

Sanitary Diaphragm Valve

Pneumatically Operated

Description

The type 687 is a compact valve with many features which make it ideal for pharmaceutical and bio-processing applications.

Standard Features

- Compact design
- Sanitary internals
- FDA compliant diaphragms
- 316L stainless steel body
- Triclamp®, O.D. Tubing, ISO, and DIN end connections
- Sizes 1/2" - 4"

Available Options

- Handwheel, manual override
- Electrical limit and proximity switches
- Visual position indicator
- Pneumatic and electro-pneumatic positioners
- Stroke limiters
- Safety packing
- "V" notch vent plug
-

Special connections

Hose barb, tube extensions, Swagelok®, Cajon VCR®, Ingold®, and others available upon request.

Fabrications

Cluster valve assemblies for both horizontal and vertical orientations, Zero Static T-valves, Duplex, Multiported, Tank Bottom, and custom fabrications upon request.

Materials

AL-6XN®, Hastelloy®, Titanium®, and others available upon request.

Typical Applications

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



Type 687

Type 687 Technical Data

Max permissible working temperature:
302°F (depending on diaphragm and body materials).

The valve will seal against flow in either direction up to full working pressure.

Control Medium DN 15-50 DN 80 + 100
Min. Required control pressure: 45 psi 82.5 psi
Max. Permissible control pressure: 90 psi 105 psi
Max. Permissible temp. of control medium: 104°F

Actuator volume: DN 15 - 25 9.2 cubic inches
 DN 32 + 40 21.4 cubic inches
 DN 50 67.1 cubic inches
 DN 80 152.5 cubic inches

