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WESTLUND/EMCO WATER SOLUTIONS

REGISTERED ISO 9001:2015 ISO 9001

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Westlund Water Solutions is the leading Canadian distributor of pipes, valves, fittings, and all related equipment found 'inside the fence' for wastewater treatment plants, reservoirs, and pumping stations.

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Chemline

Valves
Piping
Flow Meters
& Controls

Manual Thermoplastic Valves





• PVC • CPVC • PP • PVDF • FRP • PPG • PDCPD •

Distributed by:
WESTLUND/EMCO
WATER SOLUTIONS

REGISTERED ISO 9001:2015 ISO 9001

Materials of Construction
Ball Valves
Butterfly Valves
Diaphragm Valves
Check Valves
Other Valves
Strainers, Flange Gaskets

1968 40 Years 2008

Chemline Technical Resources

- Manual Thermoplastic Valves Catalogue
- Actuation & Actuated Valves Catalogue
- Controls & Flow Meters Catalogue
- DigiflowFlowX3® Flow Meters & Instrumentation Catalogue
- Chemical Resistance Guide
- Specification Guide

CHEMLINE Plastics Limited

Your Pipeline To Quality Valves, Piping, Flow Meters and Controls

ISO 9001:2000 Certified

Manual Thermoplastic Valves


Type 21 True Union Ball Valves


Type 23 Multi Port Ball Valves


High Capacity 6" Ball Valves


Metering Ball Valves


Type 57 Butterfly Valves


DFK Series Damper Butterfly Valves


Type 14 Diaphragm Valves


Ball Check Valves


PW Series Wafer Check Valves


WP Series Wafer Check Valves


Gate Valves


Needle Valves


Y Sediment Strainers


Low Torque Flange Gaskets

Materials of Construction

Thermoplastics

PVC (Polyvinyl Chloride)
The most economical and largest selection of Chemline valves are moulded from PVC. It offers excellent mechanical and chemical resistance properties at low cost. The working temperature range of PVC valves is **0 to 60°C (30 to 140°F)**.

PVC used for Chemline valves is identified by cell classification number **11564-A** as per ASTM Standard D 1784. The suffix **"A"** refers to the highest chemical resistance rating. Most other PVC valves as well as pipe and fittings have only a "B" chemical resistance rating.

The special PVC "A" compound used in Chemline valves resists attack of most acids, strong alkalais, salts and many other chemicals. High chemical resistance of this material allows its application on aggressive services such as 98% H_2SO_4, dry chlorine and low pressure wet chlorine gas. PVC is attacked by chlorinated hydrocarbons, ketones, esters and some aromatic compounds. It can be used on solutions containing up to 1000 ppm solvents.

Chemline PVC valves are non-toxic. They meet CSA standard B137.0 for toxicity.

They are resistant to damaging effects of sunlight and weathering, thus painting is not necessary.

CPVC (Chlorinated Polyvinyl Chloride)
CPVC is very similar to PVC in mechanical properties and chemical resistance. It is suitable for applications from **0 to 95°C (30 to 200°F)**.

The special CPVC compound used for Chemline valves is classified as **23567-A** as per ASTM D 1784. The suffix "A" denotes conformance to the highest chemical resistance rating. The compound is non-toxic, conforming to CSA toxicity standard B137.0.

CPVC valves have proven to be an excellent choice for applications at temperatures too high for PVC or when an extra margin of safety is required.

PP (Polypropylene)
PP is light weight and high in chemical resistance. Valves are suitable for service from **–20 to 90°C (–5° to 195°F)**. PP is unaffected by alkalais, salts, organic solvents and most acids, particularly hydrochloric and phosphoric acid. It is unsuitable on strong acids, chlorinated hydrocarbons, aromatic compounds and high concentrations of free chlorine.

PP is very inert thus popular for high purity applications such as deionized water, etc. The material comes normally opaqued by addition of grey-beige pigment to prevent ultraviolet light penetration. Natural translucent material without pigment will degrade if exposed to UV light (sun light). Chemline offers PP pipe, fittings and valves in pigmented and unpigmented PP, both approved by the FDA for contact with food.

PVDF (Polyvinylidene Fluoride)
PVDF is superior to other valve thermoplastics in chemical resistance and abrasion resistance. It has remarkable strength over the largest working temperature range. The working temperature range of PVDF valves is **–40 to 120°C (–40 to 250°F).**

PVDF's impact strength is over twice that of PVC. The valves are extremely durable under mechanical abuse even at –40°F. They also offer the highest abrasion resistance of thermoplastic valves.

PVDF has excellent chemical resistance against halogens such as chlorine and bromine, strong acids such as hydrofluoric and nitric acids, organic solvents and oils. PVDF is not resistant to hot bases.

It is also non toxic and imparts no odours or tastes into the fluid. Our PVDF conforms with USDA Title 21, P121.2593 requirements for contact with food.

Gas permeability of PVDF is extremely low. A patented PVDF gas permeability barrier is available on Type 14 and DV Series Diaphragm Valves. It is a backing to the Teflon® diaphragm and has proven to increase the life of diaphragm valves on chlorine and strong acid services.

Teflon® PTFE (Polytetrafluoroethylene)
PTFE is almost totally insoluble and chemically inert. It has high temperature resistance. Teflon® PTFE ball seats, because of natural lubricity, require no lubrication. Teflon® PTFE diaphragms and flange gaskets are used in the most severe chemical resistance applications.

Elastomers

EPDM (Ethylene Propylene Terpolymer)
EPDM is a synthetic rubber used as the standard seal material for most Chemline valves. It is the most economical choice of elastomer and has excellent chemical resistance on the great majority of applications including acids, alkalais, salts and many others at temperatures up to 90°C. EPDM is weak on organic compounds and cannot be used on oils and fats.

Chemline valves seals of EPDM meet CSA standard B137.0 for non-toxicity.

FKM or FPM ("Viton®" Fluorocarbon Rubber)
FKM/FPM is more expensive than EPDM so is used as an alternate elastomer when required. It has excellent resistance to mineral acids, oils and many aliphatic and aromatic hydrocarbons. FKM/FPM (Viton®) is weak on sodium hydroxide.

FKM-C is a special formulation with higher resistance to chlorine services.

FKM-F offers better chemical resistance on inorganic acids than standard FKM. Ratings are included for hydrochloric, nitric and sulphuric acids.

CPE (Chlorinated Polyethylene)
CPE is superior to all other elastomers on sodium hypochlorite. It resists hypochlorite up to full strength (13%). Ball valves supplied with CPE seals are very price competitive on this service.

NITRILE (Acrylonitrile-Butadiene Copolymer, abv. NBR)
Nitrile is also know as Buna-N. It has high chemical resistance to oil and petroleums but is weak on oxidizing media i.e. acids. Nitrile has excellent abrasion resistance and is less expensive than FKM/FPM (Viton®).

Type 21 True Union Ball Valves

The Chemline Type 21 True Union Ball valve incorporates state of the art features and performance. This is a full port, full blocking True Union valve pressure rated at 16 bar (230 psi)[4]. Double stem o-rings are provided for safety. Pneumatic or electric actuator mounting is easily accomplished in the field – Just pull off the handle to reveal an integral ISO mounting platform. Optional threaded inserts in the base are available for anchoring the valve.

230 psi Working Pressure

NSF 61 Certified[5]

Double Stem O-Rings for Safety

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, CPVC, PP, PVDF

SERIES: Type 21

SIZES: 3/8" – 4"

ENDS: Socket, Threaded, Flanged, Butt or ChemFlare™

SEATS: Teflon® PTFE

SEALS[1]**:** EPDM, FKM (Viton®), CPE[2]

CRN REGISTERED
CONSULT CHEMLINE

Features

Pressure rated to 230 psi
- Provides a high factor of safety

Integral Actuator Mounting Platform
- Actuation is easy. Electric or pneumatic actuators may be mounted in the field.

Full Port
- High capacity and low pressure drops

Fully Blocking
- Downstream union nut may be safely disassembled for piping maintenance while valve is closed off under full system pressure

Built-In Spanner Wrench
- Top of the handle is designed to be used as a tool for accessing internal parts

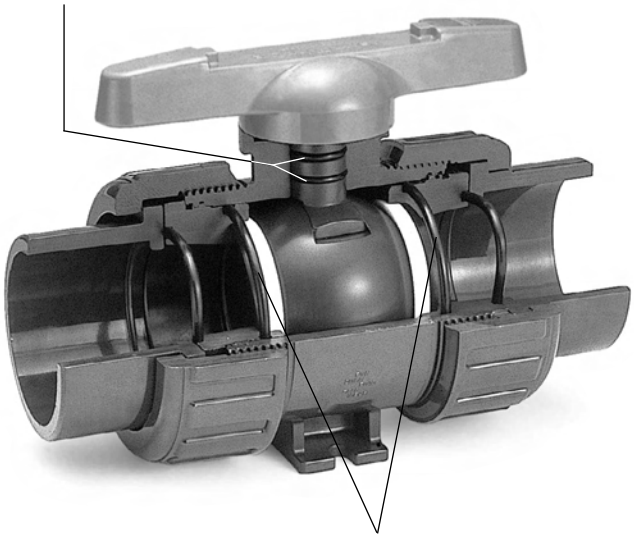
***Safety Shear* Stem Design**
- Stem has double o-rings
- Designed to hold full pressure even if stem breaks due to excessive torque

High Chemical Resistant Material
- PVC and CPVC compounds have an "A" chemical resistance rating as per ASTM D-1784. They have outperformed other PVC and CPVC compounds on aggressive chemicals.

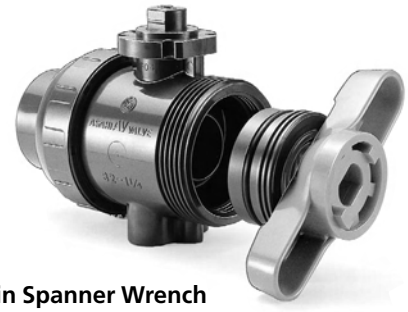
[1] Butt ends for fusion to Chemline metric PP or PVDF piping.
[2] Other materials are available special order.
[3] CPE = Chlorinated Polyethylene.
[4] PVC, CPVC and PVDF 1/2" to 2" are rated at 230 psi; 2-1/2" to 4" and all size PP valves are rated at 150 psi at 20°C.
[5] PVC valves with EPDM or FKM (Viton®) seals are certified under NSF/ANSI Standard 61 for contact with drinking water.

Type 21 True Union Ball Valves

Double Stem O-Rings – *Safety Shear* Design
- Upper o-ring groove is deeper than lower. In case of excessive stem torque, stem will shear at the upper groove, leaving the inner o-ring intact to seal against full line pressure.

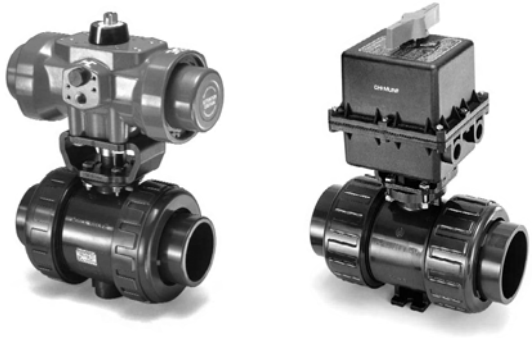


Teflon® Seats have Elastomer Cushions
- Improved sealing while lowering stem torques
- Self adjusts for seat wear



Built in Spanner Wrench
- For removing or tightening the seat carrier
- All parts are replaceable

Integral Actuator Mounting Platform
- Actuation is easy. Electric or pneumatic actuators may be mounted in the field. Simply pull off the handle to reveal a standard ISO 5211 mounting platform which accepts bolt-on hardware.



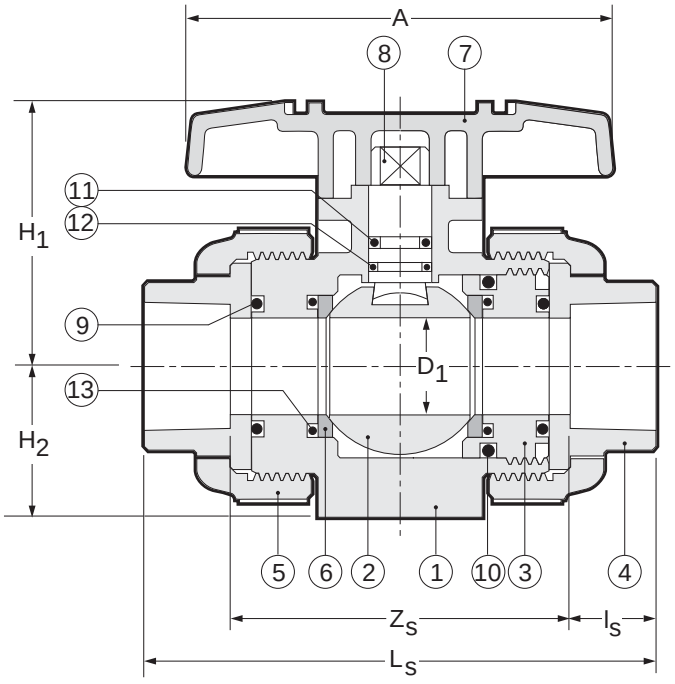
Pneumatic and Electric Actuators
- A complete range of actuators and control accessories are available, mounted to valves using plastic and stainless steel hardware

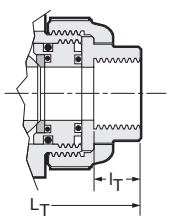
Base Mounting Pad
- Optional threaded inserts allow valves to be securely anchored
- Supplied standard with actuated valves

Fully Blocking
- Downstream pipe may be removed while upstream side is still pressurized. This may be done with valve installed in either direction.

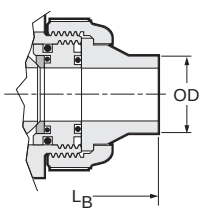
ChemFlare™ Ends
- For connection to Teflon® tube. Leak-free connections for difficult services such as sodium hypochlorite

Type 21 True Union Ball Valves

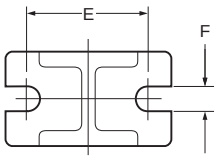




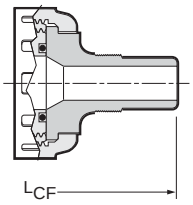
NPT Threaded



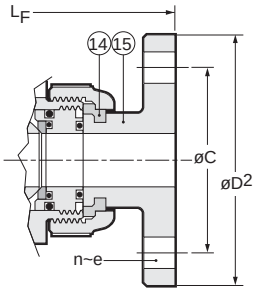
Butt Fusion



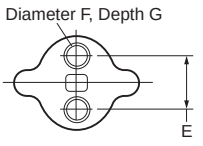
Bottom Stand:
2-1/2" to 4" valves
Base Thickness G



ChemFlare™ Ends
Tube nuts not shown



ANSI Flanged



Base Inserts:
1/2" to 2" valves

PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC, CPVC, PP, PVDF
2	Ball	1	PVC, CPVC,PP, PVDF
3	Carrier[1]	1/2	PVC, CPVC, PP, PVDF
4	End Connector	2	PVC, CPVC, PP, PVDF
5	Union Nut	2	PVC, CPVC, PP, PVDF
6▲	Ball Seat	2	PTFE
7	Handle	1	ABS

[1] 1 carrier for sizes 1/2" to 2", 2 carriers for sizes 2-1/2"to 4".
[2] EPDM seals standard with PVC, CPVC, PP; FKM (Viton®) with PVDF valves.
[3] 2 pcs 1/2" to 2", 6 pcs 2-1/2" to 4".

PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
8	Stem	1	PVC, CPVC, PP, PVDF
9▲	Face O-Ring[2]	2	EPDM, FKM (Viton®)
10▲	Carrier O-Ring[2]	2	EPDM, FKM (Viton®)
11▲	Upper Thicker Stem O-Ring[2]	1	EPDM, FKM (Viton®)
12▲	Lower Thinner Stem O-Ring[2]	1	EPDM, FKM (Viton®)
13	Seat Cushion[2]	2	EPDM, FKM (Viton®)
14	Flange Retainer[3]	2/6	PVDF
15	Flange	2	PVC, CPVC, PP, PVDF

DIMENSIONS INCHES

Size	D Bore	A	H_1	H_2	End Connections: Socket L_S	Socket Z_S	Socket l_S	Threaded l_T	Threaded L_T	Factory Flanged L_F	Factory Flanged D_2	Factory Flanged C	Factory Flanged n	Factory Flanged Øe	Butt L_B	Butt OD	ChemFlare™ L_{CF}	ChemFlare™ Tube[4]	Valve Base E	Valve Base F[5]	Valve Base G
1/2"	.59	3.6	2.03	1.14	4.45	2.70	.875	.64	4.02	5.63	3.50	2.38	4	.62	4.88	.79	6.12	1/2"	.75	.29	.43
3/4"	.79	3.9	2.34	1.38	5.08	3.08	1.00	.65	4.72	6.77	3.88	2.75	4	.62	5.67	.98	6.52	3/4"	.75	.29	.43
1"	.98	4.3	2.68	1.54	5.75	3.50	1.13	.81	5.16	7.36	4.25	3.12	4	.62	6.06	1.26	7.26	1"	.75	.29	.43
1-1/4"	1.22	4.8	3.17	1.85	6.46	5.21	1.25	.85	5.91	7.48	4.62	3.50	4	.62	6.85	1.57	–	–	1.18	.35	.59
1-1/2"	1.57	5.2	3.50	2.17	7.24	4.49	1.38	.85	6.42	8.35	5.00	3.88	4	.62	7.64	1.97	–	–	1.18	.35	.59
2"	2.01	6.3	4.02	2.60	8.23	5.23	1.50	1.90	7.76	9.21	6.00	4.75	4	.75	8.82	2.48	–	–	1.18	.35	.59
2-1/2"	2.28	7.87	4.96	2.83	9.45	5.95	1.75	1.21	8.46	10.20	7.00	5.49	4	.75	9.72	2.95	–	–	1.89	.35	.23
3"	2.70	9.45	5.51	3.35	11.10	7.35	1.88	1.30	10.39	11.97	7.50	6.00	4	.75	11.61	3.54	–	–	2.17	.43	.28
4"	3.54	11.81	7.01	4.33	13.88	9.87	2.00	1.38	14.17	14.65	9.00	7.50	8	.75	14.76	4.33	–	–	2.56	.43	.32

[4] ChemFlare™ ends are available for reduced tube sizes down to 1/4".
[5] Optional threaded inserts: 1/2" to 1" valves – UNC 1/4"-20; 1-1/4" to 2" valves – UNC 5/16"-18. 'Recoil' brand inserts require drilling before insertion.

Type 21 True Union Ball Valves

WORKING PRESSURES PSI, Water, Non-Shock

Size	PVC			CPVC						PP			PVDF				
	20°C 68°F	40°C 104°F	50°C 122°F	20°C 68°F	40°C 104°F	50°C 122°F	60°C 140°F	80°C 176°F	90°C 194°F	20°C 68°F	60°C 140°F	80°C 176°F	20°C 68°F	40°C 104°F	60°C 140°F	80°C 176°F	100°C 212°F
1/2"- 2"	230	165	150	230	165	150	120	75	55	150	85	55	230	185	150	110	85
2-1/2" - 4"	150	150	150	150	150	150	120	75	55	150	70	40	150	150	150	110	85

VACUUM RATING • 29.9 inches mercury

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **CPVC** 0 to 95°C (32 to 203°F), **PP** –20 to 80°C (–4 to 176°F), **PVDF** –40 to 100°C (–40 to 212°F).

WEIGHTS LB. THREADED or SOCKET

Size	PVC	CPVC	PP	PVDF
1/2"	0.4	0.4	0.4	0.4
3/4"	0.7	0.7	0.7	0.9
1"	0.9	1.1	0.9	1.1
1-1/4"	1.5	1.5	1.3	1.8
1-1/2"	2.4	2.6	1.5	2.9
2"	4.0	4.4	2.6	4.9
2-1/2"	5.1	5.5	3.7	6.2
3"	8.2	8.8	5.5	9.9
4"	19.4	21.8	13.2	24.9

WEIGHTS LB. FLANGED

PVC	CPVC	PP	PVDF
0.9	0.9	0.7	1.1
1.3	1.5	1.1	1.5
1.8	2.0	1.5	2.2
2.6	2.9	2.0	3.3
3.7	4.0	2.6	4.4
5.5	6.0	4.0	8.2
7.3	7.7	5.3	8.8
10.1	11.0	7.5	12.6
21.6	23.4	15.4	26.7

C_V VALUES VS. BALL ANGLE

Size	0%	25%	50%	75%	100%
1/2"	0	0.35	1.3	5.5	14.
3/4"	0	0.73	2.8	11.5	29.
1"	0	1.2	4.5	18.6	47.
1-1/4"	0	1.8	6.8	28.4	72.
1-1/2"	0	3.9	14.7	61.2	155.
2"	0	4.8	18.0	75.0	190.
2-1/2"	0	9.1	34.7	144.0	365.
3"	0	10.2	39.0	162.0	410.
4"	0	17.0	64.6	269.0	680.

SAMPLE SPECIFICATION

- All True Union Ball Valves in PVC, CPVC, PP or PVDF shall be specified *Chemline Type 21 or equal* sizes 1/2" to 2" in PVC, CPVC, and PVDF rated at 230 psi and in PP 150 psi maximum working pressure. Sizes 2-1/2", 3" and 4" rated at 150 psi maximum working pressure with EPDM, FKM (Viton®) or CPE seals. Cushioned Teflon® PTFE ball seats shall be provided for positive closure with minimum stem torques.
- All ball valve stems will be *Safety Shear* design blowout-proof with double o-rings for safety. The top o-ring groove shall be deeper so that if the stem breaks off under excessive torque the lower o-ring will remain intact and the valve will hold pressure.
- All valves shall be full port and two-way blocking.
- Socket ends in PVC and CPVC shall be Schedule 80 and conform to ASTM D-2467.
- Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
- Butt fusion ends in PP or PVDF will be compatible with Chemline PP or PVDF metric piping systems.
- Flanged ends shall be ANSI Class 150 one-piece factory moulded (not fabricated) to ensure maximum strength and close tolerance end to end dimensions.
- PVC compound shall have an ASTM cell classification 12454-A with a minimum suffix "A" designation for chemical resistance as per ASTM D-1784 (CSA report LO 4000-172).
- All CPVC compound shall have an ASTM cell classification 23567-A with a minimum suffix "A" designation for chemical resistance as per ASTM D-1784.
- PVC valves with EPDM or FKM (Viton®) seals shall be certified under NSF/ANSI Standard 61 for contact with drinking water.
- All PP materials are conformed ASTM D-4101 PP 021 B 67272 material requirements.
- All PVDF material shall be unpigmented conforming to ASTM D-3222 Type 2 suspension resin material requirements and also will be USDA Title 21 Chapter 1 Part 177. 2510 requirements for contact with food.
- All valves shall have chemical resistant labels permanently marked with manufacturing number to provide production level traceability.

ORDERING EXAMPLE

Chemline True Union Ball Valves	**21**	**A**	**020**	**E**	**S**
Body Material	**A** – PVC **B** – PP	**C** – CPVC **K** – PVDF			
Size[1]	**002** – 1/4" **003** – 3/8" **005** – 1/2" **007** – 3/4" **010** – 1" **012** – 1-1/4" **015** – 1-1/2" **020** – 2" **025** – 2-1/2" **030** – 3" **040** – 4" **060** – 6"				
Seals	**E** – EPDM **V** – FKM (Viton®) **C** – CPE **B** – Nitrile **A** – Aflas				
Ends	**S** – Socket **T** – Threaded **F** – Flanged **B** – Butt[2] **CF** – ChemFlare™				

Example: Chemline Type 21 True Union Ball Valve, PVC, 2", with EPDM seals, socket ends.
[1] 1/4" is normally the 3/8" valve reduced. 6" is 4" valve with 6" end connections.
[2] PP and PVDF metric butt fusion ends (1/2" to 4") connect to Chemline PP and PVDF piping systems.

OPTIONS & ACCESSORIES

- **Alternate O-Ring Seals**
- **Electrically or Pneumatically Actuated** – Refer to separate data sheets
- **Stem Extensions** made to any length
- **Limit Switches** – For open and/or closed position indication
- **Handle Lockout** – Field mountable
- **Municipal Operating Nut**
- **Lubrication-free Valves** – Factory clean room assembled

ChemFlare™ End Connectors

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, CPVC, PP, PVDF

SERIES: ChemFlare™

SIZES: 1/2", 3/8", 3/4" and 1"

All Chemline valves with True Union ends are available with ChemFlare™ end connections. ChemFlare™ is a long term leak-free connection design for difficult applications such as sodium hypochlorite[1]. These flared end connections are easy to install and allow for compact plumbing and a small footprint.

They are available on Chemline True Union valves, flow meters and controls up to1" and will connect Teflon® PFA tubing down to 1/4" size.

Tubing must be flared using a mechanical flare tool or by heating and using a forming flare tool (preferred method). Consult Chemline for flare tools.

Full Valve Working Pressure

Easy Installation

Low Down Time

Features

Weldless Design
- Eliminates all fusion welds and glued joints
- Threaded connection between flared end and tube nut is not wetted

Easy Installation
- Flaring the tube ends is easy
- Assembly is by hand[2]

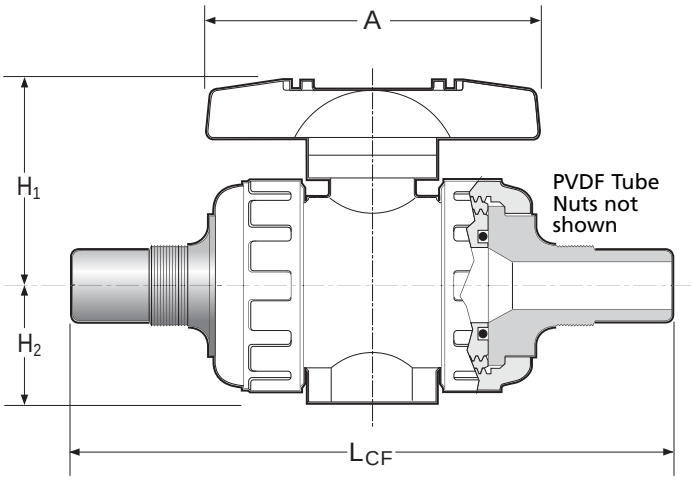
Low Down Time
- No welding or curing waiting time. The system may be pressure tested immediately.

Minimum Dead Volume
- The flared tubing connection has minimum dead volume desirable on sodium hypochlorite and ultrapure applications

[1] For sodium hypochlorite applications Chemline recommends venting ball valves by drilling a hole on the upstream side of the ball in the closed position.

[2] ChemFlare™ fitting nuts should be hand tightened only. Use of a wrench can result in excessive tightening and stripped threads.

ChemFlare™ End Connectors



DIMENSIONS INCHES

Valve Size	Tube Size[1]	A	H_1	H_2	L_{CF}
1/2"	1/4"	3.6	2.03	1.14	5.52
1/2"	3/8"	3.6	2.03	1.14	6.04
1/2"	1/2"	3.6	2.03	1.14	6.12
3/4"	3/4"	3.9	2.34	1.38	6.52
1"	1"	4.3	2.68	1.54	7.26

MAXIMUM PRESSURES PSI

Valve Size	Tube Size[1]	PVC			CPVC						PP			PVDF				
		20°C 68°F	40°C 104°F	50°C 122°F	20°C 68°F	40°C 104°F	50°C 122°F	60°C 140°F	80°C 176°F	90°C 194°F	20°C 68°F	60°C 140°F	80°C 176°F	20°C 68°F	40°C 104°F	60°C 140°F	80°C 176°F	100°C 212°F
1/2"	1/4"	230	165	150	230	165	150	120	75	55	150	85	55	230	185	140	110	85
1/2"	3/8"	212	165	150	212	165	150	120	75	55	150	85	55	212	177	140	110	85
1/2"	1/2"	195	165	150	195	165	150	120	75	55	150	85	55	195	170	140	110	85
3/4"	3/4"	111	102	97	111	102	97	92	75	55	111	85	55	111	102	92	92	66
1"	1"	77	67	62	77	67	62	57	46	41	77	57	46	77	77	57	57	37

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **CPVC** 0 to 95°C (32 to 203°F), **PP** –20 to 90°C (–4 to 194°F), **PVDF** –40 to 100°C (–40 to 212°F).
[1] ChemFlare™ ends are available for reduced tube sizes down to 1/4". Tube nuts are always supplied with end connectors.

