

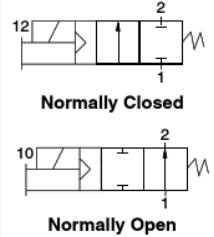
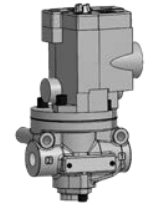
Directional Control Valves

Solenoid Pilot Controlled

27 Series

2-Way 2-Position Valves, Spring Return

Port Size	Body Size	Normally Closed		Normally Open		C _v		Average Response Constants**			Weight lb (kg)
		Valve Model Number#		Valve Model Number#		NC	NO	M	F		
		NPTThreads	BSPPThreads	NPTThreads	BSPPThreads				NC	NO	
1/4	3/8	2771B2001Z	D2771B2001Z	2772B2001Z	D2772B2001Z	2.3	2.3	10	0.91	0.91	2.5 (1.2)
3/8	3/8	2771B3001Z	D2771B3001Z	2772B3001Z	D2772B3001Z	3.8	3.3	10	0.70	0.76	2.5 (1.2)
1/2	3/8	2771B4011Z	D2771B4011Z	2772B4011Z	D2772B4011Z	4.0	3.5	10	0.64	0.72	2.5 (1.2)
1/2	3/4	2771B4001Z	D2771B4001Z	2772B4001Z	D2772B4001Z	7.7	6.5	14	0.37	0.43	3.3 (1.5)
3/4	3/4	2771B5001Z	D2771B5001Z	2772B5001Z	D2772B5001Z	9.0	7.3	14	0.34	0.39	3.3 (1.5)
1	3/4	2771B6011Z	D2771B6011Z	2772B6011Z	D2772B6011Z	9.0	7.9	14	0.34	0.37	3.3 (1.5)
1	1¼	2771B6001Z	D2771B6001Z	2772B6001Z	D2772B6001Z	24	21	26	0.17	0.17	7.0 (3.2)
1¼	1¼	2771B7001Z	D2771B7001Z	2772B7001Z	D2772B7001Z	29	20	26	0.15	0.19	7.0 (3.2)
1½	1¼	2771B8011Z	D2771B8011Z	2772B8011Z	D2772B8011Z	29	21	26	0.15	0.18	7.0 (3.2)
1½	2	2771B8001Z	D2771B8001Z	2772B8001Z	D2772B8001Z	49	49	41	0.09	0.09	15.5 (6.9)
2	2	2771B9001Z	D2771B9001Z	2772B9001Z	D2772B9001Z	57	57	41	0.07	0.07	15.5 (6.9)
2½	2	2771B9011Z	D2771B9011Z	2772B9011Z	D2772B9011Z	64	72	41	0.07	0.06	15.5 (6.9)

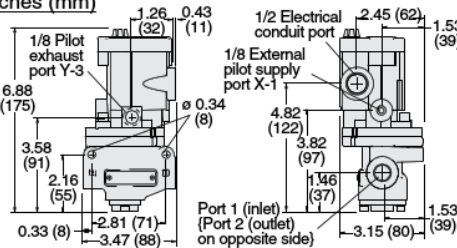


Voltage: Z=110-120 VAC, 50/60 Hz; W=24 VDC, e.g., 2771B2001W. For other voltages, consult ROSS.

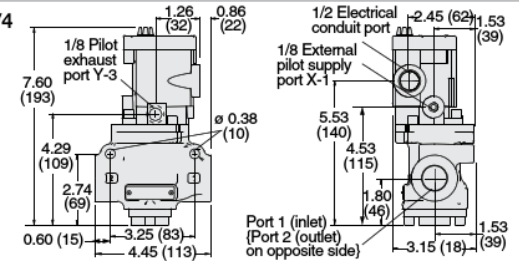
** Valve Response Time - Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Dimensions - inches (mm)

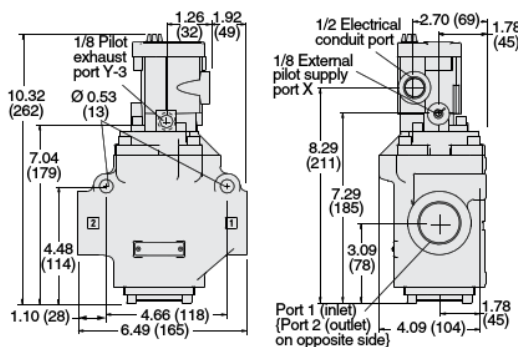
Body Size 3/8



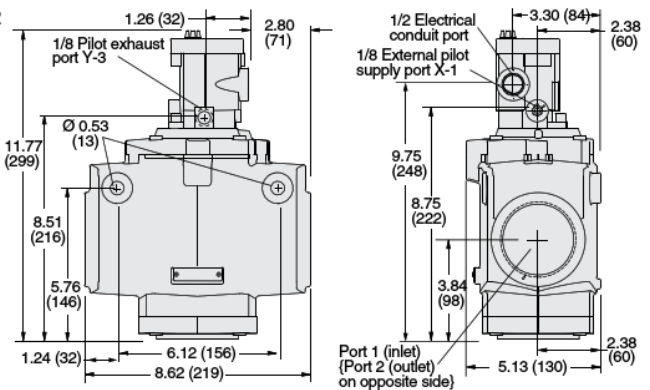
Body Size 3/4



Body Size 1 1/4



Body Size 2



Options: Indicator Light Kits, Manual Override Kits; refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	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 to 10 bar)
Mounting Type	In-line	Pilot Supply	When external pilot supply, pressure must be equal to or greater than inlet pressure.
Solenoids	Rated for continuous duty	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Voltage	24 volts DC; 110-120 volts AC, 50/60 Hz	Manual Override	Flush; rubber, non-locking
Power Consumption	14 watts on DC; 87 VA inrush, 30 VA holding on 50 or 60 Hz	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 e in redundant application with HFT ≥ 1, for details see certificate.
Temperature	Ambient: 40° to 120°F (4 to 50°C) Media: 40° to 175°F (4° to 80°C)		
Flow Media	Filtered air		
Pilot Supply	Internal or External		



Valves with EN (DIN) connector available, consult ROSS.
For ATEX certified valves, consult ROSS. For FM, CSA approved Explosion-Proof valves, see section F.



