ROSS CONTROLS®

MANUAL AND MECHANICAL VALVES

Pushbutton

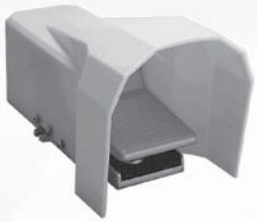
Palm Button

Toggle Lever

Cam Roller

Plunger

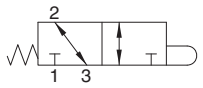
Heavy-Duty Hand Lever

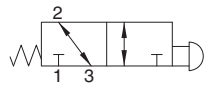


Foot Pedal with Guard

Pendant

VALVE TYPE	VALVE SERIES	AVAILABLE PORT SIZES							MAX. FLOW Cv	FUNCTIONS					Page
		1/8	1/4	3/8	1/2	3/4	1	1¼		2/2	3/2	4/2	4/3	5/2	
Flush & Mushroom Pushbutton															
	12	■	■						0.9		■				C1.3
Palm Button & Heavy Duty Palm Button															
	11 & 12	■	■						0.5	■	■				C1.4
Selector Switch															
	12	■	■						0.9		■				C1.5
Toggle Lever															
	11		■						0.5	■	■				C1.6
Lever															
	36		■						1.2		■	■			C1.7
Heavy-Duty Hand Lever															
	31			■	■	■	■	■	14				■		C1.8 - C1.9
Pedal & Treadle															
	36		■						1.2		■	■			C1.10
Foot Pedal with Guard															
	RM		■						0.5					■	C1.11
Mechanical Cam Roller & Plunger Valves															
	11		■						0.5	■	■				C1.12
Pendant Control															
	20 & 39		■						0.5	■	■				C1.13

3-Way 2-Position Valves, Flush Pushbutton, Spring Return					
Port Size	Valve Model Number*		C_v	Weight lb (kg)	
	Green Button	Red Button			
1/8	1223B1FPG	1223B1FPR	0.6	0.28 (0.13)	
1/4	1223B2FPG	1223B2FPR	0.9	0.34 (0.15)	

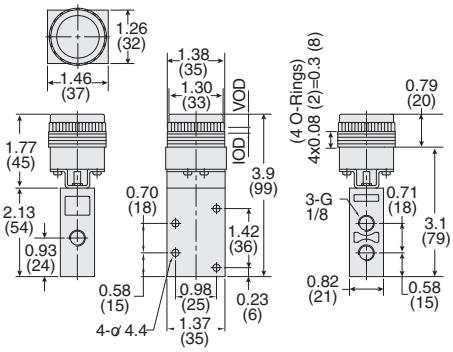
3-Way 2-Position Valves, Mushroom Button Spring Return					
Port Size	Valve Model Number*		C_v	Weight lb (kg)	
	Green Button	Red Button			
1/8	1223B1MBG	1223B1MBR	0.6	0.29 (0.13)	
1/4	1223B2MBG	1223B2MBR	0.9	0.35 (0.16)	

* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D1223B1FPG

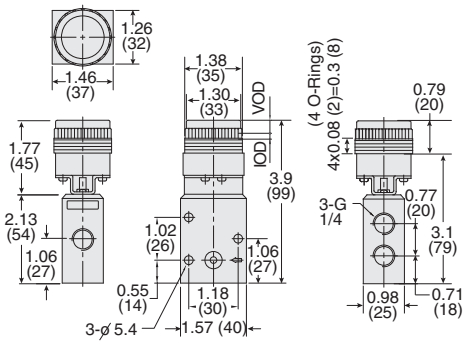
Valve Dimensions – inches (mm)

Flush Pushbutton

Port Size 1/8

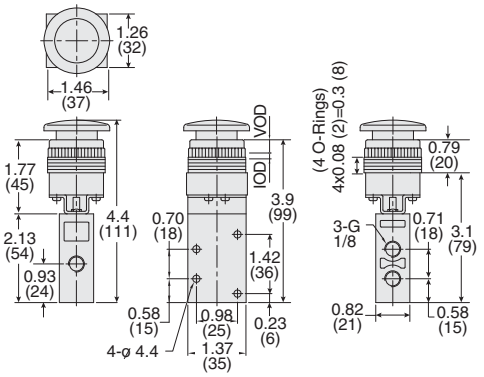


Port Size 1/4

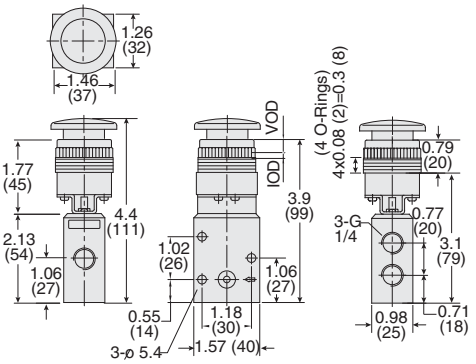


Mushroom Button

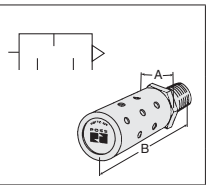
Port Size 1/8



Port Size 1/4



Accessories

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)	
	Pressure Range: 0 to 300 psig (0 to 20.7 bar) maximum. **Flow Media:** Filtered air.								

Normally Closed or Normally Open simply by piping the inlet supply accordingly.

STANDARD SPECIFICATIONS (for valves on this page):

Construction: Spool & Sleeve.
Mounting Type: Inline.
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).
Valve Body: Die-cast aluminum.
Button Materials: Stainless steel, polyoxymethylene.

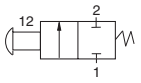
Spool Material: Aluminum.
Seals Material: Nitrile rubber.
Spring Material: Stainless Steel.
Switch Parts: Glass filled Nylon.

Valid Operation Distance: 0.22 inches (5.5 mm).
Invalid Operation Distance: 0.04 inches (1.0 mm).
Pressure for Valid/Invalid Operation: 7.7 lb (3.5 Kg).