SAMPLE SPECIFICATION

– All True Union Ball Valves in PVC, CPVC, PP or PVDF shall be specified *Chemline Type 21 or equal* sizes 1/2" to 2" in PVC, CPVC, and PVDF rated at 230 psi and in PP 150 psi maximum working pressure. Sizes 2-1/2", 3" and 4" rated at 150 psi maximum working pressure with EPDM , FKM (Viton®) or CPE seals. Cushioned Teflon® PTFE ball seats shall be provided for positive closure with minimum stem torques.

– All ball valve stems will be *Safety Shear* design blowout-proof with double o-rings for safety. The top o-ring groove shall be deeper so that if the stem breaks under excessive torque the lower o-ring will remain intact and the valve will hold pressure.

– All valves shall be full port and two-way blocking.

– All valves for sodium hypochlorite service shall have the ball vented on the upstream side to prevent the accumulation of chlorine gas due to off-gassing.

– End connections shall be *ChemFlare™* design for connection to flared Teflon® PFA tubing.

– PVC compound shall have an ASTM cell classification 12454, as per ASTM D-1784 (CSA Report LO 4000-1172) and a chemical resistance equal to S20-1-3-R as per ASTM D5260.

– All PVC/EPDM and PVC/FKM (Viton®) valves shall be certified under NSF/ANSI Standard 61 for contact with drinking water.

– All valves shall have chemical resistant labels permanently marked with manufacturing number to provide production level traceability.

ITEM NUMBER SUFFIX

ChemFlare™ End Connections	CF	8
Tube Size[2]	**4** – 1/4" **6** – 3/8" **8** – 1/2" **12** – 3/4" **16** – 1"	

Example: ChemFlare™ end connections for 1/2" tubing.
[2] Tube size must be equal or smaller than the valve size.

Type 26 Ball Valves

This is a full port, full blocking True Union valve pressure rated at 16 bar (230 psi). Double stem o-rings are provided for safety. The bodies are interchangeable with the old *Safe-Bloc*® valves in several sizes.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC

SERIES: Type 26

SIZES: 1/2" – 2"

ENDS: Socket

SEATS: Teflon® PTFE

SEALS: EPDM

230 psi Working Pressure

NSF 61 Certified[1]

Double Stem O-Rings for Safety

Features

Pressure rated to 230 psi
- Provides a high factor of safety

Full Port
- High capacity and low pressure drops

Fully Blocking
- Downstream union nut may be safely disassembled for piping maintenance while valve is closed off under full system pressure

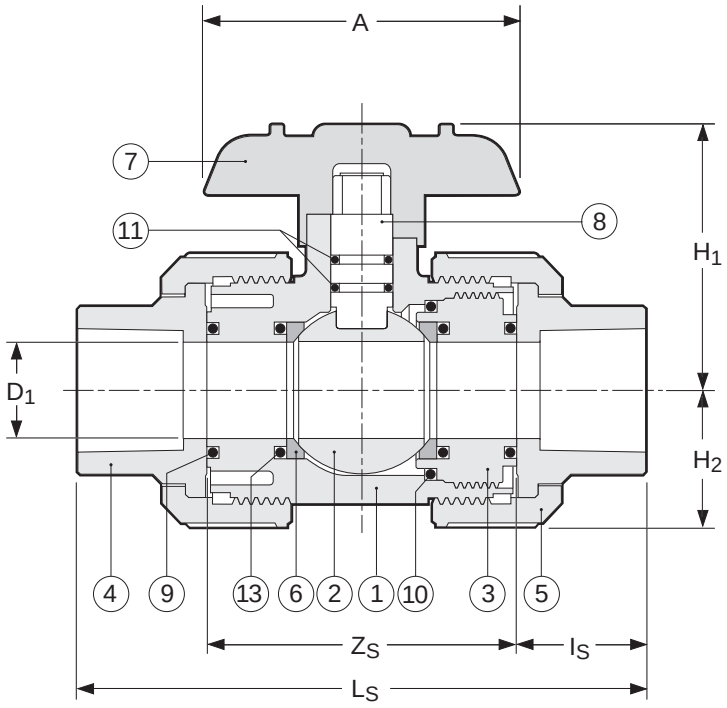
Built-In Spanner Wrench
- Top of the handle is designed to be used as a tool for accessing internal parts

Compatible with *Safe-Bloc*® Ball Valves
- 1/2", 1-1/4" and 2" sizes can easily replace old *Safe-Bloc*® True Union ball valves. The body sections are interchangeable in these sizes only.

Size	Replace *Safe-Bloc*®?
1/2"	Yes
3/4"	No
1"	No
1-1/4"	Yes
1-1/2"	No
2"	Yes

[1] Valves are certified under NSF/ANSI Standard 61 for contact with drinking water.

Type 26 Ball Valves



PARTS ▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC
2	Ball	1	PVC
3	Carrier	1	PVC
4	End Connector	2	PVC
5	Union Nut	2	PVC
6▲	Ball Seat	2	PTFE
7	Handle	1	ABS
8	Stem	1	PVC
9▲	Face O-Ring	2	EPDM
10▲	Carrier O-Ring	2	EPDM
11▲	Stem O-Ring	2	EPDM
13	Seat Cushion	2	EPDM

DIMENSIONS INCHES

WORKING PRESSURES PSI, Water, Non-Shock **WEIGHT** LB. **Cv VALUES**

Size	D Bore	A	H_1	H_2	L_S	Z_S	l_S	20°C 68°F	40°C 104°F	50°C 122°F	Net Pounds	USGPM Flow at 1 psi △P
1/2"	0.85	2.95	2.13	0.94	4.29	2.54	0.87	230	165	150	0.44	14.0
3/4"	1.06	3.15	2.44	1.18	5.08	3.08	1.00	230	165	150	0.66	29.0
1"	1.32	3.15	2.68	1.38	5.75	3.50	1.13	230	165	150	0.88	47.0
1-1/4"	1.67	3.94	3.11	1.57	6.46	3.95	1.25	230	165	150	1.32	72.0
1-1/2"	1.91	4.53	3.46	1.89	7.24	4.50	1.37	230	165	150	1.98	155.0
2"	2.39	5.12	4.02	2.36	8.23	5.23	1.50	230	165	150	3.53	190.0

ORDERING EXAMPLE

Chemline True Union Ball Valves	**26**	**A**	**020**	**E**	**S**
Body Material	**A** – PVC				
Size	**005** – 1/2" **007** – 3/4" **010** – 1" **012** – 1-1/4" **015** – 1-1/2" **020** – 2"				
Seals	**E** – EPDM				
Ends	**S** – Socket				

Example: Chemline Type 26 True Union Ball Valve, PVC, 2", with EPDM seals, socket ends.

OPTIONS & ACCESSORIES

- **Flanged Ends**

Compact Ball Valves

CHEMLINE Plastics Limited

Your Pipeline To Quality

Chemline Compact Ball Valves are manufactured to the same high quality standards to the Type 21 True Union ball valve. They are used on applications where union end valves are not necessary or desired such as drain valves for tanks. They are also lower cost and more compact. The Type 21 True Union ball valve although more expensive than the Compact type, are preferable for chemical and seawater services where easy in-line servicing and parts replaceability is required.

PVC, CPVC

SERIES:	OM
SIZES:	3/8" – 3"
ENDS:	Threaded, Socket
SEATS:	Teflon® PTFE
STEM SEAL:	EPDM

Low Cost

Rugged

NSF 61 Certified[1]

Features

All PVC or all CPVC Construction
- Handles are colour coded red for PVC, blue for CPVC

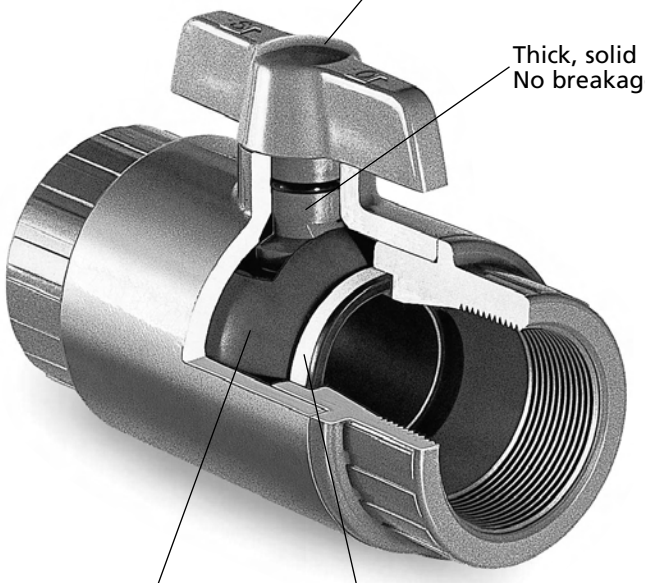
High Chemical Resistance
- The PVC as well as CPVC compounds for these valves have an "A" chemical resistance rating[2] – superior to competition

Full Port
- Low pressure loss

Low Stem Torques
- Due to floating ball design and cushioned Teflon® seats

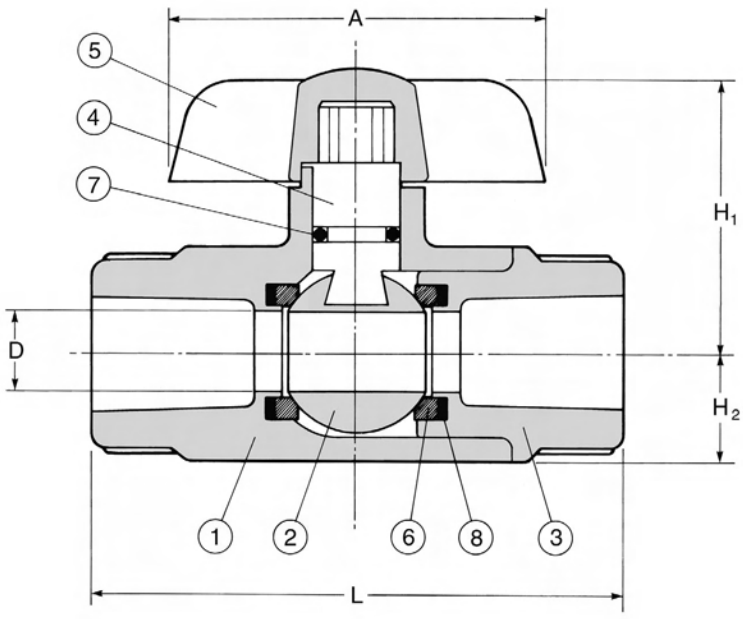
Compact
- Space saving

Available with Electromni® Electric Actuator



[1] Valves are certified under NSF/ANSI Standard 61 for contact with drinking water.
[2] Designation for chemical resistance as per ASTM D-1784.

Compact Ball Valves



PARTS

No.	Part*	Pcs.	Materials
1	Body	1	PVC, CPVC
2	Ball	1	PVC, CPVC
3	End Connector	1	PVC, CPVC
4	Stem	1	PVC, CPVC
5	Handle	1	ABS
6	Seat	2	Teflon® PTFE
7	Stem O-Ring	1	EPDM
8	Seat Cushion	2	EPDM

*Parts for identification only and cannot be removed

DIMENSIONS INCHES

Size	D	L	A	H_1	H_2
3/8"	.51	3.35	2.4	1.65	0.69
1/2"	.51	3.35	2.4	1.65	0.69
3/4"	.79	4.00	3.2	2.20	0.95
1"	1.00	4.49	3.2	2.36	1.16
1-1/4"	1.22	5.00	3.7	2.76	1.31
1-1/2"	1.40	6.03	4.3	3.00	1.44
2"	1.80	6.93	4.3	3.34	1.74
3"	2.76	9.25	7.9	4.80	2.58

WORKING PRESSURES PSI

NET WEIGHTS LB.

C_V VALUES

Size	PVC 0-50°C 68-122°F	CPVC 0-50°C 68-122°F	CPVC 60°C 140°F	CPVC 80°C 176°F	CPVC 90°C 194°F	PVC	CPVC	USGPM Flow at 1 psi △P
3/8"	150	150	120	85	55	0.3	0.3	7.7
1/2"	150	150	120	85	55	0.3	0.3	14.0
3/4"	150	150	120	85	55	0.4	0.5	29.0
1"	150	150	120	85	55	0.7	0.8	47.0
1-1/4"	150	150	120	85	55	0.9	1.0	72.0
1-1/2"	150	150	120	85	55	1.2	1.3	140.0
2"	150	150	120	85	55	2.0	2.1	185.0
3"	150	150	120	85	55	6.3	6.8	410.0

Temperature Ranges: PVC –0 to 60°C (32 to 140°F), **CPVC** –0 to 95°C (32 to 203°F).

SAMPLE SPECIFICATION – PVC

All Ball Valves (to 3") are to be Chemline OM Series *Compact* or equal with EPDM stem O-ring, Teflon® seats with EPDM cushions, and free floating ball. PVC compound will have cell classification 12454-A with minimum "A" suffix designation for chemical resistance as per ASTM D-1784. Valve shall be certified under NSF/ANSI Standard 61 for contact with drinking water.

ORDERING EXAMPLE

Chemline Compact Ball Valves				**OM**	**A**	**020**	**T**
Valve Material	**A** – PVC	**C** – CPVC					
Size	**003** – 3/8"	**005** – 1/2"	**007** – 3/4"	**010** – 1"			
	012 – 1-1/4"	**015** – 1-1/2"	**020** – 2"	**030** – 3"			
Ends	**S** – Socket	**T** – Threaded					

Example: Compact Ball Valve, PVC, 2", threaded ends.

VACUUM RATING

- 29.9 inches mercury

OPTIONS & ACCESSORIES

- **Electrically Actuated** – See Electromni® Electric Actuator data page
- **Flanged Ends**

Type 23 Multi Port Ball Valves

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PP, CPVC, PVDF

SERIES:	Type 23
SIZES:	1/2" – 4"
ENDS:	Socket, Threaded, Flanged, Butt[1] or ChemFlare™[2]
SEATS:	Teflon® PTFE
SEALS:	EPDM, FKM (Viton®)[3]

The Chemline Type 23 Multi Port Ball Valve incorporates all the quality features of the Type 21 True Union type. One Multi Port valve eliminates the need for two standard ball valves and a tee in many cases.

A choice of several flow patterns is available. L-Port is supplied standard. X-Port offers flow straight through ports ① and ②. T-Port connects all three ports simultaneously.

Choice of Flow Patterns

Easy to Actuate in the Field

NSF 61 Certified[4]

CRN REGISTERED
CONSULT CHEMLINE

Features

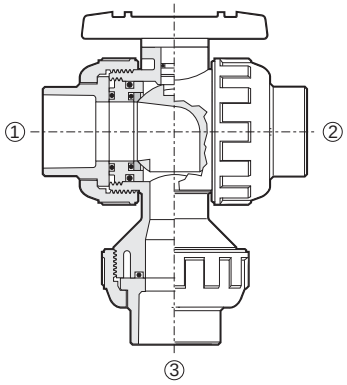
Integral Actuator Mounting Platform
- Actuation is easy. Electric or pneumatic actuators may be mounted in the field[5]

Fully Blocking
- Downstream union nut may be safely disassembled for piping maintenance while valve is closed off under full system pressure
- Handle works as a tool for accessing internal parts

***Safety Shear* Stem Design**
- Stem has double o-rings
- Designed to hold full pressure even if stem breaks due to excessive torque

High Chemical Resistant Material
- PVC and CPVC compounds have an "A" chemical resistance rating as per ASTM D-1784.

- **Bidirectional flow is permitted**



Three Positions of *L-Port* Operation:
1. Port ① and ③ open, as illustrated
2. Shut-off – handle turned 90°
3. Port ② and ③ open – handle turned 180°

Three Positions of *X-Port* Operation:
- No Shut-off is possible with X-Port
- Available 1/2" to 2" only

1. Port ① and ③ open, as illustrated
2. Flow through ① and ② – handle turned 90°
3. Port ② and ③ open – handle turned 180°

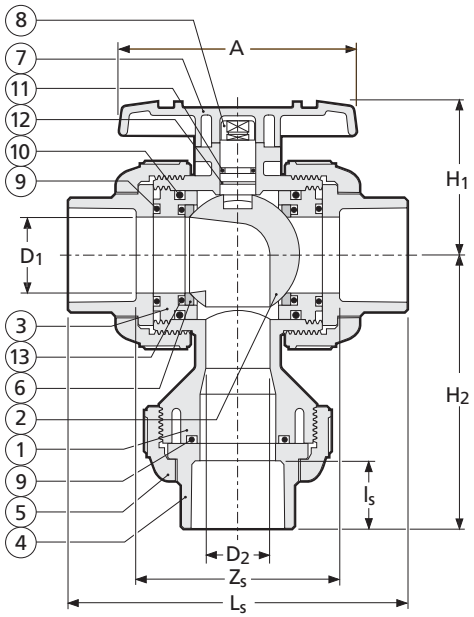
Two Positions of *90°* Operation:
- Required for pneumatic actuation

1. Port ① and ③ open, as illustrated
2. Port ② and ③ open – handle turned 90°

Two Positions of *T-Port* Operation:
1. Port ①, ② and ③ open
2. Shut-off – handle turned 90°

[1] Butt ends for fusion to Chemline metric PP or PVDF piping.
[2] For ChemFlare™ end connectors, consult Chemline.
[3] Other seal materials are available special order.
[4] PVC valves with EPDM or FKM (Viton®) seals are certified under NSF/ANSI Standard 61 for contact with drinking water.
[5] For operation with pneumatic actuators, 90° operating ball is recommended.

Type 23 Multi Port Ball Valves



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC, PP, CPVC, PVDF
2	Ball	1	PVC, PP, CPVC, PVDF
3	Carrier	2	PVC, PP, CPVC, PVDF
4	End Connector	3	PVC, PP, CPVC, PVDF
5	Union Nut	3	PVC, PP, CPVC, PVDF
6▲	Ball Seat	2	Teflon® PTFE
7	Handle	1	ABS
8	Stem	1	PVC, PP, CPVC, PVDF
9▲	Face O-Ring	3	EPDM, FKM (Viton®)
10▲	Carrier O-Ring	2	EPDM, FKM (Viton®)
11▲	Upper Thicker Stem O-Ring	1	EPDM, FKM (Viton®)
12▲	Lower Thinner Stem O-Ring	1	EPDM, FKM (Viton®)
13▲	Seat Cushion	2	Stainless Steel

PVC, CPVC and PP valves are fitted with EPDM seals (parts 9 to 12) as standard, PVDF valves with FKM (Viton®).

DIMENSIONS INCHES

WEIGHT LB.

C_V VALUES

Size	A	D_1	D_2	H_1	End Connections: Socket L_S	Socket Z_S	Socket I_S	Socket H_2	Threaded L_T	Threaded H_2	Flanged* L_F	Flanged* H_2	End Connections: Socket PVC	Socket CPVC	Threaded PP	Threaded PVDF	USGPM Flow at 1 psi △P
1/2"	3.6	0.59	0.59	2.03	4.45	2.70	0.88	3.08	4.02	2.89	5.63	3.70	0.4	0.4	0.4	0.9	7.4
3/4"	3.9	0.79	0.79	2.34	5.08	3.08	1.00	3.56	4.72	3.48	6.77	4.50	0.9	0.9	0.4	0.9	10.
1"	4.3	0.98	0.98	2.68	5.75	3.50	1.13	4.32	5.16	4.13	7.36	5.24	1.3	1.3	0.9	1.5	23.
1-1/2"	5.2	1.57	1.26	3.50	7.24	4.49	1.38	5.71	6.42	5.53	8.35	6.50	2.9	3.1	2.0	3.7	43.
2"	6.3	2.01	1.69	4.04	8.23	5.23	1.50	6.66	7.76	6.61	9.21	7.34	5.5	6.0	3.7	6.8	59.
3"	9.5	3.07	2.70	5.51	11.10	7.35	1.88	9.59	10.39	9.25	11.97	10.06	13.2	13.2	7.7	14.3	130.
4"	11.8	3.94	3.54	7.01	13.90	9.87	2.00	11.58	14.17	11.77	14.65	12.01	29.8	30.9	18.7	34.2	260.

* Factory Flanged lengths.

WORKING PRESSURES PSI

VACUUM RATING • 29.9 inches mercury

Size	PVC 0-50°C 32-122°F	CPVC 0-50°C 32-122°F	CPVC 60°C 140°F	CPVC 80°C 176°F	CPVC 90°C 194°F	PP –20-30°C –4-86°F	PP 50°C 122°F	PP 60°C 140°F	PP 80°C 176°F	PVDF –20-60°C –4-140°F	PVDF 80°C 176°F	PVDF 90°C 194°F	PVDF 100°C 212°F
1/2"– 2"	150	150	120	90	60	150	90	90	60	150	125	110	90
3"– 4"	150	150	90	60	45	150	75	75	45	150	105	90	75

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **CPVC** 0 to 95°C (32 to 203°F), **PP** –20 to 80°C (–4 to 176°F), **PVDF** –40 to 100°C (–40 to 212°F).

ORDERING EXAMPLE

Chemline Multi Port Ball Valves	23	A	015	E	S	–
Body Material	**A** – PVC **B** – PP **C** – CPVC **K** – PVDF					
Size	**005** – 1/2" **015** – 1-1/2" **007** – 3/4" **020** – 2" **010** – 1" **030** – 3" **040** –4"					
Seals	**E** – EPDM **V** – FKM (Viton®) **C** – CPE **B** – Nitrile **A** – Aflas					
Ends	**S** – Socket **T** – Threaded **F** – Flanged **B** – Butt[1] **CF** – ChemFlare™					
Ball Type	**Blank** – L-Port **X** – X-Port **T** – T-Port **90** – 90° Operation					

Example: Chemline Type 23 Multi Port Ball valve, standard L-Port, PVC, 1-1/2", with EPDM seals, socket ends.

[1]PP and PVDF metric butt fusion ends (1/2" to 4") connect to Chemline PP and PVDF piping systems.

OPTIONS & ACCESSORIES

- **Alternate Flow Patterns** – See front page
- **Alternate O-Ring Seals**
- **Electrically or Pneumatically Actuated** – Refer to separate data sheets
- **Stem Extension** made to any length
- **Limit Switches** – For open and/or closed position indication
- **Handle Lockout** – Field mountable
- **Municipal Operating Nut**
- **Lubrication-free** – Factory clean room assembled

High Capacity 6" Ball Valves

Chemline HC Series is a true large port 6" ball valve manufactured in PVC, polypropylene and PVDF. Most other 6" valves often are 4" with ends increased to 6". HC Series offers an unobstructed full port which allows passage of mechanical pipe cleaners or "pigs". Applications include unfiltered sea water and sewage lines. It is also suitable for mild slurries and vacuum lines.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PP, PVDF

SERIES: HC

SIZES: 6" & 8"[1]

ENDS: Socket, Flanged or Butt[2]

SEATS: Teflon® PTFE

SEALS: EPDM, FPM (Viton®)

Full Flow Path

Low Stem Torque

Trunion Design

Features

Large Port
- ***Low Pressure Loss*** – C_V value of 1880
- ***No Obstruction to Flow*** – No possible hangup of debris. Suitable for lines where "pigging" is required.
- ***Low Fluid Velocities*** – Minimal line velocity increase through these valves means lower abrasion if solids are present.

Compact Dimensions
- Minimum end-to-end length

Easy Maintenance
- The body is a lugged cartridge which slips out of line when the end flange bolts are removed

Light Weight
- Easy installation
- Minimal stress on piping system

No Cavity between Body and Ball
- The low dead volume eliminates sediment build-up

Cushioned Teflon® Ball Seats
- Elastomer cushions provide a good closure seal and smooth operation

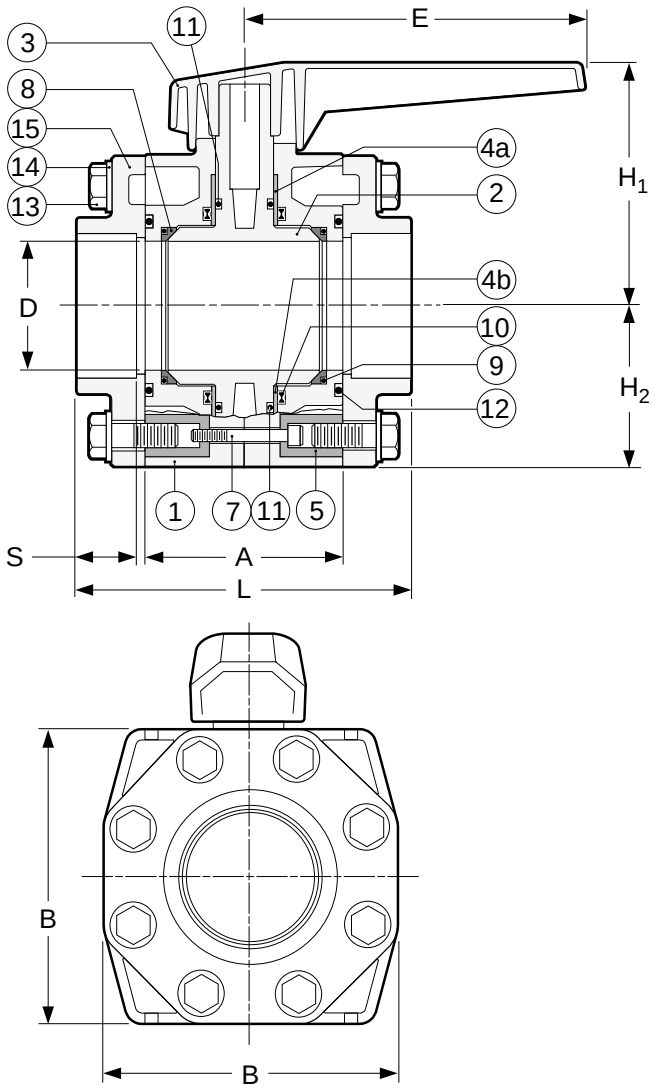
Teflon® Stem and Trunion Bearings
- Assure low torque and maintenance free operation

Available Flanged to 8"
- The C_V value of these valves flanged to 8" is approximately equal to that of an 8" butterfly valve but offers no obstruction in flow path

Slotted Top Surface
For easy actuator mounting

[1] 8" size is a 6" valve with 8" flanged ends.
[2] Butt ends for fusion to Chemline metric PP or PVDF piping.

High Capacity 6" Ball Valves



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Split Body	2	PVC, PP, PVDF
2	Ball/Stem Unit	1	PVC, PP, PVDF
3	Handle	1	PVC
4a	Stem Bearing	1	Teflon® PTFE
4b	Trunion Bearing	1	Teflon® PTFE
5	Hex Retainer Lug	8	304 SS
7	Body Retainer Bolt	8	304 SS
8▲	Ball Seat	2	Teflon® PTFE
9▲	Seat Cushion	2	EPDM, FPM (Viton®)[1]
10▲	Body & Stem Seal	1	EPDM, FPM (Viton®)[1]
11▲	Stem & Trunion O-Ring	2	EPDM, FPM (Viton®)[1]
12▲	Body Face O-Ring	2	EPDM, FPM (Viton®)[1]
13	End Piece Retainer Bolt	16	304 SS
14	Washer	14	304 SS
15	Socket End Piece	2	PVC, PP, PVDF

[1] EPDM is supplied standard with PVC & PP. FPM (Viton®) is supplied standard with PVDF valve.

VACUUM RATING

- 29.9 inches mercury

OPTIONS & ACCESSORIES

- **Electrical or Pneumatically Actuated** – Refer to separate data sheets
- **Stem Extensions** – Made to any length
- **Limit Switches** – For open and/or closed position indication
- **Handle Lockout** – Field mountable
- **Municipal Operating Nut**
- **Gear Operator**

WEIGHTS LB.

