



Type-21/21A Ball Valve

Standard Features (Sizes 1/2" – 6")

- Pressure rated up to 230psi (PVC, CPVC, PVDF)
- Double O-ring seals on stem for added protection
- Full bore, sizes 1/2" – 2"
- Full vacuum rated, all sizes
- Blocks in two directions, upstream and downstream, leaving full pressure on the opposite end of the valve
- Integrally molded ISO mounting pad for both manual and actuated operations
- Integrally molded base pad to mount valves securely on panel mounting
- PTFE seats with elastomeric backing cushions ensure bubble tight shut-off and a low fixed torque, while at the same time compensating for wear
- True union design for easier installation or repairs without expanding the pipe system
- Built-in spanner wrench on the handle for valve disassembly and assembly
- Two sets of end connectors (socket and threaded) included with all PVC and CPVC valves in sizes 1/2" – 2"
- CPVC threaded end connectors on sizes 1/2" – 1" come with stainless steel reinforcing rings
- New PTFE seat design – Facilitates easier field maintenance if required
- Tapered O-ring groove – Helps to keep the end connector O-rings on the valve body during installation
- Body flats – Flats have been added to either side of the valve body where a wrench can be applied to prevent the valve body from turning when the union nuts are tightened
- 1/2 - 2 " PVC and CPVC T-21A design

Options

- Pneumatic and electric actuators and accessories
- Stem extensions
- 2" square operating nut or "T" nut
- Locking handles
- Limit switches
- Vented ball

Specifications

Sizes: 1/2" – 6"
Models: PVC & CPVC: Socket, Threaded and Flanged (ANSI)
 PP & PVDF: IPS and Metric (DIN)
 Socket, Threaded, Butt and Flanged (ANSI)
Bodies: PVC, CPVC, PP and PVDF
Seats: PTFE backed with EPDM or FKM
Seals: EPDM or FKM or AFLAS[®] †
Sizes 1/2" - 4" PVC/EPDM/FKM Models
1/2"- 4" CPVC/EPDM/FKM Models
NSF-61 Certified

† Trademark of Asahi Glass Co., Ltd.

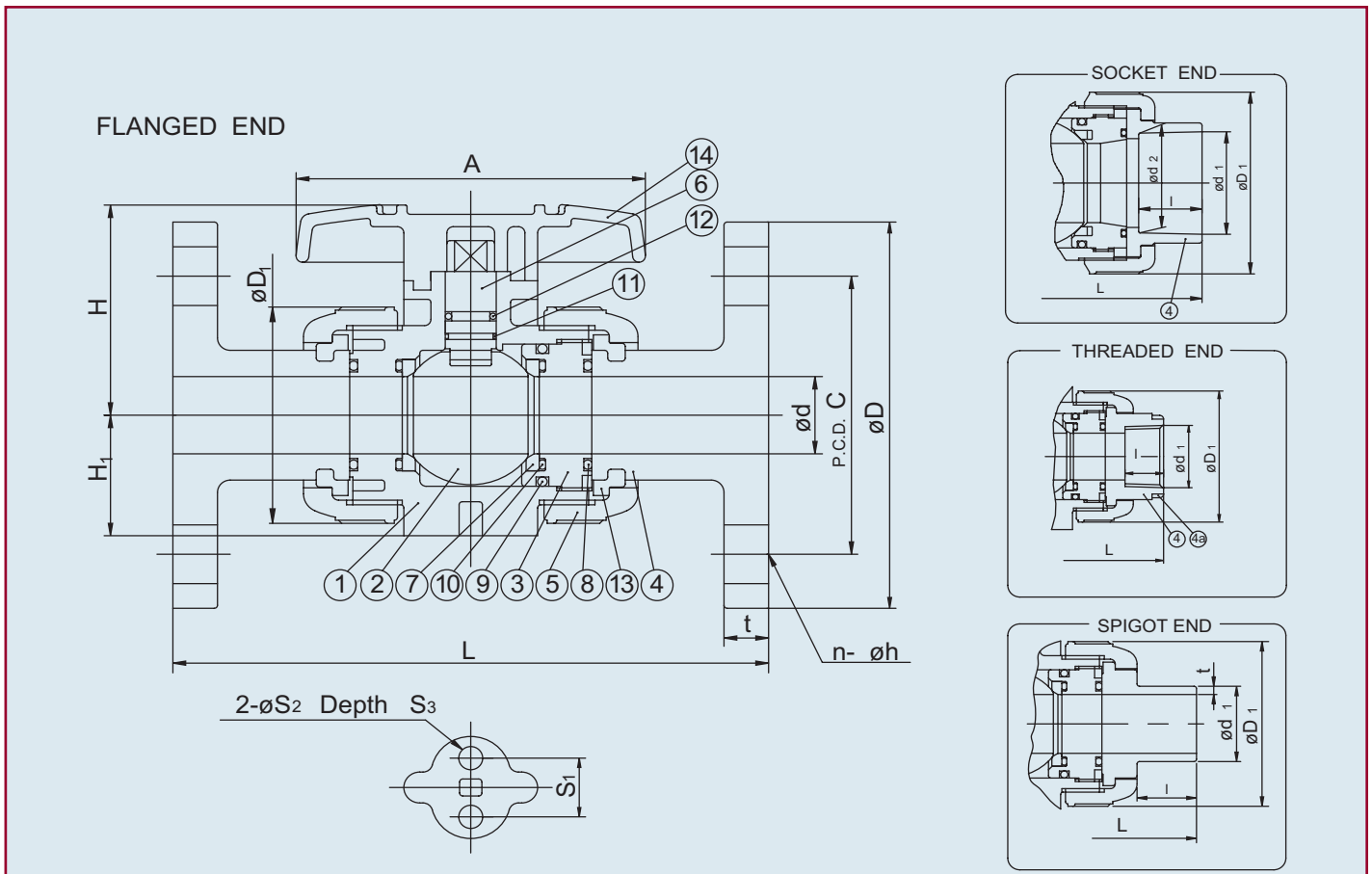
Parts List (Sizes 1/2" – 2")

PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, CPVC, PP, PVDF
2	Ball	1	PVC, CPVC, PP, PVDF
3	Carrier	1	PVC, CPVC, PP, PVDF
4	End Connector	2	PVC, CPVC, PP, PVDF
5	Union Nut	2	PVC, CPVC, PP, PVDF
6	Stem	1	PVC, CPVC, PP, PVDF
7	Seat	2	PTFE
8	O-Ring (A)	2	EPDM, FKM, Others
9	O-Ring (B)	1	EPDM, FKM, Others
10	O-Ring (C)	2	EPDM, FKM, Others
11	O-Ring (D)	1	EPDM, FKM, Others
12	O-Ring (E)	1	EPDM, FKM, Others
13	Stop Ring*	2	PVDF
14	Handle	1	ABS
4a	Ring**	2	304 Stainless Steel

* Used for flanged end.

** Used for CPVC body, threaded end, 1/2"-1".





Dimensions (Sizes 1/2" - 2") (in.)

NOMINAL SIZE		FLANGED							SOCKET										
		ANSI CLASS 150							PVC, CPVC				PP, PVDF (DIN)				PP, PVDF (IPS)		
		d	D	C	n	h	L	t	ASTM SCH 80				DIN 16962				d1	l	L
INCHES	mm							d1	d2	l	L	d1	d2	l	L	d1	l	L	
1/2	15	0.59	3.50	2.38	4	0.62	5.63	0.47	0.848	0.836	0.875	4.45	0.768	0.760	0.57	3.90	0.83	0.87	4.45
3/4	20	0.79	3.88	2.75	4	0.62	6.77	0.55	1.058	1.046	1.000	5.08	0.965	0.957	0.63	4.45	1.03	1.00	5.08
1	25	0.98	4.25	3.12	4	0.62	7.36	0.55	1.325	1.310	1.125	5.75	1.240	1.232	0.71	4.84	1.30	1.13	5.75
1-1/4	32	1.26	4.62	3.50	4	0.62	7.48	0.63	1.670	1.655	1.250	6.46	1.553	1.543	0.81	5.47	1.65	1.25	6.46
1-1/2	40	1.57	5.00	3.88	4	0.62	8.35	0.63	1.912	1.894	1.375	7.24	1.947	1.937	0.93	5.87	1.89	1.37	7.24
2	50	2.01	6.00	4.75	4	0.75	9.21	0.63	2.387	2.369	1.500	8.23	2.461	2.445	1.08	6.93	2.36	1.50	8.23

NOMINAL SIZE		THREADED			SPIGOT (BUTT END)												
					PP, PVDF												
					DIN 3442		PP	PVDF									
INCHES	mm	d1	l	L	d1	l	t	t	L	D1	H	H1	A	S1	S2	S3	
1/2	15	1/2 - 14 NPT	0.59	4.02	0.787	0.728	0.098	0.075	4.882	1.89	2.03	1.14	3.62	0.75	0.29	0.43	
3/4	20	3/4 - 14 NPT	0.67	4.72	0.984	0.866	0.106	0.075	5.669	2.36	2.34	1.38	3.94	0.75	0.29	0.43	
1	25	1 - 11-1/2 NPT	0.79	5.16	1.260	0.886	0.118	0.094	6.063	2.76	2.68	1.54	4.33	0.75	0.29	0.43	
1-1/4	32	1-1/4 - 11-1/2 NPT	0.87	5.91	1.575	1.024	0.146	0.094	6.850	3.23	3.17	1.85	4.76	1.18	0.35	0.59	
1-1/2	40	1-1/2 - 11-1/2 NPT	0.98	6.42	1.968	1.260	0.181	0.118	7.638	3.94	3.50	2.17	5.16	1.18	0.35	0.59	
2	50	2 - 11-1/2 NPT	1.10	7.76	2.480	1.417	0.228	0.118	8.819	4.96	4.04	2.60	6.26	1.18	0.35	0.59	

Note: The shape and appearance of assembly differ a little with nominal size compared to this drawing.

