

High Purity Diaphragm Valves



General Introduction

As one of the most common valves used in pharmaceutical engineering, sterile diaphragm valves are ideal for applications that require zero bacteria breeding as well as high cleaning and sterilization performance. Compared with valve products such as ball valves and butterfly valves, diaphragm valves with static seals use sealing elements free of wearing and a structure without dead angles, thus being more sanitary and durable.

As an ideal choice in bio-pharmaceuticals and other applications with demanding sanitary conditions, BioClean series sterile diaphragm valves comply with ASME BPE Design Standards and CGMP (Current Good Manufacturing Practice), and also have passed 3A, CE, BSE/TSE, USP class VI, FDA certificates.



Our sterile diaphragm valves feature completely transparent production process, which is fully traceable from stainless steel base metal to valve diaphragm and gasket. Each valve has passed strict performance tests before delivery to ensure excellent product performance and complete verification from beginning to end.

The sterile diaphragm valves cover KDV series straight-through diaphragm valves, KDV-T type diaphragm valves, KDV-TU water diaphragm valves, KDV-MU U-type diaphragm valves, KDMP multi-way diaphragm valves, KGMP SAP\GMP diaphragm valves and KTBV bottom diaphragm valves.



Advantages of Sealing Technology

30 years' service experience gives reliable technical resources and extensive application experience, which allow us to provide you with more reasonable suggestions for the selection of elastic seals to meet the application requirements of various working conditions.

Thanks to continuous and deep cooperation with international manufacturers, the diaphragms of our diaphragm valves boast better thermal stability, ductility, chemical stability and fatigue resistance, thus being more reliable and durable.



These valves can be configured with a variety of connections, including welded type and ferrule type quick disconnect couplings, and are suitable for pipes of all sizes that meet ASME BPE, 3A, ISO, DIN, BS, JIS and other standards, thus ensuring high quality and reliable use anywhere in the pipeline system.



Strict Sanitary Standards

While complying with ASME BPE Sterile Diaphragm Valve Design Standards, the sterile diaphragm valves are manufactured by electrolytic polishing. They satisfy EN 10204 3.1/ MTR Traceability Standards, Declaration of Conformity with FDA, USP Class VI Certification and 3A Sanitary Standards Certification, all of which ensure product contamination control.



Advantages of Valve Body

The firm firmly believes that strong and stable manufacturing capability serves as the cornerstone of product quality, while strict inspections and tests ensure service life. Decades of accumulations in manufacturing technologies enable to ensure that the surface finish of valves can reach up to 0.375µm (BPE SF4) without any wave. Delicately polished surface is the most direct defence for the valves to prevent bacterial contamination.

Sterile diaphragm valve

Design and Structure

Modular Design

With modular structure design, the BioClean series sterile diaphragm valves can meet various demands.

The valves are composed of the following components:

- Controller
- Actuator
- Diaphragm
- Valve body

Controller	  
Actuator	        
Diaphragm	     
Valve body	    

Intelligent Controller

Pneumatic diaphragm valve can usually be used in conjunction with feedback device and solend valve, or a locator.

Use with a locator, it can adjust the opening of the shaft, which can be controlled by a PLC or directly adjusted on the locator (percentage of travel), with an accuracy of up to 1% .



Limit switch:

- **Mechanical:**

Feedback device, Feedback device

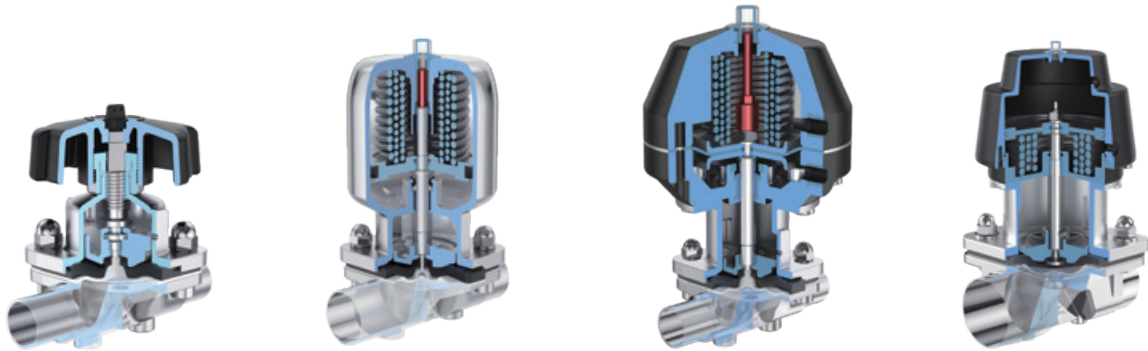
- **Sensory:**

Feedback device, Feedback device

Control switch (proportional adjustment):

- Digital display (adjustable panel opening)
- Without numerical indication
- Manual limit switch (economic type)

* When using valve with feedback device in an dangerous area, please indicate the IP level.



The BioClean series sterile diaphragm valves are available with hand wheels or air cylinders made from various materials.

Drive hand wheels or pneumatic actuators made from composite engineering plastics can meet your demands in most general working conditions, while stainless steel actuators are a good choice in case of small installation space, compact valve structure or high cleaning requirements for the outer parts of the valve.

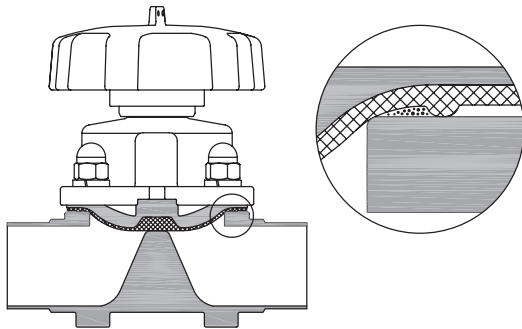
PP, PC, stainless steels and aluminum alloy materials are optional.



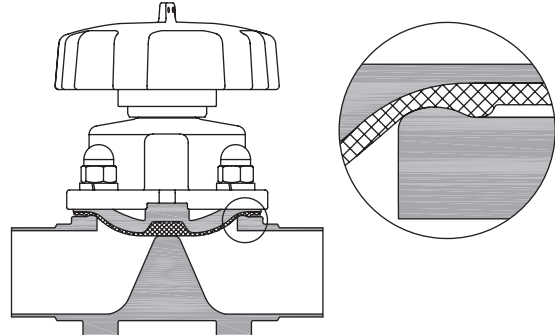
Material	PP	PC	Stainless steel		Aluminum alloy
Size	Driver	Hand wheel	Hand wheel	Driver	Driver
¼"		•		•	
⅜"		•		•	
½"		•		•	
¾"		•		•	
1.0"	•	•		•	
1½"	•	•		•	
2.0"	•	•		•	
2½"			•		•
3.0"			•		•

KDV sterile diaphragm valve

Design of Diaphragm



Conventional diaphragm valves
Prone to residues



BioClean diaphragm valves
Prevent residues

Unlike that of conventional diaphragm valves, the bodies of BioClean series sterile diaphragm valves have a tight seal on the inside diameter that reduces the ring clearance between the diaphragm and the valve body. This feature makes the BioClean series diaphragm valves particularly suitable for aseptic process.

Material of Diaphragm

Two options are provided for the material of diaphragms: EPDM soft artificial rubber and PTFE rigid artificial rubber. Single or double diaphragm designs are available.

EPDM (Single diaphragm)

10 bar, 145 psi
-10°C~100°C, 14°F~212°F
SIP 150°C ≤ 60min



EPDM +PTFE (Double diaphragm)

8 bar, 101 psi
-10°C~100°C, 14°F~212°F
SIP 150°C There is no limit to the sterilization time



Certificate of material

Declaration of Conformity with FDA (CFR 21:177.2600 or 177.1550) USP Class VI Certification

EPDM has excellent thermal performance, and is able to support most operating conditions, such as alcohol solution, dilute acid, alkaline solution, but not suitable for mineral oils, vegetable oils, and most of hydrocarbons.

EPDM +PTFE has excellent chemical stability and heat resistance to all fluid media. PTFE with better heat resistance. In order to ensure elasticity, a soft material such as EPDM is required as the core or matrix.

Diaphragm

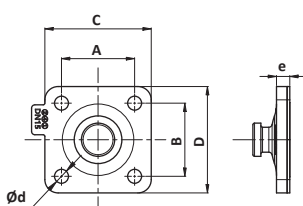
Application of diaphragm

As the core component of the diaphragm valve, the performance and life of the diaphragm are the main considerations, which will affect the production and maintenance costs of the customer. One diaphragm which is suitable for all working conditions is not available, therefore, KingLai has developed different diaphragm types for different working conditions.

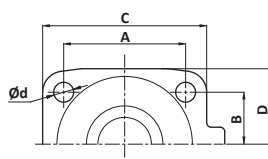
Material	Diaphragm	Specification	Liquid media		SIP	Code
			Min	Max		
EPDM	Single diaphragm	DN25, DN40, DN50, DN65, DN80	-10°C	100°C	Up to 150°C per cycle, Up to 60 minutes	17
EPDM+PTFE	Detachable double diaphragms	DN20, DN25, DN40, DN50, DN65, DN80	-10°C	100°C	Up to 150°C per cycle, no time limit	5A
EPDM+PTFE	Composite diaphragm	DN15, DN20, DN65, DN80	-10°C	100°C	Up to 150°C per cycle, Up to 30 minutes	5E

Diaphragm Dimension

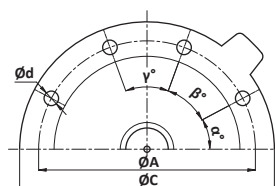
KN	DN	EN	A	B	C	D	Φd	e	h	w	α	β	γ	Holes
15	4-15	1/4"-1/2"	22	22	32	32	4.2	4	-	-	-	-	-	4
20	10-20	3/8"-1/2"	39	44	48	53	5.2	5	5.5	M4	-	-	-	4
25	15-25	1/2"-1.0"	54	46	72.64	66.8	8.8	7.6	5.2	1/4"	-	-	-	4
40	32-40	1~1/4"-1.5"	70	65	100	90	10.6	8.6	8.7	1/4"	-	-	-	4
50	50	2.0"	82	78	124	107	13	7.7	6.7	1/4"	-	-	-	4
80	65-80	2.5"-3.0"	130.5	117.5	178	165	18	11.5	20	M8	-	-	-	4
100	100	4.0"	194	-	228	-	13	10	10	5/16X18 UNC	20	42	56	8



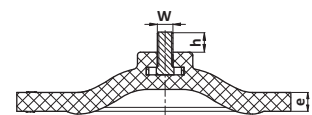
KD15



KD20-80



KD100



KD20-100

Test

Testing items

- Sealing test
- Housing test
- Stroke test
- Lifecycle at room temperature (diaphragm lifecycle at 150 ° C high temperature steam / diaphragm lifecycle at 100 ° C high temperature water)

Testing results

NO.	Test subject	Testing items	Design parameters	Test data	Test result
1	DN20 Diaphragm valves	Sealing test	1.10Mpa	1.10~1.50Mpa	PASS
2	DN20 Diaphragm valves	Housing test	1.50Mpa	1.50~2.50Mpa	PASS
3	DN20 Diaphragm valves	Stroke test	5mm~7mm	5mm~7mm	PASS
4	DN20 Diaphragm valves	Static lifecycle	Test data	300W	PASS
5	DN20 Diaphragm valves	Valve lifecycle (high temperature steam)	Test data	5W	PASS
6	DN20 Diaphragm valves	Valve lifecycle (high temperature water)	Test data	10W	PASS

Valve Body



Forging valve body

Ultra-high purity forging embryos from Sandvik, Sweden

The diaphragm valve bodies manufactured by casting forming enjoy good cost-effectiveness and the quality materials selected according to American Standards allow better versatility.

The valve bodies produced by forging forming and precision machining boast extremely compact structure and better chemical stability. In terms of surface oxidation resistance and long-term anti-corrosion performance, forged bodies have significant advantages to guarantee the high quality of the products during long-term usage.

The Ra value of the internal surface roughness can be as fine as 0.125 μm

The precise S content fully meets ASME BPE standards.



Casting valve body

Form of valve body	Cast type	Forged type	Forged block
Two-way valve	•	•	
T-type valve	•	•	•
Tandem valve	•	•	•
Multi-way valve			•

Type	Cast type	Forged type/ Forged block
Material	CF3M (316L)	316L (BPE)
Ferrite content	<5%	<0.5%
Sulfur content	0.005-0.017%	0.005-0.017%

EN 10204 3.1/ MTR Traceability Certificate

Self-discharge of Valves

The BioClean series diaphragm valves have excellent self-discharge performance and are capable of maintaining excellent self-discharge capability in both horizontal and vertical mountings. It is necessary for the pipeline designers and users to cooperate to make use of the self-discharge characteristics.

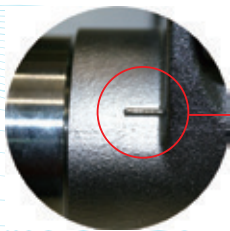
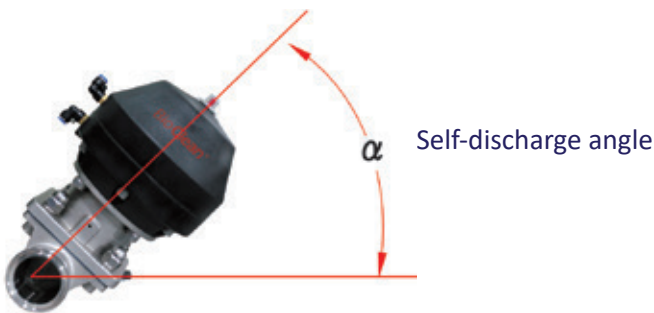
The factors that influence self-discharge:

- Valve dimension and pipeline specification
- Surface finish and treatment method (Ra)
- Discharge direction
- Surface tension and viscosity of medium
- Design inclination angle of pipeline - recommended angle 2~3°



During mounting, the marks at both ends of the valve body shall be set with correct angle to optimize selfdis-charge performance.

Self-discharge Mounting



During mounting, this mark shall be horizontal and facing upward.

Table of self-discharge angles

Size	1/4"	3/8"	1/2"	3/4"	1.0"	1½"	2.0"	2½"	3.0"	4.0'	5.0"
α	32.5°	23.5°	21°	20°	29.2°	25.00°	18.2	27°	19°	15°	6.2°

DV Sterile diaphragm valve

Application

DV Sterile diaphragm valves produced by King Lai can meet the production process with cleanness and sterilization requirements. The product is widely applied in medicine, food and bio-pharmacy, as well as sectors of semiconductors, microelectronics, personal care, water for injection, and other industries.

Features

The valves bodies are available in casting and forging, and can meet demands of different customers.

- The specifications are complete, available from DN4 ~ DN80.
- The diaphragm is made of materials with corrosion resistance and in line with the certification of FDA and USP Class VI.
- The protrusions around the valves body and the prominent part of the diaphragm are closely matched with each other to ensure that the diaphragm can be tightly sealed with the valve body in the open or closed state. Such structure, in line with ASME BPE design standards, can achieve zero residual and is easy to clean.
- The normally-closed structure of diaphragm ensures easier manual switching.
- The rotary hand-wheel can achieve protection of excessive closing via the adjustable limit nut, and ensure that the diaphragm has a pre-set closing pressure to optimize the sealing safety and extend the life of the diaphragm.
- The red switching indicator between the hand-wheel and the cover can show the state and degree of openness/closing of the valves.
- The solenoid valves, position feedback or position regulator can be installed on the pneumatic valves at consumer's request to realize automatic control or flow control of the valves.



Technical Data

Items	Details
Actuator	Manual Pneumatic normally closed (NC)/ Double acting (DA)
Control	Feedback device / adjustment positioner / cylindrical position sensor
Body material	CF3M (A351), 316L (BPE)
Diaphragm material	EPDM, EPDM + PTFE
Size	DN4 - DN80
Connections	Butt-weld, Clamp, Weld/ clamp ASME BPE, 3A, ISO, DIN
Surface finish	Outer surface electrolysis Inner surface Ra ≤0.5 µm (SF1), Ra ≤0.375 µm (SF4)
Certifications	3A, CE

Size		DN4~DN50	DN65/DN80
Working temperature	EPDM	Max. pressure	10bar
		Max. temperature	-10°C~130°C, 14~212°F
		SIP	150°C, 302°F max.60min
	EPDM + PTFE	Max. pressure	6bar, 87psi
		Max. temperature	-10°C~150°C, 14~212°F
		SIP	150°C, 302°F no limit
Pneumatic pressure	Normally close (NC)		5-6 bar, 72-87psi
	Normally open (NO)		5-7bar,72-101psi
	Double action (DA)		5.5bar, 79psi
Pneumatic connection		G1/8"	G1/4"

If the sterilisation temperatures listed above are applied to the EPDM or PTFE diaphragms for longer periods of time, the service life of the diaphragms will be reduced. In these cases, maintenance cycles must be adapted accordingly.

