



DIRECTIONAL CONTROL HEADLINE LOGICAIR® VALVES 27 SERIES

PRODUCT CATALOG

**VALVES WITH
AIR LOGIC ADAPTORS**



Headline Logicair® Valves 27 Series

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.

Headline 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	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	4 - 5
		●	●	●	●	●	●	●	●	●	●		34	10 - 12
with Air Index Adaptor	●		●	●	●	●	●	●	●			●	27	6 - 7
		●	●	●	●	●	●	●	●		●	●	32	13 - 14
with Timed Sequence Adaptor	●		●	●	●	●	●	●	●	●	●		34	8 - 9
		●	●	●	●	●	●	●	●	●	●		34	15 - 16
with Timed Sequence & Timed Sequence Extension Adaptors	●		●	●	●	●	●	●	●		●	●	34	10 - 12
		●	●	●	●	●	●	●	●	●	●	●	32	17 - 19
with Timed In/Out Sequence Adaptor		●	●	●	●	●	●	●	●	●	●		32	20 - 21
with Timed-In/Out Sequence & Timed Sequence Extension Adaptors		●	●	●	●	●	●	●	●	●	●	●	34	22 - 24
with Inlet Port Controlled Timed-In Sequence Adaptor		●	●	●	●	●	●	●	●	●	●	●	34	25 - 27
with Inlet Port Controlled Timed-In Sequence & Timed Sequence Extension Adaptors		●	●	●	●	●	●	●	●	●	●	●	32	28 - 30
Accessories														31

STANDARD SPECIFICATIONS				
GENERAL	Function		2/2, 3/2, and 4/2 Valve	
	Construction Design		Poppet	
	Actuation		Electrical – Solenoid Pilot Controlled Pneumatic – Pressure Controlled	
	Mounting	Type	Inline	
		Orientation	Any, preferably vertical	
	Connection		Threaded; G, NPT	
Manual Override		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	40° to 175°F (4° to 80°C)
	Flow Media		Filtered air	
	Operating Pressure		15 to 150 psig (1 to 10 bar)	
			30 to 150 psig (2.1 to 10 bar)	
	External Pilot Supply		Must be equal to or greater than inlet pressure	
ELECTRICAL DATA FOR SOLENOID PILOT	Solenoids		Rated for continuous duty	
	Operating Voltage		Power Consumption (each solenoid)	
	24 volts DC		14 watts	
	110-120 volts AC, 50/60 Hz		87 VA inrush, 30 VA holding	
	230-240 volts AC, 60 Hz		87 VA inrush, 30 VA holding	
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.				

Valve models for external pilot supply available, consult ROSS.

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

For ATEX certified valves order placement, consult ROSS.



PRODUCT CREDENTIALS				
SIL Safety Integrity Level	CE Conformity Declaration	EAC Conformity Declaration	CSA Certificate of Compliance	CRN Certification
				Available for appropriately tested valves

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

Thread

G

NPT

(Leave Blank)

Series

27

7

3

B

200

9

W

Revision Level

Adaptor

Pressure Booster

Actuation

Solenoid Pilot

Function – Default Position

3/2 – Normally Closed

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

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.

Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Port 3	1-2	2-3	M	F		
							1-2	2-3	
3/8	1/4	1/4	1/2	2.5	3.1	10	0.90	0.80	2.5 (1.2)
	3/8	3/8	1/2	3.6	5.3	10	0.70	0.50	
	1/2	1/2	1/2	3.3	5.3	10	0.75	0.50	
3/4	1/2	1/2	1	6.3	9.2	11	0.43	0.27	3.3 (1.5)
	3/4	3/4	1	7.7	11	11	0.36	0.26	
	1	1	1	8.0	12	11	0.34	0.25	
1-1/4	1	1	1-1/2	23	34	28	0.17	0.14	7.0 (3.2)
	1-1/4	1-1/4	1-1/2	30	32	28	0.15	0.15	
	1-1/2	1-1/2	1-1/2	30	31	28	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

Normally Closed

For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats. Please visit www.rosscontrols.com.

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

Thread		Series	27	7	6	B	200	8	W																																												
G	D	Actuation	Solenoid Pilot																																																		
NPT	(Leave Blank)	Function	4/2																																																		
		Revision Level	B																																																		
		Adaptor	Air Index																																																		
		Size	<table border="1"> <thead> <tr> <th>Body</th> <th>Port 1</th> <th>Port 2, 4</th> <th>Port 3</th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="3">3/8</td> <td>1/4</td> <td>1/4</td> <td>1/2</td> <td>200</td> </tr> <tr> <td>3/8</td> <td>3/8</td> <td>1/2</td> <td>300</td> </tr> <tr> <td>1/2</td> <td>1/2</td> <td>1/2</td> <td>401</td> </tr> <tr> <td rowspan="3">3/4</td> <td>1/2</td> <td>1/2</td> <td>1</td> <td>400</td> </tr> <tr> <td>3/4</td> <td>3/4</td> <td>1</td> <td>500</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>601</td> </tr> <tr> <td rowspan="3">1-1/4</td> <td>1</td> <td>1</td> <td>1-1/2</td> <td>600</td> </tr> <tr> <td>1-1/4</td> <td>1-1/4</td> <td>1-1/2</td> <td>700</td> </tr> <tr> <td>1-1/2</td> <td>1-1/2</td> <td>1-1/2</td> <td>801</td> </tr> </tbody> </table>							Body	Port 1	Port 2, 4	Port 3		3/8	1/4	1/4	1/2	200	3/8	3/8	1/2	300	1/2	1/2	1/2	401	3/4	1/2	1/2	1	400	3/4	3/4	1	500	1	1	1	601	1-1/4	1	1	1-1/2	600	1-1/4	1-1/4	1-1/2	700	1-1/2	1-1/2	1-1/2	801
Body	Port 1	Port 2, 4	Port 3																																																		
3/8	1/4	1/4	1/2	200																																																	
	3/8	3/8	1/2	300																																																	
	1/2	1/2	1/2	401																																																	
3/4	1/2	1/2	1	400																																																	
	3/4	3/4	1	500																																																	
	1	1	1	601																																																	
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	1-1/4	1-1/4	1-1/2	700																																																	
	1-1/2	1-1/2	1-1/2	801																																																	
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			120 V, 50/60 Hz		Y																																																
		230-240 V, 60 Hz		Y																																																	