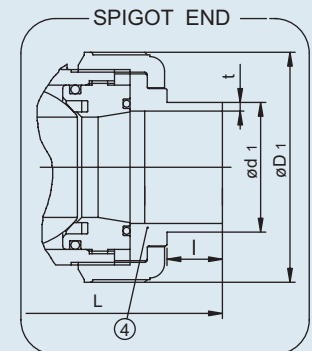
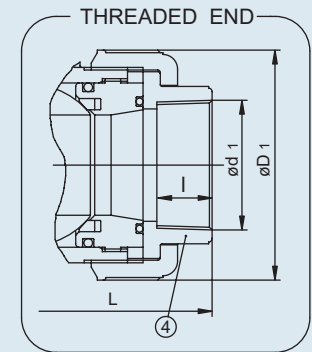
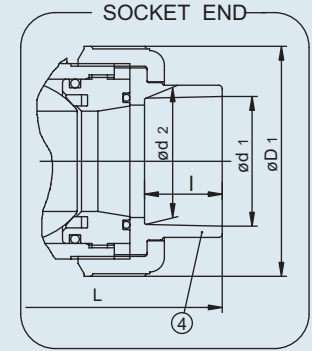
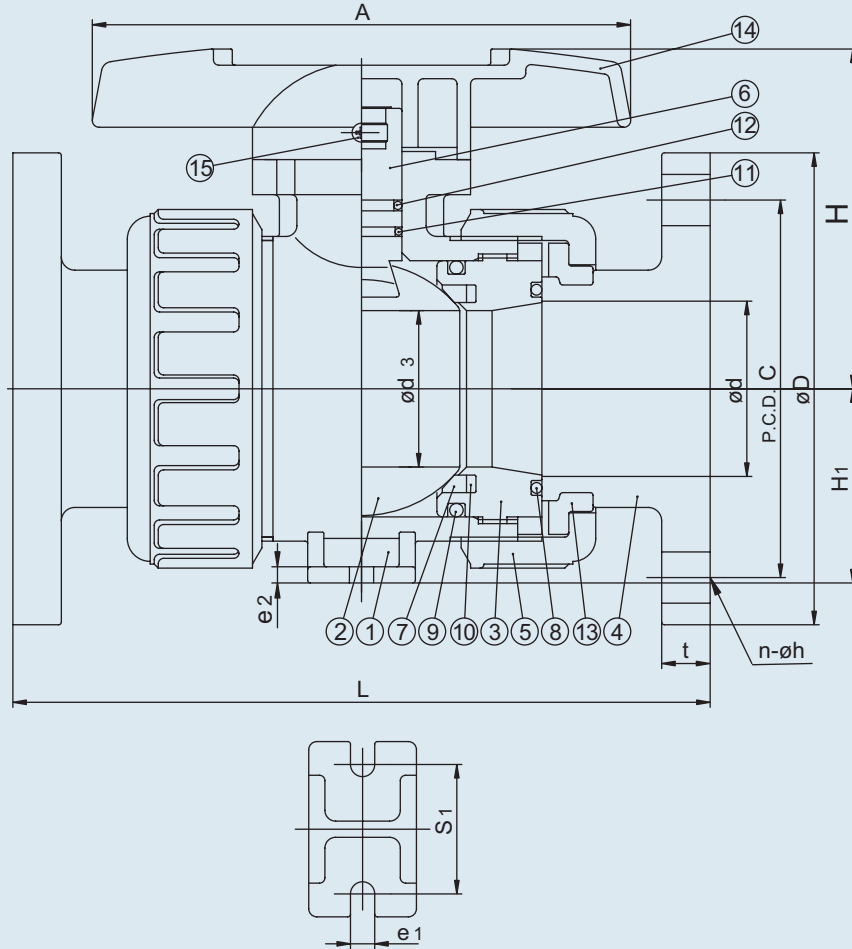
Type-21/21A

Ball Valves

FLANGED END

PARTS (Different Numbers from 1/2"-2")			
NO.	Description	PCS	MATERIAL
10	Cushion	2	EPDM, FKM, Others
15	Screw	1	304 Stainless Steel

NOTE: Quantity on Nos. 3 and 9 (see p. 6) is 2.



Dimensions (Sizes 2-1/2" - 4") (in.) For 6" size consult factory.

NOMINAL SIZE		FLANGED										SOCKET													
		ANSI CLASS 150										PVC, CPVC				PP, PVDF (DIN)				PP, PVDF (IPS)					
		L					PVC, CPVC					ASTM SCH 80				DIN 16962				PP, PVDF					
INCHES	mm	d	D	C	n	h	CPVC	PP	PVDF	t	d1	d2	l	L	d1	d2	l	L	L	L	L	d1	l	L	L
2-1/2	65	2.56	7.0	5.5	4	0.75	10.20	10.12	10.08	0.71	2.889	2.868	1.750	9.45	2.923	2.911	1.22	8.07	8.03	2.88	1.752	9.37	9.33		
3	80	3.07	7.5	6.0	4	0.75	12.05	12.07	11.89	0.71	3.516	3.492	1.875	11.14	3.512	3.498	1.40	9.92	9.80	3.48	1.874	11.10	10.28		
4	100	3.94	9.0	7.5	8	0.75	14.72	14.72	14.53	0.71	4.518	4.491	2.000	13.89	4.293	4.278	1.63	12.28	12.09	4.48	2.252	14.37	14.13		

NOMINAL SIZE		THREADED						SPIGOT (BUTT END)												
		L						PP, PVDF												
		PVC CPVC		PP	PVDF	DIN 3442		PP	PVDF	PP	PVDF									
INCHES	mm	d1	l	d1	l	t	t	L	L	d3	D1	H	H1	A	e1	e2	S1			
2-1/2	65	2-1/2-8NPT	1.26	8.46	8.39	8.35	2.953	1.496	0.272	0.142	9.648	9.606	2.28	5.24	4.96	2.83	7.87	0.35	0.24	1.89
3	80	3-8NPT	1.38	10.43	10.39	10.28	3.543	1.496	0.323	0.169	11.654	11.535	2.70	5.98	5.51	3.35	9.45	0.43	0.28	2.17
4	100	4-8NPT	1.77	14.25	14.25	14.06	4.331	1.752	0.394	0.209	13.978	13.779	3.54	8.27	7.01	4.33	11.81	0.43	0.31	2.56

Note: The shape and appearance of assembly differ a little with nominal size compared to this drawing.

Pressure vs. Temperature (psi, water, non-shock)

NOMINAL SIZE		PVC				CPVC						PP				PVDF				
		30° F 70° F	71° F 105° F	106° F 120° F	121° F 140° F	30° F 70° F	71° F 105° F	106° F 120° F	121° F 140° F	141° F 175° F	176° F 195° F	- 5° F 85° F	86° F 120° F	121° F 140° F	141° F 175° F	- 5° F 70° F	71° F 105° F	106° F 140° F	141° F 175° F	176° F 210° F
INCHES	mm																			
1/2-2	15-50	230	170	150	30	230	170	150	120	75	55	150	110	90	55	230	185	150	115	85
2-1/2	65	230	170	150	NA	230	170	150	120	75	55	150	95	70	40	230	185	150	115	85
3	80	230	170	150	NA	230	170	150	85	55	40	150	95	70	40	230	185	150	100	70
4-6	100-150	150	150	150	NA	150	150	150	85	55	40	150	95	70	40	150	150	150	100	70

Sample Specification

All Type-21/21A ball valves, sizes 1/2" to 4", shall be of true union design with two-way blocking capability. All O-rings shall be EPDM or FKM with PTFE seats. PTFE seats shall have elastomeric backing cushion of the same material as the valve seals. Stem shall have double O-rings and be of blowout-proof design. The valve handle shall double as carrier removal and/or tightening tool. ISO mounting pad shall be integrally molded to valve body for actuation. PVC conforming to ASTM D1784 Cell Classification 12454A, CPVC conforming to ASTM D1784 Cell Classification 23567-A, PP conforming to ASTM D4101 Cell Classification PP0210B67272 and PVDF conforming to ASTM D3222 Cell Classification Type II. The ball valves, except PP, shall have a pressure rating of 230psi for sizes 1/2" to 3" and 150psi for 4" (150psi for PP, all sizes) at 70° F. Type-21/21A ball valves must carry a two year guarantee, as manufactured by Asahi/America, Inc.

Caution

- Do not use ball valves where media has suspended particles. Use the following valves:
 - Butterfly valves – PVDF disc is most abrasion resistant. Make sure of chemical compatibility.
 - Diaphragm valves – Elastomeric diaphragm is designed for handling suspended particles.
- Volatile fluids such as sodium hypochlorite (NaClO) and hydrogen peroxide (H₂O₂) could be trapped and gasified within the valve. We can provide you with a Type-21 ball valve with a vented ball to relieve pressure build-up inside the valve.

Troubleshooting

What if the fluid still flows when valve is closed?

1. Carrier is not properly tightened. Tighten it.
2. PTFE seat is damaged or worn. Replace seat.
3. Foreign material is caught between ball and PTFE seat. Remove material and clean.
4. Ball is damaged or worn. Change ball.

What if fluid leaks outside of valve?

1. Union nut not properly tightened. Retighten.
2. Carrier is not properly tightened. Thread it in firmly.
3. Carrier or face O-ring is damaged, worn, or missing. Replace O-ring.

What if handle does not rotate smoothly?

1. Foreign material has formed on the ball or seat. Clean both.
2. Internal part(s) chemically attacked or swollen. Refer to Asahi/America Chemical Resistance Chart for compatibility. Replace part(s) as required.
3. Carrier overtightened. Retighten properly.

What if handle rotates too freely?

1. Stem is damaged. Replace stem.
2. Handle is not engaged with stem. Disassemble and reengage. Inspect.
3. Engaging part of stem and/or ball is damaged. Change stem and/or ball.

Cv Values

Weight (lbs.)

NOMINAL SIZE		Cv	NOMINAL SIZE		SOCKET	
INCHES	mm		INCHES	mm	THREADED	FLANGED
1/2	15	14	1/2	15	0.44	1.10
3/4	20	29	3/4	20	0.66	1.54
1	25	47	1	25	1.1	2.70
1-1/4	32	72	1-1/4	32	1.54	3.30
1-1/2	40	155	1-1/2	40	2.64	4.40
2	50	190	2	50	4.4	8.15
2-1/2	65	365	2-1/2	65	6.17	8.80
3	80	410	3	80	9.7	13.00
4	100	680	4	100	24.00	26.67

Caution

- Never remove valve from pipeline under pressure.
- Always wear protective gloves and goggles.
- Watch out for trapped fluid in valve. It is safe to close valve before removing it from the pipeline.



