Type 14 Pneumatic Diaphragm

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:	60 psi (Recommended) 90 psi (Maximum
O-Ring End Connectors:	EPDM

Features

- Rugged square body and bonnet are of solid thermoplastic 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
- Fully 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 over-tightened
- 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 standardized for PVDF valves
- Low profile

Options

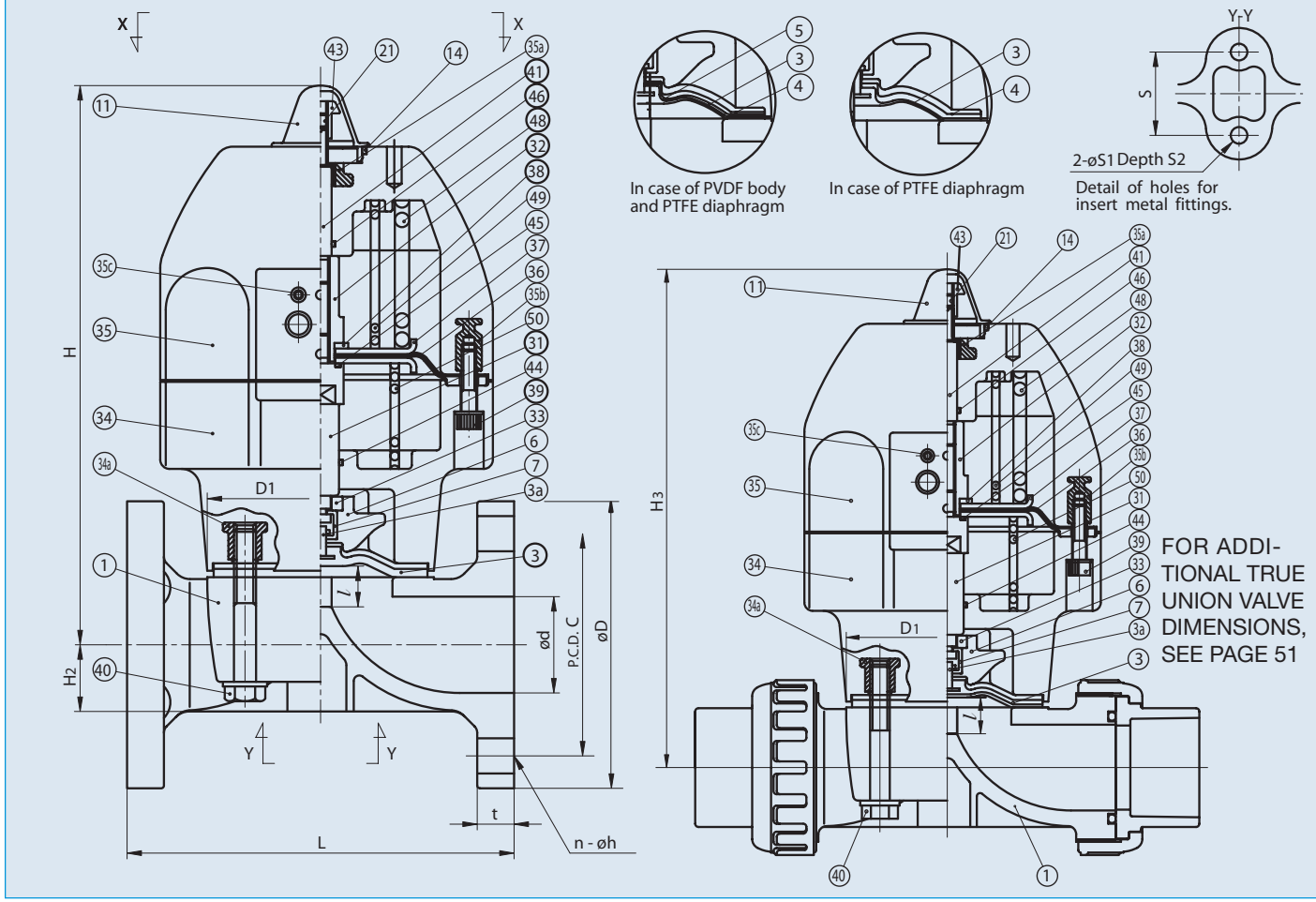
- Solenoid valves in all NEMA ratings and voltages
- Limit switches for interface with computers and other equipment
- Positioners: 3 – 15mA and 4 - 20mA inputs for throttling applications
  4 – 20mA output for interface with computers and other equipment
- Manual over-ride for Air-to-Spring