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

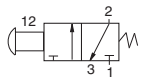
2-Way 2-Position Valves, Palm Button, Spring Return

Port Size 1-2	Valve Model Number*	C_v	Average Response Constants# F 1-2	Weight lb (kg)
1/4	1121A2001	0.5	2.5	1.0 (0.5)



3-Way 2-Position Valves, Palm Button, Spring Return

Port Size 1, 2, 3	Valve Model Number*	C_v	Average Response Constants# F 1-2	Average Response Constants# F 2-3	Weight lb (kg)
1/4	1123A2001	0.5	2.5	3.2	1.0 (0.5)

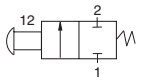


2/2 Normally Closed
3/2 Normally Closed

Palm Button

2-Way 2-Position Valves, Heavy-Duty Palm Button Spring Return

Port Size	Valve Model Number* Green Button	Valve Model Number* Red Button	C_v	Average Response Constants# F 1-2	Weight lb (kg)
1/4	1221B2001	1221B2003	0.8	2.0	1.8 (0.8)

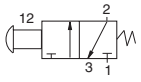


2/2 Normally Closed
3/2 Normally Closed

Heavy-Duty
Palm Button

3-Way 2-Position Valves, Heavy-Duty Palm Button Spring Return

Port Size	Valve Model Number* Green Button	Valve Model Number* Red Button	C_v	Average Response Constants# F 1-2	Average Response Constants# F 2-3	Weight lb (kg)
1/4	1223B2001	1223B2003	0.8	2.0	2.3	1.8 (0.8)



C

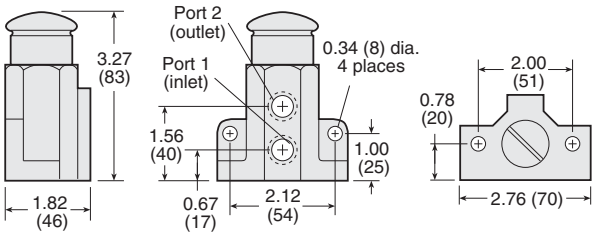
C1

* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D1121A2001.

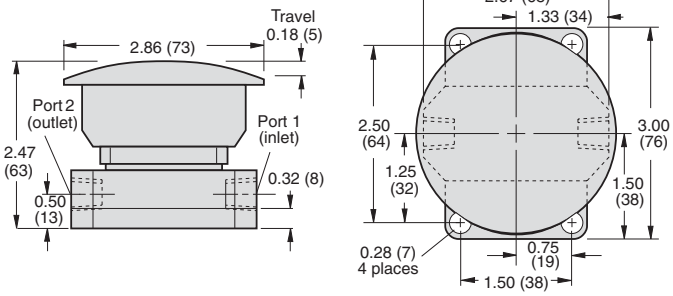
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Dimensions – inches (mm)

Palm Button

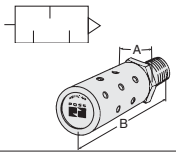


Heavy-Duty Palm Button

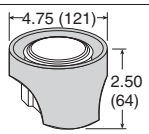


Accessories & Options

Silencers for 3-way Valves	Port Size	Thread Type	Model Number NPT Threads	Model Number BSPT Threads	Avg. C_v	Dimensions inches (mm) A	Dimensions inches (mm) B	Weight lb (kg)
	1/4	Male	5500A2003	D5500A2003	2.1	0.9 (21)	2.2 (55)	0.1 (0.1)
	Pressure Range: 0 to 300 psig (0 to 20.7 bar) maximum. **Flow Media:** Filtered air.							



RING GUARD for Heavy-Duty Palm Button	Model Number
	278B30



Helps to protect against accidental valve actuation.

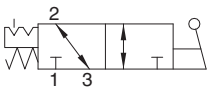
STANDARD SPECIFICATIONS (for valves on this page):

Construction: Poppet.
Mounting Type: Side and bottom mounting flanges.
Ambient/Media Temperature: -10° to 175°F (-23° to 80 °C).
For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice. For temperatures below -10°F (-23°C), consult ROSS.
Flow Media: Filtered air.

Inlet Pressure: 5 to 150 psig (0.3 to 10 bar) .
Valve Body: Die-cast aluminum.
Button Materials:
Pushbutton: Aluminum.
Heavy-Duty Palm Button: High-strength plastic.

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

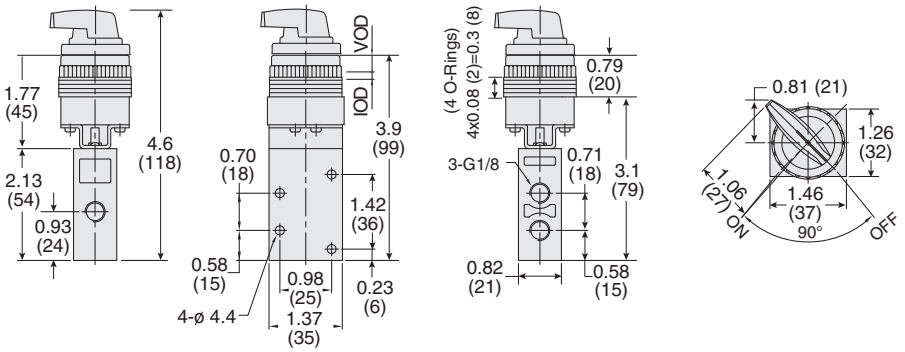
3-Way 2-Position Valves, Detented			
Port Size	Valve Model Number*	C_v	Weight lb (kg)
1-2	Black Switch Knob	1-2	
1/8	1223B1SLB	0.6	0.31 (0.14)
1/4	1223B2SLB	0.9	0.37 (0.17)



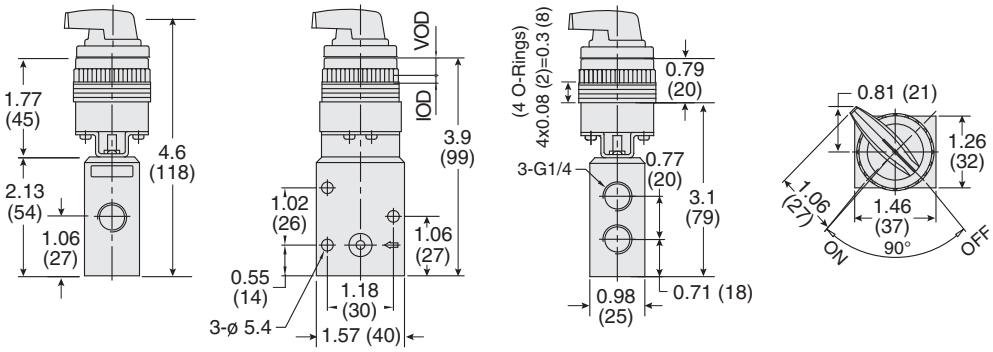
* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D1223B1SLB.

