IPC IL-HEUNG PLASTIC

Thermoplastic Valves & Fittings

HERSHEY VALVE

Material(재질):
- CPVC
- UPVC(type I, grade I, NSF approved)
- PVC
- PVDF
- PP, PP/Fiberglass
- ABS
- EPDM, FPM, NBR

Application(용도):
- Industrial Production 공업용
- Chemical Production 화학용
- Water Treatment 정수처리
- Irrigation 관개시설
- Fish Cultivation 양식장
- Pool and Spa 수영장, 해수탕
- General Plumbing 일반배관

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Diaphragm Valves
(다이어프램 밸브)

- VP-710 Diaphragm Valve (Flanged)
- VP-720, 730 Diaphragm Valve (Spigot, Union-Socket/Threaded)

VP-800 Series

Butterfly Valves
(버터플라이 밸브)

- VP-810 Butterfly Valve (Handle type)
- VP-820 Butterfly Valve (Gear Box)
- VP-830 Pneumatic Actuator Butterfly Valve
- VP-840 Electric Actuator Butterfly Valve

VP-900 Series

Molded-In-Place Ball Valve
(콤팩트 볼 밸브)

- VP-900, 910 Compact Ball Valve

VP-220 T-type Strainer (T 타입 스트레나)
Y-type Strainer (Y 타입 스트레나)

- Screen options include several mesh sizes with easy and rapid interchangeability.
- Screen specification :

  T type–SUS 304 / 316L
  60 / 40 / 20 mesh

  Y type–60 / 40 / 20 mesh

  –SUS 304 / 316
  60 / 40 / 20mesh
  PE : 20mesh

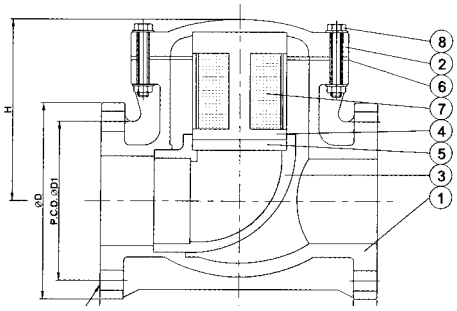
- 필터교환과 세척이 간편함.
- 필터규격 :

  T타입 (Basket Type)
  –SUS 304 / 316
  60 / 40 / 20 mesh
  PP / UPVC / CPVC
  3~8mm 세부항목은 고객이 주문제작

  Y타입–PE / 20 mesh
  SUS / 40 / 60 mesh

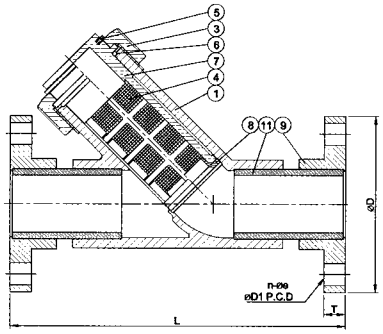
  비고: 20 mesh≒0.034 inches
  40 mesh≒0.015 inches
  60 mesh≒0.0092 inches

Type	Size	Standard	Material	Gasket/Seal	End type
VP-220 T type	2″~8″	ANSI, JIS, DIN	UPVC	EPDM, PTFE, FPM	Flanged
VP-220 Y type	1/2″~4″	ANSI, JIS, DIN	UPVC	NR	Union, Socket, Flanged
VP-221 T type	2″~8″	ANSI, JIS, DIN	CPVC	EPDM, PTFE, FPM	Flanged
VP-221 Y type	1/2″~4″	ANSI, JIS, DIN	CPVC	NR	Union, Socket, Flanged

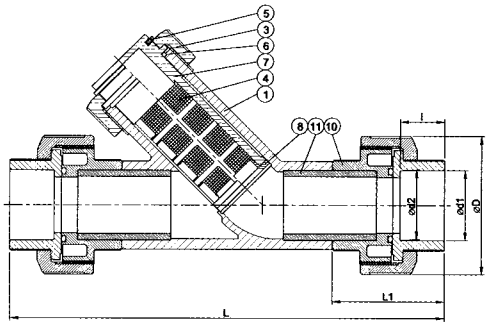


T-type Strainer DIM.

Nom. \ SIZE		50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	150mm (6″)	200mm (8″)
JIS	D	155	175	185	210	285	330
	D1	120	140	150	175	240	290
	n-Øe	4-Ø19	4-Ø19	8-Ø19	8-Ø19	8-Ø23	12-Ø23
ANSI	D	152	178	191	229	285	343
	D1	121	140	152	191	241	299
	n-Øe	4-Ø19	4-Ø19	4-Ø19	8-Ø19	8-Ø23	8-Ø23
DIN	D	165	185	200	220	285	343
	D1	125	145	160	180	240	295
	n-Øe	4-Ø18	4-Ø18	8-Ø18	8-Ø18	8-Ø22	8-Ø22
L		200	240	260	300	400	500
H		165	168.5	169	217	285	338
T		20	22	22	24	26	30

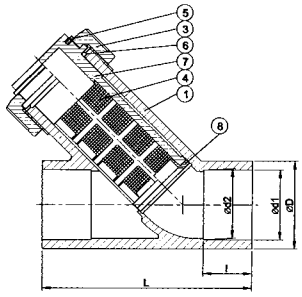


NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC	1
2	BONNET	UPVC, CPVC	1
3	90˚ELL	UPVC, CPVC	1
4	INNER BODY	UPVC, CPVC	1
5	OUTER BODY	UPVC, CPVC	1
6	GASKET	EPDM, FPM	1
7	FILTER	PP, SUS	1
8	BOLT SETS	STEEL-SUS, 304	8-16



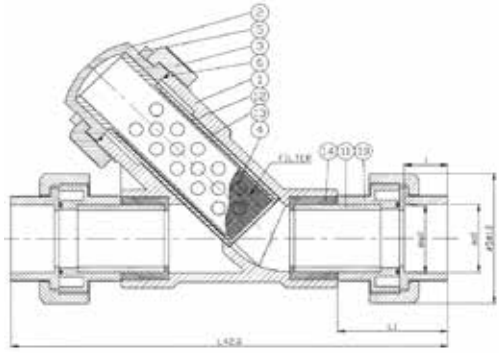
Y-type Strainer(Flanged) DIM.

Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2')	80mm (3")	100mm (4")
JIS	D	95	100	125	135	140	155	178	185	210
	D1	70	75	90	100	105	120	140	150	175
	L	160	175	202	245	247	292	375	413	472
	T	14	15	15	16	16	20	22	22	22
	n-Øe	4-Ø15	4-Ø15	4-Ø19	4-Ø19	4-Ø19	4-Ø19	4-Ø19	4-Ø19	4-Ø19
ANSI	D	89	98	108	117	127	152	178	191	229
	D1	61	70	79	89	98	121	140	152	191
	L	154	170	200	245	250	290	375	400	465
	T	11	12	14	16	17.5	19	22	23.5	24
	n-Øe	4-Ø16	4-Ø16	4-Ø16	4-Ø16	4-Ø16	4-Ø19	4-Ø19	4-Ø19	8-Ø19



Y-type Strainer(Union) DIM.

Nom. \ SIZE			15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2')	80mm (3")	100mm (4")
ANSI	d1		22.3	26.3	32.33	38.43	48.46	60.56	76.6	89.6	114.7
	d2		21.7	25.7	31.67	37.57	47.54	59.44	75.87	88.83	113.77
	l		22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	69
JIN	d1	UPVC	21.54	26.84	33.65	42.42	48.56	60.63	73.83	88.31	114.76
		CPVC								89.28	114.73
	d2	UPVC	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.1
		CPVC								88.87	114.04
	l		22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
DIN	d1		20.3	25.3	32.3	40.3	50.3	63.3	75.35	90.5	110.5
	d2		19.9	24.9	31.9	39.9	49.9	62.9	74.9	89.9	109.9
	l		16	19	22	26	31	38	44	51	61
D			46.5	55	66	82	98	120	140	163	225
L			202	233	261	324	334	377	450	476	601
L1			56	64	72	87	90	98	114	127	162



NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC	1
3	UNION NUT	UPVC, CPVC	1
4	FILTER	PP, PE, SUS	1
5	SET RING	UPVC, CPVC	1
6	O-RING	EPDM, FPM	1
7	FILTER HOLDER	UPVC, CPVC	1
8	RETAINING RING	UPVC, CPVC	1
9	FLANGE	UPVC, CPVC	2
10	UNION	UPVC, CPVC	2
11	PIPE	UPVC, CPVC	2
12	INNER BOOY 2-1/2"~4"	UPVC, CPVC	1
13	OUTER BODY 2-1/2"~4"	UPVC, CPVC	1
14	END CONNECTOR 2-1/2"	UPVC, CPVC	2

Y-type Strainer (Socket) DIM.

Nom. \ SIZE			15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2')	80mm (3")	100mm (4")
ANSI	d1	UPVC	21.54	26.87	33.65	42.42	48.56	60.63	73.38	88.31	114.76
		CPVC								89.28	114.73
	d2	UPVC	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.1
		CPVC								88.87	114.04
	l		22.22	25.4	28.58	31.75	34.93	38.1	44.15	49	59.5
D			30	36	44	61	61	77	106	106	132
L			90	105	117	150	154	181	222	222	277

VP-240
Unions (유니온)

- Suitable for and kind of piping system and easy to be installed.
- 분해 및 설치가 용이하고 각종 규격의 파이프에 적용이 가능함.

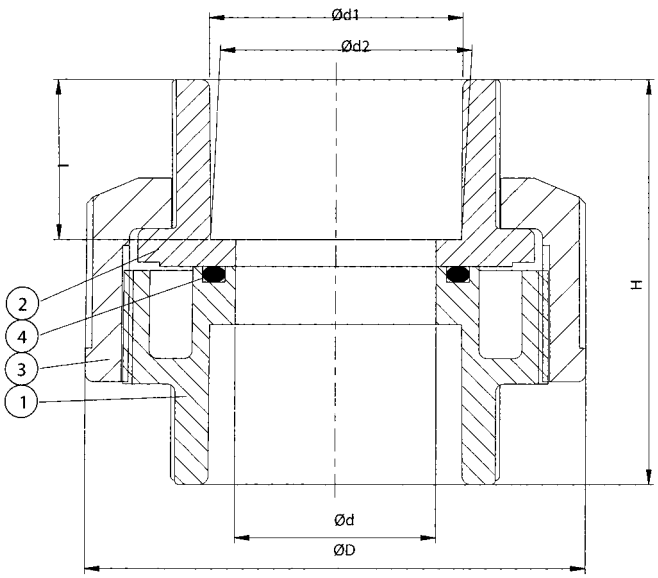
Type	Size	Standard	Material	O-ring	End type
VP-240	1/2″~4″	ANSI, JIS, DIN, BS	UPVC	EPDM, FPM	Socket, Threaded
VP-241	1/2″~4″	ANSI, JIS, DIN, BS	CPVC	EPDM, FPM	Socket, Threaded
VP-243	1/2″~4″	ANSI, JIS, DIN, BS	PVDF	EPDM, FPM	Socket, Threaded
VP-244	1/2″~4″	ANSI, JIS, DIN, BS	PP	EPDM, FPM	Socket, Threaded

Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	d1	22.3	26.3	32.33	38.43	48.46	60.56	76.6	89.6	114.7
	d2	21.70	25.70	31.67	37.57	47.54	59.44	75.87	88.83	113.77
	l	22.2	25.4	28.6	31.8	34.9	38.1	44.45	47.63	69
ANSI	d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76
	d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.07
	l SCH80	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
DIN	d1	20.3	25.3	32.3	40.3	50.3	63.3	75.35	90.5	110.6
	d2	19.9	24.9	31.9	39.9	49.9	62.9	74.9	89.9	109.9
	l	16	19	22	26	31	38	44	51	61
BS	d1	21.7	27.15	33.95	42.65	48.65	60.75	75.75	89.35	114.95
	d2	21	26.35	33.15	41.85	47.85	59.95	74.95	88.45	113.65
	l	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
thd./in.	NPT	14	14	11.5	11.5	11.5	11.5	8	8	8
	BSPT	14	14	11	11	11	11	11	11	11
D		46.5	55	66	82	98	120	140	163	225
d		13.5	16.5	22	30	38	48	63	75	100
H		56	64	72	87	90	98	114	127	162

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP, PVDF	1
2	END CONNECTOR	UPVC, CPVC, PP, PVDF	1
3	UNION NUT	UPVC, CPVC, PP, PVDF	1
4	O-RING	EPDM, FPM	1

CTS DIM.

Nom. \ SIZE	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)
d1	16.08	22.45	28.83	35.2	41.66
d2	15.72	22.1	28.47	34.85	41.2
l	19.5	20.7	26.2	28.8	26.8
D	38	46.5	55	66	82
d	12.5	18.5	24.5	29	35
H	48	56	64	72	87



VP -250 Blind Flanges (맹후랜지)
-260 One-piece [TS] Flanges (원피스[TS]후렌지)
-270 Two-piece [Van Stone] Flanges (투피스[반스톤]후렌지)

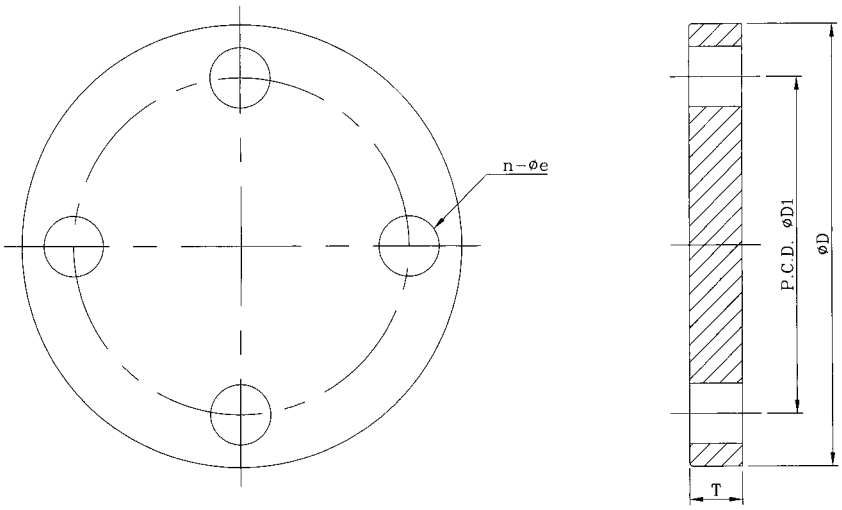
- Specification : JIS 10K / ANSI 150 LBS / DIN PN10 @73.4℉(23℃) Gasket Type
- 규격 : JIS 10K / ANSI 150LBS / DIN PN10 @73.4℉(23℃), 가스켓 접합 형식

Type	Size	Standard	Material	End type
VP-250	1/2″~12″	ANSI, JIS, DIN	UPVC	Flanged
VP-251	1/2″~12″	ANSI, JIS, DIN	CPVC	Flanged
VP-260	1/2″~12″	ANSI, JIS, DIN	UPVC	Socket, Threaded / Flanged
VP-261	1/2″~12″	ANSI, JIS, DIN	CPVC	Socket, Threaded / Flanged
VP-270	1/2″~24″	ANSI	UPVC	Socket, Threaded / Flanged
VP-271	1/2″~24″	ANSI	CPVC	Socket, Threaded / Flanged

BLIND FLANGE

Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)
ANSI	D	89	98	108	117	127	152	178	191	229	254	284	343	406	481
	D1	61	70	79	89	98	121	140	152	191	216	241	299	362	432
	T	12	13	14	16	17.5	19	22	24	24	28	26	28	34	34
	n-Øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23	12-ø25	12-ø25
JIS	D	95	100	125	135	140	155	175	185	210	250	280	330	400	445
	D1	70	75	90	100	105	120	140	150	175	210	240	290	355	400
	T	14	15	15	16	16	20	22	22	22	24	26	28	30	30
	n-Øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23	12-ø25	16-ø25

● BLIND FLANGE



ANSI 150PSI FLANGE (one piece)

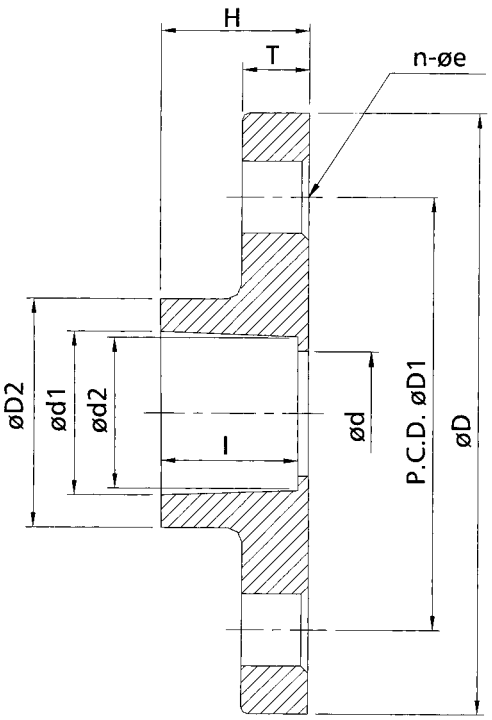
SIZE / Nom.	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)
D	89	98	108	117	127	152	178	191	229	254	280	342	405	480
D1	61	70	79	89	98	121	140	152	191	216	241	299	362	432
D2	33	40	48	57	65	78	92	109	139	167	186	255	291	343
d	15	25	31	40	46	57.5	70	78	111.5	136	146	209	246	296
d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76	141.81	168.83	219.84	273.81	324.61
d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.70	114.07	141	168	218.7	272.67	323.47
H	25	29	31.7	35	38	41.3	47.6	50.8	61	82.5	142	131	170	173
T	11	12	14	16	17.5	19	22	24	24	28.5	25.5	28	31	33
l	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15	66.7	132	118	123	165
n-Øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23	12-ø25	12-ø25

Socket diameters conform to ASTM D2467/F439 Sch80 standard.

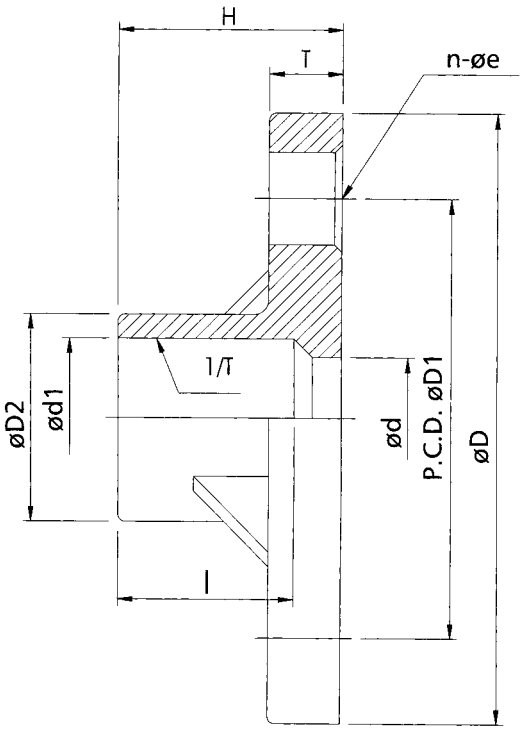
JIS 10K FLANGE (one piece)

SIZE / Nom.	10mm (3/8″)	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)
D	90	95	100	125	135	140	155	175	185	210	250	280	330	400	445
D1	65	70	75	90	100	105	120	140	150	175	210	240	290	355	400
D2	26	31	35	42.5	48.5	61	73	90	105	132	158	186	238	289	341
d	15	18	22	25	30	41	52	67	78	100	125	146	196	247	298
d1	18.4	22.4	26.45	32.55	38.6	48.7	60.8	76.6	89.6	114.7	140.8	166	217.5	267.7	318.7
H	30	35	40	46	50.5	61.5	71	70	73	93	114	142	161	167	167
T	14	14	15	15	16	16	20	22	22	22	24	26	29	30	30
l	26	30	35	40	44	55	63	61	64	84	104	132	145	155	155
n-Øe	4-ø15	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23	12-ø25	16-ø25
1/T	1/30	1/34	1/34	1/34	1/34	1/37	1/37	1/48	1/49	1/56	1/58	1/63	1/50	1/55	1/55

● ANSI 150PSI FLANGE



● JIS 10K FLANGE



ANSI 150PSI FLANGE (Van Stone)

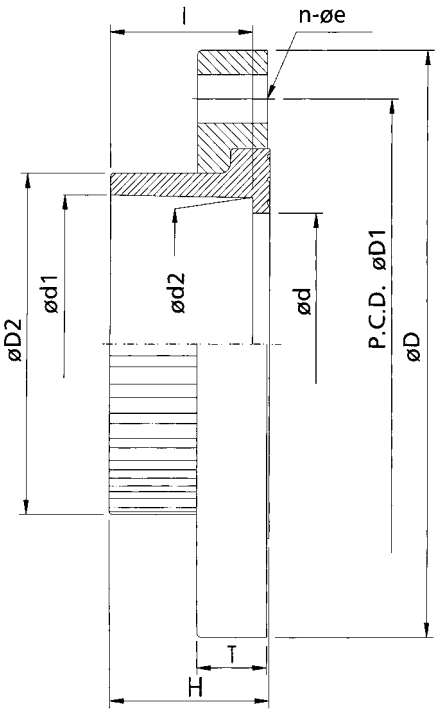
SIZE / Nom.	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)	350mm (14″)	400mm (16″)	450mm (18″)	500mm (20″)	600mm (24″)
D	89	98	108	117	128	152	178	192	229	250	283	343	406	481	533	600	635	699	813
D1	61	70	79	89	98	121	140	152	191	216	241	299	362	432	476	540	578	635	749
D2	31	37	44.5	54	64.5	76	92	109	133	161.44	192	238	298	348	395	452	507	564	675
d	12.5	16.5	22	29	37.8	51	68	77	102	125	156	204	256	307	340	384	430	481	590
d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76	141.81	168.83	219.84	273.81	324.61	356.49	407.54	458.6	509.65	611.52
d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.07	141	168	218.7	272.67	323.47	355.22	405.89	456.69	507.49	608.84
H	26	30	34.5	39.5	39.5	43	49	54	64	90.5	85	118	150	191	195	220	280	310	346
T	11	12	14	16	18	20	24	26	28	28.5	32	36	42	42	50.8	60	62	63	72
l	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15	66.7	76.2	102	127	165	161	204	254	280	305
n-øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23	12-ø25	12-ø25	12-ø29	16-ø29	16-ø32	20-ø32	20-ø35

Socket diameters conform to ASTM D2467/F439 Sch80 standard.

