



**Type-14 Pneumatic Diaphragm**

**Standard Features (Sizes 1/2" - 2")**

- Rugged solid thermoplastic construction for maximum corrosion resistance
- Uniquely designed body and bonnet together with diaphragms of new sealing designs by the state-of-the-art computer aided analysis for superior sealing
- Weir design for excellent throttling
- NAMUR pad mount for easy installation of solenoid valves
- Full vacuum rated
- Bubble-tight sealing, even in applications such as slurries or those with suspended particles
- Bonnet seals to protect internals from corrosive environments
- Adjustable travel stop to prevent diaphragm from being overtightened
- Bayonet structure to connect compressor and diaphragm for quick maintenance
- Integrally molded bottom stand for simple yet firm panel mounting
- Indicator at the top for valve position
- PVDF gas barrier, which protects EPDM backing cushion from gas permeation, is a standard for all valves with PTFE diaphragm
- Low profile

**Options**

- Solenoid valves in all electrical type ratings and voltages
- Limit switches for interface with computers and other equipment
- Positioners: 3-15 mA and 4-20 mA inputs for throttling applications
- 4-20 mA output for interface with computers and other equipment
- Manual override for air-to-spring

**Specifications**

- Sizes:** 1/2" - 2"
- Body Materials:** PVC, CPVC, PP and PVDF
- Bonnet Materials:** PPG
- End Connectors:** See Valve Materials
- Diaphragms:** See Valve Materials
- Actuator Housing:** PPG
- Type:** Air-to-Air; Air-to-Spring
- Air Supply:** 60psi (Recommended)  
90psi (Maximum)