Valve Dimensions – inches (mm)

Port Size 1/8



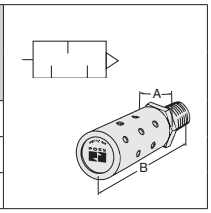
Port Size 1/4



Normally Closed or Normally Open simply by piping the inlet supply accordingly.

Accessories

Silencers	Port Size	Thread Type	Model Number NPT Threads	Model Number BSPT Threads	Avg. C_v	Dimensions inches (mm) A	Dimensions inches (mm) B	Weight lb (kg)
	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)
	Pressure Range: 0 to 300 psig (0 to 20.7 bar) maximum. **Flow Media:** Filtered air.							



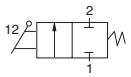
STANDARD SPECIFICATIONS (for valves on this page):

Construction: Spool & Sleeve.
Mounting Type: Inline.
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).
Valve Body: Die-cast aluminum.
Button Materials: Stainless steel, polyoxymethylene.

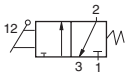
Spool Material: Aluminum.
Seals Material: Nitrile rubber.
Spring Material: Stainless Steel.
Switch Parts: Glass filled Nylon.

Valid Operation Distance: 0.22 inches (5.5 mm).
Invalid Operation Distance: 0.04 inches (1.0 mm).
Pressure for Valid/Invalid Operation: 7.7 lb (3.5 Kg).

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

2-Way 2-Position Valves, Spring Return					
Port Size	Valve Model Number*	C_v	Average Response Constants# F 1-2	Weight lb (kg)	
1/4	1121A2002	0.5	2.5	1.0 (0.5)	

* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D1121A2002.

3-Way 2-Position Valves, Spring Return						
Port Size	Valve Model Number*	C_v	Average Response Constants# F 1-2	Average Response Constants# F 2-3	Weight lb (kg)	
1/4	1123A2002	0.5	2.5	3.2	1.0 (0.5)	

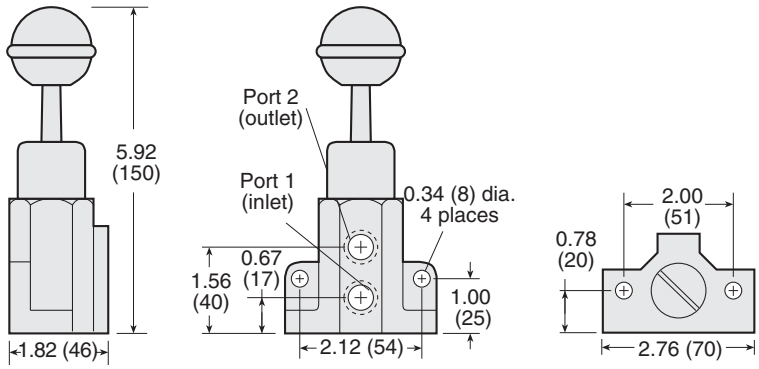
* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D1123A2002.

C

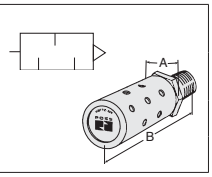
C1

 # Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Dimensions – inches (mm)



ACCESSORIES

Silencers for 3-way Valves	Port Size	Thread Type	Model Number NPT Threads	Model Number BSPT Threads	Avg. C_v	Dimensions inches (mm) A	Dimensions inches (mm) B	Weight lb (kg)	
	1/4	Male	5500A2003	D5500A2003	2.1	0.9 (21)	2.2 (55)	0.1 (0.1)	 
	Pressure Range: 0 to 300 psig (0 to 20.7 bar) maximum. **Flow Media:** Filtered air.								

STANDARD SPECIFICATIONS (for valves on this page):

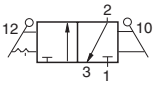
Construction: Poppet.
Mounting Type: Side and bottom mounting flanges.
Ambient/Media Temperature: -10° to 175°F (-23° to 80 °C).
For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice. For temperatures below -10°F (-23°C), consult ROSS.

Flow Media: Filtered air.
Inlet Pressure: 5 to 150 psig (0.3 to 10 bar) .
Valve Body: Die-cast aluminum.
Lever Knob Material: Glass filled Nylon.

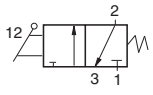
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS, WARNINGS** on the inside back cover.

