



FLOW CONTROL VALVES 19 & 11 SERIES

PRODUCT CATALOG



Flow Control Valves 19 & 11 Series

Product Overview

Flow Control Function

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.







Low-Profile		Heavy-Duty		Right-Angle	
with Slot Adjustment	with Knob Adjustment	High-Capacity	Low-Profile High-Capacity	with Slot Adjustment	with Knob Adjustment
					

Illustration examples.

Valve Schematic



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.

VALVE FEATURES

Poppet Design	Dirt-tolerant poppet design; available in alternate materials for extreme temperature applications
High Flow	High flow capacity in free-flow direction (port 1 to 2), same high flow available in reverse direction
Visible Indication	Low-Profile High-Capacity valves – Brass stem gives visible indication of flow rate in controlled direction (port 2 to 1)
Positive Locking	Low-Profile High-Capacity valves – Prevents change of adjustment knob due to vibration or tampering
Adjustable Flow	Knob hand or screwdriver slot adjustment to control flow

STANDARD SPECIFICATIONS

GENERAL	Function		2-Way Valve			
	Construction Design		Poppet			
	Actuation		Pneumatic			
	Mounting	Type	Low-Profile	Inline		
			High-Capacity			
			Low-Profile High-Capacity			
			Right-Angle	Screws directly into cylinder port		
	Orientation	Orientation	Low-Profile	Any, preferably vertical		
			High-Capacity	Inline, Offset		
			Low-Profile High-Capacity			
Right-Angle			Inlet port can be swiveled 360° for optimum placement			
Connection		Threaded; G, NPT				
Minimum Operation Frequency		Once per month, to ensure proper function				
OPERATING CONDITIONS	Temperature	Low-Profile	Ambient	41° to 140°F (5° to 60°C)		
			Media			
		High-Capacity Low-Profile High-Capacity	High-Capacity	Ambient	-40° to 175°F (-40° to 80°C)	
				Media		
					<i>For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice.</i>	
					<i>For temperatures below -40°F (-40°C), consult ROSS.</i>	
		Right-Angle	Right-Angle	Ambient	40° to 175°F (4° to 80°C)	
				Media		
	Flow Media		Filtered air			
	Operating Pressure	Low-Profile	Supply Pressure	217 psi (14.9 bar)		
Maximum Pressure			150 psi (10.3 bar)			
High-Capacity		5 to 150 psig (0.3 to 10 bar)				
Low-Profile High-Capacity						
Right-Angle						
CONSTRUCTION MATERIAL	Valve Body	Low-Profile	Cast Aluminum			
		High-Capacity				
		Low-Profile High-Capacity				
		Right-Angle	Nickel-plated brass body, black anodized aluminum swivel			
	Poppet		Acetal and Stainless Steel			
	Spring	Right-Angle	Stainless Steel			
	Seals		Buna-N			

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

PRODUCT CREDENTIALS

EAC Conformity Declaration 	Canadian Registration Number (CRN) Available for appropriately tested valves
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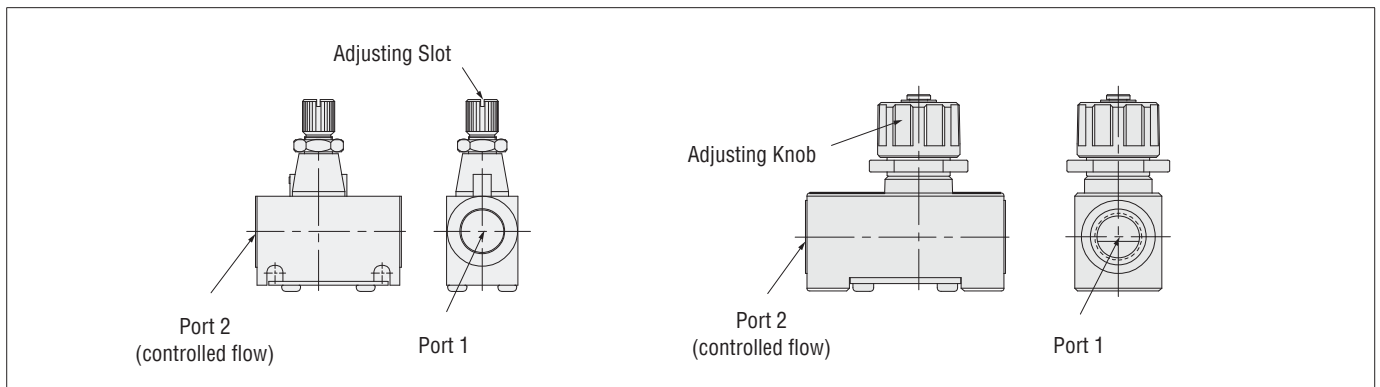
Ordering Information