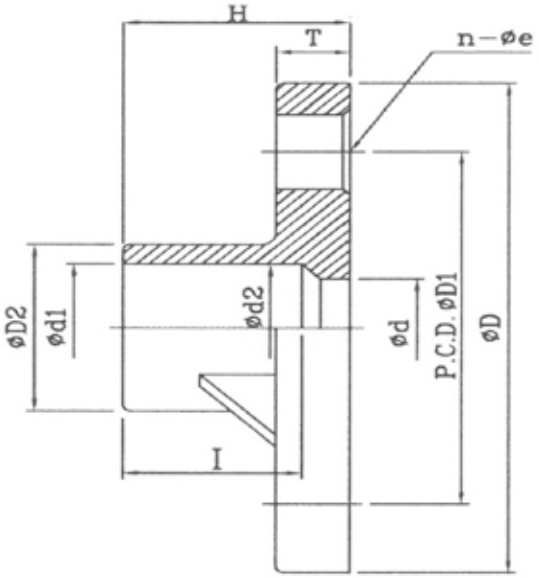
TRANSITION FLANGE - ANSI+JIS(SOCKET: ANSI / FLANGE HOLE : JIS)

SIZE / Nom.	15mm (1/2″)	20mm (3/4″)	25mm (1″)	30mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)
D	96.5	100	125.5	135.5	140.5	155	175.5	186	210	249	280	329.5	404.5	445
D1	70	75	90	100	105	120	140	150	175	210	240	290	355	400
D2	31.5	35	45	54	61.5	74	92.5	106	132	159	186	238	289	341
d	14.5	22	30	30	41	53	65	76	100	127	146	196	250	298
d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76	141.81	168.83	219.84	273.81	324.61
d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.70	114.07	141	168	218.7	272.67	323.47
H	35	40.5	46.5	51	61.5	70	69	73.5	93	115.5	142	160	167.5	167
T	14	15	15	16	16	20	22	22	22	24	26	29	30	30
l	31	35.5	40.5	44.5	55	65	61	64	86	100.5	132	145	155	155
n-øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23	12-ø22	16-ø25

● ANSI 150PSI FLANGE (Van Stone)



● TRANSITION FLANGE (ANSI+JIS)



VP-289
Rubber Gaskets (가스켓)

- Specification : EPDM, NBR, FPM, PTFE
- 재질 : EPDM, NBR, FPM

Type	Size	Standard	Material
VP-289	1/2″~12″	ANSI, JIS, DIN	EPDM, NBR, FPM

JIS 10K

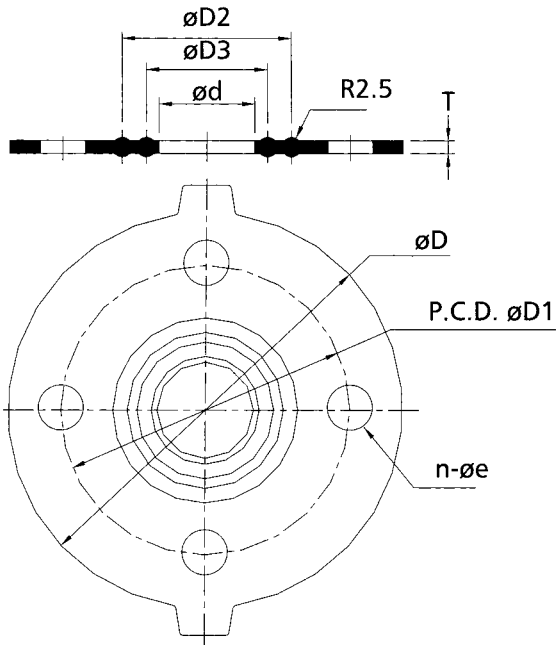
SIZE / Nom.	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)	350mm (14″)	400mm (16″)
D	93	98	123	133	138	153	173	183	208	248	278	328	398	443	485	560
D1	70	75	90	100	105	120	140	150	175	210	240	290	355	400	445	510
D2	41	47	53	65	69	83	101	112	138	166	190	247	306	352	405	482
D3	26	32	38	50	54	68	86	98	120	145	168	216	270	324	380	452
d	18	22	30	37	43	54	69	80	102	127	150	198	249	300	350	400
n-øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23	12-ø25	16-ø25	16-ø25	16-ø27
T	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

ANSI 150 PSI

SIZE / Nom.	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)	350mm (14″)	400mm (16″)	450mm (18″)	500mm (20″)	600mm (24″)
D	86.36	96.52	106.68	114.3	124.4	149.86	175.2	187.96	226.06	251.46	276.86	340.36	403.86	480.06	530	595	630	692	800
D1	61	70	79	89	98	121	140	152	191	216	241	299	362	432	476	540	578	635	749
D2	40.64	48.26	53.34	66.04	68.55	83.82	101.6	111.76	137.16	165.1	190.5	246.38	307.34	356.06	405	482	510	566	674
D3	25.4	33.02	38.1	50.8	53.34	68.58	86.36	99.06	119.38	144.78	167.64	215.9	269.24	325.2	380	452	472	535	644
d	17.78	22.86	30.48	38.1	43.18	53.34	68.58	81.28	101.6	127	148.86	198.12	248.92	299.72	350	400	450	500	600
n-øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23	12-ø25	12-ø25	12-ø29	16-ø29	16-ø32	20-ø32	20-ø35
T	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	5

DIN PN 10

SIZE / Nom.	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)
D	93	103	113	133	148	163	183	198	218	248	283	338	393	443
D1	65	75	85	100	110	125	145	160	180	210	240	295	350	400
D2	41	47	53	65	69	83	101	112	138	166	190	247	306	352
D3	26	32	38	50	54	68	86	98	120	145	168	216	270	324
d	18	22	30	37	43	54	69	80	102	127	150	198	249	300
n-øe	4-ø14	4-ø14	4-ø14	4-ø18	4-ø18	4-ø18	4-ø18	8-ø18	8-ø18	8-ø18	8-ø22	8-ø22	12-ø22	12-ø22
T	3	3	3	3	3	3	3	3	3	3	3	3	3	3



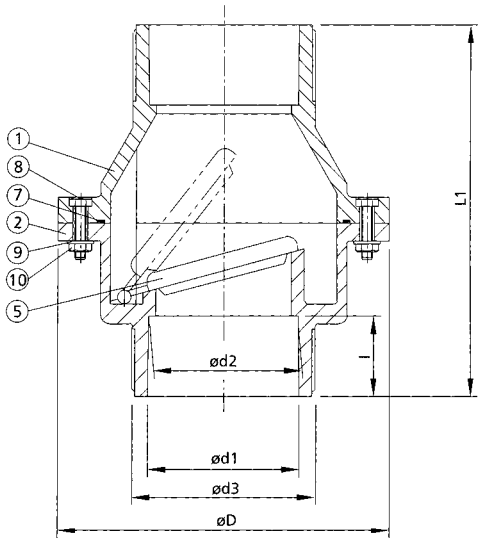
VP -420 Economy Swing Check Valve (Econo 스윙체크밸브)
-430 Economy Swing Foot Valve (Econo 스윙후트밸브)

- With arrow to mark the direction of flow, and to be installed according to flow direction.
- Vertical installation : the arrow should be installed upward.
- Horizontal installation : the arrow mark should be shown on top to indicate the flow direction.

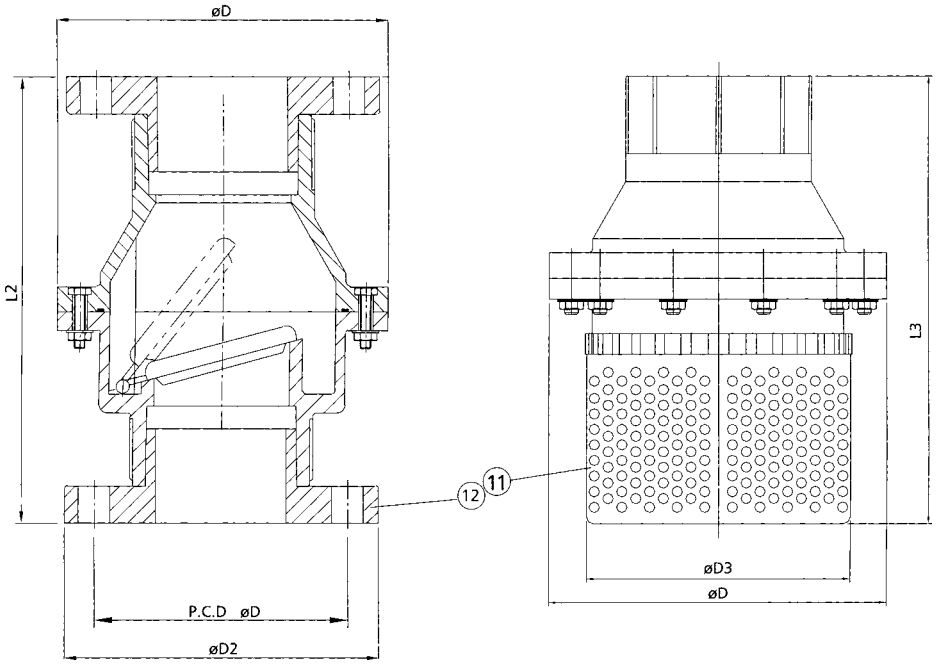
- 화살표는 유체방향을 표시하므로 실제의 방향에 맞게 설치할 것.
- 수직설치 시 화살표의 방향이 위로 향하게 설치
- 수평설치 시 화살표가 위쪽에 보이도록 설치해야 함.

Type	Size	Standard	Material	Gasket	O-ring	End type
VP-420	3″~4″	ANSI, JIS, DIN	UPVC	EPDM, FPM	EPDM, FPM	Socket, Threaded, Flanged
VP-430	3″~4″	ANSI, JIS, DIN	UPVC	EPDM, FPM	EPDM, FPM	Socket, Threaded, Flanged

NO.	PART	MATERIAL	Q'TY
1	UPPER BODY	UPVC	1
2	LOWER BODY	UPVC	1
5	DISC	EPDM, FPM	1
7	O-RING	EPDM, FPM	1
8	BOLT	SUS 304	10
9	WASHER	SUS 304	10
10	NUT	SUS 304	10
11	FILTER	UPVC	1
12	FLANGE	UPVC	2



Nom. \ SIZE		80mm (3")	100mm (4")
JIS	D1	150	175
	d1	89.6	114.7
	d2	88.83	113.77
	l	47.63	57.15
ANSI	D1	152	191
	d1	89.31	114.76
	d2	88.7	114.07
	l	47.63	57.15
DIN	d1	90.5	110.6
	d2	89.9	109.9
	l	51	61
thd./in	NPT	8	8
	BSPT	11	11
D		196	210
D2		185	210
D3		153	153
d3		108	133
L1		221	271
L2		260	300
L3		275	320



VP-440
True Union Ball Check Valve (더블유니온 볼 체크밸브)

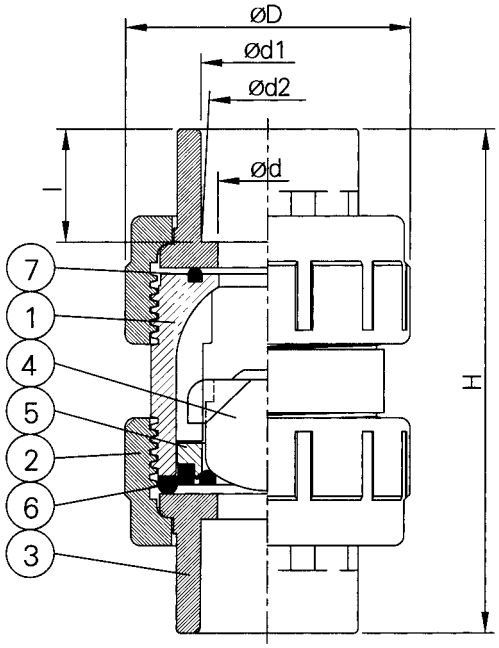
- Pressure rating : 150 PSI @73.4°F (23℃)
- Minimum flow pressure : 5 PSI
- Vertically installed, the arrow mark should be upward.
- True union end type
- Easy maintenance
- Ball sealing design, and to be able to seal hermetically.

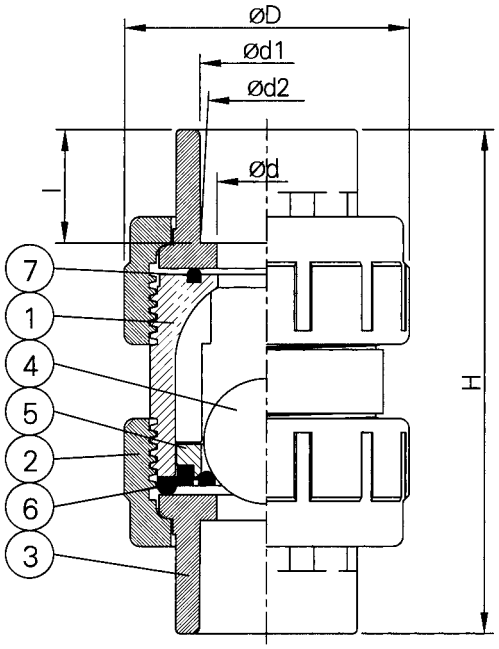
- 사용압력 : 150 PSI@73.4°F (23℃)
- 최저개폐압력 : 5 PSI
- 유체의 방향과 화살표의 방향이 수직이 되도록 설치
- 역류방지설계 및 우수한 밀폐성.

Type	Size	Standard	Material	Seat	O-ring	End type
VP-440	1/2″~2″	ANSI, JIS, DIN	UPVC	EPDM, FPM, NBR	EPDM, FPM	Socket, Threaded
VP-441	1/2″~2″	ANSI, JIS, DIN	CPVC	EPDM, FPM, NBR	EPDM, FPM	Socket, Threaded
VP-443	1/2″~2″	ANSI, JIS, DIN	PVDF	EPDM, FPM, NBR	EPDM, FPM	Socket, Threaded
VP-444	1/2″~2″	ANSI, JIS, DIN	PP	EPDM, FPM, NBR	EPDM, FPM	Socket, Threaded

Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)
JIS	d1	22.3	26.3	32.33	38.6	48.46	60.56
	d2	21.7	25.7	31.67	37.67	47.54	59.44
	l	22.2	25.4	28.6	31.75	34.9	38.1
ANSI	d1	21.45	26.87	33.65	42.42	48.56	60.63
	d2	21.23	26.57	33.27	42.04	48.11	60.17
	l	22.22	25.4	28.58	31.75	34.93	38.1
DIN	d1	20.3	25.3	32.3	40.3	50.3	63.3
	d2	19.9	24.9	31.9	39.9	49.9	62.9
	l	16	19	22	26	31	38
thd./in	NPT	14	14	11.5	11.5	11.5	11.5
	BSPT	14	14	11	11	11	11
D		50	62	72	97	97	107
d		13	20	25	31.5	41	50
H		96	112	127	159	159	185

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP, PVDF	1
2	UNION NUT	UPVC, CPVC, PP, PVDF	2
3	END CONNECTOR	UPVC, CPVC, PP, PVDF	2
4	BALL	UPVC, CPVC, PP, PVDF	1
5	GLAND	UPVC, CPVC, PP, PVDF	1
6	SEAL	EPDM, FPM, NBR	1
7	O-RING	EPDM, FPM	1





VP -450
Swing Check Valve (스윙 체크밸브)

- Minimum flow pressure : 2 PSI
- Install vertically or horizontally, with arrow to indicate flow direction.
- Easy to clean by removing the top bonnet.
- Less on-line down time for maintenance.
- To avoid blocking, it is recommended to install filter in front of the valve.

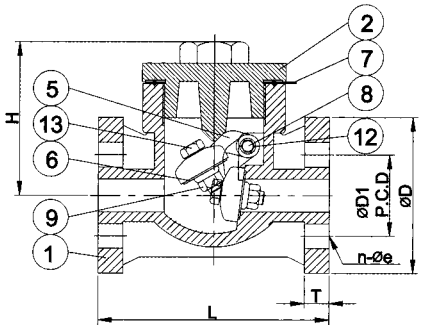
- 최저개폐압력 : 2 PSI
- 유체의 방향과 화살표의 방향이 수평 또는 수직이 되도록 설치.
- 파이프 라인의 해체 없이 직접 세척이 가능.
- 체크밸브의 게이트가 막히는 것을 방지하기 위해 파이프의 앞부분에 스트레나를 함께 설치하기를 권장함.

Type	Size	Standard	Material	Gasket	End type
VP-450	1/2″~8″	ANSI, JIS, DIN	UPVC	EPDM, FPM, NBR, PTFE	Flanged
VP-451	1/2″~8″	ANSI, JIS, DIN	CPVC	EPDM, FPM, NBR, PTFE	Flanged
VP-453	1/2″~8″	ANSI, JIS, DIN	PVDF	EPDM, FPM, NBR, PTFE	Flanged
VP-454	1/2″~8″	ANSI, JIS, DIN	PP	EPDM, FPM, NBR, PTFE	Flanged

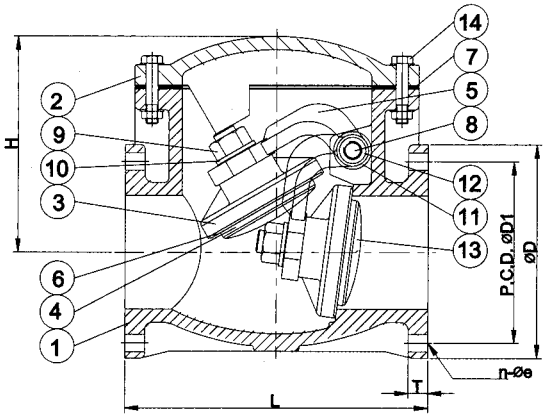
Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	150mm (6″)	200mm (8″)
JIS	D	100	100	125	140	140	155	175	185	210	285	343
	D1	70	75	90	100	105	120	140	150	175	240	290
	L	140	140	160	180	180	200	240	260	300	400	500
	n-Øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	12-ø23
ANSI	D	100	100	108	127	127	152	178	191	229	285	343
	D1	61	70	79	88.9	98	121	140	152	191	241	299
	L	140	140	160	180	180	200	240	260	300	400	500
	n-Øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23
DIN	D	100	100	115	150	150	165	185	200	220	285	343
	D1	65	75	85	100	110	125	145	160	180	240	295
	L	140	140	160	180	180	200	240	260	300	400	500
	n-Øe	4-ø14	4-ø14	4-ø14	4-ø18	4-ø18	4-ø18	4-ø18	8-ø18	8-ø18	8-ø22	8-ø22
T		15	15	17	19	19	20	22	22	24	26	30
H		93	93	117.5	137	137	165	168.5	169	217	285	338

NO.	PART	MATERIAL	Q'TY
1	BODY	HI-PVC, UPVC, CPVC, PP, PVDF	1
2	BONNET	HI-PVC, UPVC, CPVC, PP, PVDF	1
3	DISC	HI-PVC, UPVC, CPVC, PP, PVDF	1
4	DISC HOLDER	HI-PVC, UPVC, CPVC, PP, PVDF	1
5	SWING ARM	HI-PVC, UPVC, CPVC, PP, PVDF	1
6	SEAT	EPDM, FPM, NBR, PTFE	1
7	GASKET	EPDM, FPM, NBR, PTFE	1
8	SHAFT	PTFE	1
9	DISC NUT	HI-PVC, UPVC, CPVC, PP, PVDF	1
10	DISC WASHER	HI-PVC, UPVC, CPVC, PP, PVDF	1
11	SHEET GASKET	EPDM, FPM, NBR, PTFE	1
12	SHEET BOLT	HI-PVC, UPVC, CPVC, PP, PVDF	1
13	DISC BOLT	HI-PVC, UPVC, CPVC, PP, PVDF	1-8
14	BOLT SETS	STEEL, SUS 304	6-16

P.S : PVC는 진흙관 계통에는 사용하지 말것



1/2"&3/4"



1"~8"

Swing Check Valve
VP-450 Table of Temperature / Water Pressure (Reference)

Unit:kgf/㎠

Material \ ℃ \ SIZE	U-PVC		CPVC		PP				PVDF		
	EPDM	FPM	EPDM		EPDM		PTFE		PTFE		
	0~50	0~50	-10~60	61~90	-20~60	61~80	-20~60	61~80	-20~60	61~80	81~100
15 (1/2″)	7	6	7	6	7	6	6	5	6	5	4
20 (3/4″)	7	6	7	6	7	6	6	5	6	5	4
25 (1″)	7	6	7	6	7	6	6	5	6	5	4
40 (1-1/2″)	7	6	7	6	7	6	6	5	6	5	4
50 (2″)	7	6	7	6	7	6	6	5	6	5	4
65 (2-1/2″)	7	6	7	6	7	6	6	5	6	5	4
80 (3″)	7	5	7	6	7	6	5	4	5	4	3
100 (4″)	5	5	5	4	5	4	5	4	5	4	3
150 (6″)	5	3	5	3	5	4	3	2	3	2.5	2
200 (8″)	3	3	3	2.5	3	2	3	2	3	2.5	2

P.S : 설치시 수격작용 및 펄스(Pulse) 현상에 주의할것

VP -460 Ball Check Value (볼 체크 밸브)
-470 Ball Foot Value (볼 후트 밸브)

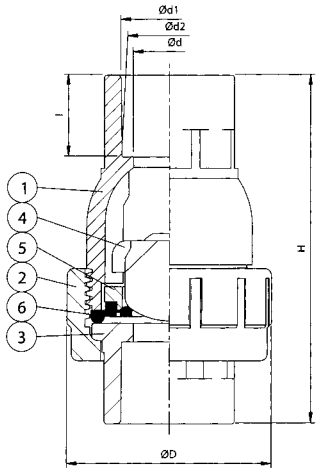
- Pressure rating : 1/2"~2-1/2" 150 PSI, 3"~4" 100 PSI@73.4℉ (23℃)
- Minimum flow pressure : 2~4 PSI
- Vertically installed, the arrow should be upward.
- Ball sealing design to be able to seal hermetically.

- 사용압력 : 1/2"~2-1/2" 150 PSI,
  3"~4" 100 PSI
  @73.4℉ (23℃)
- 최저개폐압력 : 2~4 PSI
- 유체의 방향과 화살표의 방향이 수직이 되도록 설치.
- 역류방지설계 및 우수한 밀폐성.

