

Sanitary Diaphragm Valve

MANUALLY OPERATED



DESCRIPTION

The type 301 is an extremely compact diaphragm valve.

This valve is ideal for pharmaceutical and bioprocessing applications.

STANDARD FEATURES

- Compact design
- Teflon handwheel
- Stainless steel bonnet with sanitary internals
- Autoclavable
- FDA compliant diaphragms
- Body material 316L stainless steel
- Triclamp® and O.D. Tubing
- Sizes 1/4", 3/8", 1/2"

AVAILABLE OPTIONS

Special Connections

Hose barb, tube extensions, and others available upon request.

Materials

316L stainless steel

TYPICAL APPLICATIONS

- Pharmaceutical Manufacturing
- Bioprocessing
- Cosmetic
- Brewery Service
- Food and Beverage
- Semiconductor
- High Purity Chemicals

Type 301 Technical Data

Size (In.)	Nominal Diameter (mm)	Working Pressure (psi)	Cv-Value (gpm) O.D. Tubing	Body Configuration AA = Straight Through (Weir)	Weight* (lbs.) 301	Ref. No.
025 (1/4)	8	0–150	1.05	AA	.45	02
037 (3/8)	10	0–150	1.99	AA	.45	03
050 (1/2)	15	0–150	2.93	AA	.45	05

Max. Perm. Temperature of the Operating Medium: 302° F (150° C) (Depending on diaphragm material)

The valve is completely sealed in both flow directions up to full operating pressure.

All pressure values are specified in psig.

* Weight shown is for a diaphragm valve assembly.

Body Configuration	Ref. No.
2-way valve body	AA

Connection	Ref. No.
Butt weld OD tubing Sizes 1/4–3/8" 20 gauge .035" wall Sizes 1/2" 16 gauge .065" wall	428
Triclamp®	419
O.D. Tubing by Triclamp®	420
Extended O.D. Tubing	429
Extended O.D. Tubing by Triclamp®	421

Body Material	Ref. No.
Machined block	
Stainless Steel 316L = 1.4435 (ASTMA179)	SS

Diaphragm Material	Ref. No.
Ethylene-Propylene Rubber (EPDM) for saturated steam max 302° F	16
Modified Teflon® (TFM/EPDM) with Ethylene-Propylene backing	T1
All diaphragms listed conform to the FDA code of Federal Regulations paragraph 177.2600 of section 21; and US Pharmacopia Class VI.	

Control Function	Ref. No.
Manually operated	M

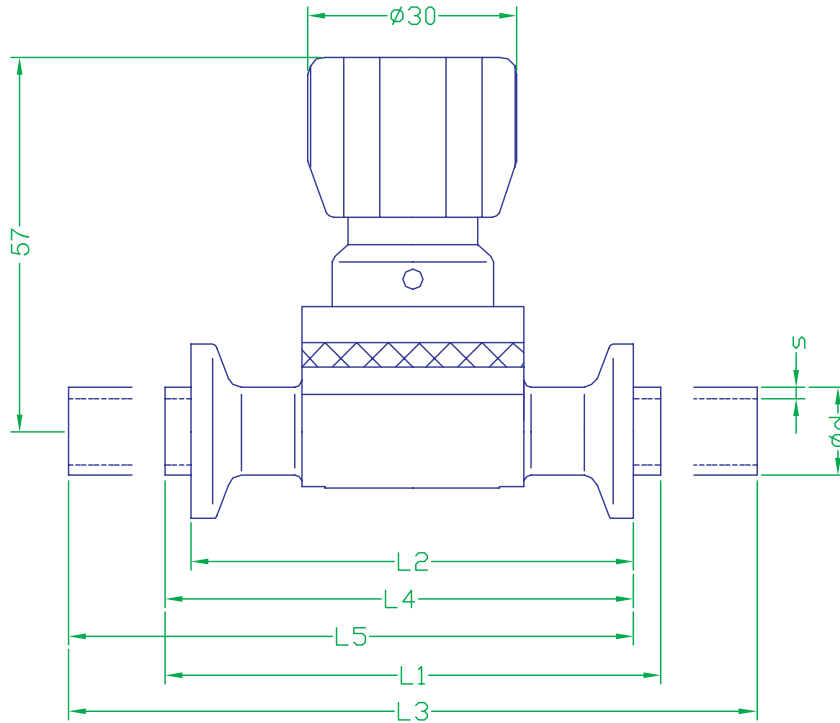
Surface Finish							Ref. No.
μ-in.		BPE Surface Designation	Ra Average [Note (1)]		Ra Max μ-in.	μ-in.	
			μ-in.	μm			
25	Mechanical	SFV3	25	0.625	30	0.750	06
20	Electro polish	SFV6	20	0.500	25	0.625	07E
20	Mechanical	SFV2	20	0.500	25	0.625	07
15	Electro polish	SFV5	15	0.375	20	0.500	08E
11	Mechanical	SFV1	15	0.375	20	0.500	09
10	Electro polish	SFV4	10	0.250	15	0.375	09E

GENERAL NOTE: All Ra readings are taken across the grain.

NOTE: (1) The average Ra is derived from two reading taken at different locations.

Order Example	301	050	AA	419	SS	07	T1	M
Type of valve	301							
Size DN		050						
Body configuration			AA					
Connection (valve body)				419				
Body Material					SS			
Surface finish						07		
Diaphragm material							T1	
Control function								M

1/2" 316L SS Diaphragm Valve, sanitary clamp ends, Manual bonnet, Teflon backed EPDM diaphragm, 20 Ra.



Take Out Dimension For Standard Connections

Size	DN	Units	Con. Ref. No.		(428)	(419)	(429)	(420)	(421)
			Ød	s	L1	L2	L3	L4	L5
1/4	8	mm	6.35	0.89	72.00	63.50	148.20	67.75	105.85
		in	0.25	0.035	2.835	2.500	5.835	2.667	4.167
3/8	8	mm	9.53	0.89	72.00	63.50	148.20	67.75	105.85
		in	0.375	0.035	2.835	2.500	5.835	2.667	4.167
1/2	15	mm	12.7	1.65	72.00	63.50	148.20	67.75	105.85
		in	0.500	0.065	2.835	2.500	5.835	2.667	4.167

L1 = Connection Code 59 = Standard butt-weld – Ref. No. 428

L2 = Connection Code 80 = Standard clamp – Ref. No. 419

L3 = Connection Code 94 = Standard butt-weld extension (AWF) – Ref. No. 429

L4 = Connection Code 93 = Standard clamp X butt-weld – Ref. No. 420

L5 = Connection Code 95 = Standard clamp X butt-weld extension (AWF) – Ref. No. 421

Drain Angles

Size	DN	Degrees
1/4"	8	55°
3/8"	10	60°
1/2"	15	65°

Drain angles are for BS O.D. Tubing only.

Sanitary Process Components

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