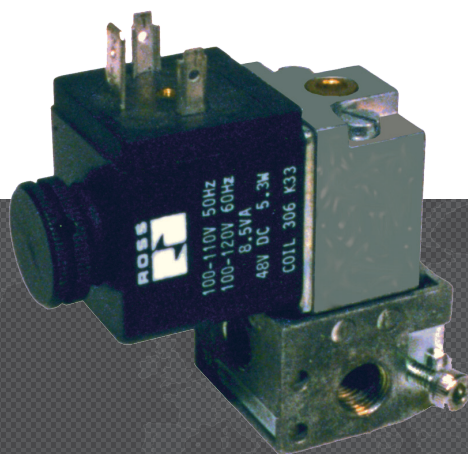




DIRECTIONAL CONTROL MINIATURE VALVES W14 SERIES

PRODUCT CATALOG



Direct Solenoid Pilot Controlled Valves Miniature 14 Series

Product Overview

ROSS® solenoid pilot valves provide reliable pilot control for various pneumatically actuated devices

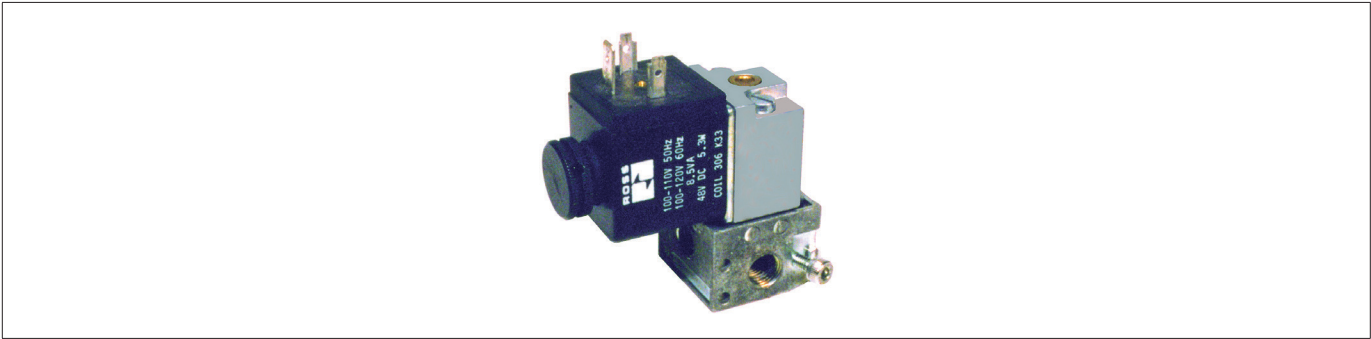
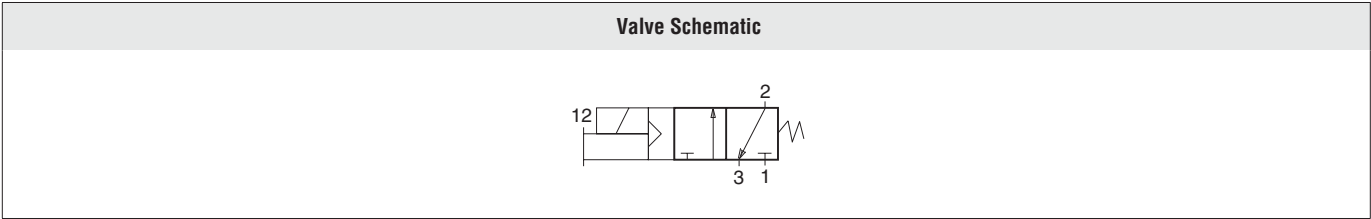


Illustration examples.



VALVE FEATURES

Poppet Design	Positive sealing and self-compensating for wear; perpendicular poppet face seals
Mounting Options	Individual sub-base or manifold base mounting
Pilot Operation	Consistent actuation over the life of the valve; provides strong shifting forces with low power consumption

PRODUCT CREDENTIALS

CSA Certificate of Compliance	Declaration of Conformity		CRN Certification
	CE	EAC	Available for appropriately tested valves

STANDARD SPECIFICATIONS			
GENERAL	Function	3/2 Valve, Normally Closed	
	Construction Design	Poppet	
	Actuation	Electrical – Direct Solenoid Pilot Controlled	
	Mounting	Base Mounted	
	Connection	Threaded; NPT	
	Manual Override	Flush - metal; locking, non-locking	
OPERATING CONDITIONS	Temperature	Ambient	5° to 120°F (-15° to 50°C)
		Media	5° to 175°F (-15° to 80°C)
		For temperatures below 40° F (4° C) air must be free of water vapor to prevent formation of ice.	
	Flow Media	Filtered air	
	Operating Pressure	Vacuum to 150 psig (10 bar)	
ELECTRICAL DATA FOR SOLENOID PILOT	Solenoids	Power Consumption	Operating Voltage (each solenoid)
		24 volts DC	0.8 watts
		110 volts AC, 50 Hz 120 volts AC 50/60 Hz	0.3 VA holding
		230-240 volts AC	
		Rated for continuous duty	
	Enclosure Rating	IP65, IEC 60529	
	Electrical Connection	DIN EN 175301-803 Form A	
CONSTRUCTION MATERIAL	Valve Body	Cast Aluminum	
	Seals	Buna-N	
IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.			