Compliance with EN 10204 3.1/MTR traceability certificate
 FDA-FDA Declaration of Conformity (CFR 21:177.2600 or 177.1550)
 Compliance Certificate for USP-USP VI Category

Valve CV value

Valves are available in various grades and Ra values, and liquids have different pressure losses ΔP after passing through the valves.

Test controls are usually performed under the same conditions, resulting in a certain coefficient CV value (tolerance $\pm 10\%$)

The following table defines CV values for DV-D two way-valves only.

DN	Size	DIN Cvs(M ³ /h)	DIN 11850 Series 1 Cvs(M ³ /h)	DIN 11850 Series 2 Cvs(M ³ /h)	DIN 11850 Series 3 Cvs(M ³ /h)	SMS 3008 Cvs(M ³ /h)	ASME BPE Cvs(M ³ /h)	EN ISO1127 Cvs(M ³ /h)
4	1/8"	0.43	—	—	—	—	—	—
6	1/6"	0.95	—	—	—	—	—	—
8	1/4"	1.12	—	—	—	—	0.52	1.89
10	3/8"	—	1.81	1.81	1.81	—	1.12	—
15	1/2"	—	—	—	—	—	1.72	—
20	3/4"	—	—	—	—	—	3.27	—
25	1.0"	11.95	12.90	12.90	12.90	10.84	10.49	13.93
32	1.25"	21.76	23.22	23.22	23.22	22.53	—	25.8
40	1.5"	25.20	25.20	26.57	26.57	25.97	25.37	28.21
50	2.0"	40.00	41.62	41.62	41.62	44.46	43.52	47.47
65	2.5"	—	—	66.22	—	58.91	58.91	82.56
80	3.0"	—	—	95.46	—	68.8	74.82	95.46
100	4.0"	—	—	—	—	—	242	—
125	5.0"	—	—	—	—	—	257.13	—

1Cv=1.171Kv

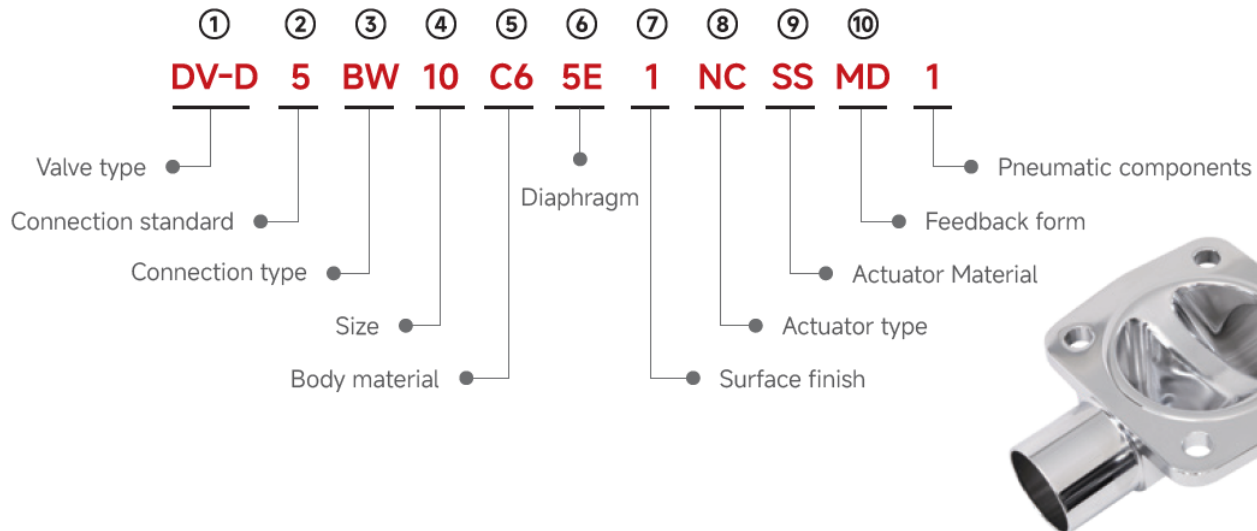
1Kv=0.861CV

Pressure Loss	CV	For Water	For Liquids	For Steam	For Gases
$\Delta p < \frac{p_1}{2}$ $p_2 < \frac{p_1}{2}$	CV	$=1.171 \frac{Q}{\sqrt{\Delta p}}$	$=1.171 \frac{Q}{31.6} \cdot \sqrt{\frac{p_1}{\Delta p}}$	$=1.171 \frac{\dot{M}}{31.6} \cdot \sqrt{\frac{V^I}{\Delta p}}$	$=1.171 \frac{Q_n}{514} \cdot \sqrt{\frac{p_n \cdot T_1}{\Delta p \cdot p_2}}$
$\Delta p < \frac{p_1}{2}$ $p_2 < \frac{p_1}{2}$	CV	$=1.171 \frac{Q}{\sqrt{\Delta p}}$	$=1.171 \frac{Q}{31.6} \cdot \sqrt{\frac{p_1}{\Delta p}}$	$=1.171 \frac{\dot{M}}{31.6} \cdot \sqrt{\frac{2 \cdot V^{II}}{\Delta p}}$	$=1.171 \frac{Q_n}{257 p_1} \cdot \sqrt{p_n \cdot T_1}$

CV	m³/h	Valve flow coefficient	P ₁	kg/m³	The densities T1 and P2 of the material in the operating state
Q	m³/h	Flow rate	P _n	kg/m³	Density of the gas at 0°C and 1014mbar
Q _n	m³/h	Volume flow rate of gas at 0°C and 1014mbar	V ^I	m³/kg	Unit vapor volume at T1 and P2
P ₁	bar	Absolute pressure before valve (for Q)	V ^{II}	m³/kg	Unit vapor volume at P ₁ /2 and T1
P ₂	bar	Absolute pressure after valve (for Q)	M	kg/h	Mass flow rate
Δp	bar	(Δp)- Differential pressure P ₁ =P ₂ for Q	T1	K	The temperature of the medium



Ordering information

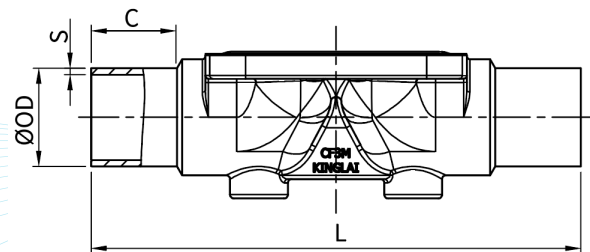


1	Valve type	DV-D	Two way-valves
		DV-T	T-valves
		DV-B	Tank outlet valves and sampling
		DV-S	Point of use valves and sampling
		DV-H	GMP/SAP valves
		DV-I	i-body
		DV-M	Multi-port valves
		1	JIS3447
		2	ISO2037/SMS
		3	BS4825
2	Connection standard	4	DIN11850-1
		5	ASME BPE, length EN558-1, Series 7
		6	GB(QB/2467-GB12771)
		BW	Butt-weld
		TC	Clamp
		BT	Weld/Clamp
3	Connection type	BT	Weld/Clamp
		BT	Weld/Clamp
4	Size	DN4-100	DN4, DN6, DN8, DN10, DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100
5	Body material	C6	CF3M (ASME BPE)
		F6	316L Forging (ASME BPE)
6	Diaphragm	17	EPDM
		5A	EPDM+PTFE (Composite)
		5E	EPDM+PTFE (Separation)

7	Surface finish	1	Mechanical polishing SF1 (Ra ≤ 0.5μm)
		4	Electro polishing SF4 (Ra ≤ 0.375μm)
8	Actuator type	M	Manual
		NO	Normally Open
		NC	Normally Closed
		DA	Double action
9	Actuator Material	PP	Plastic (DN25~50)
		SS	Metal (DN15~80)
Control Options (Optional)			
10	Feedback form	MS	UC Single feedback
		MD	UC Double feedback
		IS	Proximity switch single feedback
		ID	Proximity switch double feedback
		ML	Manual limit
		IP	Positioner
	Pneumatic components	1	Solenoid valve two-position three-way
		2	Solenoid valve two-position five-way
		3	Solenoid valve three-position five-way
		4	Two pieces
		5	Triple pieces

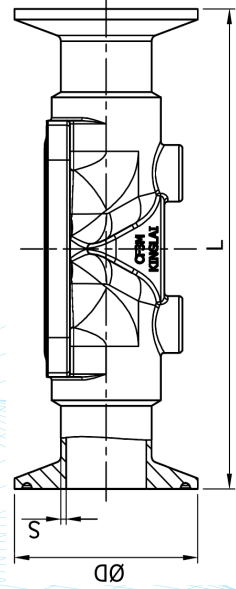
Welding end

ASME BPE						DIN 11850				ISO 1127		GB	
						Series 1		Series 2					
DN	SIZE	C	L	OD	S	OD	S	OD	S	OD	S	OD	S
4	/	20	72	/	/	6	1.0	/	/	/	/	/	/
6	/	20	72	/	/	8	1.0	/	/	/	/	/	/
8	1/4"	20	72	6.35	0.89	10	1.0	/	/	/	/	6.35	0.89
10	3/8"	20	72	9.53	0.89	12	1.5	13	1.5	/	/	9.53	0.89
15	1/2"	20	72	12.7	1.65	18	1.5	19	1.5	12.7	1.65	12.7	1.5
20	3/4"	25	108	19.1	1.65	22	1.5	23	1.5	19.1	1.65	19.1	1.5
25	1.0"	25	120	25.4	1.65	28	1.5	29	1.5	25	1.2	25.4	1.5
32	/	25	153	/	/	34	1.5	35	1.5	/	/	/	/
40	1.5"	25	153	38.1	1.65	40	1.5	41	1.5	38	1.2	38.1	1.5
50	2.0"	30	173	50.8	1.65	52	1.5	53	1.5	51x	1.2	50.8	1.5
65	2.5"	30	220	63.5	1.65	/	/	70	2.0	63.5	1.6	63.5	1.5
80	3.0"	30	254	76.2	1.65	/	/	85	2.0	76.1	1.6	76.2	1.5
100	4.0"	30	305	101.6	2.11	/	/	104	2.0	101.6	2.0	101.6	2.0
125	/	30	400	/	/	/	/	129	2.0	/	/	/	/



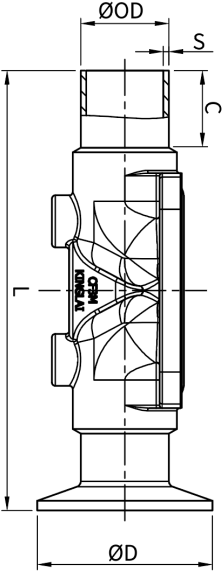
Clamp end

ASME BPE										DIN 11850					ISO 1127					GB							
										Series 1					Series 2												
DN	SIZE	OD	S	D	L(BPE)	L(EN558-1 Series 7)	OD	S	OD	S	D	L(EN558-1 Series 7)	OD	S	D	L(EN558-1 Series 7)	OD	S	D	L(EN558-1 Series 7)	OD	S	D	L(EN558-1 Series 7)			
8	1/4"	6.35	0.89	25	63.5	/	10	1.0	/	/	25	/	/	/	/	/	6.35	0.89	25	/	/	63.5	0.89	25	/	63.5	
10	3/8"	9.53	0.89	25	63.5	/	12	1.0	/	/	34	/	/	/	/	/	9.53	0.89	25	/	/	63.5	0.89	25	/	63.5	
15	1/2"	12.7	1.65	25	63.5	108	18	1.5	19	1.5	34	108	/	/	/	/	12.7	1.5	25	/	/	63.5	1.5	25	/	63.5	
20	3/4"	19.1	1.65	25	101.6	117	22	1.5	23	1.5	34	117	/	/	/	/	19.1	1.5	25	/	/	117	1.5	25	/	117	
25	1.0"	25.4	1.65	50.4	114.3	127	28	1.5	29	1.5	50.5	127	25	1.2	50.5	127	25.4	1.5	50.4	127	25.4	1.5	50.4	127	127	127	
32	/	/	/	/	/	146	34	1.5	35	1.5	50.5	146	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
40	1.5"	38.1	1.65	50.4	139.7	159	40	1.5	41	1.5	50.5	159	38	1.2	50.5	159	38.1	1.5	50.4	159	38.1	1.5	50.4	159	159	159	
50	2.0"	50.8	1.65	63.9	158.75	190	52	1.5	53	1.5	64	190	51	1.2	64	190	50.8	1.5	63.9	190	50.8	1.5	63.9	190	190	190	
65	2.5"	63.5	1.65	77.5	193.68	216	/	/	70	2.0	91	216	63.5	1.6	77.5	216	63.5	1.5	77.5	216	63.5	1.5	77.5	216	216	216	
80	3.0"	76.2	1.65	90.9	222.25	254	/	/	85	2.0	106	254	76.1	1.6	91	254	76.2	1.5	90.9	254	76.2	1.5	90.9	254	254	254	
100	4.0"	101.6	2.11	118.9	292.1	305	/	/	104	2.0	119	305	101.6	2.0	119	305	101.6	2.0	119	305	101.6	2.0	119	119	119	305	305



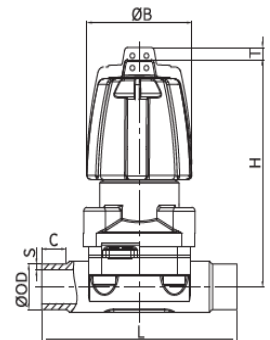
Welding & Clamp end

		ASME BPE															DIN 11850										ISO 1127					GB			
		Series 1															Series 2																		
		DN	SIZE	OD	S	D	L(BPE)	L(EN558-1 Series 7)	OD	S	OD	S	D	L(EN558-1 Series 7)	OD	S	D	L(EN558-1 Series 7)	OD	S	D	L(EN558-1 Series 7)	OD	S	D	L(EN558-1 Series 7)									
8	1/4"	6.35	0.89	25	63.5	/	10	1.0	/	/	25	/	/	/	/	/	/	6.35	0.89	25	/	6.35	0.89	25	67.75										
10	3/8"	9.53	0.89	25	63.5	/	12	1.0	/	/	34	/	/	/	/	/	/	9.53	0.89	25	/	9.53	0.89	25	67.75										
15	1/2"	12.7	1.65	25	63.5	108	18	1.5	19	1.5	34	108	/	/	/	/	/	12.7	1.5	25	/	12.7	1.5	25	67.75										
20	3/4"	19.1	1.65	25	101.6	117	22	1.5	23	1.5	34	117	/	/	/	/	/	19.1	1.5	25	/	19.1	1.5	25	112.5										
25	1.0"	25.4	1.65	50.4	114.3	127	28	1.5	29	1.5	50.5	127	25	1.2	50.5	127	25.4	1.5	50.4	123.5	25.4	1.5	50.4	123.5											
32	/	/	/	/	/	146	34	1.5	35	1.5	50.5	146	/	/	/	/	/	/	/	/	/	/	/	/	/										
40	1.5"	38.1	1.65	50.4	139.7	159	40	1.5	41	1.5	50.5	159	38	1.2	50.5	159	38.1	1.5	50.4	156	38.1	1.5	50.4	156											
50	2.0"	50.8	1.65	63.9	158.75	190	52	1.5	53	1.5	64	190	51	1.2	64	190	50.8	1.5	63.9	181.5	50.8	1.5	63.9	181.5											
65	2.5"	63.5	1.65	77.5	193.68	216	/	/	70	2.0	91	216	63.5	1.6	77.5	216	63.5	1.5	77.5	218	63.5	1.5	77.5	218											
80	3.0"	76.2	1.65	90.9	222.25	254	/	/	85	2.0	106	254	76.1	1.6	91	254	76.2	1.5	90.9	254	76.2	1.5	90.9	254											
100	4.0"	101.6	2.11	118.9	292.1	305	/	/	104	2.0	119	305	101.6	2.0	119	305	101.6	2.0	119	305	101.6	2.0	119	305											