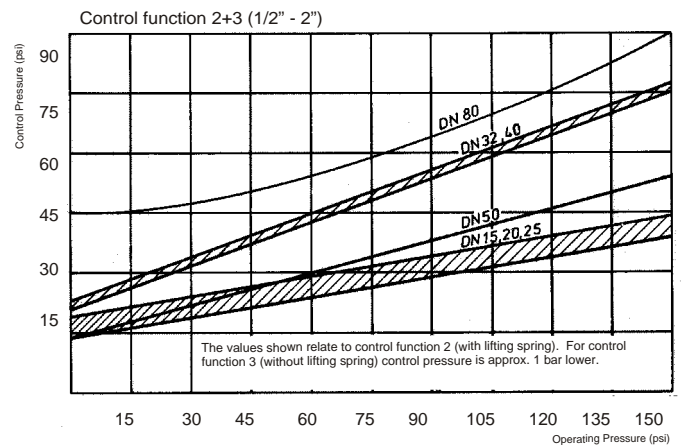
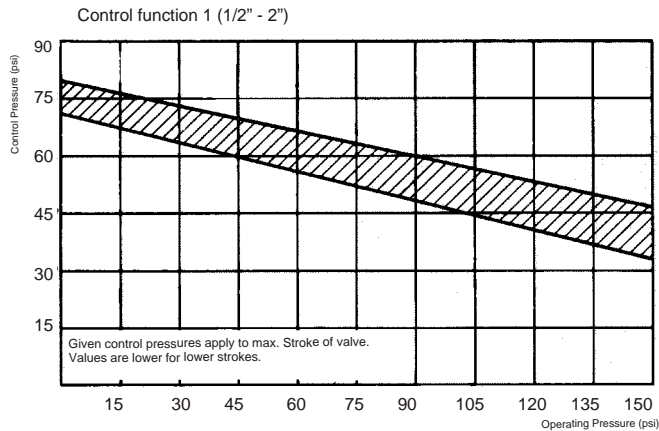
Body Configuration	Ref.no.	Diaphragm material	Ref.no.																																																																						
Tank bottom valve body	B	2nd generation, modified Teflon® with Ethylene-propylene backing 2-piece molded closed	TFM/EPDM 5E																																																																						
2-way valve body	D																																																																								
2-way angled valve body	E																																																																								
Multiported valve body	M																																																																								
Zero Static T-Valve	T																																																																								
U-bend	U	2nd generation, modified Teflon® with Silicone backing 2-piece molded closed	TFM/VMQ 5S																																																																						
		Ethylene-propylene Rubber for saturated steam max 302° F	EPDM 13																																																																						
		Ethylene-propylene Rubber for saturated steam max 302° F	EPDM 16																																																																						
		2nd generation, modified Teflon® with Ethylene-propylene backing (2-piece)	TFM/EPDM 50																																																																						
		2nd generation, modified Teflon® with Ethylene-propylene backing	TFM/EPDM 52																																																																						
<i>All diaphragms listed conform to the FDA code of Federal Regulations paragraph 177.2600 of section 21.</i>																																																																									
Connection	Ref.no.	Control function	Ref.no.																																																																						
DIN	0	Normally closed	1																																																																						
DIN 11850/Series 1	16	Normally open	2																																																																						
DIN 11850/Series 2	17	Double acting	3																																																																						
DIN 11850/Series 3	18																																																																								
Butt weld O.D. Tubing	59																																																																								
Sizes 1/4-3/8" 20 gauge .035" wall																																																																									
Sizes 1/2-3" 16 gauge .065" wall																																																																									
Sizes 4" 14 gauge .083" wall																																																																									
ISO	60																																																																								
Schedule 10 pipe	63																																																																								
Tri-clamp®	80																																																																								
O.D. Tubing by Triclamp®	93																																																																								
Extended O.D. Tubing	94																																																																								
Extended O.D. Tubing by Triclamp®	95																																																																								
Body material	Ref.no.	Surface finish	Ref.no.																																																																						
Investment cast body																																																																									
Stainless steel 316 L \geq 1.4435 (BN2) Fe < 0.5%	32	<table border="1"> <thead> <tr> <th rowspan="2">μ-in.</th> <th rowspan="2">Mechanical Designation</th> <th colspan="2">BPE Surface</th> <th colspan="2">Ra Average [Note (1)]</th> <th colspan="2">Ra Max</th> <th rowspan="2">Ref.no.</th> </tr> <tr> <th>Designation</th> <th>μ-in.</th> <th>μm</th> <th>μ-in.</th> <th>μm</th> </tr> </thead> <tbody> <tr> <td>32</td> <td>Mechanical</td> <td>SFV3</td> <td>25</td> <td>0.625</td> <td>30</td> <td>0.750</td> <td>3</td> </tr> <tr> <td>25</td> <td>Mechanical</td> <td>SFV6</td> <td>20</td> <td>0.500</td> <td>25</td> <td>0.625</td> <td>1502</td> </tr> <tr> <td>20</td> <td>E-pol</td> <td>SFV2</td> <td>20</td> <td>0.500</td> <td>25</td> <td>0.625</td> <td>1508</td> </tr> <tr> <td>20</td> <td>Mechanical</td> <td>SFV5</td> <td>15</td> <td>0.375</td> <td>20</td> <td>0.500</td> <td>1507</td> </tr> <tr> <td>15</td> <td>E-pol</td> <td>SFV1</td> <td>15</td> <td>0.375</td> <td>20</td> <td>0.500</td> <td>1537</td> </tr> <tr> <td>11</td> <td>Mechanical</td> <td>SFV4</td> <td>10</td> <td>0.250</td> <td>15</td> <td>0.375</td> <td>1536</td> </tr> <tr> <td>10</td> <td>E-pol</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1516</td> </tr> </tbody> </table>	μ -in.	Mechanical Designation	BPE Surface		Ra Average [Note (1)]		Ra Max		Ref.no.	Designation	μ -in.	μ m	μ -in.	μ m	32	Mechanical	SFV3	25	0.625	30	0.750	3	25	Mechanical	SFV6	20	0.500	25	0.625	1502	20	E-pol	SFV2	20	0.500	25	0.625	1508	20	Mechanical	SFV5	15	0.375	20	0.500	1507	15	E-pol	SFV1	15	0.375	20	0.500	1537	11	Mechanical	SFV4	10	0.250	15	0.375	1536	10	E-pol						1516	
μ -in.	Mechanical Designation				BPE Surface		Ra Average [Note (1)]		Ra Max			Ref.no.																																																													
		Designation	μ -in.	μ m	μ -in.	μ m																																																																			
32	Mechanical	SFV3	25	0.625	30	0.750	3																																																																		
25	Mechanical	SFV6	20	0.500	25	0.625	1502																																																																		
20	E-pol	SFV2	20	0.500	25	0.625	1508																																																																		
20	Mechanical	SFV5	15	0.375	20	0.500	1507																																																																		
15	E-pol	SFV1	15	0.375	20	0.500	1537																																																																		
11	Mechanical	SFV4	10	0.250	15	0.375	1536																																																																		
10	E-pol						1516																																																																		
Stainless steel 1.4539 (UNS N 08904)	33																																																																								
Forged Body																																																																									
Stainless steel 316 L \geq 1.4435 (ASTM A 182)	40																																																																								
Stainless steel 316 L \geq 1.4435 (BN2) Fe < 0.5%	42																																																																								
Machined block																																																																									
Stainless steel 316 L \geq 1.4435 (ASTMA 479)	41																																																																								
Special versions (Consult factory for special material reference numbers)	91	Special Versions	Ref.no. UXXXX																																																																						

Order Example	-687	015	U	80	41	13	1		040	94	1537	
Type of valve	-687											
Size DN		015										
Body configuration			U									
Connection (valve body)				80								
Body material					41							
Diaphragm material						13						
Control function							1					
Actuator size												
Locking device												
Pipe main size									040			
Pipe main connection										94		
Surface finish											1537	
Special versions (XXXX)												

