ROSS CONTROLS®

ACCESSORIES

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H

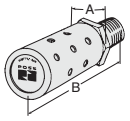
SILENCERS

Port Size	Thread Type	Model Number		Avg. C_V	Dimensions inches (mm)		Weight lb (kg)
		NPT Threads	BSPT Threads		A	B	
1/8	Male	5500A1003	D5500A1003	1.2	0.9 (21)	2.0 (51)	0.1 (0.1)
1/4	Male	5500A2003	D5500A2003	2.1	0.9 (21)	2.2 (55)	0.1 (0.1)
3/8	Male	5500A3013	D5500A3013	2.7	0.9 (21)	2.2 (55)	0.1 (0.1)
3/8	Male	5500A3003	D5500A3003	4.3	1.3 (32)	3.5 (88)	0.2 (0.1)
1/2	Male	5500A4003	D5500A4003	4.7	1.3 (32)	3.6 (91)	0.2 (0.1)
3/4	Male	5500A5013	D5500A5013	5.1	1.3 (32)	3.6 (92)	0.2 (0.1)
3/4	Male	5500A5003	D5500A5003	11.5	2.0 (51)	5.3 (135)	0.6 (0.3)
1	Male	5500A6003	D5500A6003	14.6	2.0 (51)	5.4 (138)	0.6 (0.3)
1¼	Male	5500A7013	D5500A7013	16.4	2.0 (51)	5.5 (140)	0.6 (0.3)
1¼	Female	5500A7001	D5500A7001	24.0	2.5 (64)	5.7 (144)	1.0 (0.5)
1½	Female	5500A8001	D5500A8001	29.9	2.5 (64)	5.7 (144)	1.0 (0.5)
2	Female	5500B9001	D5500B9001	34.2	3.0 (76)	6.6 (168)	1.5 (0.7)
2½	Female	5500A9002	D5500A9002	103.7	4.0 (102)	5.7 (145)	2.9 (1.4)

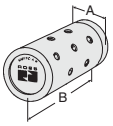
Port size 1/8 thru 2

Port size 2½

Male Pipe Threads
For ports 1/8 through 1¼



Female Pipe Threads
For ports 1¼ through 2½



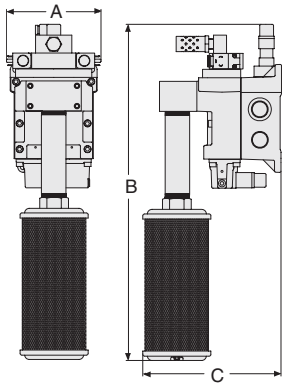
Pressure Range: 0 to 150 psig (0 to 10.3 bar) maximum. **Flow Media:** Filtered air.

HIGH-FLOW, HIGH-REDUCTION SILENCERS for DM[1], DM[2]® Series E & DM[2]® Series C Double Valves

Valve Model	Basic Size	Thread Type	Kit Number*	Flow scfm	Dimensions inches (mm)		
					A	B	C
DM Series E	2	NPT	2323H77	256 (121)	4.96 (126.1)	14.24 (361.7)	5.68 (144.3)
	2	BSPT	2328H77	256 (121)	4.96 (126.1)	16.05 (407.7)	5.73 (145.5)
DM Series C	4	NPT	2324H77	800 (378)	4.34 (110.2)	19.06 (484.1)	7.27 (184.7)
	8	NPT	2325H77	800 (378)	5.41 (137.4)	21.18 (538.0)	8.41 (213.6)
	12	NPT	2326H77	2080 (982)	6.74 (117.2)	25.85 (656.6)	10.66 (270.8)
	30	NPT	2327H77	7200 (3398)	9.85 (250.2)	41.55 (1055.4)	13.47 (342.1)
	4	BSPT	2329H77	800 (378)	4.34 (110.2)	21.40 (543.6)	7.27 (184.7)
	8	BSPT	2330H77	800 (378)	5.41 (137.4)	23.52 (597.4)	8.41 (213.6)
	12	BSPT	2331H77	2080 (982)	6.74 (117.2)	28.20 (716.3)	10.66 (270.8)
	30	BSPT	2332H77	7200 (3398)	9.85 (250.2)	41.55 (1055.4)	13.47 (342.1)

* Kits include all plumbing required for installation.

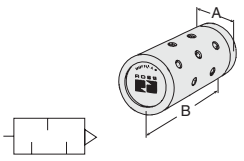
Pressure Range: 125 psig (8.6 bar) maximum.



