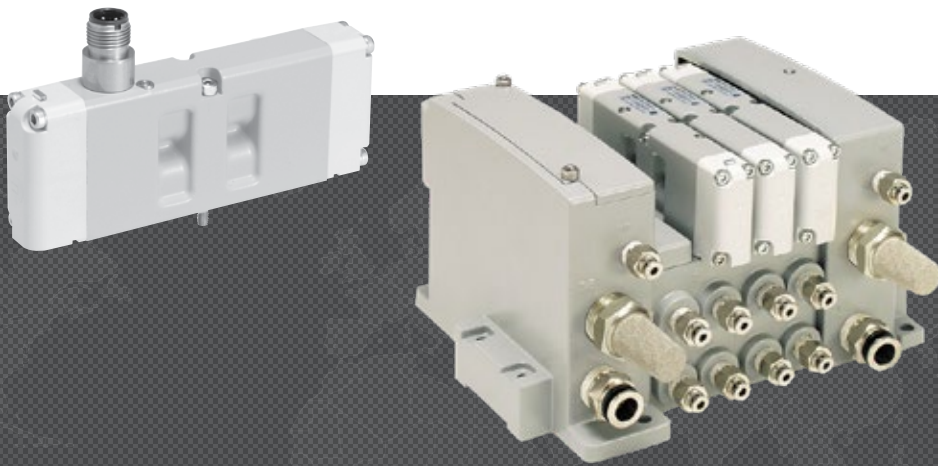




**DIRECTIONAL CONTROL VALVES ISO 15407-1
W66 SERIES**

PRODUCT CATALOG



ISO 15407-1 Valves W66 Series

Product Overview

The ROSS® ISO 15407-1 valves W66 Series are base mounted spool and sleeve valves that conform to the ISO standards 15407-1 mounting interface. These ISO Size 0 (26mm) and 00 (18mm) valves are available as, 2- and 3-position, 5-ported 4-way valves. Solenoid pilot options include a locking or non-locking override, and either internal or external pilot supply.

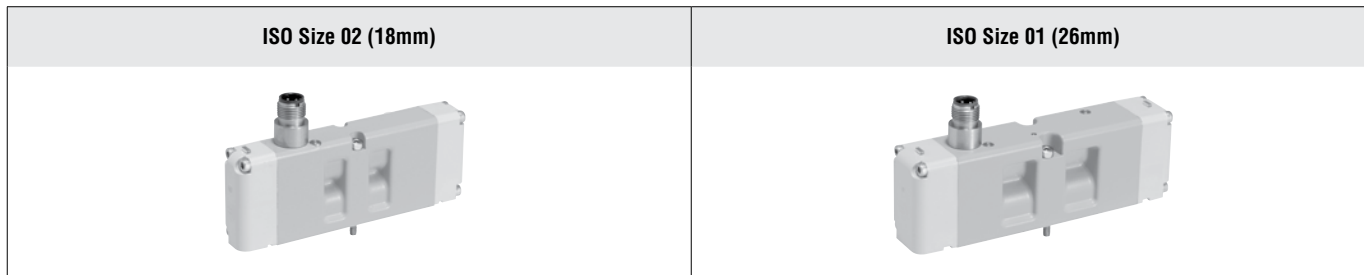
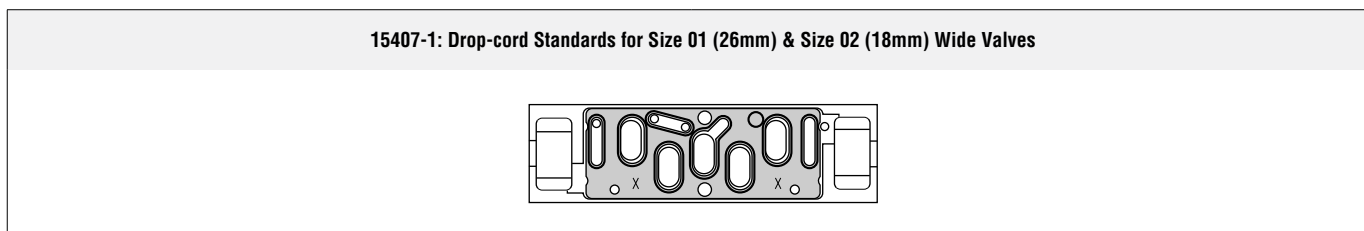


Illustration examples.



