Safe Load Holding PO Check Valves

19 & 27 Series

Product Catalog

ROSS™
a global family

Right Angle Pilot Operated Check Valves 19 Series
Product Overview

Pilot Operated Check Function
Pilot Operated Check valves are designed to trap pressure in order to hold a cylinder in place when a safety event occurs.

Model with Threaded Banjo	Model with Push-to-Connect Fittings
	

Adapter with G Thread	Adapter with NPT Thread	Model with Adapter Illustrated
		

Illustration examples.

Pilot Operated Check Valves are used to block the return of air from cylinders or other devices.
Air flows freely from port 1 to port 2, but a signal at port 12 is required to allow flow in the reverse direction from port 2 to port 1.

Right-angle models with threaded Banjo are designed for easy positioning of pipe or tubing.

VALVE FEATURES	
Design	Right-angle design for easy positioning of pipe or tubing
Mounting	
Connectivity	Right Angle Valves with Threaded Banjo or Push-to-Connect Fitting
Ease of Maintenance	Lube or non-lube operation

PRODUCT CREDENTIALS		
Performance Level Per ISO 13849-1:2015 Cat. 1 PL c	**Safety Integrity Level** Per IEC 2061:2001 SIL 2 Functional Safety	**Declaration of Conformity** EAC

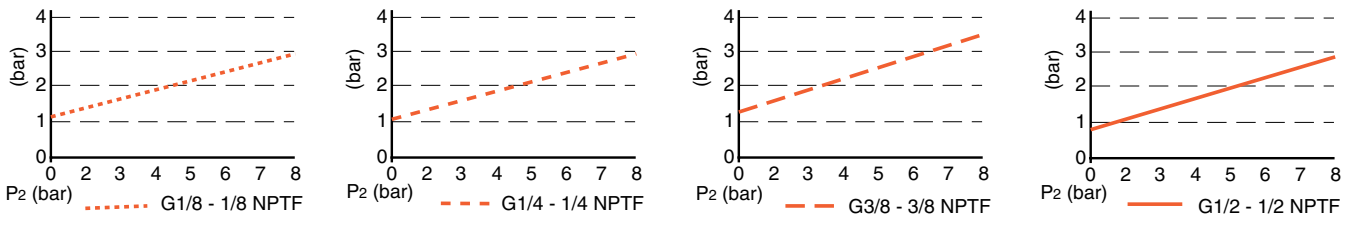
Specifications

STANDARD SPECIFICATIONS				
GENERAL	Function		Safe Load Holding	
	Construction Design		Poppet	
	Actuation		Pneumatic	
	Mounting		Directly in cylinder ports	
	Connection	Type	Threaded	NPT, G
			Push-in-tubing ports	
		Orientation	Any	
	Minimum Operation Frequency		Once per month, to ensure proper function	
OPERATING CONDITIONS	Temperature	Ambient	15° to 160°F (-10° to 70°C)	
		Media		
	Flow Media		Filtered air	
	Operating Pressure		5 to 150 psig (0.3 to 10 bar)	
CONSTRUCTION MATERIAL	Valve Body		Nickel Plated Brass and Anodized Aluminum	
	Poppet		Acetal and Stainless Steel	
	Seals		Buna-N; Fluorocarbon	
	Manual Override		Valve equipped with port, manual override adapter available	

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

Signal Pressure

The charts below show the minimum signal pilot port pressure to open the valve versus port 2 pressure (P_2) when there is no pressure at port 1 (P_1 = 0 bar).



Ordering Information

Pilot Operated Check Right Angle Valves with Threaded Banjo

Port Thread	Port Size		Valve Model Number	Port 12
	Port 1 (female thread)	Port 2 (male thread)		
NPT	1/8	1/8	1958A1010	10-32 UNF
	1/4	1/4	1958A2010	
	3/8	3/8	1958A3010	
	1/2	1/2	1958A4010	
G	1/8	1/8	D1958A1010	M5
	1/4	1/4	D1958A2010	
	3/8	3/8	D1958A3010	
	1/2	1/2	D1958A4010	

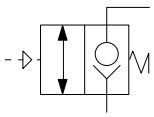
Port Thread	Port Size	Flow C_v (Nl/min)		Tightening Torque Max. Ft-lb (Nm)
		1-2	2-1	
NPT	1/8	0.4 (400)	0.4 (400)	22.13 (30)
	1/4	0.8 (800)	0.7 (700)	14.75 (20)
	3/8	1.2 (1200)	1.3 (1300)	22.13 (30)
	1/2	2.3 (2300)	2.2 (2200)	29.50 (40)
G	1/8	0.4 (400)	0.4 (400)	7.38 (10)
	1/4	0.8 (800)	0.7 (700)	8.85 (12)
	3/8	1.2 (1200)	1.3 (1300)	14.75 (20)
	1/2	2.3 (2300)	2.2 (2200)	22.13 (30)

Manual Override

Manual Trapped Pressure Relief Adapter			
Port 1 (male thread)	Port 2	Port Thread	Model Number*
10/32 tubing	5/32 Manual Operated Check	NPT	1998A1015
M5	M5 Manual Operated Check	G	D1998A1010

* Adapter threads into the signal port.

Valve Schematic



Pilot Operated Check Right Angle Valves with Push-to-Connect Fitting

Thread Type (Port 2)	Port Size		Valve Model Number	Port 12
	Port 1 # (tube fittings)	Port 2 (male thread)		
NPT	5/32”	1/8	1958A1115	10-32 UNF
	1/4”	1/8	1958A1120	
	1/4”	1/4	1958A2120	
	3/8”	1/4	1958A2130	
	3/8”	3/8	1958A3130	
G	4 mm	1/8	D1958A1140	M5
	6 mm	1/8	D1958A1160	
	8 mm	1/8	D1958A1180	
	6 mm	1/4	D1958A2160	
	8 mm	1/4	D1958A2180	
	10 mm	3/8	D1958A3110	

Port 1 tubing size in inches (”) or millimeters (mm).

Thread Type (Port 2)	Port Size		Flow C_V (Nl/min)		Tightening Torque Max. Ft-lb (Nm)
	Port 1# (tube fittings)	Port 2 (male thread)	1-2	2-1	
NPT	5/32”	1/8	0.4 (400)	0.4 (400)	11.06 (15)
	1/4”	1/8	0.4 (400)	0.4 (400)	
		1/4	0.8 (800)	0.7 (700)	14.75 (20)
	3/8”	1/4	0.8 (800)	0.7 (700)	
		3/8	1.2 (1200)	1.3 (1300)	22.13 (30)
G	4 mm	1/8	0.4 (400)	0.4 (400)	7.38 (10)
	6 mm	1/8	0.4 (400)	0.4 (400)	
	8 mm	1/8	0.4 (400)	0.4 (400)	
	6 mm	1/4	0.8 (800)	0.7 (700)	8.85 (12
	8 mm	1/4	0.8 (800)	0.7 (700)	
	10 mm	3/8	1.2 (1200)	1.3 (1300)	14.75 (20

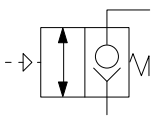
Port 1 tubing size in inches (”) or millimeters (mm).

Manual Override

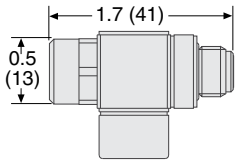
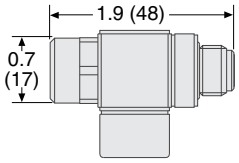
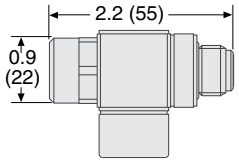
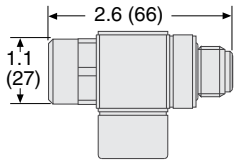
Manual Trapped Pressure Relief Adapter			
Port 1 (male thread)	Port 2	Port Thread	Model Number*
10/32 tubing	5/32 Manual Operated Check	NPT	1998A1015
M5	M5 Manual Operated Check	G	D1998A1010

* Adapter threads into the signal port.