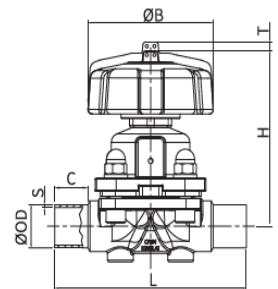


DV-D Manual diaphragm valves with welding ends

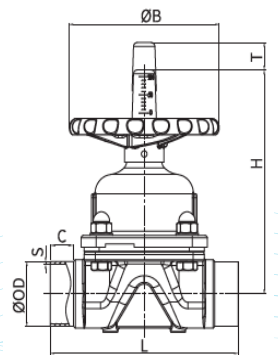
DN	SIZE	OD	S	B	C	T	H	L	Code
8	1/4"	6.35	0.89	33	20	4.5	58	72	V007WD0-010*-A6**
10	3/8"	9.53	0.89	33	20	4.5	58	72	V010WD0-010*-A6**
15	1/2"	12.7	1.65	33	20	4.5	63.5	72	V015WD0-010*-A6**



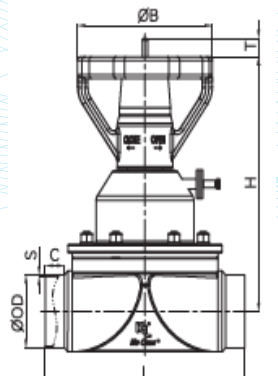
DN	SIZE	OD	S	B	C	T	H	L	Code
20	3/4"	19.1	1.65	60	25	6	79.5	108	V020WD0-010*-A6**
25	1.0"	25.4	1.65	90	25	11	103.5	120	V025WD0-010*-A6**
40	1.5"	38.1	1.65	110	25	15.5	129.8	153	V038WD0-010*-A6**
50	2.0"	50.8	1.65	128	30	20.5	153	173	V051WD0-010*-A6**



DN	SIZE	OD	S	B	C	T	H	L	Code
65	2.5"	63.5	1.65	200	30	44	264	220	V063WD0-010*-A6**
80	3.0"	76.2	1.65	200	30	44	269	254	V076WD0-010*-A6**



DN	SIZE	OD	S	B	C	T	H	L	Code
100	4.0"	101.6	2.11	211	30	41	339	305	V100WD0-010*-A6**



1



2



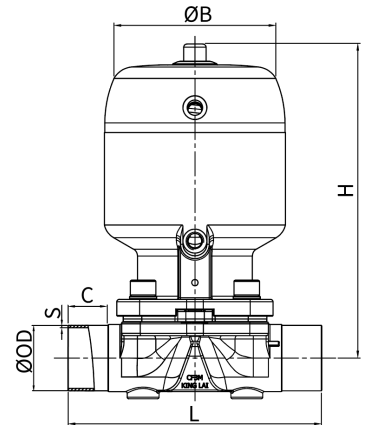
3



4

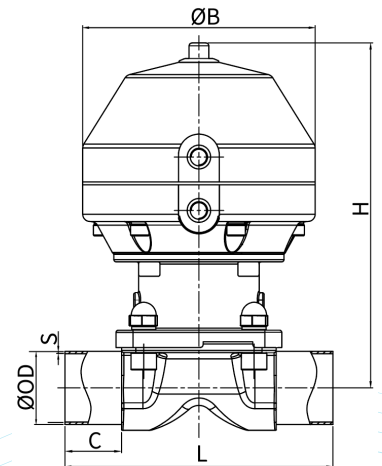
DV-D Pneumatic diaphragm valves with Welding ends (Stainless steel actuator)

DN	SIZE	OD	S	B	C	H	L	Code
8	1/4"	6.35	0.89	42	20	84.7	72	V007WD-021*-A6**
10	3/8"	9.53	0.89	42	20	84.7	72	V010WD-021*-A6**
15	1/2"	12.7	1.65	42	20	84.7	72	V015WD0-021*-A6**
20	3/4"	19.1	1.65	61	25	120.4	108	V020WD0-021*-A6**
25	1.0"	25.4	1.65	89	25	162	120	V025WD0-021*-A6**
40	1.5"	38.1	1.65	112	25	193	153	V038WD0-021*-A6**
50	2.0"	50.8	1.65	142	30	227	173	V051WD0-021*-A6**



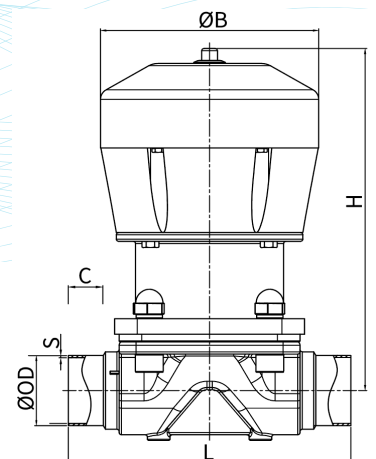
DV-D Pneumatic diaphragm valves with welding ends (Plastic actuator)

DN	SIZE	OD	S	B	C	H	L	Code
25	1.0"	25.4	1.65	128	25	188	120	V025WD-020*-A6**
40	1.5"	38.1	1.65	164	25	227	153	V038WD-020*-A6**
50	2.0"	50.8	1.65	164	30	227	173	V051WD-020*-A6**



DV-D Pneumatic diaphragm valves with welding ends (Aluminum actuator)

DN	SIZE	OD	S	B	C	H	L	Code
65	2.5"	63.5	1.65	193	30	311.6	220	V063WD-020*-A6**
80	3.0"	76.2	1.65	193	30	311.6	254	V076WD-020*-A6**
100	4.0"	101.6	2.11	252	30	425	305	V100WD-020*-A6**



1



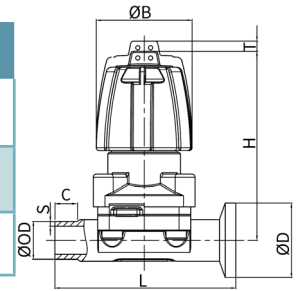
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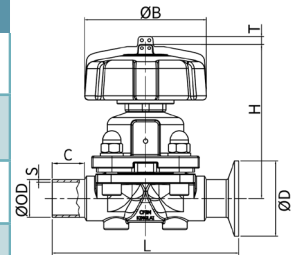
3

DV-D Manual diaphragm valves with weld/clamp ends

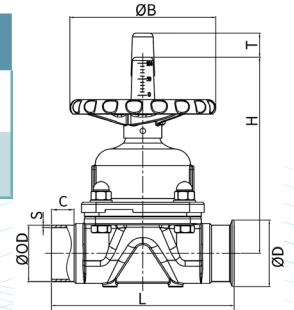
DN	SIZE	OD	S	D	B	C	T	H	L	Code
8	1/4"	6.35	0.89	25	33	20	4.5	58	67.75	V007W007CD0-010*-A6**
10	3/8"	9.53	0.89	25	33	20	4.5	58	67.75	V010W010CD0-010*-A6**
15	1/2	12.7	1.65	25	33	20	4.5	63.5	67.75	V015W015CD0-010*-A6**



DN	SIZE	OD	S	D	B	C	T	H	L	Code
20	3/4"	19.1	1.65	25	60	25	6	79.5	104.8	V020W020CD0-010*-A6**
25	1.0"	25.4	1.65	50.4	90	25	11	103.5	117.15	V025W025CD0-010*-A6**
40	1.5"	38.1	1.65	50.4	110	25	15.5	129.8	146.35	V038W038CD0-010*-A6**
50	2.0"	50.8	1.65	63.9	128	30	20.5	153	165.88	V051W051CD0-010*-A6**

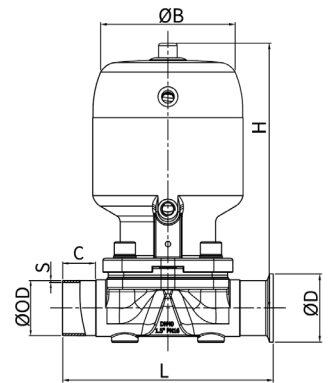


DN	SIZE	OD	S	D	B	C	T	H	L	Code
65	2.5"	63.5	1.65	77.5	200	30	44	264	206.84	V063W063CD0-010*-A6**
80	3.0"	76.2	1.65	90.9	200	30	44	269	238.13	V076W076CD0-010*-A6**



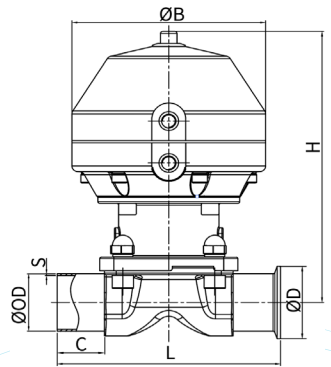
DV-D Pneumatic diaphragm valves with welding/clamp ends (Stainless steel actuator)

DN	SIZE	OD	S	D	B	C	H	L (BPE)	Code
8	1/4"	6.35	0.89	25	42	20	84.7	67.75	V007WD007CD0-021*-A6**
10	3/8"	9.53	0.89	25	42	20	84.7	67.75	V010WD007CD0-021*-A6**
15	1/2"	12.7	1.65	25	42	20	84.7	67.75	V015WD015CD0-021*-A6**
20	3/4"	19.1	1.65	25	61	25	120.4	104.8	V020WD020CD0-021*-A6**
25	1.0"	25.4	1.65	50.4	89	25	162	117.15	V025WD025CD0-021*-A6**
40	1.5"	38.1	1.65	50.4	112	25	193	146.35	V038WD038CD0-021*-A6**
50	2.0"	50.8	1.65	63.9	142	30	227	165.88	V051WD051CD0-021*-A6**



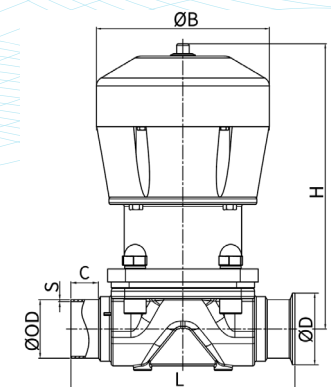
DV-D Pneumatic diaphragm valve with welding/clamp ends (Plastic actuator)

DN	SIZE	OD	S	D	B	C	H	L (BPE)	Code
25	1.0"	25.4	1.65	50.4	128	25	188	117.15	V025WD025CD0-020*-A6**
40	1.5"	38.1	1.65	50.4	164	25	227	146.35	V038WD038CD0-020*-A6**
50	2.0"	50.8	1.65	63.9	164	30	227	165.88	V051WD051CD0-020*-A6**



DV-D Pneumatic diaphragm valve with welding/clamp ends (Aluminum alloy actuator)

DN	SIZE	OD	S	D	B	C	H	L (BPE)	Code
65	2.5"	63.5	1.65	77.5	193	30	311.6	206.84	V063WD063CD0-020*-A6**
80	3.0"	76.2	1.65	90.9	193	30	311.6	238.13	V076WD076CD0-020*-A6**



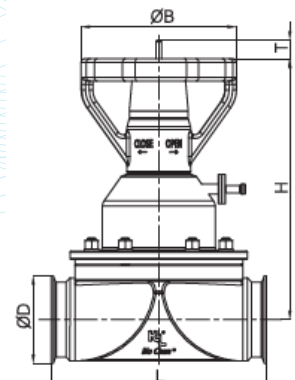
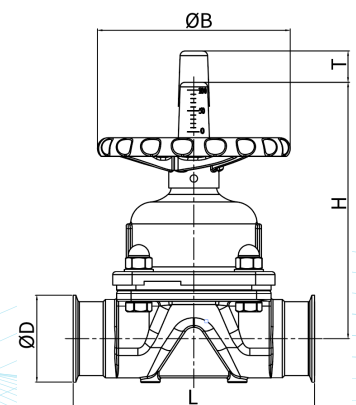
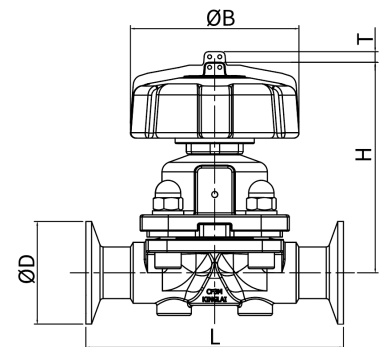
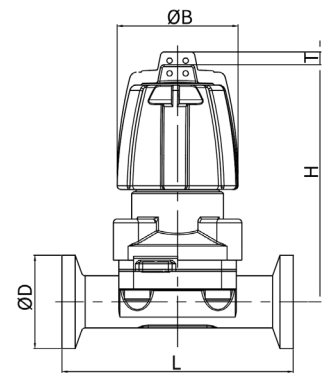
DV-D Manual diaphragm valves with clamp ends

DN	SIZE	D	B	T	H	L (BPE)	Code
8	1/4"	25	33	4.5	58	63.5	V007CD0-010*-P6**
10	3/8"	25	33	4.5	58	63.5	V010CD0-010*-P6**
15	1/2	25	33	4.5	63.5	63.5	V015CD0-010*-P6**

DN	SIZE	D	B	T	H	L (BPE)	Code
20	3/4"	25	60	6	79.5	101.6	V020CD0-010*-P6**
25	1.0"	50.4	90	11	103.5	114.3	V025CD0-010*-P6**
40	1.5"	50.4	110	15.5	129.8	139.7	V038CD0-010*-P6**
50	2.0"	63.9	128	20.5	153	158.75	V051CD0-010*-P6**

DN	SIZE	D	B	T	H	L (BPE)	Code
65	2.5"	77.5	200	44	264	193.68	V063CD0-010*-P6**
80	3.0"	90.9	200	44	269	222.25	V076CD0-010*-P6**

DN	SIZE	D	B	T	H	L (BPE)	Code
100	4.0"	118.9	211	41	339	292.1	V100CD0-010*-P6**



1



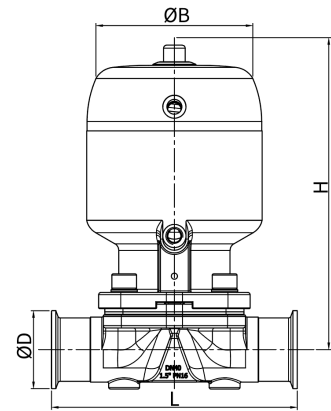
2



3

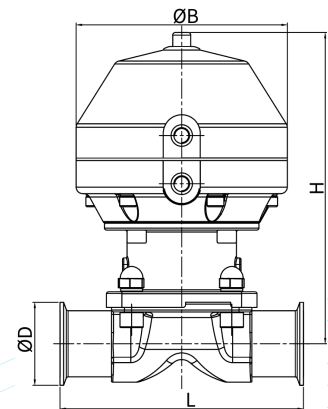
DV-D Pneumatic diaphragm valve with Clamp ends (Stainless steel actuator)

DN	SIZE	D	B	H	L (BPE)	Code
8	1/4"	25	42	84.7	63.5	V007CD0-021*-P6**
10	3/8"	25	42	84.7	63.5	V010CD0-021*-P6**
15	1/2"	25	42	84.7	63.5	V015CD0-021*-P6**
20	3/4"	25	61	120.4	101.6	V020CD0-021*-P6**
25	1.0"	50.4	89	162	114.3	V025CD0-021*-P6**
40	1.5"	50.4	112	193	139.7	V038CD0-021*-P6**
50	2.0"	63.9	142	227	158.75	V051CD0-021*-P6**



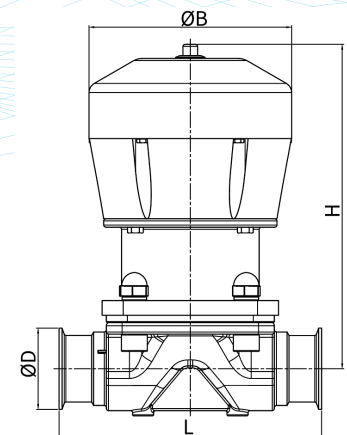
DV-D Pneumatic diaphragm valve with clamp ends (Plastic actuator)

DN	SIZE	D	B	H	L (BPE)	Code
25	1.0"	50.4	128	188	114.3	V025CD0-020*-P6**
40	1.5"	50.4	164	227	139.7	V038CD0-020*-P6**
50	2.0"	63.9	164	227	158.75	V051CD0-020*-P6**



DV-D Pneumatic diaphragm valve with clamp ends (Aluminum alloy actuator)

DN	SIZE	D	B	H	L (BPE)	Code
65	2.5"	77.5	193	311.6	193.68	V063CD0-020*-P6**
80	3.0"	90.9	193	311.6	222.25	V076CD0-020*-P6**
100	4.0"	118.9	252	425	292.1	V100CD0-020*-P6**



KDV-T Sterile forging diaphragm valve

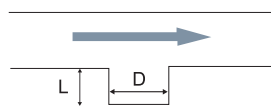
Design of Diaphragm



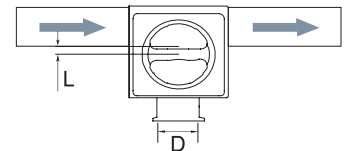
Design of valves body: Precisely forged blocks

Features

- Compact structure, fully self-drained, and without dead corners.
- Forged valves body with dense inter-granular structure, quick sterilization and easy verification.
- Integrated and art-of-the-state processing to ensure safe and reliable installation.
- The size of the main pipe is larger than that of the branches to ensure the circulation of the main pipeline.
- Applicable to high-purity water system, drainages and taps.



