



27 SERIES VALVES WITH AIR LOGIC



PRODUCT CATALOG

Inline Poppet Valves 27 Series – Valves with AIR LOGIC (LOGICAIR®) Adaptors

Product Overview

Directional Control Function

Directional control valves function is to control the direction of flow in the pneumatic circuit. Directional control valves are able to control the way the air passes. These valves can regulate the airflow being capable to stop fluid flow, allow fluid flow, and change the direction of fluid flow. These three functions usually operate in combination.

27 Series inline poppet valves are available with LOGICAIR® adaptors to provide special functions:

- Timed sequence actuation and/or deactuation
- Momentary control of actuation/deactuation from one pressure source
- Actuating force multiplier, for use with low signal pressures.

Pressure Booster Adaptor – Increases the actuating force on the valve piston. Useful with low pilot pressure.

Air Index Adaptor – Allows a single control valve to function as an impulse controlled, detented valve. Successive momentary signals from the same source actuate and de-actuate the valve.

Timed Sequence Adaptor – Allows the actuation and/or de-actuation of a valve to be delayed up to 30 seconds for 2/2 valves, and up to 3 seconds for 3/2 and 4/2 valves. For longer delays see adaptor below.

Timed Sequence Extension Adaptor – For use in conjunction with the timed sequence adaptor to extend the delay interval up to 60 seconds. This adaptor also provides quicker response to actuating and de-actuating signals.

VALVE FEATURES

Poppet Design	Poppet construction for high dirt tolerance
Mounting Options	Can be mounted close to actuator, reducing length of pipe to be pressurized/exhausted on each cycle
Pilot Supply	Internal or external; easily field-convertible for use with an external pilot supply
High Velocity	Near zero leakage
Positive Sealing	No sliding action to prevent damage and wear
Reliability	Consistent response times over the life of the valve

Valve Type	Actuation		Available Inlet Port Sizes							Functions			Maximum Flow C _v (NI/min)	Page
	Solenoid Controlled	Pressure Controlled	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2/2	3/2	4/2		
With Pressure Booster Adaptor	●		●	●	●	●	●	●	●		●		32 (31000)	4 – 5
		●	●	●	●	●	●	●	●	●	●		34 (33000)	10 – 12
With Air Index Adaptor	●		●	●	●	●	●	●	●			●	27 (27000)	6 – 7
		●	●	●	●	●	●	●	●		●	●	32 (31000)	13 – 14
With Timed Sequence Adaptor	●		●	●	●	●	●	●	●	●	●		34 (33000)	8 – 9
		●	●	●	●	●	●	●	●	●	●		34 (33000)	15 – 16
With Timed Sequence & Timed Sequence Extension Adaptors	●		●	●	●	●	●	●	●		●	●	34 (33000)	10 – 12
		●	●	●	●	●	●	●	●	●	●	●	32 (31000)	17 – 19
With Timed In/Out Sequence Adaptor		●	●	●	●	●	●	●	●	●	●		32 (31000)	20 – 21
With Timed-In/Out Sequence & Timed Sequence Extension Adaptors		●	●	●	●	●	●	●	●	●	●	●	34 (33000)	22 – 24
With Inlet Port Controlled Timed-In Sequence Adaptor		●	●	●	●	●	●	●	●	●	●	●	34 (33000)	25 – 27
With Inlet Port Controlled Timed-In Sequence & Timed Sequence Extension Adaptors		●	●	●	●	●	●	●	●	●	●	●	32 (31000)	28 – 30
Accessories														31 – 32

STANDARD SPECIFICATIONS

GENERAL	Function		2/2 Valve	Normally Closed
				Normally Open
			3/2 Valve	Normally Closed
				Normally Open
			4/2 Valve	
	Construction Design		Poppet	
	Actuation		Electrical	Solenoid Pilot Controlled
			Pneumatic	Pressure Controlled
	Mounting	Type	Inline	
		Orientation	Any, preferably vertical	
Connection		Threaded Port	NPT	
			G	
Manual Override (Solenoid Controlled valves)		Flush; rubber, non-locking		

OPERATING CONDITIONS	Temperature	Solenoid Pilot Controlled	Ambient	40° to 120°F (4° to 50°C)
			Media	40° to 175°F (4° to 80°C)
		Pressure Controlled	Ambient	40° to 175°F (4° to 80°C)
			Media	
	Flow Media		Filtered air	
	Operating Pressure		Valves with Pressure Booster Adaptor	15 to 150 psig (1 to 10 bar)
			Valves with Timed Adaptor	
			Valves with Air Index Adaptor	40 to 150 psi (2.8 to 10 bar)
	Pilot Supply Pressure		Internal	Must meet minimum operating pressure
			External	Must be equal to or greater than inlet pressure

ELECTRICAL DATA FOR SOLENOID PILOT VALVES	Solenoids		Current Flow	Operating Voltage	Power Consumption (each solenoid)
			DC	24 volts	14 watts
			AC	110-120 volts, 50/60 Hz	87 VA inrush, 30 VA holding
				230-240 volts, 60 Hz	
			Rated for continuous duty		

CONSTRUCTION MATERIAL	Valve Body		Cast Aluminum	
	Poppet		Acetal and Stainless Steel	
	Seals		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 e 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.

Explosion-Proof solenoid pilot valves available, see valves for Hazardous Locations.



PRODUCT CREDENTIALS

Safety Integrity Level Per IEC 2061:2001 	Declaration of Conformity 	Certificate of Compliance
--	--	--

Ordering Information

Valves with Pressure Booster Adaptor – 3/2 Solenoid Pilot Controlled

Pressure Booster Adaptor

Increases the actuating force on the valve piston. It should be used when the inlet and pilot pressures are below the minimums specified for the valve. It should also be used when an external pilot supply with a lower pressure than the inlet pressure is used. The valve's pilot pressure is applied to a piston in the pilot booster adaptor that has a larger area than the piston in the valve.

The force on the piston in the adaptor is thereby larger than that which could be produced by the piston in the valve. This larger force is applied to the valve's piston directly so that there is then sufficient force to shift the valve properly.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

	27	7	3	B	200	9	W						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Port Thread</td> <td style="width: 20%;"></td> </tr> <tr> <td>NPT (Leave Blank)</td> <td></td> </tr> <tr> <td>G</td> <td style="text-align: center;">D</td> </tr> </table>	Port Thread		NPT (Leave Blank)		G	D							
Port Thread													
NPT (Leave Blank)													
G	D												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 100%; text-align: center;">Series</td> </tr> <tr> <td></td> </tr> </table>	Series												
Series													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 100%; text-align: center;">Actuation</td> </tr> <tr> <td>Solenoid Pilot</td> </tr> </table>	Actuation	Solenoid Pilot											
Actuation													
Solenoid Pilot													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 100%; text-align: center;">Valve Function</td> </tr> <tr> <td>3/2 Normally Closed</td> </tr> </table>	Valve Function	3/2 Normally Closed											
Valve Function													
3/2 Normally Closed													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 100%; text-align: center;">Revision Level</td> </tr> <tr> <td></td> </tr> </table>	Revision Level												
Revision Level													

Adaptor			
Pressure Booster			

Current	Voltage *		
DC	24 V	W	
AC	110-120 V, 50/60 Hz	Z	
	120 V, 50/60 Hz	Y	
	230-240 V, 60 Hz		

* For other voltages consult ROSS.