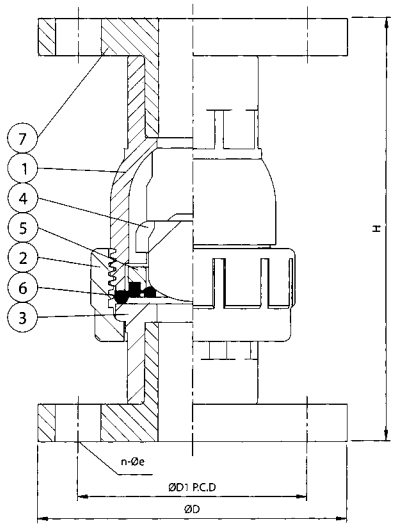
Type	Size	Standard	Material	Seal	End type
VP-460	1/2″~4″	ANSI, JIS, DIN	UPVC	EPDM, FPM, NBR	Socket, Threaded
VP-461	1/2″~4″	ANSI, JIS, DIN	CPVC	EPDM, FPM, NBR	Socket, Threaded
VP-463	1/2″~4″	ANSI, JIS, DIN	PVDF	EPDM, FPM, NBR	Socket, Threaded
VP-464	1/2″~4″	ANSI, JIS, DIN	PP	EPDM, FPM, NBR	Socket, Threaded
VP-470	1/2″~4″	ANSI, JIS, DIN	UPVC	EPDM, FPM, NBR	Socket, Threaded
VP-471	1/2″~4″	ANSI, JIS, DIN	CPVC	EPDM, FPM, NBR	Socket, Threaded
VP-473	1/2″~4″	ANSI, JIS, DIN	PVDF	EPDM, FPM, NBR	Socket, Threaded
VP-474	1/2″~4″	ANSI, JIS, DIN	PP	EPDM, FPM, NBR	Socket, Threaded

참조) Ball은 VP-440의 Ball과 동일함

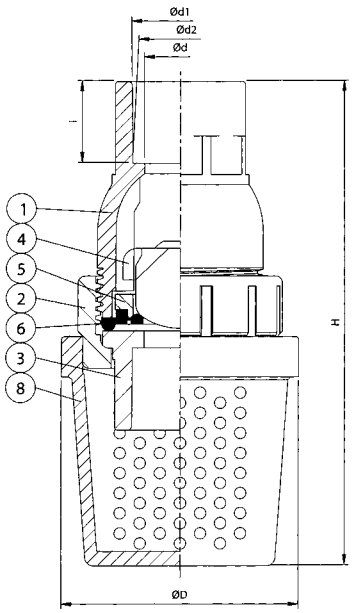
Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	d1	22.3	26.3	32.33	38.43	48.46	60.56	76.6	89.6	114.7
	d2	21.7	25.7	31.67	37.67	47.54	59.44	75.87	88.83	113.77
	l	22.22	25.4	28.6	31.75	34.9	38.1	61	63	69
ANSI	d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76
	d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.07
	l	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
DIN	d1	20.3	25.3	32.3	40.3	50.3	63.3	75.35	90.5	110.6
	d2	19.9	24.9	31.9	39.9	49.9	62.9	74.9	89.9	109.9
	l	16	19	22	26	31	38	44	51	61
thd/in	NPT	14	14	11.5	11.5	11.5	11.5	8	8	8
	BSPT	14	14	11	11	11	11	11	11	11
D		50	62	72	97	97	107	163	163	225
d		13	20	25	36	40	50	70	77	102
H		93	109	122	155	155	178	262	262	321



Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	D	95.5	100	124.5	134.5	140.5	155	175	184.5	209.5
	D1	70	75	90	100	105	120	140	150	175
	n-Øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19
	H	122	141	154	191	191	218	306	307	364
ANSI	D	89	98	108	117	127	155	178.5	190.5	230
	D1	61	70	79	89	98	121	140	152	191
	n-Øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19
	H	115	133	150	187	190	216	306	309	369
DIN	D	95.5	100	124.5	134.5	140.5	155	175	184.5	209.5
	D1	65	75	85	100	110	125	145	160	180
	n-Øe	4-ø15	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19
	H	122	141	152	191	191	218	306	307	364



Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	d1	22.3	26.3	32.33	38.6	48.46	60.56	76.6	89.6	114.7
	d2	21.7	25.7	31.67	37.67	47.54	59.44	75.87	88.83	113.98
	l	22.22	25.4	28.6	31.75	34.9	38.1	61	63	69
ANSI	d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76
	d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.07
	l	22.22	25.40	28.58	31.75	34.93	38.10	44.45	47.63	57.15
DIN	d1	20.3	25.3	32.3	40.3	50.3	63.3	75.35	90.5	110.6
	d2	19.9	24.9	31.9	39.9	49.9	62.9	74.9	89.9	109.9
	l	16	19	22	26	31	38	44	51	61
thd/in	NPT	14	14	11.5	11.5	11.5	11.5	8	8	8
	BSPT	14	14	11	11	11	11	11	11	11
D		60.5	70.7	82.8	100.6	110.6	124	163	163	225
d		13	20	25	36	40	50	70	77	102
H		137	154	169	204	204	241	321	321	392



NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP, PVDF	1
2	UNION NUT	UPVC, CPVC, PP, PVDF	1
3	CONNECTOR	UPVC, CPVC, PP, PVDF	1
4	BALL	UPVC, CPVC, PP, PVDF	1
5	GLAND	UPVC, CPVC, PP, PVDF	1
6	SEAL	EPDM, FPM, NBR	1
7	FLANGE	UPVC, CPVC, PP, PVDF	2
8	FILTER	UPVC, CPVC, PP, PVDF	1

VP -480 Spring Check Valve (스프링 체크 밸브)
-490 Spring Foot Valve (스프링 후트 밸브)

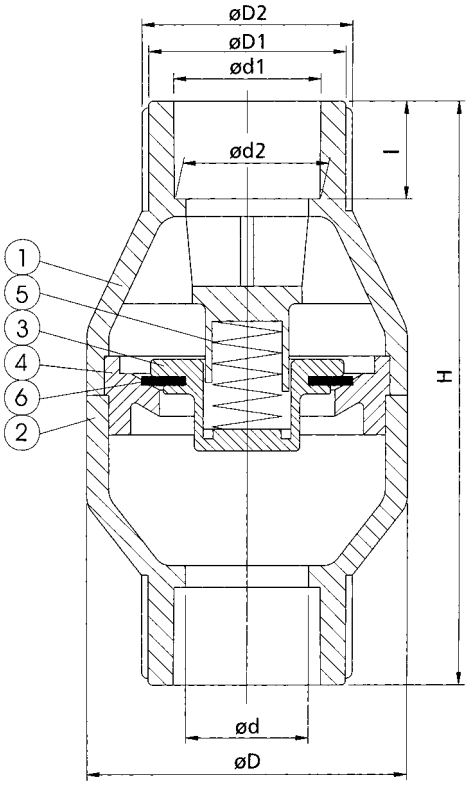
- Specification : SCH.40
- To install by arrow indication
- Low cost / maintenance operation

- 규격 : Schedule 40
- 유체방향에 따라 화살표 지시대로 설치
- 역류방지설계 및 우수한 밀폐성

Type	Size	Standard	Material	Seal	Spring	End type
VP-480	1/2″~2″	ANSI, JIS, DIN	UPVC	EPDM, FPM	SUS 304	Socket, Threaded
VP-490	1/2″~2″	ANSI, JIS, DIN	UPVC	EPDM, FPM	SUS 304	Socket, Threaded

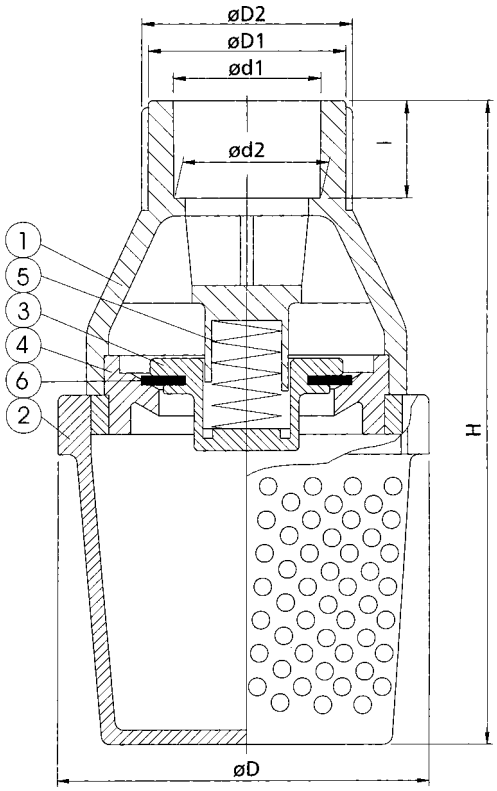
Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)
JIS	d2	21.7	25.7	31.67	37.57	47.54	59.44
	d1	22.3	26.3	32.33	38.43	48.46	60.56
ANSI	d2	21.23	26.57	33.27	42.04	48.11	60.17
	d1	21.54	26.87	33.65	42.42	48.56	60.63
DIN	d2	19.9	24.9	31.9	39.9	49.9	62.9
	d1	20.3	25.3	32.3	40.3	50.3	63.3
thd./in	NPT	14	14	11.5	11.5	11.5	11.5
	BSPT	14	14	11	11	11	11
D		56	56	73	91	91	107
D1		35	35	45	52	60	73
D2		38	38	48	55	63	76
d		17	21	28	35	39	52
H		105	105	133	157	157	178
l	SCH40	17.48	18.26	22.22	23.82	27.38	29.36

NO.	PART	MATERIAL	Q'TY
1	UPPER BODY	UPVC	1
2	LOWER BODY	UPVC	1
3	POPPET	UPVC	1
4	CONNECTOR	UPVC	1
5	SPRING	SUS 304	1
6	GASKET	EPDM	1



Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)
JIS	d2	21.7	25.7	31.67	37.57	47.54	59.44
	d1	22.3	26.3	32.33	38.43	48.46	60.56
ANSI	d2	21.23	26.57	33.27	42.04	48.11	60.17
	d1	21.54	26.87	33.65	42.42	48.56	60.63
DIN	d2	19.9	24.9	31.9	39.9	49.9	62.9
	d1	20.3	25.3	32.3	40.3	50.3	63.3
thd./in	NPT	14	14	11.5	11.5	11.5	11.5
	BSPT	14	14	11	11	11	11
D		60	60	83	83	110	124
D1		35	35	45	52	60	73
D2		38	38	48	55	63	76
d		17	21	28	35	39	52
H		123	123	147	170	170	198
l	SCH40	17.48	18.26	22.22	23.82	27.38	29.36

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC	1
2	FILTER	UPVC	1
3	POPPET	UPVC	1
4	CONNECTOR	UPVC	1
5	SPRING	SUS 304	1
6	GASKET	EPDM	1



VP -640
Double Union Ball Valve (소켓식 · 나사식 · 프랜지식 ·

- Pressure rating : 150 PSI @73.4°F (23℃)
- Standard port design
- Adjustable seat tightness
- Easy to disassemble by handle
- Less on-line down time for replacement / maintenance
- Actuator could be installed with inserted nut
- Standard product is without inserted nut.

- 사용압력 : 150 PSI @73.4°F (23℃)
- 표준유량설계
- 더블유니온설계로 유니온과 밸브를 동시에 사용
- 시트의 신축성으로 적절한 조정이 가능함
- 특수 장비의 사용 없이 빠른 설치가 가능
- 너트를 끼워 자동밸브(엑츄에이터)에 설치 가능
- 일반 제품에는 너트가 부착되어 있지 않음

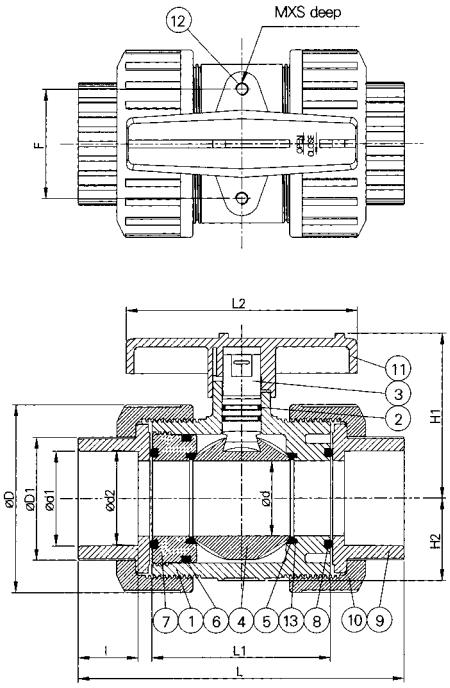
Type	Size	Standard	Material	Seat	O-ring	End type
VP-640	1/2″~4″	ANSI, JIS, DIN, BS	UPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-641	1/2″~4″	ANSI, JIS, DIN, BS	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-643	1/2″~4″	ANSI, JIS, DIN, BS	PVDF	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-644	1/2″~4″	ANSI, JIS, DIN, BS	PP	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-645	1/2″~4″	ANSI, JIS, DIN, BS	ABS	PTFE	EPDM, FPM	Socket, Threaded, Flanged

• There is no flanged end for BS

더블 유니온 볼 밸브)

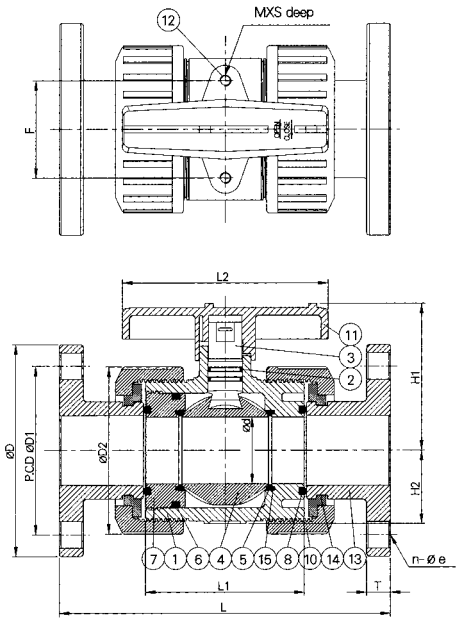
Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	d1	22.3	26.3	32.33	38.43	48.46	60.56	76.6	89.6	114.7
	d2	21.7	25.7	31.67	37.57	47.54	59.44	75.87	88.83	113.77
	l	22.22	25.4	28.6	31.8	34.9	38.1	61	63	69
ANSI	d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76
	d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.07
	l	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
DIN	d1	20.3	25.3	32.3	40.3	50.3	63.3	75.35	90.35	110.6
	d2	19.9	24.9	31.9	39.9	49.9	62.9	74.9	89.9	109.9
	l	16	19	22	26	31	38	44	51	61
BS	d1	21.7	27.15	33.95	42.65	48.65	60.75	75.75	89.35	114.95
	d2	21	26.35	33.15	41.85	47.85	59.95	74.95	88.45	113.65
	l	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
thd./in	PT	14	14	11	11	11	11	11	11	11
	NPT	14	14	11.5	11.5	11.5	11.5	8	8	8
D		46.5	55	66	82	98	120	140	163	225
D1		31	37	45	54	65	79	92	108	146
d		13	18	23	30	38	48	61	69	99
L		114	135	149	168	175	208	275	304	332
L1		60	73	79	88	95	114	138	158	176
L2		78	92	100	110	121	147	180	224	278
H1		47	57	66	74	87	106	116	130	178
H2		21	26	33	39	41	53	–	–	–
F		30	33	40	47	52	70	–	–	–
M		M5	M6	M6	M8	M8	M8	–	–	–
S		8	8	11	11	11	15	–	–	–

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP, PVDF, ABS	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	UPVC, CPVC, PP, PVDF, ABS	1
4	BALL	UPVC, CPVC, PP, PVDF, ABS	1
5	SEAT	PTFE	2
6	CARRIER O-RING	EPDM, FPM	1
7	SEAL CARRIER	UPVC, CPVC, PP, PVDF, ABS	1
8	UNION O-RING	EPDM, FPM	2
9	END CONNECTOR	UPVC, CPVC, PP, PVDF, ABS	2
10	UNION NUT	UPVC, CPVC, PP, PVDF, ABS	2
11	HANDLE	ABS, PP+GF ,PP	1
12	INSERTED NUT	C3602	2,4
13	SEAT O-RING	EPDM, FPM	2



Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	D	95	100	125	135	140	155	175	185	210
	D1	70	75	90	100	105	120	140	150	175
	L	143	172	187	190	212	234	259	304	372
	n-øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19
	T	13	15	15	16	16	16.5	18	19	19
ANSI	D	89	98	108	117	127	152	178	191	229
	D1	61	70	79	89	99	121	140	152	191
	L	143	172	187	190	212	234	259	304	372
	n-øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19
	T	13	15	15	16	17	17	18	19	20
DIN	D	95	105	115	140	150	165	185	200	220
	D1	65	75	85	100	110	125	145	160	180
	L	130	150	160	180	200	230	290	310	350
	n-øe	4-ø14	4-ø14	4-ø14	4-ø18	4-ø18	4-ø18	4-ø18	8-ø18	8-ø18
	T	18.5	20	20	20	20	22	22.5	22.5	24
D2		46.5	55	66	82	98	120	140	163	225
d		13	18	23	30	38	48	61	69	99
L1		60	73	79	88	95	114	138	158	176
L2		78	92	100	110	121	147	180	224	278
H1		47	57	66	74	87	106	116	130	178
H2		21	26	33	39	41	53	–	–	–
F		30	33	40	47	52	70	–	–	–
M		M5	M6	M6	M8	M8	M8	–	–	–
S		8	8	11	11	11	15	–	–	–

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP, PVDF, ABS	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	UPVC, CPVC, PP, PVDF, ABS	1
4	BALL	UPVC, CPVC, PP, PVDF, ABS	1
5	SEAT	PTFE	2
6	CARRIER O-RING	EPDM, FPM	1
7	SEAL CARRIER	UPVC, CPVC, PP, PVDF, ABS	1
8	UNION O-RING	EPDM, FPM	2
10	UNION NUT	UPVC, CPVC, PP, PVDF, ABS	2
11	HANDLE	ABS, PP+GF, PP	1
12	INSERTED NUT	C3602	2, 4
13	FLANGE	UPVC, CPVC, PP, PVDF, ABS	2
14	SET RING	UPVC, CPVC, PP, PVDF, ABS	2
15	SEAT O-RING	EPDM, FPM	2



VP -640
Double Union Ball Valve (N1 HANDLE)

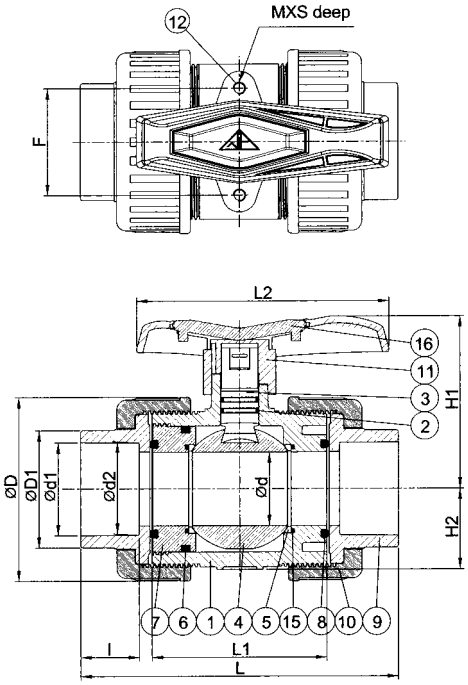
- Pressure rating : 150 PSI @73.4°F (23℃)
- Full port design
- Adjustable seat tightness
- Easy to disassemble by handle
- Less on-line down time for replacement / maintenance
- Actuator could be installed with inserted nut
- Standard product is without inserted nut.

- 사용압력 : 150 PSI @73.4°F (23℃)
- 표준유량설계
- 더블유니온설계로 유니온과 밸브를 동시에 사용
- 시트의 신축성으로 적절한 조정이 가능함
- 특수 장비의 사용 없이 빠른 설치가 가능
- 너트를 끼워 자동밸브(엑츄에이터)에 설치 가능
- 일반 제품에는 너트가 부착되어 있지 않음

Type	Size	Standard	Material	Seat	O-ring	End type
VP-640	1/2″~2″	ANSI, JIS, DIN	UPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-641	1/2″~2″	ANSI, JIS, DIN	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-644	1/2″~2″	ANSI, JIS, DIN	PP	PTFE	EPDM, FPM	Socket, Threaded, Flanged

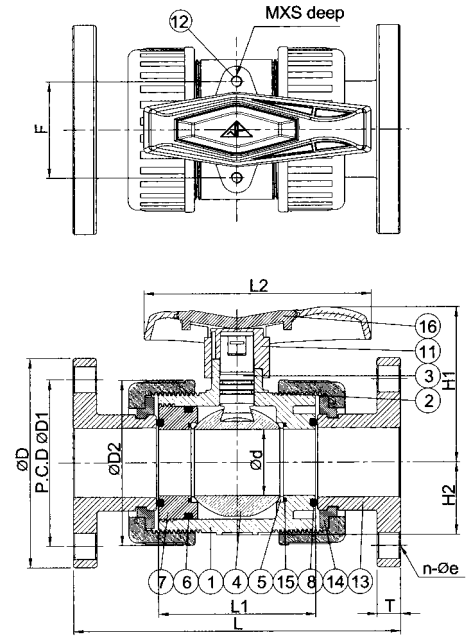
Nom. \ SIZE		15mm (1/2")	20mm (3/4")	25mm (1")	32mm (1-1/4")	40mm (1-1/2")	50mm (2")
JIS	d1	22.3	26.3	32.33	38.43	48.46	60.56
	d2	21.7	25.7	31.67	37.57	47.54	59.44
	l	22.22	25.4	28.58	31.75	34.93	38.1
ANSI	d1	21.54	26.87	33.65	42.42	48.56	60.63
	d2	21.23	26.57	33.27	42.04	48.11	60.17
	l	22.22	25.4	28.58	31.75	34.93	38.1
DIN	d1	20.3	25.3	32.3	40.3	50.3	63.3
	d2	19.9	24.9	31.9	39.9	49.9	62.9
	l	16	19	22	26	31	38
thd./in	NPT	14	14	11.5	11.5	11.5	11.5
	BSPT	14	14	11	11	11	11
D		46.3	55.5	66.5	82	98.5	120
D1		31.3	37.3	44.8	53.8	64	78
d		13	18	23	30	38	48
L		114	135	149	170	176	207
L1		60	73	79	88	95	114
L2		77	95	110	127	143	164
H1		46	57	70	75	94	113
H2		21	26	33	39	41	53
F		30	33	40	47	52	70
M		M5	M6	M6	M8	M8	M8
S		8	8	11	11	11	15

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	UPVC, CPVC, PP	1
4	BALL	UPVC, CPVC, PP	1
5	SEAT	PTFE	2
6	CARRIER O-RING	EPDM, FPM	1
7	SEAL CARRIER	UPVC, CPVC, PP	1
8	UNION O-RING	EPDM, FPM	2
9	END CONNECTOR	UPVC, CPVC, PP	2
10	UNION NUT	UPVC, CPVC, PP	2
11	HANDLE	ABS	1
12	INSERTED NUT	C3602	2,4
15	BODY O-RING	EPDM, FPM	2
16	HANDLE CAP	ABS	1



Nom. \ SIZE		15mm (1/2")	20mm (3/4")	25mm (1")	32mm (1-1/4")	40mm (1-1/2")	50mm (2")
JIS	D	95	100	125	135	140	155
	D1	70	75	90	100	105	120
	L	143	172	187	190	212	234
	n-øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19
	T	13	15	15	16	16	16.5
ANSI	D	89	98	108	117	127	152
	D1	61	70	79	89	99	121
	L	143	172	187	190	212	234
	n-øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19
	T	13	15	15	16	17	17
DIN	D	95	105	115	140	150	165
	D1	65	75	85	100	110	125
	L	130	150	160	180	200	230
	n-øe	4-ø14	4-ø14	4-ø14	4-ø18	4-ø18	4-ø18
	T	18.5	20	20	20	20	22
D2		46.3	55.5	66.5	82	98.5	120
d		13	18	23	30	38	48
L1		60	73	79	88	95	114
L2		77	95	110	127	143	164
H1		46	57	70	75	94	113
H2		21	26	33	39	41	53
F		30	33	40	47	52	70
M		M5	M6	M6	M8	M8	M8
S		8	8	11	11	11	15

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	UPVC, CPVC, PP	1
4	BALL	UPVC, CPVC, PP	1
5	SEAT	PTFE	2
6	CARRIER O-RING	EPDM, FPM	1
7	SEAL CARRIER	UPVC, CPVC, PP	1
8	UNION O-RING	EPDM, FPM	2
10	UNION NUT	UPVC, CPVC, PP	2
11	HANDLE	ABS	1
12	INSERTED NUT	C3602	2, 4
13	FLANGE	UPVC, CPVC, PP	2
14	SET RING	UPVC, CPVC, PP	2
15	BODY O-RING	EPDM, FPM	2
16	HANDLE COVER	ABS	1



