

Type-15 Flanged Diaphragm

Standard Features (Sizes 5"-6")

- Flanged face-to-face dimensions are equivalent to those of Type-G diaphragm valve
- Rugged body and bonnet are of solid thermoplastic for maximum corrosion resistance
- Bubble-tight sealing, even in applications such as slurries or suspended particles
- Weir design for excellent throttling
- Uniquely designed body and bonnet together with diaphragms of new sealing designs by state-of-the-art computer aided analysis for superior sealing
- Bonnet seals to protect internals from corrosive environments
- Built-in travel stop to prevent diaphragm from being overtightened
- Indicator at the top for valve position and prevention of overtightening
- PVDF gas barrier, which protects EPDM backing cushion from gas permeation, is standard for all valves with PTFE diaphragm

Options

- 2" square operating nut
- Stem extensions (single stem or two-piece stem)
- Chain operators
- Locking device for tamper proofing

Sample Specification

All Type-15 flanged diaphragm valves shall be of solid thermoplastic construction for body and bonnet with molded flanged ends. The valves shall come standard with a position indicator, travel stop (to prevent overtightening) and bonnet O-ring sealing arrangement. The valve shall be weir type with a round bonnet body sealing design and threaded stud diaphragm connection. All PTFE diaphragms shall be supplied with a PVDF gas barrier between the layers of EPDM and PTFE for aggressive chemical service. The face-to-face dimensions

Specifications

- Sizes:** 5" – 6"
Body Materials: PVC, PP and PVDF
Bonnet Materials: PVC, PP, PPG and PVDF
Diaphragms: EPDM and
 3-Layer EPDM/PVDF/PTFE
 Also available in Nitrile
End Connection: Flanged
Operator: Handwheel

Parts List (Sizes 5" – 6")

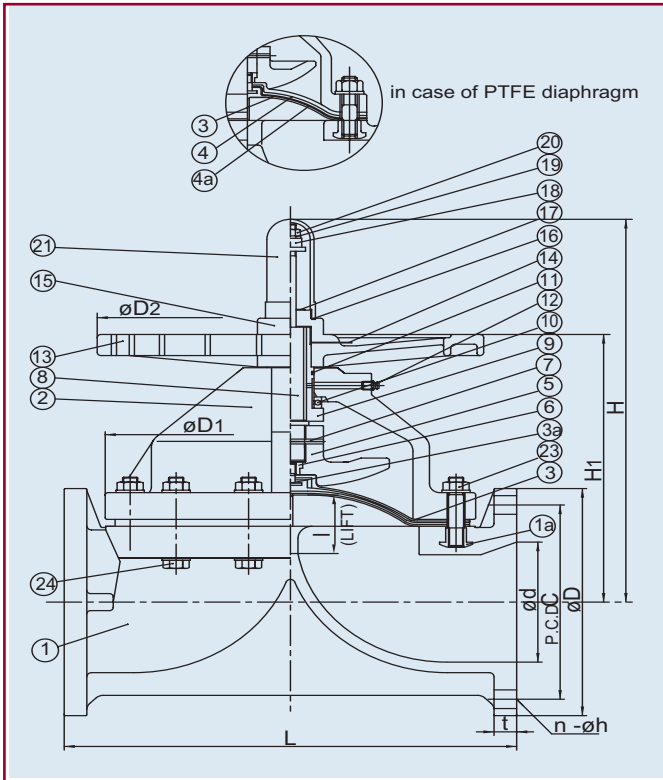
PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, PP, PVDF
2	Bonnet	1	PVC, PPG, PP, PVDF
3	Diaphragm	1	EPDM, PTFE, Others
3a	Diaphragm Metal Insert	1	Stainless Steel 304
4	Cushion*	1	EPDM
4a	PVDF Gas Barrier*	1	PVDF
5	Compressor	1	PVDF
6	Compressor Nut	1	Copper Alloy
7	Compressor Pin	1	Stainless Steel 304
8	Stem	1	Copper Alloy
9	Sleeve [A]	1	Copper Alloy
10	Thrust Bearing [A]	1	High Carbon Chromium Bearing
11	O-Ring [A]	1	NBR
12	Grease Nipple	1	Copper Alloy
13	Hand Wheel	1	PP
14	Name Plate	1	PVC
15	Cap	1	PP
16	Sheet Gasket [A]	1	EPDM
17	Sheet Ring	1	Stainless Steel 304
18	Stopper	1	Chromized Steel
20	Nut	1	Stainless Steel 304
21	Gauge Cover	1	PC
23	Stud Bolt, Nut	4 Sets	Stainless Steel 304, Others
24	Bolt, Nut, Washer	-	Stainless Steel 304
1a	Inserted Nut	4	Stainless Steel 304 ¹ Copper Alloy ²

* Used for PTFE diaphragm ¹ Used for PVDF body ² Used for PVC, PP, bodies

shall conform to Type-G. PVC conforming to ASTM D1784 Cell Classification 12454A, 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, and PP shall be rated to 115psi for elastomeric diaphragms at 70° F. PVC, PP and PVDF shall be rated to 100psi 5" and 70psi 6" for PTFE diaphragms at 70° F, as manufactured by Asahi/America, Inc.

