



EXPLOSION-PROOF & INTRINSICALLY SAFE 27 SERIES VALVES



PRODUCT CATALOG

Explosion-Proof & Intrinsically Safe Valves 27 Series

Product Overview

Valves are equipped with explosion-proof or intrinsically safe coils for use in hazardous locations to prevent potentially explosive situations.

2/2 Valves		3/2 Valve	4/2 Valve
			

Illustration examples.

The 27 Series explosion-proof solenoid pilot controlled valves are ideal for applications in a wide range of industries and environments where safety from electrical ignition of flammable gases, vapors, flammable liquids, combustible dust, or easily ignitable fibers is a concern.

VALVE FEATURES

Perpendicular Poppet Face Seals	Creates High-Flow and Positive Sealing
Differential Piston Design	Delivers Fast and Consistent Response Times
Overwhelming Shifting Forces	Provides No-Stick Operation
High Velocity Air Flow Across Poppet Seats	Allows Self-Cleaning and Strong Dirt Tolerance
Superior Internal Guidance System and Self-Compensating Seals	Delivers Long-Life
Explosion-Proof Coils	Contain any spark originating from within the coil or housing preventing the ignition of any flammable material in the surrounding environment, resulting in a larger explosion
Intrinsically Safe Coils	Designed to limit the amount of energy that could cause sparks or ignition
Manual Override	Allows the solenoid valve to be used manually in case of electrical failure, or for quick cycle testing

PRODUCT CREDENTIALS

Performance Level Per ISO 13849-1:2015	Safety Integrity Level Per IEC 2061:2001	Explosion-Proof Certification		Declaration of Conformity		Certificate of Compliance
						

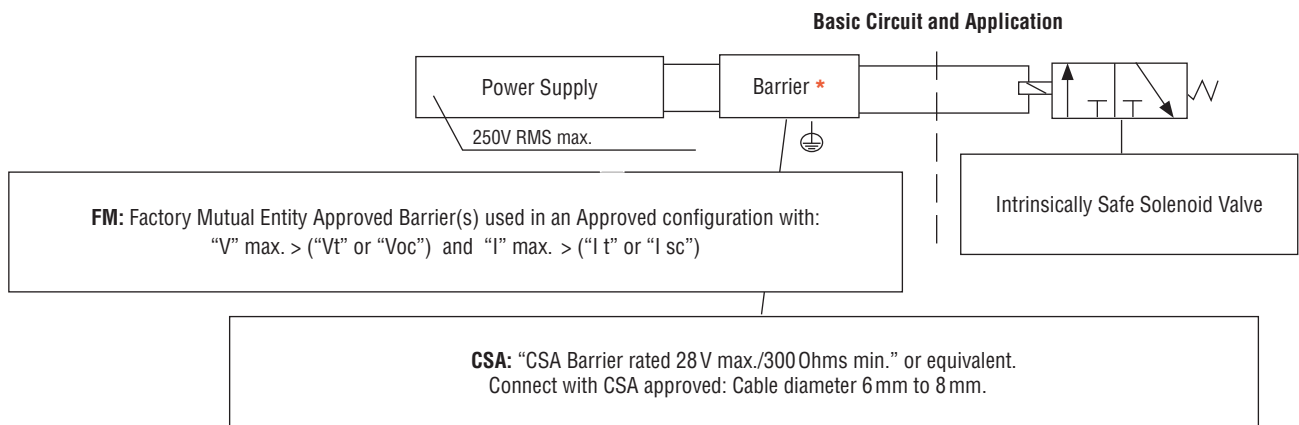
STANDARD SPECIFICATIONS						
GENERAL	Function	2/2 Valve	Normally Closed, Normally Open			
		3/2 Valve				
		4/2 Valve				
	Construction Design	Poppet				
	Actuation	Electrical	Solenoid Pilot Controlled			
	Mounting	Type	Inline			
		Orientation	Vertically with pilot solenoids on top			
	Connection	Threaded Port	NPT G			
	Manual Override	Push, Non-Locking				
OPERATING CONDITIONS	Temperature	Ambient	40° to 140°F (4° to 60°C)			
		Media	40° to 175°F (4° to 80°C)			
	Flow Media	Filtered air				
	Operating Pressure	Body Size 3/8 & 1-1/2		15 to 150 psig (1 to 10 bar)		
		Body Size 2		30 to 150 psig (2.1 to 10 bar)		
	Pilot Supply Pressure	Internal	Must meet minimum operating pressure			
		External	Must be equal to or greater than inlet pressure, and meet minimum operating pressure			
ELECTRICAL DATA	Solenoids	Current Flow	Operating Voltage	Coil Type		Power Consumption (each solenoid)
		DC	12 volts	Explosion-Proof	CSA/FM	4.5 watts
					ATEX	3.5 watts
			24 volts	Explosion-Proof	CSA/FM	4.5 watts
					ATEX	3.5 watts
		Intrinsically Safe		1.6 watts		
		AC	120 volts, 60 Hz	Explosion-Proof	CSA/FM	6.5 VA
					ATEX	3.4 VA
			240 volts, 60 Hz	Explosion-Proof	CSA/FM	6.8 VA
	ATEX				3.3 VA	
	Rated for continuous duty					
	Enclosure Rating	Explosion-Proof Coils	CSA/FM	IP65, IEC 60529		
			ATEX	IP65		
		Intrinsically Safe Coils		IP65		
Electrical Connection	CSA/FM Coils	1/2" NPT conduit connection with three 24" lead wires				
	ATEX Coils	Strain relief with 3 meter (10 feet) cord				
	Intrinsically Safe Coils	Strain relief without cord				
CONSTRUCTION MATERIAL	Valve Body	Cast Aluminum				
	Poppet	Acetal and Stainless Steel				
	Seals	Nitrile Rubber	Buna-N			
SAFETY DATA	Safety Integrity Level (SIL)	Certified by TÜV Rheinland in accordance to IEC 61508 and IEC 61511 safety integrity level 2 (SIL 2) and EN ISO 13849-1, PL c (with application specific diagnosis) in singular application with HFT = 0 and SIL 3 and PL d in redundant application with HFT≥1, for details see certificate.				
IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.						

Specifications

FM Approved	Explosion-proof for Class I, Division 1, Groups A, B, D and D, T4, Ta = 60°C; Encapsulation/explosion-proof Class I, Zone 1, Zone 1, AEx m II T4, Ta = 60°C; Dust-ignition proof for Class II, III, Division 1, Groups E, F and G, T4, Ta = 60°C; Non-incendive for Class I, Division 2, Groups A, B, C, D, T4, Ta = 60°C; Suitable for Class II, III, Division 2, Groups E, F, G, T4, Ta = 60°C hazardous (classified) locations
CSA Approved	Class I, Div. 1, Gr. A, B, C and D; Class II, Gr. E, F and G; Class III; Class I, Div. 2, Gr. A, B, C, D; Ex m II T4
ATEX Approved	Ex II 2 G Ex mb IIC T5 Ex II 2 G Ex mb tb IIIC T95°C
Intrinsically Safe	IS Class I, II, III Division 1, Groups A, B, C, D, E, F G; T5; Ta = -40°C to +50°C

Intrinsic Safety

Intrinsic safety is a type of protection based on the restriction of electrical energy within an apparatus, and of interconnecting wiring exposed to the potentially explosive atmosphere to a level below that which can cause ignition by either sparking or heating effects.