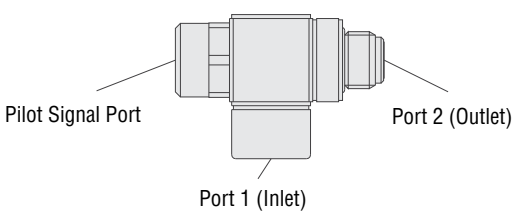
Valve Schematic



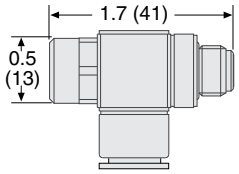
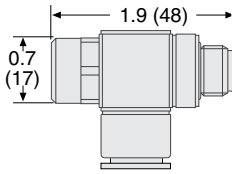
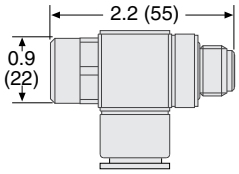
Right Angle Pilot Operated Check Valves with Threaded Banjo

DIMENSIONS	Inches (mm)
Port Size 1/8	
Port Size 1/4	
Port Size 3/8	
Port Size 1/2	

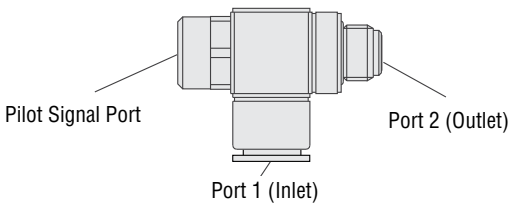
Downloadable CAD models available.



Right Angle Pilot Operated Check Valves with Push-to-Connect Fitting

DIMENSIONS	Inches (mm)
Port Size 1/8	
Port Size 1/4	
Port Size 3/8	

Downloadable CAD models available.



Pilot Operated Check Valves 27 Series
Product Overview

Pilot Operated Check Function

Pilot Operated Check valves are used for load holding or cylinder position holding applications, designed to trap pressure in order to hold a cylinder in place when a safety event occurs.

Valve without Trapped Pressure Relief		Valve with Manual Trapped Pressure Relief	Dual Valve with Remote Trapped Pressure Relief
GEN I	GEN II		
			

Illustration examples.

Pilot Operated Check valves can be used wherever a high-flow or remotely-controlled checking function is needed. Can be used in a circuit to provide automatic stopping of a cylinder in the event of the loss of electrical or pneumatic power.

VALVE FEATURES

Poppet Design	Poppet construction for near zero leakage
Trapped Pressure Release Options	Manual or remote trapped pressure release when pressure is removed from the Blowdown Signal Port (BP)
Mounting	Inline

PRODUCT CREDENTIALS

Safety Category	EAC Declaration of Conformity	ISO Standard	CSA Certificate of Compliance	CRN Certification
Cat. 1 PL c / SIL 2 Functional Safety	EAC	ISO 13849-1:2015	Solenid Pilot Valves	Available for appropriately tested valves

Specifications

STANDARD SPECIFICATIONS					
GENERAL	Function		2/2 Valves		
	Construction Design		Poppet		
	Actuation		Electrical	Solenoid Pilot Controlled	
			Pneumatic	Pressure Controlled Valves	
	Mounting	Type	Inline		
		Orientation	Any, preferably vertical		
	Connection		Threaded	NPT, G	
	Minimum Operation Frequency		Once per month, to ensure proper function		
OPERATING CONDITIONS	Temperature	Ambient	40° to 175°F (4° to 80°C)		
		Media			
	Flow Media		Filtered air		
	Operating Pressure	Solenoid Pilot Controlled	15 to 150 psig (1 to 10.3 bar)		
		Pressure Controlled	30 to 150 psig (2 to 10.3 bar)		
	Pilot Pressure		Must be equal to or greater than inlet pressure		
ELECTRICAL DATA FOR SOLENOID PILOT CONTROLLED VALVES	Solenoid		Current Flow	Operating Voltage	Power Consumption (each solenoid)
			DC	24 volts	4-pin Micro connector – 4.5 watts
					3-pin Mini connector – 60 watts
			AC	110-120 volts, 50/60 Hz	8 VA inrush, 6 VA holding
				230-240 volts, 50/60 Hz	
			Rated for continuous duty		
	Enclosure Rating		IP65, IEC 60529		
	Electrical Connection		EN DIN 175301-803 Form A, 3-Pin Mini or 4-Pin Micro.		
CONSTRUCTION MATERIAL	Valve Body		Cast Aluminum		
	Poppet		Acetal and Stainless Steel		
	Seals		Buna-N		

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

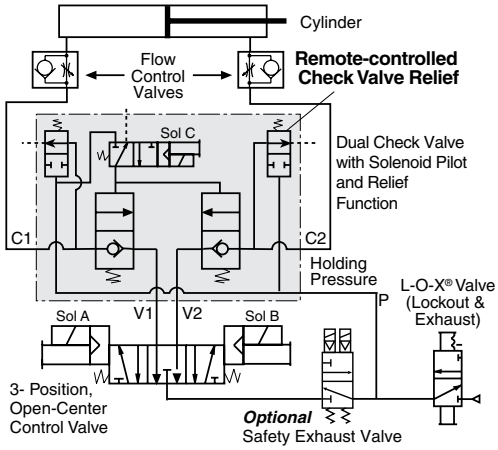
Applications

Solenoid Pilot Controlled Valve Application

Dual Pilot Operated Check Valve

Circuit Features

- To operate cylinder, simultaneously energize solenoids A and C or B and C.
- Pilot supply and exhaust are independent of control valve.
- Response time is not affected by exhaust restrictions of the control valve.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.
- Pressure in cylinder is exhausted when the air supply at “P” port is lost or locked-out.
- L-O-X® valve provides lockable shut-off of air supply, and exhausting of trapped downstream air.

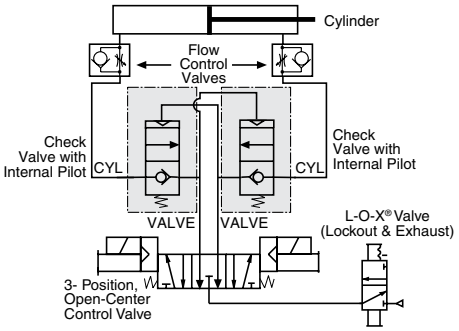


Pressure Controlled Valve Application

Single Pilot Operated Check Valve

Circuit Features

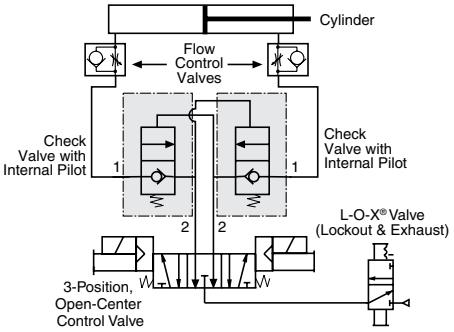
- Cylinder moves as long as the control valve solenoid is energized. Use for continuous motion or jogging.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.



Single Pilot Operated Check Valve

Circuit Features

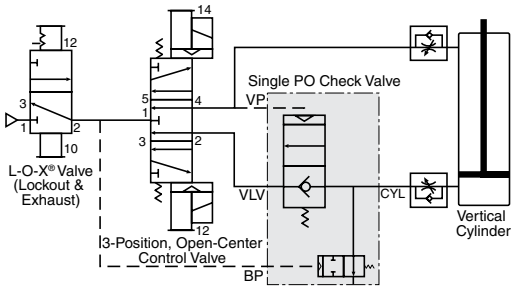
- Cylinder moves as long as the control valve solenoid is energized. Use for continuous motion or jogging.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.



