TOSTE

Hygienic

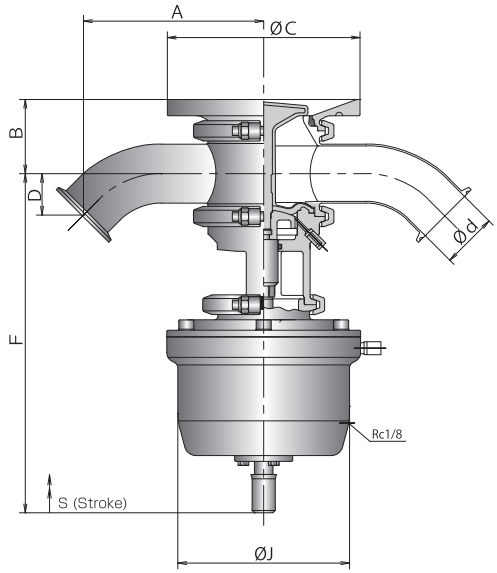
Tank Valves

DM type diaphragm tank valve

DM type

● Inside-tank seal type

- The seal surface is the inside surface of the tank, which reduces accumulations during stirring.
- An integrated PFA-based diaphragm including a seal surface is employed as the diaphragm to provide excellent cleaning performance and make it suitable for C/SIP.



Specifications			
Material	Wetted area	Body	SUS316L
		Diaphragm seat	PFA/SUS304
		Body packing	PTFE lining
		Flange packing	PTFE
	Main components other than wetted area	Operation part	SUS304/ADC Automatic (cylinder)
		Backup rubber	Silicon rubber (With nylon cloth) EPDM
Resistance to heat	Liquid temperature	0~135℃	
Withstand pressure	Main body	1MPa	
	Valve seat	0.6MPa	
Cylinder operation air pressure		0.4~0.7MPa	

Weight table (kg)

SIZE	ADC	SUS
1S	5.2	6.4
1 1/2S	5.6	6.8
2S	10.2	13.2
2 1/2S	–	20.5
3S	–	20.7

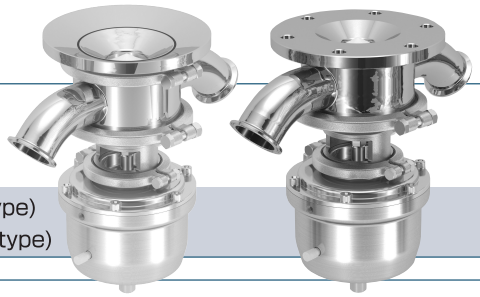
(mm)

SIZE	φd	A	B	φC	D	F	φJ		S
							ADC	SUS	
1S	23.0	95	49.5	138	25.3	194.0	135	122	5
1 1/2S	35.7	115	55.9	138	31.0	206.3	135	122	8
2S	47.8	140	61.9	158	36.5	299.9	182	167	11
2 1/2S	59.5	175	69.8	198	43.8	309.8	—	197	13
3S	72.3	195	76.2	198	51.3	318.2	—	197	15

* For valve types, refer to catalog No. 5.
* When welding the tank spud, use extra caution to prevent it from being deformed due to heat.
(If the tank spud is distorted, the sealing of the tank cannot be maintained, which may result in liquid leakage and corrosion.)