* ROSS CONTROLS does not sell the safety barrier that is required for an intrinsically safe circuit.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

27
7
1
B
200
2
W
-

Port Thread	
NPT	
Leave Blank	
G	D

Series

Actuation
Solenoid Pilot

Valve Function	
2/2 Normally Closed	1
2/2 Normally Open	2

Revision Level

Coil Type	Certification	
Explosion-Proof	CSA / FM	
	ATEX	A
Intrinsically Safe* (24 V DC only)		N
* Connector included.		

Current	Voltage*	
DC	12 V	H
	24 V	W
AC	120 V, 60 Hz	Z
	240 V, 60 Hz	Y
* For other voltages consult ROSS.		

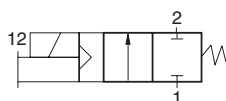
Valve Seals
Buna-N

Body Size	Port Size	Internal Pilot Supply	External Pilot Supply
	In-Out		
3/8	1/4	200	205
	3/8	300	305
	1/2	401	406
3/4	1/2	400	405
	3/4	500	505
	1	601	606
1-1/4	1	600	605
	1-1/4	700	705
	1-1/2	801	806
2	1-1/2	800	805
	2	900	905
	2-1/2	901	906

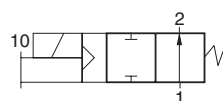
Model Number examples: 2771B3002W, D2771B2002Z-A

Valve Schematics

Normally Closed



Normally Open



Valve Technical Data

2/2 Valves

Size		Flow C _v (NI/min)		Average Response Constants *			≈ Weight lb (kg)
Body	Port 1, 2	Normally Closed (NC)	Normally Open (NO)	M	F		
		1-2	1-2		NC	NO	
3/8	1/4	1.8 (1800)	1.8 (1800)	10	0.91	0.91	3.0 (1.4)
	3/8	3.2 (3100)	2.9 (2800)	10	0.70	0.76	
	1/2	3.9 (3800)	3.4 (3300)	10	0.64	0.72	
3/4	1/2	7.2 (7100)	6.5 (6400)	14	0.37	0.43	3.6 (1.6)
	3/4	9.1 (9000)	8.2 (8100)	14	0.34	0.39	
	1	9.9 (9700)	8.2 (8100)	14	0.34	0.37	
1-1/4	1	21 (21000)	21 (21000)	26	0.17	0.17	7.5 (3.4)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	
2	1-1/2	46 (45000)	46 (45000)	41	0.09	0.09	16.0 (7.3)
	2	59 (58000)	58 (57000)	41	0.07	0.07	
	2-1/2	66 (65000)	60 (59000)	41	0.07	0.06	

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. M and F values are shown above.

Valve with CSA / FM Coil

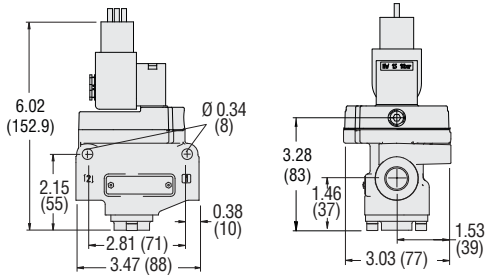
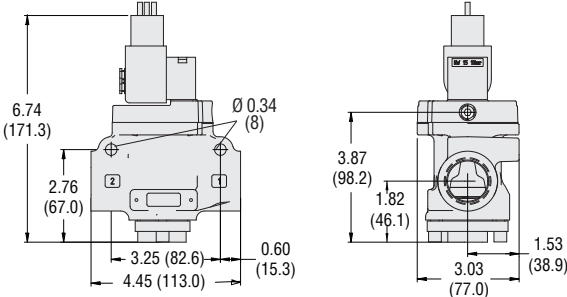
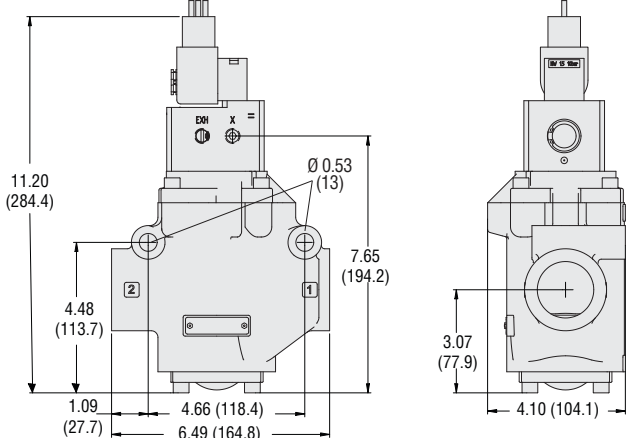
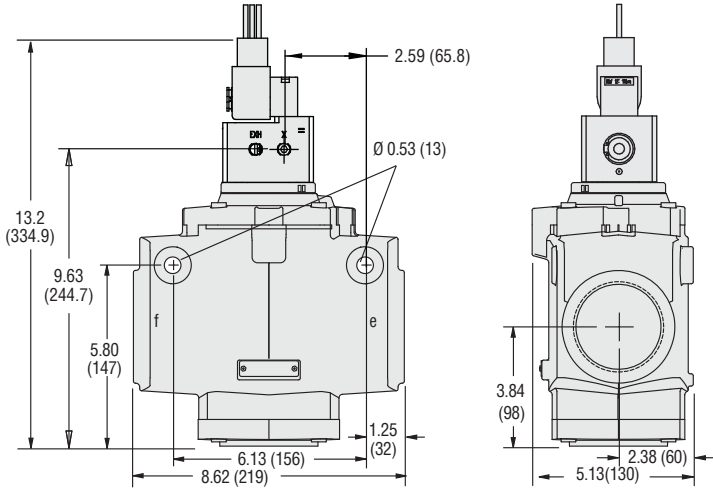
Valve with ATEX Coil