3-Way 2-Position Valves, Detented or Spring Return

Port Size	Operators	Valve Model Number*	C_v	Average Response Constants# F 1-2	Average Response Constants# F 2-3	Weight lb (kg)
1/4	Detented	3623A2003	1.2	1.66	1.43	1.3 (0.6)
1/4	Spring Return	3623A2004	1.2	1.66	1.43	1.3 (0.6)



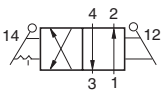
Detented



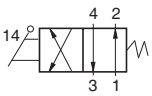
Spring Return

4-Way 2-Position Valves, Detented or Spring Return

Port Size	Operators	Valve Model Number*	C_v	Average Response Constants# F 1-2, 1-4	Average Response Constants# F 4-3, 2-3	Weight lb (kg)
1/4	Detented	3626A2003	1.2	1.66	1.43	2.5 (1.1)
1/4	Spring Return	3626A2004	1.2	1.66	1.43	2.5 (1.1)



Detented

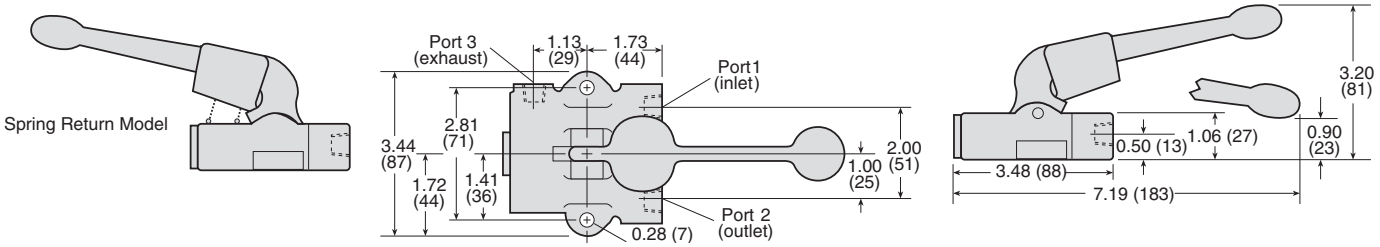


Spring Return

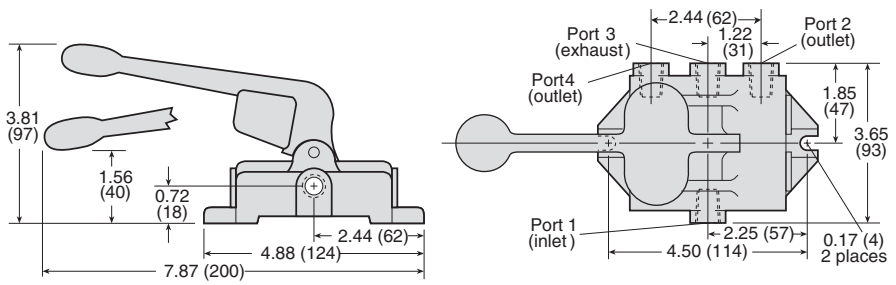
* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D3623A2003.
 # Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Dimensions – inches (mm)

3/2 Valve

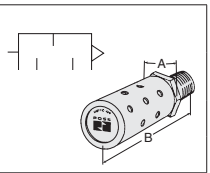


4/2 Valve



Accessories

Silencers for 3-way Valves	Port Size	Thread Type	Model Number NPT Threads	Model Number BSPT Threads	Avg. C_v	Dimensions inches (mm) A	Dimensions inches (mm) B	Weight lb (kg)
	1/4	Male	5500A2003	D5500A2003	2.1	0.9 (21)	2.2 (55)	0.1 (0.1)
	Pressure Range: 0 to 300 psig (0 to 20.7 bar) maximum. **Flow Media:** Filtered air.							

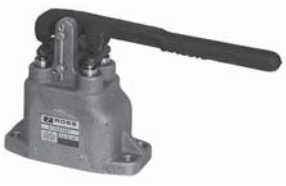


For models with vertical handle, consult ROSS.

STANDARD SPECIFICATIONS (for valves on this page):

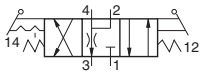
Construction: Poppet.
Mounting Type: Side and bottom mounting flanges.
Ambient/Media Temperature: 40° to 175°F (4° to 80 °C).
Flow Media: Filtered air.
Inlet Pressure: 5 to 150 psig (0.3 to 10 bar) .

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

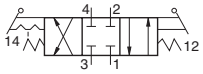


4-Way 3-Position Valves, Detented

Port Size 1, 2, 4	Port Size 3	Closed/Open Center	Valve Model Number*	C_v In-Out	C_v Out-Exh.	Average Response Constants# F In-Out	Average Response Constants# F Out-Exh.	Weight lb (kg)
3/8	1/2	Open	3126A3007	1.7	1.4	1.26	1.43	2.0 (0.9)
3/8	1/2	Closed	3126A3010	1.7	1.4	1.26	1.43	2.0 (0.9)
1/2	3/4	Open	3126A4007	2.8	2.3	0.87	1.01	3.8 (1.7)
1/2	3/4	Closed	3126A4010	2.8	2.3	0.87	1.01	3.8 (1.7)
3/4	1	Open	3126A5007	5.0	4.2	0.55	0.63	5.0 (2.3)
3/4	1	Closed	3126A5010	5.0	4.2	0.55	0.63	5.0 (2.3)
1	1¼	Open	3126A6007	10	7.5	0.30	0.39	10.0 (4.5)
1	1¼	Closed	3126A6010	10	7.5	0.30	0.39	10.0 (4.5)
1¼	1½	Open	3126A7007	14	9.6	0.23	0.32	11.0 (5.0)
1¼	1½	Closed	3126A7010	14	9.6	0.23	0.32	11.0 (5.0)



Open Center



Closed Center

* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D3126A3007.

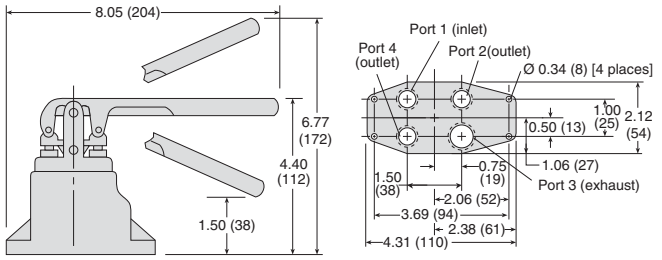
C

C1

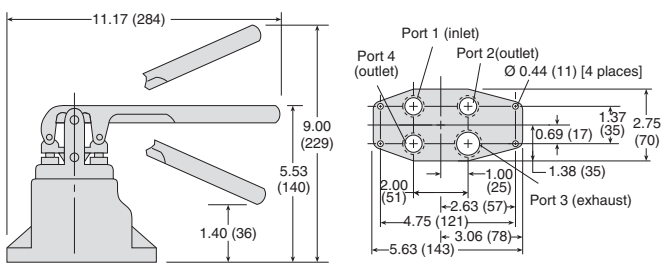
 # Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Dimensions – inches (mm)