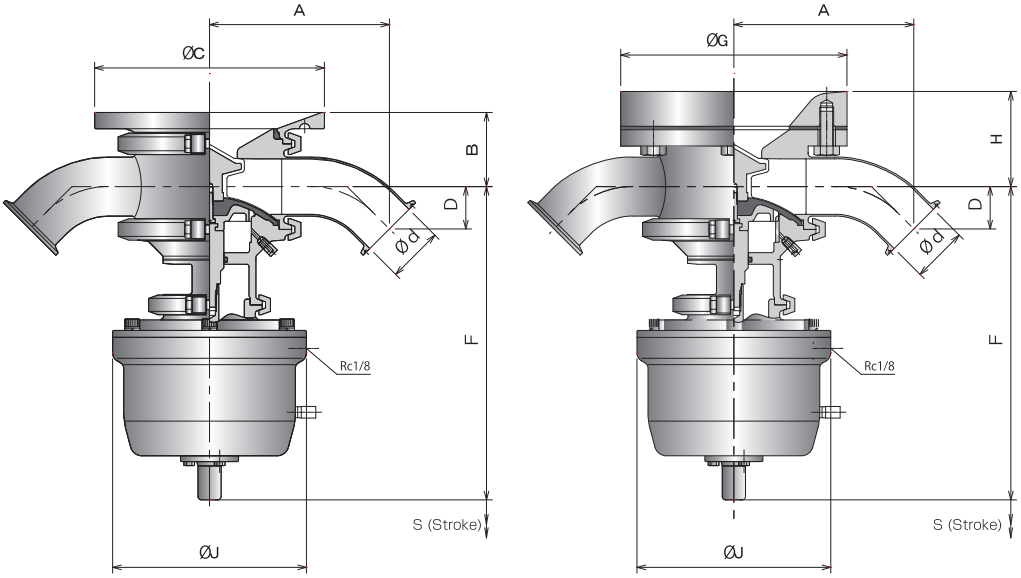
DA type diaphragm tank valve

DA type



- Outside-tank seal type (body packing type)
- Outside-tank seal type (flange packing type)

- Two types, body packing type and flange packing type, are available and can be mounted suitably according to the tank shape.
- An integrated PFA-based diaphragm including a seal surface is employed as the diaphragm to provide excellent cleaning performance and make it suitable for C/SIP.



Specifications			
Material	Wetted area	Body	SUS316L
		Diaphragm seat	PFA/SUS304
		Body packing	PTFE lining
		Flange packing	PTFE
	Main components other than wetted area	Operation part	SUS304/ADC Automatic (cylinder)
		Backup rubber	Silicon rubber EPDM
Resistance to heat	Liquid temperature	0~135℃	
Withstand pressure	Main body	1MPa	
	Valve seat	0.6MPa	
Cylinder operation air pressure		0.4~0.7MPa	

Weight table (kg)

SIZE	Body packing type		Flange packing type	
	ADC	SUS	ADC	SUS
10A	4.1	5.3	6.4	7.6
15A	4.1	5.3	6.4	7.6
1S	4.2	5.4	6.5	7.7
1 1/2S	5.9	7.1	9.9	11.1
2S	11.6	14.6	16.0	18.9
2 1/2S	12.4	15.3	16.8	19.7
3S	13.2	16.3	17.5	20.4

(mm)

SIZE	φd	A	B	φC	D	F	φG	H	φJ		S
									ADC	SUS	
10A	14.0	95	43.0	120	23.1	180.3	125	57.0	135	122	5
15A	18.4	95	45.2	120	23.1	182.5	125	59.2	135	122	5
1S	23.0	95	47.5	120	25.3	184.8	125	61.5	135	122	6
1 1/2S	35.7	125	57.8	166	31.0	198	175	76.0	135	122	9
2S	47.8	155	63.9	198	36.5	270	195	82.0	182	167	12
2 1/2S	59.5	175	69.7	198	43.8	276	195	87.9	182	197	14
3S	72.3	195	76.2	198	51.3	282	195	94.3	182	197	16

* For valve types, refer to catalog No. 5.
* When welding the tank spud, use extra caution to prevent it from being deformed due to heat.
(If the tank spud is distorted, the sealing of the tank cannot be maintained, which may result in liquid leakage and corrosion.)