Valve with Intrinsically Safe Coil

2/2 Valves with Explosion-Proof CSA / FM Certified Coil

DIMENSIONS

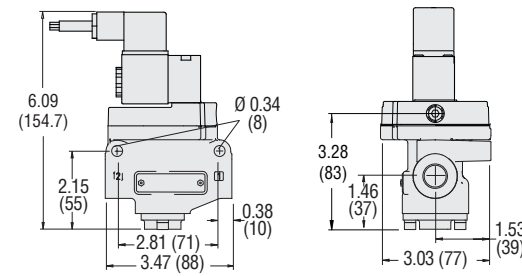
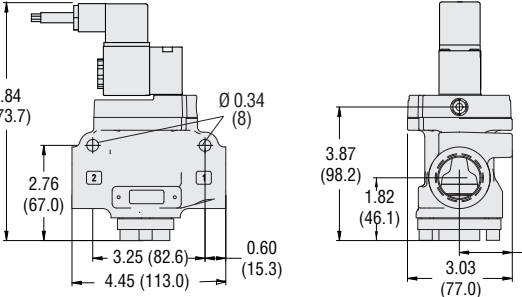
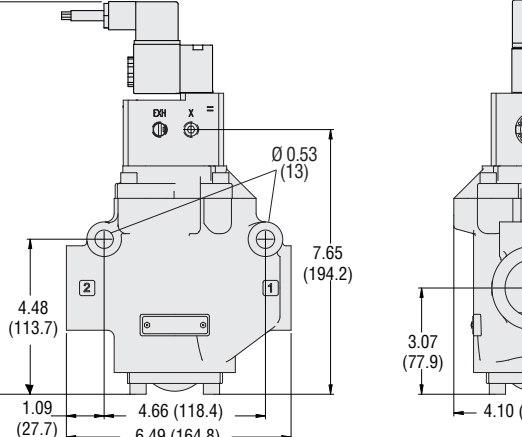
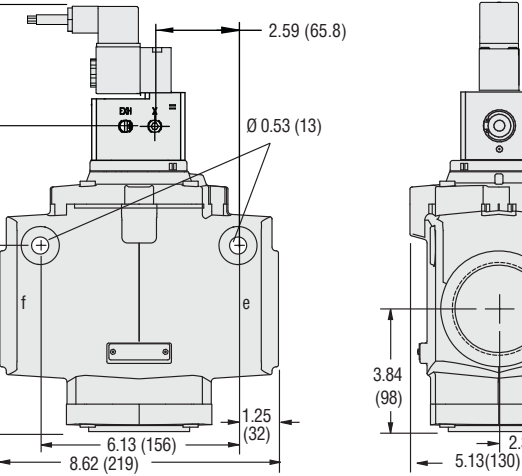
Inches (mm)

Body Size 3/8	 Technical drawings of the Body Size 3/8 valve. The front view shows a height of 6.02 (152.9) inches, a width of 3.47 (88) inches, and a mounting hole diameter of Ø 0.34 (8). The side view shows a height of 3.28 (83) inches and a width of 3.03 (77) inches.
Body Size 3/4	 Technical drawings of the Body Size 3/4 valve. The front view shows a height of 6.74 (171.3) inches, a width of 4.45 (113.0) inches, and a mounting hole diameter of Ø 0.34 (8). The side view shows a height of 3.87 (98.2) inches and a width of 3.03 (77.0) inches.
Body Size 1-1/4	 Technical drawings of the Body Size 1-1/4 valve. The front view shows a height of 11.20 (284.4) inches, a width of 6.49 (164.8) inches, and a mounting hole diameter of Ø 0.53 (13). The side view shows a height of 7.65 (194.2) inches and a width of 4.10 (104.1) inches.
Body Size 2	 Technical drawings of the Body Size 2 valve. The front view shows a height of 13.2 (334.9) inches, a width of 8.62 (219) inches, and a mounting hole diameter of Ø 0.53 (13). The side view shows a height of 3.84 (98) inches and a width of 5.13 (130) inches.

Downloadable CAD models available.

Valve Technical Data

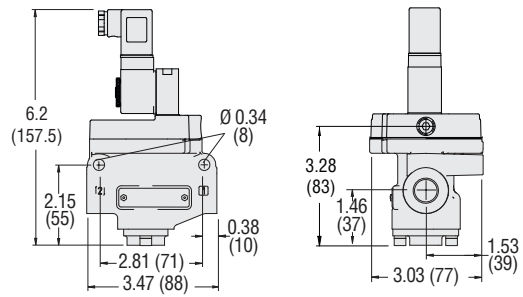
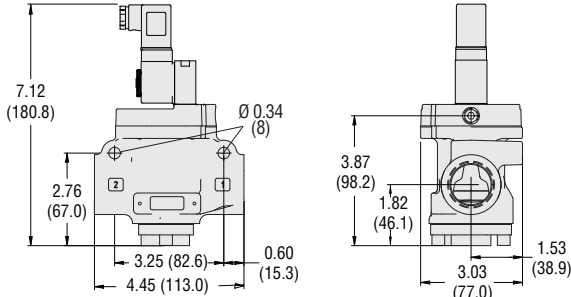
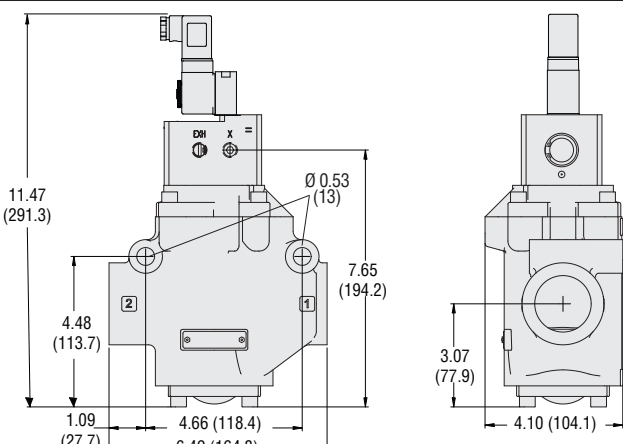
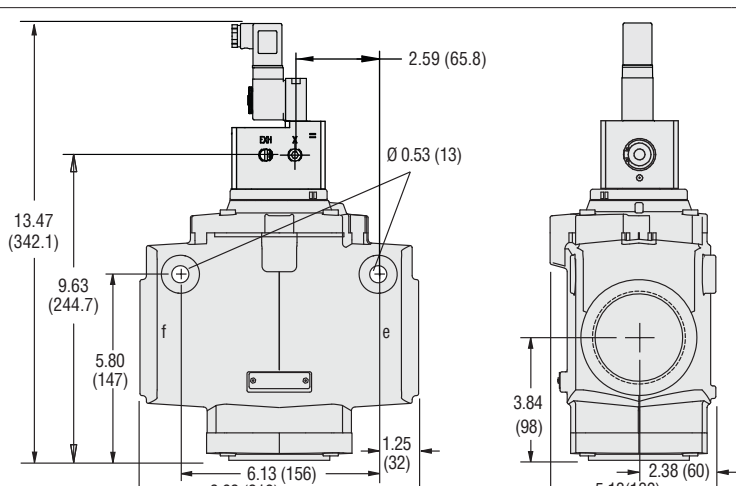
2/2 Valves with Explosion-Proof ATEX Certified Coil