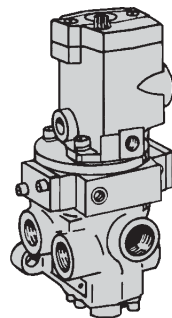
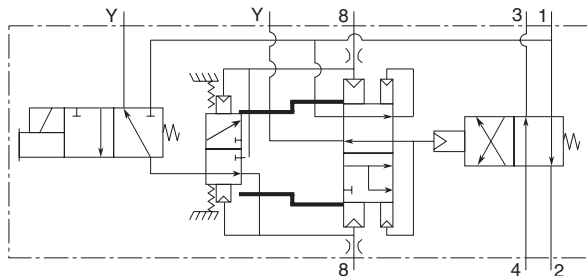
* For other voltages consult ROSS.



Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F		
							1-2, 1-4	4-3, 2-3	
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	3.0 (1.4)
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90	
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73	
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)
	3/4	3/4	1	7.0	9.3	26	0.36	0.55	
	1	1	1	7.8	10	26	0.35	0.50	
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.1)
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18	
	1-1/2	1-1/2	1-1/2	22	27	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



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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 deactuated.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

Thread	
G	D
NPT <i>(Leave Blank)</i>	

Series	
27	7
Actuation	
Solenoid Pilot	

Revision Level	
B	1

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	Y
* For other voltages consult ROSS.		

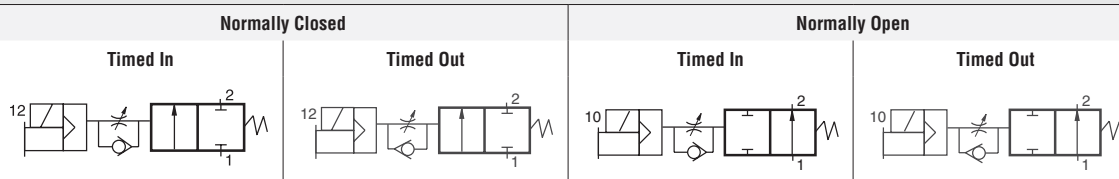
Function – Default Position	
2/2 – Normally Closed	1
2/2 – Normally Open	2

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

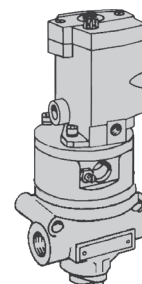
Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	3.5 (1.6)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	4.3 (2.0)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	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



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Ordering Information

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

Thread

G	D
NPT	
(Leave Blank)	

Series

27
7
3
B
200
4
W

Revision Level

B

Actuation

Solenoid Pilot

Function – Default Position

3/2 – Normally Closed

Timed Sequence Adaptor

Timed In	4
Timed Out	5

Size

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

Current

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.

Size				Flow C _V		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Port 3	1-2	2-3	M	F		
							1-2	2-3	
3/8	1/4	1/4	1/2	2.5	3.1	10	0.90	0.80	
	3/8	3/8	1/2	3.6	5.3	10	0.70	0.50	
	1/2	1/2	1/2	3.3	5.3	10	0.75	0.50	
3/4	1/2	1/2	1	6.3	9.2	11	0.43	0.27	4.3 (2.0)
	3/4	3/4	1	7.7	11	11	0.36	0.26	
	1	1	1	8.0	12	11	0.34	0.25	
1-1/4	1	1	1-1/2	23	34	28	0.17	0.14	9.0 (4.1)
	1-1/4	1-1/4	1-1/2	30	32	28	0.15	0.15	
	1-1/2	1-1/2	1-1/2	30	31	28	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

Normally Closed		Normally Open	
Timed In	Timed Out	Timed In	Timed Out

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Ordering Information

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

Timed Sequence & Timed Sequence Extension Adaptors

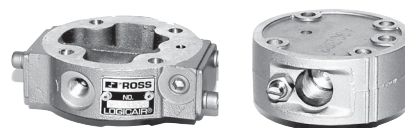
Used in conjunction can increase the time delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pilot air off the

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

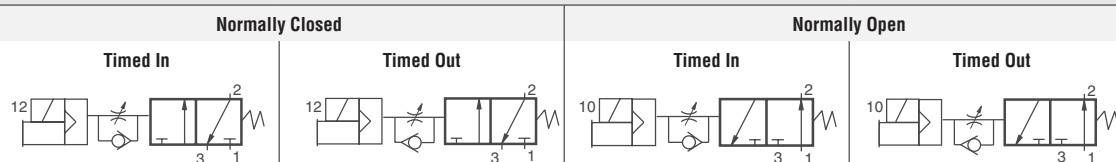
Thread		Series		Revision Level		Timed Sequence & Extension Adaptor		Current	Voltage *	
G	D	27	7	B	200	Timed In	6	DC	24 V	W
NPT (Leave Blank)		Actuation				Timed Out	7	AC	110-120 V, 50/60 Hz 120 V, 50/60 Hz 230-240 V, 60 Hz	Z Y
Function – Default Position				Size				* For other voltages consult ROSS.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