**2" PVDF TYPE-14  
AIR-TO-AIR  
FLANGED  
DIAPHRAGM  
VALVE**



**1" PP TYPE-14  
AIR-TO-AIR TRUE  
UNION  
DIAPHRAGM  
VALVE**

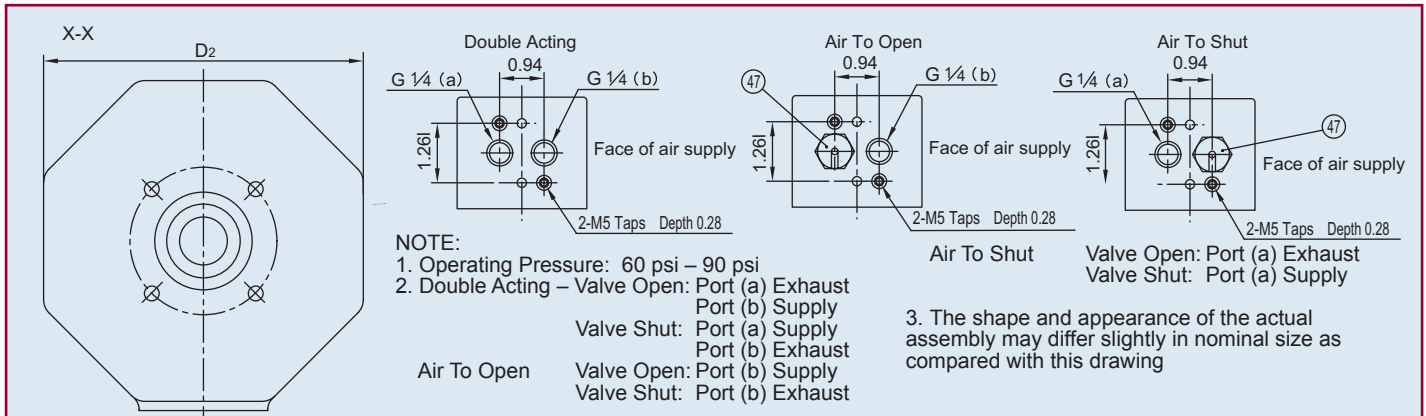
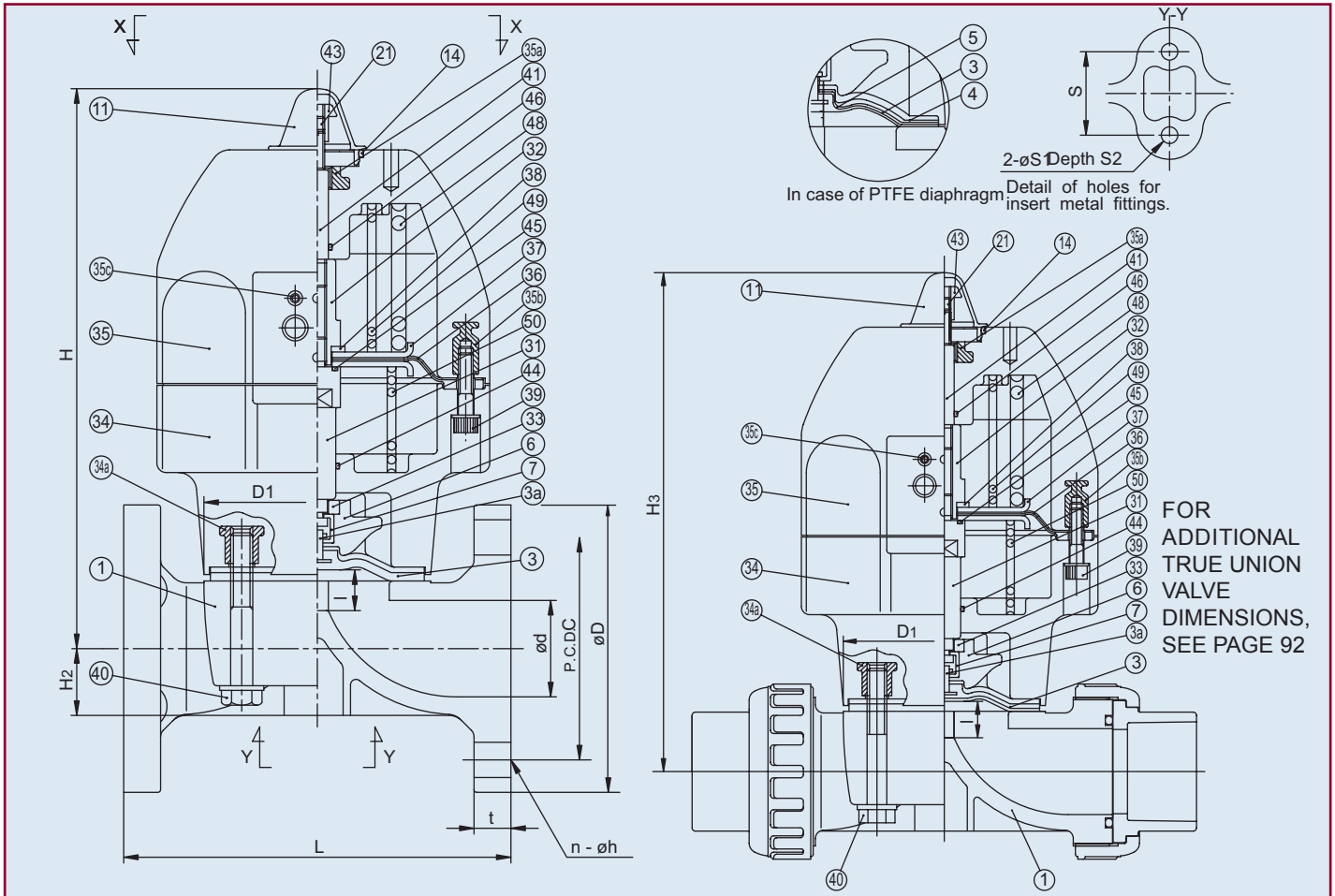


**2" CPVC TYPE-14  
AIR-TO-SPRING  
TRUE UNION  
DIAPHRAGM  
VALVE WITH NEMA  
IV DOUBLE LIMIT  
SWITCH**



# Type-14 Pneumatic

# Diaphragm Valves



## Dimensions Type-14 Pneumatic Flanged (Sizes 1/2" - 2") (in.)

## Weight/Cv

NOMINAL SIZE		ANSI CLASS 150						TRUE UNION										WT. [LBS]		
INCHES	mm	d	C	D	n	h	D1	D2	/	L	t	H	H2	H3	S	S1	S2	A-A	A-S	Cv
1/2	15	0.63	2.38	3.50	4	0.62	2.13 × 2.60	5.12	0.39	4.25	0.43	7.32	0.49	7.32	0.98	0.28	0.51	4.80	5.12	4.8
3/4	20	0.79	2.75	3.88	4	0.62	2.13 × 2.60	5.12	0.39	5.88	0.51	7.40	0.57	7.40	0.98	0.28	0.51	5.11	5.78	5.3
1	25	0.98	3.12	4.25	4	0.62	2.64 × 3.15	5.12	0.47	5.88	0.59	7.60	0.73	7.60	0.98	0.28	0.51	6.00	6.50	8.5
1-1/4	32	1.26	3.50	4.62	4	0.62	2.64 × 3.15	5.12	0.47	6.38	0.63	7.76	0.89	7.76	0.98	0.28	0.51	6.50	7.00	11
1-1/2	40	1.57	3.88	5.00	4	0.62	4.25 × 4.25	6.85	0.83	6.94	0.63	11.54	1.08	11.54	1.77	0.35	0.59	12.82	14.29	26
2	50	2.05	4.75	6.00	4	0.75	4.84 × 4.84	6.85	0.98	7.94	0.79	11.89	1.42	11.89	1.77	0.35	0.59	13.00	14.50	43