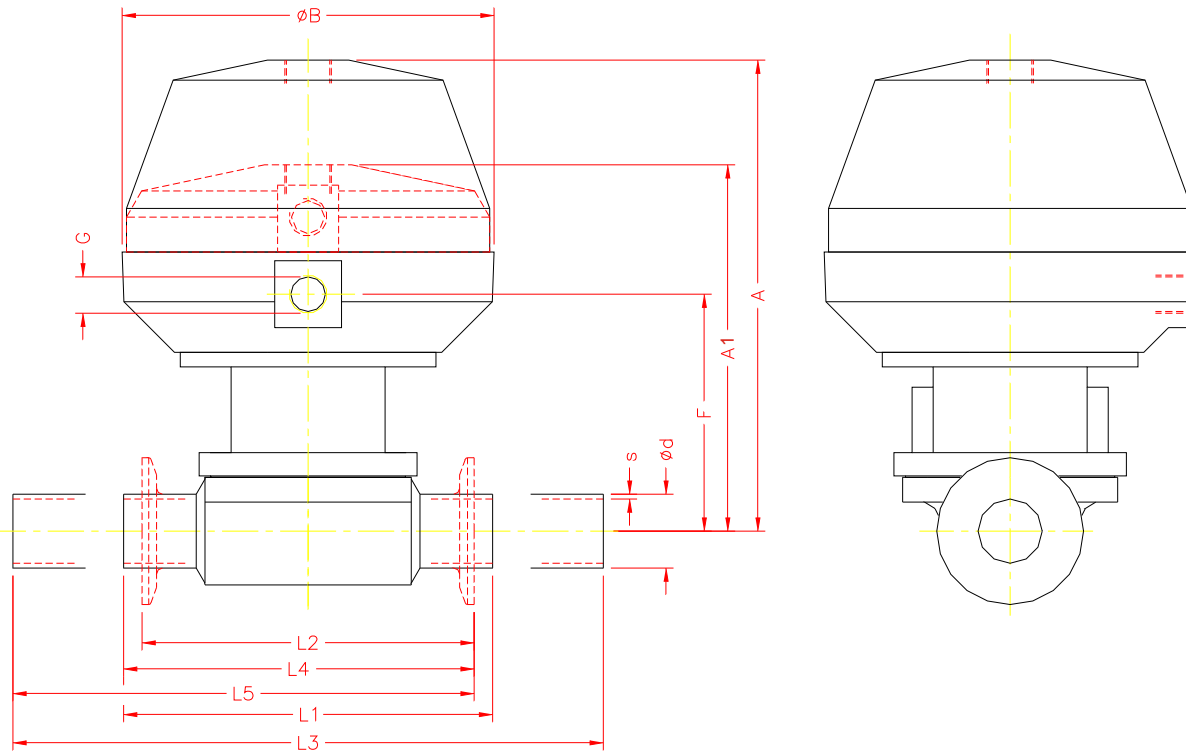
Type 687 Technical Data

Size (In.)	Size (mm)	Body Configuration D= straight through	Control function 1		Control function 2		Control function 3		C _v -value (gpm)		Weight (lbs)
			Working pressure (psi)		Working pressure (psi)		Working pressure (psi)		ISO Connections	O.D. Tubing	
			EPDM, Viton, Silicon	Teflon	EPDM, Viton, Silicon	Teflon	EPDM, Viton, Silicon	Teflon			
1/2	15	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	12.3	5.9	6.1
3/4	20	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	15.2	12.3	6.1
1	25	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	31.6	13.5	6.1
1 1/4	32	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	50.3	29.3	12.1
1 1/2	40	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	58.5	46.8	14.7
2	50	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	74.9	67.9	20.5
2 1/2	65	D	0 - 120	0 - 75	0 - 150	0 - 90	0 - 150	0 - 90	111.2	99.5	51.1
3	80	D	0 - 120	0 - 75	0 - 150	0 - 90	0 - 150	0 - 90	148.6	128.7	51.1
4	100	D	0 - 90	0 - 60	0 - 150	0 - 90	0 - 90	0 - 45	239.9	216.5	79.8

All pressures are gauge pressures when applied upstream . The C_v values vary due to differences in valve construction (i.e., Port size, body material, diaphragm material, etc.)



Type 687 Dimensional Data



Take Out Dimensions for Standard Connections

Size	DN	Units	Con. Ref. No.	$\varnothing d$	s	(59) L1	(80) L2	(94) L3	(93) L4	(95) L5
1/2	15	mm	12.70	1.65	120.00	101.60	184.15	110.80	142.88	
		in	0.500	0.065	4.724	4.000	7.250	4.362	5.625	
3/4	20	mm	19.05	1.65	120.00	101.60	190.50	110.80	146.05	
		in	0.750	0.065	4.724	4.000	7.500	4.362	5.750	
1	25	mm	25.40	1.65	120.00	114.30	203.20	117.15	158.75	
		in	1.000	0.065	4.724	4.500	8.000	4.612	6.250	
1 1/2	40	mm	38.10	1.65	153.00	139.70	234.95	146.35	187.33	
		in	1.500	0.065	6.024	5.500	9.250	5.762	7.375	
2	50	mm	50.80	1.65	173.00	158.75	266.70	165.88	212.73	
		in	2.000	0.065	6.811	6.250	10.500	6.531	8.375	
2 1/2	65	mm	63.50	1.65	216.00	193.68	292.10	204.84	242.89	
		in	2.500	0.065	8.504	7.625	11.500	8.065	9.563	
3	80	mm	76.20	1.65	254.00	222.25	333.38	238.13	277.82	
		in	3.000	0.065	10.000	8.750	13.125	9.375	10.938	
4	100	mm	101.60	2.10	305.00	292.10	406.40	298.55	349.25	
		in	4.000	0.083	12.008	11.500	16.000	11.754	13.750	