Single Pilot Operated Check Valve with Trapped Pressure Relief Application

Circuit Features

- Trapped pressure between check valve and cylinder is exhausted when the air supply at the
- Blowdown Signal Port (BP) is lost or locked-out.
- Cylinder moves as long as the control valve solenoid is energized. Use for continuous motion or jogging.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.

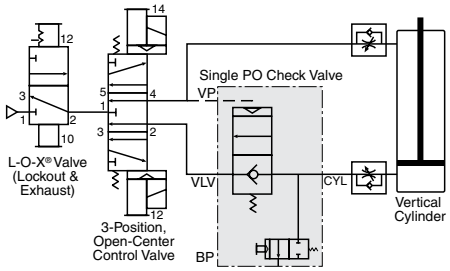


Pressure Controlled Valve Application

Single Pilot Operated Check Valve with Manual Trapped Pressure Relief

Circuit Features

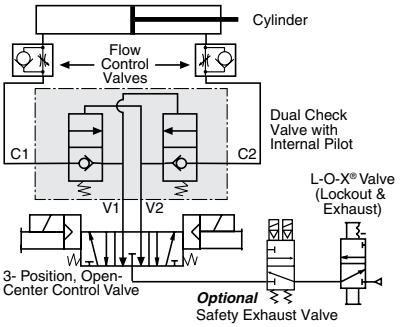
- To operate cylinder, simultaneously energize solenoids A and C or B and C.
- Pilot supply and exhaust are independent of control valve.
- Response time is not affected by exhaust restrictions of the control valve.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.
- Pressure in cylinder is exhausted when the air supply at "P" port is lost or locked-out.
- L-O-X® valve provides lockable shut-off of air supply, and exhausting of trapped downstream air.



Single Pilot Operated Check Valve

Circuit Features

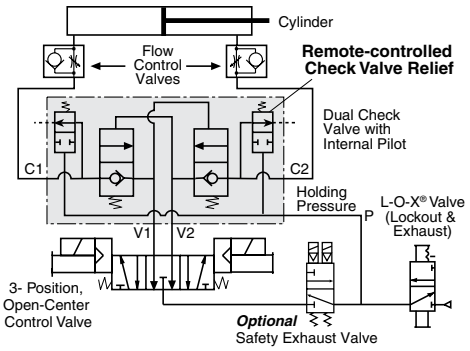
- Cylinder moves as long as the control valve solenoid is energized. Use for continuous motion or jogging.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.



Single Pilot Operated Check Valve

Circuit Features

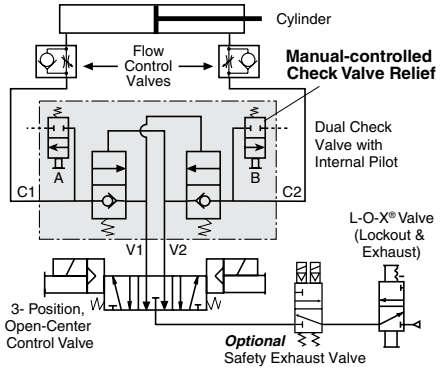
- Cylinder moves as long as the control valve solenoid is energized. Use for continuous motion or jogging.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.



Dual Pilot Operated Check Valve Manual Trapped Pressure Relief

Circuit Features

- Trapped pressure between check valve and cylinder is exhausted when the air supply at the
- Blowdown Signal Port (BP) is lost or locked-out.
- Cylinder moves as long as the control valve solenoid is energized. Use for continuous motion or jogging.
- Cylinder remains stationary if neither control valve solenoid is energized, or if electrical signal is lost.



Ordering Information – Solenoid Pilot Controlled Valves

Dual Pilot Operated Check – Valves with Remote Trapped Pressure Relief

Valves with DIN EN Connector — 2-Way 2-Position Valves

Port Size	Valve Model Number					
	NPT Thread			G Thread		
	24 V DC	110-120 V AC	230 V AC	24 V DC	110-120 V AC	230 V AC
3/8	2778D3900W	2778D3900Z	2778D3900Y	D2778D3900W	D2778D3900Z	D2778D3900Y
1/2	2778D4900W	2778D4900Z	2778D4900Y	D2778D4900W	D2778D4900Z	D2778D4900Y
3/4	2778D5900W	2778D5900Z	2778D5900Y	D2778D5900W	D2778D5900Z	D2778D5900Y
1	2778D6900W	2778D6900Z	2778D6900Y	D2778D6900W	D2778D6900Z	D2778D6900Y

Valves with 3-Pin Mini Connector — 2-Way 2-Position Valves

Port Size	Valve Model Number					
	NPT Thread			G Thread		
	24 V DC	110-120 V AC	230 V AC	24 V DC	110-120 V AC	230 V AC
3/8	2778D3901W	2778D3901Z	2778D3901Y	D2778D3901W	D2778D3901Z	D2778D3901Y
1/2	2778D4901W	2778D4901Z	2778D4901Y	D2778D4901W	D2778D4901Z	D2778D4901Y
3/4	2778D5901W	2778D5901Z	2778D5901Y	D2778D5901W	D2778D5901Z	D2778D5901Y
1	2778D6901W	2778D6901Z	2778D6901Y	D2778D6901W	D2778D6901Z	D2778D6901Y

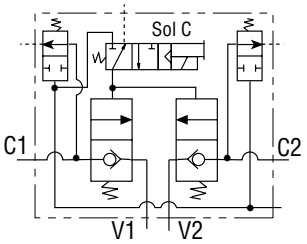
Valves with 4-Pin Micro Connector — 2-Way 2-Position Valves

Port Size	Valve Model Number	
	NPT Thread	G Thread
	24 V DC	24 V DC
3/8	2778D3904	D2778D3904
1/2	2778D4904	D2778D4904
3/4	2778D5904	D2778D5904
1	2778D6904	D2778D6904

Port Size	Signal Port	Flow C_v (Nl/min)	Weight lb (kg)
3/8	1/8	2.9 (2900)	4.0 (1.8)
1/2	1/8	3.2 (3100)	4.2 (1.9)
3/4	1/8	8.5 (8400) #	4.2 (1.9)
1	1/8	8.5 (8400) #	6.1 (2.8)

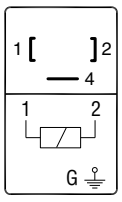
Effective C_v (Nl/min) varies with load and pressure drop. Consult ROSS for specifics on your system.

Valve Schematic



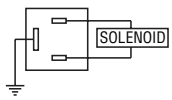
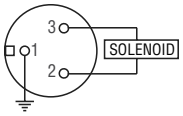
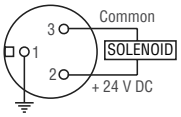
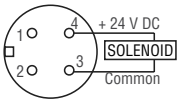
Solenoid Pinout

DIN EN 175301-803 Form A



1 - Positive
2 - Negative
4 - Ground

Connector Wiring

DIN EN	AC Mini	DC Mini	DC Micro
			

Single Pilot Operated Check - Valves without Trapped Pressure Relief

Valves without Trapped Pressure Relief – GEN I — 2-Way 2-Position Valves

Port Size	Body Size	Valve Model Number		Signal Port	Flow C_v (Nl/min)	Weight lb (kg)
		NPT Thread	G Thread			
1/4	3/8	2751A2903	D2751A2903	1/4	1.8 (1800)	1.3 (0.6)
3/8	3/8	2751A3901	D2751A3901	1/4	3.2 (3100)	
1/2	3/8	2751A4902	D2751A4902	1/4	3.9 (3800)	
	3/4	2751A4905	D2751A4905	1/4	7.2 (7100)	2.3 (1.0)
3/4	3/4	2751A5903	D2751A5903	1/4	9.1 (9000)	
1	3/4	2751A6901	D2751A6901	1/4	9.9 (9700)	
	1-1/4	2751B6904	D2751B6904	1/4	21 (2100)	6.0 (2.7)
1-1/4	1-1/4	2751B7901	D2751B7901	1/4	30 (3100)	
1-1/2	1-1/4	2751B8902	D2751B8902	1/4	32 ()3100	