VP -640
Double Flange Ball Valve

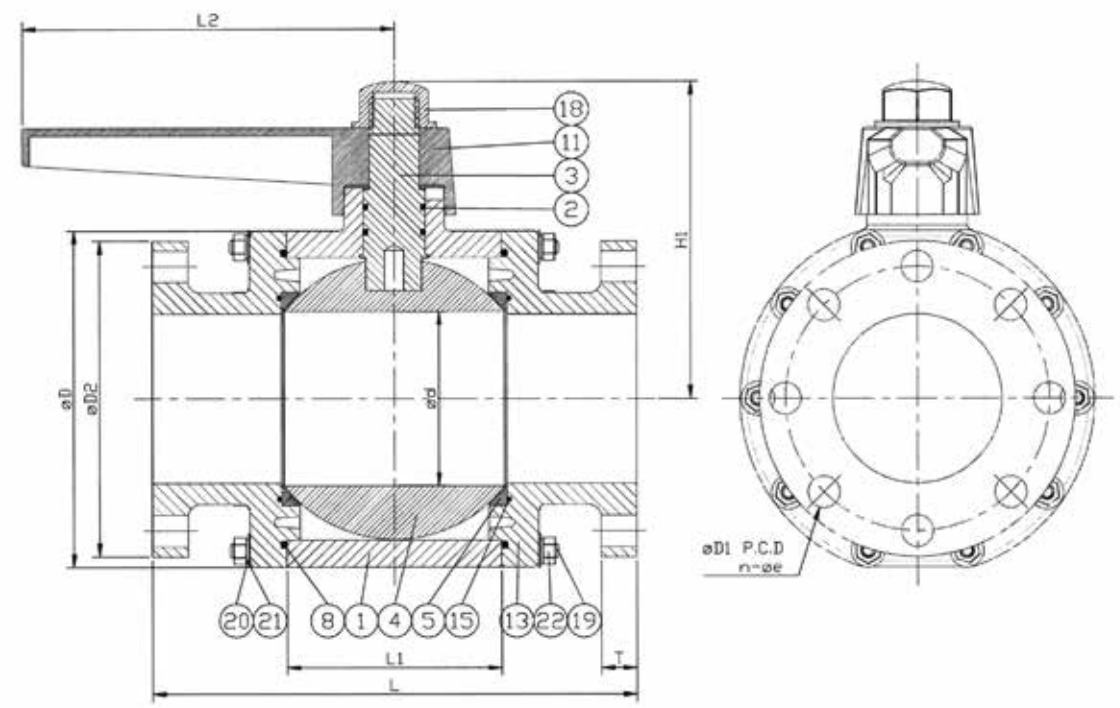
- Pressure rating :
  150 PSI @ 73.4℉ (23℃)
- Standard port design
- Less on-Line down time for replacement / maintenance
- Torque is not adjustable

- 사용압력 : 150 PSI @ 73.4℉ (23℃)
- 표준유량설계
- 특수 장비의 사용없이 빠른 설치가 가능

Type	Size	Standard	Material	Seat	O-ring	End type
VP-640	5″~6″	ANSI, JIS, DIN	UPVC	PTFE	EPDM, FPM	Flanged
VP-641	5″~6″	ANSI, JIS, DIN	CPVC	PTFE	EPDM, FPM	Flanged

Nom. \ SIZE		125mm (5″)	150mm (6″)
JIS	D1	210	240
	n-Øe	8-ø23	8-ø23
ANSI	D1	216	241
	n-Øe	8-ø23	8-ø23
DIN	D1	210	240
	n-Øe	8-ø18	8-ø22
D		271	271
D2		254	280
d		140	140
L		387	391
L1		173	173
L2		300	300
T		27	29
H1		255	255

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	UPVC, CPVC	1
4	BALL	UPVC, CPVC	1
5	SEAT	PTFE	2
8	FLANGE O-RING	EPDM, FPM	2
11	HANDLE	ABS, PP+GF	1
13	FLANGE	UPVC, CPVC	2
15	SEAT O-RING	EPDM, FPM	2
18	NUT	UPVC, CPVC	1
19	DOUBLE ARMING BOLT	SUS304	10
20	SPRING WASHER	SUS304	20
21	WASHER	SUS304	20
22	NUT	SUS304	20



VP-680 Pneumatic Actuator Double Union Ball Value
-690 Electric Actuator Double Union Ball Valve

- Pressure rating : 150 PSI @73.4℉ (23℃)
- Pneumatic actuator specification meets with ISO 5211, DIN 3337, VDI / VDE 3845, NAMUR, easy to assemble solenoid valve, limit Switches and accessories.
- For double acting and spring return actuators, the maximum supply pressure is 8 Bar(116PSI), minimum supply pressure is 2.5 Bar(36PSI)(Refer to actuator manafacturer's data if necessary)
- Electric actuator operation voltage 1-phase 110 / 220V 3-phase 220 / 380 / 460V
- Electric actuator could manually operate w/o clutch and break.

- 사용압력 : 150 PSI @73.4℉ (23℃)
- 공압식 엑츄에이터의 최대 권장공기압 8Bar(116PSI), 최소 2.5Bar(36PSI)
- 공압식 엑츄에이터의 규격 : ISO 5211, DIN 3337, VDI / VDE 3845, NAMUR에 부합. 솔레노이드 밸브, limit switch, 기타 부품과 조립가능
- 조작전압 : AC 단상 110 / 220V
  3상 220 / 380 / 460V
- 전기식 엑츄에이터는 클러치와 브레이크 없이 수동조작 가능

Type	Size	Standard	Material	Seat	O-ring	End type
VP-680 690	1/2″~4″	ANSI, JIS, DIN, BS	UPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-681 691	1/2″~4″	ANSI, JIS, DIN, BS	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-683 693	1/2″~4″	ANSI, JIS, DIN, BS	PVDF	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-684 694	1/2″~4″	ANSI, JIS, DIN, BS	PP	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-685 695	1/2″~4″	ANSI, JIS, DIN, BS	ABS	PTFE	EPDM, FPM	Socket, Threaded, Flanged

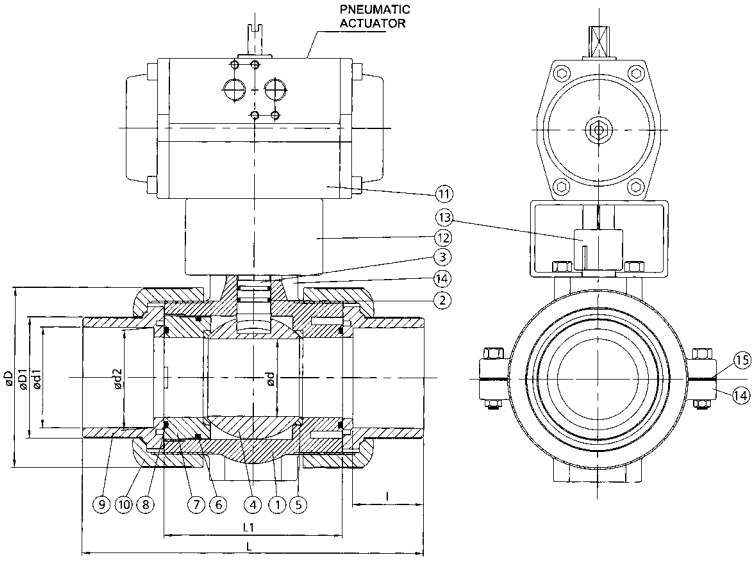
• There is no flanged end for BS

(공압식 자동 볼 밸브)
(전기식 자동 볼 밸브)

Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	d1	22.3	26.3	32.33	38.43	48.46	60.56	76.60	89.6	114.7
	d2	21.7	25.7	31.67	37.57	47.54	59.44	75.87	88.83	113.77
	l	22.22	25.4	28.6	31.8	34.9	38.1	61	63	69
ANSI	d1	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76
	d2	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.07
	l	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
DIN	d1	20.3	25.3	32.3	40.3	50.3	63.3	75.35	90.3	110.6
	d2	19.9	24.9	31.9	39.9	49.9	62.9	74.9	89.9	109.9
	l	16	19	22	26	31	38	44	51	61
BS	d1	21.7	27.15	33.95	42.65	48.65	60.75	–	–	–
	d2	21	26.35	33.15	41.85	47.85	59.95			
	l	22.22	25.4	28.58	31.75	34.95	38.1	–	–	–
thd./in	NPT	14	14	11.5	11.5	11.5	11.5	8	8	8
	PT	14	14	11	11	11	11	11	11	11
D		46.5	55	66	82	98	120	140	163	225
D1		31	37	45	54	65	79	92	108	146
d		13	18	23	30	38	48	61	69	99
L		114	135	149	168	175	208	275	304	332
L1		60	73	79	88	95	114	138	158	176

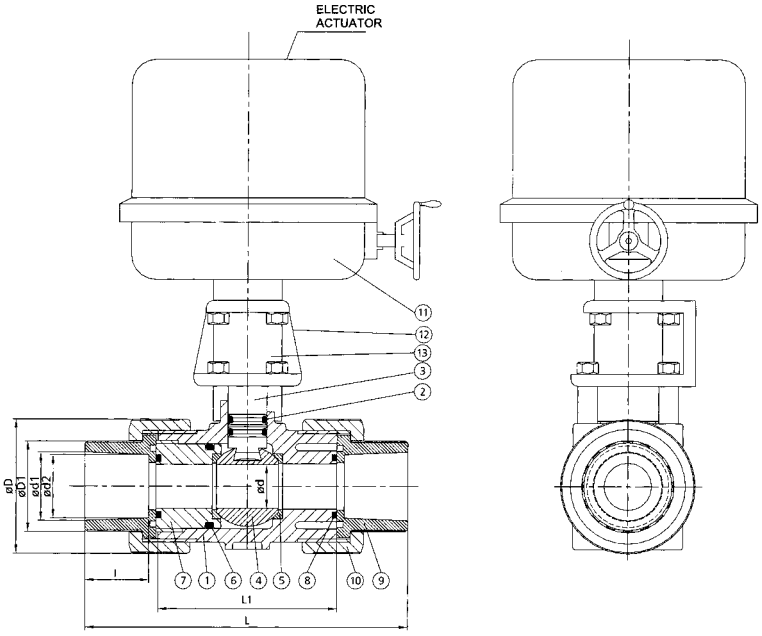
NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP, PVDF, ABS	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	UPVC, CPVC, PP, PVDF, ABS	1
4	BALL	UPVC, CPVC, PP, PVDF, ABS	1
5	SEAT SEAL	PTFE	2
6	CARRIER O-RING	EPDM, FPM	1
7	SEAL CARRIER	UPVC, CPVC, PP, PVDF, ABS	1
8	UNION O-RING	EPDM, FPM	2
9	END CONNECTOR	UPVC, CPVC, PP, PVDF, ABS	2
10	UNION NUT	UPVC, CPVC, PP, PVDF, ABS	2
11	PNEUMATIC ACTUATORS	EXTRUDED ALUMINIUM ALLOY	1
12	MOUNTING PAD	SUS	1
13	COUPLING	SUS	1
14	SUPPORT($2\frac{1}{2}$″~4″)	UPVC	2
15	GASKET($2\frac{1}{2}$″~4″)	EPDM	2

SIZE	PNEUMATIC ACTUATOR	
	DOUBLE ACTING	SPRING RETURN
1/2″	ATBO DA	AT05 SR
3/4″	ATBO DA	AT05 SR
1″	AT05 DA	AT05 SR
1-1/4″	AT10 DA	AT10 SR
1-1/2″	AT10 DA	AT10 SR
2″	AT10 DA	AT20 SR
2-1/2″	AT20 DA	AT25 SR
3″	AT25 DA	AT35 SR
4″	AT35 DA	AT40 SR



NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PP, PVDF, ABS	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	UPVC, CPVC, PP, PVDF, ABS	1
4	BALL	UPVC, CPVC, PP, PVDF, ABS	1
5	SEAT SEAL	PTFE	2
6	CARRIER O-RING	EPDM, FPM	1
7	SEAL CARRIER	UPVC, CPVC, PP, PVDF, ABS	1
8	UNION O-RING	EPDM, FPM	2
9	END CONNECTOR	UPVC, CPVC, PP, PVDF, ABS	2
10	UNION NUT	UPVC, CPVC, PP, PVDF, ABS	2
11	ELECTRIC ACTUATOR	ALUMINUM ALLOY ENCLOSURE	1
12	MOUNTING PAD	SUS	1
13	COUPLING	SUS	1

SIZE	ELECTRIC ACTUATOR	
	WITH HANDWHEEL	WITHOUT HANDWHEEL
1/2″	OM2	OM1
3/4″	OM2	OM1
1″	OM2	OM1
1-1/4″	OM2	OM1
1-1/2″	OM2	OM1
2″	OM2	OMA
2-1/2″	OM3	BM2
3″	OM3	BM2
4″	OM4	–



ELECTRIC ACTUATOR	Single-phase		Three-phase		
	110V	220V	220V	380V	440V
BM2	V	V	V	V	V
OM1	V	V	X	X	X
OMA	V	V	X	X	X
OM2	V	V	V	V	V
OM3	V	V	V	V	V
OM4	V	V	V	V	V

1. 상술한 공압식과 전기식 액츄에이터의 사이즈와 원형은 참고를 위한 것일 뿐이므로 용도에 맞게 선택하시기 바랍니다.
2. 관련 규격에 대한 상세한 자료는 문의주시기 바랍니다.

VP-710
Diaphragm Valve [Flanged] (다이어프램 밸브)

- Pressure rating : 1/2"~3" 150 PSI
  4"~6" 72 PSI, 8" 43 PSI @73.4℉ (23℃)
  (Working pressure is varied by raw material of diaphragm and temperature.)
- Smooth operation with clear indication of opening / closing through the gauge cover.
- Low maintenance cost with replaceable diaphragm and long service life.
- Adjustable stopper can avoid over tightness.
- Alternative material for stem and sleeve : SUS 304 / 316

- 사용압력 : 1/2"~3" 150 PSI
  4"~6" 72 PSI
  8" 43 PSI
  @73.4℉ (23℃)
  (다이어프램의 재질과 작업온도에 따라 압력이 달라질 수 있음)
- 투명한 게이지 커버를 통해 개폐 정도를 확인할 수 있음.
- 다이어프램(막)은 교체가 가능하며 관리, 보관이 용이함.
- 스토퍼(Stopper) 너트의 조절이 가능하도록 설계되어 과도한 조임 현상을 방지할 수 있음.
- 후렌지 밑부분이 평면설계로 되어 있어 설치가 편리함.
- 중심축과 슬리브는 SUS 304 / 316L 을 선택 가능

Type	Size	Standard	Material	Gasket	O-ring	Diaphragm	End type	Bolt
VP-710	1/2″~8″	ANSI, JIS, DIN	UPVC	PTFE	NBR	EPDM, FPM PTFE	Flanged	SUS 304 / 316
VP-711	1/2″~8″	ANSI, JIS, DIN	CPVC	PTFE	NBR	EPDM, FPM PTFE	Flanged	SUS 304 / 316
VP-713	1/2″~8″	ANSI, JIS, DIN	PVDF	PTFE	NBR	EPDM, FPM PTFE	Flanged	SUS 304 / 316
VP-714	1/2″~8″	ANSI, JIS, DIN	PP	PTFE	NBR	EPDM, FPM PTFE	Flanged	SUS 304 / 316

Caution

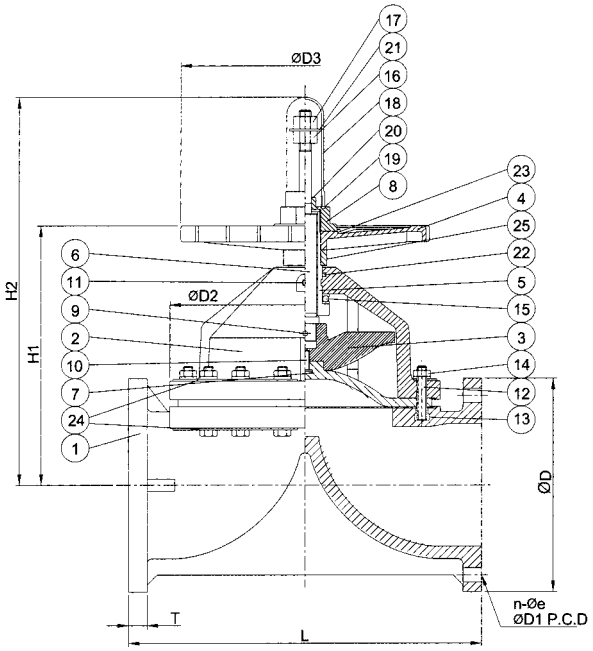
(1) After installed, should inspect the set nut and stopper (above the stem) frequently, to make sure the nuts are tight.
(2) The valve is completely closed when handwheel can't turn more with normal torque, but it will cause the unrecoverable divulsion of diaphragm if the handwheel is continuously forced to turn in such above condition!

주 의

(1) 설치 후, 스템위에 있는 set nut(17), stopper(16)가 잘 조여있는지 자주 확인해야 합니다.
(2) 밸브가 완전히 닫혔을 때에는 개폐 손잡이가 더 이상 돌아가지 않습니다. 강압적으로 조작하면 다이어프램에 손상이 가서 고장의 원인이 될 수 있습니다.

Nom.		SIZE	15mm (1/2″)	20mm (3/4″)	25mm (1″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5")	150mm (6″)	200mm (8″)
JIS		D	95	100	125	140	155	175	185	210	250	291	343
		D1	70	75	90	105	120	140	150	175	210	240	290
		n-Øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23
		L	110	120	130	180	210	250	280	340	410	480	570
ANSI		D	89	98	108	127	152	178	191	229	250	291	343
		D1	61	70	79	98	121	140	152	191	216	241	299
		n-Øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23
		L	108	150	150	176	202	250	264	329	410	480	570
DIN		D	95	105	115	150	165	185	200	220	250	291	343
		D1	65	75	85	110	125	145	160	180	210	240	295
		n-Øe	4-ø14	4-ø14	4-ø14	4-ø18	4-ø18	4-ø18	8-ø18	8-ø18	8-ø18	8-ø22	8-ø22
		L	130	150	160	200	230	290	310	350	410	480	570
JIS	T	UPVC,CPVC	12	13	13	16	20	22	22	22	24	25	30
		PP, PVDF	12	13	13	16	20	23	22	22	25	25	30
ANSI		UPVC,CPVC	13	15	13	17	17	20	20	22	24	25	30
		PP, PVDF	13	15	13	18	18	21	20	22	25	25	30
DIN		UPVC,CPVC	20	20	20	20	22	22	24	24	24	25	30
		PP, PVDF	20	20	20	20	22	22	24	24	25	25	30
D2			54×70	63×78	63×88	125	148	182	203	255	330	392	432
D3			95	95	110	150	150	210	210	250	405	405	405
d			13	18	25	41	52	67	78	100	125	148	198
H1			85	94	98	130	148	189	250	275	334	334	450
H2			130	137	160	200	225	268	343	383	476	476	627
l			10	12	15	22	31	39	48	60	70	70	95

NO.	PART	MATERIAL		Q'TY
1	BODY	UPVC, CPVC, PVDF, PP		1
2	BONNET	UPVC, CPVC, PVDF, PP, PP+GF		1
3	COMPRESSOR	PP+GF, PVDF		1
4	HANDWHEEL	PP		1
5	SLEEVE	C3602, SUS		1
6	STEM	C3602, SUS		1
7	DIAPHRAGM	EPDM, FPM, PTFE		1
8	CAP	UPVC, CPVC, PVDF, PP, PP+GF		1
9	COMPRESSOR PIN	SUS304		1
10	INSERTED METAL	C3602, SUS		1
11	GREASE NIPPLE	C3602 2-1/2"~8"		1
12	BOLT & WASHER	C3602, SUS304 / SUS316	1/2"~3/4" ·····4 SET 1"~2" ·····6 SET 2-1/2"~4" ·····8 SET 6" ·····12 SET 8" ·····16 SET	
13	INSERTED NUT			
14	NUT & WASHER			
15	THRUST RING & BEARING	PTFE 1-1/2"~3", SUS 4"~8"		1
16	STOPPER	SUS304		1
17	SET NUT	SUS304		1
18	GAUGE COVER	AS		1
19	SHEET GASKET	EPDM		1
20	SHEET RING	SUS304		1
21	INDICATIVE WASHER	ABS		1
22	O-RING	NBR		1
23	NAME PLATE	UPVC		1
24	PRESSURE PLATE	SUS304		1~6
25	CASING	UPVC, CPVC, PVDF, PP 8"only		1



VP-720, 730 Diaphragm Valve (다이어프램 밸브)
[Spigot, Union-Socket / Threaded]

- Pressure rating: 100 PSI @73.4°F (23℃)
- Smooth operation with clear indication of opening / closing through the gauge cover
- Low maintenance cost with replaceable diaphragm and long service life
- Adjustable stopper can avoid over tightening
- Alternative material for stem and sleeve : SUS 304 / 316

- 사용압력: 100 PSI
- 투명한 게이지 커버를 통해 개폐 정도를 확인할 수 있음
- 다이어프램(막)은 교체가 가능하며 관리, 보관이 용이함
- 스토퍼(Stopper) 너트가 조절이 가능하도록 설계되어 과도한 조임 현상을 방지할 수 있음
- 밸브 하단에 너트가 있어 손쉽게 고정시킬 수 있음
- 중심축과 슬리브는 SUS 304/316L 선택가능.

Type	Size	Standard	Material	Gasket	O-ring	Diaphragm	End type	Bolt
VP-720	1/2″~2″	DIN	UPVC	EPDM	NBR	EPDM, FPM PTFE	Spigot	SUS 304 / 316
VP-721	1/2″~2″	DIN	CPVC	EPDM	NBR	EPDM, FPM PTFE	Spigot	SUS 304 / 316
VP-723	1/2″~2″	DIN	PVDF	EPDM	NBR	EPDM, FPM PTFE	Spigot	SUS 304 / 316
VP-724	1/2″~2″	DIN	PP	EPDM	NBR	EPDM, FPM PTFE	Spigot	SUS 304 / 316
VP-730	1/2″~2″	ANSI, JIS, DIN	UPVC	EPDM	NBR/ EPDM,FPM	EPDM, FPM PTFE	Socket, Threaded	SUS 304 / 316
VP-731	1/2″~2″	ANSI, JIS, DIN	CPVC	EPDM	NBR/ EPDM,FPM	EPDM, FPM PTFE	Socket, Threaded	SUS 304 / 316
VP-733	1/2″~2″	ANSI, JIS, DIN	PVDF	EPDM	NBR/ EPDM,FPM	EPDM, FPM PTFE	Socket, Threaded	SUS 304 / 316
VP-734	1/2″~2″	ANSI, JIS, DIN	PP	EPDM	NBR/ EPDM,FPM	EPDM, FPM PTFE	Socket, Threaded	SUS 304 / 316

Caution

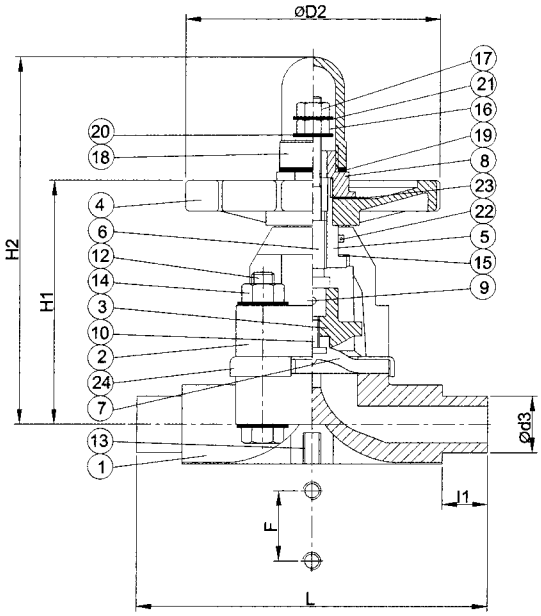
(1) After installed, should inspect the set nut and stopper (above the stem) frequently, to make sure the nuts are tight.
(2) The valve is completely closed when handwheel can't turn more with normal torque, but it will cause the unrecoverable divulsion of diaphragm if the handwheel is continuously forced to turn in such above condition!