FLOW CONTROL VALVES							2-Way Valves	
Valve Style		Size			Valve Model Number		Flow C _v 1-2	Weight lb (kg)
		Port 1	Port 2	Body	G Thread	NPT Thread		
Low-Profile	with Slot Adjustment	1/8	1/8	1/8	D1968F1004	1968F1004	0.5	0.1 (0.1)
		1/4	1/4	1/4	D1968F2004	1968F2004	0.5	0.1 (0.1)
	with Knob Adjustment	1/4	1/4	3/8	D1968F2007	1968F2007	2.3	0.4 (0.2)
		3/8	3/8	3/8	D1968F3007	1968F3007	2.3	0.4 (0.2)
		1/2	1/2	3/8	D1968F4007	1968F4007	2.3	0.4 (0.2)
High-Capacity		1/4	1/4	3/8	D1968B2007	1968B2007	2.3	0.5 (0.2)
		3/8	3/8	3/8	D1968B3007	1968B3007	2.6	0.5 (0.2)
		1/2	1/2	3/8	D1968B4017	1968B4017	2.6	0.5 (0.2)
		1/2	1/2	3/4	D1968B4007	1968B4007	7.5	0.8 (0.4)
		3/4	3/4	3/4	D1968B5007	1968B5007	8.3	0.8 (0.4)
		1	1	3/4	D1968B6017	1968B6017	8.3	0.8 (0.4)
		1	1	1-1/4	D1968B6007	1968B6007	17	2.2 (1.0)
		1-1/4	1-1/4	1-1/4	D1968B7007	1968B7007	22	2.2 (1.0)
		1-1/2	1-1/2	1-1/4	D1968B8017	1968B8017	22	2.2 (1.0)
		1-1/2	1-1/2	2	D1968B8007	1968B8007	50	4.3 (1.9)
		2	2	2	D1968B9007	1968B9007	50	4.3 (1.9)
	2-1/2	2-1/2	2	D1968B9017	1968B9017	50	4.3 (1.9)	
Low-Profile High-Capacity		1/2	1/2	3/4	D1968E4007	1968E4007	7.5	0.8 (0.4)
		3/4	3/4	3/4	D1968E5007	1968E5007	8.3	0.8 (0.4)
		1	1	1-1/4	D1968E6007	1968E6007	17	2.1 (1.0)
		1-1/2	1-1/2	1-1/4	D1968E7007	1968E7007	22	2.1 (1.0)