Size	Material	Socket	Flanged
6"	PVC	50	70
	PP	38	54
	PVDF	58	78

DIMENSIONS INCHES

Size	Material	D Bore	S Socket	L Socket	L Flanged	A	B	E	H_1	H_2
6"	PVC	5.3	3.4	15.2	22.4	8.0	10.6	12.2	8.3	5.3
	PP	5.3	–	14.3	19.8	8.0	10.6	12.2	8.3	5.3
	PVDF	5.1	–	14.3	19.8	8.0	10.6	12.2	8.3	5.3
8"	PVC	5.3	C.F.	C.F.	25.2	8.0	10.6	12.2	8.3	5.3
	PP	5.3	–	–	C.F.	8.0	10.6	12.2	8.3	5.3
	PVDF	5.1	–	–	C.F.	8.0	10.6	12.2	8.3	5.3

WORKING PRESSURES PSI

	PVC			Polypropylene			PVDF				
Size	0-40°C 32-104°F	50°C 122°F	60°C 140°F	0-40°C 32-104°F	60°C 140°F	80°C 176°F	–40-70°C –40-158°F	80°C 176°F	90°C 194°F	100°C 212°F	120°C 248°F
6"	85	45	15	85	60	30	85	75	60	45	30
8"	85	45	15	85	60	30	85	75	60	45	30

Large Size Compact 4"& 6" Ball Valves

Chemline SL Series Compact Ball Valves are molded-in-place full port 4" and 6", available in PVC with a polyethylene ball. The 6" size is a full port alternative to a 4" ball valve with ends increased to 6". Seats are Teflon® for long life and low stem torques. The 4" size is also available with Hypalon® seats, superior on sustained vacuum applications and many slurries.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC with PE Ball

SERIES:	SL
SIZES:	4" & 6"
ENDS:	Flanged
SEATS:	Teflon® PTFE, Hypalon® (CSM)[1]
SEALS:	FPM (Viton®), EPDM

Full Port

Compact Dimensions

Abrasion Resistant

Features

Large Port
- ***Low Pressure Loss*** – 6" has C_V value of 1880
- ***No Obstruction to Flow*** – No possible hangup of debris – Suitable for lines where "pigging" is required

Compact Dimensions – Minimal flange face-to-face dimensions: 6" has 10-1/2" face-to-face length
- Will fit where other ball valves will not
- The most compact 4" and 6" flanged ball valves available

Light Weight
- Easy installation
- Minimal stress on piping system

No Cavity between Body and Ball
- The low dead volume eliminates sediment build-up

Teflon® Ball Seats
- Provide long life and low stem torques

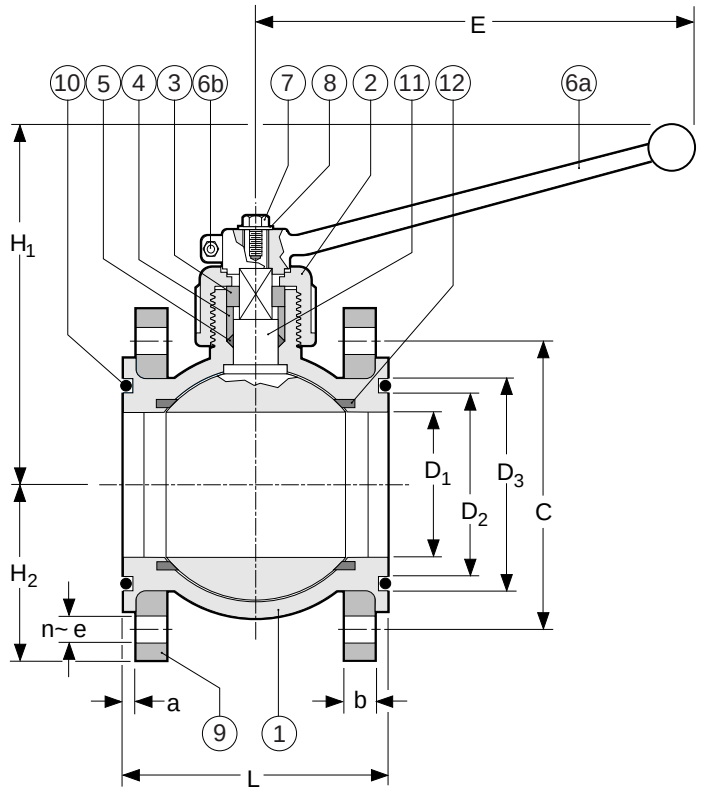
Long Term Vacuum Resistance
- Optional Hypalon® seats (4" only) hold vacuum long term

Abrasion Resistant
- PE ball provides superior abrasion resistance
- Optional Hypalon® seats (4" only) out perform Teflon® on abrasion

No Flange Gaskets Required
- Flange face O-rings are included

[1] Standard seats are Teflon®. Hypalon® is available in 4" only.

Large Size Compact Ball Valves



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC
2	Gland Nut	1	PVC
3	Travel Stop	1	PVDF
4	Gland	1	PVC
5▲	Stem O-Ring	1	FPM (Viton®), EPDM[1]
6a	Hand Lever	1	Alum Alloy
6b	HL Tightening Bolt/Nut	1 set	304 SS
7	HL Retaining Hex Bolt	1	304 SS
8	Hand Lever Washer	1	PVC
9	Flange	2	GRP[2]
10	Face O-Ring	2	FPM (Viton®), EPDM[1]
11	Ball/Stem	1	PE/Steel
12	Ball Seat	2	PTFE, CSM[3]

[1] FPM (Viton®) is supplied standard
[2] GRP = Glass reinforced polyester
[3] CSM = Hypalon® available in 4" only

VACUUM RATING

- 29.9 inches mercury

DIMENSIONS INCHES

Size	D_1 Bore	D_2	D_3	C	E	H_1	H_2	L	a	b	e	n
4"	3.67	4.52	5.23	7.5	10.8	8.7	4.3	6.57	0.28	0.87	0.77	8
6"	5.92	6.76	7.46	9.5	12.2	11.2	5.6	10.51	0.35	1.06	0.88	8

NET WEIGHTS LB. — WORKING PRESSURES PSI — C_V VALUES

Size	Pounds	20°C 68°F	30°C 86°F	40°C 104°F	50°C 102°F	60°C 140°F	USGPM Flow at 1 psi △P
4"	15.6	150	115	85	45	15	1565
6"	21.1	85	85	85	45	15	1880

Temperature Range: 0 to 60°C (32 to 140°F).

ORDERING EXAMPLE

Chemline Large Size Compact Ball Valves	**SL**	**A**	**060**	**E**	**F**	
Body Material	**A** – PVC					
Size	**040** – 4"	**060** – 6"				
Seals	**E** – EPDM	**V** – FPM (Viton®) (Standard)				
Ends	**F** – Flanged					
Seats	**blank** – PTFE (Standard)	**H** – Hypalon®[1]				

Example: Chemline Large Size Compact Ball Valve, PVC, 6" with EPDM seals, flanged ends, PTFE seats.

[1] Hypalon® seats are an option for 4" size only. EPDM seals are supplied standard only in valve with Hypalon® seats, optional in standard valves with Teflon® seats.

Metering Ball Valves

Chemline SM Series Metering Ball Valve is designed for fine flow control of chemicals or clean fluids. The ball is solid with graduated v-groove cut on the outside surface. Precise linear flow control is accomplished through 180° rotation of the handle. With a positioning electric actuator, this becomes an inexpensive control valve.

Low Cost

Fine Flow Control

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PP

SERIES:	SM
SIZES:	1/2" – 2"
ENDS:	Threaded, Socket, Butt[1] or ChemFlare™[2]
SEATS:	Teflon® PTFE
O-Rings:	EPDM, FPM (Viton®)

Features

Full Size Range
- 6 valves sizes 1/2" to 2" offers a large selection of C_V values

Integral Scale
- 5° increments from 0° up to 180°
- Fine linear control

High End Ball Valve Features
- Full Blocking design
- Double Stem O-Rings for safety
- Built in Tool for valve disassembly
- Teflon® seats with elastomer cushion
  – Automatically compensates for seat wear or expansion
- 230 psi pressure rated (PVC)

Low Stem Torques
- Due to floating ball design and cushioned Teflon® seats

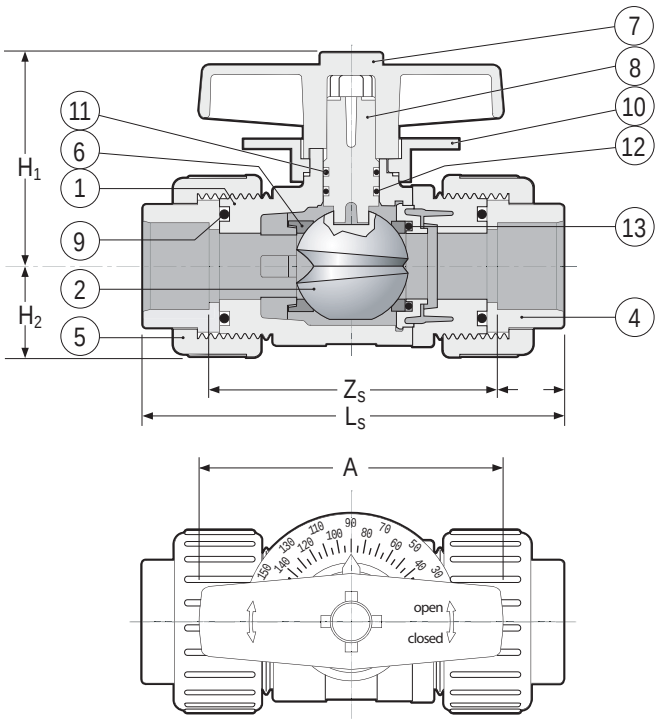
Compact
- Space saving

Integral Scale with 5° Increments
- Fine flow control and settable flow rates

Handle
is tool for valve disassembly

[1] Butt ends for fusion to Chemline metric PP or PVDF piping.
[2] For ChemFlare™ end connectors, consult Chemline.

Metering Ball Valves



PARTS

No.	Part	Pcs.	Materials
1	Body	1	PVC, PP
2	Ball	1	PVC, PP
4	End Connector	1	PVC, PP
5	Union Nut	1	PVC, PP
6	Ball Seat	1	PTFE
7	Handle	2	PVC, PP
8	Stem	1	PVC, PP
9	Face O-Ring	2	EPDM, FPM(Viton®)
10	Position Indicator Scale	2	PVC, PP
11	Upper Stem O-Ring	2	EPDM, FPM(Viton®)
12	Lower Stem O-Ring	2	EPDM, FPM(Viton®)
13	Seat Cushion	2	EPDM, FPM(Viton®)

DIMENSIONS INCHES

	PVC					PP				
Size	A	Z_S	L_S	H_1	H_2	A	Z_S	L_S	H_1	H_2
1/2"	2.60	2.76	4.02	2.05	0.81	2.60	2.71	3.86	2.05	0.90
3/4"	3.07	3.23	4.72	2.44	1.00	3.07	3.19	4.45	2.44	1.10
1"	3.46	3.43	5.16	2.80	1.14	3.46	3.35	4.76	2.80	1.30
1-1/4"	3.86	3.86	5.91	3.23	1.42	3.86	3.82	5.43	3.23	1.55
1-1/2"	4.25	3.98	6.42	3.54	1.57	4.25	3.98	5.83	3.54	1.71
2"	4.64	4.76	7.75	4.33	1.97	4.64	4.76	6.93	4.33	2.11

WORKING PRESSURES PSI

NET WEIGHTS LB.

C_V VALUES

	PVC			PP						
Size	20°C 68°F	40°C 104°F	60°C 140°F	20°C 68°F	40°C 104°F	60°C 140°F	80°C 176°F	PVC	PP	USGPM Flow at 1 psi △P
1/2"	230	130	30	150	100	65	20	0.35	0.29	1.4
3/4"	230	130	30	150	100	65	20	0.60	0.44	1.9
1"	230	130	30	150	100	65	20	0.84	0.64	2.3
1-1/4"	230	130	30	150	100	65	20	1.50	1.04	3.4
1-1/2"	230	130	30	150	100	65	20	2.10	1.63	4.5
2"	230	130	30	150	100	65	20	3.70	2.60	7.4

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **PP** 0 to 95°C (32 to 203°F).

ORDERING EXAMPLE

Chemline Metering Ball Valves				**SM**	**A**	**010**	**E**	**T**
Valve Material	**A** – PVC	**B** – PP						
Size	**005** – 1/2"	**007** – 3/4"	**010** – 1"					
	012 – 1-1/4"	**015** – 1-1/2"	**020** – 2"					
Seals	**E** – EPDM	**V** – FPM (Viton®)						
Ends	**S** – Socket	**T** – Threaded	**B** – Butt[1]	**CF** – ChemFlare™				

Example: SM Series Ball Valve, PVC, 1", EPDM seals, threaded ends.
[1] PP and PVDF metric butt fusion ends (1/2" to 2") connect to Chemline PP and PVDF piping systems.

VACUUM RATING

- 29.9 inches mercury

OPTIONS & ACCESSORIES

- **Reduced Ends**
- **Electric Actuator with Positioner**
  – Operates as a control valve

Elastomer Seated Butterfly Valves

Chemline elastomer seated butterfly valves up to 24" have been improved. The new Type 57 replaces Type 56 up to 14". Type 57 body, disc and seat have been redesigned to offer better flow characteristics and lower torques. Stem torques are unaffected by excessive flange bolt torques. New frp gear operators are available. Valves up to 16" have top flange with standard ISO 5211 mounting platform and shaft dimensions for easy actuation. A large selection of body, disc and seat materials permit these valves into a wide range of on/off and throttling control applications.

CHEMLINE Plastics Limited

Your Pipeline To Quality

Elastomer Seated

SIZES: Type 57: 1-1/2" – 14"
Type 56: 16"
TB Series: 18" – 24"

BODY TYPE: Semi Lug Wafer[1]

MATERIALS:

Body:	PVC, PP, PVDF
Disc:	PP (Standard), PVC, PVDF
Seat and O-Rings:	EPDM, FKM (Viton®)

Sizes up to 24"

Easy Actuator Mounting

CRN REGISTERED
CONSULT CHEMLINE

Features

Compact and Light Weight

High Corrosion Resistance
- Solid plastic body, disc and hand lever
- FRP gear operators are weather resistant to IP67 enclosure rating

Abrasion Resistant
- Solid plastic disc
- PVDF disc available for high abrasion resistance

Easy Actuator Mounting
- Valves up to 16" have standard ISO 5211 top flange and shaft dimensions

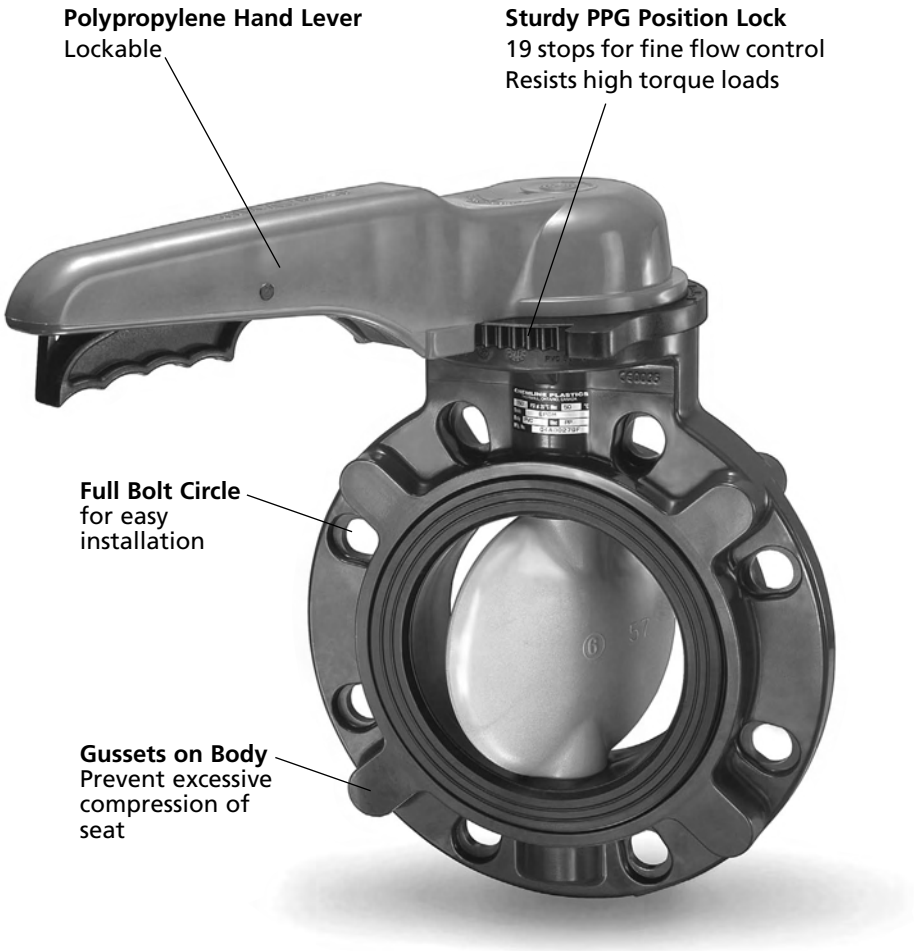
Easily Installed
- Full bolt hole circle makes installation and alignment easy
- No flange gaskets are necessary

Features – New Type 57

Better Sealing
- Spherical disc/seat seal design offers effective sealing at lower stem torques, and long life for the seat

Better Flow
- Streamlined disc offers higher C_V values

Protection against Flange Bolt Over Tightening
- Body gussets and new seat design prevent excessive flange bolt torques from affecting valve stem torques



Type 57 Butterfly Valve

[1] Full stainless steel lug bodies are available as an option.

Type 57 Butterfly Valves (1-1/2" – 14")

Deluxe FRP Gear Operators
- Available on all Type 57 valve sizes
- SS shaft and PP handwheel
- NAMUR design position indicator for easy mounting of a limit switch box

Lug Body Version
- 304 SS or 316 SS lugs
- Rated for full line pressure
- Sizes: 3", 4", 6", 8" 10" & 12"

Electrically or Pneumatically Actuated
- Valve top flange has ISO 5211 standard dimensions for easy mounting of actuators
- Mounting hardware is corrosion resistant PPG bracket and 304 SS coupling

Type 57 is Engineered for Superior Performance

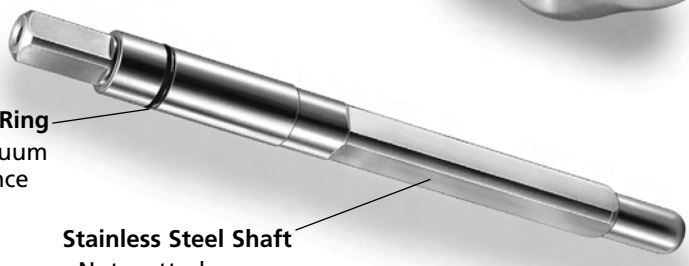
Moulded Elastomer Seat
- Easily replaceable
- Flange face has raised "O-ring" profile
  – *Low flange bolt torques to seal*
- Three ribs lock into body
  – *Long term stability even under vacuum*

Special Sealing Design
- Seals and disc have spherical sealing surfaces
  – *Lower stem torques to seal*
  – *Longer seat life compared to conventional designs*

Non-wetted Stainless Steel Retaining Ring
- Provides for effective stem sealing at all working pressures

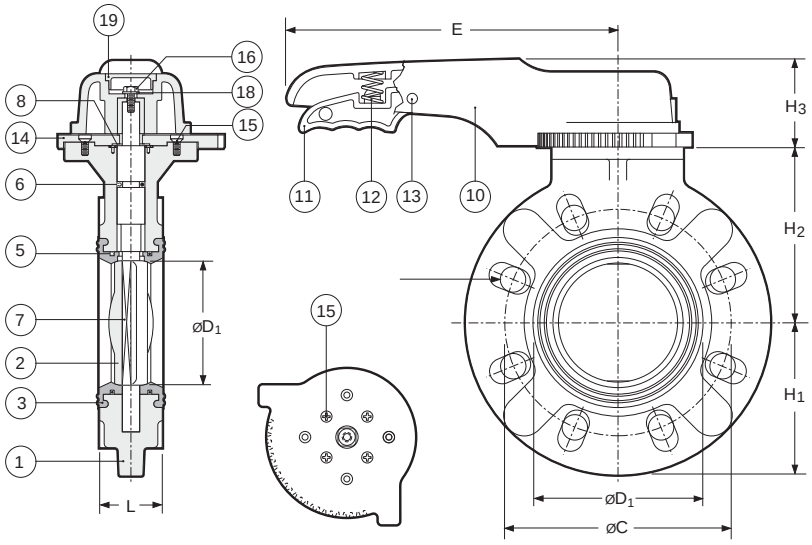
Streamlined Disc
- High C_V values
- Good flow characteristics, important for control applications

Shaft O-Ring
- For vacuum resistance

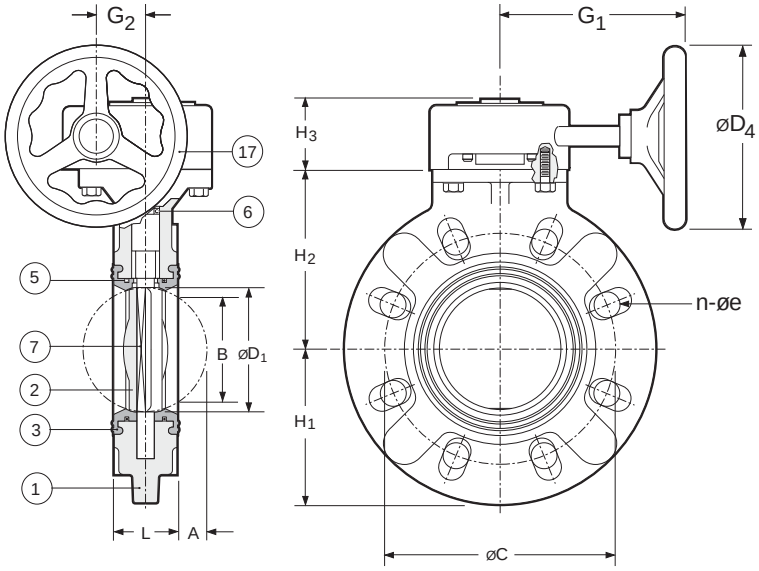


Stainless Steel Shaft
- Not wetted
- Engagement over full length of the disc

Type 57 Butterfly Valves (1-1/2" – 14")



1-1/2" – 8" Lever Operated



8" – 14" Gear Operated

PARTS

▲ Recommended Spare Parts

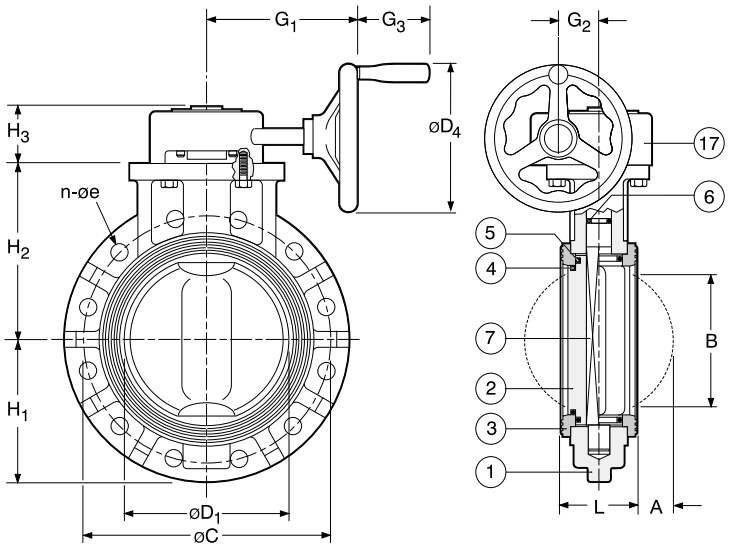
No.	Part	Pcs.	Materials
1	Body	1 1 1	PVC (Standard) PP (Optional) PVDF (Optional)
2	Disc	1 1 1	PP (Standard) PVC (Optional) PVDF (Optional)
3▲	Seat	1	EPDM, FKM (Viton®)
5▲	Stabilizing Ring	2	304 SS
6▲	Shaft O-Ring	1	EPDM, FKM (Viton®)
7	Shaft	1	403 SS
8	Shaft Retainer	1	PP
10	Hand Lever	1	PP
11	Trigger	1	PPG
12	Spring	1	316 SS
13	Pin	1	PPG
14	Position Lock Plate	1	PPG
15	Plate Screw	4	304 SS
16	Hand Lever Bolt	1	304 SS
17	Gear Operator	1	Plastic housing, handwheel & SS hardware
18	Handle Lever Washer	1	304 SS
19	Hand Lever Cap	1	PPG

DIMENSIONS INCHES

Size	L	A	B*	C	n	e	D_1	D_4	E/G_1	G_2	H_1	H_2	H_3
1-1/2"	1.54	0.12	0.87	3.88	4	0.62	1.77	–	8.7	–	3.0	3.9	2.2
2"	1.65	0.28	1.46	4.75	4	0.75	2.20	–	8.7	–	3.3	4.3	2.2
2-1/2"	1.81	0.46	2.03	5.50	4	0.75	2.72	–	8.7	–	3.6	4.7	2.2
3"	1.81	0.61	2.43	6.00	4	0.75	3.03	–	9.8	–	4.2	5.3	2.2
4"	2.20	0.91	3.36	7.50	8	0.75	4.02	–	9.8	–	4.7	5.9	2.2
5"	2.60	1.24	4.36	8.50	8	0.88	5.08	–	12.6	–	5.2	6.6	2.7
6"	2.80	1.56	5.20	9.51	8	0.88	5.91	–	12.6	–	5.6	7.2	2.7
8" Lever	3.43	2.13	6.87	11.75	8	0.88	7.68	–	15.8	–	6.7	8.4	2.7
8" Gear	3.43	2.13	6.87	11.75	8	0.88	7.68	6.3	6.6	2.5	6.7	8.1	3.6
10"	4.41	2.72	8.80	14.25	12	1.00	9.84	6.3	6.6	2.5	8.3	9.5	3.6
12"	5.08	3.43	10.79	17.00	12	1.00	11.93	11.8	9.5	3.9	9.6	11.7	4.3
14"	5.08	4.37	12.85	18.75	12	1.12	13.82	11.8	9.5	3.9	10.6	12.8	4.3

***B** = Minimum inside diameter (I.D.) of mating pipe. If I.D. of pipe is **B** dimension or less, the inside of pipe and must be chamfered or spacers provided. Consult Chemline.

Type 56/TB Butterfly Valves (16" – 24")



PARTS ▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1 1	PP (Standard) PVDF (Optional)
2	Disc	1 1	PP (Standard) PVDF (Optional)
3▲	Seat	1	EPDM, FKM (Viton®)
4▲	Large Disc O-Ring	2	EPDM, FKM (Viton®)
5▲	Small Disc O-Ring	2	EPDM, FKM (Viton®)
6▲	Shaft O-Ring	1	EPDM, FKM (Viton®)
7	Shaft	1	403 SS
17	Gear Operator	1	Cast Aluminum Epoxy Coated†

† Gear Operator for 18" to 24" is cast iron epoxy coated

DIMENSIONS INCHES

Size	Valve Type	L	A	B*	C	n	e	D_1	D_4	G_1	G_2	G_3	H_1	H_2	H_3
16"	56	6.65	4.56	14.53	21.25	16	1.14	15.98	9.8	8.4	3.0	3.7	11.8	13.8	4.0
18"	TB	7.05	5.38	16.34	22.75	16	1.26	17.80	12.4	12.6	4.3	3.4	12.4	14.6	4.1
20"	TB	7.48	6.15	18.29	25.00	20	1.26	19.76	12.4	12.6	4.3	3.4	13.8	15.8	4.1
24"	TB	8.23	7.76	22.27	29.50	20	1.38	23.74	12.4	12.6	4.3	3.4	16.0	18.3	4.1

***B** = Minimum inside diameter (I.D.) of mating pipe. If I.D. of pipe is **B** dimension or less, the inside of pipe and must be chamfered or spacers provided. Consult Chemline.

Type 56/TB Series Shaft Sealing System – Simple But Effective

Elastomer Seat
- Easily replaceable
- Flange face has raised "O-ring" profile
  – *Lower flange bolt torques required for a leakproof seal*

Double O-Rings at top and bottom of disc
- Provide a primary and secondary seal between seat and disc
  – *Shaft is not wetted*

Shaft O-Ring
- For vacuum resistance

Stainless Steel Shaft
- Not wetted
- Engagement over full length of the disc

Solid Plastic Disc
- No disc screws
- Abrasion resistant
- No problems as associated with coatings or linings

Type 57/56/TB Butterfly Valves

WORKING PRESSURES PSI — VACUUM RATING — NET WEIGHTS LB.

