



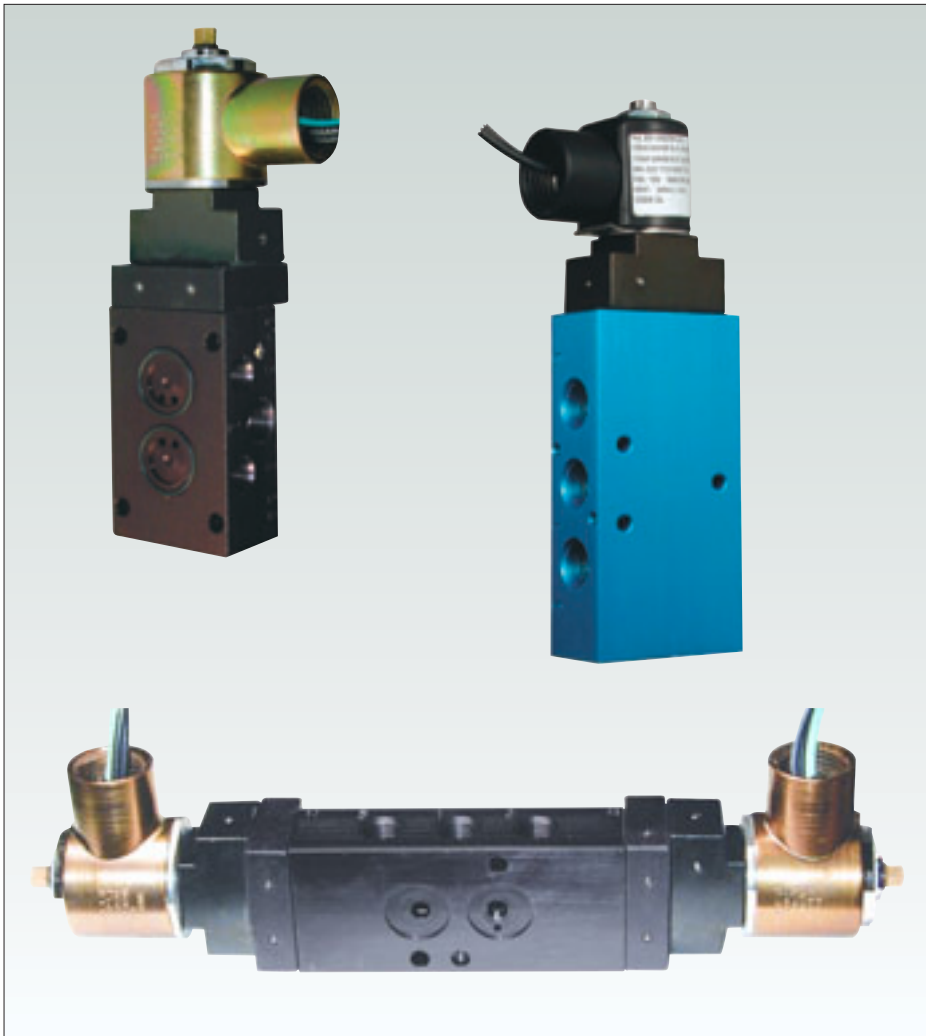
Three-Way and Four-Way solenoid valves and accessories

Features

- NEMA 4 or NEMA 4, 7, and 9 Explosion Proof ratings available.
- 5/2, 5/3 or 3/2 functions available.
- Flexible Lip seal ensures reliability and long service life.
- Class F coil is standard for NEMA 4 units. Class H coil is standard for NEMA 7 units.
- Manual override capability simulates solenoid coil operation.
- Continuous duty.
- Air supply filtered, lubricated or non-lubricated.
- High flow rates.
- Direct mounting to all Tyco Rack and Pinion actuators with stainless steel fasteners.
- Remote mounting via sub-base.

Specifications

- Body - Aluminum
- Coil Housing - NEMA 4-Steel or Epoxy Molded (DIN) enclosure; NEMA 4, 7, and 9, IP65/CSA UL listed explosion proof CRS construction
- Electrical Connection - 1/2" NPT conduit entry standard, DIN connection available
- Air Connections - Supply: 1/4" NPT (Port 1)
- Exhaust: 1/8" NPT (Ports 3 and 5)
Keystone mounting
1/4" NPT (NAMUR and inline)
- Flow: Three Way - 0.055 C_v
Four Way Keystone Mounting - 0.7 C_v
Four Way Inline - NAMUR 1.8C_v
- NBR Seals



Operating Pressure

35 psig Min. to 150 psig Max.

Temperature Ratings

Ambient: -20°F to 150°F

Coil Heat Rise: -185°F



Total Flow Control Solutions™

The Model 791 Solenoid valve, four-way version, is a four-way, two-position solenoid operated, spring return valve. Its flexible lip seal design allows for positive shifting of air flow and constant cleaning of the spool with each shift, enabling the valve to stroke millions of trouble-free cycles.

Directional Control

When the solenoid operator is energized, the solenoid coil creates a magnetic field surrounding the plunger assembly and plunger. The plunger is lifted off its seat by this magnetic force and supply air provides an internal pilot

pressure that is directed to the pilot piston that shifts the spool and compresses the main spring. This shifting of the spool directs the flow of supply air from inlet port 1 to cylinder port 4 while cylinder port 2 is connected to exhaust port 3.

When the solenoid coil is de-energized, a spring on the plunger will return the plunger to its seat, blocking internal pilot air, and open a vent port. This vent port will allow the air on the spool's pilot piston to escape, and the main spring will return the spool to its normal position. In this position, the spool

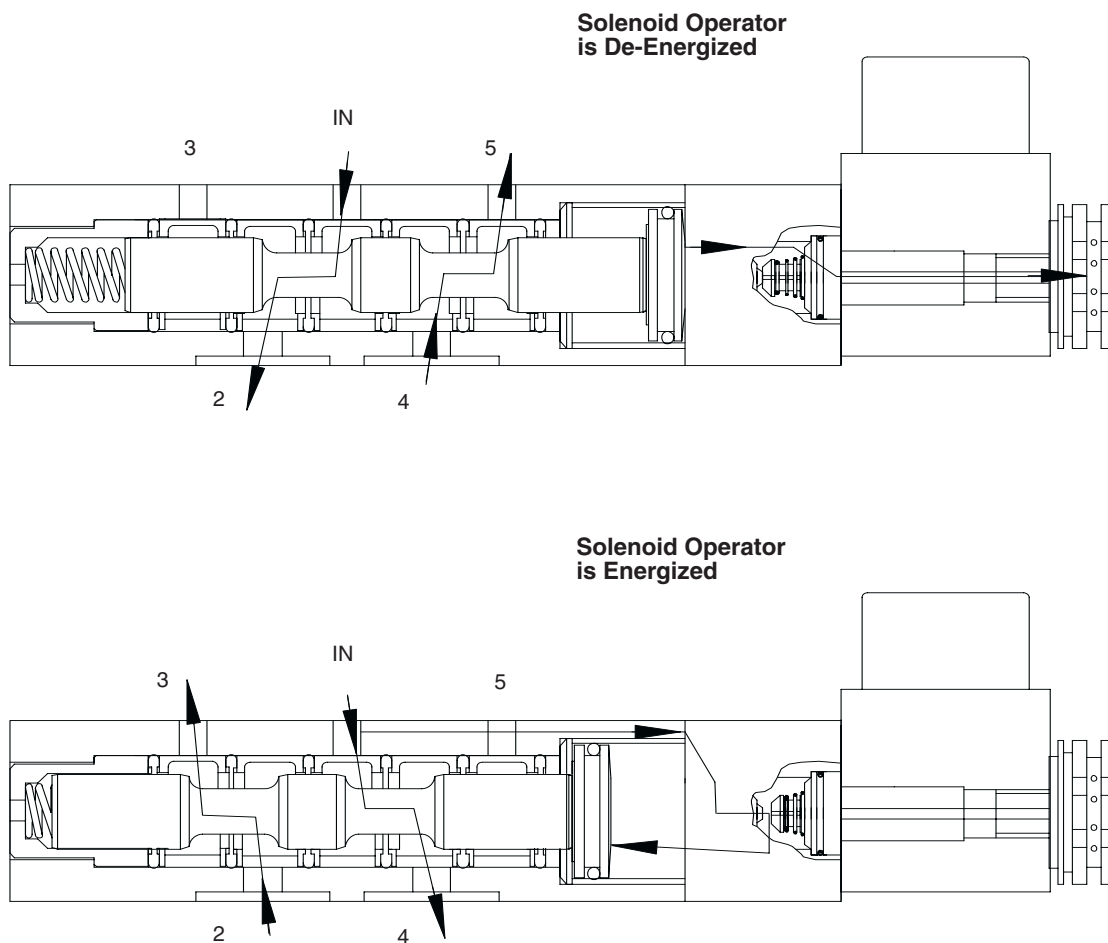
directs flow of supply air from inlet port 1 to cylinder port 2 while cylinder port 4 is connected to exhaust port 5.

