

CleanStar® 3/5 Way PFA Diaphragm Valves

Construction

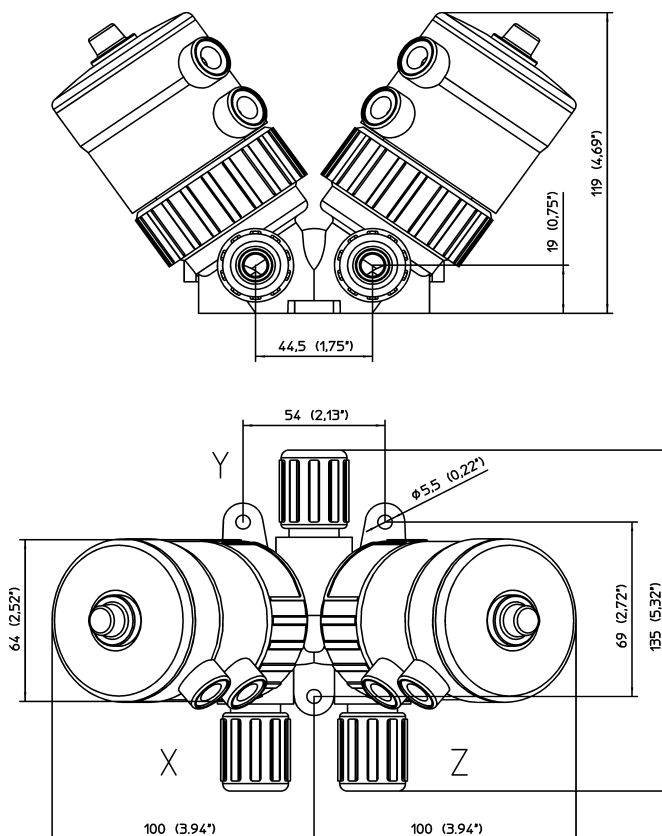
The GEMÜ *CleanStar*® C60 / C67 HPW ultra pure pneumatically or manually operated 3/5 way diaphragm valves have a full PFA-HP body with two valve seats. All medium wetted parts are in PFA-HP or PTFE (diaphragm). The non-wetted bonnet is PVDF. The standard version of type C60 (pneumatic) is designed as a diverter valve: 1 x NC and 1 x NO (2 pneumatic actuators C60, one normally closed, one normally open). C60 has a stroke limiter and an optical position indicator (1), C67 (manual) has a travel stop (6) as standard. Solid mounting lugs (2) are integrated and there is also a connection for a leakage detection sensor (3). The union nuts can be either in PVDF-HP, PFA-HP or C-PFA-HP (4). C67 has a standard optical position indicator (5).

Advantages

- Minimal deadleg
- High K_v values
- Optional flow direction
- Can be used as a media blending valve
- Actuators can be independently controlled
- Can be fully integrated with existing GEMÜ process controls



Dimensions GEMÜ C60 3 way valve (pneumatic/pneumatic) [mm/inch]



All the above dimensions are identical for connection sizes 1/2" and 3/4".

Range Overview **CleanStar®** C60/C67 3 way valves

Type of connection / Availability					Size		
Flare connection	Butt-weld spigots	Space saver			Connection		Actuator size
		Pos. X + Z	Pos. Y	Pos. X + Z + Y	Code international	DN	
					8 12	10 15	2
1/2" - 1/2" - 1/2" 3/4" - 3/4" - 3/4"	on request	on request	on request	on request			

Technical Data

Flow medium

Suitable for any inert or corrosive gases or liquids, -especially high purity media- which do **not** corrode the respective body and diaphragm materials.

Ambient temperature

Max. 60°C (130°F)

Flow direction

Optional

Materials

Medium wetted parts (body)	PFA
Diaphragm	PTFE
Bonnet parts, non-wetted	PVDF

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.

