

Construction

The **CleanStar®** C67 HPW manually operated ultra pure 2/2-way diaphragm valve has a complete PFA-HP body. All medium wetted parts are made of PFA-HP or PTFE (diaphragm).

The exterior bonnet parts are made of PVDF. Standard features are (1) Seal adjuster for minimum flow regulation and (5) optical position indicator. (2) Integral solid mounting lugs. (3) Leakage sensor connection. (4) Union nuts of the connection are in PVDF, PFA and CPFA. (6) Union nuts bonnet in PVDF or ECTFE.

Features

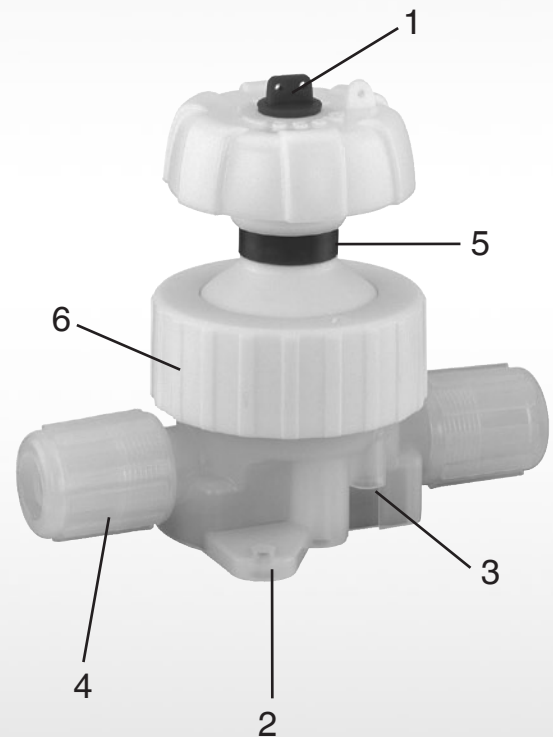
- Specifically designed for high purity media
- Metal free
- High flow capability
- Union nuts / flare connections compatible with all current designs
- Manufactured under cleanroom conditions

Advantages

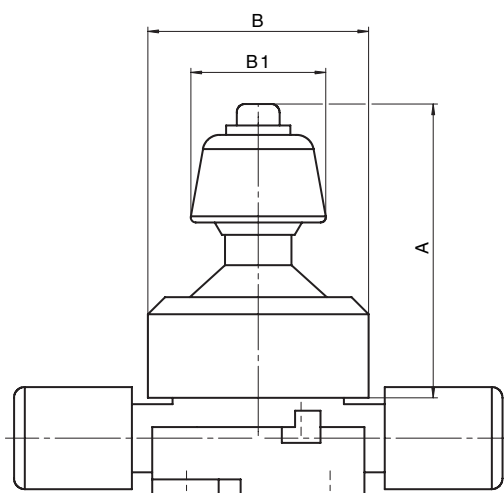
- Minimal contamination
- High C_v / K_v -value
- Minimal deadleg
- Optional flow direction
- Also available as T valve, i.e. saves using a T piece and requires less space
- Optional available valve with ECTFE union nut (6)

Thus you achieve:

- Brief equipment rinsing times
- Clearly improved K_v values (High Flow)
- High "MTBF"
- Reduced costs









Bonnet dimensions GEMÜ C67 HPW [mm/inch]



Bonnet size	A	B	B1
1	68.5/2.69"	51.5/2.02"	32.0/1.25"
2	75.5/2.97"	64.0/2.51"	60.0/2.36"
3	106.5/4.19"	76.5/3.01"	90.0/3.54"






Connection dimensions from page 7

RANGE OVERVIEW *CleanStar*® C67 2/2-WAY VALVES

Type of connection / availability						Size		Bonnet	Dimensions see page
Flare connection 	Butt weld spigots		Butt weld spigots			Connection			
	on both sides 	on one side Pos. Z 	on one side		on both sides- Pos. X + Z 	Code intern.	DN		
			Pos. X 	Pos. Z 					
1/4" - 1/4" 3/8" - 3/8"	1/4" - 1/4"			1/4" - 1/4" 3/8" - 3/8"		4 6	4 6	1	9 9
1/2" - 1/2"				1/2" - 1/2"	1/2" - 1/2"	8	10		2
	1/2" - 1/2" **	1/2" - 1/2"				12	15	10	
3/4" - 3/4" **		3/4" - 3/4"		3/4" - 3/4"	3/4" - 3/4"	12	15	10	
	3/4" - 3/4" **					12	15/20	10	
1"- 1" High Flow			on request			12	20	10	
3/4" - 3/4"		3/4" - 3/4"				12	15	3	11
						12	15/20		11
	3/4" - 3/4"					12	20		11
1"- 1" **				1" - 1"	1" - 1"	16	20		11
	1" - 1" **					16	25		11
1 1/4" - 1 1/4" **		1" - 1"				16	20/25	11	
				1 1/4" - 1 1/4" **	1 1/4" - 1 1/4" **	20	25	11	

* Also available: unions with IR inserts DN 15 (body material PVDF-HP)
 ** High Flow version with increased Kv value

RANGE OVERVIEW *CleanStar*® C67 T VALVES

Type of connection / availability					Size				Bonnet	Dimensions see page
Flare connection 	Space saver				Connection					
	Main pipe				Main pipe		Branch			
	Pos. X 	Pos. Z 	Pos. X + Z 	Pos. Y 	X + Z		Y			
				Code intern.	DN	Code intern.	DN			
3/8" 1/4" 3/8"				6	6	4	4	1	9	
3/8" 3/8" 3/8"				6	6	6	6		9	
1/2" 3/8" 1/2"		1/2" 3/8" 1/2"		8	10	6	6		9	
3/4" 3/8" 3/4"	3/4" 3/8" 3/4"	3/4" 3/8" 3/4"		12	15	6	6	11		
1/2" 1/2" 1/2"		1/2" 1/2" 1/2"		8	10	8	10	2	10	
				8	15	8	15		10	
				8	15	8	10		10	
3/4" 1/2" 3/4"	3/4" 1/2" 3/4"	3/4" 1/2" 3/4"	3/4" 1/2" 3/4"	12	15	8	10		10	
				12	20	4	8		10	
3/4" 3/4" 3/4"	3/4" 3/4" 3/4"	3/4" 3/4" 3/4"		12	15	12	15	10		
1" 1/2" 1"	1" 1/2" 1"	1" 1/2" 1"	1" 1/2" 1"	16	20	8	10	10		
1" 3/4" 1"	1" 3/4" 1"	1" 3/4" 1"		16	20	12	15	10		
				16	25	8	15	3	12	
				16	25	12	20		12	
				16	25	16	25		12	
1" 1" 1"	1" 1" 1"	1" 1" 1"		16	20	16	20		12	
1 1/4" 1/2" 1 1/4"		1 1/4" 1/2" 1 1/4"		20	25	8	10		12	
1 1/4" 3/4" 1 1/4"		1 1/4" 3/4" 1 1/4"		20	25	12	15	12		
1 1/4" 1" 1 1/4"		1 1/4" 1" 1 1/4"		20	25	16	20	12		
1 1/4" 1 1/4" 1 1/4"		1 1/4" 1 1/4" 1 1/4"		20	25	20	25	12		

RANGE OVERVIEW *CleanStar*® C67 T VALVES

Type of connection / availability				Size				Bonnet	Dimensions see page
Butt weld spigots	Butt weld spigot/ Flare connection	Butt weld spigot/ Space saver	Butt weld spigot/ Flare connection	Connection					
				Main pipe X + Z		Branch Y			
				Code international	DN	Code international	DN		
1/4" 1/4" 1/4"				4	8	4	8	1	9
1/2" 1/4" 1/2"				8	15	4	8		9
1/2" 1/2" 1/2"				8	15	8	15	2	10/11
		1/2" 1/2" 1/2"	1/2" 1/2" 1/2"	8	15	8	10		10/11
	3/4" 1/2" 3/4"			12	20	8	10		10/11
	3/4" 3/4" 3/4"			12	20	12	15		10/11
3/4" 1/4" 3/4"				12	20	4	8		10/11
3/4" 1/2" 3/4"				12	20	8	15		10/11
1" 1/2" 1"								3	12
1" 3/4" 1"									12
1" 1" 1"									12
	1" 1/2" 1"	1" 1/2" 1"		16	25	8	10		12
	1" 1" 1"	1" 1" 1"		16	25	10	20		12

Technical data

Operating medium

Suitable for any inert or corrosive gases or liquids,
- particularly high purity media - which do not corrode the
body and diaphragm materials.
High Flow version with improved Kv values.

