ASAHI AV VALVE AND PIPING SYSTEMS

ASAHI AV VALVES

DIAPHRAGM VALVE TYPE 14 15mm - 100mm(1/2inch - 4inch)

ASAHI AV VALVE

DIAPHRAGM VALVE TYPE 14 15mm - 100mm(1/2inch - 4inch)

● 15mm(1/2inch) — 50mm(2inch)

● 65mm(2 1/2inch) — 100mm(4inch)

FEATURES

Excellent Sealing Property

The DIAPHRAGM VALVE TYPE 14 uses a high quality rubber material, exhibiting lower compressive strain, for its diaphragm and cushion, resulting in optimum sealing performance.

Tight Seal at Low Torque

Using dynamic analysis by CAE, DIAPHRAGM VALVE TYPE 14 is designed so that pressure is distributed evenly.
This design allows the hand wheel torque be reduced and maintain shut off at low torque.

Easier Maintenance

A bayonet mechanism, provided between the diaphragm and compressor, allows the diaphragm to be replaced easily.

Bottom Stand for Easy Support

Having a new bottom stand with an insert hole, DIAPHRAGM VALVE TYPE 14 helps support the piping. The valve is also provided with a flange stand to increase installation safety.

Built-in Travel Stop

DIAPHRAGM VALVE TYPE 14 contains a revolutionary travel stop mechanism protecting the diaphragm.

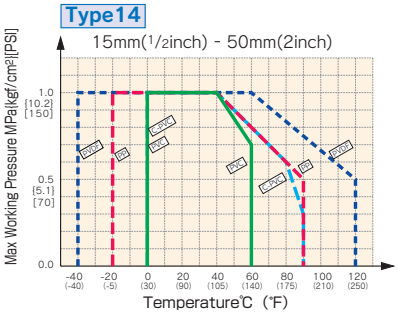
Visual Indicator

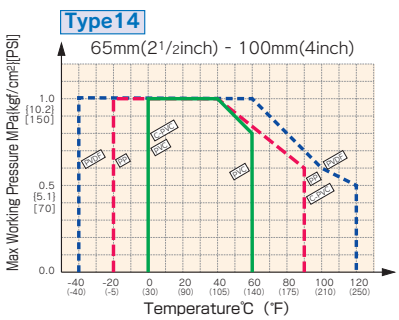
A color indicator clearly shows whether the valve is fully-opened, half-opened, or fully-closed. Because the indicator enters the handle, going out of view when the valve is fully-closed, the operator would know at glance of valve positionvalve is fully-opened, half-opened.

MATERIAL AND WORKING TEMPERATURE

Body Material	Nominal Size mm(inch)	Working Temperature ℃ (°F)	Max. Working Pressure at 20℃(70°F) MPa{kgf/cm²} [PSI] 15mm - 100mm(1/2inch - 4inch)	End Connectors
PVC	15 - 100(1/2 - 4)	0 - 60 (30 - 140)	1.0 {10.2} [150]	Flanged End
C-PVC	15 - 100(1/2 - 4)	0 - 90 (30 - 195)	1.0 {10.2} [150]	Flanged End
PP	15 - 100(1/2 - 4)	−20 - 90 (−5 - 195)	1.0 {10.2} [150]	Flanged End
PVDF	15 - 100(1/2 - 4)	−40 - 120 (−40 - 250)	1.0 {10.2} [150]	Flanged End

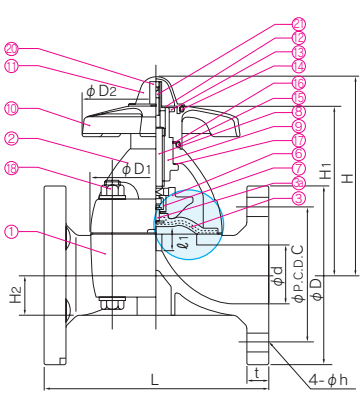
WORKING PRESSURE VS. TEMPERATURE

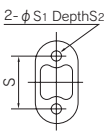




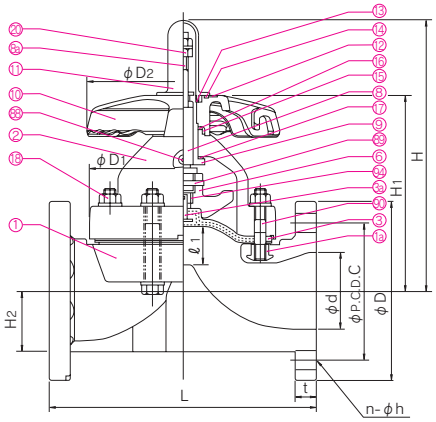
DIMENSION

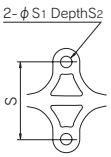
● 15mm(1/2inch) - 50mm(2inch)