Mounting

The "L" version valve is intended for use on all Tyco Valves & Controls rack and pinion actuators that incorporate the standard Tyco accessory directional control valve mounting pad (1.34" x 2.00" rectangle with 10-32 threaded holes); "N" version for NAMUR; and the "P" version for line mounting with Morin and Biffi Scotch Yoke actuators.

Flow Diagrams

(Note - Cylinder ports 2 and 4 are to actuator)



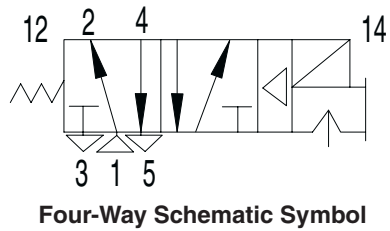
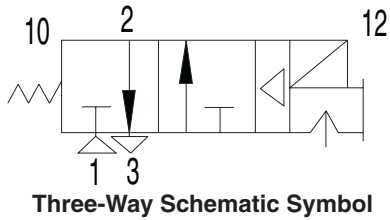
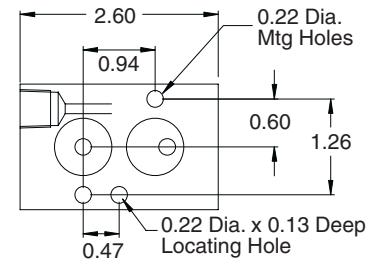
791N NAMUR Mounting (Four-Way and Three-Way – Two Position)

Four- and Three-Way two-position solenoid valve with interface according to VDI/VDE 3845 (NAMUR) for use on double or single acting pneumatic actuator.

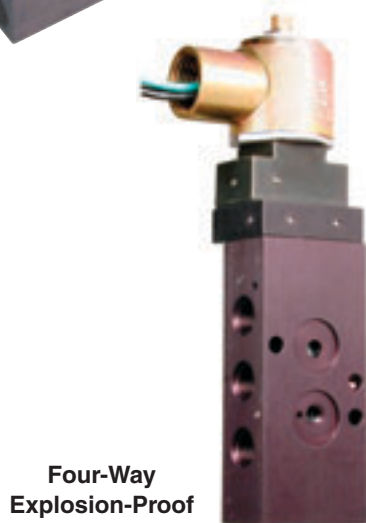
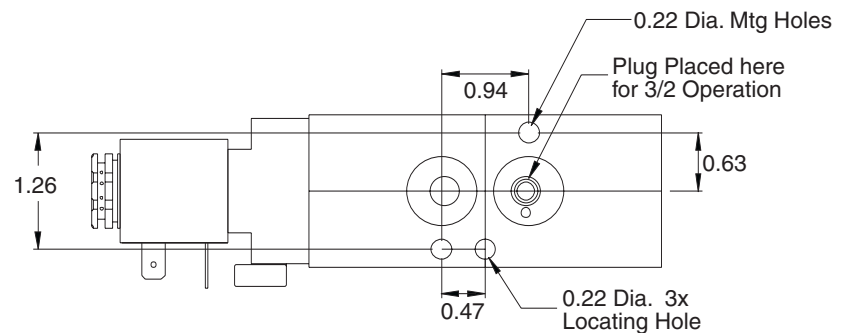
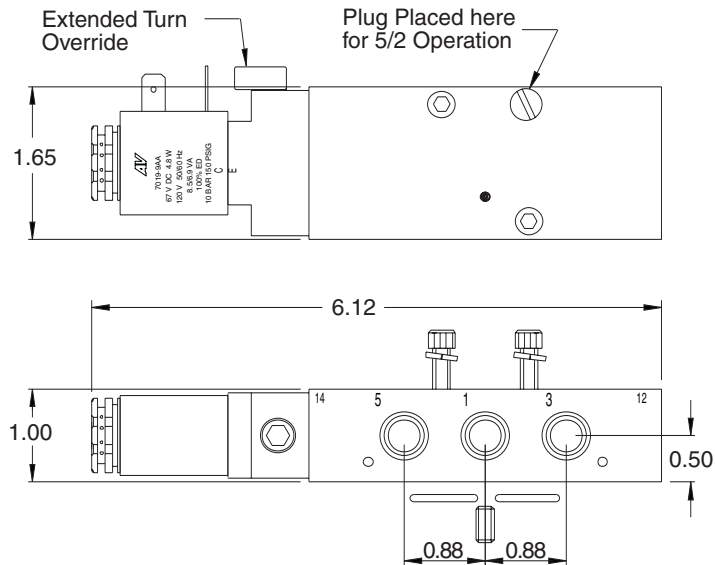
- 4/2 or 3/2 way function by moving brass pilot plug
- Exhaust feedback in closed loop function (hi-flow three-way)

- Exhaust air can be throttled in 4/2 way function, thus actuator speed can be extended (exhaust throttle option)
- Manual override
- Continuous duty
- Air supply: filtered, lubed or non-lubed
- NBR Seals

Three-Way Mounting



Four-Way Mounting



Voltages available:	120/60 – 110/50 VAC	
	245/60 – 220/50 VAC	
	24/60 – 22/50	
	12, 24, 120 VDC	
Protection class:	NEMA 4/4X or NEMA 4/4X/7/9	
Connector:	1/2" Conduit or DIN Connection	
Ambient temperature:	-20°F up to +150°F [-30°C up to +66°C]	
Air connection:	1/4" NPT Pressure Port	
Air pressure:	150 psig	
Rated C _v :	Three-Way	0.06 Inlet 0.3 Exhaust
	Four Way	1.8
	Four way with plug set to three-way configuration	1.8 Inlet 0.15 Exhaust

791N NAMUR Mounting (Three-Way – Two Position)

Model Numbers and Ordering Information

Model Number	NEMA Rating	Solenoid Connection ¹	Voltage		
			AC 60HZ	AC 50HZ	DC
Three-Way, DIN Connection, Single Solenoid Spring Offset					
791N-312-D4AA-00	4/4X - IP 65	According to DIN 43650 form A	120	110	–
791N-312-D4AB-00	4/4X - IP 65	According to DIN 43650 form A	245	220	120
791N-312-D4DA-00	4/4X - IP 65	According to DIN 43650 form A	24	22	12
791N-312-D4DB-00	4/4X - IP 65	According to DIN 43650 form A	–	–	24

Three-Way, Conduit Connection (DIN Style Solenoid), Closed Exhaust - High Flow, Single Solenoid Spring Offset

791N-512-D4AA-01	4/4X - IP 65	1/2" Conduit w/30" leads	120	110	–
791N-512-D4AB-01	4/4X - IP 65	1/2" Conduit w/30" leads	245	220	120
791N-512-D4DA-01	4/4X - IP 65	1/2" Conduit w/30" leads	24	22	12
791N-512-D4DB-01	4/4X - IP 65	1/2" Conduit w/30" leads	–	–	24

Three-Way, Conduit Connection (Steel Housing), Single Solenoid Spring Offset

791N-312-C4AA-00	4/4X - IP 65	1/2" NPT w/24" leads	120	110	–
791N-312-C4AB-00	4/4X - IP 65	1/2" NPT w/24" leads	245	220	120
791N-312-C4DA-00	4/4X - IP 65	1/2" NPT w/24" leads	24	22	12
791N-312-C4DB-00	4/4X - IP 65	1/2" NPT w/24" leads	–	–	24

Three-Way, Conduit Connection, Closed Exhaust - High Flow, Single Solenoid Spring Offset

791N-512-C4AA-00	4/4X - IP 65	1/2" Conduit w/30" leads	120	110	–
791N-512-C4AB-00	4/4X - IP 65	1/2" Conduit w/30" leads	245	220	120
791N-512-C4DA-00	4/4X - IP 65	1/2" Conduit w/30" leads	24	22	12
791N-512-C4DB-00	4/4X - IP 65	1/2" Conduit w/30" leads	–	–	24

Three-Way, Explosion Proof, Single Solenoid Spring Offset²

791N-312-CXAA-00	4/4X - IP 65	1/2" NPT w/24" leads	120	110	–
791N-312-CXAB-00	4/4X - IP 65	1/2" NPT w/24" leads	245	220	120
791N-312-CXDA-00	4/4X - IP 65	1/2" NPT w/24" leads	24	22	12
791N-312-CXDB-00	4/4X - IP 65	1/2" NPT w/24" leads	–	–	24

Three-Way, Explosion Proof, Conduit Connection, Closed Exhaust - High Flow, Single Solenoid Spring Offset²

791N-512-CXAA-00	4/4X - IP 65	1/2" Conduit w/30" leads	120	110	–
791N-512-CXAB-00	4/4X - IP 65	1/2" Conduit w/30" leads	245	220	120
791N-512-CXDA-00	4/4X - IP 65	1/2" Conduit w/30" leads	24	22	12
791N-512-CXDB-00	4/4X - IP 65	1/2" Conduit w/30" leads	–	–	24

Notes

1. DIN connectors are ordered separately; see options section on page 16.
2. Explosion Proof valves MUST have voltage specified on order.