DIMENSIONS	Inches (mm)
Body Size 3/8	 Technical drawings of the Body Size 3/8 valve. The front view shows a total height of 6.09 (154.7), a mounting bracket height of 2.15 (55), a coil diameter of Ø 0.34 (8), a coil-to-body distance of 0.38 (10), a body width of 2.81 (71), and a base width of 3.47 (88). The side view shows a total height of 3.28 (83), a mounting bracket height of 1.46 (37), a coil diameter of Ø 0.34 (8), a coil-to-body distance of 0.38 (10), a body width of 3.03 (77), and a base width of 1.53 (39).
Body Size 3/4	 Technical drawings of the Body Size 3/4 valve. The front view shows a total height of 6.84 (173.7), a mounting bracket height of 2.76 (67.0), a coil diameter of Ø 0.34 (8), a coil-to-body distance of 0.60 (15.3), a body width of 3.25 (82.6), and a base width of 4.45 (113.0). The side view shows a total height of 3.87 (98.2), a mounting bracket height of 1.82 (46.1), a coil diameter of Ø 0.34 (8), a coil-to-body distance of 0.60 (15.3), a body width of 3.03 (77.0), and a base width of 1.53 (38.9).
Body Size 1-1/4	 Technical drawings of the Body Size 1-1/4 valve. The front view shows a total height of 11.3 (287), a mounting bracket height of 4.48 (113.7), a coil diameter of Ø 0.53 (13), a coil-to-body distance of 7.65 (194.2), a body width of 4.66 (118.4), and a base width of 6.49 (164.8). The side view shows a total height of 3.07 (77.9), a mounting bracket height of 4.10 (104.1), a coil diameter of Ø 0.53 (13), a coil-to-body distance of 7.65 (194.2), a body width of 4.10 (104.1), and a base width of 4.10 (104.1).
Body Size 2	 Technical drawings of the Body Size 2 valve. The front view shows a total height of 13.3 (337.8), a mounting bracket height of 9.63 (244.7), a coil diameter of Ø 0.53 (13), a coil-to-body distance of 5.80 (147), a body width of 6.13 (156), and a base width of 8.62 (219). The side view shows a total height of 3.84 (98), a mounting bracket height of 2.38 (60), a coil diameter of Ø 0.53 (13), a coil-to-body distance of 5.13 (130), a body width of 5.13 (130), and a base width of 5.13 (130).
Downloadable CAD models available.	

2/2 Valves with Intrinsically Safe Coil

DIMENSIONS

Inches (mm)

Body Size 3/8	
Body Size 3/4	
Body Size 1-1/4	
Body Size 2	

Downloadable CAD models available.

Ordering Information

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

27

7

3

B

401

2

W

-

Port Thread

NPT

Leave Blank

G

D

Series

Actuation

Solenoid Pilot

Valve Function

3/2 Normally Closed

3

3/2 Normally Open

4

Revision Level

Coil Type

Certification

Explosion-Proof

CSA / FM

ATEX

A

Intrinsically Safe* (24 V DC only)

N

* Connector included.

Current

Voltage*

DC

12 V

H

24 V

W

AC

120 V, 60 Hz

Z

240 V, 60 Hz

Y

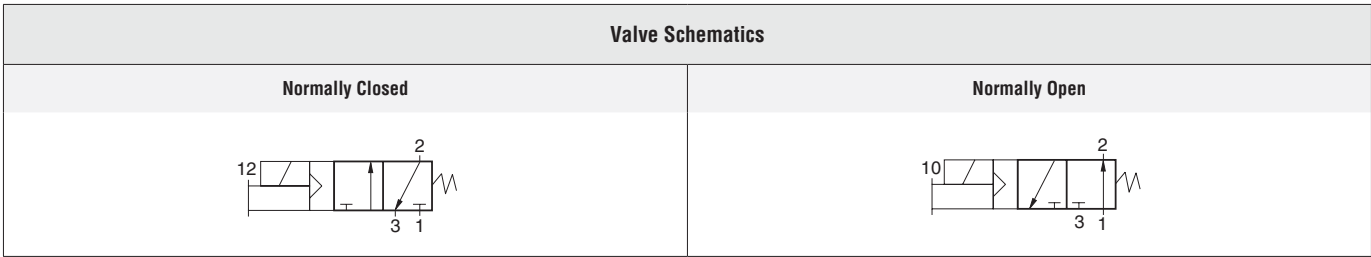
* For other voltages consult ROSS.

Valve Seals

Buna-N

Body Size	Port Size		Internal Pilot Supply	External Pilot Supply
	In-Out	Exhaust		
3/8	1/4	1/2	200	205
	3/8	1/2	300	305
	1/2	1/2	401	406
3/4	1/2	1	400	405
	3/4	1	500	505
	1	1	601	606
1-1/4	1	1-1/2	600	605
	1-1/4	1-1/2	700	705
	1-1/2	1-1/2	801	806
2	1-1/2	2-1/2	800	805
	2	2-1/2	900	905
	2-1/2	2-1/2	901	906

Model Number examples: D2773B3002W-A, 2773B2002Z.



3/2 Valves

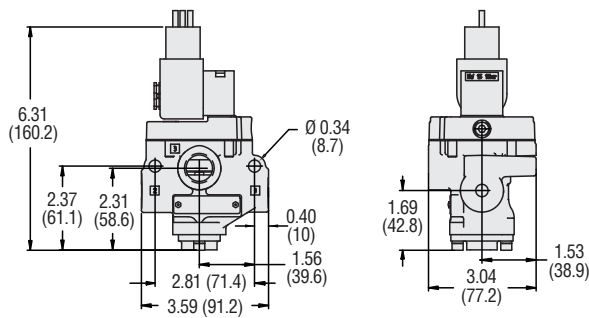
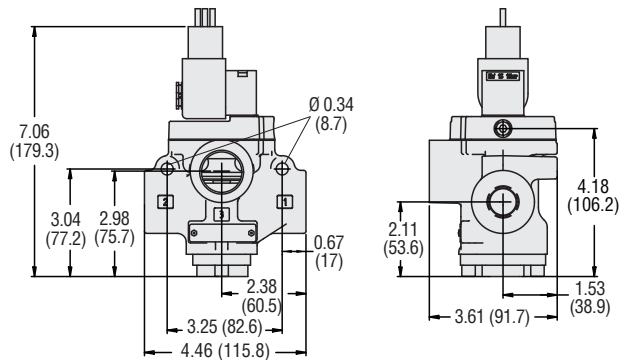
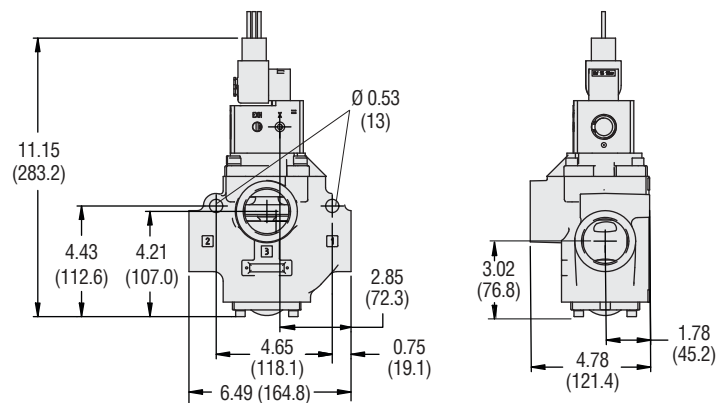
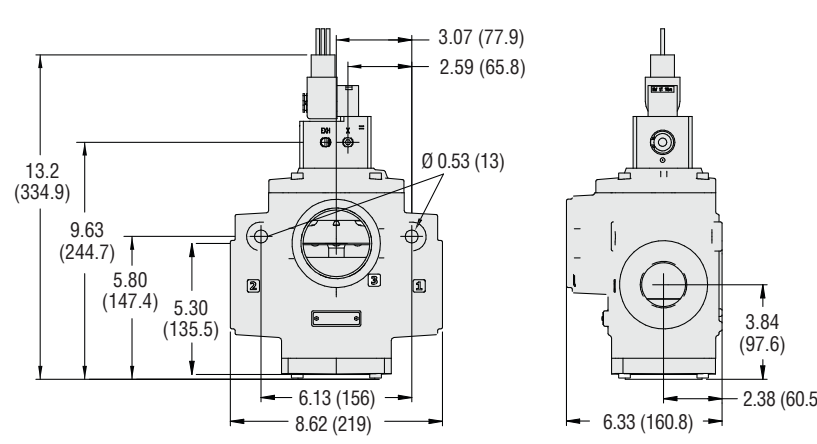
Size			Flow C _v (NI/min)				Average Response Constants*				≈ Weight lb (kg)	
Body	Port 1, 2	Port 3	Normally Closed (NC)		Normally Open (NO)		M	F				
								NC		NO		
			1-2	2-3	1-2	2-3		1-2	2-3	1-2		2-3
3/8	1/4	1/2	1.9 (1900)	3.3 (3200)	1.7 (1700)	3.0 (3000)	10	0.90	0.80	0.99	0.88	2.5 (1.2)
	3/8	1/2	2.9 (2800)	4.4 (4300)	2.8 (2800)	3.0 (3000)	10	0.70	0.50	0.90	0.77	
	1/2	1/2	3.8 (3800)	5.0 (4900)	3.0 (3000)	3.0 (3000)	10	0.75	0.50	0.90	0.76	
3/4	1/2	1	6.2 (6100)	9.4 (9300)	6.1 (6000)	8.0 (7900)	11	0.43	0.27	0.46	0.60	3.3 (1.5)
	3/4	1	8.2 (8100)	10 (9800)	7.7 (7600)	8.0 (7900)	11	0.36	0.26	0.45	0.60	
	1	1	9.1 (9000)	12 (1200)	8.3 (8200)	8.0 (7900)	11	0.34	0.25	0.40	0.59	
1-1/4	1	1-1/2	21 (21000)	27 (27000)	18 (18000)	20 (20000)	28	0.17	0.14	0.20	0.17	7.0 (3.2)
	1-1/4	1-1/2	29 (29000)	29 (29000)	21 (21000)	22 (22000)	28	0.15	0.15	0.19	0.17	
	1-1/2	1-1/2	30 (30000)	30 (30000)	21 (21000)	25 (25000)	28	0.15	0.15	0.19	0.16	
2	1-1/2	2-1/2	45 (44000)	75 (74000)	45 (44000)	53 (52000)	76	0.05	0.04	0.07	0.04	16.5 (7.4)
	2	2-1/2	57 (56000)	78 (77000)	55 (54000)	61 (60000)	76	0.05	0.04	0.05	0.04	
	2-1/2	2-1/2	66 (65000)	82 (81000)	61 (60000)	71 (70000)	76	0.05	0.04	0.50	0.04	

