media	Compressed Air or Inert Gas
Maximum Inlet Pressure	100% of Full Scale on Gauge
Max Operating Temperature	150° F (65°C)

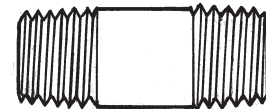
Model Number	Thread Npt	Range Psi	Used On	Dial Face Size	
				Inches	(Mm)
100095-160	1/8"	0-150	Miniature	1.5	(38)
100096-160	1/4"	0-150	Module/Air Heavy Duty Super Heavy Duty	2.0	(51)



100095-160

Pipe Nipples

Part Number	Npt Size	ARO FRL Series
Y237-2	1/8"	Miniature
Y27-2-C	1/4"	Miniature
Y27-52-C	1/4"	Module/ Air 2000
Y27-53-C	3/8"	Module/ Air 2000
Y27-54-C	1/2"	Module/ Air 2000 & Heavy Duty
Y27-55-C	3/4"	Heavy Duty
Y27-56-C	1"	Heavy-Duty
Y27-57-C	1-1/4"	Super-Duty
Y27-58-C	1-1/2"	Super-Duty



Air System Accessories

FRL Competitive Cross Reference

Filters

	ARO	Arrow	M-Pneu	Parker	Schrader	Norgren	WATTS	Wilkerson	SMC
Miniature									
1/8"	F25111-200	F300-01	F150-1	8AF01B 14F01B	7AF01B	F07-100-MITA	F35-01AH F504-01AH	F08-01-SK00 F00-01-000	NAF2000-N01
1/4"	F25121-200	F300-02	F150-2	8AF11B 14F11B	7AF11B	F07-200-MITA	F35-02AH F504-02AH	F08-02-SK00 F00-02-000	NAF2000-N02
Module/Air 2000 with Poly Bowl and Guard									
1/4"	F25221-100	F352	F60-2 F100-2	06F12A	06F12A	F72G-2AN-QT3 F08-200-M3TA	F602-02BJ F75-02BJ	F16-02-000 F18-02-SK00	NAF3000-N02
3/8"	F25231-100	F353	F60-3 F100-3	06F22A 07F22A	06F22A 07F22A	F72G-3AN-QT3 F08-300-M3TA	F602-03BJ F75-03BJ	F16-03-000 F18-03-SK00	NAF3000-N03 NAF4000-N03
1/2"	F25241-100	F354	F60-4 F100-4	06F32A 07F32A	06L32A 07F32A	F74G-4AN-OP3 F08-400-M3TA	F602-04BJ F75-04BJ	F16-04-000 F18-04-SK00	NAF4000-N04
Module/Air 2000 with Metal Bowl and Sight Glass									
1/4"	F25221-110	F362W	BF60-2 BF100-2	06F14A	06F14A	F72G-2AN-QD3 F08-200-M3DA	F602-02WJ F75-02WJ	F16-02-G00 F18-02-SL00	NAF3000-N028
3/8"	F25231-110	F373W F363W	BF60-3 BF100-3	06F24A 07F24A	06F24A 07F24A	F72G-3AN-QD3 F08-300-M3DA	F602-03WJ F75-03WJ	F16-03-G00 F18-03-SL00	NAF3000-N038 NAF4000-N038
1/2"	F25241-110	F374W F364W	BF60-4 BF100-4	06F34A 07F34A	06F34A 07F34A	F74G-4AN-QD3 F08-400-M3DA	F602-04WJ F75-04WJ	F16-04-G00 F18-04-SL00	NAF4000-N048
Heavy Duty									
3/4"	25351-020	F329-06	F100-6	08F44A	08F44A	F17-600-M3DA	F602-06WJ	F38-06-SL00 F30-06-000	NAF4000-N06
1"	25361-020	F329-08	F100-8	08F54A	08F54A	F17-800-M3DA	F602-08WJ	F38-08-SL00 F30-08-000	NAF5000-N10
Super Duty									
1-1/4"	F25471-110	N/A	BF100-10	08F64A	08F64A	F17-A00-M3DA	F602-10WJ	F42-0A-000	N/A
1-1/2"	F25481-110	F329-12	BF100-12	08F74A	08F74A	F17-B00-M3DA	F602-12WJ	F42-0B-000	N/A

Regulators

	ARO	Arrow	M-Pneu	Parker	Schrader	Norgren	WATTS	Wilkerson	SMC
Miniature									
1/8"	127112-000	R161	R55-1	8AR013F 14R013F	7AR013F	R07-100-RNLA	R35-01C R364-01C	R08-01-C000 R00-01-000	NAR2000-N01
1/4"	127122-000	R162	R55-2	8AR113F 14R113F	7AR113F	R07-200-RNLA	R35-02C R364-02C	R08-01-C000 R00-01-000	NAR2000-N02
Module/Air 2000									
1/4"	R27221-100	R352	R60-2 R75-2	06R113A	06R113A	R72G-2AK-RMN R08-200-RNMA	R119-02C R75-02C	R16-02-000 R18-02-C000	NAR3000-N02
3/8"	R27231-100	R353	R60-3 R75-3	06R213A 07R213A	06R213A 07R213A	R72G-3AK-RMN R08-300-RNMA	R119-03C R75-03C	R16-03-000 R18-03-C000	NAR3000-N03 NAR4000-N03
1/2"	R27241-100	R354	R60-4 R75-4	06R313A 07R313A	06R313A 07R313A	R74G-4AK-RMN R08-400-RNMA	R119-04C R75-04C	R16-04-000 R18-04-C000	NAR4000-N04
Heavy Duty									
3/4"	27354-000	1586	R180M-6	08R413A	08R413A	R17-600-RNLA	R119-06C	R38-06-F000 R30-06-000	NAR4000-N06
1"	27364-000	1588	R180M-8	08R513A	08R513A	R17-800-RNLA	R119-08C	R38-08-F000 R30-08-000	NAR5000-N10
Super Duty									
1-1/4"	R27471-100	N/A	R180M-10	08R613A	08R613A	R17-A00-RNLA	R119-10C	R03-0A-000	N/A
1-1/2"	R27481-100	N/A	R180M-12	08R713A	08R713A	R17-B00-RNLA	R119-12C	R30-0B-000	N/A

Air System Accessories

FRL Competitive Cross Reference



Filter / Regulator

	ARO	Arrow	M-Pneu	Parker	Schrader	Norgren	WATTS	Wilkerson	SMC
Miniature									
1/8"	P29112-100	B741	CFR55-1	8AE01B13F 14E01B13F	7AE01B13F	B07-102-MIKA	B35-01AHC B508-01AHC	C04-01-000 B08-01-FK00	NAW2000-N01-C
1/4"	P29122-100	B742	CFR55-2	8AE11B13F 14E11B13F	7AE11B13F	B07-202-MIKA	B35-02AHC B508-02AHC	C04-02-000 B08-02-FK00	NAW2000-N02-C
Module/Air 2000 with Poly Bowl and Guard									
1/4"	P29221-100	B752 B762	CFR60-2 CFR100-2	06E12A13A	06E12A13A	B72G-2AK-QT3-RMG B08-297-M0MA	B75-02BJC	CB6-02-000 B18-02-FK00	NAW3000-N020
3/8"	P29231-100	B753 B763	CFR60-3 CFR100-3	06E22A13A 07E22A13A	06E22A13A 07E22A13A	B72G-3AK-QT3-RMG B08-397-M0MA	B75-03BJC	CB6-03-000 B18-03-FK00	NAW3000-N030 NAW4000-N030
1/2"	P29241-100	B754 B764	CFR60-4 CFR100-4	06E32A13A 07E32A13A	06E32A13A 07E32A13A	B74G-4AK-QT3-RMG B08-497-M0MA	B75-04BJC	CB6-04-000 B18-04-FK00	NAW4000-N040
Module/Air 2000 with Metal Bowl and Sight Glass									
1/4"	P29221-110	B752W B762W	BCFR60-2 BCFR100-2	06E14A13A	06E14A13A	B72G-2AK-QD3-RMG B08-297-M3MA	B11-02WJC B75-02WJC	CB6-02-G00 B18-02-SL00	NAW3000-N028
3/8"	P29231-110	B752W B762W	BCFR60-3 BCFR100-3	06E24A13A 07E24A13A	06E24A13A 07E24A13A	B72G-3AK-QD3-RMG B08-397-M3MA	B11-03WJC B75-03WJC	CB6-03-G00 B18-03-SL00	NAW3000-N038 NAW4000-N038
1/2"	P29241-110	B752W B762W	BCFR60-4 BCFR100-4	06E34A13A 07E34A13A	06E34A13A 07E34A13A	B74G-4AK-QD3-RMG B08-497-M3MA	B11-04WJC B75-04WJC	CB6-04-G00 B18-04-SL00	NAW4000-N048
Heavy Duty									
3/4"	N/A	N/A	CFR100-6	N/A	N/A	B74G-6AK-QD3-RMG	B105-06-WJC	B38-06-SL00	NAW4000-N06
1"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	B38-08-SL00	N/A

Lubricators

	ARO	Arrow	M-Pneu	Parker	Schrader	Norgren	WATTS	Wilkerson	SMC
Miniature									
1/8"	L26111-100	1811	L10-1 L50-1	8AL00G	7AL00G	L07-100-MPAA	L508-01A L35-01A2A	L08-01-LK00 L00-01-000	NAL2000-N01
1/4"	L26121-100	1812	L10-2 L50-2	8AL10G 14L10G	7AL10G	L07-200-MPAA	L508-02A L35-02AA	L08-02-LK00 L00-02-000	NAL2000-N01
Module/Air 2000 with Poly Bowl and Guard									
1/4"	L26221-100	L352	L60D-2 L28D-2	06L12B	06L12B	L08-200-OPCA L72M-2AP-QTN	L606-02B L75-02B	L16-02-000 L18-02-LK00	NAL3000-N02
3/8"	L26231-100	L353	L60D-3 L28D-3	06L22B 07L22B	06L22B 07L22B	L08-300-OPCA L72M-3AP-QTN	L606-03B L75-03B	L16-03-000 L18-03-LK00	NAL3000-N03 NAL4000-N03
1/2"	L26241-100	L354	L60D-4 L28D-4	06L32B 07L32B	06L32B 07L32B	L08-400-OPCA L74M-4AP-QTN	L606-04B L75-04B	L16-04-000 L18-04-LK00	NAL4000-N04
Module/Air 2000 with Metal Bowl and Sight Glass									
1/4"	L26221-110	L372W L452M	BL60D-2 BL28D-2	06L14B	06L14B	L08-200-OPDA L72M-2AP-QDN	L606-02W L75-02W	L16-02-G00 L18-02-LL00	NAL3000-N028
3/8"	L26231-110	L373W L453M	BL60D-3 BL28D-3	06L24B 07L24B	06L24B 07L24B	L08-300-OPDA L72M-3AP-QDN	L606-03W L75-03W	L16-03-G00 L18-03-LL00	NAL3000-N038 NAL4000-N038
1/2"	L26241-110	L374W L454M	BL60D-4 BL28D-4	06L34B 07L34B	06L34B 07L34B	L08-400-OPDA L74M-4AP-QDN	L606-04W L75-04W	L16-04-G00 L18-04-LL00	NAL4000-N048
Heavy Duty									
3/4"	26351-020	4106	L29D-6	08L44B	08L44B	L17-600-MPDA	F606-06W	L38-06-LK00 L30-06-000	NAL4000-N06
1"	26361-020	4108	L29D-8	08L54B	08L54B	L17-800-MPDA	F606-08W	L38-08-LK00 L30-08-000	NAL5000-N10
Super Duty									
1-1/4"	L26471-110	N/A	L29D-10	08L64B	08L64B	L17-A00-MPDA	F606-10W	L42-0A-000	N/A
1-1/2"	L26481-110	4112	L29D-12	08L74B	08L74B	L17-B00-MPDA	F606-12W	L42-0B-000	N/A

Air System Accessories

Couplers and Connectors



The new and complete IRAX coupler line offers these advantages—

Quality Assurance

Every IRAX coupler is individually leak tested to assure the highest standards of performance.

Push-to-Connect Convenience

The smooth, automatic push-to-connect feature (no need to manually retract the coupler sleeve) is standard on all IRAX couplers.

Extra Durability

All-steel construction with case hardened wear points provides added reliability and service life.

New Slim Profile and Lightweight Design

IRAX couplers are smaller in size than most competitive models. Less bulk means less weight for reduced operator fatigue.

Slim profile helps prevent snagging and accidental disconnection.

Corrosion Resistance

Bright zinc plating both internally and externally provides excellent corrosion protection. All valve springs are fatigue-resistant stainless steel.

Complete Selection

Both couplers and connectors are available in a wide range of threaded and hose barb sizes to meet your requirements.

Airline Coupler and Plug Key

Example: ARCF21

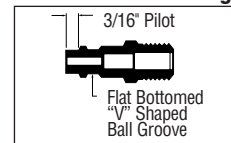
<p>AR</p> <p>Coupler Style</p> <p>AR = ARO 210/310</p> <p>FB = ARO Full-Bore</p> <p>HF = ARO High-Flow</p> <p>MS = Mil-Spec</p> <p>PR = Industrial Composite</p>	<p>C</p> <p>Connective Type</p> <p>C = Coupler</p> <p>P = Plug</p>	<p>F</p> <p>Thread/Hose Type</p> <p>F = Female NPT</p> <p>M = Male NPT</p> <p>P = Push-on</p> <p>H = Hose Stem</p> <p>R = Reusable Hose</p>	<p>2</p> <p>Body Size</p> <p>2 = 1/4"</p> <p>3 = 3/8"</p> <p>4 = 1/2"</p>	<p>1</p> <p>Thread NPT/Hose I.D.</p> <p>1 = 1/8"</p> <p>2 = 1/4"</p> <p>3 = 3/8"</p> <p>4 = 1/2"</p> <p>5 = 5/16"</p> <p>6 = 3/4"</p>
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Reusable Hose Coupler Key

Example: FBCR33-042

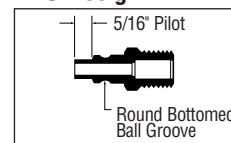
<p>FB</p> <p>Coupler Style</p> <p>FB = ARO Full-Bore</p> <p>HF = ARO High-Flow</p>	<p>C</p> <p>Connector</p> <p>C = Coupler</p> <p>P = Plug</p>	<p>R</p> <p>Hose Type</p> <p>R = Reusable Hose Type</p>	<p>33</p> <p>Body Size</p> <p>22 = 1/4"</p> <p>33 = 3/8"</p> <p>44 = 1/2"</p>	<p>042</p> <p>Hose Size</p> <p>42 = 1/4" ID x 1/2" OD</p> <p>44 = 1/4" ID x 5/8" OD</p> <p>53 = 5/16" ID x 5/8" OD</p> <p>62 = 3/8" ID x 5/8" OD</p> <p>63 = 3/8" ID x 11/16" OD</p> <p>64 = 3/8" ID x 3/4" OD</p> <p>72 = 1/2" ID x 7/8" OD</p>
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Industrial Interchange



Includes MS, HF and FB Series

ARO Design

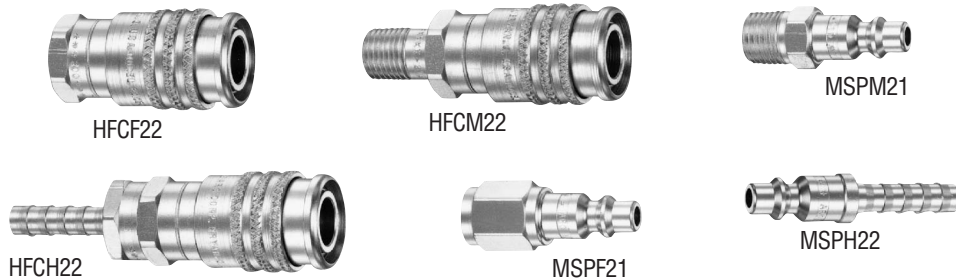




MS Series (Industrial Interchange)

Body Size	NPT or Hose Stem I.D.	Avg. Flow cfm*	Couplers					Plugs		
			Automatic Female NPT	Manual Female NPT	Automatic Male NPT	Manual Male NPT	Hose Stem I.D.	Female NPT	Male NPT	Hose Stem I.D.
1/4"	1/8"	36	MSCF21	—	—	—	—	MSPF21	MSPM21	—
	3/16"		—	—	—	—	—	—	—	—
	1/4"		MSCF22	—	MSCM22	—	MSCH22	MSPF22	MSPM22	MSPH22
	5/16"		—	—	—	—	—	—	—	—
3/8"	3/8"	67	MSCF23	—	MSCM23	—	MSCH23	MSPF23	MSPM23	MSPH23
	1/4"		MSCF32	400ATH†	4100ATH	410ATH†	—	MSPF32	MSPM32	—
	5/16"		—	—	—	—	—	—	—	—
	3/8"		MSCF33	420ATH	MSCM33	430ATH†	MSCH33	MSPF33	Prpm33	MSPH33
1/2"	1/2"	126	—	440ATH	4500ATH	—	—	45ATH	MSPM34	MSPH34
	3/8"		MSCF43†	—	—	—	—	MSPF43	MSPM43	—
	1/2"		MSCF44	—	MSCM44	530ATH†	MSCH44	MSPF44	MSPM44	MSPH44
	3/4"		—	—	MSCM46†	550ATH†	—	MSPF46	MSPM46†	MSPH46

*At 90 psig inlet and 10 psig pressure drop. †Availability subject to prior sale.



Hi Flow Series (Industrial Interchange)

Body Size	NPT or Hose Stem I.D.	Avg. Flow cfm*	Couplers				Plugs		
			Female NPT	Male NPT	Hose Stem I.D.	Hose O.D.	Female NPT	Male NPT	Hose Stem I.D.
1/4"	1/8"	38	—	—	—	—	MSPF21	MSPM21	—
	1/4"		HFCF22	HFCM22	HFCH22	5/8	MSPF22	MSPM22	MSPH22
	5/16"		—	—	—	5/8	—	—	—
	3/8"		HFCF23	HFCM23	HFCH23	5/8	MSPF23	MSPM23	MSPH23
3/8"	1/4"	72	HFCF32	HFCM32	—	1/2	MSPF32	MSPM32	—
	3/8"		HFCF33	HFCM33	HFCH33	5/8	MSPF33	Prpm33	MSPH33
	1/2"		HFCF34	HFCM34	HFCH34	—	45ATH	MSPM34	MSPH34
	3/8"		—	—	—	3/4	MSPF43	MSPM43	—
1/2"	1/2"	85	HFCF44	HFCM44	HFCH44	7/8	MSPF44	MSPM44	MSPH44
	3/4"		—	—	—	—	MSPF46	MSPM46†	—

*At 90 psig inlet and 10 psig pressure drop. †Availability subject to prior sale.

Air System Accessories

Couplers and Connectors



FBCF33



FBCH33



FBCM34



MSPF32



MSPH33



MSPM32

Full Bore® Series (Industrial Interchange)

Body Size	NPT or Hose Stem I.D.	Avg. Flow cfm*	Couplers				Plugs		
			Female NPT	Male NPT	Hose Stem I.D.	Hose O.D.	Female NPT	Male NPT	Hose Stem I.D.
3/8"	1/4"	95	—	—	—	5/8	MSPF32	MSPM32	—
	5/16"		—	—	—	5/8	—	—	—
	3/8"		FBCF33	—	FBCH33	5/8	MSPF33	MSPM22	MSPH33
	1/2"		FBCF34	FBCM34	FBCH34	—	45ATH	MSPM34	MSPH34
1/2"	3/8"	150	—	FBCM43	FBCH43	3/4	MSPF43	MSPM43	—
	1/2"		FBCF44	FBCM44	FBCH44	7/8	MSPF44	MSPM44	MSPH44
	3/4"		—	FBCM46	FBCH46	—	MSPF46	MSPM46†	MSPH46

*At 90 psig inlet and 10 psig pressure drop. †Availability subject to prior sale.



PR Series (Quick Connect Composite Safety Couplers)

PR COUPLERS			PR CONNECTORS	
IR PART	DESCRIPTION	AVG. FLOW cfm	IR PART	DESCRIPTION
PRSGF22	1/4" FNPT 1/4" BODY, SAFETY COUPLER	32	PRPF22	1/4" FNPT 1/4" BODY, CONNECTOR
PRSGF33	3/8" FNPT 3/8" BODY, SAFETY COUPLER	64	PRPF32	1/4" FNPT 3/8" BODY, CONNECTOR
PRSGM22	1/4" MNPT 1/4" BODY, SAFETY COUPLER	32	Prpm22	1/4" MNPT 1/4" BODY, CONNECTOR
PRSGM33	3/8" MNPT 3/8" BODY, SAFETY COUPLER	64	Prpm32	1/4" MNPT 3/8" BODY, CONNECTOR
PRSGH22	1/4" ID HOSE 1/4" BODY, SAFETY COUPLER	32	PRPH22	1/4" ID HOSE 1/4" BODY, CONNECTOR
PRSGH33	3/8" ID HOSE 3/8" BODY, SAFETY COUPLER	64	PRPH33	3/8" ID HOSE 3/8" BODY, CONNECTOR
PRSGH34	1/2" ID HOSE 3/8" BODY, SAFETY COUPLER	64	PRPH34	1/2" ID HOSE 3/8" BODY, CONNECTOR



ARCF22



ARPF22



ARPH22



ARCH23



ARCM22



Arpm21

210-310 Series

Body Size	NPT or Hose Stem I.D.		Avg. Flow cfm*	Couplers			Plugs		
				Female NPT	Male NPT	Hose Stem I.D.	Female NPT	Male NPT	Hose Stem I.D.
1/4"	1/8"		18	—	—	—	—	Arpm21	—
	1/4"			ARCF22	ARCM22	—	ARPF22	Arpm22	ARPH22
	5/16"			—	—	—	—	—	ARPH25
	3/8"			—	ARCM23	ARCH23	—	—	ARPH23
3/8"	1/4"		60	—	—	—	—	Arpm32	—
	5/16"			—	—	—	—	—	—
	3/8"			ARCF33	ARCM33	ARCH33	ARPF33	Arpm33	ARPH33
	1/2"			—	—	—	—	—	—

*At 90psig inlet and 10 psig pressure drop.

Air Hose Nipples



Part Number	Hose Size		Male Pipe Thread	Part Number	Hose Size		Male Pipe Thread
	in.	mm	in.		in.	mm	in.
IR78217	1/4	6	1/4	T01-46	3/4	19	3/8
IR30127	5/16	8	1/4	A03-46	3/4	19	1/2
AL-387	5/16	8	3/8	J3-581	3/4	19	3/4
R00-146	3/8	10	1/8	R5H-46	1	25	3/4
D01-14	3/8	10	1/4	P35-46	1	25	1
IR6225	3/8	10	3/8	CN-15-S	1-1/2	38	1-1/2
H02-46	1/2	13	1/4	CN-20-S	2	51	2
A01-46	1/2	13	3/8	R00A-47	1/4	6	1/4 (Female)
D02-455	1/2	13	1/2	R1-47	5/16	8	3/8 (Female)
D02-14	5/8	16	3/8	R00-147	3/8	10	3/8 (Female)

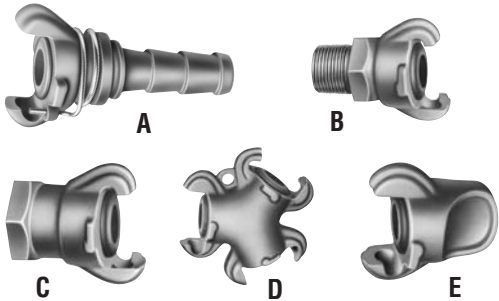
Air System Accessories

Couplers and Connectors

Universal Hose Couplers

(full flow non-shutoff;
shutoff air supply before disconnecting.)

Gaskets and clip are included with all Universal Couplers.



Description and Illustration	Hose Size in.	Malleable Part Number	Bronze Part Number
A Universal Hose End	1/2	UH-50-M	
	3/4	UH-75-M	
	1	UH-100-M	
B Universal Male Pipe Threaded End	3/8	UM-37-M	
	1/2	UM-50-M	
	3/4	UM-75-M	
	1	UM-100-M	
C Universal Female Pipe Threaded End	1/2	UF-50-M	
	3/4	UF-75-M	
	1	UF-100-M	
D Universal 3-Way	1/4 to 1	UW-300-B	
E Universal Dead End	1/4 to 1	UD-301-M	

Universal Coupler Gasket



For use in any Universal Coupler, Part Number UG-100.





O-Rings for Type A Couplers

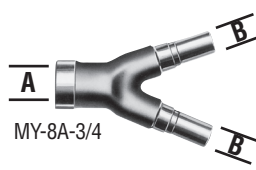
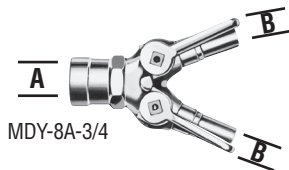
Part Number	Body Size	Used in Model
BU-948	5/8"	FH, FO, MDY, MY
R4-103	1"	FH, FO, CA

Type A Hose Couplers

(full flow non-shutoff;
turn off air supply before disconnecting.)

The ir type "a" couplers come in 5/8" and 1" body sizes. Designed for heavy duty service, the type "a" couplers are simple, sturdy and able to withstand hard usage and abuse without affecting their efficiency. Type "A" couplers and plugs are compatible within the same "Body" size.

Type	Body Size	Part Number	Max. Flow Opening	"A" End Size
A 	Hose Plug	MH-8-1/2	3/8"	1/2" Hose
	Hose Plug	MH-8-3/4	5/8"	3/4" Hose
	Hose Plug	MH-8A-1	13/16"	1" Hose
A 	MNPT Plug	MO-8-1/2	3/8"	1/2" MNPT
	MNPT Plug	MO-8-3/4	5/8"	3/4" MNPT
	MNPT Plug	MO-8A-1	13/16"	1" MNPT
A 	Hose Coupler	FH-8-1/2	3/8"	1/2" Hose
	Hose Coupler	FH-8-3/4	9/16"	3/4" Hose
	Hose Coupler	FH-8-1	13/16"	1" Hose
A 	MNPT Coupler	FO-8-3/8	3/8"	3/8" MNPT
	MNPT Coupler	FO-8-1/2	1/2"	1/2" MNPT
	MNPT Coupler	FO-8-3/4	5/8"	3/4" MNPT
	MNPT Coupler	FO-8-1	15/16"	1" MNPT



Adapters

Description	Body Size	Part Number	Max. Flow Opening	"A" End Size in.	"B" End Size in.
"Y" Shut off Valve	5/8"	MDY-8A-3/4	1/2"	1/2" Female	1/2" Plug
"Y" Adapter	5/8"	MY-8A-3/4	1/2"	1/2" Female	1/2" Plug
1" to 1/2" Reducer	1"	CA-8A*	5/8"	1" Female	1/2" Plug

*CA-8A Reduces from the 1" body size down to a 3/4" NPT female thread. It comes with one MO-8-1/2 screwed into the "B" end.

