

Type 750 Diaphragm Valves

The Chemline Type 750 Pneumatically Actuated Diaphragm Valve features a new design plastic piston actuator, reversible normally closed to normally open. It offers compact dimension, long cycling life and higher leakage resistance, all at a cost lower than 730 Series pneumatically actuated diaphragm valves.

The Type 750 is part of the 700 Series of diaphragm valves. They feature interchangeable bodies, diaphragms and actuators. Modular construction minimizes spare parts requirements. All major parts are solid plastic, corrosion resistant and light weight to minimize stress on plastic piping. Being a diaphragm valve, it is available for sanitary or slurry applications. With a Teflon® diaphragm, it has corrosion resistance superior to ball or butterfly valves.

New Design Actuator

Low Cost

Features

Solid Plastic Body Actuator

- Light weight
- Corrosion resistant inside and out

Good Flow Characteristics

- High C_v values due to smooth and wide body cavity
- Bidirectional
- Self draining

Modular Construction

- Spare parts requirements are minimized because of only 3 actuator and diaphragm sizes for 6 valve sizes
- Convertible from Normally Closed to Normally Open or Double Acting

New Design for Superior Sealing

- Risk of leakage is reduced
- Lower control air pressures are required for full pressure closure

Easy Maintenance

- Actuator may be easily removed after valve is installed
- Body is easily removed with True Union ends

Long Life Maintenance Free Actuator

- Valve is factory tested to 1,000,000 plus cycles
- Piston seal has double lip ring to retain grease



CHEMLINE
Plastics Limited

Your Pipeline To Quality

Pneumatically Actuated

BODIES: PVC, CPVC, PP or PVDF

SIZES: 1/2" – 2"

ENDS: True Union Socket, Threaded or ChemFlare™¹
Spigot² Bodies with Plain, Socket, Threaded or Flanged ends

DIAPHRAGMS: EPDM, FPM (Viton®) or Teflon®

CONTROL FUNCTIONS:

Normally Closed, Normally Open, or Double Acting



shown with True Union body and Position Indicator

¹ For ChemFlare™ end connectors, consult Chemline.

² PP and PVDF spigot ends have metric dimensions and will butt fuse directly to Chemline PP and PVDF piping systems.

Type 750 Diaphragm Valves



Actuator Housing of "Ixef"

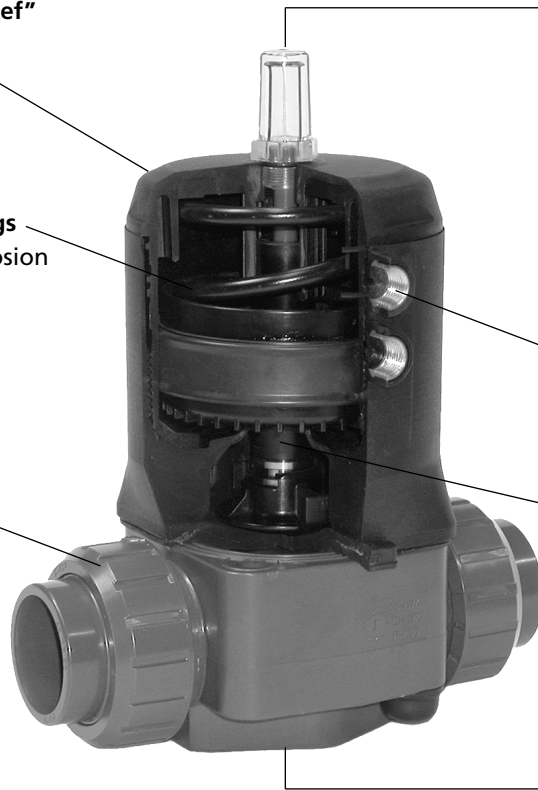
Virtually unbreakable, corrosion proof and lightweight

Multi-coil Nested Springs

- Epoxy coated for corrosion resistance
- Field Reversible from Normally Closed to Normally Open

True Union Ends

- Spigot or solid flanged bodies are also available



Threads at top of actuator are for easy mounting of a large selection of Accessories:

- Position Indicator
- Travel Stop/Position Indicator
- Travel Stop/Position Indicator with manual override
- Limit Switches mechanical or proximity