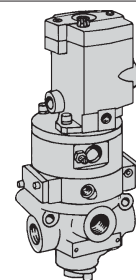
Size				Flow C _v				Average Response Constants*					Weight lb (kg)
Body	Port 1	Port 2	Port 3	Normally Closed		Normally Open		M	F				
									Normally Closed		Normally Open		
				1-2	2-3	1-2	2-3		1-2	2-3	1-2	2-3	
3/8	1/4	1/4	1/2	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	3.5 (1.6)
	3/8	3/8	1/2	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	
	1/2	1/2	1/2	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	
3/4	1/2	1/2	1	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	4.3 (2.0)
	3/4	3/4	1	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60	
	1	1	1	8.0	12	6.8	7.5	11	0.34	0.25	0.40	0.59	
1-1/4	1	1	1-1/2	23	34	17	24	28	0.17	0.14	0.20	0.17	9.0 (4.1)
	1-1/4	1-1/4	1-1/2	30	32	19	24	28	0.15	0.15	0.19	0.17	
	1-1/2	1-1/2	1-1/2	30	31	19	23	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



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Ordering Information

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

4-Way 2-Position Valves

Thread	Series	Actuation	Function	Size	Timed Sequence & Extension Adaptor	Current	Voltage*
G	27	Solenoid Pilot	4/2	Body	Timed In	DC	24 V
NPT (Leave Blank)	7			Port 1	Timed Out	AC	110-120 V, 50/60 Hz
	6			Port 2, 4			120 V, 50/60 Hz
	B			Port 3			230-240 V, 60 Hz
	200						
	6						
	W						

Body	Port 1	Port 2, 4	Port 3	Size
3/8	1/4	1/4	1/2	200
	3/8	3/8	1/2	300
	1/2	1/2	1/2	401
3/4	1/2	1/2	1	400
	3/4	3/4	1	500
	1	1	1	601
1-1/4	1	1	1-1/2	600
	1-1/4	1-1/4	1-1/2	700
	1-1/2	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.

Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F		
							1-2, 1-4	4-3, 2-3	
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	3.0 (1.4)
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90	
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73	
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)
	3/4	3/4	1	7.0	9.3	26	0.36	0.55	
	1	1	1	7.8	10	26	0.35	0.50	
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.1)
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18	
	1-1/2	1-1/2	1-1/2	22	27	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	Timed Out

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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

Thread

G

NPT

(Leave Blank)

Series

27

5

1

Revision Level

A

Adaptor

Pressure Booster

Actuation

Pressure Controlled

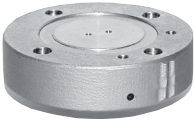
Function – Default Position

2/2 – Normally Closed

2/2 – Normally Open

Size

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



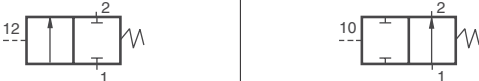
Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	3.5 (1.6)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	4.3 (2.0)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	26	0.15	0.18	

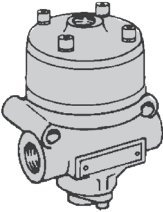
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed

Normally Open





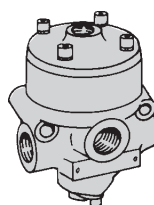
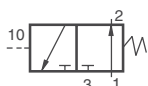
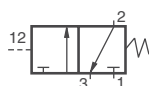
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The valve's signal pressure is applied to a piston in the pressure booster adaptor that has a larger area than the piston in the valve. The force on the piston in the adaptor is thereby larger than that which could be produced by the piston in the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



Size				Flow C _v				Average Response Constants*				Weight lb (kg)	
Body	Port 1	Port 2	Port 3	Normally Closed		Normally Open		M	F				
									Normally Closed		Normally Open		
				1-2	2-3	1-2	2-3		1-2	2-3	1-2		2-3
3/8	1/4	1/4	1/2	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	2.3 (1.1)
	3/8	3/8	1/2	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	
	1/2	1/2	1/2	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	
3/4	1/2	1/2	1	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	3.0 (1.4)
	3/4	3/4	1	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60	
	1	1	1	8.0	12	6.8	7.5	11	0.34	0.25	0.40	0.59	
1-1/4	1	1	1-1/2	23	34	17	24	28	0.17	0.14	0.20	0.17	9.0 (4.1)
	1-1/4	1-1/4	1-1/2	30	32	19	24	28	0.15	0.15	0.19	0.17	
	1-1/2	1-1/2	1-1/2	30	31	19	23	28	0.15	0.15	0.19	0.16	

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.



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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 CONFIGURATOR

4-Way 2-Position Valves

Thread

G

NPT

(Leave Blank)

Series

27

5

6

A

200

7

Revision Level

Adaptor

Pressure Booster


Actuation

Pressure Controlled

Valve Function

4/2

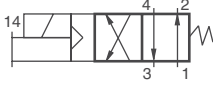
Size				
Body	Port 1	Port 2, 4	Port 3	
3/8	1/4	1/4	1/2	200
	3/8	3/8	1/2	300
	1/2	1/2	1/2	401
3/4	1/2	1/2	1	400
	3/4	3/4	1	500
	1	1	1	601
1-1/4	1	1	1-1/2	600
	1-1/4	1-1/4	1-1/2	700
	1-1/2	1-1/2	1-1/2	801

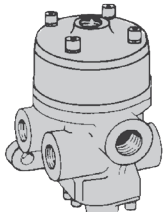


Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F		
							1-2, 1-4	4-3, 2-3	
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	3.0 (1.4)
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90	
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73	
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)
	3/4	3/4	1	7.0	9.3	26	0.36	0.55	
	1	1	1	7.8	10	26	0.35	0.50	
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.1)
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18	
	1-1/2	1-1/2	1-1/2	22	27	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





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Ordering Information

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.