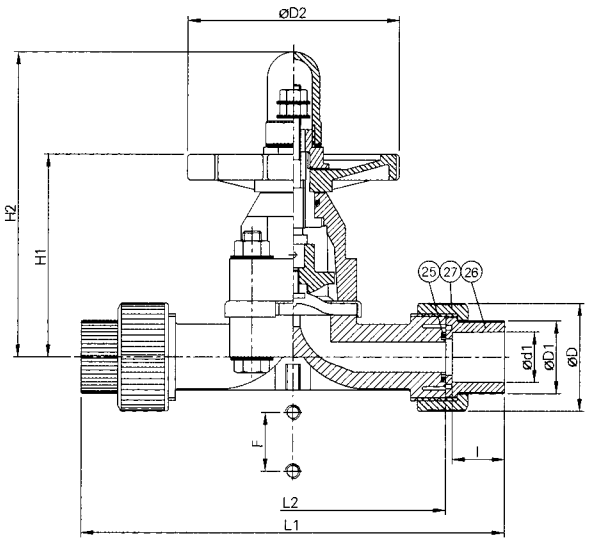
주 의

(1) 설치 후, 스템위에 있는 set nut(17), stopper(16)가 잘 조여있는지 자주 확인해야 합니다.
(2) 밸브가 완전히 닫혔을 때에는 개폐 손잡이가 더 이상 돌아가지 않습니다. 강압적으로 조작하면 다이어프램에 손상이 가서 고장의 원인이 될 수 있습니다.

Nom. \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	40mm (1-1/2″)	50mm (2″)
JIS	d1	22.3	26.3	32.33	48.46	60.56
	d2	21.7	25.7	31.67	47.54	59.44
	l	22.2	25.4	28.6	34.9	38.1
ANSI	d1	21.54	26.87	33.65	48.56	60.63
	d2	21.23	26.57	33.27	48.11	60.17
	l	22.22	25.4	28.58	34.93	38.1
DIN	d1	20.3	25.3	32.3	50.3	63.3
	d2	19.9	24.9	31.9	49.9	62.9
	l	16	19	22	31	38
BS	d1	21.7	27.15	33.95	48.65	60.75
	d2	21	26.35	33.15	47.85	59.95
	l	22.22	25.4	28.58	34.93	38.1
thd./in	NPT	14	14	11.5	11.5	11.5
	BSPT	14	14	11	11	11
D		46	55	66	97	120
D1		31	37	44	64	78
D2		95	95	110	150	150
d3		20	25	32	50	63
L2		130	150	160	200	230
L1		180	207	224	276	317
L		124	144	154	194	224
H2		128	138	144	220	225
H1		86	95	98	150	148
l1	PVC	16	19	22	31	34
	PP,PVDF	14.5	16	18	23.5	27.5
S		11	11	11	15	15
F		25	25	25	45	45
M		M6	M6	M6	M8	M8

NO.	PART	MATERIAL		Q'TY
1	BODY	UPVC, CPVC, PVDF, PP		1
2	BONNET	UPVC, CPVC, PVDF, PP, PP+GF,		1
3	COMPRESSOR	PP+GF, PVDF		1
4	HANDWHEEL	PP		1
5	SLEEVE	C3602, SUS		1
6	STEM	C3602, SUS		1
7	DIAPHRAGM	EPDM, FPM, PTFE		1
8	CAP	UPVC, CPVC, PVDF, PP, PP+GF		1
9	COMPRESSOR PIN	SUS 304		1
10	INSERTED METAL	C3602, SUS		1
12 13 14	BOLT & WASHER INSERTED NUT NUT & WASHER	C3602, SUS304 SUS316	1/2"~3/4"·····4 set 1"~2" ·····6 set	
15	THRUST RING	PTFE 1-1/2"~2"		1
16	STOPPER	SUS304		1
17	SET NUT	SUS304		1
18	GAUGE COVER	AS		1
19	SHEET GASKET	EPDM		1
20	SHEET RING	SUS304		1
21	INDICATIVE WASHER	ABS		1
22	O-RING	NBR		1
23	NAME PLATE	UPVC		1
24	PRESSURE PLATE	SUS304		1~2
25	O-RING	UPVC, CPVC, PVDF, PP		2
26	END CONNECTOR	UPVC, CPVC, PVDF, PP		2
27	UNION NUT	UPVC, CPVC, PVDF, PP		2





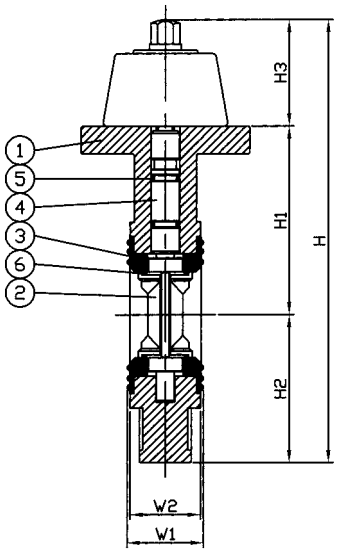
VP-810
Butterfly Valve[Handle type] (레버식 버터플라이 밸브)

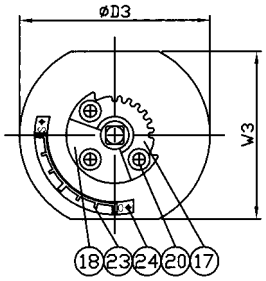
- Pressure rating : 1-1/2"~8" 150 PSI @73.4℉ (23℃)
  (Standard stem: SUS 410 + heat process. Alternative material for stem: SUS 304/316)
- Compact and light-weight design
- Low flow loss
- The scale on top of the body can clearly indicate the opening angle.
- Ideally suited in a limited piping space

- 사용압력 : 150 PSI @73.4℉ (23℃)
  (표준 중심축 재질 : SUS 410+열처리, 중심축 재질을 SUS 304, SUS 316으로 선택이 가능함)
- 명확한 디스크의 개폐 각도
- 전면형 가스켓 밀폐설계로 안전성 우수

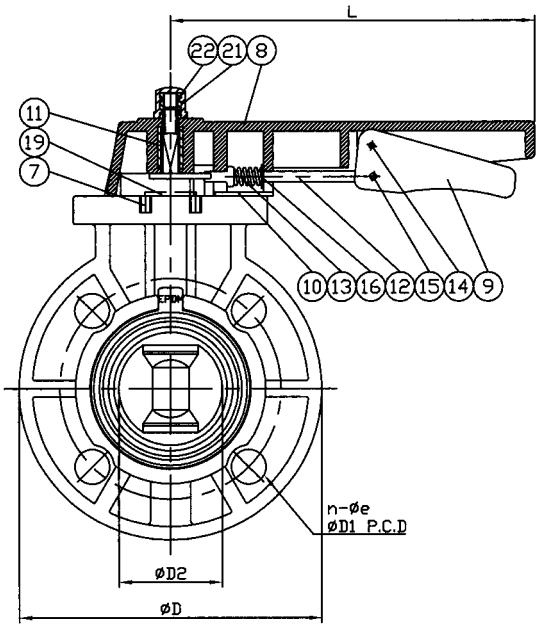
Type	Size	Standard	Material	Seat	O-ring	Disc	End Type
VP-810	1-1/2″~8″	ANSI, JIS, DIN	UPVC	EPDM, FPM	EPDM, FPM	PP	Flanged
VP-811	1-1/2″~8″	ANSI, JIS, DIN	CPVC	EPDM, FPM	EPDM, FPM	CPVC	Flanged
VP-813	1-1/2″~8″	ANSI, JIS, DIN	PVDF	EPDM, FPM	EPDM, FPM	PVDF	Flanged
VP-814	1-1/2″~8″	ANSI, JIS, DIN	PP	EPDM, FPM	EPDM, FPM	PP	Flanged

Nom. \ SIZE		40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)
JIS	D1	105	120	140	150	175	210	240	290
	n-Øe	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23
ANSI	D1	99	121	140	152	191	216	241	299
	n-Øe	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23
DIN	D1	110	125	145	160	180	210	240	295
	n-Øe	4-ø18	4-ø18	4-ø18	8-ø18	8-ø18	8-ø18	8-ø22	8-ø22
D		148	165.5	185	200	229	257	288	343
D2		49.5	56.5	69.5	79.5	102.5	129.5	149.5	202
D3		99	106	119	124	134.5	164	170	201
L		199	199	199	199	252	297	297	297
H		233	248	267	278.5	318	374	407.5	467
H1		96	106	115	118	138.5	163.5	179	208.5
H2		74	82.75	92.5	100	114.5	128.5	144	171.5
H3		63	59.5	59.5	61	65.5	81.5	84.5	84.5
W1		39	42.5	47	47	57	68	70	85
W2		35.7	39	44	44	54	63	65	79
W3		90	94	94	94	99.5	110	101	122





NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PVDF, PP	1
2	DISC	UPVC, CPVC, PVDF, PP	1
3	SEAT SEAL	EPDM, FPM	1
4	STEM	SUS	1
5	STEM O-RING	EPDM, FPM	2
6	DISC O-RING	EPDM, FPM	2
7	INSERT NUT	C3602	3
8	LARGE HANDLE	PP	1
9	SMALL HANDLE	PP	1
10	SPRING LOCK	PP	1
11	HANDLE INSERT	STAINLESS STEEL	1
12	HANDLE LEVER	SUS 304	1
13	SPRING	SUS 304	1
14	SPRING PIN	SUS 304	1
15	SPRING PIN	SUS 304	1
16	WASHER	SUS 304	1
17	LOCKING PLATE	SUS 304	1
18	GEAR SEAT	PP+GF, UPVC, PVDF	1
19	STEM WASHER	SUS 304	1
20	BOLT	SUS 304	3
21	NUT	UPVC, PVDF	1
22	INSERT NUT	C3602	1
23	LEVEL	SUS 304	1
24	RIVET	SUS 304	2



VP -820
Butterfly Valve (Gear Box) (기어식 버터플라이 밸브)

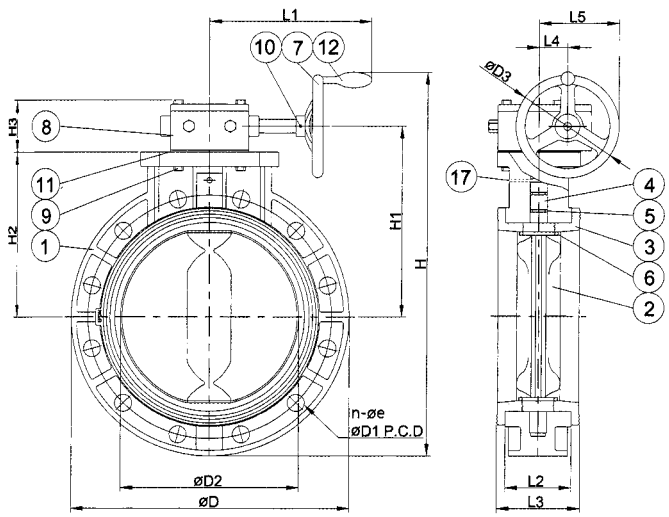
- Pressure rating : 2"~10" 150 PSI,
  12" 100 PSI,
  14,16" 86 PSI,
  18" 72 PSI,
  20"~24" 51 PSI
  @73.4°F (23°C)
  (Standard stem :
  SUS 410 + heat process
  Alternative material for stem: SUS 304/316)
- Lower torque and seal hermetically.
- Low flow loss
- The opening angel of the disc could be seen clearly through the arrow on top of the gear box.
- Ideally suited in a limited piping space
- Easy to mount actuator with flat zone design at the top of valve.

- 사용압력 : 2"~10" 150 PSI,
  12" 100 PSI, 14"~16" 86 PSI,
  18" 72 PSI, 20"~24" 51 PSI
  @73.4°F (23°C)
- HIGH PRESSURE rating :
  14"~16" 100 PSI
  18"~24" 86 PSI
  (표준중심축 재질 : SUS 410 + 열처리, 중심축의 재질을 SUS 304, SUS 316으로 선택이 가능함)
- 조작이 용이하고 밀폐효과가 우수함.
- 화살표시에 의해 디스크 개폐각도가 명확하게 보임.

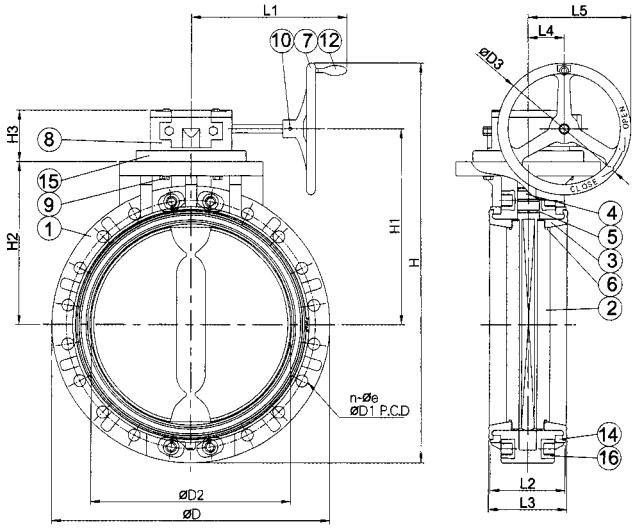
Type	Size	Standard	Material	Seat	O-ring	Disc	End type
VP-820	2″~24″	ANSI, JIS, DIN	UPVC	EPDM, FPM	EPDM, FPM	PP	Flanged
VP-821	2″~24″	ANSI, JIS, DIN	CPVC	EPDM, FPM	EPDM, FPM	CPVC	Flanged
VP-823	2″~24″	ANSI, JIS, DIN	PVDF	EPDM, FPM	EPDM, FPM	PVDF	Flanged
VP-824	2″~24″	ANSI, JIS, DIN	PP	EPDM, FPM	EPDM, FPM	PP	Flanged

Nom. \ SIZE		50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)	350mm (14″)	400mm (16″)	450mm (18″)	500mm (20″)	600mm (24″)
JIS	D1	120	140	150	175	210	240	290	355	400	445	510	565	620	730
	n-øe	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23	12-ø25	16-ø25	16-ø25	16-ø27	20-ø27	20-ø27	24-ø33
ANSI	D1	121	140	152	191	216	241	299	362	432	476	540	578	635	750
	n-øe	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23	12-ø25	12-ø25	12-ø29	16-ø29	16-ø32	20-ø32	20-ø35
DIN	D1	125	145	160	180	210	240	295	350	400	460	515	565	620	725
	n-øe	4-ø18	4-ø18	8-ø18	8-ø18	8-ø18	8-ø22	8-ø22	12-ø22	12-ø22	16-ø22	16-ø26	20-ø27	20-ø27	20-ø30
D		165.5	185	200	229	257	288	343	411	490	530	596	630	696	813
D2		56.5	69.5	79.5	102.5	129	149.5	202	255	310	355	397.5	452.5	500	603
D3		159	159	159	159	159	202	202	202	250	250	300	300	406	406
H		289	307.5	310	352.5	396.5	464	524	588	709	733	868	910	1037	1166
H1		127	135.5	138	158.5	196.5	221	253.5	283.5	340	342	420	445	486	556
H2		105	113.5	116	136.5	163.5	177	209.5	239.5	298	300	345	370	410	480
H3		53	53	53	53	75	77.5	77.5	77.5	78	78	120	120	143	143
L1		140	140	140	140	140	284.5	284.5	284.5	330	330	353	353	390	390
L2		39	44	44	54	63	65	79	104	127	120.5	160	171	180	201
L3		42.5	47	47	57	68	70	85	109	131.5	127	166	179	189.5	210
L4		41.5	41.5	41.5	41.5	41.5	60	60	60	60	60	81	81	120	120
L5		121	121	121	121	121	161	161	161	185	185	231	231	323	323

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PVDF, PP	1
2	DISC	UPVC, CPVC, PVDF, PP	1
3	SEAT	EPDM, FPM	1
4	STEM	SUS	1
5	STEM O-RING	EPDM, FPM	2
6	DISC O-RING	EPDM, FPM	2
7	HANDLE WHEEL	FC	1
8	GEAR BOX	FC	1
9	BOLT & WASHER	SUS 304	4
10	SPRING PIN	SUS	1
11	PACKING	EPDM 6″~14″	1
12	SMALL HANDLE	STEEL	1
13	KEY	SUS	1
14	SEAL	FC 14″~24″	2
15	METAL PAD	S45C 16″~24″	1
16	INSERTED NUT	C3602 16″~24″	4~8
17	PIN	SUS	1



2″ ~ 14″



16″ ~ 24″

VP -830
Pneumatic Actuator Butterfly Valve

- Pressure rating : 2"~10" 150 PSI,
  12" 100 PSI,
  14", 16" 86 PSI,
  18" 72 PSI,
  20"~24" 51 PSI
  @73.4℉ (23℃)
  (Standard stem:
  SUS 410 + heat process.
  Alternative material for stem:
  SUS 304/316)
- Low flow loss
- The opening angle of the disc could be seen clearly through the position indicator.
- Fast / Efficient operation for automatic control system in a limited piping space.
- Pneumatic actuator specification meets with ISO 5211, VDI / VDE 3845, DIN 3337, NAMUR, easy to assemble solenoid valve, limit Switches and accessories.
- For double acting and spring return actuators the maximum supply pressure is 8 Bar (116PSI) minimum supply pressure is 2.5 Bar(36PSI) (Refer to actuator manufacturer's data if necessary)

- 사용압력 : 2"~10" 150 PSI,
  12" 100 PSI,
  14", 16" 86 PSI,
  18" 72 PSI,
  20"~24" 51 PSI
  @73.4℉ (23℃)
- Standard STEM : SUS 410+ 열처리 / SUS 304, 316
- 디스크 개폐 각도는 위치표시기로 알 수 있음.
- 공압식 엑츄에이터는 ISO 5211, DIN 3337, VDI / VDE 3845, NAMUR 규격에 부합되며, 솔레노이드밸브, 제한 스위치 및 기타 부속과 함께 설치할 수 있음.
- Double Acting(스프링 리턴 Type)
  엑츄에이터 : 최대공기압 : 8bar(116psi)
  최소공기압 : 2.5bar(36psi)

Type	Size	Standard	Material	Seat	O-ring	Disc	End type
VP-830	2″~24″	ANSI, JIS, DIN	UPVC	EPDM, FPM	EPDM, FPM	PP	Flanged
VP-831	2″~24″	ANSI, JIS, DIN	CPVC	EPDM, FPM	EPDM, FPM	CPVC	Flanged
VP-833	2″~24″	ANSI, JIS, DIN	PVDF	EPDM, FPM	EPDM, FPM	PVDF	Flanged
VP-834	2″~24″	ANSI, JIS, DIN	PP	EPDM, FPM	EPDM, FPM	PP	Flanged

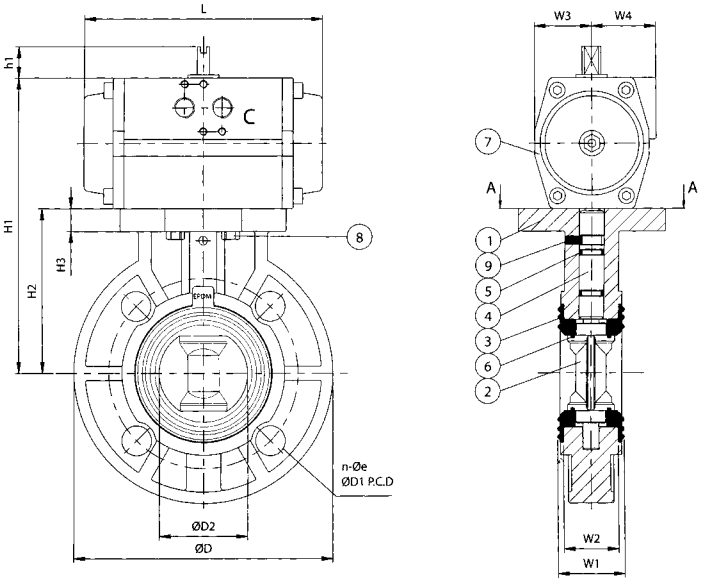
(공압식 버터플라이 밸브)

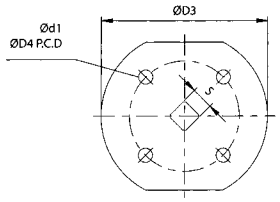
Nom. \ SIZE		50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)	350mm (14″)	400mm (16″)	450mm (18″)	500mm (20″)	600mm (24″)
JIS	D1	120	140	150	175	210	240	290	355	400	445	510	565	620	730
	n-Øe	4-Ø19	4-Ø19	8-Ø19	8-Ø19	8-Ø23	8-Ø23	12-Ø23	12-Ø25	16-Ø25	16-Ø25	16-Ø27	20-Ø27	20-Ø27	24-Ø33
ANSI	D1	121	140	152	191	216	241	299	362	432	476	540	578	635	750
	n-Øe	4-Ø19	4-Ø19	4-Ø19	8-Ø19	8-Ø23	8-Ø23	8-Ø23	12-Ø25	12-Ø25	12-Ø29	16-Ø29	16-Ø32	20-Ø32	20-Ø35
DIN	D1	125	145	160	180	210	240	295	350	400	460	515	565	620	725
	n-Øe	4-Ø18	4-Ø18	8-Ø18	8-Ø18	8-Ø18	8-Ø22	8-Ø22	12-Ø22	12-Ø22	16-Ø22	16-Ø26	20-Ø27	20-Ø27	20-Ø30
D		165.5	185	200	229	257	288	343	411	490	530	596	630	696	813
D2		56.5	69.5	79.5	102.5	129.5	149.5	202	255	310	355	397.5	452.5	500	603
D3		106	119	124	134.5	164	170	201	204	236	236	300	326	328	328
H2		105	113.5	116	136.5	163.5	177	209.5	239.5	298	300	345	370	410	480
H3		13	13	13	13	13	20	22	22	24.5	25.5	32	32	34	43
W1		42.5	47	47	57	68	70	85	109	131.5	127	166	179	189.5	210
W2		39	44	44	54	63	65	79	104	127	120.5	160	171	180	201
T-DIN259 BSP		1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/2″	1/2″	1/2″
DOUBLE ACTING	Ød1	7	7	9	9	9	11	11	11	13	-	-	-	-	-
	ØD4	50	50	70	70	70	102	102	102	125	-	-	-	-	-
	h1	20	20	20	20	20	20	30	30	30	-	-	-	-	-
	H1	189.75	198.5	217.75	238.5	278.5	304	366.5	396.5	494	-	-	-	-	-
	L	158.5	158.5	210.5	210.5	247.5	268.5	345	345	437.5	-	-	-	-	-
	S	14	14	17	17	17	22	27	27	27	-	-	-	-	-
	W3	36	36	42	42	48	55	66.5	66.5	81	-	-	-	-	-
	W4	47	47	52	52	57	67	82	82	99	-	-	-	-	-
SPRING RETURN	Ød1	7	7	9	9	11	11	13	13	-	-	-	-	-	-
	ØD4	50	50	70	70	102	102	125	125	-	-	-	-	-	-
	h1	20	20	20	20	20	30	30	30	-	-	-	-	-	-
	H1	206.75	215.5	230.75	251.5	290.5	334	405.5	435.5	-	-	-	-	-	-
	L	210.5	210.5	247.5	247.5	268.5	345	437.5	437.5	-	-	-	-	-	-
	S	17	17	17	17	22	27	27	27	-	-	-	-	-	-
	W3	42	42	48	48	55	66.5	81	81	-	-	-	-	-	-
	W4	52	52	57	57	67	82	99	99		-	-	-	-	-

SIZE	PNEUMATIC ACTUATOR	
	DOUBLE ACTING	SPRING RETURN
2″	AT101 UDA	AT201 USR
2-1/2″	AT101 UDA	AT201 USR
3″	AT201 UDA	AT251 USR
4″	AT201 UDA	AT251 USR
5″	AT251 UDA	AT301 USR
6″	AT301 UDA	AT401 USR
8″	AT351 UDA	AT451 USR
10″	AT451 UDA	AT501 USR
12″	AT501 UDA	AT551 USR
14″	AT551 UDA	AT651 USR
16″	AT601 UDA	AT651 USR
18″	AT601 UDA	AT701 USR
20″	AT651 UDA	AT701 USR
24″	AT651 UDA	AT701 USR

1. 상기 공압 엑츄에이터는 위의 표를 참조하기 바라며, 고객의 요구에 따라 응용이 가능합니다.
2. 상기 규격이외 제품은 문의주시기 바랍니다.