New Design Features

- Redesigned degressed position indication plate for Lever type valves
- Molded valve body tag holes
- Increased internal sealing performance

Standard Features (Sizes 1-1/2" – 14")

- 316SS Stem with full disc engagement
- Full seat design eliminates gaskets
- Seat overtightening prevention
- Lockout-Tagout – lever handle molded padlock provision and 2-molded valve body tag holes
- Highly visible 0° to 90° position indicator with 19 fine adjustment locking positions
- ISO 5211 F07 – F14 bolt circle on top flange
- Polypropylene stem retainer
- Spherical disc design
- Non-wetted stem and body - Isolated from the media
- Plasgear™ operator

Options

- Pneumatically and electrically actuated with accessories
- 2" square operating nuts
- Stem extensions
- Chain operators
- Manual limit switches
- Speed Handle™ - For Plasgear™ operator
- Lug style (stainless steel 316) for blocking and end-of-the line applications

Specifications

Sizes: Lever: 1-1/2" – 8"
Gear: 1-1/2" – 14"

Models: Wafer Style

Operators: Lever and Gear

Bodies: PVC, CPVC PP and PVDF

Discs: PVC, CPVC PP and PVDF

Seats: EPDM, FKM, and Nitrile

Seals: Same as seating material

Stems: 316 stainless steel, Titanium, Hastelloy C® ‡

PVC/PP/EPDM Models
PP/PP/EPDM
NSF-61 Certified

‡ Trademark of Cabot Corporation

Parts List (Lever: Sizes 1-1/2" – 8")

PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, CPVC, PP, PVDF
2	Disc	1	PVC, CPVC, PP, PVDF
183	Seat bush (A)	1	PVC, PP, PVDF*
184	Seat bush (B)	1	PVC, PP, PVDF*
3	Seat	1	EPDM, FKM, NBR
6	O-ring (C)	1	EPDM, FKM, NBR
185	O-ring (I)	4	EPDM, FKM, NBR
7	Stem	1	Stainless Steel 316
8	Stem Retainer	1	PP
157	Screw (F)	4	Stainless Steel 304
16	Handle	1	PP
16A	Metal Handle Insert	1	Stainless Steel 316L
17	Handle Lever	1	PPG
18	Pin	1	PPG
19	Spring	1	Stainless Steel 304
20	Washer (A)	1	Stainless Steel 304
21	Bolt (B)	1	Stainless Steel 304
22	Locking Plate	1	PPG
23	Screw (B)	4	Stainless Steel 304
24	Cap (A)	1	PP

* Used for CPVC and PVDF

Parts List (Gear: Sizes 1-1/2" – 14")

PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, CPVC, PP, PVDF
2	Disc	1	PVC, CPVC, PP, PVDF
183	Seat bush (A)	1	PVC, PP, PVDF*
184	Seat bush (B)	1	PVC, PP, PVDF*
3	Seat	1	EPDM, FKM, NBR
6	O-ring (C)	1	EPDM, FKM, NBR
185	O-ring (I)	4	EPDM, FKM, NBR
7	Stem	1	Stainless Steel 316
8	Stem Retainer	1	PP
157	Screw (F)	4	Stainless Steel 304
25	Gearbox	1	Plasgear™
28	Bolt (C)	4	Stainless Steel 304
158	Gasket	1	EPDM

* Used for CPVC and PVDF

Cv Values

Nominal Size		CV values at various opening degrees		
Inches	mm	30°	60°	90°
1-1/2"	40	4	43	71
2"	50	7	73	120
2-1/2"	65	15	153	250
3"	80	18	183	300
4"	100	28	287	470
5"	125	49	506	830
6"	150	66	671	1100
8"	200	150	1525	2500
10"	150	232	2355	3860
12"	300	342	3477	5700
14"	350	386	3928	6440

Wt. (lbs.)

Nominal Size		PVC		CPVC		PP		PVDF	
Inches	mm	Lever	Gear	Lever	Gear	Lever	Gear	Lever	Gear
1-1/2"	40	2.9	7.5	-	-	2.4	6.8	3	7.7
2"	50	3.3	7.7	3.3	7.8	2.6	7.3	3.7	8.4
2-1/2"	65	3.8	8.4	-	-	3	7.5	4.2	8.8
3"	80	4.2	8.6	4.2	8.6	3.5	8	4.9	9.3
4"	100	5.5	10	5.5	10	4.4	8.8	6.4	10.8
5"	125	10.8	14.3	-	-	8.8	12.3	12.6	16.1
6"	150	12.8	16.3	13	16.5	10.1	13.7	15.2	18.7
8"	200	20.5	23.6	20.5	24	16.3	19.6	24.3	27.6
10"	250	-	32.4	-	-	-	27	-	41
12"	300	-	61.7	-	-	-	53	-	76
14"	350	-	67	-	-	-	58	-	81

Vacuum Service-Lever Vacuum Service-Gear

Nominal Size		Inches of Mercury
Inches	mm	
1-1/2"	40	-29.92
2"	50	-29.92
2-1/2"	65	-29.92
3"	80	-29.92
4"	100	-29.92
5"	125	-29.92
6"	150	-29.92
8"	200	-29.92

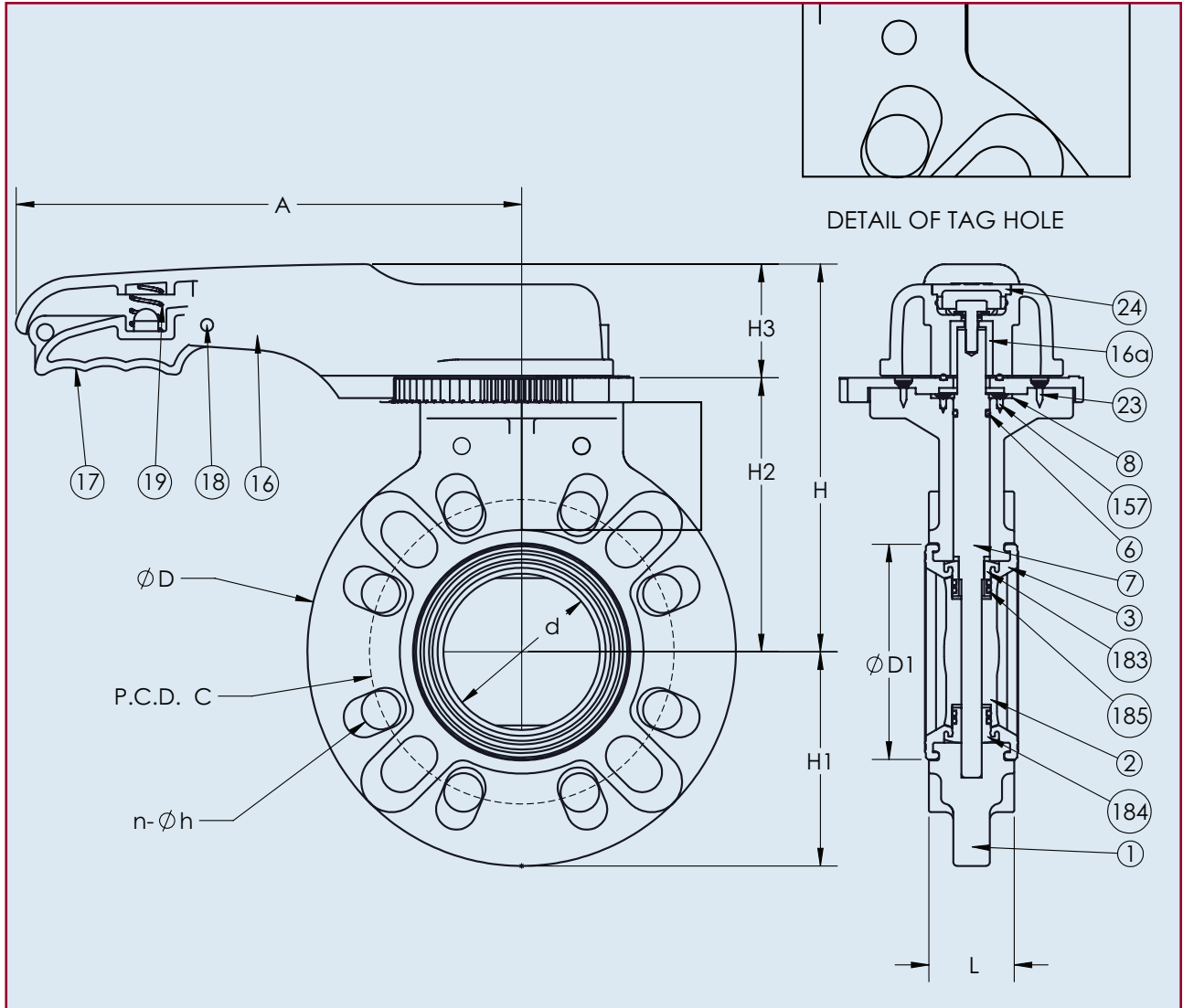
Nominal Size		Inches of Mercury
Inches	mm	
1-1/2"	40	-29.92
2"	50	-29.92
2-1/2"	65	-29.92
3"	80	-29.92
4"	100	-29.92
5"	125	-29.92
6"	150	-29.92
8"	200	-29.92
10"	250	-29.92
12"	300	-23.62
14"	350	-23.62

Pressure vs. Temperature (psi, water, non-shock)*

Body		PVC	PVC PP,PVDF		CPVC CPVC				PP PP,PVDF		PVDF PVDF			
Disc		PVC	30°F	121°F	30°F	141°F	161°F	177°F	-5°F	141°F	-5°F	141°F	176°F	211°F
Nominal Size		120°F	140°F	140°F	160°F	176°F	195°F	140°F	175°F	140°F	175°F	210°F	250°F	
Inches	mm													
1-1/2"	40	150	150	70	-	-	-	-	150	100	150	100	85	75
2"	50	150	150	70	150	120	100	55	150	100	150	100	85	75
2-1/2"	65	150	150	70	-	-	-	-	150	100	150	100	85	75
3"	80	150	150	70	150	120	100	55	150	100	150	100	85	75
4"	100	150	150	45	150	120	100	55	150	100	150	100	85	75
5"	125	150	150	45	-	-	-	-	150	100	150	100	85	75
6"	150	150	150	45	150	120	100	55	150	100	150	100	85	75
8"	200	150	150	40	150	120	100	55	150	85	150	85	75	60
10"	250	150	150	40	-	-	-	-	150	85	150	85	75	60
12"	300	100	100	30	-	-	-	-	100	60	100	60	45	30
14"	350	100	100	30	-	-	-	-	100	45	100	45	30	15

*FKM seat butterfly valves have a low temperature limit of 23°F, regardless of body/disc material.