Air Supply Ports

- Rp 1/4 threaded
- Standard NAMUR spacing

Polished SS Spindle and Self-Lubricating Bearing

provide extremely long cycling life (factory tested to 1,000,000 plus cycles)

Threaded Inserts in valve base for fixing valve to support structures

Normally Closed Version

MINIMUM REQUIRED CONTROL PRESSURE PSI 100% ΔP

Control Function	Valve Size	Line Pressure PSI										
		0	15	30	45	60	75	90	105	120	135	150
Normally Closed	1/2" to 1"	60	58	56	53	49	46	43	39	38	34	31
	1-1/4" to 1-1/2"	68	67	65	64	63	61	60	59	57	56	55
	2"	60	56	53	50	47	44	40	37	34	31	28
Normally Open	1/2" to 1"	23	25	27	30	32	34	36	38	40	42	44
	1-1/4" to 1-1/2"	14	18	21	24	27	30	33	36	40	43	46
	2"	17	21	24	28	31	35	38	42	45	48	52

Minimum required control air pressures vary with line (fluid in the pipe) pressures.

Actuator closes against 100% drop (ie. pressure applied to inlet side of valve only) up to 150 psi, or up to 90 psi on both sides.

Maximum recommended control pressure is 90 psi for NC valves, 70 psi for NO/DA valves.

Maximum recommended control temperature is 40°C.

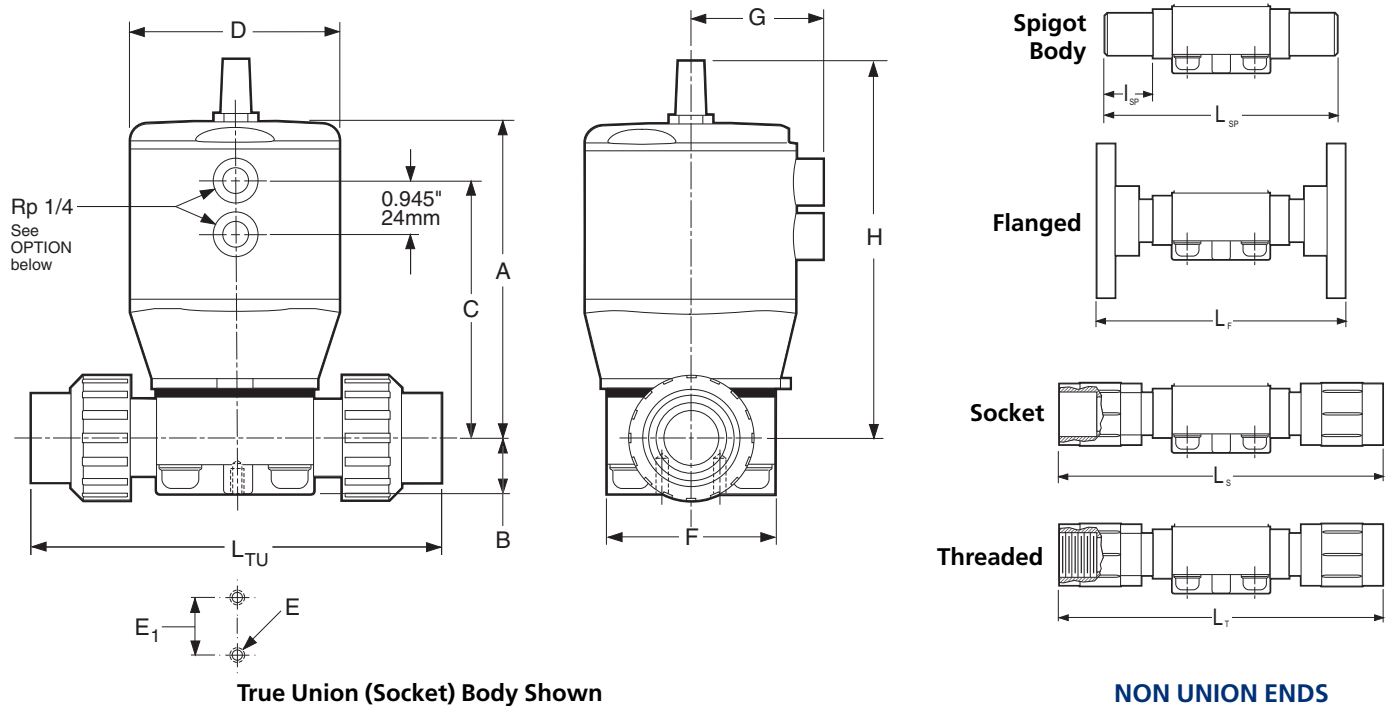
For double acting valves, use normally open control pressure values.