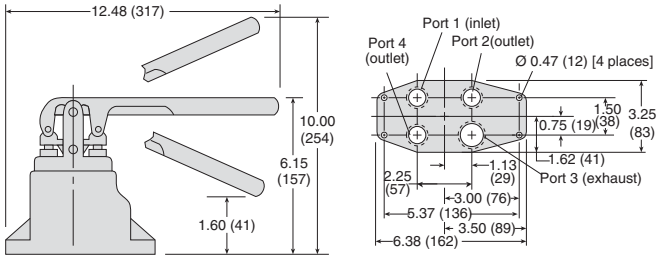
Port Size 3/8



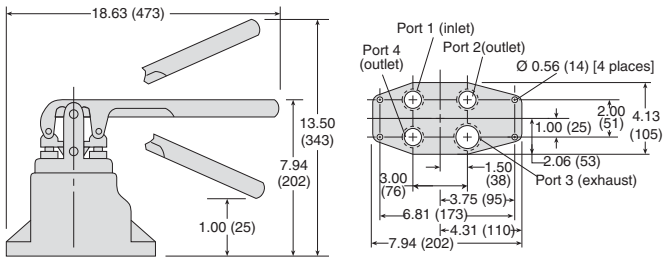
Port Size 1/2



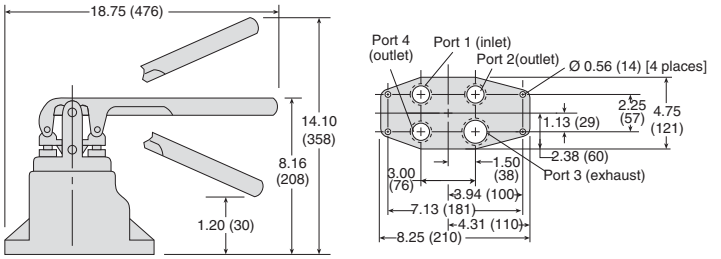
Port Size 3/4



Port Size 1



Port Size 1¼

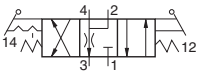


STANDARD SPECIFICATIONS (for valves on this page)**:**

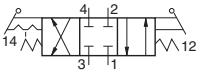
Construction: Poppet.
Mounting Type: Bottom mounting flanges.
Ambient/Media Temperature: 40° to 175°F (4° to 80 °C).
Flow Media: Filtered air.
Inlet Pressure: 5 to 150 psig (0.3 to 10 bar) .

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

4-Way 3-Position Valves, Detented or Non-Detented								
Port Size		Closed/Open Center	Valve Model Number*	C_v		Average Response Constants#		Weight lb (kg)
						F		
1, 2, 4	3			In-Out	Out-Exh.	In-Out	Out-Exh.	
3/8	1/2	Open	3126A3009	1.7	1.4	1.26	1.43	2.4 (1.1)
3/8	1/2	Open	3126A3012#	1.7	1.4	1.26	1.43	2.4 (1.1)
3/8	1/2	Closed	3126A3013	1.7	1.4	1.26	1.43	2.4 (1.1)
3/8	1/2	Closed	3126A3014#	1.7	1.4	1.26	1.43	2.4 (1.1)
1/2	3/4	Open	3126A4009	2.8	2.3	0.87	1.01	4.8 (2.2)
1/2	3/4	Open	3126A4012#	2.8	2.3	0.87	1.01	4.8 (2.2)
1/2	3/4	Closed	3126A4013	2.8	2.3	0.87	1.01	4.8 (2.2)
1/2	3/4	Closed	3126A4014#	2.8	2.3	0.87	1.01	4.8 (2.2)
# Non-detented models.								
* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D3126A3007.								



Open Center



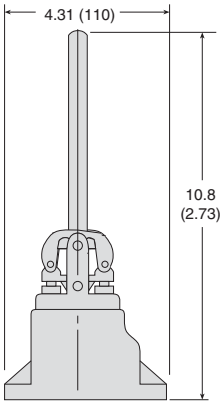
Closed Center

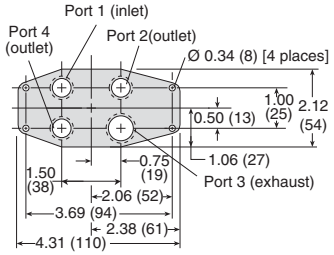
C

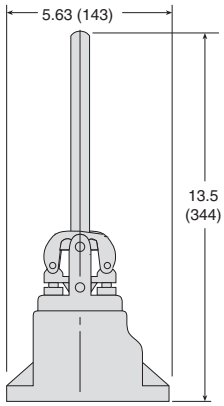
C1

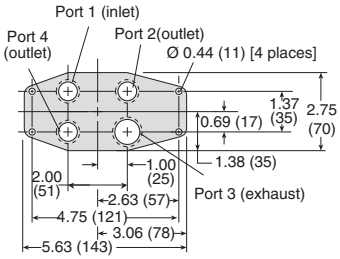
**Valve Response Time** – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Dimensions – inches (mm)









STANDARD SPECIFICATIONS (for valves on this page):

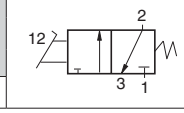
Construction: Poppet.
Mounting Type: Bottom mounting flanges.

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) .