Materials

Medium wetted parts (body)	PFA
Diaphragm	PTFE
Exterior bonnet parts	PVDF
Union nuts (bonnet/body), optional	ECTFE

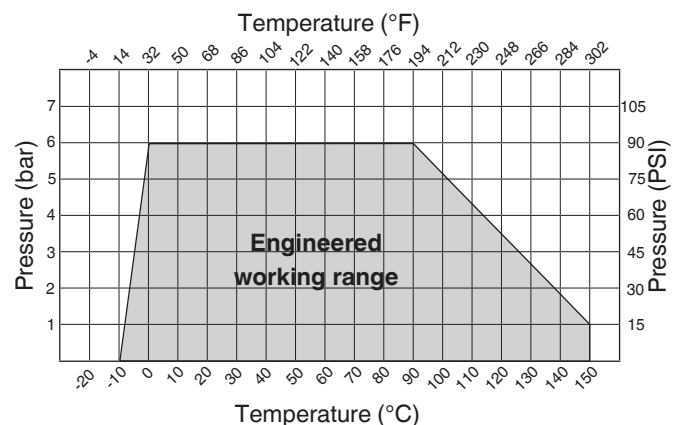
Operating pressure

Max. 6 bar when applied upstream only

Vacuum 400 mbar/abs*

* The life expectancy of the valve may be affected if exposed to a greater vacuum.

Temperature / pressure - diagram



Flow direction

Optional

Operating temperature

See temperature/pressure diagram

Ambient temperature

Max. 60°C (130°F)

Information on the use of diagram

The temperature / pressure diagram is only an orientation aid. The data refer to water as a working medium. A change of operating conditions or other media may result in deviations. In case of doubt it is advisable to test the behavior of the material under the definitive operating conditions by means of a test installation.

Temperatures under 0°C can affect the operating speed negatively.

Kv / Cv-values - 2/2-way valves								
Connection				Size			Kv-value	Cv-value
Size		Connection	Code	Code intern.	DN	Bonnet	l/min	US gal/min
1/4"	tube	Flare connection	73, 75, 77	4	4	1	4	0.29
	tube	Flare / Space Saver	73, 75, 77	4	4	1	4	0.29
	pipe	Imp. butt weld spigots	30	4	10	1	15	1.05
3/8"	tube	Flare connection	73, 75, 77	6	6	1	15	1.05
	tube	Flare / Space Saver	73, 75, 77	6	6	1	15	1.05
1/2"	tube	Flare connection	73, 75, 77	8	10	2	35	2.45
	tube	Flare / Space Saver	73, 75, 77	8	10	2	35	2.45
	tube	Space Saver / Space Saver	73, 75, 77	8	10	2	35	2.45
	tube/pipe	Flare / Imp. butt weld spigots	30, 73, 75, 77	8	10/15	2	35	2.45
	pipe	Imp. butt weld spigots	30	8	15	2	68	4.76
3/4"	pipe	Imp. butt weld spigots (High-Flow)	30	8	15	2	115	7.99
	tube	Flare connection	73, 75, 77	12	15	2	68	4.76
	tube	Flare / Space Saver	73, 75, 77	12	15	2	68	4.76
	tube	Space Saver / Space Saver	73, 75, 77	12	15	2	68	4.76
	tube/pipe	Flare / Imp. butt weld spigots	30, 73, 75, 77	12	15/20	2	68	4.76
	tube/pipe	Flare/Imp. butt weld spigots (High-Flow)	30, 73, 75, 77	12	15/20	2	115	7.99
	pipe	Imp. butt weld spigots	30	12	20	2	68	4.76
	tube	Flare connection	73, 75, 77	12	15	3	68	4.76
1"	tube/pipe	Flare / Imp. butt weld spigots	30, 73, 75, 77	12	15/20	3	68	4.76
	pipe	Imp. butt weld spigots	30	12	20	3	126	8.82
	tube/pipe	Flare/Imp. butt weld spigots (High-Flow)	30,73, 75, 77	16	20/25	2	123	8.57
	tube/pipe	Flare/Imp. butt weld spigots (High-Flow)	30,73, 75, 77	16	20/25	3	316	21.99
	tube	Flare connection	73, 75, 77	16	20	3	158	11.06
	tube	Flare / Space Saver	73, 75, 77	16	20	3	158	11.06
	tube	Space Saver / Space Saver	73, 75, 77	16	20	3	158	11.06
	tube/pipe	Flare/Imp. butt weld spigots	30,73, 75, 77	16	20/25	3	160	11.20
1 1/4"	pipe	Imp. butt weld spigots	30	16	25	3	175	12.25
	tube	Flare connection	73, 75, 77	20	25	3	170	11.90
tube	Flare connection (High Flow)	73, 75, 77	20	25	3	325	22.57	

Kv / Cv-values - T valves													
Main pipe X and Z						Branch Y					Actual.	Kv-value	Cv-value
Connection			Size			Connection			Size				
Size		Connection	Code	Code intern.	DN	Size	Connection	Code	Code intern.	DN		l/min	US gal/min
1/4"	pipe	Imp. butt weld spigots	30	4	10	1/4" pipe	Imp. butt weld spigots	30	4	10	1		
3/8"	tube	Flare connection	73, 75, 77	6	6	1/4" tube	Flare connection	73, 75, 77	4	4	1		
	tube	Flare connection	73, 75, 77	6	6	3/8" tube	Flare connection	73, 75, 77	6	6	1		
1/2"	tube	Flare connection	73, 75, 77	8	10	3/8" tube	Flare connection	73, 75, 77	6	6	1	17	1.19
	tube	Flare / Space Saver	73, 75, 77	8	10	3/8" tube	Flare connection	73, 75, 77	6	6	1	17	1.19
	tube	Flare connection	73, 75, 77	8	10	1/2" tube	Flare connection	73, 75, 77	8	10	2	28	1.96
	tube	Flare / Space Saver	73, 75, 77	8	10	1/2" tube	Flare connection	73, 75, 77	8	10	2	28	1.96
	tube	Space Saver / Flare	73, 75, 77	8	10	1/2" tube	Flare connection	73, 75, 77	8	10	2	28	1.96
	pipe	Imp. butt weld spigots	30	8	15	1/4" pipe	Imp. butt weld spigots	30	4	10	1		
	pipe	Imp. butt weld spigots	30	8	15	1/2" pipe	Imp. butt weld spigots	30	8	15	2		
3/4"	pipe	Imp. butt weld spigots	30	8	15	1/2" tube	Space Saver	73, 75, 77	8	10	2	36	2.52
	tube	Flare connection	73, 75, 77	12	15	3/8" tube	Flare connection	73, 75, 77	6	6	1	18	1.26
	tube	Space Saver / Flare	73, 75, 77	12	15	3/8" tube	Flare connection	73, 75, 77	6	6	1	18	1.26
	tube	Flare / Space Saver	73, 75, 77	12	15	3/8" tube	Flare connection	73, 75, 77	6	6	1	18	1.26
	tube	Flare connection	73, 75, 77	12	15	1/2" tube	Flare connection	73, 75, 77	8	10	2	35	2.45
	tube	Flare / Space Saver	73, 75, 77	12	15	1/2" tube	Flare connection	73, 75, 77	8	10	2	35	2.45
	tube	Space Saver / Flare	73, 75, 77	12	15	1/2" tube	Flare connection	73, 75, 77	8	10	2	35	2.45
	tube	Space Saver	73, 75, 77	12	15	1/2" tube	Flare connection	73, 75, 77	8	10	2	35	2.45
tube	Flare connection	73, 75, 77	12	15	1/2" tube	Space Saver	73, 75, 77	8	10	2	35	2.45	