Size L= Lever G= Gear	Valve Type	PVC Body/PP Disc			PP Body/PP Disc		PVDF Body/PVDF Disc/FKM(Viton®)				Vacuum Rating	Net Weights Body/Disc		
		0-50°C 32-122°F	60°C 140°F	83°C 181°F	–20-60°C –4-140°F	80°C 176°F	–20-60°C –4-140°F	79°C 175°F	100°C 212°F	121°C 250°F	Inches Mercury	PVC/ PP	PP/ PP	PVDF/ PVDF
1-1/2"L	57	150	70	30	150	105	150	105	90	75	29.9	2.9	2.4	3.1
2"L	57	150	70	30	150	105	150	105	90	75	29.9	3.3	2.6	3.7
2-1/2"L	57	150	70	30	150	105	150	105	90	75	29.9	3.7	3.1	4.2
3"L	57	150	70	30	150	105	150	105	90	75	29.9	4.2	3.5	4.9
4"L	57	150	45	30	150	105	150	105	90	75	29.9	5.5	4.4	6.4
5"L	57	150	45	30	150	105	150	105	90	75	29.9	10.8	8.8	12.6
6"L	57	150	45	30	150	105	150	105	90	75	29.9	12.8	10.1	15.2
8"L	57	150	40	20	150	90	150	90	75	60	29.9	20.5	16.3	24.3
8"G	57	150	40	20	150	90	150	90	75	60	29.9	23.6	19.6	27.6
10"G	57	150	40	20	150	90	150	90	75	60	29.9	32.4	26.9	41.0
12"G	57	112	30	15	112	60	112	60	45	30	23.6	61.7	52.9	76.1
14"G	57	112	30	7	112	45	112	45	30	15	23.6	66.6	58.0	81.1
16"G	56	–	–	–	85	45	85	45	30	15	25.6	–	79.4	101.
18"G	TB	–	–	–	70	45	75	45	30	15	23.4	–	140.	227.
20"G	TB	–	–	–	50	30	50	30	25	15	23.4	–	170.	273.
24"G	TB	–	–	–	50	30	50	30	25	15	23.4	–	251.	346.

C_V VALUES VS. DISC ANGLE — TORQUES

Size	15°	30°	45°	60°	75°	90°	Flange Bolt Torques Foot-Lbs.
1-1/2"	0	3.6	14.2	30.5	49.7	71.	15
2"	0	6.0	24.	51.6	84.	120.	17
2-1/2"	0	12.5	50.	108.	175.	250.	17
3"	0	15.0	60.	129.	210.	300.	22
4"	0	23.5	94.	202.	329.	470.	22
5"	0	41.5	166.	357.	581.	830.	30
6"	0	55.	220.	473.	770.	1,100.	30
8"	0	125.	500.	1,075.	1,750.	2,500.	41
10"	0	193.	772.	1,660.	2,702.	3,860.	41
12"	0	285.	1,140.	2,451.	3,990.	5,700.	44
14"	0	322.	1,288.	2,769.	4,508.	6,440.	44
16"	0	300.	2,277.	4929.	6,822.	8,340.	58
18"	0	392.	2,973.	6436.	8,908.	10,890.	58
20"	0	506.	3,838.	8309.	11,501.	14,060.	72
24"	0	666.	5,051.	10,934.	15,133.	18,500.	72

OPTIONS & ACCESSORIES

- **Alternate Elastomer Seats**
- **Alternate Discs** – PVC, CPVC, PVDF
- **Electrically or Pneumatically Actuated** – Refer to separate data sheets
- **Municipal Operating Nut** for buried service
- **Chain Wheel Operator**
- **Gear Operator** on 1-1/2" – 6"
- **Lever Operator** on 10"
- **Locking Capability** on gear operators
- **Shaft Extensions**
- **Lug Body Valves**
  - Lug body version available in 3", 4", 6" to 12"
  - Stainless steel lug inserts are available for 14" to 24"
- **Limit Switches** for open and/or closed position indication

ORDERING EXAMPLE

Chemline Butterfly Valves **Type 57** Sizes: 1-1/2" – 14" **Type 56** Sizes: 16" **TB Series** Sizes: 18" – 24"	**57**	**A**	**060**	**B**	**E**	**L**
Body	**A** – PVC	**B** – PP	**K** – PVDF			
Size	**015** – 1-1/2" **010** – 10"	**020** – 2" **120** – 12"	**025** – 2-1/2" **140** – 14"	**030** – 3" **160** – 16"	**040** – 4" **180** – 18"	**050** – 5" **200** – 20"	**060** – 6" **240** – 24"	**080** – 8"
Disc	**B** – PP	**K** – PVDF	**A** – PVC					
Seat	**E** – EPDM	**V** – FKM (Viton®)	**B** – Nitrile	**H** – Hypalon				
Operator	**L** – Hand Lever	**G** – Gear Operator						

Example: Chemline Type 57 Butterfly Valve, PVC body, 6", with PP disc, EPDM seat, hand lever.

Damper Butterfly Valves

Chemline PVDF Damper Butterflies have performed successfully for many years in the most demanding process control applications. With the PVDF disc and PVDF body and titanium shaft and no elastomer these valves are excellent in high temperature and abrasive applications. The precision machined disc allows for Class III leakage rates (as per ASTM B16.104 [1976]) for valves from 4" to 24" and Class II for the rest. Available from 1-1/2" to 24" sizes they can be used for a wide range of throttling applications.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVDF

SERIES:	DFK
SIZES:	1-1/2" – 24"
BODY TYPE:	Semi lug Wafer[1]
MATERIALS:	
Body:	PVDF
Disc:	PVDF
Stem:	Titanium
Stem Seal:	PTFE 'V' Packing

Sizes up to 24"

Low Leakage (Class III)

High Corrosion Resistance

Features

Compact and Light Weight

High Corrosion Resistance
- Solid plastic body – no rust
- Polypropylene lever operators
- Gear operators have plastic housing and stainless steel trim and hardware

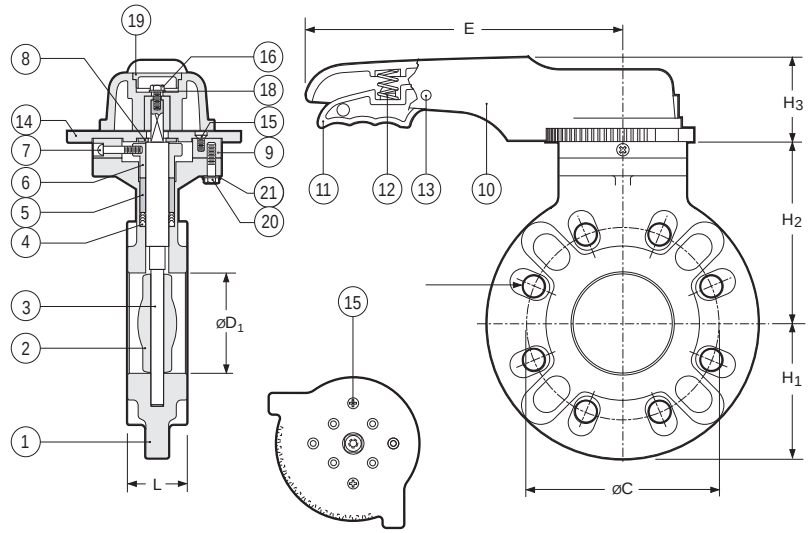
Abrasion Resistant
- Solid plastic PVDF disc available for high abrasion resistance

Easily Installed
- Full bolt hole circle makes installation and alignment easy

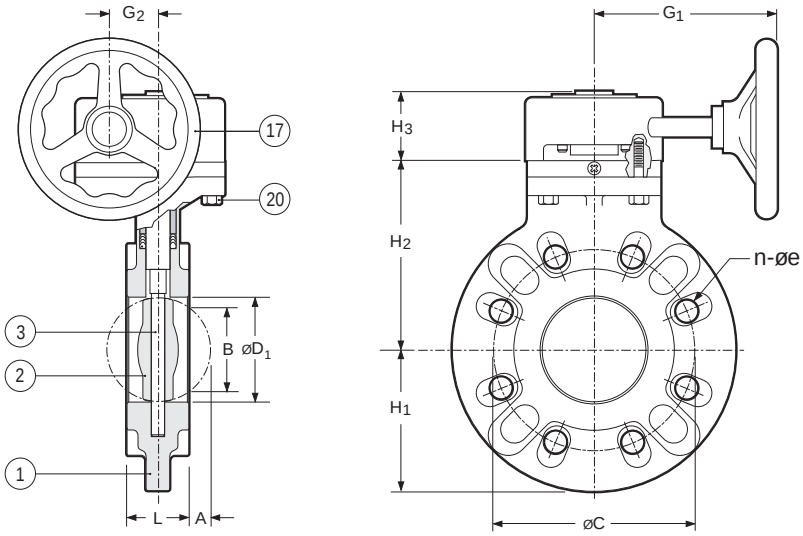
Class III Leakage Rates
- For valves 4" to 24" as per ASTM 16.104 (1976)

Class II Leakage Rates
- For valves 1-1/2" to 3" as per ASTM 16.104 (1976)

DFK Series Butterfly Valves



1-1/2" – 8" Lever Operated



8" – 24" Gear Operated

PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVDF
2	Disc	1	PVDF
3	Shaft	1	Titanium
4	V-Packing	1 set	PTFE
5	Bushing	1	PTFE (1-1/2"–14") PVDF (16"–24")
6	Gland	1	304 SS
7	Set Screw	1	304 SS
8	Shaft Retainer	1	PP
9	Spacer	2	PVC
10	Hand Lever	1	PP
11	Trigger	1	PPG
12	Spring	1	316 SS
13	Pin	1	PPG
14	Position Lock Plate	1	PPG
15	Plate Screw	2	304 SS
16	Hand Lever Bolt	1	304 SS
17	Gear Operator	1	Plastic housing, handwheel & SS hardware
18	Handle Lever Washer	1	304 SS
19	Hand Lever Cap	1	PPG
20	Bolt	4	304 SS
21	Washer	4	304 SS

DIMENSIONS INCHES

Size	L	A	B*	C	n	e	D_1	D_4	E/G_1	G_2	H_1	H_2	H_3
1-1/2"	1.26	0.3	1.3	3.88	4	0.62	1.81	–	8.7	–	3.0	4.8	2.2
2"	1.38	0.4	1.8	4.75	4	0.75	2.24	–	8.7	–	3.3	5.2	2.2
2-1/2"	1.46	0.7	2.3	5.50	4	0.75	2.76	–	8.7	–	3.7	5.6	2.2
3"	1.46	0.8	2.7	6.00	4	0.75	3.07	–	9.8	–	4.2	6.2	2.2
4"	1.85	1.1	3.6	7.50	8	0.75	4.06	–	9.8	–	4.7	6.8	2.2
5"	2.24	1.4	4.6	8.50	8	0.88	5.12	–	12.6	–	5.2	7.4	2.7
6"	2.44	1.7	5.4	9.50	8	0.88	5.91	–	12.6	–	5.6	8.0	2.7
8" Lever	3.23	2.3	7.1	11.75	8	0.88	7.76	–	15.8	–	6.7	9.2	2.7
8" Gear	3.23	2.3	7.1	11.75	8	0.88	7.76	6.3	6.6	2.5	6.7	9.2	2.7
10"	3.78	3.0	9.0	14.25	12	0.98	9.72	6.3	6.6	2.5	8.0	9.5	4.7
12"	4.57	3.6	10.8	17.00	12	0.98	11.73	11.8	9.5	3.9	9.5	11.7	4.8
14"	4.57	4.5	12.9	18.75	12	1.14	13.66	11.8	9.5	3.9	10.2	11.8	4.8
16"	6.18	4.7	14.2	21.25	16	1.14	15.51				11.8	13.8	4.8
18"	6.57	5.4	16.1	22.75	16	1.26	17.36				12.4	14.6	5.0
20"	6.97	6.1	17.9	25.00	20	1.26	19.21				13.8	15.8	5.0
24"	7.76	7.9	22.3	29.50	20	1.38	23.62				16.7	18.3	5.0

***** **B** = Minimum inside diameter (I.D.) of mating pipe. If I.D. of pipe is **B** dimension or less, the inside of pipe and must be chamfered or spacers provided. Consult Chemline.

DFK Series Butterfly Valves

WORKING PRESSURES PSI **NET WEIGHTS** LB. **C_V VALUES** VS. DISC ANGLE

Size	–20-60°C –4-140°F	79°C 175°F	100°C 212°F	121°C 250°F	LB.	0°	30°	60°	90°
1-1/2"	150	105	90	75	2.9	0.15	3.	42.	71.
2"	150	105	90	75	3.3	0.15	3.	54.	92.
2-1/2"	150	105	90	75	4.0	0.21	5.	83.	140.
3"	150	105	90	75	4.4	0.23	8.	130.	220.
4"	150	105	90	75	6.0	0.24	14.	225.	380.
5"	150	105	90	75	11.0	0.34	27.	430.	730.
6"	150	105	90	75	13.5	0.49	40.	650.	1,100.
8"L	150	90	75	60	21.4	0.73	90.	1,478.	2,500.
8"G	150	90	75	60	23.6	0.73	90.	1,478.	2,500.
10"	150	90	75	60	55.1	0.77	130.	2,128.	3,600.
12"	112	60	45	30	84.2	1.17	186.	3,050.	5,160.
14"	112	45	30	15	89.7	1.74	232.	3,806.	6,440.
16"	85	45	30	15	119.0	2.27	300.	4,929.	8,340.
18"	75	45	30	15	122.0	3.02	392.	6,436.	10,890.
20"	50	30	25	15	139.0	4.28	506.	8,310.	14,060.
24"	50	30	25	15	186.0	6.61	666.	10,934	18,500.

OPTIONS & ACCESSORIES

- **Electric or Pneumatically Actuated**
  – Refer to separate data sheets
- **Municipal Operating Nut** for buried service
- **Chain Wheel Operator**
- **Gear Operator** on 1-1/2" – 6"
- **Locking Capability**
- **Shaft Extensions**
- **Lug Body Inserts** – Stainless steel lugs for dead end service
- **Limit Switches** for open and/or closed position indication

ORDERING EXAMPLE

Chemline Damper Butterfly Valves	**DFK**	**K**	**100**	**G**
Body	**K** – PVDF			
Size	**015** – 1-1/2" **020** – 2" **025** – 2-1/2" **030** – 3" **040** – 4" **050** – 5" **060** – 6" **080** – 8" **010** – 10" **120** – 12" **140** – 14" **160** – 16" **180** – 18" **200** – 20" **240** – 24"			
Operator	**L** – Hand Lever **G** – Gear Operator			

Example: Chemline DFK Damper Butterfly Valve, PVDF body, 10", with PVDF disc, gear operator

Giant Butterfly Valves

CHEMLINE Plastics Limited

Your Pipeline To Quality

The Chemline PD Series Giant Butterfly valve has a full elastomeric seat with bubble tight seal. Only the seat (liner) and disc are wetted parts. The disc and seat are spherically designed for long cycle life. The liner is a full seat requiring low bolt torques to seal against piping flanges.

PDCPD (Polydicyclopenthadiene) is a polyolefin thermoset plastic. Valve parts are manufactured by a process called reaction injection moulding (RIM). PDCPD has excellent corrosion resistance and temperature ratings, very similar to those of polypropylene. It is durable material offering high impact strength and a fraction of the weight of cast iron.

PDCPD[1]

SERIES: PD

SIZES: 28" – 48"

BODY TYPE: Wafer Style

MATERIALS:
Body: PDCPD
Disc: PDCPD
Seat & O-Rings: EPDM

Sizes from 28" to 48"

High Working Pressures

Light Weight

Features

High Working Pressures
- 110 psi for all sizes

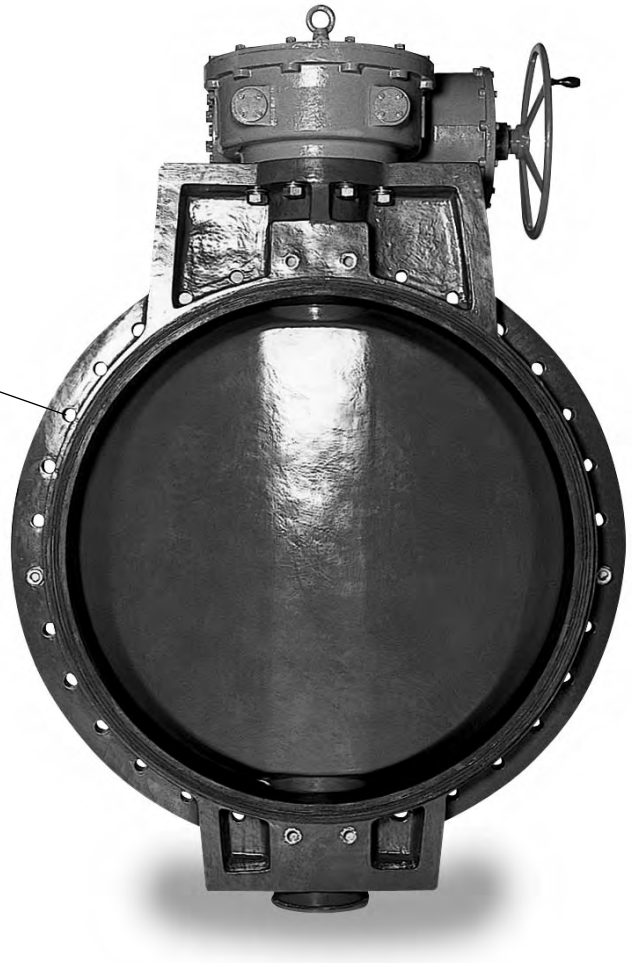
ISO Actuator Mounting Dimensions
- Top flange and shaft have ISO 5211 standard dimensions for easy actuator mounting

Light Weight
- Less then half the weight of cast iron
- Significantly lower cost of installation and removal for maintenance

Easily Installed
- Full bolt hole circle makes installation and alignment easy
- No flange gaskets are necessary

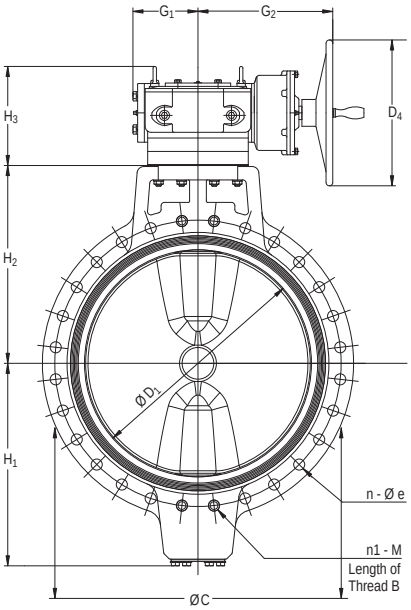
Easily Maintained
- Seat is easily replaceable

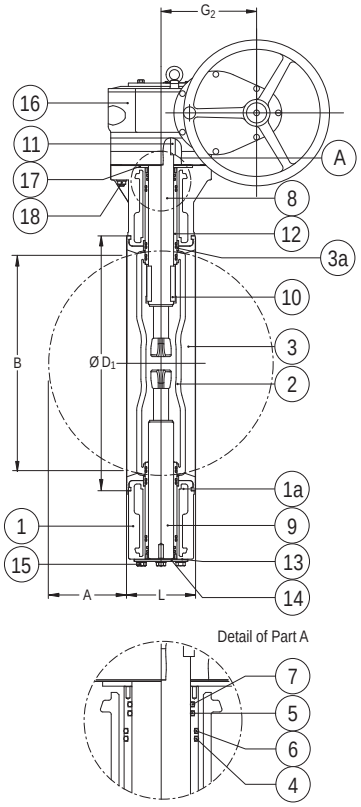
Non-Wetted Metal Parts
- No metal components ever come in contact with the media
- Metal inserts inside body and disc add strength



[1]PDCPD = Polydicyclopenthadiene

Giant Butterfly Valves





28" – 40" Gear Operated
Consult Chemline for drawing of 44"and 48" sized valves

PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PDCPD
1a	Inserted Metal of Body	1	Cast Iron (FCD450)
2	Disc	1	PDCPD
3▲	Seat	1	EPDM
3a	Stabilization Ring	2	304 SS
4▲	O-Ring (A)	11	EPDM
5▲	O-Ring (B)	3	EPDM
6▲	O-Ring (C)	1	NBR
7▲	O-Ring (D)	1	NBR
8	Stem (A)	1	304 SS
9	Stem (B)	1	304 SS
10	Key (A)	1	Carbon Steel
11	Key (B)	1	Carbon Steel
12	Bushing	2	Bronze Casting
13	Gasket (A)	1	Nonas Sheet
14	Stem Holder	1	304 SS
15	Bolt (A)	6	304 SS
16	Gear Box	1	Cast Iron[1]
17	Gasket (B)	1	Nonas Sheet
18	Bolt (B)	8	304 SS

[1] Cast Iron (FC200 with epoxy coating).

DIMENSIONS INCHES

Size	L	A	B*	C	n	n_1	M	B	e	D_1	D_4	G_1	G_2	G_3	H_1	H_2	H_3
28"	8.1	9.1	25.1	34.0	24	4	1-1/4	1.38	1.38	26.4	17.1	15.8	11.2	3.6	23.2	23.2	9.9
32"	9.5	10.4	28.8	38.5	24	4	1-1/2	1.38	1.62	30.3	17.1	15.8	11.2	3.6	24.4	24.4	9.9
36"	9.5	12.4	32.9	42.8	28	4	1-1/2	1.38	1.62	34.3	25.0	15.8	11.2	3.6	27.7	27.8	9.9
40"	11.8	13.2	36.3	47.3	32	4	1-1/2	1.38	1.62	38.2	25.0	22.2	9.5	3.6	29.5	39.5	11.5
44"	11.8	15.4	40.8	51.8	36	4	1-1/2	1.77	1.62	42.5	25.0	22.2	9.5	3.6	30.7	33.1	10.4
48"	13.8	16.1	44.0	56.0	40	4	1-1/2	1.77	1.62	46.1	25.0	22.2	9.5	3.6	33.5	35.0	10.4

***** **B** = Minimum inside diameter (I.D.) of mating pipe. If I.D. of pipe is **B** dimension or less, the inside of pipe and must be chamfered or spacers provided. Consult Chemline.

C_V VALUES VS. DISC ANGLE — WORKING PRESSURES PSI — WEIGHT LB.

Size	30°	60°	90°	0-50°C 32-122°F	60°C 140°F	80°C 176°F	Lb.
28"	3,600	13,000	32,000	110	95	70	838
32"	4,200	17,000	43,000	110	95	70	1,014
36"	5,600	22,000	55,000	110	95	70	1,213
40"	7,000	26,000	70,000	110	95	70	1,830
44"	23,000	32,000	86,000	110	95	–	2,205
48"	27,000	37,000	100,000	110	95	–	2,426

ORDERING EXAMPLE

Chemline Giant Butterfly Valves	**PD**	**D**	**280**	**D**	**E**	**G**
Body	**D** – PDCPD (Polydicyclopenthadiene)					
Size	**280** – 28" **320** – 32" **360** – 36" **400** – 40" **440** – 44" **480** – 48"					
Disc	**D** – PDCPD (Polydicyclopenthadiene)					
Seat	**E** – EPDM					
Operator	**G** – Gear Operator					

Example: Chemline Giant Butterfly Valve, PDCPD body, 28", with EPDM seat, gear operator.

FRP Damper Butterfly Valves

The Chemline DBF Series FRP Damper Butterfly is manufactured by Canada's foremost fabricator of engineered FRP gas and liquid handling equipment. They have manufactured FRP dampers for demanding process applications since 1967. This is a quality engineered valve designed for corrosive and/or abrasive gasses in FRP large diameter duct systems.

CHEMLINE Plastics Limited

Your Pipeline To Quality

Fiberglass Reinforced Plastic (FRP) Engineered Dampers

SERIES: DBF

SIZES: 12" – 96"

Less than 1% Leakage

Abrasion Resistant

All FRP

Features

Light Weight
- A 72" Damper Butterfly Valve weighs 950 lbs.

Custom Designed
- Engineered for specific service conditions

High Strength
- Made of high elongation vinyl ester resin for high resistance to impact and thermal shock. Heavy duty design for higher pressure drops.

Abrasion Resistant
- Valves can be designed to provide high abrasion resistance outperforming all other materials of construction

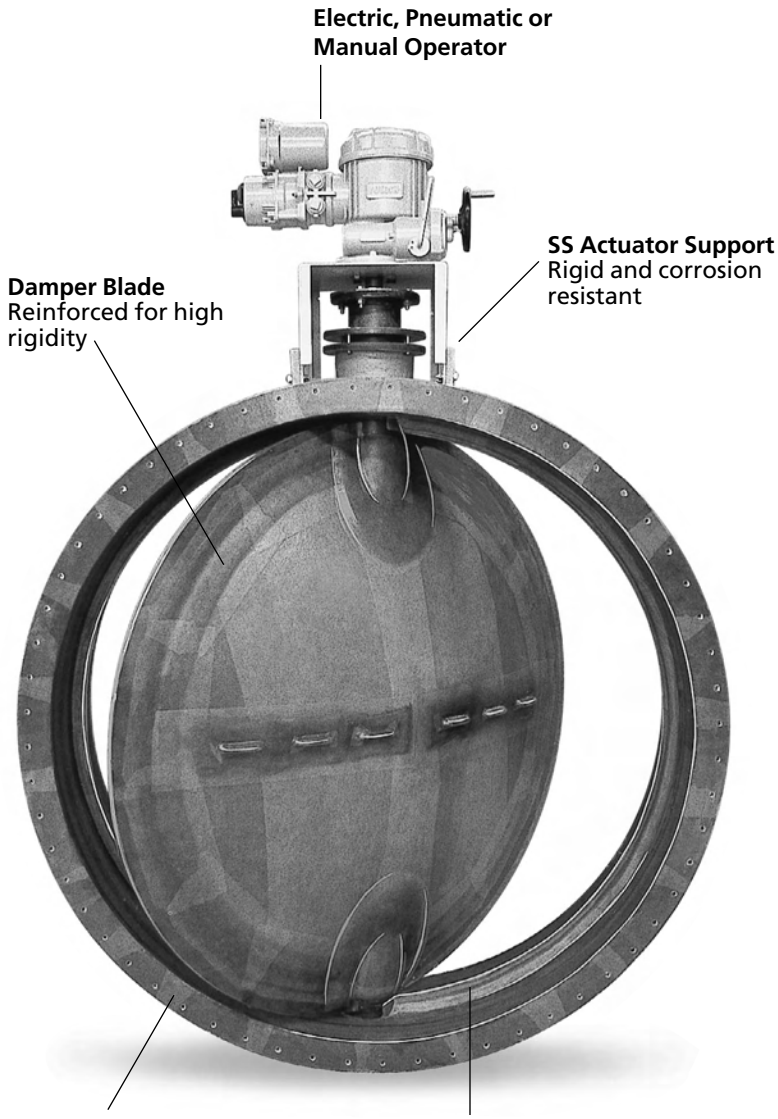
Low Leakage
- Gas leakage of less than 1% can be provided with a temperature range from –40°C to 80°C

Low Stem Torque
- Teflon® bearings on both ends of shaft assure low torque and maintenance-free operation

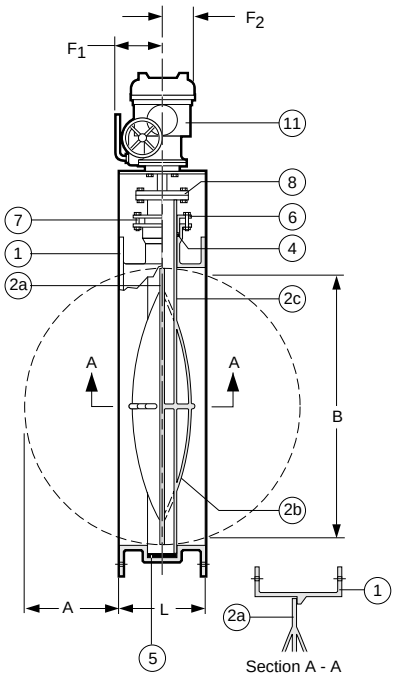
Fire Retardant
- Special Fire Retardant Resin is incorporated in all models

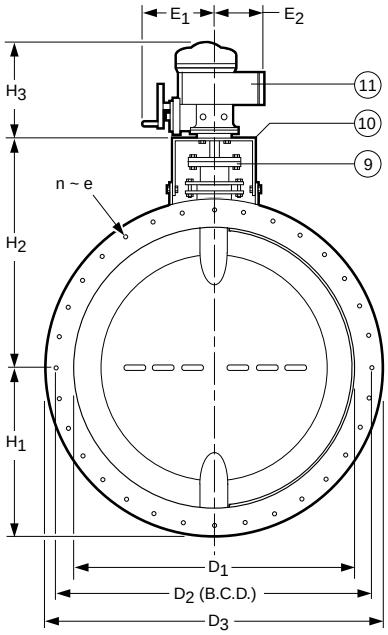
Gear, Electric or Pneumatic Actuated
- Heavy duty manual gear operator or electric actuators are available

Positive Seal Models Available
- Consult Chemline with application details



FRP Damper Butterfly Valves





PARTS

No.	Part	Pcs.	Materials
1	Body	1	FRP*
2a	Blade	1	FRP*
2b	Stiffener	1	FRP*
2c	Shaft	1	FRP*
4	Shaft Packing	1	PTFE Rope
5	Lower Shaft Bearing	1	PTFE
6	Gland	1	FRP*
7	Gland Nuts, Bolts & Washers	4 sets	304 SS
8	Shaft Top Plate	1	304 SS
9	Shaft Plate Nuts, Bolts & Washers	1 4 sets	FRP* 304 SS
10	Operator Mount	1	304 SS
11	Operator	1	Electric, pneumatic or manual Gear

* FRP = Fiberglass Reinforced Plastic

DIMENSIONS INCHES

Size	L	A	B	D_1	D_2	h	C	D_3	E	F	H_1	H_2	H_3
24"	12	5.75	20.2	23.5	27	20	0.44	28.4	CF	CF	14.2	23.3	CF
30"	12	8.75	26.9	29.5	33	28	0.44	34.4	CF	CF	17.2	26.3	CF
36"	12	11.75	33.4	35.5	39	32	0.44	40.4	CF	CF	20.2	29.3	CF
42"	12	14.75	39.7	41.5	45	36	0.44	46.4	CF	CF	23.2	32.3	CF
48"	12	17.75	46.0	47.5	52	44	0.44	54.4	CF	CF	27.2	35.3	CF
60"	12	23.75	58.3	59.5	58	44	0.56	60.4	CF	CF	30.2	41.3	CF
66"	12	26.75	64.4	65.5	64	52	0.56	66.4	CF	CF	33.2	44.3	CF
72"	12	29.75	70.5	71.5	76	52	0.56	78.4	CF	CF	39.2	47.3	CF

For all other sizes consult Chemline.