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

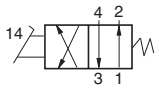
3-Way 2-Position Valves, Pedal, Spring Return

Port Size	Valve Model Number*	C_v	Average Response Constants# F 1-2	Average Response Constants# F 2-3	Weight lb (kg)
1/4	3643A2002	1.2	1.66	1.43	1.3 (0.6)



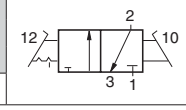
4-Way 2-Position Valves, Pedal, Spring Return

Port Size	Valve Model Number*	C_v	Average Response Constants# F 1-2, 1-4	Average Response Constants# F 4-3, 2-3	Weight lb (kg)
1/4	3646A2002	1.2	1.66	1.43	2.8 (1.3



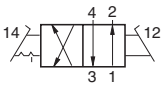
3-Way 2-Position Valves, Treadle, Detented

Port Size	Valve Model Number*	C_v	Average Response Constants# F 1-2	Average Response Constants# F 2-3	Weight lb (kg)
1/4	3643A2001	1.2	1.66	1.43	1.3 (0.6)



4-Way 2-Position Valves, Treadle, Detented

Port Size	Valve Model Number*	C_v	Average Response Constants# F 1-2, 1-4	Average Response Constants# F 4-3, 2-3	Weight lb (kg)
1/4	3646A2001	1.2	1.66	1.43	2.8 (1.3



C

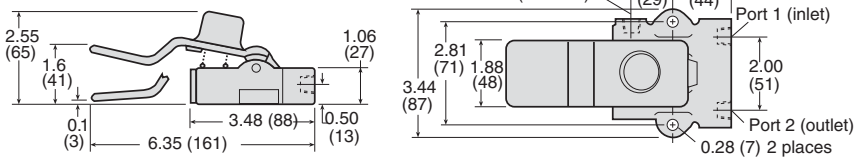
C1

* NPT port threads. For BSPP threads add a "D" prefix to the model number e.g., D3643A2001.

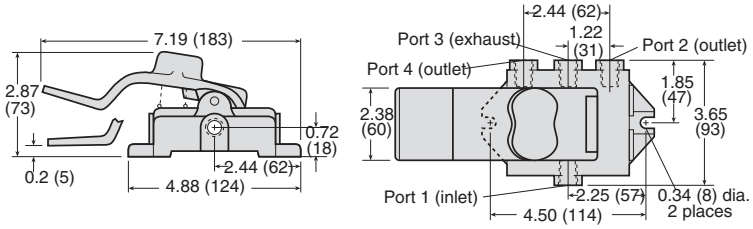
 # Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Dimensions – inches (mm)

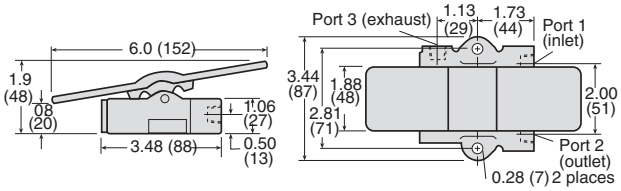
3/2 Pedal



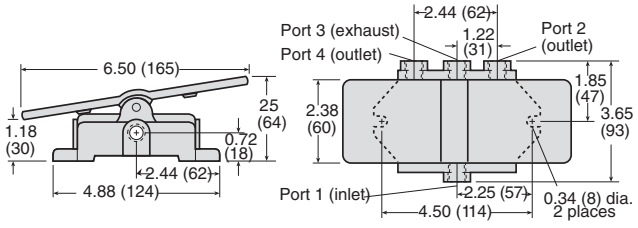
4/2 Pedal



3/2 Treadle



4/2 Treadle



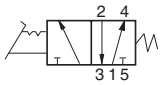
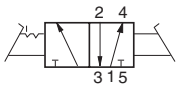
STANDARD SPECIFICATIONS (for valves on this page):

Construction: Poppet design.
Mounting Type: Line mounting.
Ambient/Media Temperature: 40° to 175°F (4° to 80 °C).

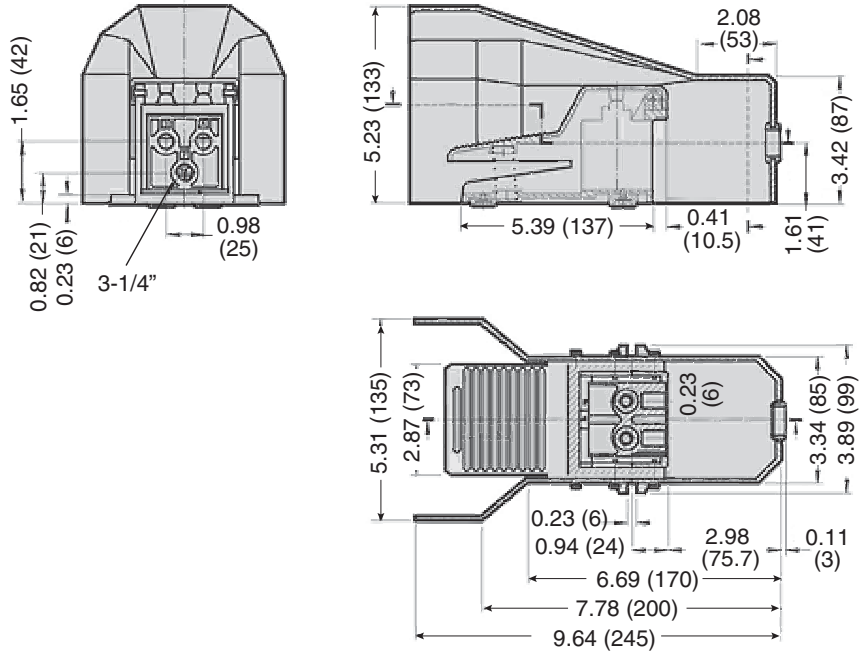
Flow Media: Filtered air.
Inlet Pressure: 5 to 125 psig (0.3 to 8.5 bar).

Note: The 3/2 and 4/2 treadle valves are not designed to be used to actuate clutch/brake mechanisms on mechanical power presses.

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

5-Way 2-Position Valves, Pedal				
Port Size	**Operators**	**Valve Model Number***	**C_v**	**Weight** lb (kg)
1/4	Non-locking foot pedal	RM4F210-08G	0.5	2.1 (0.9)
	Locking foot pedal	RM4F210-08LG	0.5	2.1 (0.9)
 **5/2 Spring Return without Lock**		 **5/2 Detented with Lock**		
* NPT port threads.				