Valves without Trapped Pressure Relief – GEN II — 2-Way 2-Position Valves

Port Size	Valve Model Number		Signal Port	Flow C_v (Nl/min)	Weight lb (kg)
	NPT Thread	G Thread			
1/4	2751A2908	D2751A2908	1/8	2.2 (2200)	2.3 (1.0)
3/8	2751A3908	D2751A3908	1/8	2.9 (2900)	
1/2	2751A4915	D2751A4915	1/8	3.2 (3100)	

Valves with Remote Trapped Pressure Relief — 2-Way 2-Position Valves

Port Size	Valve Model Number		Signal Port	Flow C_v (Nl/min)	Weight lb (kg)
	NPT Thread	G Thread			
3/8	2751A3922	D2751A3922	1/8	2.6 (2600)	1.8 (0.8)
1/2	2751A4922	D2751A4922	1/8	2.8 (2800)	
3/4	2751A5917	D2751A5917	1/8	9.2 (9100)	2.9 (3.1)

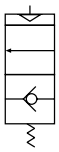
Valves with Manual Trapped Pressure Relief — 2-Way 2-Position Valves

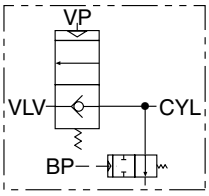
Port Size	Valve Model Number		Flow C_v (Nl/min)	Weight lb (kg)
	NPT Thread	G Thread		
3/8	2751A3920	D2751A3920	2.6 (2600)	1.8 (0.8)
1/2	2751A4920	D2751A4920	2.8 (2800)	
3/4	2751A5919	D2751A5919	9.2 (9100)	2.9 (3.1)

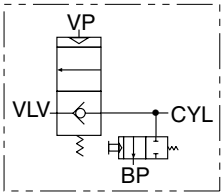
Valve Schematic

Trapped Pressure Relief Options

None	Remote	Manual



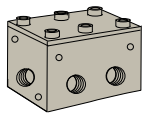




Ordering Information – Pressure Controlled Valves

Dual Pilot Operated Check – Pressure Controlled Valves

Valves without Trapped Pressure Relief — 2-Way 2-Position Valves

Port Size	Valve Model Number		Signal Port	Flow C_V (Nl/min)	Weight lb (kg)	
	NPT Thread	G Thread				
3/8	2768C3900	D2768C3900	1/8	2.9 (2900)	2.0 (0.9)	
1/2	2768C4900	D2768C4900	1/8	3.2 (3100)	2.4 (1.1)	
3/4	2768C5900	D2768C5900	1/8	8.5 (8400) #	3.8 (1.7)	
1	2768A6900	D2768A6900	1/8	8.5 (8400) #	6.8 (3.1)	

Effective C_V (Nl/min) varies with load and pressure drop. Consult ROSS for specifics on your system.

Valves with Remote Trapped Pressure Relief — 2-Way 2-Position Valves

Port Size	Valve Model Number		Signal Port	Flow C_V (Nl/min)	Weight lb (kg)	
	NPT Thread	G Thread				
3/8	2768D3901	D2768D3901	1/8	2.9 (2900)	2.3 (1.1)	
1/2	2768D4901	D2768D4901	1/8	3.2 (3100)	2.3 (1.1)	
3/4	2768D5901	D2768D5901	1/8	8.5 (8400) #	3.8 (1.7)	
1	2768D6901	D2768D6901	1/8	8.5 (8400) #	7.4 (3.4)	

Effective C_V (Nl/min) varies with load and pressure drop. Consult ROSS for specifics on your system.

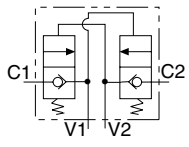
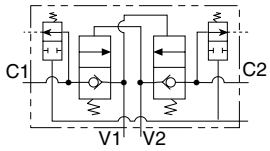
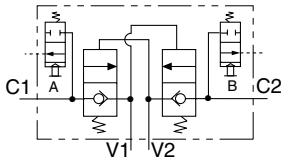
Valves with Manual Trapped Pressure Relief — 2-Way 2-Position Valves

Port Size	Valve Model Number		Flow C_V (Nl/min)	Weight lb (kg)	
	NPT Thread	G Thread			
3/8	2768D3904	D2768D3904	2.9 (2900)	2.3 (1.1)	
1/2	2768D4904	D2768D4904	3.2 (3100)	2.3 (1.1)	
3/4	2768D5904	D2768D5904	8.5 (8400) #	3.8 (1.7)	
1	2768D6904	D2768D6904	8.5 (8400) #	6.58 (3.0)	

Effective C_V (Nl/min) varies with load and pressure drop. Consult ROSS for specifics on your system.

Valve Schematic

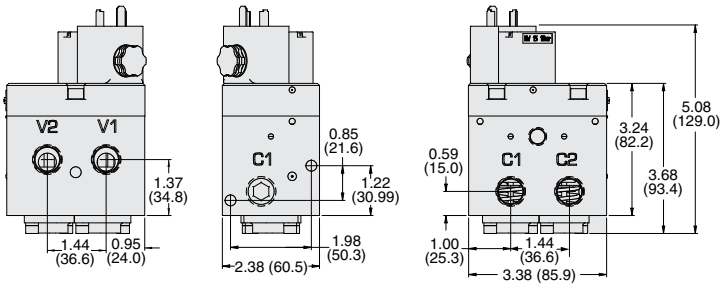
Trapped Pressure Relief Options

None	Remote	Manual
		

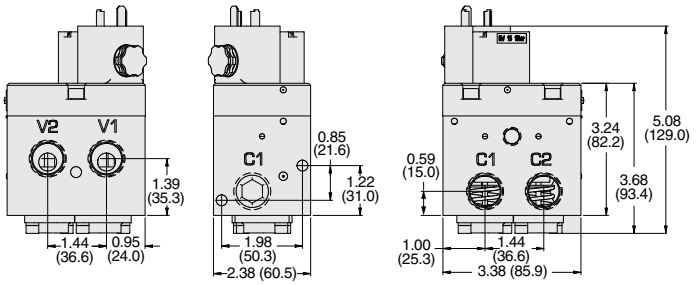
Solenoid Pilot Controlled Valves – Dual PO Check with Remote Trapped Pressure Relief

DIMENSIONS	Inches (mm)