Kv / Cv -values T valves (continued)														
Main pipe X and Z						Branch Y						Bonnet	Kv-value	Cv-value
Connection				Size		Connection				Size				
Size		Connection	Code	Code intern.	DN	Size	Connection	Code	Code intern.	DN		l/min	US gal/min	
3/4"	tube	Flare connection	73, 75, 77	12	15	3/4" tube	Flare connection	73, 75, 77	12	15	2	62	4.34	
	tube	Space Saver / Flare	73, 75, 77	12	15	3/4" tube	Flare connection	73, 75, 77	12	15	2	62	4.34	
	tube	Flare / Space Saver	73, 75, 77	12	15	3/4" tube	Flare connection	73, 75, 77	12	15	2	62	4.34	
	tube	Flare connection	73, 75, 77	12	15	3/4" tube	Space Saver	73, 75, 77	12	15	2	62	4.34	
	pipe	Imp. butt weld spigots	30	12	20	1/4" pipe	Imp. butt weld spigots	30	4	10	2			
	pipe	Imp. butt weld spigots	30	12	20	1/2" pipe	Imp. butt weld spigots	30	8	15	2	38	2.66	
	pipe	Imp. butt weld spigots	30	12	20	1/2" tube	Flare connection	73, 75, 77	8	10	2	38	2.66	
1"	pipe	Imp. butt weld spigots	30	12	20	3/4" tube	Flare connection	73, 75, 77	12	15	2	71	4.97	
	tube	Flare connection	73, 75, 77	16	20	1/2" tube	Flare connection	73, 75, 77	8	10	2	38	2.66	
	tube	Space Saver / Flare	73, 75, 77	16	20	1/2" tube	Flare connection	73, 75, 77	8	10	2	38	2.66	
	tube	Flare / Space Saver	73, 75, 77	16	20	1/2" tube	Flare connection	73, 75, 77	8	10	2	38	2.66	
	tube	Space Saver	73, 75, 77	16	20	1/2" tube	Flare connection	73, 75, 77	8	10	2	38	2.66	
	tube	Flare connection	73, 75, 77	16	20	3/4" tube	Flare connection	73, 75, 77	12	15	2	71	4.97	
	tube	Space Saver / Flare	73, 75, 77	16	20	3/4" tube	Flare connection	73, 75, 77	12	15	2	71	4.97	
	tube	Flare / Space Saver	73, 75, 77	16	20	3/4" tube	Flare connection	73, 75, 77	12	15	2	71	4.97	
	tube	Flare connection	73, 75, 77	16	20	3/4" tube	Space Saver	73, 75, 77	12	15	2	71	4.97	
	tube	Flare connection	73, 75, 77	16	20	1" tube	Flare connection	73, 75, 77	16	20	3	137	9.59	
	tube	Space Saver / Flare	73, 75, 77	16	20	1" tube	Flare connection	73, 75, 77	16	20	3	137	9.59	
	tube	Flare / Space Saver	73, 75, 77	16	20	1" tube	Flare connection	73, 75, 77	16	20	3	137	9.59	
	pipe	Imp. butt weld spigots	30	16	25	1/2" pipe	Imp. butt weld spigots	30	8	15	3			
	pipe	Imp. butt weld spigots	30	16	25	1/2" pipe	Flare connection	73, 75, 77	8	10	3			
	pipe	Imp. butt weld spigots	30	16	25	3/4" pipe	Imp. butt weld spigots	30	12	20	3			
pipe	Imp. butt weld spigots	30	16	25	1" pipe	Imp. butt weld spigots	30	16	25	3	135	9.45		
pipe	Imp. butt weld spigots	30	16	25	1" tube	Flare connection	73, 75, 77	16	20	3				
1 1/4"	tube	Flare connection	73, 75, 77	20	25	1/2" tube	Flare connection	73, 75, 77	8	10	3	53	3.71	
	tube	Flare connection	73, 75, 77	20	25	3/4" tube	Flare connection	73, 75, 77	12	15	3	117	8.19	
	tube	Flare connection	73, 75, 77	20	25	1" tube	Flare connection	73, 75, 77	16	20	3	150	10.5	
	tube	Flare connection	73, 75, 77	20	25	1 1/4" tube	Flare connection	73, 75, 77	20	25	3	170	11.9	

Kv/Cv value Flare connection $\hat{=}$ Kv/Cv value Space saver

Order data

Position space saver (for 2/2-way body)		Code
Space saver in z-position		Z
Space saver in x+z-position		S

Position butt weld spigot (for 2/2-way body)		Code
Flare in x butt weld spigot in z		K

Position space saver (for T body)		Code
Space saver in y-position		Y

Nominal size*		Code
1/4" tube	DN 4	4
3/8" tube	DN 6	6
1/2" tube	DN 10	8
1/2" pipe	DN 15	8
3/4" tube	DN 15	12
3/4" pipe	DN 20	12
1" tube	DN 20	16
1" pipe	DN 25	16
1 1/4" tube	DN 25	20

* 2/2-way body and branch T body (y position)

Valve body configuration		Code
2/2-way body		D
T body		T

Valve body connection		Code
Imperial butt weld spigots		30
Flare connection with CPFA-HP union nut		73
Flare connection with PVDF-HP union nut		75
Flare connection with PFA-HP union nut		77

Valve body material		Code
PFA, perfluoralkoxy		30

Seal material		Code
PTFE/EPDM		5A

Control function		Code
Manually operated		0

Bonnet size		Code
Standard version		
Bonnet 1		1
Bonnet 2		2
Bonnet 3		3
Standard version with ECTFE union nut*		
Bonnet 1		1E
Bonnet 2		2E
Bonnet 3		3E
High Flow Version		
Bonnet 2		2 F
Bonnet 3		3 F
Bonnet 2 with ECTFE union nut		2EF
Bonnet 3 with ECTFE union nut		3EF

For defining the bonnet size, please refer to the tables on pp. 2 and 3.
* see designation (6) on title page

Additional order data for T valves

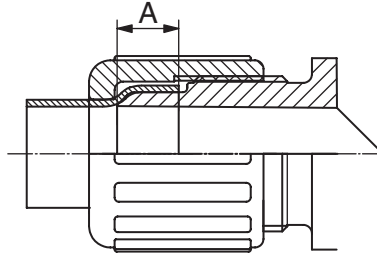
Position of Space saver (for T bodies)		Code
Space saver in x-position		X
Space saver in z-position		Z
Space saver in x+z-position		S

Nominal size of main pipe (only T valves)		Code
1/2" tube	DN 10	8
3/4" tube	DN 15	12
1" tube	DN 20	16
1" pipe	DN 25	16
1 1/4" tube	DN 25	20

Connection of main pipe (only T valves)		Code
Imperial butt weld spigots		30
Flare connection with CPFA-HP union nut		73
Flare connection with PVDF-HP union nut (also for space saver)		75
Flare connection with PFA-HP union nut (also for space saver)		77

Order example	C67	Z	8	D	75	30	5A	0	2	Z	8	75	HPW
Type	C67												
Position Space saver (optional)		Z											
Nominal size (code)			8										
Valve body configuration (code)				D									
Valve body connection (code)					75								
Valve body material (code)						30							
Seal material (code)							5A						
Control function (code)								0					
Bonnet size (code)									2				
T body: Position of Space saver (optional)										Z			
T body: Nominal size of main pipe (code)											8		
T body: Connection of main pipe (code)												75	
High Purity, white													HPW

Dimensions / Tolerances



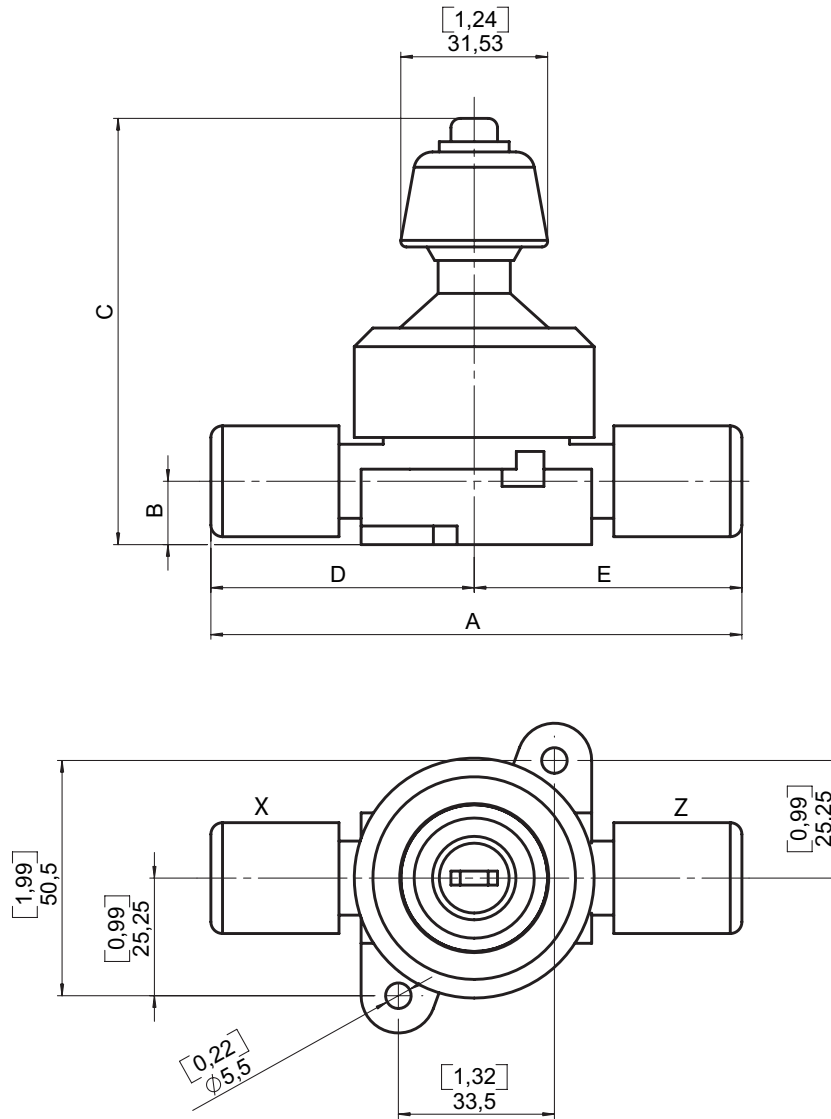
Overlap dimensions and thread sizes of flare connections