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801



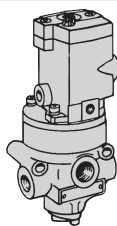
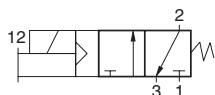
Model Number examples: 2773B2009W, D2773B7009Z.

Size			Flow C _v (NI/min)		Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2	Port 3			M	F		
			1-2	2-3		1-2	2-3	
3/8	1/4	1/2	1.9 (1900)	3.3 (3200)	10	0.90	0.80	3.5 (1.6)
	3/8	1/2	2.9 (2800)	4.4 (4300)	10	0.70	0.50	
	1/2	1/2	3.8 (3800)	5.0 (4900)	10	0.75	0.50	
3/4	1/2	1	6.2 (6100)	9.4 (9300)	11	0.43	0.27	4.3 (2.0)
	3/4	1	8.2 (8100)	10 (9800)	11	0.36	0.26	
	1	1	9.1 (9000)	12 (12000)	11	0.34	0.25	
1-1/4	1	1-1/2	21 (21000)	27 (27000)	28	0.17	0.14	9.0 (4.1)
	1-1/4	1-1/2	29 (29000)	29 (29000)	28	0.15	0.15	
	1-1/2	1-1/2	30 (30000)	30 (30000)	28	0.15	0.15	

* **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 Schematic

Normally Closed



Downloadable CAD models available.

Valves with Air Index Adaptor – 4/2 Solenoid Pilot Controlled

Air Index Adaptor

Allows a valve controlled by a single solenoid pilot to function as an impulse controlled, mechanically detented valve. A momentary electrical signal to the

solenoid actuates the valve and holds it in the actuated position. A second momentary signal from the same source returns the valve to its deactuated position.

MODEL NUMBER CONFIGURATOR

4-Way 2-Position Valves

Port Thread		27	7	6	B	200	8	W
NPT (Leave Blank)								
G	D							
Series								
Actuation								
Solenoid Pilot								
Valve Function								
4/2								
Revision Level								

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

Adaptor		
Air Index		

Current	Voltage*	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	120 V, 50/60 Hz	
	230-240 V, 60 Hz	Y

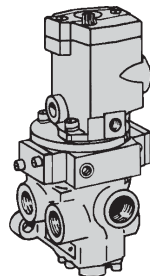
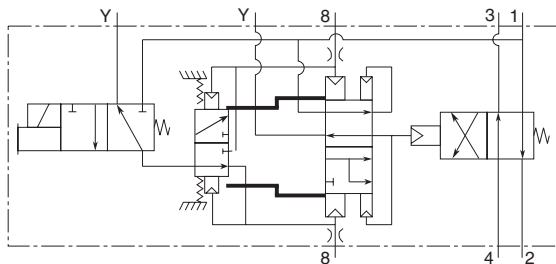
* For other voltages consult ROSS.

Model Number examples: 2776B2008W, D2776B5008Z.

Size			Flow C _v (NL/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3					M	F		
			1-2	2-3	1-4	4-3		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	3.0 (1.4)
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)
	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.

Valve Schematic



Downloadable CAD models available.

Ordering Information

Valves with Timed Sequence Adaptor – 2/2 Solenoid Pilot Controlled

Timed Sequence Adaptor

Allows the actuation and/or de-actuation of a valve to be delayed up to 30 seconds. The time delay function is controlled by a continuously adjustable tapered needle. Longer time delays can be obtained by using this adaptor in conjunction with the timed sequence extension adaptor, see next page.

OPERATION

Timed In Adaptor: Solenoid energized; after preset delay valve is actuated. Solenoid de-energized; valve immediately deactivated.

Timed Out Adaptor: Solenoid energized; valve immediately actuated. Solenoid de-energized; after preset delay valve is deactivated.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

Port Thread		27	7	1	B	200	4	W
NPT (Leave Blank)								
G	D							
Series								
Actuation								
Solenoid Pilot								
Valve Function								
2/2 Normally Closed	1							
2/2 Normally Open	2							
Revision Level								

Timed Sequence Adaptor	
Timed In	4
Timed Out	5

Current	Voltage*	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	120 V, 50/60 Hz	
	230-240 V, 60 Hz	Y

* For other voltages consult ROSS.

Body Size	Port Size In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801

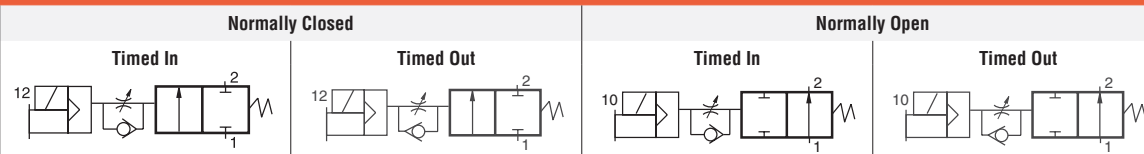


Model Number examples: 2771B2004W, D2771B6005Z.

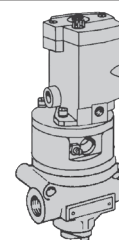
Size		Flow C _v (NI/min)		Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2	Normally Closed (NC)	Normally Open (NO)	M	F		
		1-2	1-2		NC	NO	
3/8	1/4	1.8 (1800)	1.8 (1800)	10	0.91	0.91	3.5 (1.6)
	3/8	3.2 (3100)	2.9 (2800)	10	0.70	0.76	
	1/2	3.9 (3800)	3.4 (3300)	10	0.64	0.72	
3/4	1/2	7.2 (7100)	6.5 (6400)	14	0.37	0.43	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

* **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 Schematic



Downloadable CAD models available.



Valves with Timed Sequence Adaptor – 3/2 Solenoid Pilot Controlled

Timed Sequence Adaptor

Allows the actuation and/or de-actuation of a valve to be delayed up to 3 seconds. The time delay function is controlled by a continuously adjustable tapered needle. Longer time delays can be obtained by using this adaptor in conjunction with the timed sequence extension adaptor, see next page.

