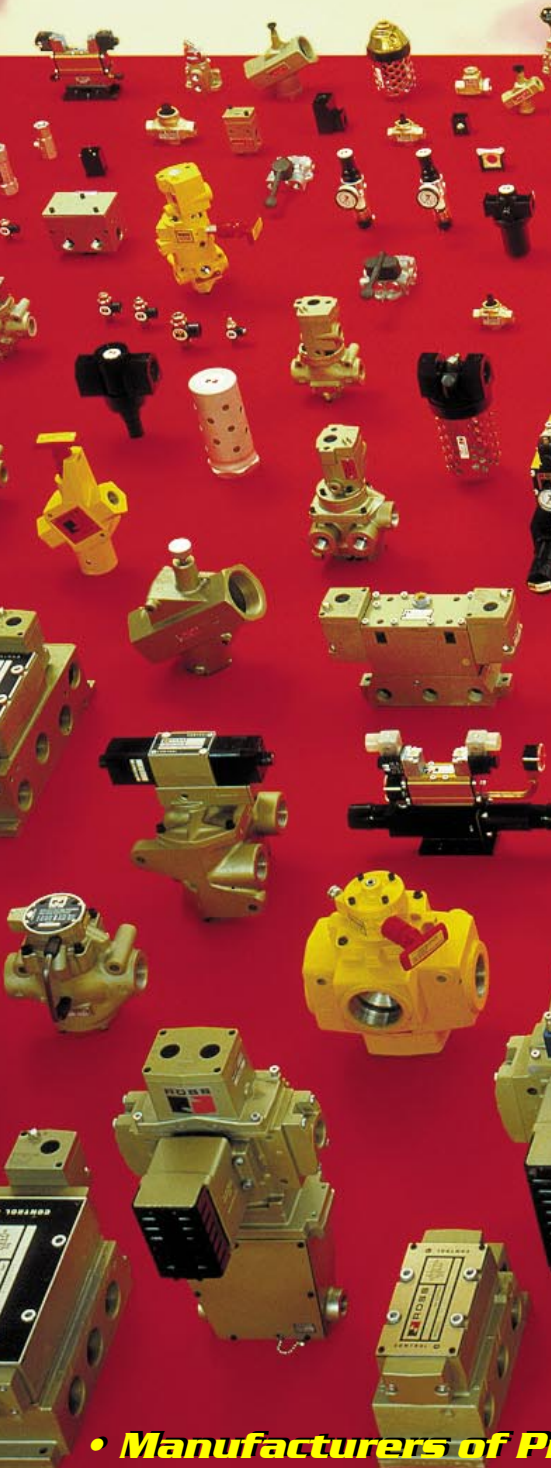


BULLETIN 382A

ROSS FLOW CONTROL VALVES



• Manufacturers of Premium Pneumatic Controls since 1921 •

ROSS ASIA



ROSS CONTROLS



ROSS Europa



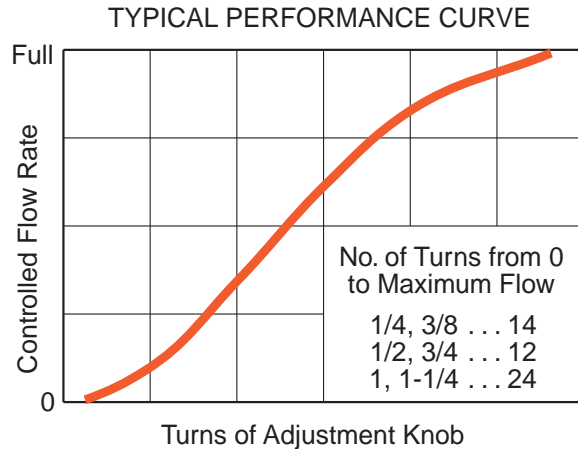
ROSS UK

Compact, Low Profile Flow Control Valves

ROSS flow control valves provide high air flow rates into a cylinder, and precisely controlled flow rates out of the cylinder. The adjustable flow can range from near zero to full flow.