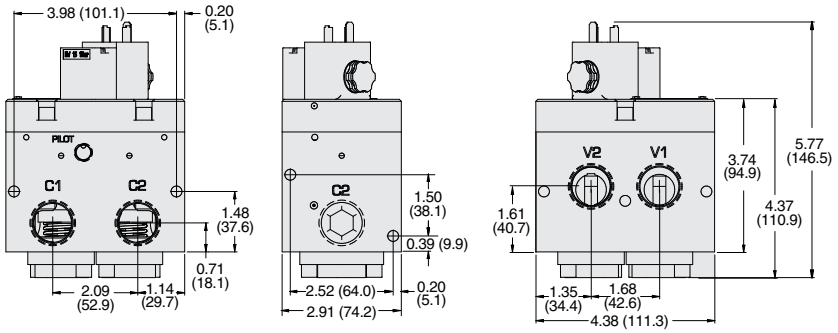
Port Size 3/8



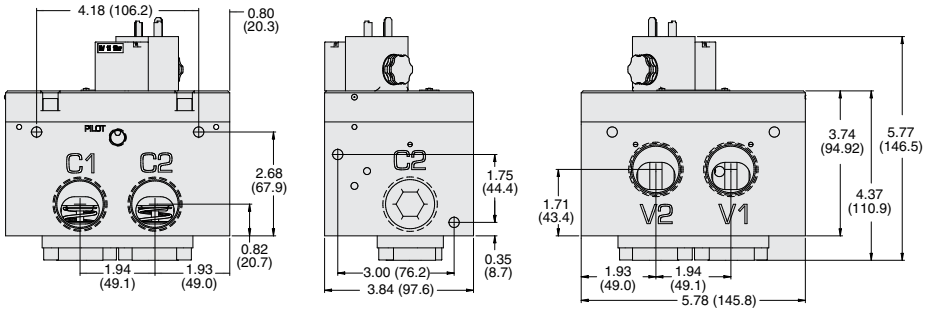
Port Size 1/2



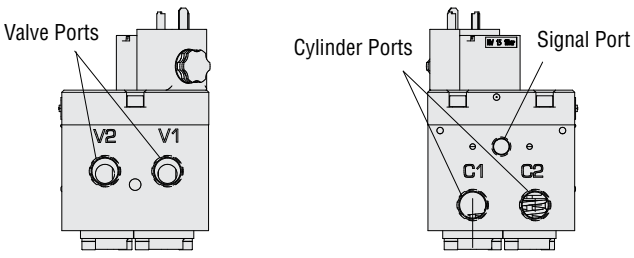
Port Size 3/4



Port Size 1



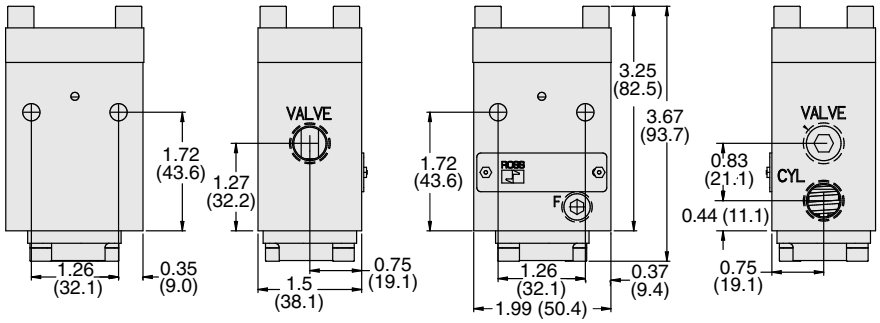
Downloadable CAD models available.



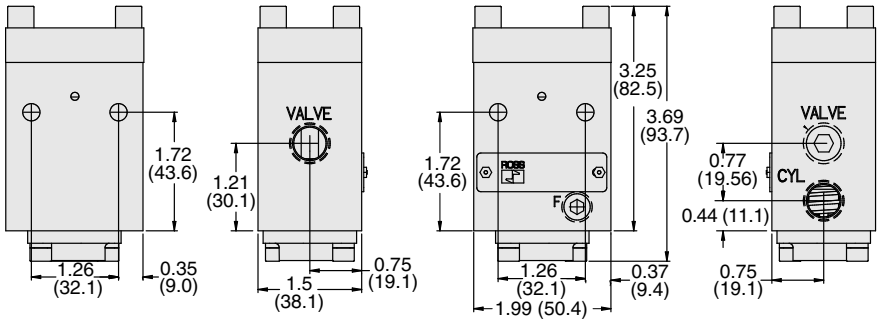
Pressure Controlled Valves – Single PO Check Valves without Trapped Pressure Relief

DIMENSIONS	Inches (mm)

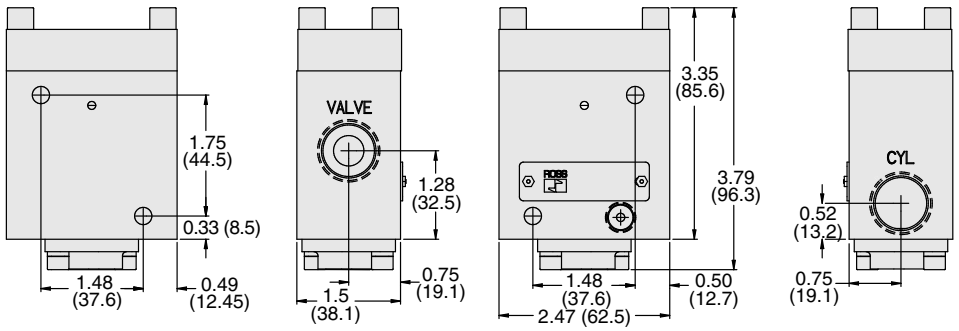
Port Size 1/4



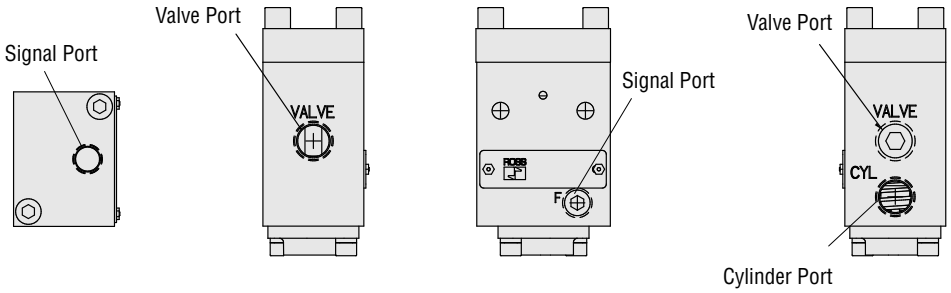
Port Size 3/8



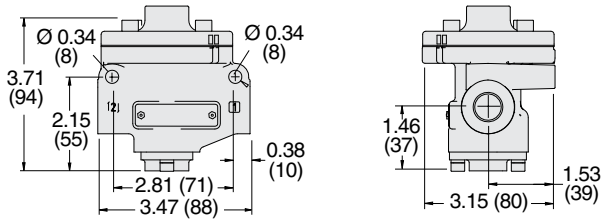
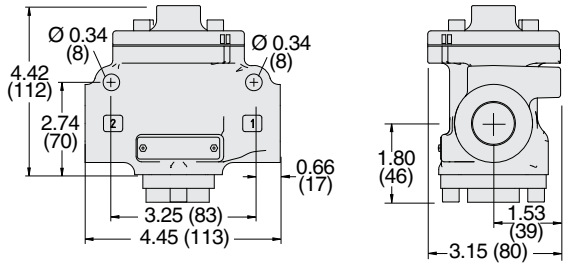
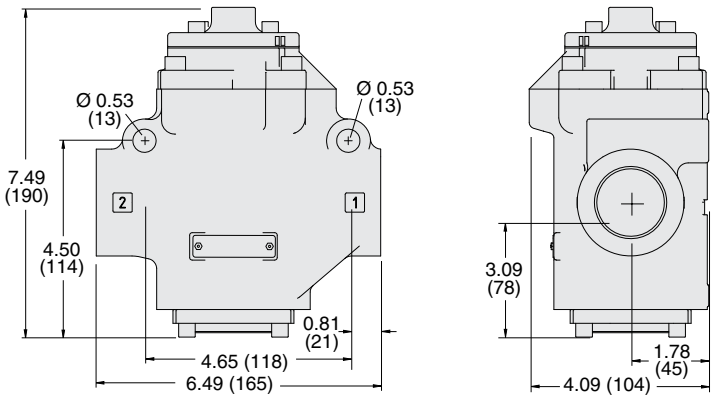
Port Size 1/2

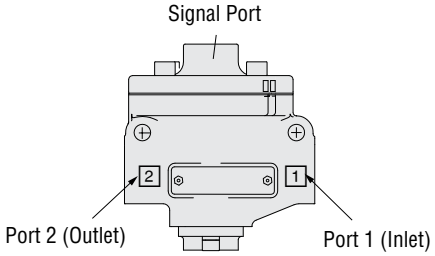


Downloadable CAD models available.