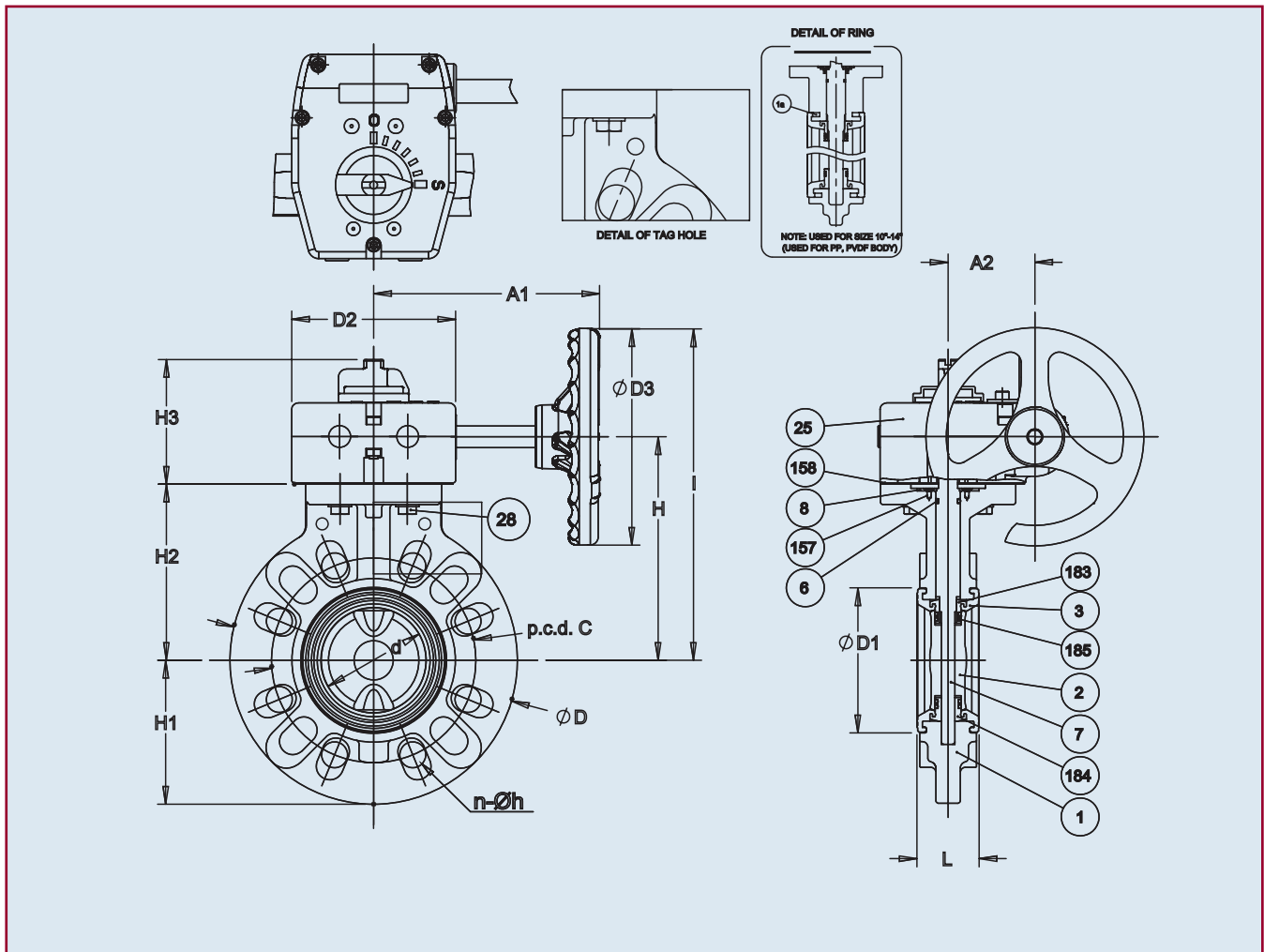
** For Lug style data consult factory



Dimensions (Sizes 1-1/2" – 8") (in.)

Nominal Size		d	ANSI Class 150			D	D1	L	H	H1	H2	H3	A
Inches	mm		C	n	h								
1-1/2"	40mm	1.77	3.88	4	0.62	5.91	2.83	1.54	6.14	2.95	3.94	2.20	8.66
2"	50mm	2.20	4.75	4	0.75	6.50	3.23	1.65	6.54	3.25	4.33	2.20	8.66
2-1/2"	65mm	2.72	5.50	4	0.75	7.28	3.78	1.81	6.93	3.64	4.72	2.20	8.66
3"	80mm	3.03	6.00	4	0.75	8.31	4.17	1.81	7.52	4.15	5.31	2.20	9.84
4"	100mm	4.02	7.50	8	0.75	9.37	5.31	2.20	8.11	4.69	5.91	2.20	9.84
5"	125mm	5.08	8.50	8	0.88	10.39	6.69	2.60	9.33	5.20	6.61	2.72	12.60
6"	150mm	5.91	9.50	8	0.88	11.22	7.52	2.80	9.92	5.61	7.20	2.72	12.60
8"	200mm	7.68	11.75	8	0.88	13.39	9.53	3.43	11.14	6.69	8.43	2.72	15.75

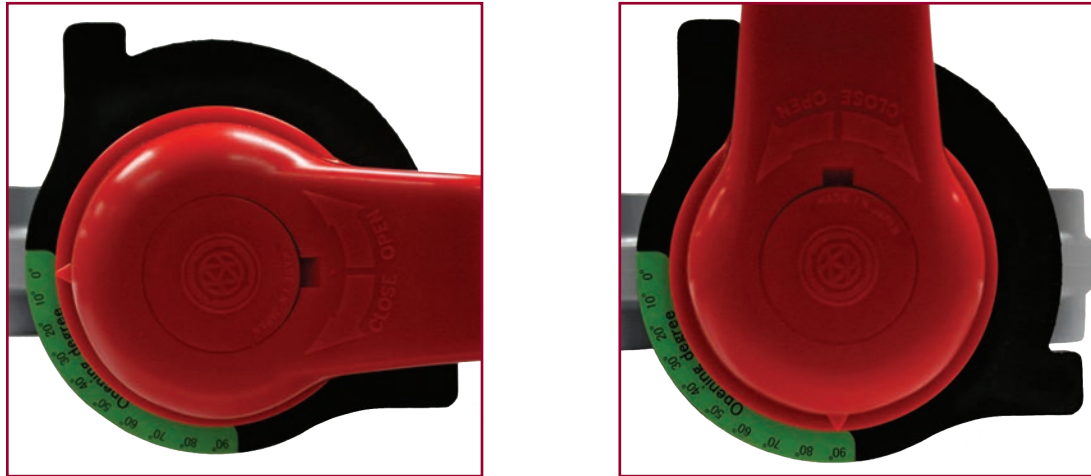
Note: The shape and appearance of assembly differ a little with nominal size compared to the drawing



Dimensions (Sizes 1-1/2" – 14") (in.)

Nominal Size		d	ANSI Class 150			D	D1	D2	D3	L	H	H1	H2	H3	I	A1	A2	Number of handle rotations	Gear Box Type
Inches	mm		C	n	h														
1-1/2"	40mm	1.77	3.88	4	0.62	5.91	2.83	4.80	6.30	1.54	5.12	2.95	3.74	3.54	8.27	6.57	2.52	9.5	Type 241
2"	50mm	2.20	4.75	4	0.75	6.50	3.23	4.80	6.30	1.65	5.51	3.25	4.13	3.54	8.66	6.57	2.52		
2-1/2"	65mm	2.72	5.50	4	0.75	7.28	3.78	4.80	6.30	1.81	5.91	3.64	4.53	3.54	9.06	6.57	2.52		
3"	80mm	3.03	6.00	4	0.75	8.31	4.17	4.80	6.30	1.81	6.50	4.15	5.12	3.54	9.65	6.57	2.52		
4"	100mm	4.02	7.50	8	0.75	9.37	5.31	4.80	6.30	2.20	7.09	4.69	5.71	3.54	10.24	6.57	2.52		
5"	125mm	5.08	8.50	8	0.88	10.39	6.69	4.80	6.30	2.60	7.68	5.20	6.30	3.54	10.83	6.57	2.52		
6"	150mm	5.91	9.50	8	0.88	11.22	7.52	4.80	6.30	2.80	8.27	5.61	6.89	3.54	11.42	6.57	2.52		
8"	200mm	7.68	11.75	8	0.88	13.39	9.53	4.80	6.30	3.43	9.49	6.69	8.11	3.54	12.64	6.57	2.52		
10"	250mm	9.84	14.25	12	1.00	16.57	11.89	4.80	6.30	4.33	10.87	8.31	9.49	3.62	14.02	6.57	2.52		
12"	300mm	11.93	17.00	12	1.00	19.21	14.17	7.40	11.81	5.08	13.39	9.61	11.73	4.25	19.29	10.71	3.90	Type 243	
14"	350mm	13.82	18.75	12	1.12	21.22	15.47	7.40	11.81	5.08	14.45	10.63	12.80	4.25	20.35	10.71	3.90		

Note: The shape and appearance of assembly differ a little with nominal size compared to the drawing



Position Indication Closed - 0° to Open - 90° in 10° increments

Sample Specification

Butterfly valves shall be Type-57P PVC, CPVC, PP or PVDF body with PVC, CPVC, PP or PVDF disc and either EPDM, Nitrile or FKM seat & seals. The liner shall be full seat design fully molded around the body where as only the disc and seat are wetted parts, feature raised convex rings on the face and is intended to be utilized as the mating flange gaskets. Valve shall have a spherical disc design with disc bushings with double O-ring seals for a high cycle life and ultimate sealing. Valve body shall have integral molded body stops and seat relief area to prevent over-tightening of the mating flanges from influencing valve operating torque. Valves shall accept flat faced flanges in accordance with ANSI B16.5 bolt pattern for 150 lb flanges. Valve stem shall be 316 SS, have PP stem retainer for valve stem retention, be non-wetted, and have engagement over the full length of the spherically designed disc. Valves shall be equipped with either Lever handle or Plasgear™ operator for manual operation. For lockout applications, the valve lever handle (sizes 1/1/2" – 8") shall have a molded provision for a padlock. The valve body shall feature 2 molded tag holes for the user. Valves sizes 1-1/2" – 14" shall feature a molded ISO 5211 bolt pattern for accessory mounting. PVC shall conform to ASTM D1784, Cell Classification 12454A, CPVC to ASTM D1784, Cell Classification 23567A, PP to ASTM D4101 Cell Classification PPO210B67272, and PVDF to ASTM D3222-91A, Cell Classification Type II.



Sediment Strainers

Standard Features (Sizes 1/2" - 4")

- True union design facilitates installation or repair without expanding the pipeline
- Large filtration capacities and low pressure drops
- Transparent PVC strainer body permits easy evaluation of filter screen's condition
- Complete thermoplastic construction
- Pressure rating: 1/2" - 2", 150psi; 3" and 4", 85psi
- Sizes 1/2" - 2" supplied with two sets of end connectors (socket and threaded)

Options

- FKM seals for corrosive media
- Stainless steel 316 screens available in 20, 40 and 60 mesh
- In line cleaning (clean out valve)

Tips on Sediment Strainers

- Clean screen regularly.
- Union nut of screening section can be removed for quick and easy maintenance (no need to remove body from pipeline).
- Sediment strainers protect pipeline's important and costly components, such as pumps and meters, by removing suspended particles and impurities.
- Filtering section must face downward when installed.
- You must identify flow direction, shown by molded arrow on the body, before installation.