791N NAMUR Mounting (Four-Way – Two Position)

Model Numbers and Ordering Information

Model Number	NEMA Rating	Solenoid Connection ¹	Voltage		
			AC 60HZ	AC 50HZ	DC
Four-Way, Conduit Connection, Single Solenoid Spring Offset					
791N-412-D4AA-00	4/4X - IP 65	According to DIN 43650 form A	120	110	–
791N-412-D4AB-00	4/4X - IP 65	According to DIN 43650 form A	245	220	120
791N-412-D4DA-00	4/4X - IP 65	According to DIN 43650 form A	24	22	12
791N-412-D4DB-00	4/4X - IP 65	According to DIN 43650 form A	–	–	24
Four-Way, Conduit Connection (DIN Style Solenoid), Single Solenoid Spring Offset					
791N-412-D4AA-01	4/4X - IP 65	1/2" Conduit w/30" leads	120	110	–
791N-412-D4AB-01	4/4X - IP 65	1/2" Conduit w/30" leads	245	220	120
791N-412-D4DA-01	4/4X - IP 65	1/2" Conduit w/30" leads	24	22	12
791N-412-D4DB-01	4/4X - IP 65	1/2" Conduit w/30" leads	–	–	24
Four-Way, Conduit Connection (Steel Housing), Single Solenoid Spring Offset					
791N-412-C4AA-00	4/4X - IP 65	1/2" Conduit w/24" leads	120	110	–
791N-412-C4AB-00	4/4X - IP 65	1/2" Conduit w/24" leads	245	220	120
791N-412-C4DA-00	4/4X - IP 65	1/2" Conduit w/24" leads	24	22	12
791N-412-C4DB-00	4/4X - IP 65	1/2" Conduit w/24" leads	–	–	24
Four-Way, Explosion Proof, Single Solenoid Spring Offset ²					
791N-412-CXAA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	120	110	–
791N-412-CXAB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	245	220	120
791N-412-CXDA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	24	22	12
791N-412-CXDB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	–	–	24

Notes

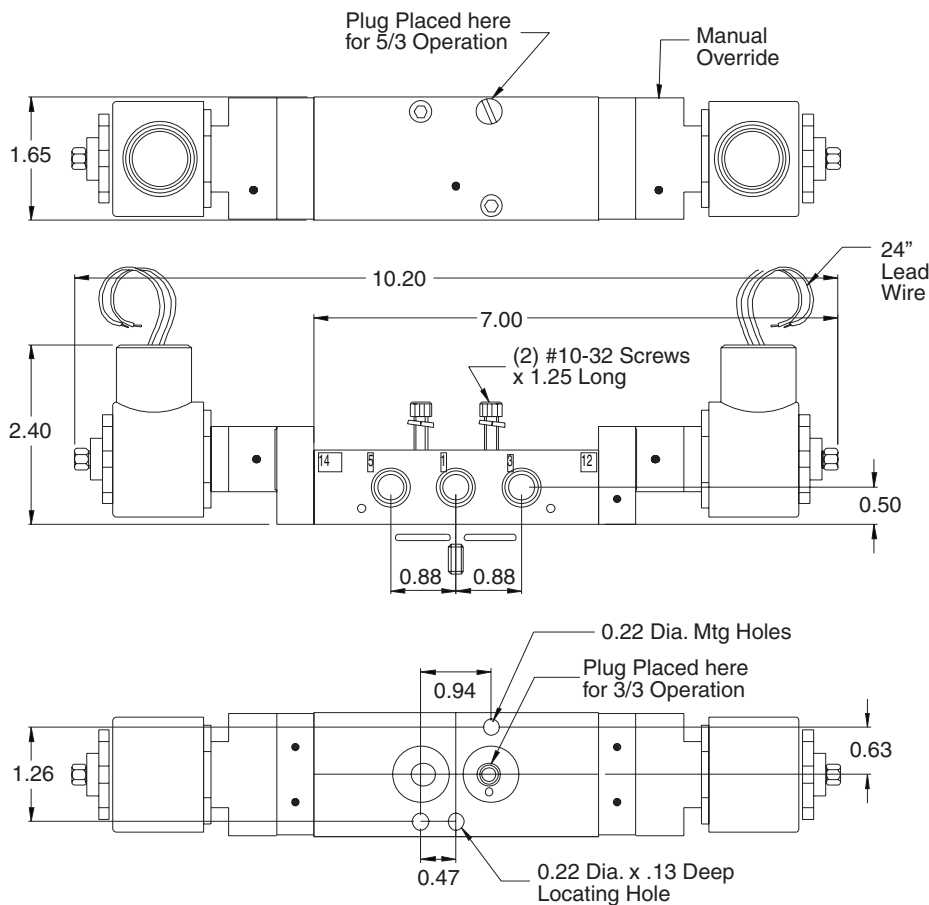
1. DIN connectors are ordered separately; see options section on page 16.
2. Explosion Proof valves MUST have voltage specified on order.
3. Interface blocks are available to convert 791N solenoids to pipe-mounted solenoids.

791N NAMUR Mounting (Four-Way – Three Position)

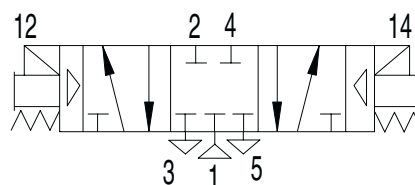
Four-Way three-position solenoid valve with interface according to VDI/VDE 3845 (NAMUR) for use on double or single acting pneumatic actuator.

- Exhaust air can be throttled thus actuator speed can be extended (exhaust throttle option)

- Manual override
- Continuous duty
- Air supply: filtered, lubed or non-lubed
- NBR Seals



Explosion Proof version shown



Four-Way, three position, blocked center schematic symbol

Voltages available: 120/60 – 110/50 V AC
245/60 – 220/50 VAC
24/60 – 22/50
12, 24, 120 VDC

Protection class: NEMA 4/4X or NEMA 4/4X/7/9

Connector: 1/2" Conduit or DIN Connection

Ambient temperature: -20°F up to +180°F
[-30°C up to +82°C]

Air connection: 1/4" NPT Pressure Port

Air pressure: 150 psig

Rated C_v : 1.4

791N NAMUR Mounting (Four-Way – Three Position)

Model Numbers and Ordering Information

Model Number	NEMA Rating	Solenoid Connection ¹	Voltage		
			AC 60HZ	AC 50HZ	DC
Four-Way, DIN Connection, Dual Solenoid Spring, Centered - Blocked Center					
791N-432-D4AA-00	4/4X - IP 65	According to DIN 43650 form A	120	110	–
791N-432-D4AB-00	4/4X - IP 65	According to DIN 43650 form A	245	220	120
791N-432-D4DA-00	4/4X - IP 65	According to DIN 43650 form A	24	22	12
791N-432-D4DB-00	4/4X - IP 65	According to DIN 43650 form A	–	–	24
Four-Way, Conduit Connection (DIN Style Solenoid), Dual Solenoid Spring, Centered - Blocked Center					
791N-432-D4AA-01	4/4X - IP 65	1/2" Conduit w/30" leads	120	110	–
791N-432-D4AB-01	4/4X - IP 65	1/2" Conduit w/30" leads	245	220	120
791N-432-D4DA-01	4/4X - IP 65	1/2" Conduit w/30" leads	24	22	12
791N-432-D4DB-01	4/4X - IP 65	1/2" Conduit w/30" leads	–	–	24
Four-Way, Conduit Connection (Steel Housing), Dual Solenoid Spring, Centered - Blocked Center					
791N-432-C4AA-00	4/4X - IP 65	1/2" Conduit w/24" leads	120	110	–
791N-432-C4AB-00	4/4X - IP 65	1/2" Conduit w/24" leads	245	220	120
791N-432-C4DA-00	4/4X - IP 65	1/2" Conduit w/24" leads	24	22	12
791N-432-C4DB-00	4/4X - IP 65	1/2" Conduit w/24" leads	–	–	24
Four-Way, Explosion Proof, Dual Solenoid Spring, Centered - Blocked Center ²					
791N-432-CXAA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	120	110	–
791N-432-CXAB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	245	220	120
791N-432-CXDA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	24	22	12
791N-432-CXDB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	–	–	24

Notes

1. DIN connectors are ordered separately; see options section on page 16.
2. Explosion Proof valves MUST have voltage specified on order.
3. Interface blocks are available to convert 791N solenoids to pipe-mounted solenoids.

