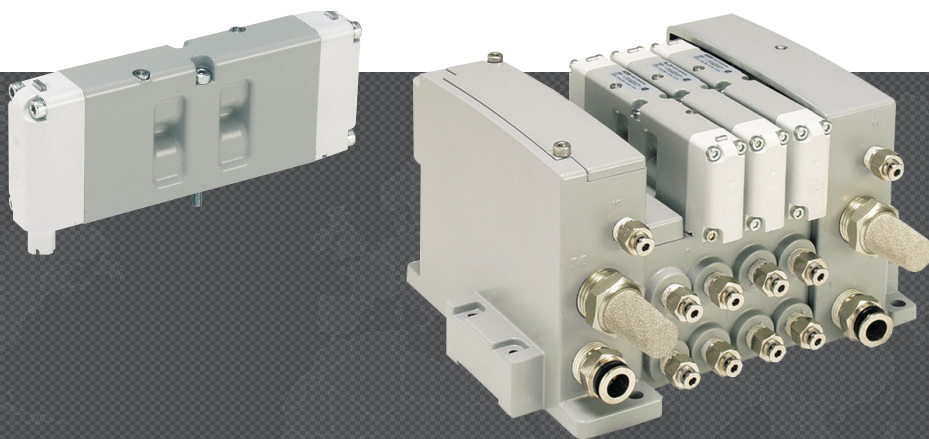




DIRECTIONAL CONTROL VALVES ISO 15407-2 W66 SERIES

PRODUCT CATALOG



ISO 15407-2 Valves W66 Series

Product Overview

The ROSS® 15407-2 valves W66 Series are base mounted spool and sleeve valves that conform to the ISO standards 15407-2 mounting interface. Manifold bases feature modular plug-together electrical connections terminating at end plates, offering a variety of terminal strip or multi-pin interfaces.

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. The spool and sleeve design means there are no seals to wear out.

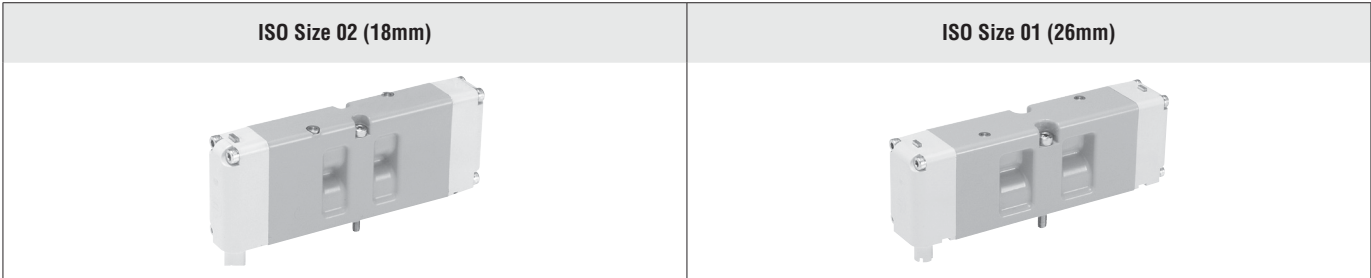
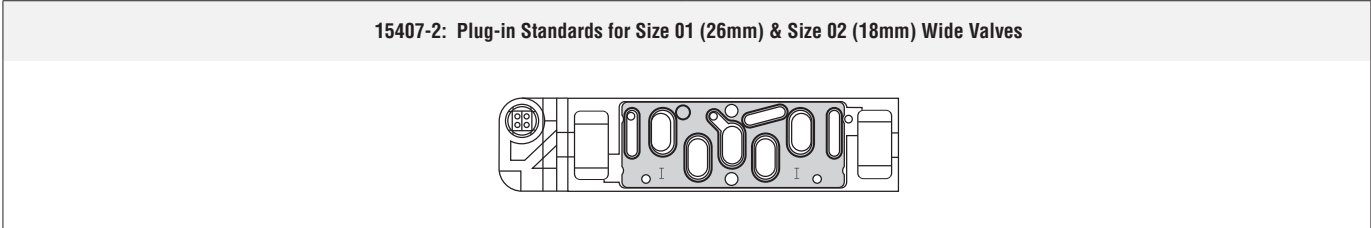


Illustration examples.