Specifications

Sizes: 1/2" - 4"
Models: Socket, Threaded, Flanged (ANSI)
Body: PVC
Screens: Standard: 20 mesh PVC
 Optional: PVC - 30 and 40 mesh
 Stainless Steel - 20, 40 and 60 mesh

Seals: EPDM, FKM

**Sizes 1/2" - 4" PVC/EPDM/FKM
 Models NSF-61 Certified**

Parts List (Sizes 1/2" - 4")

PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC
2	Filter Screen	1	PVC, Stainless Steel 316
3	Screen Support	1	PVC
4	End Connector	2	PVC
5	Union Nut	3	PVC
6	Retaining Ring	1	PVC
7	Split Ring	1	PVC
8	O-Ring (A)	1	EPDM, FKM, Others
9	O-Ring (B)	2	EPDM, FKM, Others
10	Stop Ring	2	PVDF **

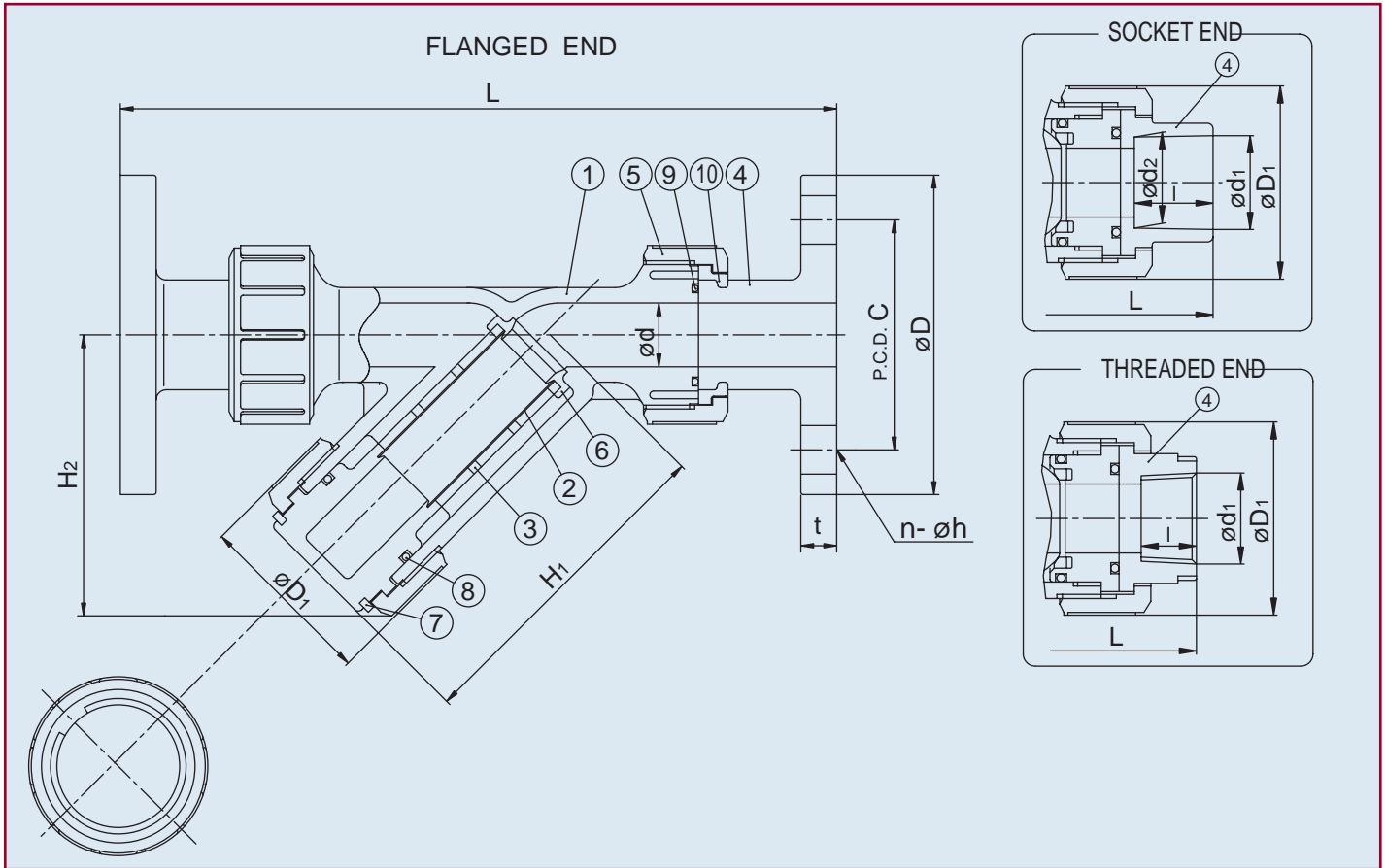
** Used for flanged end

Sample Specification

All true union sediment strainers, sizes 1/2" - 4", shall be of true union design and shall be constructed of transparent PVC. All O-rings shall be EPDM or FKM. Screens shall be 20, 30 and 40 mesh PVC or 20, 40 and 60 mesh 316 stainless steel. Filter maintenance is achieved without removing strainer from the pipeline. PVC shall conform to ASTM D1784 Cell Classification 12454-A. Valves shall be rated to 150psi sizes 1/2" through 2" and 85psi sizes 3" and 4" at 70° F, as manufactured by Asahi/America, Inc.



Sediment Strainers



Dimensions (Sizes 1/2" - 4") (in.)

NOMINAL SIZE		FLANGED						SOCKET				THREADED			d	D1	H1	H2
		ANSI CLASS 150						ASTM CLASS 40				d1	l	L				
INCHES	mm	D	C	n	h	L	t	d1	d2	l	L				d1	l	L	
1/2	15	3.50	2.38	1	0.62	8.11	0.47	0.848	0.836	0.87	6.93	1/2 - 14 NPT	0.59	6.50	0.59	1.89	3.82	3.07
3/4	20	3.88	2.75	1	0.62	10.00	0.55	1.058	1.046	1.00	8.30	3/4 - 14 NPT	0.67	7.95	0.79	2.36	4.72	3.86
1	25	4.25	3.12	1	0.62	11.02	0.55	1.325	1.310	1.12	9.37	1 - 11-1/2 NPT	0.79	8.82	0.98	2.76	5.24	4.37
1-1/4	32	-	-	-	-	-	-	1.670	1.655	0.94	11.28	1 1/4 - 11-1/2 NPT	0.87	11.30	1.57	3.94	6.97	5.87
1-1/2	40	5.00	3.88	1	0.62	13.23	0.63	1.912	1.894	1.38	12.13	1 1/2 - 11-1/2 NPT	0.98	11.30	1.57	3.94	6.97	5.87
2	50	6.00	4.75	1	0.75	14.20	0.63	2.387	2.369	1.50	13.31	2 - 11-1/2 NPT	1.10	12.76	2.07	4.17	7.48	6.29
3	80	7.50	6.00	1	0.75	18.78	0.71	3.516	3.492	1.87	17.83	3 - 8 NPT	1.38	17.17	3.07	5.98	10.67	9.21
4	100	9.00	7.50	8	0.75	23.94	0.71	4.518	4.491	2.25	23.54	4 - 8 NPT	1.77	23.47	3.94	8.27	14.21	12.44

Weight (lbs.)

NOMINAL SIZE		SOCKET THREADED	FLANGED
INCHES	mm		
1/2	15	0.66	1.10
3/4	20	1.32	2.20
1	25	1.76	3.31
1-1/2	40	4.41	5.51
2	50	5.51	8.82
3	80	15.43	18.74
4	100	40.78	45.19

Cv Values

NOMINAL SIZE		Cv
INCHES	mm	
1/2	15	5.2
3/4	20	7.5
1	25	14
1-1/2	40	34
2	50	50
3	80	110
4	100	165

Filter Screen Sizes*

MESH (HOLES PER LINEAR INCH)	20	30	40
MAXIMUM PARTICLE SIZE (INCH)	.033	.023	.011
MICRON PARTICLE SIZE (10-30 µ)	840	595	420

* For 60 mesh consult factory

Caution

- Never remove strainer from pipeline under pressure.
- Always wear protective gloves and goggles.

Sediment Strainer Drainer Kit



Strainer Drain Kit

Asahi/America Inc., introduces Sediment Strainer Drain Socket kits complete with Omni® Type-27 ball valves for quick and easy cleaning of sediment strainer screens without removing the screen support assembly. The ball valve can be opened to purge the screen area of waste and debris. Valve is supplied loose for piping waste pipe to desired location.

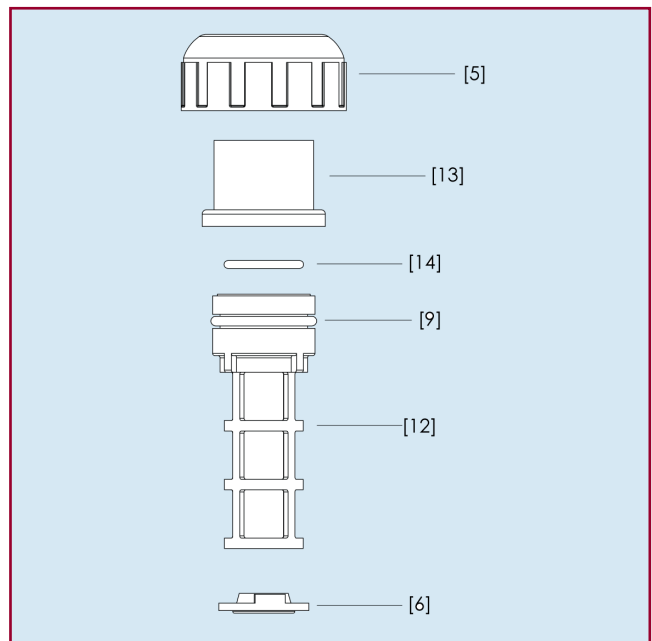
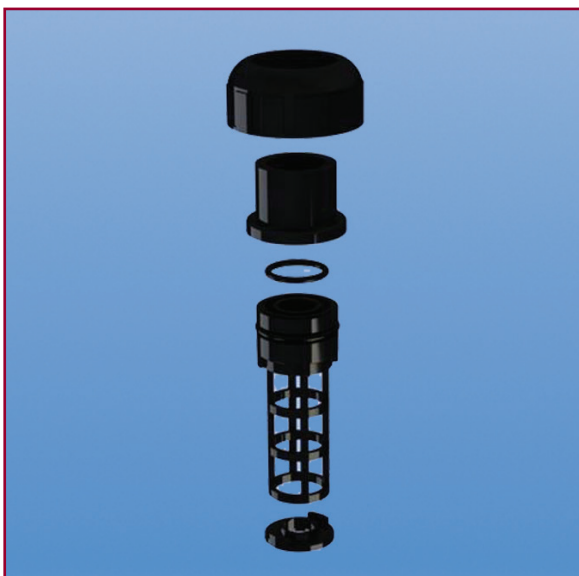
Standard Features (Sizes 1/2" - 4")

- Kits available for 1/2" - 2" PVC Sediment Strainers
- 1/2" & 3/4" strainers use 1/2" socket Omni® Type-27
- 1" - 2" strainers use 1" socket Omni® Type-27
- Supplied as a kit, includes new screen support housing, split ring, union nut, end connector and PVC EPDM socket Omni® Type-27 ball valve
- PVC SCH80 pipe not supplied

Parts List (Sizes 1/2" - 4")

PARTS	
NO.	DESCRIPTION
5	Union Nut
6	Retaining ring
9	O-ring (B)
12	Screen Support Type Drain
13	Drain Socket
14	O-Ring (D)

Sediment Strainer sold separately



Type-14/15 Diaphragm Valves for use with Sodium Hypochlorite



3-Layer Diaphragm



PTFE Diaphragm



PVDF Gas Barrier



EPDM Backing Cushion

The Type-14/15 diaphragm valves can be equipped with a three-layer PTFE diaphragm.

When a diaphragm valve is used in sodium hypochlorite service, PTFE is typically the diaphragm material of choice. The Type-14/15 PTFE diaphragm consists of three un-bonded layers. The primary or wetted layer is PTFE, the middle layer is a PVDF gas barrier, and the top cushion is EPDM. The PVDF gas barrier prevents the migration of gas, which permeates the PTFE wetted layer. This added protection provides for longer valve life.