VALVE FEATURES

| | |
|--------------------------------|--|
| Spool and Sleeve Design | Spool and Sleeve construction for high dirt tolerance; no seals to wear out |
| Mounting Options | Individual sub-base or manifold base mounting |
| Pilot Supply | Internal or external; suitable for vacuum service (with external pilot supply) |
| Pilot Operation | Provides high shifting force with low power consumption |




| ISO Size | Port Size | | Functions | | | | | Actuation | Maximum Flow C _v (NI/min) | Page |
|--|-----------|-----|-----------|--------|---------------|-------------|-----------------|-----------|---|---------|
| | 1/8 | 1/4 | 5/2 | | 5/3 | | | | | |
| | | | Single | Double | Closed Center | Open Center | Pressure Center | | | |
| 02 (18mm) | ● | | ● | ● | ● | ● | ● | ● | 1.0 (980) | 3 – 7 |
| 01 (26mm) | | ● | ● | ● | ● | ● | ● | ● | 2.5 (2500) | |
| Single Sub-Bases. Manifold Bases and Manifold Accessories | | | | | | | | | | 8 – 9 |
| Accessories | | | | | | | | | | 10 – 11 |

STANDARD SPECIFICATIONS

| | | | | | |
|---|-----------------------|---|--|----------------------------|-----------------------------------|
| GENERAL | Function | | 5/2 and 5/3 Valve | | |
| | Construction Design | | Spool and Sleeve | | |
| | Actuation | | Electrical | Solenoid Pilot Controlled | |
| | Mounting | | Sub-Base or Manifold | | |
| | Connection | | Threaded | NPT, G | |
| | Manual Override | | Flush; rubber, non-locking | | |
| OPERATING CONDITIONS | Temperature | | Ambient | 5° to 120°F (-15° to 50°C) | |
| | | | Media | | |
| | Flow Media | | Filtered air | | |
| | Operating Pressure | | Vacuum to 145 psig (Vacuum to 9.9 bar) | | |
| | Pilot Supply Pressure | 5/2 Valves | ISO Size 02 (18mm) | 30 psig (2.07 bar) | |
| | | 5/3 Valves | ISO Size 01 (26mm) | 25 psig (1.73 bar) | |
| External Pilot Supply | | Must be equal to or greater than inlet pressure | | | |
| ELECTRICAL DATA FOR SOLENOID PILOT | Solenoids | | Current Flow | Power Consumption | Operating Voltage (each solenoid) |
| | | | DC | 24 volts | 5 watts |
| | | | AC | 120 volts, 60 Hz | 1.0 VA inrush, 2.0 VA holding |
| | | | | 230-240 volts, 60 Hz | |
| | | | Bi-polar, surge suppression (standard) | | |
| Indicator Light – One per solenoid | | | | | |
| CONSTRUCTION MATERIAL | Valve Body | | Cast Aluminum | | |
| | End Caps | | Polybutylene Terephthalate (PBT) | | |
| | Fasteners | | Zinc Plated Steel | | |
| | Coils | | Thermoset Plastic | | |

IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.

PRODUCT CREDENTIALS

| | | |
|--|--|--|
| <p>CSA Certificate of Compliance</p>  | <p>Declaration of Conformity</p> | |
| | <p>CE</p>  | <p>EAC</p>  |

Ordering Information

5/2 Solenoid Pilot Controlled Valves

MODEL NUMBER CONFIGURATOR

5-Way 2-Position Valves

| | | | | | | | |
|-----------------------|-----------------------|----|---|---|---|----|---|
| Series | W66 | 76 | A | 0 | 4 | 61 | W |
| Valve Function | 5/3 | | | | | | |
| Revision Level | 0 | | | | | | |
| ISO Size | 02 (18mm) / 01 (26mm) | | | | | | |

| Current | Voltage * | |
|---------|---------------------|---|
| DC | 24 V | W |
| AC | 110-120 V, 50/60 Hz | Z |
| | 230-240 V, 60 Hz | Y |