791L Keystone Mounting (Four-Way and Three-Way – Two Position)

4/2 and 3/2 solenoid valves with interface according to Keystone Standard for use with double or single acting Keystone pneumatic rack and pinion actuators Figures 790/79U/79E/79D. Used to give two-position operation with failure position on loss of power.

- 4/2 or 3/2 function available
- NEMA 4/4X or NEMA 4/4X/7/9
- Manual override
- Continuous duty
- Air supply: filtered, lubed or non-lubed
- Remote mounting via sub base
- NBR Seals

Model Numbers and Ordering Information

Model Number	NEMA Rating	Solenoid Connection ¹	Voltage		DC
			AC 60HZ	AC 50HZ	
Type LP, Three-Way Solenoid Valve					
791L-312-C4AA-00	4	1/2" Conduit	120	110	60
791L-312-C4AB-00	4	1/2" Conduit	245	220	–
791L-312-C4DA-00	4	1/2" Conduit	24	22	12
791L-312-C4DB-00	4	1/2" Conduit	–	–	24
791L-312-CXAA-00	4, 7, & 9	1/2" Conduit	120	–	–
791L-312-CXAB-00	4, 7, & 9	1/2" Conduit	245	–	–
791L-312-CXDA-00	4, 7, & 9	1/2" Conduit	–	–	12
791L-312-CXDB-00	4, 7, & 9	1/2" Conduit	–	–	24

Type LP, Four-Way Solenoid Valve

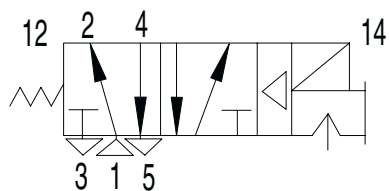
791L-412-C4AA-00	4	1/2" Conduit	120	110	60
791L-412-C4AB-00	4	1/2" Conduit	245	220	–
791L-412-C4DA-00	4	1/2" Conduit	24	22	12
791L-412-C4DB-00	4	1/2" Conduit	–	–	24
791L-412-D4AA-00	4X	DIN Connection ¹	120	110	60
791L-412-D4AB-00	4X	DIN Connection ¹	245	220	–
791L-412-D4DA-00	4X	DIN Connection ¹	24	22	12
791L-412-D4DB-00	4X	DIN Connection ¹	–	–	24
791L-412-CXAA-00	4, 7, & 9	1/2" Conduit	120	–	–
791L-412-CXAB-00	4, 7, & 9	1/2" Conduit	245	–	–
791L-412-CXDA-00	4, 7, & 9	1/2" Conduit	–	–	12
791L-412-CXDB-00	4, 7, & 9	1/2" Conduit	–	–	24

Notes

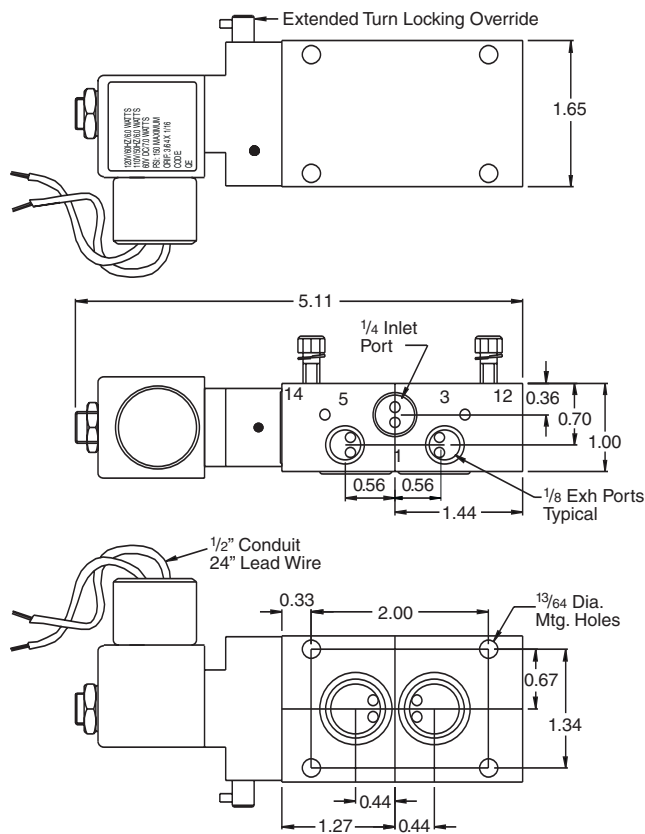
1. DIN Connectors must be ordered with DIN Solenoid Coils.
2. Explosion Proof Valves MUST have voltage specified on order.
3. Interface blocks are available to convert 791L solenoids to pipe mounted solenoids.

791L Keystone Mounting (Four-Way and Three-Way – Two Position)

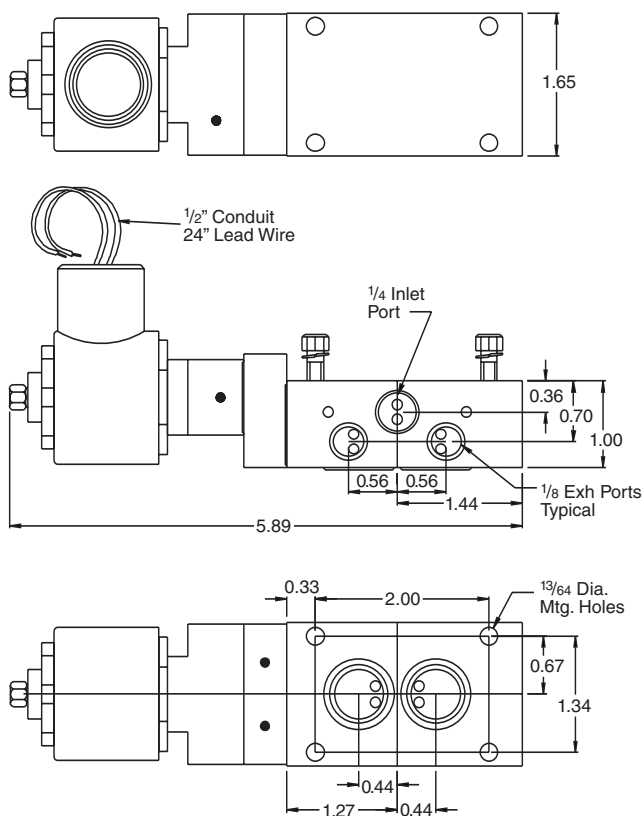
791L Four-Way – NEMA 4, Conduit Connection



791L Four-Way Flow Diagram

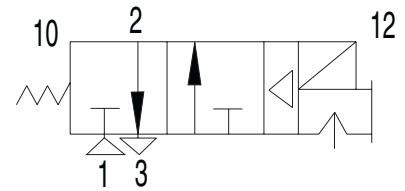
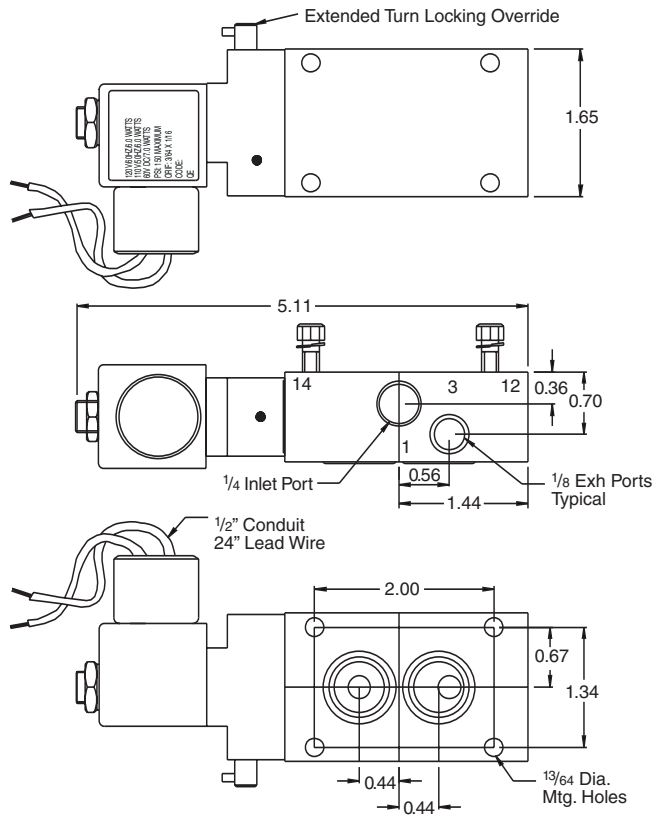