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B2.3

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

Directional Control Valves

Solenoid Pilot Controlled

27 Series

3-Way 2-Position Valves, Spring Return

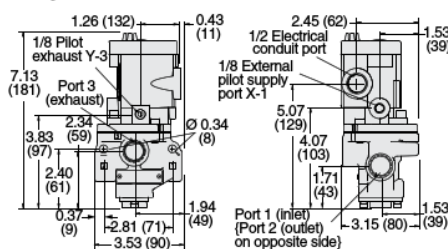
Port Size			Body Size	Normally Closed		Normally Open		C _v				Average Response Constants**					Weight lb (kg)
				Valve Model Number*		Valve Model Number*		NC		NO		M	F				
1, 2	3			NPT Threads	BSPP Threads	NPT Threads	BSPP Threads	1-2	2-3	1-2	2-3		1-2	2-3	1-2	2-3	
1/4	1/2	3/8	2773B2001Z	D2773B2001Z	2774B2001Z	D2774B2001Z	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	2.5 (1.2)	
3/8	1/2	3/8	2773B3001Z	D2773B3001Z	2774B3001Z	D2774B3001Z	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	2.5 (1.2)	
1/2	1/2	3/8	2773B4011Z	D2773B4011Z	2774B4011Z	D2774B4011Z	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	2.5 (1.2)	
1/2	1	3/4	2773B4001Z	D2773B4001Z	2774B4001Z	D2774B4001Z	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	3.3 (1.5)	
3/4	1	3/4	2773B5001Z	D2773B5001Z	2774B5001Z	D2774B5001Z	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60	3.3 (1.5)	
1	1	3/4	2773B6011Z	D2773B6011Z	2774B6011Z	D2774B6011Z	8	12	6.8	7.5	11	0.34	0.25	0.40	0.59	3.3 (1.5)	
1	1 1/2	1 1/4	2773B6001Z	D2773B6001Z	2774B6001Z	D2774B6001Z	23	34	17	24	28	0.17	0.14	0.20	0.17	7.0 (3.2)	
1 1/4	1 1/2	1 1/4	2773B7001Z	D2773B7001Z	2774B7001Z	D2774B7001Z	30	32	19	24	28	0.15	0.15	0.19	0.17	7.0 (3.2)	
1 1/2	1 1/2	1 1/4	2773B8011Z	D2773B8011Z	2774B8011Z	D2774B8011Z	30	31	19	23	28	0.15	0.15	0.19	0.16	7.0 (3.2)	
1 1/2	2 1/2	2	2773B8001Z	D2773B8001Z	2774B8001Z	D2774B8001Z	68	70	57	59	76	0.05	0.04	0.07	0.04	16.5 (7.4)	
2	2 1/2	2	2773B9001Z	D2773B9001Z	2774B9001Z	D2774B9001Z	70	70	58	61	76	0.05	0.04	0.05	0.04	16.5 (7.4)	
2 1/2	2 1/2	2	2773B9011Z	D2773B9011Z	2774B9011Z	D2774B9011Z	70	71	54	55	76	0.05	0.04	0.50	0.04	16.5 (7.4)	

Voltage: Z=110-120 VAC, 50/60 Hz; W=24 VDC, e.g., 2773B2001W. For other voltages, consult ROSS.

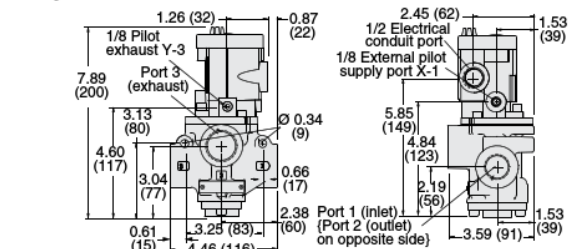
** Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.



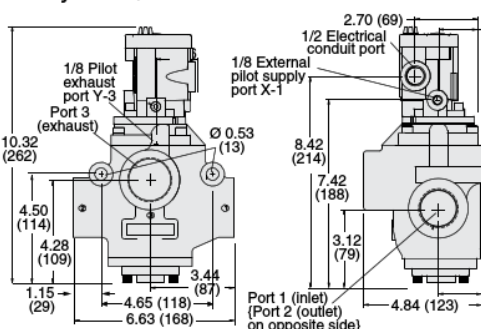
Body Size 3/8



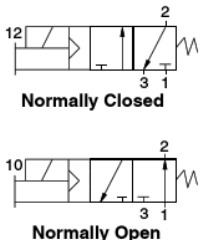
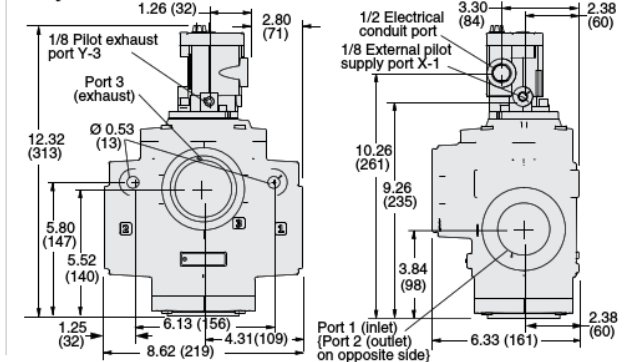
Body Size 3/4