The Ingersoll-Rand Air Fuse Valve is designed to meet OSHA requirements. It provides automatic pressure reduction if a hose is cut, ruptures, or accidentally uncouples, thus preventing the air hose from whipping. A constant bleed hole in the valve allows the flow check to automatically open, or reset, after repair to the hose is made.

WARNING: Ingersoll-Rand Air Fuse Valves will function only on air lines having capacities equal to or exceeding the air fuse's respective closing capacity. Nominal sizes of air fuses, therefore, must be equal to, or less than, that of their supply lines and must be consistent with the connecting hose. For example, a 1/2" air fuse should be used with a 1/2" hose.



170 Series

Specifications

Max. Allowable Working Pressure: 250 psig (17 bar)

Max. Temp.: 180°F

Body & Adapter: Brass

Valve: Celcon

Spring: Stainless Steel

(all parts are corrosion resistant)

NPT	Models	Length		Max. Dia.		Cut-off Flow Rate*
		in.	mm	in.	mm	
Female/Male						
3/4"	170-6	3	76.2	1-1/4	31.8	112-128
1"	170-8	3-1/8	79.4	1-1/2	38.1	220-260

*scfm at 90 psig

Air System Accessories

Fittings and Hoses

Swivel-It!™

Introducing the *NEW*, non-marring, composite *Swivel-It* from Ingersoll-Rand. The *NEW Swivel-It* is made from non-marring, high impact, chemical resistant composite material. The *NEW* composite *Swivel-It* is available in 1/4" NPT and provides 32% more air flow with 33 scfm.

The adjustable 1/4" NPT *Swivel-It* as well as the 3/8" NPT and 1/2" NPT are currently available only in aluminum. Look for additional *Swivel-It* models available in composite.

The *Swivel-It* is designed to reduce operator fatigue by allowing the air hose to hang straight to the floor, enhancing maneuverability and increasing operator comfort and productivity. For use with drills, screwdrivers, impact tools, angle wrenches, grinders, polishers, and sanders. Not for use with percussive tools.



ASC-1/4



H-382



ROOH-130



MT1-AL34-3/8

Thread Size	Model Number	Air Flow Range
1/4"	ASA-1/4	0-25 cfm Adjustable
1/4"	ASC-1/4	0-33 cfm Non-marring
3/8"	AS-3/8	0-45 cfm Standard
1/2"	AS-1/2	0-65 cfm Standard

Swivel Inlet

For use with Chippers, Diggers, Saws, Air Hammers and Demolition Tools. Adaptable to 1/2" NPT by removing 3/8" fitting.



HH1-A165

Part Number	Description
Swivel Inlet	
HH1-A165	3/8" NPT x 1/2" Hose Nipple
HH1-SW7/8	7/8" - 24 x 1/2" Hose Nipple
Inlet Bushings with Screen	
ROB1J61-565	1/4" Male Pipe to 1/4" Female Pipe
H-382	3/8" Male Pipe to 1/4" Female Pipe

Hose Whips (250 psig maximum working pressure)

Consists of length of Hose assembled with Male Hose Nipple in one end and Female Hose Nipple in the other end.

Part Number	Hose Inside		Nipples National Pipe Thread	
	Diam in.	Length ft.	Male End in.	Female End in.
ROOH-130	1/4	8	1/8	1/4
RO-130	5/16	8	1/4	3/8
R1A-130	3/8	8	1/4	3/8
510-130	3/8	8	3/8	3/8

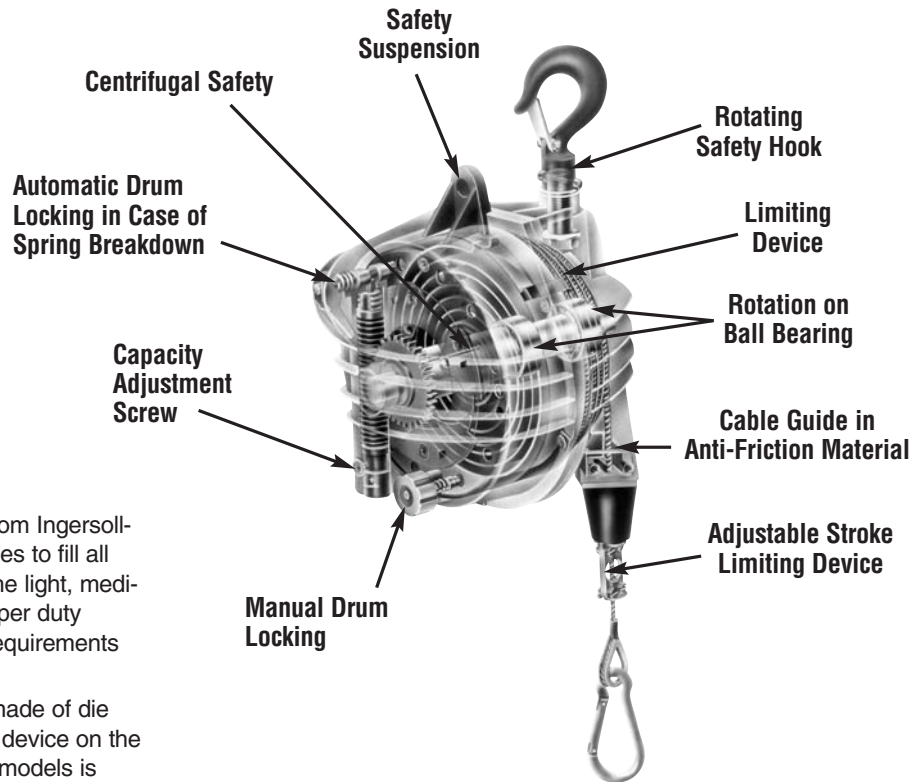
Bulk Hose

Part Number	Hose Diam in.	Description
250 psig maximum working pressure		
50923	1/4	1 Braid Black Rayon
BH4A	1/4	1 Braid Rayon
BH5A	5/16	1 Braid Rayon
BH6C	3/8	1 Braid Rayon
BH8A	1/2	1 Braid Rayon
200 psig maximum working pressure		
BH12A	3/4	1 Braid Rayon
BH12B†	3/4	2 Braid Rayon
BH16B	1	2 Braid Rayon

Hose Clamps

Part Number	Hose Size
MT1-AL34-3/8	3/8" (10 mm) – 1 Braid Rayon
MT1-AL34-1/2	1/2" (13 mm) – 1 Braid Rayon
MT1-AL34-3/4†	3/4" (19 mm) – 1 Braid Rayon
MT1-AL34-1	1" (25 mm) – 2 Braid Rayon

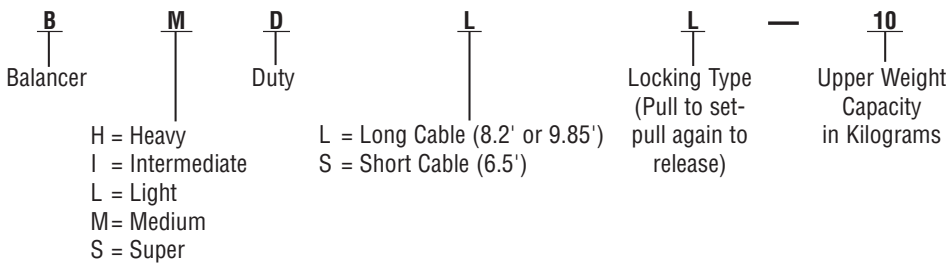
†Availability subject to prior sale



The Ingersoll-Rand balancers from Ingersoll-Rand offer you five different series to fill all your balancing requirements. The light, medium, intermediate, heavy and super duty series cover weight balancing requirements from 1 lb. to 330 lbs.

These balancers are ruggedly made of die cast aluminum. A safety locking device on the medium, heavy and super duty models is designed to prevent dropping of the tool should the spring fail. Easy to use controls allow for accurate spring adjustment.

With over 50 models to choose from, lifts ranging from 5 to 9 feet, IR balancers fill your balancer requirements with quality from Ingersoll-Rand.

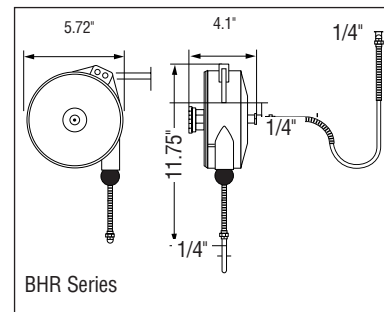


Air System Accessories

Balancers

Hose Reel Balancer - Specifications

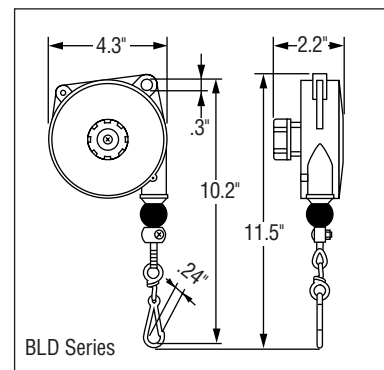
Model No.	Hose Nipples	Capacity lb	Lift ft
BHR-8	1/4"	7/8-1 3/4	4 1/4
BHR-15	1/4"	1 1/2-3 1/3	4 1/4
BHR-25	1/4"	2 5/8-5 1/2	4 1/4



Light Duty - Capacity 0.9 to 6.6 lbs (0.4 to 3 kg)

- Rotary hook.
- Adjustable capacity and stroke limiting device.
- Self lubricating bushings.
- Auxiliary safety suspension.

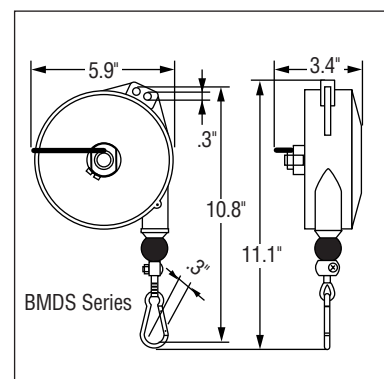
Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BLD1	.9-2.2	0.4-1	1.3	0.6	5.2	1600
BLD2	2.2-4.4	1-2	1.3	0.6	5.2	1600
BLD3	4.4-6.6	2-3	1.3	0.7	5.2	1600



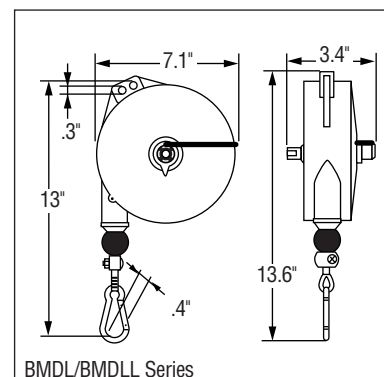
Medium Duty - Capacity 2.2 to 26.5 lbs (1 to 12 kg)

- Safety device prevents dropping of load due to spring breakage (except BMDS-2).
- Anti-friction cable guide.
- Adjustable stroke limiting device.

Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BMDS-2	2.2-5.5	1-2.5	4.4	2.0	6.5	2000
BMDS-4	4.4-8.8	2-4	4.4	2.0	6.5	2000
BMDS-6	8.8-13.2	4-6	5.1	2.3	6.5	2000
BMDS-8	13.2-17.6	6-8	5.5	2.5	6.5	2000



Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BMDL-4	4.4-8.8	2-4	6.4	2.9	8.2	2500
BMDL-6	8.8-13.2	4-6	7.1	3.2	8.2	2500
BMDL-8	13.2-17.6	6-8	7.7	3.5	8.2	2500
BMDL-10	17.6-22.0	8-10	8.2	3.7	8.2	2500
BMDL-12	22.0-26.5	10-12	8.8	4.0	8.2	2500



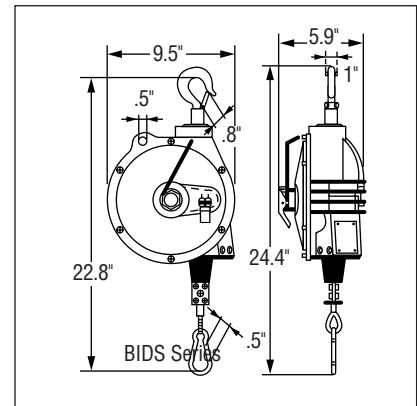
Locking Type Balancer

Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BMDLL-4	4.4-8.8	2-4	6.6	3.0	8.2	2500
BMDLL-6	8.8-13.2	4-6	7.3	3.3	8.2	2500
BMDLL-8	13.2-17.6	6-8	7.9	3.6	8.2	2500
BMDLL-10	17.6-22.0	8-10	8.4	3.8	8.2	2500

Intermediate Duty - Capacity 22 to 55 lbs (10 to 25 kg)

- Safety device prevents load dropping due to spring breakage.
- Anti-friction cable guide.
- Adjustable stroke limiting device.
- Upper rotary suspension.
- Safety hook.
- Auxiliary safety suspension.

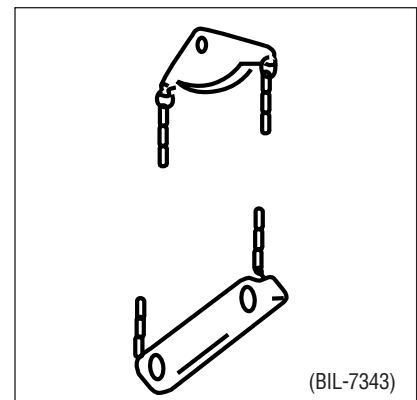
Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BIDS-7	8.8-15.4	4-7	5.0	2.26	6.5	2000
BIDS-10	15.4-22.0	7-10	5.5	2.49	6.5	2000
BIDS-14	22.0-30.8	10-14	5.5	2.49	6.5	2000
BIDS-18	30.8-39.6	14-18	5.5	2.95	6.5	2000
BIDS-22	39.6-48.4	18-22	6.5	2.95	6.5	2000
BIDS-26	48.4-55.0	22-25	6.5	2.95	6.5	2000



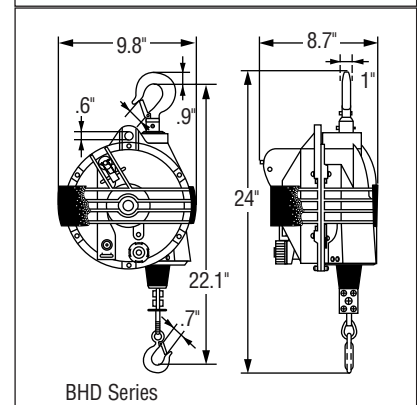
Heavy Duty - Capacity 22 to 143 lbs (10 to 65 kg)

- Safety device prevents load dropping due to spring breakage.
- Upper suspension with rotary safety hook.
- Precision guided cable winding prevents jamming.
- Anti-friction cable guide.
- Manual locking device for instant clamping or release.
- Worm screw capacity adjustment.
- Spring drum assembly.
- Floor controlled locking device available as an option. (BIL-7343)

Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BHD-15	22-33	10-15	22.7	10.3	6.5	2000
BHD-20	33-44	15-20	23.4	10.6	6.5	2000
BHD-25	44-55	20-25	24.7	11.2	6.5	2000
BHD-30	55-66	25-30	25.4	11.5	6.5	2000
BHD-35	66-77	30-35	26.0	11.8	6.5	2000
BHD-45	77-99	35-45	27.3	12.4	6.5	2000
BHD-55	99-121	45-55	27.6	12.5	6.5	2000
BHD-65	121-143	55-65	30.0	13.6	6.5	2000



(BIL-7343)



BHD Series

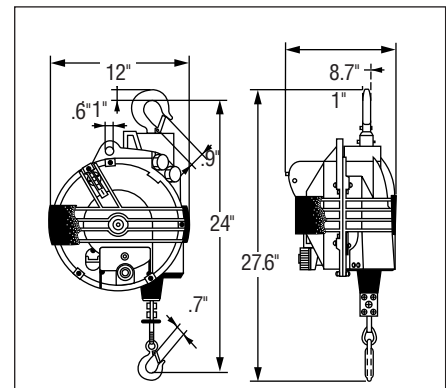
Air System Accessories

Balancers

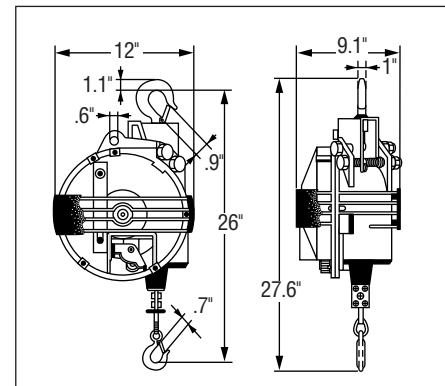
Super Duty - Capacity 33 to 363 lbs (15 to 165 kg)

- Safety device prevents load dropping due to spring breakage.
- Manual locking device for instant clamping or release.
- Anti-friction cable guide.
- Cable replacement without balancer disassembly.
- Floor controlled locking device available as an option. (BIL-7343)
- Precision guided cable winding prevents jamming.
- Alignable rotating upper hook.
- Worm screw capacity adjustment.
- Cable visible for inspection.
- Other sizes available on request.

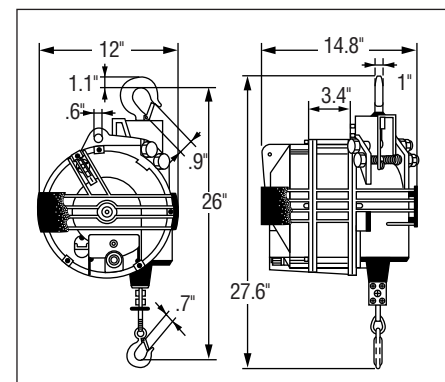
Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BSD-20	33-44	15-20	41.9	19.0	8.2	2500
BSD-30	44-66	20-30	43.7	19.8	8.2	2500
BSD-40	66-88	30-40	45.9	20.8	8.2	2500
BSD-50	88-110	40-50	52.7	23.9	8.2	2500
BSD-60	110-132	50-60	56.0	25.4	8.2	2500
BSDL-20	33-44	15-20	42.1	19.1	9.85	3000
BSDL-25	44-55	20-25	43.9	19.9	9.85	3000
BSDL-35	55-77	25-35	46.1	20.9	9.85	3000



Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BSD-70	132-154	60-70	59.1	26.8	8.2	2500
BSD-80	154-176	70-80	61.3	27.8	8.2	2500
BSD-90	176-198	80-90	63.5	28.8	8.2	2500
BSDL-45	77-99	35-45	52.5	23.8	9.85	3000
BSDL-50	88-110	40-50	52.7	23.9	9.85	3000
BSDL-60	110-132	50-60	55.8	25.3	9.85	3000
BSDL-70	132-154	60-70	58.9	26.7	9.85	3000
BSDL-80	154-176	70-80	61.7	28.0	9.85	3000
BSDL-90	176-198	80-90	64.0	29.0	9.85	3000



Model No.	Capacity		Weight		Lift	
	lb	kg	lb	net-kg	ft	mm
BSD-100	198-220	90-100	78.5	35.6	8.2	2500
BSD-120	220-265	100-120	85.3	38.7	8.2	2500
BSD-140	265-309	120-140	92.2	41.8	8.2	2500
BSD-150	287-330	130-150	98.1	44.5	8.2	2500
BSD-165	330-363	150-165	106.3	48.2	8.2	2500
BSDL-100	198-220	90-100	81.1	36.8	9.85	3000
BSDL-115	220-254	100-115	85.3	38.7	9.85	3000
BSDL-130	254-286	115-130	88.0	39.9	9.85	3000
BSDL-140	286-309	130-140	94.4	42.8	9.85	3000
BSDL-150	309-330	140-150	100.6	45.6	9.85	3000



- Designed to meet OSHA standards.
- Available in standard, 6" and 12" lengths.
- Cushioned thumb grip.

600 Series

Multiple venturi holes maximize air volume while conforming to OSHA's requirements on compressed air.

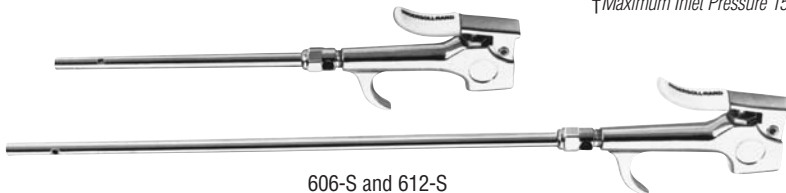
Used for cleaning.



600-S



600-SB



606-S and 612-S



8338-1



8338-2



8440



ST206 and ST212



ST10



ST11

Part Number	Description
600 Series†	
600-S	Standard Safety Blow Gun
600-SB	Booster Safety Blow Gun
606-S	Safety Blow Gun with 6" Extension
612-S	Safety Blow Gun with 12" Extension
8338 Series*	
8338-1	Safety Blow Gun with Cone of Air
8338-2	Safety Blow Gun with Rubber Tip
33970	10" Extension Tip for 8338 Series
8440 Series*	
8440	Safety Yellow, Lightweight, Polyester Blow Gun
Safety Extensions - Used on 600 Series	
ST206	6" Safety Extension
ST212	12" Safety Extension
Blow Gun Tips - Used on 600 Series†	
ST10	Standard Safety Tip
ST11	Safety Air Booster Tip

1/4 NPT - Maximum Tip Pressure 30 psig per OSHA Requirement

*Maximum Inlet Pressure 250 psig

†Maximum Inlet Pressure 150 psig

Air System Accessories **Carbide Grinding Burs**



Ingersoll-Rand offers a perfect complement to its innovative grinders and finishing tools—a complete range of versatile, durable, high-precision burs. Ingersoll-Rand carbide burs reflect unrivaled quality of manufacture, as well as superior quality of service . . . in types, styles, and sizes; easy and quick ordering and delivery, and extended product life.

Consider the cutting edge differences:

The Ingersoll-Rand Carbide Bur Refurbishing Program offers another option, extending the life of used burs. Our refurbishing center will sharpen, recondition or salvage your used carbide grinding burs as appropriate, at a fraction of new replacement cost.

The Ingersoll-Rand Burs cataloged are supplied in **super cut, fine, plain** or **non ferrous** fluting, each designed for a specific purpose. Other cuts are available at no additional charge.

Standard Cuts



Non Ferrous



Fine Cut



Super Cut

Optional Cuts*



Chip Breaker



Coarse



Diamond



Plain

* NOTE: To order any of the "Optional Cuts" listed above, simply order the size and shape desired using the "Super Cut" part number and price. Then designate the "Optional Cut" you would like (i.e. IRSA-5 Diamond Cut).

How to Select an Ingersoll-Rand Carbide Bur

Step 1: Establish which shape bur would best conform to the contour being machined.

Step 2: Decide on the type of cut needed. The factors governing this selection are the materials being cut, the finish required and the bur shape itself. Let's take a look at the available **standard** cuts.

A. Super Cut

Where used: General purpose deburring of steel, cast iron or other ferrous materials.

Advantages: The Super Cut bur has hundreds of chisel-like teeth that result in rapid stock removal and better control for free hand operations. It's particularly suited for cuffing stringy materials because it produces a powder-like chip.

B. Non Ferrous Cut

Where used: Recommended for soft materials such as aluminum, magnesium, brass, lead and most plastics.

Advantages: Doesn't load up or clog the flutes when used on soft materials. Not recommended on flexible shafts. Most aggressive cut for flexible shanks should be coarse.

Step 3: Choose the shank best suited for your application.

Diameter – Choose the diameter which best fits your tool collet or chuck.

Solid Carbide – Used to clean in narrow openings or confined spaces when high operational speeds are desired. Available in 1/8", 3/16" and 1/4" diameter shanks. Maximum length 6".

Steel Shank – Used on large work pieces. Available in 1/8", 3/16", 1/4" and 3/8" diameters. Extended length shanks up to 18" available on 1/4" and 3/8" diameter shanks. Other lengths available upon request.

How to Use a Carbide Bur

When loading a bur in the grinder, be sure to insert the shank as far into the collet as possible, keeping overhang to a minimum. This will prevent whipping or chatter, while increasing the life of your spindle bearings. When grinding, use just enough pressure to keep the bur cutting. **WARNING: DO NOT BEAR DOWN.** Excessive pressure will slow down the spindle and result in damage to the cutting edges. The burs should be kept moving at all times to prevent the tool from digging into the work. **Let the bur do the work.**

Do not run a carbide bur beyond the point of normal sharpening. The resultant heat and pressure will cause excessive chipping of the cutting edges, greatly reducing the bur life or damaging the bur beyond repair.