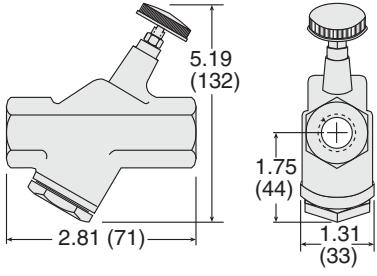
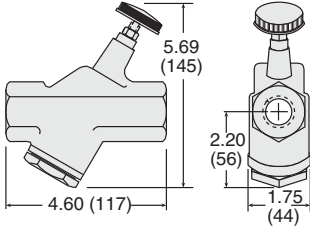
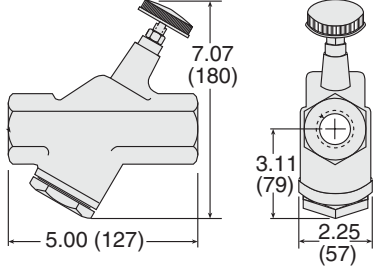
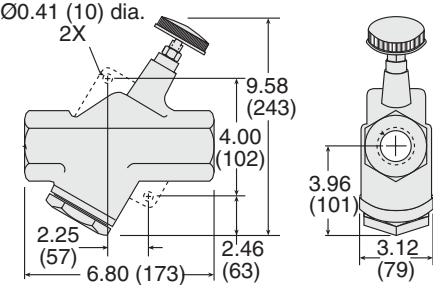
Valve Style		Connection	Size			Valve Model Number		Flow C _v 1-2	Weight lb (kg)
			Port 1	Port 2	Body	G Thread	NPT Thread		
Right-Angle	with Slot Adjustment	Threaded Inlet	1/8	1/8	1/4	D1968A1008	1968A1008	0.3	0.06 (0.03)
			1/4	1/4	1/4	D1968A2008	1968A2008	0.6	0.12 (0.05)
			3/8	3/8	3/8	D1968A3008	1968A3008	1.9	0.20 (0.09)
			1/2	1/2	3/8	D1968A4008	1968A4008	2.8	0.34 (0.15)
		Tube Fitting	1/8	1/8	1/4	-	1968A1108#	0.3	0.06 (0.03)
			1/4	1/4	1/4	-	1968A2108	0.6	0.12 (0.05)
			3/8	3/8	3/8	D1968A3108	1968A3108	1.9	0.20 (0.09)
			1/2	1/2	3/8	-	-	2.8	0.34 (0.15)
	with Knob Adjustment	Threaded Inlet	1/8	1/8	1/4	-	1968A1008	0.3	0.08 (0.04)
			1/4	1/4	1/4	D1968A2018	1968A2018	0.6	0.14 (0.06)
			3/8	3/8	3/8	D1968A3018	1968A3018	1.9	0.20 (0.09)
			1/2	1/2	3/8	D1968A4018	1968A4018	2.8	0.34 (0.15)
		Tube Fitting	1/8	1/8	1/4	D1968A1118#	1968A1118#	0.3	0.08 (0.04)
			1/4	1/4	1/4	D1968A2118	1968A2118	0.6	0.14 (0.06)
			3/8	3/8	3/8	D1968A3118	1968A3118	1.9	0.20 (0.09)
			1/2	1/2	3/8	-	-	2.8	0.34 (0.15)

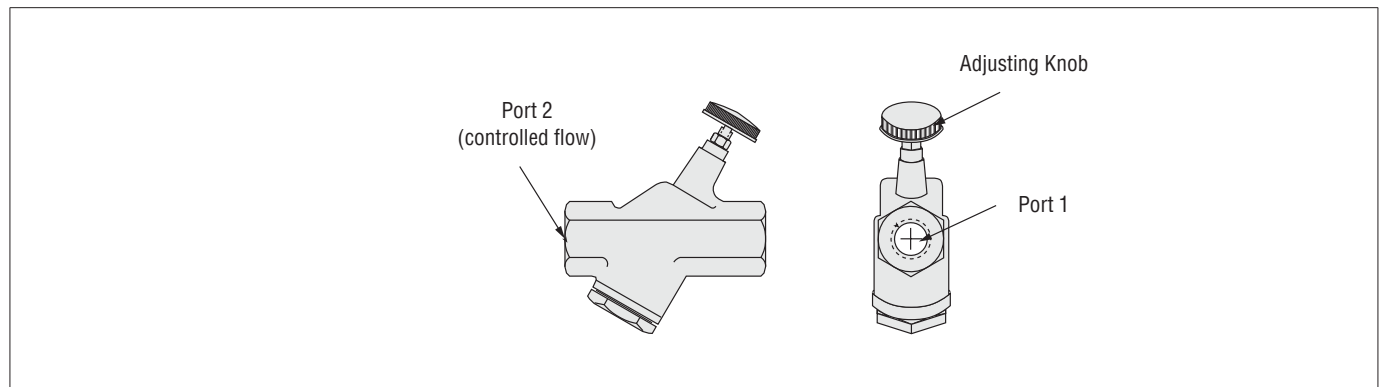
These models have 1/8 threaded outlet, but with 1/4 inlet tube fittings.