Stainless Steel Silencers

- Port sizes 1/4 thru 1 NPT have all stainless steel construction
- Port sizes 2 NPT and all BSPT have standard construction consisting of nickel plated cold rolled steel
- Supplied with a standard pipe thread fitting for attaching directly to the exhaust ports of air-operated equipment

Port Size	Thread Type	Model Number		Avg. C_V	Dimensions inches (mm)		Weight lb (kg)
		NPT Threads	BSPT Threads		A	B	
1/4	Male	5500B2004	D5500B2004	1.44	0.56 (14.2)	1.75 (44.5)	0.05 (0.23)
1/2	Male	5500B4004	D5500B4004	3.01	0.87 (22.1)	2.75 (69.7)	0.25 (0.11)
1	Male	5500B6004	D5500B6004	10.41	1.31 (33.3)	3.87 (98.3)	0.45 (0.20)
2	Male	5500B9004	D5500B9004	28.11	2.37 (60.2)	5.50 (139.7)	1.5 (0.68)

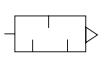


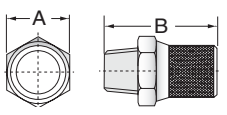
Pressure Range: 0 to 150 psig (0 to 10.3 bar) maximum. **Flow Media:** Filtered air; 5 micron recommended.

Silencers for Stainless Steel L-O-X® Air Entry Combinations

- 316 Stainless Steel sintered element silencers used to protect ports open to the atmosphere.

Port Size	Thread Type	Model Number		Avg. C_V	Dimensions inches (mm)	
		NPT Threads	BSP Threads		A	B
1/4	Male	5500A2005	D5500A2005	1.5	0.67 (17)	1.50 (38)
1/2	Male	5500A4005	D5500A4005	3.5	0.94 (24)	2.17 (55
1	Male	5500A6005	D5500A6005	5.7	1.41 (36)	2.95 (75)





Pressure Range: 0 to 174 psig (0 to 12 bar) maximum. **Flow Media:** Filtered air; 5 micron recommended. **Seals:** Nitrile.

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

ELECTRICAL Connectors

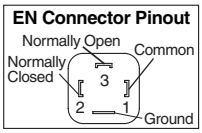
Electrical Connector Form	Electrical Connector Type	Cord Length meters (feet)	Cord Diameter	Electrical Connector Model Number		
				Without Light	Lighted Connector	
					24 Volts DC	120 Volts AC
EN 175301-803 Form A	Prewired Connector (18 gauge)	2 (6½)	6-mm	721K77	720K77-W	720K77-Z
EN 175301-803 Form A	Prewired Connector (18 gauge)	2 (6½)	10-mm	371K77	383K77-W	383K77-Z
EN 175301-803 Form A	Connector for threaded conduit (1/2 inch electrical conduit fittings)	–	–	723K77	724K77-W	724K77-Z
EN 175301-803 Form A	Connector Only	–	–	937K87	936K87-W	936K87-Z
EN 175301-803 Form B	Prewired Connector (18 gauge)	2 (6½)	10-mm	266K87	267K77-W	267K77-Z
EN 175301-803 Form B	Connector Only	–	–	372K77	382K77-W	382K77-Z
EN 175301-803 Form C	Prewired Connector (18 gauge)	2 (6½)	5-mm	–	2476K77-W	2476K77-Z
EN 175301-803 Form C	Prewired Connector (18 gauge)	3 (10)	8-mm	2449K77	2450K77-W	2450K77-Z
EN 175301-803 Form C	Connector Only	–	–	2452K77	2453K77-W	2453K77-Z

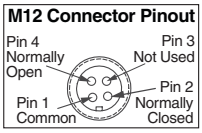
CAUTIONS: Do not use electrical connectors with surge suppressors, as this may increase valve response time when de-actuating the solenoids.

PRESSURE SWITCHES For Verification Of Downstream PRESSURE RELEASE

- May be installed downstream on all double valves
- Provides means to verify the release of downstream pressure to next obstruction
- Factory preset, 5 psi (0.3 bar) - falling

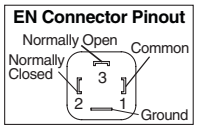
Pressure Switches		
Connection Type	Model Number	Port Threads
EN 175301-803 Form A	586A86	1/8 NPT
M12	1153A30	1/8 NPT





- May be installed downstream on all double valves
- Provides a redundant means to verify the release of downstream pressure to next obstruction
- Factory preset, 5 psi (0.3 bar) - falling

Redundant Pressure Switch		
Connection Type	Model Number	Port Threads
EN 175301-803 Form A	RC26-13	3/8 NPT



POP-UP Indicator

Model Number**	988A30

** 1/8 NPT port threads.

STATUS Indicator

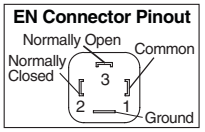
Model Number	670B94

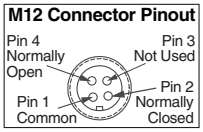
The Status Indicator pressure switch actuates when the valve is in a ready-to-run condition and de-actuates when the valve is in a lockout condition or when the inlet air pressure has been removed. Although, the valves can be purchased with this option already installed, the Status Indicator can be purchased separately.

