



## PRODUCT INFORMATION

# FLOW CONTROL VALVES

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## 19 SERIES



**ROSS CONTROLS**



Flow Control Valves



Check Valves




Shuttle Valves



Quick Exhaust Valves

VALVE TYPE	VALVE SERIES	AVAILABLE PORT SIZES										MAX. FLOW Cv	Page
		1/8	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½		
Flow Control													
Low-Profile	19											2.3	F1.3
High-Capacity	19											50	F1.4
Low-Profile High-Capacity	19											22	F1.4
Right-Angle	11											2.8	F1.5
Check													
Low-Profile	19											0.5	F1.6
Mid-Range	19											3.9	F1.6
High-Capacity	19											50	F1.6
Shuttle													
Standard	19											0.8	F1.7
High-Flow	19											3.0	F1.7
Quick Exhaust													
	18											7.2	F1.7

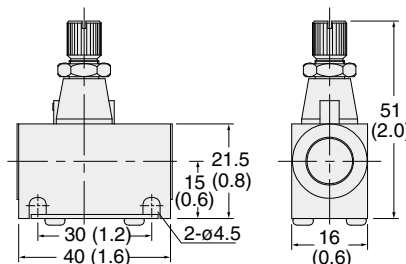
### Low-Profile Flow Control Valves with Slot Adjustment

Port Size	Valve Model Number		Avg. C <sub>v</sub> (Fully Open)	Weight lb (kg)	
	NPT Threads	G Threads			
1/8	1968F1004	D1968F1004	0.5	0.1 (0.1)	
1/4 OT	1968F2004	D1968F2004	0.5	0.1 (0.1)	

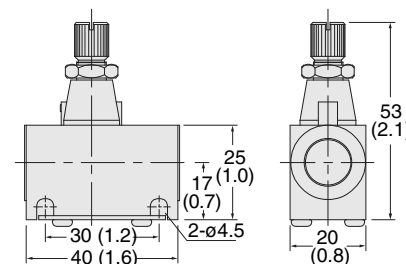


#### Valve Dimensions – inches (mm)


##### Port Size 1/8



##### Port Size 1/4 OT (Over Tap)



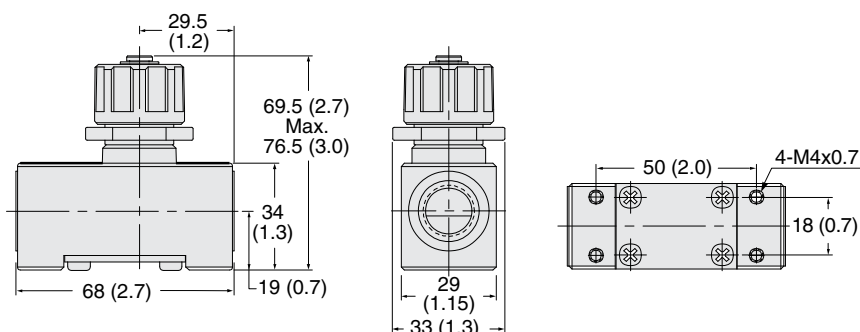
### Low-Profile Flow Control Valves with Knob Adjustment

Port Size	Valve Model Number		Avg. C <sub>v</sub> (Fully Open)	Weight lb (kg)	
	NPT Threads	G Threads			
1/4	1968F2007	D1968F2007	2.3	0.4 (0.2)	
3/8	1968F3007	D1968F3007	2.3	0.4 (0.2)	
1/2	1968F4007	D1968F4007	2.3	0.4 (0.2)	



#### Valve Dimensions – inches (mm)

##### Port Sizes 1/4 thru 1/2



#### Operation:

To increase flow: Turn adjustment screw out.

To decrease flow: Turn adjustment screw in.

**Flow Adjustment:** From 0 to Maximum Flow.

#### Numbers of Slot/Knob Turns:

Port sizes 1/8 and 1/4 OT (Over Tap): 8.

Port sizes 1/4, 3/8 and 1/2: 10.

#### STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Operating Pressure	Supply Pressure: 217 psi (14.9 bar) Maximum Pressure: 150 psi (10.3 bar)
Mounting Type	Line	Construction Material	Valve Body: Cast Aluminum
Temperature	Ambient/Media: 41° to 140°F (5° to 60°C)		
Flow Media	Filtered air		

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

## High-Capacity Control Valves

Port Size	Body Size	Valve Model Number		Avg. C <sub>v</sub> (Fully Open)	Weight lb (kg)
		NPT Threads	G Threads		
1/4	3/8	1968B2007	D1968B2007	2.3	0.5 (0.2)
3/8	3/8	1968B3007	D1968B3007	2.6	0.5 (0.2)
1/2	3/8	1968B4017	D1968B4017	2.6	0.5 (0.2)
1/2	3/4	1968B4007	D1968B4007	7.5	0.8 (0.4)
3/4	3/4	1968B5007	D1968B5007	8.3	0.8 (0.4)
1	3/4	1968B6017	D1968B6017	8.3	0.8 (0.4)
1	1 1/4	1968B6007	D1968B6007	17	2.2 (1.0)
1 1/4	1 1/4	1968B7007	D1968B7007	22	2.2 (1.0)
1 1/2	1 1/4	1968B8017	D1968B8017	22	2.2 (1.0)
1 1/2	2	1968B8007	D1968B8007	50	4.3 (1.9)
2	2	1968B9007	D1968B9007	50	4.3 (1.9)
2 1/2	2	1968B9017	D1968B9017	50	4.3 (1.9)



## Low-Profile High-Capacity Control Valves

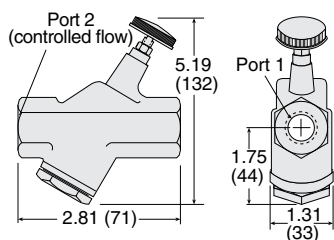
Port Size	Body Size	Valve Model Number		Avg. C <sub>v</sub> (Fully Open)	Weight lb (kg)
		NPT Threads	G Threads		
1/2	3/4	1968E4007	D1968E4007	7.5	0.8 (0.4)
3/4	3/4	1968E5007	D1968E5007	8.3	0.8 (0.4)
1	1 1/4	1968E6007	D1968E6007	17	2.1 (1.0)
1 1/4	1 1/4	1968E7007	D1968E7007	22	2.1 (1.0)



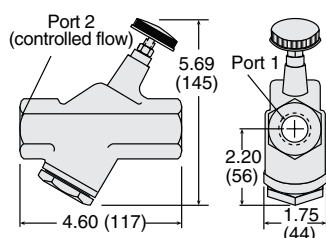
### Valve Dimensions – inches (mm)

#### High-Capacity Control Valves

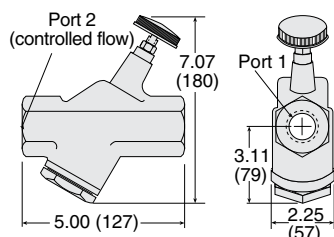
##### Body Size 3/8



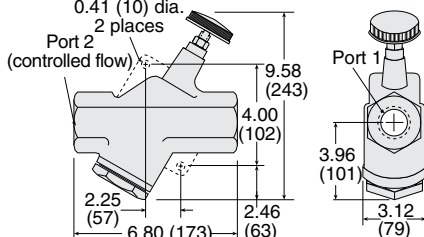
##### Body Size 3/4



##### Body Size 1 1/4

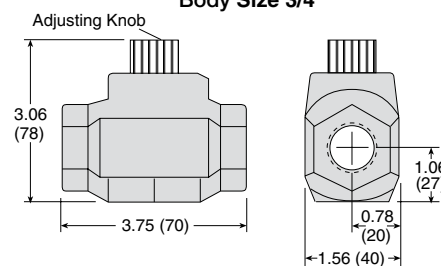


##### Body Size 2

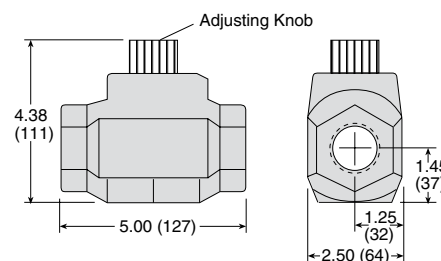


#### Low-Profile High-Capacity Control Valves

##### Body Size 3/4



##### Body Size 1 1/4



**Operation:** To increase flow: Turn adjustment screw out.

To decrease flow: Turn adjustment screw in.

**Flow Adjustment:** From 0 to Maximum Flow.

**Numbers of Slot/Knob Turns:** Port sizes 1/4 and 3/8: 14.

Port sizes 1/2, 3/4: 12.

Port sizes 1, 1 1/4: 24.


Port sizes 1 1/2, 2 1/2: 24.

### STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Flow Media	Filtered air
Mounting Type	Line	Operating Pressure	5 to 150 psig (0.3 to 10 bar)
Temperature	Ambient/Media: -40° to 175°F (-40° to 80°C)	Construction Material	Valve Body: Cast Aluminum
	For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice. For temperatures below -40°F (-40°C), consult ROSS.		