Drain Angles

Size	DN	Degrees
1/2	15	46°
3/4	20	55°
1	25	60°
1 1/4	32	65°
1 1/2	40	65°
2	50	70°
2 1/2	65	70°
3	80	70°
4	100	70°

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

- L1 = Connection Code 59 = Standard butt-weld
- L2 = Connection Code 80 = Standard clamp
- L3 = Connection Code 94 = Standard butt-weld extension (AWF)
- L4 = Connection Code 93 = Standard clamp X butt-weld
- L5 = Connection Code 95 = Standard clamp X butt-weld extension (AWF)

Optional Spigot Dimensions

Connection Ref. No.	60	0	16	17	18	37							
Size DN	L ₁	d	s	d	s	d	s	d	s	d	s		
1/2" 15	120	21.3	1.6	18	1.5	18	1	19	1.5	20	2	-	-
3/4" 20	120	26.9	1.6	22	1.5	22	1	23	1.5	24	2	-	-
1" 25	120	33.7	2.0	28	1.5	28	1	29	1.5	30	2	25.0	1.2
1 1/4" 32	153	42.4	2.0	34	1.5	34	1	35	1.5	36	2	33.7	1.2
1 1/2" 40	153	48.3	2.0	40	1.5	40	1	41	1.5	42	2	38.0	1.2
2" 50	173	60.3	2.3	52	1.5	52	1	53	1.5	54	2	51.0	1.2
2 1/2" 65	216	76.1	2.6	-	-	70.2	2	-	-	-	-	63.5	1.6
3" 80	254	88.9	2.6	-	-	85	2	-	-	-	-	76.1	1.6
4" 100	305	114.3	2.6	-	-	104	2	-	-	-	-	101.6	2.0

Dimensions

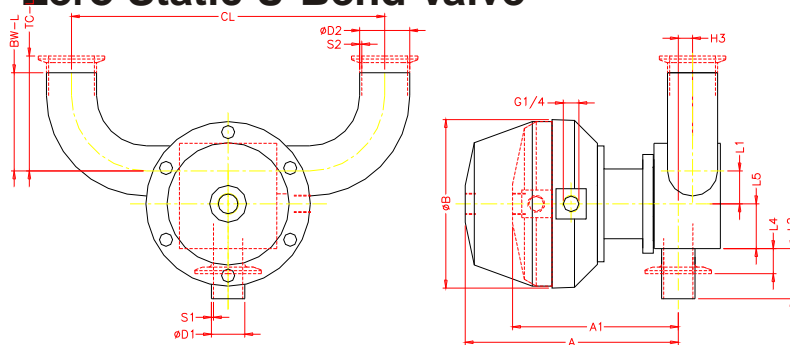
Size	DN	Units	CF 1 A	CF 2, 3 A1	F	G	$\varnothing B$	Weight (lbs)
1/2	15	mm	160.5	131.0	78.5	G1/4	125.0	6.0
		in	6.32	5.16	3.09		4.92	
3/4	20	mm	163.5	134.0	81.5	G1/4	125.0	6.0
		in	6.44	5.28	3.21		4.92	
1	25	mm	168.5	137.0	84.5	G1/4	125.0	6.0
		in	6.63	5.39	3.33		4.92	
1 1/4	32	mm	208.5	164.0	109.5	G1/4	155.0	13.9
		in	8.21	6.46	4.31		6.10	
1 1/2	40	mm	210.5	166.0	111.5	G1/4	155.0	13.9
		in	8.29	6.54	4.39		6.10	
2	50	mm	252.5	197.0	129.5	G1/4	210.0	22.3
		in	9.94	7.76	5.10		8.27	
3	80	mm	382.0	341.0	234.0	G1/4	258.0	53.0
		in	15.04	13.43	9.21		10.16	
4	100	mm	391.0	350.0	243.0	G1/4	328.0	66.0
		in	15.39	13.78	9.57		12.91	

Type 687 Dimensional Data

GEMÜ® Zero Static U-Bend Valve

Standard Features

- Sterile design
- Mechanical parts isolated from process
- Zero dead-leg with no bacteria entrapment
- Maximum drainage, leaving virtually no residue
- Body machined from 316L stainless steel solid bar stock or specified material
- Compact design
- Minimum tube length of 1.5" for automatic orbital welding



