

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.

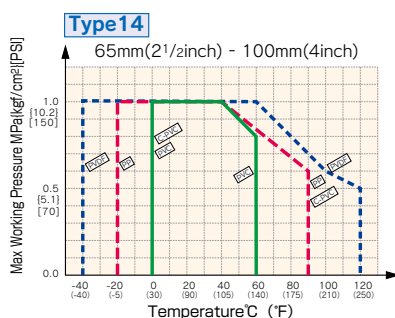
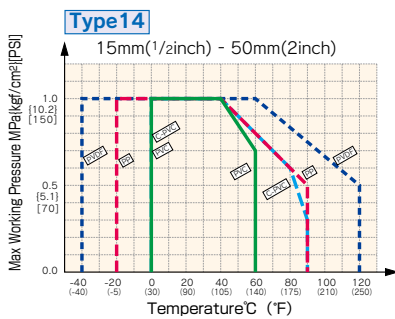
Visual Indicator

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 position valve is fully-opened, half-opened.

MATERIAL AND WORKING TEMPERATURE

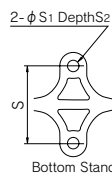
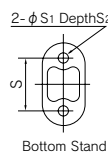
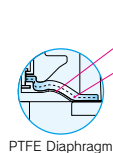
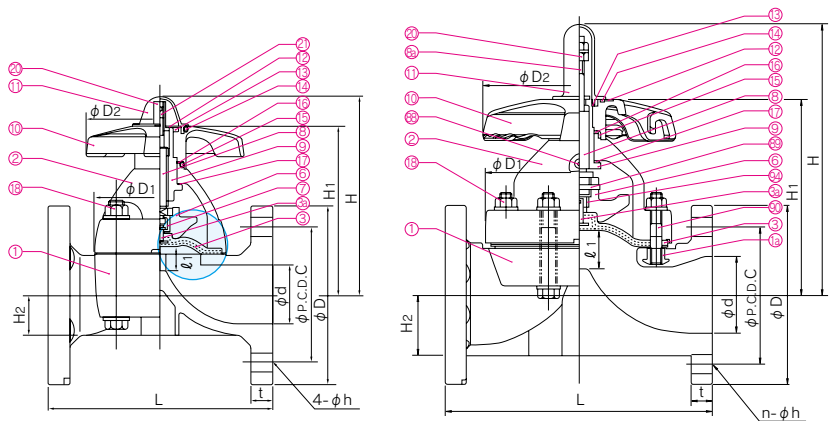
Body Material	Nominal Size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure at 20°C(70°F)	End Connectors
			MPa{kgf/cm ² } [PSI]	
PVC	15 - 100(1/2 - 4)	0 - 60(30 - 140)	1.0{10.2} [150]	Flanged End
C-PVC	15 - 100(1/2 - 4)	0 - 90(30 - 195)	1.0{10.2} [150]	Flanged End
PP	15 - 100(1/2 - 4)	-20 - 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,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
③a	INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL304	⑯	THRUST RING(A)	1	UHMWPE
④	CUSHION	1	EPDM ¹⁾	⑰	THRUST RING(B)	1	UHMWPE
⑤	PVDF GAS BARRIER(OPTION)	1	PVDF	⑱	BOLT·NUT	4	STAINLESS STEEL304
⑥	COMPRESSOR	1	PVDF	⑳	STOPPER	1	COPPER ALLOY ²⁾ , STAINLESS STEEL ³⁾ 304
⑦	JOINT ²⁾	1	STAINLESS STEEL304	㉑	SCREW ²⁾	1	STAINLESS STEEL304
⑧	STEM	1	COPPER ALLOY	㉒	GREASE NIPPLE ³⁾	1	COPPER ALLOY(C3604)
⑧a	INDICATOR ROD2)	1	STAINLESS STEEL304	㉓	COMPRESSOR PIN ³⁾	1	STAINLESS STEEL304
⑨	SLEEVE	1	COPPER ALLOY(C3604)	㉔	STUD BOLT·NUT ³⁾	4	STAINLESS STEEL304
⑩	HAND WHEEL	1	PP	㉕	METAL OF COMPRESSOR	1	STAINLESS STEEL304
⑪	GAUGE COVER	1	POLYCARBONATE	㉖	INSERTED NUT ³⁾	4	COPPER ALLOY(C3604) STAINLESS STEEL304
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

Nominal Size		d	JIS 10K				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	70	4	15	54×66	100	10	110	12	12	104	86	19.5	25	7	13
20	3/4	20	100	75	4	15	54×66	100	10	120	13	13	106	88	17.5	25	7	13
25	1	25	125	90	4	19	67×80	100	12	130	13	13	111	93	18.5	25	7	13
32	1 1/4	32	135	100	4	19	67×80	100	12	142	16	16	116	97	22.5	25	7	13
40	1 1/2	40	140	105	4	19	108×108	156	21	180	16	16	177	144	27.5	45	9	15
50	2	52	155	120	4	19	123×123	156	25	210	20	20	191	158	36	45	9	15
65	2 1/2	67	175	140	4	19	175	220	34	250	22	23	266	188	61	85	11	20
80	3	78	185	150	8	19	201	220	42	280	22	23	280	202	63	100	15	28
100	4	100	210	175	8	19	241	257	50	340	22	24	329	241	78	120	15	28

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

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

Panel Mounting

- Diaphragm Valve Type14 15mm - 100mm(1/2inch - 4inch)
- Ball Valve Type21 15mm - 100mm(1/2inch - 4inch)

Procedure

Refer to the User's Manual for Metal Insert (Ensat) by the Maker.