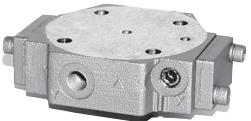
A momentary pressure signal shifts and holds the valve. A second momentary pressure signal from the same source returns the valve to its original position.

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Thread		27	8	3	A	200	1	Adaptor
G	D	Series		Revision Level				Air Index
NPT	(Leave Blank)	Actuation						
		Pressure Controlled						
		Function – Default Position						
		3/2 – Normally Closed						

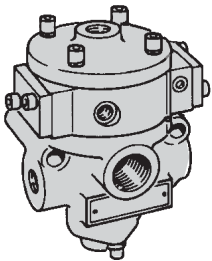
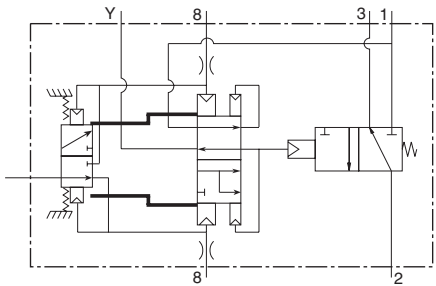
Size				
Body	Port 1	Port 2	Port 3	
3/8	1/4	1/4	1/2	200
	3/8	3/8	1/2	300
	1/2	1/2	1/2	401
3/4	1/2	1/2	1	400
	3/4	3/4	1	500
	1	1	1	601
1-1/4	1	1	1-1/2	600
	1-1/4	1-1/4	1-1/2	700
	1-1/2	1-1/2	1-1/2	801



Size				Flow C _V		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Port 3	1-2	2-3	M	F		
							1-2	2-3	
3/8	1/4	1/4	1/2	2.5	3.1	10	0.90	0.80	2.5 (1.2)
	3/8	3/8	1/2	3.6	5.3	10	0.70	0.50	
	1/2	1/2	1/2	3.3	5.3	10	0.75	0.50	
3/4	1/2	1/2	1	6.3	9.2	11	0.43	0.27	3.3 (1.5)
	3/4	3/4	1	7.7	11	11	0.36	0.26	
	1	1	1	8.0	12	11	0.34	0.25	
1-1/4	1	1	1-1/2	23	34	28	0.17	0.14	7.0 (3.2)
	1-1/4	1-1/4	1-1/2	30	32	28	0.15	0.15	
	1-1/2	1-1/2	1-1/2	30	31	28	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



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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

Thread	
G	D
NPT	
(Leave Blank)	

27

8

6

A

200

1

Series

Actuation

Pressure Controlled

Function

4/2

Revision Level

Adaptor

Air Index

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

Size				Flow C _v		Average Response Constants*			Weight lb (kg)	
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F			
							1-2, 1-4	4-3, 2-3		
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	3.0 (1.4)	
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90		
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73		
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)	
	3/4	3/4	1	7.0	9.3	26	0.36	0.55		
	1	1	1	7.8	10	26	0.35	0.50		
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.1)	
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18		
	1-1/2	1-1/2	1-1/2	22	27	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

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Ordering Information

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

Thread	
G	D
NPT	(Leave Blank)

Series	
27	

Actuation	
Pressure Controlled	

Function – Default Position	
2/2 – Normally Closed	1
2/2 – Normally Open	2

Revision Level	
1	

Size	
200	

Timed Adaptor	
Timed In	2
Timed Out	3

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

Timed-Out Adaptor
Dual Timed Adaptor

Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	3.5 (1.6)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	4.3 (2.0)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	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	
Timed In 	Timed Out
Normally Open	
Timed In 	Timed Out

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

MODEL NUMBER CONFIGURATOR

Thread

G

D

NPT

(Leave Blank)

Series

27

5

3

B

200

2

Actuation

Pressure Controlled

Revision Level

Function – Default Position

3/2 – Normally Closed

3

3/2 – Normally Open

4

Size

Body

Port 1

Port 2

Port 3

200

300

401

400

500

601

600

700

801

Timed Sequence Adaptor

Timed In

2

Timed Out

3

Timed-Out Adaptor

Dual Timed Adaptor

Size				Flow C _V				Average Response Constants*					Weight lb (kg)
Body	Port 1	Port 2	Port 3	Normally Closed		Normally Open		M	F				
									Normally Closed		Normally Open		
				1-2	2-3	1-2	2-3		1-2	2-3	1-2	2-3	
3/8	1/4	1/4	1/2	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	2.3 (1.1)
	3/8	3/8	1/2	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	
	1/2	1/2	1/2	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	
3/4	1/2	1/2	1	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	3.0 (1.4)
	3/4	3/4	1	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60	
	1	1	1	8.0	12	6.8	7.5	11	0.34	0.25	0.40	0.59	
1-1/4	1	1	1-1/2	23	34	17	24	28	0.17	0.14	0.20	0.17	9.0 (4.1)
	1-1/4	1-1/4	1-1/2	30	32	19	24	28	0.15	0.15	0.19	0.17	
	1-1/2	1-1/2	1-1/2	30	31	19	23	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

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Ordering Information

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

Thread		Series		Revision Level		Timed Sequence Adaptor	
G	D	27	8	A	200	Timed In	2
NPT (Leave Blank)		Actuation				Timed Out	3
		Pressure Controlled					

Function – Default Position			
2/2 – Normally Closed	1		
2/2 – Normally Open	2		

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

Timed-Out Adaptor

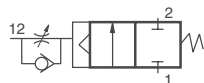
Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	2.3 (1.1)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	3.0 (1.4)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	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.