Valve Response Time – Response Time (msec) = $M + (F \cdot V)$. 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. M and F values are shown above.

Valve with CSA / FM Coil	
Valve with ATEX Coil	
Valve with Intrinsically Safe Coil	

Valve Technical Data

3/2 Valves with Explosion-Proof CSA / FM Certified Coil

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

Downloadable CAD models available.

3/2 Valves with Explosion-Proof ATEX Certified Coil

DIMENSIONS

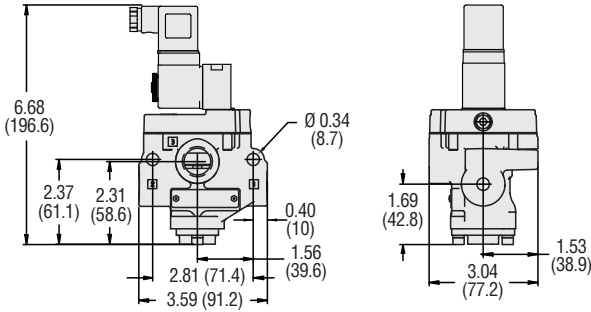
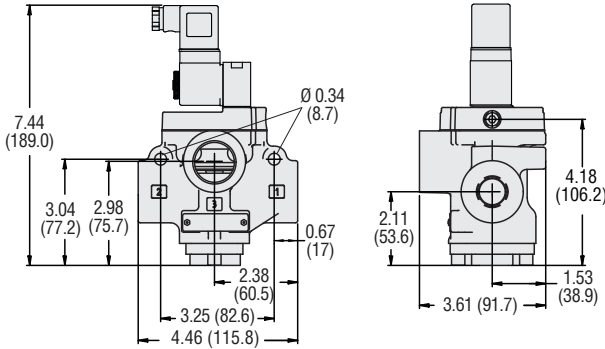
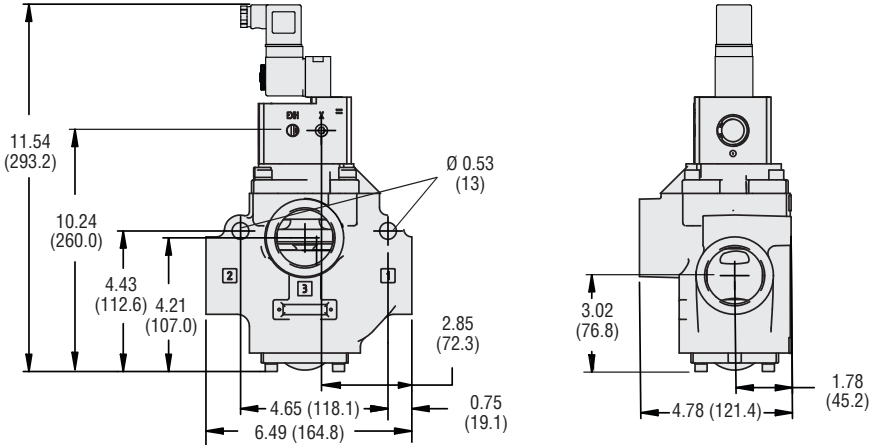
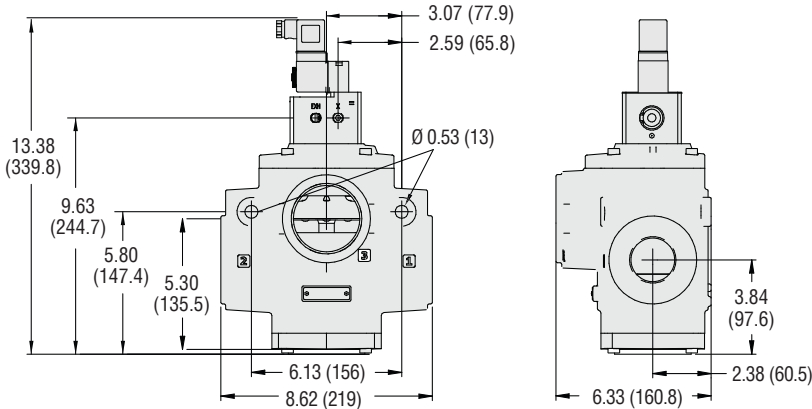
Inches (mm)