Body Size 1 1/4



Body Size 2



Options: Indicator Light Kits, Manual Override Kits; refer to page B2.23. Silencers ordered separately, refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	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 to 10 bar) Pilot Supply - When external pilot supply, pressure must be equal to or greater than inlet pressure.
Mounting Type	In-line	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Solenoids	Rated for continuous duty	Manual Override	Flush; rubber, non-locking
Voltage	24 volts DC; 110-120 volts AC, 50/60 Hz	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 e in redundant application with HFT ≥ 1, for details see certificate.	
Power Consumption	14 watts on DC; 87 VA inrush, 30 VA holding on 50 or 60 Hz		
Temperature	Ambient: 40° to 120°F (4° to 50°C) Media: 40° to 175°F (4° to 80°C)		
Flow Media	Filtered air		
Pilot Supply	Internal or External		



Valves with EN (DIN) connector available, consult ROSS.
For ATEX certified valves, consult ROSS. For FM, CSA approved Explosion-Proof valves, see section F.



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

Directional Control Valves

Solenoid Pilot Controlled

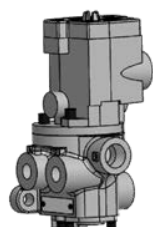
27 Series

4-Way 2-Position Valves, Spring Return											
Port Size		Body Size	Valve Model Number#		C _v		Average Response Constants**			Weight lb (kg)	
1, 2, 4	3		NPT Threads	BSPP Threads	1-2, 1-4	4-3, 2-3	M	F			
								1-2, 1-4	4-3, 2-3		
1/4	1/2	3/8	2776B2001Z	D2776B2001Z	2.1	2.9	10	0.92	0.92	3.0 (1.4)	
3/8	1/2	3/8	2776B3001Z	D2776B3001Z	2.9	4.2	10	0.90	0.90	3.0 (1.4)	
1/2	1/2	3/8	2776B4011Z	D2776B4011Z	3.1	7.3	10	0.89	0.73	3.0 (1.4)	
1/2	1	3/4	2776B4001Z	D2776B4001Z	5.6	8.1	26	0.50	0.66	5.3 (2.4)	
3/4	1	3/4	2776B5001Z	D2776B5001Z	7.0	9.3	26	0.36	0.55	5.3 (2.4)	
1	1	3/4	2776B6011Z	D2776B6011Z	7.8	10	26	0.35	0.50	5.3 (2.4)	
1	1½	1¼	2776B6001Z	D2776B6001Z	19	26	79	0.17	0.22	11.3 (5.1)	
1¼	1½	1¼	2776B7001Z	D2776B7001Z	21	27	79	0.16	0.18	11.3 (5.1)	
1½	1½	1¼	2776B8011Z	D2776B8011Z	22	27	79	0.15	0.15	11.3 (5.1)	



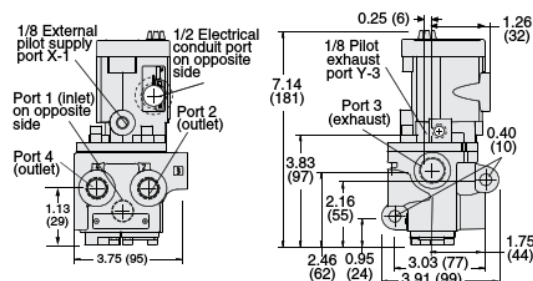
Voltage: Z=110-120 VAC, 50/60 Hz; W=24 VDC, e.g., 2776B2001W. For other voltages, consult ROSS.

** 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.

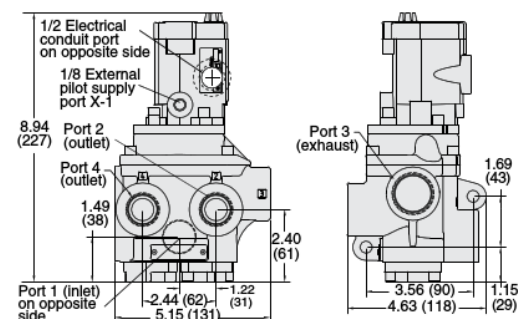


Valve Dimensions – inches (mm)

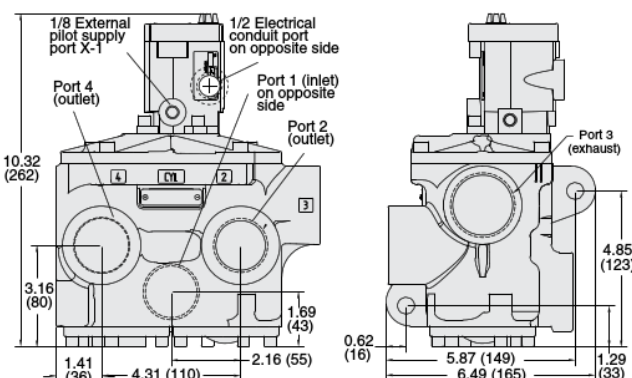
Body Size 3/8



Body Size 3/4



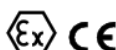
Body Size 1 1/4



Options: Indicator Light Kits, Manual Override Kits; refer to page B2.23. Silencers ordered separately, refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Operating Pressure	15 to 150 psig (1 to 10 bar)
Mounting Type	In-line	Pilot Supply	When external pilot supply, pressure must be equal to or greater than inlet pressure.
Solenoids	Rated for continuous duty	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Voltage	24 volts DC; 110-120 volts AC, 50/60 Hz	Manual Override	Flush; rubber, non-locking
Power Consumption	14 watts on DC; 87 VA inrush, 30 VA holding on 50 or 60 Hz	Safety Integrity Level (SIL)	Certified by TÜV Rheinland in accordance with 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 e in redundant application with HFT ≥ 1, for details see certificate.
Temperature	Ambient: 40° to 120°F (4 to 50°C) Media: 40° to 175°F (4° to 80°C)		
Flow Media	Filtered air		
Pilot Supply	Internal or External		



Valves with EN (DIN) connector available, consult ROSS.
For ATEX certified valves, consult ROSS. For FM, CSA approved Explosion-Proof valves, see section F.