OPERATION

Timed In Adaptor: Solenoid energized; after preset delay valve is actuated. Solenoid de-energized; valve immediately deactuated.

Timed Out Adaptor: Solenoid energized; valve immediately actuated. Solenoid de-energized; after preset delay valve is deactuated.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread		27	7	3	B	200	4	W
NPT (Leave Blank)								
G	D							
Series								
Actuation								
Solenoid Pilot								
Valve Function								
3/2 Normally Closed		3						
3/2 Normally Open		4						
Revision Level								

Timed Sequence Adaptor		
Timed In		4
Timed Out		5

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

Current	Voltage*	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	120 V, 50/60 Hz	
	230-240 V, 60 Hz	Y

* For other voltages consult ROSS.

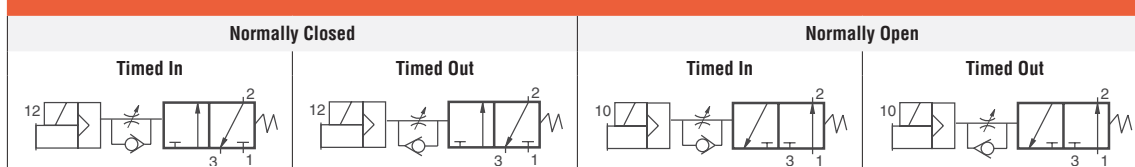


Model Number examples: 2773B2004W, D2773B5005Z.

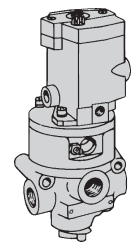
Size			Flow C _V (NI/min)				Average Response Constants*				≈ Weight lb (kg)	
Body	Port 1, 2	Port 3	Normally Closed (NC)		Normally Open (NO)		M	F				
								NC		NO		
			1-2	2-3	1-2	2-3		1-2	2-3	1-2		2-3
3/8	1/4	1/2	1.9 (1900)	3.3 (3200)	1.7 (1700)	3.0 (3000)	10	0.90	0.80	0.99	0.88	3.5 (1.6)
	3/8	1/2	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	4.3 (2.0)
	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 (12000)	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	9.0 (4.1)
	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	

* **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 Schematic



Downloadable CAD models available.



Ordering Information

Valves with Timed Sequence & Timed Sequence Extension Adaptors – 3/2 Solenoid Pilot Controlled

Timed Sequence & Timed Sequence Extension Adaptors

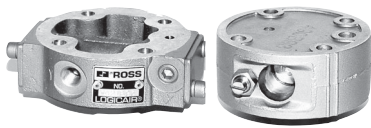
Used in conjunction can increase the time delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pilot air off the

main valve piston until the pressure has built high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

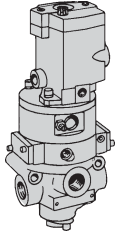
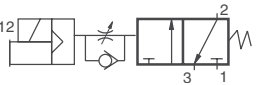
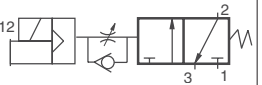
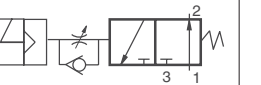
	27	7	3	B	200	6	W
Port Thread							
NPT (Leave Blank)							
G	D						
Series							
Actuation							
Solenoid Pilot							
Valve Function							
3/2 Normally Closed	3						
3/2 Normally Open	4						
Revision Level							
					Timed Sequence & Extension Adaptor		
					Timed In		
					6		
					Timed Out		
					7		
Body Size	Port Size						
	In-Out	Exhaust					
3/8	1/4	1/2	200				
	3/8	1/2	300				
	1/2	1/2	401				
3/4	1/2	1	400				
	3/4	1	500				
	1	1	601				
1-1/4	1	1-1/2	600				
	1-1/4	1-1/2	700				
	1-1/2	1-1/2	801				
Current	Voltage*						
DC	24 V		W				
AC	110-120 V, 50/60 Hz		Z				
	120 V, 50/60 Hz		Y				
230-240 V, 60 Hz							Y
* For other voltages consult ROSS.							



Model Number examples: 2773B2006W, D2773B8017Z.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	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	

* **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 Schematic				
Normally Closed		Normally Open		
Timed In	Timed Out	Timed In	Timed Out	
				
Downloadable CAD models available.				

main valve piston until the pressure has built high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

4-Way 2-Position Valves

	27	7	6	B	200	6	W
Port Thread							
NPT (Leave Blank)							
G							
Series							
Actuation							
Solenoid Pilot							
Valve Function							
4/2							
Revision Level							

Timed Sequence & Extension Adaptor	
Timed In	6
Timed Out	7

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

Current	Voltage*	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	120 V, 50/60 Hz	Y
	230-240 V, 60 Hz	Y

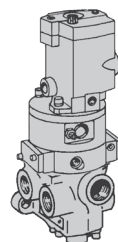
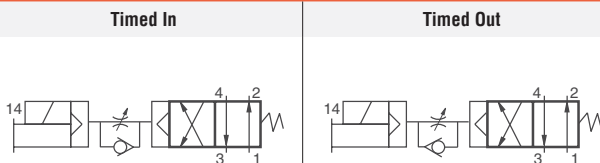
* For other voltages consult ROSS.

Model Number examples: 2776B2006W, D2776B7007Z.

Size			Flow C _v (NI/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3					M	F		
			1-2	2-3	1-4	4-3		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	3.0 (1.4)
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)
	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) = $M + (F \cdot V)$. 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 Schematic



Downloadable CAD models available.

Ordering Information

Valves with Pressure Booster Adaptor – 2/2 Pressure Controlled

Pressure Booster Adaptor
Increases the actuating force on the valve piston. It should be used when the inlet pressure exceeds the available signal pressure, or when the signal pressure is less than 15 psig (1 bar).

The valve's signal pressure is applied to a piston in the pressure booster adaptor that has a larger area than the piston in the valve. The force on the piston in the adaptor is thereby larger than that which could be produced by the piston in the valve. This larger force is applied to the valve's piston directly so that there is then sufficient force to shift the valve properly.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

27

5

1

A

200

7

Port Thread

NPT

(Leave Blank)

G

D

Series

Actuation

Pressure Controlled

Valve Function

2/2 Normally Closed

1

2/2 Normally Open

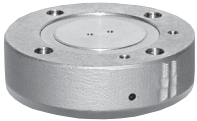
2

Revision Level

Adaptor

Pressure Booster

Body Size	Port Size	
	In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801



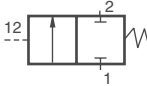
Model Number examples: 2751A2007, D2751A7007.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

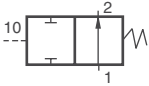
* **Valve Response Time** — Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

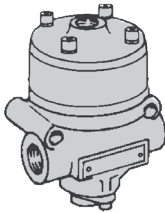
Valve Schematic

Normally Closed



Normally Open





Downloadable CAD models available.