Pressure Controlled Valves – Single PO Check Headline Valves without Trapped Pressure Relief

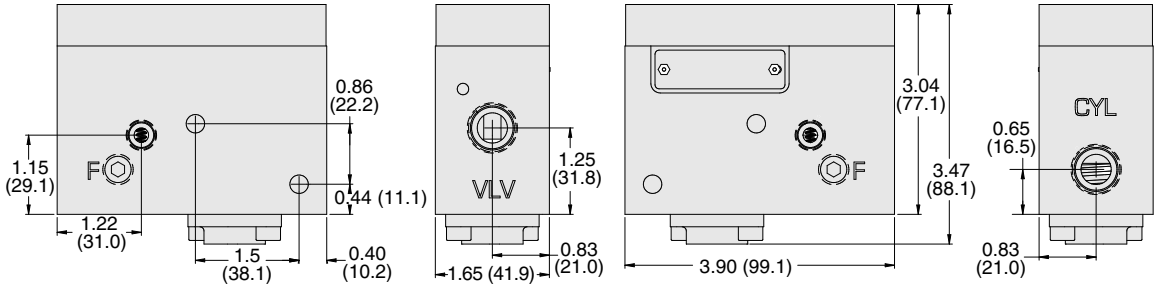
DIMENSIONS	Inches (mm)
Body Size 3/8	
Port Size 3/4	
Port Size 1-1/4	
Downloadable CAD models available.	



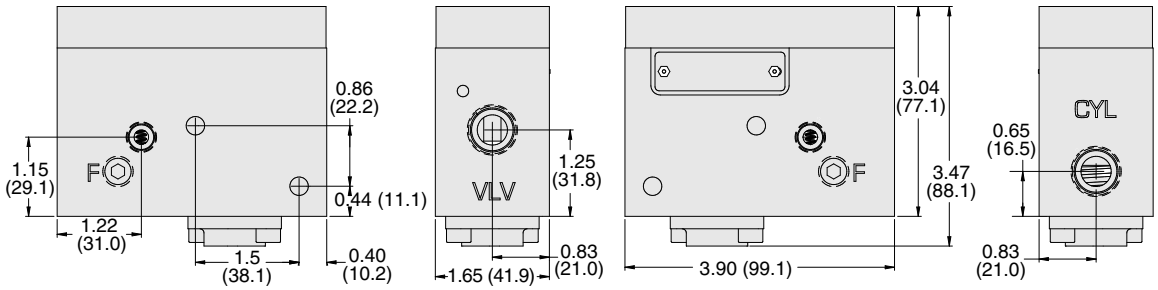
Pressure Controlled Valves – Single PO Check Valves with Remote Trapped Pressure Relief

DIMENSIONS — Inches (mm)

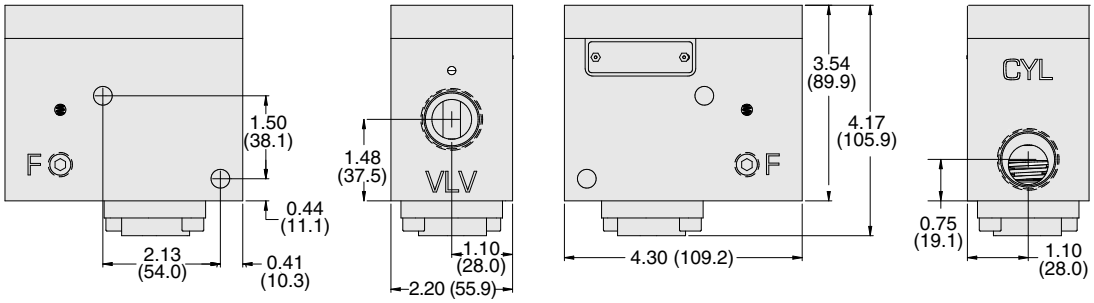
Body Size 3/8



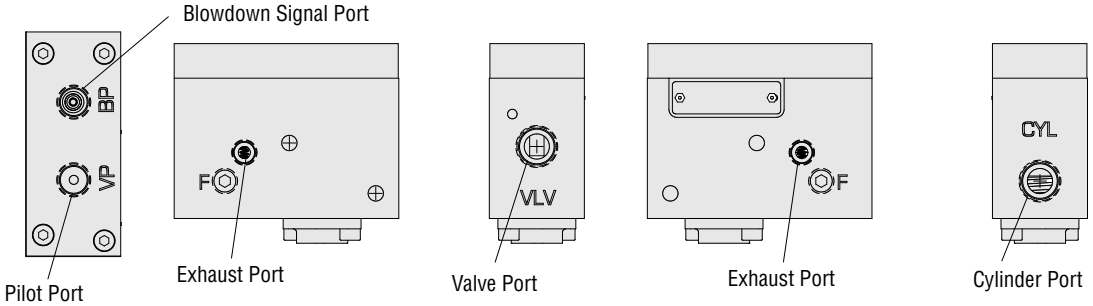
Port Size 1/2



Port Size 3/4



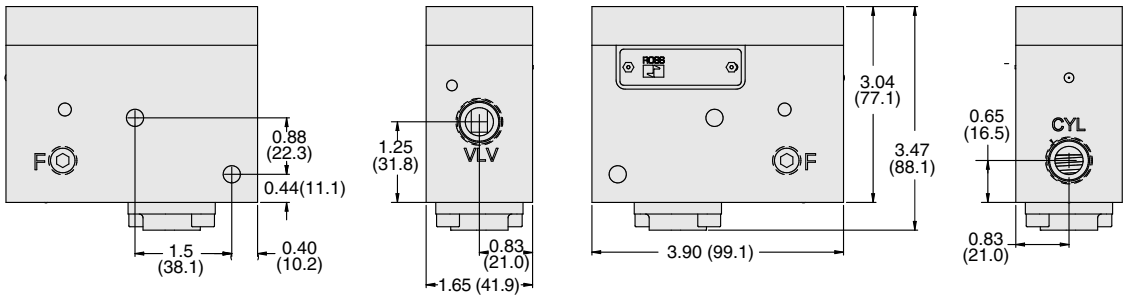
Downloadable CAD models available.



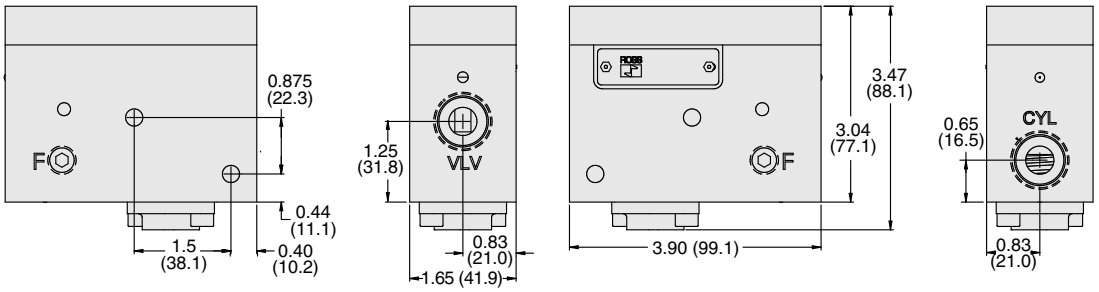
Pressure Controlled Valves – Single PO Check Valves with Manual Trapped Pressure Relief

DIMENSIONS — Inches (mm)