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

Directional Control Valves

Direct Double Solenoid Controlled

27 Series

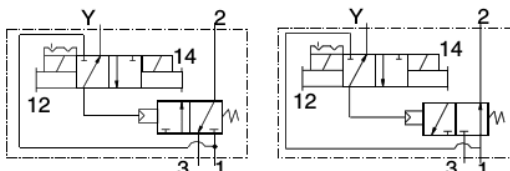
3-Way 2-Position Valves, Detented

Port Size		Body Size	Normally Closed		Normally Open		C _v				Average Response Constants**					Weight lb (kg)
			Valve Model Number#		Valve Model Number#		NC		NO		M	F				
NC							NO		NC			NO				
1, 2	3		NPT Threads	BSPP Threads	NPT Threads	BSPP Threads	1-2	2-3	1-2	2-3		1-2	2-3	1-2	2-3	
1/4	1/2	3/8	2773B2003Z	D2773B2003Z	2774B2003Z	D2774B2003Z	2.5	3.1	2.3	2.7	30	0.90	0.80	0.99	0.88	3.5 (1.6)
3/8	1/2	3/8	2773B3003Z	D2773B3003Z	2774B3003Z	D2774B3003Z	3.6	5.3	2.8	3.2	30	0.70	0.50	0.90	0.77	3.5 (1.6)
1/2	1/2	3/8	2773B4013Z	D2773B4013Z	2774B4013Z	D2774B4013Z	3.3	5.3	2.8	3.2	30	0.75	0.50	0.90	0.76	3.5 (1.6)
1/2	1	3/4	2773B4003Z	D2773B4003Z	2774B4003Z	D2774B4003Z	6.3	9.2	6.3	8.0	32	0.43	0.17	0.46	0.60	4.3 (1.9)
3/4	1	3/4	2773B5003Z	D2773B5003Z	2774B5003Z	D2774B5003Z	7.7	11	6.9	7.4	32	0.36	0.26	0.45	0.60	4.3 (1.9)
1	1	3/4	2773B6013Z	D2773B6013Z	2774B6013Z	D2774B6013Z	8	12	6.8	7.5	32	0.34	0.25	0.40	0.59	4.3 (1.9)
1	1½	1¼	2773B6003Z	D2773B6003Z	2774B6003Z	D2774B6003Z	23	34	17	24	52	0.17	0.14	0.20	0.17	8.0 (3.6)
1¼	1½	1¼	2773B7003Z	D2773B7003Z	2774B7003Z	D2774B7003Z	30	32	19	24	52	0.15	0.15	0.19	0.17	8.0 (3.6)
1½	1½	1¼	2773B8013Z	D2773B8013Z	2774B8013Z	D2774B8013Z	30	31	19	23	52	0.15	0.15	0.19	0.16	8.0 (3.6)

Voltage: Z=110-120 VAC, 50/60 Hz; W=24 VDC, e.g., 2773B2003W. For other voltages, consult ROSS.

** 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.

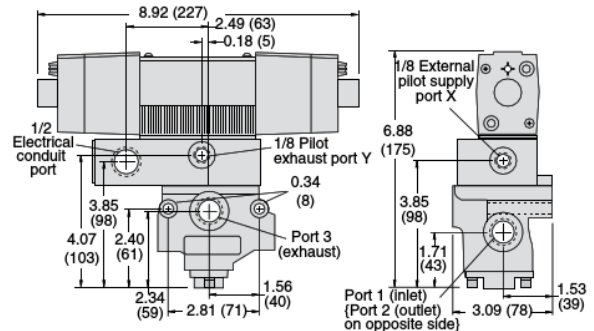
Valve Dimensions – inches (mm)



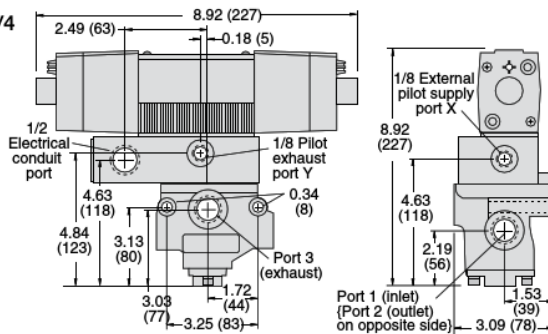
Normally Closed

Normally Open

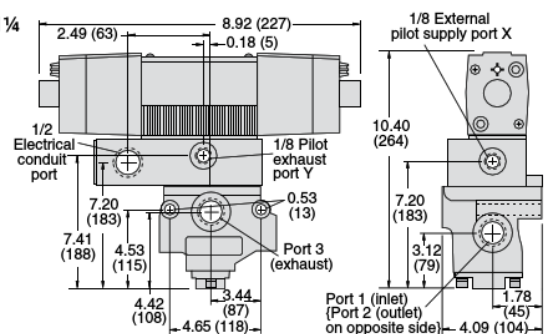
Body Size 3/8



Body Size 3/4



Body Size 1 1/4



Silencers ordered separately, refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Pilot Supply	Internal or External
Mounting Type	In-line	Operating Pressure	15 to 150 psig (1 to 10 bar)
Solenoids	Rated for continuous duty	Pilot Supply - When external pilot supply, pressure must be equal to or greater than inlet pressure.	
Voltage	24 volts DC; 110-120 volts AC, 50/60 Hz	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Power Consumption (each solenoid)	20 watts on DC; 190 VA inrush, 40 VA holding on 50 or 60 Hz	Manual Override	Flush; rubber, non-locking
Temperature	Ambient: 40° to 120°F (4 to 50°C) Media: 40° to 175°F (4° to 80°C)	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 e in redundant application with HFT ≥ 1, for details see certificate.	
Flow Media	Filtered air		



Valves with EN (DIN) connector available, consult ROSS.
For ATEX certified valves, consult ROSS. For FM, CSA approved Explosion-Proof valves, see section F.