SAMPLE SPECIFICATION

1. Material of construction shall be Derakane 510N resin or equal for the corrosion liner and Derakane 510N c/w antimony trioxide or equal for the structural portion of the damper (Class 1 fire rating as per ASTM E-84 tunnel test).
2. Corrosion liner shall be made using one (1) layer of nexus veil followed by three (3) layers of 1.5 oz. chopped strand mat.
3. All major components will be manufactured of FRP (i.e. body, shaft, blade and blade stiffener).
4. FRP mating flanges will be an integral part of the damper with sizing as per CGSB 41-GP-22 latest addition.
5. Two (2) 180 degree heavy FRP seal rings will be incorporated into body to fit against the FRP blade.
6. Drive end of shaft will have a Teflon® shaft seal.
7. Bottom end of shaft shall be supported on a Teflon® bearing surface.
8. Shaft shall be designed to provide bending stiffness and torsional stiffness required for the applicable service.
9. Reinforce FRP damper blade with dished surfaces will to ensure proper stiffness and strength.
10. FRP shaft shall be machined at both ends to provide proper sealing and smooth bearing surfaces.
11. Actuator support and coupling adapter shall be manufactured from 304 stainless steel to provide ample strength and corrosion resistance.

ELECTRIC ACTUATORS

- NEMA 4 epoxy coated enclosure
- Declutchable manual gear override
- Visual Position Indicator
- Torque plus Travel Limit Switches
- Motor Overload Protection
- Many options available

PNEUMATIC ACTUATORS

- Corrosion Resistant epoxy and Rilsan coated aluminum
- Spring Return or Double Acting
- Optional solenoid valves, positioners, limit switch boxes, hand wheel manual override, etc.

POSITIVE SEAL VERSIONS – Consult Chemline

Diaphragm Valves

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PP, CPVC[1], PVDF

SIZES: Type 14: 1/2" – 4"
Type 15: 5" – 6"
Type 72: 8" – 10"

ENDS: Flanged: 1/2" – 10"[1]
True Union Socket,
Threaded or Butt[2]: 1/2" – 2"
ChemFlare™[3]: 1/2" – 1"

DIAPHRAGMS: EPDM, Teflon®[4]

CRN
REGISTERED
CONSULT CHEMLINE

Chemline Type 14 (1/2" to 4") and Type 15 (5" and 6") Diaphragm Valves are an improved version of the older DV Series. The 8" and 10" DV's are still current design but are now called Type 72. Types 14 and 15 have been redesigned using modern computer design technology. Improvements are higher pressure resistance, lower hand wheel torques to close, better hydraulics (lower pressure losses) and other features. Tests show Type 14 to outperform major competitors in resistance to bonnet leakage on tough applications with thermal cycling.

Chemline diaphragm valves have service histories dating back to 1970 operating in some of the toughest chemical plant applications in Canada. They have proven internal and external corrosion resistance.

This is an excellent throttling valve, and is suited for slurries or viscous liquids. Because of the self-draining design with no dead volume, it is good for sanitary and high purity applications. These diaphragm valves offers higher temperature/pressure ratings and chemical resistance compared to other Chemline valve types.

New Improved Design

Superior Performance

Features

Excellent Chemical Resistance
- Large choice of materials including PVDF bodies and Teflon® diaphragms for extremely aggressive services

Externally Corrosion Resistant
- Plastic bonnet, handwheel, covered and sealed indicator
- Bonnet seals protect internal parts from corrosive environments

High Pressure Resistance
- Designed with a high safety factor against leakage
- Tight closing with low hand wheel torque
- Highest pressure vs. temperature ratings of all plastic valve types

Designed for Long Diaphragm Life
- Standard Travel Stop prevents over-tightening and excessive stress on diaphragm.
- Special design of compressor eliminates point loading of diaphragm stud, extending life.

Standard Flange Face-to-Face Lengths
- Same lengths as ITT plastic lined (1/2" to 2", 3" to 4")

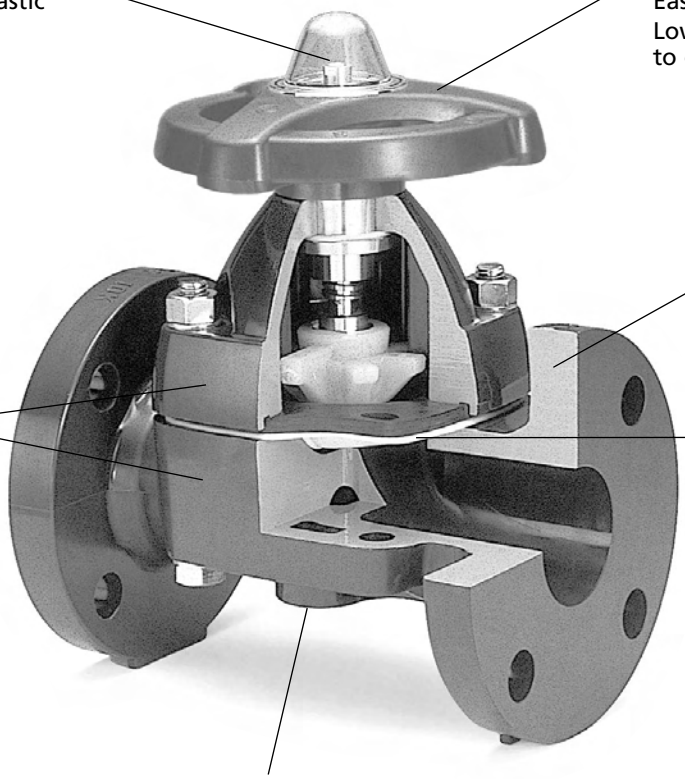
[1] Up to 4" only in CPVC.
[2] Butt fusion ends are for connection to Chemline PP and PVDF metric piping systems.
[3] For ChemFlare™ end connectors, consult Chemline.
[4] Other diaphragm materials are available.

Type 14 Diaphragm Valves

New Design for Superior Performance

Position Indicator/Travel Stop
With low profile sealed plastic cover

New Design Hand Wheel
Easy to operate
Low torques are required to open and close



Designed to Eliminate Leakage
Bonnet flange and body under diaphragm are now thicker. The result is tight sealing under higher pressures. "Weapage" on aggressive chemical applications is eliminated.
Seating requires low handwheel torque.

One Piece Flanged Body
Strong monobloc construction
Suitable for installation in metal piping systems

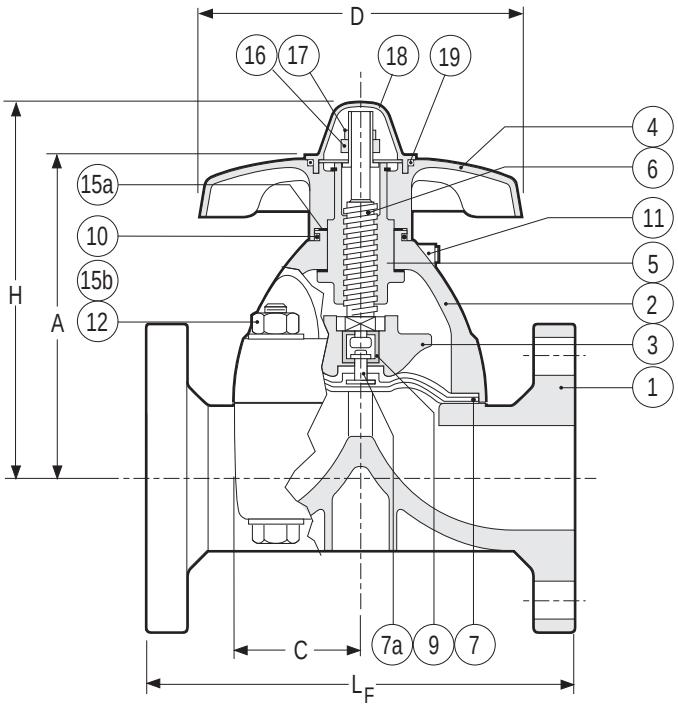
Teflon® Diaphragm
Heavy duty two-piece design

Base Mounting Pad
Optional threaded inserts allow valve to be fixed to structures

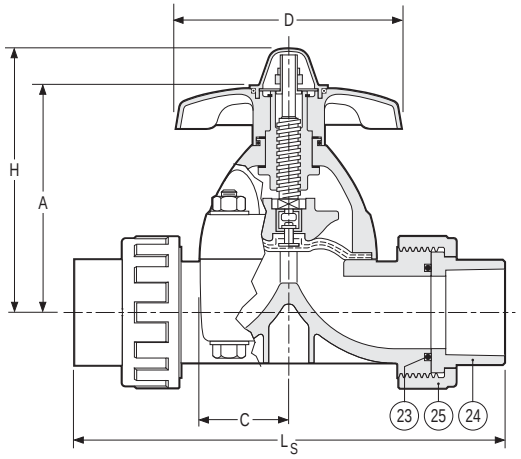
True Union Bodies
Available 1/2" to 2" with a choice of end connections – Socket, Threaded or Butt*

Pneumatically Actuated
Diaphragm type actuators made of PPG† are available normally closed, normally open or double acting. 1/2" to 2". All control accessories may be directly mounted. Valve sizes 3" to 10" are available with pneumatic piston actuators.

Type 14 Diaphragm Valves



Solid Flanged Body



True Union Body – Socket = S, Threaded = T, Flanged = F

PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials	
1	Body	1	**Body**	**Bonnet**
2	Bonnet	1	PVC PP CPVC PVDF	PVC PP PP, PPG[1]
3	Compressor	1	PVDF	
4	Handwheel	1	Polypropylene	
5	Sleeve	1	Bronze BC 6	
6	Stem	1	Copper Alloy BSM C3604	
7▲	Diaphragm	1	EPDM, Teflon® PTFE with EPDM cushion	
7a	Diaphragm Insert	1	304 SS	
9	Diaphragm Insert Connection	1	304 SS	
10	Bonnet O-Ring	1	EPDM	
11	Grease Nipple 2-1/2" to 4" only	1	Brass	
12	Stud Bolt, Bolt, Nut & Washer	Set	304 SS	
13	Insert Nut 2-1/2" to 4" only[2]	4	Brass, 304 SS for PVDF only	
15a	Thrust Rings 1/2" to 4" only	1	UHMWPE	
15b	Thrust Rings 1/2" to 4" only	1	UHMWPE	
16	Stopper	1	Bronze (BC6)	
17	Lock Nut	1	304 SS	
18▲	Indicator Cover	1	Polycarbonate	
19	Cover O-Ring	1	EPDM	
23	Face O-Ring	2	EPDM, FKM (Viton®)	
24	End Connector	2	PVC, CPVC, PP, PVDF	
25	Union Nut	2	PVC, CPVC, PP, PVDF	

[1] Optional PVDF bonnet is for temperatures 100 to 120°C.
[2] Part No.13, Insert Nut, is not shown.

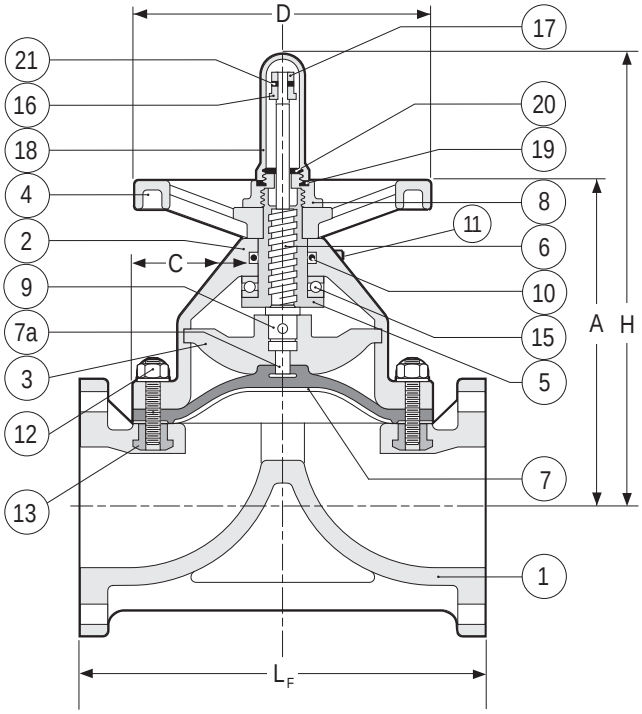
DIMENSIONS INCHES

WEIGHTS LB.

Size[3]	A	C	D	H	Flanged[4] L_F	True Union PVC/CPVC L_S	True Union PVC/CPVC L_T	True Union PP/PVDF L_S	True Union PP/PVDF L_T	True Union PP/PVDF L_B	PVC TU	PVC Flg	PP Flg	CPVC Flg	PVDF Flg
1/2"	3.39	2.13 x 2.60	3.46	4.09	4.25	5.47	5.04	5.47	5.04	5.90	1.1	1.5	1.3	1.5	1.8
3/4"	3.46	2.13 x 2.60	3.46	4.17	5.88	6.18	5.83	6.18	5.83	6.78	1.3	1.8	1.3	1.8	2.0
1"	3.66	2.64 x 3.15	3.46	4.37	5.88	7.32	6.77	7.32	6.77	7.67	2.0	2.4	1.8	2.4	2.6
1-1/4"	3.82	2.64 x 3.15	3.46	4.57	6.38	7.95	7.40	7.95	7.40	8.34	2.4	2.9	2.2	3.1	3.3
1-1/2"	5.67	4.24 x 4.25	6.14	6.97	6.94	10.47	9.65	10.47	9.65	10.87	5.7	4.8	4.8	5.9	6.4
2"	6.22	4.84 x 4.84	6.14	7.52	7.94	11.54	11.06	11.54	10.95	12.01	6.4	7.7	6.2	7.7	8.6
2-1/2"	7.40	6.73	8.66	10.47	9.84	–	–	–	–	–	–	12.3	9.2	11.7	13.0
3"	7.95	7.68	8.66	11.02	10.38	–	–	–	–	–	–	15.6	11.9	15.2	16.1
4"	9.49	9.25	10.12	12.95	12.94	–	–	–	–	–	–	23.1	19.1	19.6	22.7

[3] Type 15/72 diaphragm valves for 5" to 10" sizes.
[4] Type 14 flanged dimensions match the previous DV Series "Type G". Older DV Series "Type 72", 1/2" to 4" have different dimensions. These are available special order.

Type 15/72 Diaphragm Valves



Type 72 Solid Flanged Body

PARTS

▲ Recommended Spare Parts

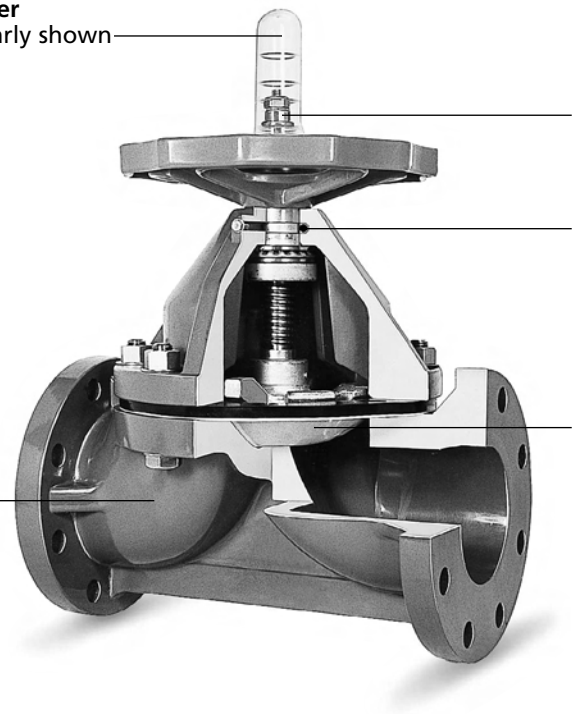
No.	Part	Pcs.	Materials	
1	Body	1	**Body**	**Bonnet**
2	Bonnet	1	PVC PP PVDF	PVC PP PPG*
3	Compressor 5"&6"	1	PVDF	
	Compressor 8"&10"	1	Cast Iron	
4	Handwheel	1	Polypropylene	
5	Sleeve 5"&6"	1	Bronze (BC 6)	
	Sleeve 8"&10"	1	Carbon Steel	
6	Stem 5"&6"	1	Copper Alloy (BSM C3604)	
	Stem 8"&10"	1	Cast Iron	
7▲	Diaphragm	1	EPDM, Teflon® with EPDM cushion	
7a	Diaphragm Insert	1	304 SS	
8▲	Cap Nut	1	Polypropylene	
9	Compressor Pin	1	304 SS	
10	Bonnet O-Ring	1	Nitrile	
11	Grease Nipple	1	Brass	
12	Stud Bolt, Bolt, Nut& Washer	Set	304 SS	
13	Insert Nut	4	Brass, 304 SS for PVDF only	
15	Thrust Bearings	1	High Carbon Chromium	
16	Stopper	1	Plated Steel	
17	Lock Nut	1	Plated Steel	
18▲	Indicator Cover	1	Polycarbonate	
19	Cover Gasket	1	EPDM	
20	Washer	1	Plated Steel	
21	Spring Washer	1	Spring Steel	

*Optional PVDF bonnet is for temperatures 100 to 120°C

DIMENSIONS INCHES

WEIGHTS LB.

Size	A	C	D	H	Flg L_F	PVC Flg	PP Flg	PVDF Flg
5"	12.13	12.60	11.81	16.54	16.14	48.4	42.9	80.3
6"	13.15	15.16	16.14	18.74	18.90	76.3	67.1	89.1
8"	16.5	16.93	16.1	24.7	22.44	116.	99.	138.
10"	20.1	21.26	22.0	30.6	26.77	206.	171.	242.



Position Indicator with Sealed Plastic Cover
Valve position clearly shown

Limit Closing Stop
Prevents excessive closing pressure.
Prolongs diaphragm life.

Bonnet O-Ring
Protects internal parts from corrosive atmosphere.

Teflon® Diaphragm
Heavy duty two-piece design

Strong One-Piece Flanged Body

Type 14/15/DV Diaphragm Valves

WORKING PRESSURES PSI

Body		PVC				Polypropylene & CPVC						PVDF			
Diaphragm		EPDM		Teflon®		EPDM			Teflon®			Teflon®			
Size	Valve Type	0-40°C 32-104°F	60°C 140°F	0-40°C 32-104°F	60°C 140°F	0-40°C 32-104°F	60°C 140°F	90°C 194°F	0-40°C 32-104°F	60°C 140°F	90°C 194°F	–40-60°C –40-140°F	80°C 176°F	100°C 212°F	120°C 248°F
1/2"	14	150	105	150	105	150	120	70/45*	150	120	70/45*	150	125	100	70
3/4"	14	150	105	150	105	150	120	70/45*	150	120	70/45*	150	125	100	70
1"	14	150	105	150	105	150	120	70/45*	150	120	70/45*	150	125	100	70
1-1/4"	14	150	105	150	105	150	120	70/45*	150	120	70/45*	150	125	100	70
1-1/2"	14	150	105	150	105	150	120	70/45*	150	120	70/45*	150	125	100	70
2"	14	150	105	150	105	150	120	70/45*	150	120	70/45*	150	125	100	70
2-1/2"	14	150	120	150	120	150	120	85	150	120	85	150	100	85	70
3"	14	150	120	150	120	150	120	85	150	120	85	150	100	85	70
4"	14	150	120	150	120	150	120	85	150	120	85	150	100	85	70
5"	15	100	85	70	60	70	60	50	60	45	45	60	45	45	40
6"	15	100	70	70	60	65	50	50	60	45	45	60	45	45	40
8"	72	70	60	60	45	70	60	50	60	45	45	60	45	45	40
10"	72	65	50	60	45	65	50	50	60	45	45	60	45	45	40

Temperature Ranges: PVC 0 to 60°C (32 to 140°F); **PP** –20 to 90°C (–4 to 194°F), **CPVC** 0 to 95°C (32 to 203°F); **PVDF with PPG Bonnet** –40 to 100°C (–40 to 212°F); **PVDF with PVDF Bonnet** –40 to 120°C (–40 to 248°F).
* 70 psi for PP valves / 45 psi for CPVC valves.

C_V VALUES VS. OPENING — VACUUM RATING — BOLT TORQUES

Size	25%	50%	75%	100%	No. Turns to Open	Inches Mercury EPDM	Inches Mercury Teflon®	Maximum Flange Bolt Torque ft-lb
1/2"	1.2	2.7	4.1	4.8	5.	29.9	29.9	13
3/4"	1.3	3.0	4.5	5.3	5.	29.9	29.9	13
1"	2.0	4.8	7.	8.5	6.	29.9	29.9	15
1-1/4"	3.	6.	9.	11.	6.	29.9	29.9	15
1-1/2"	6.	15.	22.	26.	5.	29.9	29.9	15
2"	10.	25.	37.	43.	6.	29.9	29.9	17
2-1/2"	40.	68.	80.	85.	9.	15.0	15.0	17
3"	54.	92.	108.	115.	11.	15.0	15.0	22
4"	87.	148.	174.	185.	10.	15.0	15.0	22
5"	141.	246.	285.	300.	9.75	14.2	2.8	29
6"	188.	328.	380.	400.	10.5	9.9	N.R.	33
8"	329.	574.	665.	700.	18.	4.0	N.R.	40
10"	470.	820.	950.	1,000.	20.	2.0	N.R.	40

ORDERING EXAMPLE

Chemline Type 14/15/72 Diaphragm Valves	14	–	A	020	P	F
Bonnet	**Blank** – Standard **K** – PVDF					
Valve Body	**A** – PVC **B** – PP **C** – CPVC **K** – PVDF					
Size	**005** – 1/2" **007** – 3/4" **010** – 1" **012** – 1-1/4" **015** – 1-1/2" **020** – 2" **025** – 2-1/2" **030** – 3" **040** – 4" **050** – 5" **060** – 6" **080** – 8" **100** – 10"					
Diaphragm	**E** – EPDM **P** – Teflon®					
Ends	**F** – Flanged **S** – Socket Union **T** – Threaded Union **B** – Butt Union[1] **CF** – ChemFlare™					

Example: Chemline Type 14 Weir Type Diaphragm Valve, PVC, 2", Teflon® diaphragm, flanged ends.
[1] PP and PVDF metric butt fusion ends (1/2" to 2") connect to Chemline PP and PVDF piping systems.

OPTIONS & ACCESSORIES

- **PVDF Gas Barrier** for Teflon® diaphragms on chlorine services
- **Vacuum Proof Diaphragms** for 29.9" Hg vacuum resistance 3" to 10" sizes
- **PVDF Bonnet on PVDF Valves** for temperatures 100 to 120°C
- **Electrically and Pneumatically Actuated** – Consult Chemline
- **Chain Wheel Operator**
- **Municipal Operating Nut**
- **Handwheel Extension**
- **Handwheel Lockout**

Ball Float Valves

The Chemline BFP Series Ball Float Valve is a cost effective level control device for water or non-hazardous liquids. The valve may be mounted through a hole in the tank wall and anchored with the lock nut provided.

CHEMLINE Plastics Limited

Your Pipeline To Quality

Polypropylene

SERIES: BFP

SIZES: 1/2" – 1-1/2"

ENDS: Threaded

For Tank Level Control

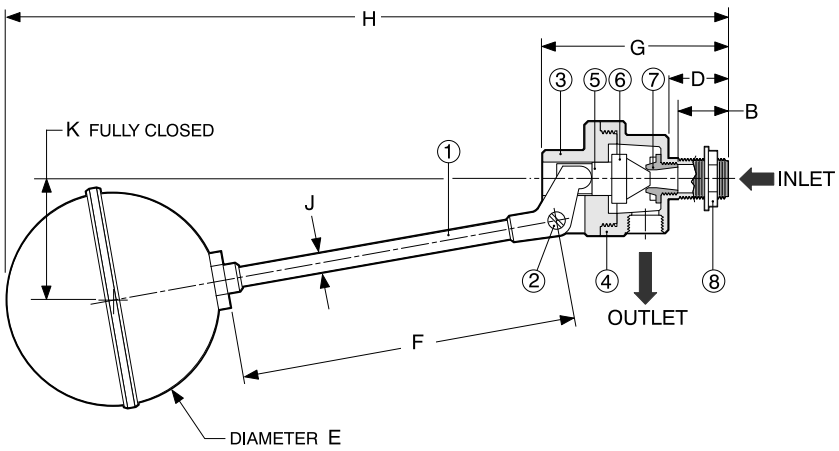
Will not Corrode

Features

All Plastic Construction
- No corrosion

Easily Maintainable
- All parts are replaceable

Adjustable Float Arm
- For different tank levels



PARTS ▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Float/Arm	1	Polypropylene
2	Screw	1	Polypropylene
3	Body Part "A"	1	Polypropylene
4	Body Part "B"	1	Polypropylene
5	Plunger	1	Polypropylene
6▲	Disc*	1	Polyethylene
7▲	Seat	1	Polypropylene
8	Lock Nut	1	Polypropylene
9	Delivery Tube†	1	Polypropylene

*1", 1-1/2" has PE disc; 1/2" has PP diaphragm
† 3-1/2" long delivery tube is supplied on 3/8" valve outlet only.

TEMPERATURE RANGE

1/2": – 20 to 70°C (–4 to 158°F)
1", 1-1/2": – 20 to 50°C (–4 to 122°F)

DIMENSIONS INCHES

Size Inlet	Size Outlet	B	D	E	F	G	H	J	K	WORKING PRESSURES PSI (Water Level at "K")	FLOW RATES USGPM WATER vs. Line Pressure – PSI 10	30	50	80	C_V VALUES USGPM at 1 psi △P
1/2"	3/8"†	1.1	1.2	5.0	7.0	3.8	14.75	0.50	2.0	150	3.0	6.0	7.2	9.6	0.67
1"	1"	1.9	2.2	7.0	14.5	6.6	27.75	0.75	5.0	100	14.0	28.0	38.0	48.0	4.5
1-1/2"	1-1/4"	2.0	2.4	9.0	15.0	7.8	32.12	0.75	6.0	100	24.0	48.0	60.0	74.0	7.1

† 3-1/2" long delivery tube is supplied on 3/8" valve outlet only.