Body Size 3/8	Technical drawing of Body Size 3/8 valve showing front and side views with dimensions: - Front View Dimensions: 3.86 (98.1), 6.21 (157.6), 2.37 (61.1), 2.31 (58.6), 2.81 (71.4), 3.59 (91.2), 0.40 (10), 1.56 (39.6), Ø 0.34 (8.7). - Side View Dimensions: 1.69 (42.8), 3.04 (77.2), 1.53 (38.9).
Body Size 3/4	Technical drawing of Body Size 3/4 valve showing front and side views with dimensions: - Front View Dimensions: 6.97 (177.1), 3.04 (77.2), 2.98 (75.7), 3.25 (82.6), 4.46 (115.8), 0.67 (17), 2.38 (60.5), Ø 0.34 (8.7). - Side View Dimensions: 2.11 (53.6), 3.61 (91.7), 1.53 (38.9), 4.18 (106.2).
Body Size 1-1/4	Technical drawing of Body Size 1-1/4 valve showing front and side views with dimensions: - Front View Dimensions: 11.08 (281.3), 7.61 (193.3), 4.43 (112.6), 4.21 (107.0), 2.85 (72.3), 0.75 (19.1), 4.65 (118.1), 6.49 (164.8), Ø 0.53 (13). - Side View Dimensions: 3.02 (76.8), 4.78 (121.4), 1.78 (45.2).
Body Size 2	Technical drawing of Body Size 2 valve showing front and side views with dimensions: - Front View Dimensions: 13.2 (334.9), 9.63 (244.7), 5.80 (147.4), 5.30 (135.5), 6.13 (156), 8.62 (219), 3.07 (77.9), 2.59 (65.8), Ø 0.53 (13). - Side View Dimensions: 3.84 (97.6), 2.38 (60.5), 6.33 (160.8).

Downloadable CAD models available.

Valve Technical Data

3/2 Valves with Intrinsically Safe Coil

DIMENSIONS		Inches (mm)
Body Size 3/8		
Body Size 3/4		
Body Size 1-1/4		
Body Size 2		
Downloadable CAD models available.		

MODEL NUMBER CONFIGURATOR
4-Way 2-Position Valves

Port Thread	
NPT	
Leave Blank	
G	D

27

7

6

B

401

2

W

-

Series

Actuation
Solenoid Pilot

Valve Function
4/2

Revision Level

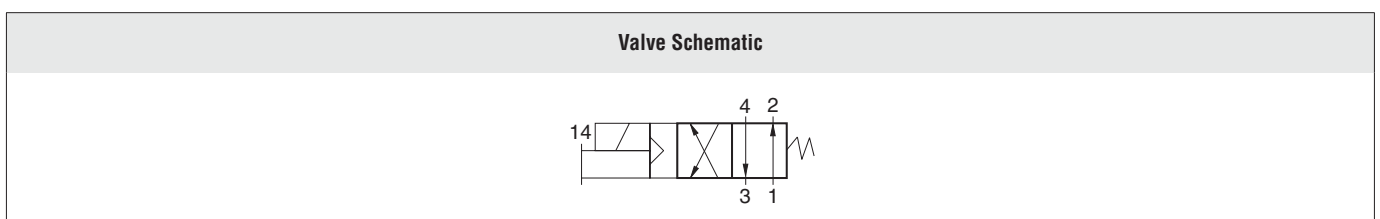
Coil Type	Certification	
Explosion-Proof	CSA / FM	
	ATEX	A
Intrinsically Safe* (24 V DC only)		N
* Connector included.		

Current	Voltage*	
DC	12 V	H
	24 V	W
AC	120 V, 60 Hz	Z
	240 V, 60 Hz	Y
* For other voltages consult ROSS.		

Valve Seals
Buna-N

Body Size	Port Size		Internal Pilot Supply	External Pilot Supply
	In-Out	Exhaust		
3/8	1/4	1/2	200	205
	3/8	1/2	300	305
	1/2	1/2	401	406
3/4	1/2	1	400	405
	3/4	1	500	505
	1	1	601	606
1-1/4	1	1-1/2	600	605
	1-1/4	1-1/2	700	705
	1-1/2	1-1/2	801	806

Model Number examples: D2773B3002W-A, 2773B2002Z.



Valve Technical Data

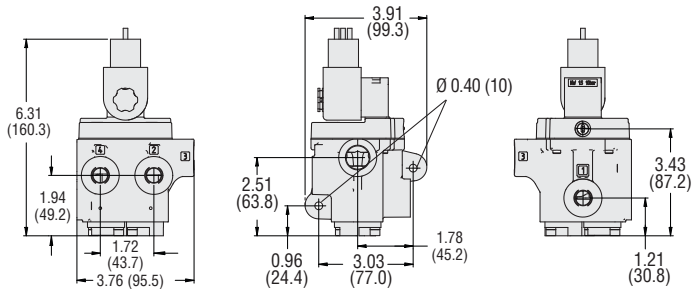
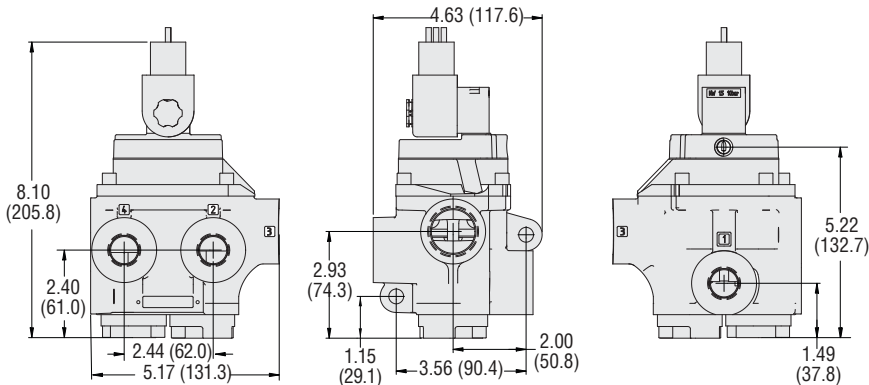
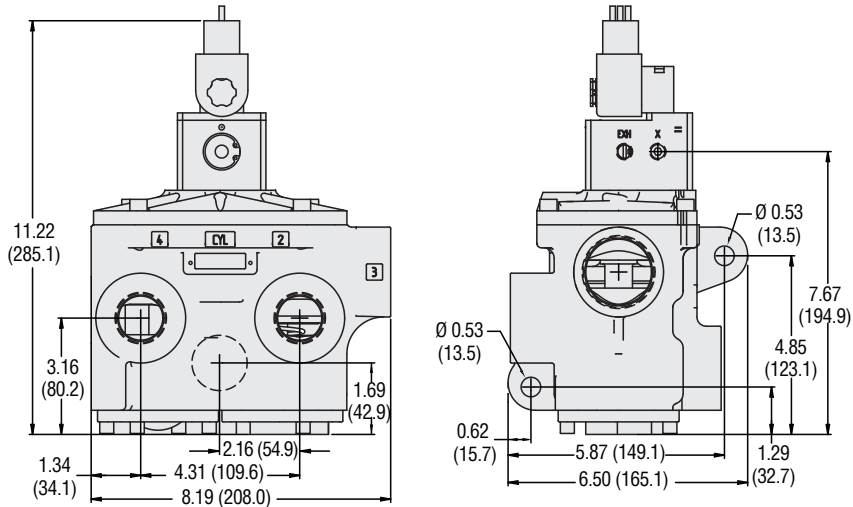
4/2 Valves

