

Low Pressure Pneumatic Bellows Valve

STD TYPE



Features

- Reduced inner capacity.
- Electropolished, D.I. water cleaned, assembled, tested and packaged in a certified clean room.
- Minimal contributions of Moisture, Oxygen and Hydrocarbon.
- Permanently heat code laser marked; material traceable to original mill certificate of test.

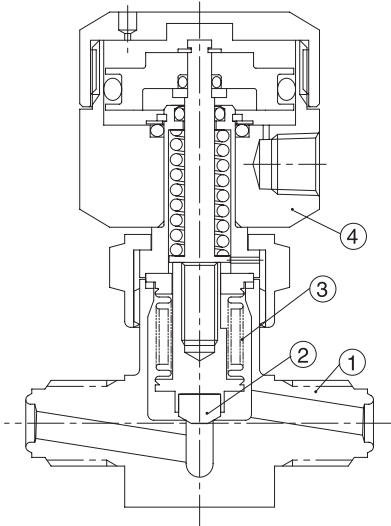
Low Pressure Pneumatic Bellows Valve STD TYPE

Major Specifications

Size	1/4"	3/8", 1/2"
Cv Value	0.36	1.1
Orifice Size	4.5mm	8mm
Max. Working Pressure (G.)	1MPa	
Operating Pressure (G.)	0.4 ~ 0.6MPa	
Max. Working Temp.	-10℃ ~ 80℃	
Internal Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 15 sec.	4×10^{-10} Pa · m ³ /s	
External Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 1 min.	4×10^{-10} Pa · m ³ /s	
Particle Inspection (EP only) Pressure : 60~80psi N ₂ Gas Sample Volume : 1CFM 0.1 μ m and Larger	No count	

Product Grade

GRADE	AP	BA	EP
Inner	Ry $\leq 25 \mu$ m	Ry $\leq 3.0 \mu$ m	Ry $\leq 0.7 \mu$ m
Surface	Cut off Length : 2.5mm	10 μ inch Ra(Avg.)	5 μ inch Ra(Avg.)
Roughness	Measuring Length : 12.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
		Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish



Material

NO.	NAME	MATERIAL
1	Body	Stainless Steel 316L Single Melt Stainless Steel 316L Double Melt Stainless Steel 304
2	Disk	PCTFE
3	Bellows	Stainless Steel 316L
4	Actuator	ALUMINUM

Ordering Number

S	4	PBV	VM	C	X1	P
Material	Size	Product	Connection	Operation Method	Option	Grade

MATERIAL	SIZE	CONNECTION	OPERATION METHOD	GRADE
S Stainless Steel 316L Single Melt	4 1/4"	VM MFS Male	C Normally Close	AP AP Grade
D Stainless Steel 316L Double Melt	6 3/8"	VF MFS Female	O Normally Open	BLANK BA Grade
4S Stainless Steel 304	8 1/2"	SW Lok		P EP Grade
		TW Butt Weld		

MODEL	CONNECTION	SIZE	A	B	C	D	E	F	H
	MFS Male	1/4"	58	14	82.6	40	23	25	
		3/8"	60	16	88.7	40.6	23	25	
		1/2"	60	16	88.7	40.6	23	25	
	MFS Female	1/4"	70.5	14	82.6	40	23	25	
		3/8"	90	14	86.7	40.6	23	25	
		1/2"	90	14	86.7	40.6	23	25	
	Lok	1/4"	50	14	82.6	40	23	25	65
		3/8"	63	14	86.7	40.6	23	25	78
		1/2"	63	14	86.7	40.6	23	25	82.8
	Butt Weld	1/4"	150	14	89.1	40	23	25	
		3/8"	150	14	86.7	40.6	23	25	
		1/2"	150	14	86.7	40.6	23	25	

Low Pressure Pneumatic Bellows Valve

FORGED A TYPE



Features

- Forged body reduced the total weight.
- The valve seat is designed to produce less dust and gas residue.

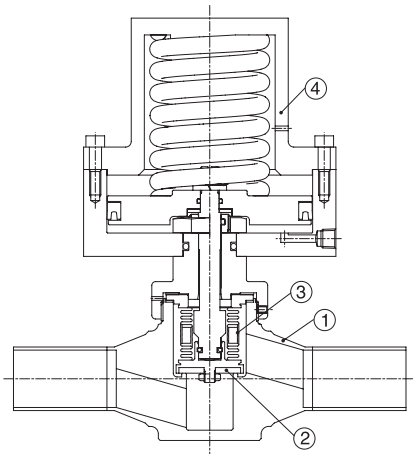
Low Pressure Pneumatic Bellows Valve FORGED A TYPE