Ball Check & Foot Valves

The economical and versatile Chemline Ball Check Valve is the most popular type of non-return valves for pipe sizes under 6". A wide selection of body and seat materials, and end connections are available for many different applications. It has good flow capacity and will handle many slurry and suspended solid services. This valve works in both horizontal and vertical lines. The Foot Valve is for end of line services such as sumps.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, CPVC, PP, PVDF

SERIES: BT – True Union Check
BC – Single Union Check
FV – Single Union Foot Valve
FT – True Union Foot Valve

SIZES: 1/2" – 4"

ENDS: Threaded, Socket, Flanged, Butt[1] or ChemFlare™[2]

SEAT/SEALS: EPDM, FKM (Viton®), Teflon® coated FKM (Viton®)

True Union to 2"

NSF 61 Certified[3]

Full Port to 4" Size

CRN REGISTERED
CONSULT CHEMLINE

Features

- **Built-in Union Design** – For easy installation and maintenance
- **Free Floating Ball** – The only moving part
- **Uniseat/Seal** – Easily removable
- **May be used either horizontally or vertically**
- **Excellent flow characteristics**
- **Low seating and opening pressures**

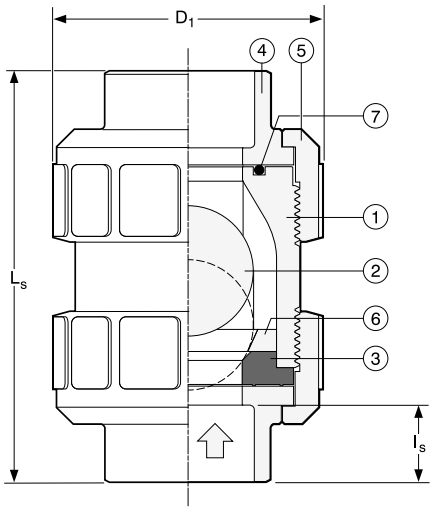
Foot Valve has large capacity strainer basket with 1/8" perforations

True Union Check
1/2" to 2" in all materials

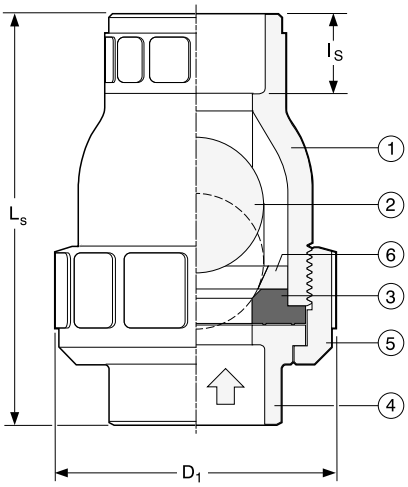
Single Union Check
1/2" to 4" in PVC
2-1/2" to 4" in CPVC, PP and PVDF

[1] PP and PVDF Butt fusion ends (available 1/2" to 2") connect to Chemline PP and PVDF piping systems.
[2] For ChemFlare™ end connectors, consult Chemline.
[3] PVC valves with EPDM or FKM (Viton®) seals are certified under NSF/ANSI Standard 61 for contact with drinking water.

Ball Check Valves



True Union Valve



Single Union Valve

PARTS

▲ Recommended Spare Parts

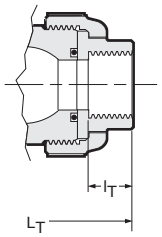
No.	Part	Pcs. T/U	Pcs. S/U	Materials
1	Body	1	1	PVC, CPVC, PP, PVDF
2	Ball	1	1	PVC, CPVC, PP, PVDF
3▲	Uniseat/Seal*	1	1	EPDM, FKM(Viton®), Teflon® coated FKM (Viton®)
4	End Connector	2	1	PVC, CPVC, PP, PVDF
5	Union Nut	2	1	PVC, CPVC, PP, PVDF
6	Stop Ring	1	1	PVC, CPVC PP, PVDF
7	Face O-Ring	1	1	EPDM, FKM(Viton®)
9	Flange Retainer†	2	1	PVDF
10	Factory Flange**	2	1	PVC, CPVC, PP, PVDF

* Standard seals are EPDM in PVC, CPVC and PP valves, Teflon® coated FKM (Viton®) in PVDF valves. Coating is .002" thick.

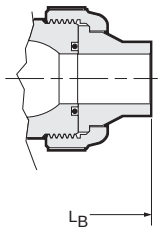
† True Union: 2 pcs 1/2" to 2", 6 pcs 1-1/2" to 4"
Single Union: 1 pcs 1/2" to 2", 3 pcs 2-1/2" to 4".

**True Union flanged valves have two factory flanges. Single Union valves have one factory flange and one fabricated flange.
Consult Chemline for details on fabricated type.

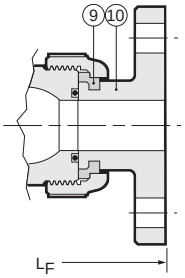
UNION END CONNECTIONS



NPT Threaded



Butt Fusion
PP and PVDF



Factory Flanged

DIMENSIONS INCHES

WEIGHTS LB.

Size	D_1	I_s	I_T	True Union PVC & CPVC L_T	True Union PVC & CPVC L_S	True Union PVC & CPVC L_F	True Union PP & PVDF L_T	True Union PP & PVDF L_B	True Union PP & PVDF L_F	Single Union PVC L_T	Single Union PVC L_S	Single Union PVC L_F	True Union Socket or Butt PVC	True Union Socket or Butt CPVC	True Union Socket or Butt PP	True Union Socket or Butt PVDF	Single Union PVC
1/2"	1.9	0.69	0.59	3.4	3.4	5.1	3.4	4.0	5.1	3.2	3.4	5.6	0.3	0.3	0.2	0.3	0.2
3/4"	2.4	0.72	0.67	4.1	3.9	6.1	4.1	4.4	6.1	3.8	3.7	6.6	0.5	0.5	0.3	0.6	0.4
1"	2.8	0.88	0.79	4.5	4.4	6.5	4.5	4.8	6.5	4.2	4.3	7.3	0.7	0.8	0.4	0.9	0.6
1-1/4"	3.1	0.94	0.87	5.0	4.9	6.6	5.0	5.9	6.6	6.2	6.3	12.3	1.1	1.2	0.7	1.5	1.5
1-1/2"	3.7	1.09	0.98	5.9	5.9	7.6	5.9	5.8	7.6	5.6	5.7	9.1	1.6	1.7	1.0	2.0	1.3
2"	4.2	1.16	1.10	7.0	6.8	8.4	7.0	6.5	8.4	6.5	6.5	10.5	2.2	2.4	1.4	2.7	1.8

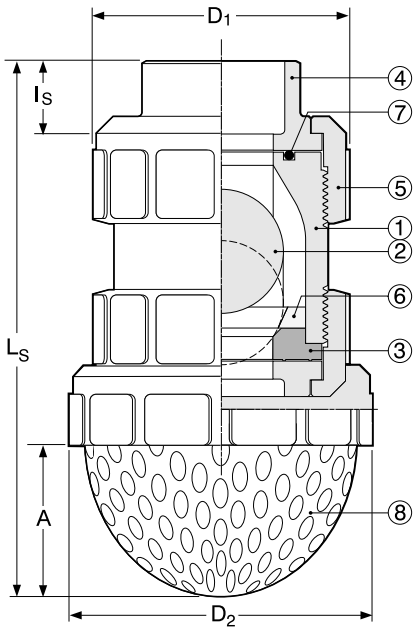
DIMENSIONS INCHES

WEIGHTS LB.

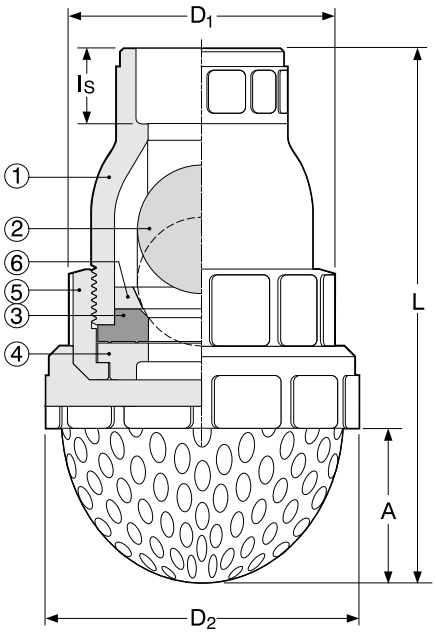
Size	D_1	I_s*	I_T	Single Union PVC & CPVC L_T	Single Union PVC & CPVC L_S	Single Union PVC & CPVC L_F	Single Union PP & PVDF L_T	Single Union PP & PVDF L_B	Single Union PP & PVDF L_F	Single Union PVC	Single Union CPVC	Single Union PP	Single Union PVDF
2-1/2"	6.0	2.10	2.17	10.0	10.4	14.3	8.7	*	*	5.7	6.2	*	*
3"	6.0	1.88	1.38	8.7	9.6	12.2	8.7	*	*	5.1	5.5	3.3	6.3
4"	8.3	2.00	1.77	12.1	12.2	15.0	12.1	*	*	12.7	13.9	8.1	15.7

* Consult Chemline.

Ball Foot Valves



True Union Valve



Single Union Valve

PARTS

▲ Recommended Spare Parts

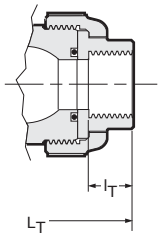
No.	Part	Pcs. T/U	Pcs. S/U	Materials
1	Body	1	1	PVC, CPVC, PP, PVDF
2	Ball	1	1	PVC, CPVC, PP, PVDF
3▲	Uniseat/Seal*	1	1	EPDM, FKM(Viton®), Teflon® coated FKM (Viton®)
4	End Connector	2	1	PVC, CPVC, PP, PVDF
5	Union Nut	2	1	PVC, CPVC, PP, PVDF
6	Stop Ring	1	1	PVC, CPVC PP, PVDF
7	Face O-Ring	1	1	EPDM, FKM(Viton®)
8	Foot Valve Basket	1	1	PVC, CPVC PP, PVDF
9	Flange Retainer†	3	0	PVDF
10	Factory Flange**	1	0	PVC, CPVC, PP, PVDF

* Standard seals are EPDM in PVC, CPVC and PP valves, Teflon® coated FKM (Viton®) in PVDF valves. Coating is .002" thick.

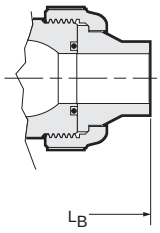
† True Union: 1 pc 1/2" to 2", 3 pcs 2-1/2" to 4".

** True Union valves have factory flanges. Single Union have fabricated flanges. Consult Chemline for details on fabricated type.

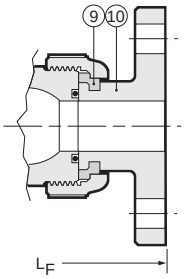
END CONNECTIONS FOR TRUE UNION VALVE



NPT Threaded



Butt Fusion PP and PVDF



Factory Flanged

DIMENSIONS INCHES

WEIGHTS LB.

Size	D_1	I_s Soc	I_T Thd	True Union CPVC D_2	A	L_S	L_T	L_F	Single Union PVC D_2	A	L_S	L_T	L_F	Single Union PVC Socket
1/2"	1.9	0.69	0.59	2.4	1.0	4.0	3.9	4.8	2.4	1.2	4.8	4.5	5.8	0.3
3/4"	2.4	0.72	0.67	2.8	1.2	4.6	4.6	5.7	2.8	1.6	5.5	5.2	6.7	0.4
1"	2.8	0.88	0.79	3.7	1.4	5.2	5.2	6.3	3.7	1.9	6.3	5.6	7.6	0.8
1-1/4"	3.7	0.94	0.87	5.2	*	*	*	*	5.2	2.5	8.7	8.7	10.1	1.8
1-1/2"	3.7	1.09	0.98	5.2	1.8	6.8	6.8	7.7	5.2	2.5	8.4	8.3	9.9	1.7
2"	4.2	1.16	1.10	5.2	2.1	8.0	8.0	8.8	5.2	2.5	9.2	8.8	10.9	2.1
2-1/2"	6.0	2.10	2.17	–	–	–	–	–	8.3	4.6	14.8	15.0	18.8	7.4
3"	6.0	1.88	1.38	–	–	–	–	–	8.3	4.6	14.6	14.7	16.7	7.1
4"	8.3	2.00	1.77	–	–	–	–	–	10.1	5.4	18.1	18.1	20.5	15.7

* Consult Chemline for dimensions.

For CPVC (2-1/2" to 4"), PP and PVDF Foot Valve lengths, consult Chemline.

Ball Check & Foot Valves

WORKING PRESSURES PSI

Size	PVC	CPVC				Polypropylene			PVDF			
	0-50°C 32-122°F	0-50°C 32-122°F	60°C 140°F	80°C 176°F	90°C 194°F	–20-30°C –4-90°F	60°C 140°F	80°C 176°F	–20-60°C –4-140°F	80°C 176°F	90°C 194°F	100°C 212°F
1/2"	150	150	115	85	60	150	90	60	150	120	110	85
3/4"	150	150	115	85	60	150	90	60	150	120	110	85
1"	150	150	115	85	60	150	90	60	150	120	110	85
1-1/4"	150	150	115	85	60	150	90	60	150	120	110	85
1-1/2"	150	150	115	85	60	150	90	60	150	120	110	85
2"	150	150	115	85	60	150	90	60	150	120	110	85
2-1/2"	100	100	90	60	45	100	60	45	100	90	60	45
3"	100	100	90	60	45	100	60	45	100	90	60	45
4"	100	100	90	60	45	100	60	45	100	90	60	45

Maximum Temperatures: PVC 0 to 60°C (32 to 140°F), **CPVC** 0 to 95°C (32 to 203°F), **PP** –20 to 90°C (–4 to194°F), **PVDF** –40 to 100°C (–40 to 212°F).

MINIMUM SEATING AND OPENING PRESSURE PSI

Size	Vertical Piping		Horizontal Piping		Check Valves
	Open	Seating	Open	Seating	
1/2"	0.7	2.8	0.1	2.8	6.5
3/4"	0.7	4.3	0.1	4.3	17.
1"	0.7	4.3	0.1	4.3	25.
1-1/4"	1.4	4.3	0.3	4.3	86.
1-1/2"	1.4	4.3	0.3	4.3	86.
2"	1.4	4.3	0.3	4.3	130.
2-1/2"	1.4	2.8	0.3	2.8	280.
3"	1.4	2.8	0.3	2.8	280.
4"	1.4	2.8	0.3	2.8	500.

C_V VALVES

VACUUM RATING

- 29.9 inches mercury

SAMPLE SPECIFICATION

– All Ball Check valves in PVC, CPVC, PP or PVDF shall be Chemline BT or BC Series or equal with EPDM [FKM (Viton®) or Teflon® coated FKM (Viton®)] seats and union ends. Sizes 1/2" to 2" shall be slip-out True Union style, sizes 2-1/2" to 4" shall be single union. The elastomer uniseat/seal shall function as both the ball seat and the union seal. Ball Check valves shall be rated 150 psi up to 2" and 100 psi for sizes 2-1/2" to 4".

ORDERING EXAMPLE

	BT	A	020	E	S
Valve Type	**BT** – True Union Ball Check **BC** – Single Union Ball Check **FV** – Single Union Foot Valve **FT** – True Union Foot Valve				
Body Material	**A** – PVC **C** – CPVC **B** – PP **K** – PVDF				
Size	**005** – 1/2" **007** – 3/4" **010** – 1" **012** – 1-1/4" **015** – 1-1/2" **020** – 2" **025** – 2-1/2" **030** – 3" **040** – 4"				
Seals	**E** – EPDM **V** – FKM (Viton®) **T** – Teflon® coated FKM (Viton®)				
Ends	**S** – Socket **T** – Threaded **F** – Flanged **B** – Butt[1] **CF** – ChemFlare™				

Example: Ball Check Valve, PVC, 2", with EPDM seat, socket ends.

[1] PP and PVDF metric butt fusion ends (1/2" to 2") connect to Chemline PP and PVDF piping systems.

OPTIONS & ACCESSORIES

- **Teflon® coated Uniseat/Seal**
- **Spring Loaded Ball** – Assists ball to seat faster

Swing Check Valves

The Chemline SC Series Swing Check Valve is the heaviest duty solid plastic non-return valve available. The strong one piece flanged body is suitable for installation in any type of piping, horizontally or vertically. A large choice of body materials and seals including PVDF and Teflon® allow its use in the most aggressive chemical services. Pressure drop is low due to full flow design.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC†, PP, PVDF

SERIES: SC

SIZES: 3/4" – 8"

ENDS: Flanged

SEALS*: EPDM, Teflon®

CRN REGISTERED CONSULT CHEMLINE

Low Pressure Loss

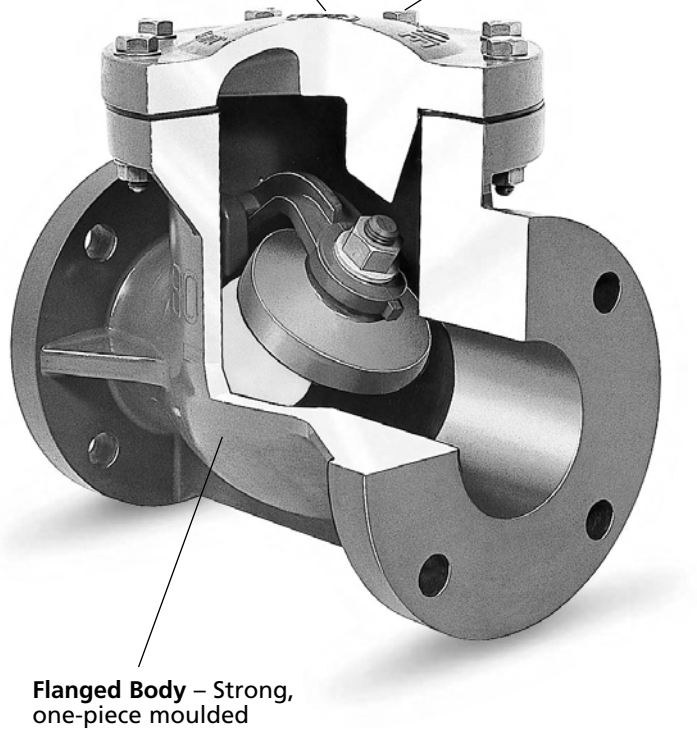
Horizontal or Vertical Operation

Heavy Duty Design

Features

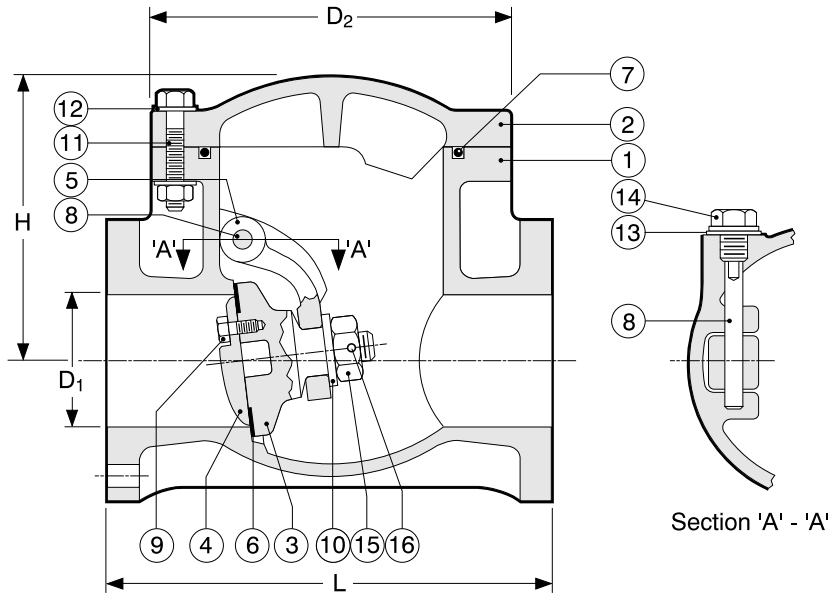
- **Strong, One-Piece Moulded Flanged Body** – Suitable for installation in metal piping
- **Light Weight**
- **Large Flow Capacity** – Low pressure drop

PVDF Valve – Resists extremely aggressive chemicals



***** Standard seals are EPDM in PVC, PP valves, Teflon® and PVDF coated EPDM in PVDF valves.
† All PVC valve parts are now made of High Impact PVC material.

Swing Check Valves



PARTS

No.	Part	Pcs.	Materials
1	Body	1	PVC, PP, PVDF
2	Bonnet	1	PVC, PP, PVDF
3	Disc	1	PVC, PVDF†
4	Seat Holder	1	PVC, PP, PVDF
5	Swing Arm	1	PVC, PP, PVDF
6	Seat	1	EPDM, PTFE*
7	Bonnet O-Ring	1	EPDM, PVDF coated EPDM*
8	Hinge Pin	1	PVC, PP, PVDF
9	Disc Bolt	Set	PVC, PP, PVDF
10	Washer	1	PVC, PP, PVDF
11	Bolt & Nut	Set	304 SS
12	Washer	Set	304 SS
13	Sheet Gasket	1	EPDM, PTFE*
14	Side Plug	1	PVC, PP, PVDF
15	Disc Lock Nut	1	PVC, PP, PVDF
16	Set Pin	1	PVC, PP, PVDF

* PVC, PP valves are fitted with EPDM seals as standard (parts 6, 7, 13). PVDF valves have parts 6 & 13 of Teflon® PTFE and No. 7 of PVDF coated EPDM as standard. † PP valve has PVDF disc.

All PVC valve parts are now made of High Impact PVC.

WORKING PRESSURES PSI — NET WEIGHTS LB. — DIMENSIONS INCHES — C_V VALUES

Size	PVC 0-20°C 32-68°F	PVC 50°C 122°F	Polypropylene –20-60°C –4-140°F	Polypropylene 80°C 176°F	PVDF –20-60°C –4-140°F	PVDF 100°C 212°F	PVC	PP	PVDF	D_1	L	D_2	H	USGPM Flow at 1 psi △P
3/4"	150	100	100	85	85	60	1.7	1.3	2.2	0.79	5.51	3.39	3.54	14.
1"	150	100	100	85	85	60	3.5	2.4	4.4	0.98	6.30	5.12	4.72	24.
1-1/2"	150	100	100	85	85	60	5.9	3.7	6.2	1.57	7.09	5.71	5.43	81.
2"	150	100	100	85	85	60	8.8	6.2	10.	1.97	7.87	7.09	6.46	140.
2-1/2"	150	100	100	85	85	60	11.	7.7	13.	2.56	9.45	7.87	6.61	250.
3"	150	100	100	85	75	45	13.	8.4	15.	3.15	10.24	8.07	6.73	280.
4"	100	75	75	60	75	45	21.	15.	25.	3.94	11.81	10.43	8.39	510.
5"	100	75	75	60	60	40	36.	25.	43.	4.92	13.78	12.99	9.76	750.
6"	100	75	75	60	50	30	46.	32.	56.	5.91	15.75	14.57	11.14	1100.
8"	70	50	50	30	45	30	75.	52.	90.	7.87	19.69	16.73	13.23	1900.

Working pressures of PVC and PP valves fitted with Teflon® seals are lower than above. Consult Chemline.
Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **PP** –20 to 90°C (–4 to 194°F), **PVDF** –20 to 100°C (–4 to 212°F).

OPTIONS

- Alternate seat and seals of Teflon® or FKM (Viton®)
- External lever and weight or spring to assist disc to close faster

VACUUM RATING

- 29.9 inches mercury

ORDERING EXAMPLE

Chemline Swing Check Valves					SC	K	015	P
Valve Material	**A** – PVC	**B** – PP	**K** – PVDF					
Size	**007** – 3/4"	**010** – 1"	**015** – 1-1/2"	**020** – 2"	**025** – 2-1/2"			
	030 – 3"	**040** – 4"	**050** – 5"	**060** – 6"	**080** – 8"			
Seals	**E** – EPDM	**P** – Teflon® & PVDF						

Example: Flanged Swing Check Valve, PVDF, 1-1/2", with Teflon® & PVDF seals.

PRESSURE TO OPEN/CLOSE PSI

Size	Minimum △P to Open Horizontal	Minimum △P to Open Vertical	Minimum △P to Close Horizontal	Minimum △P to Close Vertical
1"– 2-1/2"	1.4	1.4	3.6	2.8
3"– 5"	1.4	1.4	4.3	3.6
6"	1.4	2.1	5.0	4.3
8"	2.1	2.8	5.0	4.3

Above data is from tests using water on valves with EPDM disc facing.

PW Series Wafer Check Valves

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PP, PPG[1], PVDF

SERIES: PW

SIZES: 3" – 12"

SEALS: EPDM, FPM (Viton®)

The Chemline PW Series Wafer Check Valve offers high end features at low prices. This wafer check does not require a separate spacer or flange gaskets. The large orifice and full flow design means low pressure drop. Spring assisted disc closure is standard as well as an optical indication of disc open/close position. A large selection of body materials and elastomers (all NSF 61 approved) allow for a wide range of applications.

Low Cost

Full Flow Design

High Working Pressures

Features

Large Flow Capacity – Low pressure drop

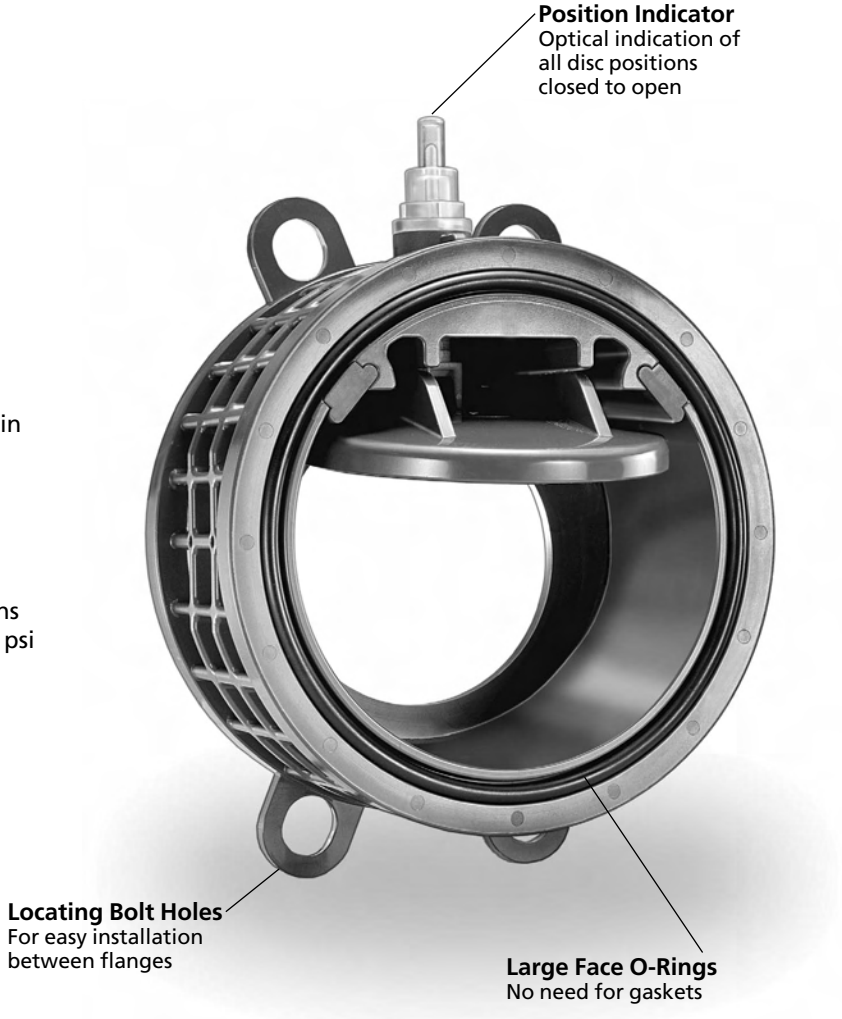
High Pressure Ratings
- 8" is 150 psi rated

NSF 61 Approved
- All wetted parts are made from NSF 61 approved resin

Can be Mounted Vertically or Horizontally

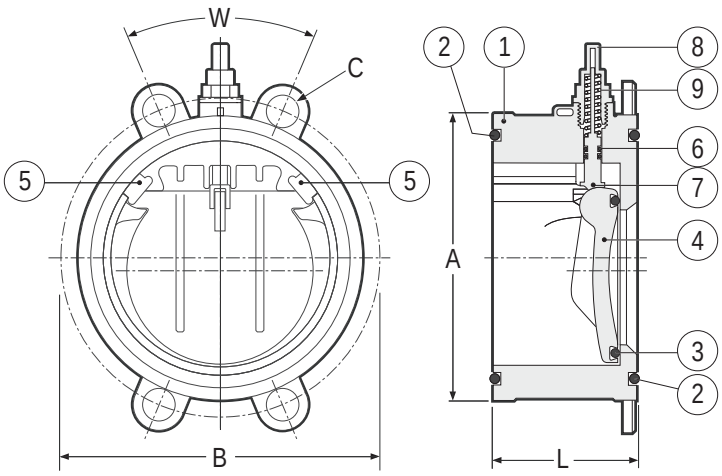
Spring Assisted Valve Closing
- Field installed springs assist disc closing for silent operation and to lower hammer on closing
- Two different springs installed in three configurations provide proper disc closing at 45 psi, 100 psi and 150 psi line pressure

Optional Drain Plug
- Moulded boss may be tapped for drainage plug



[1]PPG=Glass Filled Polypropylene

PW Series Wafer Check Valves



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC, PP, PVDF, PPG
2▲	Body O-Ring	2	EPDM, FPM (Viton®)
3▲	Disc O-Ring	1	EPDM, FPM (Viton®)
4	Disc	1	PVC, PP, PVDF, PPG
5	Disc Retainer	2	PVC, PP, PVDF, PPG
6▲	Stem O-Ring	2	EPDM, FPM (Viton®)
7	Indicator Stem	1	PVDF
8	Indicator Cover	1	Clear ABS
9	Spring	1	304 SS

VACUUM RATING

- Full Vacuum

DIMENSIONS INCHES

WEIGHTS LB.