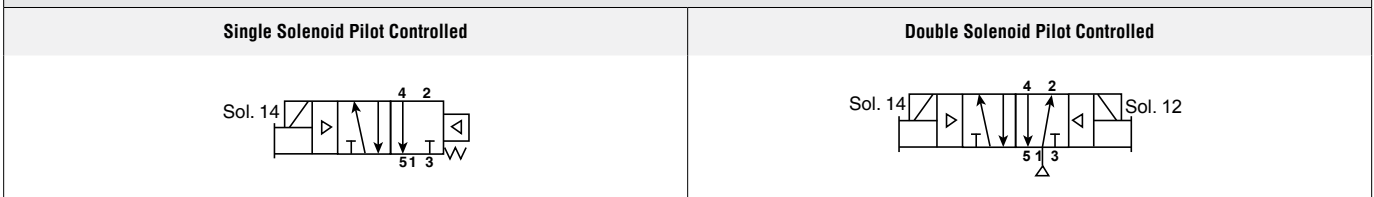
* For other voltages consult ROSS.

| Actuation | Options | | |
|-----------------------|-----------------------|----------------|----|
| Single Solenoid Pilot | Non-Locking Overrides | Internal Pilot | 61 |
| | | External Pilot | 81 |
| | Locking Overrides | Internal Pilot | 71 |
| | | External Pilot | 91 |
| Double Solenoid Pilot | Non-Locking Overrides | Internal Pilot | 67 |
| | | External Pilot | 87 |
| | Locking Overrides | Internal Pilot | 77 |
| | | External Pilot | 97 |

Sub-bases and manifold bases ordered separately. Please see Sub-Base and Manifold pages.

| ISO Size | Valve Actuation | Flow C _v (NI/min) | Weight lb (kg) |
|------------|-----------------------|---------------------------------|-------------------|
| 02 (18 mm) | Single Solenoid Pilot | 0.55 (540) | 0.3 (0.15) |
| | Double Solenoid Pilot | 0.55 (540) | 0.4 (0.16) |
| 01 (26mm) | Single Solenoid Pilot | 1.1 (1100) | 0.6 (0.25) |
| | Double Solenoid Pilot | | |

Valve Schematics

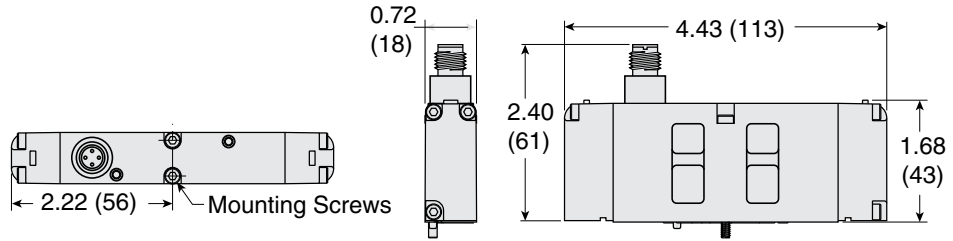


5/2 Solenoid Pilot Controlled Valves

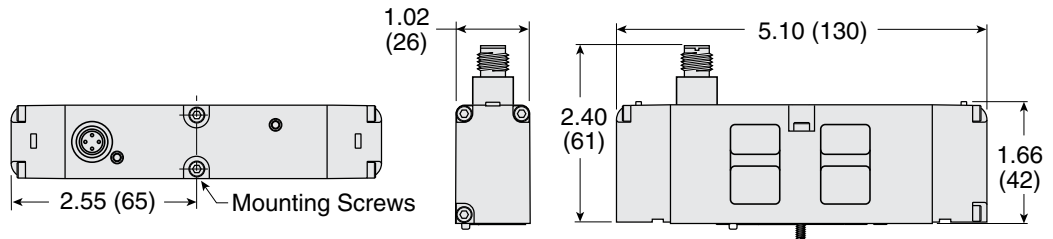
DIMENSIONS

Inches (mm)