Tube size	Thread designation	Standard	A mm [inch]
1/4"	1/2"-20-UNF	ANSI B 1.1	7.0 [0.27"]
3/8"	5/8"-20-UN	ANSI B 1.1	10.0 [0.39"]
1/2"	3/4"-20-UNEF	ANSI B 1.1	12.0 [0.47"]
3/4"	1"-20-UNEF	ANSI B 1.1	14.0 [0.55"]
1"	1 7/16"-12-UN	ANSI B 1.1	14.0 [0.55"]
1 1/4"	1 3/4"-8-UN	ANSI B 1.1	18.0 [0.71"]

Tolerances

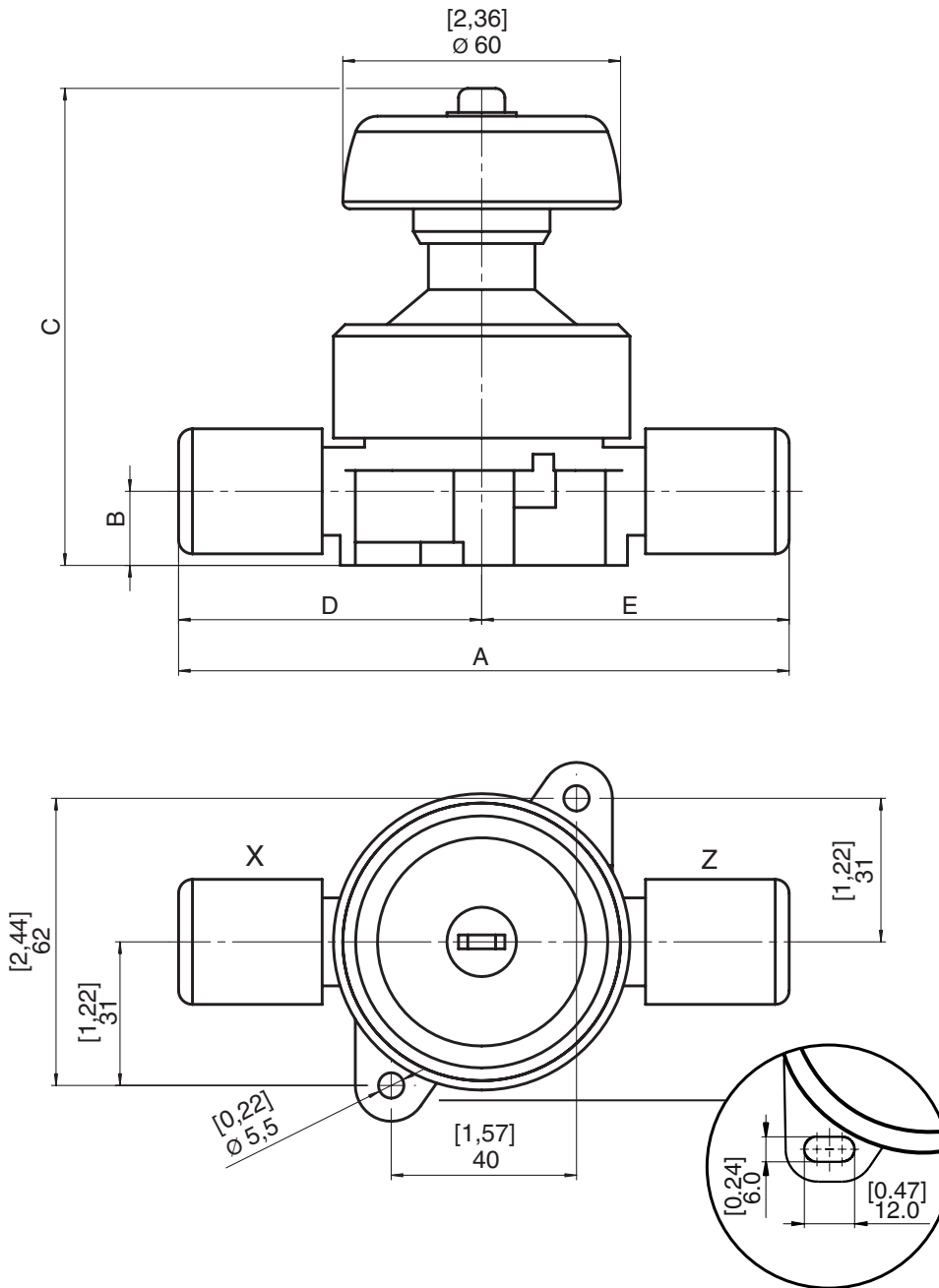
- The **CleanStar®** plastic parts are manufactured to DIN 16901-140.
- In Space Saver - Flare connections tolerances of $\pm 2.5\text{mm}$ are possible.
- Tolerance data for butt weld connections will vary depending on the design of the welding machine used.

Dimensions 2/2-way valves - Bonnet size 1



Connection		Dimensions [mm/inch]				
X	Z	A	B	C	D	E
1/4" Butt weld spigot	1/4" Butt weld spigot	102.0/4.02"	13.6/0.54"	91.5/3.6"	51.0/2.01"	51.0/2.01"
1/4" Flare	1/4" Flare	112.8/4.44"	13.6/0.54"	91.5/3.6"	51.0/2.01"	51.0/2.01"
1/4" Flare	1/4" Space Saver	120.1/4.73"	13.6/0.54"	91.5/3.6"	56.4/2.22"	63.7/2.50"
3/8" Flare	3/8" Flare	114.0/4.49"	13.6/0.54"	91.5/3.6"	57.0/2.24"	57.0/2.24"
3/8" Flare	3/8" Space Saver	119.4/4.70"	13.6/0.54"	91.5/3.6"	57.0/2.24"	62.4/2.45"