BPE:SD-3.11.1



BioClean Sterile diaphragm valve $L/D \leq 2:1$

Technical Data

Items	Details
Working pressure	0-10bar, 145psi (EPDM) 0-7bar, 101psi (PTFE)
Working temperature	-10~100°C, SIP max. 150°C
Driving structure	Manual / pneumatic control
Body Material	316L forged (ASME BPE)
Surface finish	Electrolysis of outer surface Internal surface $Ra \leq 0.375\mu\text{m}$ (SF4)
Connections	Butt-Weld, Clamp ISO, DIN, ASME BPE, 3A

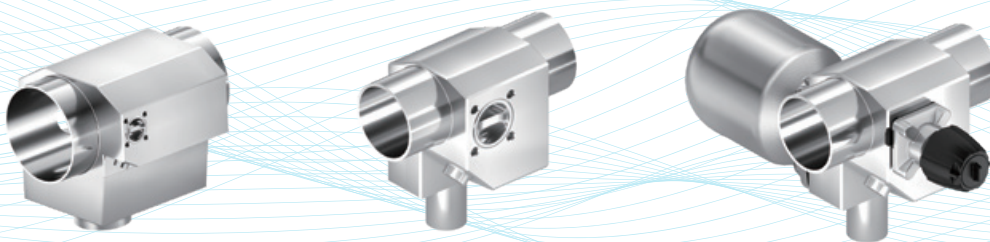
- DV-T T2A Diaphragm valve (forged), need to customize according to your required size.



- DV-T T2B Valve with main path sampling (forged valve), need to customize according to your requirement. The water point valve port size is same as sampling valve. (For example, waiter point valve is 0.5", sampling valve is also 0.5")



- DV-T T2B Valve with main path sampling (forged valve), need to customize according to your requirements. The water point valve port size is different from sampling valve. (For example, waiter point valve is 2.0", while sampling valve is 0.5")

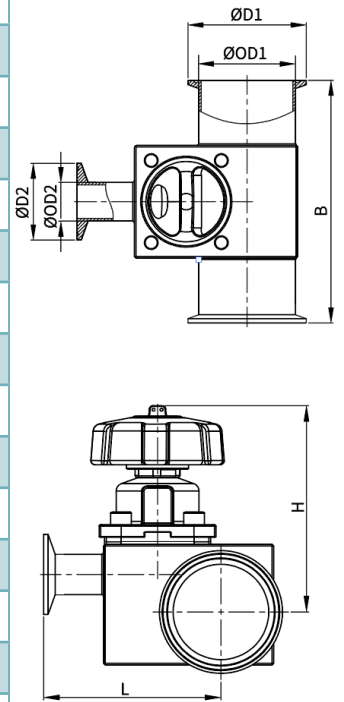


- T3B Valve main tube with sampling valve in the same side (forged valve), need to customize according to your requirements. The water point valve port size is different from sampling valve. (For example, waiter point valve is 2.0", while sampling valve is 0.5")



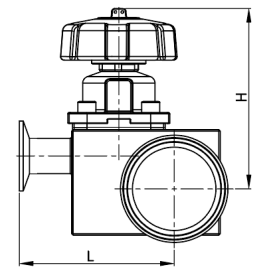
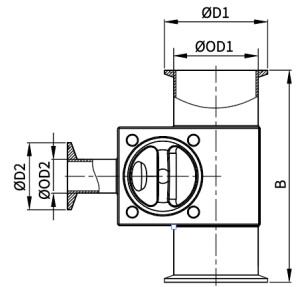
DV-T Sterile Forging Manual Diaphragm Valves (clamp ends)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1/2"x1/2"	12.7	25	12.7	25	97.4	57.2	73	V015C015CD1-110*-A6**
3/4"x1/2"	19.1	25	12.7	25	107.4	61.4	73.8	V020C015CD1-110*-A6**
3/4"x3/4"	19.1	25	19.1	25	126.4	78.6	84.1	V020C020CD1-110*-A6**
1.0"x1/2"	25.4	50.4	12.7	25	107.4	64	76.6	V020C015CD1-110*-A6**
1.0"x3/4"	25.4	50.4	19.1	25	126.4	82.2	87.3	V025C020CD1-110*-A6**
1.0"x1.0"	25.4	50.4	25.4	50.4	149.4	92.2	110.5	V025C025CD1-110*-A6**
1.5"x3/8"	38.1	50.4	9.53	25	107.4	72.2	85.7	V038C010CD1-110*-A6**
1.5"x1/2"	38.1	50.4	12.7	25	107.4	72.2	85.7	V038C015CD1-110*-A6**
1.5"x3/4"	38.1	50.4	19.1	25	126.4	89.2	93.7	V038C020CD1-110*-A6**
1.5"x1.0"	38.1	50.4	25.4	50.4	149.4	96.7	116.9	V038C025CD1-110*-A6**
1.5"x1.5"	38.1	50.4	38.1	50.4	177.4	110.8	142	V038C038CD1-110*-A6**
2.0"x1/2"	50.8	63.9	12.7	25	117.4	79.3	92	V051C015CD1-110*-A6**
2.0"x3/4"	50.8	63.9	19.1	25	136.4	96.3	100	V051C020CD1-110*-A6**
2.0"x1.0"	50.8	63.9	25.4	50.4	159.4	103.7	123.2	V051C025CD1-110*-A6**
2.0"x1.5"	50.8	63.9	38.1	50.4	187.4	117.8	148.1	V051C038CD1-110*-A6**
2.0"x2.0"	50.8	63.9	50.8	63.9	209.4	133	163.2	V051C051CD1-110*-A6**
2.5"x1/2"	63.5	77.5	12.7	25	117.4	86.3	98.4	V063C015CD1-110*-A6**
2.5"x3/4"	63.5	77.5	19.1	25	136.4	103.3	106.4	V063C020CD1-110*-A6**
2.5"x1.0"	63.5	77.5	25.4	50.4	159.4	110.8	129.6	V063C025CD1-110*-A6**
2.5"x1.5"	63.5	77.5	38.1	50.4	187.4	124.9	154.5	V063C038CD1-110*-A6**
2.5"x2.0"	63.5	77.5	50.8	63.9	209.4	140.1	169.6	V063C051CD1-110*-A6**
2.5"x2.5"	63.5	77.5	63.5	77.5	265.4	166.6	283.3	V063C063CD1-110*-A6**
3.0"x1/2"	76.2	90.9	12.7	25	117.4	94.7	107.9	V076C015CD1-110*-A6**
3.0"x3/4"	76.2	90.9	19.1	25	136.4	111.8	115.9	V076C020CD1-110*-A6**
3.0"x1.0"	76.2	90.9	25.4	50.4	159.4	117.8	135.9	V076C025CD1-110*-A6**
3.0"x1.5"	76.2	90.9	38.1	50.4	187.4	131.9	160.8	V076C038CD1-110*-A6**
3.0"x2.0"	76.2	90.9	50.8	63.9	209.4	147.1	175.9	V076C051CD1-110*-A6**
3.0"x3.0"	76.2	90.9	76.2	90.9	275.4	173.7	290.6	V076C076CD1-110*-A6**
4.0"x0.5"	101.6	118.9	12.7	25	117.4	106.5	120.6	V100C015CD1-110*-A6**
4.0"x1.0"	101.6	118.9	25.4	50.4	159.4	129.9	148.2	V100C025CD1-110*-A6**
4.0"x1.5"	101.6	118.9	38.1	50.4	187.4	145.6	173.5	V100C038CD1-110*-A6**
4.0"x2.0"	101.6	118.9	50.8	63.9	209.4	157.7	188.3	V100C051CD1-110*-A6**



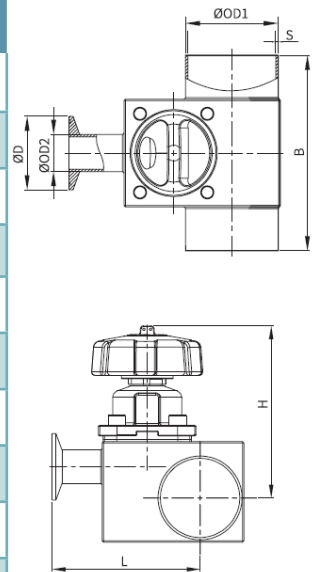
DV-T Sterile Forging Manual Diaphragm Valves (welding ends)

SIZE	OD1xS	OD2xS	B	L	H	Code
1/2"x1/2"	12.7x1.65	12.7x1.65	72	44.5	73	V015W015WD1-110*-A6**
3/4"x1/2"	19.1x1.65	12.7x1.65	82	48.7	73.8	V020W015WD1-110*-A6**
3/4"x3/4"	19.1x1.65	19.1x1.65	101	65.9	84.1	V020W020WD1-110*-A6**
1.0"x1/2"	25.4x1.65	12.7x1.65	82	51.3	76.6	V025W015WD1-110*-A6**
1.0"x3/4"	25.4x1.65	19.1x1.65	101	69.5	87.3	V025W020WD1-110*-A6**
1.0"x1.0"	25.4x1.65	25.4x1.65	124	79.5	110.5	V025W025WD1-110*-A6**
1.5"x3/8"	38.1x1.65	9.53x0.89	82	59.5	85.7	V038W010WD1-110*-A6**
1.5"x1/2"	38.1x1.65	12.7x1.65	82	59.5	85.7	V038W015WD1-110*-A6**
1.5"x3/4"	38.1x1.65	19.1x1.65	101	76.5	93.7	V038W020WD1-110*-A6**
1.5"x1.0"	38.1x1.65	25.4x1.65	124	84	116.9	V038W025WD1-110*-A6**
1.5"x1.5"	38.1x1.65	38.1x1.65	152	98.1	142	V038W038WD1-110*-A6**
2.0"x1/2"	50.8x1.65	12.7x1.65	92	66.6	92	V051W015WD1-110*-A6**
2.0"x3/4"	50.8x1.65	19.1x1.65	111	83.6	100	V051W020WD1-110*-A6**
2.0"x1.0"	50.8x1.65	25.4x1.65	134	91	123.2	V051W025WD1-110*-A6**
2.0"x1.5"	50.8x1.65	38.1x1.65	162	105.1	148.1	V051W038WD1-110*-A6**
2.0"x2.0"	50.8x1.65	50.8x1.65	184	120.3	163.2	V051W051WD1-110*-A6**
2.5"x1/2"	63.5x1.65	12.7x1.65	92	73.6	98.4	V063W015WD1-110*-A6**
2.5"x3/4"	63.5x1.65	19.1x1.65	111	90.6	106.4	V063W020WD1-110*-A6**
2.5"x1.0"	63.5x1.65	25.4x1.65	134	98.1	129.6	V063W025WD1-110*-A6**
2.5"x1.5"	63.5x1.65	38.1x1.65	162	112.2	154.5	V063W038WD1-110*-A6**
2.5"x2.0"	63.5x1.65	50.8x1.65	184	127.4	169.6	V063W051WD1-110*-A6**
2.5"x2.5"	63.5x1.65	63.5x1.65	240	153.9	283.3	V063W063WD1-110*-A6**
3.0"x1/2"	76.2x1.65	12.7x1.65	92	82	107.9	V076W015WD1-110*-A6**
3.0"x3/4"	76.2x1.65	19.1x1.65	111	99.1	115.9	V076W020WD1-110*-A6**
3.0"x1.0"	76.2x1.65	25.4x1.65	134	105.1	135.9	V076W025WD1-110*-A6**
3.0"x1.5"	76.2x1.65	38.1x1.65	162	119.2	160.8	V076W038WD1-110*-A6**
3.0"x2.0"	76.2x1.65	50.8x1.65	184	134.4	175.9	V076W051WD1-110*-A6**
3.0"x3.0"	76.2x1.65	76.2x1.65	250	161	290.6	V076W076WD1-110*-A6**
4.0"x0.5"	101.6x2.11	12.7x1.65	92	93.8	120.6	V100W015WD1-110*-A6**
4.0"x1.0"	101.6x2.11	25.4x1.65	134	117.2	148.2	V100W025WD1-110*-A6**
4.0"x1.5"	101.6x2.11	38.1x1.65	162	132.9	173.5	V100W038WD1-110*-A6**
4.0"x2.0"	101.6x2.11	50.8x1.65	184	145	188.3	V100W051WD1-110*-A6**



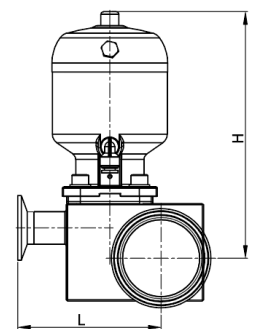
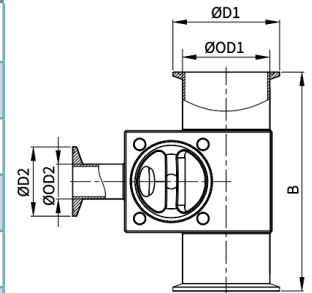
DV-T Sterile Forging Manual Diaphragm Valves (welding & clamp ends)

SIZE	OD1	S	OD2	D	B	L	H	Code
1/2"x1/2"	12.7	1.65	12.7	25	72	57.2	73	V015W015CD1-110*-A6**
3/4"x1/2"	19.1	1.65	12.7	25	82	61.4	73.8	V020W015CD1-110*-A6**
3/4"x3/4"	19.1	1.65	19.1	25	101	78.6	84.1	V020W020CD1-110*-A6**
1.0"x1/2"	25.4	1.65	12.7	25	82	64	76.6	V025W015CD1-110*-A6**
1.0"x3/4"	25.4	1.65	19.1	25	101	82.2	87.3	V025W020CD1-110*-A6**
1.0"x1.0"	25.4	1.65	25.4	50.4	124	92.2	110.5	V025W025CD1-110*-A6**
1.5"x3/8"	38.1	1.65	9.53	25	82	72.2	85.7	V038W010CD1-110*-A6**
1.5"x1/2"	38.1	1.65	12.7	25	82	72.2	85.7	V038W015CD1-110*-A6**
1.5"x3/4"	38.1	1.65	19.1	25	101	89.2	93.7	V038W020CD1-110*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.4	124	96.7	116.9	V038W025CD1-110*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	152	110.8	142	V038W038CD1-110*-A6**
2.0"x1/2"	50.8	1.65	12.7	25	92	79.3	92	V051W015CD1-110*-A6**
2.0"x3/4"	50.8	1.65	19.1	25	111	96.3	100	V051W020CD1-110*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	134	103.7	123.2	V051W025CD1-110*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	162	117.8	148.1	V051W038CD1-110*-A6**
2.0"x2.0"	50.8	1.65	50.8	63.9	184	133	163.2	V051W051CD1-110*-A6**
2.5"x1/2"	63.5	1.65	12.7	25	92	86.3	98.4	V063W015CD1-110*-A6**
2.5"x3/4"	63.5	1.65	19.1	25	111	103.3	106.4	V063W020CD1-110*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.4	134	110.8	129.6	V063W025CD1-110*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.4	162	124.9	154.5	V063W038CD1-110*-A6**
2.5"x2.0"	63.5	1.65	50.8	63.9	184	140.1	169.6	V063W051CD1-110*-A6**
2.5"x2.5"	63.5	1.65	63.5	77.5	240	166.6	283.3	V063W063CD1-110*-A6**
3.0"x1/2"	76.2	1.65	12.7	25	92	94.7	107.9	V076W015CD1-110*-A6**
3.0"x3/4"	76.2	1.65	19.1	25	111	111.8	115.9	V076W020CD1-110*-A6**
3.0"x1.0"	76.2	1.65	25.4	50.4	134	117.8	135.9	V076W025CD1-110*-A6**
3.0"x1.5"	76.2	1.65	38.1	50.4	162	131.9	160.8	V076W038CD1-110*-A6**
3.0"x2.0"	76.2	1.65	50.8	63.9	184	147.1	175.9	V076W051CD1-110*-A6**
3.0"x3.0"	76.2	1.65	76.2	90.9	250	173.7	290.6	V076W076CD1-110*-A6**
4.0"x0.5"	101.6	2.11	12.7	25	92	106.5	120.6	V100W015CD1-110*-A6**
4.0"x1.0"	101.6	2.11	25.4	50.4	134	129.9	148.2	V100W020CD1-110*-A6**
4.0"x1.5"	101.6	2.11	38.1	50.4	162	145.6	173.5	V100W038CD1-110*-A6**
4.0"x2.0"	101.6	2.11	50.8	63.9	184	157.7	188.3	V100W051CD1-110*-A6**