ISO Size 1



ISO Size 2.5



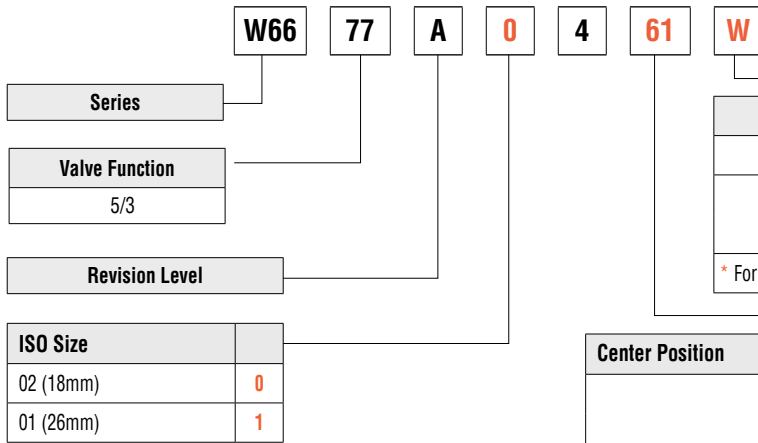
Downloadable CAD models available.

Ordering Information

5/3 Double Solenoid Pilot Controlled Valves

MODEL NUMBER CONFIGURATOR

5-Way 3-Position Valves



| Current | Voltage * | |
|---------|---------------------|---|
| DC | 24 V | W |
| AC | 110-120 V, 50/60 Hz | Z |
| | 230-240 V, 60 Hz | Y |

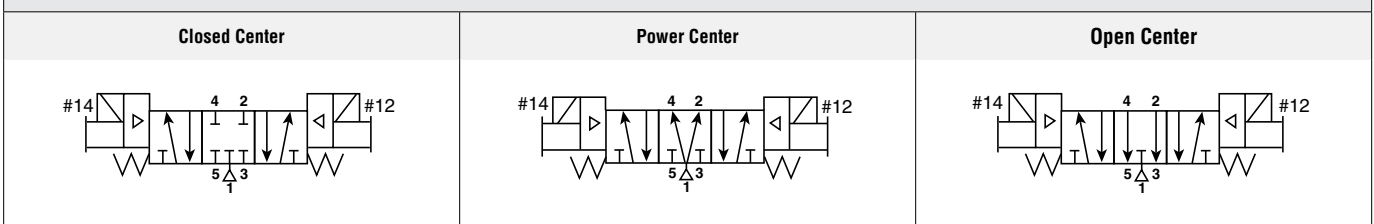
* For other voltages consult ROSS.

| Center Position | Options | | |
|-----------------|-----------------------|----------------|----|
| Closed Center | Non-Locking Overrides | Internal Pilot | 61 |
| | | External Pilot | 81 |
| | Locking Overrides | Internal Pilot | 71 |
| | | External Pilot | 91 |
| Power Center | Non-Locking Overrides | Internal Pilot | 63 |
| | | External Pilot | 83 |
| | Locking Overrides | Internal Pilot | 73 |
| | | External Pilot | 93 |
| Open Center | Non-Locking Overrides | Internal Pilot | 67 |
| | | External Pilot | 87 |
| | Locking Overrides | Internal Pilot | 77 |
| | | External Pilot | 97 |

Sub-bases and manifold bases ordered separately. Please see Sub-Base and Manifold pages.

| ISO Size | Valve Actuation | Flow C _v (NI/min) | Weight lb (kg) |
|------------|-----------------------|---------------------------------|-------------------|
| 02 (18 mm) | Double Solenoid Pilot | 0.55 (540) | 0.4 (0.16) |
| 01 (26mm) | Double Solenoid Pilot | 1.1 (1100) | 0.6 (0.25) |