D1 x D2	Units	D1	s1	D2	s2	H3	L1	Code 59		Code 94		L4	L5	CL	BW-L	Code 80		CF 1	CF 2, 3	F	G	ØB
								L2	L2	TC-L	A					A1						
1/2 x 1	mm	12.7	1.65	25.4	1.65	4.5	17.9	20.0	38.1	19.7	34.0	240.4	76.2	50.8	162.00	133.50	78.50	G1/4	125.00			
	in	0.500	0.065	1.000	0.065	0.2	0.7	0.8	1.5	0.8	1.3	9.5	3.0	2.0	6.4	5.3	3.1			4.9		
1/2 x 1 1/2	mm	12.7	1.65	38.1	1.65	10.85	25.0	20.0	38.1	19.7	34.0	278.5	95.3	69.9	162.00	133.50	78.50	G1/4	125.00			
	in	0.500	0.065	1.500	0.065	0.4	1.0	0.8	1.5	0.8	1.3	11.0	3.8	2.8	6.4	5.3	3.1			4.9		
1/2 x 2	mm	12.7	1.65	50.8	1.65	17.2	32.0	20.0	38.1	19.7	34.0	329.3	120.7	88.9	162.00	133.50	78.50	G1/4	125.00			
	in	0.500	0.065	2.000	0.065	0.7	1.3	0.8	1.5	0.8	1.3	13.0	4.8	3.5	6.4	5.3	3.1			4.9		
1/2 x 2 1/2	mm	12.7	1.65	63.5	1.65	23.55	39.1	20.0	38.1	19.7	34.0	367.4	139.7	108.0	162.00	133.50	78.50	G1/4	125.00			
	in	0.500	0.065	2.500	0.065	0.9	1.5	0.8	1.5	0.8	1.3	14.5	5.5	4.3	6.4	5.3	3.1			4.9		
1/2 x 3	mm	12.7	1.65	76.2	1.65	29.9	46.1	20.0	38.1	19.7	34.0	405.5	158.8	127.0	162.00	133.50	78.50	G1/4	125.00			
	in	0.500	0.065	3.000	0.065	1.2	1.8	0.8	1.5	0.8	1.3	16.0	6.3	5.0	6.4	5.3	3.1			4.9		
1/2 x 4	mm	12.7	1.65	101.6	1.65	42.6	59.8	20.0	38.1	19.7	34.0	494.4	203.2	168.3	162.00	133.50	78.50	G1/4	125.00			
	in	0.500	0.065	4.000	0.083	1.7	2.4	0.8	1.5	0.8	1.3	19.5	8.0	6.6	6.4	5.3	3.1			4.9		
3/4 x 3/4	mm	19.05	1.65	19.05	1.65	1.33	14.4	25.0	38.1	19.7	34.0	240.4	76.2	41.3	162.00	133.50	78.50	G1/4	125.00			
	in	0.750	0.065	0.750	0.065	0.1	0.6	1.0	1.5	0.8	1.3	9.5	3.0	1.6	6.4	5.3	3.1			4.9		
3/4 x 1	mm	19.05	1.65	25.4	1.65	4.5	17.9	25.0	38.1	19.7	34.0	240.4	76.2	50.8	162.00	133.50	78.50	G1/4	125.00			
	in	0.750	0.065	1.000	0.065	0.2	0.7	1.0	1.5	0.8	1.3	9.5	3.0	2.0	6.4	5.3	3.1			4.9		
3/4 x 1 1/2	mm	19.05	1.65	38.1	1.65	10.85	25.0	25.0	38.1	19.7	34.0	278.5	95.3	69.9	162.00	133.50	78.50	G1/4	125.00			
	in	0.750	0.065	1.500	0.065	0.4	1.0	1.0	1.5	0.8	1.3	11.0	3.8	2.8	6.4	5.3	3.1			4.9		
3/4 x 2	mm	19.05	1.65	50.8	1.65	17.2	32.0	25.0	38.1	19.7	34.0	329.3	120.7	88.9	162.00	133.50	78.50	G1/4	125.00			
	in	0.750	0.065	2.000	0.065	0.7	1.3	1.0	1.5	0.8	1.3	13.0	4.8	3.5	6.4	5.3	3.1			4.9		
3/4 x 3	mm	19.05	1.65	76.2	1.65	29.9	46.1	25.0	38.1	19.7	34.0	405.5	158.8	127.0	162.00	133.50	78.50	G1/4	125.00			
	in	0.750	0.065	3.000	0.065	1.2	1.8	1.0	1.5	0.8	1.3	16.0	6.3	5.0	6.4	5.3	3.1			4.9		
3/4 x 4	mm	19.05	1.65	101.6	1.65	42.6	59.8	25.0	38.1	19.7	34.0	494.4	203.2	168.3	162.00	133.50	78.50	G1/4	125.00			
	in	0.750	0.065	4.000	0.083	1.7	2.4	1.0	1.5	0.8	1.3	19.5	8.0	6.6	6.4	5.3	3.1			4.9		
1 x 1	mm	25.4	1.65	25.4	1.65	4.5	17.9	25.0	38.1	19.7	34.0	240.4	76.2	50.8	162.00	133.50	78.50	G1/4	125.00			
	in	1.000	0.065	1.000	0.065	0.2	0.7	1.0	1.5	0.8	1.3	9.5	3.0	2.0	6.4	5.3	3.1			4.9		
1 x 1 1/2	mm	25.4	1.65	38.1	1.65	10.85	25.0	25.0	38.1	19.7	34.0	278.5	95.3	69.9	162.00	133.50	78.50	G1/4	125.00			
	in	1.000	0.065	1.500	0.065	0.4	1.0	1.0	1.5	0.8	1.3	11.0	3.8	2.8	6.4	5.3	3.1			4.9		
1 x 2	mm	25.4	1.65	50.8	1.65	17.2	32.0	25.0	38.1	19.7	34.0	329.3	120.7	88.9	162.00	133.50	78.50	G1/4	125.00			
	in	1.000	0.065	2.000	0.065	0.7	1.3	1.0	1.5	0.8	1.3	13.0	4.8	3.5	6.4	5.3	3.1			4.9		