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

PRESSURE SWITCHES & INDICATOR Light Kit for SV27 & SV27 PO Check Sensing Valves

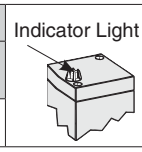
Pressure Switches		
Connection Type	**Model Number**	**Port Threads**
EN 175301-803 Form A	586A86	1/8 NPT
M12	1153A30	1/8 NPT

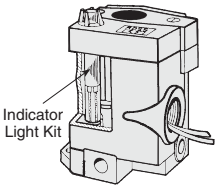




INDICATOR LIGHT Kit
for 27 & 21 Series, SV27, SV27 PO Check Valves with Solenoid Controlled Pacer Pilot

Kit Number		
24 volts DC	**110-120 volts AC 50-60 Hz**	**220 volts 50-60 Hz**
862K87-W	862K87-Z	862K87-Y





To visually verify valve operation indicator lights are available in kit form. The indicator light extends through the solenoid or pilot cover and is illuminated when the solenoid is energized. Such lights are standard on double solenoid valves. Indicator light kit is available for single solenoid models.

PRESSURE Gauges

Port Size	Model Number*	Pressure Range **psig** (bar)	Case Diameter inches (mm)
1/8	5400A1002	0-160 (0-11)	1.5 (38)
1/4	5400A2010	0-60 (0-4)	2.0 (51)
1/4	5400A2011	0-200 (0-14)	2.0 (51)
1/4	5400A2012	0-300 (0-20)	2.0 (51)
1/4	5400A2014**	0-160 (0-11)	2.5 (64)
1/4	5400A2015***	0-160 (0-11)	2.0 (51)

* Center back mounting; male pipe threads.
** 5400A2014 - Stainless steel case liquid filled.
*** 5400A2015 - Green shade between 40-70 psi (2.7-4.8 bar).

MULTIPLE LOCK-OUT Device

Model Number	356A30

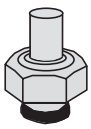
MANUAL OVERRIDE Kits

Flush flexible manual overrides are standard on single solenoid models. Double solenoid models have flush metal-button overrides. Both types are non-locking.

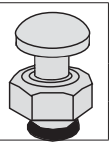
Each of the buttons in the override kits below is made of metal and is spring-returned. The locking type button, however, can be kept in the actuated position by turning the slot in the top of the button with a screwdriver.

FLUSH BUTTON	
Locking Type	**Kit Number**
Non-Locking	790K87
Locking	792K87

EXTENDED BUTTON	
Locking Type	**Kit Number**
Non-Locking	791K87



EXTENDED BUTTON with PALM	
Locking Type	**Kit Number**
Non-Locking	984H87



General Information

Standard Specifications

The standard specifications for the products on each page of this catalog are given on the same page or referenced. For solenoid pilot valves, models with internal pilot supply are listed. Most models are also available for use with external pilot supply or have a built-in pilot supply selector valve.

The products in this catalog are intended for use in industrial pneumatic systems. Most products are adaptable to other uses and conditions not covered by the standard specifications given in this catalog. Weights shown are approximate and are subject to change. Dimensions given, unless otherwise noted, are envelope dimensions (not for mounting). Consult ROSS for further information.

Port Threads

Ports of valves and bases described in this catalog have NPT (ANSI B2.1) threads. Other thread types can be specified by putting an appropriate prefix letter on the model or part number when ordering.

Thread Types by Model Prefix Letter

Pneumatic Port Threads	Prefix Letter	Threaded Electrical Opening
NPT (ANSI B2.1)	None	NPT
ISO 228 - DIN 259 Parallel, BSPP#	**C***	—
ISO 228 - DIN 259 Parallel, BSPP#	**D**	G
ISO 228 - JIS B0203 Tapered#	**J**	ISO
SAE 1926- ISO 11926	**S**	NPT

* Used only for filters, regulators, lubricators.

ISO 228 threads superseds BSPP, G and JIS thread types.