791L Four-Way – NEMA 4, 7, and 9



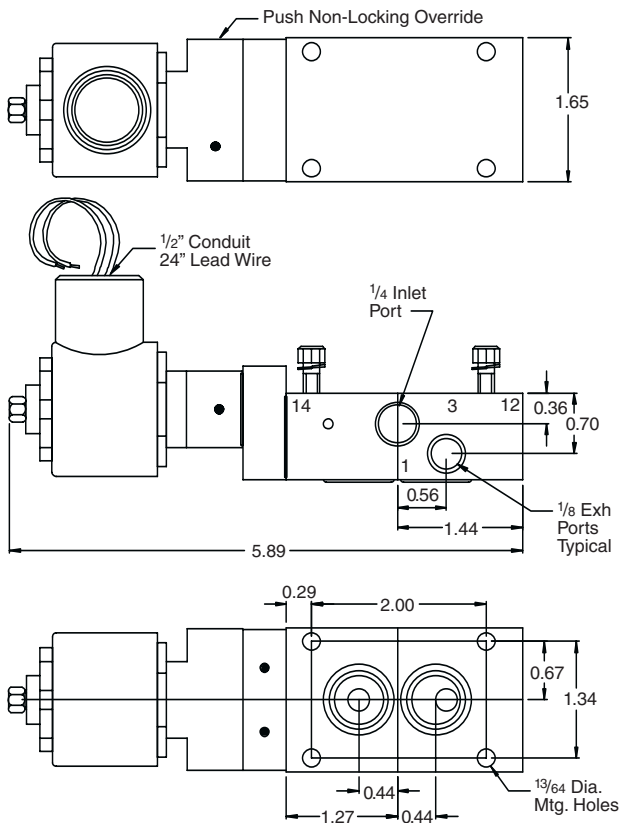
791L Keystone Mounting (Four-Way and Three-Way – Two Position)

791L Three-Way – NEMA 4, Conduit Connection



791L Three-Way Flow Schematic

791L Three-Way – NEMA 4, 7, and 9



791P-Series – Line Mounted (Four-Way – Two Position)

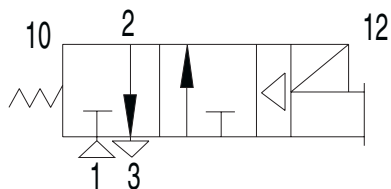


Explosion Proof version shown

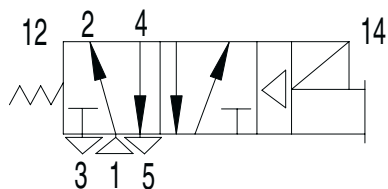
4/2 and 3/2 way solenoid valve with all ports 1/4" NPT for use with Morin and Biffi actuators or any remote mounting application.

- 4/2 or 3/2 way function by plugging ports.
- Exhaust air can be throttled thus actuator speed can be extended (exhaust throttle option)

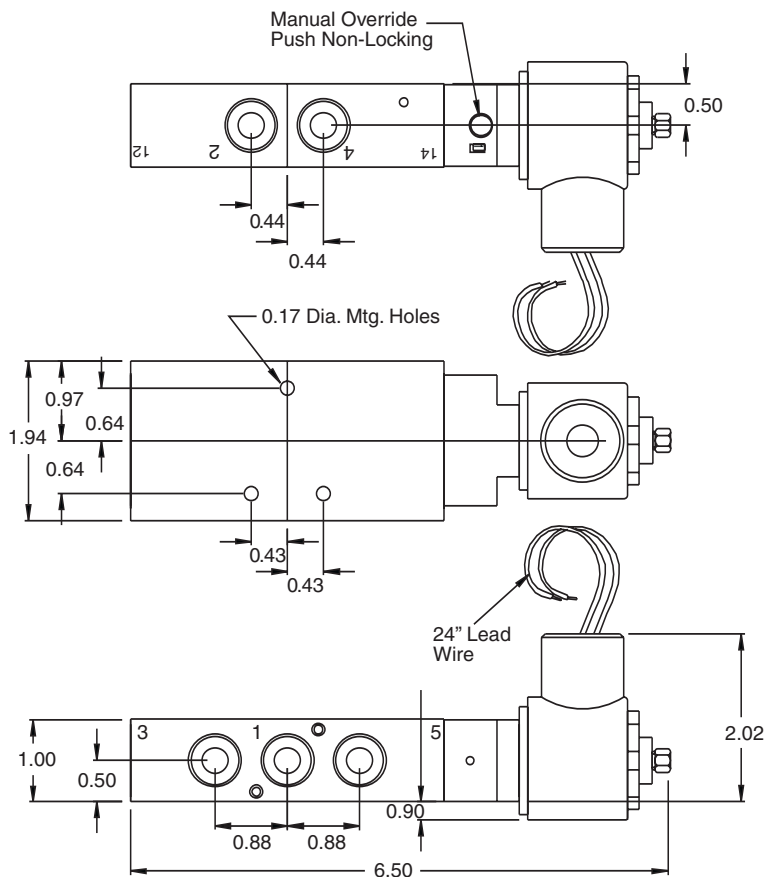
- Manual override
- Continuous duty
- Air supply: filtered, lubed or non-lubed
- NBR Seals



Three-Way Schematic Symbol



Four-Way Schematic Symbol



Voltages available: 120/60 – 110/50 V AC
245/60 – 220/50 VAC
24/60 – 22/50
12, 24, 120 VDC

Protection class: NEMA 4/4X or NEMA 4/4X/7/9

Connector: 1/2" Conduit or DIN Connection

Ambient temperature: -20°F up to +180°F
[-30°C up to +82°C]

Air connection: 1/4" NPT Pressure Port

Air pressure: 150 psig

Rated C_v : 1.8

791P-Series – Line Mounted (Four-Way – Two Position)

Model Numbers and Ordering Information

Model Number	NEMA Rating	Solenoid Connection ¹	Voltage		
			AC 60HZ	AC 50HZ	DC
Four-Way, DIN Connection, Single Solenoid Spring Offset					
791P-412-D4AA-00	4/4X - IP 65	According to DIN 43650 form A	120	110	–
791P-412-D4AB-00	4/4X - IP 65	According to DIN 43650 form A	245	220	120
791P-412-D4DA-00	4/4X - IP 65	According to DIN 43650 form A	24	22	12
791P-412-D4DB-00	4/4X - IP 65	According to DIN 43650 form A	–	–	24
Four-Way, Conduit Connection (DIN Style Solenoid), Single Solenoid Spring Offset					
791P-412-D4AA-01	4/4X - IP 65	1/2" Conduit w/30" leads	120	110	–
791P-412-D4AB-01	4/4X - IP 65	1/2" Conduit w/30" leads	245	220	120
791P-412-D4DA-01	4/4X - IP 65	1/2" Conduit w/30" leads	24	22	12
791P-412-D4DB-01	4/4X - IP 65	1/2" Conduit w/30" leads	–	–	24
Four-Way, Conduit Connection (Steel Housing), Single Solenoid Spring Offset					
791P-412-C4AA-00	4/4X - IP 65	1/2" Conduit w/24" leads	120	110	–
791P-412-C4AB-00	4/4X - IP 65	1/2" Conduit w/24" leads	245	220	120
791P-412-C4DA-00	4/4X - IP 65	1/2" Conduit w/24" leads	24	22	12
791P-412-C4DB-00	4/4X - IP 65	1/2" Conduit w/24" leads	–	–	24
Four-Way, Explosion Proof, Conduit Connection, Single Solenoid Spring Offset ²					
791P-412-CXAA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	120	110	–
791P-412-CXAB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	245	220	120
791P-412-CXDA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	24	22	12
791P-412-CXDB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	–	–	24

Notes

1. DIN connectors are ordered separately; see options section on page 16.
2. Explosion Proof valves MUST have voltage specified on order.