● 65mm(2 1/2inch) - 100mm(4inch)





PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY/BONNET, PVC/PVC,C-PVC/PP,PP/PP,PVDF/PPG,PVDF/PVDF	⑬	RETAINING RING-C TYPE	1	STAINLESS STEEL304
②	BONNET	1		⑭	O-RING(A)	1	EPDM
③	DIAPHRAGM	1	EPDM,IIR,NBR,CSM,CPE,FKM VIFLON C (FKM-C), VIFLON F (FKM-F), PTFE	⑮	O-RING(B)	1	EPDM
				⑯	THRUST RING(A)	1	UHMWPE
③a	INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL304	⑰	THRUST RING(B)	1	UHMWPE
④	CUSHION	1	EPDM[1)]	⑱	BOLT・NUT	4	STAINLESS STEEL304
⑤	PVDF GAS BARRIER(OPTION)	1	PVDF	⑳	STOPPER	1	COPPER ALLOY[2)], STAINLESS STEEL[3)]304
⑥	COMPRESSOR	1	PVDF	㉑	SCREW[2)]	1	STAINLESS STEEL304
⑦	JOINT[2)]	1	STAINLESS STEEL304	㊽	GREASE NIPPLE[3)]	1	COPPER ALLOY (C3604)
⑧	STEM	1	COPPER ALLOY	㊾	COMPRESSOR PIN[3)]	1	STAINLESS STEEL304
⑧a	INDICATOR ROD2)	1	STAINLESS STEEL304	㊿	STUD BOLT・NUT[3)]	4	STAINLESS STEEL304
⑨	SLEEVE	1	COPPER ALLOY (C3604)	㊹	METAL OF COMPRESSOR	1	STAINLESS STEEL304
⑩	HAND WHEEL	1	PP	⑱a	INSERTED NUT[3)]	4	COPPER ALLOY (C3604) STAINLESS STEEL304
⑪	GAUGE COVER	1	POLYCARBONATE				
⑫	NAME PLATE	1	PVC				

Note. 1) Used for PTFE diaphragm
2) Used for 15mm(1/2inch)-50mm(2inch)
3) Used for size 65mm(2 1/2inch)-100mm(4inch)

DIMENSIONS TABLE

DIN

Unit:mm

Nominal Size		d	DIN 2501 PN10				D_1	D_2	ℓ_1 (LIFT)	L	t		H	H_1	H_2	S	S_1	S_2
mm	inch		D	C	n	h					PVC C-PVC	PP PVDF						
15	1/2	16	95	65	4	14	54×66	100	10	130	12	12	104	86	19.5	25	7	13
20	3/4	20	105	75	4	14	54×66	100	10	150	13	13	106	88	17.5	25	7	13
25	1	25	115	85	4	14	67×80	100	12	160	13	13	111	93	18.5	25	7	13
32	1 1/4	32	140	100	4	18	67×80	100	12	180	16	16	116	97	22.5	25	7	13
40	1 1/2	40	150	110	4	18	108×108	156	21	200	20	20	177	144	27.5	45	9	15
50	2	52	165	125	4	18	123×123	156	25	230	22	22	191	158	36	45	9	15
65	2 1/2	67	185	145	4	18	175	220	34	290	22	22	266	188	61	85	11	20
80	3	78	200	160	8	18	201	220	42	310	24	24	280	202	63	100	15	28
100	4	100	220	180	8	18	241	257	50	350	24	26	329	241	78	120	15	28