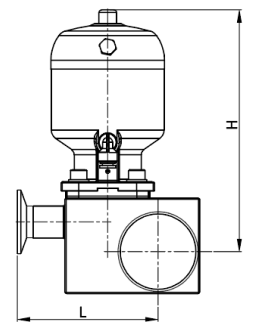
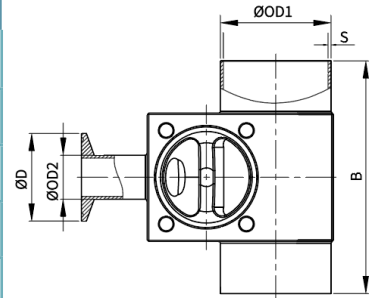
DV-T Sterile Forging Pneumatic Diaphragm Valves (SS actuator, clamp ends)

SIZE	OD1	S	OD2	D	B	L	H	Code
1/2"x1/2"	12.7	25	12.7	25	97.4	57.2	106	V015C015CD1-121*-A6**
3/4"x1/2"	19.1	25	12.7	25	107.4	61.4	106.8	V020C015CD1-121*-A6**
3/4"x3/4"	19.1	25	19.1	25	126.4	78.6	133.1	V020C020CD1-121*-A6**
1.0"x1/2"	25.4	50.4	12.7	25	107.4	64	109.6	V025C015CD1-121*-A6**
1.0"x3/4"	25.4	50.4	19.1	25	126.4	82.2	136.3	V025C020CD1-121*-A6**
1.0"x1.0"	25.4	50.4	25.4	50.4	149.4	92.2	169.5	V025C025CD1-121*-A6**
1.5"x3/8"	38.1	50.4	9.53	25	107.4	72.2	118.7	V038C010CD1-121*-A6**
1.5"x1/2"	38.1	50.4	12.7	25	107.4	72.2	118.7	V038C015CD1-121*-A6**
1.5"x3/4"	38.1	50.4	19.1	25	126.4	89.2	142.7	V038C020CD1-121*-A6**
1.5"x1.0"	38.1	50.4	25.4	50.4	149.4	96.7	175.9	V038C025CD1-121*-A6**
1.5"x1.5"	38.1	50.4	38.1	50.4	177.4	110.8	208.6	V038C038CD1-121*-A6**
2.0"x1/2"	50.8	63.9	12.7	25	117.4	79.3	125	V051C015CD1-121*-A6**
2.0"x3/4"	50.8	63.9	19.1	25	136.4	96.3	149	V051C020CD1-121*-A6**
2.0"x1.0"	50.8	63.9	25.4	50.4	159.4	103.7	182.2	V051C025CD1-121*-A6**
2.0"x1.5"	50.8	63.9	38.1	50.4	187.4	117.8	214.7	V051C038CD1-121*-A6**
2.0"x2.0"	50.8	63.9	50.8	63.9	209.4	133	244.2	V051C051CD1-121*-A6**
2.5"x1/2"	63.5	77.5	12.7	25	117.4	86.3	131.4	V063C015CD1-121*-A6**
2.5"x3/4"	63.5	77.5	19.1	25	136.4	103.3	155.4	V063C020CD1-121*-A6**
2.5"x1.0"	63.5	77.5	25.4	50.4	159.4	110.8	188.6	V063C025CD1-121*-A6**
2.5"x1.5"	63.5	77.5	38.1	50.4	187.4	124.9	221.1	V063C038CD1-121*-A6**
2.5"x2.0"	63.5	77.5	50.8	63.9	209.4	140.1	250.6	V063C051CD1-121*-A6**
2.5"x2.5"	63.5	77.5	63.5	77.5	265.4	166.6	312.3	V063C063CD1-121*-A6**
3.0"x1/2"	76.2	90.9	12.7	25	117.4	94.7	140.9	V076C015CD1-121*-A6**
3.0"x3/4"	76.2	90.9	19.1	25	136.4	111.8	164.9	V076C020CD1-121*-A6**
3.0"x1.0"	76.2	90.9	25.4	50.4	159.4	117.8	194.9	V076C025CD1-121*-A6**
3.0"x1.5"	76.2	90.9	38.1	50.4	187.4	131.9	227.4	V076C038CD1-121*-A6**
3.0"x2.0"	76.2	90.9	50.8	63.9	209.4	147.1	256.9	V076C051CD1-121*-A6**
3.0"x3.0"	76.2	90.9	76.2	90.9	275.4	173.7	319.6	V076C076CD1-121*-A6**
4.0"x1/2"	101.6	118.9	12.7	25	117.4	106.5	153.6	V100C015CD1-121*-A6**
4.0"x1.0"	101.6	118.9	25.4	50.4	159.4	129.9	207.2	V100C025CD1-121*-A6**
4.0"x1.5"	101.6	118.9	38.1	50.4	187.4	145.6	240.1	V100C038CD1-121*-A6**
4.0"x2.0"	101.6	118.9	50.8	63.9	209.4	157.7	269.3	V100C051CD1-121*-A6**



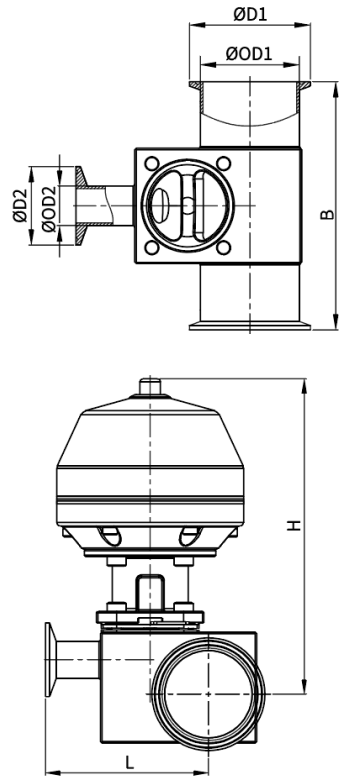
DV-T Sterile Forging Pneumatic Diaphragm Valves (SS actuator, clamp ends)

SIZE	OD1xS	OD2xS	B	L	H	Code
1/2"x1/2"	12.7x1.65	12.7x1.65	72	44.5	106	V015W015CD1-121*-A6**
3/4"x1/2"	19.1x1.65	12.7x1.65	82	48.7	106.8	V020W015CD1-121*-A6**
3/4"x3/4"	19.1x1.65	19.1x1.65	101	65.9	133.1	V020W020CD1-121*-A6**
1.0"x1/2"	25.4x1.65	12.7x1.65	82	51.3	109.6	V025W015CD1-121*-A6**
1.0"x3/4"	25.4x1.65	19.1x1.65	101	69.5	136.3	V025W020CD1-121*-A6**
1.0"x1.0"	25.4x1.65	25.4x1.65	124	79.5	169.5	V025W025CD1-121*-A6**
1.5"x3/8"	38.1x1.65	9.53x0.89	82	59.5	118.7	V038W010CD1-121*-A6**
1.5"x1/2"	38.1x1.65	12.7x1.65	82	59.5	118.7	V038W015CD1-121*-A6**
1.5"x3/4"	38.1x1.65	19.1x1.65	101	76.5	142.7	V038W020CD1-121*-A6**
1.5"x1.0"	38.1x1.65	25.4x1.65	124	84	175.9	V038W025CD1-121*-A6**
1.5"x1.5"	38.1x1.65	38.1x1.65	152	98.1	208.6	V038W038CD1-121*-A6**
2.0"x1/2"	50.8x1.65	12.7x1.65	92	66.6	125	V051W015CD1-121*-A6**
2.0"x3/4"	50.8x1.65	19.1x1.65	111	83.6	149	V051W020CD1-121*-A6**
2.0"x1.0"	50.8x1.65	25.4x1.65	134	91	182.2	V051W025CD1-121*-A6**
2.0"x1.5"	50.8x1.65	38.1x1.65	162	105.1	214.7	V051W038CD1-121*-A6**
2.0"x2.0"	50.8x1.65	50.8x1.65	184	120.3	244.2	V051W051CD1-121*-A6**
2.5"x1/2"	63.5x1.65	12.7x1.65	92	73.6	131.4	V063W015CD1-121*-A6**
2.5"x3/4"	63.5x1.65	19.1x1.65	111	90.6	155.4	V063W015CD1-121*-A6**
2.5"x1.0"	63.5x1.65	25.4x1.65	134	98.1	188.6	V063W025CD1-121*-A6**
2.5"x1.5"	63.5x1.65	38.1x1.65	162	112.2	221.1	V063W038CD1-121*-A6**
2.5"x2.0"	63.5x1.65	50.8x1.65	184	127.4	250.6	V063W051CD1-121*-A6**
2.5"x2.5"	63.5x1.65	63.5x1.65	240	153.9	312.3	V063W063CD1-121*-A6**
3.0"x1/2"	76.2x1.65	12.7x1.65	92	82	140.9	V076W015CD1-121*-A6**
3.0"x3/4"	76.2x1.65	19.1x1.65	111	99.1	164.9	V076W020CD1-121*-A6**
3.0"x1.0"	76.2x1.65	25.4x1.65	134	105.1	194.9	V076W025CD1-121*-A6**
3.0"x1.5"	76.2x1.65	38.1x1.65	162	119.2	227.4	V076W038CD1-121*-A6**
3.0"x2.0"	76.2x1.65	50.8x1.65	184	134.4	256.9	V076W051CD1-121*-A6**
3.0"x3.0"	76.2x1.65	76.2x1.65	250	161	319.6	V076W076CD1-121*-A6**
4.0"x1/2"	101.6x2.11	12.7x1.65	92	93.8	153.6	V100W015CD1-121*-A6**
4.0"x1.0"	101.6x2.11	25.4x1.65	134	117.2	207.2	V100W025CD1-121*-A6**
4.0"x1.5"	101.6x2.11	38.1x1.65	162	132.9	240.1	V100W038CD1-121*-A6**
4.0"x2.0"	101.6x2.11	50.8x1.65	184	145	269.3	V100W051CD1-121*-A6**



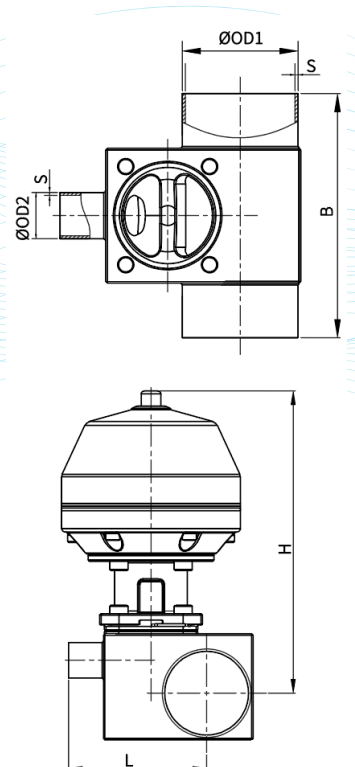
DV-T Sterile Forging Pneumatic Diaphragm Valves (PP actuator, clamp ends)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1.0"x1.0"	25.4	50.4	25.4	50.4	149.4	92.2	196.5	V025C025CD1-120*-A6**
1.5"x1.0"	38.1	50.4	25.4	50.4	149.4	96.7	202.9	V038C025CD1-120*-A6**
1.5"x1.5"	38.1	50.4	38.1	50.4	177.4	110.8	235.6	V038C038CD1-120*-A6**
2.0"x1.0"	50.8	50.4	25.4	50.4	159.4	103.7	209.2	V051C025CD1-120*-A6**
2.0"x1.5"	50.8	50.4	38.1	50.4	187.4	117.8	245.1	V051C038CD1-120*-A6**
2.0"x2.0"	50.8	63.9	50.8	63.9	209.4	133	265.2	V051C051CD1-120*-A6**
2.5"x1.0"	63.5	50.4	25.4	50.4	159.4	110.8	215.6	V063C025CD1-120*-A6**
2.5"x1.5"	63.5	50.4	38.1	50.4	187.4	124.9	251.5	V063C038CD1-120*-A6**
2.5"x2.0"	63.5	63.9	50.8	63.9	209.4	140.1	271.6	V063C051CD1-120*-A6**
3.0"x1.0"	76.2	50.4	25.4	50.4	159.4	117.8	221.9	V076C025CD1-120*-A6**
3.0"x1.5"	76.2	50.4	38.1	50.4	187.4	131.9	257.8	V076C038CD1-120*-A6**
3.0"x2.0"	76.2	63.9	50.8	63.9	209.4	147.1	277.9	V076C051CD1-120*-A6**
4.0"x1.0"	101.6	50.4	25.4	50.4	159.4	129.9	234.2	V100C025CD1-120*-A6**
4.0"x1.5"	101.6	50.4	38.1	50.4	187.4	145.6	270.5	V100C038CD1-120*-A6**
4.0"x2.0"	101.6	63.9	50.8	63.9	209.4	157.7	290.3	V100C051CD1-120*-A6**



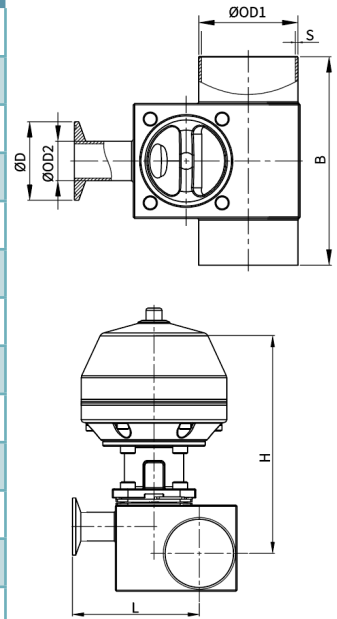
DV-T Sterile Forging Pneumatic Diaphragm Valves (PP actuator, welding ends)

SIZE	OD1xS	OD2xS	B	L	H	Code
1.0"x1.0"	25.4x1.65	25.4x1.65	124	79.5	196.5	V025W025WD-120*-A6**
1.5"x1.0"	38.1x1.65	25.4x1.65	124	84	202.9	V038W025WD-120*-A6**
1.5"x1.5"	38.1x1.65	38.1x1.65	152	98.1	235.6	V038W0238WD-120*-A6**
2.0"x1.0"	50.8x1.65	25.4x1.65	134	91	209.2	V051W025WD-120*-A6**
2.0"x1.5"	50.8x1.65	38.1x1.65	162	105.1	245.1	V051W038WD-120*-A6**
2.0"x2.0"	50.8x1.65	50.8x1.65	184	120.3	265.2	V051W051WD-120*-A6**
2.5"x1.0"	63.5x1.65	25.4x1.65	134	98.1	215.6	V063W025WD-120*-A6**
2.5"x1.5"	63.5x1.65	38.1x1.65	162	112.2	251.5	V063W038WD-120*-A6**
2.5"x2.0"	63.5x1.65	50.8x1.65	184	127.4	271.6	V063W051WD-120*-A6**
3.0"x1.0"	76.2x1.65	25.4x1.65	134	105.1	221.9	V076W025WD-120*-A6**
3.0"x1.5"	76.2x1.65	38.1x1.65	162	119.2	257.8	V076W038WD-120*-A6**
3.0"x2.0"	76.2x1.65	50.8x1.65	184	134.4	277.9	V076W051WD-120*-A6**
4.0"x1.0"	101.6x2.11	25.4x1.65	134	117.2	234.2	V100W038WD-120*-A6**
4.0"x1.5"	101.6x2.11	38.1x1.65	162	132.9	270.5	V100W038WD-120*-A6**
4.0"x2.0"	101.6x2.11	50.8x1.65	184	145	290.3	V100W051WD-120*-A6**



DV-T Sterile Forging Pneumatic Diaphragm Valves (PP actuator, welding & clamp ends)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1.0"x1.0"	25.4	1.65	25.4	50.4	124	92.2	196.5	V025W025CD1-120*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.4	124	96.7	202.9	V038W025CD1-120*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	152	110.8	235.6	V038W038CD1-120*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	134	103.7	209.2	V051W025CD1-120*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	162	117.8	245.1	V051W038CD1-120*-A6**
2.0"x2.0"	50.8	1.65	50.8	63.9	184	133	265.2	V051W051CD1-120*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.8	134	110.8	215.6	V063W025CD1-120*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.8	162	124.9	251.5	V063W038CD1-120*-A6**
2.5"x2.0"	63.5	1.65	50.8	63.9	184	140.1	271.6	V063W051CD1-120*-A6**
3.0"x1.0"	76.2	1.65	25.4	50.4	134	117.8	221.9	V076W025CD1-120*-A6**
3.0"x1.5"	76.2	1.65	38.1	50.4	162	131.9	257.8	V076W038CD1-120*-A6**
3.0"x2.0"	76.2	1.65	50.8	63.9	184	147.1	277.9	V076W051CD1-120*-A6**
4.0"x1.0"	101.6	2.11	25.4	50.4	134	129.9	234.2	V100W025CD1-120*-A6**
4.0"x1.5"	101.6	2.11	38.1	50.4	162	145.6	270.5	V100W038CD1-120*-A6**
4.0"x2.0"	101.6	2.11	50.8	63.9	184	157.7	290.3	V100W051CD1-120*-A6**



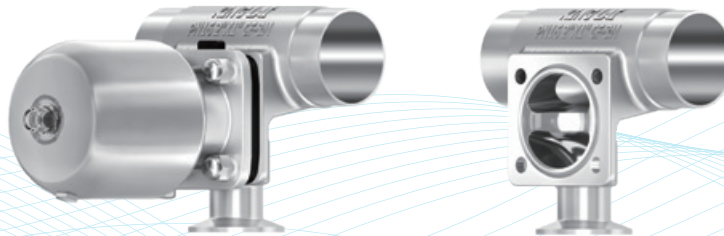
DV-T Sterile casting diaphragm valve



Features

- Compact structure, fully self-drained, and without dead corners.
- Advanced casting technology, the cast body ferrite content is strictly controlled within the standard range.
- Integrated and art-of-the-state processing to ensure safe and reliable installation.
- The size of the main pipe is larger than that of the branches to ensure the circulation of the main pipeline.
- Applicable to high-purity water system, drainages and taps.