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PVDF, PP	1
2	DISC	UPVC, CPVC, PVDF, PP	1
3	SEAT	EPDM, FPM	1
4	STEM	SUS	1
5	STEM O-RING	EPDM, FPM	2
6	DISC O-RING	EPDM, FPM	2
7	PNEUMATIC ACTUATORS	EXTRUDED ALUMINIUM ALLOY	1
8	BOLT & WASHER	SUS	4
9	PIN	SUS	1





A-A SECTION

VP -840
Electric Actuator Butterfly Valve (전기식 버터플라이 밸브)

- Pressure rating : 2"~10" 150 PSI,
  12" 100 PSI,
  14", 16" 86 PSI,
  18", 72 PSI,
  20"~24" 51 PSI
  @73.4℉ (23℃)
- Low flow loss
- The opening angle of the disc could be seen clearly through the position indicator.
- Fast / Efficient operation for automatic control system in a limited piping space.
- Electric actuator operation voltage 1 -phase 110 / 220V
  3-phase 220 / 380 / 460V
- Electric actuator could manually operate w/o clutch and break.

- 사용압력 : 2"~10" 150 PSI,
  12" 100 PSI,
  14", 16" 86 PSI,
  18" 72 PSI,
  20"~24" 51 PSI
- 디스크 개폐 각도는 위치표시기로 알 수 있음.
- 조작전압 : AC 단상 110 / 220V
  3상 220 / 380 / 460V
- 전기식 엑츄에이터는 클러치와 브레이크 없이 수동조작 가능.
- STANDARD STEM : SUS410+ 열처리 / SUS 304, 316

Type	Size	Standard	Material	Seat	O-ring	Disc	End type
VP-840	2″~24″	ANSI, JIS, DIN	UPVC	EPDM, FPM	EPDM, FPM	PP	Flanged
VP-841	2″~24″	ANSI, JIS, DIN	CPVC	EPDM, FPM	EPDM, FPM	CPVC	Flanged
VP-843	2″~24″	ANSI, JIS, DIN	PVDF	EPDM, FPM	EPDM, FPM	PVDF	Flanged
VP-844	2″~24″	ANSI, JIS, DIN	PP	EPDM, FPM	EPDM, FPM	PP	Flanged

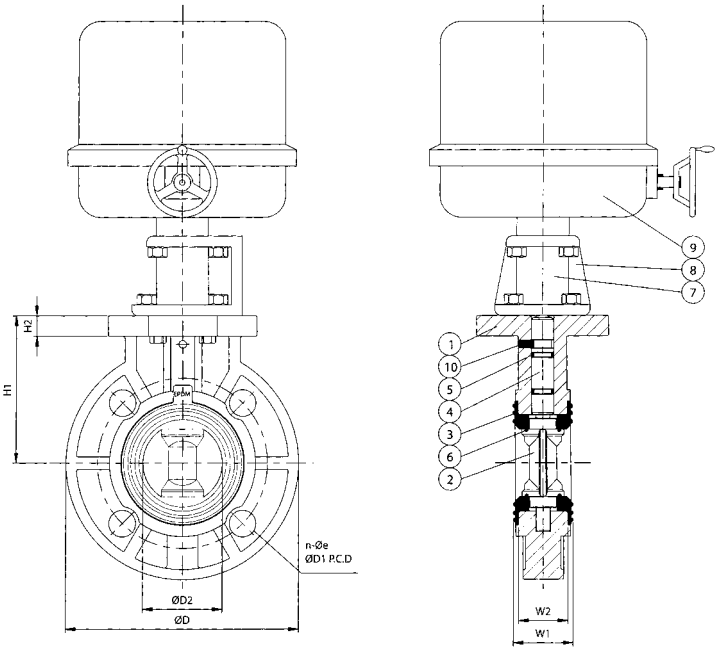
Nom. \ SIZE		50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)	125mm (5″)	150mm (6″)	200mm (8″)	250mm (10″)	300mm (12″)	350mm (14″)	400mm (16″)	450mm (18″)	500mm (20″)	600mm (24″)
JIS	D1	120	140	150	175	210	240	290	355	400	445	510	565	620	730
	n-Øe	4-ø19	4-ø19	8-ø19	8-ø19	8-ø23	8-ø23	12-ø23	12-ø25	16-ø25	16-ø25	16-ø27	20-ø27	20-ø27	24-ø33
ANSI	D1	121	140	152	191	216	241	299	362	432	476	540	578	635	750
	n-Øe	4-ø19	4-ø19	4-ø19	8-ø19	8-ø23	8-ø23	8-ø23	12-ø25	12-ø25	12-ø29	16-ø29	16-ø32	20-ø32	20-ø35
DIN	D1	125	145	160	180	210	240	295	350	400	460	515	565	620	725
	n-Øe	4-ø18	4-ø18	8-ø18	8-ø18	8-ø18	8-ø22	8-ø22	12-ø22	12-ø22	16-ø23	16-ø26	20-ø27	20-ø27	20-ø30
D		165.5	185	200	229	257	288	343	411	490	530	596	630	696	813
D2		56.5	69.5	79.5	102.5	129.5	149.5	202	255	310	355	397.5	452.5	500	603
H1		105	113.5	116	136.5	163.5	177	209.5	239.5	298	300	345	370	410	480
H2		14.5	14	14	14	14.5	19	23.5	22	24.5	25.5	32	32	34	43
W1		42.5	47	47	57	68	70	85	109	131.5	127	166	179	189.5	210
W2		39	44	44	54	63	65	79	104	127	120.5	160	171	180	201

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, PVDF, PP	1
2	DISC	UPVC, CPVC, PVDF, PP	1
3	SEAT	EPDM, FPM	1
4	STEM	SUS	1
5	STEM O-RING	EPDM, FPM	2
6	DISC O-RING	EPDM, FPM	2
7	COUPLING	SUS	1
8	MOUNTING PAD	SUS	1
9	ELECTRIC ACTUATOR	ALUMINUM ALLOY POWDER COATED	1
10	PIN	SUS	1

ELECTRIC ACTUATOR	Single-phase		Three-phase		
	110V	220V	220V	380V	440V
BM2	V	V	V	V	V
OMA	V	V	×	×	×
OM2	V	V	V	V	V
OM3	V	V	V	V	V
OM4	V	V	V	V	V
OM5	V	V	V	V	V
OM6	V	V	V	V	V
OM7	V	V	V	V	V
OM8	V	V	V	V	V

SIZE	ELECTRIC ACTUATOR	
	WITH HANDWHEEL	WITHOUT HANDWHEEL
2″	OM2	OMA
2-1/2″	OM2	OMA
3″	OM2	OMA
4″	OM3	BM2
5″	OM3	-
6″	OM4	-
8″	OM4	-
10″	OM5	-
12″	OM6	-
14″	OM7	-
16″	OM	-

1. 상술한 전기식 액츄에이터의 사이즈와 원형은 참고를 위한것일 뿐이므로 용도에 맞게 선택 바랍니다.
2. 18″이상의 관련 규격에 대한 상세한 자료는 문의 바랍니다.



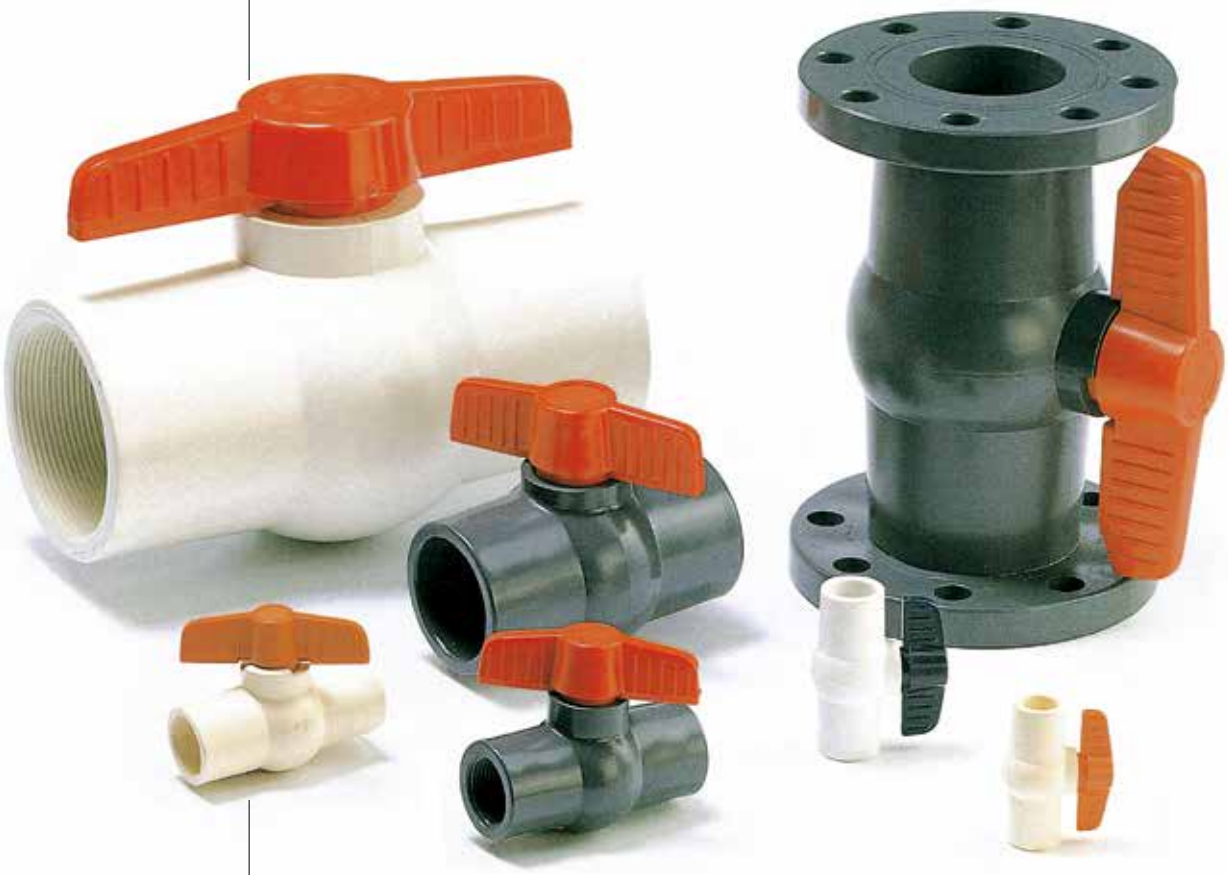
VP - 900·910

Compact Ball Valve (소켓식·나사식·프랜지식 콤팩트 볼 밸브)

- Pressure rating :
  150 PSI @73.4℉ (23℃)
- Low flow loss
- Low cost and most convenient

- 사용압력 : 150 PSI @73.4℉ (23℃)
- 유량 손실이 적음.
- 조작이 간편하며 비용이 경제적임.

Type	Size	Standard	Material	Seat	O-ring	End type
VP-900	3/8″~2″	ANSI, JIS, DIN	UPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-901	3/8″~2″	ANSI, JIS, DIN	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
VP-910	3/8″~4″	ANSI, JIS, DIN	UPVC	EPDM	EPDM, FPM	Socket, Threaded, Flanged
VP-911	3/8″~2″	ANSI, JIS, DIN	CPVC	EPDM	EPDM, FPM	Socket, Threaded, Flanged
VP-915	1/2″~2″	ANSI, JIS, DIN	ABS	EPDM	EPDM, FPM	Socket, Threaded, Flanged



I.P.S. DIM.

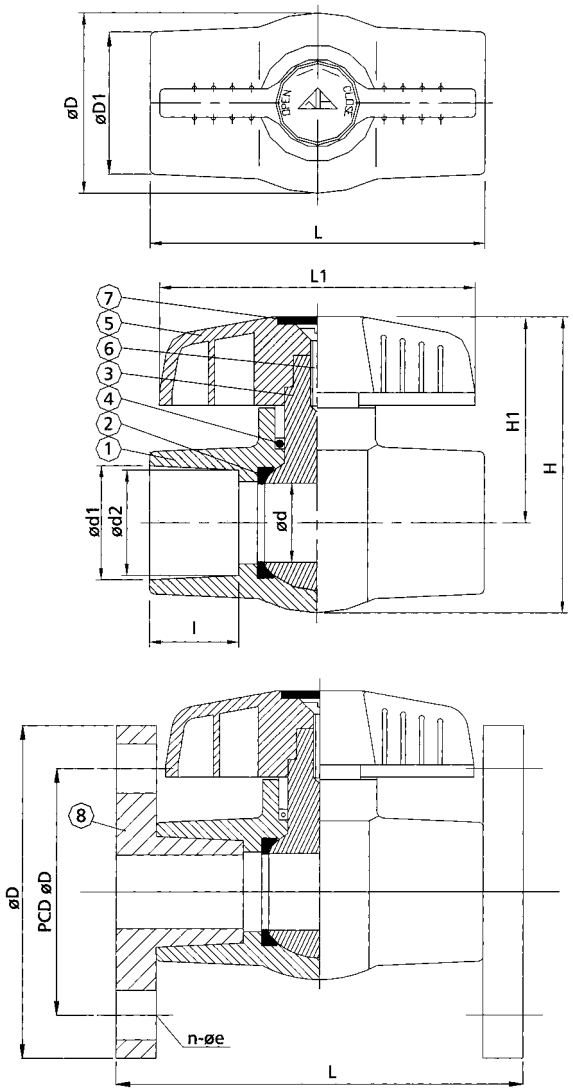
Nom. \ SIZE		10mm (3/8″)	15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	d1	18.4	22.30	26.30	32.33	38.43	48.46	60.56	76.6	89.6	114.7
	d2	17.78	21.70	25.70	31.67	37.57	47.54	59.44	75.87	88.83	113.77
ANSI	d1	17.45	21.54	26.87	33.65	42.42	48.56	60.63	73.38	89.31	114.76
	d2	17.04	21.23	26.57	33.27	42.04	48.11	60.17	72.85	88.7	114.07
DIN	d1	16.3	20.3	25.3	32.3	40.3	50.3	63.3	75.35	90.5	110.6
	d2	15.9	19.9	24.9	31.9	39.9	49.9	62.9	74.9	89.9	109.9
BS	d1	17.5	21.7	27.15	33.95	42.65	48.65	60.75	75.75	89.35	114.95
	d2	16.8	21	26.35	33.15	41.85	47.85	59.95	74.95	88.45	113.65
l	DIN	14	16	19	22	26	31	38	44	51	61
	ANSI, JIS	19.05	22.22	25.4	28.58	31.75	34.93	38.1	44.45	47.63	57.15
thd./in	BSPT	19	14	14	11	11	11	11	11	11	11
	NPT	18	14	14	11.5	11.5	11.5	11.5	8	8	8
D		31	38	49	57	63	75	92	110	133	170
D1		24	30	38	45	54	62	77	92	106	135
d		12	14	20	25	30	36	46.5	58	77	98
L		68	83	95	106	114	130	147	204	229	300
L1		60	70	88	100	100	109	134	178	224	276
H		52	64	79	95	99	115	135	160	190	233
H1		36	45	54	65	67	76	89	105	124	148

C.T.S. DIM.

Nom. \ SIZE	Tubing (1/2″)	Tubing (3/4″)	Tubing (1″)	Tubing (1-1/4″)	Tubing (1-1/2″)	Tubing (2″)
D	32	39.6	52	57	63	79
D1	24	30	38	45	54	65.6
d	12.4	18.3	23.5	25	30	36
d1	16.08	22.45	28.83	35.2	41.66	54.38
d2	15.72	22.1	28.47	34.85	41.2	53.92
L	68	83	95	106	114	130
L1	60	70	88	100	100	109
H	52	64	79	95	99	115
H1	36	45	54	65	67	76
l	12.7	17.78	22.86	27.94	33.02	43.18

Nom \ SIZE		15mm (1/2″)	20mm (3/4″)	25mm (1″)	32mm (1-1/4″)	40mm (1-1/2″)	50mm (2″)	65mm (2-1/2″)	80mm (3″)	100mm (4″)
JIS	D	95.5	100	124.5	134.5	140.5	155	175	184.5	209.5
	D1	70	75	90	100	105	120	140	150	175
	n-Øe	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19
	L	112	127	138	150	166	187	248	274	343
ANSI	D	89	98	108	117	127	155	178.5	190.5	230
	D1	60	70	79	89	98	121	140	152	191
	n-Øe	4-ø16	4-ø16	4-ø16	4-ø16	4-ø16	4-ø19	4-ø19	4-ø19	8-ø19
	L	105	119	134	146	165	185	248	276	348
DIN	D	95.5	100	124.5	134.5	140.5	155	175	184.5	209.5
	D1	65	75	85	100	110	125	145	160	180
	n-Øe	4-ø15	4-ø15	4-ø15	4-ø19	4-ø19	4-ø19	4-ø19	8-ø19	8-ø19
	L	112	127	136	150	166	187	248	274	343

NO.	PART	MATERIAL	Q'TY
1	BODY	UPVC, CPVC, ABS	1
2	SEAT	EPDM, PTFE	2
3	BALL	UPVC, CPVC, ABS, PP	1
4	O-RING	EPDM, FPM	1
5	HANDLE	ABS	1
6	BOLT	ZINC-PLATED STEEL	1
7	HANDLE CAP	ABS	1
8	FLANGE	UPVC, CPVC, ABS, PP	2



Wafer type check valve K6 PVC

General:

- Material: PVC-U
- Seal materials: EPDM / FPM
- Dimensions: DN40 – DN350
d50 – d355
1 ½" – 14"
- Flange standards: DIN 2501 – PN10
ANSI – class150
- Optional: with spring
- Mat. 1.4401 / AISI 316
- Hastelloy C-4 (on request)

Operating pressure:

- DN40 - DN200 MOP 10bar
- DN250 - DN300 MOP 8bar
- DN350 MOP 6bar

Pipe system:

- DIN PN6 und PN10
- ASTM SCH 40 & 80
(only SCH 40 possible for DN40 – DN50)
- PE100 SDR17
(Note installation information for stub flanges!)

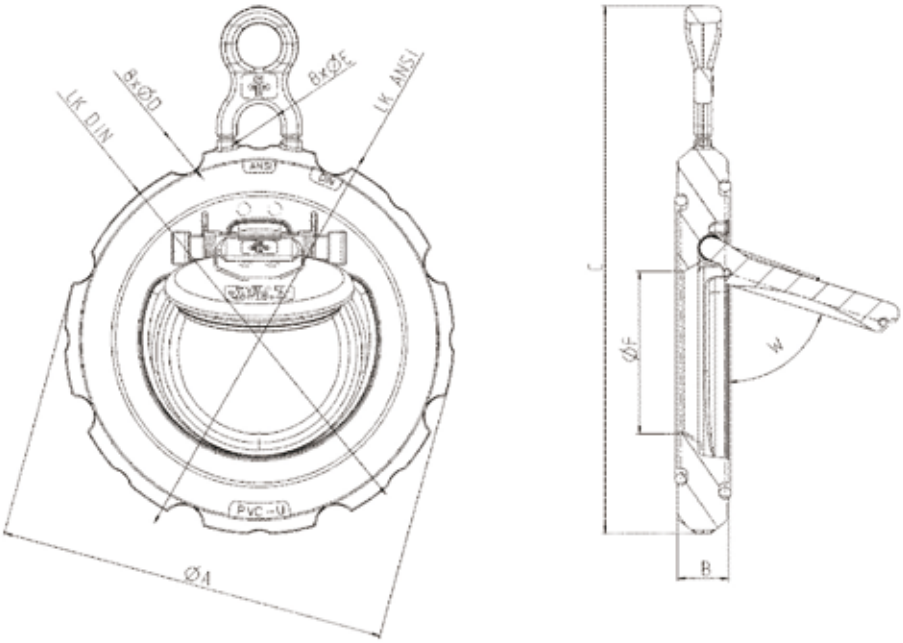
Technical features:

- Spring can be retrofitted at any time without mechanical processing
- Operating temperature up to 60°C
- Tight as of max. 0.3bar counterpressure
- Novel valve design with conical sealing surface for highest of requirements and long service life
- Back-flushed shaft for prevention of deposits
- Easy to mount with screw centering for DIN2501 PN10 and ANSI class150
- Integrated mounting aid with defined breaking point for simple removal at dimensions DN40 to DN200
- Included assembly aid (eye bolt galvanized) at dimension DN250 and DN300
- No outlet aids required (optimized flap opening angle and improved CV value)
- Horizontal and vertical installation possible
- very good corrosion resistance

Wafer type check valve K6 PVC

PRAHER PLASTICS

Dimensions:



DN	40	50	65	80	100	125	150	200	250	300	350
d	50	63	75	90	110	140	160	225	280	315	355
ØA	95	109	130	146	175	198	223	280	343	406,4	447,6
B	16	18	20	20	23	25	30	34	42	47	51
C	141,8	159,5	185	200,4	237,2	262,3	288,8	348,3	-*	-*	-*
LK DIN	110	125	145	160	180	210	240	295	350	400	460
ØD	18	18	18	18	18	18	22	22	22	22	22
LK ANSI	98,5	120,65	139,7	152,4	190,5	215,9	241,3	298,45	361,95	431,8	476,25
ØE	15,5	19	19	19	19	22,2	22,2	22,2	25,4	25,4	28,6
ØF	23,5	33	42	53	73	93	110	150	186	229	261**

* because of included eye bolt galvanized instead of integrated mounting aid
**Flow opening is pear-shaped. Area corresponds to ØF

Dimensions in mm

Flap opening angle W with various pipe dimensions											
PVC PN10	91	88,5	82	84,5	72,5	73,5	69	74	74,5	66,5	69
PVC PN6	93,5	92,5	86	88,5	78	79	75	79	80	72	73
PVC schedule40	80,5	79,5	72	79,5	76	75	78,5	73	75,5	75	70
PVC schedule80	-	-	63	72	69	68	71	66	68,5	68,5	-
PE100 SDR17	88*	85,5*	78,5*	81,5*	68,5*	69,5*	64,5*	70*	71*	62*	66*

*note installation information

Dimensions in degrees

Wafer check valve K4

Cross section:
X-Ring / Quad - Ring

This document does not constitute a guarantee, it is for initial information purposes only. The product range is continually upgraded, the designs and types therefore only reflect the state of the art at the time of printing.
Subject to technical modifications!