Selecting flow control valves with sufficient flow capacity is important so that they do not become the limiting factor in the cylinder control system. Full flow capacity should match that of the control valve to keep cylinder motion smooth and predictable in both directions.



Large knob for easy hand adjustment. Turn clockwise to reduce controlled flow.

Brass stem gives visible indication of flow rate in controlled direction (port 2 to 1).

High flow capacity in free-flow direction (port 1 to 2). Same high flow available in reverse direction.

Long thread engagement gives precise adjustment.

Non-rising adjustment knob.

Positive locking. Prevents change of adjustment knob due to vibration or tampering.

Compact size, low profile.

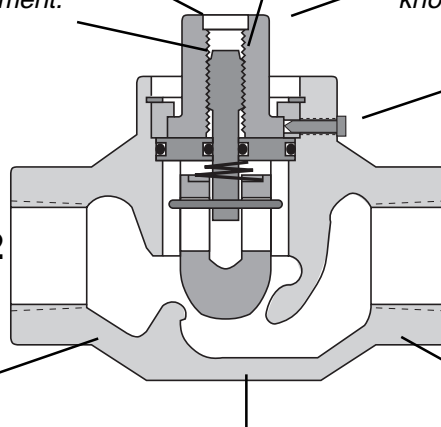
Port numbers cast into body match flow symbols on nametag.

Available with port sizes 1/4, 3/8, 1/2, 3/4, 1, and 1-1/4.

Port 2

Port 1

Combination check poppet and metering device.



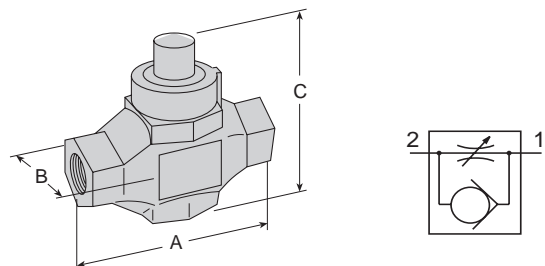
Durable cast-aluminum body.

Large wrench flats around each port.

Dirt-tolerant poppet design. Available in alternate materials for extreme temperature applications.

Port Size	Avg. Cv (Full Flow)	Valve Model Number*	Dimensions inches (mm)		
			A	B	C
1/4	2.3	1968E2007	2.8 (70)	1.3 (32)	2.4 (60)
3/8	2.6	1968E3007	2.8 (70)	1.3 (32)	2.4 (60)
1/2	7.5	1968E4007	3.8 (96)	1.6 (40)	3.2 (82)
3/4	8.3	1968E5007	3.8 (96)	1.6 (40)	3.2 (82)
1	17	1968E6007	5.0 (127)	2.5 (64)	4.5 (113)
1-1/4	22	1968E7007	5.0 (127)	2.5 (64)	4.5 (113)

*NPT threads. To order G threads, precede the model number by "D."



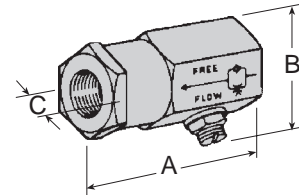
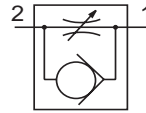
STANDARD SPECIFICATIONS

Ambient/Media Temperature: 40° to 175°F (4° to 80°C).

Flow Media: Filtered air.

Inlet Pressure: 5 to 150 psig (0.3 to 10 bar).

ROSS Flow Control Valves- 1/8" to 2 1/2" Port Sizes



STANDARD SPECIFICATIONS

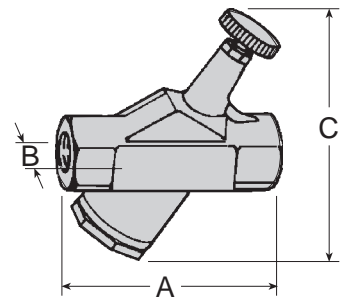
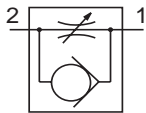
Ambient/Media Temperature: 40° to 175° (4° to 80°C).