DV-T T1A diaphragm valve(casting), the dimension is customized

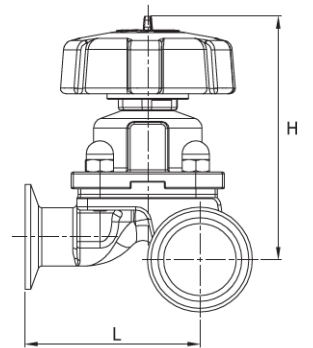
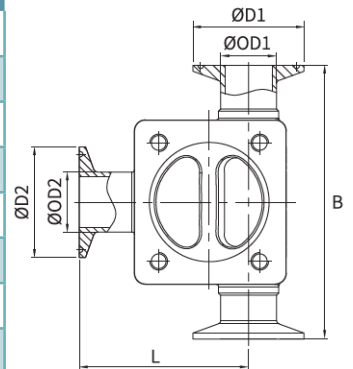


diaphragm valve with sampling valve (casting), the dimension is customized



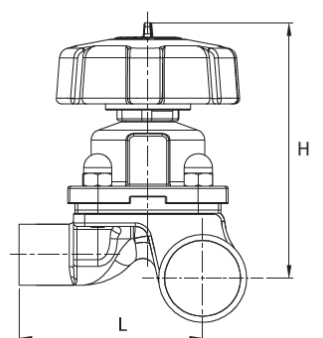
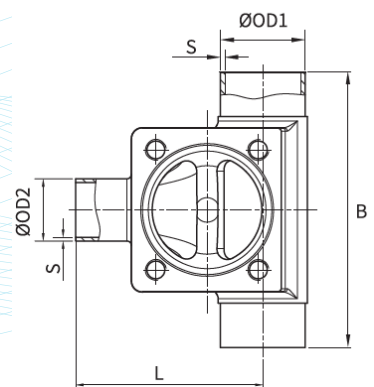
DV-T Sterile Casting Manual Diaphragm Valves (clamp ends)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1/2"x1/2"	12.7	25.0	12.7	25.0	97.4	44.5	73.0	V015C015CD0-110*-A6**
3/4"x3/4"	19.1	25.0	19.1	25.0	126.4	64.8	84.1	V020C020CD0-110*-A6**
1.0"x1/2"	25.4	50.4	12.7	25.0	107.4	51.3	74.4	V025C015CD0-110*-A6**
1.0"x3/4"	25.4	50.4	19.1	25.0	126.4	68.5	60.6	V025C020CD0-110*-A6**
1.0"x1.0"	25.4	50.4	25.4	50.4	150.4	76.9	110.5	V025C025CD0-110*-A6**
1.5"x1/2"	38.1	50.4	12.7	25.0	107.4	59.5	85.7	V038C015CD0-110*-A6**
1.5"x3/4"	38.1	50.4	19.1	25.0	126.4	75.5	93.7	V038C020CD0-110*-A6**
1.5"x1.0"	38.1	50.4	25.4	50.4	149.4	84.0	136.9	V038C025CD0-110*-A6**
1.5"x1.5"	38.1	50.4	38.1	50.4	175.4	98.1	171.8	V038C038CD0-110*-A6**
2.0"x1/2"	50.8	63.9	12.7	25.0	117.4	66.6	92.0	V051C015CD0-110*-A6**
2.0"x3/4"	50.8	63.9	19.1	25.0	136.4	82.6	150.0	V038C025CD0-110*-A6**
2.0"x1.0"	50.8	63.9	25.4	50.4	159.4	92.0	123.2	V051C025CD0-110*-A6**
2.0"x1.5"	50.8	63.9	38.1	50.4	185.4	105.1	148.1	V051C038CD0-110*-A6**
2.0"x2.0"	50.8	63.9	50.8	63.9	201.4	120.3	163.2	V051C051CD0-110*-A6**
2.5"x1/2"	63.5	77.5	12.7	25.0	117.4	73.6	98.4	V063C015CD0-110*-A6**
2.5"x3/4"	63.5	77.5	19.1	25.0	136.4	89.6	106.4	V063C020CD0-110*-A6**
2.5"x1.0"	63.5	77.5	25.4	50.4	160.4	98.1	129.6	V063C025CD0-110*-A6**
2.5"x1.5"	63.5	77.5	38.1	50.4	185.4	112.2	154.5	V063C038CD0-110*-A6**



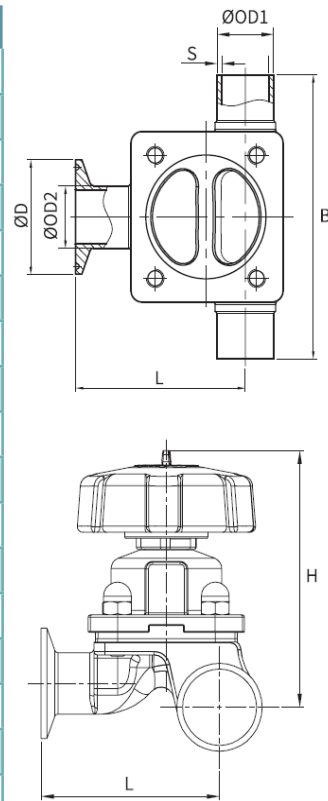
DV-T Sterile Casting Manual Diaphragm Valves (welding ends)

SIZE	OD1xS	OD2xS	B	L	H	Code
1/2"x1/2"	12.7x1.65	12.7x1.65	72.0	42.5	73.0	V015C015CD0-110*-A6**
3/4"x3/4"	19.1x1.65	19.1x1.65	101.0	62.8	84.1	V020C020CD0-110*-A6**
1.0"x1/2"	25.4x1.65	12.7x1.65	82.0	49.3	74.4	V025C015CD0-110*-A6**
1.0"x3/4"	25.4x1.65	19.1x1.65	101.0	66.5	60.6	V025C020CD0-110*-A6**
1.0"x1.0"	25.4x1.65	25.4x1.65	125.0	76.9	110.5	V025C025CD0-110*-A6**
1.5"x1/2"	38.1x1.65	12.7x1.65	82.0	57.5	85.7	V038C015CD0-110*-A6**
1.5"x3/4"	38.1x1.65	19.1x1.65	101.0	73.5	93.7	V038C020CD0-110*-A6**
1.5"x1.0"	38.1x1.65	25.4x1.65	124.0	84.0	136.9	V038C025CD0-110*-A6**
1.5"x1.5"	38.1x1.65	38.1x1.65	150.0	98.1	171.8	V038C038CD0-110*-A6**
2.0"x1/2"	50.8x1.65	12.7x1.65	92.0	64.6	92.0	V051C015CD0-110*-A6**
2.0"x3/4"	50.8x1.65	19.1x1.65	111.0	80.6	150.0	V051C020CD0-110*-A6**
2.0"x1.0"	50.8x1.65	25.4x1.65	134.0	92.0	123.2	V051C025CD0-110*-A6**
2.0"x1.5"	50.8x1.65	38.1x1.65	160.0	105.1	148.1	V051C038CD0-110*-A6**
2.0"x2.0"	50.8x1.65	50.8x1.65	176.0	120.3	163.2	V051C051CD0-110*-A6**
2.5"x1/2"	63.5x1.65	12.7x1.65	92.0	71.6	98.4	V063C015CD0-110*-A6**
2.5"x3/4"	63.5x1.65	19.1x1.65	111.0	87.6	106.4	V063C020CD0-110*-A6**
2.5"x1.0"	63.5x1.65	25.4x1.65	135.0	98.1	129.6	V063C025CD0-110*-A6**
2.5"x1.5"	63.5x1.65	38.1x1.65	160.0	112.2	154.5	V063C038CD0-110*-A6**



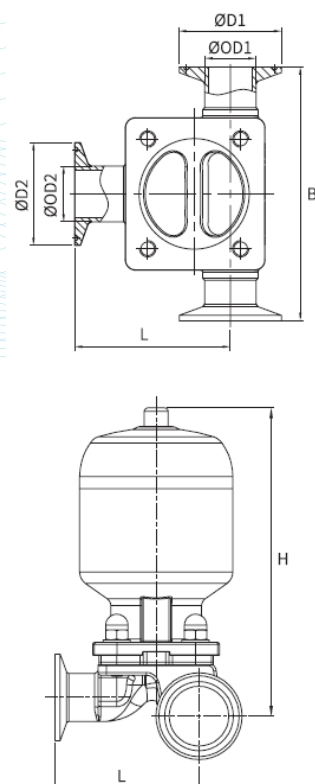
DV-T Sterile Casting Manual Diaphragm Valves (welding & clamp ends)

SIZE	OD1	S	OD2	D	B	L	H	Code
1/2"x1/2"	12.7	1.65	12.7	25.0	72.0	44.5	73.0	V015W015CD0-110*-A6**
3/4"x3/4"	19.1	1.65	19.1	25.0	101.0	64.8	84.1	V020W020CD0-110*-A6**
1.0"x1/2"	25.4	1.65	12.7	25.0	82.0	51.3	74.4	V025W015CD0-110*-A6**
1.0"x3/4"	25.4	1.65	19.1	25.0	101.0	68.5	60.6	V025W020CD0-110*-A6**
1.0"x1.0"	25.4	1.65	25.4	50.4	125.0	76.9	110.5	V025W025CD0-110*-A6**
1.5"x1/2"	38.1	1.65	12.7	25.0	82.0	59.5	85.7	V038W015CD0-110*-A6**
1.5"x3/4"	38.1	1.65	19.1	25.0	101.0	75.5	93.7	V038W020CD0-110*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.4	124.0	84.0	136.9	V038W025CD0-110*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	150.0	98.1	171.8	V038W038CD0-110*-A6**
2.0"x1/2"	50.8	1.65	12.7	25.0	92.0	66.6	92.0	V051W015CD0-110*-A6**
2.0"x3/4"	50.8	1.65	19.1	25.0	111.0	82.6	150.0	V051W020CD0-110*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	134.0	92.0	123.2	V051W025CD0-110*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	160.0	105.1	148.1	V051W038CD0-110*-A6**
2.0"x2.0"	50.8	1.65	50.8	63.9	176.0	120.3	163.2	V051W051CD0-110*-A6**
2.5"x1/2"	63.5	1.65	12.7	25.0	92.0	73.6	98.4	V063W015CD0-110*-A6**
2.5"x3/4"	63.5	1.65	19.1	25.0	111.0	89.6	106.4	V063W020CD0-110*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.4	135.0	98.1	129.6	V063W025CD0-110*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.4	160.0	112.2	154.5	V063W038CD0-110*-A6**



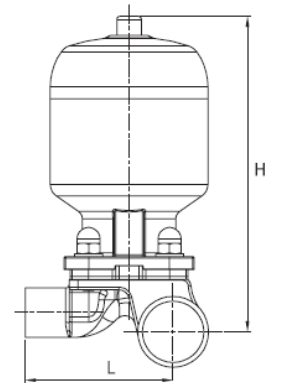
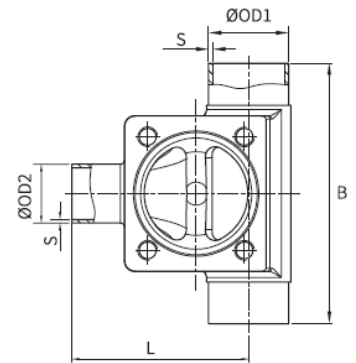
DV-T Sterile Casting Pneumatic Diaphragm Valves (SS actuator, clamp ends)

SIZE	OD1	S	OD2	D	B	L	H	Code
1/2"x1/2"	12.7	25.0	12.7	25.0	97.4	44.5	106.0	V015C015CD0-120*-A6**
3/4"x3/4"	19.1	25.0	19.1	25.0	126.4	64.8	133.1	V020C020CD0-120*-A6**
1.0"x1/2"	25.4	50.4	12.7	25.0	107.4	51.3	107.4	V025C015CD0-120*-A6**
1.0"x3/4"	25.4	50.4	19.1	25.0	126.4	68.5	109.6	V025C020CD0-120*-A6**
1.0"x1.0"	25.4	50.4	25.4	50.4	150.4	76.9	169.5	V025C025CD0-120*-A6**
1.5"x1/2"	38.1	50.4	12.7	25.0	107.4	59.5	118.7	V038C015CD0-120*-A6**
1.5"x3/4"	38.1	50.4	19.1	25.0	126.4	75.5	142.7	V038C020CD0-120*-A6**
1.5"x1.0"	38.1	50.4	25.4	50.4	149.4	84.0	175.9	V038C025CD0-120*-A6**
1.5"x1.5"	38.1	50.4	38.1	50.4	175.4	98.1	208.4	V038C038CD0-120*-A6**
2.0"x1/2"	50.8	63.9	12.7	25.0	117.4	66.6	125.0	V051C015CD0-120*-A6**
2.0"x3/4"	50.8	63.9	19.1	25.0	136.4	82.6	199.0	V051C020CD0-120*-A6**
2.0"x1.0"	50.8	63.9	25.4	50.4	159.4	92.0	182.2	V051C025CD0-120*-A6**
2.0"x1.5"	50.8	63.9	38.1	50.4	185.4	105.1	214.7	V051C038CD0-120*-A6**
2.0"x2.0"	50.8	63.9	50.8	63.9	201.4	120.3	244.2	V051C051CD0-120*-A6**
2.5"x1/2"	63.5	77.5	12.7	25.0	117.4	73.6	131.4	V063C015CD0-120*-A6**
2.5"x3/4"	63.5	77.5	19.1	25.0	136.4	89.6	155.4	V063C020CD0-120*-A6**
2.5"x1.0"	63.5	77.5	25.4	50.4	160.4	98.1	188.6	V063C025CD0-120*-A6**
2.5"x1.5"	63.5	77.5	38.1	50.4	185.4	112.2	221.1	V063C038CD0-120*-A6**



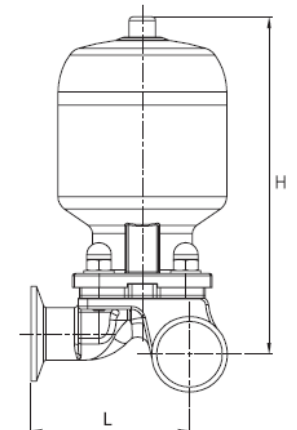
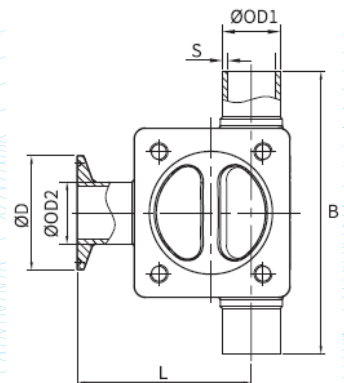
DV-T Sterile Casting Pneumatic Diaphragm Valves (SS actuator, welding ends)