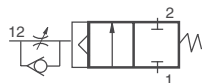
Valve Schematic

Normally Closed

Timed In

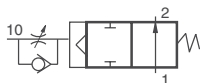


Timed Out

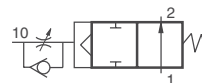


Normally Open

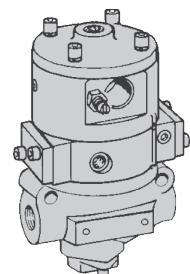
Timed In



Timed Out



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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

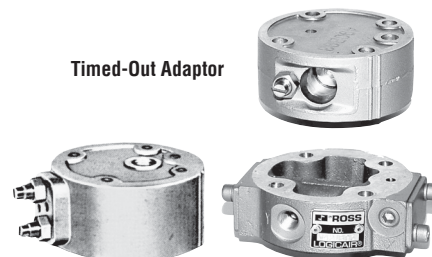
Used in conjunction with the timed sequence adaptor to extend the delay interval up to 60 seconds. It also helps to obtain “snap” action of the valve by keeping pilot or signal air off the main valve piston until the pressure has built high enough to cause prompt valve response. Air line lubrication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

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Thread	Series	Revision Level	Size	Timed Sequence & Extension Adaptor
G	27	3	200	Timed In
NPT (Leave Blank)	8	A	2	Timed Out
	Actuation			
	Pressure Controlled			
	Function – Default Position			
	3/2 – Normally Closed	3		
	3/2 – Normally Open	4		
			Size	
			Body	Port 1
			Port 2	Port 3
			3/8	1/4
				1/4
				1/2
				200
				3/8
				3/8
				1/2
				300
				1/2
				1/2
				401
			3/4	1/2
				1/2
				1
				400
				3/4
				3/4
				1
				500
				1
				1
				601
			1-1/4	1
				1
				1-1/2
				600
				1-1/4
				1-1/4
				1-1/2
				700
				1-1/2
				1-1/2
				801

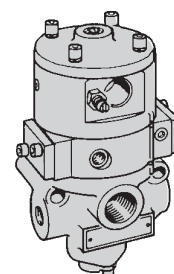
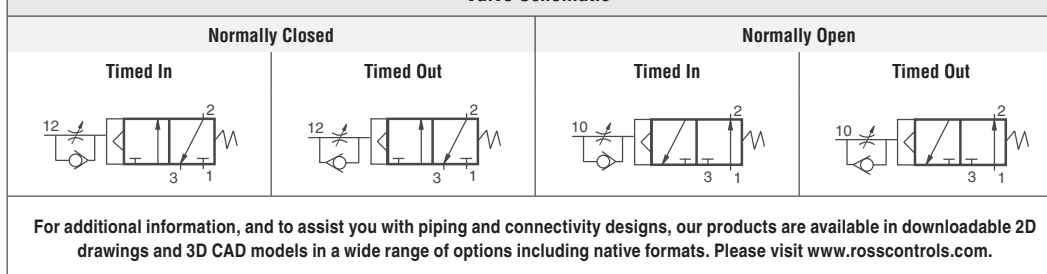
Timed-Out Adaptor



Size				Flow C _v				Average Response Constants*				Weight lb (kg)	
Body	Port 1	Port 2	Port 3	Normally Closed		Normally Open		M	F				
									Normally Closed		Normally Open		
				1-2	2-3	1-2	2-3		1-2	2-3	1-2		2-3
3/8	1/4	1/4	1/2	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	3.5 (1.6)
	3/8	3/8	1/2	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	
	1/2	1/2	1/2	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	
3/4	1/2	1/2	1	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	4.3 (2.0)
	3/4	3/4	1	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60	
	1	1	1	8.0	12	6.8	7.5	11	0.34	0.25	0.40	0.59	
1-1/4	1	1	1-1/2	23	34	17	24	28	0.17	0.14	0.20	0.17	9.0 (4.1)
	1-1/4	1-1/4	1-1/2	30	32	19	24	28	0.15	0.15	0.19	0.17	
	1-1/2	1-1/2	1-1/2	30	31	19	23	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



Ordering Information

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.

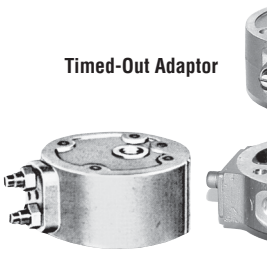
MODEL NUMBER CONFIGURATOR

4-Way 2-Position Valves

Thread		Series	27	8	6	A	200	2
G	D	Actuation	Solenoid Pilot					
NPT (Leave Blank)		Valve Function	4/2					

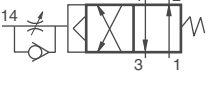
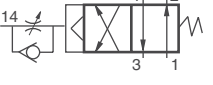
Size				
Body	Port 1	Port 2, 4	Port 3	
3/8	1/4	1/4	1/2	200
	3/8	3/8	1/2	300
	1/2	1/2	1/2	401
3/4	1/2	1/2	1	400
	3/4	3/4	1	500
	1	1	1	601
1-1/4	1	1	1-1/2	600
	1-1/4	1-1/4	1-1/2	700
	1-1/2	1-1/2	1-1/2	801

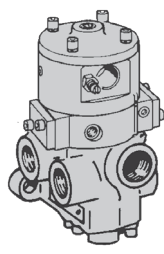
Timed Sequence & Extension Adaptor	
Timed In	2
Timed Out	3



Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F		
							1-2, 1-4	4-3, 2-3	
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	3.0 (1.4)
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90	
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73	
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)
	3/4	3/4	1	7.0	9.3	26	0.36	0.55	
	1	1	1	7.8	10	26	0.35	0.50	
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.1)
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18	
	1-1/2	1-1/2	1-1/2	22	27	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 	Timed Out 



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

MODEL NUMBER CONFIGURATOR2-Way 2-Position Valves

Thread	
G	D
NPT	
(Leave Blank)	

Series	27
Actuation	Pressure Controlled

Function – Default Position	
2/2 – Normally Closed	1
2/2 – Normally Open	2

Revision Level	1
----------------	---

Size	200
------	-----

Adaptor	Timed In/Out Sequence
---------	-----------------------

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

Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	2.3 (1.1)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	3.0 (1.4)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	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

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Ordering Information

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

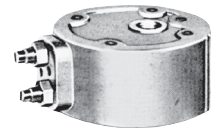
Timed In Adaptor: Air signal applied; after preset time delay valve is actuated. Air signal removed; valve immediately deactivated.

