GEMÜ®

Sanitary Diaphragm Valve

Pneumatically operated

Description

The type 695 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" - 2"

Available Options

- Handwheel, manual override
- Electrical limit and proximity switches
- Visual position indicator
- Pneumatic and electro-pneumatic positioners
- Stoke limiters
-

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, 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 695

Max permissible working temperature:
176°F (depending on diaphragm and body materials).

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

Control Medium

Min. Required control pressure: 45 psi
Max. Permissible control pressure: 90 psi
Max. Permissible temp. of control medium: 104°F

Actuator volume:

1/2”-1”	9.2 cubic inches
1 1/4” - 1 1/2”	21.4 cubic inches
2”	67.1 cubic inches

Body Configuration	Ref.no.
2-way valve body	D
2-way angled valve body	E

Connection	Ref.no.
DIN	0
DIN 11850/Series 1	16
DIN 11850/Series 2	17
DIN 11850/Series 3	18
Butt weld O.D. Tubing Sizes 1/4-3/8” 20 gauge .035” wall Sizes 1/2-3” 16 gauge .065” wall Sizes 4” 14 gauge .083” wall	59
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.
Investment cast body	
Stainless steel 316 L≙ 1.4435 (BN2) Fe < 0.5%	32
Stainless steel 1.4539 (UNS N 08904)	33
Forged Body	
Stainless steel 316 L≙1.4435 (ASTM A 182)	40
Stainless steel 316 L≙ 1.4435 (BN2) Fe< 0.5%	42
Machined block	
Stainless steel 316 L≙ 1.4435 (ASTM A 479)	41
Special versions (Consult factory for special material reference numbers)	91

Diaphragm material		Ref.no.
2nd generation, modified Teflon® with Ethylene-propylene backing 2-piece molded closed	TFM/EPDM	5E
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-proplylene backing (2-piece)	TFM/EPDM	50
2nd generation, modified Teflon® with Ethylene-proplylene backing	TFM/EPDM	52

All diaphragms listed conform to the FDA code of Federal Regulations paragraph 177.2600 of section 21.

Control function	Ref.no.
Normally closed	1
Normally open	2
Double acting	3

Surface finish

µ-in.		BPE Surface Designation	Ra Average [Note (1)] µ-in.	Ra Average [Note (1)] µm	Ra Max µ-in.	Ra Max µm	Ref.no.
32	Mechanical						3
25	Mechanical	SFV3	25	0.625	30	0.750	1502
20	E-pol	SFV6	20	0.500	25	0.625	1508
20	Mechanical	SFV2	20	0.500	25	0.625	1507
15	E-pol	SFV5	15	0.375	20	0.500	1537
11	Mechanical	SFV1	15	0.375	20	0.500	1536
10	E-pol	SFV4	10	0.250	15	0.375	1516

GENERAL NOTE: All Ra readings are taken across the grain.
NOTE: (1) The average Ra is derived from two readings taken at different locations.

Special Versions	Ref.no.
Special versions	UXXXX

Order Example	-695	015	D	80	40	13	1					1537		
Type of valve	-695													
Size DN		015												
Body configuration			D											
Connection (valve body)				80										
Body material					40									
Diaphragm material						13								
Control function							1							
Actuator size														
Locking device														
Pipe main size														
Pipe main connection														
Surface finish												1537		
Special versions (XXXX)														

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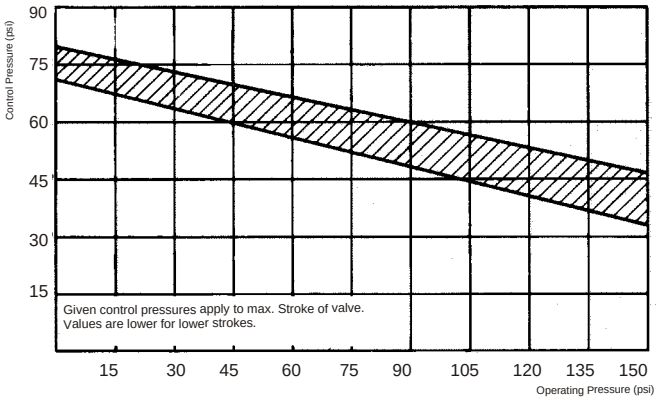
Type 695 Technical Data