Valves with Pressure Booster Adaptor – 3/2 Pressure Controlled

Pressure Booster Adaptor

Increases the actuating force on the valve piston. It should be used when the inlet pressure exceeds the available signal pressure, or when the signal pressure is less than 15 psig (1 bar).

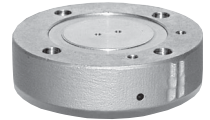
The valve's signal pressure is applied to a piston in the pressure booster adaptor that has a larger area than the piston in the valve. The force on the piston in the adaptor is thereby larger than that which could be produced by the piston in the valve. This larger force is applied to the valve's piston directly so that there is then sufficient force to shift the valve properly.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread		27	5	3	A	200	7	Adaptor
NPT (Leave Blank)								Pressure Booster
G	D							
Series								
Actuation								
Pressure Controlled								
Valve Function								
3/2 Normally Closed	3							
3/2 Normally Open	4							
Revision Level								

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801



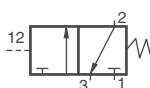
Model Number examples: 2753A2007, D2753A4017.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	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	

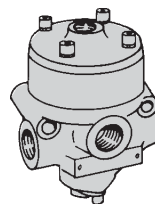
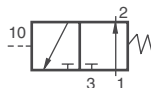
* **Valve Response Time** – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



Downloadable CAD models available.

Ordering Information

Valves with Pressure Booster Adaptor – 4/2 Pressure Controlled

Pressure Booster Adaptor

Increases the actuating force on the valve piston. It should be used when the inlet pressure exceeds the available signal pressure, or when the signal pressure is less than 15 psig (1 bar).

The valve's signal pressure is applied to a piston in the pressure booster adaptor that has a larger area than the piston in the valve. The force on the piston in the adaptor is thereby larger than that which could be produced by the piston in the valve. This larger force is applied to the valve's piston directly so that there is then sufficient force to shift the valve properly.

MODEL NUMBER CONFIGURATOR4-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

D

Series

27

Actuation

Pressure Controlled

5

Valve Function

4/2

6

Revision Level

A

7

Adaptor

Pressure Booster

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

Model Number examples: 2756A2007, D2756A8017.

Size			Flow C _v (NI/min)				Average Response Constants*			≈ Weight lb (kg)	
Body	Port 1, 2, 4	Port 3					M	F			
			1-2	2-3	1-4	4-3		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	3.0 (1.4)	
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)	
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55		
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)	
	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.

Valve Schematic

Downloadable CAD models available.

12

© 2025, ROSS®. All Rights Reserved.

Valves with Air Index Adaptor – 3/2 Pressure Controlled

Air Index Adaptor

Allows a valve with a single signal source to function as an impulse controlled, mechanically detented valve.

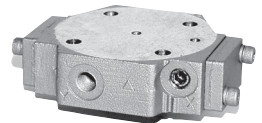
A momentary pressure signal shifts and holds the valve. A second momentary pressure signal from the same source returns the valve to its original position.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread		27	8	3	A	200	1	Adaptor
NPT								Air Index
G	D							
Series								
Actuation								
Pressure Controlled								
Valve Function								
3/2 Normally Closed								
Revision Level								

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

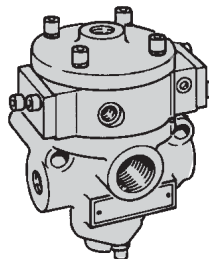
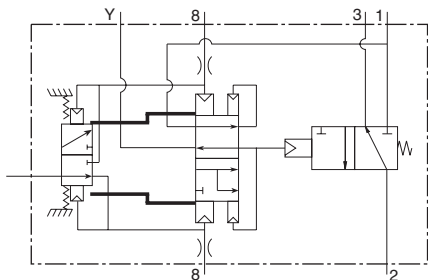


Model Number examples: 2783A2001, D2783A4011.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	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	

* **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 Schematic



Downloadable CAD models available.

Ordering Information

Valves with Air Index Adaptor – 4/2 Pressure Controlled

Air Index Adaptor
Allows a valve with a single signal source to function as an impulse controlled, mechanically detented valve.

A momentary pressure signal shifts and holds the valve. A second momentary pressure signal from the same source returns the valve to its original position.

MODEL NUMBER CONFIGURATOR

4-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

D

Series

Actuation

Pressure Controlled

Valve Function

4/2

Revision Level

27

8

6

A

200

1

Adaptor

Air Index

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

Model Number examples: 2786A2001, D2786A801.

Size			Flow Cv (NI/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3					M	F		
			1-2	2-3	1-4	4-3		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	3.0 (1.4)
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)
	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.

Valve Schematic

Downloadable CAD models available.

Valves with Timed Sequence Adaptor – 2/2 Pressure Controlled

Timed Sequence Adaptor

Allows the actuation and/or de-actuation of a valve to be delayed up to 30 seconds. The time delay function is controlled by a continuously adjustable tapered needle.

OPERATION

Timed In Adaptor: Air signal applied; after preset time delay valve is actuated. Air signal removed; valve immediately deactuated.

Timed Out Adaptor: Air signal applied; valve immediately actuated. Air signal removed; after preset delay valve is deactuated.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

D

Series

Actuation

Pressure Controlled

Valve Function

2/2 Normally Closed

1

2/2 Normally Open

2

Revision Level

Timed Adaptor

Timed In

2

Timed Out

3

Body Size

Port Size

In-Out

27

5

1

A

200

2

Body Size	Port Size	
	In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801

Timed-Out Adaptor



Dual Timed Adaptor

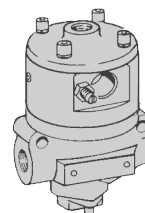
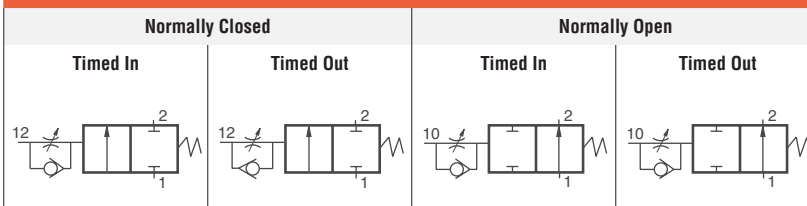


Model Number examples: 2751A2002, D2751A7003.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

* **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 Schematic



Downloadable CAD models available.

Ordering Information

Valves with Timed Sequence Adaptor – 3/2 Pressure Controlled

Timed Sequence Adaptor
Allows the actuation and/or de-actuation of a valve to be delayed up to 3 seconds. The time delay function is controlled by a continuously adjustable tapered needle.