1 x 2 1/2	mm	25.4	1.65	63.5	1.65	23.55	39.1	25.0	38.1	19.7	34.0	367.4	139.7	108.0	162.00	133.50	78.50	G1/4	125.00			
	in	1.000	0.065	2.500	0.065	0.9	1.5	1.0	1.5	0.8	1.3	14.5	5.5	4.3	6.4	5.3	3.1			4.9		
1 x 3	mm	25.4	1.65	76.2	1.65	29.9	46.1	25.0	38.1	19.7	34.0	405.5	158.8	127.0	162.00	133.50	78.50	G1/4	125.00			
	in	1.000	0.065	3.000	0.065	1.2	1.8	1.0	1.5	0.8	1.3	16.0	6.3	5.0	6.4	5.3	3.1			4.9		
1 x 4	mm	25.4	1.65	101.6	1.65	42.6	59.8	25.0	38.1	19.7	34.0	494.4	203.2	168.3	162.00	133.50	78.50	G1/4	125.00			
	in	1.000	0.065	4.000	0.083	1.7	2.4	1.0	1.5	0.8	1.3	19.5	8.0	6.6	6.4	5.3	3.1			4.9		
1 x 6	mm	25.4	1.65	152.4	1.65	68	87.3	25.0	38.1	19.7	34.0	672.2	292.1	266.7	162.00	133.50	78.50	G1/4	125.00			
	in	1.000	0.065	6.000	0.109	2.7	3.4	1.0	1.5	0.8	1.3	26.5	11.5	10.5	6.4	5.3	3.1			4.9		
1 1/2 x 1 1/2	mm	38.1	1.65	38.1	1.65	6.75	27.1	25.0	38.1	19.7	46.0	306.5	95.3	69.9	210.50	166.00	111.50	G1/4	155.00			
	in	1.500	0.065	1.500	0.065	0.3	1.1	1.0	1.5	0.8	1.8	12.1	3.8	2.8	8.3	6.5	4.4			6.1		
1 1/2 x 2	mm	38.1	1.65	50.8	1.65	13.1	34.1	25.0	38.1	19.7	46.0	357.3	120.7	88.9	210.50	166.00	111.50	G1/4	155.00			
	in	1.500	0.065	2.000	0.065	0.5	1.3	1.0	1.5	0.8	1.8	14.1	4.8	3.5	8.3	6.5	4.4			6.1		
1 1/2 x 2 1/2	mm	38.1	1.65	63.5	1.65	19.45	41.2	25.0	38.1	19.7	46.0	395.4	139.7	108.0	210.50	166.00	111.50	G1/4	155.00			
	in	1.500	0.065	2.500	0.065	0.8	1.6	1.0	1.5	0.8	1.8	15.6	5.5	4.3	8.3	6.5	4.4			6.1		
1 1/2 x 3	mm	38.1	1.65	76.2	1.65	25.8	48.2	25.0	38.1	19.7	46.0	433.5	158.8	127.0	210.50	166.00	111.50	G1/4	155.00			
	in	1.500	0.065	3.000	0.065	1.0	1.9	1.0	1.5	0.8	1.8	17.1	6.3	5.0	8.3	6.5	4.4			6.1		
1 1/2 x 4	mm	38.1	1.65	101.6	1.65	38.5	61.9	25.0	38.1	19.7	46.0	522.4	203.2	168.3	210.50	166.00	111.50	G1/4	155.00			
	in	1.500	0.065	4.000	0.083	1.5	2.4	1.0	1.5	0.8	1.8	20.6	8.0	6.6	8.3	6.5	4.4			6.1		
1 1/2 x 6	mm	38.1	1.65	152.4	1.65	63.9	89.4	25.0	38.1	19.7	46.0	700.2	292.1	266.7	210.50	166.00	111.50	G1/4	155.00			
	in	1.500	0.065	6.000	0.109	2.5	3.5	1.0	1.5	0.8	1.8	27.6	11.5	10.5	8.3	6.5	4.4			6.1		
2 x 2	mm	50.8	1.65	50.8	1.65	9.2	35.3	30.0	44.5	19.7	55.0	379.3	120.7	88.9	252.50	197.00	129.50	G1/4	210.00			
	in	2.000	0.065	2.000	0.065	0.4	1.4	1.2	1.8	0.8	2.2	14.9	4.8	3.5	9.9	7.8	5.1			8.3		
2 x 2 1/2	mm	50.8	1.65	63.5	1.65	15.55	42.4	30.0	44.5	19.7	55.0	417.4	139.7	108.0	252.50	197.00	129.50	G1/4	210.00			
	in	2.000	0.065	2.500	0.065	0.6	1.7	1.2	1.8	0.8	2.2	16.4	5.5	4.3	9.9	7.8	5.1			8.3		
2 x 3	mm	50.8	1.65	76.2	1.65	21.9	49.4	30.0	44.5	19.7	55.0	455.5	158.8	127.0	252.50	197.00	129.50	G1/4	210.00			
	in	2.000	0.065	3.000	0.065	0.9	1.9	1.2	1.8	0.8	2.2	17.9	6.3	5.0	9.9	7.8	5.1			8.3		
2 x 4	mm	50.8	1.65	101.6	1.65	34.6	63.1	30.0	44.5	19.7	55.0	544.4	203.2	168.3	252.50	197.00	129.50	G1/4	210.00			
	in	2.000	0.065	4.000	0.083	1.4	2.5	1.2	1.8	0.8	2.2	21.4	8.0	6.6	9.9	7.8	5.1			8.3		
2 x 6	mm	50.8	1.65	152.4	1.65	60	90.6	30.0	44.5	19.7	55.0	722.2	292.1	266.7	252.50	197.00	129.50	G1/4	210.00			
	in	2.000	0.065	6.000	0.109	2.4	3.6	1.2	1.8	0.8	2.2	28.4	11.5	10.5	9.9	7.8	5.1			8.3		
2 1/2 x 2 1/2	mm	63.5	1.655	63.5	1.65	14.55	42.4	30.0	44.5	19.7	55.0	417.4	139.7	108.0	252.50	197.00	129.50	G1/4	210.00			