General:

- Body material: PVC-U / PP
PPGF / PVDF
- Disc material: PVC-U / PP
PPGF / PVDF
- Sealing material: EPDM / FPM
- Dimensions: DN65 – DN250
d75 – d280
2 ½“ – 10“
- Standards: DIN 2501 PN10
ANSI B 16,5 Class 150
JIS B2220 10K
BS 10 table E*

*only for DN100 – DN250

Operating pressure:

- PVC PN10
- PP PN6
- PPGF
DN65 – DN200 PN10
DN250 PN8
- PVDF PN10

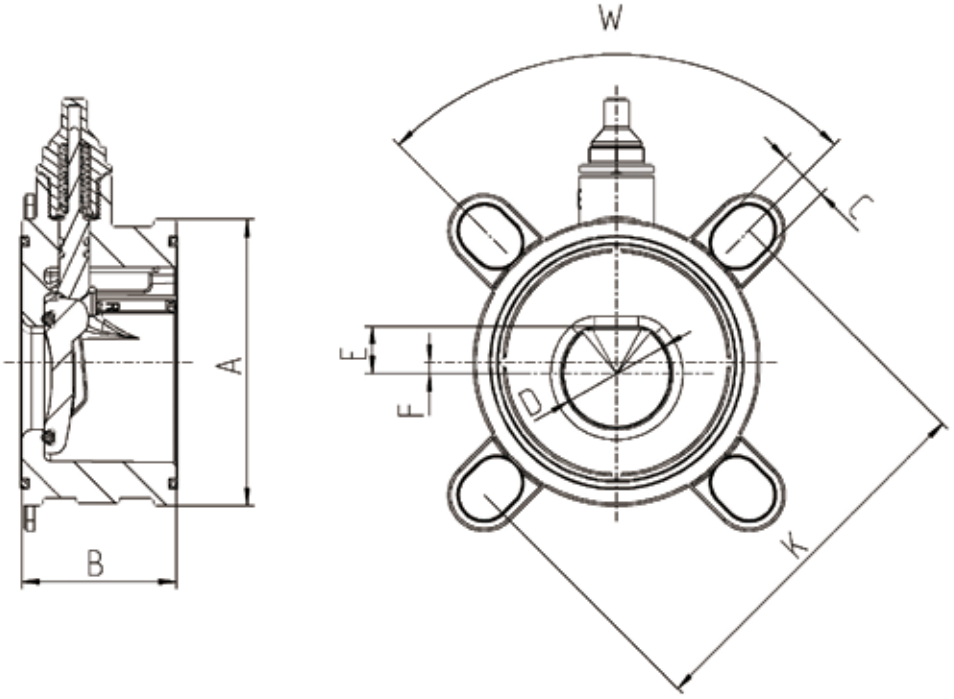
Adjusted springs and combinations of springs to operating pressure see page 5

Technical features:

- Excellent flow rates
- Disc opening up to 85°
- Non-wetted SS springs
- Included springs allow field settings for 3, 7 or 10 bar (see details page 5)
- Mounting link guide holes allow easy and quick installation between flanges
- No spacer required
- Available also without visual indicator and springs
- Horizontal and vertical installation possible
- Tight as of max. 0.3bar counterpressure

Wafer check valve K4

Dimensions:



DN	65	80	100	150	200	250
d	75	90	110	160	225	280
A	115	128	155	212	264	325
B	63	71	80	106	140	140
C	20	20	20	20	24	27
K	139 - 145	150 – 160	175 – 191	234 – 242	290 – 299	350 – 362
W	90°	45°	45°	45°	45°	30°
D	45	53,5	76,5	113,5	149	186
E	19	24,5	32	44	62,5	77,5,
F	4,5	6	6	8	9	15

Dimensions in mm

Wafer type check valve S4

General:

- Material: PVC-U / PP / PVDF
- Sealing Material: EPDM / FPM
- Dimensions: DN32 – DN500

Types:

- S4.60 without return spring
- S4.70 with return spring

Spring material:

- Stainless Steel 1.4571
- Hastelloy C4

Operating pressure:

- see table

Technical features:

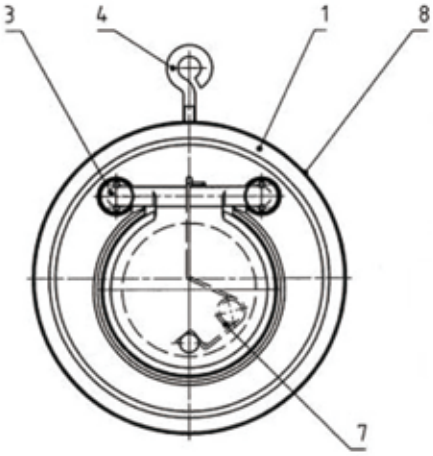
- simple and robust construction
- mounting between DIN backing flange PN10
- supporting ring for assembling
- low pressure drop
- opening pressure with spring is about 20 mbar higher
- maintenance free

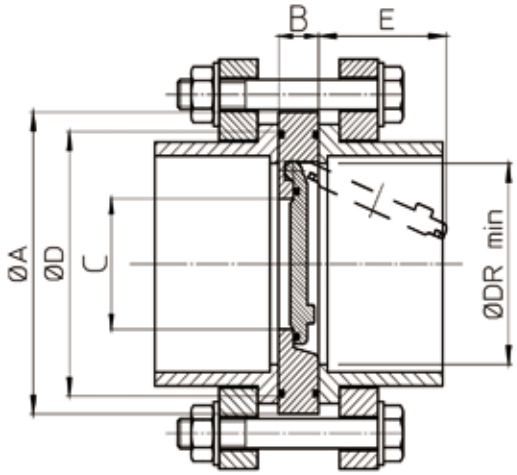
Exit supports:

- Offers better opening position oft he disc
  = better flow characteristics
  = less pressure drop

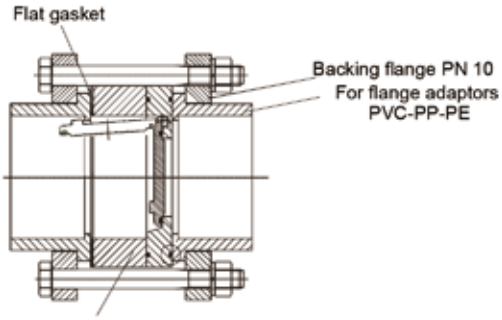
Wafer type check valve S4

Dimensions:





1. Body
2. Disc
3. Screw
4. Ring screw
5. O-Ring
6. O-Ring
7. Spring
8. Typ plate
9. Spacer



DN	A	Without spring B	with spring B	C	D	E	F	DR
32	85	15	15	18	59	22	25	37
40	95	16	16	22	72	25	28	43
50	109	18	18	32	86	37	29	54
65	129	20	20	40	105	50	31	70
80	144	20	20	54	119	61	32	82
100	164	23	23	70	146	77	31	106
125	195	23	23	92	173	94	35	131
150	220	26	26	105	197	100	40	159
200	275	34	34	154	255	152	38	207
250	330	40	40	192	312	180	41	260
300	380	45	45	227	363	215	41	309
350	440	49	49	266	416	245	54	341
400	491	65	65	310	467	285	55	392
450	541	68	78	350	520	330	61	443
500	596	78	87	400	550	385	58	493

Dimensions in mm

CPVC (SCH80, SCH40)

CPVC(Chlorinated Polyvinyl Chloride)는 PVC(Polyvinyl Chloride)에 염화반응(Chlorination reaction)을 일으켜 형성시킨 것으로 현재 널리 사용되는 PVC에 비해 내열성, 내충격성, 기계적강도 및 내압성을 획기적으로 개선시킨 수지이며 1958년부터 미국의 **BF Goodrich**(現 Noveon)사에서 개발하여 지금까지 미국, 유럽, 일본 등지의 각종산업 및 건축분야에서 광범위하게 사용되어 왔습니다.

특 성

1) 뛰어난 내식성(耐蝕性)과 내약품성(耐藥品性)

대부분의 산(ACID), 알카리, 혼산, 염(SALTS) 유기약품 및 부식성 가스 등에 매우 우수하여 각종화학배관에 널리 사용될 수 있습니다. 그러나 솔벤트, 에테르, 케톤 등에는 사용이 불가능하니 내약품표를 참조하시기 바랍니다.

2) 뛰어난 내열성(耐熱性)과 내압성(耐壓性)

CPVC는 0℃에서 90℃까지 사용가능한 소재이며, 특히 고온에서 고압에 견딜 수 있어 배관재는 물론, 기계 가공소재로써도 훌륭합니다.

3) 뛰어난 유체흐름률, 스케일 발생없이 장기간 사용가능

파이프 내부 표면이 매끄러워 유체의 마찰 손실이 적어 유체 흐름률이 매우 높고, 스케일이나 부식이 발생되지 않으며, 탁월한 내노화성으로 장기간 사용(30년이상)이 가능합니다.

4) 낮은 열전도성으로 높은 보온효과, 낮은 열팽창률로 누수사고율 최소화

금속은 물론 타 플라스틱 수지에 비하여도 열전도율이 낮아 유체의 보온효과가 우수하여 별도의 보온공사가 필요없으며, 결로현상도 발생치 않아 매우 경제적이다. 특히 타수지에 비하여 가장 적은 열팽창률로 인하여 누수발생 위험도도 가장 적다.

5) 뛰어난 전기 절연성과 자기소화성

뛰어난 전기 절연성과 전류에 의한 부식, 누전 등의 위험이 전혀 없고 CPVC수지 자체에 의한 화재는 발생치 않으며, 화재 발생시 자기 소화성이 있어(CPVC수지가 연소하려면 일반공기보다 훨씬 더 많은 산소량 필요) 매우 안전한 소재임(미국과 유럽에서 최고 인기리에 소화용 스프링쿨러 배관재로 채택)

6) 우수한 내마모성과 저소음

고분자량으로 내마모성이 우수하여 펄프, 제지공장등의 배관과 슬러리(SLURRY), 폐수 배관에 적합하며 물흐르는 소리가 거의 들리지 않아 조용하다.

7) 위생적 배관자재

폐사의 제품은 미국 NSF(National Sanitation Foundation)로부터 공인받은 제품으로써 인체에 무해하여 음용수 배관재로 적합하며, 박테리아의 생성을 억제하여 반도체, 식품, 제약 등의 배관재로 적합하다.(융해성 접착제도 NSF공인 제품사용)

8) 간편한 작업성과 우수한 경제성

CPVC는 무게가 가볍고(비중 1.5) 용해성 접착제 사용시 작업성이 매우 간편하여 최단기간내에 공사가 가능하며 인건비 등의 시공비를 최소화할 수 있습니다. 관내 마찰계수가 적어 전력비가 절감되고 보온성과 에너지 절감으로 유지보수비가 거의 소요되지 않아 30년이상 장기간의 설비사용수명 등을 감안하면 최적의 경제성을 지닌 자재임을 알 수 있습니다.

적용분야

- **발전소 배관(화력, 원자력)** / 플랜트 용수공급, 발전용 초순수, 염소 등 약품주입 설비, 냉각수(해수), 폐수처리 등
- **제약, 정밀화학 배관** / 제약, 농약, 화장품, 표백, 실험실배관, 병원 등
- **공업용 공장 배관 도금** / 금속, 제철, 제련도금, 축전기, 자동차, 유리, 섬유, 염색, 조선, 알미늄 등
- **첨단산업, 석유화학 배관** / 반도체, PCB, 석유화학, 정유, 순수, 초순수 등
- **기타** / 해수탕, 온천, 사우나, 식품가공, 소방스프링쿨러, 폐수처리장 등등

UPVC (SCH80, SCH40)

UPVC(Unplasticized Polyvinyl Chloride)는 기존 PVC배합에 필수적으로 함유된 가소제 (PLASTICIZER)와 납(Pb)대신에 고가의 고기능성 주석(TIN)배합으로 고효율의 설비에서 생산되어 기존 PVC에 비하여 내충격성, 내열성, 내후성, 내압성 및 기계적 강도를 훨씬 높였으며, 특히 ASTM규정(SCH80, SCH40)에 명시된 재질, 규격 및 시험에 합격하고 전제품이 미국 NSF(National Sanitation Foundation)에 승인된 제품으로 음용수, 식품 등 위생배관 및 화학 반도체, 상하수, 폐수 등 각종산업에 가장 널리 쓰이는 배관재이다.

특 성

1) 향상된 내열성(5℃~50℃)
2) 향상된 내충격성과 내후성
   기존의 PVC에 비해 월등히 향상된 내충격성과 내후성으로 장기간 사용가능
3) 뛰어난 유체흐름율 / 스케일 발생없고 우수한 내마모성
4) 뛰어난 전기절연성과 자기소화성
5) 미국 NSF에 승인된 무독의 위생 배관자재
6) 간편한 작업성으로 가장 경제적인 소재

적용분야

- 화학, 약품, 순수, 해수, 음용수, 관개, 환경 등
- 발전소(원자력, 화력), 반도체, 전자, PCB, 철강, 제련, 식품, 음료, 제지, 펄프, 제약, 농약, 병원, 양식, 오폐수 등등

UPVC

Physical Property	Metric units	Imperial units	Test Condition	Standard
Cell Classification	12454			ASTM D1784
Specific Gravity	1.35~1.40		23℃	ASTM D792
Tensile Strength	50 N/mm²	7,200 psi	23℃	ASTM D638
Flexural Strength	63 N/mm²	9,200 psi	23℃	ASTM D790
Modulus of Elasticity in Tension	2,758 N/mm²	400,000 psi	23℃	ASTM D638
Heat Defiection Temp	70℃	158℉	264psi, 23℃	ASTM D648
Softening Temp.(Vicat)	76℃	169℉	Loading 50 NN	ASTM D1525
Izod Impact (Notch)	40J/m	0.75ft-lb/in	23℃	ASTM D256
Coefficient of Thermal Expansion	6×10^{-5} cm/cm · ℃	3×10^{-5}in/in · ℉		ASTM D696
Flammability	V0			UL-94(Tested, not listed)
Maximum Operation Temperature	55℃	131℉		

Note : Data presented are typical values.

CPVC

PROPERTY	UNIT	Material Type VFC001	STANDARD
Tensile Strength (73℉/23℃) At yield(5mm/min)	Kg/cm², Psi	526 7,500	ASTM D 638
Tensile Modulus (73℉/23℃) (5mm/min)	Mpa psi	2786 40,4000	ASTM D 638
Elongation (5mm/min)	%	50	ASTM D 638
Specific Gravity	–	1.50	ASTM D 792
Izod Impact Strength (Notched)@73℉	ft-ibs/in	1.9	ASTM D 256
Heat Deflection under load 264 psi, 1/8" bar annealed	℃	102	ASTM D 648
Vicat softening, method(50N)	℃	103.0	ASTM D 1525
Flammability UL94		V0	ASTM D 635
Cell Classification		23447	ASTM D 1784

Sch.40
CLEAR PVC

Clear PVC Pipe Physical Properties

Mechanical Properties (기계적 특성)	Value		ASTM TEST
Specific Gravity (비중)	g/㎤	1.38±0.02	D-791
Color	Transparent		
Tensile Strength (인장강도 23℃) @ 73˚F	PSI	7,200	D-638
Tensile Modules of Elasticity (탄성계수 23℃) @ 73˚F	PSI	410,000	D-638
Compressive Strength (압축강도 23℃) @ 73˚F	PSI	9,100	D-695
Flexural Strength (굴곡강도 23℃) @ 73˚F	PSI	13,000	D-790
Izod Impact (Izod 충격강도 23℃) @ 73˚F	Ft-Lbs/In of Notch	0.6	D-256
Relative Hardness (상대경도 23℃) @ 73˚F	Rockwell "R"	87.0	D-785
ASTM Cell Classification ASTM 셀분류		12454-B	D-1784
Thermal Properties (열적 특성)	**Value**		**ASTM TEST**
Coefficient of Thermal Liner Expansion per ˚F (열내부 팽창계수 ˚F당)	in/in ˚F	3.8×10^{-5}	D-696
Maximum Operating Temperature (최대사용온도)	˚F	140	
Heat Distortion Temperature @264 PSI (열 변형온도)	˚F	158	D-648
Flammability Properties (가연성 특성)	**Value**		**ASTM TEST**
Average Time of Burning (평균연소시간)	sec.	〈 5	D-635
Average Extent of Burning (평균연소범위)	mm	〈 10	
Flame Spread Index (불꽃확산지수)		〈 10	E-162
Flame Spread (불꽃확산)	˚F	10-25	E-84
Flash Ignition 점화(연소)		730	
Smoke Developed 연기발생		600-1000	UL94
Flammability Rating 가연성 (0.62″)		V0	UL94
Material Carbonizes (재질탄화)	˚F	425	D-2863
Electrical Properties (전기적 특성)	**Value**		**ASTM TEST**
Dielectric Strength (절연강도)	VOLTS/MIL	1,400	D-147
Dielectric Constant (절연계수) 60Hz@30˚F		3.70	D-150
Power Factor (파워인자) 60Hz@30˚F	%	1.255	D-150
Specific Volume Resistivity (부피저항) 60Hz@30˚F	Ohm/CM	$3^{-5}\times10^{15}$	D-257

Clear PVC Sch.40 Pipe Dimension

Properties / Size(inch)	O.D.(mm)	Average I.D.(mm)	Min. Wall(mm)	Nom. (kg/m)	Max. W.P.PSI
1/2"	21.34	15.8	2.77	0.234	300
3/4"	26.67	20.93	2.87	0.312	240
1"	33.40	26.64	3.38	0.459	220
1-1/4"	42.16	35.04	3.56	0.62	180
1-1/2"	48.26	40.9	3.68	0.74	170
2"	60.32	52.5	3.91	0.992	140
2-1/2"	73.02	62.7	5.16	1.565	150
3"	88.9	77.92	5.49	2.051	130
4"	114.3	102.26	6.02	2.918	110
6"	168.28	154.28	7.0	5.31	90
8"	219.05	205.08	7.0	7.742	80
10"	273.05	257.05	8.0	9.592	70
12"	323.85	307.85	8.0	11.431	65

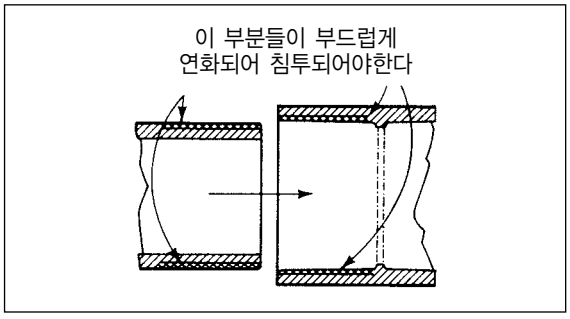
UPVC, CPVC 파이프, 핏팅의 솔벤트 접착

기본원칙

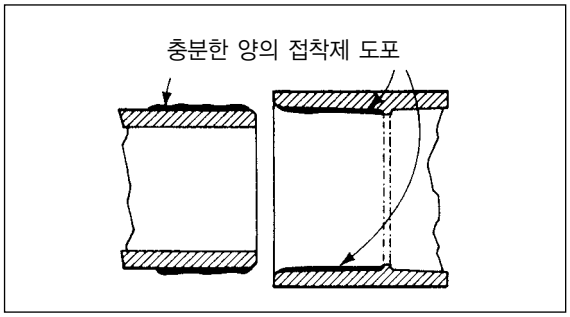
열가소성 파이프 및 부속의 연결에 있어서 솔벤트 접착연결은 최종적으로 아주 중요한 연결이 되며, 전체적인 시스템의 성공과 실패를 가늠할 수 있는 의미가 됩니다.
따라서, 전문적인 주의 및 관심이 요구됩니다. 성공적인 접착작업을 위해서는 아래의 사항이 충분히 숙지가 되어져야 합니다.

1. 접착면(Jointing surface)은 부드러운 상태(dissolved and made it semi-fluid)로 유지 되어져야 합니다.
2. 파이프와 연결구(Fittings)사이에 충분한 접착제가 도포되어 사이를 채워야 합니다.
3. 파이프와 연결구 표면에 젖어있고, 유동 상태에 있을동안 접합작업이 이루어져야 합니다.
4. 접착강도는 접착제가 건조되면서 발생합니다. 빡빡한 접착부위는 표면이 함께 용융(fuse)되며, 느슨한 부위는 접착제가 양면에 접착하게 됩니다.

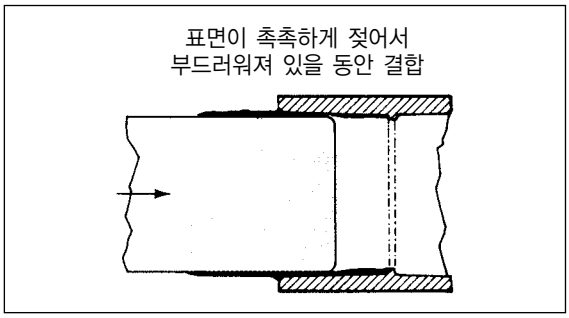
침투작용(Penetration) 및 표면용융작용(Dissolving)은 알맞은 프라이머(Primer)의 도포 또는 프라이머 및 접착제(Cement)의 도포로 일어납니다. 알맞은 프라이머의 사용은 접착제 단독사용보다 프라스틱에 더 빨리 침투해서 용융작용을 일으키게 됩니다.



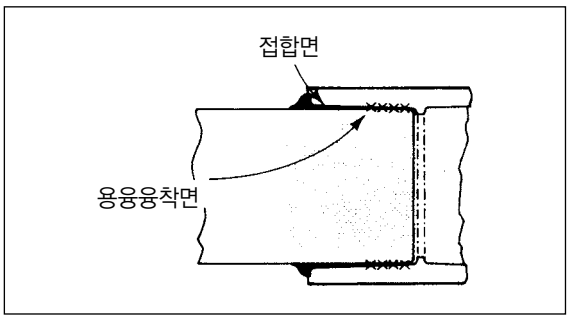
접착제면이 느슨한 부위는 충분한 양의 접착제가 도포되어야 합니다. 이 느슨한 부위를 채우는 기능 이외에 알맞은 접착층이 표면을 침투해서 연결부위가 접합될 때까지 젖은 상태로 남아있게 되기 때문입니다.



조립 작업시 파이프와 연결구 표면의 접착제 코팅면이 젖어 있어서 유동상태일 경우, 이들 파이프 및 연결구는 함께 움직여 하나의 접착층을 형성하게 됩니다. 또한, 접착제가 젖은 상태이면, 그 아래표면은 아직 부드러운 상태로 있게되며, 접합부의 빡빡한 부분은 함께 용융되기 쉽게 됩니다.



솔벤트가 증발함에 따라, 접착제층과 용융된 표면은 접합강도의 증가에 따라 단단하게 됩니다. 이상적으로 진행된 접합은 연결부위가 완전히 마르기 전에 사용압력을 갖게 되며 최종적인 강도는 느슨한(접착된) 부위보다 더 빨리 발휘하게 됩니다.



연결작업

■절단

적절한 공구로 파이프를 가능한 직각으로 절단합니다. 이러한 직각절단으로, 최대한의 접착부위를 확보할 수 있습니다. 공구는 프라스틱 파이프 절단용 이어야 합니다.