Control pressure (only C60)

"Normally closed" (c.f. 1)	4-7 bar
"Normally open" (c.f. 2) and "double acting" (c.f. 3)	max. 4 bar

Operating temperature

See temperature/pressure diagram on page 4

Control air connection (only C60)

Size G 1/8

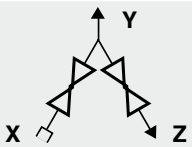
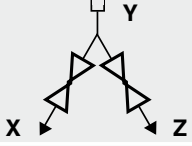
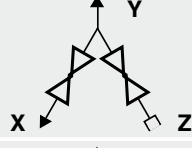
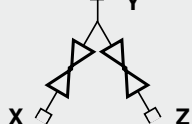
K_v/C_v values

Connection			Size			K _v -Wert	C _v -Wert
Size	Connection	Code	Code international	DN	Actuator	l/min	US gal/min
1/2" tube	Flare connection	75 and 77	8	10	2	28	2.0
3/4" tube	Flare connection	75 and 77	12	15	2	53	3.7

Control Air Volume - C60

Actuator size	Control function		Actuator Volume (cm ³)
2	1	Normally closed	24.0
	2	Normally open	39.0
	3	Double acting (closed)	39.0
	3	Double acting (open)	24.0

Order data

Position of space saver (optional)		Code	Nominal size (Connection Y)		Code
Space saver in X-position		X	1/2" tube DN 10	8	
Space saver in Y-position		Y	3/4" tube DN 15	12	
Space saver in Z-position		Z	Body geometry		
Space saver in X+Z-position		S	V body		
			Connection type (Connection Y)		Code
			Flare connection with C-PVA union nut (also for space saver)		73
			Flare connection with PVDF union nut (also for space saver)		75
			Flare connection with PFA union nut (also for space saver)		77
			Body material		Code
			PFA		30
			Diaphragm material		Code
			PTFE		5A

Control function / Actuator type (code)

Valve 1 (X - Y)			Valve 2 (Z - Y)			
Type	Actuator type	Control function	Type	Actuator type	Control function	Code
C60	Normally closed	1	C60	Normally closed	1	1
C60	Normally closed	1	C60	Normally open	2	D
C60	Normally closed	1	C67	Manually operated	0	F
C67	Manually operated	0	C60	Normally closed	1	A
C67	Manually operated	0	C67	Manually operated	0	0

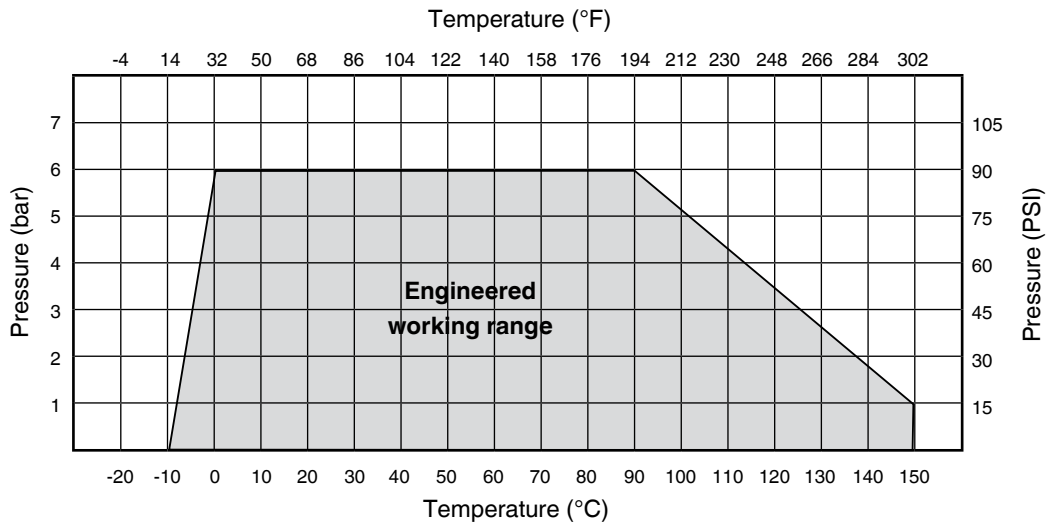
Further combinations on request.