Flow Media: Filtered air.

Inlet Pressure: 5 to 150 psig (0.3 to 10 bar).

Port Size	Avg. Cv (Full Flow)	Valve Model Number*	Dimensions inches (mm)		
			A	B	C
1/8	0.5	1968D1004	2.4 (62)	1.3 (32)	1.0 (25)
1/4	0.5	1968D2004	2.4 (62)	1.3 (32)	1.0 (25)
3/8	0.5	1968D3014	3.7 (67)	1.6 (41)	1.2 (29)

*NPT threads. To order G threads, precede the model number by "D."



Port Size	Avg. Cv (Full Flow)	Valve Model Number*	Dimensions inches (mm)		
			A	B	C
1/4	2.3	1968B2007	3.5 (89)	1.3 (32)	4.3 (108)
3/8	2.6	1968B3007	3.5 (89)	1.3 (32)	4.3 (108)
1/2	2.6	1968B4017	3.5 (89)	1.3 (32)	4.3 (108)
	7.5	1968B4007	4.8 (121)	1.8 (45)	5.6 (142)
3/4	8.3	1968B5007	4.8 (121)	1.8 (45)	5.6 (142)
1	8.3	1968B6017	4.8 (121)	1.8 (45)	5.6 (142)
	17	1968B6007	5.4 (137)	2.3 (57)	7.1 (181)
1-1/4	22	1968B7007	5.4 (137)	2.3 (57)	7.1 (181)
1-1/2	22	1968B8017	5.4 (137)	2.3 (57)	7.1 (181)
	50	1968B8007	7.5 (191)	3.5 (90)	9.5 (241)
2	50	1968B9007	7.5 (191)	3.5 (90)	9.5 (241)
2-1/2	50	1968B9017	7.5 (191)	3.5 (90)	9.5 (241)

*NPT threads. To order G threads, precede the model number by "D."

STANDARD SPECIFICATIONS

Ambient/Media Temperature: 40° to 175° F (4° to 80°C).

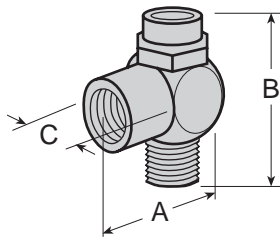
Flow Media: Filtered air.

Inlet Pressure: 5 to 150 psig (0.3 to 10 bar).



Right-Angle Flow Control Valves

Compact, durable and versatile ROSS right-angle flow control valve screws directly into cylinder port. Inlet port can then be swiveled 360° for optimum placement. Versatile model lineup allows controlled flow to be set either by a screwdriver slot or by a knurled knob. Inlet ports are available in either threaded or with push-on fittings.



O-ring seals on adjusting stem provide friction to keep stem in its set position.

Accessible wrench flats simplify installation.

Anodized aluminum body.

O-ring seals provide leak-free sealing for the valve body.

Threads precoated with pipe sealant.

Compact design, threads directly into cylinder ports.

Models available with flow adjustment by screw-driver slot or knurled knob (dotted line). Turn clockwise to reduce controlled flow.

Nickel-plated brass stem construction.

Inlet is a swivel port that can be rotated 360° for optimum port placement.

Models available with 1/8, 1/4, 3/8, or 1/2 NPT or G threads.

Models available with 1/4 or 3/8 tube fittings.

Removable tubing release ring.