ANSI

Unit:inch

Nominal Size		d	ANSI CLASS 150				D_1	D_2	ℓ_1 (LIFT)	L		t		H	H_1	H_2	S	S_1	S_2
inch	mm		D	C	n	h				G-STANDARD	A-STANDARD	PVC C-PVC	PP PVDF						
1/2	15	0.63	3.50	2.38	4	0.62	2.13×2.60	3.94	0.39	4.25	4.33	0.43	0.43	4.09	3.39	0.77	0.98	0.28	0.51
3/4	20	0.79	3.88	2.75	4	0.62	2.13×2.60	3.94	0.39	5.88	4.72	0.51	0.51	4.17	3.46	0.69	0.98	0.28	0.51
1	25	0.98	4.25	3.12	4	0.62	2.64×3.15	3.94	0.47	5.88	5.12	0.59	0.59	4.37	3.66	0.73	0.98	0.28	0.51
1 1/4	32	1.26	4.62	3.50	4	0.62	2.64×3.15	3.94	0.47	6.38	—	0.63	0.63	4.57	3.82	0.89	0.98	0.28	0.51
1 1/2	40	1.57	5.00	3.88	4	0.62	4.25×4.25	6.14	0.83	6.94	7.09	0.63	0.63	6.97	5.67	1.08	1.77	0.35	0.59
2	50	2.05	6.00	4.75	4	0.75	4.84×4.84	6.14	0.98	7.94	8.27	0.79	0.79	7.52	6.22	1.42	1.77	0.35	0.59
2 1/2	65	2.64	7.00	5.50	4	0.75	6.89	8.66	1.34	—	9.84	0.87	0.91	10.47	7.40	2.40	3.35	0.43	0.79
3	80	3.07	7.50	6.00	4	0.75	7.91	8.66	1.65	10.37	11.02	0.87	0.91	11.02	7.95	2.48	3.94	0.59	1.10
4	100	3.94	9.00	7.50	8	0.75	9.49	10.12	1.97	12.93	13.39	0.87	0.94	12.95	9.49	3.07	4.72	0.59	1.10

ASAHI AV VALVE

TRUE UNION DIAPHRAGM VALVE TYPE 14 15mm - 50mm(1/2inch - 2inch)

FEATURES

Easy Maintenance

The valve body can be removed from the pipe line by loosening the union nuts at both ends.

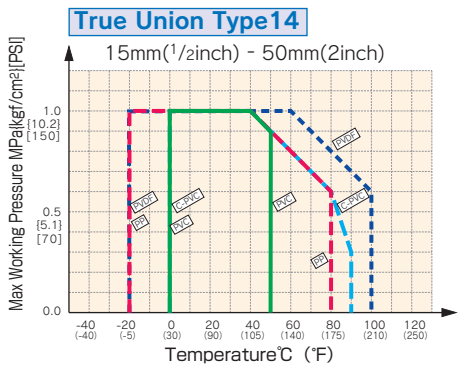
Bottom Stand for Easy Support

Having a new bottom stand with an insert hole, DIAPHRAGM VALVE TYPE 14 helps support the piping. The valve is also provided with a flange stand to increase installation safety.

MATERIAL AND WORKING TEMPERATURE

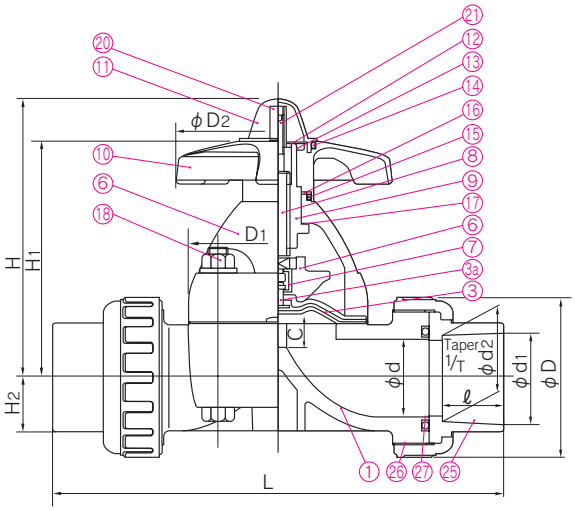
Body Material	Nominal Sze mm(inch)	Working Temperature ℃ (°F)	Max. Working Pressure at 20℃(70°F) MPa{kgf/cm²}[PSI]	End Connectors
Unplasticized Polyvinyl Chloride(PVC)	15 - 50(1/2 - 2)	0 - 50(30 - 120)	1.0{10.2} [150]	Socket End. Threaded End
Chlorinated Polyvinyl Chloride(C-PVC)	15 - 50(1/2 - 2)	0 - 90(30 - 195)	1.0{10.2} [150]	Socket End. Threaded End
Polypropylene(PP)	15 - 50(1/2 - 2)	−20 - 80(−5 - 175)	1.0{10.2} [150]	Socket End. Threaded End
Polyvinylidene Fluoride(PVDF)	15 - 50(1/2 - 2)	−20 - 100(−5 - 210)	1.0{10.2} [150]	Socket End. Threaded End. Spigot End