Type 687 Dimensional Data

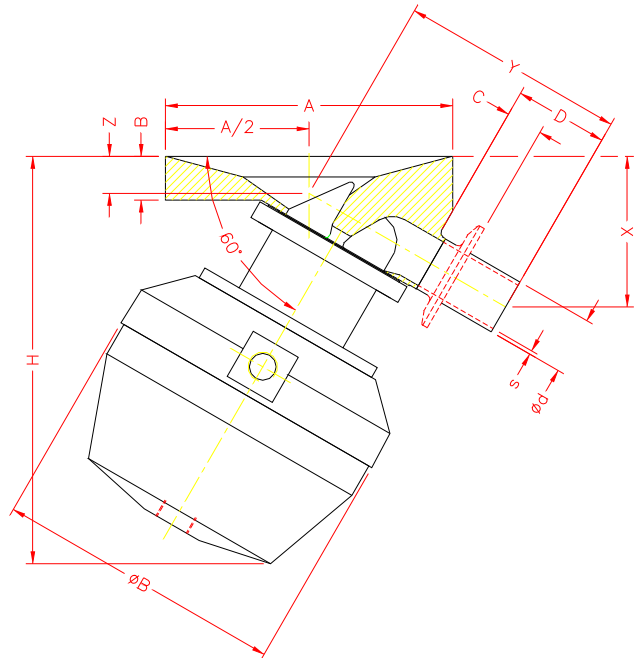
GEMÜ® Tank Bottom / Side Sampling Diaphragm Valve

Standard Features

- Sterile design
- Mechanical parts isolated from processes
- Designed to minimize fluid flow resistance
- Maximum drainage, leaving virtually no residue
- Pocket-free interior surface with no entrapment areas
- Body machined from 316L stainless steel bar stock ASME SA-479 (UNS S31 603)
- Complies with ASME Boiler & Pressure Vessel code requirements, section VIII Division #1

Typical Applications

- Media fill and transfer vessels
- CIP (*clean-in-place*) tanks
- Bioreactor & Fermentation vessels
- Water for Injection storage vessels (WFI)
- Sterile receivers
- Any process vessels used in pharmaceutical / bioprocessing applications



Size	DN	59		A	A/2	B	C	D	X	Y	Z	ØB	H	
		Ød	s											
1/2	15	mm	12.70	1.65	127.00	63.50	19.30	16.06	41.46	72.11	96.56	23.83	125.00	180.00
		in	0.500	0.065	5.000	2.500	0.760	0.632	1.632	2.839	3.802	0.938	4.921	7.087
3/4	20	mm	19.05	1.65	127.00	63.50	19.30	16.06	41.46	69.35	98.39	21.08	125.00	180.00
		in	0.750	0.065	5.000	2.500	0.760	0.632	1.632	2.730	3.874	0.830	4.921	7.087
1	25	mm	25.4	1.65	127.00	63.50	19.30	16.06	41.46	66.50	100.30	16.35	125.00	180.00
		in	1.000	0.065	5.000	2.500	0.760	0.632	1.632	2.618	3.949	0.644	4.921	7.087
1 1/2	40	mm	38.1	1.65	177.80	88.90	22.22	17.46	42.86	77.73	122.23	16.62	158.00	223.80
		in	1.500	0.065	7.000	3.500	0.875	0.687	1.687	3.060	4.812	0.654	6.220	8.811
2	50	mm	50.8	1.65	203.20	101.60	25.40	17.46	42.86	84.41	133.01	17.90	210.00	273.80
		in	2.000	0.065	8.000	4.000	1.000	0.687	1.687	3.323	5.237	0.705	8.268	10.780
2 1/2	65	mm	63.5	1.65	203.20	101.60	25.40	17.46	42.86	79.02	136.62	10.72	210.00	273.80
		in	2.500	0.065	8.000	4.000	1.000	0.687	1.687	3.111	5.379	0.422	8.268	10.780
3	80	mm	76.2	1.65	266.70	133.35	28.57	16.66	42.06	103.95	169.39	19.26	258.00	380.40
		in	3.000	0.065	10.500	5.250	1.125	0.656	1.656	4.093	6.669	0.758	10.157	14.976
4	100	mm	101.6	2.00	368.30	184.15	31.75	22.23	44.45	133.31	213.88	26.36	328.00	410.20
		in	4.000	0.079	14.500	7.250	1.250	0.875	1.750	5.248	8.420	1.038	12.913	16.150