Major Specifications

Size	15A	1"	20A	25A
Cv Value	2.9	4.1	4.1	6.9
Orifice Size	15mm	19mm	19mm	25mm
Max. Working Pressure (G.)	1MPa			
Operating Pressure (G.)	0.4 ~ 0.7MPa			
Max. Working Temp.	-10℃ ~ 80℃			
Internal Leakage Allowance (He)				
Test Pressure $\leq 1 \times 10^{-2}$ Torr	1×10^{-6} Pa · m ³ /s			
Holding Time ≥ 15 sec.				
External Leakage Allowance (He)				
Test Pressure $\leq 1 \times 10^{-2}$ Torr	1×10^{-6} Pa · m ³ /s			
Holding Time ≥ 1 min.				
Particle Inspection (EP only)				
Pressure : 60~80psi N ₂ Gas	No count			
Sample Volume : 1CFM				
0.1 μm and Larger				

Product Grade

GRADE	AP	BA	EP
Inner	Ry $\leq 25\mu\text{m}$	Ry $\leq 3.0\mu\text{m}$	Ry $\leq 0.7\mu\text{m}$
Surface	Cut off Length : 2.5mm	10 μ inch Ra(Avg.)	5 μ inch Ra(Avg.)
Roughness	Measuring Length : 12.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
		Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish



Material

NO.	NAME	MATERIAL
1	Body	Stainless Steel 316L Single Melt Stainless Steel 316L Double Melt Stainless Steel 304
2	Disk	PCTFE
3	Bellows	Stainless Steel 316L
4	Actuator	ALUMINUM

Ordering Number

S	15	APBV	TW	C	X1	P
Material	Size	Product	Connection	Operation Method	Option	Grade

MATERIAL	SIZE	CONNECTION	OPERATION METHOD	GRADE
S Stainless Steel 316L Single Melt	15 15A	TW Butt Weld	C Normally Close	AP AP Grade
D Stainless Steel 316L Double Melt	T16 1"	FL Flange (JIS 10K)	O Normally Open	BLANK BA Grade
4S Stainless Steel 304	20 20A			P EP Grade
	25 25A			

MODEL	CONNECTION	SIZE	A	B	C	D	E
	Butt Weld	15A	190	24	204	110	30
		1"	200	28	215	135	35
		20A	200	28	215	135	35
		25A	210	33	226	135	40

MODEL	CONNECTION	SIZE	A	B	C	D	E	F	G	N-H
	Flange	15A	108	47.5	228	110	95	70	51	4-Ø15
		1"	117	50	237	135	100	75	56	4-Ø15
		20A	117	50	237	135	100	75	56	4-Ø15
		25A	127	62.5	256	135	125	90	67	4-Ø19

Low Pressure Pneumatic Bellows Valve (32A ~ 50A)

CASTING A TYPE



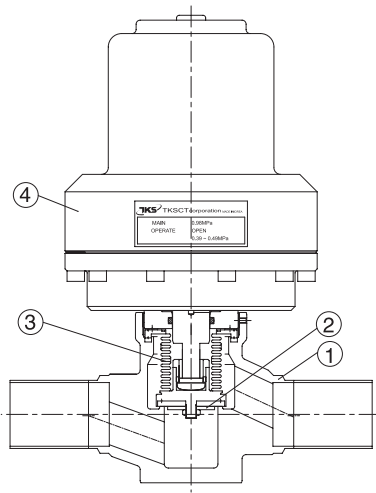
Low Pressure Pneumatic Bellows Valve(32A~50A) CASTING A TYPE

Major Specifications

Size	32A	40A	2"	50A
Cv Value	16	16	16	21
Orifice Size	40mm	40mm	40mm	50mm
Max. Working Pressure (G.)	1MPa			
Operating Pressure (G.)	0.4 ~ 0.7MPa			
Max. Working Temp.	-10℃ ~ 80℃			
Internal Leakage Allowance (He)				
Test Pressure $\leq 1 \times 10^{-2}$ Torr	1×10^{-6} Pa · m ³ /s			
Holding Time ≥ 15 sec.				
External Leakage Allowance (He)				
Test Pressure $\leq 1 \times 10^{-2}$ Torr	1×10^{-6} Pa · m ³ /s			
Holding Time ≥ 1 min.				
Particle Inspection (EP only)				
Pressure : 60~80psi N ₂ Gas	No count			
Sample Volume : 1CFM				
0.1 μm and Larger				

Product Grade

GRADE	AP	BA	EP
Inner	Ry $\leq 25 \mu\text{m}$	Ry $\leq 3.0 \mu\text{m}$	Ry $\leq 0.7 \mu\text{m}$
Surface	Cut off Length : 2.5mm	10 μ inch Ra(Avg.)	5 μ inch Ra(Avg.)
Roughness	Measuring Length : 12.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
		Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish



Material

NO.	NAME	MATERIAL
1	Body	SCS16 SCS13
2	Disk	PTFE
3	Bellows	Stainless Steel 316L
4	Actuator	ALUMINUM

Ordering Number

S	40	APBV	TW	C	X1	P
Material	Size	Product	Connection	Operation Method	Option	Grade

MATERIAL		SIZE		CONNECTION		OPERATION METHOD		GRADE	
S	SCS16	32	32A	TW	Butt Weld	C	Normally Close	AP	AP Grade
4S	SCS13	40	40A	FL	Flange (JIS 10K)	O	Normally Open	BLANK	BA Grade
		T32	2"					P	EP Grade
		50	50A						