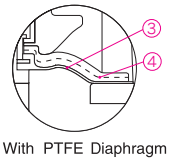
WORKING PRESSURE VS. TEMPERATURE

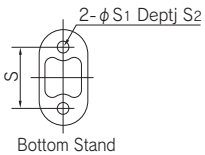


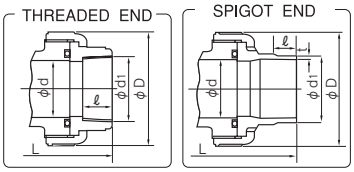
DIMENSION

SOCKET END









PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY/BONNET PVC/PVC C-PVC/PP PP/PP PVDF/PPG PVDF/PVDF	⑪	GAUGE COVER	1	PC
				⑫	NAME PLATE	1	PVC
②	BONNET			⑬	RETAINING RING-C TYPE	1	STAINLESS STEEL304
				⑭	O-RING(A)	1	EPDM
③	DIAPHRAGM	1	EPDM IIR NBR,CSM CPE,FKM VIFLON C (FKM-C) VIFLON F (FKM-F) PTFE	⑮	O-RING(B)	1	EPDM
				⑯	THRUST RING(A)	1	UHMWPE
				⑰	THRUST RING(B)	1	UHMWPE
				⑱	BOLT･NUT	4	STAINLESS STEEL304
③a	INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL304	⑳	STOPPER	1	COPPER ALLOY (C3604)
				㉑	SCREW	1	STAINLESS STEEL304
④	CUSHION	1	EPDM＊	㉕	ENDCONNECTOR	2	PVC C-PVC PP PVDF
⑥	COMPRESSOR	1	PVDF				
⑦	JOINT	1	STAINLESS STEEL304	㉖	UNION NUT	2	
⑧	STEM	1	COPPER ALLOY (C3604)	㉗	O-RING(C)	2	EPDM FKM Others
⑨	SLEEVE	1	COPPER ALLOY (C3604)				
⑩	HAND WHEEL	1	PP				

＊With PTFE Diaphragm

DIMENSIONS TABLE

DIN

Unit:mm

Nominal Size		d	Socket End							Threaded End				Spigot End								D	D_1	D_2	C (LIFT)	H	H_1	H_2	S	S_1	S_2
			PVC, C-PVC			PP, PVDF				DIN 2999		L		PVC			PP, PVDF															
			DIN 8063		L	DIN 16962(PP)			L					DIN 3441		L	DIN 3442		PP	PVDF	L											
mm	inch		d_1	ℓ		d_1	d_2	ℓ		d_1	ℓ	PVC, C-PVC	PP, PVDF	d_1	ℓ		d_1	ℓ	t	t												
15	1/2	16	20	16	128	19.5	19.3	14.5	125	Rp 1/2	15	128	128	20	18.5	150	20	18.5	2.5	1.9	150	48	54×66	100	10	104	86	19.5	25	7	13
20	3/4	20	25	19	147	24.5	24.3	16	141	Rp 3/4	17	148	148	25	24	172	25	22	2.7	1.9	172	60	54×66	100	10	106	88	17.5	25	7	13
25	1	25	32	22	172	31.5	31.3	18	164	Rp 1	20	172	172	32	24.5	195	32	22.5	3.0	2.4	195	70	67×80	100	12	111	93	18.5	25	7	13
32	1 1/4	32	40	26	188	39.45	39.2	20.5	177	Rp 1 1/4	22	188	188	40	28	212	40	26	3.7	2.4	212	82	67×80	100	12	116	97	22.5	25	7	13
40	1 1/2	40	50	31	246	49.45	49.2	23.5	231	Rp 1 1/2	25	245	245	50	34	276	50	32	4.6	3.0	276	100	108×108	156	21	177	144	27.5	45	9	15
50	2	52	63	38	294	62.5	62.1	27.5	274	Rp 2	28	281	278	63	38.5	308	63	36	5.8	3.0	307	106	123×123	156	25	191	158	36	45	9	15