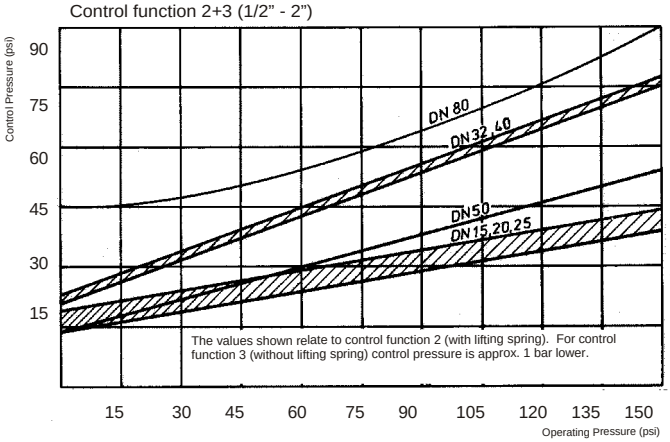
Size (In.)	Size (mm)	Body Configuration D= straight through	Control function 1 Working pressure (psi) EPDM, Viton, Silicon	Control function 1 Working pressure (psi) Teflon	Control function 2 Working pressure (psi) EPDM, Viton, Silicon	Control function 2 Working pressure (psi) Teflon	Control function 3 Working pressure (psi) EPDM, Viton, Silicon	Control function 3 Working pressure (psi) Teflon	C_v-value (gpm) ISO Connections	C_v-value (gpm) O.D. Tubing	Weight (lbs)
1/2	15	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	12.3	5.9	4.6
3/4	20	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	15.2	12.3	4.6
1	25	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	31.6	13.5	4.6
1 1/4	32	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	50.3	29.3	9.7
1 1/2	40	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	58.5	46.8	12.3
2	50	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90	74.9	67.9	17.9

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.)

Control function 1 (1/2" - 2")



Control function 2+3 (1/2" - 2")



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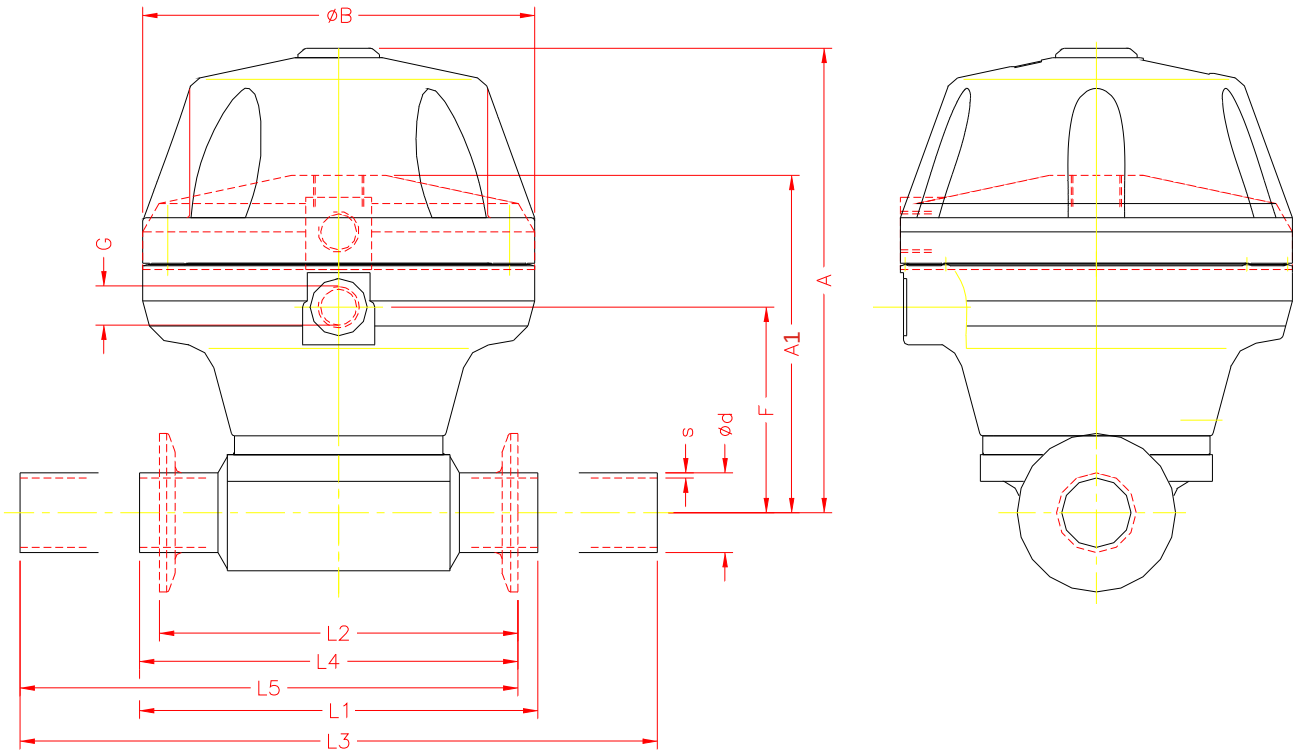
DIN EN ISO 9001
Zertifikat: 09 100 5420

Type 695 Dimensional Data



Take Out Dimensions for Standard Connections

Size	DN	Units	Con. Ref. No. Ød	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*