Valve Schematics

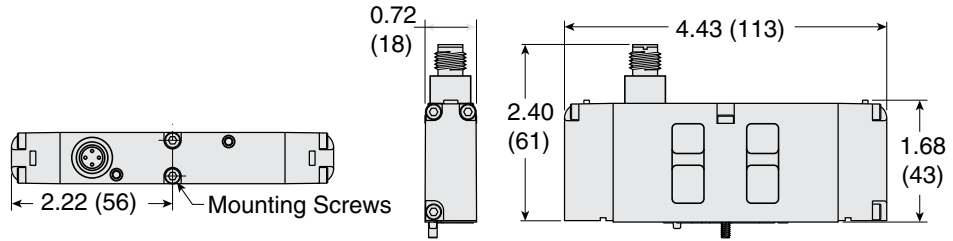


5/3 Double Solenoid Pilot Controlled Valves

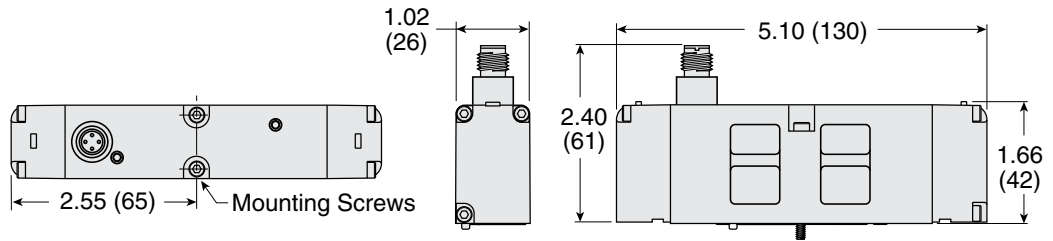
DIMENSIONS

Inches (mm)

ISO Size 1



ISO Size 2.5



Downloadable CAD models available.

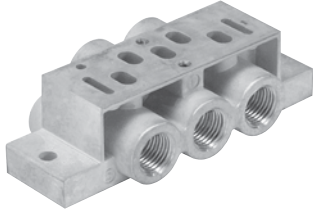
Single Sub-Bases, Manifold Bases and Accessories

SINGLE SUB-BASES WITH SIDE PORTS

| ISO Size | Outlet Port | Model Number* | |
|-----------|-------------|---------------|-------------|
| | | G Thread ** | NPT Thread |
| 02 (18mm) | 1/8 | RPL02-01-70 | RPL02-01-80 |
| 01 (26mm) | 1/4 | RPS5511140P | RPS5511130P |

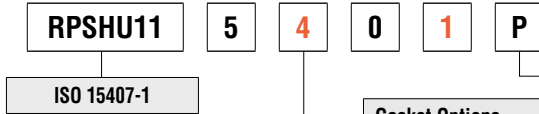
* Can be used for external, single, or double remote pilot.

** G threaded model conforms to ISO 1179-1 w 228-1 thread.



MANIFOLD BASES WITH END PORTS

MANIFOLD MODEL NUMBER CONFIGURATOR



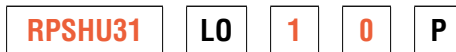
| ISO 15407-1 Size | Port Size | Thread Type | |
|--------------------|-----------|-------------|---|
| ISO Size 02 (18mm) | 1/8 | NPT | 1 |
| | | G | 2 |
| ISO Size 01 (26mm) | 1/4 | NPT | 3 |
| | | G | 4 |

| Gasket Options | | |
|--|--|---|
| 1, 3, 5 Ports Open and Pilots Open | | 1 |
| 1, 3, 5 Ports Closed and Pilots Open | | 2 |
| 1 Port Closed, 3, 5 Ports Open and Pilots Closed | | 3 |
| 1 Port Open, 3, 5 Ports Closed and Pilots Open | | 4 |
| 1, 3, 5 Ports Open and Pilots Closed | | 5 |
| 1, 3, 5 Ports Closed and Pilots Closed | | 6 |
| 1 Port Closed, 3, 5 Ports Open and Pilots Closed | | 7 |
| 1 Port Open, 3, 5 Ports Closed and Pilots Open | | 8 |



END STATION

END STATION MODEL NUMBER CONFIGURATOR



| Valve Type | |
|------------------------------|---------|
| Non Plug-in (Internal Pilot) | RPSHU31 |
| Non Plug-in (External Pilot) | RPSHU3X |

| Right Hand End Station Ports | | |
|------------------------------|--|---|
| Exhaust and Inlet Ports Size | | |
| 1/2 | | 1 |
| 3/4 | | 2 |

| Thread Type | | |
|-------------|--|----|
| NPT | | 0 |
| G | | 1* |

* G thread model conforms to ISO 1179-1 w 228-1 thread.