■디버링 / 챔퍼링 (Deburring and Chamfering)

프라스틱 디버링 공구 또는 줄을 이용해서 파이프 끝부분, 절단면의 까칠까칠한 잔여물을 제거합니다. (파이프의 외부 및 내부의 잔여물을 같이 제거 해야 합니다)

또한, 10-15° 정도의 각도로 파이프 끝부분을 배벨링(Bevelling / Chamfering)해서, 파이프의 삽입이 부드럽게 되도록 하여야 합니다. 이 작업이 바르지 못하면 연결구(Fittings)에 있는 접착제를 밀어내게 되어, 연결 부위의 리크(Leak)로 이어질 수 있습니다.

■접합준비

파이프 또는 연결구에 묻어 있는 먼지, 수분 등을 깨끗하고 마른 걸레를 이용 닦아 냅니다, 습기는 경화시간을 느리게하며, 조립단계에서 과도한 수분은 접착강도를 떨어뜨릴 수 있습니다. 접착제를 바르지 않은 상태에서 파이프 및 연결구를 연결해서 체크 해 봅니다, 이때 파이프는 소켓 연결구 깊이의 1/4-3/4 정도까지 쉽게 삽입이 되어야 합니다, 삽입시, 느껴지는 방해 정도에 따라서 접합 작업시 접착제의 양을 조절 해야 합니다. 연결구의 소켓 길이를 재서 파이프 위에 표시를 합니다. (실제작업시 이 표시가 접착

제의 침투로 지워 질 경우를 대비, 2인치(5cm)정도의 거리를 두고 두번째 표시를 해두도록 권장합니다. 이 두번째의 표시로 확실한 삽입의 결과를 확인 할 수 있습니다.)

■프라이머도포

프라이머 도포 작업은 접착할 부위의 접착제의 추가적인 도포 및 그에 따른 조립작업을 위해서 필요한 작업입니다. 적합한 도구(Applicator)를 사용하는 것이 중요합니다. 파이프 직경의 반정도 크기의 손잡이가 달린 도구(Dauber, Swab) 칠붓 또는 천연모 브로쉬를 사용해서 파이프와 연결구에 모두 칠해져야하며, 양쪽표면 (파이프 끝단 외면, 연결구 내면) 이 모두 끈적끈적(Sticky)해 질 때까지 필요하면 칠붓이나 도구를 프라이머에 다시 담궜다가 반복 작업을 해야 합니다. 융단이나 바닥깔게(Rug)같은 것으로 도포 작업을 해서는 안됩니다.

■솔벤트 접착제 도포

솔벤트 접착제는 항상 잘 섞여 있어야 합니다. 따라서 주기적으로 접착제 뚜껑을 덮고 잘 흔들어서, 항상 균일하게 혼합이 되어져 있도록 하여야 합니다, 접착제를 프라이머가 젖어 있는 동안 연결구 소켓의 깊이 보다 조금더 넓고 깊게 파이프 표면에 신속하고 균일하게 도포합니다.
6"이상, (4"의 경우는 상온보다 높은 기후에서) 작업은 두 사람이 동시에 파이프 및 연결구에 프라이머를 도포해서 피접착면이 아직 프라이머로 젖어 있는 동안 접착제를 칠하기를 권고합니다. Bell end 파이프의 경우는 너무 많은 접착제를 연결구 소켓에 도포하지 않도록 주의하여야 합니다.

■조립

신속하게 파이프를 연결구 소켓에 1/4 바퀴정도 회전 시키면서 삽입합니다. 이는 균일하게 접착제를 분산시키기 위함입니다. 파이프가 소켓 끝 부분에 다다른 후에는 회전을 시켜서는 안됩니다(기계를 이용해서 삽입할 경우는 1/4 바퀴회전은 불가능함). 이상적인 접착조립에서는 연결구 소켓과 파이프 이음새 부분에 명확하고 연속적인 비드(Bead)를 형성합니다. 만일 이 비드가 연속적이지 않다면 충분한 양의 접착제가 도포되지 않음을 의미합니다. 이러한 경우에는 접합부를 절단, 폐기하고 다시 작업을 하여야 하며, 너무 많은 접착제의 도포로 생긴 비드의 경우는 헝겊 등으로 닦아 냅니다. 연결구 소켓의 경우는 솔벤트 접착제가 자리를 잡는 동안 뒤로 밀려 미끄러지는 경향이 있어서, 조립된 부품(파이프, 연결구)을 약 30초 동안 그 상태를 유지하도록 꼭 잡고 있어야 합니다.
4인치 이상의 파이프에서는(4인치 포함) 더 큰 압축력(Axial Forces)이 필요하므로, 기계적인 도구를 이용하여 조립해서 접착제가 안착 할 때까지 연결부위를 잡고 있을 필요가 있습니다. (3분 이상 단단히 유지하여야 하며, 압력테스트의 경우는 적어도 24시간 경과 후에 하여야 합니다. 추운 날씨에서는 장시간이 지나야 합니다.)

■주의

조립부위는 접합한 후 바로 다루어서는 안됩니다. 그 부위가 완전히 경화되기 위해 충분한 시간이 주어져야 합니다. 정확한 경화시간, 안정화 시간 등은 온도, 습도, 접착제 종류 등에 따라 달라질 수 있으므로 더 자세한 내용은 폐사에 문의하시기 바랍니다.

Applicable Standards

ASTM D1784	Standard Specification for Rigid Polyvinyl Chloride(PVC) and Chlorinated Polyvinyl Chloride(CPVC) Compounds.
ASTM D1785	Standard Specification for Polyvinyl Chloride(PVC) Plastic Pipe, Schedule 40 and 80.
ASTM F441	Standard Specification for Chlorinated Polyvinyl Chloride (CPVC) Plastic Pipe, Schedule 40 and 80.
ASTM D2464	Standard Specification for Threaded Polyvinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80.
ASTM F437	Standard Specification for Threaded Chlorinated Polyvinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.
ASTM D2466	Standard Specification for Socket-type Polyvinyl Chloride(PVC) Plastic Pipe Fittings, Schedule 40.
ASTM F438	Standard Specification for Socket-type Chlorinated Polyvinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 40.
ASTM D2467	Standard Specification for Socket-type Polyvinyl Chloride(PVC) Plastic Pipe Fittings, Schedule 80.
ASTM F439	Standard Specification for Socket-type Chlorinated Polyvinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.
ASTM F402	Standard Practice for Safe Handling of Solvent Cement and Primer Used for Joining Thermoplastic Pipe and Fittings.
ASTM D2564	Standard Specification for Solvent Cement for Polyvinyl Chloride(PVC) Plastic Pipe and Fittings.
ASTM F493	Standard Specification for Solvent Cement for Chlorinated Polyvinyl Chloride (CPVC) Plastic Pipe and Fittings.
ASTM F656	Standard Specification for Primer Used in Solvent Cement Joints of Polyvinyl Chloride(PVC) Plastc Pipe and Fittings.
ASTM D2855	Standard Specification for Making Solvent-Cemented joints with Polyvinyl Chloride(PVC) Pipe and Fittings.
ASTM F1498	Standard Specification for Polyvinyl Chloride(PVC) Tapered Threads Schedule 80.
ASTM D2672	Standard Specification for Polyvinyl Chloride(PVC) Tapered Sockets for Bell End Pipe Schedule 80.
ASTM F1970	Standard Specification for Polyvinyl Chloride(PVC) Unions & Flanges Schedule 80.
ASTM B16.5	Outside Diameter & Flanges Bolt Hole Patterns
ASTM B1.20.1	Polyvinyl Chloride(PVC) NPT Threads Schedule 80
ASTM B137.3	Chlorinated Polyvinyl Chloride(CPVC) Pipe(1-1/4″~1-1/2″ only)Schedule 80
National Sanitation Foundation NSF Standard 14/16	Plastic Piping Components and Related materials.
ANSI	American National Standard Institute
ASTM	American Society for Testing and Materials
ASME	American Society of Mechanical Engineers
API	American Petroleum Institute

PRODUCTS PROPERTIES

An experienced manufacturer specializing in Plastic Valves and Pipe Fittings

● REFERENCE RANGE OF TEMPERATURE

Material		Polyvinyl Chloride	Chlorinated Polyvinyl Chloride
Abbreviation		UPVC	CPVC
General chemical resistance		Resistant against most of acids, alkalis and salts of high to low concentration level. However, the material tends to be attacked by some chemicals-such as aromatic hydrocarbon, ketones, esters and chlorinated hydrocarbon.	Resistance properties are nearly the same as PVC. Having a high heat-resistance, this is service-able in the temperature range higher than the former's.
Max. Service temperature	Continuous	5°~50℃	0°~90℃
	Short hours	60℃	100℃

Polypropylene	Poly Vinylidene Fluoride	Ethylene Propylene Rubber	Polytetra-fluoroethylene (Trade name, Teflon®)	Fluororubber (Trade name Viton®)
PP	PVDF	EPDM	PTFE	FPM
Not stable against strong acids such as concentrated nitric acid and chrome acid mixture, but this is resistant against other acids, alkalis and salts. Resistant against many organic solvents(specifically the solvent with active group), but tends to be attacked by chlorine-containing solvents, aliphatic series and aromatic hydro-carbon.	Highly resistant up to a high temperature range against ordinary acids & salts and organic chemicals, but broken down by fuming sulfuric acid and strong basic amines. Also, the use conditions with ketone, amide, ester, organic solvent and alkali are limited.	Provided with an excellent ozone-resistance and chemical-resistance. Comparatively resistant against ketone and ester, but less resistant against aromatic & alphatic families, and gasoline and oil.	Resistant against ordinary acid and alkali, and not dissolved nor changed by ordinary solvent medium. Attacked by melted alkali metal and in a high temperature, by fluorine and chlorine trifluoride.	Most chemical-resistant among all rubber families. Has a good resistance against strong oxidizing acid such as concentrated sulfric acid and nitric acid; resistant against aliphatic and aromatic families and oils, but attacked by ketones, ammonia anhydride, concentrated caustic soda, etc.
0˚~80℃	-20˚~120℃	-10˚~130℃	-20˚~250℃	-5˚~150℃
90℃	130℃	150℃	300℃	200℃

● CHEMICAL RESISTANCE OF MATERIAL

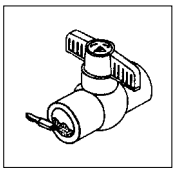
Chemicals	Concent-ration (%)	Tempe-rature (℃)	Material						
			PVC	CPVC	PP	PVDF	PTFE	EPDM	FPM
Sodium chloride ($NaClO_2$)	Saturated Water Solution	40	◎	◎	◎	◎	◎	◎	◎
		60	◎	◎	◎	◎	◎	◎	◎
		80		◎	◎	◎	◎	◎	◎
Hydrochloric acid (HCl)	37	40	◎	◎	◎	◎	◎	○	○
		60	○	◎	◎	◎	◎	×	×
		80		○	○	◎	◎		
Caustic soda (NaOH)	50	40	◎	◎	◎	○	◎	◎	×
		60	◎	◎	◎	×	◎	◎	
		80		◎	○	×	◎	△	
Chromic acid (H_2CrO_4)	20	40	◎	○		◎	◎		○
		60	○	△		◎	◎		○
		80				◎	◎		△
Acetic acid (CH_3COOH)	50	40	◎	○	◎	◎	◎		×
		60	○	△	◎	◎	◎		
		80		×		○	◎		
Soda hypochlorite (NaOCl)	13	40	◎	◎	△	◎	◎		
		60	○	○		○	◎		
		80							
Nitric acid (HNO_3)	50	40	○	○	○	◎	◎		○
		60	○	△	△	◎	◎		△
		80		×	×	◎	◎		×
Toluene ($C_6H_5CH_3$)		40			△	◎	◎		
		60			×	○	◎		
		80				○	◎		
Hydrogen sulfide (H_2S)	Aqueous Solution	40	◎	◎	◎	◎	◎	◎	◎
		60	◎	◎	◎	◎	◎	◎	○
		80		◎	◎	◎	◎	◎	
Sulfuric acid (H_2SO_4)	90	40	○	◎	◎	◎	◎	○	◎
		60	○	○	○	◎	◎	△	◎
		80		△	○	◎	◎	×	○

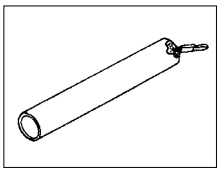
◎ Not affected △ Slightly affected but serviceable
○ Negligibly affected × Not serviceable

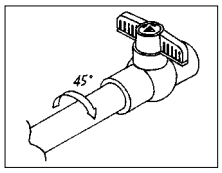
● BASIC PROPERTIES OF PLASTICS

Item	Unit	Rigid PVC (UPVC)	Heat-resistant (CPVC)	polypro-pylene (PP)	Vinylidene fluoride (PVDF)
Specific gravity	-	1.40	1.55	0.92	1.77
Tensile strength	kgf/㎠	480 and over	500 and over	250 and over	500 and over
Tensile strength (at 90℃)	kgf/㎠	-	250 and over	150 and over	250 and over
Tensile Modulus	kgf/㎠	3×10^4	3.2×10^4	1.2×10^4	1.5×10^4
Bending strength	kgf/㎠	800 and over	900 and over	250 and over	660 and over
Poisson's ratio	-	0.38	0.38	0.44	0.28
Heat distortion temperature (4.6kg f/W)	℃	74	110	105	145
Temperature limit for continuous service	℃	50	90	80	120
Linear thermal coefficient of expension	/℃	7×10^{-5}	7×10^{-5}	12×10^{-5}	12×10^{-5}
Thermal conductivity	kcal/mh℃	0.13	0.12	0.10	0.11

● GENERAL INSTALLATION INSTRUCTION







1. Apply sufficient cement on the inner wall of valve and outside wall of pipe, please do not apply too much cement, for it may obstruct the fluid flowing in the valve.
2. Immediately join the valve and pipe while the surfaces are still wet, and turn 45˚. Hold the valve and pipe together for approximately 10 seconds.
3. As our compact ball valves are NSF certified products, we recommend to use NSF certified cement only.

PLASTIC SHEET

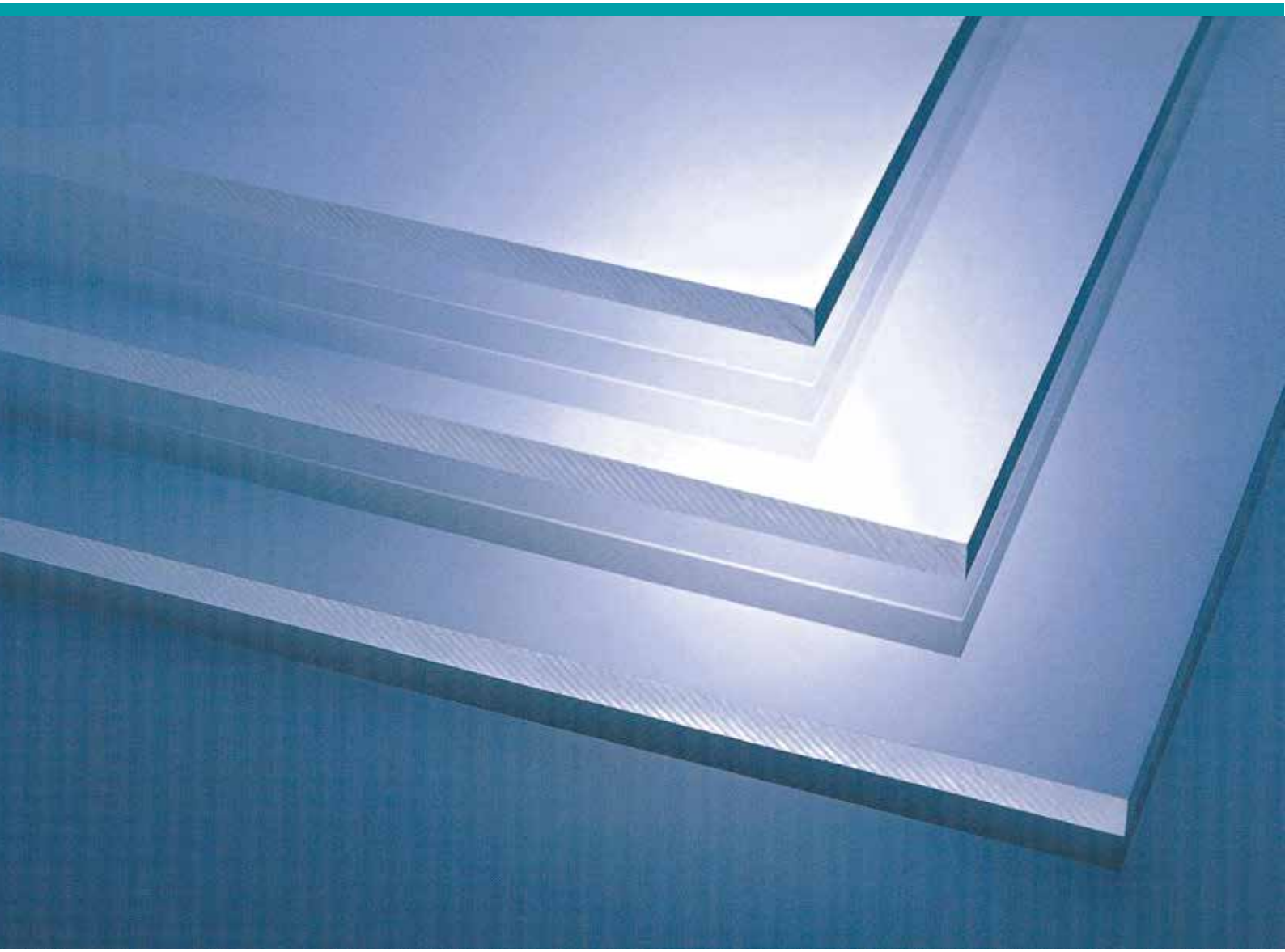
각종 PLASTIC SHEET

- PVC RIGID SHEET (투명판, 공업용 회색판 · 아이보리판 · 청색판)
- PVC SOFT SHEET (공업용 연질시트)
- CPVC SHEET (내열성 CPVC 판)
- PP · PVDF SHEET
- HD-PE SHEET
- 비닐커텐

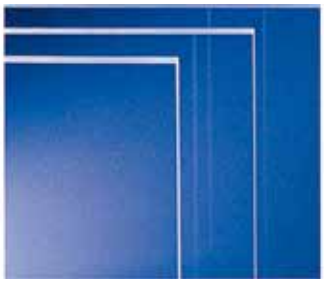
PVC 투명판 물성표

제품타입		PVC 투명판				
세부명세		3~20MM 1000MM×2000MM (또는 1220MM×2440MM)				
비중		1.381				
제품명		표준	결 과 수 치			
			3MM	5MM	8MM	10MM
인장강도		500kg/㎠↑	685	688	686	687
IZOD 충격강도		2kg-cm/㎠	3.3	3.2	3.1	3.0
HDT 온도		58℃↑	60.4	60.4	60.6	60.5
연소저항 (Flammability Resistance)		자기소화성	좌동	좌동	좌동	좌동
100℃에서 열수축	CD	±4%↓	+0.88	+0.72	+0.53	+0.50
	MD	±4%↓	-1.73	-1.61	-0.99	-0.95
순수 (Pure Water)		±2.0g/㎡	+0.40	+0.41	+0.38	+0.42
10%Nacl		±2.0g/㎡	+0.35	+0.38	+0.45	+0.39
30%H_2SO_4		±2.0g/㎡	+0.42	+0.39	+0.43	+0.35
40%H_2NO_3		±2.0g/㎡	+0.40	+0.45	+0.42	+0.42
35%Hel		±2.0g/㎡	+0.41	+0.43	+0.41	+0.41
40%NaOH		±2.0g/㎡	-0.43	-0.40	-0.43	-0.43
휨 (Warp)		3.0mm↓	1	2	2	2
편차 (Deflection)		5.0mm↓	2	2	2	2
길이		2440 + 7 ; -0mm	2446	2445	2445	2445
폭		1220 + 3 ; -0mm	1222	1222	1222	1222
두께		4mm↑±3%;3mm±5%	3.02	5.01	8.01	10.03
WARM WATER LOSE HAZE VALUE		5%↓	2.2	3.3	4.7	4.9
해이즈 수치(%)		-	1.42	2.78	4.28	4.72
투과율(%)		-	84.90	79.54	72.40	68.99
난연성		UL94-V0				
결과		OK				

ANTI-STATIC PLATE







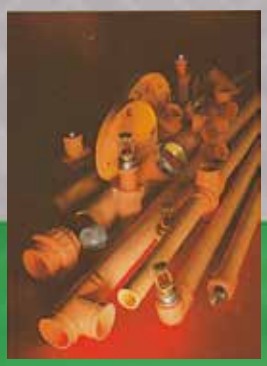
- PVC Antistatic
- Polycarbonate Antistatic
- PMMA Antistatic
- PET Antistatic

각종 플라스틱 대전방지판 물성표

구 분	시 험 항 목	단 위	측 정 치				시 험 방 법
			A-Pet	PC	Acryl	PVC	
물리적 성질	비중	-	1.34	1.2	1.19	1.4	ASTM D-792
	흡수율	%	0.01	0.1	0.3	0.01	ASTM D-570
	연필경도	-	2H	2H	3H~4H	H~2H	JIS K5400
	도막밀착강도	-	100/100	100/100	100/100	100/100	JIS K5400
기계적 성질	인장강도	kgf/㎠	600~650	600~700	560~670	650	ASTM D-638
	충격강도 (IZOD)	kgfcm/㎠	6	6	2	6	ASTM D-256
열적 성질	연소성 (A법)	-	난연성	난연성(V-2)	자기연소성 HB	난연성 UL-94V-0	UL-94
전기적 성질	표면저항	Ω/□	10^6~10^8	10^6~10^8	10^6~10^8	10^6~10^8	ASTM D-257
	제전성	Sec	0.1이하	0.1이하	0.1이하	0.1이하	MIL B-81705B
내약품성	아세톤 CH_2COCH_3(50%)	-	PASS	PASS	PASS	PASS	25℃ 30초 DIPPING TEST
	메탄올 CH_4O(50%)	-	PASS	PASS	PASS	PASS	25℃ 30초 DIPPING TEST
	이염화메칠렌 CH_2C_{12}(50%)	-	PASS	NO	NO	PASS	25℃ 30초 DIPPING TEST
	황산 H_2SO_4(30%)	-	PASS	NO	NO	PASS	25℃ 30초 DIPPING TEST
	수산화나트륨 NAOH(30%)	-	PASS	NO	NO	PASS	25℃ 30초 DIPPING TEST

SCH 40/80 CPVC
Superior Water
Distribution System
CPVC순수정수배관시스템

SCH 40/80 CPVC
Advanced Industrial System
CPVC공업배관시스템



SDR13.5 CPVC
High Performance
Fire Sprinkler System
CPVC고효율소방배관시스템

SCH 40/80 UPVC
Piping System
UPVC 공업배관시스템
ASTM 규격, ANSI 규격

SCH 40 Clear PVC
Piping System
PVC투명배관시스템

ANSI 150#, JIS 10K, DIN PN10
UPVC Piping System
UPVC공업배관시스템

CPVC FM4910,
투명 PVC
Static control Plate
각종 플라스틱판

CPVC/PVC-MI CABLE TRAYS
CPVC/PVC-MI FM 4910

IPC (株)壹興프라스틱

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각종 플라스틱 밸브, 파이프, 피팅, 시트 외 (UPVC · CPVC · PP · PVDF)등
KS (JIS), ANSI, DIN, SCH80, SCH40
수입품(미국, 일본, 대만, 중국, 오스트리아 외)