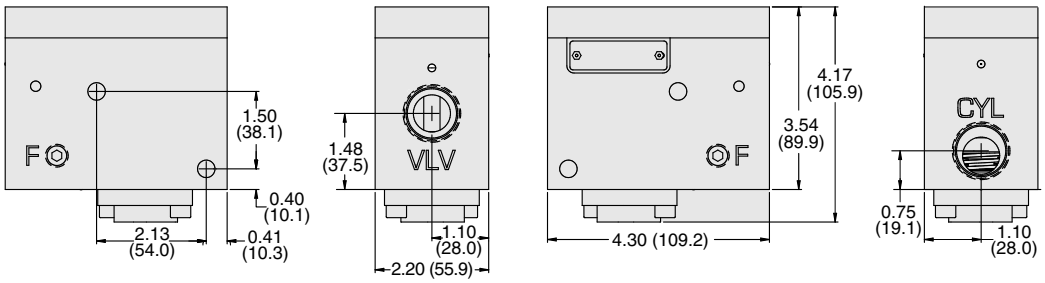
Body Size 3/8



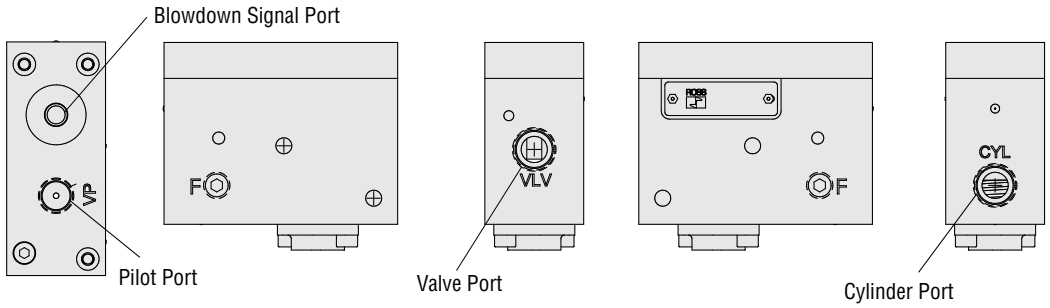
Port Size 1/2



Port Size 3/4



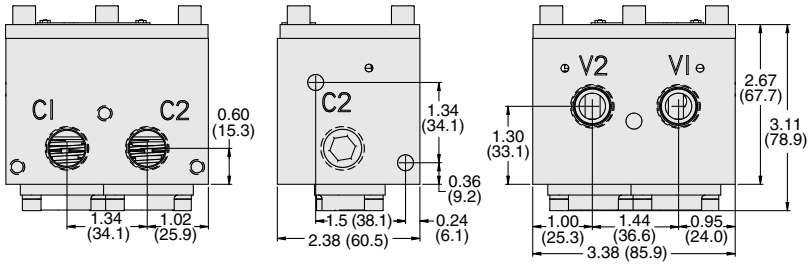
Downloadable CAD models available.



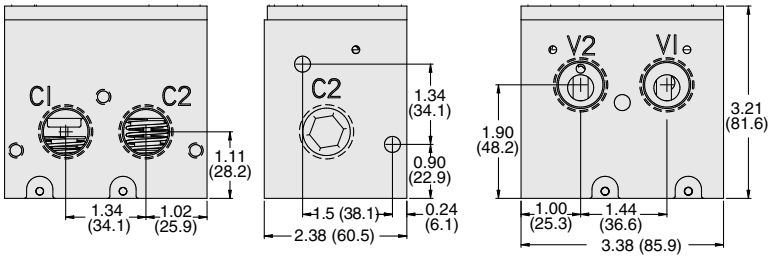
Pressure Controlled Valves – Dual PO Check without Trapped Pressure Relief

DIMENSIONS — Inches (mm)

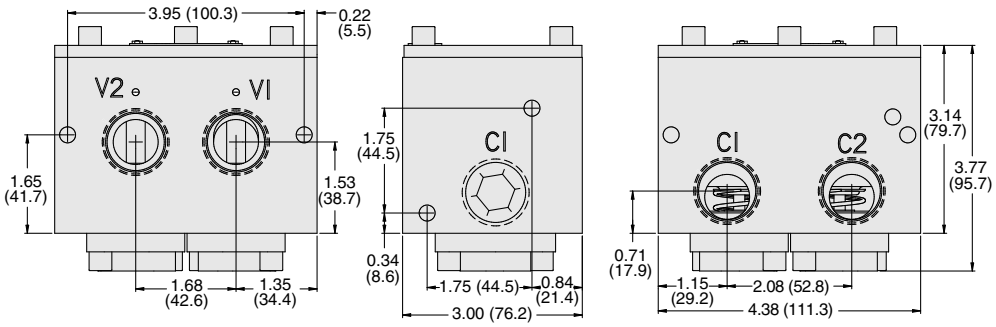
Port Size 3/8



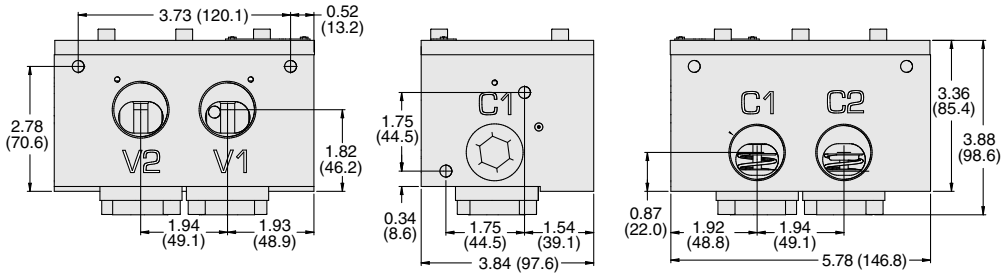
Port Size 1/2



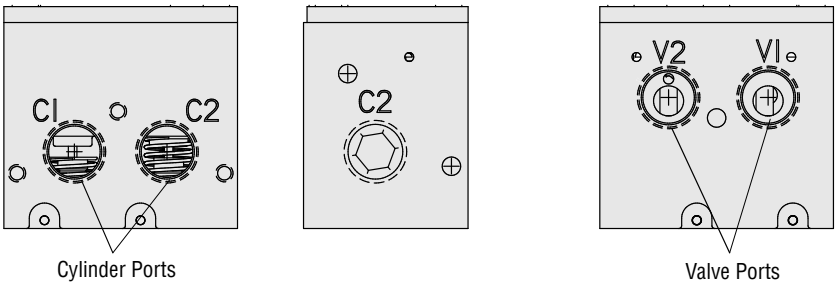
Port Size 3/4



Port Size 1



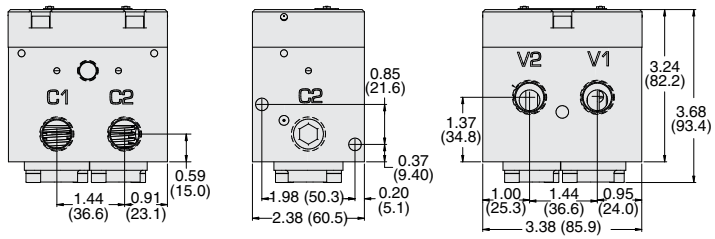
Downloadable CAD models available.



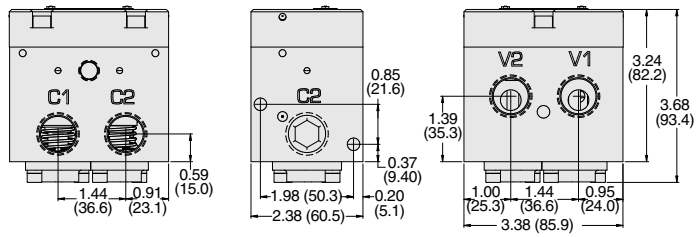
Pressure Controlled Valves –Dual PO Check with Remote Trapped Pressure Relief

DIMENSIONS — Inches (mm)