Left Hand End Station

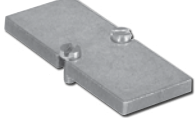


Hi-Flow Right Hand End Station *

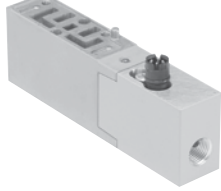


* Hi-Flow Right Hand End Station included.


BLANK STATION

| | | | |
|--|-----------------|----------------------|---|
| Blank Station | ISO Size | Model Number* |  |
| | 02 (18mm) | RDX02BLK | |
| | 01 (26mm) | RDX01BLK | |
| * Includes: Blank Station Plate, Gasket, and Mounting Bolts. | | | |

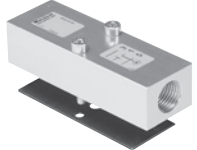
INTERPOSED SUPPLY & EXHAUST MODULES

| | | | | | |
|---|-----------------|--------------------|----------------------|------------|---|
| Interposed Modules | ISO Size | Outlet Port | Model Number* | |  |
| | 02 (18mm) | Supply | G Thread | NPT Thread | |
| | | Exhaust | RPS562601P | RPS562600P | |
| | 01 (26mm) | Supply | RPS562701P | RPS562700P | |
| | | Exhaust | RPS552601P | RPS552600P | |
| | | RPS552701P | RPS552700P | | |
| * Used on Size 00 & Size 0 valves to provide a pressure or exhaust path to individual valves. | | | | | |

INTERPOSED FLOW CONTROL

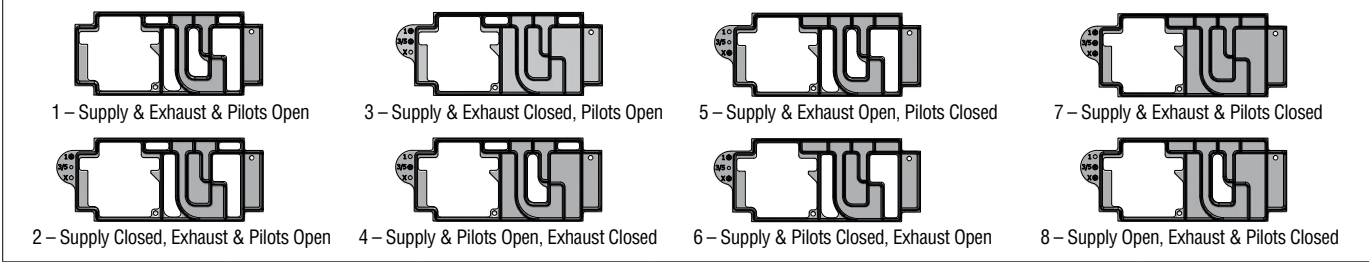
| | | | |
|---|-----------------|----------------------|--|
| Interposed Flow Control | ISO Size | Model Number* |  |
| | 02 (18mm) | RPS5642P | |
| | 01 (26mm) | RPS5542P | |
| * Both adjustment screws are located on the 12 end of the unit. Interposed Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting. Interposed Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down. | | | |

INTERMEDIATE AIR SUPPLY BASE

| | | | | | |
|---|-----------------|------------------|--------------------|----------------------|---|
| Intermediate Air Supply Base | ISO Size | Port Size | Thread Type | Model Number* |  |
| | 02 (18mm) | 1/8 | NPT | RD02P-01-80 | |
| | 01 (26mm) | 1/4 | NPT | RD01P-02-80 | |
| * Includes: Air Supply Base, Gasket and Mounting Bolts. | | | | | |