Actuator size		Code	Connection type (connections X + Z)		Code
Actuator 2		2	Flare connection with C-PVA union nut (also for space saver)		73
			Flare connection with PVDF union nut (also for space saver)		75
			Flare connection with PFA union nut (also for space saver)		77
Nominal size (connections X + Z)		Code			
1/2" tube DN 10		8			
3/4" tube DN 15		12			

Order example	C60	Y	8	V	75	30	5A	F	2	S	8	75	HPW
Type	C60												
Position of space saver (optional)		Y											
Nominal size (code)			8										
Body geometry (code)				V									
Connection (code)					75								
Body material (code)						30							
Diaphragm material (code)							5A						
Control function / actuator type (code)								F					
Actuator size (code)									2				
Position of space saver (optional)										S			
Nominal size of connections X and Z (code)*											8		
Connection type of connections X and Z (code)*												75	
High Purity, white													HPW

* Connections are limited to versions with same nominal sizes at all positions. Size variations to follow.

Temperature / pressure - diagram

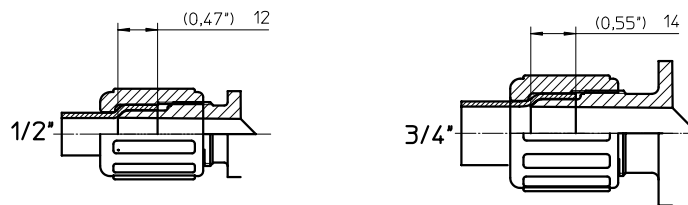


Information on the use of the temperature / pressure diagram

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.