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 Sizes | | Functions | | | | | Actuation | Maximum Flow C _v | Page |
|----------------------------|------------|-----|-----------|--------|---------------|-------------|-----------------|------------------|--------------------------------|-------|
| | 1/8 | 1/4 | 5/2 | | 5/3 | | | Solenoid Control | | |
| | | | Single | Double | Closed Center | Open Center | Pressure Center | | | |
| | | | | | | | | | | |
| 02 (18mm) | ● | | ● | ● | ● | ● | ● | ● | 1.0 | 3 – 7 |
| 01 (26mm) | | ● | ● | ● | ● | ● | | ● | 2.5 | |
| Sub-Bases & Manifold Bases | | | | | | | | | | 8 – 9 |
| Accessories and Options | | | | | | | | | | 10 |

| 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; G, NPT | |
| | Manual Override | | Flush; rubber, non-locking | |
| OPERATING CONDITIONS | Temperature | Solenoid Pilot Controlled | 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) |
| | | | ISO Size 01 (26mm) | 25 psig (1.73 bar) |
| | | 5/3 Valves | 35 psig (2.41 bar) | |
| | External Pilot Supply | | Must be equal to or greater than inlet pressure | |
| ELECTRICAL DATA FOR SOLENOID PILOT | Solenoids | | Power Consumption | Operating Voltage (each solenoid) |
| | | | 24 volts DC | 6 watts |
| | | | 120 volts AC 60 Hz | 11 VA inrush, 8.5 VA holding |
| | | | 230-240 volts AC, 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 | | | |
|--|--|---|---|
| CSA Certificate of Compliance  | CE  | EAC  | CRN Certification Available for appropriately tested valves |

Ordering Information

5/2 Solenoid Pilot Controlled Valves

MODEL NUMBER CONFIGURATOR5-Way 2-Position Valves

Series

W66

ISO 15407-1

Revision Level

ISO Size

02 (18mm)

0

01 (26mm)

1

76

A

0

4

01

W

| 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 | 01 |
| | | External Pilot | 51 |
| | Locking Overrides | Internal Pilot | 11 |
| | | External Pilot | 21 |
| Double Solenoid Pilot | Non-Locking Overrides | Internal Pilot | 07 |
| | | External Pilot | 57 |
| | Locking Overrides | Internal Pilot | 17 |
| | | External Pilot | 27 |

* Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds section.

| ISO Size | Valve Actuation | Flow Cv | Weight lb (kg) |
|------------|-----------------------|---------|-------------------|
| 02 (18 mm) | Single Solenoid Pilot | 0.55 | 0.3 (0.15) |
| | Double Solenoid Pilot | 0.55 | 0.4 (0.16) |
| 01 (26mm) | Single Solenoid Pilot | 1.10 | 0.6 (0.25) |
| | Double Solenoid Pilot | | |

Valve Schematic

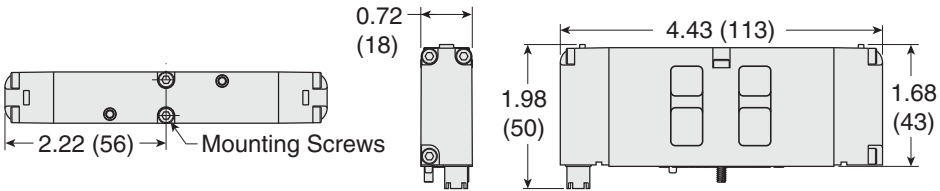
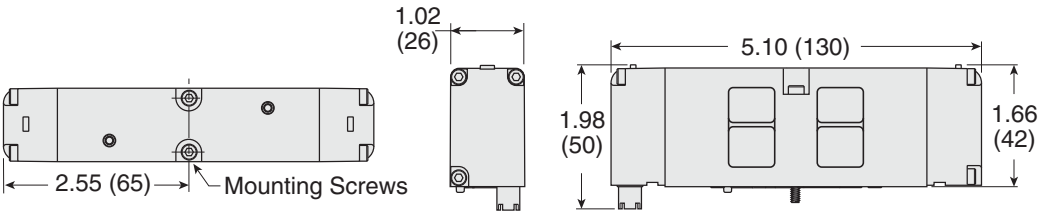
Single Solenoid Pilot Controlled