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

Directional Control Valves

Direct Double Solenoid Controlled

27 Series



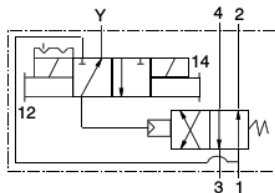
B

B2

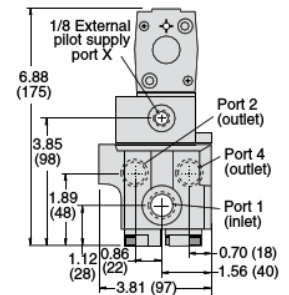
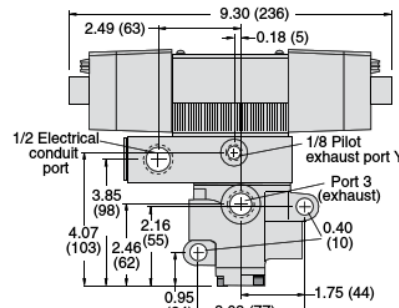
4-Way 2-Position Valves, Detented										
Port Size		Body Size	Valve Model Number#		C _v		Average Response Constants**			Weight lb (kg)
			NPT Threads	BSPP Threads	1-2, 1-4	4-3, 2-3	M	F		
1, 2, 4	3							1-2, 1-4	4-3, 2-3	
1/4	1/2	3/8	2776B2003Z	D2776B2003Z	2.1	2.9	30	0.92	0.92	4.0 (1.8)
3/8	1/2	3/8	2776B3003Z	D2776B3003Z	2.9	4.2	30	0.90	0.90	4.0 (1.8)
1/2	1/2	3/8	2776B4013Z	D2776B4013Z	3.1	4.3	30	0.89	0.73	4.0 (1.8)
1/2	1	3/4	2776B4003Z	D2776B4003Z	5.6	8.1	46	0.50	0.66	6.3 (2.8)
3/4	1	3/4	2776B5003Z	D2776B5003Z	7.0	9.3	46	0.36	0.55	6.3 (2.8)
1	1	3/4	2776B6013Z	D2776B6013Z	7.8	10	46	0.35	0.50	6.3 (2.8)
1	1 1/2	1 1/4	2776B6003Z	D2776B6003Z	19	26	99	0.17	0.22	12.3 (5.5)
1 1/4	1 1/2	1 1/4	2776B7003Z	D2776B7003Z	21	27	99	0.16	0.18	12.3 (5.5)
1 1/2	1 1/2	1 1/4	2776B8013Z	D2776B8013Z	22	27	99	0.15	0.15	12.3 (5.5)

Voltage: Z=110-120 VAC, 50/60 Hz; W=24 VDC, e.g., 2776B2003W. For other voltages, consult ROSS.
 ** 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.

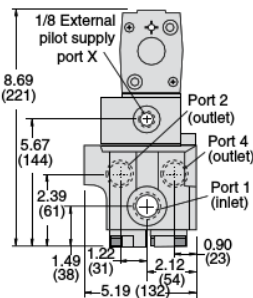
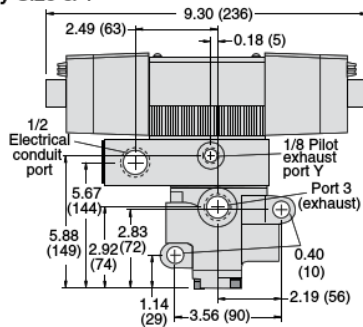
Valve Dimensions – inches (mm)



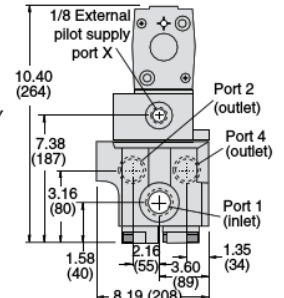
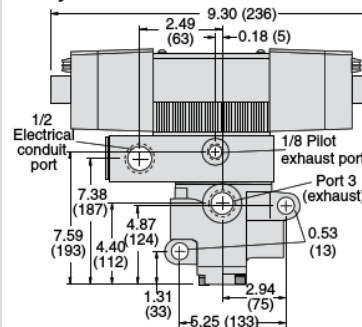
Body Size 3/8



Body Size 3/4



Body Size 1 1/4



Silencers ordered separately, refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Pilot Supply	Internal or External
Mounting Type	In-line	Operating Pressure	15 to 150 psig (1 to 10 bar) Pilot Supply - When external pilot supply, pressure must be equal to or greater than inlet pressure.
Solenoids	Rated for continuous duty	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Voltage	24 volts DC; 110-120 volts AC, 50/60 Hz	Manual Override	Flush; rubber, non-locking
Power Consumption (each solenoid)	20 watts on DC; 190 VA inrush, 40 VA holding on 50 or 60 Hz	Safety Integrity Level (SIL) - Certified by TÜV Rheinland in accordance with 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 e in redundant application with HFT ≥ 1, for details see certificate.	
Temperature	Ambient: 40° to 120°F (4 to 50°C) Media: 40° to 175°F (4° to 80°C)		
Flow Media	Filtered air		



Valves with EN (DIN) connector available, consult ROSS.
 For ATEX certified valves, consult ROSS. For FM, CSA approved Explosion-Proof valves, see section F.