Standard Features

- PVC or CPVC construction valve
- Three-layer PTFE/PVDF/EPDM diaphragm
- Flanged configuration eliminates all cemented joints
- Alternately, the true union valve can be equipped with Chem Proline® end connectors for use in Asahi/America's piping material of choice for sodium hypochlorite service – Consult Sales or Engineering to learn more about Chem Proline® piping systems
- Supported up to a 20% concentration of sodium hypochlorite

Sample Specification

All Type-14/15 diaphragm valves for use with sodium hypochlorite up to 20% concentration shall be of solid thermoplastic construction (PVC or CPVC) for body and bonnet with molded flanged ends or true union ends. The molded flanged or Chem Proline® ends provide for no cemented joints. The valves shall come standard with a position indicator, travel stop (to prevent overtightening) and bonnet O-ring sealing arrangement. The valve shall be weir type with a square bonnet body sealing design and bayonet connection diaphragm (1/2" - 2") or round bonnet body sealing design and threaded stud diaphragm connection (2-1/2" - 6"). All PTFE diaphragms shall be supplied with a PVDF gas barrier between the layers of EPDM and PTFE. The PVDF gas barrier prevents against the migration of gas through the PTFE membrane and attacking the EPDM backing cushion. All hardware shall be 304 stainless steel type and non-wetted. The face-to-face dimensions shall conform to Type G. PVC conforming to ASTM D1784 Cell Classification 12454A, CPVC conforming to ASTM D1784 Cell Classification 23567A and PVDF conforming to ASTM D3222 Cell Classification Type II. Valves shall be rated to 150psi sizes 1/2" through 4", 100psi size 5", and 70psi size 6" for PTFE diaphragms at 70° F, as manufactured by Asahi/America, Inc.



Type-14 Flanged Diaphragm

Standard Features (Sizes 1/2" - 2")

- Flanged (ANSI) face-to-face dimensions are equivalent to most commonly used metallic valves
- Rugged body and bonnet are of solid thermoplastic for maximum corrosion resistance
- Uniquely designed body and bonnet together with diaphragms of new sealing designs by computer dynamic analysis for superior sealing
- Weir design for excellent throttling
- Bubble-tight sealing, even in applications such as slurries or suspended particles
- Bonnet seals to protect internal from corrosive environments
- Built-in travel stop to prevent overtightening or compressive strain on diaphragm
- Integrally molded bottom stand for simple yet firm panel mounting
- Indicator at the top for indication of valve position and prevention of overtightening
- PVDF gas barrier, which protects EPDM backing from gas permeation, is standard for all valves with PTFE diaphragm
- Low profile
- Bayonet structure to connect compressor and diaphragm – Easy diaphragm replacement

Options

- 2" square nut
- Stem extensions (single and two-piece design)
- Locking device for tamper proofing
- Chainwheel operator

Specifications

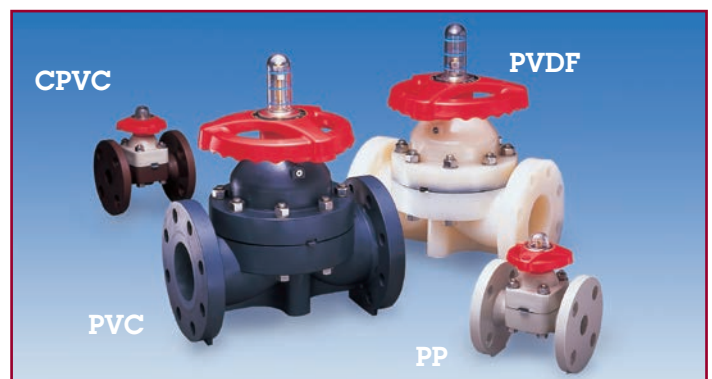
Sizes: 1/2" - 4"
Body Materials: PVC, CPVC, PP and PVDF
Bonnet Materials: PVC, PP, PPG and PVDF
Diaphragms: EPDM and 3-Layer EPDM/PVDF/PTFE
 Also available in Nitrile and FKM

End Connection: Flanged
Operator: Handwheel

Parts Type-14 Flanged (Sizes 1/2" - 2")

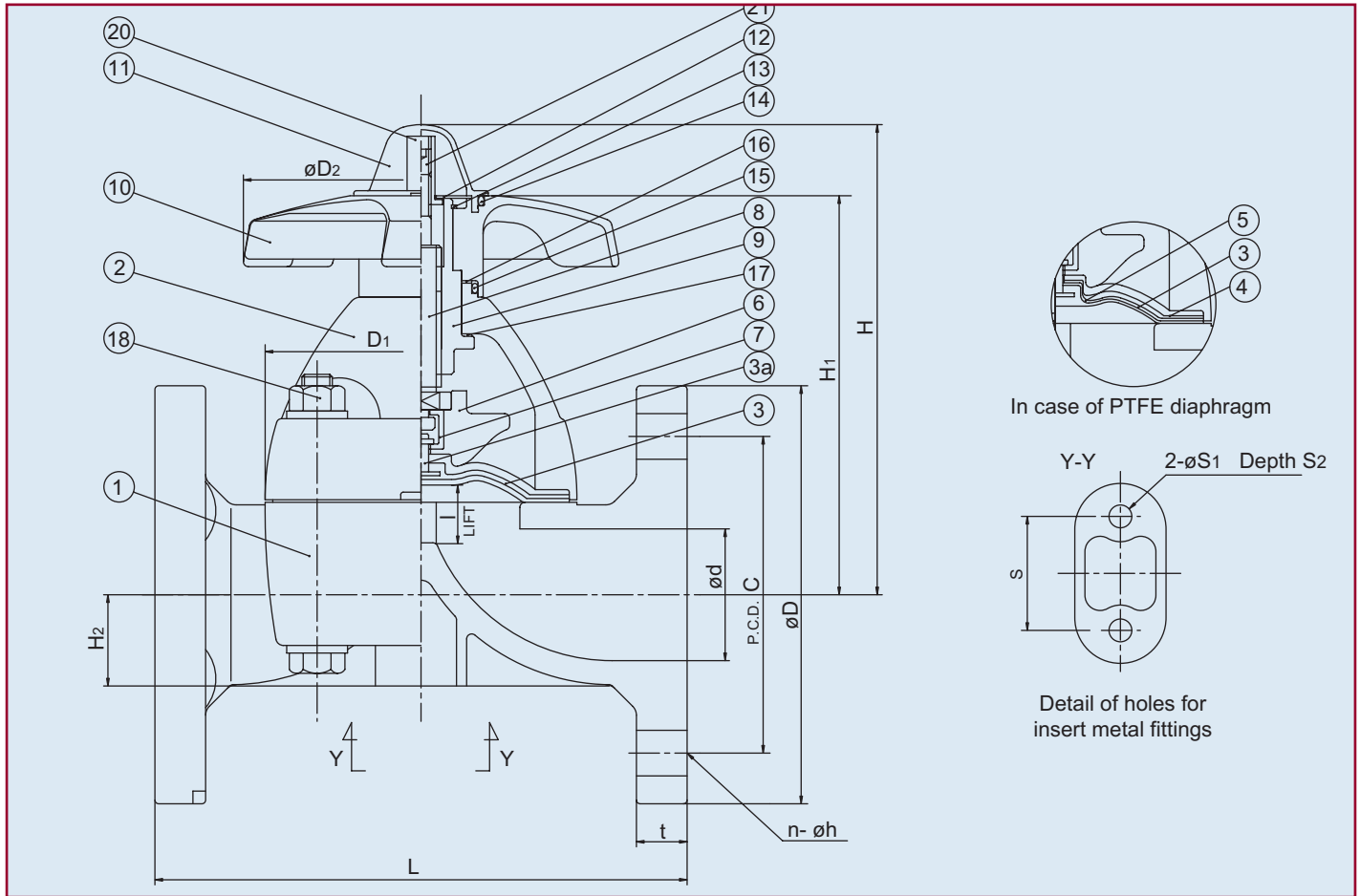
PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, CPVC, PP, PVDF
2	Bonnet	1	PVC, PPG, PP, PVDF
3	Diaphragm	1	EPDM, PTFE, Others
3a	Diaphragm Metal Insert	1	Stainless Steel 304
4	Cushion*	1	EPDM
5	PVDF Gas Barrier*	1	PVDF
6	Compressor	1	PVDF
7	Joint	1	Stainless Steel 304
8	Stem	1	Copper Alloy
9	Sleeve	1	Copper Alloy
10	Hand Wheel	1	PP
11	Gauge Cover	1	PC
12	Name Plate	1	PVC
13	Retaining Ring C Type	1	Stainless Steel 304
14	O-Ring [A]	1	EPDM
15	O-Ring [B]	1	EPDM
16	Thrust Ring [A]	1	UHMWPE
17	Thrust Ring [B]	1	UHMWPE
18	Bolt, Nut, Washer	4 Sets	Stainless Steel 304
20	Stopper [A]	1	Copper Alloy
21	Screw	1	Stainless Steel 304

* Used on PTFE diaphragm.



Type-14 Flanged

Diaphragm Valves



Dimensions Type-14 Flanged (Sizes 1/2" – 2") (in.)

NOMINAL SIZE		ANSI CLASS 150							D1	D2	l	L	t	H	H1	H2	S	S1	S2
INCHES	mm	d	C	D	n	h													
1/2	15	0.63	2.38	3.50	4	0.62	2.13 × 2.60	3.46	0.39	4.25	0.43	4.09	3.39	0.49	0.98	0.28	0.51		
3/4	20	0.79	2.75	3.88	4	0.62	2.13 × 2.60	3.46	0.39	5.88	0.51	4.17	3.46	0.57	0.98	0.28	0.51		
1	25	0.98	3.12	4.25	4	0.62	2.64 × 3.15	3.46	0.47	5.88	0.59	4.37	3.66	0.73	0.98	0.28	0.51		
1-1/4	32	1.26	3.50	4.62	4	0.62	2.64 × 3.15	3.46	0.47	6.38	0.63	4.57	3.82	0.89	0.98	0.28	0.51		
1-1/2	40	1.57	3.88	5.00	4	0.62	4.25 × 4.25	6.14	0.83	6.94	0.63	6.97	5.67	1.08	1.77	0.35	0.59		
2	50	2.05	4.75	6.00	4	0.75	4.84 × 4.84	6.14	0.98	7.94	0.79	7.52	6.22	1.42	1.77	0.35	0.59		