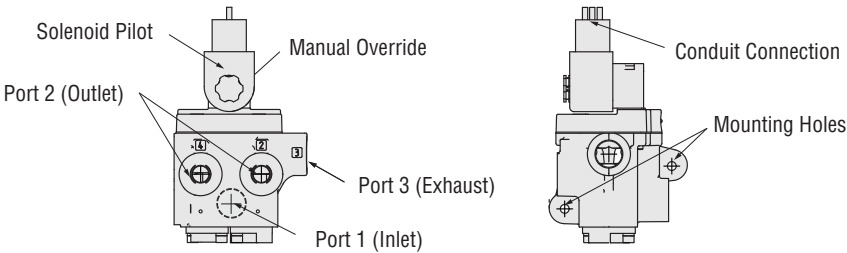
Size			Flow C _v (NI/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3	1-2	2-3	1-4	4-3	M	F		
								1-2, 1-4	4-3, 2-3	
3/8	1/4	1/2	1.7 (1700)	2.3 (2300)	1.8 (1800)	2.8 (2800)	10	0.92	0.92	1.9 (0.9)
	3/8	1/2	2.6 (2600)	3.3 (3200)	2.9 (2900)	3.9 (3800)	10	0.90	0.90	
	1/2	1/2	3.1 (3100)	4.2 (4100)	4.2 (4100)	5.2 (5100)	10	0.89	0.73	
3/4	1/2	1	5.7 (5600)	7 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	4.2 (1.9)
	3/4	1	7.4 (7300)	7 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8 (7900)	8.0 (7900)	11 (11000)	26	0.35	0.50	
1-1/4	1	1-1/2	13 (13000)	21 (21000)	18 (18000)	22 (22000)	79	0.17	0.22	11.0 (5.0)
	1-1/4	1-1/2	16 (16000)	22 (22000)	25 (25000)	26 (26000)	79	0.16	0.18	
	1-1/2	1-1/2	16 (16000)	22 (22000)	26 (26000)	27 (27000)	79	0.15	0.15	
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. M and F values are shown above.										

4/2 Valves with Explosion-Proof CSA / FM Certified Coil

DIMENSIONS

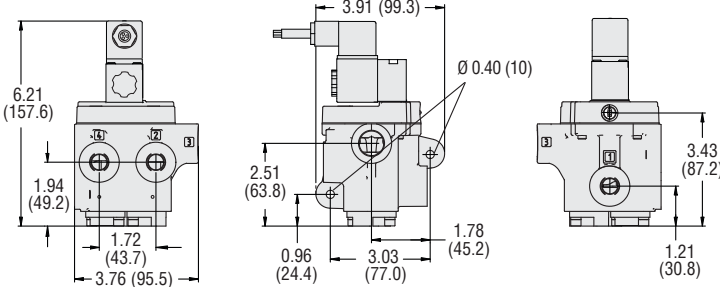
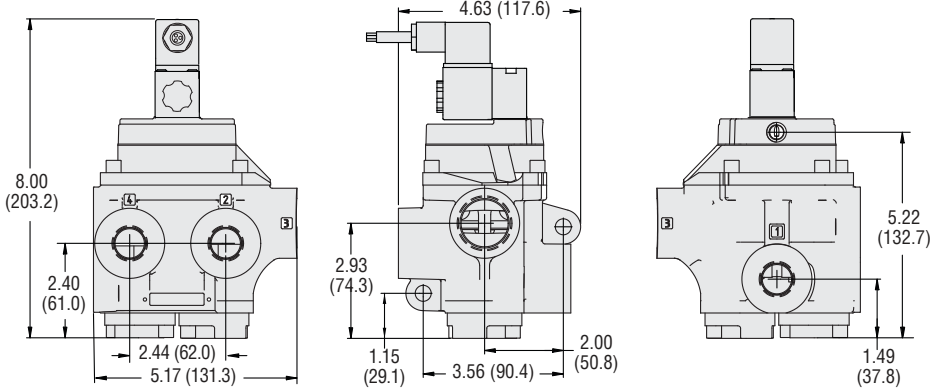
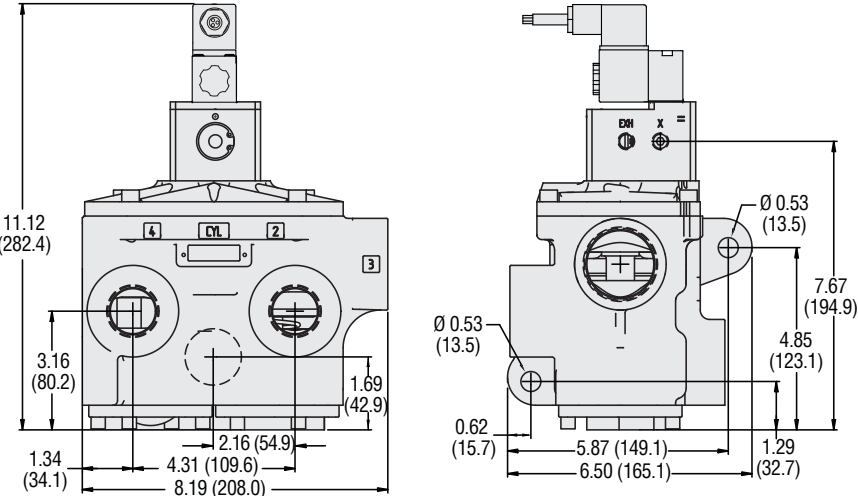
Inches (mm)

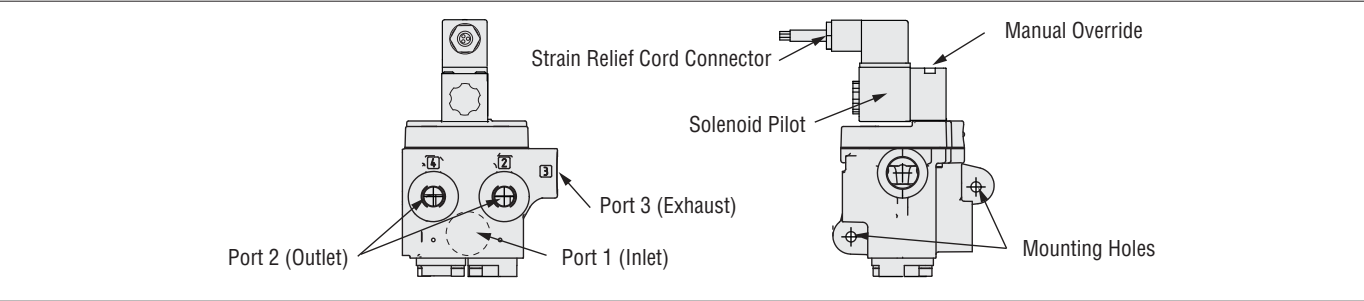
Body Size 3/8	
Body Size 3/4	
Body Size 1-1/4	
Downloadable CAD models available.	



