

## Description

The type 695 is a compact valve with many features which make it ideal for pharmaceutical and bio-processing applications.

## Sanitary Diaphragm Valve

Pneumatically operated

### 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
- Stroke 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

# Type 695 Technical Data

**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

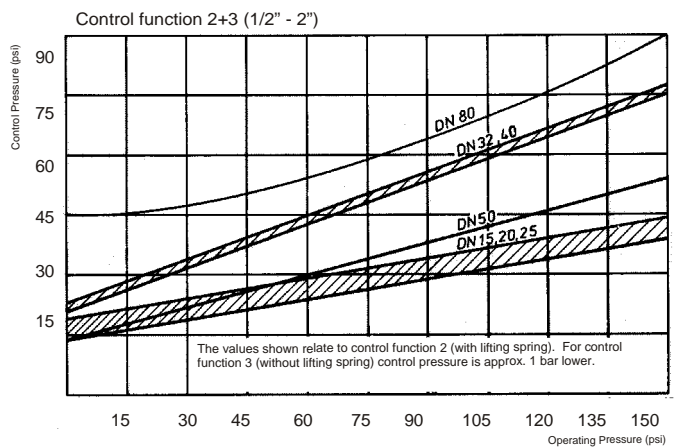
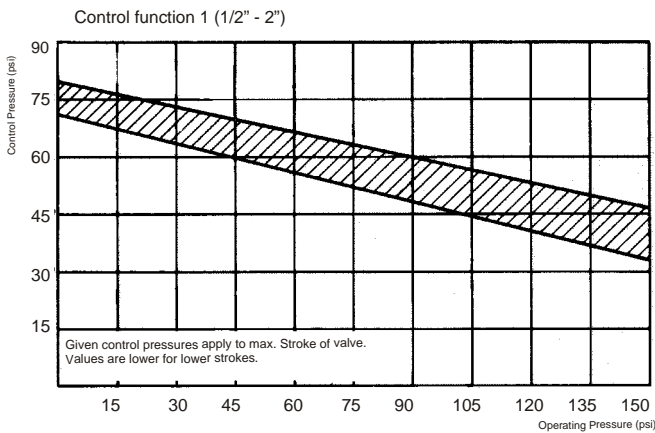
Body Configuration	Ref.no.	Diaphragm material	Ref.no.																																																												
2-way valve body	D	2nd generation, modified Teflon® with Ethylene-propylene backing 2-piece molded closed	TFM/EPDM 5E																																																												
2-way angled valve body	E	2nd generation, modified Teflon® with Silicone backing 2-piece molded closed	TFM/VMQ 5S																																																												
Connection	Ref.no.	Ethylene-propylene Rubber for saturated steam max 302° F	EPDM 13																																																												
DIN	0	Ethylene-propylene Rubber for saturated steam max 302° F	EPDM 16																																																												
DIN 11850/Series 1	16	2nd generation, modified Teflon® with Ethylene-propylene backing (2-piece)	TFM/EPDM 50																																																												
DIN 11850/Series 2	17	2nd generation, modified Teflon® with Ethylene-propylene backing	TFM/EPDM 52																																																												
DIN 11850/Series 3	18	<i>All diaphragms listed conform to the FDA code of Federal Regulations paragraph 177.2600 of section 21.</i>																																																													
Butt weld O.D. Tubing	59	Control function	Ref.no.																																																												
Sizes 1/4-3/8" 20 gauge .035" wall		Normally closed	1																																																												
Sizes 1/2-3" 16 gauge .065" wall		Normally open	2																																																												
Sizes 4" 14 gauge .083" wall		Double acting	3																																																												
ISO	60	Surface finish	Ref.no.																																																												
Schedule 10 pipe	63																																																														
Tri-clamp®	80	<table border="1"> <thead> <tr> <th rowspan="2">μ-in.</th> <th rowspan="2">BPE Surface Designation</th> <th colspan="2">Ra Average [Note (1)]</th> <th colspan="2">Ra Max</th> <th rowspan="2">Ref.no.</th> </tr> <tr> <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></td> <td></td> <td></td> <td></td> <td>3</td> </tr> <tr> <td>25</td> <td>Mechanical</td> <td>SFV3</td> <td>25</td> <td>0.625</td> <td>30</td> <td>1502</td> </tr> <tr> <td>20</td> <td>E-pol</td> <td>SFV6</td> <td>20</td> <td>0.500</td> <td>25</td> <td>1508</td> </tr> <tr> <td>20</td> <td>Mechanical</td> <td>SFV2</td> <td>20</td> <td>0.500</td> <td>25</td> <td>1507</td> </tr> <tr> <td>15</td> <td>E-pol</td> <td>SFV5</td> <td>15</td> <td>0.375</td> <td>20</td> <td>1537</td> </tr> <tr> <td>11</td> <td>Mechanical</td> <td>SFV1</td> <td>15</td> <td>0.375</td> <td>20</td> <td>1536</td> </tr> <tr> <td>10</td> <td>E-pol</td> <td>SFV4</td> <td>10</td> <td>0.250</td> <td>15</td> <td>1516</td> </tr> </tbody> </table>	μ-in.	BPE Surface Designation	Ra Average [Note (1)]		Ra Max		Ref.no.	μ-in.	μm	μ-in.	μm	32	Mechanical					3	25	Mechanical	SFV3	25	0.625	30	1502	20	E-pol	SFV6	20	0.500	25	1508	20	Mechanical	SFV2	20	0.500	25	1507	15	E-pol	SFV5	15	0.375	20	1537	11	Mechanical	SFV1	15	0.375	20	1536	10	E-pol	SFV4	10	0.250	15	1516	
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Extended O.D. Tubing	93	<b>GENERAL NOTE:</b> All Ra readings are taken across the grain.																																																													
Extended O.D. Tubing by Triclamp®	95	<b>NOTE:</b> (1) The average Ra is derived from two readings taken at different locations.																																																													
Body material	Ref.no.	<b>Special Versions</b>	<b>Ref.no.</b>																																																												
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Stainless steel 316 L ± 1.4435 (BN2) Fe < 0.5%	32																																																														
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<b>Machined block</b>																																																															
Stainless steel 316 L ± 1.4435 (ASTMA 479)	41																																																														
<b>Special versions</b>	91																																																														
(Consult factory for special material reference numbers)																																																															