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

MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Thread		Series	Revision Level	Adaptor
G	D	27	B	Timed In/Out Sequence
NPT (Leave Blank)		5	3	
		Actuation		
		Pressure Controlled		
		Function – Default Position		
		3/2 – Normally Closed	3	
		3/2 – Normally Open	4	
Size				
Body	Port 1	Port 2	Port 3	
3/8	1/4	1/4	1/2	200
	3/8	3/8	1/2	300
	1/2	1/2	1/2	401
3/4	1/2	1/2	1	400
	3/4	3/4	1	500
	1	1	1	601
1-1/4	1	1	1-1/2	600
	1-1/4	1-1/4	1-1/2	700
	1-1/2	1-1/2	1-1/2	801

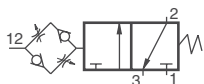


Size				Flow C _v				Average Response Constants*					Weight lb (kg)
Body	Port 1	Port 2	Port 3	Normally Closed		Normally Open		M	F				
									Normally Closed		Normally Open		
				1-2	2-3	1-2	2-3		1-2	2-3	1-2	2-3	
3/8	1/4	1/4	1/2	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	2.3 (1.1)
	3/8	3/8	1/2	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	
	1/2	1/2	1/2	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	
3/4	1/2	1/2	1	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	3.0 (1.4)
	3/4	3/4	1	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60	
	1	1	1	8.0	12	6.8	7.5	11	0.34	0.25	0.40	0.59	
1-1/4	1	1	1-1/2	23	34	17	24	28	0.17	0.14	0.20	0.17	9.0 (4.1)
	1-1/4	1-1/4	1-1/2	30	32	19	24	28	0.15	0.15	0.19	0.17	
	1-1/2	1-1/2	1-1/2	30	31	19	23	28	0.15	0.15	0.19	0.16	

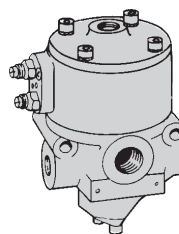
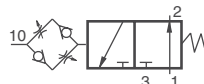
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



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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 CONFIGURATOR2-Way 2-Position Valves

Thread	
G	D
NPT	
(Leave Blank)	

27

5

1

A

200

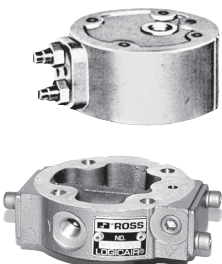
5

Series
Actuation
Pressure Controlled

Revision Level
Adaptor
Timed In/Out Sequence & Extension

Function – Default Position	
2/2 – Normally Closed	1
2/2 – Normally Open	2

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

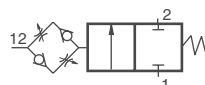


Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	2.3 (1.1)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	3.0 (1.4)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	26	0.15	0.18	

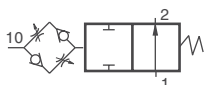
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

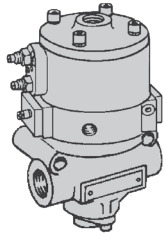
Valve Schematic

Normally Closed



Normally Open





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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 CONFIGURATOR

4-Way 2-Position Valves

Thread

G

NPT

(Leave Blank)

Series

27

8

6

A

200

5

Revision Level

Adaptor

Inlet Timed Sequence

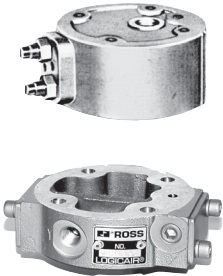
Actuation

Pressure Controlled

Valve Function

4/2

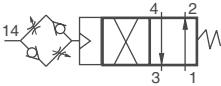
Size				
Body	Port 1	Port 2, 4	Port 3	
3/8	1/4	1/4	1/2	200
	3/8	3/8	1/2	300
	1/2	1/2	1/2	401
3/4	1/2	1/2	1	400
	3/4	3/4	1	500
	1	1	1	601
1-1/4	1	1	1-1/2	600
	1-1/4	1-1/4	1-1/2	700
	1-1/2	1-1/2	1-1/2	801

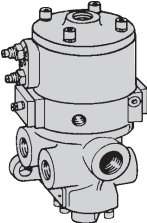


Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F		
							1-2, 1-4	4-3, 2-3	
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	2.8 (1.3)
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90	
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73	
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)
	3/4	3/4	1	7.0	9.3	26	0.36	0.55	
	1	1	1	7.8	10	26	0.35	0.50	
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.2)
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18	
	1-1/2	1-1/2	1-1/2	22	27	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





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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 deactivated.