791P-Series – Line Mounted (Four-Way – Three Position)

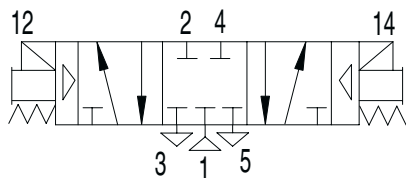
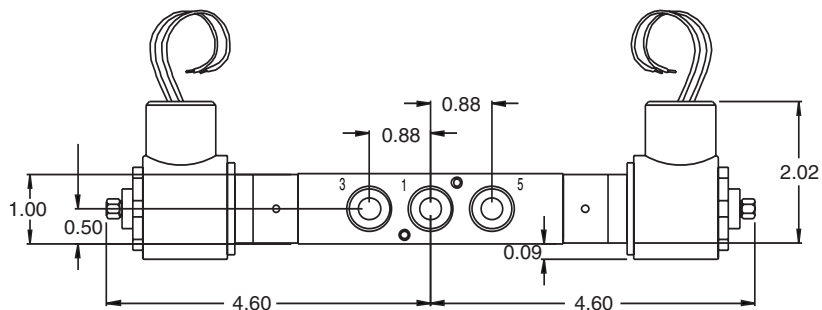
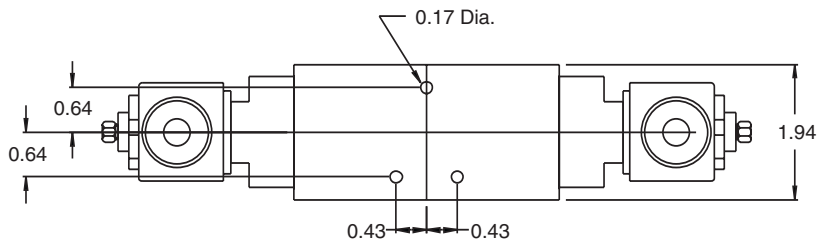
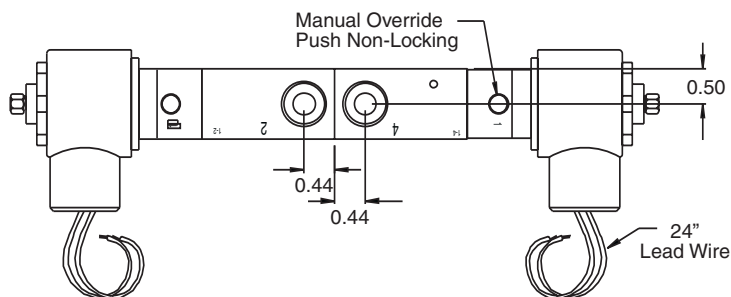


Explosion Proof version shown

4-way 3-position solenoid valve with all ports blocked when no power to either solenoid. Connections are 1/4" NPT for use with Morin, Biffi actuators or any remote mounting application.

- 4/3 or 3/3 way function by plugging ports

- Exhaust air can be throttled thus actuator speed can be extended (exhaust throttle option)
- Manual override
- Continuous duty
- Air supply: filtered, lubed or non-lubed
- NBR Seals



Four-Way, three position, blocked center schematic symbol

Voltages available:	120/60 – 110/50 V AC 245/60 – 220/50 VAC 24/60 – 22/50 12, 24, 120 VDC
Protection class:	NEMA 4/4X or NEMA 4/4X/7/9
Connector:	1/2" Conduit or DIN Connection
Ambient temperature:	-20°F up to +180°F [-30°C up to +82°C]
Air connection:	1/4" NPT Pressure Port
Air pressure:	150 psig
Rated C _v :	1.8

791P-Series – Line Mounted (Four-Way – Three Position)

Model Numbers and Ordering Information

Model Number	NEMA Rating	Solenoid Connection ¹	Voltage		
			AC 60HZ	AC 50HZ	DC
Four-Way, DIN Connection, Dual Solenoid Spring, Centered - Blocked Center					
791P-432-D4AA-00	4/4X - IP 65	According to DIN 43650 form A	120	110	–
791P-432-D4AB-00	4/4X - IP 65	According to DIN 43650 form A	245	220	120
791P-432-D4DA-00	4/4X - IP 65	According to DIN 43650 form A	24	22	12
791P-432-D4DB-00	4/4X - IP 65	According to DIN 43650 form A	–	–	24

Four-Way, Conduit Connection (DIN Style Solenoid), Dual Solenoid Spring, Centered - Blocked Center

791P-432-D4AA-01	4/4X - IP 65	1/2" Conduit w/30" leads	120	110	–
791P-432-D4AB-01	4/4X - IP 65	1/2" Conduit w/30" leads	245	220	120
791P-432-D4DA-01	4/4X - IP 65	1/2" Conduit w/30" leads	24	22	12
791P-432-D4DB-01	4/4X - IP 65	1/2" Conduit w/30" leads	–	–	24

Four-Way, Conduit Connection (Steel Housing), Dual Solenoid Spring, Centered - Blocked Center

791P-432-C4AA-00	4/4X - IP 65	1/2" Conduit w/24" leads	120	110	–
791P-432-C4AB-00	4/4X - IP 65	1/2" Conduit w/24" leads	245	220	120
791P-432-C4DA-00	4/4X - IP 65	1/2" Conduit w/24" leads	24	22	12
791P-432-C4DB-00	4/4X - IP 65	1/2" Conduit w/24" leads	–	–	24

Four-Way, Explosion Proof, Conduit Connection, Dual Solenoid Spring, Centered - Blocked Center²

791P-432-CXAA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	120	110	–
791P-432-CXAB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	245	220	120
791P-432-CXDA-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	24	22	12
791P-432-CXDB-00	4/4X/7/9 - IP 65	1/2" Conduit w/24" leads	–	–	24

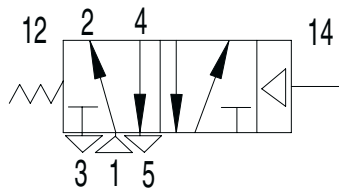
Notes

1. DIN connectors are ordered separately; see options section on page 16.
2. Explosion Proof valves MUST have voltage specified on order.

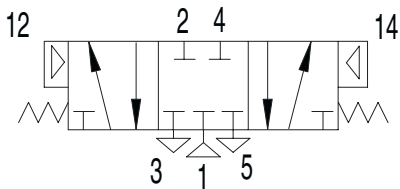
Directional Control Valves 791N and 791P Remote Air Pilot – Keystone Mount

Valves with interface according to NAMUR or Line Mounting for use with Tyco and Morin pneumatic rack & pinion or Morin and Biffi scotch yoke actuators. Used to give two position operation with failure position on loss of remote pneumatic signal or three position with lock up.

- 4/2 and 4/3 function available
- Continuous duty
- Air supply: filtered, lubed or non-lubed
- Remote mounting via sub base
- NBR Seals



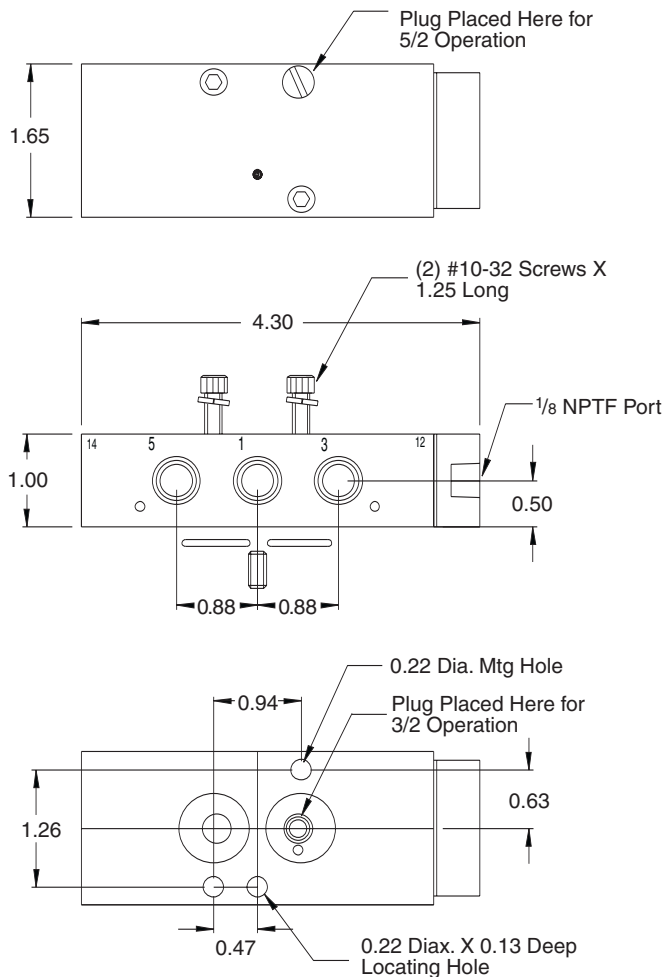
Single Air Pilot Spring Return



Dual Air Pilot Spring Centered - All Ports Blocked



791P Single Air Pilot Spring



Model Numbers and Ordering Information

NAMUR Mount, Single Air Pilot	791N-452-A-00
NAMUR Mount, Double Air Pilot	791N-452-AA-00
Inline, Single Air Pilot	791P-452-A-00
Inline, Double Air Pilot	791P-452-AA-00

Dimensions, inches [mm]