DIMENSIONS		Inches (mm)	
with Slot Adjustment	Body Size 1/8		
	Body Size 1/4		
Low-Profile	Body Size 3/8		
with Knob Adjustment			
<p>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, visit www.rosscontrols.com.</p>			



Valve Technical Data

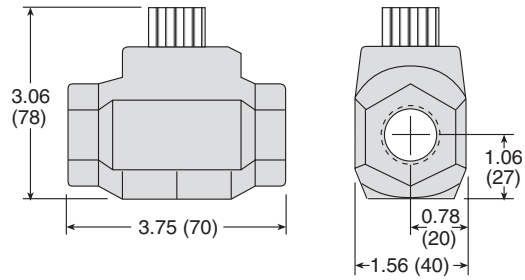
DIMENSIONS		Inches (mm)	
High-Capacity	Body Size 3/8		
	Body Size 3/4		
	Body Size 1-1/4		
	Body Size 2		
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DIMENSIONS

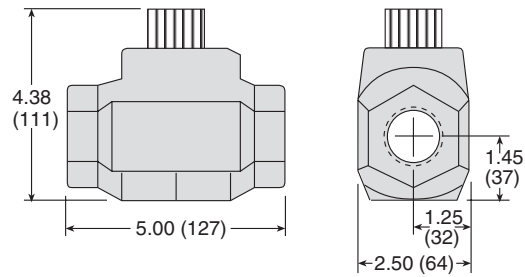
Inches (mm)

Body Size 3/4

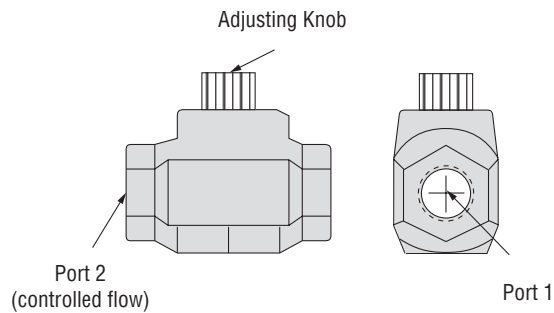


Low-Profile High-Capacity

Body Size 1-1/4

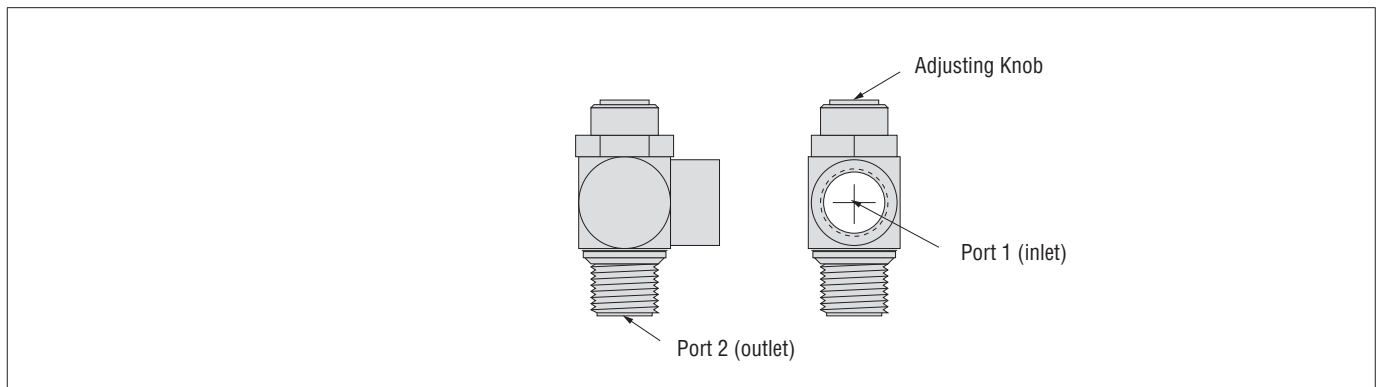


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Valve Technical Data

DIMENSIONS		Inches (mm)	
Right Angle	Body Size 1/8		
	Body Size 1/4		
	Body Size 3/8		
	Body Size 1/2		
<p>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, visit www.rosscontrols.com.</p>			



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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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.