Valve Dimensions – inches (mm)



Convertible to a 3-Way function.

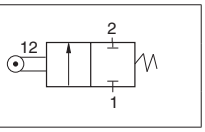
Note: Designed to meet OSHA 1910.217 Mechanical power presses, with protective guard to prevent accidental actuation.

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

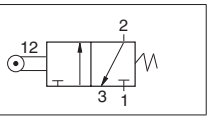
Construction: Poppet.
Mounting Type: Line mounting.

Ambient/Media Temperature: 23° to 140°F (-5° to 60°C).
Flow Media: Filtered air.
Inlet Pressure: 0 to 120 psig (0 to 8.2 bar).

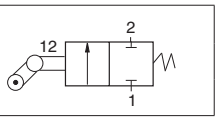
2-Way 2-Position Valves, 2-Direction Cam Roller			
Port Size	**Valve Model Number***	**C_v**	**Weight** lb (kg)
1/4	1131A2001	0.5	1.0 (0.5)



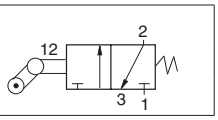
3-Way 2-Position Valves, 2-Direction Cam Roller			
Port Size	**Valve Model Number***	**C_v**	**Weight** lb (kg)
1/4	1133A2001	0.5	1.0 (0.5)



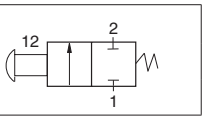
2-Way 2-Position Valves, 1-Direction Cam Roller			
Port Size	**Valve Model Number***	**C_v**	**Weight** lb (kg)
1/4	1131A2002	0.5	1.0 (0.5)



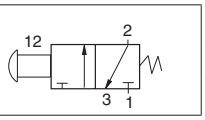
3-Way 2-Position Valves, 1-Direction Cam Roller			
Port Size	**Valve Model Number***	**C_v**	**Weight** lb (kg)
1/4	1133A2002	0.5	1.0 (0.5)



2-Way 2-Position Valves, Plunger			
Port Size	**Valve Model Number***	**C_v**	**Weight** lb (kg)
1/4	1131A2003	0.5	1.0 (0.5)



3-Way 2-Position Valves, Plunger			
Port Size	**Valve Model Number***	**C_v**	**Weight** lb (kg)
1/4	1133A2003	0.5	1.0 (0.5)



2-Direction Roller

1-Direction Roller

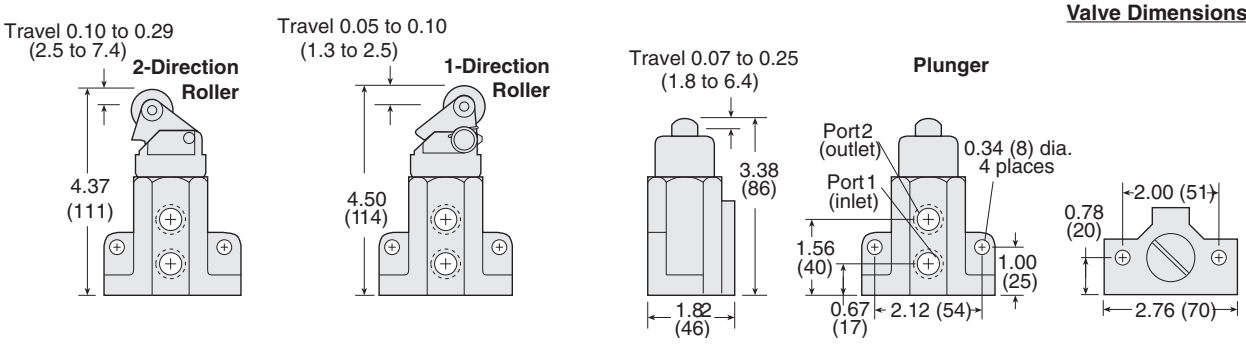
Plunger

C

C1

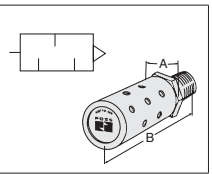
* NPT port threads. For BSPP threads add a "D" prefix to the model number, e.g., D1131A2001.
# **Valve Response Time** – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Dimensions – inches (mm)



Accessories

Silencers for 3-way Valves	Port Size	Thread Type	Model Number		Avg. C_v	Dimensions inches (mm)		Weight lb (kg)
			NPT Threads	BSPT Threads		A	B	
	1/4	Male	5500A2003	D5500A2003	2.1	0.9 (21)	2.2 (55)	0.1 (0.1)
	Pressure Range: 0 to 300 psig (0 to 20.7 bar) maximum. **Flow Media:** Filtered air.							

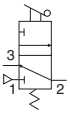


STANDARD SPECIFICATIONS (for valves on this page):

Construction: Poppet.
Mounting Type: Side and bottom mounting flanges.
Ambient/Media Temperature: -10° to 175°F (-23° to 80 °C).
For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice. For temperatures below -10°F (-23°C), consult ROSS.

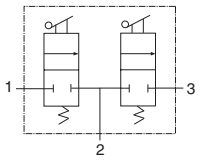
Flow Media: Filtered air.
Inlet Pressure: 5 to 150 psig (0.3 to 10 bar) .

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

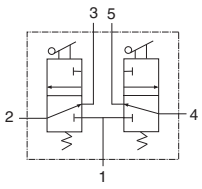


Single 3-Way

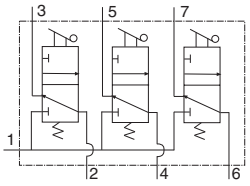
ROSS pendant control valves are a durable pneumatic solution that can be used anywhere manual control of devices is needed, such as an air hoist, air motor, or counterbalance cylinder. Ideal for use on or with material handling devices such as overhead cranes or air hoists, ROSS pendant control valves can withstand even the toughest environments.