	A	C	F	F1	G	G1	H	L1	L2	W
Single Air Pilot	22.2 [0.88]	12.7 [0.50]	32.0 [1.26]	16.0 [0.63]	23.9 [0.94]	11.9 [0.47]	25.4 [1.00]	109 [4.30]	-	41.9 [1.65]
Dual Air Pilot	22.2 [0.88]	12.7 [0.50]	32.0 [1.26]	16.0 [0.63]	23.9 [0.94]	11.9 [0.47]	25.4 [1.00]	-	122 [4.80]	41.9 [1.65]

Ambient temperature:	-20°F up to +150°F [-30°C up to +66°C]
Air connection:	1/4" NPT Pressure Port - 1/4" Exhaust Port - 1/8" Remote Signal Port
Air pressure:	35 psig up to 150 psig
Remote pressure signal:	35 psig up to 150 psig
Rated C _v :	Single Air Pilot – 1.8 Dual Air Pilot Spring Centered – 1.4

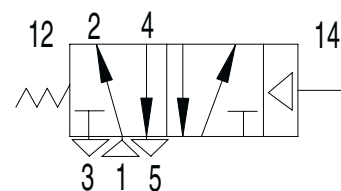
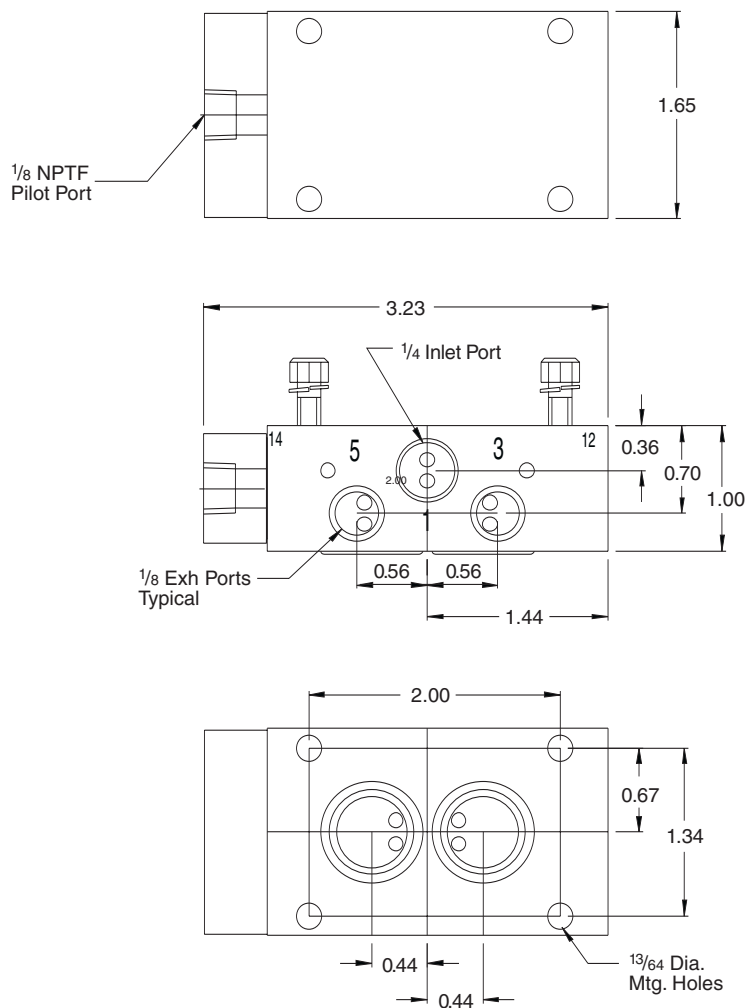
Directional Control Valve 791L Remote Air Pilot – Keystone Mount

4/2 valves with interface according to Keystone Standard for use with double acting Keystone pneumatic rack and pinion actuators Figures 790/79U/79E/79D. Used to give two-position operation with failure position on loss of remote pneumatic signal.

- 4/2 function available
- Continuous duty
- Air supply: filtered, lubed or non-lubed
- Remote mounting via sub base
- NBR Seals



791L Remote Air Pilot



Four-Way Air Pilot Schematic

Ambient temperature:	-20°F up to +150°F [-30°C up to +66°C]
Air connection:	1/4" NPT Pressure Port – 1/8" Exhaust Port – 1/8" Remote Signal Port
Air pressure:	35 psig up to 150 psig
Remote pressure signal:	35 psig up to 150 psig
Rated C _v :	0.7

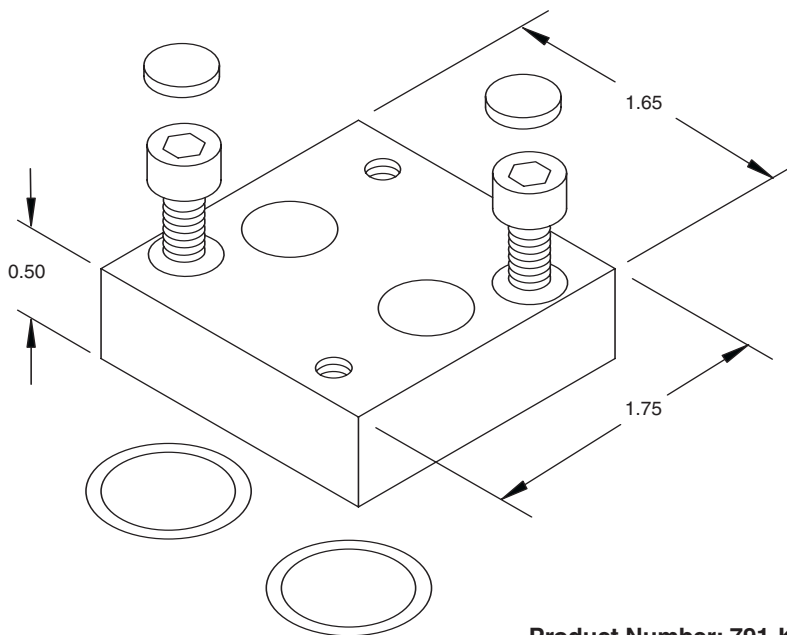
Model Number

Keystone Mount Single Air Pilot:
791L-452-A-00

Rotator Plate

For use with 790-600/700 or 79U-180/181 Solenoid Mounting

(allows horizontal installation of directional control valve)



Product Number: 791-KRPK

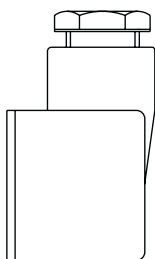
Coil Technical Data

Description and Outline	Coil Style Code
NEMX 4X with DIN 43650 Connection	 D
NEMA 4X Steel Housing with molded coil, 1/2" conduit and 30° leads	 C
Explosion-Proof 1/2" Conduit with 24" leads. NEMA 4,4X, 7C, 7D, 9E, 9F and 9G. UL: Class I, Div. 2 Groups A and B; Class I, Div. 1, Groups C and D; Class II, Div. 1, Groups E, F, and G; Temp Code T3C (160°C)	 X

Note: Type "D" DIN coils must be ordered with appropriate DIN connectors (below).

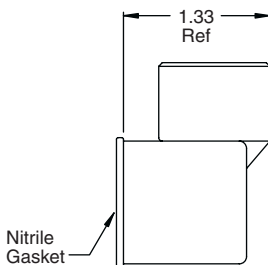
DIN Connectors

Voltage +10%	Voltage Code	Current (Amps)						Resistance (Ohms @ 20°C)			Power (Watts)		
		Inrush			Holding			D	C	X	D	C	X
22/50 24/60	DA	0.40	0.55	0.55	0.40	0.33	0.32	31	19	19	4.8	6	6
110/50 120/60	AA	0.087	0.13	0.13	0.06	0.06	0.06	840	475	475	4.8	6	6
220/50 240/60	AB	0.04	0.05	0.05	0.03	0.03	0.03	3400	2000	2000	6.0	6	6
12 VDC	DA	0.40	0.60	0.60	0.40	0.60	0.60	31	19	219	4.8	7	7
24 VDC	DB	0.20	0.30	0.30	0.20	0.30	0.30	121	75	75	4.8	7	7
125 VDC	AB	—	—	—	0.04	0.06	0.06	3400	19	19	4.8	7	7



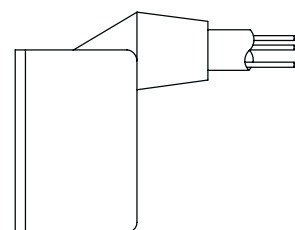
Strain Relief Cord. Unit has grommet style wiring support/seal with internal terminals for connection. No cord is supplied.

Product No.: 791-DINCONG



Conduit connection. Unit has 1/2" conduit entry for wiring with internal terminals for connection. No cord is supplied.

Product No.: 791-DINCONC



Molded connector with 6 foot cord. Unit has cord molded into connector.