GASKET KITS MANIFOLD TO MANIFOLD

| | Pilots Status | Diagram Reference | Description | Kit Number |
|---|----------------|-------------------|--------------------------------------|------------|
| Gasket Kits Manifold to Manifold | Pilots Opened | 1 | Supply & Exhaust & Pilots Open | RPSHU11P |
| | | 2 | Supply Closed, Exhaust & Pilots Open | RPSHU12P |
| | | 3 | Supply & Exhaust Closed, Pilots Open | RPSHU13P |
| | | 4 | Supply & Pilots Open, Exhaust Closed | RPSHU14P |
| | Pilots Blocked | 5 | Supply & Exhaust Open, Pilots Closed | RPSHU15P |
| | | 6 | Supply & Pilots Closed, Exhaust Open | RPSHU16P |
| | | 7 | Supply & Exhaust & Pilots Closed | RPSHU17P |
| | | 8 | Supply Open, Exhaust & Pilots Closed | RPSHU18P |



INTERPOSED PRESSURE REGULATORS

Pressure Regulators

MODEL NUMBER CONFIGURATOR

RPS5637
1
6
6
P

| Basic Series | |
|--------------------|---------|
| ISO Size 02 (18mm) | RPS5637 |
| ISO Size 01 (26mm) | RPS5537 |



| Regulator Function | |
|--------------------------------|---|
| Common Pressure Regulator | 1 |
| Independent Pressure Regulator | 2 |

| #2 Port Regulator/Gauge* | |
|--------------------------|---|
| 2-60 psig w/o Gauge | 2 |
| 5-125 psig w/o Gauge | 3 |
| 2-60 psig w/Gauge | 5 |
| 5-125 psig w/Gauge | 6 |


| #4 Port Regulator/Gauge* | |
|--------------------------|---|
| 2-60 psig w/o Gauge | 2 |
| 5-125 psig w/o Gauge | 3 |
| 2-60 psig w/Gauge | 5 |
| 5-125 psig w/Gauge | 6 |

* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

Remote Air Pilot Operated for hard-to-reach pressure control Unregulated Pilot Pressure to valve for consistent valve shifting regardless of pressure adjustment.

| Dual Interposed Regulator Size 02 - 18mm | Single Interposed Regulator Size 01 - 26mm |
|---|---|
|  |  |

GAUGE ADAPTER KITS

| | Description | Model Number | |
|---------------|--|-----------------|---|
| Gauge Adapter | Gauge Adapter Kit | RPS5651160P |  |
| | 1/8" Female to 1/8" Female Coupling | R207P-2* | |
| | 1/8" Male to 1/8" Male Long Nipple | RVS215PNL-2-15* | |
| | * Included in Gauge Adapter RPS5651160P. | | |
| | Included with all Size 02 Regulators. Both kits are required on all Size 01 & 02 Regulators when the Regulator is on the last Station on the Right (14) End. | | |

EXHAUST SILENCERS



Illustration example.

| Silencers | SPECIFICATIONS | | Silencer Material | Pressure Range psig (bar) | Schematic | | | |
|-----------|----------------|-------------|---------------------------------|------------------------------|-----------|---------------------------|-------------|-------------------|
| | | | Aluminum | 0-290 (0-20) maximum | | | | |
| | Port Size | Thread Type | Flow C _v (NI/min) | Model Number | | Dimensions inches (mm) | | Weight lb (kg) |
| | | | NPT Thread | R/Rp Thread | Length | Hex Size (D) | | |
| 1/8 | Male | 1.3 (1300) | 5500A1003 | D5500A1003 | 2.0 (5) | 0.81 (21) | 0.07 (0.03) | |
| 1/4 | Male | 2.3 (2300) | 5500A2003 | D5500A2003 | 2.2 (6) | 0.81 (21) | 0.07 (0.03) | |
| 1/2 | Male | 6.8 (6700) | 5500A4003 | D5500A4003 | 3.6 (9) | 1.25 (32) | 0.2 (0.1) | |
| 3/4 | Male | 7.2 (7100) | 5500A5013 | D5500A5013 | 3.6 (9) | 1.25 (32) | 0.2 (0.1) | |

CAUTIONS, WARNINGS And STANDARD WARRANTY



ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the “ROSS Group”.