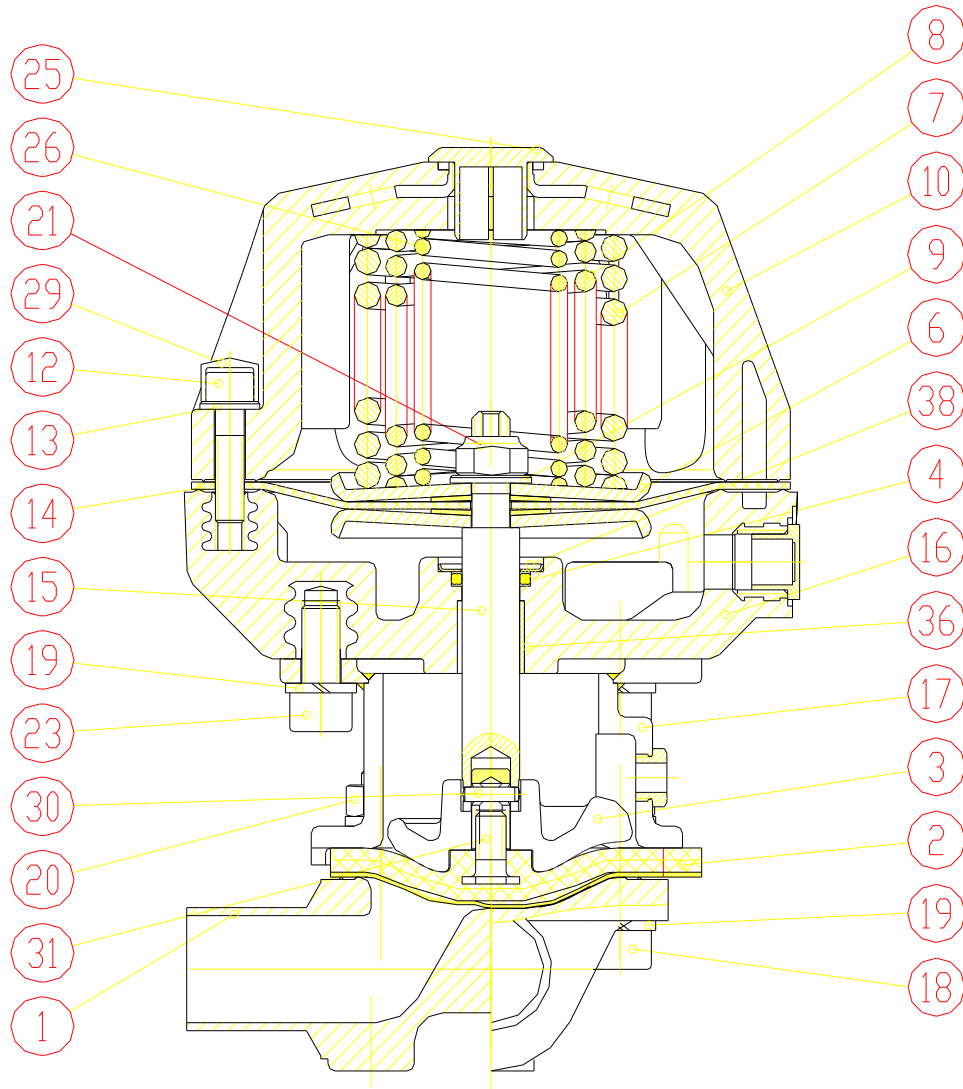
TOL ±1mm Note: Dimension subject to change

Size	1/8	3/8	1/2	3/4	1	1 1/2	2	2 1/2	3	4
DN	8	10	15	20	25	40	50	65	80	100

Order Example	-687	025	B	80	41	13	1						1537	
Type of valve	-687													
Size DN		025												
Body configuration			B											
Connection (valve body)				80										
Body material					41									
Diaphragm material						13								
Control function							1							
Actuator size														
Locking device														
Pipe main size														
Pipe main connection														
Surface finish													1537	
Special version (XXXX)														



Type 687 Spare Parts



ITEM	PART
1	Valve Body
2	Diaphragm
3	Compressor
4	Quadrang
6	Membrane Plate
7	Spring
8	Spring
9	Washer
10	Actuator Dome
12	Socket-Head Bolt
13	Washer
14	Membrane
15	Spindle
16	Actuator Base
17	Extension Piece
18	Socket-Head Bolt
19	Spring Washer
20	Nut
21	Locking Nut
22	Washer
23	Socket-Head Bolt
25	Cap
26	Spring
29	Cap
30	Pin
31	Stem
33	Nut
34	Cap
35	Nut
36	DU-Bearing
37	Lock Ring
38	Washer
39	Seal Ring