Product No.: 791-DINCONF

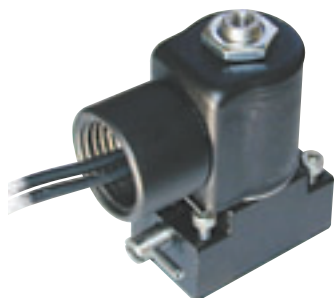
Coils, Operator Cartridges, and Valve Operators



Coil for DIN Connection Operator



DIN Connection Valve Operator



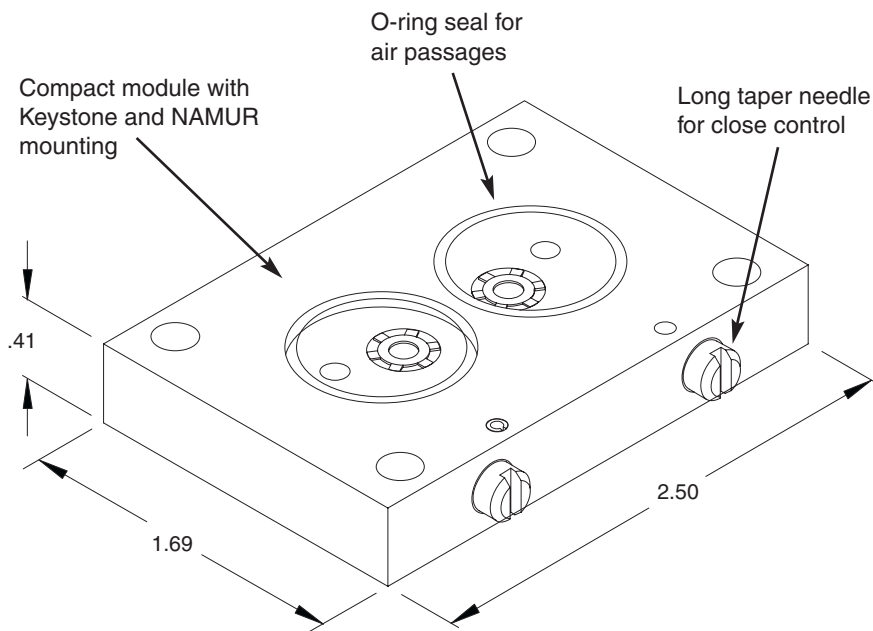
**Valve Operator for NEMA 4
Steel Conduit Housing**



**Valve Operator for NEMA 4/7/9
Steel Conduit Housing
(optional locking override shown)**

Accessories

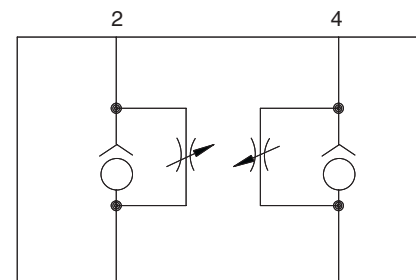
Speed Control Valves for AVID Controls



- Speed Control Module mounts between Directional Control Valve (or adapter plate) and actuator.
- Mounts on NAMUR pad or Keystone pad.
- Functions as a flow control for both cylinder ports.
- Easily adjustable, turn needles clockwise to decrease speed and counterclockwise to increase speed.
- Normal operating pressure: 35 to 150 psig (2 to 10 barg)
- Normal operating temperature: -20°F to +125°F [-30°C to +52°C]
- Approximate weight: 2.5 oz [70.8 g]

Product Number

Keystone Mounting	791-KSCB
NAMUR Mounting	791-NSCB



Schematic

791-PSC Exhaust Restrictor/Sintered Muffler



- Reduces exhaust noise level in air systems.
- Allows adjustment of exhaust air flow to accurately cocontrol cylinder speeds.
- Corrosion resistant.
- Cleanable 40 micron filter element.

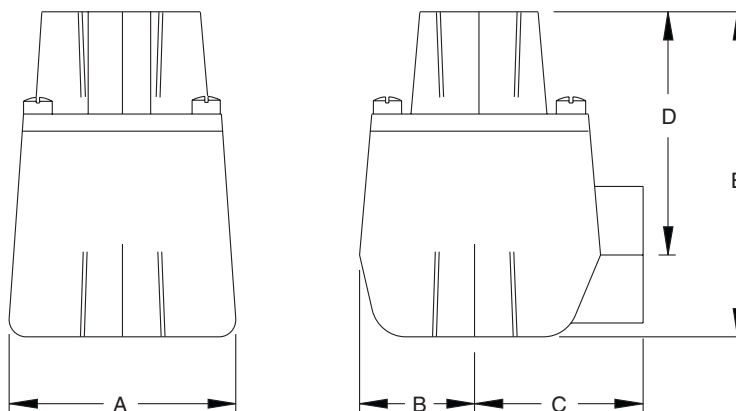
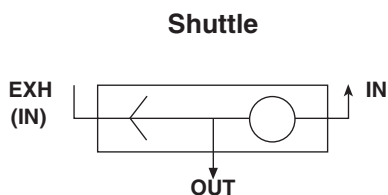
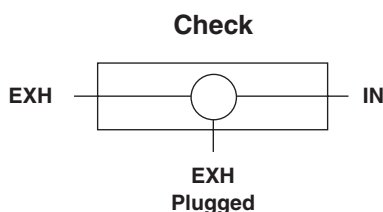
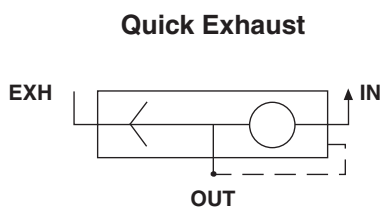
Part Number	Pipe Size	C _v (l/min)	Gr. (Oz.)	Hex Size mm [in]	Length mm [in]
791-PSC1	1/8	1.20 [1070]	29 [1.0]	12.7 [1/2]	39.3 [1.55]
791-PSC2	1/4	1.30 [1160]	40 [1.4]	14.3 [9/16]	47.2 [1.86]
791-PSC3	3/8	2.00 [1790]	64 [2.3]	17.5 [11/16]	48.0 [1.89]
791-PSC5	1/2	3.70 [3310]	114 [4.0]	22.2 [7/8]	59.1 [2.33]
791-PSC7	3/4	5.90 [5270]	190 [6.7]	27.0 [11/16]	71.8 [2.83]
791-PSC10	1	6.80 [6000]	316 [11.1]	33.3 [15/16]	76.2 [3.00]

Accessories

Quick Exhaust, Check and Shuttle Valves

- One model does all three functions.
- Rugged internal construction outlasts and out-performs competition.
- Quick Exhaust Valve: When IN is pressurized, flow is from IN to OUT with EXH blocked. When OUT is pressurized, flow is from OUT to EXH with IN blocked.
- Check Valve: Free flow from IN to OUT with EXH plugged. No flow from OUT to IN with EXH plugged.
- Shuttle Valve: When IN is pressurized, flow is from IN to OUT with EXH blocked. When EXH is pressurized, flow is from EXH to OUT with IN blocked.

Series	Port Size NPTF		C _v [1/min]	Pressure psig [bar]		Model Number	Lb. (Kg)
	IN, OUT	EXH		Min	Max		
791Q-11	10-32	10-32	0.1 [100]	3 [0.2]	125 [8.5]	370A-11	0.01 (0.02)
791Q-21	1/8	1/4	0.8 [790]	4 [0.3]	150 [10.7]	370A-21	0.08 (0.17)
791Q-22	1/4	1/4	0.9 [890]	4 [0.3]	150 [10.7]	370A-22	0.07 (0.16)
791Q-32	1/4	3/8	1.9 [1870]	3 [0.2]	150 [10.7]	370A-32	0.14 (0.31)
791Q-33	3/8	3/8	2.2 [2160]	2 [0.1]	150 [10.7]	370A-33	0.14 (0.31)
791Q-75	1/2	3/4	2.6 [2560]	1 [0.1]	150 [10.7]	370A-75	0.45 (0.99)
791Q-77	3/4	3/4	2.9 [2850]	1 [0.1]	150 [10.7]	370A-77	0.41 (0.94)



Dimensions, inches [mm]					
Model Number	A	B	C	D	E
791Q-21	1.09 [27.7]	0.55 [13.9]	0.81 [20.5]	1.22 [30.3]	1.67 [42.4]
791Q-32	1.50 [38.1]	0.83 [21.1]	1.25 [31.8]	1.78 [45.2]	2.38 [50.4]
791Q-33	1.50 [38.1]	0.83 [21.1]	1.25 [31.8]	1.78 [45.2]	2.38 [50.4]
791Q-75	2.16 [55.4]	1.14 [28.9]	1.61 [45.9]	2.78 [70.5]	3.66 [92.9]
791Q-77	2.16 [55.4]	1.14 [28.9]	1.61 [45.9]	2.78 [70.5]	3.66 [92.9]

Tyco Valves & Controls

www.tycovalves.com

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