Diaphragm-type single-seal tank valve

MM type

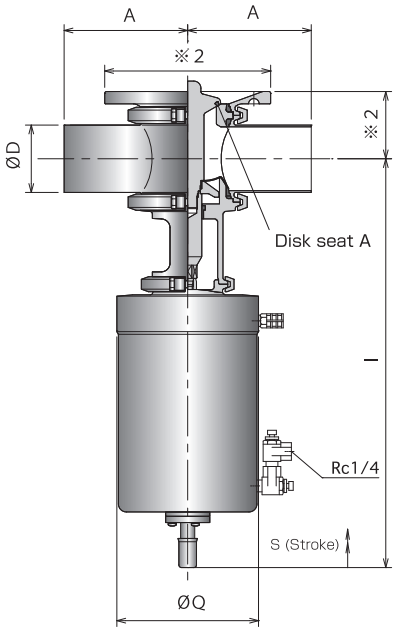
● Inside-tank seal type

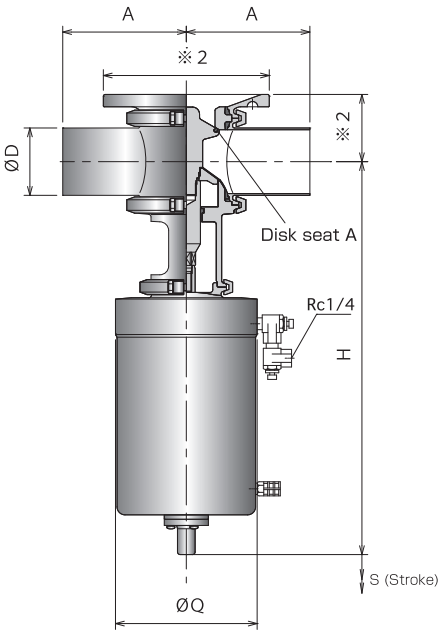
Diaphragm-type single-seal tank valve

MH type

● Outside-tank seal type

- The shaft is sealed with a PTFE diaphragm to prevent contamination of the inside even when the valve is operated.
- Disk seat A is selectable from rubber-based materials (EPDM, FKM, HNBR) and fluororesin lining to make it compatible with various types of fluids including granular materials.





Specifications			
Material	Material		SUS304、SUS316L
Resistance to heat	Diaphragm part		135℃
	Valve plug part Valve box part	PTFE lining	135℃
		FKM	100℃ (121℃ SIP 1 hour)
		EPDM	135℃
		Silicon	100℃ (121℃ SIP 1 hour)
		HNBR	100℃ (121℃ SIP 1 hour)
Withstand pressure	Main body		1MPa
	Valve seat		0.5MPa
Cylinder operation air pressure		0.4~0.7MPa	
Cylinder operation air connection		Rc1/4	
Cylinder exhausting part		Standard: With 1/4 silencer	

(mm)

SIZE	A	φD	I	H	φQ	S
1 1/2S	100	38.1	341.5	329.9	110.8	12
2S	120	50.8	347.7	335.9	110.8	12
2 1/2S	125	63.5	411.0	396.3	135.5	15
3S	140	46.3	463.2	445.1	160.5	18
4S	160	101.6	482.9	457.9	214.0	25
5S	200	139.8	547.5	507.9	263.5	40
6S	220	165.2	560.2	520.6	263.5	40

* 2 varies depending on tank dimensions and shape.
* For valve types, refer to catalog No. 25.
* When welding the tank spud, use extra caution to prevent it from being deformed due to heat.
(If the tank spud is distorted, the sealing of the tank cannot be maintained, which may result in liquid leakage and corrosion.)

Disk-seat-less diaphragm single-seal tank valve

TM type

● Inside-tank seal type

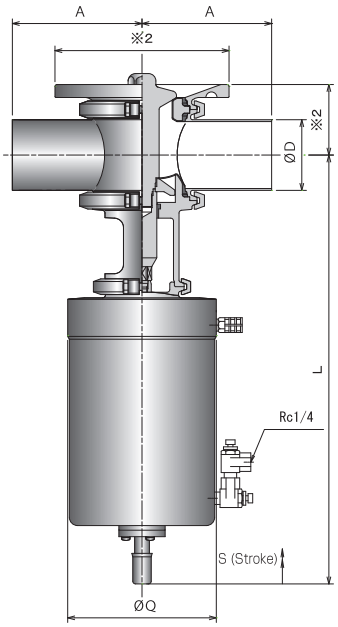
Disk-seat-less diaphragm single-seal tank valve

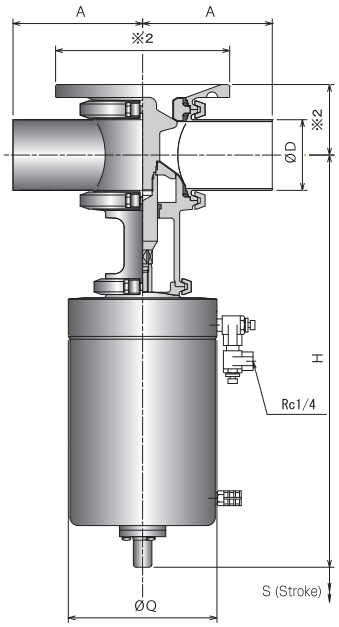
TH type

● Outside-tank seal type

● By omitting the disc seat groove, there is no seeping behind and this TH type·TM type valve does not need disc seat mounting work, which not only allows you to perform maintenance work to be performed more easily but also allows the maintenance interval to be extended significantly.
Furthermore, shafts are sealed with PTFE diaphragm to prevent the inside from being contaminated even during operation of valves.