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure all sources of energy are turned off, the entire pneumatic system is shut down and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).
2. All ROSS Group Products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any product can be tampered with and/or need servicing after installation, persons responsible for the safety of others or the care of equipment must check ROSS Group Products on a regular basis and perform all necessary maintenance to ensure safe operating conditions.
3. All applicable instructions should be read and complied with before using any fluid power system to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use. If you have any questions, call your nearest ROSS Group location.
4. Each ROSS Group Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Group Products.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

FILTRATION and LUBRICATION

1. Dirt, scale, moisture, etc., are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. The ROSS Group recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Group filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition and hazardous leakage. Immediately replace crazed, cracked, or deteriorated bowls.
3. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with

phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks personal injury, and/or damage to property.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

AVOID INTAKE/EXHAUST RESTRICTION

1. Do not restrict air flow in the supply line. To do so could reduce the pressure of the supply air below minimum requirements for the valve and thereby causing erratic action.
2. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

WARNINGS: Failure to follow these instructions can result in personal injury and/or property damage.

SAFETY APPLICATIONS

1. Mechanical Power Presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
2. Safe Exhaust (dump) valves without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All Safe Exhaust valve installations should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
3. Per specifications and regulations, the ROSS L-O-X® and L-O-X® with EEZ-ON®, N06 and N16 Series operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

STANDARD WARRANTY

All products sold by the ROSS Group are warranted for a one-year period [with the exception of Filters, Regulators and Lubricators (“FRLs”) which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS Group's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Group has determined, in its sole discretion, are defective. All warranties become void if a product has been subject to misuse, misapplication, improper maintenance, modification or tampering. Products for which warranty protection is sought must be returned to the ROSS Group freight prepaid.

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| | | | | |
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| AMERICAS | ROSS CONTROLS | USA | Tel: +1-248-764-1800 | www.rosscontrols.com |
| | ROSS CONTROLS CANADA Ltd. | Canada | Tel: +1-416-251-7677 | www.rosscanada.com |
| | ROSS DO BRASIL LTDA | Brazil | Tel: +55-11-4335-2200 | www.rosscontrols.com.br |
| EUROPE | ROSS EUROPA GmbH | Germany | Tel: +49 (0)6103-7597-100 | www.rosseuropa.com |
| | ROSS FRANCE SAS | France | Tel: +33(0)1-49-45-65-65 | www.rossfrance.com |
| | ROSS PNEUMATROL Ltd. | United Kingdom | Tel: +44 (0)1254 872277 | www.rossuk.co.uk |
| ASIA & PACIFIC | ROSS CONTROLS INDIA Pvt. Ltd. | India | Tel: +91-44-2624-9040 | www.rosscontrolsindia.com |
| | ROSS CONTROLS (CHINA) Ltd. | China | Tel: +86-21-6915-7961 | www.rosscontrolschina.com |
| | ROSS ASIA K.K. | Japan | Tel: +81-42-778-7251 | www.rossasia.co.jp |
| | AUTOMATIC VALVE INDUSTRIAL LLC | USA | Tel: +1-248-474-6700 | www.automaticvalve.com |
| | ROSS DECCO COMPANY | USA | Tel: +1-248-764-1800 | www.rossdecco.com |
| | ROSS PNEUMATROL Ltd. | United Kingdom | Tel: +44 (0)1254 872277 | www.pneumatrol.com |
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There are ROSS Distributors Throughout the World

To meet your requirements across the globe, ROSS distributors are located throughout the world. Through ROSS or its distributors, guidance is available for the selection of ROSS products, both for those using fluid power components for the first time and those designing complex systems.

Other literature is available for engineering, maintenance, and service requirements.

If you need products or specifications not shown in this catalog, please visit ROSS' website, contact ROSS or your ROSS distributor. The ROSS Support Team will be happy to assist you in selecting the best product for your application.