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



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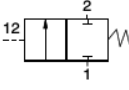
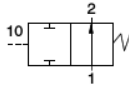
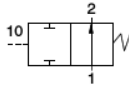
B2.11

Directional Control Valves

Pressure Controlled

27 Series

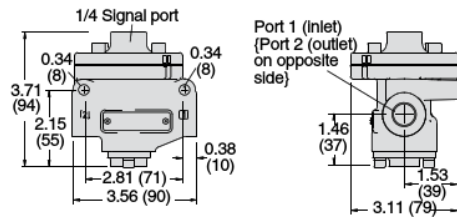
2-Way 2-Position Valves, Spring Return

Port Size	Body Size	Normally Closed		Normally Open		C _v		Average Response Constants**			Weight lb (kg)	 Normally Closed
		Valve Model Number		Valve Model Number		NC	NO	M	F			
		NPT Threads	BSPP Threads	NPT Threads	BSPP Threads				NC	NO		
1/4	3/8	2751A2001	D2751A2001	2752A2001	D2752A2001	2.3	2.3	10	0.91	0.91	1.3 (0.6)	 Normally Open
3/8	3/8	2751A3001	D2751A3001	2752A3001	D2752A3001	3.8	3.3	10	0.70	0.76	1.3 (0.6)	
1/2	3/8	2751A4011	D2751A4011	2752A4011	D2752A4011	4.0	3.5	10	0.64	0.72	1.3 (0.6)	
1/2	3/4	2751A4001	D2751A4001	2752A4001	D2752A4001	7.7	6.5	14	0.37	0.43	2.0 (0.9)	
3/4	3/4	2751A5001	D2751A5001	2752A5001	D2752A5001	9.0	7.3	14	0.34	0.39	2.0 (0.9)	
1	3/4	2751A6011	D2751A6011	2752A6011	D2752A6011	9.0	7.9	14	0.34	0.37	2.0 (0.9)	 Normally Open
1	1¼	2751A6001	D2751A6001	2752A6001	D2752A6001	24	21	26	0.17	0.17	8.0 (3.6)	
1¼	1¼	2751A7001	D2751A7001	2752A7001	D2752A7001	29	20	26	0.15	0.19	8.0 (3.6)	
1½	1¼	2751A8011	D2751A8011	2752A8011	D2752A8011	29	21	26	0.15	0.18	8.0 (3.6)	
1½	2	2751A8001	D2751A8001	2752A8001	D2752A8001	49	49	41	0.09	0.09	14.3 (6.4)	
2	2	2751A9001	D2751A9001	2752A9001	D2752A9001	57	57	41	0.07	0.07	14.3 (6.4)	
2½	2	2751A9011	D2751A9011	2752A9011	D2752A9011	64	72	41	0.07	0.06	14.3 (6.4)	

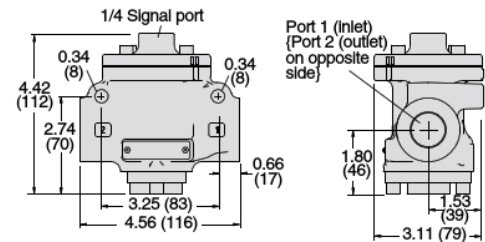
** Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Dimensions – inches (mm)

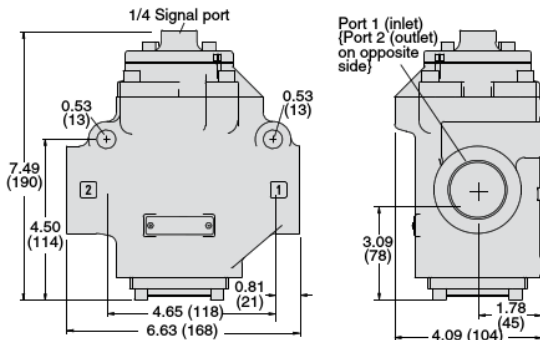
Body Size 3/8



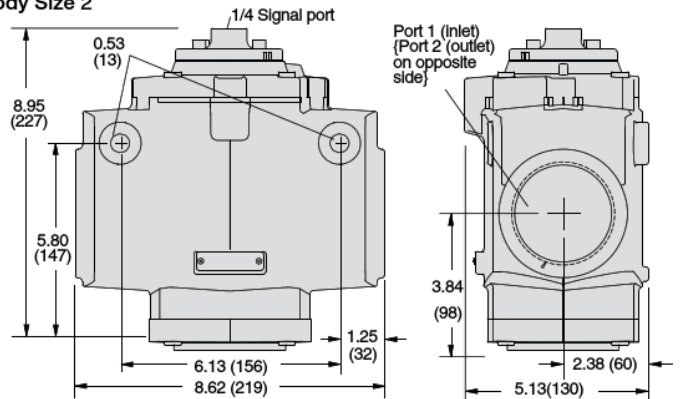
Body Size 3/4



Body Size 1 1/4



Body Size 2



Silencers ordered separately, refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Mounting Type	In-line	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 e in redundant application with HFT ≥ 1, for details see certificate.	
Temperature	Ambient/Media: 40° to 175°F (4° to 80°C)		
Flow Media	Filtered air		
Pilot Supply	External		
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 to 10 bar) Pilot Supply - Pilot supply pressure must be equal to or greater than inlet pressure.		



For ATEX certified valves, consult ROSS.

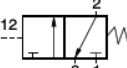
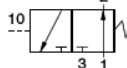
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS, WARNINGS** on the inside back cover.