Port or Tube O.D. Size	Avg. Cv (Full Flow)	Type of Adjustment	Valve Model Number*		Dimensions inches (mm)		
			Threaded Inlet	Tube Fitting	A	B	C
1/8	0.3	Slot	1968A1008	1968A1108**	1.0 (27)	1.3 (32)	0.6 (15)
		Knob	1968A1018	1968A1118**	1.0 (27)	1.3 (32)	0.6 (15)
1/4	0.6	Slot	1968A2008	1968A2108	1.3 (33)	1.6 (41)	0.8 (19)
		Knob	1968A2018	1968A2118	1.3 (33)	2.2 (56)	0.8 (19)
3/8	1.9	Slot	1968A3008	1968A3108	1.6 (41)	2.6 (66)	0.9 (23)
		Knob	1968A3018	1968A3118	1.5 (41)	3.0 (77)	0.9 (23)
1/2	2.8	Slot	1968A4008	---	1.8 (46)	2.3 (58)	1.1 (28)
		Knob	1968A4018	---	1.8 (46)	3.2 (80)	1.1 (28)

*NPT threads. To order G threads, precede the model number by "D." ** These models have 1/8 threaded inlet, but with 1/4 tube fittings.

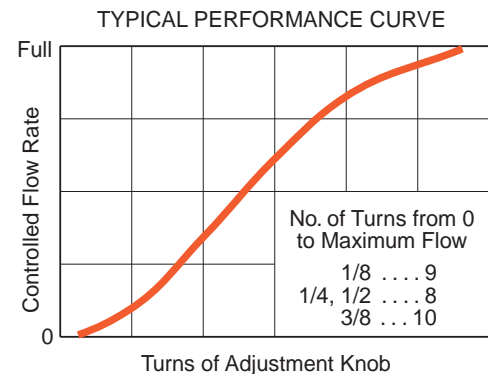
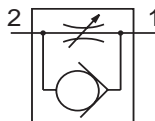
STANDARD SPECIFICATIONS

Ambient/Media Temperature:

40° to 175°F (4° to 80°C).

Flow Media: Filtered air.

Inlet Pressure: 5 to 150 psig (0.3 to 10 bar).



CAUTIONS

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure that the electrical supply is turned off and that the entire pneumatic system is shut off and exhausted.
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.
4. Each ROSS product should be used within its specification limits. In addition, use only ROSS parts to repair ROSS products. Failure to follow these directions can adversely affect the performance of the product or result in the potential for human injury.

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. 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 base oils with oxidation inhibitors, an aniline point between 82 degrees Celsius (180 degrees Fahrenheit) and 104 degrees Celsius (220 degrees Fahrenheit), and an ISO 32, or lighter, viscosity. Avoid oils with phosphate type additives which can harm polyurethane components, potentially leading to valve failure and/or human injury.

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 poppet valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and 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.
ROSS expressly disclaims all warranties and responsibility for any unsatisfactory performance or injuries caused by the use of the wrong type, wrong size, or 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.

ENERGY ISOLATION/EMERGENCY STOP

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

WARRANTY

Products manufactured by ROSS are warranted to be free of defects in material and workmanship for a period of one year from the date of purchase. 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 shall be void in the event that product has been subject to misuse, misapplication, improper maintenance, modification or tampering. THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND ROSS EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ROSS 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 SHALL ROSS BE 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 ROSS SHALL EXTEND THE LIABILITY OF ROSS AS SET FORTH HEREIN.



ROSS CONTROLS™

P.O. Box 7015

Troy, Michigan 48007 U.S.A.

Telephone (00) 1-248-764-1800

FAX (00) 1-248-764-1850

www.rosscontrols.com

In the United States:

Customer Service- 1-800-GET-ROSS

Technical Service- 1-888-TEK-ROSS

ROSS/FLEX® Service- 1-888-ROSS-FLX

ROSS EUROPA GmbH

Robert-Bosch-Straße 2

D-63225 Langen, Germany

Telephone (011) 49-6103-7597-0

FAX (011) 49-6103-7469-4

ROSS ASIA K.K.

10209-5 Tana, Sagamihara-shi

Kanagawa 229-1124, Japan

Telephone (011) 81-427-78-7251

FAX (011) 81-427-78-7256

ROSS UK Ltd.

St. James Road, Brackley

Northamptonshire NN13 7XY

United Kingdom

Telephone (011) 44-1280-706668

FAX (011) 44-1280-705630