Head Dia.	Length of Cut	Shank Dia.	Fine		Non Ferrous		Super	
			Fine	Fine End Cut	Non Ferrous	Non Ferrous End Cut	Super	Super End Cut
Cylindrical Shapes								
1/16	1/4	1/8*	IRSA-41F	IRSA-41FEC	—	—	IRSA-41	IRSA-41EC
3/32	7/16	1/8*	IRSA-42F	IRSA-42FEC	—	—	IRSA-42	IRSA-42EC
1/8	†	1/8*	—	IRSB-FECO	—	—	IRSB-ECO	IRSB-ECO
1/8	1/2	1/4*	IRSA-11F	IRSA-11FEC	IRSA-11NF	IRSA-11NFEC	IRSA-11	IRSA-11EC
1/8	9/16	1/8*	IRSA-43F	IRSA-43FEC	—	—	IRSA-43	IRSA-43EC
3/16	1/2	1/8*	IRSA-53F	IRSA-53FEC	—	—	IRSA-53	IRSA-53EC
3/16	5/8	1/4*	IRSA-14F	IRSA-14FEC	IRSA-14NF	IRSA-14NFEC	IRSA-14	IRSA-14EC
1/4	1/2	1/8	IRSA-51F	IRSB-51FEC	—	—	IRSA-51	IRSB-51EC
1/4	5/8	1/4*	IRSA-1F	IRSA-1FEC	IRSA-1NF	IRSA-1NFEC	IRSA-1	IRSA-1EC
1/4	1	1/4*	IRSA-1LF	IRSA-1LFEC	IRSA-1LNF	IRSA-1LNFEC	IRSA-1L	IRSA-1LEC
5/16	3/4	1/4	IRSA-2F	IRSA-2FEC	—	—	IRSA-2	IRSA-2EC
3/8	3/4	1/4	IRSA-3F	IRSA-3FEC	IRSA-3NF	IRSA-3NFEC	IRSA-3	IRSA-3EC
7/16	1	1/4	IRSA-4F	IRSA-4FEC	IRSA-4NF	IRSA-4NFEC	IRSA-4	IRSA-4EC
1/2	1	1/4	IRSA-5F	IRSA-5FEC	IRSA-5NF	IRSA-5NFEC	IRSA-5	IRSA-5EC
5/8	1	1/4	IRSA-6F	IRSA-6FEC	IRSA-6NF	IRSA-6NFEC	IRSA-6	IRSA-6EC
3/4	3/4	1/4	IRSA-16F	IRSA-16FEC	IRSA-16NF	IRSA-16NFEC	IRSA-16	IRSA-16EC
3/4	1	1/4	IRSA-7F	IRSA-7FEC	IRSA-7NF	IRSA-7NFEC	IRSA-7	IRSA-7EC
1	1	1/4	IRSA-9F	IRSA-9FEC	IRSA-9NF	IRSA-9NFEC	IRSA-9	IRSA-9EC

*Solid Carbide †End cut only

Air System Accessories

Carbide Grinding Burs

Head Dia.	Length of Cut	Shank Dia.	Fine	Non Ferrous	Super
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Cylindrical Shapes (Radius Nose)

3/32	7/16	1/8*	IRSC-41F	—	IRSC-41
1/8	1/2	1/4*	IRSC-11F	IRSC-11NF	IRSC-11
1/8	9/16	1/8*	IRSC-42F	—	IRSC-42
3/16	1/2	1/8*	IRSC-53F	—	IRSC-53
3/16	5/8	1/4*	IRSC-14F	IRSC-14NF	IRSC-14
1/4	1/2	1/8	IRSC-51F	—	IRSC-51
1/4	5/8	1/4*	IRSC-1F	IRSC-1NF	IRSC-1
5/16	3/4	1/4	IRSC-2F	—	IRSC-2
3/8	3/4	1/4	IRSC-3F	IRSC-3NF	IRSC-3
7/16	1	1/4	IRSC-4F	IRSC-4NF	IRSC-4
1/2	1	1/4	IRSC-5F	IRSC-5NF	IRSC-5
5/8	1	1/4	IRSC-6F	IRSC-6NF	IRSC-6
3/4	1	1/4	IRSC-7F	IRSC-7NF	IRSC-7

Ball Shape

3/32	3/32	1/8*	IRSD-41F	—	IRSD-41
1/8	1/8	1/4*	IRSD-11F	IRSD-11NF	IRSD-11
1/8	1/8	1/8*	IRSD-42F	—	IRSD-42
3/16	3/16	1/4	IRSD-14F	IRSD-14NF	IRSD-14
3/16	3/16	1/8*	IRSD-53F	—	IRSD-53
1/4	1/4	1/4*	IRSD-1F	IRSD-1NF	IRSD-1
1/4	1/4	1/8	IRSD-51F	—	IRSD-51
5/16	5/16	1/4	IRSD-2F	—	IRSD-2
3/8	3/8	1/4	IRSD-3F	IRSD-3NF	IRSD-3
7/16	7/16	1/4	IRSD-4F	IRSD-4NF	IRSD-4
1/2	1/2	1/4	IRSD-5F	IRSD-5NF	IRSD-5
5/8	5/8	1/4	IRSD-6F	IRSD-6NF	IRSD-6
3/4	3/4	1/4	IRSD-7F	IRSD-7NF	IRSD-7
1	1	1/4	IRSD-9F	IRSD-9NF	IRSD-9

Olive Shape

1/8	7/32	1/8*	IRSE-41F	—	IRSE-41
3/16	9/32	1/8*	IRSE-53F	—	IRSE-53
1/4	3/8	1/8	IRSE-51F	—	IRSE-51
1/4	3/8	1/4	IRSE-1F	IRSE-1NF	IRSE-1
3/8	5/8	1/4	IRSE-3F	IRSE-3NF	IRSE-3
1/2	7/8	1/4	IRSE-5F	IRSE-5NF	IRSE-5
5/8	1	1/4	IRSE-6F	IRSE-6NF	IRSE-6
3/4	1	1/4	IRSE-7F	IRSE-7NF	IRSE-7

Tree Shape (Radius Nose)

1/8	1/4	1/8*	IRSF-41F	—	IRSF-41
1/8	3/8	1/8*	—	—	IRSF-41S
1/8	1/2	1/4*	IRSF-11F	IRSF-11NF	IRSF-11
1/8	1/2	1/8*	IRSF-42F	—	IRSF-42
3/16	1/2	1/8*	IRSF-53F	—	IRSF-53
1/4	1/2	1/8	IRSF-51F	—	IRSF-51
1/4	5/8	1/4*	IRSF-1F	IRSF-1NF	IRSF-1
3/8	3/4	1/4	IRSF-3F	IRSF-3NF	IRSF-3
7/16	1	1/4	IRSF-4F	IRSF-4NF	IRSF-4
1/2	1	1/4	IRSF-5F	IRSF-5NF	IRSF-5
5/8	1	1/4	IRSF-6F	IRSF-6NF	IRSF-6
3/4	1	1/4	IRSF-7F	IRSF-7NF	IRSF-7
3/4	1 1/4	1/4	IRSF-14F	IRSF-14NF	IRSF-14
3/4	1 1/2	1/4	IRSF-15F	IRSF-15NF	IRSF-15

*Solid Carbide

Head Dia.	Length of Cut	Shank Dia.	Fine	Non Ferrous	Super
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Cylindrical Shapes (Radius Nose)

3/32	7/16	1/8*	IRSC-41F	—	IRSC-41
1/8	1/4	1/8*	IRSG-41F	—	IRSG-41
1/8	3/8	1/8*	IRSG-43F	—	IRSG-43
1/8	5/16	1/8*	IRSG-42F	—	IRSG-42
3/16	1/2	1/8*	IRSG-53F	—	IRSG-53
1/4	1/2	1/8	IRSG-51F	—	IRSG-51
1/4	1/2	3/16	IRSG-91F	—	IRSG-91
1/4	5/8	1/4*	IRSG-1F	IRSG-1NF	IRSG-1
5/16	3/4	1/4	IRSG-2F	—	IRSG-2
3/8	3/4	1/4	IRSG-3F	IRSG-3NF	IRSG-3
1/2	3/4	1/4	IRSG-13F	IRSG-13NF	IRSG-13
1/2	1	1/4	IRSG-5F	IRSG-5NF	IRSG-5
5/8	1	1/4	IRSG-6F	IRSG-6NF	IRSG-6
3/4	1	1/4	IRSG-7F	IRSG-7NF	IRSG-7
3/4	1 1/2	1/4	IRSG-15F	IRSG-15NF	IRSG-15

Flame Shape (Radius Nose)

1/8	1/4	1/8*	IRSH-41F	—	IRSH-41
3/16	3/8	1/8*	IRSH-53F	—	IRSH-53
5/16	3/4	1/4	IRSH-2F	—	IRSH-2
1/2	1 1/4	1/4	IRSH-5F	IRSH-5NF	IRSH-5
5/8	1 1/2	1/4	IRSH-6F	IRSH-6NF	IRSH-6
3/4	1 5/8	1/4	IRSH-7F	IRSH-7NF	IRSH-7

Chamfer (60° included angle)

1/8	1/8*	—	IRSJ-42F	—	IRSJ-42
1/4	1/4*	—	IRSJ-1F	IRSJ-1NF	IRSJ-1
3/8	1/4	—	IRSJ-3F	IRSJ-3NF	IRSJ-3
1/2	1/4	—	IRSJ-5F	IRSJ-5NF	IRSJ-5
5/8	1/4	—	IRSJ-6F	IRSJ-6NF	IRSJ-6
3/4	1/4	—	IRSJ-7F	IRSJ-7NF	IRSJ-7
1	1/4	—	IRSJ-9F	IRSJ-9NF	IRSJ-9

Chamfer (90° included angle)

1/8	1/8*	—	IRSK-42F	—	IRSK-42
1/4	1/4*	—	IRSK-1F	IRSK-1NF	IRSK-1
3/8	1/4	—	IRSK-3F	IRSK-3NF	IRSK-3
1/2	1/4	—	IRSK-5F	IRSK-5NF	IRSK-5
5/8	1/4	—	IRSK-6F	IRSK-6NF	IRSK-6
3/4	1/4	—	IRSK-7F	IRSK-7NF	IRSK-7
1	1/4	—	IRSK-9F	IRSK-9NF	IRSK-9

Cone Shape (Radius Nose)

1/8	3/8	1/8*	IRSL-41F	—	IRSL-41
1/8	1/2	1/8*	IRSL-42F	—	IRSL-42
3/16	1/2	1/8*	IRSL-53F	—	IRSL-53
1/4	5/8	1/4*	IRSL-1F	IRSL-1NF	IRSL-1
5/16	7/8	1/4	IRSL-2F	—	IRSL-2
3/8	1 1/16	1/4	IRSL-3F	IRSL-3NF	IRSL-3
1/2	1 1/8	1/4	IRSL-4F	IRSL-4NF	IRSL-4
5/8	1 5/16	1/4	IRSL-6F	IRSL-6NF	IRSL-6
3/4	1 1/2	1/4	IRSL-7F	IRSL-7NF	IRSL-7

Cone Shape

1/8	11/32	1/8*	IRSM-41F	—	IRSM-41
1/8	7/16	1/8*	IRSM-42F	—	IRSM-42
1/8	1/2	1/8*	—	—	IRSM-41S
1/8	5/8	1/8*	IRSM-43F	—	IRSM-43
3/16	1/2	1/8*	IRSM-53F	—	IRSM-53
1/4	1/2	1/4*	IRSM-1F	IRSM-1NF	IRSM-1
1/4	1/2	1/8	IRSM-51F	—	IRSM-51
1/4	3/4	1/4*	IRSM-2F	—	IRSM-2
1/4	1	1/4*	IRSM-3F	IRSM-3NF	IRSM-3
3/8	5/8	1/4	IRSM-4F	IRSM-4NF	IRSM-4
1/2	7/8	1/4	IRSM-5F	IRSM-5NF	IRSM-5
5/8	1	1/4	IRSM-6F	IRSM-6NF	IRSM-6

*Solid Carbide





Head Dia.	Length of Cut	Shank Dia.	Fine		Non Ferrous		Super	
			Fine	Fine End Cut	Non Ferrous	Non Ferrous End Cut	Super	Super End Cut
Inverted Cone Shape								
3/32	1/8	1/8*	IRSN-41F	—	—	—	IRSN-41	—
1/8	3/16	1/8*	IRSN-42F	—	—	—	IRSN-42	—
3/16	1/4	1/8*	IRSN-53F	—	—	—	IRSN-53	—
1/4	1/4	1/8	IRSN-51F	—	—	—	IRSN-51	—
1/4	5/16	1/4*	IRSN-1F	IRSN-22-1/2FEC	IRSN-1NF	IRSN-1NFEC	IRSN-1	IRSN-22-1/2EC
1/2	1/2	1/4	IRSN-4F	IRSN-44FEC	IRSN-4NF	IRSN-4NFEC	IRSN-4	IRSN-44EC
5/8	3/4	1/4	IRSN-6F	IRSN-56FEC	IRSN-6NF	IRSN-6NFEC	IRSN-6	IRSN-56EC
3/4	5/8	1/4	IRSN-7F	IRSN-65FEC	IRSN-7NF	IRSN-7NFEC	IRSN-7	IRSN-65EC

*Solid Carbide



Body Diameter	Shank Diameter	Overall Length	Part Number
Carbide Countersinks (60° Angle Standard*)			
3/16	3/16	1-1/2	IRCC-1
1/4	1/4	2	IRCC-2
3/8	1/4	1-3/4	IRCC-3
1/2	3/8	2 1/8	IRCC-4
5/8	3/8	2-3/8	IRCC-5
3/4	1/2	2 11/16	IRCC-6
Doubled Ended Solid Carbide Countersinks (60° Angle Standard*)			
1/4	1/4	2	IRCC-2DE
3/8	3/8	2	IRCC-3DE
1/2	1/2	2-1/2	IRCC-4DE

*Other angles available (82°, 90°, 100°, 110° and 120°)



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Part Number
Solid Carbide Internal Burs				
1/16	1/8	1/8	1-1/2	IRIB-1
3/32	1/8	1/8	1-1/2	IRIB-2
1/8	1/8	1/8	1-1/2	IRIB-3
5/32	3/16	3/16	2	IRIB-4
3/16	3/16	3/16	2	IRIB-5
7/32	1/4	1/4	2	IRIB-6
1/4	1/4	1/4	2	IRIB-7
5/16	5/16	1/4	2-1/2	IRIB-8
3/8	3/8	1/4	2-1/2	IRIB-9

Diamond cut with 120° angle chamfer on leading edge.



Diameter	Cutting Length	Shank Diameter	Length	Cut	
				Rough Cut	Medium Cut
Solid Carbide Die Mills					
1/8	3/8	1/8	1-1/2	IRDM-1R	IRDM-1M
3/16	1/2	3/16	2	IRDM-2R	IRDM-2M
1/4	3/4	1/4	2	IRDM-3R	IRDM-3M
5/16	3/4	5/16	2-1/2	IRDM-4R	IRDM-4M
3/8	1	3/8	2-1/2	IRDM-5R	IRDM-5M
1/2	1	1/2	2-1/2	IRDM-6R	IRDM-6M



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Part Number
Solid Carbide Grinding Burs				
5/16	1/2	1/4	2 1/2	IRGB-1
3/8	1/2	1/4	2 1/2	IRGB-2
7/16	1/2	1/4	2 1/2	IRGB-3
1/2	1/2	1/4	2 1/2	IRGB-4

Diamond cut with 120° angle chamfer on leading edge



Cutter Diameter	Length of Cut	Shank Diameter	Overall Length	End Mill		Drill Point
				No End Cut	Bur End Cut	
Solid Carbide Fiber Glass Routers						
1/8	1/2	1/8	1-1/2	IRFG-11	IRFG-12	IRFG-13
3/16	5/8	3/16	2	IRFG-21	IRFG-22	IRFG-23
1/4	3/4	1/4	2	IRFG-31	IRFG-32	IRFG-33
5/16	1	5/16	2-1/2	IRFG-41	IRFG-42	IRFG-43
3/8	1	3/8	2-1/2	IRFG-51	IRFG-52	IRFG-53
1/2	1	1/2	3	IRFG-61	IRFG-62	IRFG-63

Air System Accessories

Carbide Grinding Burs



Eight Piece Bur Kit

Super Cut	Fine Cut	Head	Length of Cut	Shank
IRRK-1	IRRK-1F			
IRSA-1	IRSA-1F	1/4	5/8	1/4*
IRSD-1	IRSD-1F	1/4	1/4	1/4*
IRSC-1	IRSC-1F	1/4	5/8	1/4*
IRSM-2	IRSM-2F	1/4	3/4	1/4*
IRSN-1	IRSN-1F	1/4	5/16	1/4*
IRSE-1	IRSE-1F	1/4	3/8	1/4*
IRSF-1	IRSF-1F	1/4	5/8	1/4*
IRSG-1	IRSG-1F	1/4	5/8	1/4*



Ten Piece Bur Kit

Super Cut	Fine Cut	Head	Length of Cut	Shank
IRRK-5	IRRK-5F			
IRSA-53	IRSA-53F	3/16	1/2	1/8*
IRSD-53	IRSD-53F	3/16	3/16	1/8*
IRSC-53	IRSC-53F	3/16	1/2	1/8*
IRSM-53	IRSM-53F	3/16	1/2	1/8*
IRSL-53	IRSL-53F	3/16	1/2	1/8*
IRSH-53	IRSH-53F	3/16	3/8	1/8*
IRSN-53	IRSN-53F	3/16	1/4	1/8*
IRSE-53	IRSE-53F	3/16	9/32	1/8*
IRSF-53	IRSF-53F	3/16	1/2	1/8*
IRSG-53	IRSG-53F	3/16	1/2	1/8*



Nine Piece Bur Kit

Super Cut	Fine Cut	Head	Length of Cut	Shank
IRRK-3	IRRK-3F			
IRSA-51	IRSA-51F	1/4	1/2	1/8
IRSB-51	IRSB-51F	1/4	3/16	1/8
IRSD-51	IRSD-51F	1/4	1/4	1/8
IRSC-51	IRSC-51F	1/4	1/2	1/8
IRSM-51	IRSM-51F	1/4	1/2	1/8
IRSN-51	IRSN-51F	1/4	1/4	1/8
IRSE-51	IRSE-51F	1/4	3/8	1/8
IRSF-51	IRSF-51F	1/4	1/2	1/8
IRSG-51	IRSG-51F	1/4	1/2	1/8



Eleven Piece Bur Kit

Super Cut	Fine Cut	Head	Length of Cut	Shank
IRRK-6	IRRK-6F			
IRSA-43	IRSA-43F	1/8	9/16	1/8*
IRSA-42	IRSA-42F	3/32	7/16	1/8*
IRSD-42	IRSD-42F	1/8	1/8	1/8*
IRSC-42	IRSC-42F	1/8	9/16	1/8*
IRSM-43	IRSM-43F	1/8	5/8	1/8*
IRSH-41	IRSH-41F	1/8	1/4	1/8*
IRSN-42	IRSN-42F	1/8	3/16	1/8*
IRSE-41	IRSE-41F	1/8	7/32	1/8*
IRSF-415	IRSF-415F	1/8	3/8	1/8*
IRSF-42	IRSF-42F	1/8	1/2	1/8*
IRSG-41	IRSG-41F	1/8	1/4	1/8*

*Solid Carbide
Plastic box included with all kits

814 Eight Piece Bur Kit - Wood Case

Super Cut	Fine Cut
IRSA-3	IRSD-1
IRSA-5	IRSD-3
IRSC-1	IRSF-3
IRSC-3	IRSF-5



Recommended Speeds for Carbide Burs

Table #1. Recommended speeds for soft metals such as Malleable Iron, Steel Welds, Cast Iron, Tool Steels, Die Steels, Naval Bronze, Brass, Aluminum, etc.

Table #2. Recommended speeds for hard metals such as Stainless Steels, Titanium, etc.

Bur Dia.	Coarse			Standard			Fine		
	No. of Flutes	Speed rpm		No. of Flutes	Speed rpm		No. of Flutes	Speed rpm	
		Table No. 1	Table No. 2		Table No. 1	Table No. 2		Table No. 1	Table No. 2
1/16	8	65,000	98,000	14	50,000	75,000	20	30,000	45,000
3/32	10	55,000	83,000	18	40,000	60,000	24	25,000	38,000
1/8	12	45,000	68,000	20	35,000	53,000	28	20,000	30,000
3/16	14	39,000	59,000	24	25,000	38,000	34	16,000	24,000
1/4	15	35,000	53,000	27	22,000	33,000	42	14,000	21,000
5/16	16	32,000	48,000	30	20,000	30,000	48	12,000	18,000
3/8	18	29,000	44,000	32	18,000	27,000	52	11,000	17,000
7/16	18	27,000	41,000	34	17,000	26,000	54	10,500	15,800
1/2	20	25,000	38,000	36	16,000	24,000	56	10,000	15,000
5/8	22	23,000*	35,000†	38	15,000	23,000	60	9,500	14,300
3/4	24	20,000*	30,000†	40	14,000	21,000	64	9,000	13,500
7/8	25	19,000*	29,000†	42	13,000	20,000	68	8,500	12,700
1	27	18,000*	27,000	44	12,000	18,000	72	8,000	12,000

Note: Diamond Cut Burs—Reduce Speed shown in each table by approximately 1/3 to 1/2.

*Maximum speeds recommended for Burs supplied with 1/4" X 2" shanks

†Use 3/8" diameter shanks on 5/8" and 3/4" diameter Burs above 15,000 rpm

‡Use 3/8" diameter shanks on 7/8" and 1" diameter Burs above 10,000 rpm

Important: Recommended speeds are applicable only for Burs with 1 3/4" length shanks when chucked to full length of shank. Longer shank Burs must be run at slower rpms. Refer to "ANSI B" for specific speeds.

Recommended Speeds for Internal & Grinding Burs

Description	Tool No.	Approximate Bur Speed Right Hand Rotation
Internal Bur	IRIB-1	32,500
Internal Bur	IRIB-2	27,500
Internal Bur	IRIB-3	22,500
InternalBur	IRIB-4	21,000
Internal Bur	IRIB-5	19,500
Internal Bur	IRIB-6	18,500
Internal Bur	IRIB-7	17,500
Internal Bur	IRIB-8	16,000
Internal Bur	IRIB-9	14,500
Grinding Bur	IRGB-1	12,500
Grinding Bur	IRGB-2	11,500
Grinding Bur	IRGB-3	10,000
Grinding Bur	IRGB-4	9,500

Air System Accessories

Power Extractor

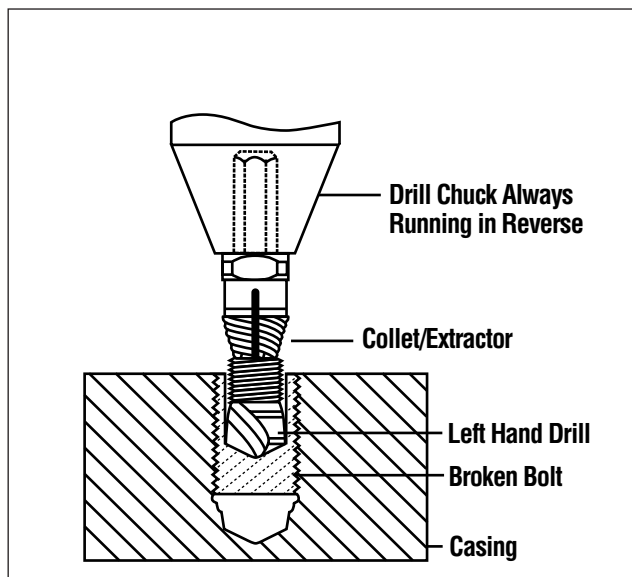
Broken Bolt? The answer is... Drill-Out® Power Extractor

Features

- Revolutionary design
- Compact
- Patented drill tip design
- Left hand drill bit
- Left hand extractor
- Heat treated high-speed steel

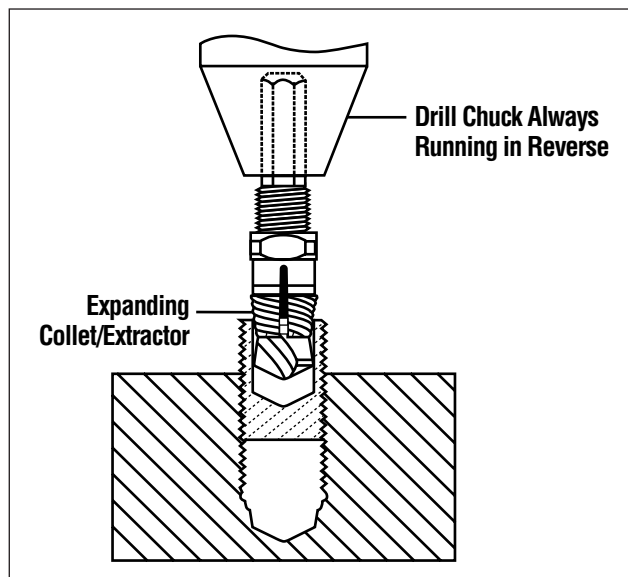
Benefits

- Fast, reliable and reusable
- Works in close quarters
- Drills and maintains a centered hole
- Often loosens bolts
- Removes broken fastener
- Drills Grade 8 and stainless steel fasteners



Step 1: Drilling

Choose the correct size DRILL-OUT. Place the DRILL-OUT into a 3/8" reversible variable speed drill, thread the collet back to the chuck and drill on a centered hole to a depth just before extractor engagement (3/8" — 1/2").



Step 2: Extracting

Turn the collet five (5) turns from chuck. Bring the drill up to the recommended rpm speed and plunge the DRILL-OUT into the hole. The collet will engage the broken bolt and extract it.

Ordering Information

Drill-Out Size	Part Number
1/4-6 mm	DO-1/4
5/16-8 mm	DO-5/16
3/8-10 mm	DO-3/8
1/2-12 mm	DO-1/2
4 piece kit	DO-4C

Air System Accessories

Ergonomic Accessories



Made from energy-absorbing Sorbothane®, the Comfort Grip provides an isolation barrier between your operator and the tool. Sorbothane, proved effective in absorbing mechanical shocks and reducing vibrations transmitted to the operator, has been tested and recommended for years in medical and athletic applications.



Sorbothane's excellent energy absorption and vibration dampening properties make the Comfort Grip ideal for use when the operator is subjected to repeated mechanical shocks or vibration.

Features

- Nonslip urethane outer skin.
- Also available in sheet form.
- Die cut for precise tool fit.
- Self-stick adhesive backing.
- -20°F to 180°F operating range.
- .125" thickness.

MRO Tools

Tool Series	Description	Part Number
Air Cutting Tools and Drills		
329	Reciprocating Saw	CG-329
7802S, 7802, 7803	Shear, 3/8", 1/2" Drill (Grip Only)	CG-7802
7801, 7806	3/8", 1/2" Reversible Drill (Grip Only)	CG-728
Air Die Grinders/Tire Buffer		
302	Angle Die	CG-302
308	Angle Die	CG-308
Air Hammers		
121		CG-72
Air Impact Wrenches		
205	3/8" Drive	CG-205
206	3/8" Drive	CG-206
211	3/8" Drive	CG-1702S
212	3/8" Drive	CG-1702P
231, 231-2	1/2" Drive	CG-2705
244, 244-2	1/2" Drive	CG-2707
261,261-6, 271	3/4" & 1" Drive (Grip Only)	CG-1720P
280, 280-6, 280-S6	1" & #5 Spline Drive (Grip Only)	CG-2934BA
281, 281-6, 281-S6	1" & #5 Spline Drive (Grip Only)	CG-281
293, 293-S	1" & #5 Spline Drive (Grip Only)	CG-2940P
Air Ratchet Wrenches		
103	1/4" Drive	CG-103
104	1/4" Drive	CG-104
106	3/8" Drive	CG-106
107	3/8" Drive	CG-107
Air Sanders		
310	Dual Action Sander	CG-310
311	Dual Action Quiet Sander	CG-311

Industrial Tools

Tool Series	Part Number
Angle Wrenches	
Series 3 Reversible Stall	CG-3RL
Series 6 Reversible Shut-off	CG-6WRT
Series 6 Nonreversible Shut-off	CG-6WT
Series 7 Reversible	CG-7RLD
Drills*	
Series 6 Pistol	CG-6A
Series 728 Pistol	CG-728
Series 7 Pistol	CG-7A
Impact Tools*	
1702P Pistol	CG-1702P
1702SB Straight	CG-1702S
1720P Pistol	CG-1720P
231, 2705A Pistol	CG-2705
2707A Pistol	CG-2707
2906P Pistol	CG-2906
2920P Pistol	CG-2920P
1712, 2934, 2940, 2945, 2950 Inside Trigger Handles	CG-2934BA
2940P Pistol	CG-2940P
Percussive Tools*	
AVC10, 12,13 and 26A1 (offset)-contains 3 pieces	CG-AV10A
1, 2, 3, 4, W1, W2, W3, W4	CG-W1A
772	CG-72
Screwdrivers and Tappers*	
Series 3 Straight Lever	CG-3RL
Series 3 Straight Push-To-Start	CG-3RP
Series 3 Pistol & Tapper	CG-3RT
Series 4 Straight Lever	CG-4RL
Series 4 Pistol	CG-4RT
Series 5 Pistol	CG-5RA
Series 5 Straight Lever	CG-5RL
Series 7 Pistol & Tapper	CG-7RA
Series 7 Straight Lever	CG-7RL
Vertical Grinders and Sanders	
88V-88S (Both Handles)	CG-88V
99V (Both Handles)	CG-99V
For Other Applications	
6" x 8" Sheet with Tape	CG-6X8
42" Roll Seam Tape	CG-ST42

*Kit for Tool only. Use CG-6 x 8 Sheet Stock to cover auxiliary Handles and percussive Barrels. Note: All kits contain die cut piece plus seam tape.