MODEL NUMBER CONFIGURATOR

2-Way 2-Position Valves

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

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

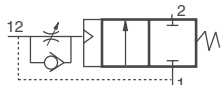


Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	2.3 (1.1)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	3.0 (1.4)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	26	0.15	0.18	

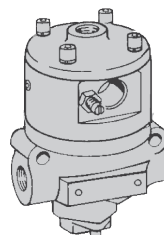
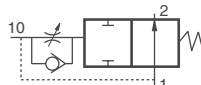
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



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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

3-Way 2-Position Valves

Thread

G

NPT

(Leave Blank)

Series

27

5

3

Revision Level

A

200

4

Adaptor

Inlet Timed-In Sequence

Actuation

Pressure Controlled

Function – Default Position

3/2 – Normally Closed


3

3/2 – Normally Open

4

Size

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

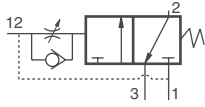


Size				Flow C _v				Average Response Constants*				Weight lb (kg)		
Body	Port 1	Port 2	Port 3	Normally Closed		Normally Open		M	F					
									Normally Closed		Normally Open			
				1-2	2-3	1-2	2-3		1-2	2-3	1-2	2-3		
3/8	1/4	1/4	1/2	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	2.3 (1.1)	
	3/8	3/8	1/2	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77		
	1/2	1/2	1/2	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76		
3/4	1/2	1/2	1	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	3.0 (1.4)	
	3/4	3/4	1	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60		
	1	1	1	8.0	12	6.8	7.5	11	0.34	0.25	0.40	0.59		
1-1/4	1	1	1-1/2	23	34	17	24	28	0.17	0.14	0.20	0.17	9.0 (4.1)	
	1-1/4	1-1/4	1-1/2	30	32	19	24	28	0.15	0.15	0.19	0.17		
	1-1/2	1-1/2	1-1/2	30	31	19	23	28	0.15	0.15	0.19	0.16		

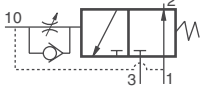
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

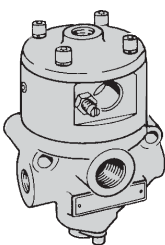
Valve Schematic

Normally Closed



Normally Open





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ROSS CONTROLS®

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

Thread		Series	27	5	6	A	200	4	Adaptor
G	D	Actuation	Pressure Controlled						
NPT	(Leave Blank)	Valve Function	4/2						

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

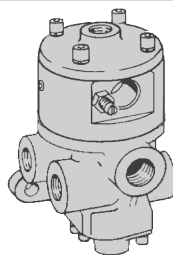
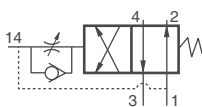


Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F		
							1-2, 1-4	4-3, 2-3	
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	2.8 (1.3)
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90	
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73	
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)
	3/4	3/4	1	7.0	9.3	26	0.36	0.55	
	1	1	1	7.8	10	26	0.35	0.50	
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.2)
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18	
	1-1/2	1-1/2	1-1/2	22	27	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



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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 deactivated.

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

Thread

G

D

NPT

(Leave Blank)

Series

27

8

1

A

200

4

Revision Level

Adaptor

Inlet Timed-In Sequence

Actuation

Pressure Controlled

Function – Default Position

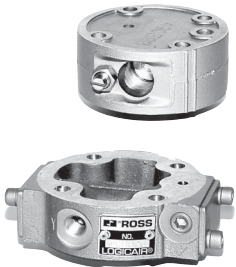
2/2 – Normally Closed

1

2/2 – Normally Open

2

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

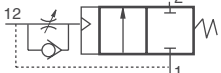


Size			Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2	Normally Closed	Normally Open	M	F		
			1-2	1-2		Normally Closed	Normally Open	
3/8	1/4	1/4	2.3	2.3	10	0.91	0.91	2.3 (1.1)
	3/8	3/8	3.8	3.3	10	0.70	0.76	
	1/2	1/2	4.0	3.5	10	0.64	0.72	
3/4	1/2	1/2	7.7	6.5	14	0.37	0.43	3.0 (1.4)
	3/4	3/4	9.0	7.3	14	0.34	0.39	
	1	1	9.0	7.9	14	0.34	0.37	
1-1/4	1	1	24	21	26	0.17	0.17	9.0 (4.1)
	1-1/4	1-1/4	29	20	26	0.15	0.19	
	1-1/2	1-1/2	29	21	26	0.15	0.18	

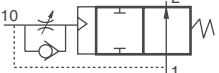
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

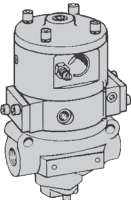
Valve Schematic

Normally Closed



Normally Open





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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.

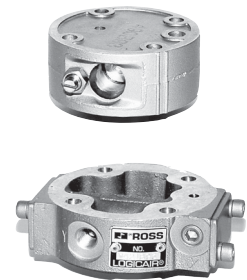
MODEL NUMBER CONFIGURATOR

3-Way 2-Position Valves

Thread		Series	27	8	3	A	200	4	Adaptor
G	D	Actuation							Inlet Timed-In Sequence
NPT	(Leave Blank)	Pressure Controlled							

Function – Default Position				
3/2 – Normally Closed	3			
3/2 – Normally Open	4			

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

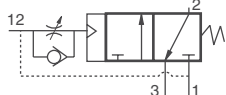


Size				Flow C _v				Average Response Constants*					Weight lb (kg)
Body	Port 1	Port 2	Port 3	Normally Closed		Normally Open		M	F				
									Normally Closed		Normally Open		
				1-2	2-3	1-2	2-3		1-2	2-3	1-2	2-3	
3/8	1/4	1/4	1/2	2.5	3.1	2.3	2.7	10	0.90	0.80	0.99	0.88	2.3 (1.1)
	3/8	3/8	1/2	3.6	5.3	2.8	3.2	10	0.70	0.50	0.90	0.77	
	1/2	1/2	1/2	3.3	5.3	2.8	3.2	10	0.75	0.50	0.90	0.76	
3/4	1/2	1/2	1	6.3	9.2	6.3	8.0	11	0.43	0.27	0.46	0.60	3.0 (1.4)
	3/4	3/4	1	7.7	11	6.9	7.4	11	0.36	0.26	0.45	0.60	
	1	1	1	8.0	12	6.8	7.5	11	0.34	0.25	0.40	0.59	
1-1/4	1	1	1-1/2	23	34	17	24	28	0.17	0.14	0.20	0.17	9.0 (4.1)
	1-1/4	1-1/4	1-1/2	30	32	19	24	28	0.15	0.15	0.19	0.17	
	1-1/2	1-1/2	1-1/2	30	31	19	23	28	0.15	0.15	0.19	0.16	