OPERATION
Timed In Adaptor: Air signal applied; after preset time delay valve is actuated. Air signal removed; valve immediately deactuated.
Timed Out Adaptor: Air signal applied; valve immediately actuated. Air signal removed; after preset delay valve is deactuated.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

D

Series

27

5

3

A

200

2

Actuation

Pressure Controlled

Valve Function

3/2 Normally Closed

3

3/2 Normally Open

4

Revision Level

Timed Sequence Adaptor

Timed In

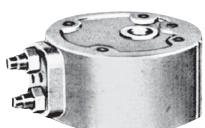
2

Timed Out

3

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801


Timed-Out Adaptor


Dual Timed Adaptor

Model Number examples: 2753A2002, D2753A4013.

Size			Flow C _v (NL/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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	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	

* **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 Schematic

Normally Closed

Timed In

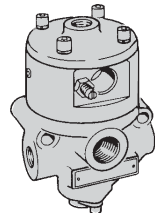
Timed Out

Normally Open

Timed In

Timed Out

Downloadable CAD models available.



Valves with Timed Sequence & Timed Sequence Extension Adaptors – 2/2 Pressure Controlled

Timed Sequence Adaptor

Allows the actuation and/or de-actuation of a valve to be delayed up to 30 seconds. The time delay function is controlled by a continuously adjustable tapered needle. Longer time delays can be obtained by using this adaptor in conjunction with the timed sequence extension adaptor.

Timed Sequence Extension Adaptor

Used in conjunction with the timed sequence adaptor to extend the delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve by keeping pilot or signal air off the main valve piston until the pressure has built high enough to cause prompt valve response. Air line lubrication is required with this adaptor.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

Port Thread		27	8	1	A	200	2
NPT (Leave Blank)							
G	D						
Series							
Actuation							
Pressure Controlled							
Valve Function							
2/2 Normally Closed	1						
2/2 Normally Open	2						
Revision Level							

Timed Sequence Adaptor	
Timed In	2
Timed Out	3

Body Size	Port Size	
	In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801

Timed-Out Adaptor

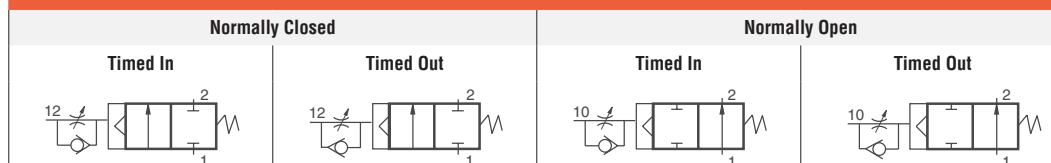


Model Number examples: 2781A2002, D2781A7002.

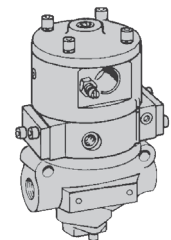
Size		Flow C _v (NI/min)		Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2	Normally Closed (NC)	Normally Open (NO)	M	F		
		1-2	1-2		NC	NO	
3/8	1/4	1.8 (1800)	1.8 (1800)	10	0.91	0.91	3.5 (1.6)
	3/8	3.2 (3100)	2.9 (2800)	10	0.70	0.76	
	1/2	3.9 (3800)	3.4 (3300)	10	0.64	0.72	
3/4	1/2	7.2 (7100)	6.5 (6400)	14	0.37	0.43	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

* **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 Schematic



Downloadable CAD models available.



Ordering Information

Valves with Timed Sequence & Timed Sequence Extension Adaptors – 3/2 Pressure Controlled

Timed Sequence Adaptor
Allows the actuation and/or de-actuation of a valve to be delayed up to 3 seconds. The time delay function is controlled by a continuously adjustable tapered needle. Longer time delays can be obtained by using this adaptor in conjunction with the timed sequence extension adaptor.

Timed Sequence Extension Adaptor
Used in conjunction with the timed sequence adaptor to extend the delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve by keeping pilot or signal air off the main valve piston until the pressure has built high enough to cause prompt valve response. Air line lubrication is required with this adaptor.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

D

Series

27

Actuation

Pressure Controlled

8

Valve Function

3/2 Normally Closed

3/2 Normally Open

3

4

Revision Level

3

A

200

2

Timed Sequence & Extension Adaptor

Timed In

Timed Out

2

3

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

Timed-Out Adaptor

Model Number examples: 2783A2002, D2783A4013.

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	3.5 (1.6)	
	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	4.3 (2.0)	
	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	9.0 (4.1)	
	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		

* **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 Schematic

Normally Closed

Timed In

Timed Out

Normally Open

Timed In

Timed Out

Downloadable CAD models available.

18

© 2025, ROSS®. All Rights Reserved.

Valves with Timed Sequence & Timed Sequence Extension Adaptors – 4/2 Pressure Controlled

Timed Sequence Adaptor

Allows the actuation and/or de-actuation of a valve to be delayed up to 3 seconds. The time delay function is controlled by a continuously adjustable tapered needle. Longer time delays can be obtained by using this adaptor in conjunction with the timed sequence extension adaptor.

Timed Sequence Extension Adaptor

Used in conjunction with the timed sequence adaptor to extend the delay interval up to 60 seconds. It also helps to obtain "snap" action of the valve by keeping pilot or signal air off the main valve piston until the pressure has built high enough to cause prompt valve response. Air line lubrication is required with this adaptor.

MODEL NUMBER CONFIGURATOR

4-Way 2-Position Valves

	27	8	6	A	200	2
Port Thread						
NPT (Leave Blank)						
G						
Series						
Actuation						
Pressure Controlled						
Valve Function						
4/2						
Revision Level						

Timed Sequence & Extension Adaptor			
Timed In			2
Timed Out			3

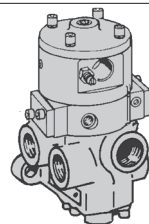
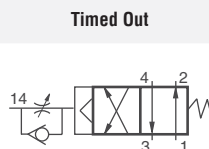
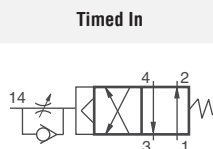
Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

Model Number examples: 2786A2002, D2786A803.

Size			Flow C _v (NI/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3					M	F		
			1-2	2-3	1-4	4-3		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	3.0 (1.4)
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)
	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) = $M + (F \cdot V)$. 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 Schematic



Downloadable CAD models available.

Ordering Information

Valves with Timed In/Out Sequence Adaptor – 2/2 Pressure Controlled

Timed Sequence Adaptor
Allows the actuation and/or de-actuation of a valve to be delayed up to 30 seconds. The time delay function is controlled by a continuously adjustable tapered needle.