Air System Accessories

Ergonomic Accessories

Give your assembly tool operators the comfort advantage . . . Ergo-grip™ and Bio Brace™ Features

Both of these accessories enhance operator comfort by allowing the operator to reduce grip pressure. Each is covered with operator comfort foam. More consistent torque output is achieved by encouraging completion of the tool shutoff cycle.

Ergo-Grip™

Rotating against a spring mechanism, the Ergo-Grip modifies startup and shutoff reaction experienced by the operator. Provides a flange which enables the operator to apply axial pressure through the heel of the hand. Easy to install — unscrew the clutch housing, slip on the Ergo-Grip, and reattach the clutch housing.



Non-Ingersoll-Rand Screwdriver Grips*

Ergo-Grip			
Part No.	—	SEG4-CL	—
Part No.	SEG3AH-CL	SEG4H-CL	—
Bio Brace			
Part No.	—	SBB4-CL	—

*For information on Grips for non-Ingersoll-Rand Screwdrivers, contact your I-R distributor.

Bio Brace™

The Bio Brace modifies startup and shutoff reaction force experienced by the operator. Rotating against a padded lever, torque reaction is referred to the operator's arm. Eliminates need for a dead handle, freeing the operator's other hand. Provides a flange which enables the operator to apply axial pressure through the heel of the hand.



ARO/Ingersoll-Rand Screwdriver Grips

Series & Speed	ERGO-GRIP Part No.	BIO BRACE Part No.
ARO		
Series 20 (1500 rpm or less)	SEG3-AR	—
Series 20 (1500-2600 rpm)	SEG3H-AR	—
Series 50 (1700 rpm or less)	SEG4-AR	SBB4-AR
Series 50 (over 1700 rpm)	SEG4H-AR	SBB4-AR
IR		
Series 3 (1650 rpm or less)	SEG3A-IR	—
Series 3 (over 1650 rpm)	SEG3AH-IR	—
Series 4 (1200 rpm or less)	SEG4-IR	SBB4-IR
Series 4 (over 1200 rpm)	SEG4H-IR	SBB4-IR
Versatec	—	SBB4-VS

Replacement Foam Grip Kits

Part No. SEG3-CGK	For Series SEG3
Part No. SEG3A-CGK	For Series SEG3A
Part No. SEG4-CGK	For Series SEG4

Air System Accessories

Indicators, Diverter Blocks and Drains



Differential Pressure Indicator

IR Part Number	Description	Series
DP8-01-000-28	Differential Pressure Indicator	M18/28
DP2-01-000-28	Differential Pressure Indicator	M30

Diverter Blocks

IR Part Number	Description	Series
N08-01-0000-28	1/8" NPT Diverter Block with 1/4" NPT Outlet	08
N08-01-C000-28	1/8" NPT Diverter Block with Check Valve & 1/4" NPT Outlet	08
N08-02-0000-28	1/4" NPT Diverter Block without Check Valve with 1/4" NPT Outlet	08
N08-02-C000-28	1/4" NPT Diverter Block with Check Valve with 1/4" NPT Outlet	08
N18-04-0000-28	1/2" NPT Diverter Block without Check Valve with 3/8" NPT Outlet	18
N18-04-C000-28	1/2" NPT Diverter Block with Check Valve with 3/8" NPT Outlet	18
N28-06-0000-28	3/4" NPT Diverter Block without Check Valve with 1/2" NPT Outlet	28
N28-06-C000-28	3/4" NPT Diverter Block with Check Valve with 1/2" NPT Outlet	28
N38-06-0000-28	3/4" NPT Diverter Block without Check Valve with 3/4" NPT Outlet	38
N38-08-0000-28	1" NPT Diverter Block without Check Valve with 1" NPT Outlet	38



Automatic and Manual Drains

IR Part Number	Description	Series
GRP-95-714	Automatic Float Drain with Drain Seat	F10, F20, F30
X01-04-M00	Automatic Float Drain with Metal Bowl and Drain Seat	F42, 8830, 8832, 8834, 1/2"
X01-04-000	Automatic Float Drain with Polycarbonate Bowl and Drain Seat	F42, 8830, 8832, 8834, 1/2"
GRP-95-981-28	Automatic Mechanical Drain, Fluorocarbon O-Rings, 1/8" NPT	18/28/M37
GRP-95-973-28	Automatic Mechanical Drain, Nitrile O-Rings, 1/8" NPT	18/28
GRP-96-400-28	Automatic Mechanical Low Flow Drain Nitrile O-Rings 1/8" NPT	18/28
GRP-96-500-28	Automatic Mechanical Low Flow Drains Fluorocarbon O-Rings 1/8" NPT	18/28
GRP-96-716-28	Automatic Piston Drain with Drain Seat	B08/F08/M08
GRP-95-584	Automatic Piston Drain with Drain Seat	C04, F00
GRP-95-182	Brass Petcock Manual Drain Replacement Kit	10/26/20/30/40/50
GRP-96-002	Manual Drain Replacement Kit	X01
GRP-96-102	Manual Drain Replacement Kit-10 Pack	F00/L00/C04
GRP-96-000-28	Manual Override Drain for Autofloat Drains with 1/8" NPT Port	10/26/20/30/40/50
XRP-96-244	Over Center Float Drain Assembly Drain	X01
104078	Pulse	ARO Mini

Air System Accessories

Lubricants



Proper lubrication of Air Tools is a must to prevent excessive wear of moving parts: to prevent possible rust and corrosion of bare, unprotected surfaces; and to provide smooth operation of motors, governors, impact mechanisms, clutches and other important components. The Ingersoll-Rand full line of oils and greases has been tested thoroughly and is recommended without reservation.

Oils

Part Number	Oil Number	Quantity	Recommended Use
63Z4	63	4 oz	Cyclone Wick Lubricant

Chain Lubricant

Lubri-Link		13 oz Spray Can	Chain Lubricant
Lubri-Link-Green		16 oz Spray Bottle	Food Grade Chain Lubricant

Class I Lubricant

10Z4	10	4 oz	For Percussive Tools, Assembly Tools and Series CD, CX, CA, TD, TX, TA and TXA Grinders
10P		1 pt	
10G		1 gal	
10G55		55 gal	

Class II Lubricant

50P	50	1 pt	Motors of Series 1, 61, 77, 88 and 99 Grinders, Impact Tools, Sump Pumps, Vibrators, Saws, Hoists and Winches
50G		1 gal	
62 1 Gal		1 gal	Hoist & Winch Gear Boxes

Greases

Part Number	Grease Number	Quantity	Recommended Use
23-1 LB	23	1 lb	Gearing of Drills
28 1 LB	28	1 lb	Screwdriver Gearing and Clutches; Drills, Grinders, Saws; Tie Tampers
28 8 LB		8 lb	
66 1 LB	66	1 lb	Slow Speed, High Torque Angle Heads
66 8 LB		8 lb	
67-4T	67	4 oz.	High Speed Angle Heads-High Temp (Green)
67-1 LB		1 lb	
67 8 LB		8 lb	
68-1 LB	68	1 lb	Coupling Splines and High Speed Angle Heads
68 8 LB		8 lb	
70 1 LB	70	1 lb	Large Piston Motor Gear Cases
70 8 LB		8 lb	
77-1 LB	77	1 lb	Cyclone Grinder Angle Heads
80 1 LB	80	1 lb	Bearings of All Sump Pumps
80 8 LB		8 lb	
90-14 oz	90	14 oz.	Offset Gear Heads for Tube Nut Wrenches
100 1 LB	100	1 lb	Impact Mechanisms of Most Impact Tools
100 8 LB		8 lb	
105-4T-6*	105	4 oz. tube	Impact Mechanisms of Most Impact Tools and for Assembly of 2131 Impact Mechanisms.
105-1 LB		1 lb	
105-8 LB		8 lb	
115-4T-6*	115	4 oz. tube	For General Maintenance on 2131 Impact tool Mechanisms
115-1 LB		1 lb	
150-1 LB	150	1 lb	All Impact Mechanisms with Swinging Weight (900 Series)
150 8 LB		8 lb	

*Six tubes of 105 grease

Anti-Freeze

Part Number	Quantity
10GW	1 gal

Rock Drill Oil

Part Number	Quantity	
51378701	1 gal	Light (Below 20°F or -6.7°C)
51378693	1 gal	Medium (20° - 90°F or -6.7° to 32.2°C)
51378784	1 gal	Heavy (Over 90°F or 32.2°C)

Grease Guns

Part Number	Capacity	General Description
P25-228 ■	3 oz	Push-type Hand-Gun for Hydraulic-type Fittings
R000A2-228 ●	3 oz	Push-type Hand-Gun for Flush-type Fittings
GTH-1		For Grease Tubes

Air Care Kits

Part Number	General Description
67-LBK1	Angle Grinder Gears
105-LBK1	Impact Tools Mechanisms, Greased Via Rear of Tool.
115-LBK1	2131 Series



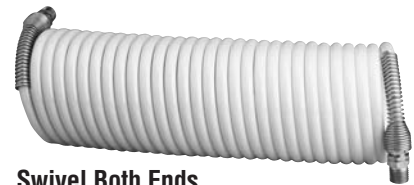
Air System Accessories

Nylon Recoil Hose

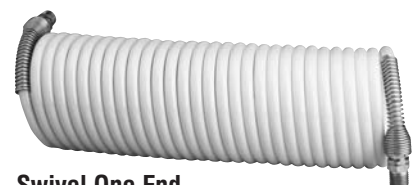


Inside Part No.	Hose Inside Diameter	Hose Length		Compact Compact Size	Male Outside Coil Dia.	NPT Fitting
		Max.	Working Length			
Swivel Both Ends						
N14-12B	1/4"	12'	10'	6"	3-1/2"	1/4"
N14-25B	1/4"	25'	22'	10-1/2"	3-1/2"	1/4"
N14-50B	1/4"	50'	45'	21"	3-1/2"	1/4"
N38-124B	3/8"	12'	10'	5"	5-5/8"	1/4"
N38-254B	3/8"	25'	21'	10-1/4"	5-5/8"	1/4"
N38-504B	3/8"	50'	44'	21"	5-5/8"	1/4"
N38-12B	3/8"	12'	10'	5"	5-5/8"	3/8"
N38-25B	3/8"	25'	21'	10-1/4"	5-5/8"	3/8"
N38-50B	3/8"	50'	44'	21"	5-5/8"	3/8"
N12-12B	1/2"	12'	9'	5"	9"	1/2"
N12-25B	1/2"	25'	18'	9"	9"	1/2"
N12-50B	1/2"	50'	41'	18"	9"	1/2"
N34-12B	3/4"	12'	10'	4-1/2"	12-1/2"	3/4"
N34-25B	3/4"	25'	17'	9"	12-1/2"	3/4"
N34-50B	3/4"	50'	35'	16"	12-1/2"	3/4"
Swivel One End						
N14-12A	1/4"	12'	10'	6"	3-1/2"	1/4"
N14-25A	1/4"	25'	22'	10-1/2"	3-1/2"	1/4"
N14-50A	1/4"	50'	45'	21"	3-1/2"	1/4"
N38-12A	3/8"	12'	10'	5"	5-5/8"	3/8"
N38-25A	3/8"	25'	21'	10-1/4"	5-5/8"	3/8"
N38-50A	3/8"	50'	44'	21"	5-5/8"	3/8"
N12-12A	1/2"	12'	9'	5"	9"	1/2"
N12-25A	1/2"	25'	18'	9"	9"	1/2"
N12-50A	1/2"	50'	41'	18"	9"	1/2"
Rigid Couplings Both Ends						
N14-12	1/4"	12'	10'	6"	3-1/2"	1/4"
N14-25	1/4"	25'	22'	10-1/2"	3-1/2"	1/4"
N14-50	1/4"	50'	45'	21"	3-1/2"	1/4"
N38-12	3/8"	12'	10'	5"	5-5/8"	3/8"
N38-25	3/8"	25'	21'	10-1/4"	5-5/8"	3/8"
N38-50	3/8"	50'	44'	21"	5-5/8"	3/8"
N12-12	1/2"	12'	9'	5"	9"	1/2"
N12-25	1/2"	25'	18'	9"	9"	1/2"
N12-50	1/2"	50'	41'	18"	9"	1/2"
Bulk Hose						
N14-100	1/4"	100'	90'	45"	3-1/2"	—
N38-100	3/8"	100'	85'	38"	5-5/8"	—
N12-100	1/2"	100'	75'	35"	9"	—
N34-100	3/4"	100'	70'	29"	12-1/2"	—

Permanently coiled hose. Made from abrasive resistant and memory resilient Nylon II. For use with air, gases, water and liquids compatible with Nylon II. Certified to maximum pressure of 200 psi. Fittings and hose ends protected by spring guard. Available in 1/4", 3/8", 1/2" and 3/4" diameters. Available in 12', 25', 50' and 100' bulk lengths.



Swivel Both Ends

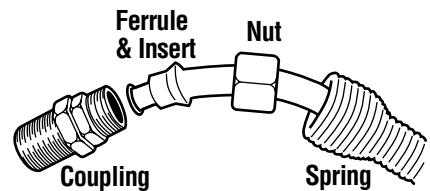


Swivel One End



Rigid Couplings Both Ends

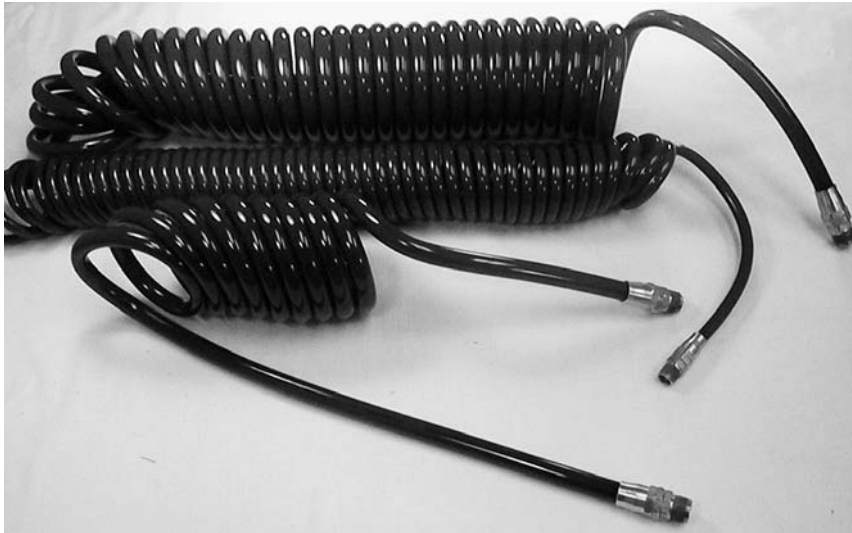
Hose Inside Diameter	Male NPT Fitting	Fitting Kit* Part Number		
		Rigid	Swivel	Bulk Hose
Fitting for Nylon Recoil Hose*				
1/4"	1/4"	RK090	RK092	N14-100
3/8"	1/4"	—	RK114	N38-100
3/8"	3/8"	RK110	RK112	N38-100
1/2"	1/2"	RK118	RK119	N12-100
3/4"	3/4"	—	CSM-1212	N34-100



Fitting for Nylon Recoil Hose*

* Complete end comprising 5 items.
Order two fittings per hose.

P Series Polyurethane Coiled Hose



Polyurethane Coil Hose

Ingersoll-Rand introduces our “P” Series Line of Polyurethane Coiled Hose.

Features

- Superior elasticity & coil memory mean a clean work environment.
- Outstanding flexibility increases operator comfort.
- 25% lighter than rubber hose reduces operator fatigue.
- Abrasion & kink resistance increases lifetime.
- Tight coil diameter allows easy entry into confined spaces.
- Non-Marring surface won't harm work pieces.
- Broad chemical resistance makes it suitable for most environments
- Better than 80% working length extends your work space.
- Straight tails on both ends eliminate work-station tangles.
- Reusable MNPT fittings allow field retrofits.
- Thread sealant on all fittings provides for leak free joints.

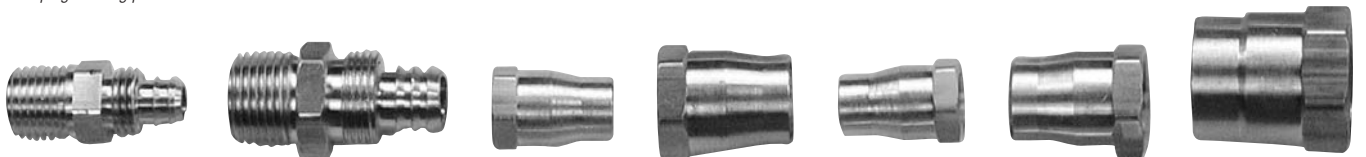
P Series (Polyurethane Coiled Hose)

IR PART	DESCRIPTION
Polyurethane Coil Hose	
P14-10	1/4" x 10' Polyurethane Coil Hose, (1) 1/4" Rigid, (1) 1/4" Swivel Fitting
P14-20	1/4" x 20' Polyurethane Coil Hose, (1) 1/4" Rigid, (1) 1/4" Swivel Fitting
P14-30	1/4" x 30' Polyurethane Coil Hose, (1) 1/4" Rigid, (1) 1/4" Swivel Fitting
P38-10	3/8" x 10' Polyurethane Coil Hose, (1) 3/8" Rigid, (1) 3/8" Swivel Fitting
P38-20	3/8" x 20' Polyurethane Coil Hose, (1) 3/8" Rigid, (1) 3/8" Swivel Fitting
P38-30	3/8" x 30' Polyurethane Coil Hose, (1) 3/8" Rigid, (1) 3/8" Swivel Fitting
P12-10R	1/2" x 10' Polyurethane Coil Hose, (2) 1/2" Reusable Swivel Fittings
P12-20R	1/2" x 20' Polyurethane Coil Hose, (2) 1/2" Reusable Swivel Fittings
P12-30R	1/2" x 30' Polyurethane Coil Hose, (2) 1/2" Reusable Swivel Fittings

Fitting Kits

P14-RMS	1/4" NPT Reusable Male Swivel Fitting Kit for 1/4" ID Polyurethane Hose
P38-RMS	3/8" NPT Reusable Male Swivel Fitting Kit for 3/8" ID Polyurethane Hose
P14-RMR	1/4" NPT Reusable Male Rigid Fitting Kit for 1/4" ID Polyurethane Hose
P38-RMR	3/8" NPT Reusable Male Rigid Fitting Kit for 3/8" ID Polyurethane Hose
P12-RFR	1/2" NPT Reusable Female Rigid Fitting Kit for 1/2" ID Polyurethane Hose
P12-RMS	1/2" NPT Reusable Male Swivel Fitting Kit for 1/2" ID Polyurethane Hose

125 psig working pressure @ 75°F



Reusable MNPT fittings

Air System Accessories
Percussive Tool Accessories



The Ingersoll-Rand Line of Percussive Tool Accessories offers you a wide range of high quality chisels, retainers, riveting, demolition, digging and paving breaker steels. These accessories, designed to enhance your Ingersoll-Rand tools, are available in the most popular shank configurations and lengths. Contact your Ingersoll-Rand Distributor for other sizes and styles.

Air System Accessories

Percussive Tool Accessories

Retainers for use on Series W Chippers (threaded barrels)



**Quick Change Type
No. HHW1-3450**



**Rubber
Buffered Type
No. HHW1-A300**



**Economy Type
No. HHW2-200**

Retainers for use on Series 1, 2, 3, 4, SD2, SD3, and SD4 Chippers (grooved Barrel). Includes lock springs.



**Retaining Ring
No. ER-1194**



**Quick Change Type
No. HH1-3400-3**



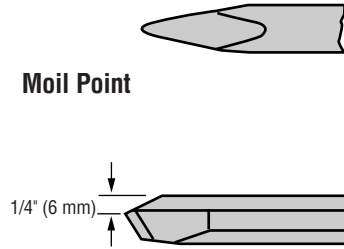
**Quick Change Type
No. HH1-1191**



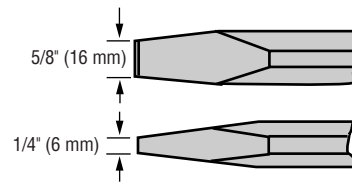
**Plain Type
No. HH1-1190**

Chisels*

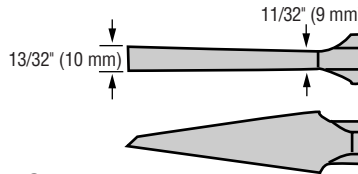
Moil Point



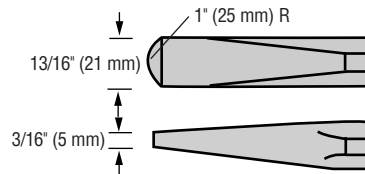
Diamond Point



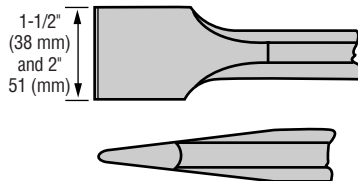
Steel Caulking



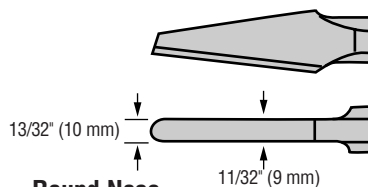
Cape



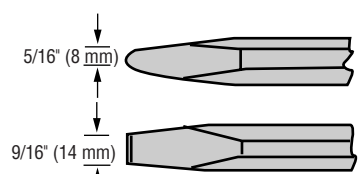
Gouge



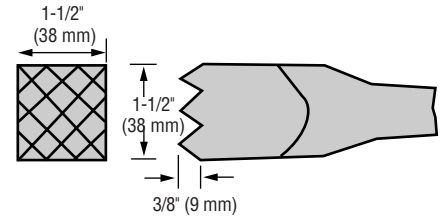
Scaling



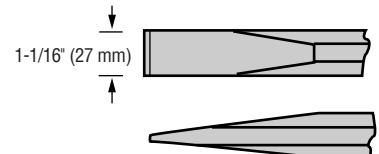
Round Nose



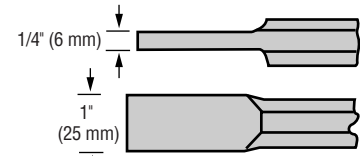
Straight Fuller



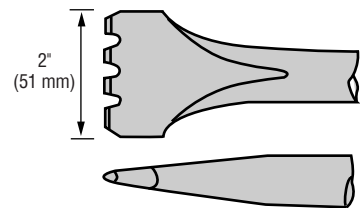
Bushing



Flat



Ripper



Wide Tooth

*These blade dimensions are common to all chisels shown on the following page.

For Series K2L, 1, 2, 3, 4, SD2, SD3, and SD4
(Equipped with No. HH1-1190, HH1-1191,
HH1-3400-3, K2L-1190 or K2L-1191 Retainers.)

For Series W1, W2, W3 and W4
(Equipped with No. HHW2-200, HHW1-A300,
or HHW1-3450 Retainers)†

Round Shank 12" (305 mm) Chisels — Oval Collar

Type	Part Number	Type	Part Number
Blank	HH1-215-12	Gouge	HH1-215G-12
Flat	HH1-215F-12	Round Nose	HH1-215N-12
Moil Point	HH1-215M-12	Straight Fuller	HH1-215J-12
1-1/2" (38 mm) Scaling	HH1-215B-12	Caulking	HH1-215E-12
2" (51 mm) Scaling	HH1-323-12	Ripper	HH1-215R-12
Diamond Point	HH1-215D-12	Tooth	HH1-321-12
Cape	HH1-215C-12		

Hexagon Shank 12" (305 mm) Chisel — Oval Collar

Type	Part Number	Type	Part Number
Blank	HH1-214-12	Gouge	HH1-214G-12
Flat	HH1-214F-12	Round Nose	HH1-214N-12
Moil Point	HH1-214M-12	Straight Fuller	HH1-214J-12
1-1/2" (38 mm) Scaling	HH1-214B-12	Caulking	HH1-214E-12
2" (51 mm) Scaling	HH1-324-12	Ripper	HH1-214R-12
Diamond Point	HH1-214D-12	Tooth	HH1-322-12
Cape	HH1-214C-12		

Round Shank 12" (305 mm) Chisels — Round Collar

Type	Part Number	Type	Part Number
Blank	H3R-215-12	Gouge	H3R-215G-12
Flat	H3R-215F-12	Round Nose	H3R-215N-12
Moil Point	H3R-215M-12	Straight Fuller	H3R-215J-12
1-1/2" (38 mm) Scaling	H3R-215B-12	Caulking	H3R-215E-12
2" (51 mm) Scaling	H3R-423-12	Ripper	H3R-215R-12
Diamond Point	H3R-215D-12	Tooth	H3R-421-12
Cape	H3R-215C-12		

Hexagon Shank Chisels — Round Collar

Type	Part Number	Type	Part Number
Blank	H3R-214-12	Gouge	H3R-214G-12
Flat	H3R-214F-12	Round Nose	H3R-214N-12
Moil Point	H3R-214M-12	Straight Fuller	H3R-214J-12
1-1/2" (38 mm) Scaling	H3R-214B-12	Caulking	H3R-214E-12
2" (51 mm) Scaling	H3R-424-12	Ripper	H3R-214R-12
Diamond Point	H3R-214D-12	Tooth	H3R-422-12
Cape	H3R-214C-12		

†HH1-3400-3 Retainer for Grooved Barrel Chippers requires round collared accessories.