WORKING PRESSURES PSI

Size	PVC			CPVC				PP				PVDF			
	25°C 77°F	40°C 104°F	60°C 140°F	30°C 86°F	45°C 113°F	60°C 140°F	80°C 176°F	30°C 86°F	45°C 113°F	60°C 140°F	80°C 176°F	30°C 86°F	60°C 140°F	100°C 212°F	120°C 248°F
1/2" to 2"	150	90	26	150	103	70	40	150	90	58	22	150	98	48	36

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), CPVC 0 to 80°C (32 to 176°F), PP 0 to 80°C (32 to 176°F), PVDF 0 to 120°C (32 to 248°F).

Type 750 Diaphragm Valves



DIMENSIONS INCHES

Size	A	B	C	D	E	E ₁	F	G	L _{SP}
1/2"	5.70	1.00	4.40	3.74	M6	1.00	2.90	4.23	0.90
3/4"	5.70	1.00	4.40	3.74	M6	1.00	2.90	4.23	1.10
1"	5.70	1.00	4.40	3.74	M6	1.00	2.90	4.23	1.20
1-1/4"	6.70	1.60	5.00	4.50	M8	1.80	3.90	4.97	1.30
1-1/2"	6.70	1.60	5.00	4.50	M8	1.80	3.90	4.97	1.40
2"	8.50	1.60	6.65	5.70	M8	1.80	5.00	6.17	1.50

"L" END DIMENSIONS INCHES

Size	WEIGHTS					C _V VALUES	
	Union Socket L _{TU}	Spigot L _{SP}	Socket [†] L _S	Threaded [†] L _T	Flanged [†] L _F	Pounds	C _V
1/2"	6.4	5.5	7.5	7.3	5.8	2.7	6.5
3/4"	6.6	5.7	8.1	7.5	6.0	2.7	9.6
1"	7.1	6.1	8.6	8.3	6.3	2.7	12.0
1-1/4"	8.1	6.9	9.5	9.1	7.2	5.5	21.0
1-1/2"	9.2	7.6	10.8	10.8	7.9	5.5	29.0
2"	10.8	8.9	12.2	11.2	9.4	9.3	54.0

[†] Fabricated Socket, Threaded and Flanged dimensions are for PVC and CPVC valves only. For PP and PVDF fabricated spigot end dimensions, consult Chemline.

Weights are for PVC Spigot valves.

AIR CONSUMPTION CUBIC INCHES

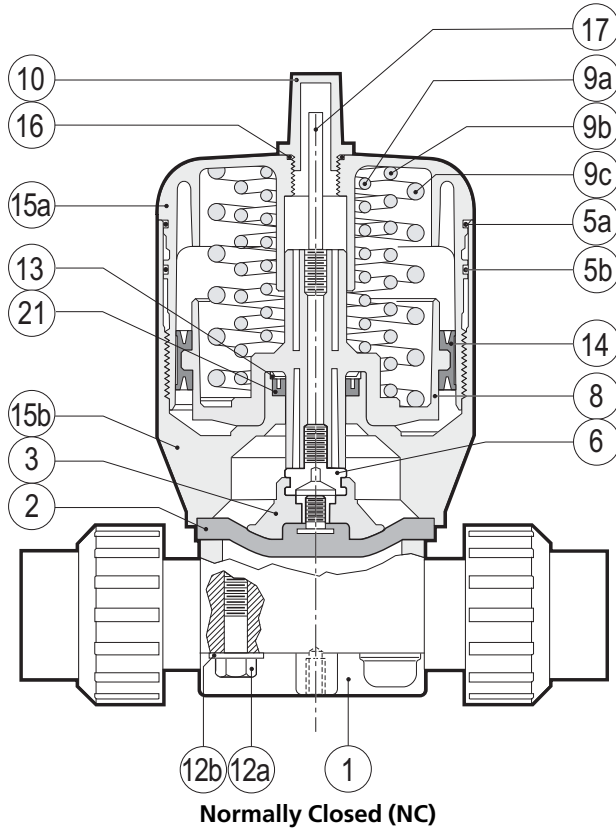
Size	Normally Closed	Normally Open
1/2" to 1"	11.6	10.4
1-1/4" to 1-1/2"	18.9	20.1
2"	41.5	48.2