C_V VALUES

Size	L	A	B	C	W	PVC	PP	PPG	PVDF	C_V Value
3"	2.8	4.9	5.8 – 6.3	0.8	1.8	1.26	0.84	1.00	1.57	180
4"	3.2	6.1	6.9 – 7.5	0.8	1.8	1.87	1.26	1.48	2.36	400
6"	4.2	8.4	9.2 – 9.5	0.9	1.8	5.40	3.62	4.25	6.77	1,000
8"	5.5	10.4	11.4 – 11.8	0.9	1.8	6.61	5.29	6.39	8.82	2,500
10"	5.5	12.8	13.8 – 14.3	1.1	1.2	11.60	9.28	11.20	15.40	3,500
12"	7.1	14.7	15.8 – 17.0	1.1	1.2	18.90	15.20	18.20	25.10	4,500

WORKING PRESSURES PSI

	PVC			PP			PPG				PVDF			
Size	20°C 68°F	40°C 104°F	60°C 140°F	40°C 104°F	60°C 140°F	80°C 176°F	40°C 104°F	60°C 140°F	80°C 176°F	105°C 220°F	40°C 104°F	60°C 140°F	80°C 176°F	100°C 212°F
3"	150	130	70	90	70	58	150	130	90	45	150	130	90	60
4"	150	130	70	90	70	58	150	130	90	45	150	130	90	60
6"	150	130	70	90	70	58	150	130	90	45	150	130	90	60
8"	150	130	70	90	70	58	150	130	90	45	150	130	90	60
10"	150	130	70	90	70	58	150	130	90	45	150	130	90	60
12"	150	130	70	90	70	58	150	130	90	45	150	130	90	60

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **PP** –20 to 90°C (–4 to 194°F), **PPG** –20 to 115°C (–4 to 240°F), **PVDF** –40 to 140°C (–40 to 284°F).

PRESSURES TO OPEN PSI

SEALING PRESSURES PSI

MAXIMUM ALLOWABLE FLOW RATES USGPM

	Spring Type			Maximum Back Pressure	at Start-Up and	Running
Size	50 psi	90 psi	150 psi	Required to Seal (psi)	Shut-Down	State
3"	0.1	0.25	0.5	1.5	125	200
4"	0.1	0.25	0.5	1.5	225	300
6"	0.1	0.25	0.5	1.5	500	600
8"	0.1	0.25	0.5	1.5	650	900
10"	0.1	0.25	0.5	1.5	800	1,300
12"	0.1	0.25	0.5	1.5	900	1,700

Above data is from tests using water on valves with EPDM disc facing.

ORDERING EXAMPLE

Chemline Wafer Check Valves	**PW**	**A**	**030**	**E**
Valve Material	**A** – PVC **B** – PP **G** – PPG **K** – PVDF			
Size	**030** – 3" **040** – 4" **060** – 6" **080** – 8" **100** – 10" **120** – 12"			
Seals	**E** – EPDM **V** – FPM (Viton®)			

Example: PW Series Wafer Check Valve, PVC, 3", with EPDM seals.

INSTALLATION PRECAUTIONS:

- Never install the valve directly to a pump.
- Never install the valve directly to a bend or elbow.
- Install all wafer check valves a minimum distance of 5 to 10 times the nominal pipe diameter ***downstream*** of pumps, elbows or valves.

WP Series Wafer Check Valves

The Chemline WP Series Wafer Check Valve is a non-return valve ideal for limited space installations. These valves are economical and available for large pipe sizes, 2" to 12" and larger[1]. They are available in two versions – with or without disc springs. The spring adds force for faster, more silent closing.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PP, PVDF

SERIES:	WP
SIZES:	2" – 12"[1]
SEALS:	EPDM, FPM (Viton®), Teflon®[2]
SPRING:	316 Stainless Steel, Hastelloy

Low Cost

Compact

Light Weight

Features

Compact
- Requires little space in piping systems

Light Weight
- 10" PP valve weighs only 7 lbs.

Easy Installation
- Wafer body slips between standard flanges

High Chemical Resistance
- A selection of materials of construction for every application

Horizontal or Vertical Operation[3]

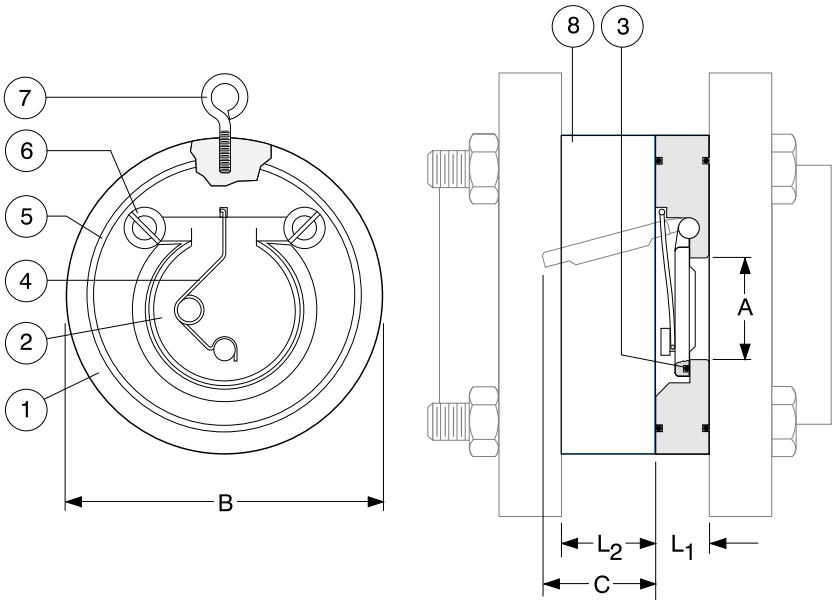
Bubble Tight Shut-off
- Provided by replaceable O-ring seal

Available With Disc Springs
- Faster disc closure reduces amount of back flow and consequent water hammer
- Maximum closure is obtained with low pressure differential
- Recommended for pulsating flows and horizontal piping

Available Without Disc Spring
- For applications where no metals are desired
- Lower cost

[1] Valve sizes up to 40" are available special order.
[2] Teflon® O-rings are PFA encapsulated FPM (Viton®).
[3] Disc spring should be used for horizontal piping.

WP Series Wafer Check Valves



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC, PP, PVDF
2	Disc	1	PVC, PP, PVDF
3▲	Disc O-Ring	1	EPDM, FPM (Viton®), Teflon®
4▲	Disc Spring	1	316 SS, Hastelloy[1]
5▲	Body O-Ring	2	EPDM, FPM (Viton®), Teflon®
6	Hinge Plug	2	PVC, PP, PVDF
7	Eye Bolt	1	304 SS
8	Spacer[2]	1	PVC, PP, PVDF

[1] Hastelloy springs are normally supplied on valves with Teflon® O-rings. 316 SS springs are supplied with EPDM or FPM (Viton®) O-rings.

[2] Valves up to 8" require spacers for full disc opening and are supplied as standard with all PVC and PP valves. Spacers are optional for 10" and 12" valves.

VACUUM RATING

- 29.9 inches mercury

INSTALLATION PRECAUTIONS

The following should be observed when assembling onto the discharge side of a pump:

- Never install the valve directly to a pump
- Never install the valve directly to a bend or elbow
- Install all wafer check valves 5 to 10 times the nominal pipe diameter ***downstream*** of pumps, elbows or valves

WORKING PRESSURE PSI — DIMENSIONS INCHES — WEIGHTS LB. — C_V VALUES

Size	PVC & PP 20°C 68°F	PVC & PP 40°C 104°F	PVC 60°C 140°F	PP 60°C 140°F	PP 80°C 176°F	PVDF 20°C 68°F	PVDF 40°C 104°F	PVDF 60°C 140°F	PVDF 80°C 176°F	PVDF 100°C 212°F	L_1	L_2	A	B	C	Without Spacer	With Spacer	Sch 40 Without Spacer	Sch 80 With Spacer
2"	145	130	65	50	20	145	140	130	100	60	0.8	1.0	1.3	4.1	1.8	0.5	0.9	58	74
2-1/2"	145	130	65	50	20	145	140	130	100	60	0.8	1.5	1.6	4.8	2.0	0.6	2.1	77	108
3"	145	130	65	50	20	145	140	130	100	60	0.8	1.6	2.0	5.4	2.9	0.7	1.6	105	203
4"	145	110	50	50	20	145	140	130	100	60	0.9	2.0	2.8	6.5	3.6	1.1	3.1	224	300
6"	145	110	45	50	20	145	140	110	90	60	1.0	2.0	4.4	8.7	5.8	2.3	4.7	718	949
8"	100	87	45	30	15	100	100	87	68	30	1.4	3.5	5.9	10.9	7.5	4.5	11.0	980	1,175
10"	87	60	36	30	15	87	87	60	45	30	1.6	3.9	7.5	13.0	9.0	7.0	17.4	1,880	2,050
12"	87	60	36	30	15	87	87	60	45	30	1.8	5.9	8.5	15.0	10.2	11.5	28.3	2,520	2,940

Working pressures of PVC and PP valves fitted with Teflon® seals are lower than above. Consult Chemline.
Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **PP** –20 to 90°C (–4 to 194°F), **PVDF** –40 to 120°C (–40 to 250°F).

ORDERING EXAMPLE

Chemline Wafer Check Valves	**WP**	**A**	**030**	**E**	**S**
Valve Material	**A** – PVC **B** – PP **K** – PVDF				
Size	**020** – 2" **025** – 2-1/2" **030** – 3" **040** – 4" **060** – 6" **080** – 8" **100** – 10" **120** – 12"				
Seals	**E** – EPDM **V** – FPM (Viton®) **P** – Teflon®				
Spring	**S** – 316 SS **H** – Hastelloy® **Blank** – without				

Example: Wafer Check Valve, PVC, 3", with EPDM seals and 316 SS spring.

PRESSURE TO OPEN PSI — SEALING PRESSURES — MAXIMUM ALLOWABLE FLOW RATES USGPM

Size	With Spring Horiz.	Without Spring Horiz.	Without Spring Vert.	With or Without Spring	At Start-Up & Shut-Down	Running
2"	0.3	0.1	0.2	1.0	50	60
2-1/2"	0.3	0.1	0.2	1.0	70	80
3"	0.3	0.1	0.2	1.0	110	125
4"	0.3	0.1	0.2	1.0	200	250
6"	0.3	0.1	0.2	1.0	320	400
8"	0.3	0.1	0.3	1.0	400	750
10"	0.3	0.1	0.3	1.0	600	1100
12"	0.3	0.1	0.3	1.0	750	1,500

Above data is from tests using water on valves with EPDM disc facing.

Gate Valves

The Chemline CGA Series flanged Gate Valve is an excellent isolating valve, but is also versatile. Fully open it has an unobstructed port and streamlined seating area, making pressure drop low. Water hammer can be a problem with quick closing valves such as ball and butterfly. Use of this multi-turn, slow closing valve eliminates water hammer. Unlike metal gate valves, this one may be throttled. The plastic disc is not subject to erosion by high fluid velocities, and the fully guided plug disc will not chatter. This valve is an excellent choice for underground services.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC

SERIES: CGA

SIZES: 1-1/2" – 14"

ENDS: Flanged

SEALS: EPDM

CRN REGISTERED CONSULT CHEMLINE

Full Port

NSF 61 Certified[1]

Ideal for Underground Service

Features

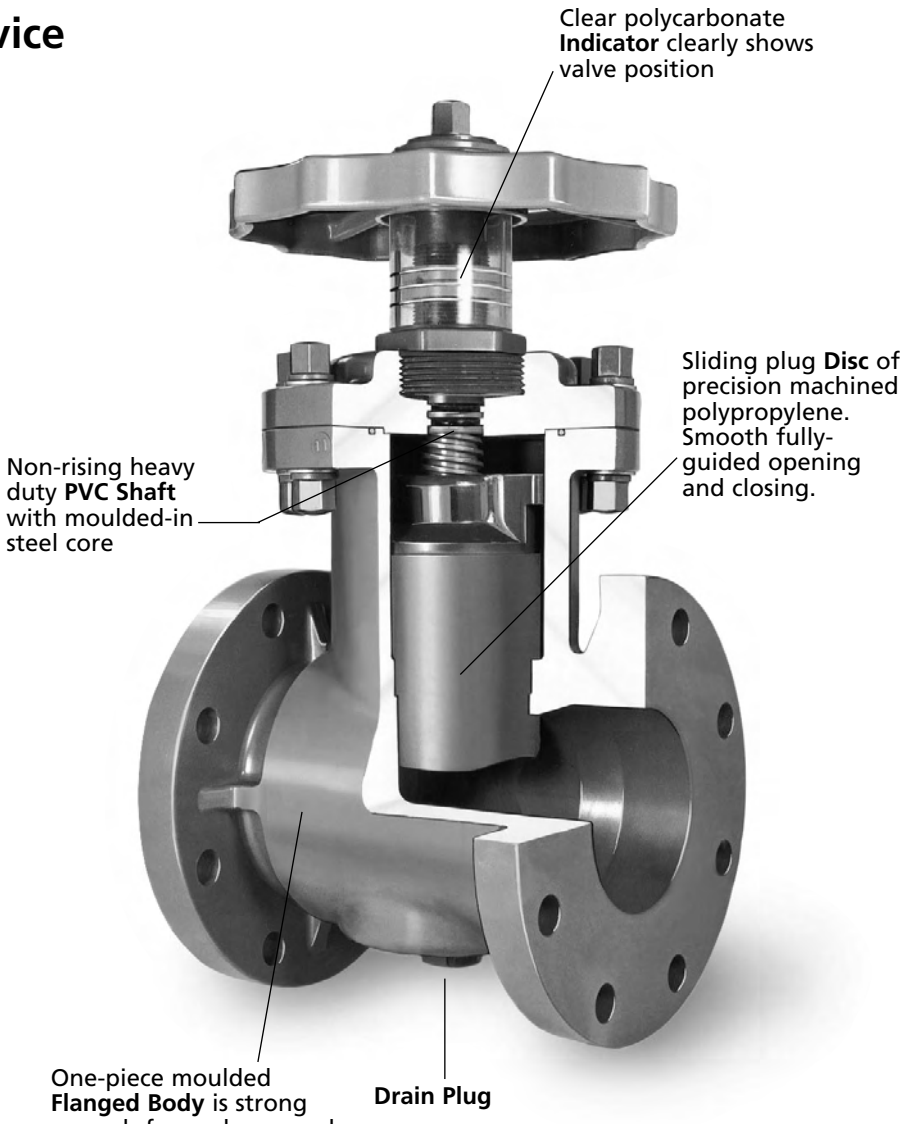
- **Light Weight – Fast and easy to install**
- **AWWA Flanged Face to Face Dimensions** in sizes up to 8". Can easily replace corroded steel valves.

Streamlined Seating Area and Full Port

- Low Pressure Drop
- Little Sediment Buildup – Self Flushing

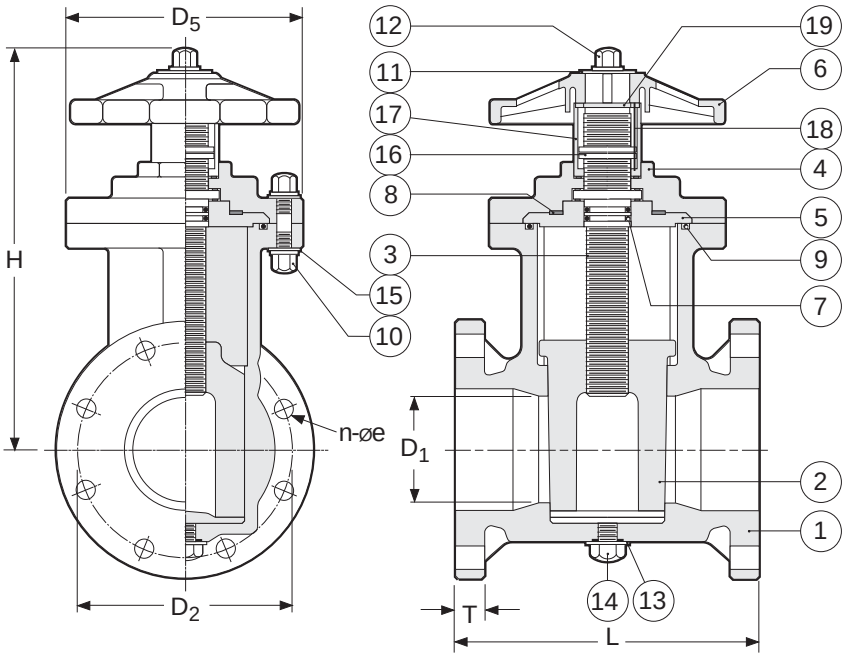
Cylindrical Disc and Large Seating Area

- High Working Pressures
- Good Abrasion Resistance



[1] PVC valves with EPDM or FKM (Viton®) seals are certified under NSF/ANSI Standard 61 for contact with drinking water.

Gate Valves



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC
2▲	Disc	1	PP
3▲	Shaft	1	PVC/Steel Core
4	Bonnet	1	PVC
5	Stem Retainer	1	PVC 8"– 14"
6	Handwheel	1	PP
7▲	Shaft O-Ring	2	EPDM
8▲	Thrust Ring	2	Teflon® 1-1/2"– 6"
8▲	Thrust Bearing	2	8"–14"
9▲	Bonnet O-Ring	1	EPDM
10	Bolt & Nut	Set	Stainless Steel
11	Washer	1	PVC 1-1/2" – 6"
12	Handwheel Nut	1	PVC
13	Gasket	1	EPDM
14	Drain Plug	1	PVC
15	Washer	Set	Stainless Steel
16	Indicator Ring	1	PVC
17	Indicator Tube	1	Polycarbonate
18	Indicator Pin	1	Stainless Steel
19	Indicator O-Ring	1	EPDM

DIMENSIONS INCHES

NET WEIGHTS

WORKING PRESSURES PSI C_V VALVES

Size	D_1	D_2	n	e	D_5	L	H	T	KG	LB.	0-50°C 32-122°F	USGPM @ 1 PSI Pressure Drop
1-1/2"	1.52	3.88	4	0.63	4.72	6.50	9.26	0.87	2.5	5.5	150	130
2"	1.96	4.74	4	0.75	5.12	7.00	10.15	0.91	3.4	7.5	150	180
2-1/2"	2.54	5.49	4	0.75	6.10	7.50	11.42	0.94	4.7	10.3	150	415
3"	2.94	6.00	4	0.75	6.69	8.00	12.20	0.98	6.1	13.5	150	470
4"	3.94	7.50	8	0.75	7.68	9.00	13.78	1.06	9.1	20.	150	690
5"	4.33	8.50	8	0.87	9.25	10.24	16.03	1.06	14.3	31.	150	1000
6"	5.12	9.51	8	0.87	10.63	10.50	17.52	1.06	18.2	40.	150	1400
8"	6.61	11.75	8	0.87	12.20	11.50	22.72	1.10	30.0	66.	150	2900
10"	8.27	14.25	12	0.98	14.17	14.96	27.17	1.18	52.5	116.	110	3700
12"	10.04	17.01	12	0.98	16.14	15.75	31.50	1.22	66.5	147.	70	5200
14"	11.69	18.74	12	1.14	17.91	16.93	35.82	1.26	80.0	187.	70	7000

Max. Temp. 60°C (140°F)

SAMPLE SPECIFICATION

– All PVC Gate Valves 1-1/2" to 14" are to be Chemline CGA Series or equal with a one-piece moulded PVC body flanged to ANSI 150. Valve material shall be PVC with cell classification 12454-A as per ASTM D-1784. Cylindrical disc shall be polypropylene and O-ring seals EPDM.

– PVC valves with EPDM or FKM (Viton®) seals shall be certified under NSF/ANSI Standard 61 for contact with drinking water.

VACUUM RATING

- 29.9 inches mercury

ORDERING EXAMPLE

Chemline PVC Flanged Gate Valves						CGA	060
Size	**015** – 1-1/2"	**020** – 2"	**025** – 2-1/2"	**030** – 3"	**040** – 4"	**050** – 5"	
	060 – 6"	**080** – 8"	**100** – 10"	**120** – 12"	**140** – 14"		

ACCESSORIES

- **2" Municipal Operating Nut**
- **Shaft Extension** made to any desired length
- **Chainwheel Operator**
- **Handwheel Lockout**
- **Limit Switches** NEMA 4 SPDT

Globe Valves

The Chemline Globe Valve is an economical throttling valve. Its heavy duty design provides for long service life. The in-line globe design causes relatively high pressure drops, however this is a desirable valve due to its economy and reliability.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PP

SERIES: GV

ENDS: Socket, Threaded*, Flanged

SEALS: EPDM†

Slow Closing

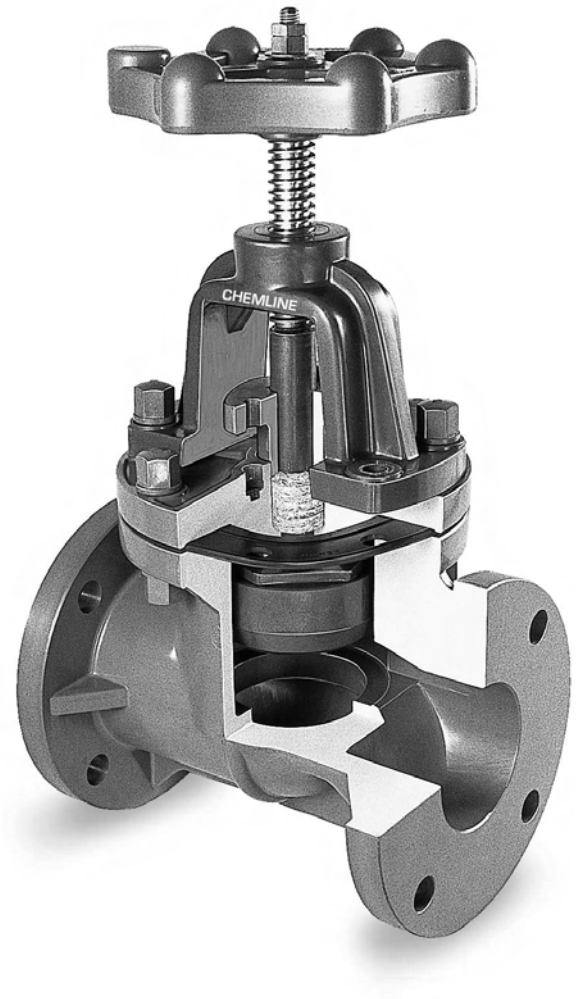
An Economical Throttling Valve

CRN REGISTERED CONSULT CHEMLINE

Features

- **Slow Closing**
  – Prevents water hammer in PVC piping
- **Heavy Duty Construction**
  – Long service life

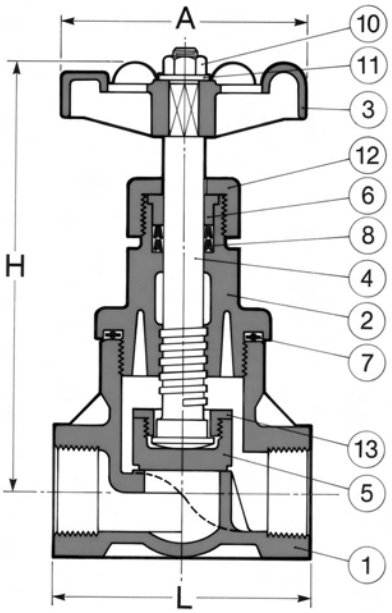
Union Bonnet Design 1/2" – 2"



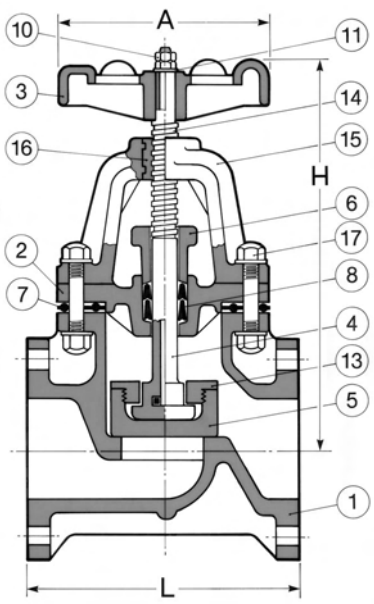
2-1/2" – 4" Outside Spindle and Yolk Type

***** Socket ends are available custom basis.
† Other seal materials are available special order.

Globe Valves



1/2" – 2"



2-1/2" – 4"

PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC, PP
2	Bonnet	1	PVC, PP
3	Handwheel	1	PP
4	Stem	1	PVC, PP
5	Disc	1	PP
6	Gland	1	PVC, PP
7▲	Bonnet Seal	1	EPDM
8▲	Stem Packing	2	EPDM
10	Nut	1	PVC
11	Washer	1	PVC
12	Gland Nut	1	PVC, PP
13	Disc Retainer	1	PP
14	Stem Top	1	Brass
15	Yolk	1	PP
16	Yolk Sleeve	1	Bronze
17	Bolt & Nut	8 sets	304 SS
18	Stud & Nut	2 sets	304 SS

DIMENSIONS INCHES

C_V VALUES VS % OPEN

WEIGHTS LB.

Size	A	L Soc	L† Thd	L* Flg	H Open	Valve Opening (%) 20	40	60	80	100	No. Turns to Open	PVC Soc/Thd	PVC Flg	PP Thd	PP Flg
1/2"	2.6	4.33	3.35	5.3	5.3	2.6	3.5	3.9	4.0	4.1	2.75	.64	1.0	.37	.66
3/4"	2.6	5.12	3.74	6.0	5.5	4.0	5.5	6.1	6.3	6.4	3.25	1.1	1.3	.55	.84
1"	3.6	5.19	4.33	6.8	6.4	6.1	8.4	9.2	9.5	9.7	3.25	1.1	2.2	.77	1.3
1-1/4"	3.6	–	5.32	8.2	6.6	11.3	15.5	17.1	17.7	18.	2.5	1.3	2.9	–	–
1-1/2"	5.3	–	5.51	8.4	9.1	13.8	19.0	20.9	21.6	22.	3.75	2.6	4.6	–	2.9
2"	5.3	–	7.09	11.0	9.9	18.2	25.0	27.5	28.5	29.	3.25	3.5	5.7	–	3.5
2-1/2"	7.3	–	–	8.7	13.6	35.7	49.2	54.1	56.1	57.	7.5	–	13.	–	11.
3"	7.3	–	–	9.5	14.1	48.9	67.3	74.1	76.7	78.	7.5	–	15.	–	11.
4"	7.3	–	–	11.4	16.5	72.1	99.2	109.	113.	115.	8.5	–	22.	–	18.