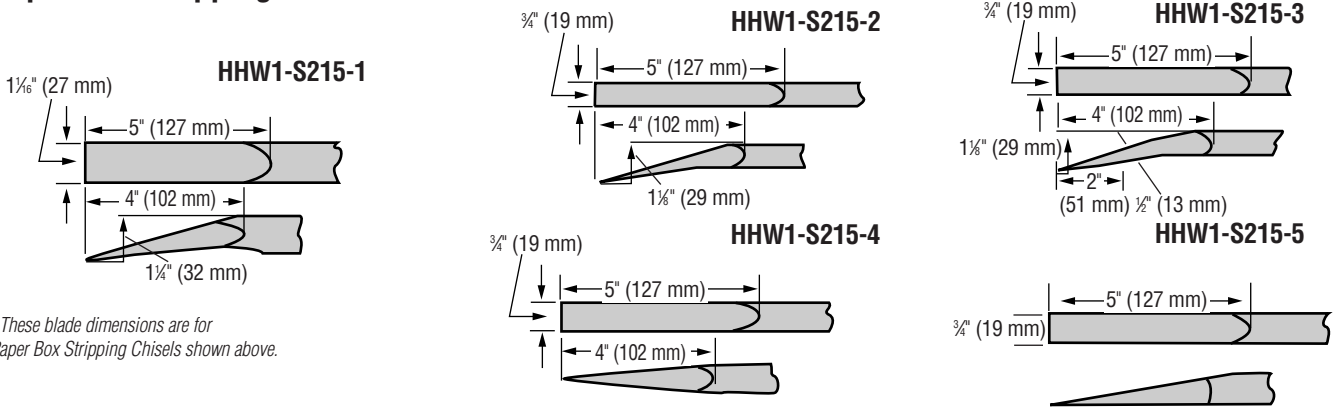
Length Part Number *Paper Box Stripping Chisels

in.	mm	Blank	Flat	in.	mm	Part Number
18	457	H3R-215-18	H3R-215F-18	22	559	HHW1-S215-1
24	610	H3R-215-24	H3R-215F-24	16-1/4	413	HHW1-S215-2
36	914	H3R-215-36	H3R-215F-36	22	559	HHW1-S215-3
				22	559	HHW1-S215-4
				16-1/4	413	HHW1-S215-5

Length Part Number

in.	mm	Blank	Flat	Moil Point	Scaling
18	457	H3R-214-18	H3R-214F-18	H3R-214M-18	H3R-214B-18
24	610	H3R-214-24	H3R-214F-24	H3R-214M-24	
36	914	H3R-214-36	H3R-214F-36	H3R-214M-36	

Paper Box Stripping Chisels* for "W" Series



*These blade dimensions are for Paper Box Stripping Chisels shown above.

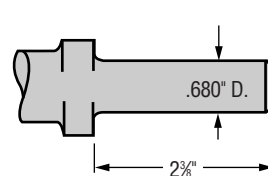
Length Part Number

in.	mm	Blank	Flat	Moil Point	Bushing
9	229				HH1-215T-9
18	457	HH1-215-18	HH1-215F-18	HH1-215M-18	
24	610	HH1-215-24	HH1-215F-24	HH1-215M-24	
36	914	HH1-215-36	HH1-215F-36	HH1-215M-36	

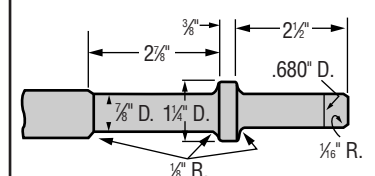
Chisels of Other Lengths Hexagon Shank Chisel — Oval Collar

Length	Part Number
9	229
18	457
24	610
36	914
60	1524

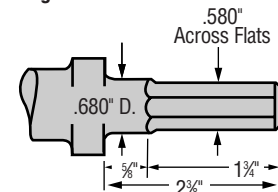
Round Shank Chisels-Oval Collar



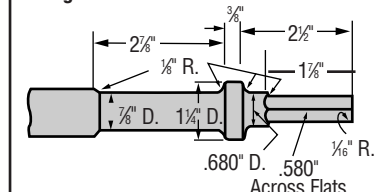
Round Shank Chisels-Round Collar



Hexagon Shank Chisels-Oval Collar



Hexagon Shank Chisels-Round Collar

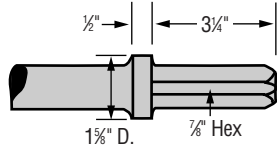


Air System Accessories

Percussive Tool Accessories

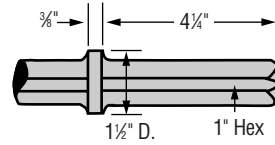
Demolition Tool Accessories

Shank Types on Accessories



Type A*

Hex with 1-5/8" dia. collar. For Models 93A1, 93LA1, 95A1, 95LA1, 95LC1, 59LA1, 59LC1.



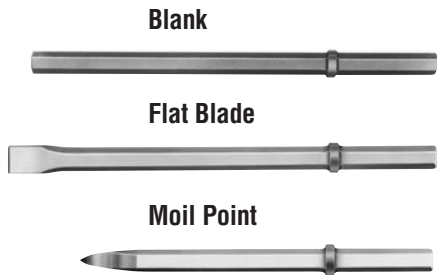
Type C*

Hex with 1-1/2" dia. collar. For Models 95LA3, 59LC3, DT10DL2, DT10D2L2, DT13TL2.

**Do not use this designation for ordering.*

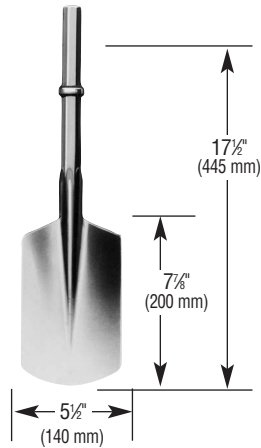
Chisels

Shank Type	Length Under Collar		Blank	Part Number	
	in.	mm		Flat Blade	Moil Point
A	11-1/4	286	73H-177H-3		
	11-1/4	286	73H-177H-5		
	14-1/4	362	73H-16H-18	73H-16HF-18	73H-16HM-18
	20-1/4	514	73H-16H-24	73H-16HF-24	73H-16HM-24
	26-1/4	667	73H-16H-30	73H-16HF-30	73H-16HM-30
	32-1/4	819	73H-16H-36	73H-16HF-36	73H-16HM-36
C	14	356	59H-516H-14	59H-578HF-14	59H-516HM-14



Spades

Shank	Part Number
A	73H-60H
C	59H-560H



Chisel Bits

Shank Type	Length Under Collar	Part Number
	in. mm	
C	14 356	59H-579H

†Availability subject to prior sale.

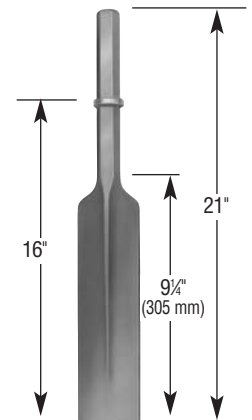
Mufflers

Tool Series	Part Number
93	93H-K674
95	95H-K674
59	59H-K674



Digging Chisel

Shank	Part Number
C	59H-580H



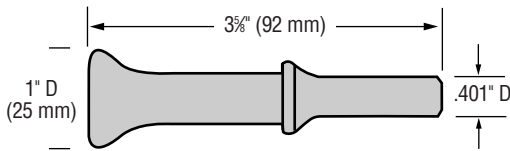
Lightweight Riveter/Jacksets

Finished Jacksets

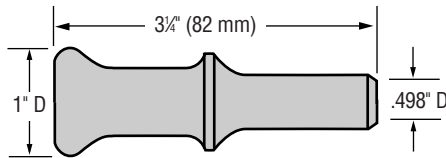
Size of Rivet	Button mm	Round Head	Brazier Head	Flat Head	Universal Head	Head
Jacksets with .401" diameter shanks for Series AVC10, AVC12, AVC13 Riveters						
3/32	2					AV1-22H-3
5/32	4					AV1-22H-5
3/16	5		AV1-22B-6	AV1-22C-6	AV1-22G-6	AV1-22H-6
1/4	6		AV1-22B-8	AV1-22C-8		AV1-22H-8
5/16	8		AV1-22B-10			
Jacksets with .498" diameter shanks for Series AVC26 Riveters						
3/16	5			AV24-222C-6		
1/4	6					
5/16	8	AV24-222A-10				AV24-222H-10

†Subject to prior sale

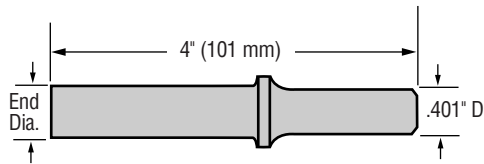
AV1-126D Flush Head Jackset



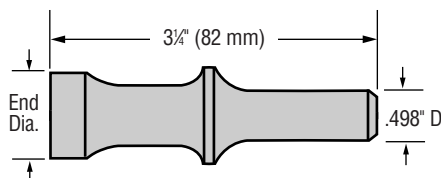
AV24-126D Flush Head Jackset



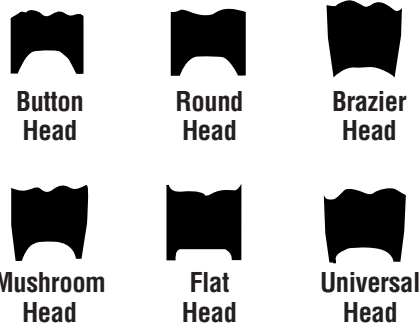
AV1-22S Series Jackset Blank



AV24-222S Series Jackset Blank



Typical Jackset Finish



Jacksets Soft Blanks

Unfinished End Dia. Shank in.	mm	Diameter	Part Number
1/2	13	.401	AV1-22S-16
5/8	16	.401	AV1-22S-20
3/4	19	.401	AV1-22S-24
7/8	22	.401	AV1-22S-28
13/16	21	.498	AV24-222S-26
1-3/16	30	.498	AV24-222S-38

116-K5 Chisel Kit

A protective plastic pouch holds a selection of chisels with .401" shank diameters to match your I-R airhammer.

Kit includes: Edging Tool, Tail Pipe Cutter, Straight Chisel, Cutting Chisel and Punch



Retainers

Used On	Part Number	Description
AVC 10,12,13	AVC1-83	.401 Beehive Retainer
AVC 10,12,13	AVC10-183A	.401 Quick Change Retainer
AVC24	AVC24-283	.498 Beehive Retainer

Air System Accessories

Percussive Tool Accessories

Paving Breaker Chisels

Part Number	Shank Hex in.	Length		Weight	
		Under Collar in.	mm	lb	kg

Standard Narrow Chisel

50196385	1-1/4 x 6	14	356	7-1/2	3.4
50196401	1-1/4 x 6	18	457	9	4.1
50196419	1-1/4 x 6	24	610	11-1/2	5.2
51299477	1-1/4 x 6	36	914	16	7.3
51299485	1-1/4 x 6	48	1219	21	9.5
51299048	1-1/4 x 6	60	1524	25	11.4
51299493	1-1/4 x 6	72	1829	30	13.6
50197904	1-1/8 x 6	14	356	6	2.7
50197912	1-1/8 x 6	18	457	7-1/2	3.4
50197938	1-1/8 x 6	24	610	9	4.1
50198107	1-1/8 x 6	36	914	13	5.9
50197979	1-1/8 x 6	48	1219	17	7.7
50197987	1-1/8 x 6	60	1524	20	9.1
50197995	1-1/8 x 6	72	1829	24	10.9
50197805	1 x 4-1/4	14	356	4-1/2	2.0
50197821	1 x 4-1/4	18	457	5-1/2	2.5
50199207	7/8 x 3-1/4	14	356	3-1/2	1.5
50199215	7/8 x 3-1/4	18	457	4	1.8
50199223	7/8 x 3-1/4	24	610	5	2.3
50199797	7/8 x 3-1/4	36	914	7	3.2

Asphalt Cutter — 5" Blade

50185990	1-1/4 x 6	11	279	9-1/4	4.2
50185982	1-1/8 x 6	11	279	8-1/2	3.9
50190404	1 x 4-1/4	11	279	7-1/4	3.3

Clay Spade — 5-1/2" Blade

50189596	7/8 x 3-1/4	16	406	6-1/2	3.0
50189570	1-1/4 x 6	16	406	11	5.0
50189562	1-1/8 x 6	16	406	8-1/2	3.9
50189554	1 x 4-1/4	16	406	7-1/4	3.3

Detachable Shank

50187855	1-1/4 x 6	7-3/4	197	7	3.2
50187848	1-1/8 x 6	7-3/4	197	6-3/4	3.1
50187830	1-1/4 x 6	7-3/4	197	5-1/2	2.5

Digging Chisel

50186014	1-1/4 x 6	16	406	11	5.0
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Tamping Pad

51305894	6" Square	NA	NA	12	5.4
50187897	8" Square	NA	NA	17	7.7

Standard 3" (76 mm) Chisel



5" (127 mm) Asphalt Cutter



Standard Moil Point



Standard Narrow Chisel



Paving Breaker Accessories

Part Number	Shank Size Hex in.	Length		Weight	
		Under Collar in.	mm	lb	kg

3" Standard Chisels

50195361	1 x 4-1/4	36	914	10	4.5
50195379	1 x 4-1/4	48	1219	13	5.9
51304574	1 x 4-1/4	72	1829	19	8.6
50195288	7/8 x 3-1/4	14	356	3-1/4	1.5
50195296	7/8 x 3-1/4	18	457	4	1.8
50193879	1-1/4 x 6	14	356	8	3.6
50193887	1-1/4 x 6	18	457	9-1/2	4.3
50193903	1-1/4 x 6	24	610	11-3/4	5.3
50193937	1-1/4 x 6	48	1219	21	9.5
50191790	1-1/4 x 6	72	1829	30	13.6
50114883	1-1/8 x 6	14	356	6-1/2	3.0
50193747	1-1/8 x 6	18	457	7-3/4	3.5
50193754	1-1/8 x 6	24	610	9-1/2	4.3
50195320	1 x 4-1/4	14	356	4-3/4	2.2
50195338	1 x 4-1/4	18	457	5-3/4	2.6
50195353	1 x 4-1/4	24	610	7	3.2

Moil Point

50055680	1-1/4 x 6	14	356	7-1/2	3.4
50055698	1-1/4 x 6	18	457	9	4.1
50055714	1-1/4 x 6	24	610	11-1/2	5.2
50055730	1-1/4 x 6	36	914	16	7.3
50055748	1-1/4 x 6	48	1219	21	9.5
50055755	1-1/4 x 6	60	1524	25	11.4
50198993	1-1/4 x 6	72	1829	30	13.6
50050475	1-1/8 x 6	14	356	6	2.7
50055524	1-1/8 x 6	18	457	7-1/2	3.4
50055540	1-1/8 x 6	24	610	9	4.1
50055565	1-1/8 x 6	36	914	13	5.9
50055573	1-1/8 x 6	48	1219	17	7.7
50055581	1-1/8 x 6	60	1524	20	9.1
50055599	1-1/8 x 6	72	1829	24	10.9
50050368	1 x 4-1/4	14	356	4-1/2	2.0
50050376	1 x 4-1/4	18	457	5-1/2	2.5
50050392	1 x 4-1/4	24	610	6-3/4	3.1
50050269	7/8 x 3-1/4	14	356	3-1/4	1.5
50050277	7/8 x 3-1/4	18	457	4	1.8
50050285	7/8 x 3-1/4	24	610	5	2.3
51305860	7/8 x 3-1/4	36	914	7	3.2

Jackhammer Accessories



Jack Rods

Part Number	Shank Size	Length		Weight	
	Hex in.	Under Collar in.	mm	lb	kg
Carburized Drill Rods (H Thread)					
50713023	1 x 4-1/4	12	305	4	1.8
50713031	1 x 4-1/4	18	457	5-1/4	2.4
50354596	1 x 4-1/4	24	610	7	3.2
51305704	1 x 4-1/4	30	762	8-1/2	3.9
50713049	1 x 4-1/4	36	914	10	4.5
50283183	1 x 4-1/4	48	1219	12-1/2	5.7
50713056	1 x 4-1/4	60	1524	15	6.8
50283696	1 x 4-1/4	72	1829	17	7.7
50283241	1 x 4-1/4	96	2438	22	10.0
50712132	1 x 4-1/4	120	3048	27	12.3
50712140	1 x 4-1/4	144	3658	32	14.5
50283265	7/8 x 3-1/4	18	457	3-3/4	1.7
50283506	7/8 x 3-1/4	24	610	5	2.3
51305639	7/8 x 3-1/4	30	762	6	2.7
50712728	7/8 x 3-1/4	36	914	7	3.2
50283555	7/8 x 3-1/4	48	1219	9	4.1
50712736	7/8 x 3-1/4	60	1524	11	5.0
50712744	7/8 x 3-1/4	72	1829	13	5.9
50712751	7/8 x 3-1/4	96	2438	17	7.7
51242006	7/8 x 4-1/4	12	305	3-3/4	1.7
51242014	7/8 x 4-1/4	18	457	5	2.3
51233690	7/8 x 4-1/4	24	610	6	2.7
51242030	7/8 x 4-1/4	30	762	7	3.2
51234052	7/8 x 4-1/4	36	914	9	4.1
51234060	7/8 x 4-1/4	48	1219	11	5.0
51242063	7/8 x 4-1/4	60	1524	13	5.9
50712975	7/8 x 4-1/4	72	1829	17	7.7

Carburized Drill Rods (Rope Thread)

51365708	1-1/4	24	610	7	3.2
51365716	1-1/4	48	1219	12-1/2	5.7
50187897	1-1/4	72	1829	17	7.7

Rammer and Tamper Butts

Used On	Part Number	Description of Butt
130A1M	12SR-83	Malleable Butt 2 1/2" (64 mm) diameter
130A1M	14SR-83R-2-3/8	Rubber Tipped Butt 2 3/8" (60 mm) diameter
130A1M	14SR-83R-4	Rubber Topping-off Butt 3 29/32" (99 mm) diameter
241A1M	22SR-83-3x3/4	Malleable Butt 3" (76 mm) diameter
241A1M	24SR-83R-3	Rubber Tipped Butt 3" (76 mm) diameter
241A1M	24SR-83R-5	Rubber Tipped Butt 5" (127 mm) diameter
241A1M	24SR-93R	Peen, Rubber Tipped 1" x 2 7/8"
341A2M	34SR-383	Steel Butt 3" (76 mm) diameter

Carset Bits®

Part Number	Length		Thread Diameter in.
	Under Collar in.	mm	
Carset Bits (H Thread)			
HD28-CB14	1-3/4	45	H
HD28-CB16	2	51	H
51248300	1-1/2	38	H
51248326	1-3/4	44	H
51307155	1-3/8	35	H
51248318	1-5/8	41	H
51248334	1-7/8	48	H
51248342	2	51	H
51356723	2-1/4	57	H

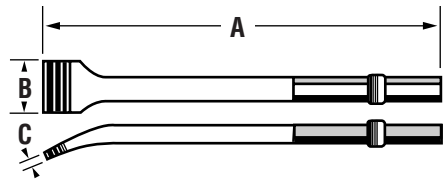
Single Use Carbide Rock Bits (H Thread)

51248359	1-3/8	35	H
51248367	1-1/2	38	H
51248375	1-5/8	41	H
51248383	1-3/4	44	H
51248391	1-7/8	48	H
51248409	2	51	H
51293017*	2-1/2	64	H

* Multi Use Bit

Air System Accessories

Percussive Tool Accessories



Tie Tamper Steels (7/8" x 2-9/16" Shank; 9/16" x 1-7/16" Collar)

Part Number	A	B	C	Description
MT2-12-3/8	24" (610 mm)	3" (76 mm)	3/8" (9 mm)	Smooth plain face, for spot tamping and low lifts, no teeth
MT2-12-5/8	24" (610 mm)	3" (76 mm)	5/8" (16 mm)	Smooth plain face, for rock ballast of 2" mesh or larger
MT2-12-7/8	24" (610 mm)	3" (76 mm)	7/8" (22 mm)	Smooth plain face, for small rock ballast, gravel and slag
MT2-12-3/4	24" (610 mm)	3" (76 mm)	3/4" (19 mm)	Smooth plain face, for dirt, cinder, gravel, sand or chat ballast
MT2-12-1 1/8†	24" (610 mm)	3" (76 mm)	1-1/8" (29 mm)	Smooth plain face, for dirt, cinder, gravel, sand or chat ballast
MT2-S12-5/8	24" (610 mm)	3" (76 mm)	5/8" (16 mm)	Two toothed face, for stone ballast

†Subject to prior sale

Air Hammer Chisels

Tool	Part Number	Description	Length Under Collar	Shank
Chisels				
6001	6001-297-12	Moil Point	12"	7/8" HEX x 3 1/4"
6001	6001-276-9	1" Flat Blade Chisel	9.5"	7/8" HEX x 3 1/4"
6001	6001-276-12	1" Flat Blade Chisel	12"	7/8" HEX x 3 1/4"
6001	6001-277-9	Side Cut Chisel	9.5"	7/8" HEX x 3 1/4"
6001	6001-295-9	Ripper Chisel	9.5"	7/8" HEX x 3 1/4"

Punches

6001	6001-278	Backout Punch 3/8" Dia.	9.5"	7/8" HEX x 3 1/4"
6001	6001-279	Backout Punch 1/2" Dia.	9.5"	7/8" HEX x 3 1/4"
6001	6001-280	Backout Punch 5/8" Dia.	9.5"	7/8" HEX x 3 1/4"
6001	6001-281	Backout Punch 3/4" Dia.	9.5"	7/8" HEX x 3 1/4"
6001	6001-282	Backout Punch 7/8" Dia.	9.5"	7/8" HEX x 3 1/4"
6001	6001-283	Backout Punch 1" Dia.	9.5"	7/8" HEX x 3 1/4"
6001	6001-284	Backout Punch 1 1/8" Dia.	9.5"	7/8" HEX x 3 1/4"

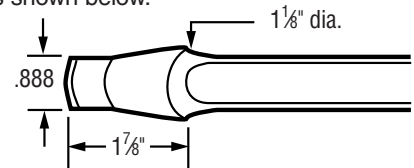
Chisels

9001	9001-297-12	Moil Point	12"	.888 Round x 1 7/8"
9001	9001-276-9 1/2	1" Flat Blade Chisel	9.5"	.888 Round x 1 7/8"
9001	9001-276-12	1" Flat Blade Chisel	12"	.888 Round x 1 7/8"
9001	9001-276-18	1" Flat Blade Chisel	18"	.888 Round x 1 7/8"
9001	9001-277-9 1/2	Side Cut Chisel	9.5"	.888 Round x 1 7/8"
9001	9001-295-9 1/2	Ripper Chisel	9.5"	.888 Round x 1 7/8"

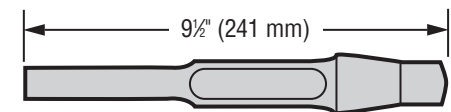
Punches

9001	9001-278	Backout Punch 3/8" Dia.	9.5"	.888 Round x 1 7/8"
9001	9001-279	Backout Punch 1/2" Dia.	9.5"	.888 Round x 1 7/8"
9001	9001-280	Backout Punch 5/8" Dia.	9.5"	.888 Round x 1 7/8"
9001	9001-281	Backout Punch 3/4" Dia.	9.5"	.888 Round x 1 7/8"
9001	9001-282	Backout Punch 7/8" Dia.	9.5"	.888 Round x 1 7/8"
9001	9001-283	Backout Punch 1" Dia.	9.5"	.888 Round x 1 7/8"
9001	9001-284	Backout Punch 1 1/8" Dia.	9.5"	.888 Round x 1 7/8"

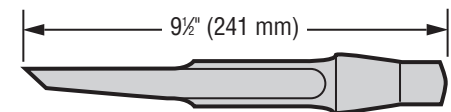
9001 uses Jumbo Four Side Tools as shown below.



Back Out Punches

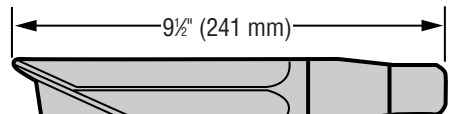


Side Cut Chisel



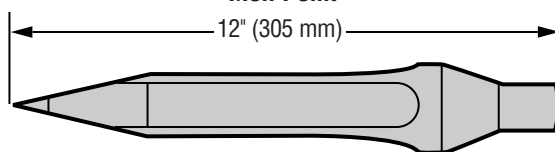
No. 9001-277-9 1/2

Ripper Chisel



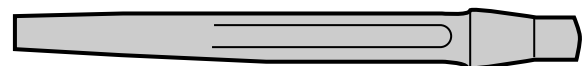
No. 9001-295-9 1/2

Moil Point



No. 9001-297-12

Chisels

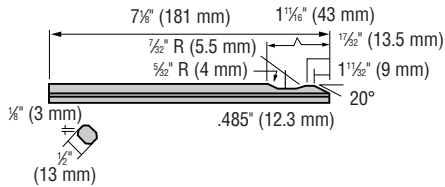


9001-276-9 1/2
9001-276-12
9001-276-18

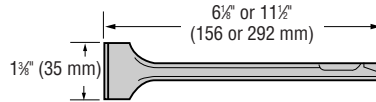
Scaler Accessories

Chisels for Series 172 and 182 Scalers

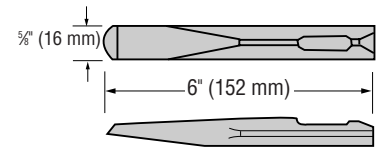
No. WF-14-7 $\frac{1}{2}$ Chisel Blank



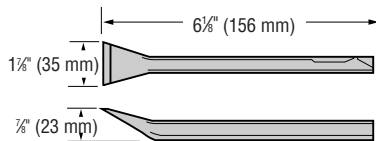
No. WF-14-6 $\frac{1}{8}$ or No. WF-14B-11 $\frac{1}{2}$ Straight Scaling Chisel



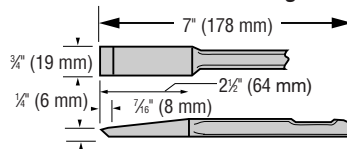
No. WF-14G Gouge Chisel



No. WF-14A-6 $\frac{1}{8}$ Angle Scaling Chisel



No. WF-14F-7 Flat Scaling Chisel



Needle Scaler Attachments

Needle Scaler Attachments are available for use on Series 172 or 182 Scalers already in service. Order by one of the part numbers shown.