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)													

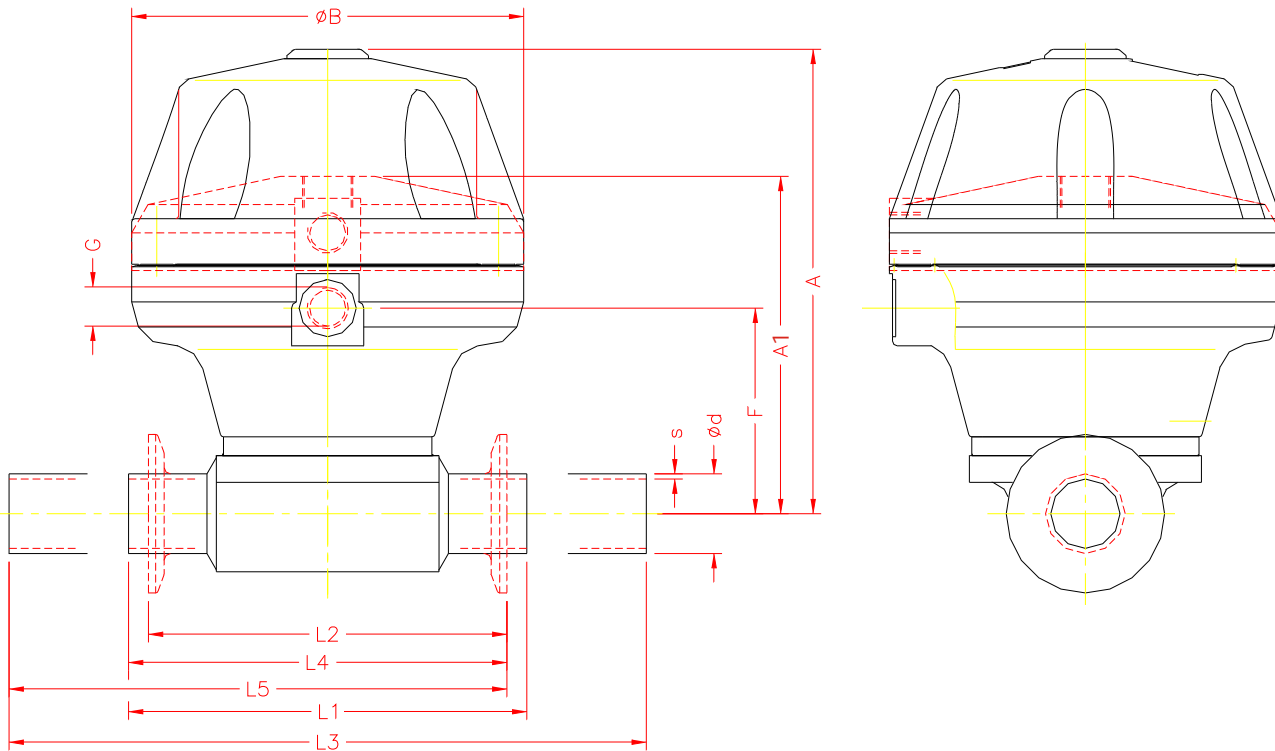
# Type 695 Technical Data

Size (In.)	Size (mm)	Body Configuration D= straight through	Control function 1		Control function 2		Control function 3		C <sub>v</sub> -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		-	4.6
3/4	20	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90		5.1	4.6
1	25	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90		14.3	4.6
1 1/4	32	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90		-	9.7
1 1/2	40	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90		34.5	12.3
2	50	D	0 - 150	0 - 90	0 - 150	0 - 90	0 - 150	0 - 90		59.2	17.9