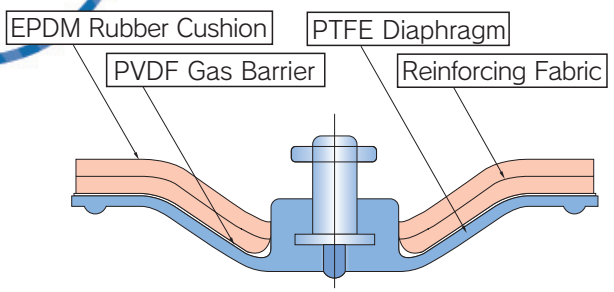
ANSI

Unit:inch

Nominal Size		d	Socket End							Threaded End				D	D_1	D_2	C (LIFT)	H	H_1	H_2	S	S_1	S_2
			PVC, C-PVC				PP, PVDF(IPS)			ANSI/ASME B1・20・1		L											
			ASTM SCH80			L	d_1	ℓ	L														
inch	mm		d_1	d_2	ℓ					d_1	ℓ	PVC, C-PVC	PP, PVDF										
1/2	15	0.63	0.848	0.836	0.875	5.47	0.83	0.87	5.43	1/2-14NPT	0.59	5.04	5.04	1.89	2.13×2.60	3.94	0.39	4.09	3.39	0.77	0.98	0.28	0.51
3/4	20	0.79	1.058	1.046	1.000	6.18	1.03	1.00	6.09	3/4-14NPT	0.67	5.83	5.83	2.36	2.13×2.60	3.94	0.39	4.17	3.46	0.69	0.98	0.28	0.51
1	25	0.98	1.325	1.310	1.125	7.32	1.30	1.13	7.24	1-11 1/2NPT	0.79	6.77	6.77	2.76	2.64×3.15	3.94	0.47	4.37	3.66	0.73	0.98	0.28	0.51
1 1/4	32	1.26	1.670	1.655	1.250	7.95	1.65	1.25	7.80	1 1/4-11 1/2NPT	0.87	7.40	7.40	3.23	2.64×3.15	3.94	0.47	4.57	3.82	0.89	0.98	0.28	0.51
1 1/2	40	1.57	1.912	1.894	1.375	10.47	1.89	1.37	10.28	1 1/2-11 1/2NPT	0.98	9.65	9.65	3.94	4.25×4.25	6.14	0.83	6.97	5.67	1.08	1.77	0.35	0.59
2	50	2.05	2.387	2.369	1.500	11.54	2.36	1.50	11.54	2-11 1/2NPT	1.10	11.06	10.95	4.17	4.84×4.84	6.14	0.98	7.52	6.22	1.42	1.77	0.35	0.59

DIAPHRAGM VALVE TYPE 14

- We recommend that a PVDF Gas Barrier should be installed with PTFE DIAPHRAGM VALVE if it is used in an application that has corrosive gas.
- Temperature variations during operation or long periods of storage may cause the diaphragm to settle. In this case, it is recommended to check bonnet bolt torque,prior to installation(See the table below).



Diaphragm with PVDF Gas Barrier

▼ Tightening Torque for Diaphragm Valve Bonnet for TYPE 14

Unit:N・m{kgf・cm}

Material \ Nominal Size mm(inch)	15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)
Rubber Diaphragm	3.0 {31}	3.0 {31}	5.0 {51}	5.0 {51}	12.0 {122}	15.0 {153}	13.0 {133}	18.0 {184}	35.0 {357}
PTFE Diaphragm	5.0 {51}	5.0 {51}	8.0 {82}	8.0 {82}	15.0 {153}	20.0 {204}	15.0 {153}	20.0 {204}	40.0 {408}

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