Part Number	Description
Round Needle Housing	
NS11A	with 5" (127 mm) Steel Needles
NS11AS	with 5" (127 mm) Stainless Steel Needles
NS11A7	with 7" (178 mm) Extended Steel Needles
Rectangular Needle Housing	
NS11BB	with 5" (127 mm) Beryllium Copper Needles
NS11BS	with 5" (127 mm) Stainless Steel Needles
NS11B7	with 7" (178 mm) Extended Steel Needles

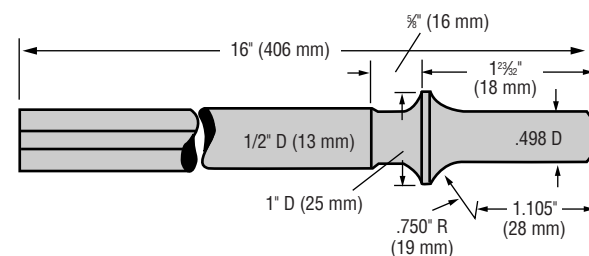
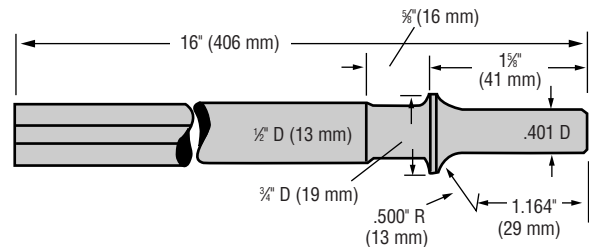
Pistons for Models 161C1 and 3161C1 Scalers

Part Number	Description
For Model 161C1, one required	
N16-5A	Short Steel 2-3/4" (70 mm)
For Model 3161C1, three required	
316-5	Short Steel 2-5/8" (67 mm)
316-C5	Short Carbide-Tipped 2-5/8" (67 mm)
316-L5	Long Steel 3-5/8" (92 mm)
316-CL5	Long Carbide-Tipped 3-5/8" (92 mm)

Replacement Needles

Part Number	Description
Set of 19 Needles	
NS11-22-19	5" (127 mm) Steel Needles
NS11-B22-19	5" (127 mm) Beryllium Copper Needles
NS11-S22-19	5" (127 mm) Stainless Steel Needles
NS11-122-19	7" (178 mm) Extended Steel Needles

Chisels for Lightweight Riveters and Hammers



Plain Collar Retainer Type

Shank Dia.	Length		Blank	Stripping
in.	in.	mm	Part Number	Part Number
.401	16	406	AV11-115-16	AV11-115S-16
.498	7	178	AV24-215-7	
.498	16	406	AV24-215-16*	AV24-215S-16*

*Round Shank Steel

Air System Accessories

Industrial Power Sockets



The Ingersoll-Rand Line of Power Sockets and Attachments are designed for use with power tools.

Our comprehensive line is made of top quality materials for superior performance and durability.

Impact tool sockets from 3/8" square drive to 2-1/2" square drive, including No. 5 spline drives, coupled with attachments and extensions, offer you various solutions to your tightening and loosening problems.

Heavy Duty Power Socket Sets*

6 Point Impact Sockets

Cat. No.	Description
3/8" Drive	
6260A	3/8" drive set (5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, metal tray)
6261D	3/8" drive deep set (5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, metal tray)
6262U	3/8" drive universal set (3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, metal box)
6270M	3/8" drive metric set (9, 10, 11, 13, 14, 15, 17, 19, metal tray)
6271MD	3/8" drive metric deep set (9, 10, 11, 13, 14, 15, 17, 19, metal tray)
6272MU	3/8" drive metric universal set (10, 12, 13, 14, 15, 17, 19, metal box)

1/2" Drive

6360A	1/2" drive set (7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-1/4, metal tray)
6361D	1/2" drive deep set (7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-1/4, metal tray)
6362U	1/2" universal set (1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, metal box)
6370M	1/2" drive metric set (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 26, 27, metal box)
6370MD	1/2" drive metric deep set (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 26, 27, metal tray)
6371MU	1/2" drive metric universal set (13, 14, 15, 17, 19, 21, 22, metal box)

3/4" Drive

6460A	3/4" drive set (1, 1-1/16, 1-1/8, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, metal box)
6461D	3/4" drive deep set (1, 1-1/16, 1-1/8, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, metal box)

1" Drive

6560A	1" drive set (7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-1/2, metal box)
6561D	1" drive deep set (7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-1/2, metal box)
6562A	1" drive truck service set (13/16, sq.; 7/8, 15/16, 1, 1-3/16, 1-1/2 hex, 1-1/16, 1-1/8, 1-1/4 deep thin wall hex, metal box)

*Not recommended for industrial applications.

Industrial Class Socket Sets

Part Number	Description
72313	3/8" drive set (5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4 metal tray)
77314	3/8" drive deep set (5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4 metal tray)
72356M	3/8" drive metric set (8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 metal tray)
77357M	3/8" drive deep metric set (8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 metal tray)
74411	1/2" drive set (7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16 metal tray)
73412	1/2" drive deep set (3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1 metal tray)
74466M	1/2" drive metric set (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, metal tray)
73467M	1/2" drive deep metric set (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, metal tray)
075608L	3/4" drive deep set (7/8, 15/16, 1, 1-1/16, 1-1/8, 1-1/4, 1-5/16, 1-1/2)
075609	3/4" drive set (3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4 metal tray)
075610	3/4" drive set (3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2)



Power Socket Adapters

Part Number	Square Drive Size in.		Length in.	Major Diam. in.
	Female	Male		
2U-215	3/8	1/2	1-5/16	5/8
07655	3/4	1	2-1/4	1-5/8
07656	1	3/4	1-7/8	2-1/8
25006	2-1/2	1-1/2	4-1/2	5

Part Number	Square Drive Size in.		Length in.	Major Diam. in.
	Female	Male		
09902	No. 5 Spine		4 3/8	2 3/8
	1" Sq.			
10005	1" Sq.		4 1/4	2 1/4
	No. 5 Spine			



Power Hex to Square Adapters

Part Number	Drive Size in.		Length in.	Diam. in.
	Hex	Square		
7102	1/4	1/4	2	3/8
7106	1/4	3/8	4	9/16
7121	7/16	1/2	2-3/4	21/32

3/8" Square Drive Power Sockets

Wrench Size in.	Part Number	Bolt Depth in.
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Standard - Hex/6 Point

5/16	7210H	1/2
11/32	7211H	1/2
3/8	7212H	1/2
7/16	7214H	1/2
1/2	7216H	1/2
9/16	7218H	1/2
5/8	7220H	1/2
11/16	7222H	9/16
3/4	7224H	9/16

Deep - Hex/6 Point

5/16	7710H	1
3/8	7712H	1
7/16	7714H	1
1/2	7716H	1
9/16	7718H	1
5/8	7720H	1
11/16	7722H	1
3/4	7724H	1

Ball Type Universal - Hex/6 Point

3/8	7273P	1/2
7/16	7274P	1/2
1/2	7275P	9/16
9/16	7276P	9/16



Power Angle Attachments

A reduction of approximately 25% of the torque output will be encountered.

Part Number	Square Drive Size (in.)	Length (in.)	Height Over Drive (in.)	Amount of Angle
4UA9	1/2	6-1/4	2-15/16	90°
2920A90	3/4	7	3-1/2	90°
2934A90	1	8-1/2	4-3/8	90°



Power Driver Extensions

Part Number	Square Drive Size in.	Length in.
7175P	3/8	3
7181P	1/2	5
07567	3/4	7
10607	1	7
15097P	1 1/2	8
25001-10	2 1/2	10

Part Number	Spline Drive No.	Length in.
09901-15	5	15

Metric - 1/2" Square Drive Power Sockets

Wrench Size mm	Part Number
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Standard Metric/6 Point

8	7408M
9	7409M
10	7410M
11	7411M
12	7412M
13	7413M
14	7414M
15	7415M
16	7416M
17	7417M
18	7418M
19	7419M
21	7421M
22	7422M
23	7423M
24	7424M
25	7425M
26	7426M
27	7427M
28	7428M
30	7430M
32	7432M

†Availability subject to prior sale.

1/2" Square Drive Power Sockets

Wrench Size in.	Part Number	Bolt Depth in.
-----------------	-------------	----------------

Standard - Hex/6 Point

3/8	7412H	7/8
7/16	7414H	7/8
1/2	7416H	7/8
9/16	7418H	7/8
5/8	7420H	7/8
11/16	7422H	7/8
3/4	7424H	7/8
13/16	7426H	7/8
7/8	7428H	7/8
15/16	7430H	1-1/8
1	7432H	1-1/8
1-1/16	7434H	1-1/8
1-1/8	7436H	1-1/8
1-1/4	7440H	1-1/8

Deep - Hex/6 Point

3/8	7312H	2-5/8
7/16	7314H	2-5/8
1/2	7316H	2-5/8
9/16	7318H	2-5/8
5/8	7320H	2-5/8
11/16	7322H	2-9/16
3/4	7324H	2-9/16
13/16	7326H	2-9/16
7/8	7328H	2-3/4
1-5/16	7330H	2-3/4
1	7332H	2-11/16
1-1/16	7334H	2-11/16
1-1/8	7336H	2-11/16

Ball Type Universal - Hex/6 Point

7/16	7474P	3/8
1/2	7475P	3/8
9/16	7476P	9/16
5/8	7477P	5/8
3/4	7479P	11/16
13/16	7480P	11/16

Air System Accessories

Industrial Power Sockets

3/4" Square Drive

Wrench Size in.	Part Number	Bolt Depth in.
Standard - Hex/6 Point		
9/16	07509	.75
3/4	07512	.94
13/16	07513	.94
7/8	07514	1.00
15/16	07515	1.00
1	07516	1.06
1-1/16	07517	1.06
1-1/8	07518	1.06
1-3/16	07519	1.13
1-1/4	07520	1.13
1-5/16	07521	1.13
1-3/8	07522	1.13
1-7/16	07523	1.16
1-1/2	07524	1.16

Deep - Hex/6 Point

3/4	07512L	1-5/8
13/16	07513L	1-5/8
7/8	07514L	1-5/8
15/16	07515L	1-5/8
1	07516L	2
1-1/16	07517L	2
1-1/8	07518L	2
1-3/16	07519L	2-3/16
1-1/4	07520L	2-3/16
1-5/16	07521L	2-3/16
1-3/8	07522L	2-5/16
1-7/16	07523L	2-3/8
1-1/2	07524L	2-3/8

1" Square Drive

Wrench Size in.	Part Number	Bolt Depth in.
Standard - Hex/6 Point		
3/4	10012	1-1/8
13/16	10013	1-1/8
7/8	10014	1-1/8
15/16	10015	1-1/8
1	10016	1-1/4
1-1/16	10017	1-1/4
1-1/8	10018	1-1/4
1-3/16	10019	1-1/4
1-1/4	10020	1-3/8
1-5/16	10021	1-7/16
1-3/8	10022	1-1/2
1-7/16	10023	1-1/2
1-1/2	10024	1-9/16
1-9/16	10025	1-5/8
1-5/8	10026	1-11/16
1-11/16	10027	1-3/4
1-3/4	10028	1-13/16
1-13/16	10029	1-7/8
1-7/8	10030	1-15/16
1-15/16	10031	2
2	10032	2-1/16
2-1/16	10033	2-1/8
2-1/8	10034	2-3/16
2-3/16	10035	2-1/4
2-1/4	10036	2-5/16
2-5/16	10037	2-3/16
2-3/8	10038	2-1/4
2-7/16	10039	2-3/8
2-1/2	10040	2-1/2
2-9/16	10041	2-1/2
2-5/8	10042	2-1/2
2-11/16	10043	2-3/4
2-3/4	10044	2-3/4
2-13/16	10045	2-3/4
2-7/8	10046	2-3/4
2-15/16	10047	3
3	10048	3
3-1/8	10050	3-1/8
3-3/8	10054	3
3-1/2	10056	3

Deep - Hex/6 Point

1-15/16	10021L	2-3/8
1-1/2	10024L	2-3/8
1-5/8	10026L	2-7/8

Thin Wall Deep - Hex/6 Point

1-1/16	10017-LT	3-1/8
1-1/4	10020-LT	3-1/8

1-1/2" Square Drive

Wrench Size in.	Part Number	Bolt Depth in.
Standard - Hex/6 Point		
1-3/8	15022	2-1/8
1-7/16	15023	2-1/8
1-1/2	15024	2-1/8
1-9/16	15025	2-1/8
1-5/8	15026	2-1/8
1-11/16	15027	2-1/8
1-3/4	15028	2-1/8
1-13/16	15029	2-1/8
1-7/8	15030	2-1/8
1-15/16	15031	2-1/8
2	15032	2-1/8
2-1/16	15033	2-1/8
2-1/8	15034	2-1/8
2-3/16	15035	2-1/8
2-1/4	15036	2-5/8
2-5/16	15037	2-5/8
2-3/8	15038	2-5/8
2-7/16	15039	2-5/8
2-1/2	15040	2-5/8
2-9/16	15041	2-5/8
2-5/8	15042	2-3/4
2-11/16	15043	2-3/4
2-3/4	15044	2-7/8
2-13/16	15045	2-7/8
2-7/8	15046	3-1/8
2-15/16	15047	3-1/8
3	15048	3-1/8
3-1/8	15050	3-3/8
3-3/16	15051	3-3/8
3-1/4	15052	3-1/2
3-5/16	15053	3-1/2
3-3/8	15054	3-1/2
3-7/16	15055	3-3/4
3-1/2	15056	3-3/4
3-9/16	15057	3-3/4
3-5/8	15058	3-3/4
3-11/16	15059	3-3/4
3-3/4	15060	3-3/4
3-13/16	15061	3-3/4
3-7/8	15062	3-3/4
3-15/16	15063	3-3/4
4	15064	3-1/2
4-1/8	15066-T	3-3/4
4-3/16	15067	3-3/4
4-1/4	15068	3-3/4
4-5/16	15069	4-1/8
4-1/2	15072	4
4-5/8	15074	4
4-3/4	15076	4

†Availability subject to prior sale.

1-1/2" Square Drive

Wrench Size in.	Part Number	Bolt Depth in.
Deep - Hex/6 Point		
1-3/8	15022L	3-1/4
1-7/16	15023L	3-1/4
1-1/2	15024L	3-1/4
1-9/16	15025L	3-1/4
1-5/8	15026L	3-1/4
1-11/16	15027L	3-1/4
1-3/4	15028L	3-1/4
1-13/16	15029L	3-1/4
1-7/8	15030L	3-1/4
1-15/16	15031L	3-1/4
2	15032L	3-1/4
2-1/16	15033L	3-1/4
2--1/8	15034L	3-1/4
2-3/16	15035L	3-1/4
2-1/4	15036L	3-5/8
2-5/16	15037L	3-5/8
2-3/8	15038L	3-5/8
2-7/16	15039L	3-5/8
2-1/2	15040L	3-5/8
2-9/16	15041L	3-5/8
2-5/8	15042L	3-7/8
2-11/16	15043L	3-7/8
2-3/4	15044L	3-7/8
2-13/16	15045L	4-1/2
2-7/8	15046L	4-1/2
2-15/16	15047L	4-1/2
3	15048L	4-3/4
3-1/16	15049L	4-3/4
3-1/8	15050L	4-3/4
3-3/16	15051L	4-7/8
3-1/4	15052L	4-7/8
3-5/16	15053L	4-7/8
3-7/16	15055L	4-7/8
3-1/2	15056L	4-7/8
3-9/16	15057L	5-1/8
3-5/8	15058L	5-1/8
3-11/16	15059L	5-1/8
3-3/4	15060L	5-1/8
3-13/16	15061L	5-1/8
3-7/8	15062L	5-1/8
3-15/16	15063L	5-3/8
4-1/16	15065L	5-3/8
4-1/8	15066L	5-3/8
4-3/16	15067L	5-5/8
4-1/4	15068L	5-5/8
4-5/16	15069L	5-5/8
4-3/8	15070L	5-5/8
4-1/2	15072L	5-5/8
4-5/8	15074L	5-7/8
4-3/4	15076L	5-7/8

2-1/2" Square Drive

Wrench Size in.	Part Number	Bolt Depth in.
Standard - Hex/6 Point		
1-3/4	25028	2-15/16
1-7/8	25030	2-15/16
2	25032	2-15/16
2-1/8	25034	2-15/16
2-1/4	25036	2-15/16
2-3/8	25038	2-15/16
2-5/8	25042	2-15/16
2-3/4	25044	2-15/16
2-15/16	25047	2-15/16
3	25048	2-15/16
3-1/8	25050	3-15/32
3-1/4	25052	3-15/32
3-3/8	25054	3-15/32
3-1/2	25056	3-15/32
3-5/8	25058	3-15/32
3-3/4	25060	3-3/4
3-7/8	25062	3-3/4
4	25064	3-31/32
4-1/8	25066	3-31/32
4-1/4	25068	4-7/32
4-3/8	25070	4-7/32
4-1/2	25072	4-3/4
4-5/8	25074	4-3/4
4-7/8	25078	4-3/4
5	25080	4-3/4
5-1/8	25082	4-31/32
5-1/4	25084	4-31/32
5-3/8	25086	5-11/32
5-1/2	25088	5-11/32
5-5/8	25090	5-15/32
5-3/4	25092	5-15/32
6-1/8	25098	5-22/32
6-1/4	25100	5

No. 5 Spline Drive (14 Spline, 1-5/8" Diameter)

Wrench Size in.	Part Number	Bolt Depth in.
Standard - Hex/6 Point		
7/8	09914	1-1/2
15/16	09915	1-1/2
1	09916	1-1/2
1-1/16	09917	1-1/2
1-1/8	09918	1-1/2
1-3/16	09919	1-1/2
1-1/4	09920	1-1/2
1-5/16	09921	1-1/2
1-7/16	09923	1-5/8
1-1/2	09924	1-5/8
1-5/8	09926	1-3/4
1-3/4	09928	2-1/8
1-13/16	09929	2-1/8
1-7/8	09930	2-1/8
1-15/16	09931	2-1/8
2	09932	2-1/8

"O" Rings and Retaining Pins

Part Number	Description
2-1/2" Square Drive Sockets	
588-216	4-1/8" I.D. "O" Ring
588-215	4-5/8" x 5/16" Retaining Pin
For 3-1/2" Square Drive Sockets	
599-216	6-1/4" I.D. "O" Ring
599-215	6-1/2" x 1/2" Retaining Pin

†Availability subject to prior sale.

Air System Accessories

Heavy Duty Power Sockets

3/8" Square Drive

Cat. No.	Nut Size
Standard Depth	
A7210H†	5/16"
A7212H†	3/8"
A7214H†	7/16"
A7222H†	11/16"
Deep	
A7210HD†	5/16"
A7212HD†	3/8"
A7214HD†	7/16"
A7218HD†	9/16"
A7222HD†	11/16"
A7226HD†	13/16"
A7228HD†	7/8"
Universal	
A7212U†	3/8"
A7216U†	1/2"
Double Universal Deep Socket	
7201DS	5/8"
Metric Deep	
A7207MD†	7 mm
A7209MD†	9 mm
A7211MD†	11 mm
A7214MD†	14 mm
A7221MD†	21 mm
Metric Universal	
A7212MU†	12 mm
A7222MU†	22 mm

*STD & Metric Sockets

**STD & Metric Sockets with 3" Extension

†Availability subject to prior sale

1/2" Square Drive

Cat. No.	Nut Size
Standard Depth	
A7414H†	7/16"
A7416H†	1/2"
A7422H†	11/16"
A7428H†	7/8"
A7430H†	15/16"
A7432H†	1"
Deep	
A7418HD†	9/16"
A7420HD†	5/8"
A7422HD†	11/16"
A7432HD†	1"
Flip Socket & Sets	
A7401SF	3/4" x 13/16"
A7401MF	19 mm x 21 mm
7400SMF	*Set
7400SMFE	**Set
Universal	
A7414U†	7/16"
A7416U†	1/2"
A7422U†	11/16"
A7426U†	13/16"
A7428U†	7/8"
Metric Standard Depth	
A7410M†	10 mm
A7411M†	11 mm
A7412M†	12 mm
A7413M†	13 mm
A7414M†	14 mm
A7421M†	21 mm
A7424M†	24 mm
A7426M†	26 mm
A7427M†	27 mm

1/2" Square Drive

Cat. No.	Nut Size
Metric Deep	
A7410MD†	10 mm
A7411MD†	11 mm
A7412MD†	12 mm
A7413MD†	13 mm
A7414MD†	14 mm
A7415MD†	15 mm
A7416MD†	16 mm
A7417MD†	17 mm
A7420MD†	20 mm
A7421MD†	21 mm
A7426MD†	26 mm
A7427MD†	27 mm
Metric Universal	
A7410MU†	10 mm
A7413MU†	13 mm
A7414MU†	14 mm
A7418MU†	18 mm
A7420MU†	20 mm

Heavy Duty Power Sockets are not recommended for industrial applications.



3/4" Square Drive

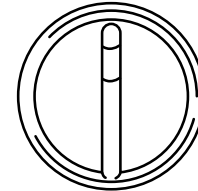
Cat. No.	Nut Size
Standard Depth	
A07513†	13/16"
A07514†	7/8"
A07515†	15/16"
A07516†	1"
A07517†	1-1/16"
A07518†	1-1/8"
A07520†	1-1/4"
A07522†	1-3/8"
A07523†	1-7/16"
Deep	
A07512D†	3/4"
A07513D†	13/16"
A07516D†	1"
A07517D†	1-1/16"
A07519D†	1-3/16"
A07522D†	1-3/8"
A07523D†	1-7/16"
Deep Thin Wall	
A07517DT†	1-1/16"
Metric Standard	
A07530M†	30 mm
A07535M†	35 mm

1" Square Drive

Cat. No.	Nut Size
Standard Depth	
A10013†	13/16"
A10014†	7/8"
A10015†	15/16"
A10016†	1"
A10017†	1-1/16"
A10019†	1-3/16"
A10022†	1-3/8"
A10025†	1-9/16"
A10028†	1-3/4"
A10029†	1-13/16"
A10033†	2-1/16"
A10039†	2-7/16"
Budd Wheel Socket	
A10024HS	1/2" hex x 13/16" sq.
Deep	
A10014D†	7/8"
A10015D†	15/16"
A10016D†	1"
A10017D†	1-1/16"
A10018D†	1-1/8"
A10019D†	1-3/16"
A10023D†	1-7/16"
A10025D†	1-9/16"
A10027D†	1-11/16"
A10029D†	1-13/16"
A10030D†	1-7/8"
A10031D†	1-15/16"
A10032D†	2"
Deep Thin Wall	
A10017DT†	1-1/16"
Metric Std. Depth	
A10027M†	27 mm
A10035M†	35 mm
Metric Square	
A10017MS†	17 mm
A10021MS†	21 mm

#5 Spline Drive

Cat. No.	Nut Size
Standard Depth	
A09915H†	15/16"
A09919H†	1-3/16"
A09920H†	1-1/4"
A09926H†	1-5/8"
A09928H†	1-3/4"



One Piece Socket Retainers

Warning: One Piece Socket Retainers should not be used for any purpose other than to retain sockets on Impact Tools. Always check for wear on pin before using. Refer to the instructions furnished with the Retainer for selection of correct sizes and installation procedure.

Part Number	Inside Diameter	
	in.	mm
For 3/4" Square Drive Sockets		
RR10005S	1-1/4	32
RR10032S	1-7/16	37
RR10034S	1-5/8	41
For 1" Square Drive Sockets		
RR10008S	1-3/4	45
RR10010S	1-15/16	49
RR10015S	2-1/8 - 2-1/4	54-57
RR10017S	2-1/2	64
RR10019S	2-5/8	67
RR10020S	2-7/8 - 3	73-76
For 1-1/2" Square Drive Sockets		
RR10020S	2-7/8 - 3	73-76
RR10025S	3-3/8	86
RR10030S	3-7/8	98
RR10035S	4-3/8	111

Air System Accessories

Heavy Duty Power Sockets

Flush Hex Sockets

Socket Size	For Series 6 and 7 3D6 Angle Head Part No.	For Series 8 and 9 32 Angle Head Part No.	For Series 8 and 9 53 Angle Head Part No.	For Series 9 83 Angle Head Part No.
3/4"				182A88-807
13 mm	8SA34-807M	8SA34-807M	182A13MF-807	
17 mm			8SA56-807M	
19 mm				182A88-807

Power Universal Joints

Universal joints make it easy to work around difficult angles and hard-to-reach nuts.



Driver	Part Number	Depth (in.)	Major Diam. (in.)
3/8" Sq.	7270P	2 1/2	5/16
1/2" Sq.	7470P	2 1/2	1 1/8
3/4" Sq.	07570	4 1/4	1 3/4
1" Sq.	10670	4 5/16	2 3/8
No. 5 Spline	09670A	8	2 7/8

Power Quick Change Chuck

For greatest versatility on screw-driving jobs, snap a Quick Change Chuck on the driver of your Impact tool. A wide variety of hex shank bits can be easily inserted and quickly changed by merely pushing on the spring loaded collar.



Square Drive Size (in.) Female	Part Number	Hex Chuck Size (in.) Female
3/8	2U-A925-4	1/4
3/8	502-A925-7	7/16
1/2	4U-A925-7	7/16

Non-adjustable Detachable Torsion Bars and Kits for Models 5020TDQ and 5040TDQ

No. 5040TDQ-KP637 Torsion Bar Kit (consists of one each Non-adjustable Torsion Bar with Pin-Type Retainer and No. 5040TDQ-637 Torsion Bar Case).
No. 5040TDQ-KB637 Torsion Bar Kit (consists of one each Non-adjustable Torsion Bar with Ball-Type Retainer and No. 5040TDQ-637 Torsion Bar Case).

Torsion Bar Number		Model 5020TDQ Torque Range		Model 5040TDQ Torque Range		Code
With 1/2" Square Drive Pin-Type Retainer	With 1/2" Square Drive Ball-Type Retainer	ft-lb	Nm	ft-lb	Nm	
5040TDQ-P535-1	5040TDQ-B535-1	6-10	8.14-13.6	20-25	27.1-33.9	Red
5040TDQ-P535-2	5040TDQ-B535-2	8-12	10.8-16.3	22-30	29.8-40.7	Orange
5040TDQ-P535-3	5040TDQ-B535-3	10-14	13.6-19	25-35	33.9-47.5	Yellow
5040TDQ-P535-4	5040TDQ-B535-4	12-16	16.3-21.7	30-40	40.7-54.2	Green
5040TDQ-P535-5	5040TDQ-B535-5	14-18	19-24.4	35-45	47.5-61.0	Blue
5040TDQ-P535-6	5040TDQ-B535-6	16-20	16.3-27.1	40-50	54.2-67.8	Violet
5040TDQ-P535-7	5040TDQ-B535-7	18-22	24.4-29.8	45-55	61.0-74.6	Red
5040TDQ-P535-8	5040TDQ-B535-8	20-24	27.1-32.5	50-60	67.8-81.4	Orange
5040TDQ-P535-9	5040TDQ-B535-9	22-26	29.8-35.2	55-65	74.6-88.1	Yellow
5040TDQ-P535-10	5040TDQ-B535-10	24-28	32.5-38	60-75	81.3-101	Green
5040TDQ-P535-11	5040TDQ-B535-11	26-29	35.2-39.3	70-85	94.9-115	Violet
5040TDQ-P535-12	5040TDQ-B535-12	27-30	36.6-40.7	75-90	102-122	Blue

Non-adjustable Detachable Torsion Bars and Kits for Model 5081TDQO

No. 5081TDQO-KP637 Torsion Bar Kit (consists of one each Non-adjustable Torsion Bar with Pin-Type Retainer and No. 5081TDQO-637 Torsion Bar Case).