SIZE	OD1xS	OD2xS	B	L	H	Code
1/2"x1/2"	12.7x1.65	12.7x1.65	72.0	42.5	106.0	V015W015WD0-121*-A6**
3/4"x3/4"	19.1x1.65	19.1x1.65	101.0	62.8	133.1	V020W020WD0-121*-A6**
1.0"x1/2"	25.4x1.65	25.4x1.65	82.0	49.3	107.4	V025W015WD0-121*-A6**
1.0"x3/4"	25.4x1.65	25.4x1.65	101.0	66.5	109.6	V025W020WD0-121*-A6**
1.0"x1.0"	25.4x1.65	25.4x1.65	125.0	76.9	169.5	V025W025WD0-121*-A6**
1.5"x1/2"	38.1x1.65	38.1x1.65	82.0	57.5	118.7	V038W015WD0-121*-A6**
1.5"x3/4"	38.1x1.65	38.1x1.65	101.0	73.5	142.7	V038W020WD0-121*-A6**
1.5"x1.0"	38.1x1.65	38.1x1.65	124.0	84.0	175.9	V038W025WD0-121*-A6**
1.5"x1.5"	38.1x1.65	38.1x1.65	150.0	98.1	208.4	V038W038WD0-121*-A6**
2.0"x1/2"	50.8x1.65	50.8x1.65	92.0	64.6	125.0	V051W015WD0-121*-A6**
2.0"x3/4"	50.8x1.65	50.8x1.65	111.0	80.6	199.0	V051W020WD0-121*-A6**
2.0"x1.0"	50.8x1.65	50.8x1.65	134.0	92.0	182.2	V051W025WD0-121*-A6**
2.0"x1.5"	50.8x1.65	50.8x1.65	160.0	105.1	214.7	V051W038WD0-121*-A6**
2.0"x2.0"	50.8x1.65	50.8x1.65	176.0	120.3	244.2	V051W051WD0-121*-A6**
2.5"x1/2"	63.5x1.65	63.5x1.65	92.0	71.6	131.4	V063W015WD0-121*-A6**
2.5"x3/4"	63.5x1.65	63.5x1.65	111.0	87.6	155.4	V063W020WD0-121*-A6**
2.5"x1.0"	63.5x1.65	63.5x1.65	135.0	98.1	188.6	V063W025WD0-121*-A6**
2.5"x1.5"	63.5x1.65	63.5x1.65	160.0	112.2	221.1	V063W038WD0-121*-A6**



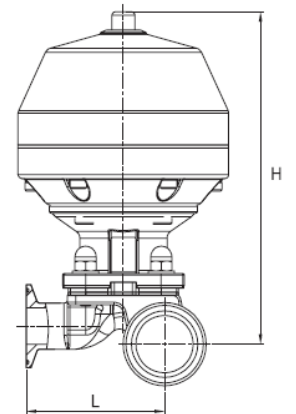
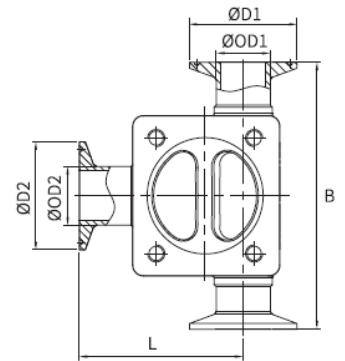
DV-T Sterile Casting Pneumatic Diaphragm Valves (SS actuator, welding & clamp ends)

SIZE	OD1	S	OD2	D	B	L	H	Code
1/2"x1/2"	12.7	1.65	12.7	25.0	72.0	44.5	106.0	V015W015CD0-121*-A6**
3/4"x3/4"	19.1	1.65	19.1	25.0	101.0	64.8	133.1	V020W020CD0-121*-A6**
1.0"x1/2"	25.4	1.65	12.7	25.0	82.0	51.3	107.4	V025W015CD0-121*-A6**
1.0"x3/4"	25.4	1.65	19.1	25.0	101.0	68.5	109.6	V025W020CD0-121*-A6**
1.0"x1.0"	25.4	1.65	25.4	50.4	125.0	76.9	169.5	V025W025CD0-121*-A6**
1.5"x1/2"	38.1	1.65	12.7	25.0	82.0	59.5	118.7	V038W015CD0-121*-A6**
1.5"x3/4"	38.1	1.65	19.1	25.0	101.0	75.5	142.7	V038W020CD0-121*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.4	124.0	84.0	175.9	V038W025CD0-121*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	150.0	98.1	208.4	V038W038CD0-121*-A6**
2.0"x1/2"	50.8	1.65	12.7	25.0	92.0	66.6	125.0	V051W015CD0-121*-A6**
2.0"x3/4"	50.8	1.65	19.1	25.0	111.0	82.6	199.0	V051W020CD0-121*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	134.0	92.0	182.2	V051W025CD0-121*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	160.0	105.1	214.7	V051W038CD0-121*-A6**
2.0"x2.0"	50.8	1.65	50.8	63.9	176.0	120.3	244.2	V051W051CD0-121*-A6**
2.5"x1/2"	63.5	1.65	12.7	25.0	92.0	73.6	131.4	V063W015CD0-121*-A6**
2.5"x3/4"	63.5	1.65	19.1	25.0	111.0	89.6	155.4	V063W020CD0-121*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.4	135.0	98.1	188.6	V063W025CD0-121*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.4	160.0	112.2	221.1	V063W038CD0-121*-A6**



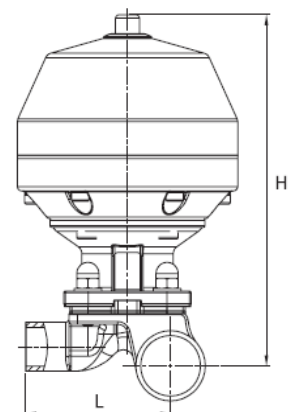
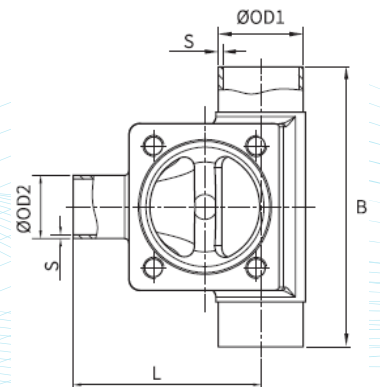
DV-T Sterile Casting Pneumatic Diaphragm Valves (PP actuator, clamp ends)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1.0"x1.0"	25.4	50.4	25.4	50.4	150.4	76.9	196.5	V015C015CD0-120*-A6**
1.5"x1.0"	38.1	50.4	25.4	50.4	149.4	84.0	202.9	V038C025CD0-120*-A6**
1.5"x1.5"	38.1	50.4	38.1	50.4	175.4	98.1	238.4	V038C038CD0-120*-A6**
2.0"x1.0"	50.8	63.9	25.4	50.4	159.4	92.0	209.2	V051C025CD0-120*-A6**
2.0"x1.5"	50.8	63.9	38.1	50.4	185.4	105.1	244.7	V051C038CD0-120*-A6**
2.0"x2.0"	50.8	63.9	50.8	63.9	201.4	120.3	265.2	V051C051CD0-120*-A6**
2.5"x1.0"	63.5	77.5	25.4	50.4	160.4	98.1	215.6	V063C025CD0-120*-A6**
2.5"x1.5"	63.5	77.5	38.1	50.4	185.4	112.2	251.1	V063C038CD0-120*-A6**



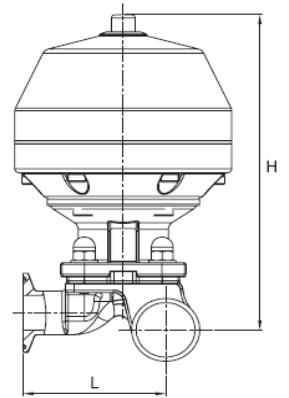
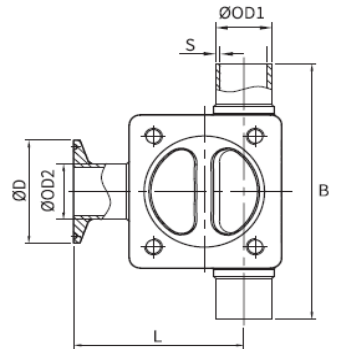
DV-T Sterile Casting Pneumatic Diaphragm Valves (PP actuator, welding ends)

SIZE	OD1xS	OD2xS	B	L	H	Code
1.0"x1.0"	25.4x1.65	25.4x1.65	125.0	76.9	196.5	V015W015WD0-120*-A6**
1.5"x1.0"	38.1x1.65	25.4x1.65	124.0	84.0	202.9	V038W025WD0-120*-A6**
1.5"x1.5"	38.1x1.65	38.1x1.65	150.0	98.1	238.4	V038W038WD0-120*-A6**
2.0"x1.0"	50.8x1.65	25.4x1.65	134.0	92.0	209.2	V051W025WD0-120*-A6**
2.0"x1.5"	50.8x1.65	38.1x1.65	160.0	105.1	244.7	V051W038WD0-120*-A6**
2.0"x2.0"	50.8x1.65	50.8x1.65	176.0	120.3	265.2	V051W051WD0-120*-A6**
2.5"x1.0"	63.5x1.65	25.4x1.65	135.0	98.1	215.6	V063W025WD0-120*-A6**
2.5"x1.5"	63.5x1.65	38.1x1.65	160.0	112.2	251.1	V063W038WD0-120*-A6**



DV-T Sterile Casting Pneumatic Diaphragm Valves (PP actuator, welding & clamp ends)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1.0"x1.0"	25.4	1.65	25.4	50.4	125.0	76.9	196.5	V015W015CD0-120*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.4	124.0	84.0	202.9	V038W025CD0-120*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	150.0	98.1	238.4	V038W038CD0-120*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	134.0	92.0	209.2	V051W025CD0-120*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	160.0	105.1	244.7	V051W038CD0-120*-A6**
2.0"x2.0"	50.8	1.65	50.8	63.9	176.0	120.3	265.2	V051W051CD0-120*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.4	135.0	98.1	215.6	V063W025CD0-120*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.4	160.0	112.2	251.1	V063W038CD0-120*-A6**



KDV-T Sterile forging diaphragm valve

Design of Diaphragm

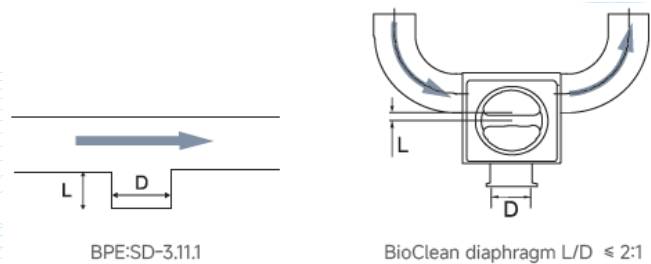


Application

- In the loop for production of purified water (PW) and injection water (WFI), one of the applications is on the tap valves.
- The valve must ensure an absolute safe loop and prevent environmental damage, which will also be worn as a junction point. Therefore this valve must have highest level of security and cleanliness.

Feature

- To avoid the retention of the bacterial at the barrier of U-shaped tee through diaphragm valves, reduce the number of welds and improve the smoothness of the contact surface (MOC) with a minimum length of the horizontal pipe.
- BPE 2012: SD-3.1.2.2, to eliminate the risk of breeding of bacterial at retention area of fluid at discharge port area and ensure that the loop is absolutely safe.



DV-S series diaphragm valve includes: S1A U type diaphragm valve, S2A water point diaphragm valve(casting), S3A water point diaphragm valve(casting), S1B water point diaphragm valve with sampling valve, S2B water point diaphragm valve with sampling valve, S3B water point diaphragm valve with sampling valve.



- DV-S S1A

Diaphragm valve is mainly used for point-of-use in pipe-lines.

- DV-S S1A

The specific caliber size of the diaphragm valve (cast valve) meets 3D requirements, please customize according to your needs.



- DV-S S2A

Diaphragm valve is mainly used for point-of-use in pipe-lines.

- DV-S S2A

The specific caliber size of the diaphragm valve (cast valve) meets the high requirements of zero dead zoom, please customize according to your needs.



- DV-S S3A

Diaphragm valve is mainly used for point-of-use in pipe-lines.

- DV-S S3A

The specific caliber size of the diaphragm valve (forged valve) meets the high requirements of zero dead zoom. Please customize according to your needs.



- DV-S S1B

Point-of-use diaphragm valve with sampling,(not recommended) specific caliber size, please customize according to your needs.



- DV-S S2B

Point-of-use diaphragm valve with sampling meets the high requirements of zero dead zoom. The sampling meets 3D requirements. The specific caliber size can be customized according to the needs.

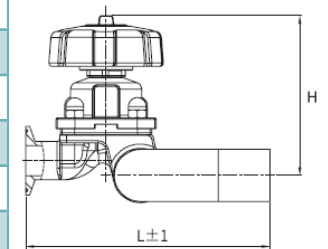
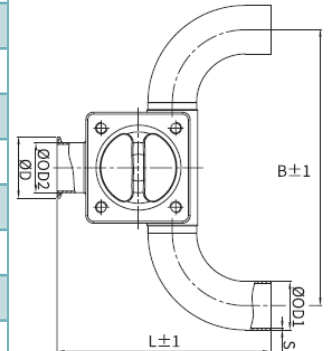


- DV-S S3B

Point-of-use diaphragm valve with sampling meets the high requirements of zero dead zoom. The sampling meets 1D requirements. The specific caliber size can be customized according to the needs.

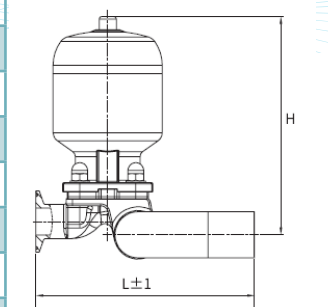
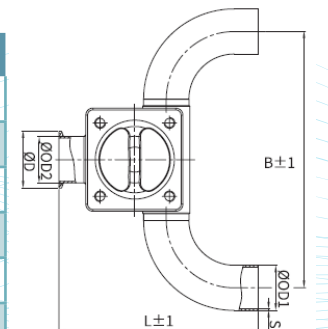
DV-S Manual diaphragm valve for point-of-use

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1/2"x1/2"	12.7	1.65	12.7	25.0	109.2	120.7	73.0	V015C015CD0-210*-A6**
3/4"x3/4"	19.1	1.65	19.1	25.0	128.2	141.0	84.1	V020C020CD0-210*-A6**
1.0"x1/2"	25.4	1.65	12.7	25.0	128.2	127.5	74.4	V025C015CD0-210*-A6**
1.0"x3/4"	25.4	1.65	19.1	25.0	147.2	144.7	60.6	V025C020CD0-210*-A6**
1.0"x1.0"	25.4	1.65	25.4	50.4	171.2	153.1	110.5	V025C025CD0-210*-A6**
1.5"x1/2"	38.1	1.65	12.7	25.0	166.4	154.8	85.7	V038C015CD0-210*-A6**
1.5"x3/4"	38.1	1.65	19.1	25.0	185.4	170.8	93.7	V038C020CD0-210*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.5	208.4	179.3	136.9	V038C025CD0-210*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	234.4	193.4	171.8	V038C038CD0-210*-A6**
2.0"x1/2"	50.8	1.65	12.7	25.0	204.4	187.2	92.0	V051C015CD0-210*-A6**
2.0"x3/4"	50.8	1.65	19.1	25.0	223.4	203.3	150.0	V051C020CD0-210*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	246.4	211.7	123.2	V051C025CD0-210*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	272.4	225.8	148.1	V051C038CD0-210*-A6**
2.0"x2.0"	50.8	1.65	50.8	63.9	288.4	241.0	163.2	V051C051CD0-210*-A6**
2.5"x1/2"	63.5	1.65	12.7	25.0	242.6	213.3	98.4	V063C015CD0-210*-A6**
2.5"x3/4"	63.5	1.65	19.1	25.0	261.6	229.3	106.4	V063C020CD0-210*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.4	285.6	237.8	129.6	V063C025CD0-210*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.4	310.6	251.9	154.5	V063C038CD0-210*-A6**