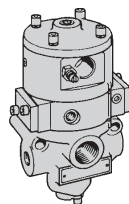
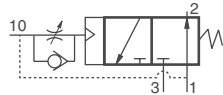
Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic

Normally Closed



Normally Open



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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

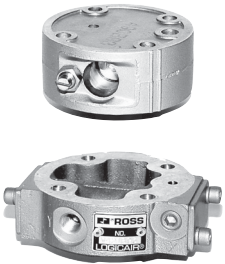
Increases the maximum time delay interval to 60 seconds. It also helps to obtain “snap” action of the valve. By keeping pressure off the main valve piston until it is high enough to ensure prompt valve response, the timed sequence extension adaptor prevents the piston from creeping.

MODEL NUMBER CONFIGURATOR

4-Way 2-Position Valves

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

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



Size				Flow C _v		Average Response Constants*			Weight lb (kg)
Body	Port 1	Port 2, 4	Port 3	1-2, 1-4	4-3, 2-3	M	F		
							1-2, 1-4	4-3, 2-3	
3/8	1/4	1/4	1/2	2.1	2.9	10	0.92	0.92	2.8 (1.3)
	3/8	3/8	1/2	2.9	4.2	10	0.90	0.90	
	1/2	1/2	1/2	3.1	4.3	10	0.89	0.73	
3/4	1/2	1/2	1	5.6	8.1	26	0.50	0.66	5.3 (2.4)
	3/4	3/4	1	7.0	9.3	26	0.36	0.55	
	1	1	1	7.8	10	26	0.35	0.50	
1-1/4	1	1	1-1/2	19	26	79	0.17	0.22	11.3 (5.2)
	1-1/4	1-1/4	1-1/2	21	27	79	0.16	0.18	
	1-1/2	1-1/2	1-1/2	22	27	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	
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EXHAUST SILENCERS

Silencers	Port Size	Thread Type	Model Number		Flow Avg. C _v	Pressure Range psig (bar)
			R/Rp Thread	NPT Thread		
	1/2	Male	D5500A4003	5500A4003	4.7	0-290 (0-20) maximum
	1	Male	D5500A6003	5500A6003	15	
	1-1/2	Female	D5500A8001	5500A8001	30	
	2-1/2	Female	D5500A9002	5500A9002	104	

SOLENOID PILOT OPTIONS

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.					
Manual Override Kits	Flush Button		Extended Button		Extended Button with Palm	
	Locking Type	Kit Number	Locking Type	Kit Number	Locking Type	Kit Number
	Non-Locking	790K87	Non-Locking	791K87	Non-Locking	984H87
	Locking	792K87				
	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 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 Group".

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure all sources of energy are turned off, the entire pneumatic system is shut down and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).
2. All ROSS Group Products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any product can be tampered with and/or need servicing after installation, persons responsible for the safety of others or the care of equipment must check ROSS Group Products on a regular basis and perform all necessary maintenance to ensure safe operating conditions.
3. All applicable instructions should be read and complied with before using any fluid power system to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use. If you have any questions, call your nearest ROSS Group location.
4. Each ROSS Group Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Group Products.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

FILTRATION and LUBRICATION

1. Dirt, scale, moisture, etc., are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. The ROSS Group recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Group filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition and hazardous leakage. Immediately replace crazed, cracked, or deteriorated bowls.
3. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with

phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks personal injury, and/or damage to property.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

AVOID INTAKE/EXHAUST RESTRICTION

1. Do not restrict air flow in the supply line. To do so could reduce the pressure of the supply air below minimum requirements for the valve and thereby causing erratic action.
2. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

WARNINGS: *Failure to follow these instructions can result in personal injury and/or property damage.*

SAFETY APPLICATIONS

1. Mechanical Power Presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
2. Safe Exhaust (dump) valves without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All Safe Exhaust valve installations should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
3. Per specifications and regulations, the ROSS L-O-X® and L-O-X® with EEZ-ON®, N06 and N16 Series operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

STANDARD WARRANTY

All products sold by the ROSS Group are warranted for a one-year period [with the exception of Filters, Regulators and Lubricators ("FRLs") which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS Group's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Group has determined, in its sole discretion, are defective. All warranties become void if a product has been subject to misuse, misapplication, improper maintenance, modification or tampering. Products for which warranty protection is sought must be returned to the ROSS Group freight prepaid.

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

Full-Service Global Locations

There are ROSS Distributors Throughout the World

To meet your requirements across the globe, ROSS distributors are located throughout the world. Through ROSS or its distributors, guidance is available for the selection of ROSS products, both for those using fluid power components for the first time and those designing complex systems.

Other literature is available for engineering, maintenance, and service requirements.

If you need products or specifications not shown in this catalog, please visit ROSS' website, contact ROSS or your ROSS distributor. The ROSS Support Team will be happy to assist you in selecting the best product for your application.

For a current list of countries and local distributors, visit ROSS' at www.rosscontrols.com.