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


### Right-Angle Flow Control Valves with Slot Adjustment

Port Size	Threaded Inlet		Tube Fitting		Avg.C <sub>v</sub> (Fully Open)	Weight lb (kg)	
	Valve Model Number		Valve Model Number				
	NPT Threads	G Threads	NPT Threads	G Threads			
1/8	1968A1008	D1968A1008	1968A1108#	---	0.3	0.06 (0.03)	
1/4	1968A2008	D1968A2008	1968A2108	---	0.6	0.12 (0.05)	
3/8	1968A3008	D1968A3008	1968A3108	D1968A3108	1.9	0.20 (0.09)	
1/2	1968A4008	D1968A4008	---	---	2.8	0.34 (0.15)	

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



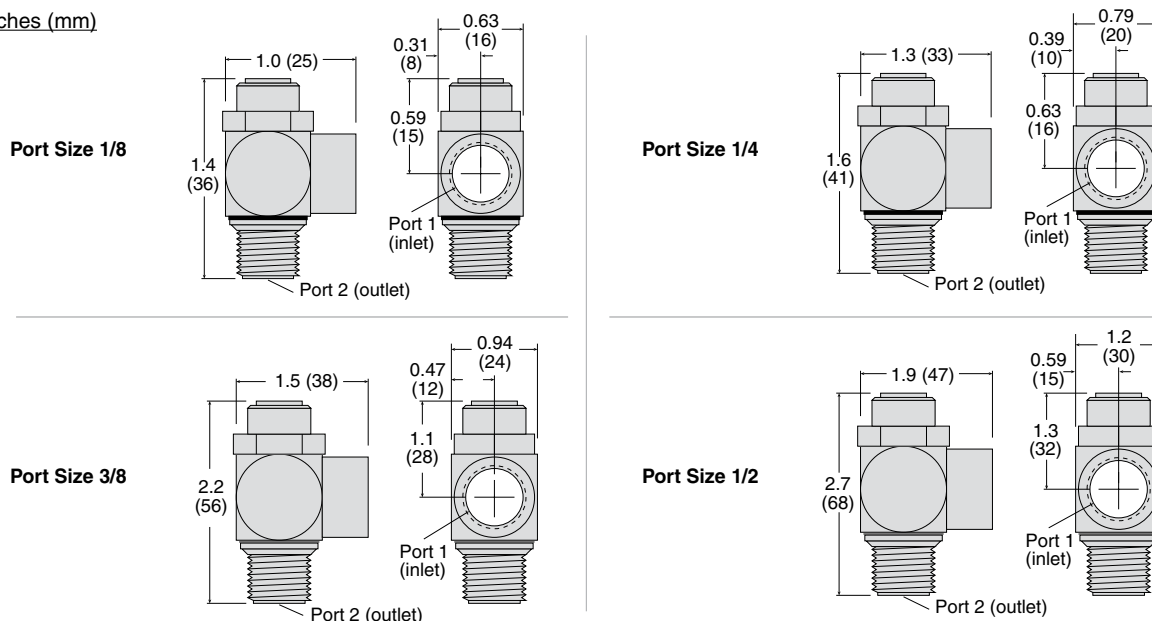
### Right-Angle Flow Control Valves with Knob Adjustment

Port Size	Threaded Inlet		Tube Fitting		Avg.C <sub>v</sub> (Fully Open)	Weight lb (kg)	
	Valve Model Number		Valve Model Number				
	NPT Threads	G Threads	NPT Threads	G Threads			
1/8	1968A1018	----	1968A1118#	D1968A1118#	0.3	0.08 (0.04)	
1/4	1968A2018	D1968A2018	1968A2118	D1968A2118	0.6	0.14 (0.06)	
3/8	1968A3018	D1968A3018	1968A3118	D1968A3118	1.9	0.20 (0.09)	
1/2	1968A4018	D1968A4018	---	---	2.8	0.34 (0.15)	

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



#### Valve Dimensions – inches (mm)



F1

F

#### Operation:

To increase flow: Turn adjustment screw out.  
To decrease flow: Turn adjustment screw in.

**Flow Adjustment:** From 0 to Maximum Flow.

**Numbers of Slot/Knob Turns:** Port sizes 1/4 and 3/8: 14.  
Port sizes 1/2, 3/4: 12.  
Port sizes 1, 1 1/4: 24.

#### STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Flow Media	Filtered air
Mounting Type	Line	Operating Pressure	5 to 150 psig (0.3 to 10 bar)
Temperature	Ambient/Media: 40° to 175°F (4° to 80°C)	Construction Material	Valve Body: Cast Aluminum

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



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# 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. Safety 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 safety 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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*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 [rosscontrols.com](http://rosscontrols.com).*