OPERATION
Timed In Adaptor: Air signal applied; after preset time delay valve is actuated. Air signal removed; valve immediately deactivated.
Timed Out Adaptor: Air signal applied; valve immediately actuated. Air signal removed; after preset delay valve is deactivated.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

Series

Actuation

Pressure Controlled

Valve Function

2/2 Normally Closed

2/2 Normally Open

Revision Level

27

5

1

B

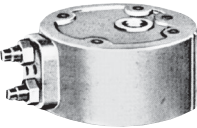
200

8

Adaptor

Timed In/Out Sequence

Body Size	Port Size	
	In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801



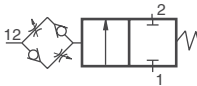
Model Number examples: 2751B2008, D2751B7008.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

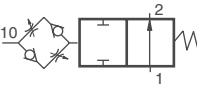
* **Valve Response Time** – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

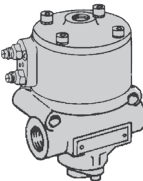
Valve Schematic

Normally Closed



Normally Open





Downloadable CAD models available.

Valves with Timed In/Out Sequence Adaptor – 3/2 Pressure Controlled

Timed Sequence Adaptor

Allows the actuation and/or de-actuation of a valve to be delayed up to 3 seconds. The time delay function is controlled by a continuously adjustable tapered needle.

OPERATION

Timed In Adaptor: Air signal applied; after preset time delay valve is actuated. Air signal removed; valve immediately deactuated.

Timed Out Adaptor: Air signal applied; valve immediately actuated. Air signal removed; after preset delay valve is deactuated.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread		27	5	3	B	200	8	Adaptor
NPT (Leave Blank)								Timed In/Out Sequence
G	D							
Series								
Actuation								
Pressure Controlled								
Valve Function								
3/2 Normally Closed	3							
3/2 Normally Open	4							
Revision Level								

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801



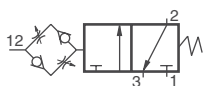
Model Number examples: 2753B2002, D2753B4013.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	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	

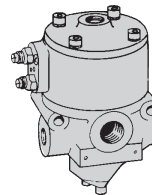
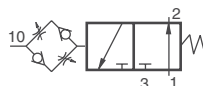
* **Valve Response Time** – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



Downloadable CAD models available.

Ordering Information

Valves with Timed In/Out Sequence & Timed Sequence Extension Adaptor – 2/2 Pressure Controlled

Timed In/Out Sequence & Timed Sequence Extension Adaptor

Used in conjunction can increase the time delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pilot air off the

main valve piston until the pressure has built high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR

Port Thread

NPT
(Leave Blank)

G

D

Series

27

Actuation

Pressure Controlled

Valve Function

2/2 Normally Closed

1

2/2 Normally Open

2

Revision Level

8

1

B

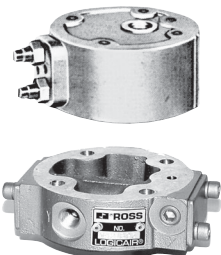
200

5

Adaptor

Timed In/Out Sequence & Extension

Body Size	Port Size	
	In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801



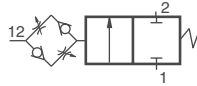
Model Number examples: 2781B2005, D2781B7005.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

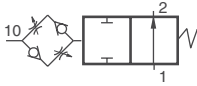
* **Valve Response Time** — Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

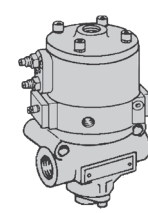
Valve Schematic

Normally Closed



Normally Open





Downloadable CAD models available.

Ordering Information

Valves with Timed In/Out Sequence & Timed Sequence Extension Adaptor – 3/2 Pressure Controlled

Timed In/Out Sequence & Timed Sequence Extension Adaptor

Used in conjunction can increase the time delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pilot air off the

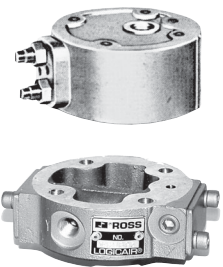
main valve piston until the pressure has built high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread		27	8	3	B	200	5	Adaptor
NPT (Leave Blank)								Timed In/Out Sequence & Extension
G	D							
Series								
Actuation								
Pressure Controlled								
Valve Function								
3/2 Normally Closed	3							
3/2 Normally Open	4							
Revision Level								

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801



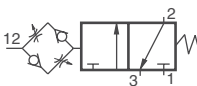
Model Number examples: 2783B2005, D2783B4015.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	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	

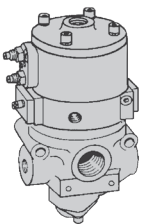
*Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



Downloadable CAD models available.



Ordering Information

Valves with Timed In/Out Sequence & Timed Sequence Extension Adaptor – 4/2 Pressure Controlled

Timed In/Out Sequence & Timed Sequence Extension Adaptor

Used in conjunction can increase the time delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pilot air off the

main valve piston until the pressure has built high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR4-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

D

Series

Actuation

Pressure Controlled

Valve Function

4/2

Revision Level

27

8

6

B

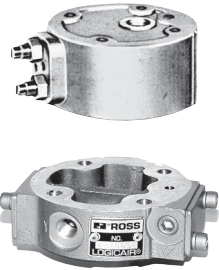
200

5

Adaptor

Inlet Timed Sequence

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

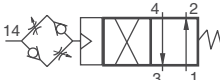


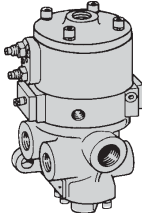
Model Number examples: 2786B2005, D2786B8015.

Size			Flow C _v (NI/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3					M	F		
			1-2	2-3	1-4	4-3		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	3.0 (1.4)
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)
	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.

Valve Schematic





Downloadable CAD models available.

Valves with Inlet Port Controlled Timed-In Sequence Adaptor – 2/2 Pressure Controlled

Inlet Port Controlled Timed-In Sequence Adaptor

Permits valve actuation and deactuation to be controlled by the pressure at the inlet port. When pressure is applied an internal passage conducts

the pressure to the sequence adaptor. After the preset time delay, the valve is actuated. When pressure is removed from the inlet port the valve is deactuated.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

Port Thread		27	5	1	A	200	4	Adaptor
NPT (Leave Blank)								Inlet Timed-In Sequence
G	D							
Series								
Actuation								
Pressure Controlled								
Valve Function								
2/2 Normally Closed	1							
2/2 Normally Open	2							
Revision Level								

Body Size	Port Size	
	In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801

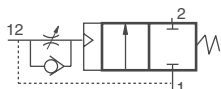
Model Number examples: 2751A2004, D2751A7004.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

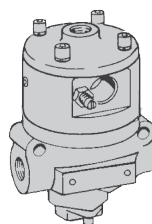
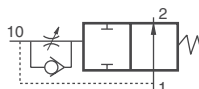
* **Valve Response Time** – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



Downloadable CAD models available.