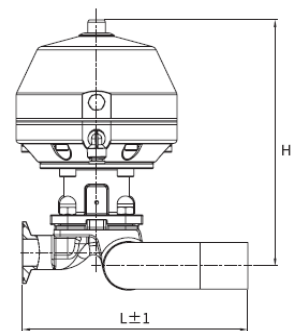
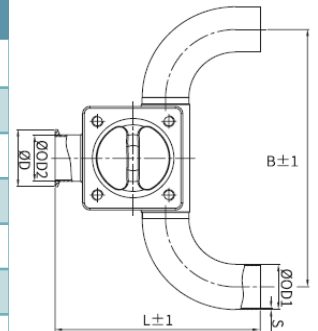
DV-S Pneumatic diaphragm valve for point-of-use (SS actuator)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1/2"x1/2"	12.7	1.65	12.7	25.0	109.2	120.7	106.0	V015C015CD0-221*-A6**
3/4"x3/4"	19.1	1.65	19.1	25.0	128.2	141.0	133.1	V020C020CD0-221*-A6**
1.0"x1/2"	25.4	1.65	12.7	25.0	128.2	127.5	107.4	V025C015CD0-221*-A6**
1.0"x3/4"	25.4	1.65	19.1	25.0	147.2	144.7	109.6	V025C020CD0-221*-A6**
1.0"x1.0"	25.4	1.65	25.4	50.4	171.2	153.1	169.5	V025C025CD0-221*-A6**
1.5"x1/2"	38.1	1.65	12.7	25.0	166.4	154.8	118.7	V038C015CD0-221*-A6**
1.5"x3/4"	38.1	1.65	19.1	25.0	185.4	170.8	142.7	V038C020CD0-221*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.5	208.4	179.3	175.9	V038C025CD0-221*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	234.4	193.4	208.4	V038C038CD0-221*-A6**
2.0"x1/2"	50.8	1.65	12.7	25.0	204.4	187.2	125.0	V051C015CD0-221*-A6**
2.0"x3/4"	50.8	1.65	19.1	25.0	223.4	203.3	199.0	V051C020CD0-221*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	246.4	211.7	182.2	V051C025CD0-221*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	272.4	225.8	214.7	V051C038CD0-221*-A6**
2.0"x2.0"	50.8	1.65	50.8	64.0	288.4	241.0	244.2	V051C051CD0-221*-A6**
2.5"x1/2"	63.5	1.65	12.7	25.0	242.6	213.3	131.4	V063C015CD0-221*-A6**
2.5"x3/4"	63.5	1.65	19.1	25.0	261.6	229.3	155.4	V063C020CD0-221*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.4	285.6	237.8	188.6	V063C025CD0-221*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.4	310.6	251.9	221.1	V063C038CD0-221*-A6**



DV-S Pneumatic diaphragm valve for point-of-use (PP actuator)

SIZE	OD1	D1	OD2	D2	B	L	H	Code
1.0"x1.0"	25.4	1.65	25.4	50.4	171.2	153.1	196.5	V015C015CD0-220*-A6**
1.5"x1.0"	38.1	1.65	25.4	50.5	208.4	179.3	202.9	V038C025CD0-220*-A6**
1.5"x1.5"	38.1	1.65	38.1	50.4	234.4	193.4	238.4	V038C038CD0-220*-A6**
2.0"x1.0"	50.8	1.65	25.4	50.4	246.4	211.7	209.2	V051C025CD0-220*-A6**
2.0"x1.5"	50.8	1.65	38.1	50.4	272.4	225.8	244.7	V051C038CD0-220*-A6**
2.0"x2.0"	50.8	1.65	50.8	64.0	288.4	241.0	265.2	V051C051CD0-220*-A6**
2.5"x1.0"	63.5	1.65	25.4	50.4	285.6	237.8	215.6	V063C025CD0-220*-A6**
2.5"x1.5"	63.5	1.65	38.1	50.4	310.6	251.9	251.1	V063C038CD0-220*-A6**



DV-M Multi-port diaphragm valves



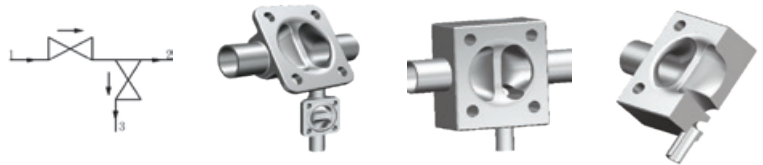
- Multi-channel diaphragm valves can save installation space and time, reduce cost, and can be used as a substitute in the valves.

Evolution of multi-channel valves

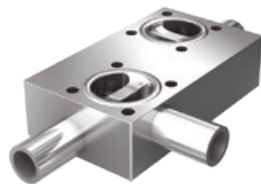
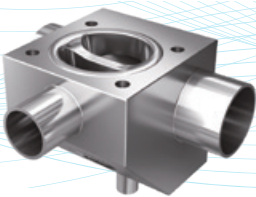
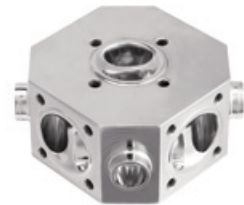
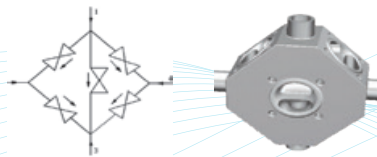
- T-valve with sterilizing port



Integrated GMP valve



Chromatography valve



Technical Data

Items	Details
Working pressure	0-10bar, 145psi (EPDM) 0-8bar, 116psi (PTFE)
Working temperature	-10~100°C , SIP max. 150°C
Operation	Manual / pneumatic
Body design	OEM/ODM
Body material	316L forged (ASME BPE)
Surface finish	Electrolytic of outer surface Internal surface $R_a \leq 0.375\mu\text{m}$ (SF4)
Connections	Butt-Weld, Clamp ISO, DIN, ASME BPE, 3A

DV-H SAP/GMP diaphragm valves



The KGMP / SAP diaphragm valves are available in a variety of angles and positions with forging or casting materials. (as shown in the drawing).

Horizontal installation of the main valve with automatic drainage and vertical installation of the branch valve at the left side.



HVL-01



HVL-02



HVL-03



HVL-04

Horizontal installation of the main valve with automatic drainage and vertical installation of the branch valve at the right side.



HVR-01



HVR-02



HVR-03



HVR-04

Horizontal installation of the main valve (upwards) and vertical installation of the branch valve at the right (left) side.



HVR-05



HVR-06



HVR-07



HVR-08

Horizontal installation of the main valve with automatic drainage and automatic drainage for the branch vertically installed at the left side.



HHL-01



HHL-02



HHL-03



HHL-04

Vertical installation of the main valve and automatic drainage for the branch horizontally installed.



VHU-01



VHU-02



VHU-03



VHU-04

DV-I i-body valve



The i-bodies valve is mainly used for sampling or draining condensed water. It is an economical valve between the DV-H SAP/GMP valve and the DV-M multi-channel valve. The valve is molded and developed on the basis of a straight-through valve, reducing the weld beads and dead spaces of the DV-H SAP/GMP valve and saving costs compared to the DV-M multi-channel valve.

Features:

- Compact design and cost saving.
- Minimize dead space and no welding in production areas.
- Compared to SAP valves, it has better discharge capacity.
- Valve body is made from forging or block material.

I-body

I BODY	Main size		Branch size		Gas pipe size	
	Weld $\varnothing A \times T$	Clamp $\varnothing B$	Weld $\varnothing C \times T$	Clamp $\varnothing D$	M	F
1.0X0.5	$\varnothing 25.4 \times 1.65T$	$\varnothing 50.4$	$\varnothing 12.7 \times 1.65T$	$\varnothing 25$	36.9	12.7
1.5X0.5	$\varnothing 38.1 \times 1.65T$	$\varnothing 50.4$	$\varnothing 12.7 \times 1.65T$	$\varnothing 25$	37.4	12.7
2.0X0.5	$\varnothing 50.8 \times 1.65T$	$\varnothing 63.9$	$\varnothing 12.7 \times 1.65T$	$\varnothing 25$	28.2	12.7

Stainless steel pneumatic actuator

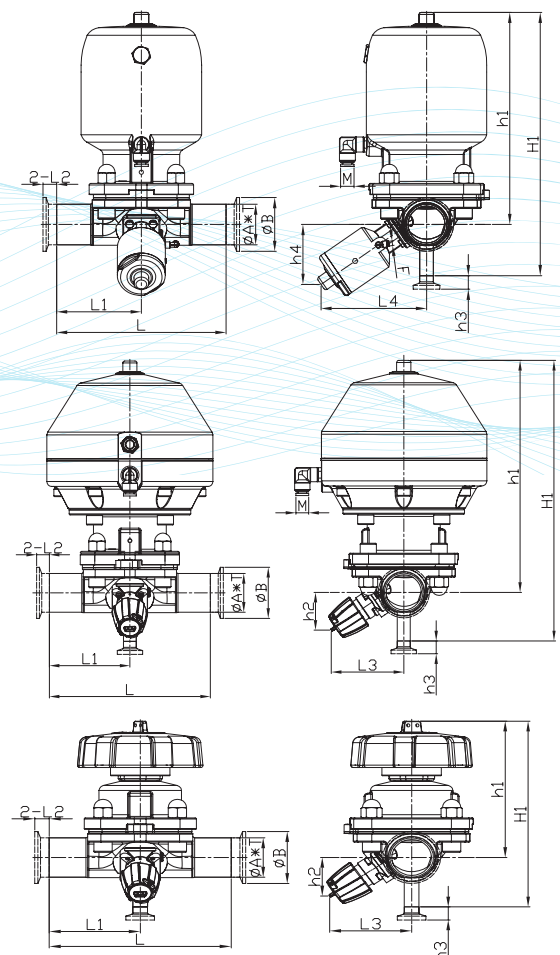
L	L1	L2	L4	H1	h1	h3	h4
127	63.5	12.7	91.7	210	166	12.7	57.4
159	79.5	12.7	99	247	199	12.7	56.2
190	95	12.7	104.2	288.2	235	12.7	41.5

Plastic pneumatic actuator

L	L1	L2	L4	H1	h1	h3	h4
127	63.5	12.7	91.7	210	166	12.7	57.4
159	79.5	12.7	99	247	199	12.7	56.2
190	95	12.7	104.2	288.2	235	12.7	41.5

Manual

L	L1	L2	L4	H1	h1	h3	h4
127	63.5	12.7	91.7	210	166	12.7	57.4
159	79.5	12.7	99	247	199	12.7	56.2
190	95	12.7	104.2	288.2	235	12.7	41.5

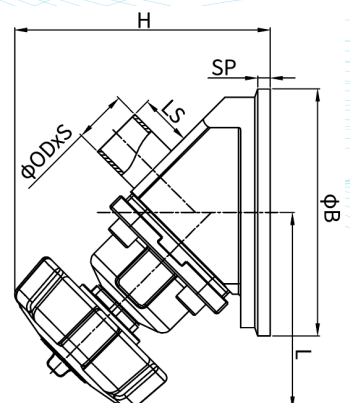


DV-I i-body valve

Tank outlet valves are mainly used in pharmaceutical, food and beverage industries, and are generally installed at the bottoms of the tanks for sampling and drainage. They can also be integrated for SIP/CIP. KINGLAI's tank outlet valves are evolved on the basis of the diaphragm valves with the sealing weir as close as possible to the tank wall to avoid dead ends at the bottom of the tank.

Technical Data

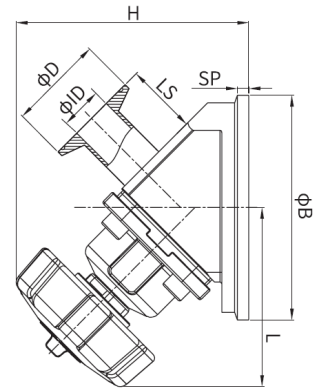
Items	Details
Working pressure	0-10bar, 145psi (EPDM) 0-8bar, 116psi (PTFE)
Working temperature	-10~100°C, SIP max. 150°C
Driving structure	Manual / pneumatic control
Body material	CF3M, 316L (ASME BPE)
Surface finish	Electrolytic of outer surface Internal surface $Ra \leq 0.375\mu\text{m}$ (SF4)
Connections	Butt-Weld, Clamp ISO, DIN, ASME BPE, 3A



DN	SIZE	ØOD×S	ØB	L	H	LS	SP	CODE
25	1.0"	25.4x1.65T	119	94.9	123.5	25.0	6.0	V025WD0-310*-A6**
40	1.5"	38.1x1.65T	160	115	158.6	30.0	6.5	V038WD0-310*-A6**
50	2.0"	50.8x1.65T	180	130.5	180.5	30.0	6.5	V051WD0-310*-A6**
80	3.0"	76.2x1.65T	250	205.5	273.7	50.0	8.0	V076WD0-310*-A6**

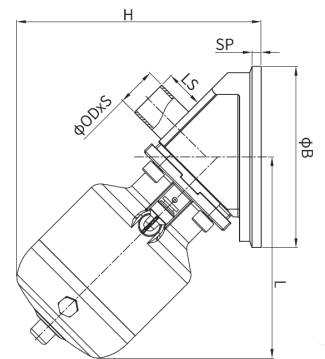
DV-B Clamp manual tank bottom diaphragm valve

DN	SIZE	ØD	ØID	ØB	L	H	LS	SP	Code
25	1.0"	50.4	22.1	119	94.9	123.5	37.7	6.0	V025CD0-310*-A6**
40	1.5"	50.4	34.8	160	115	158.6	42.7	6.5	V025CD0-310*-A6**
50	2.0"	63.9	47.5	180	130.5	180.5	42.7	6.5	V025CD0-310*-A6**
80	3.0"	90.9	72.9	250	205.5	344.7	62.7	8.0	V025CD0-310*-A6**



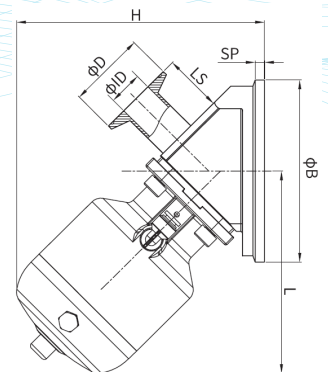
DV-B Weld pneumatic tank bottom diaphragm valve

DN	SIZE	ØOD×S	ØB	L	H	LS	SP	Code
25	1.0"	25.4x1.65T	119	132.5	160.7	25.0	6.0	V025WD0-321*-A6**
40	1.5"	38.1x1.65T	160	160.7	204.2	30.0	6.5	V038WD0-321*-A6**
50	2.0"	50.8x1.65T	180	187.5	234.5	30.0	6.5	V051WD0-321*-A6**
80	3.0"	76.2x1.65T	250	248.5	317.0	50.0	8.0	V076WD0-321*-A6**



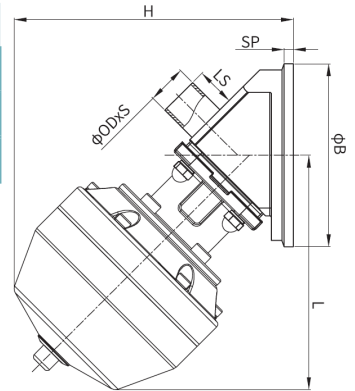
DV-B Clamp pneumatic tank bottom diaphragm valve

DN	SIZE	ØD	ØID	ØB	L	H	LS	SP	Code
25	1.0"	50.4	22.1	119	132.5	160.7	37.7	6.0	V025CD0-321*-A6**
40	1.5"	50.4	34.8	160	160.7	204.2	42.7	6.5	V038CD0-321*-A6**
50	2.0"	63.9	47.5	180	187.5	234.5	42.7	6.5	V051CD0-321*-A6**
80	3.0"	90.9	72.9	250	248.5	317.0	62.7	8.0	V076CD0-321*-A6**



DV-B Weld pneumatic tank bottom diaphragm valve

DN	SIZE	ØOD×S	ØB	L	H	LS	SP	Code
25	1.0"	25.4x1.65T	119	152.6	181.2	25.0	6.0	V025WD0-320*-A6**
40	1.5"	38.1x1.65T	160	177.5	221.0	30.0	6.5	V038WD0-320*-A6**
50	2.0"	50.8x1.65T	180	188.7	238.8	30.0	6.5	V051WD0-320*-A6**



DV-B Clamp pneumatic tank bottom diaphragm valve

DN	SIZE	ØD	ØID	ØB	L	H	LS	SP	Code
25	1.0"	50.4	22.1	119	152.6	181.2	37.7	6.0	V025CD0-320*-A6**
40	1.5"	50.4	34.8	160	177.5	221.0	42.7	6.5	V038CD0-320*-A6**
50	2.0"	63.9	47.5	180	188.7	238.8	42.7	6.5	V051CD0-320*-A6**