No. 5081TDQO-KB637 Torsion Bar Kit (consists of one each Non-adjustable Torsion Bar with Ball-Type Retainer and No. 5081TDQO-637 Torsion Bar Case).

Torsion Bar Number		Torque Range		Color Code
With 5/8" Square Drive Pin-Type Refiner	With 5/8" Square Drive Ball-Type Retainer	ft-lb	Nm	
5081TDQO-P535-1	5081TDQO-B535-1	50 - 70	67.8 - 94.9	Red
5081TDQO-P535-2	5081TDQO-B535-2	65 - 85	88.1 - 115	Orange
5081TDQO-P535-3	5081TDQO-B535-3	80 - 95	108 - 129	Yellow
5081TDQO-P535-4	5081TDQO-B535-4	90 - 110	122 - 149	Green
5081TDQO-P535-5	5081TDQO-B535-5	100 - 120	136 - 163	Blue
5081TDQO-P535-6	5081TDQO-B535-6	110 - 130	149 - 176	None
5081TDQO-P535-7	5081TDQO-B535-7	120 - 140	163 - 190	None
5081TDQO-P535-8	5081TDQO-B535-8	130 - 150	176 - 203	None

No. 5081TDQO-LA950. Light Torsion Bar (50-110 ft-lb; 67.8-149 Nm torque) No. 5081TDQO-PL735A.

Model 5340TOAH1

Screw-Type Torque Setting Jig No. 5340T-A950.

Light Torsion Bar (150-260 ft-lb; 203-352 Nm torque) No. 5340T-L735B.

Extra Heavy Torsion Bar (350-475 ft-lb; 475-644 Nm torque) No. 5340T-EH735B.

Super Heavy Torsion Bar (450-550 ft-lb; 610-746 Nm torque) No. 5340T-SH735B.

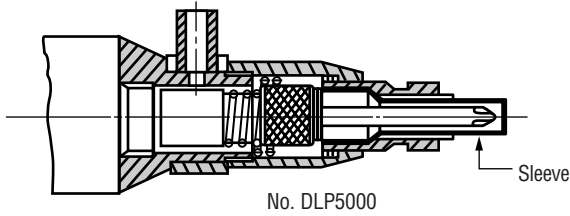
Air System Accessories
Screwdriver Accessories



Ingersoll-Rand assembly tool accessories are designed to enhance the productivity of your light assembly tools. Screwdriver bits and nutrunner sockets for air and electric Impact Tools, screwdrivers and nutrunners, are available in the most common sizes to satisfy your fastening requirements.

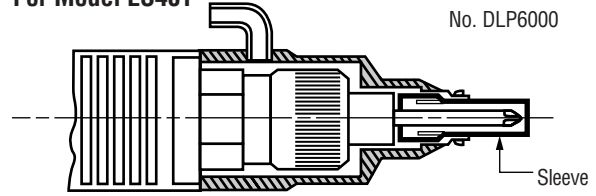
DC Electric Screwdriver Vacuum Pickup Accessories

Vacuum Pickups for Models ES20B and ES30B

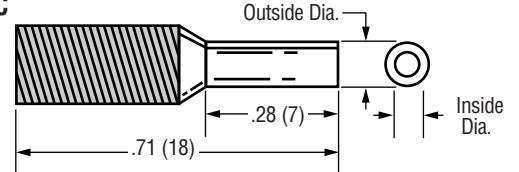


These easily attached Vacuum Pickups eliminate tedious manual handling of small screws and increase productivity by allowing for single handed assembly. They are especially suited for non-ferrous screws where magnetic bits are not functional. Models ES10C and ES50TC have built-in Vacuum Pickups.

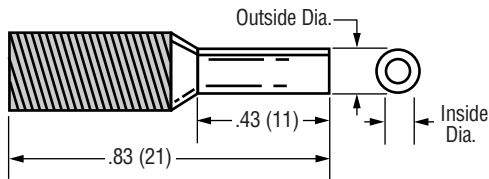
For Model ES40T



Vacuum Pickup Sleeves for Models ES20B, ES30B, ES40T and ES50TC



Vacuum Pickup Sleeves for Model ES10C



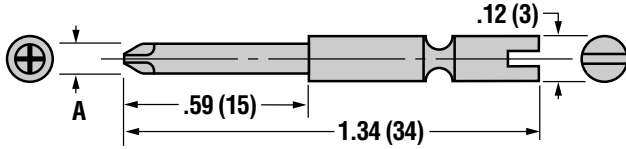
Bit Part Number	Sleeve Part Number	Inside Dia. in. (mm)	Outside Dia. in. (mm)
DLB1120	DLS1120	.067 (1.7)	.106 (2.7)
DLB1122	DLS1122	.083 (2.1)	.122 (3.1)
DLB1220	DLS1220	.034 (.85)	.061 (1.55)
DLB1224	DLS1224	.049 (1.25)	.077 (1.95)
DLB1227	DLS1227	.061 (1.55)	.089 (2.25)

Sleeve Part Number	Inside Dia. in. (mm)	Outside Dia. in. (mm)
DLS2120	.079 (2.0)	.138 (3.5)
DLS2122	.098 (2.5)	
DLS2123	.106 (2.7)	
DLS2124	.122 (3.1)	
DLS2125	.130 (3.3)	.177 (4.5)
DLS2126	.138 (3.5)	
DLS2127	.146 (3.7)	
DLS2128	.158 (4.0)	
DLS2129	.165 (4.2)	.212 (5.5)
DLS2130	.177 (4.5)	
DLS2131	.185 (4.7)	
DLS2132	.201 (5.1)	
DLS2133	.209 (5.3)	.256 (6.5)
DLS2134	.221 (5.6)	
EL0410BC-53	.240 (6.1)	.276 (7.0)

Vacuum Pickup Sleeve Selection Chart for Models ES20B, ES30B, ES40T and ES50TC

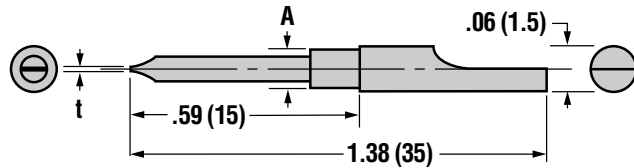
Bit Part Number	Sleeve Part Number	Truss Head	Pan Head	Fillister Head	Oval Countersunk Head	Binding Head	Undercut Oval Countersunk Head	Round Head
DLB2122	DLS2120	—	—	00	—	—	—	—
	DLS2122	—	00	—	00	—	—	00
DLB2124	DLS2123	—	—	0	—	00	—	—
	DLS2124	—	0	—	0	—	—	0
	DLS2125	—	—	1	—	0	0	—
DLB2126	DLS2126	0	—	—	—	—	—	—
	DLS2126	—	—	—	—	—	—	1
	DLS2127	—	1	2	—	—	—	—
	DLS2128	—	—	—	1	1	1	—
	DLS2129	—	—	3	—	—	—	2
DLB2128	DLS2130	1	—	—	2	—	2	—
	DLS2130	—	2	—	—	—	—	—
	DLS2131	—	—	—	—	—	—	—
	DLS2132	2	3	—	—	—	—	—
DLB2130	DLS2133	—	—	—	3	—	3	—
	DLS2134	—	—	—	—	3	—	4
XP161	DLS2132	2	3	—	—	—	—	—
XPZ161	DLS2133	—	—	—	3	—	3	—
	DLS2134	—	—	—	—	3	—	4

**Screwdriver Bits for Model ES10C
For Phillips Head Screws**



Bit Part Number	Point Size	'A' Dia. in. (mm)	Screw Size Range
DLB1120	00	.051 (1.295)	00 to 0
DLB1122	0	.070 (1.778)	0 to 1*

For Slotted Head Screws

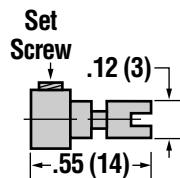


Bit Part Number	Point Size t	'A' Dia. in. (mm)	Screw Size Range
DLB1220	.005	.015 (.381)	00 to 0
DLB1224	.006	.047 (1.193)	00 to 0
DLB1227	.007	.059 (1.499)	0 to 1

* Only Phillips Bits are meant to be used with Vacuum Pickup Systems.
Slotted Bits may sometimes be used by undersizing the Bits for the Vacuum Sleeves.

Adapter No. DLW4200

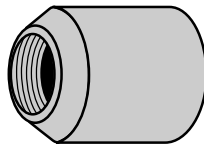
No. DLW4200 Adapter must be used with Slotted Screw Bits shown above.



Torque Adjustment Cover

For Models ES60, ES70, ES80P, ES90 and ES100

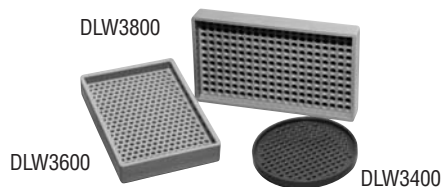
Fits over Torque Adjustment Nut to minimize tampering or accidental turning once the torque is set.



No. ES60T-675

Attachable Bio-Flange

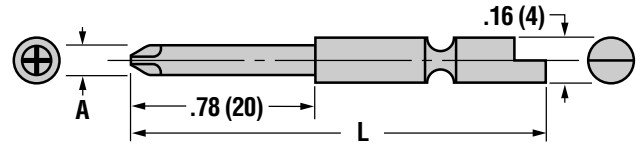
No. ES60T-69. For use on push-to-start Models ES60P, ES70P, ES80P, ES90P and ES100P.



Shaker Box

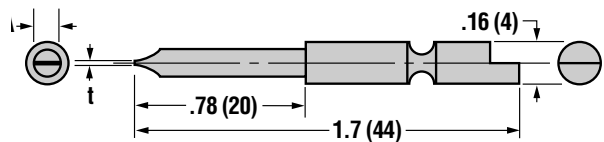
Part Number	Description
DLW3800	Rectangular Plastic 6 11/16" x 4-7/8"
DLW3600	Rectangular Plastic 5 11 1/2" x 3-7/8"
DLW3400	Round Metal 3 15/16" Diameter

**Screwdriver Bits for Model EL0109B, ES20B, ES30B and ES40T
For Phillips Head Screws**



Bit Part Number	Point Size	'A' Dia. in. (mm)	L	Screw Size Range
DLB2120	0	.069 (1.753)	2.5	0 to 1
DLB2121	00	.074 (1.880)	1.7	00 to 0
DLB2123	0	.077 (1.956)	2.5	00 to 0
DLB2124	0	.096 (2.438)	1.7	0 to 1
DLB2125	0	.117 (2.972)	2.5	0 to 1
DLB2126	1	.118 (2.997)	1.7	2 to 4
DLB2127	1	.156 (3.962)	2.5	2 to 4
DLB2128	1	.157 (3.988)	1.7	2 to 4
DLB2129	1	.157 (3.988)	2.5	2 to 4
DLB2130	2	.156 (3.962)	1.7	5 to 10
DLB2131	2	.157 (3.988)	2.5	5 to 10
DLB2132	3	.235 (5.969)	1.7	10 to 1/4

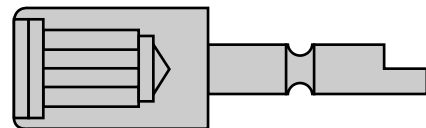
For Slotted Head Screws



Bit Part Number	Point Size t	'A' Dia. in. (mm)	Screw Size Range
DLB2220	.012	.078 (1.981)	00 to 0
DLB2221	.012	.097 (2.464)	00 to 0
DLB2222	.016	.116 (2.946)	0 to 2
DLB2223	.020	.157 (3.988)	2 to 4
DLB2224	.026	.196 (4.978)	3 to 5

* Only Phillips Bits are meant to be used with Vacuum Pickup Systems.
Slotted Bits may sometimes be used by undersizing the Bits for the Vacuum Sleeves.

1/4" Hex Shank Insert Bit Holder



No. DLW-4100. For using Insert Bits shown on page 64 with Models ES20B, ES30B, ES40T and EL0109B.

Attachable Pistol Grip Handle

No. DLW2100. For use on push-to-start Models ES60P, ES70P and ES90P.

Air System Accessories

Screwdriver Accessories

For Driving Screws

Power Bits for Slotted Head Screws

(Complete with Rotating Finders)
Must be used with a Quick Change Chuck.



1/4" Hex Shank Bits		7/16" Hex Shank Bits	
Round Head Machine Screw Size	Part Number	Round Head Machine Screw Size	Part Number
No. 6	XR306	No. 12	R3012-7
No. 8	XR308	No. 14 (1/4")	R3013-7
No. 10	XR3010	No. 18 (5/16")	R3116-7
No. 12	XR3012	No. 20	R3117-7
		No. 22 (3/8")	R3119-7

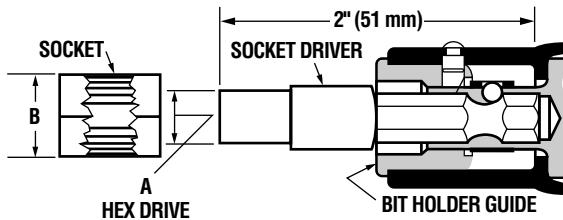
Power Bits for Recessed Head Screws

Must be used with a Quick Change Chuck.



7/16" Hex Shank Bits			
Screw Type	Bit Size	3-1/2" Length	4-1/2" Length
Phillips	No. 3PT	P283-7	P363-7
Phillips	No. 4PT	P284-7	
Allen Head	3/16" Hex	HX206-7**	
Allen Head	7/32" Hex	HX207-7**	
Allen Head	1/4" Hex	HX208-7**	
Allen Head	5/16" Hex	HX2010-7**	
Allen Head	3/8" Hex	HX2012-7**	

**These bits available in 2-1/2" length only.



Power Screwdriver Adapters

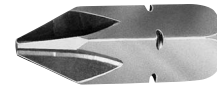
For Phillips, Pozidriv or Reed & Prince Screws, use these Screwdriver adapters with the Insert Bits listed.



Bit Size	Square Driver Size (in.)	Part Number
5/16 sq.	3/8	2U-812
5/16 sq.	1/2	4U-812

Power Square Insert Bits

The square shank Phillips, Reed & Prince and Hexagon bits listed are used with the No. 2U-812 3/8 and No. 4U-812 1/2 Screwdriver Adapters.



Description	Part Number
Phillips Bit No. 2 Point	SPB082-5
Phillips Bit No. 3 Point	SPB083-5
Phillips Bit No. 4 Point	SPB084-5

Sockets and Socket Drivers for Hex Head Self-Tapping Screws

For driving hex head, self-tapping screws, use the HD Socket Driver and the HS Socket.

1/4" Hex Shank Socket Driver		Socket		
Part Number	A in.	Part Number	A in.	B in. (mm)
HD168	1/4	HS8	1/4	7/16 (11.1)

Screwdriver Accessories

Description	Series 3 Part Number	Series 4 Part Number	Series 5 Part Number	Series 7 Part Number
Hand Grip (for Straight Models only)	3RP-747			
Hanger (for Pistol Models only)	3RA-365			
Horizontal Hanger (for Pistol Models only)		R00H-365		
Dead Handle Assembly		R1A-A48	728N-A48	R1A-A48
Dead Handle Adapter (two required for above)		4R-49	5A-49	7A-49
Exhaust Hose	3RL-284			
Piped-Away Exhaust Kit (for Lever & Push Models only)		7L-K284	5L-K184	7L-K284

Standard 1/4" Hex, Detented Shank Bits and Non-Rotating Finders for use with all Screwdriver Models ending with a "3"

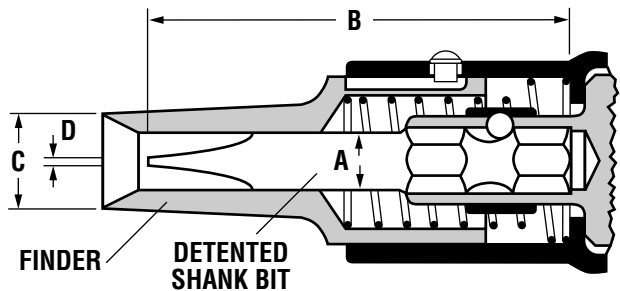


Screw Size	Bit and Finder Length B	Bit and Finder					
		Flat or Oval	Round	Fillister	Pan	Binding	Truss
2	1-15/16" Bit	XF164	XF164	—	XF164	XF164	XF164
	Finder	F164F1	F164F1	—	F164F1	F164F1	F164F1
	3" Bit	XF244	XF244	—	XF244	XF244	XF244
3	1-15/16" Bit	XF165	XF165	XF164	XF165	XF165	XF165
	Finder	F165F1	F165F1	F164F1	F165F1	F165F1	F165F1
	3" Bit	XF245	XF245	XF244	XF245	XF245	XF245
4	1-15/16" Bit	XF166	XF165	XF165	XF166	XF166	XF166
	Finder	F166F1	F165F1	F165F1	F166F1	F166F1	F166F1
	3" Bit	XF246	XF245	XF245	XF246	XF246	XF246
5	1-15/16" Bit	XF167	XF166	XF165	XF167	XF166	XF167
	Finder	F167F1	F166F1	F165F1	F167F1	F166F1	F167F1
	3" Bit	XF247	XF246	XF245	XF247	XF246	XF247
6	1-15/16" Bit	XF168	XF167	XF166	XF168	XF167	XF168
	Finder	F168F1	F167F1	F166F1	F168F1	F167F1	F168F1
	3" Bit	XF248	XF247	XF246	XF248	XF247	XF248
8	1-15/16" Bit	XF168	XF168	XF168	XF168	—	XF1610
	Finder	F168F1	F168F1	F168F1	F168F1	F169F1	F1610F1
	3" Bit	XF248	XF248	XF248	XF248	XF249	XF250
10	1-15/16" Bit	XF1610	—	—	XF1610	XF1610	XF1612
	Finder	F1610F1	F169F1	F169F1	F1610F1	F1610F1	F1612F1
	3" Bit	XF250	XF249	XF249	XF250	XF250	—
12	1-15/16" Bit	XF1612	XF1612	XF1610	XF1612	XF1612	—
	Finder	F1612F1	F1612F1	F1610F1	F1612F1	F1612F1	—
	3" Bit	XF2512	XF2512	XF250	XF2512	XF2512	—
1/4	1-15/16" Bit	—	XF1612	XF1610	—	XF2445	—
	Finder	—	F1612F1	F1610F1	—	—	—
	3" Bit	—	XF2512	XF250	—	XF1645	—

For Slotted Head Screws

Bit and Finder Dimensions

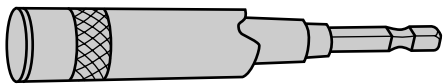
Bit Part Number	Blade		Finder Thickness D (in.)	Screw Head Part Number	Opening C (in.)
	Bit Diam A (in.)	Finder Thickness D (in.)			
XF164	.122	.026		F164F1	.22
XF165	.154	.032		F165F1	.25
XF166	.187	.034		F166F1	.28
XF167	.215	.036		F167F1	.31
XF168	.250	.038		F168F1	.34
XF169	.275	.042		F169F1	.38
XF1610	.312	.046		F1610F1	.41
XF1612	.360	.050		F1612F1	.47
XF1645	.134	.028		F1645F1	.20
XF244	.122	.026		F244F	.22
XF245	.154	.032		—	—
XF246	.187	.034		F246F	.28
XF247	.215	.036		F247F	.31
XF248	.250	.038		F248F	.34
XF249	.275	.042		—	—
XF250	.312	.046		F250F	.41



1/4" Hex Shank Bits

Round Head	
Machine Screw Size	Part Number
No. 6	XR306
No. 8	XR308
No. 10	XR3010
No. 12	XR3012

Bits with Rotating Finders for use with all Screwdrivers



Air System Accessories

Screwdriver Accessories

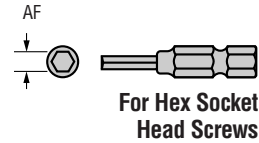
Standard 1/4" Hex Detented Shank Bits for use with all Screwdriver Models



	Round Head	Flat or Oval Head	Binding Machine Head and Pan Head	Fillister Machine Head	Truss Head	Bit Part Number and Length				
						Point Size	1-15/16"	2-3/4"	3-1/2"	6"
 For Phillips Head Screws	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4, 5	No. 1	XP161	XP221	XP281	XP481
	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 10	5, 6, 8, 10	6, 8, 10	No. 2	XP162	XP222	XP282	
	12 to 5/16"	12 to 1/4"	12 to 1/4"	12 to 5/16"	12, 1/4"	No. 3	XP163	XP223	XP283	XP483
 For Pozidriv Head Screws	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4, 5	No. 1	XPZ161	—	—	—
	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 9, 10	5, 6, 7, 8, 10	5, 6, 8, 10	6, 8, 10	No. 2	XPZ162	—	—	—
	12 to 5/16"	12 to 1/4"	12 to 1/4"	12 to 5/16"	12, 1/4"	No. 3	XPZ163	—	—	—
 For Reed And Prince Head Screws	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4, 5	No. 1	XRP161	—	—	—



Cap Screws	Safety Set Screws	Hex Across Flats (AF)	Bit Part Number
2, 3	8	5/64"	HX1325
4, 5	10	3/32"	HX133
—	1/4"	1/8"	HX134
8	—	9/64"	HX1345
10	5/16"	5/32"	HX135
1/4", 3/8"	3/8"	3/16"	HX136
—	7/16"	7/32"	HX137
5/16"	—	1/4"	HX138



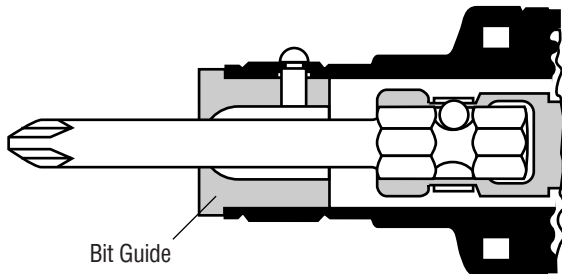
Bit Guides

For use with all Pistol and Lever Screwdriver Models ending with a "3". Select size and length to match Bit.

Advantages:

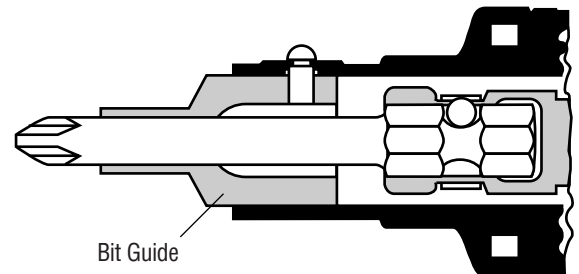
- Increased Torque Accuracy
- Decreased Work Piece Damage
- Decreased Bit Run Out
- Decreased Bit Wobble

For use with bit lengths 1 15/16" and 2 3/4"



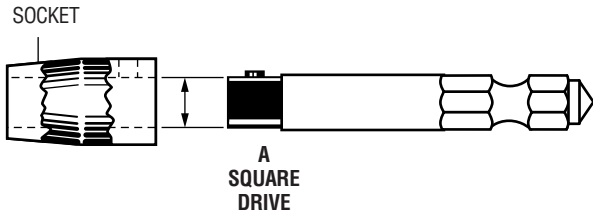
Point Size	Part Number
No. 1 Point	5RA-P730-1
No. 2 Point	5RA-P730-2
No. 3 Point	5RA-P730-3

For use with bit lengths 3 1/2" and 6"



Point Size	Part Number
No. 2 Point	102A60-P730-2
No. 3 Point	102A60-P730-3

1/4" Hex Detented Shank Socket Drivers and Sockets
 For use with all Screwdriver Models



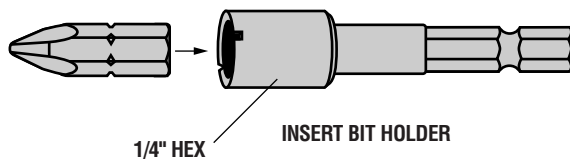
Socket Drivers

Size of Square Drive A (in.)	Socket Driver Part Number and Length	
	2"	4"
1/4	7102-T	
3/8		7106

Sockets

Screw and Nut Sizes			1/4" Square Drive		3/8" Square Drive
Hex and Square Machine Screw Nuts	Hex Head Machine and Cap Screws	Distance Across Flats (in.)	Hex Magnetic Socket for Self-Tapping Screws Part Number	Hex Socket Part Number	Hex Socket Part Number
2,3	3,4,5	3/16"	6906PKM	6906H	—
4	6,8	1/4"	6908PKM	6908H	—
5,6	10,12	5/16"	6910PKM	6910H	7210H
8	—	11/32"	6911PKM	6911H	7211H
10	1/4"	3/8"	6912PKM	6912H	7212H
12,1/4"	—	7/16"	6914PKM	6914H	7214H
—	5/16"	1/2"	6916PKM	6916H	7216H
5/16"	3/8"	9/16"	—	—	7218H
3/8"	7/16"	5/8"	—	—	7220H

1/4" Hex Shank Insert Bit Holders
 For use with all Screwdriver Models



Type of Bit Holder	Part Number
Magnetic	M631-4
Non-Magnetic	RX2-631-4

1/4" Hex Shank Insert Bits for Insert Bit Holders



For Phillips Head Screws



For Pozidriv Head Screws

Round Head	Flat or Oval Head	Binding Machine Head and Pan Head	Fillister Machine Head	Truss Head	Point Size	Length (in.)	Insert Bit Part Number
2,3,4	2,3,4	2,3,4,5	2,3,4	2,3,4,5	No. 1	1	XPB071
5,6,7,8,9,10	5,6,7,8,9,10	5,6,7,8,9,10	5,6,7,8,10	6,8,10	No. 2	1	XPB072
12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"	No. 3	1	XPB073
2,3,4	2,3,4	2,3,4,5	2,3,4	2,3,4,5	No. 1	1	XPZB071
5,6,7,8,9,10	5,6,7,8,9,10	5,6,7,8,9,10	5,6,7,8,10	6,8,10	No. 2	1	XPZB072
12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"	12 to 1/4"	No. 3	1	XPZB073

Air System Accessories

Tool Accessories

Tune-Up Kits

You can use our popular kits to keep your air tools performing at top power. Save money, too — the kit costs less than the individual parts.



Motor Tune-Up Kits

Rev up your tool's motor using this kit which contains the vanes, gaskets and seals for a complete tune-up.

Tool No.	Kit No.
291	281-TK1
7801, 7806	728-TK3



Protective Tool Boots

Keep your Ingersoll-Rand air impact wrenches, ratchets and drills free from external damage with protective boots.