Flow Ratings

Flow ratings are expressed as C_V where C_V = 1 corresponds to a steady state air flow of approximately 32 scfm under the following conditions:

Inlet pressure = 100 psig (6.7 bar)
Pressure drop = 10 psi (0.69 bar)
Air temperature = 68°F (20°C)
Relative humidity = 36%

Note: *Because widely differing test standards are used to measure C_V values, the figures given in this catalog should not be used to compare ROSS valves with those of other makers. The C_V ratings given here are intended only for use with performance charts published by ROSS. The C_V ratings are averages for the various flow paths through the valve and are for steady flow conditions.*

Approvals and Certifications

ROSS products are designed to meet a number of industrial standards, including the Canadian Standards Association (C.S.A.) guidelines.

For more information on specific product approvals, contact your local distributor or ROSS.

Solenoids

All ROSS standard solenoids are rated for continuous duty (unless noted otherwise) and will operate the valve within the air pressure range specified in this catalog.

Explosion-Proof Solenoid Pilot available, for more information consult ROSS.

Voltage & Hertz

When ordering a solenoid valve, also specify the desired solenoid voltage and hertz.

Voltage Types by Model Suffix Letter

Voltage	Suffix Letter
120 volts AC	**Z**
220 volts AC	**Y**
12 volts DC	**H**
24 volts DC	**W**
48 volts DC	**M**
90 volts DC	**K**
110 volts DC	**P**
125 volts DC	**C**

Recommended Solenoid Voltages: 100-110 volts AC, 50 Hz; 100-120 volts AC, 60 Hz; 24 volts DC; 110 volts DC.

In addition, the following voltages are available:

200, 220 volts AC, 50 Hz
200, 240, 480 volts AC, 60 Hz

24, 48, 220 volts AC, 50 Hz
240 volts AC, 60 Hz

200, 220 volts AC, 50 Hz
200, 240 volts AC, 60 Hz.

For example: Model 2773B5001, 120 volts AC, 60 Hz.
Model W6076B2401, 220 volts AC, 50 Hz.

Please note that not all configurations are available for all models.

For additional information or help with voltage configuration, please contact your local distributor or ROSS.

Port Identification

Valve symbols in this catalog conform to the ISO 1219-1:1991 standard of the International Organization for Standardization (ISO) and the SAE J2051 standard of the Society of Automotive Engineers (SAE) respectively.

Information or Technical Assistance

For additional information or application assistance concerning ROSS products, consult ROSS or your local ROSS distributor (see contact information on the back cover).

Order Placement

For order placement, consult ROSS or your local ROSS distributor.

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

CAUTIONS, WARNINGS and STANDARD WARRANTY

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure that all sources of energy are turned off, the entire pneumatic system is shut off and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).

2. All ROSS products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any installation can be tampered with or need servicing after installation, persons responsible for the safety of others or the care of equipment must check every installation on a regular basis and perform all necessary maintenance.

3. All applicable instructions should be read and complied with before using any fluid power system in order 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 location listed on the cover of this document.

4. Each ROSS product should be used within its specification limits. In addition, use only ROSS parts to repair ROSS products.

WARNING: Failure to follow these directions can adversely affect the performance of the product or result in the potential for human injury or damage to property.

FILTRATION and LUBRICATION

5. 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. ROSS recommends a filter with a 5-micron rating for normal applications.

6. All standard ROSS filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Do *not* fail to 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, hazardous leakage, and the potential for human injury or damage to property. Immediately replace a crazed, cracked, or deteriorated bowl. When bowl gets dirty, replace it or wipe it with a clean dry cloth.

7. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum based 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 human injury, and/or damage to property.

AVOID INTAKE/EXHAUST RESTRICTION

8. Do not restrict the air flow in the supply line. To do so could reduce the pressure of the supply air below the minimum requirements for the valve and thereby cause erratic action.

9. 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.

WARNING: ROSS expressly disclaims all warranties and responsibility for any unsatisfactory performance or injuries caused by the use of the wrong type, wrong size, or an inadequately maintained silencer installed with a ROSS product.

POWER PRESSES

10. 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.

ENERGY ISOLATION/EMERGENCY STOP

11. Per specifications and regulations, ROSS **L-O-X®** and **L-O-X®** with **EEZ-ON®** operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

STANDARD WARRANTY

All products sold by ROSS CONTROLS are warranted for a one-year period [with the exception of all Filters, Regulators and Lubricators ("FRLs") which are warranted for a period of seven years] from the date of purchase to be free of defects in material and workmanship. ROSS' obligation under this warranty is limited to repair or replacement of the product or refund of the purchase price paid solely at the discretion of ROSS and provided such product is returned to ROSS freight prepaid and upon examination by ROSS is found to be defective. This warranty becomes void in the event that product has been subject to misuse, misapplication, improper maintenance, modification or tampering.

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