Dual 2-Way



Dual 3-Way



Triple 3-Way

Single 3/2

The Single 3/2 pendant control valve may be used anywhere that requires manual 3/2 control, such as operating small single acting cylinders or pressurizing vacuum cups for quick release. Ideal for use on or with material handling devices. Spring-return rubber poppet internals provide dependable shifting, long life, and low cost.

Dual 2/2

Ideal for use on or with material handling devices. Spring-return rubber poppet internals provide dependable shifting, long life, and low cost.

Dual 3/2

Ideal for use on or with material handling devices. Twin Pacer® inserts ensure reliability, dirt tolerance, and easy maintenance. May be used as a pilot valve convertible to a dual 2/2 function.

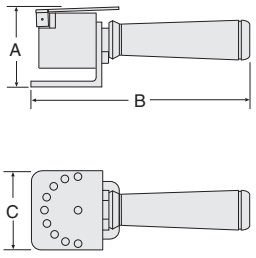
Triple 3/2

The Triple 3/2 pendant control valve may be used anywhere that three independant manual outputs are needed. Provides remote pilot signals to pressure controlled valves. Three Pacer® inserts ensure reliability and dirt tolerance.

C

C1

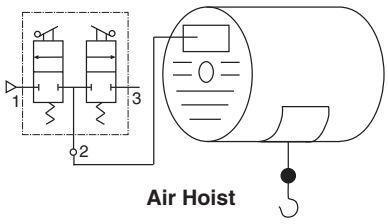
Model Description	Pipe Size	Valve Model Number*	C_v		Dimensions inches (mm)			Weight lb (kg)
			1-2	2-3	A	B	C	
Single 3-Way; one lever, no handle	1/4	2025A2904	0.24	0.42	4.7 (120)	6.0 (170)	1.8 (46)	1.0 (0.5)
Single 3-Way; one lever/handle	1/4	3900A1111	0.24	0.42	4.7 (120)	7.2 (182)	1.8 (46)	1.7 (0.8)
Dual 2-Way High-Flow; two levers only	1/4	2025A2901	0.73	0.55	3.1 (78)	2.8 (71)	2.8 (70)	1.0 (0.5)
Dual 2-Way High-Flow; two levers/handle	1/4	3900A0378	0.73	0.55	3.1 (78)	7.2 (182)	2.8 (70)	1.7 (0.8)
Dual 3-Way; two levers only	1/8	2025A1900	0.24	0.42	2.1 (54)	2.8 (71)	2.5 (64)	0.9 (0.4)
Dual 3-Way; two levers/handle	1/8	3900A0379	0.24	0.42	2.9 (73)	7.2 (182)	2.8 (70)	1.6 (0.7)
Triple 3-Way; three levers only	1/4	2025A2902	0.24	0.42	2.8 (71)	2.8 (71)	3.8 (97)	1.6 (0.7)
Triple 3-Way; three levers/handle	1/4	3900A0407	0.24	0.42	2.8 (71)	7.2 (182)	3.8 (97)	2.3 (1.0)



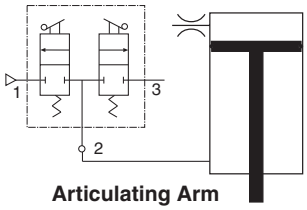
* NPT port threads.

Application Data

Dual 2/2 - High-Flow

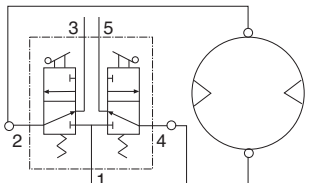


Air Hoist

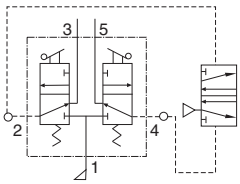


Articulating Arm

Dual 3/2



Bi-directional Air Motor



Pilot for Larger Double Pressure Controlled Valve

To convert a Dual 3/2 into a Dual 2/2:
Plug ports 3 and 5. Connect supply line to port 2. Port 1 becomes the outlet and port 4 becomes the exhaust port.

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

Construction: Poppet.
Mounting Type: Line mounting.
Ambient Temperature: 40° to 120°F (4° to 50°C).
Media Temperature: 40° to 175°F (4° to 80°C).
Flow Media: Filtered air.
Inlet Pressure: 0 to 150 psig (0 to 10 bar).

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

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.

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 IS ROSS 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 MAY EXTEND THE LIABILITY OF ROSS AS SET FORTH HEREIN.

ROSS CONTROLS
U.S.A.
Tel: +1-248-764-1800
Customer Svs. 1-800-GET-ROSS
(438-7677)
Technical Svs. 1-888-TEK-ROSS
(835-7677)
sales@rosscontrols.com
www.rosscontrols.com

ROSS EUROPA GmbH
Germany
Tel: +49-6103-7597-0
sales@rosseuropa.com
www.rosseuropa.com

ROSS ASIA K.K.
Japan
Tel: +81-42-778-7251
www.rossasia.co.jp

ROSS UK Ltd.
United Kingdom
Tel: +44-1543-671495
sales.uk@rosscontrols.com
www.rossuk.co.uk

ROSS CONTROLS INDIA Pvt. Ltd.
India
Tel: +91-44-2624-9040
ross.chennai@rosscontrols.com

ROSS SOUTH AMERICA Ltda.
Brazil
Tel: +55-11-4335-2200
vendas@rosscontrols.com

ROSS FRANCE SAS
France
Tel: +33-1-49-45-65-65
www.rossfrance.com

ROSS CONTROLS (CHINA) Ltd.
China
Tel: +86-21-6915-7961
sales@rosscontrols.com.cn
www.rosscontrolschina.com

ROSS CANADA
Canada
Tel: +1-416-251-7677
sales@rosscanada.com
www.rosscanada.com
6077170 CANADA INC.
An Independent Representative

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 pneumatic components for the first time and those designing complex pneumatic systems.

Other literature is available for engineering, maintenance, and service requirements. If you need products or specifications not shown here, please contact ROSS or your ROSS distributor. They 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' website at www.rosscontrols.com.

U.S.A. - Content subject to change.
Online version only.