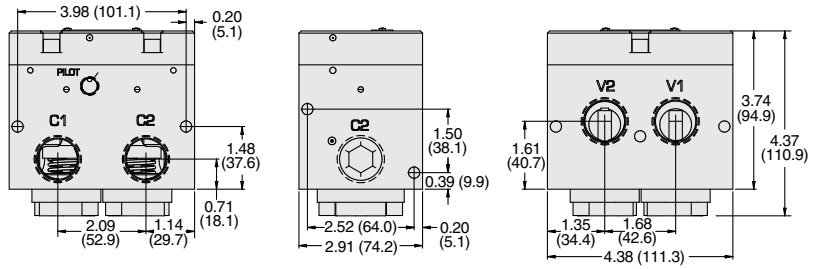
Port Size 3/8



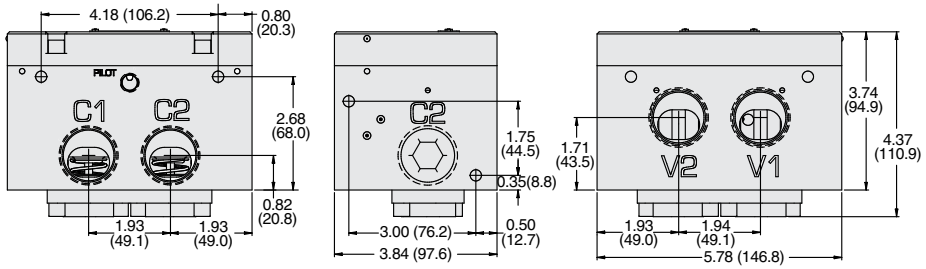
Port Size 1/2



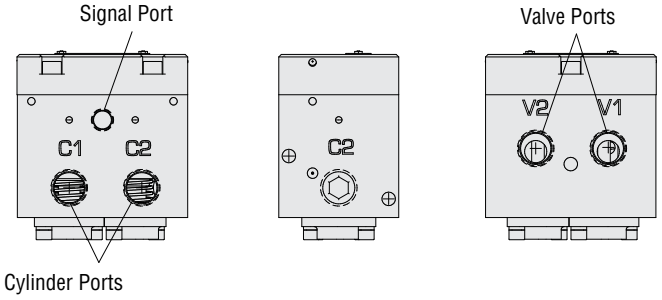
Port Size 3/4



Port Size 1



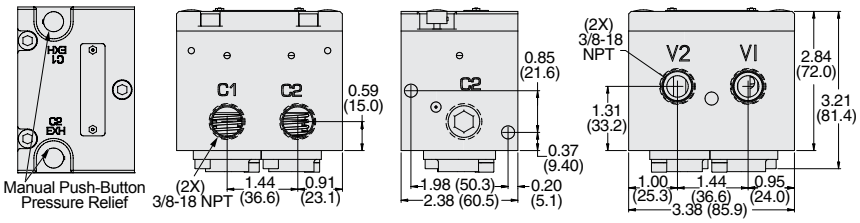
Downloadable CAD models available.



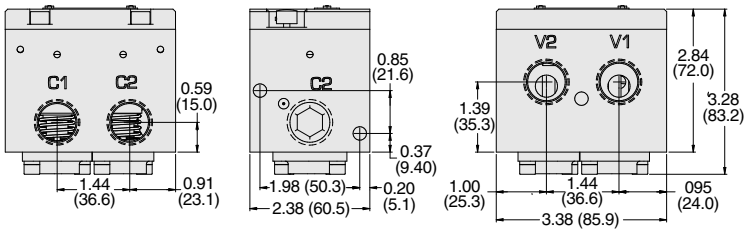
Pressure Controlled Valves – Dual PO Check with Manual Trapped Pressure Relief

DIMENSIONS — Inches (mm)

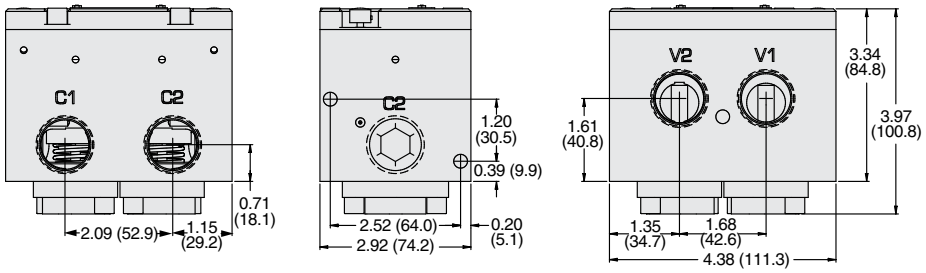
Port Size 3/8



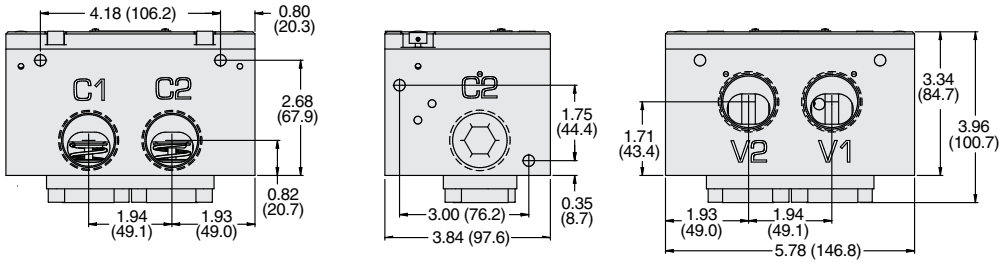
Port Size 1/2



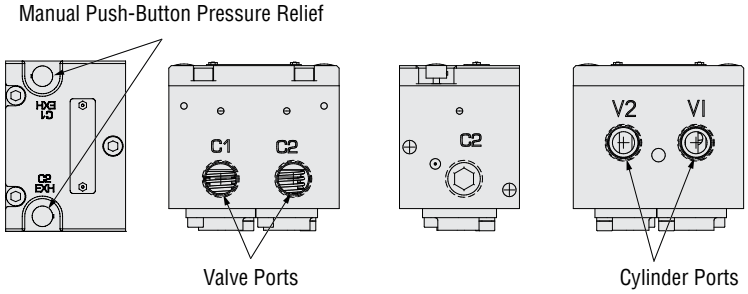
Port Size 3/4



Port Size 1



Downloadable CAD models available.



PREWIRED ELECTRICAL CONNECTORS

Illustration example.

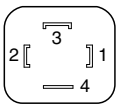
Prewired Connectors	Cable						Model Number			
	End 1	End 2	Connection	Quantity Included	Length meters (feet)	Cord Diameter mm	Without Light	Lighted Connector		
	Connector	Cord						24 V DC	120 V AC	230 V AC
	DIN EN 175301-803 Form A	Flying leads	Solenoid	1	2 (6.5)	6	721K77	720K77-W	720K77-Z	720K77-Y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

ELECTRICAL CONNECTORS

Cable Grip	
Without Light	With Light
	

Illustration examples.

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

Connector Pinout
DIN EN 175301-803
 1 - Black 2 - Black 4 - Green/Yellow (Ground)

Notes

Notes

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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a global family

Americas	**ROSS** CONTROLS	USA	Tel: +1-248-764-1800	www.rosscontrols.com
	ROSS CONTROLS CANADA Ltd.	Canada	Tel: +1-416-251-7677	www.rosscanada.com
	ROSS DO BRASIL LTDA	Brazil	Tel: +55-11-4335-2200	www.rosscontrols.com.br
Europe	**ROSS** EUROPA GmbH	Germany	Tel: +49 (0)6103-7597-100	www.rosseuropa.com
	ROSS FRANCE SAS	France	Tel: +33-(0)1-49-45-65-65	www.rossfrance.com
	ROSS PNEUMATROL Ltd.	United Kingdom	Tel: +44 (0)1254 872277	www.rossuk.co.uk
Asia & Pacific	**ROSS** CONTROLS INDIA Pvt. Ltd.	India	Tel: +91-44-2624-9040	www.rosscontrolsindia.com
	ROSS CONTROLS (CHINA) Ltd.	China	Tel: +86-21-6915-7961	www.rosscontrolschina.com
	ROSS ASIA K.K.	Japan	Tel: +81-42-778-7251	www.rossasia.co.jp
	AUTOMATIC VALVE INDUSTRIAL LLC	USA	Tel: +1-248-474-6700	www.automaticvalve.com
	ROSS DECCO COMPANY	USA	Tel: +1-248-764-1800	www.rossdecco.com
	ROSS PNEUMATROL Ltd.	United Kingdom	Tel: +44 (0)1254 872277	www.pneumatrol.com
	manufactIS GmbH	Germany	Tel: +49 (0)2013-16843-0	www.manufactis.net

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.