Dimensions 2/2-way valves - Bonnet size 2

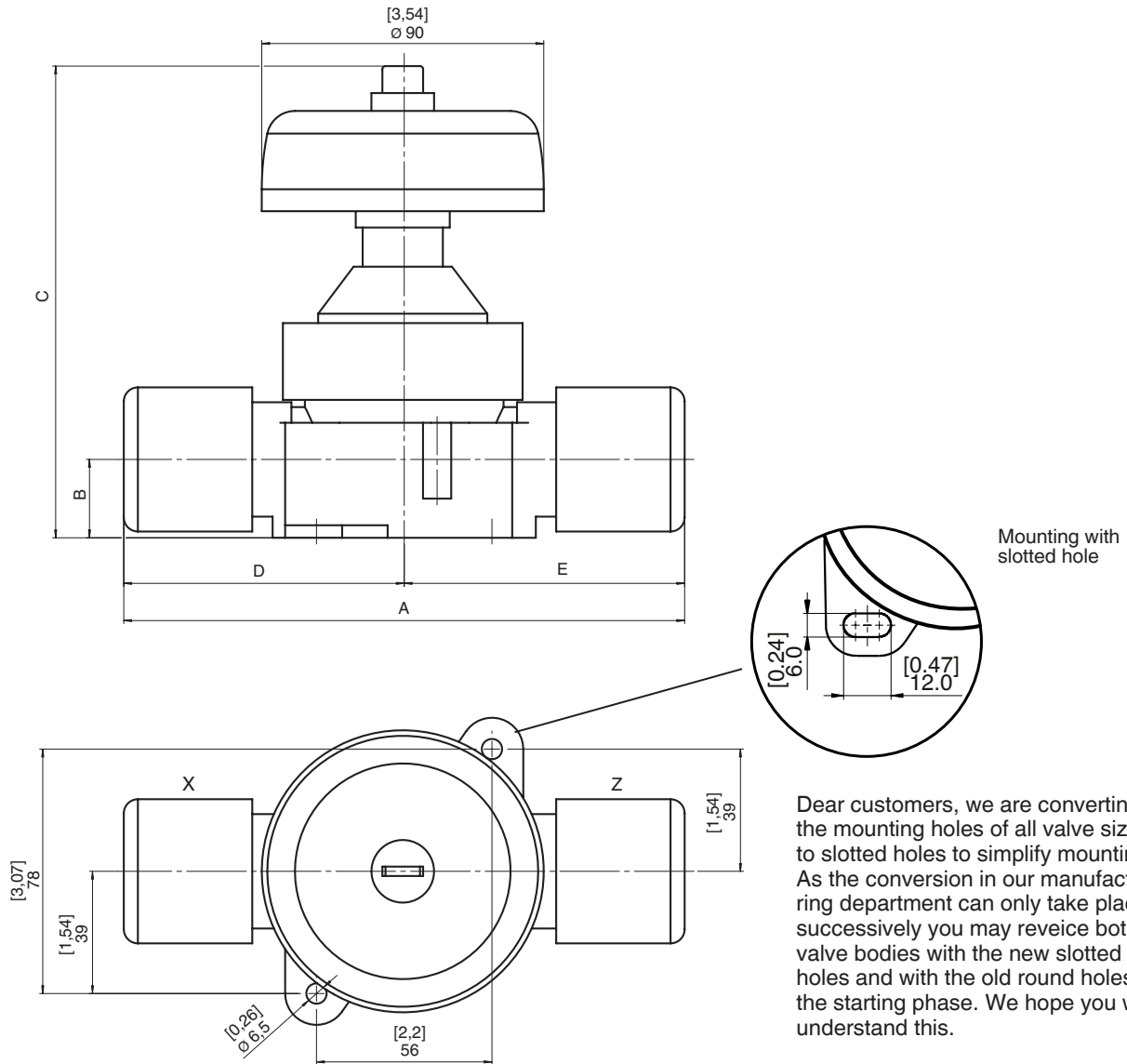


Dear customers, we are converting the mounting holes of all valve sizes to slotted holes to simplify mounting. As the conversion in our manufacturing department can only take place successively you may receive both valve bodies with the new slotted holes and with the old round holes in the starting phase. We hope you will understand this.

Mounting with slotted hole

Connection		Dimensions [mm/inch]				
X	Z	A	B	C	D	E
1/2" Butt weld spigot	1/2" Butt weld spigot	135.0/5.31"	19/0.75"	109/4.29"	67.5/2.65"	67.5/2.65"
1/2" Flare	1/2" Butt weld spigot	133.4/5.25"	19/0.75"	109/4.29"	65.9/2.59"	67.5/2.65"
1/2" Flare	1/2" Flare	131.8/5.19"	16/0.63"	103/4.06"	65.9/2.59"	65.9/2.59"
1/2" Flare	1/2" Space Saver	136.9/5.39"	16/0.63"	103/4.06"	65.9/2.59"	71.0/2.79"
1/2" Space Saver	1/2" Space Saver	142.0/5.59"	16/0.63"	103/4.06"	71.0/2.79"	71.0/2.79"
3/4" Butt weld spigot	3/4" Butt weld spigot	135.0/5.31"	19/0.75"	109/4.29"	67.5/2.65"	67.5/2.65"
3/4" Flare	3/4" Butt weld spigot	134.4/5.29"	19/0.75"	109/4.29"	66.9/2.63"	67.5/2.65"
3/4" Flare	3/4" Flare	133.8/5.26"	19/0.75"	109/4.29"	66.9/2.63"	66.9/2.63"
3/4" Flare	3/4" Space Saver	145.3/5.72"	19/0.75"	109/4.29"	66.9/2.63"	78.4/3.08"
3/4" Space Saver	3/4" Space Saver	156.8/6.17"	19/0.75"	109/4.29"	78.4/3.08"	78.4/3.08"

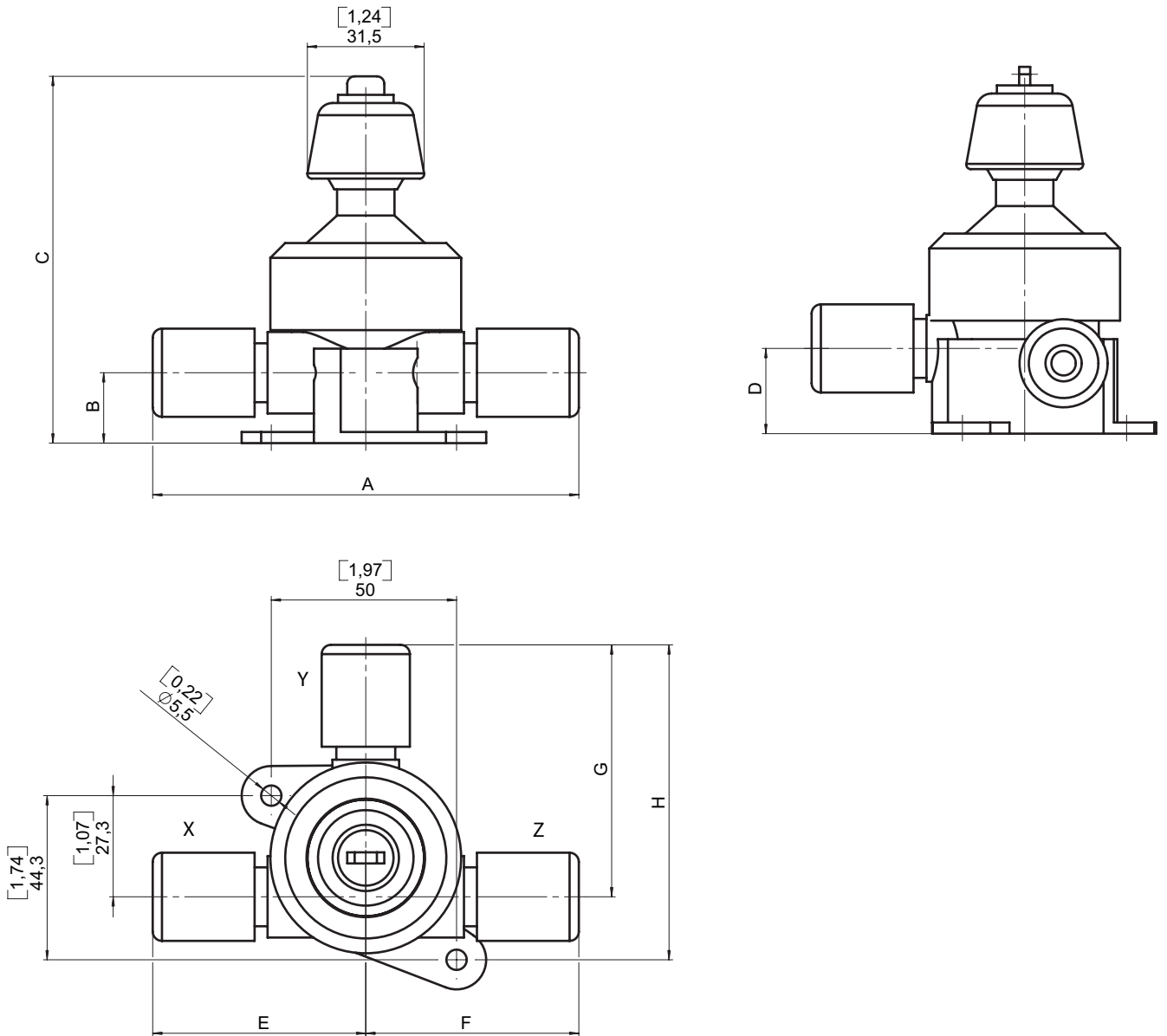
Dimensions 2/2-way valves - Bonnet size 3