OPTION

• In-Line Air Supply Ports

- For space saving, actuators are available with air supply ports in-line with pipeline

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PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Valve Body	1	PVC, CPVC, PP, PVDF
2▲	Process Diaphragm	1	EPDM, Viton®, Teflon®
3	Compressor	1	PBTB ¹
5a	Upper O-Ring	1	Nitrile
5b	Lower O-Ring	1	Nitrile
6	Adaptor Assembly	1	Ixef ²
8	Piston	1	Ixef ²
9	Spring Set (a, b, c) ³	1-3	Epoxy Coated Spring Steel
10	Indicator Cover ⁴	1	Polycarbonate
12a	Hex Bolt	4	Cad. Plated Steel
12b	Washer	4	Cad. Plated Steel
13▲	Ring Retainer	1	Brass
14	Double Lip Ring	1	Nitrile
12a	Hex Bolt	4	Cad. Plated Steel
12b	Washer	4	Cad. Plated Steel
15a	Upper Actuator Housing	1	Ixef ²
15b	Lower Actuator Housing	1	Ixef ²
16	Indicator O-Ring ⁴	1	Nitrile
17	Position Indicator ⁴	1	Polypropylene
21	Spindle Bearing	1	Teflon®/Aluminum

¹ PBTB = Polybutylene Terephthalate

² Ixef = Polyarylamine; ³ 1/2" to 1" has 2 springs, 1-1/4" to 1-1/2" has 3 springs; 2" has 2 springs.

⁴ Optional Indicator parts

ACCESSORIES

Accessories are ordered separately from valves but are mounted to valve, adjusted and bench tested before shipping.

Accessory	Control Function	Item No.	Maximum Additional Height Allowance (in) [†]
Position Indicator	NC, NO, DA	700PI	1.6
Travel Stop/Position Indicator	NC, NO, DA	700TP*	2.5
Travel Stop/Position Indicator Allen Key Manual Override	NC	700M*	4.6
2 Mechanical Limit Switches in Waterproof Box	NC, NO, DA	700LSM*	4.2
2 Proximity Limit Switches in Waterproof Box	NC, NO, DA	700LSP*	4.2
3 – 15 PSI Positioner	NC, NO, DA	PO7YT1200L	4.3
4 – 20mA Positioner	NC, NO, DA	PO7YT1000L	4.7
3/2 Way NC Solenoid Nema 4 [†]	NC, NO	SOL7ASR*	0.5
4/2 Way Solenoid Nema 4 [†]	DA	SOL7ADA*	2.1
Handwheel Override	NC, NO, DA	700HW*	7.7

[†]Height allowance varies with valve size.

*Part number differs by valve type and size. See price list for details.

ORDERING EXAMPLE

Chemline Diaphragm Valves 750		NC	010	A	E	U
Control Function	NC – Normally Closed NO – Normally Open DA – Double Acting					
Size	005 – 1/2" 007 – 3/4" 010 – 1" 012 – 1-1/4" 015 – 1-1/2"					
Body Material	A – PVC B – PP C – CPVC K – PVDF					
Diaphragm	E – EPDM B – Nitrile V – FPM (Viton®) P – Teflon® one-piece ¹ P2 – Teflon® two-piece					
Ends	Blank – Spigot S – Socket T – Threaded F – Flanged U – True Union Socket UT – True Union Threaded CF – ChemFlare™					

Example: Chemline Type 750 Pneumatically Actuated Diaphragm Valve, Normally Closed, 1", PVC body, EPDM diaphragm, union socket ends.

¹Teflon® one-piece diaphragm is supplied standard.



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