Ordering Information

Valves with Inlet Port Controlled Timed-In Sequence Adaptor – 3/2 Pressure Controlled

Inlet Port Controlled Timed-In Sequence Adaptor

Permits valve actuation and deactuation to be controlled by the pressure at the inlet port. When pressure is applied an internal passage conducts the pressure

to the sequence adaptor. After the preset time delay, the valve is actuated. When pressure is removed from the inlet port the valve is deactivated.

MODEL NUMBER CONFIGURATOR

Port Thread

NPT
(Leave Blank)

G

D

Series

27

Actuation

Pressure Controlled

Valve Function

3/2 Normally Closed

3

3/2 Normally Open

4

Revision Level

5

Adaptor

Inlet Timed-In Sequence

Body Size

Port Size

In-Out

Exhaust

200

300

401

400

500

601

600

700

801

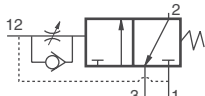


Model Number examples: 2753A2004, D2753A4014.

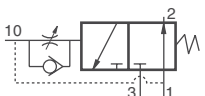
Size			Flow C _v (NL/min)				Average Response Constants*				≈ Weight lb (kg)	
Body	Port 1, 2	Port 3	Normally Closed (NC)		Normally Open (NO)		M	F				
								NC		NO		
			1-2	2-3	1-2	2-3		1-2	2-3	1-2		2-3
3/8	1/4	1/2	1.9 (1900)	3.3 (3200)	1.7 (1700)	3.0 (3000)	10	0.90	0.80	0.99	0.88	3.5 (1.6)
	3/8	1/2	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	4.3 (2.0)
	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	9.0 (4.1)
	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	
* 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.												

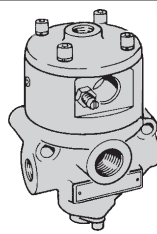
Valve Schematic

Normally Closed



Normally Open





Downloadable CAD models available.

Valves with Inlet Port Controlled Timed-In Sequence Adaptor – 4/2 Pressure Controlled

Inlet Port Controlled Timed-In Sequence Adaptor

Permits valve actuation and deactuation to be controlled by the pressure at the inlet port. When pressure is applied an internal passage conducts the pressure

to the sequence adaptor. After the preset time delay, the valve is actuated. When pressure is removed from the inlet port the valve is deactivated.

MODEL NUMBER CONFIGURATOR

4-Way 2-Position Valves

Port Thread		27	5	6	A	200	4	Adaptor Inlet Timed-In Sequence
NPT (Leave Blank)								
G	D							
Series								
Actuation Pressure Controlled								
Valve Function 4/2								
Series								

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801



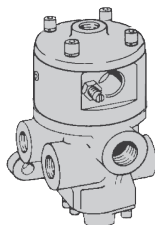
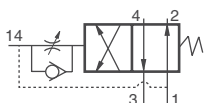
Model Number examples: 2756A2004, D2756A804.

Size			Flow C _v (NI/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3					M	F		
			1-2	2-3	1-4	4-3		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	3.0 (1.4)
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)
	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.

Valve Schematic

Timed In



Downloadable CAD models available.

Ordering Information

Valves with Inlet Port Controlled Timed-In Sequence & Timed Sequence Extension Adaptors – 2/2 Pressure Controlled

Inlet Port Controlled Timed-In Sequence Adaptor

Permits valve actuation and deactuation to be controlled by the pressure at the inlet port. When pressure is applied an internal passage conducts the pressure to the sequence adaptor. After the preset time delay, the valve is actuated. When pressure is removed from the inlet port the valve is deactuated.

Timed Sequence Extension Adaptor

Increases the maximum time delay interval to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pressure off the main valve piston until it is high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

Port Thread

NPT
(Leave Blank)

G

D

Series

27

8

1

A

Actuation

Pressure Controlled

Valve Function

2/2 Normally Closed

1

2/2 Normally Open

2

Revision Level

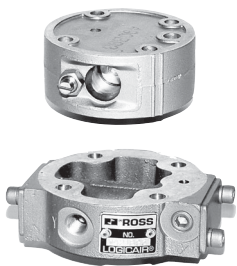
200

4

Adaptor

Inlet Timed-In Sequence

Body Size	Port Size	
	In-Out	
3/8	1/4	200
	3/8	300
	1/2	401
3/4	1/2	400
	3/4	500
	1	601
1-1/4	1	600
	1-1/4	700
	1-1/2	801



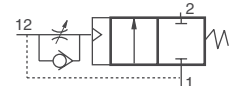
Model Number examples: 2781A2004, D2781A7004.

Size		Flow C _v (l/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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	1-1/4	30 (31000)	22 (22000)	26	0.15	0.19	
	1-1/2	32 (31000)	24 (24000)	26	0.15	0.18	

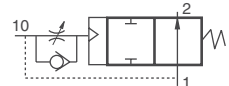
* Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

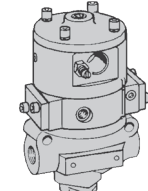
Valve Schematic

Normally Closed



Normally Open





Downloadable CAD models available.

Ordering Information

Valves with Inlet Port Controlled Timed-In Sequence & Timed Sequence Extension Adaptors – 3/2 Pressure Controlled

Inlet Port Controlled Timed-In Sequence Adaptor

Permits valve actuation and deactuation to be controlled by the pressure at the inlet port. When pressure is applied an internal passage conducts the pressure to the sequence adaptor. After the preset time delay, the valve is actuated. When pressure is removed from the inlet port the valve is deactuated.

Timed Sequence Extension Adaptor

Increases the maximum time delay interval to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pressure off the main valve piston until it is high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Port Thread	
NPT	
(Leave Blank)	
G	D

Series	
---------------	--

Actuation	
Pressure Controlled	

Valve Function	
3/2 Normally Closed	3
3/2 Normally Open	4

Revision Level	
-----------------------	--

27
8
3
A
200
4

Adaptor	
Inlet Timed-In Sequence	

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801

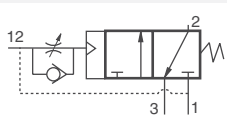
Model Number examples: 2783A2004, D2783A4014.

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	3.5 (1.6)
	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	4.3 (2.0)
	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	9.0 (4.1)
	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	

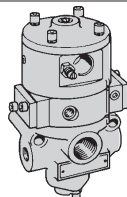
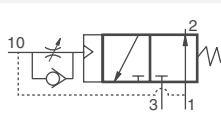
* **Valve Response Time** – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



Downloadable CAD models available.