Bottom Stand Dimension

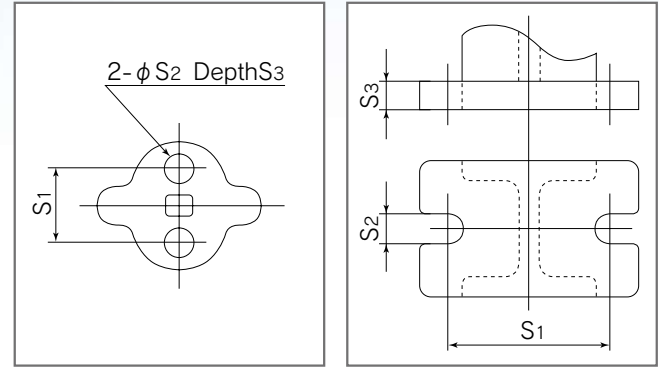
Diaphragm Valve Type14

Unit:mm(inch)

Nominal Size mm (inch)	S1	S2	S3
15mm - 32mm (1/2 - 1 1/4)	25 (0.98)	7 (0.28)	13 (0.51)
40mm, 50mm (1 1/2, 2)	45 (1.8)	9 (0.35)	15 (0.59)
65mm (2 1/2)	85 (3.35)	11 (0.43)	20 (0.79)
80mm (3)	100 (3.94)	15 (0.59)	28 (1.10)
100mm (4)	120 (4.72)	15 (0.59)	28 (1.10)

Diaphragm Valve Type14: 15mm - 100mm
(1/2inch - 4inch)
Ball Valve Type21: 15mm - 50mm
(1/2inch - 2inch)

Ball Valve Type21: 65mm - 100mm
(2 1/2inch - 4inch)



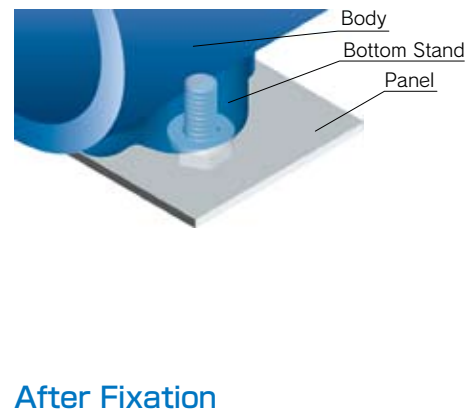
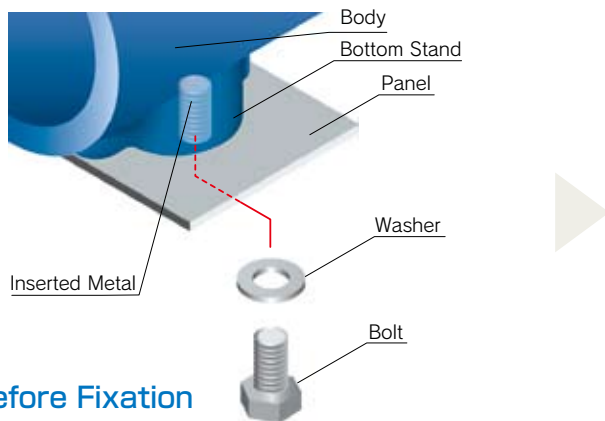
Ball Valve Type21

Unit:mm(inch)

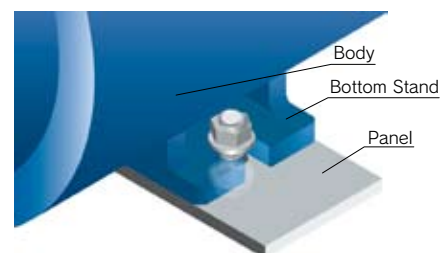
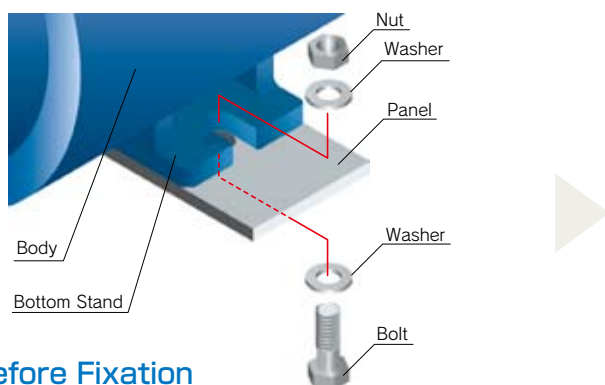
Nominal Size mm (inch)	S1	S2	S3
15mm - 25mm (1/2 - 1)	19 (0.75)	7.3 (0.29)	11 (0.43)
32mm - 50mm (1 1/4 - 2)	30 (1.18)	9 (0.35)	15 (0.59)
65mm (2 1/2)	48 (1.89)	9 (0.35)	6 (0.24)
80mm (3)	55 (2.17)	11 (0.43)	7 (0.28)
100mm (4)	65 (2.56)	11 (0.43)	8 (0.31)