## Parts Type-14 Pneumatic (1/2" – 2")

PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, CPVC, PP, PVDF
3	Diaphragm	1	EPDM, PTFE, Others
3a	Diaphragm Metal Insert	1	Stainless Steel 304
4	Cushion*	1	EPDM
5	PVDF Gas Barrier**	1	PVDF
6	Compressor	1	PVDF
7	Joint	1	Stainless Steel 304
11	Gauge Cover	1	PC
14	O-Ring (A)	1	EPDM
21	Screw	1	Stainless Steel 304
31	Stem (A)	1	Copper Alloy
32	Stem (B)	1	Copper Alloy
33	Compressor Push Plate	1	Copper Alloy
34	Cylinder Body	1	PPG
34a	Metal Insert for Above	4	Copper Alloy
35	Cylinder Bonnet	1	PPG
35a	Metal Insert for Above	1	Stainless Steel 304
35b	Metal Insert for Above	8	Copper Alloy
35c	Threaded Insert for #35	2	Stainless Steel 304
36	Cylinder Diaphragm	1	NBR
37	Cylinder Diaphragm Plate	2	Stainless Steel 304
38	Conical Spring Washer (B)	1	Stainless Steel 304
39	Bolt (A)	8	Stainless Steel 304
40	Bolt (B)	4	Stainless Steel 304
41	Indicating Rod	1	Stainless Steel 304
43	Stopper	1	Stainless Steel 304
44	O-Ring (D)	1	NBR
45	O-Ring (E)	1	NBR
46	O-Ring (F)	1	NBR
47	Nipple	1	Copper Alloy
48	Spring (A)	1	Spring Steel
49	Spring (B)	1	Spring Steel
50	Spring (C)	1	Spring Steel

\* Used for PTFE diaphragm.

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## Troubleshooting

### What if valve does not open or close?

1. Air pressure is too low. Adjust the pressure.
2. Power source of solenoid valve is off. Check the connection.
3. Solenoid wiring is disconnected. Connect.
4. Solenoid voltage is low or incorrect. Check voltage with tester and reset.

5. Air not supplied to solenoid valve.
6. Bypass valve is open. Close it.
7. Speed control on solenoid set incorrectly. Adjust.

### What if fluid flows even when closed?

1. Operating pressure is too low (air-to-air only). Adjust. Air not exhausted (air-to-spring only). Exhaust air.
2. Diaphragm is damaged or worn. Replace.
3. Body may be damaged. Inspect and replace.
4. Foreign material is caught between weir and diaphragm. Disassemble and clean.

### What if valve leaks to atmosphere?

1. Bolts for body and actuator improperly tightened. Tighten as specified in Operation and Maintenance manual.
2. True union style: (a) union nut(s) not tightened properly. Tighten; (b) O-ring between end connector and body is damaged. Replace.

### Valve cannot be opened or closed, even though actuator works.

1. Diaphragm is damaged or its compressor joint is broken. Replace part(s).

## Sample Specification

All Type-14 actuated diaphragm valves shall be of solid thermoplastic construction for body (molded flanged or true union socket, threaded or butt end connectors) and bonnet with the actuator housing of glass-filled polypropylene. The actuator shall come standard with an "at a glance" position indicator and pad mount according to NAMUR for solenoid mounting. Air supply shall be 60-90psi. The valve body shall have a panel mount feature for support. Actuator to body mount shall be of square design, diaphragm shall be bayonet type connection. Face-to-face dimensions of flanged version shall conform to Type-G. PVC conforming to ASTM D1784 Cell Classification 12454A, CPVC conforming to ASTM D1784 Cell Classification 23567A, PP conforming to ASTM D4101 Cell Classification PP0210B67272, PPG (Bonnet Only) conforming to ASTM D4101 Cell Classification PP0110M20A21130, and PVDF conforming to ASTM D3222 Cell Classification Type II. PVC, CPVC, PP and PVDF shall be rated to 150psi for elastomeric and PTFE diaphragms at 70° F, as manufactured by Asahi/America, Inc.