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



# Type 695 Dimensional Data



## Take Out Dimensions for Standard Connections

Size	DN	Units	Con. Ref. No.	$\phi d$	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	

## 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.

- 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)

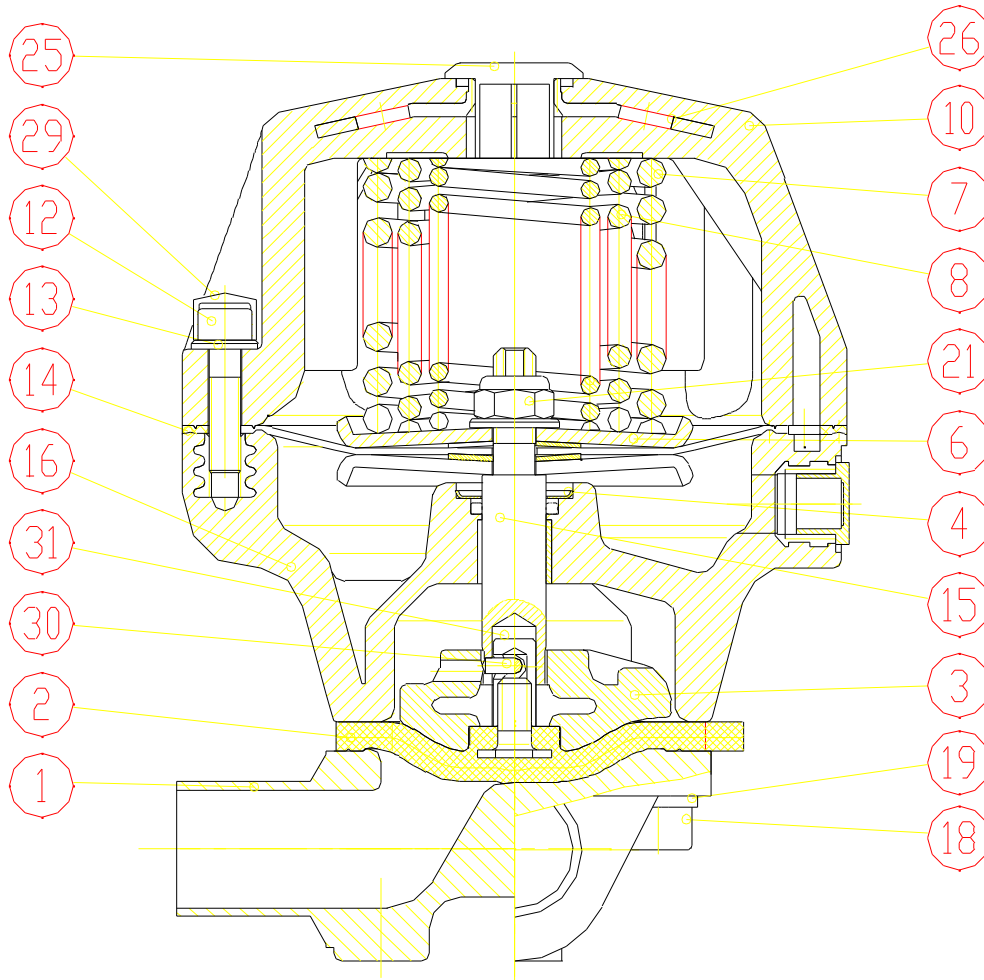
## Optional Spigot Dimensions

Connection Ref. No.		60		0		16		17		18		37		
Size	DN	L <sub>1</sub>	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	CF 2, 3	F	G	$\phi B$
			A	A1			
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

# Type 695 Spare Parts



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