Connection		Dimensions [mm/inch]				
X	Z	A	B	C	D	E
3/4" Butt weld spigots	3/4" Butt weld spigots	166.0/6.54"	25/0.98"	166.5/6.56"	83.0/3.26"	83.0/3.26"
3/4" Flare	3/4" Butt weld spigots	165.9/6.53"	25/0.98"	166.5/6.56"	82.9/3.26"	83.0/3.26"
3/4" Flare	3/4" Flare	165.8/6.53"	25/0.98"	166.5/6.56"	82.9/3.26"	82.9/3.26"
1" Butt weld spigots	1" Butt weld spigots	166.0/6.54"	25/0.98"	166.5/6.56"	83.0/3.26"	83.0/3.26"
1" Flare	1" Butt weld spigots	172.5/6.79"	25/0.98"	166.5/6.56"	89.5/3.52"	83.0/3.26"
1" Flare	1" Flare	179.0/7.05"	25/0.98"	166.5/6.56"	89.5/3.52"	89.5/3.52"
1" Flare	1" Space Saver	188.9/7.44"	25/0.98"	166.5/6.56"	89.5/3.52"	99.4/3.91"
1" Space Saver	1" Space Saver	198.8/7.83"	25/0.98"	166.5/6.56"	99.4/3.91"	99.4/3.91"
1 1/4" Flare	1 1/4" Flare	238.4/9.39"	25/0.98"	166.5/6.56"	119.2/4.69"	119.2/4.69"
1 1/4" Flare (HF)	1 1/4" Flare (HF)	197.4/7.77"	25/0.98"	166.5/6.56"	119.2/4.69"	119.2/4.69"

HF = HighFlow

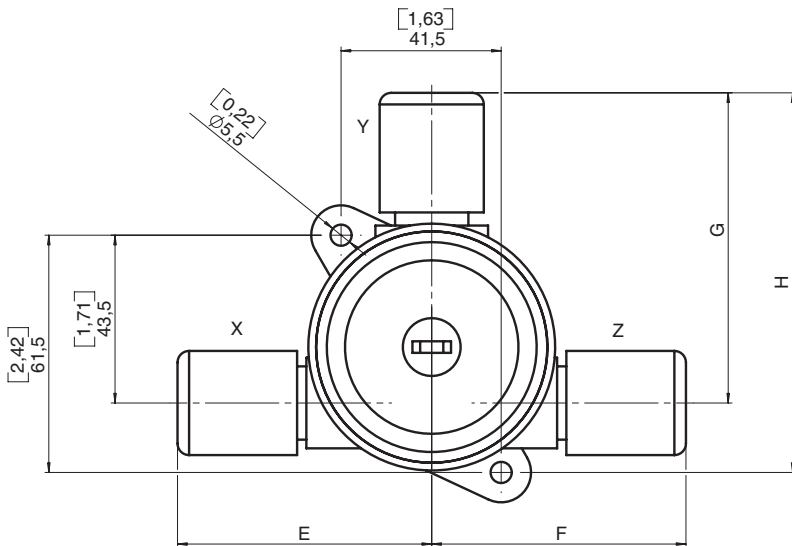
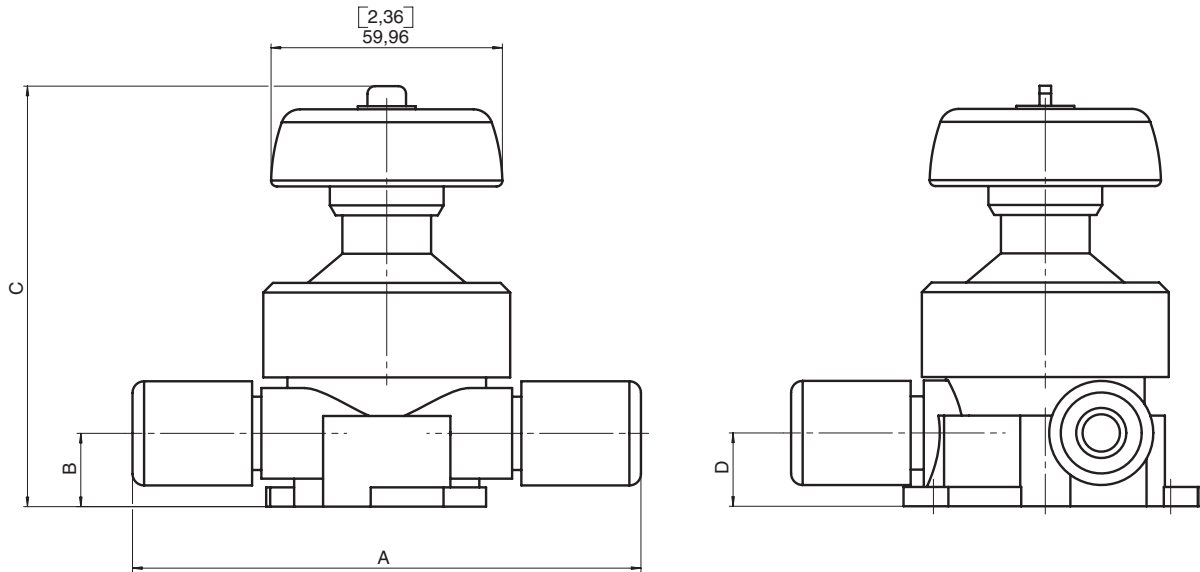
Dimensions T-valves - Bonnet size 1



Connection			Dimensions [mm/inch]							
X	Y	Z	A	B	C	D	E	F	G	H
1/4" Butt weld	1/4" Butt weld	1/4" Butt weld	106.0/4.17"	19/0.75"	99/3.90"	23/0.91"	53.0/2.08"	53.0/2.08"	63.5/2.50"	80.5/3.16"
1/2" Butt weld	1/4" Butt weld	1/2" Butt weld	106.0/4.17"	19/0.75"	99/3.90"	23/0.91"	53.0/2.08"	53.0/2.08"	63.5/2.50"	80.5/3.16"
3/8" Flare	1/4" Flare	3/8" Flare	115.0/4.53"	19/0.75"	99/3.90"	23/0.91"	57.5/2.26"	57.5/2.26"	67.4/2.65"	84.4/3.32"
3/8" Flare	3/8" Flare	3/8" Flare	115.0/4.53"	19/0.75"	99/3.90"	23/0.91"	57.5/2.26"	57.5/2.26"	68.0/2.68"	85.0/3.34"
1/2" Flare	3/8" Flare	1/2" Flare	120.8/4.76"	19/0.75"	99/3.90"	23/0.91"	60.4/2.37"	60.4/2.37"	68.0/2.68"	85.0/3.34"
1/2" Flare	3/8" Flare	1/2" SS*	131.9/5.19"	19/0.75"	99/3.90"	23/0.91"	60.4/2.37"	71.5/2.81"	68.0/2.68"	85.0/3.34"
3/4" Flare	3/8" Flare	3/4" Flare	125.8/4.95"	19/0.75"	99/3.90"	23/0.91"	62.9/2.47"	62.9/2.47"	68.0/2.68"	85.0/3.34"
3/4" SS*	3/8" Flare	3/4" Flare	135.3/5.33"	19/0.75"	99/3.90"	23/0.91"	72.4/2.85"	62.9/2.47"	68.0/2.68"	85.0/3.34"
3/4" Flare	3/8" Flare	3/4" SS*	135.3/5.33"	19/0.75"	99/3.90"	23/0.91"	62.9/2.47"	72.4/2.85"	68.0/2.68"	85.0/3.34"