Double Solenoid Pilot Controlled

5/2 Solenoid Pilot Controlled Valves

DIMENSIONS

Inches (mm)

| | |
|---|--|
| ISO Size 02 (18mm) |  |
| ISO Size 01 (26mm) |  |
| For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats. Please visit www.rosscontrols.com . | |

Ordering Information

5/3 Double Solenoid Pilot Controlled Valves

MODEL NUMBER CONFIGURATOR5-Way 3-Position Valves

Series

ISO 15407-1

Revision Level

ISO Size

| | |
|-----------|---|
| 02 (18mm) | 0 |
| 01 (26mm) | 1 |

W66

77

A

0

4

01

W

| 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 | 01 |
| | | External Pilot | 51 |
| | Locking Overrides | Internal Pilot | 11 |
| | | External Pilot | 21 |
| Power Center | Non-Locking Overrides | Internal Pilot | 03 |
| | | External Pilot | 53 |
| | Locking Overrides | Internal Pilot | 13 |
| | | External Pilot | 23 |
| Open Center | Non-Locking Overrides | Internal Pilot | 07 |
| | | External Pilot | 57 |
| | Locking Overrides | Internal Pilot | 17 |
| | | External Pilot | 27 |

* Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds section.

| ISO Size | Valve Actuation | Flow C _v | Weight lb (kg) |
|------------|-----------------------|---------------------|----------------|
| 02 (18 mm) | Double Solenoid Pilot | 0.55 | 0.4 (0.16) |
| 01 (26mm) | Double Solenoid Pilot | 1.10 | 0.6 (0.25) |

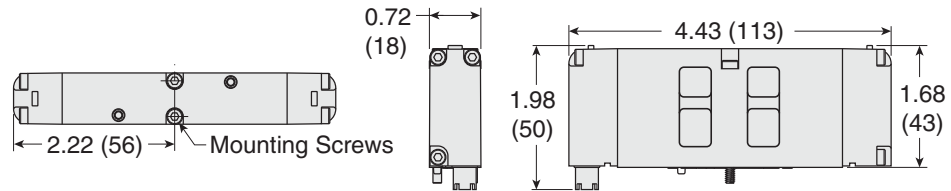
| Valve Schematic | | |
|-----------------|--------------|-------------|
| Closed Center | Power Center | Open Center |
| | | |

5/3 Double Solenoid Pilot Controlled Valves

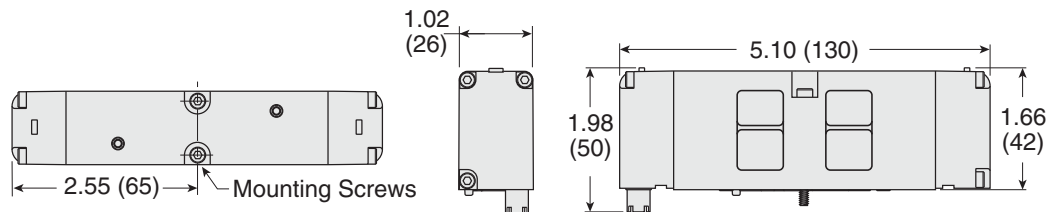
DIMENSIONS

Inches (mm)

ISO Size 1



ISO Size 2.5



For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats. Please visit www.rosscontrols.com.

Manifold Accessories

MANIFOLD BASES WITH END PORTS

MANIFOLD MODEL NUMBER CONFIGURATOR

RPSHU11 **5** **4** **J** **1** **P**

ISO 15407-1

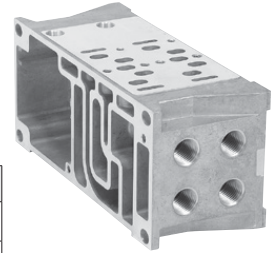
| ISO 15407-1 Size | Port Size | Threads Type | |
|--------------------|-----------|--------------|---|
| ISO Size 02 (18mm) | 1/8 | NPT | 1 |
| | | G | 2 |
| ISO Size 01 (26mm) | 1/4 | NPT | 3 |
| | | G | 4 |

Circuit Board Address Configuration

| | |
|------------------------------|---|
| Interconnect, Single Address | J |
| Interconnect, Double Address | M |