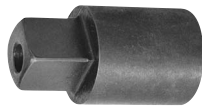
Tool No.	Boot No.	Material
104	104-P32	Vinyl
107	106-P32	Vinyl
205	205-P32	Vinyl
207	207-P32	Vinyl
7802, 7802R	7802-P32	Vinyl
2112	2112-P32	Vinyl
2131, 2131-2	2131-P32	Vinyl
231, 231-2, 2705	231-P32	Vinyl
231, 231-2, 2705	230-32	Leather
1701B	211-P32	Vinyl
1702P	202-P32	Vinyl
1720, 2920	261-P32	Vinyl
2707	244-P32	Vinyl





Drill Chucks

Chuck Size	Part Number	Thread	Key	Standard Equipment on Air Drills
0-1/4" (6 mm) Medium Duty	ROH-99	3/8" x 24	R1H-J253	3A (J,L,M,N,Q), 3L (H,J,L), 5A, 5L (D,H,J,K,K2,L,L2), 7L (J2)
0-1/4" (6 mm) Heavy Duty	R00A-99	3/8" x 24	R00A-J253	6A (D,H,J,JJ,K,L), 6L (H,J,JJ,K,K2,L), 7A (D,H,J,JJ)
0-3/8" (10 mm) Heavy Duty	6A-99	3/8" x 24	R0J-J253	5A, 5L (N,N2), 6A (M,P,R,S), 6L (L2,M,M2,P,P3,R), 7A (K,L,M), 7L (L3,M3), 728J1
0-3/8" (10 mm) Standard Duty	7801-99-6	3/8" x 24	728N-253	728LA2, 7801
0-3/8"	7802-99	3/8" x 24	R000B2J70-J253	7802
0-3/8" Keyless	728-99-KC5	3/8" x 24		—
0-1/2"	7803-99	3/8" x 24	R1T-J253	—
0-1/2" (13 mm) Standard Duty	7806-99-8	3/8" x 24	728N-253	728NA3, 7806
0-1/2" Keyless	728-99-KC8	3/8" x 24		—
5/64"-1/2" (2-13 mm) Heavy Duty	ROK-99	3/8" x 24	R1T-J253	7A (N,Q), 7L (N3)



Square Drive Adapter

Drive Size	Part Number	Thread Size
3/8"	ROH-P212-3/8	3/8"-24



Quick Change Screwdriver Bit Adapter

Hexagon Drive Size	Part Number	Thread Size
1/4"	ROH-A925-4	3/8"-24

Socket Adapters for Large Drills

Square (in.)	Morse Taper No.	Part Number
3/4	3	R4J-214
1	5	R5SM-214

Large Drill Accessories

Description	Series 2X Part Number	Series 22 Part Number	Description	Series 3S Part No.	Series 33S Part No.	Series 551S Part No.
No. 1 Morse Taper Socket	T05-323-1	—	Suspension Ring	TC-365	TC-365	
No. 2 Morse Taper Socket	T05-323-2	DE-323A-2	Breast Plate	TC-A79	TC-A79	
No. 3 Morse Taper Socket	—	—	Feed Screw Cover	TC-461	TC-461	TA-461
No. 2 Use-em-up Morse Socket	T05-294-2	—	Feed Screw	R3H-A291	R3H-A291	TA-A291
0 to 1/2" (0 to 13 mm)			Wood Bit Chuck for 1/2" (13 mm) diam. shank bits	R33SW-151-1/2	R33SW-151-1/2	
3-Jaw Key Chuck	T05-99A	DE-99C	Wood Bit Chuck for 5/8" (16 mm) diam. shank bits	R33SW-151-5/8	R33SW-151-5/8	
1/2" Square Dr. Socket Adapter	R2J-212B	DE-215A†	Chuck Nut*	T12-347	T12-347	TISE-347
5/8" Square Dr. Socket Adapter	—	DE-215B				
Chuck Nut*	—	DE-347A				
Wood Bit Chuck	—	R22W-151				
Wood Bit Chuck Wrench	K-27	K-27				

* Required whenever any spindle equipment is to be mounted on Series 22 Drills. Unless a Drill has a threaded spindle, none of the above accessories can be added to the spindle. See specifications for Series 2X and 22 Drills to verify that spindle is threaded before ordering above spindle equipment.

† Availability subject to prior sale.

* Required whenever any spindle equipment is to be mounted on any spindle.

Air System Accessories

Air System Accessories



Pipe Line Valves

A sturdy, quick acting valve goes from full flow to off with only a 1/4 turn of its lever.

Part Number	NPT	Description
AAM-291	1/2" FNPT	4 Way Shut Off Valve
C04-291	3/4" FNPT	4 Way Shut Off Valve
RC5-160	1" MNPT	2 Way Shut Off Valve



Pipe Line Air Strainers

Sturdy, efficient air strainer is of ample size to permit free passage of air. It can be cleaned quickly by removing the plug from the strainer cap and turning air on momentarily.

Part Number	Female NPT (in.)
EU-A267	3/4
EU-A267MFG (Hanging Loop)	3/4
HU-A267AT	1
K4U-A267AT	1-1/4
ST900-267-24	1-1/2
ST900-267-32	2



Needle Pressure Gauge

This Needle Pressure Gauge is one of the simplest and easiest ways of checking actual air pressure at the equipment while it is operating. This will show whether or not the equipment is receiving adequate air pressure. The sharp hypodermic needle easily pierces any size rubber air hose, and, if properly inserted, will not cause a leak when withdrawn.

The Ingersoll-Rand Needle Pressure Gauge Kit consists of a convenient carrying pouch, an easy-to-read pressure gauge, needle guard, two spare hypodermic needles and two cleaning wires.

Part Number	Description
NPG-A1	Gauge Kit
NPG-2	Needle and Cleaning Wire Kit (3 Needles and 2 Cleaning Wires in Vial)

Aerosol Touch-up Paint

Part Number	Color
FAP-237Y	Yellow
FAP-238BK	Black
FAP-936G	Gray

Air System Accessories

Miscellaneous Accessories



Part Number	Description
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Abrasive Kits	
LG1-K1	Plastic Box w/4 Burs
LG1-K2	2" Abrasive Kit, 1/4" Shank
LG1-K3	3" Abrasive Kit, 1/4" Shank
LG1-SB418-60-10	Sanding Belt-60 Grit-10/Pack (1/4" X 18")
LG1-SB418-80-10	Sanding Belt-80 Grit-10/Pack (1/4" X 18")
LG1-SB418-100-10	Sanding Belt-100 Grit-10/Pack (1/4" X 18")
LG1-SB812-60-10	Sanding Belt-60 Grit-10/Pack (1/2" X 12")
LG1-SB812-80-10	Sanding Belt-80 Grit-10/Pack (1/2" X 12")
LG1-SB812-100-10	Sanding Belt-100 Grit-10/Pack (1/2" X 12")
LG1-SB818-60-10	Sanding Belt-60 Grit-10/Pack (1/2" X 18")
LG1-SB818-80-10	Sanding Belt-80 Grit-10/Pack (1/2" X 18")
LG1-SB818-100-10	Sanding Belt-100 Grit-10/Pack (1/2" X 18")

Used On	Part Number	Description
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Collets		
CA, CD, CX, TXA	DG110-700-G2	1/8" Erickson
CA, CD, CX, TXA	DG110-700-G4	1/4" Erickson
DG100G2	DG100-2580	1/8" - 3/32" Collet Adapter
TA, TD, TX, HA, HD, HX, HXA, 61H	G160HD-700-1/4	1/4" Erickson
TA, TD, TX, HA, HD, HX, HXA, 61H	DG120-700-G6	3/8" Erickson
61H	RO-A390-1/4	1/4" Erickson
61H	DG220-A290-G4	1/4" Erickson
61H	DG220-A290-G6	3/8" Erickson

Used On	Part Number	Description
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DG100G2	DG100-130	Inlet Hose Assembly
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Used On	Part Number	Description
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Exhaust Kits		
C Series	LG1-K284	Exhaust Kit
DG100G2	DG100-A184	Exhaust Hose Assembly
3 Series	3RL-284	Exhaust Hose
5 (Lever & Push)	5L-K184	Exhaust Kit
88V Series	88V60-K184	Exhaust Kit
99V Series	99V60-K184	Exhaust Kit

Used On	Part Number	Description
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Wrenches & Nut		
DG100G2	DG100-4334	Collet Nut Wrench
HA, HD, HX, HXA, TA, TD, TX, TXA, 61H	DG10-69	1/2 x 9/16 Collet Body Wrench
CA, CD, CX, 61H	DG20-69	7/16 x 11/16 Collet Nut Wrench
HA, HD, HX, HXA, TA, TD, TX, TXA	DG120-69	5/8 x 3/4 Collet Nut Wrench
7, 77A, 88S	D94SK-26†	Pad Nut Wrench
7, 77A, 88S	D94SK-226†	Pad Nut
CA, CD, CX	125C-69	Collet Body Wrench
61H	61H-69	Controller Wrench
77H, 88H	7RAQT4-254	Cone Wheel Spindle Wrench
7P, 7S	7S60-24818	Spindle Wrench
77A, 77H	77H-950	Controller Wrench
77A, 88V, 99V	88V-562	Wheel Retaining Screw Wrench
88H	88V60-950	Controller Wrench
99H	99V60-950	Controller Wrench

Used On	Part Number	Description
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Grips, Handles and Hangers		
HA, HD, HX, HXA, TA, TD, TX, TXA	LG2-A48	Side Handle Kit
4, 7	R1A-A48	Dead Handle Assembly
4	R00H-365	Horizontal Hanger (Pistol Models)
3	3RA-365	Horizontal Hanger (Pistol Models)
3	3RP-747	Hand Grip (Straight Models)
4	4R-49	Dead Handle Adapter (2 required for R1A-A48)
5	5A-49	Dead Handle Adapter (2 required for 728N-A48)
7	7A-49	Dead Handle Adapter (2 required for R1A-A48)
5	728N-A48	Dead Handle Assembly

Used On	Part Number	Description
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Sanding & Polishing Pads		
313	6135A	Polishing Pad, 8" diameter, 2" thick polyester foam.
313, 319	313-825-7	7" Rigid backing pad, Standard Duty
313, 319	6130A	7" Flexible backing pad, Heavy Duty
317	317-825	Backing Pads, one each 3", 4", 5".
324, 328	D94SK-228A	Pad
328	328A-826	8" Sanding Pad Assembly, Dual Action Backing Pad (Standard Duty)
749	G0900-325†	Sanding Pad (Screw Retained)
7, 77A	P500-850	7" Wool Polishing Bonnet
7, 77A, 88S	77A-AM825-5	5" Sanding Pad Assembly (Medium)
7, 77A, 88S	77A-AM825-7	7" Sanding Pad Assembly (Medium)
7, 77A, 88S	77A-AM825-9	9" Sanding Pad Assembly (Firm)
7, 77A, 88S	77A-BM825-7	7" Sanding Pad Assembly (Firm)

Used On	Part Number	Description
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Saw Accessories		
S80	30478	Rip Fence
S80, S120	S12-4	Metal Carrying Case
S120	S12-A86	Abrasive Blade Flange Kit
S120	S12-506	Depth Gauge Bracket

Used On	Part Number	Description
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Saw Blades		
SRA010A1	205885	7 Blade Kit
S120	B12-257R	Cross Cut, Ripping Planer Blade

Used On	Part Number	Description
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5R-VT30		ND Vibra-Tite 30 cc Bottle
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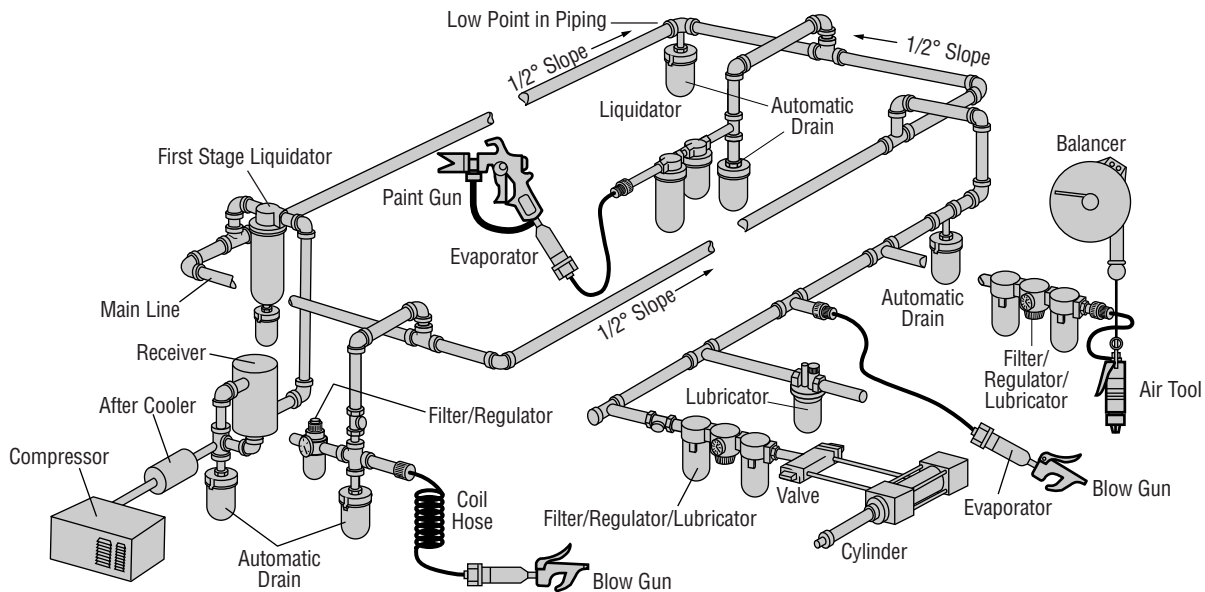
†Availability subject to prior sale.

Air System Accessories

Pump Accessories

Pump Accessories

Used on	Part Number	Name	Description
Series 226 and P237	C10-283	Air Valve	3/4" (19 mm) lever type valve for remote operation
Series 251 and 35	RC5-160	Air Valve	1" (25 mm) lever type valve for remote operation
Models 251A1, P237A1, PS237A1 and 35A1	P25-183	Fire Hose Adapter	2-1/2" male NPT to 3-1/16" OD—7-1/2" thd. male
Model 226A1	P225-181-50	Discharge Hose	50' (15 m) long. 2" (51 mm) diameter fire hose with one 2" NPT male coupling
Models 251A1, P237A1, PS237A1 and 35A1	P25-181-50	Discharge Hose	50' (15 m) long. 2-1/2" (64 mm) diameter fire hose. Female coupling on one end to fit 3-1/16" OD—7-1/2" thd. on No. P25-183 Fire Hose Adapter
Models 251A1, P237A1, PS237A1 and 35A1	P25-182-50	Discharge Hose No. P25-183 Fire	50' (15 m) long. 2-1/2" (64 mm) fire hose with one male and one female coupling. 3-1/16" OD—7-1/2" thd. to fit Hose Adapter and 2-1/2" National Standard Fire Hose Coupling
Models 251A1, P237A1, PS237A1 and 35A1	P25-135	Discharge Nipple	6" (152 mm) long. 2-1/2" male NPT to unthreaded end



Filter/Regulator/Lubricator

When selecting the individual F/R/L unit, the air consumption of the tool(s) to be serviced should be correlated with the flow capacity of the unit. This table gives recommended flows for pipe sizes at listed pressures and should be used to determine appropriate piping for compressed air systems.

Maximum Recommended Air Flow (scfm) Thru A.N.S.I. Standard Weight Schedule 40 Pipe

To be used as a guide in sizing piping and equipment in compressed air systems.

Applied Pressure psig	Nominal Standard Pipe Size — Inches										
	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3
5	0.5	1.2	2.7	4.9	6.6	13	27	40	80	135	240
10	0.8	1.7	3.9	7.7	11.0	21	44	64	125	200	370
20	1.3	3.0	6.6	13.0	18.5	35	75	110	215	350	600
40	2.5	5.5	12.0	23.0	34.0	62	135	200	385	640	1100
60	3.5	8.0	18.0	34.0	50.0	93	195	290	560	900	1600
80	4.7	10.5	23.0	44.0	65.0	120	255	380	720	1200	2100
100	5.8	13.0	29.0	54.0	80.0	150	315	470	900	1450	2600
150	8.6	20.0	41.0	80.0	115.0	220	460	680	1350	2200	3900
200	11.5	26.0	58.0	108.0	155.0	290	620	910	1750	2800	5000
250	14.5	33.0	73.0	135.0	200.0	370	770	1150	2200	3500	6100

The flow values in this chart are based upon a pressure drop (P) as set forth in the following schedule:

Pressure Drop (P) per 100 Feet of Pipe	Pipe Size - Inches
10% of Applied Pressure	1/8, 1/4, 3/8, 1/2
5% of Applied Pressure	3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2, 3

Air System Accessories

Tune-up Kits



Part Number	Part Description
ANVIL/HAMMER KITS	
2112-THK1	3/8" Anvil/Hammer Kit
2115-THK1	3/8" Anvil/Hammer Kit
2121-THK1	1/2" Anvil/Hammer Kit
2131-THK1	1/2" Anvil/Hammer Kit
2131-THK1-2	1/2" 2" Anvil/Hammer Kit
2131P-THK1	1/2" Pin Anvil/Hammer Kit
2135-THK1	1/2" Anvil/Hammer Kit
2135-2-THK1	1/2" 2" Anvil Hammer Kit
2141-THK1	3/4" Anvil/Hammer Kit
216-THK1	3/8" Anvil/Hammer Kit
222-THK1	Anvil/Hammer Kit
223-THK1	Anvil/Hammer Kit
225-THK2	1/2" Anvil/Hammer Kit
231-THK1	1/2" Anvil/Hammer Kit
231-THK2	1/2" 2" Anvil/Hammer Kit
231XP-THK1	1/2" XP Anvil/Hammer Kit
231XP-THK2	1/2" 2" XP Anvil/Hammer Kit
235-THK1	1/2" Anvil/Hammer Kit
255A-THK1	3/4" Anvil/Hammer Kit

ASSEMBLY TOOLS

3A-TK2	Tune-Up Kit
3A-TK2hp	Tune-Up Kit
3RA-TK2	Tune-Up Kit
3RL-TK2	Tune-Up Kit
4RA-TK1	Tune-Up Kit
4RL-TK1	Tune-Up Kit
5A/5L-TK1	Tune-Up Kit
5L-NS-TK1	Tune-Up Kit
5RA/5RL-TK1	Tune-Up Kit
5RL-NS-TK1	Tune-Up Kit
6-DRILLS-TK1	Tune-Up Kit
6WT-TK1	Tune-Up Kit
728-TK3	Tune-Up Kit
7A-DRILLS-TK1	Tune-Up Kit
7A-S/D-TK1	Tune-Up Kit
7L-DRILLS-TK1	Tune-Up Kit
7L-S/D-A/T-TK1	Tune-Up Kit
7RA-S/D-TK1	Tune-Up Kit
7RL-S/D-A/T-TK1	Tune-Up Kit

CONSTRUCTION TOOLS

51234557	Tune-Up Kit
51299097	Tune-Up Kit
51310498	Tune-Up Kit
51613396	Tune-Up Kit
51613404	Tune-Up Kit

ENGRAVING PEN

EP50-TK1	Tune-Up Kit
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Part Number	Part Description
GRINDERS	
61H-TK1	Tune-Up Kit
66H-TK3	Tune-Up Kit
77H/77A-TK3	Tune-Up Kit
7S60-TK2	Tune-Up Kit
88V/88H-TK3	Tune-Up Kit
99V/99H-TK3	Tune-Up Kit
DG110-TK2†	Tune-Up Kit

HYDRAULIC WRENCHES

1410P-K500	Tune-Up Kit
1410P-K600	Tune-Up Kit
180PQ-K500	Tune-Up Kit
180PQ-K600	Tune-Up Kit
1900P-K500	Tune-Up Kit
1900P-K600	Tune-Up Kit
280PQ-K500	Tune-Up Kit
3000P-K500	Tune-Up Kit
3000P-K600	Tune-Up Kit
380PQ-K500	Tune-Up Kit
380PQ-K600	Tune-Up Kit
500P-K500	Tune-Up Kit
500P-K600	Tune-Up Kit
700P-K500	Tune-Up Kit
900P-K500	Tune-Up Kit
900P-K600	Tune-Up Kit
EQ104S-TK1	Tune-Up Kit
EQ104S-TKMS1	Tune-Up Kit
EQ104S-TKTRV1	Tune-Up Kit
EQ106P-TK1	Tune-Up Kit
EQ106P-TKTRV1	Tune-Up Kit
EQ106S-TK1	Tune-Up Kit
EQ106S-TKMS1	Tune-Up Kit
EQ106S-TKTRV1	Tune-Up Kit
EQ108P-TK1	Tune-Up Kit
EQ108S-TK1	Tune-Up Kit
EQ110P-TK1	Tune-Up Kit
EQ110P-TKMS1	Tune-Up Kit
EQ112P-TKMS1	Tune-Up Kit
EQ208S-TKMS1	Tune-Up Kit
EQ212P-TKMS1	Tune-Up Kit
EQ230P-TK1	Tune-Up Kit

THROTTLE VALVE BODY KITS

223-TVB1	Throttle Valve Body Kit
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Part Number	Part Description
Impact Tools	
1702B-TK2	Tune-Up Kit
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1702SB-TK2	Tune-Up Kit
1705P-TK2	Tune-Up Kit
1709P-TK2	Tune-Up Kit
1710B/1710P-TK3	Tune-Up Kit
1712B/1712P-TK3	Tune-Up Kit
1720B-TK2	Tune-Up Kit
1720P-TK2	Tune-Up Kit
2112-TK2	Tune-Up Kit
2115-TK1	Tune-Up Kit
2131P-TK2	Tune-Up Kit
2135-TK1	Tune-Up Kit
226-TK1	Tune-Up Kit
2705-TK3	Tune-Up Kit
2706-TK3	Tune-Up Kit
2707-TK2	Tune-Up Kit
281-TK2	Tune-Up Kit
2903P-TK2	Tune-Up Kit
2905P-TK2	Tune-Up Kit
2906P-TK1	Tune-Up Kit
2908P-TK2	Tune-Up Kit
2910-TK4	Tune-Up Kit
2920B-TK2	Tune-Up Kit
2920P-TK2	Tune-Up Kit
2921P-TK2	Tune-Up Kit
2934-TK3	Tune-Up Kit
2940-TK3	Tune-Up Kit
2945-TK2	Tune-Up Kit
2950-TK2	Tune-Up Kit
5020-TK2	Tune-Up Kit
5040-TK2	Tune-Up Kit
534-TK2	Tune-Up Kit

Tool Number Kit Number

Ratchet Head Kits

Rebuild your air ratchet's head using these complete kits.

104	104-TK1
107	107-TK1
1111	111-TRK1

Part Number Part Description

RIVETERS

AVC10-TK2	Tune-Up Kit
AVC26-TK1	Tune-Up Kit

SAWS

S120-TK1	Tune-Up Kit
SRA010-TK1	Tune-Up Kit

SUMP PUMPS

PDA075-TK2	Tune-Up Kit
PDA125-TK2	Tune-Up Kit
PDA200-TK2	Tune-Up Kit
PDA300-TK2	Tune-Up Kit



Ratchet Head Kits

†Availability subject to prior sale

Air System Accessories **Warranty**

WARRANTY

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Ingersoll-Rand warrants to the original user its Air System Accessories products to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

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Fax: (908) 238-7053

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Canada

Marketing/Sales/Service Headquarters

Ingersoll-Rand Canada Inc.
51 Worcester Road
Toronto, Ontario M9W 4K2
Telephone: (416) 213-4500
Fax: (416) 213-4510

Alberta

Ingersoll-Rand Canada Inc.
9720-54 Avenue
Edmonton, Alberta T6E 0A9
Telephone: (780) 438-5039
Fax: (780) 430-4500

Quebec

Ingersoll-Rand Canada Inc.
3501 St. Charles Blvd. Suite 104
Kirkland, Quebec H9H 4S3
Telephone: (514) 695-9040
Fax: (514) 695-0963

British Columbia

Ingersoll-Rand Canada Inc.
1200 Cliveden Ave.
Delta, B.C. V3M 6G4
Telephone: (604) 523-0803
Fax: (604) 523-0801

Latin America

Marketing/Sales/Service Headquarters

Ingersoll-Rand Company
730 N.W. 107th Ave. Suite 300
Miami, FL 33172-3107
Telephone: (305) 559-0500
Fax: (305) 222-0864

Brasil

Ingersoll-Rand do Brasil Ltda.
Productivity Solutions
Av. Dr. Cardoso de Melo 1855
cj. 152-04548-005 Sao Paulo, SP
Brasil
Telephone: (55) 11 3049-8900
Fax: (55) 11 3846-4985

Chile

Ingersoll-Rand Chile
Nueva Tajamar 555, 15th fl.
Las Condes, Santiago
Chile
Telephone: (56) 2 339-7939
Fax: (56) 2 339-7940

Mexico

Ingersoll-Rand S.A. de C.V.
Productivity Solutions
Blvd. Centro Industrial #11
Fracc. Industrial Puente de Vigas, 54090
Tlanepantla, Edo. de Mexico, Mexico
Telephone: (52) 5 565-3061
Fax: (52) 5 565-3072

Europe/Middle East/Africa

Productivity Solutions Headquarters and European Customer Care Centre

Ingersoll-Rand
Zone du Chêne Sorcier
BP 62
78346 Les Clayes sous Bois Cedex
France
Telephone: +33 (0)1 30 07 68 00
Fax: +33 (0)1 30 07 69 80

Ingersoll-Rand Distribution Centre

Swan Lane
Hindley Green
Wigan
Lancashire WN2 4EZ
England
Phone: +44 (0)1942 257131
Fax: +44 (0)1942 526255

Asia/Pacific

Marketing/Sales/Service Headquarters

Ingersoll-Rand Asia Pacific
23/F., 625 Kings Point Road
North Point
Hong Kong
Phone: (852) 2527 -0183
Fax: (852) 2529 -5976

Australia

Ingersoll-Rand Australia, Ltd.
1 Hartnett Drive
Mail: PMB 2, Carrum Downs BC, Vic., 3201
Seaford, Victoria 3198
Australia
Phone: (61) 3 9554 1600
Fax: (61) 3 9554 1611

India

Ingersoll-Rand Wadco Tools, Ltd.
37A, Site 4
Sahibabad Industrial Area
Ghaziabad 201 010 (UP)
India
Phone: (91) 0120-4771-001-4
Fax: (91) 0120-4771-005

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www.airmotors.com

www.irhoist.com



Customer Svc. Center

Ingersoll-Rand Productivity Solutions
510 Hester Drive
White House, TN 37188