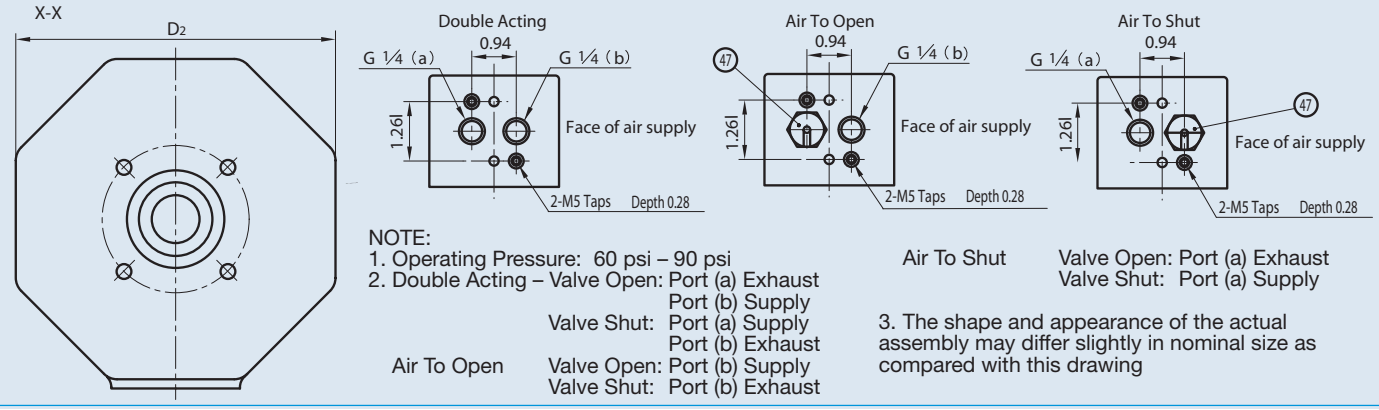
2" PVDF TYPE 14 AIR-TO-AIR FLANGED DIAPHRAGM VALVE

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

2" PVC TYPE 14 AIR-TO-SPRING FLANGED DIAPHRAGM VALVE WITH NEMA IV DOUBLE LIMIT SWITCH AND NEMA IV SOLENOID VALVE

Type 14 Pneumatic Diaphragm Valves





NOTE:
1. Operating Pressure: 60 psi – 90 psi
2. Double Acting – Valve Open: Port (a) Exhaust
   Port (b) Supply
   Valve Shut: Port (a) Supply
   Port (b) Exhaust
   Air To Open Valve Open: Port (b) Supply
   Valve Shut: Port (b) Exhaust
   Air To Shut Valve Open: Port (a) Exhaust
   Valve Shut: Port (a) Supply
3. The shape and appearance of the actual assembly may differ slightly in nominal size as compared with this drawing

Dimensions Type 14 Pneumatic Flanged (Sizes 1/2" – 2")

Weight/Cv

NOMINAL SIZE			ANSI CLASS 150											TRUE UNION				WT. (LBS.)		Cv
INCHES	mm	d	C	D	n	h	D1	D2	l	L	t	H	H2	H3	S	S1	S2	A-A	A-S	
1/2	40	0.63	2.38	3.50	4	0.62	2.13 x 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	50	0.79	2.75	3.88	4	0.62	2.13 x 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	65	0.98	3.12	4.25	4	0.62	2.64 x 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	80	1.26	3.50	4.62	4	0.62	2.64 x 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	11.0
1 1/2	100	1.57	3.88	5.00	4	0.62	4.25 x 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	125	2.05	4.75	6.00	4	0.75	4.84 x 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
** Used for PVDF body, PTFE diaphragm

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. By-pass 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 joint metal fitting is broken. Replace part(s).

Sample Specification

All TYPE 14 actuated diaphragm valves shall be of solid thermoplastic construction for body (Molded Flanged or Tru-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 – 90 psi. 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 12454-A, CPVC conforming to ASTM D1784 Cell Classification 23567-A, 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 150 psi for elastomeric and PTFE diaphragms at 70 degrees F., as manufactured by Asahi/America, Inc.