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 STATIONS

END STATION MODEL NUMBER CONFIGURATOR

RPSHU20 **L2** **1** **0** **P**

Valve Type

| | |
|------------------------------|---------|
| Non Plug-in (Internal Pilot) | RPSHU20 |
| Non Plug-in (External Pilot) | RPSHU2X |

Thread Type

| | |
|---|----|
| NPT | 0 |
| G | 1* |
| * G thread model conforms to ISO 1179-1 w 228-1 thread. | |

Left Hand End Station Type

| | |
|--|-----|
| 25-Pin-D-Sub (top)# | L2 |
| Industrial Communication | |
| ROSS Serial Bus | L6^ |
| Turck BL67 with Valve Driver Module - For 16 Outputs | T1* |
| Turck BL67 with Valve Driver Module - For 32 Outputs | T2* |

RPSHU11 gaskets included in each end station model number.
 ^ Valve Driver Module and 24 Output Cable installed. Must order communication modules separately. Must Order Bases with Circuit Boards.
 * Turck Network and P2M Ethernet node communication module ordered separately.

Right Hand End Station Ports

| | |
|-----------------------------|---|
| 1/2 Exhaust and Inlet Ports | 1 |
| 3/4 Exhaust and Inlet Ports | 2 |



Left Hand End Station
25-pin D-Sub (top)



Hi-Flow Right Hand
End Station

| End Plate Type | Type/Port Size | Avg. Flow C _v |
|----------------|----------------|--------------------------|
| Right Hand | 1/2 | 6.07 |
| | 3/4 | 8.35 |

BLANK STATIONS

| Blank Stations | ISO Size | Model Number* |
|--|-----------|---------------|
| | 02 (18mm) | RPS5634P |
| | 01 (26mm) | RPS5534P |
| * Includes: Blank Station Plate, Gasket, and Mounting Bolts. | | |



GASKET KITS

| Gasket Kits Manifold to Manifold | Pilots Status | Kit Diagram Reference | Description | Kit Number |
|-------------------------------------|----------------|-----------------------|--------------------------------------|------------|
| | 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 |



1 – Supply & Exhaust & Pilots Open



3 – Supply & Exhaust Closed, Pilots Open



5 – Supply & Exhaust Open, Pilots Closed



7 – Supply & Exhaust & Pilots Closed



2 – Supply Closed, Exhaust & Pilots Open



4 – Supply & Pilots Open, Exhaust Closed



6 – Supply & Pilots Closed, Exhaust Open

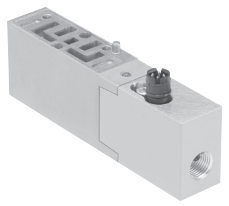


8 – Supply Open, Exhaust & Pilots Closed

INTERPOSED SUPPLY & EXHAUST MODULES


| Interposed Supply & Exhaust Modules | ISO Size | Outlet Port | Model Number* | |
|---|-----------|-------------|---------------|------------|
| | | | G Thread | NPT Thread |
| | 02 (18mm) | Supply | RPS561600P | RPS561601P |
| | | Exhaust | RPS561700P | RPS561701P |
| | 01 (26mm) | Supply | RPS551600P | RPS551601P |
| | | Exhaust | RPS551700P | RPS551701P |

* Used on Size 00 & Size 0 valves to provide a pressure or exhaust path to individual valves.



INTERPOSED FLOW CONTROL

| Interposed Flow Controls | ISO Size | Model Number* |
|--------------------------|---|---------------|
| | 02 (18mm) | RPS5635P |
| | 01 (26mm) | RPS5535P |
| | * 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. | |



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 |

| #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 |

| #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 |


* 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

| Gauge Adapter | Description | Model Number |  |
|--|--|-----------------|---|
| | 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

| Silencers | Port Size | Thread Type | Model Number | | Flow Avg. C _v | Pressure Range psig (bar) |
|-----------|-----------|-------------|--------------|------------|-----------------------------|------------------------------|
| | | | R/Rp Thread | NPT Thread | | |
| | 1/4 | Male | D5500A2003 | 5500A2003 | 2.1 | 0-290 (0-20) maximum |

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ROSS CONTROLS®

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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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.

For a current list of countries and local distributors, visit ROSS' at www.rosscontrols.com.