Ordering Information

SINGLE DIRECT SOLENOID PILOT CONTROLLED VALVES				3-Way 2-Position Valves
Override Type	Valve Model Number*			Flow C _v
	Voltage			
	24 V DC	110-120 V AC	230 V AC	
Locking	W1413A1408-W	W1413A1408-Z	W1413A1408-Y	0.1
Non-Locking	W1413A1409-W	W1413A1409-Z	W1413A1409-Y	
For other voltages, consult ROSS.				
* Sub-bases and manifold base ordered separately.				

Sub-Base	Model Number	
	G Thread	NPT Thread
	D516B91	516B91
Manifold Base	Model Number	
	535K91	

Solenoid Pinout

3/2 Valves – DIN EN 175301-803 Form A

3

1

2

1

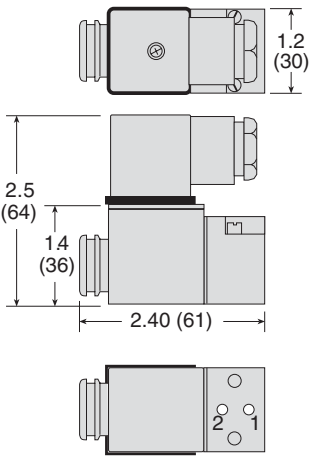
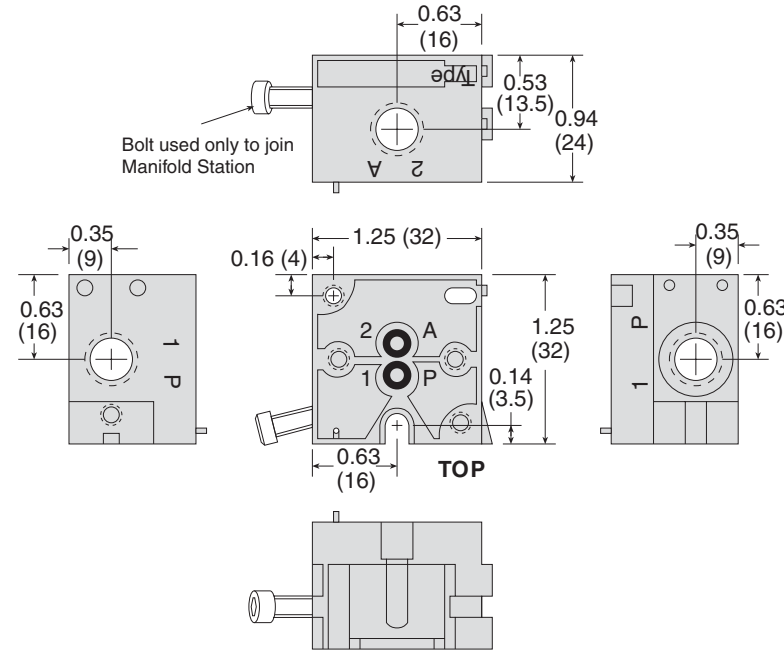
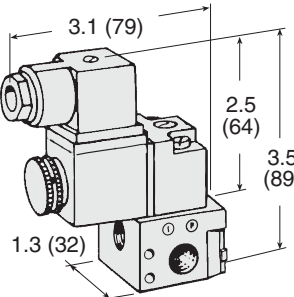
2

3

1 - Positive

2 - Negative

3 - Ground

DIMENSIONS	Inches (mm)
Valve	
Manifold	
Valve on the Base	 <i>Valve is shown with electrical connector. Electrical connector, optional.</i>
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

PREWIRED ELECTRICAL CONNECTORS

Prewired Connectors	Cable						Model Number			
	End 1	End 2	Connection	Quantity Included	Length meters (feet)	Cord Diameter mm	Without Light	Lighted Connector*		
	Connector	Cord						24 V DC	120 V AC	230 V AC
	DIN EN 175301-803 Form A	Flying leads	Solenoid	1	2 (6.5)	6	721K77	720K77-W	720K77-Z	720K77-Y
						10	371K77	383K77-W	383K77-Z	383K77-Y

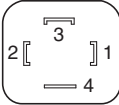
ELECTRICAL CONNECTORS

Connectors	Connector					Model Number			
	Type	Connection	Fitting Connection	Quantity Included	Cord Diameter mm	Without Light	Lighted Connector*		
	DIN EN 175301-803 Form A	Solenoid	Cable grip	1	8 to 10		24 V DC	120 V AC	230 V AC
			1/2" NPT conduit	1	—	937K87	936K87-W	936K87-Z	936K87-Y
						723K77	724K77-W	724K77-Z	724K77-Y

*Lights in connectors with a translucent housing can be used as indicator lights to show when solenoids are energized.

Connector Pinouts

DIN EN 175301-803 Form A



1 - Black
2 - Black
4 - Green/Yellow (Ground)

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.

THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND THE ROSS GROUP EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ROSS GROUP MAKES NO WARRANTY WITH RESPECT TO ITS PRODUCTS MEETING THE PROVISIONS OF ANY GOVERNMENTAL OCCUPATIONAL SAFETY AND/OR HEALTH LAWS OR REGULATIONS. IN NO EVENT IS THE ROSS GROUP LIABLE TO PURCHASER, USER, THEIR EMPLOYEES OR OTHERS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A BREACH OF THE WARRANTY DESCRIBED ABOVE OR THE USE OR MISUSE OF THE PRODUCTS. NO STATEMENT OF ANY REPRESENTATIVE OR EMPLOYEE OF THE ROSS GROUP MAY EXTEND THE LIABILITY OF THE ROSS GROUP AS SET FORTH HEREIN.





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Full-Service Global Locations

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.

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