* This valve cannot be used for liquids containing hard solids.





Specifications			
Material	Material		SUS304、SUS316L
Resistance to heat	Diaphragm part	PTFE	135℃
	Valve plug part		135℃
Withstand pressure	Main body		1MPa
	Valve seat		0.5MPa
Cylinder operation air pressure		0.4～0.7MPa	
Cylinder operation air connection		Rc1/4	
Cylinder exhausting part		Standard: With 1/4 silencer	

(mm)

SIZE	φD	A	H	L	φQ	S
1 1/2	38.1	100	329.9	341.9	110.8	12
2	50.8	120	335.9	347.9	110.8	12
2 1/2	63.5	125	396.3	411.3	135.5	15
3	76.3	140	445.1	463.1	160.5	18
4	101.6	160	457.8	482.8	214.0	25

* 2 varies depending on tank dimensions and shape.
* For valve types, refer to catalog No. 25.
* When welding the tank spud, use extra caution to prevent it from being deformed due to heat.
(If the tank spud is distorted, the sealing of the tank cannot be maintained, which may result in liquid leakage and corrosion.)

Disk-seat-less single-seal tank valve

BM type

● Inside-tank seal type

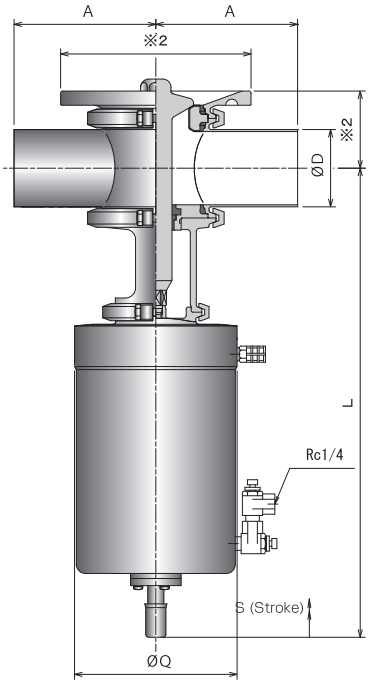
Disk-seat-less single-seal tank valve

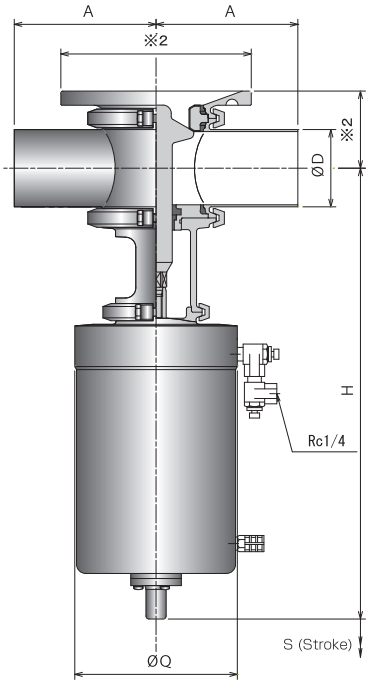
BH type

● Outside-tank seal type

● Omitting the disk seat grooves of these BH and BM type valves reduces seeping behind and eliminates disk seat mounting work, enabling maintenance work to be performed more easily.

* This valve cannot be used for liquids containing hard solids.





Specifications			
Material	Material		SUS304、SUS316L
Resistance to heat	Diaphragm part	PTFE	135℃
	Valve plug part		135℃
Withstand pressure	Main body		1MPa
	Valve seat		0.5MPa
Cylinder operation air pressure		0.4~0.7MPa	
Cylinder operation air connection		Rc1/4	
Cylinder exhausting part		Standard: With 1/4 silencer	

(mm)

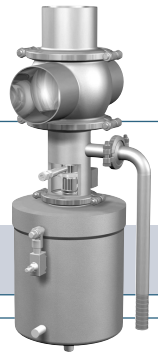
SIZE	φD	A	H	L	φQ	S (BH)	S (BM)
1 1/2	38.1	100	346.9	366.9	110.8	25	20
2	50.8	120	352.9	372.9	110.8	30	20
2 1/2	63.5	125	396.3	421.3	135.5	35	25
3	76.3	140	445.2	475.2	160.5	35	30
4	101.6	160	457.8	492.8	214.0	40	35

* 2 varies depending on tank dimensions and shape.
* For valve types, refer to catalog No. 25.
* When welding the tank spud, use extra caution to prevent it from being deformed due to heat.
(If the tank spud is distorted, the sealing of the tank cannot be maintained, which may result in liquid leakage and corrosion.)