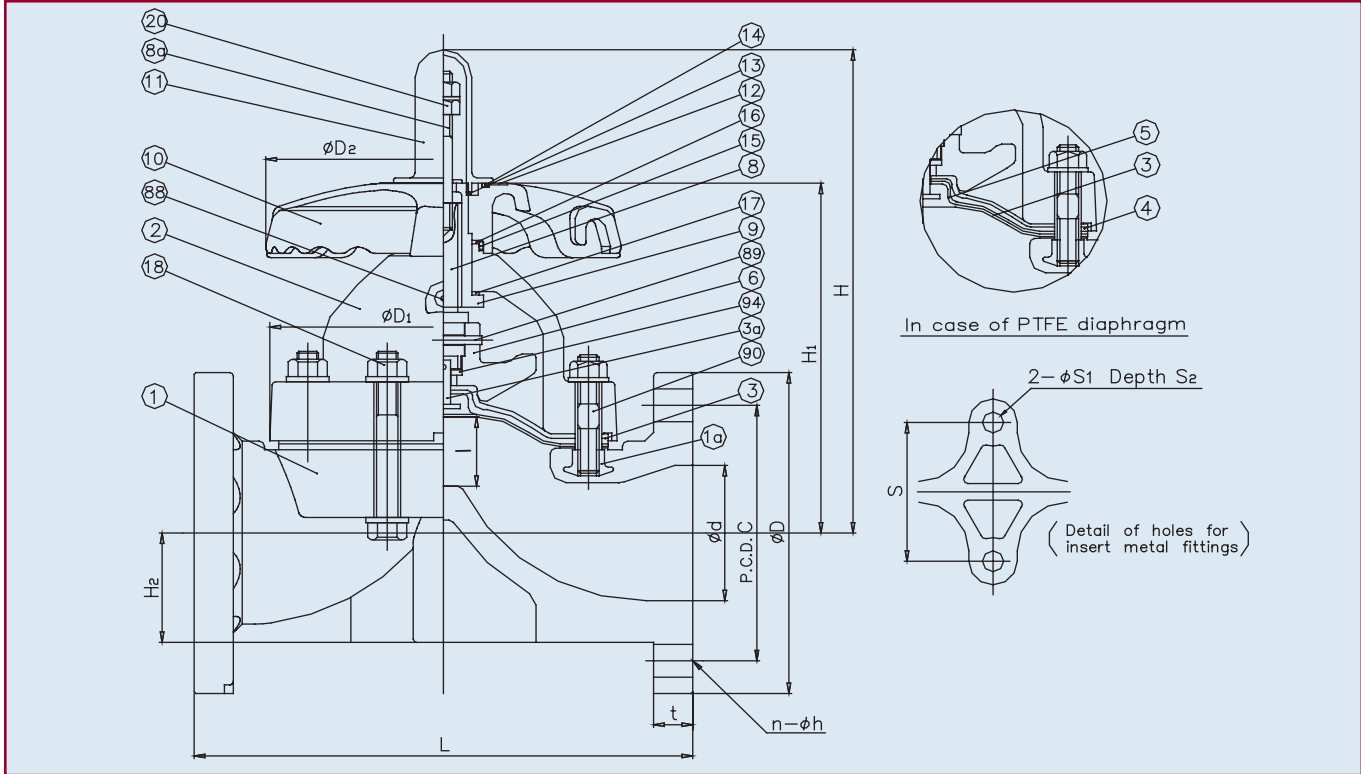
Pressure vs. Temperature psi, water, non-shock

Cv Values/Wt.

NOMINAL SIZE		PVC		CPVC				PP				PVDF				NOMINAL SIZE		Cv	WT. FLG. (lbs)
		ALL DIAPHRAGMS		ALL DIAPHRAGMS				ALL DIAPHRAGMS				PTFE DIAPHRAGM							
INCHES	mm	30° F	106° F	30° F	106° F	141° F	176° F	- 5° F	106° F	141° F	176° F	- 40° F	141° F	176° F	211° F	INCHES	mm		
		105° F	140° F	105° F	140° F	175° F	195° F	105° F	140° F	175° F	195° F	140° F	175° F	210° F	250° F				
1/2	15	150	100	150	115	85	40	150	115	85	70	150	120	95	70	1/2	15	4.8	1.50
3/4	20	150	100	150	115	85	40	150	115	85	70	150	120	95	70	3/4	20	5.3	1.80
1	25	150	100	150	115	85	40	150	115	85	70	150	120	95	70	1	25	8.5	2.40
1-1/4	32	150	100	150	115	85	40	150	115	85	70	150	120	95	70	1-1/4	32	11	3.10
1-1/2	40	150	100	150	115	85	40	150	115	85	70	150	120	95	70	1-1/2	40	26	6.20
2	50	150	100	150	115	85	40	150	115	85	70	150	120	95	70	2	50	43	8.00

Type-14 Flanged

Diaphragm Valves



Dimensions Type-14 Flanged (Sizes 2-1/2" - 4") (in.)

NOMINAL SIZE		ANSI CLASS 150						t										
INCHES	mm	d	C	D	n	h	D1	D2	l	L	PVC CPVC	PP PVDF	H	H1	H2	S	S1	S2
2-1/2	65	2.64	5.50	7.00	4	0.75	6.89	8.66	1.34	9.84	0.87	0.91	10.47	7.40	2.40	3.35	0.43	0.79
3	80	3.07	6.00	7.50	4	0.75	7.91	8.66	1.65	10.38	0.87	0.91	11.02	7.95	2.48	3.94	0.59	1.10
4	100	3.94	7.50	9.00	8	0.75	9.49	10.12	1.97	12.94	0.87	0.94	12.95	9.49	3.07	4.72	0.59	1.10

Pressure vs. Temperature psi, water, non-shock

Cv Values/Wt.

NOMINAL SIZE		PVC		CPVC				PP				PVDF				NOMINAL SIZE	Cv	WT. FLG. (lbs)	
		ALL DIAPHRAGMS		ALL DIAPHRAGMS				ALL DIAPHRAGMS				PTFE DIAPHRAGM							
INCHES	mm	30° F 105° F	106° F 140° F	30° F 105° F	106° F 140° F	141° F 175° F	176° F 195° F	- 5° F 105° F	106° F 140° F	141° F 175° F	176° F 195° F	- 40° F 140° F	141° F 175° F	176° F 210° F	211° F 250° F	INCHES	mm		
2-1/2	65	150	115	150	120	95	85	150	120	95	85	150	115	85	70	2-1/2	65	85	14.33
3	80	150	115	150	120	95	85	150	120	95	85	150	115	85	70	3	80	115	17.64
4	100	150	115	150	120	95	85	150	120	95	85	150	115	85	70	4	100	185	25.80

Caution

- After replacing diaphragm, do not tighten bolts for bonnet and body with diaphragm in the closed position. Excessive force could damage bonnet or body.
- Full vacuum rated 1/2" through 2 - 1/2".
- Vacuum Rating

	(1) Rubber Diaphragms	(2) PTFE Diaphragm
3"	-25.59"	-9.84"
4"	-19.69"	-3.94"
- Never remove valve from pipeline under pressure.
- Always wear protective gloves and goggles.

Type 14 Flanged

Diaphragm Valves

Parts Type 14 Flanged (2-1/2" – 4")

PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, CPVC, PP, PVDF
2	Bonnet	1	PVC, PPG, PP, PVDF
3	Diaphragm	1	EPDM, PTFE, Others
3a	Diaphragm Metal Insert	1	Stainless Steel 304
4	Cushion*	1	EPDM
5	PVDF Gas Barrier*	1	PVDF
6	Compressor	1	PVDF
8	Stem	1	Copper Alloy
8a	Indicating Rod	1	Stainless Steel 304
9	Sleeve	1	Copper Alloy
10	Hand Wheel	1	PP
11	Gauge Cover	1	PC
12	Name Plate	1	PVC
13	Retaining Ring C Type	1	Stainless Steel 304
14	O-Ring (A)	1	EPDM
15	O-Ring (B)	1	EPDM
16	Thrust Ring (A)	1	UHMWPE
17	Thrust Ring (B)	1	UHMWPE
18	Bolt, Nut, Washer	4 Sets	Stainless Steel 304
20	Stopper (A)	1	Copper Alloy
88	Grease Nipple	1	Copper Alloy
89	Compressor Pin	1	Stainless Steel 304
90	Stud Bolt, Nut	4 Sets	Stainless Steel 304, Others
94	Metal of Compressor	1	Stainless Steel 304 ¹
1a	Inserted Nut	4	Copper Alloy ²

* Used on PTFE diaphragm

¹ Used for PVDF body

² Used for PVC, CPVC, PP bodies

Troubleshooting

What if fluid leaks when valve is fully closed?

1. Travel stop not set correctly. Adjust it per the Asahi Operation and Maintenance manual.
2. Solids built up inside valve. Clean inside, including weir and diaphragm.
3. Diaphragm and/or weir are worn or damaged. Change the part(s).

What if valve cannot be fully opened?

1. Diaphragm is not properly engaged with compressor. Check engagement per Operation and Maintenance manual.

What if fluid leaks to atmosphere?

1. Bonnet bolts not properly torqued. Re-torque according to Operation and Maintenance manual.
2. Line pressure exceeds maximum recommended line pressure. Check or reduce system line pressure.
3. Diaphragm has ruptured or has been chemically attacked. Replace diaphragm.

Sample Specification

All Type-14 flanged diaphragm valves shall be of solid thermoplastic construction for body and bonnet with molded flanged ends. The valves shall come standard with a position indicator, travel stop (to prevent overtightening) and bonnet O-ring sealing arrangement. The valve shall be weir type with a square bonnet body sealing design and bayonet connection diaphragm (1/2"- 2") or round bonnet body sealing design (2-1/2"- 4"). All PTFE diaphragms shall be supplied with a PVDF gas barrier between the layers of EPDM and PTFE for aggressive chemical service. The face-to-face dimensions shall conform to Type G. PVC conforming to ASTM D1784 Cell Classification 12454-A, CPVC conforming to ASTM D1784 Cell Classification 23567A, PP conforming to ASTM D4101 Cell Classification PPO210B67272, PPG (bonnet only) conforming to ASTM D4101 Cell Classification PPO110M20A21130, and PVDF conforming to ASTM D3222 Cell Classification Type II. PVC, CPVC, PP and PVDF shall be rated to 150psi for elastomeric and PTFE diaphragms at 70° F., as manufactured by Asahi/America, Inc.



Type-14 True Union Diaphragm

Standard Features (Sizes 1/2" - 2")

- True union design permits installation or repairs without expanding pipeline
- Rugged square body and bonnet are of solid thermoplastic for maximum corrosion resistance
- Uniquely designed body and bonnet together with diaphragms of new sealing designs by the state-of-the-art computer aided analysis for superior sealing
- Weir design for excellent throttling
- Full vacuum rated
- Bubble-tight sealing, even in applications such as slurries or suspended particles
- Bonnet seals to protect internals from corrosive environments
- Adjustable travel stop to prevent diaphragm from being overtightened
- Bayonet structure to connect compressor and diaphragm for quick maintenance
- Integrally molded bottom stand for simple panel mounting
- Indicator at the top for valve position
- PVDF gas barrier, which protects EPDM backing cushion from gas permeation, is standard for all valves with PTFE diaphragm
- Low profile

Options

- 2" square operating nut for remote operation
- Stem extensions
- Locking device for tamper proofing
- PTFE encapsulated FKM or FKM end connector O-ring seals
- Pneumatic or electric actuation

Specifications

Sizes: 1/2" - 2"

Body Materials: PVC, CPVC, PP and PVDF

Bonnet Materials: PVC, PP, PPG and PVDF

End Connectors: PVC, CPVC: IPS Soc. or Thr'd
PP, PVDF: IPS & Metric(DIN)
Socket, Threaded, Butt

Diaphragms: EPDM and
3-Layer EPDM/PVDF/PTFE
Also available in Nitrile and FKM.