Directional Control Valves

Pressure Controlled

27 Series

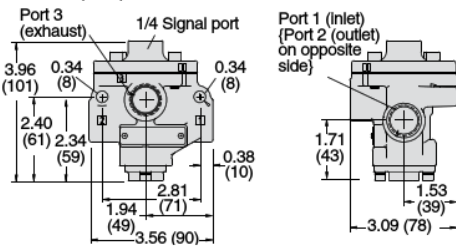
3-Way 2-Position Valves, Spring Return

Port Size			Body Size	Normally Closed		Normally Open		C _v				Average Response Constants**				Weight lb (kg)		
				Valve Model Number		Valve Model Number		NC		NO		M	F					
								NPT Threads	BSPP Threads	NPT Threads	BSPP Threads		1-2	2-3	1-2			2-3
1, 2	3																	
1/4	1/2	3/8	2753A2001	D2753A2001	2754A2001	D2754A2001	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	1.3 (0.6)		Normally Closed
3/8	1/2	3/8	2753A3001	D2753A3001	2754A3001	D2754A3001	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	1.3 (0.6)		
1/2	1/2	3/8	2753A4011	D2753A4011	2754A4011	D2754A4011	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	1.3 (0.6)		
1/2	1	3/4	2753A4001	D2753A4001	2754A4001	D2754A4001	6.3	9.2	6.3	8.0	12	0.43	0.17	0.46	0.60	2.0 (0.9)		
3/4	1	3/4	2753A5001	D2753A5001	2754A5001	D2754A5001	7.7	11	6.9	7.4	12	0.36	0.26	0.45	0.60	2.0 (0.9)		
1	1	3/4	2753A6011	D2753A6011	2754A6011	D2754A6011	8	12	6.8	7.5	12	0.34	0.25	0.40	0.59	2.0 (0.9)		Normally Open
1	1½	1¼	2753A6001	D2753A6001	2754A6001	D2754A6001	23	34	17	24	32	0.17	0.14	0.20	0.17	6.0 (2.7)		
1¼	1½	1¼	2753A7001	D2753A7001	2754A7001	D2754A7001	30	32	19	24	32	0.15	0.15	0.19	0.17	6.0 (2.7)		
1½	1½	1¼	2753A8011	D2753A8011	2754A8011	D2754A8011	30	31	19	23	32	0.15	0.15	0.19	0.16	6.0 (2.7)		
1½	2½	2	2753A8001	D2753A8001	2754A8001	D2754A8001	68	70	57	59	76	0.05	0.04	0.07	0.04	15.3 (6.9)		
2	2½	2	2753A9001	D2753A9001	2754A9001	D2754A9001	70	70	58	61	76	0.05	0.04	0.05	0.04	15.3 (6.9)		
2½	2½	2	2753A9011	D2753A9011	2754A9011	D2754A9011	70	71	54	55	76	0.05	0.04	0.05	0.04	15.3 (6.9)		

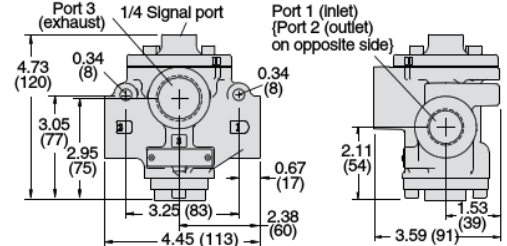
** Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Dimensions – inches (mm)

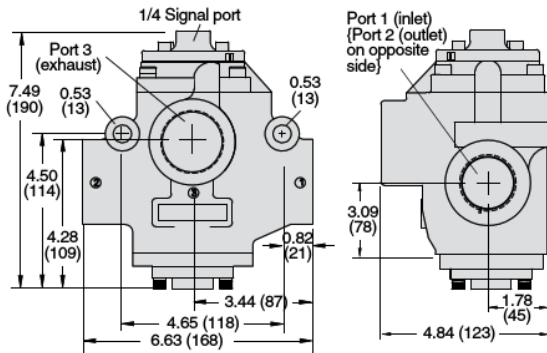
Body Size 3/8



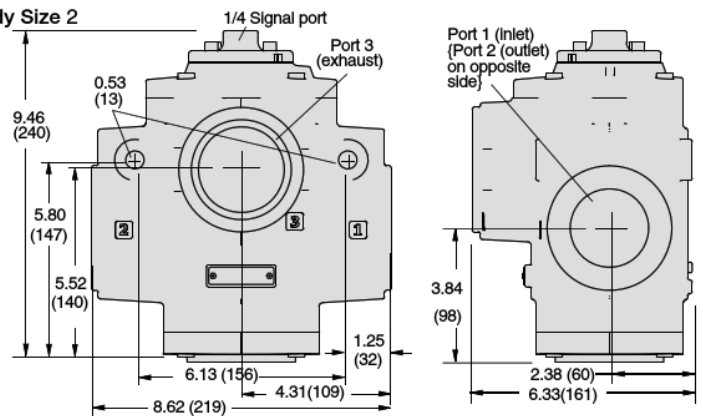
Body Size 3/4



Body Size 1 1/4



Body Size 2



Silencers ordered separately, refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Mounting Type	In-line	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 e in redundant application with HFT ≥ 1, for details see certificate.	
Temperature	Ambient/Media: 40° to 175°F (4° to 80°C)		
Flow Media	Filtered air		
Pilot Supply	External		
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 to 10 bar) Pilot Supply - Pilot supply pressure must be equal to or greater than inlet pressure.		



For ATEX certified valves, consult ROSS.