Double-seal tank valve

KU type

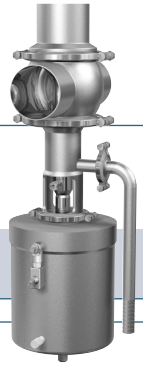
● Double-seal type



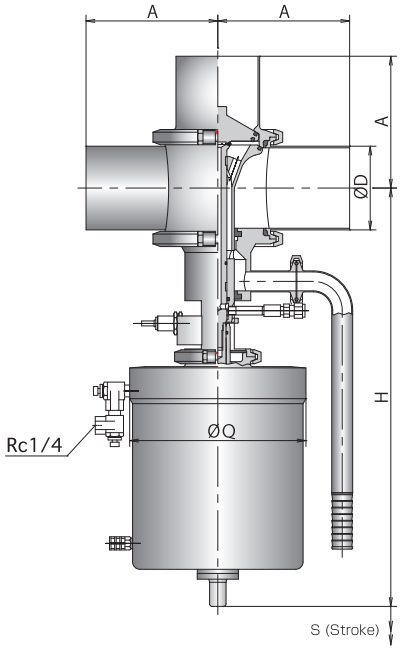
Double-seal tank valve

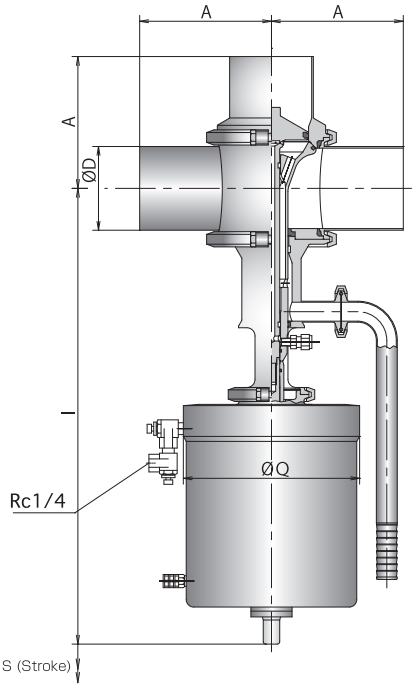
KN type

● Non-leak double-seal type



- This type is equipped with a double-seal cleaning mechanism to allow CIP to be performed while product liquid is in the tank.
- KN type is a valve capable of drastically reducing the discharge of inertial liquid to discharge little liquid during operation, which not only increases cleaning performance in the intermediate chamber but also reduces contamination around the valve.





Specifications			
Material	Material		SUS304、SUS316L
Resistance to heat	Valve plug part Valve box part	FKM	100℃ (121°C SIP 1 hour)
		EPDM	135℃
		Silicon	100℃ (121°C SIP 1 hour)
		HNBR	100℃ (121°C SIP 1 hour)
Withstand pressure	Main body		0.98MPa
	Valve seat		0.5MPa
Cylinder operation air pressure			0.4~0.7MPa
Cylinder operation air connection			Rc1/4
Cylinder exhausting part			Standard: With 1/4 silencer

(mm)

SIZE	A	φD	φQ	KU Type		KM Type	
				H	S	I	E
1 1/2S	100	38.1	110.8	369	25	412.1	25
2S	120	50.8	110.8	395	30	418.1	25
2 1/2S	125	63.5	135.5	438	35	475.8	35
3S	140	46.3	160.5	487	35	536.9	30
4S	160	101.6	214.0	500	40	553.2	40
5S	200	139.8	263.5	554	45	612.6	45
6S	220	165.2	263.5	567	45	625.3	45

* For valve types, refer to catalog No. 1 (KU type) and catalog No.24 (KN type).

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