Type-15 Flanged

Diaphragm Valves



Troubleshooting

What if fluid leaks when valve is fully closed?

1. Travel stop not set correctly. Adjust it per the Asahi Operation and Maintenance manual.
2. Solids build up inside valve. Clean inside, including weir and diaphragm.
3. Diaphragm and/or weir are worn or damaged. Change the part(s).

What if valve cannot be fully opened?

1. Diaphragm is not properly engaged with compressor. Check engagement per Operation and Maintenance manual.

What if fluid leaks to atmosphere?

1. Bonnet bolts not properly torqued. Re-torque according to Operation and Maintenance manual.
2. Line pressure exceeds maximum recommended line pressure. Check or reduce system line pressure.
3. Diaphragm has ruptured or has been chemically attacked. Replace diaphragm.

Dimensions Type 15 Flanged (Sizes 5" – 6")

Cv Values/Weight

NOMINAL SIZE		ANSI CLASS 150						t						
INCHES	mm	d	C	D	n	h	L	PVC	PP, PVDF	D1	D2	I	H	H1
5	125	4.92	8.50	10.00	8	0.88	16.14	0.87	0.94	12.60	11.81	2.36	16.54	12.13
6	150	5.83	9.50	11.00	8	0.88	18.90	0.94	1.06	15.16	16.14	2.76	18.74	13.15

NOMINAL SIZE		Cv	WT. (lbs)
INCHES	mm		
5	125	300	58.00
6	150	400	89.00

Pressure vs. Temperature psi, water, non-stock

NOMINAL SIZE		PVC				PP				PVDF									
		ELASTOMERS		PTFE		ELASTOMERS		PTFE		ELASTOMERS			PTFE						
		30° F	106° F	30° F	106° F	5° F	106° F	141° F	5° F	106° F	141° F	40° F	141° F	176° F	211° F	40° F	141° F	176° F	211° F
INCHES	mm	105° F	140° F	105° F	140° F	105° F	140° F	195° F	105° F	140° F	195° F	140° F	175° F	210° F	250° F	140° F	175° F	210° F	250° F
5	125	115	100	100	80	115	95	70	100	80	55	115	100	85	70	100	85	70	55
6	150	115	70	70	55	115	90	55	70	60	40	115	95	75	55	70	60	50	40

Type-15 Flanged Diaphragm Valves

1.0 Scope:

All requirements are for Type-15 Flanged Diaphragm Valves and accessories.

2.0 Materials:

U-PVC – Conforming to ASTM D1784 Cell Classification 12454 A

Polypropylene – Conforming to ASTM D4101 Cell Classification PP0210B67272

PVDF – Conforming to ASTM D3222-91A Cell Classification Type II

EPDM – Ethylene Propylene Diene Terpolymer Rubber

Nitrile – Nitrile Butadiene Rubber

PTFE – Teflon® Polytetrafluoroethylene

3.0 Valves:

Diaphragm valves shall be Type-15 Flat Faced Flanged design. The valves shall come standard with position indicator, travel stop, and bonnet O-ring sealing arrangement. The valve shall be Weir type, round body/bonnet sealing design, and threaded style diaphragm/compressor connection. All PTFE diaphragms shall be 3-layer style with PTFE wetted diaphragm, PVDF gas barrier and EPDM Backing cushion. The PVDF Gas Barrier shall be between the EPDM and PTFE layers and prevent against gas migration outside of the valve.

3.1 Operators

Type-15 5" – 6" Handwheel standard operator (Red Color)

3.2 Approved Manufacturer

Valves shall be provided by Asahi/America, Inc. of Lawrence, MA with no approved equals. Manufacturer must be ISO-9001 certified.

3.3 Pressure vs. Temperature

Valves shall have a pressure rating of: 115 psi at 70° F sizes 5" – 6"

4.0 Accessories:

4.1 Stem Extensions

Stem extensions where required should be designed, built and provided by the Asahi/America, Inc., and be 1 of 2 styles:

Style DV-A Two piece extension with outer housing 100% sealed either free standing or supported design.

Style DV-B Single piece extension either free standing or supported design

4.2 Actuation

Actuation where required should be designed, built and provided by Asahi/America, Inc., and be either pneumatic (Century Instrument) or electric (Rotork Controls) type. All actuation accessories to be provided and installed by Asahi/America, Inc. in accordance with manufacturers requirements.

4.3 Optional Diaphragm Materials

Where required we can offer 3-Layer PTFE/PVDF/EPDM diaphragms, EPDM, FKM or Nitrile diaphragms.

4.4 Operating Nuts

Where required 2" square operating nuts can be installed in place of valve handwheel. Materials of construction – Anodized Aluminum.

4.5 Chain Operators

Where required for overhead applications, chain operators manufactured by Babbitt Steam may be installed on Type-15 diaphragm valves. Chain must be weldless loop style chain supplied from Babbitt Steam.

Materials of construction: Chain Operator – Cast Iron

Chain – Hot Galvanized steel, others by request.

5.0 Installation Procedures:

All valve joints shall be flanged and shall be prepared in accordance with the requirements put forth in the Type-15 Operation & Maintenance manual. All accessories should be installed in accordance with the manufacturer's requirements as well as any facility requirements.