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



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Directional Control Valves

Pressure Controlled

27 Series

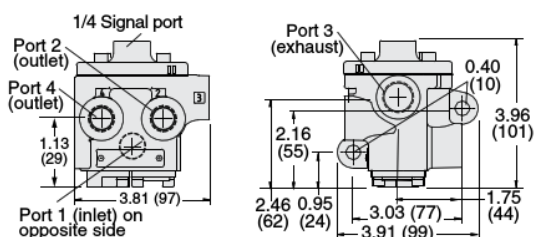
4-Way 2-Position Valves, Spring Return

Port Size		Body Size	Valve Model Number		C _v		Average Response Constants**			Weight lb (kg)
1, 2, 4	3		NPT Threads	BSPP Threads	1-2, 1-4	4-3, 2-3	M	1-2, 1-4	4-3, 2-3	
1/4	1/2	3/8	2756A2001	D2756A2001	2.1	2.9	10	0.92	0.92	1.8 (0.8)
3/8	1/2	3/8	2756A3001	D2756A3001	2.9	4.2	10	0.90	0.90	1.8 (0.8)
1/2	1/2	3/8	2756A4011	D2756A4011	3.1	4.3	10	0.89	0.73	1.8 (0.8)
1/2	1	3/4	2756A4001	D2756A4001	5.6	8.1	26	0.50	0.66	4.3 (1.9)
3/4	1	3/4	2756A5001	D2756A5001	7.0	9.3	26	0.36	0.55	4.3 (1.9)
1	1	3/4	2756A6011	D2756A6011	7.8	10	26	0.35	0.50	4.3 (1.9)
1	1½	1¼	2756A6001	D2756A6001	19	26	79	0.22	0.22	10.3 (4.6)
1¼	1½	1¼	2756A7001	D2756A7001	21	27	79	0.18	0.18	10.3 (4.6)
1½	1½	1¼	2756A8011	D2756A8011	22	27	79	0.15	0.15	10.3 (4.6)

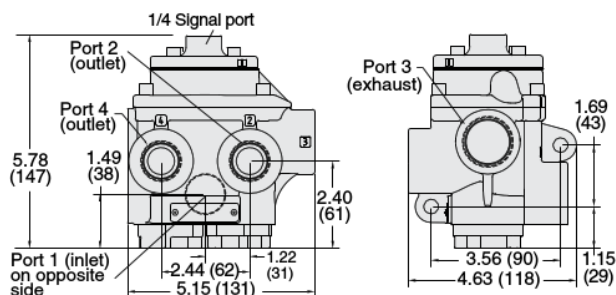
** Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Dimensions – inches (mm)

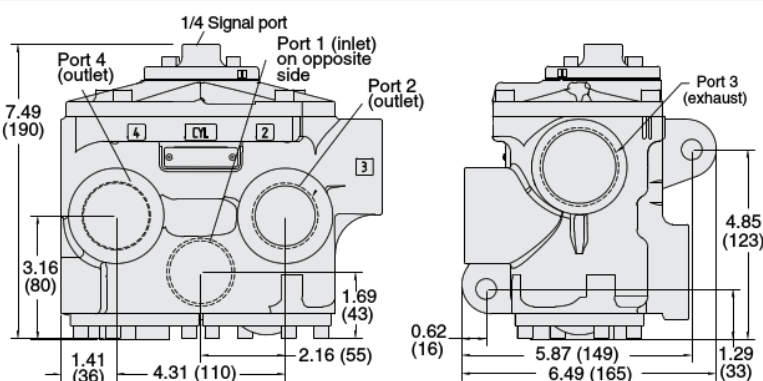
Body Size 3/8



Body Size 3/4



Body Size 1¼



Silencers ordered separately, refer to page B2.23.

STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Poppet	Construction Material	Valve Body: Cast Aluminum Poppet: Acetal and Stainless Steel Seals: Buna-N
Mounting Type	In-line	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 e in redundant application with HFT ≥ 1, for details see certificate.	
Temperature	Ambient/Media: 40° to 175°F (4° to 80°C)		
Flow Media	Filtered air		
Pilot Supply	External		
Operating Pressure	15 to 150 psig (1 to 10 bar) Pilot Supply - Pilot supply pressure must be equal to or greater than inlet pressure.		



For ATEX certified valves, consult ROSS.

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



Accessories & Options

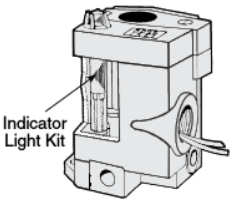
for 27 Series

Indicator Light Kits

To visually verify valve operation indicator lights are available in kit form. The indicator light extends through the solenoid or pilot cover and is illuminated when the solenoid is energized. Such lights are standard on double solenoid valves. Indicator light kits are available for single solenoid models.

Kit Number		
24 volts DC	110-120 volts AC 50-60 Hz	220 volts 50-60 Hz
862K87-W	862K87-Z	862K87-Y

Indicator Light



B

B2

Manual Override Kits

Flush flexible manual overrides are standard on single solenoid models. Double solenoid models have flush metal-button overrides. Both types are non-locking. Each of the buttons in the override kits below is made of metal and is spring-returned. The locking type button, however, can be kept in the actuated position by turning the slot in the top of the button with a screwdriver.

Flush Button	
Locking Type	Kit Number
Non-Locking	790K87
Locking	792K87



Extended Button	
Locking Type	Kit Number
Non-Locking	791K87



Extended Button with Palm	
Locking Type	Kit Number
Non-Locking	984H87



Electrical Connector

Valves available with installed prewired connectors, consult ROSS.

System 8 Solenoid Pilot

Models available with preinstalled System 8 solenoid pilot, consult ROSS.

Silencers

Port Size	Thread Type	Model Number		Avg. C _v	Dimensions inches (mm)		Weight lb (kg)
		NPT Threads	BSPT Threads		Width	Length	
1/2	Male	5500A4003	D5500A4003	4.7	1.3 (32)	3.6 (91)	0.2 (0.1)
1	Male	5500A6003	D5500A6003	14.6	2.0 (51)	5.4 (138)	0.6 (0.3)
1½	Female	5500A8001	D5500A8001	29.9	2.5 (64)	5.7 (144)	1.0 (0.5)
2½	Female	5500A9002	D5500A9002	103.7	4.0 (102)	5.7 (145)	2.9 (1.4)

Pressure Range: 0 to 290 psig (0 to 20 bar) maximum.
Flow Media: Filtered air.



Port size 1/4 thru 2



Port size 2½



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

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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 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 supersedes 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 rosscontrols.com.