*Space Saver

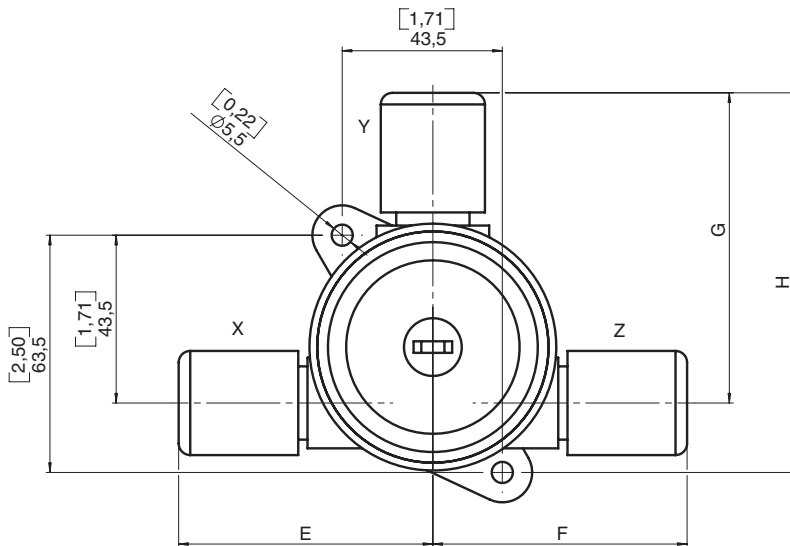
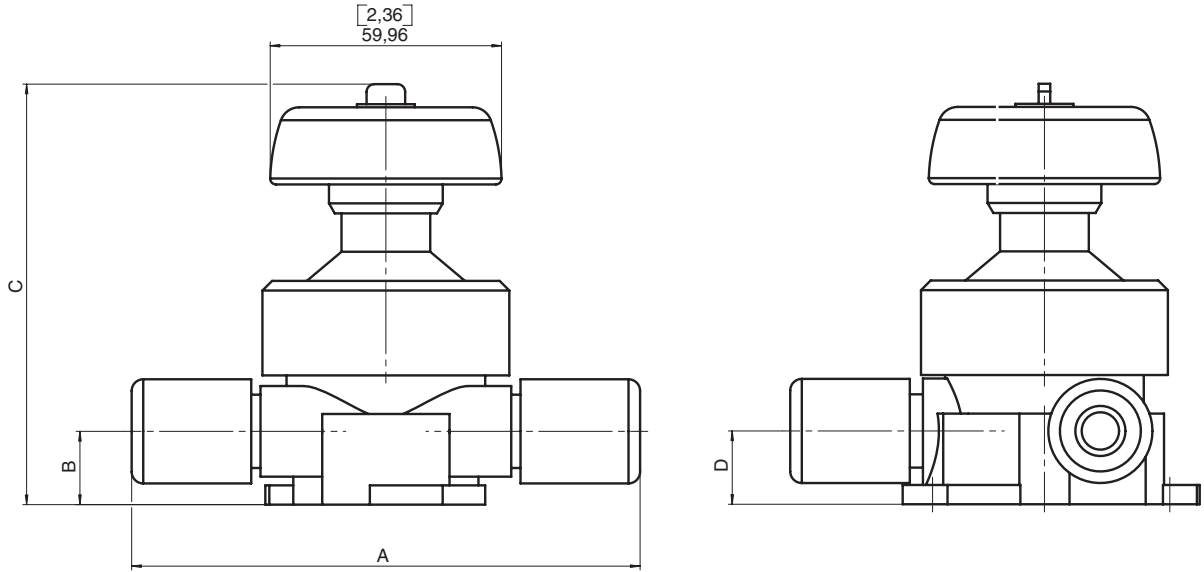
Dimensions T-valves - Bonnet size 2



Connection			Dimensions [mm/inch]							
X	Y	Z	A	B	C	D	E	F	G	H
1/2" Butt weld	1/2" Butt weld	1/2" Butt weld	122.0/4.80"	19.0/0.75"	109.0/4.29"	19.0/0.75"	61.0/2.40"	61.0/2.40"	75.5/2.97"	93.5/3.68"
1/2" Flare	1/2" Flare	1/2" Flare	131.8/5.19"	19.0/0.75"	109.0/4.29"	19.0/0.75"	65.9/2.59"	65.9/2.59"	80.4/3.17"	98.4/3.87"
1/2" Flare	1/2" Flare	1/2" SS*	136.0/5.39"	19.0/0.75"	109.0/4.29"	19.0/0.75"	65.9/2.59"	70.1/2.76"	80.4/3.17"	98.4/3.87"
1/2" Flare	1/2" SS*	1/2" Flare	131.8/5.19"	19.0/0.75"	109.0/4.29"	19.0/0.75"	65.9/2.59"	65.9/2.59"	85.5/3.37"	103.5/4.07"
3/4" Butt weld	1/4" Butt weld	3/4" Butt weld	140.0/5.51"	25.0/0.98"	118.4/4.66"	28.5/1.12"	70.0/2.75"	70.0/2.75"	76.5/3.01"	96.0/3.76"
3/4" Flare	1/2" Flare	3/4" Flare	133.8/5.27"	19.0/0.75"	109.0/4.29"	19.0/0.75"	66.9/2.63"	66.9/2.63"	80.4/3.17"	98.4/3.87"
3/4" SS*	1/2" Flare	3/4" Flare	145.3/5.72"	19.0/0.75"	109.0/4.29"	19.0/0.75"	78.4/3.08"	66.9/2.63"	80.4/3.17"	98.4/3.87"
3/4" Flare	1/2" Flare	3/4" SS*	145.3/5.72"	19.0/0.75"	109.0/4.29"	19.0/0.75"	66.9/2.63"	78.4/3.08"	80.4/3.17"	98.4/3.87"
3/4" SS*	1/2" Flare	3/4" SS*	156.8/6.17"	19.0/0.75"	109.0/4.29"	19.0/0.75"	78.4/3.08"	78.4/3.08"	80.4/3.17"	98.4/3.87"
3/4" Flare	1/2" SS*	3/4" Flare	133.8/5.27"	19.0/0.75"	109.0/4.29"	19.0/0.75"	66.9/2.63"	66.9/2.63"	85.5/3.37"	103.5/4.07"
3/4" Flare	3/4" Flare	3/4" Flare	133.8/5.27"	19.0/0.75"	109.0/4.29"	19.0/0.75"	66.9/2.63"	66.9/2.63"	81.4/3.20"	99.4/3.91"
3/4" SS*	3/4" Flare	3/4" Flare	145.3/5.72"	19.0/0.75"	109.0/4.29"	19.0/0.75"	78.4/3.08"	66.9/2.63"	81.4/3.20"	99.4/3.91"
3/4" Flare	3/4" Flare	3/4" SS*	145.3/5.72"	19.0/0.75"	109.0/4.29"	19.0/0.75"	66.9/2.63"	78.4/3.08"	81.4/3.20"	99.4/3.91"
3/4" Flare	3/4" SS*	3/4" Flare	133.8/5.27"	19.0/0.75"	109.0/4.29"	19.0/0.75"	66.9/2.63"	66.9/2.63"	92.4/3.63"	110.4/4.34"