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)

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°

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

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	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

Dimensions

Size	DN	Units	CF 1 A	CF 2, 3 A1	F	G	ØB
1/2	15	mm	146.0	130.0	65.5	G1/4	125.0
		in	*5.75*	*5.12*	*2.58*		*4.92*
3/4	20	mm	146.0	130.0	65.5	G1/4	125.0
		in	*5.75*	*5.12*	*2.58*		*4.92*
1	25	mm	146.0	130.0	65.5	G1/4	125.0
		in	*5.75*	*5.12*	*2.58*		*4.92*
1 1/4	32	mm	199.0	176.0	100.5	G1/4	155.0
		in	*7.83*	*6.93*	*3.96*		*6.10*
1 1/2	40	mm	199.0	176.0	100.5	G1/4	155.0
		in	*7.83*	*6.93*	*3.96*		*6.10*
2	50	mm	245.0	208.0	121.5	G1/4	210.0
		in	*9.65*	*8.19*	*4.78*		*8.27*

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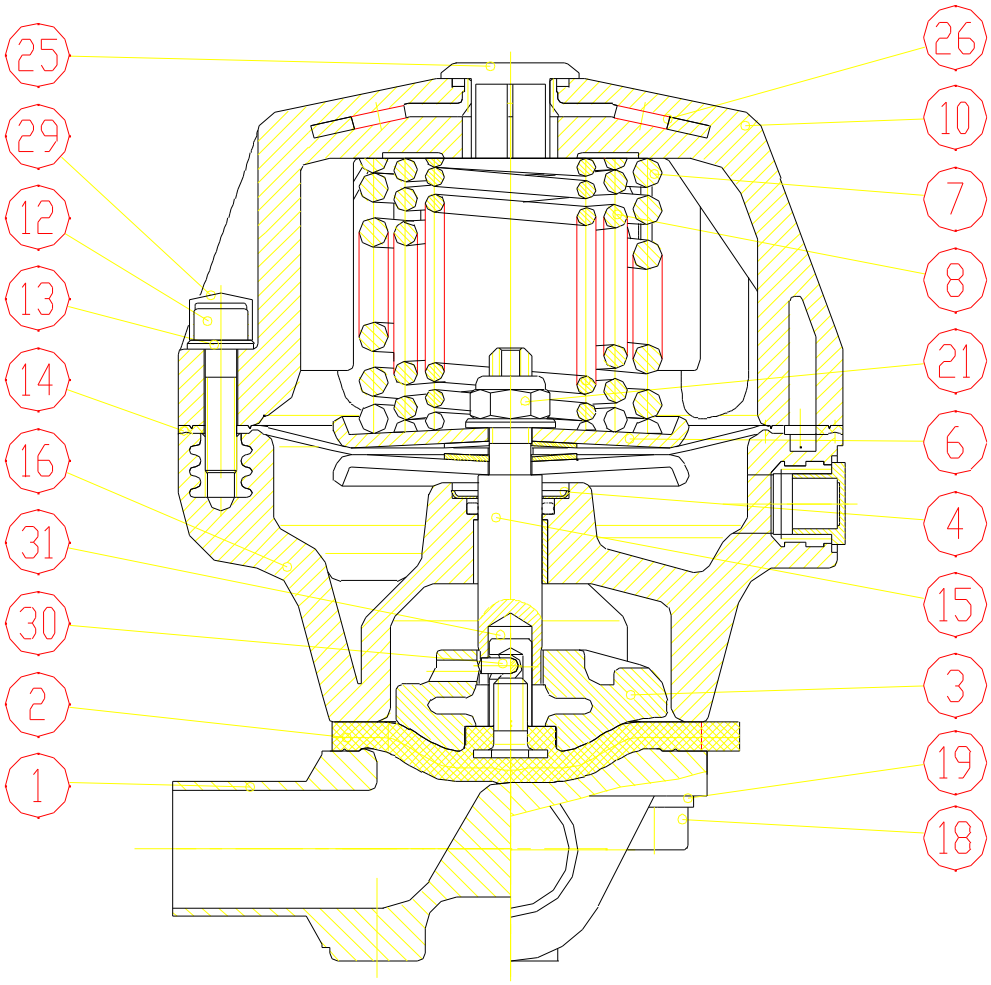

ITEM	PART
1	Valve Body
2	Diaphragm
3	Compressor
4	Quadring
6	Membrane Plate
7	Spring
8	Spring
10	Actuator Dome
12	Socket-Head Bolt
13	Washer
14	Membrane
15	Spindle
16	Actuator Base
18	Socket-Head Bolt
19	Washer
21	Locking Nut
22	Washer
25	Cap
26	Spring
29	Cap
30	Pin
31	Stem