MODEL	CONNECTION	SIZE	A	B	C	D
	Butt Weld	32A	270	51	309	188
		40A	270	51	309	188
		2"	270	51	309	188
		50A	295	57	350	188

MODEL	CONNECTION	SIZE	A	B	C	D	E	F	G	N-H
	Flange	32A	165	67.5	309	188	135	100	76	4-Ø19
		40A	165	70.0	309	188	140	105	81	4-Ø19
		2"	165	70.0	309	188	140	105	81	4-Ø19
		50A	203	77.5	350	188	155	120	96	4-Ø19

Low Pressure Pneumatic Diaphragm Valve

STD TYPE



Features

- Reduced inner capacity.
- Electropolished, D.I. water cleaned, assembled, tested and packaged in a certified clean room.
- Minimal contributions of Moisture, Oxygen and Hydrocarbon.
- Permanently heat code laser marked; material traceable to original mill certificate of test.
- Hastelloy® C-22™ and custom configurations available upon request.

Low Pressure Pneumatic Diaphragm Valve STD TYPE

Major Specifications

Size	1/4"	3/8", 1/2"	3/4"
Cv Value	0.3	0.7	0.7
Orifice Size	4.5mm	7.8mm	7.8mm
Max. Working Pressure (G.)	1MPa		
Operating Pressure (G.)	0.4~0.6MPa		
Max. Working Temp.	PCTFE : -10℃ ~ 80℃ / PI,PFA : -10℃ ~ 150℃		
Internal Leakage Allowance (He)			
Test Pressure $\leq 1 \times 10^{-2}$ Torr	1×10^{-10} Pa · m ³ /s		
Holding Time ≥ 15 sec.			
External Leakage Allowance (He)			
Test Pressure $\leq 1 \times 10^{-2}$ Torr	1×10^{-10} Pa · m ³ /s		
Holding Time ≥ 1 min.			
Particle Inspection (EP only)			
Pressure : 60~80psi N ₂ Gas	No count		
Sample Volume : 1CFM			
0.1μm and Larger			

Product Grade

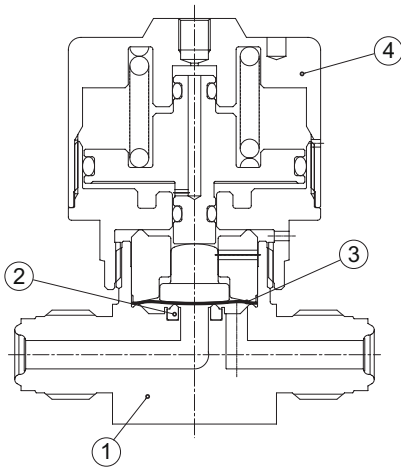
GRADE	AP	BA	EP
Inner	Ry $\leq 25 \mu\text{m}$	Ry $\leq 3.0 \mu\text{m}$	Ry $\leq 0.7 \mu\text{m}$
Surface	Cut off Length : 2.5mm	10 μ inch Ra(Avg.)	5 μ inch Ra(Avg.)
Roughness	Measuring Length : 12.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
		Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material

NO.	NAME	MATERIAL
1	Body	Stainless Steel 316L Single Melt Stainless Steel 316L Double Melt Stainless Steel 304
2	Seat	PCTFE / PI / PFA
3	Diaphragm	Ni-Co Alloy
4	Actuator	ALUMINUM

Ordering Number

S	4	PDVN	VM	C	X1	P
Material	Size	Product	Connection	Operation Method	Option	Grade



MATERIAL	SIZE	CONNECTION	OPERATION METHOD	OPTION	GRADE
S Stainless Steel 316L Single Melt	4 1/4"	VM MFS Male	C Normally Close	× 47 Constant Bleed ø0.3	AP AP Grade
D Stainless Steel 316L Double Melt	6 3/8"	VF MFS Female	O Normally Open	× 59 Constant Bleed ø0.6	BLANK BA Grade
4S Stainless Steel 304	8 1/2"	SW Lok			P EP Grade
	12 3/4"	TW Butt Weld			

MODEL	CONNECTION	SIZE	A	B	C	D	E	F	G
	MFS Male	1/4"	57	11	61	40	26	25.4	
		3/8"	76.2	16	83.8	55	37	28	
		1/2"	76.2	16	83.8	55	37	28	
		3/4"	122	22	90	55	37	28	
	MFS Female	1/4"	70.6	11	61	40	26	25.4	
		3/8"	83	16	83.8	55	37	28	
		1/2"	83	16	83.8	55	37	28	
		3/4"	122	22	90	55	37	28	
	Lok	1/4"	69.3	11	61	40	26	25.4	55
		3/8"	82.5	16	83.8	55	37	28	68
		1/2"	91	16	83.8	55	37	28	70
		3/4"	106	22	90	55	37	28	84
	Butt Weld	1/4"	54	11	61	40	26	25.4	
		3/8"	69	16	83.8	55	37	28	
		1/2"	69	16	83.8	55	37	28	
		3/4"	150	22	90	55	37	28	