Fixation of Bottom Stand with Panel

Nominal size 15 - 50mm(1/2inch - 2inch)



Nominal size 65 - 100mm(2 1/2inch - 4inch)



Before Fixation

After Fixation

DIAPHRAGM VALVE
 BALL VALVE
 BUTTERFLY VALVE
 SWING CHECK VALVE
 BALL CHECK BALL FOOT VALVE
 STOP VALVE
 GAUGE VALVE
 GATE VALVE
 AUTOMATIC WATER FEEDING VALVE
 ROTARY ANGLE VALVE
 ALFALFA VALVE
 CONSTANT FLOW VALVE
 NEEDLE VALVE
 Y-SEDIMENT STRAINER
 AIR RELEASE VALVE

DIAPHRAGM VALVE/Chlor-Alkali Specification & EL Specification

FEATURES

As a solution for blister or crack problem on the surface of the valve body or the diaphragm in the severe working conditions especially for Chlor/Brine application, we prepared a special specification "EL-Specification".

The "EL-Specification", which has EL-PVDF body and EL-PTFE diaphragm, provides excellent chemical resistance and longer product life.

According to the result of our field tests, it is confirmed that the "EL-Specification" has 2 to 5 times longer product life than standard "C/A Specification" in the same working condition.



The detail of EL-Specification

Feature:To prevent the generation of blister and crack by applying special material.

Medium:High temperature brine, Sodium hypochlorite, Hydrofluoric acid and so on.

Countermeasure:for blister, crack, peeling-off and so on.

Parts:EL-PVDF(Body) and EL-PTFE(Diaphragm)

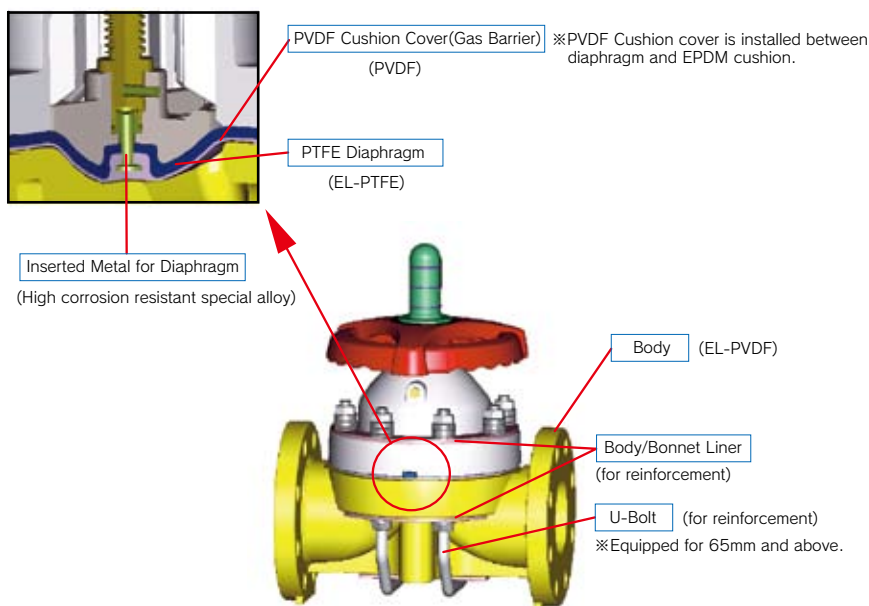
Target:Chlor/Alkali industry, pulp & paper industry, steel industry and so on.

Reference:Many factories especially in Electrolysis plants in world wide.

Size

15mm (1/2inch) - 100mm (4inch)

Contents of EL-Specification



Field Test Result



EL-PVDF/No blister is observed



PVDF/Blister is observed

{ Electrolysis Plant/ Return Brine
88°C, 0.3MPa, after 5years service }

Comparison table between EL-Specification and Chlor/Alkali specification

Parts Specification	Body	PTFE Diaphragm	Inserted Metal for PTFE Diaphragm	PVDF Cushion Cover	Remark
EL Spec.	EL-PVDF	EL-PTFE	Special Alloy	Equipped	c/w Body/Bonnet Liner and Conical Spring Washer
C/A Spec.	PVDF	PTFE	Special Alloy	Equipped	c/w Body/Bonnet Liner and Conical Spring Washer

Note : Please contact us for further information.