Operator: Handwheel

Parts Type-14 True Union (1/2" - 2")

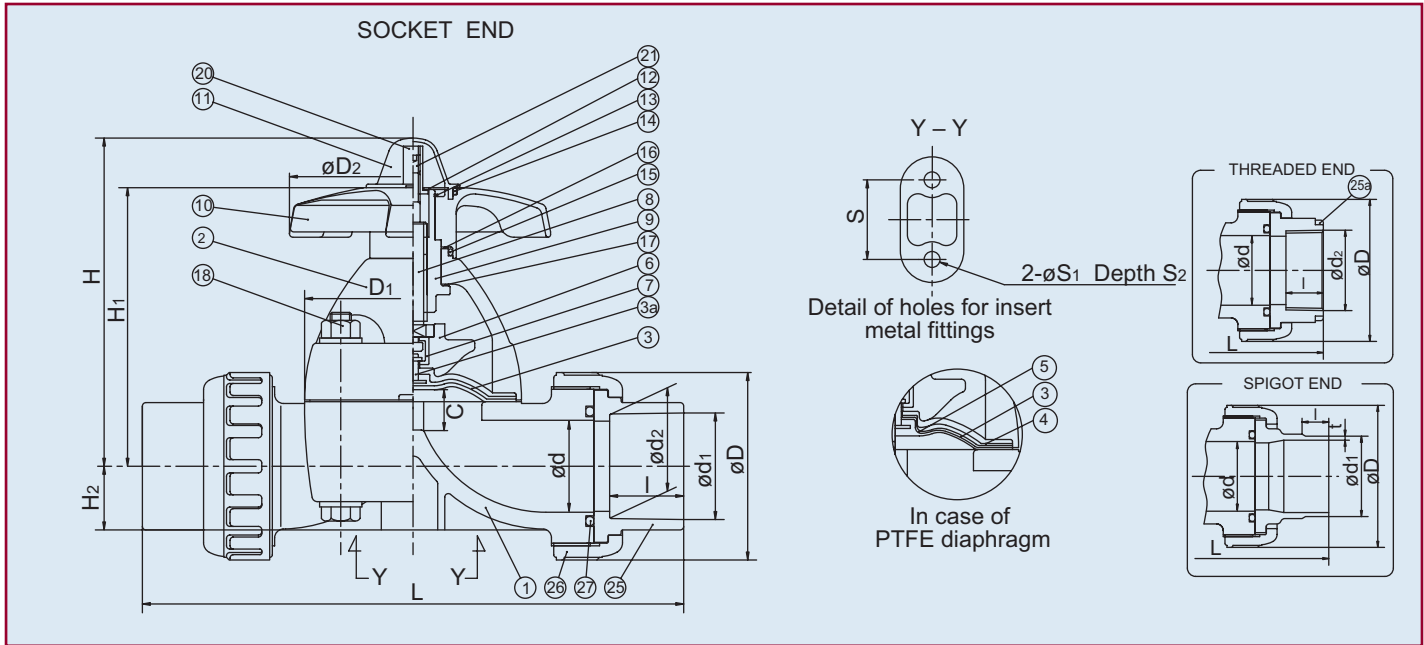
PARTS			
NO.	DESCRIPTION	PCS.	MATERIAL
1	Body	1	PVC, CPVC, PP, PVDF
2	Bonnet	1	PVC, PPG, PP, PVDF
25	End Connector	2	PVC, CPVC, PP, PVDF
26	Union Nut	2	PVC, CPVC, PP, PVDF
3	Diaphragm	1	EPDM, PTFE, Others
3a	Diaphragm Metal Insert	1	Stainless Steel 304
4	Cushion*	1	EPDM
5	PVDF Gas Barrier*	1	PVDF
6	Compressor	1	PVDF
7	Joint	1	Stainless Steel 304
8	Stem	1	Copper Alloy
9	Sleeve	1	Copper Alloy
10	Hand Wheel	1	PP
11	Gauge Cover	1	PC
12	Name Plate	1	PVC
13	Retaining Ring C Type	1	Stainless Steel 304
14	O-Ring (A)	1	EPDM
15	O-Ring (B)	1	EPDM
16	Thrust Ring (A)	1	UHMWPE
17	Thrust Ring (B)	1	UHMWPE
18	Bolt, Nut, Washer	4 Sets	Stainless Steel 304
20	Stopper (A)	1	Copper Alloy
21	Screw	1	Stainless Steel 304
27	O-Ring (C)	2	EPDM, FKM, Others
25a	RING*	2	Stainless Steel 304

* Used for PTFE diaphragm.

** Used for CPVC body, threaded end, 1/2" through 1".

Type-14 True Union

Diaphragm Valves



Dimensions Type-14 True Union (Sizes 1/2" – 2") (in.)

NOMINAL SIZE		SOCKET												THREADED			
		PVC, CPVC					PP, PVDF (DIN)				PP, PVDF (IPS)			d1	l	L	
		ASTM SCH 80					d1	d2	l	L	d1	l	L			PVC CPVC	PP PVDF
INCHES	mm	d	d1	d2	l	L								d1	d2	l	L
1/2	15	0.63	0.848	0.848	0.875	5.47	0.768	0.760	0.57	4.92	0.83	0.87	5.43	1/2 14NPT	0.59	5.04	5.04
3/4	20	0.79	1.058	1.046	1.000	6.18	0.965	0.957	0.63	5.55	1.03	1.00	6.09	3/4 14NPT	0.67	5.83	5.83
1	25	0.98	1.325	1.310	1.125	7.32	1.240	1.232	0.71	6.46	1.30	1.13	7.24	1 - 11-1/2NPT	0.79	6.77	6.77
1-1/4	32	1.26	1.670	1.655	1.250	7.95	1.553	1.543	0.81	6.97	1.65	1.25	7.80	1 1/4 - 11-1/2NPT	0.87	7.40	7.40
1-1/2	40	1.57	1.912	1.894	1.375	10.47	1.947	1.937	0.93	9.09	1.89	1.37	10.28	1 1/2 - 11-1/2NPT	0.98	9.65	9.65
2	50	2.05	2.387	2.369	1.500	11.54	2.461	2.445	1.08	10.79	2.36	1.50	11.54	2 - 11-1/2NPT	1.10	11.06	10.95

NOMINAL SIZE		SPIGOT (BUTT END)					D	D1	D2	C (LIFT)	H	H1	S	S1	S2
		PP, PVDF													
		DIN 3442		PP	PVDF	L									
d1	l	t	t												
INCHES	mm	d1	l	t	t	L	D	D1	D2	C (LIFT)	H	H1	S	S1	S2
1/2	15	0.787	0.728	0.098	0.075	5.906	1.89	2.13 × 2.60	3.46	0.39	4.09	3.39	0.98	0.28	0.51
3/4	20	0.984	0.866	0.106	0.075	6.772	2.36	2.13 × 2.60	3.46	0.39	4.17	3.46	0.98	0.28	0.51
1	25	1.260	0.886	0.118	0.094	7.677	2.76	2.64 × 3.15	3.46	0.47	4.37	3.66	0.98	0.28	0.51
1-1/4	32	1.575	1.024	0.146	0.094	8.346	3.23	2.64 × 3.16	3.46	0.47	4.57	3.82	0.98	0.28	0.51
1-1/2	40	1.969	1.260	0.181	0.118	10.866	3.94	4.25 × 4.25	6.14	0.83	6.97	5.67	1.77	0.35	0.59
2	50	2.480	1.417	0.228	0.118	12.087	4.17	4.84 × 4.84	6.14	0.98	7.52	6.22	1.77	0.35	0.59

Caution

- Never remove valve from pipeline under pressure.
- Always wear protective gloves and goggles.

Pressure vs. Temperature (psi, water, non-shock)

Cv Values/Wt.(lbs.)

NOMINAL SIZE		PVC		CPVC				PP			PVDF			NOMINAL SIZE		Cv	WT. SOC (lbs)
		ALL DIAPHRAGMS		ALL DIAPHRAGMS				ALL DIAPHRAGMS			PTFE DIAPHRAGM						
INCHES	mm	30° F 105° F	106° F 140° F	30° F 105° F	106° F 140° F	141° F 175° F	176° F 195° F	- 5° F 105° F	106° F 140° F	141° F 175° F	- 40° F 140° F	141° F 175° F	176° F 210° F	INCHES	mm		
		1/2	15	150	130	150	115	85	40	150	115	85	150				
3/4	20	150	130	150	115	85	40	150	115	85	150	120	95	3/4	20	5.3	1.3
1	25	150	130	150	115	85	40	150	115	85	150	120	95	1	25	8.5	2.0
1-1/4	32	150	130	150	115	85	40	150	115	85	150	120	95	1-1/4	32	11	2.4
1-1/2	40	150	130	150	115	85	40	150	115	85	150	120	95	1-1/2	40	26	5.8
2	50	150	130	150	115	85	40	150	115	85	150	120	95	2	50	43	6.4

Note:

Working temperature is different from flanged version.

Troubleshooting

What if fluid leaks when valve is fully closed?

1. Travel stop not set correctly. Adjust it per the Asahi Operation and Maintenance manual.
2. Solids build up inside valve. Clean inside, including weir and diaphragm.
3. Diaphragm and/or weir are worn or damaged. Change the part(s).

What if valve cannot be fully opened?

1. Diaphragm is not properly engaged with compressor. Check engagement per Operation and Maintenance manual.

What if fluid leaks to atmosphere?

1. Bonnet bolts not properly torqued. Re-torque according to Operation and Maintenance manual.
2. Line pressure exceeds maximum recommended line pressure. Check or reduce system line pressure.
3. Diaphragm has ruptured or has been chemically attacked. Replace diaphragm.

Sample Specification

All Type-14 true union diaphragm valves shall be of solid thermoplastic construction for body and bonnet with socket, threaded or butt end connectors. The valves shall come standard with a position indicator, travel stop and bonnet O-ring sealing arrangement. The valve shall be weir type with a square bonnet body sealing design and bayonet connection diaphragm. All PTFE diaphragms shall be supplied with a PVDF gas barrier between the layers of EPDM and PTFE for aggressive chemical service. PVC conforming to ASTM D1784 Cell Classification 12454A, CPVC conforming to ASTM D1784 Cell Classification 23567A, PP conforming to ASTM D4101 Cell Classification PPO210B67272, PPG (bonnet only) conforming to ASTM D4101 Cell Classification PPO110M20A21130, and PVDF conforming to ASTM D3222 Cell Classification Type II. PVC, CPVC, PP and PVDF shall be rated to 150psi for elastomeric and PTFE diaphragms at 70° F, as manufactured by Asahi/America, Inc.