Valve Technical Data

4/2 Valves with Explosion-Proof ATEX Certified Coil

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

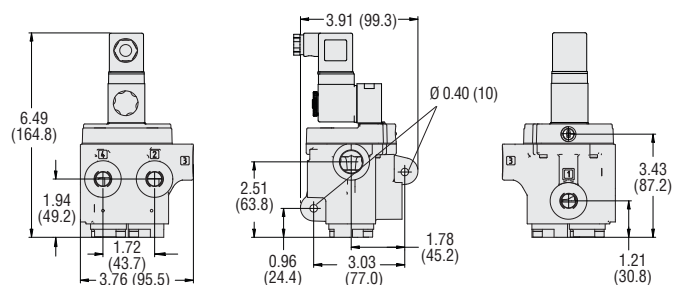


4/2 Valves with Intrinsically Safe Coil

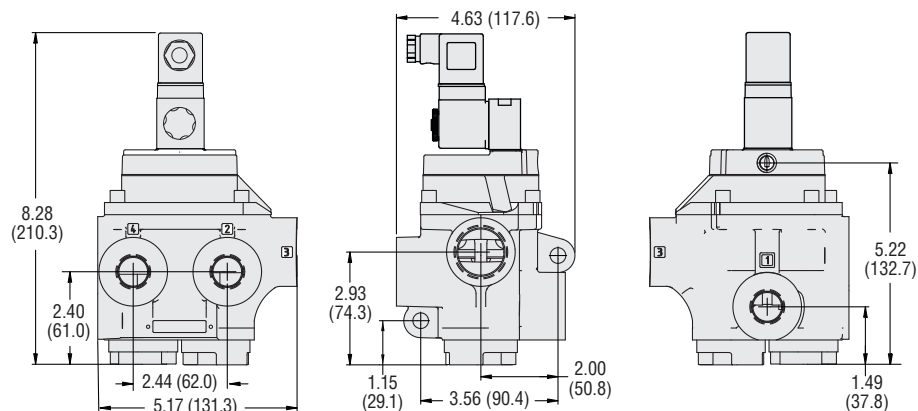
DIMENSIONS

Inches (mm)

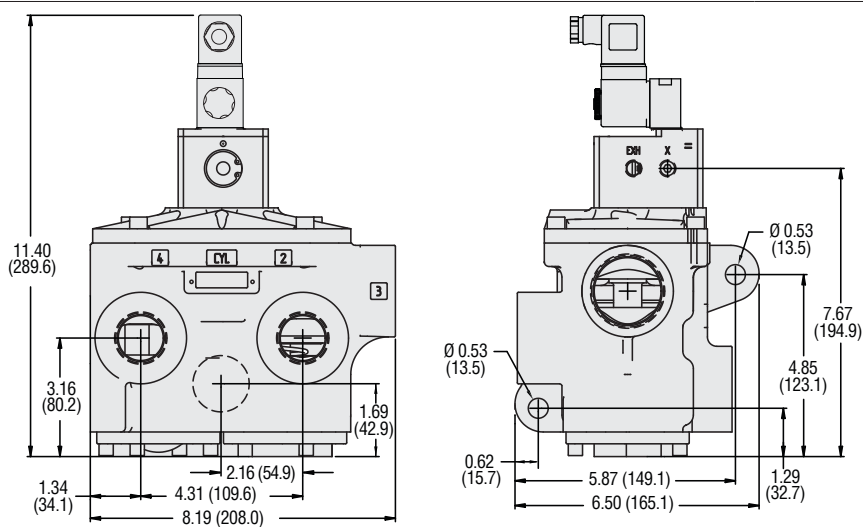
Body Size 3/8



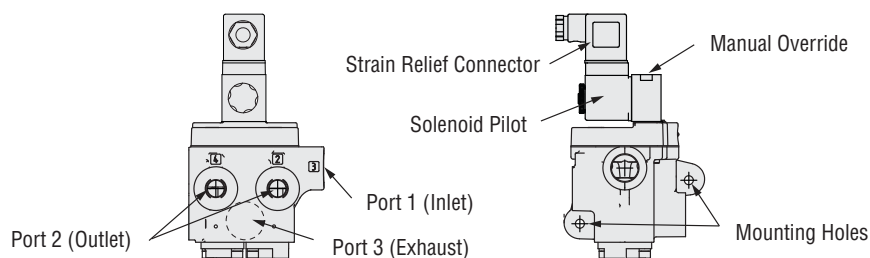
Body Size 3/4



Body Size 1-1/4



Downloadable CAD models available.



EXHAUST SILENCERS

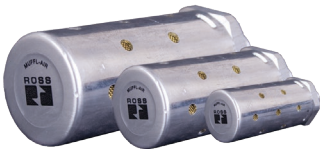


Illustration example.

Silencers	SPECIFICATIONS		Silencer Material		Pressure Range psig (bar)		Schematic	
			Aluminum		0-290 (0-20) maximum			
	Port Size	Thread Type	Flow C _v (NI/min)	Model Number		Dimensions inches (mm)		≈ Weight lb (kg)
				NPT Thread	R/Rp Thread	Length	Hex Size (D)	
	1/2	Male	6.8 (6700)	5500A4003	D5500A4003	3.6 (9)	1.25 (32)	0.2 (0.1)
	1	Male	18 (18000)	5500A6003	D5500A6003	5.4 (14)	2.0 (51)	0.9 (0.4)
	1-1/2	Female	39 (39000)	5500A8001	D5500A8001	5.7 (14)	2.5 (64)	1.3 (0.6)
	2-1/2	Female	104 (100000)	5500A9002	D5500A9002	4.0 (102)	5.7 (145)	2.9 (1.4)

FEMALE SILENCER CONNECTORS

Hex Nipples	Material	Fitting Pipe Size	Thread Type	Model Number		
				NPT Thread	BSPT Thread	
	Steel	1-1/2	Male - Male	488J27	122J39	
		2-1/2	Male - Male	490J27	123J39	

SOLENOID PILOT CONVERSION KITS

Conversion Kits	Description	Valve Body Size	Kit Number
	ROSS Controls standard poppet solenoid pilot controlled valves for line mounting can be easily field-converted into an explosion-proof solenoid pilot poppet valve. Listed on the right are the conversion kit numbers to replace the obsolete ROSS explosion proof pilot, or to convert a standard inline valve to an explosion-proof valve.	1/4" - 1" (C _v up to 10)	2370K77W
		1" (C _v up to 29) - 2-1/2"	2371K77W

ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, AUTOMATIC VALVE INDUSTRIAL, and MASTER PNEUMATIC, collectively the “ROSS Global Family”.

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 Global Family 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 Global Family 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 Global Family location.
4. Each ROSS Global Family Product should be used within its specification limits. In addition, use only ROSS ROSS Global Family components to repair ROSS Global Family 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 Global Family recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Global Family 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 Global Family are warranted for a one-year period [with the exception of Air Preparation products 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 Global Family's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Global Family 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 Global Family freight prepaid.

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