Ordering Information

Valves with Inlet Port Controlled Timed-In Sequence & Timed Sequence Extension Adaptors – 4/2 Pressure Controlled

Inlet Port Controlled Timed-In Sequence Adaptor

Permits valve actuation and deactuation to be controlled by the pressure at the inlet port. When pressure is applied an internal passage conducts the pressure to the sequence adaptor. After the preset time delay, the valve is actuated. When pressure is removed from the inlet port the valve is deactuated.

Timed Sequence Extension Adaptor

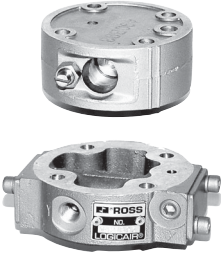
Increases the maximum time delay interval to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pressure off the main valve piston until it is high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR

4-Way 2-Position Valves

Port Thread		27	8	6	A	200	4	Adaptor
NPT (Leave Blank)								Inlet Timed-In Sequence & Extension
G	D							
Series								
Actuation								
Pressure Controlled								
Valve Function								
4/2								
Revision Level								

Body Size	Port Size		
	In-Out	Exhaust	
3/8	1/4	1/2	200
	3/8	1/2	300
	1/2	1/2	401
3/4	1/2	1	400
	3/4	1	500
	1	1	601
1-1/4	1	1-1/2	600
	1-1/4	1-1/2	700
	1-1/2	1-1/2	801



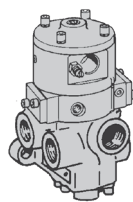
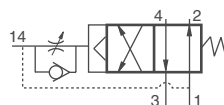
Model Number examples: 2786A2004, D2786A8014.

Size			Flow C _V (NI/min)				Average Response Constants*			≈ Weight lb (kg)
Body	Port 1, 2, 4	Port 3					M	F		
			1-2	2-3	1-4	4-3		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	3.0 (1.4)
	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)	7.0 (6900)	5.5 (5400)	7.3 (7200)	26	0.50	0.66	5.3 (2.4)
	3/4	1	7.4 (7300)	7.0 (6900)	7.3 (7200)	9.5 (9300)	26	0.36	0.55	
	1	1	7.9 (7800)	8.0 (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	11.3 (5.1)
	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.

Valve Schematic

Timed In

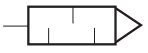


Downloadable CAD models available.

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 (38000)	5500A8001	D5500A8001	5.7 (14)	2.5 (64)	1.3 (0.6)

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	

SOLENOID PILOT INDICATOR LIGHT KITS

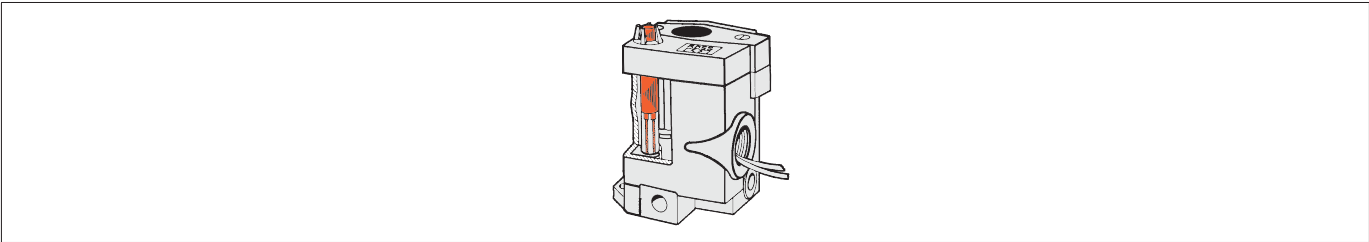


Illustration example.

Indicator Light Kits	Kit Number		
	24 V DC	110-120 V AC, 50-60 Hz	230 V AC, 50-60 Hz
	862K87-W	862K87-Z	862K87-Y
	To visually verify valve operation, indicator light kits are available for single solenoid models. Indicator lights are standard on double solenoid valves. The indicator light is illuminated when the solenoid is energized.		

SOLENOID PILOT MANUAL OVERRIDE KITS

Flush Button	Extended Button	Extended Button with Palm
		

Illustration examples.

Manual Override Kits	Manual Override Type	Kit Number	
		Locking Type	Non-Locking Type
	Flush Button	792K87	790K87
	Extended Button	–	791K87
	Extended Button with Palm	–	984H87
	Flush rubber button, non-locking manual override is standard on solenoid models. Each of the buttons in the override kits 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.		

CAUTIONS, WARNINGS And STANDARD WARRANTY



ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, 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 Group 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 Filters, Regulators and Lubricators (“FRLs”) which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS 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.

THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND THE ROSS GLOBAL FAMILY EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ROSS GLOBAL FAMILY MAKES NO WARRANTY WITH RESPECT TO ITS PRODUCTS MEETING THE PROVISIONS OF ANY GOVERNMENTAL OCCUPATIONAL SAFETY AND/OR HEALTH LAWS OR REGULATIONS. IN NO EVENT IS THE ROSS GLOBAL FAMILY LIABLE TO PURCHASER, USER, THEIR EMPLOYEES OR OTHERS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A BREACH OF THE WARRANTY DESCRIBED ABOVE OR THE USE OR MISUSE OF THE PRODUCTS. NO STATEMENT OF ANY REPRESENTATIVE OR EMPLOYEE OF THE ROSS GLOBAL FAMILY MAY EXTEND THE LIABILITY OF THE ROSS GLOBAL FAMILY AS SET FORTH HEREIN.



GLOBAL LOCATIONS

	AMERICAS	USA	ROSS CONTROLS	Tel: +1-248-764-1800	www.rosscontrols.com
		Canada	ROSS CANADA	Tel: +1-416-251-7677	www.rosscanada.com
		Brazil	ROSS BRASIL	Tel: +55-11-4335-2200	www.rosscontrols.com.br
	EUROPE	Germany	ROSS EUROPA	Tel: +49 (0)6103-7597-100	www.rosseuropa.com
		France	ROSS FRANCE	Tel: +33(0)1-49-45-65-65	www.rossfrance.com
		United Kingdom	ROSS UK	Tel: +44 (0)1254 872277	www.rossuk.co.uk
	ASIA & PACIFIC	India	ROSS CONTROLS INDIA	Tel: +91-44-2624-9040	www.rosscontrolsindia.com
		China	ROSS CONTROLS CHINA	Tel: +86-21-6915-7961	www.rosscontrolschina.com
		Japan	ROSS ASIA	Tel: +81-42-778-7251	www.rossasia.co.jp



www.automaticvalve.com



www.rossdecco.com



www.manufactis.net



www.masterpneumatic.com



www.pneumatrol.com



www.ubsafe.com