Dimensions / Tolerances

Overlap dimensions and thread sizes of flare connections



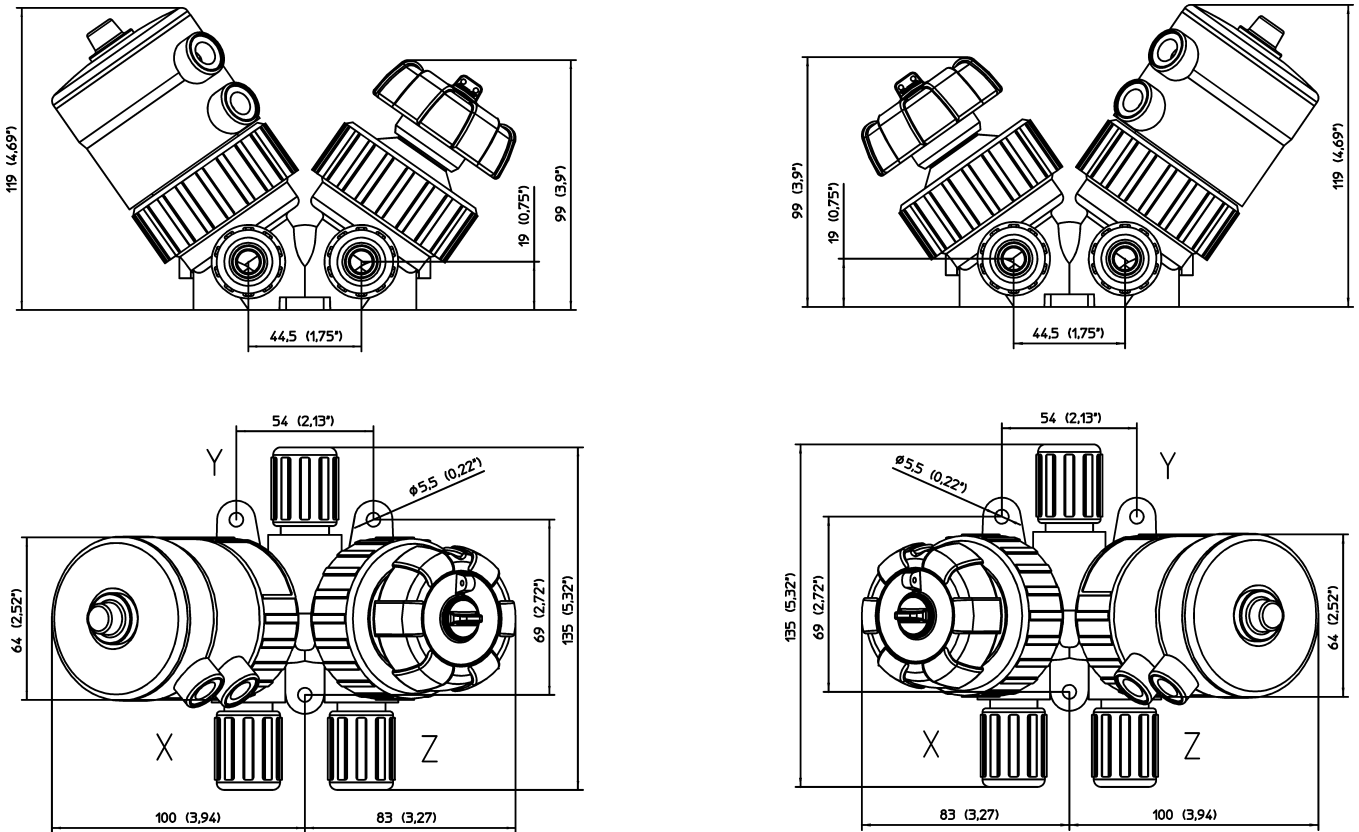
Thread sizes of Flare connections

Tube size	Thread designation	Standard
1/2"	3/4"-20-UNEF	ANSI B 1.1
3/4"	1"-20-UNEF	ANSI B 1.1

Tolerances

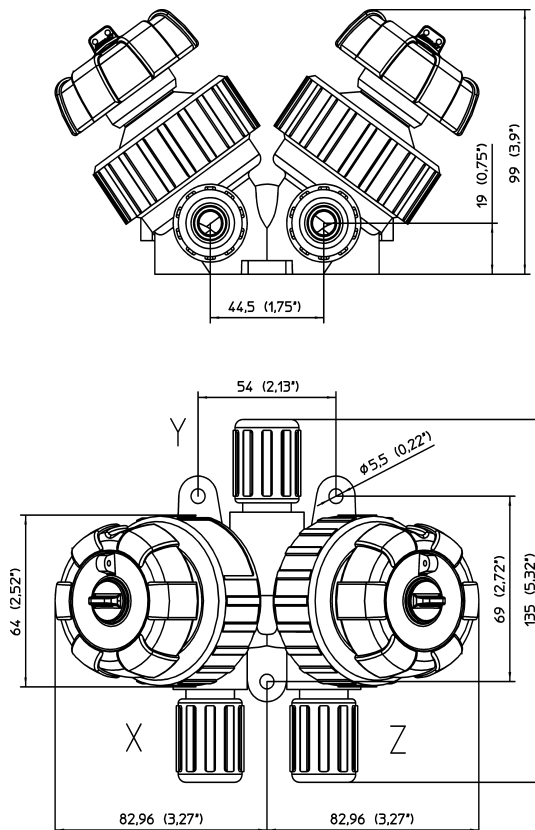
- The **CleanStar**[®] plastic parts are manufactured to DIN 16901-140.
- In Space Saver - Flare connections tolerances of $\pm 2.5\text{mm}$ are possible.
- Tolerance data for butt weld connections will vary depending on the design of the welding machine used.

Dimensions - GEMÜ C60 3 way valves (pneumatic/manual) [mm/inch]



All dimensions stated in all actuator drawings are identical for connection sizes 1/2" and 3/4".

Dimensions - GEMÜ C67 3 way valves (manual/manual) [mm/inch]



Accessories



GEMÜ C67 STA
Service tool for actuators



GEMÜ 1098
Flaring mandrel



GEMÜ CF STF
Service tool for
flare union nuts



GEMÜ C67 LOD
Lock out device

Further High Purity products



HydraLine®
Pressure Measurement
Systems



PurePlus®
High Purity PVDF/PP
Valves and Flowmeters



SonicLine®
Ultra-Sonic
Flowmeters



FlareStar®
Ultra Pure PFA
Tube and Weld Fittings



TubeStar®
High Purity PFA Tubing



GEMÜ® VALVES, MEASUREMENT
AND CONTROL SYSTEMS