*Space Saver

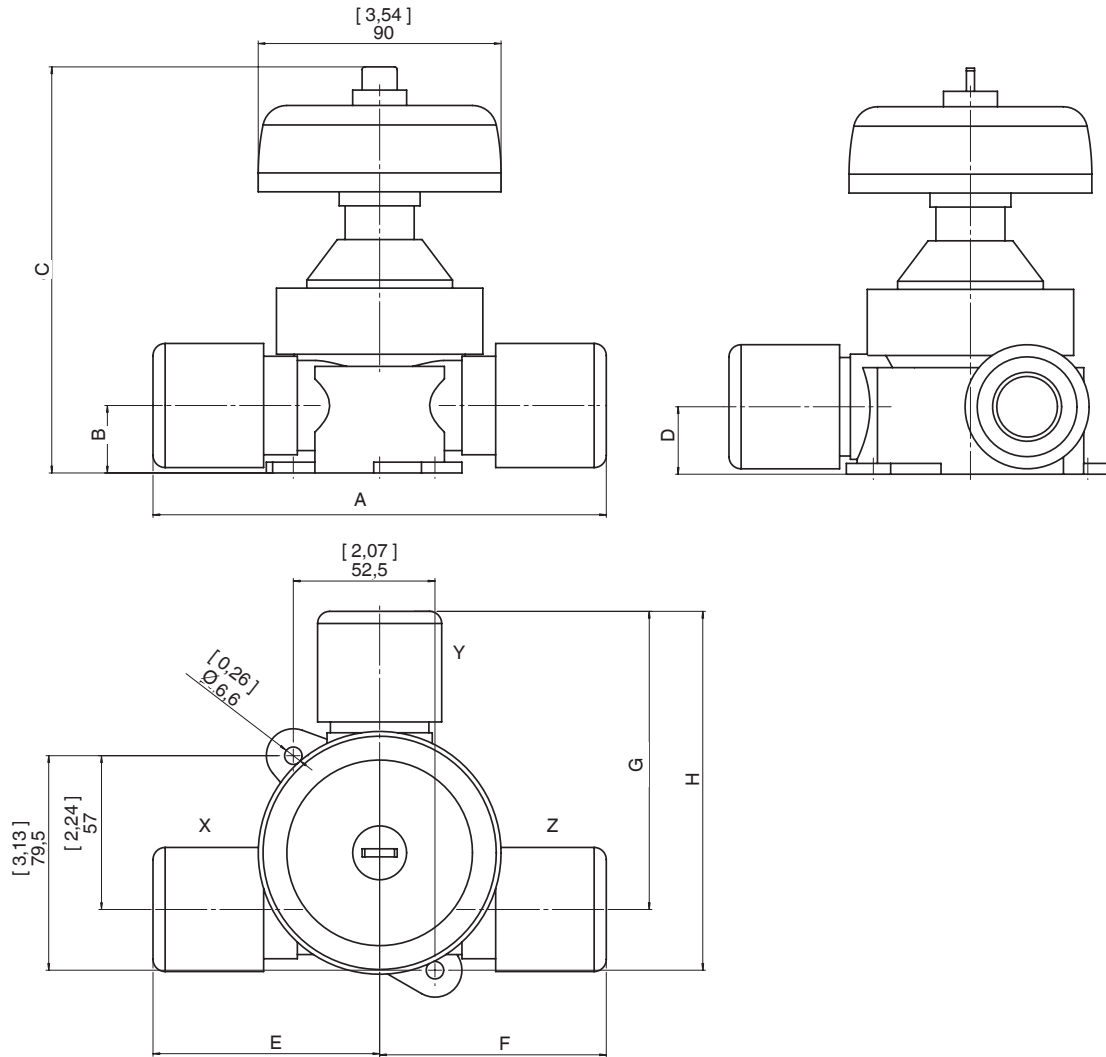
Dimensions T-valves - Bonnet size 2



Connection			Dimensions [mm/inch]							
X	Y	Z	A	B	C	D	E	F	G	H
1/2" Butt weld	1/2" SS*	1/2" Butt weld	122.0/4.80"	19.0/0.75"	109.0/4.29"	19.0/0.75"	61.0/2.40"	61.0/2.40"	85.5/3.37"	103.5/4.07"
3/4" Butt weld	1/2" Butt weld	3/4" Butt weld	140.0/5.51"	25.0/0.98"	118.4/4.66"	28.5/1.12"	70.0/2.75"	70.0/2.75"	83.5/3.28"	103.0/4.05"
3/4" Butt weld	1/2" Flare	3/4" Butt weld	140.0/5.51"	25.0/0.98"	118.4/4.66"	28.5/1.12"	70.0/2.75"	70.0/2.75"	81.4/3.20"	100.9/3.97"
3/4" Butt weld	3/4" Flare	3/4" Butt weld	140.0/5.51"	25.0/0.98"	118.4/4.66"	28.5/1.12"	70.0/2.75"	70.0/2.75"	82.4/3.24"	101.9/4.01"
1" Flare	1/2" Flare	1" Flare	154.0/6.06"	25.0/0.98"	118.4/4.66"	28.5/1.12"	77.0/3.03"	77.0/3.03"	81.4/3.20"	100.9/3.97"
1" SS*	1/2" Flare	1" Flare	158.9/6.26"	25.0/0.98"	118.4/4.66"	28.5/1.12"	81.9/3.22"	77.0/3.03"	81.4/3.20"	100.9/3.97"
1" Flare	1/2" Flare	1" SS*	158.9/6.26"	25.0/0.98"	118.4/4.66"	28.5/1.12"	77.0/3.03"	81.9/3.22"	81.4/3.20"	100.9/3.97"
1" SS*	1/2" Flare	1" SS*	163.8/6.45"	25.0/0.98"	118.4/4.66"	28.5/1.12"	81.9/3.22"	81.9/3.22"	81.4/3.20"	100.9/3.97"
1" Flare	3/4" Flare	1" Flare	154.0/6.06"	25.0/0.98"	118.4/4.66"	28.5/1.12"	77.0/3.03"	77.0/3.03"	82.4/3.24"	101.9/4.01"
1" SS*	3/4" Flare	1" Flare	158.9/6.26"	25.0/0.98"	118.4/4.66"	28.5/1.12"	81.9/3.22"	77.0/3.03"	82.4/3.24"	101.9/4.01"
1" Flare	3/4" Flare	1" SS*	158.9/6.26"	25.0/0.98"	118.4/4.66"	28.5/1.12"	77.0/3.03"	81.9/3.22"	82.4/3.24"	101.9/4.01"
1" Flare	3/4" SS*	1" Flare	154.0/6.06"	25.0/0.98"	118.4/4.66"	28.5/1.12"	77.0/3.03"	77.0/3.03"	92.9/3.65"	112.4/4.42"

*Space Saver

Dimensions T-valves - Bonnet size 3

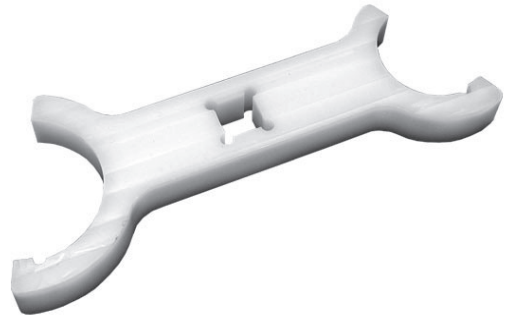


Connection			Dimensions [mm/inch]							
X	Y	Z	A	B	C	D	E	F	G	H
1" Butt weld	1/2" Butt weld	1" Butt weld	163.0/6.42"	25/0.98"	150.5/5.92"	25/0.98"	81.5/3.20"	81.5/3.20"	102.0/4.02"	124.5/4.90"
1" Butt weld	1/2" Flare	1" Butt weld	163.0/6.42"	25/0.98"	150.5/5.92"	25/0.98"	81.5/3.20"	81.5/3.20"	99.9/3.93"	122.4/4.81"
1" Butt weld	3/4" Butt weld	1" Butt weld	163.0/6.42"	25/0.98"	150.5/5.92"	25/0.98"	81.5/3.20"	81.5/3.20"	102.0/4.02"	124.5/4.90"
1" Butt weld	1/2" Butt weld	1" Butt weld	163.0/6.42"	25/0.98"	150.5/5.92"	25/0.98"	81.5/3.20"	81.5/3.20"	103.5/4.07"	126.0/4.96"
1" Butt weld	1" Flare	1" Butt weld	163.0/6.42"	25/0.98"	150.5/5.92"	25/0.98"	81.5/3.20"	81.5/3.20"	110.5/4.35"	133.0/5.23"
1" Flare	1" Flare	1" Flare	168.0/6.61"	25/0.98"	150.5/5.92"	25/0.98"	84.0/3.30"	84.0/3.30"	110.5/4.35"	133.0/5.23"
1" SS*	1" Flare	3/4" Flare	177.9/7.00"	25/0.98"	150.5/5.92"	25/0.98"	93.9/3.69"	84.0/3.30"	110.5/4.35"	133.0/5.23"
1" Flare	1" Flare	1" SS*	177.9/7.00"	25/0.98"	150.5/5.92"	25/0.98"	84.0/3.30"	93.9/3.69"	110.5/4.35"	133.0/5.23"
1 1/4" Flare	1/2" Flare	1 1/4" Flare	238.4/9.39"	25/0.98"	150.5/5.92"	25/0.98"	119.2/4.69"	119.2/4.69"	99.9/3.93"	122.4/4.81"
1 1/4" Flare	1" Flare	1 1/4" Flare	238.4/9.39"	25/0.98"	150.5/5.92"	25/0.98"	119.2/4.69"	119.2/4.69"	110.5/4.35"	133.0/5.23"
1 1/4" Flare	1 1/4" Flare	1 1/4" Flare	238.4/9.39"	25/0.98"	150.5/5.92"	25/0.98"	119.2/4.69"	119.2/4.69"	143.2/5.63"	165.7/6.52"

*Space Saver



GEMÜ 1096
Service tool for bonnets



GEMÜ 1096
Service tool for
flare union nuts



GEMÜ 1098
Flaring mandrel



GEMÜ C67 LOD
Lock out device

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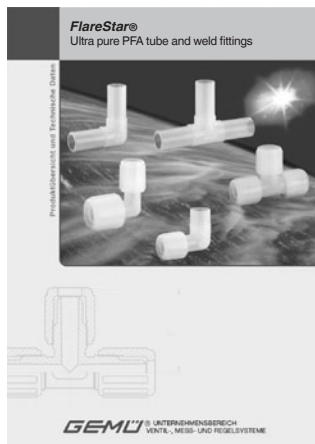
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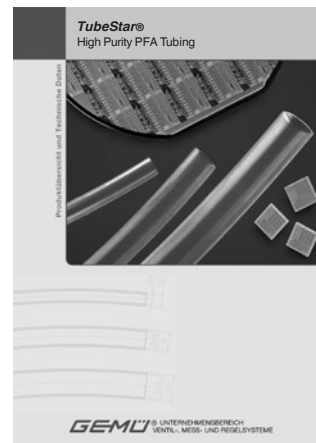
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