Note: 1-1/4" size is not available in PP. †**Threaded** ends are available in PVC 1/2" to 2" and PP 1/2" to 1".
***L Flanged** is for fabricated flanged valves normally supplied 1/2" to 2". Solid flanged (special order) 1/2" to 2" valves have shorter dimensions. Consult Chemline.

WORKING PRESSURES PSI

Size	PVC 0-20°C 32-68°F	PVC 40°C 104°F	PVC 50°C 122°F	Polypropylene –20-20°C –4-68°F	Polypropylene 60°C 140°F	Polypropylene 80°C 176°F
1/2" – 1-1/2"	150	105	105	105	90	65
2"	150	105	90	105	70	40
2-1/2" – 3"	150	105	90	105	60	35
4"	150	80	65	105	60	35

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **PP** –20 to 90°C (–4 to 194°F).

VACUUM RATING

- 29.9 inches mercury

ACCESSORY

- Handwheel lockout

ORDERING EXAMPLE

Chemline Globe Valves	GV	A	015	T
Body Material	**A** – PVC	**B** – Polypropylene		
Size	**005** – 1/2" **007** – 3/4" **010** – 1" **012** – 1-1/4" **015** – 1-1/2" **020** – 2" **025** – 2-1/2" **030** – 3" **040** – 4"			
Ends	**S** – Socket	**T** – Threaded	**F** – Flanged	

Example: Chemline Globe Valve, PVC, 1-1/2", threaded ends.

LC Series Lab Cocks

Chemline LC Series Lab Cocks are rugged quarter turn mini ball valves. They are ideal for general use in instrumentation lines, available at a fraction of the cost of comparable stainless steel valves. Other applications include air lines for aquaculture, for venting gas in pipe lines, process sampling and laboratory use.

Low Cost

NSF 61 Certified[1]

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC

SERIES: LC

SIZES: 1/4"

ENDS†: Male Threaded, Female Threaded, Male Thread x Hose, Hose x Hose

SEALS: EPDM or FKM (Viton®) Seats and Stem O-Ring

Features

- **Heavy Stems** – Rugged construction
- **1/4" Full Bore** – Low pressure drop
- **Graduation Marks** – For flow control

Male Thread x Hose

Female Threaded

Male Threaded

Hose x Hose

DIMENSIONS INCHES

Item No.	Ends	L
LCTH**x**	1/4" Male Thread x 3/8" ID Hose	3.48
LCFT**x**	1/4" Female Threaded	2.80
LCMT**x**	1/4" Male Threaded	2.60
LCHH**x**	3/8" ID Hose x Hose	4.37

x Denotes either **E** for EPDM seals or **V** for FKM (Viton®) seals.

C_V VALUE VS. OPENING

Graduation Mark	1	2	3	4
C_V Value	0.20	0.37	0.83	1.65

WORKING PRESSURES VS.TEMPERATURE

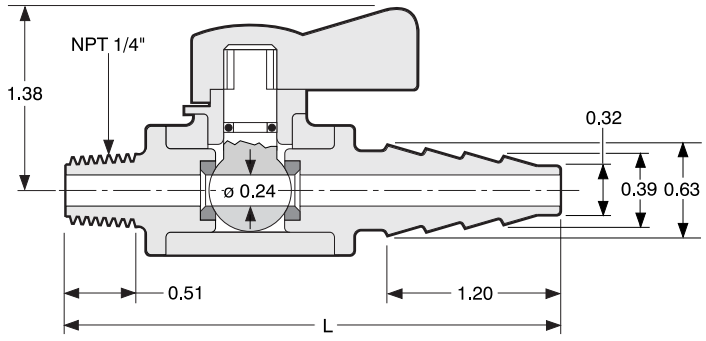
- 150 psi at 0 to 50°C (30 to 120°F)
- 15 psi at 60°C (140°F) maximum

VACUUM RATING

- 29.9 inches mercury

† ENDS AVAILABLE SPECIAL ORDER

- 1/4" or 3/8" Female Thread x Hose
- Male Thread x Female Thread – 1/4"x 1/4", 1/4"x 3/8", 1/2"x 1/4" or 1/2"x 3/8"
- 1/2" Male Thread x Hose
- Female Threaded – 1/4"x 3/8", 3/8"x 3/8"
- Male Threaded – 1/4"x 1/2", 1/2"x 1/2"



[1] PVC valves with EPDM or FKM (Viton®) seals are certified under NSF/ANSI Standard 61 for contact with drinking water.

LA Series Lab Cocks

Chemline LA Series Lab Cocks feature Teflon® seats, FKM (Viton®) O-ring seals and full 1/4" port. All parts are replaceable. The basic valve is male threaded by female threaded. Included with each valve are adaptors, plug, o-ring, strap and lockout (see photo) to provide a variety of end connections. An eyelet is provided for easy valve tagging.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, PVDF

SERIES: LA

SIZES: 1/4"

ENDS: Male Thread x Female Thread

SEALS: FKM (Viton®)

Available in PVDF

Adaptors Included

Features

- **1/4" Full Port** – Low pressure drop
- **Adaptors Included** – The valve along with adaptors provide for several end connections:
  - – Male Thread x Female Thread
  - – Male Thread x Male Thread
  - – Male Thread x Hose Barb
- **Optional Adaptor** – Optional female threaded hose adaptor allows for more configurations:
  - – Hose Barb x Hose Barb
  - – Hose Barb x Female Thread
- **Safety Plug with Strap**
  - – A safety plug attached to the valve with a strap is included
- **Lockout Device**
  - – Handle lockout device for the closed position is included

WORKING PRESSURES PSI

Material	0-40°C 32-104°F	60°C 140°F	80°C 176°F	100°C 212°F	120°C 248°F
PVC	150	30	–	–	–
PVDF	150	90	75	60	35

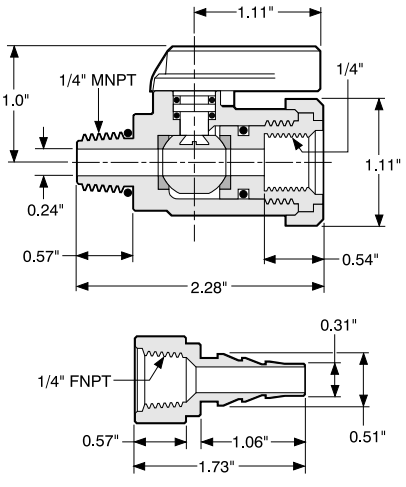
Temperature Ranges: **PVC** 0 to 60°C (32 to 140°F),
PVDF –40 to 120°C (–40 to 248°F)

C_V VALUE VS. OPENING

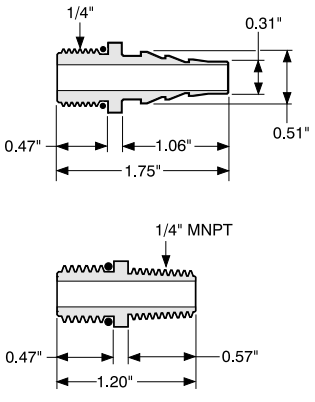
Opening	25%	50%	75%	100%
C_V Value	0.31	0.62	0.92	1.23

VACUUM RATING

- 29.9 inches mercury



Optional Adaptor



Standard Adaptors

Needle Valves

Chemline N Series Needle Valves are designed for fine throttling of corrosive and ultrapure fluids at low flow rates. Because the seal material is Teflon®, these valves are suitable for aggressive chemicals where similar valves with elastomer seals will not stand

Precise Control

Teflon® Seal – No Elastomers

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC, CPVC, PPG*

SERIES: NG – Globe body
NA – Angle body

SIZES: 1/4", 3/8" & 1/2"

ENDS: Female NPT

STEM SEAL: Teflon® PTFE

Features

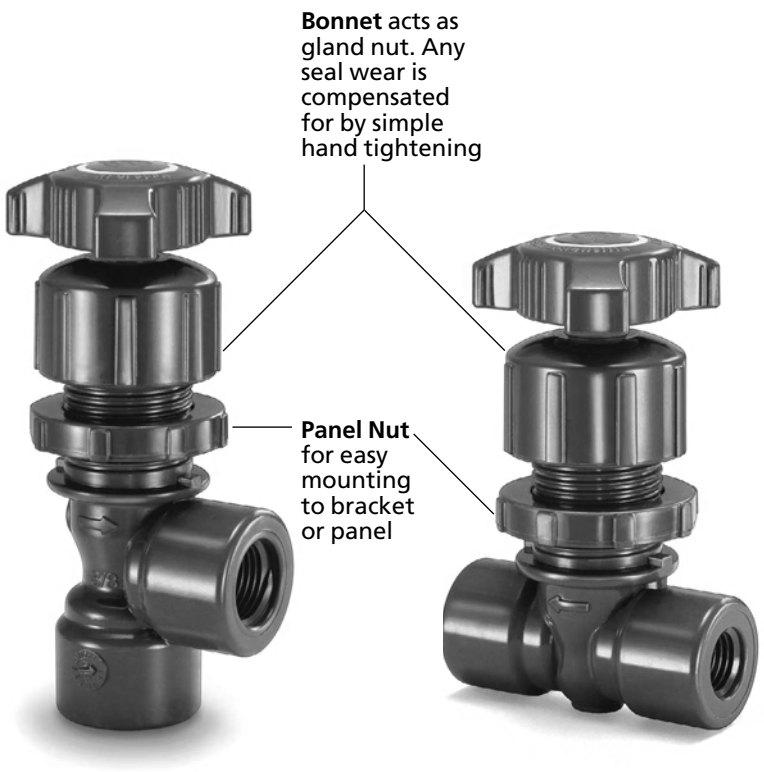
Precise Control with Fine Adjustment
- Precision machined seat and matching ground needle tip along with a 24 pitch fine thread stem (five turns from closed to full-open) provides for excellent flow control. Better control of reagents can mean significant cost savings.

High Chemical Resistance
- All parts are plastic or Teflon®. No elastomers or metal parts are used.

Lubrication Free
- No silicone or other lubricants are used

Easy Maintenance
- Seal wear is compensated for by hand tightening the cap (gland). Valve can be serviced in-line. Simply unscrew bonnet to remove complete topworks for inspection or disassembly.

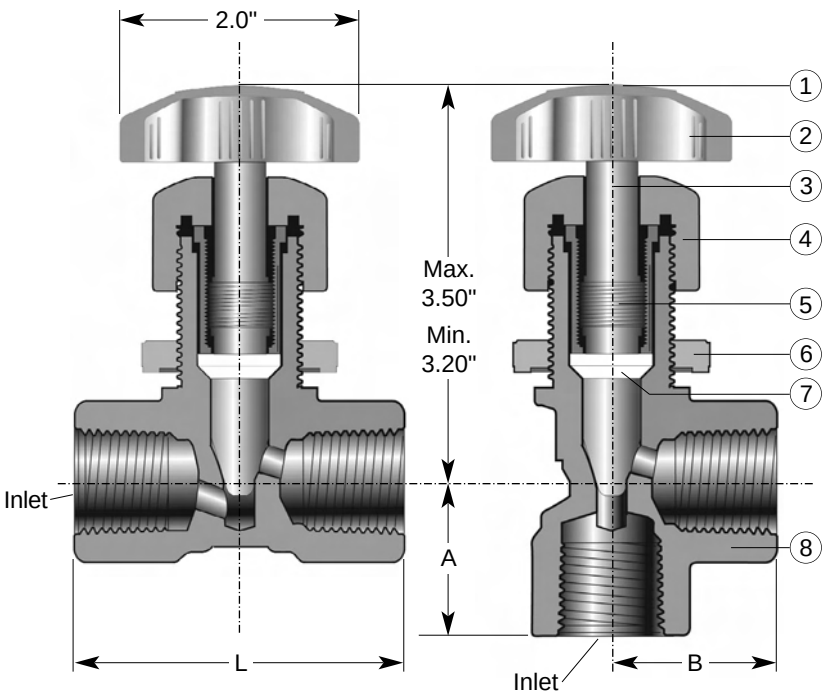
Heavy Duty Construction
- Thick stems



Angle Body **Globe Body**

* PPG = Glass Reinforced Polypropylene.

Needle Valves



Globe Body **Angle Body**

PARTS

No.	Part	Pcs.	Materials
1	Ring Insert†	1	PVC
2	Handle	1	PVC, CPVC, PPG
3	Stem/Needle	1	PVC, CPVC, PPG
4	Bonnet	1	PVC, CPVC, PPG
5	Thread Insert	1	Nylon*, PPG
6	Panel Nut	1	PVC, CPVC, PPG
7	Seal	1	Teflon® PTFE
8	Body	1	PVC, CPVC, PPG

† Standard colour for Ring Inserts:
PVC = white, CPVC = black, PP = blue.

* Threaded insert is reinforced Nylon for PVC and CPVC valves, PPG for PPG valves.

DIMENSIONS INCHES

NET WEIGHTS LB.

C_V VALUES

Size	L	A	B	Globe	Angle	Outlet Orifice	PVC	CPVC	PPG	Globe Body	Angle Body
1/4"	2.31	1.16	1.17	.187	.250	.187	.25	.27	.27	.31	.43
3/8"	2.39	1.19	1.21	.187	.250	.187	.25	.27	.27	.31	.43
1/2"	2.65	1.31	1.32	.218	.250	.218	.25	.27	.27	.62	.78

WORKING PRESSURES PSI

Size	PVC	CPVC			PPG		
	0-50°C 32-122°F	0-65°C 32-149°F	80°C 176°F	90°C 194°F	−20-30°C −4-86°F	60°C 140°F	75°C 167°F
1/4"	150	150	100	60	150	100	60
3/8"	150	150	100	60	150	100	60
1/2"	150	150	100	60	150	100	60

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), **CPVC** 0 to 95°C (32 to 203°F), **PPG** –20 to 75°C (–4 to 167°F).

SAMPLE SPECIFICATION

All (PVC/CPVC/PPG) Needle Valves 1/4" to 1/2" shall be Chemline N Series (Globe/Angle) body with Teflon® PTFE seal and no elastomers. Valves will have 24 pitch stem threads for fine control and have panel mounting capability.

ORDERING EXAMPLE

Chemline Needle Valves			**N**	**G**	**A**	**005**
Body Pattern	**G** – Globe	**A** – Angle				
Valve Material	**A** – PVC	**B** – PPG	**C** – CPVC			
Size	**002** – 1/4"	**003** – 3/8"	**005** – 1/2"			

Example: Needle Valve, Globe Pattern, PVC, 1/2", threaded ends.

VACUUM RATING

- 29.9 inches mercury

OPTIONS

- Black, white, blue or red rings are available for colour coding

Y Sediment Strainers

The Chemline YSA Series Y Sediment Strainer is a safety filtration device designed to entrap occasional solid impurities in the line. This is to protect equipment with small orifices such as solenoid valves, and prevent damage to pumps or control valves, etc. The easily replaceable filter screen comes in a choice of meshes. The new YSA Series True Union models have greatly increased filtration areas. Pressure drops are lower and less frequent cleaning is required.

CHEMLINE Plastics Limited

Your Pipeline To Quality

PVC[1]

SERIES: YSA

SIZES: 1/2" – 4"

ENDS: True Union, Threaded, Socket, Flanged or ChemFlare™[2]

SEALS: EPDM, FKM (Viton®)[3]

CRN REGISTERED CONSULT CHEMLINE

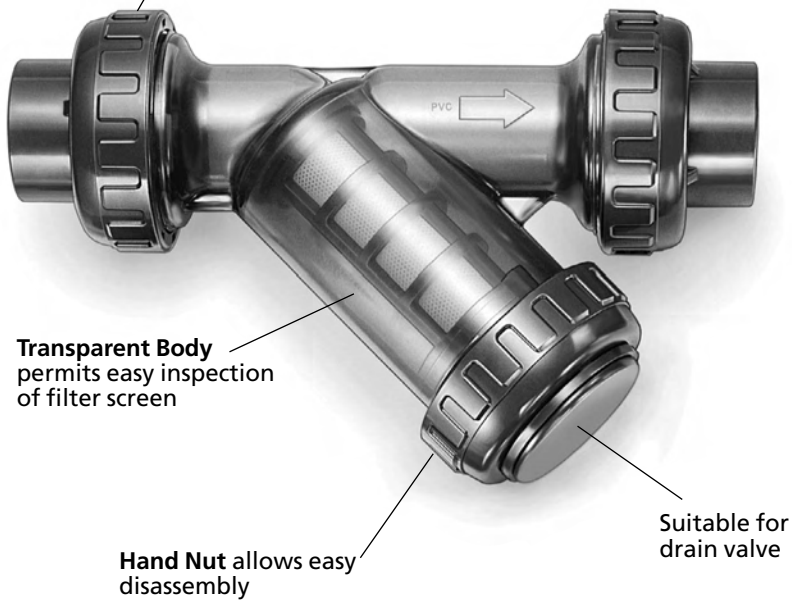
High Capacity

True Union up to 4"

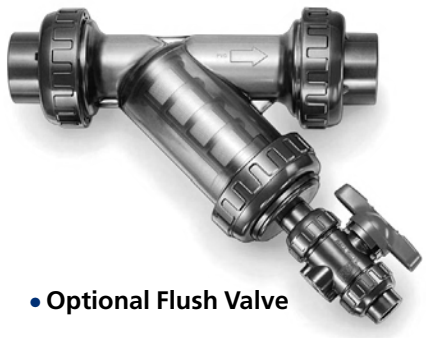
Transparent Body

Features

- **Large Filtration Capacity Low Pressure Drops**
  – Diameter of screens are full pipe bore. The effective filtering area is in some sizes **twice the filtering area** of other makes. This results in larger filtration capacities and lower pressure drops.
- **Replaceable Filter Screens**
  – Available with choice of PVC 24, 35 or 55 mesh filter screens
  – 316 SS screens are also available
- **Dual Socket and Threaded Ends**
  – Sizes 1/2" to 2" in PVC are supplied with socket ends plus two free threaded ends in each box



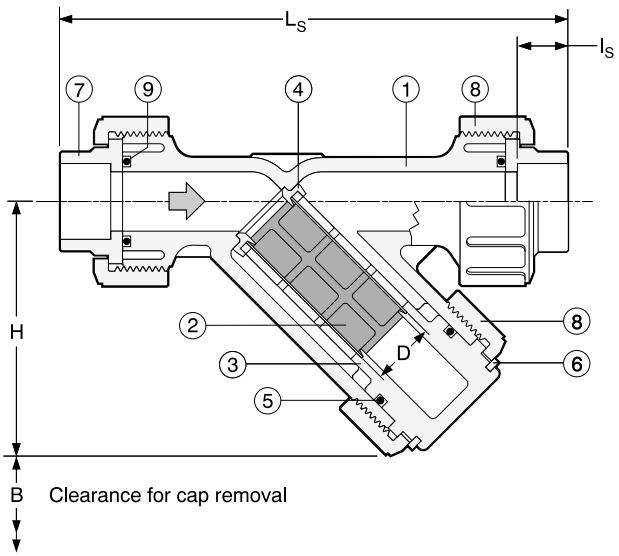
- **Easily Maintained** – All parts are easily replaceable including the body



- **Optional Flush Valve**

[1] Polypropylene and PVDF Strainers are available special order.
[2] For ChemFlare™ end connectors, consult Chemline.
[3] Other seal materials are available special order.

Y Sediment Strainers



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC
2▲	Filter Screen	1	PVC, 316SS
3	Cap/Filter Cage	1	PVC
4▲	Screen Retainer	1	PVC
5▲	Cap O-Ring	1	EPDM, FKM (Viton®)
6	Split Ring	1	PVC
7	End Connector	2	PVC
8	Union Nut	3	PVC
9▲	Face O-Ring	2	EPDM, FKM (Viton®)

DIMENSIONS INCHES

Size	B	D	H (Closed)	L_T Threaded	L_S Socket	L_F Flanged	l_S Socket	Exposed Screen Area (in²)
1/2"	3.	0.63	2.8	6.50	6.93	8.1	0.87	2.71
3/4"	4.	0.83	3.7	7.95	8.30	10.0	1.00	4.57
1"	5.	1.1	4.0	8.82	9.37	11.1	1.12	5.98
1-1/2"	6.	1.6	5.7	11.30	12.13	13.2	1.38	13.8
2"	7.	2.0	6.6	12.76	13.31	14.2	1.50	20.0
3"	8.	3.1	7.5	17.2	17.80	18.8	1.87	34.0
4"	11.	3.9	10.1	23.5	23.54	23.9	2.25	54.7

NET WEIGHTS LB.

Size	Threaded Socket	Flanged
1/2"	0.5	1.0
3/4"	1.0	1.6
1"	1.5	2.4
1-1/2"	3.4	4.6
2"	4.3	6.0
3"	12.7	14.7
4"	30.8	35.1

WORKING PRESSURES PSI

0-50°C 32-122°F
150
150
150
150
150
85
85

Temperature Range
0 to 60°C (32° to 140°F)

C_V VALUES

USGPM Flow at 1 PSI Pressure Drop
5.2
7.5
14.
34.
50.
110.
165.

With clean 24 mesh screen

FILTER SCREEN DATA

Equiv. Mesh	Micron Filtration	Hole Area (in²)	Holes per in²	% Open Area
24	690	.00114	135	15.4
35	490	.00053	258	13.7
55	250	.00011	774	8.5

24 mesh is supplied as standard, 35 or 55 mesh supplied on request.

Micron filtration is the smallest diameter of a sphere which will be retained by the mesh.

ORDERING EXAMPLE

Chemline PVC Y Strainers	**YSA**			**020**		**E**	**S**
Size	**005** – 1/2"	**007** – 3/4"	**010** – 1"	**012** – 1-1/4"			
	015 – 1-1/2"	**020** – 2"	**030** – 3"	**040** – 4"	**060** – 6"[1]		
Seals	**E** – EPDM	**V** – FKM (Viton®)	**C** – CPE[2]	**B** – Nitrile[3]	**A** – Aflas		
Ends	**S** – Socket	**T** – Threaded	**F** – Flanged	**CF** – ChemFlare™			

Example: Chemline PVC Y Strainer, 2", EPDM O-rings, socket ends.

[1]6" is 4" strainer with 6" end connections

[2]CPE = Chlorinated Polyethylene

[3]Nitrile is also called "Buna-N"

OPTIONS

- **Alternate O-ring materials**
- **Flush out valve installed in cap**
- **316 Stainless Steel Screens** if greater open area is required
- **Polypropylene or PVDF Construction**
  – Design is different from YSA Series. Consult Chemline.

Low Torque Flange Gaskets

Chemline GA Series Low Torque Gaskets are recommended for all plastic piping systems to prevent initial flange leakage due to bolt over tightening. They are especially recommended for all Chemline solid plastic flanged body valves. The unique double convex ring design provides optimum sealing with a fraction of the bolt torque required for flat face gaskets. The Teflon® PTFE and PVDF gaskets have 0.4 mm sheet material bonded to EPDM. This increases elasticity, lowering bolt torques required to seal.

CHEMLINE Plastics Limited

Your Pipeline To Quality

EPDM, Teflon®, PVDF*

SERIES: GA

SIZES: EPDM – 1/2" to 12"†
PTFE – 1/2" to 12"
PVDF – 1/2" to 10"

CLASS: ANSI 150 Full Face

TEMPERATURE RANGE:
EPDM: –40 to 90°C (–40 to 194°F)
PTFE, PVDF: –40 to 120°C (–40 to 248°F)

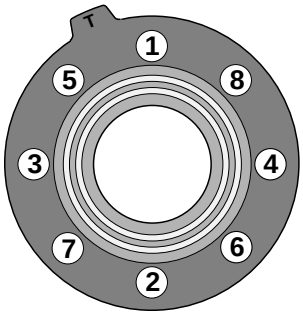
Raised Face Design

Low Bolt Torques to Seal

Ideal for Plastic Flanges

Features

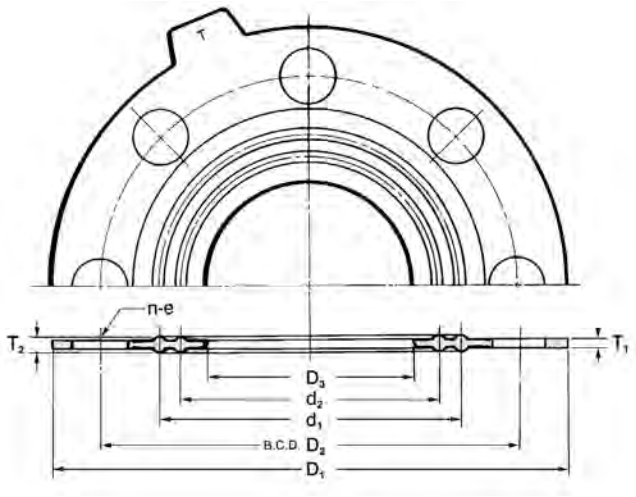
- **Low Flange Bolt Torques Required for Positive Seal** – Due to the moulded raised face – patented double convex ring design
- **Ideal for Thermoplastic Piping Systems,** also metal or plastic lined metal pipe systems for up to 250 psi
- **High Chemical Resistance** – PTFE-bonded and PVDF-bonded gaskets are suitable for extremely aggressive chemical services
- **Longer Gasket Life** – Because lower flange pressures are required for sealing



When installing, tighten lubricated flange bolts evenly and in a symmetrical pattern as shown above

* Teflon® PTFE and PVDF gaskets are 0.4 mm sheet bonded onto EPDM.
† EPDM is available special order in 14" and 16" sizes.

Low Torque Flange Gaskets



SAMPLE SPECIFICATIONS

All flange gaskets 1/2" to 12" are to be **Chemline GA Series** moulded raised face type with full face ANSI B16.1 (Class 150) dimensions. Material will be pure EPDM (or Teflon® PTFE-bonded or PVDF-bonded EPDM). Two concentric convex moulded rings will provide effective sealing using low bolt torques.

MATERIAL IDENTIFICATION TAB

EPDM = Solid EPDM
T = Teflon® PTFE bonded EPDM
PVDF = PVDF bonded EPDM

DUROMETER (HARDNESS)

EPDM – Shore A: 65° ± 3°

DIMENSIONS INCHES

Size	D_1	D_2	D_3	d_1	d_2	n	e	T_1	T_2
1/2"	3.43	2.38	0.71	1.61	1.02	4	0.63	0.12	0.16
3/4"	3.79	2.76	0.87	1.85	1.26	4	0.63	0.12	0.16
1"	4.17	3.13	1.18	2.09	1.50	4	0.63	0.12	0.16
1-1/4"	4.53	3.50	1.46	2.56	1.97	4	0.63	0.12	0.16
1-1/2"	4.92	3.88	1.69	2.72	2.13	4	0.63	0.12	0.16
2"	5.19	4.74	2.13	3.27	2.68	4	0.75	0.12	0.16
2-1/2"	6.93	5.49	2.72	3.98	3.39	4	0.75	0.12	0.16
3"	7.44	6.00	3.15	4.41	3.86	4	0.75	0.12	0.20
4"	8.94	7.50	4.02	5.43	4.72	8	0.75	0.12	0.20
5"	9.92	8.50	5.00	6.54	5.71	8	0.87	0.12	0.20
6"	10.91	9.51	5.91	7.48	6.61	8	0.87	0.12	0.20
8"	13.43	11.71	7.80	9.72	8.50	8	0.87	0.12	0.20
10"	15.91	14.25	9.80	12.05	10.63	12	0.98	0.12	0.20
12"	18.94	17.01	11.81	13.86	12.76	12	0.98	0.12	0.20

RECOMMENDED BOLTS TORQUES† FT-LB.

WEIGHTS LB.

	EPDM				Teflon® PTFE and PVDF					
	Working Pressure				Working Pressure					
Size	85 psi	142 psi	228 psi	250 psi*	85 psi	142 psi	228 psi	250 psi*	EPDM	Teflon® & PVDF
1/2"	9.4	13.0	14.5	18.1	10.9	14.5	15.9	18.1	0.04	0.04
3/4"	9.4	13.0	14.5	18.1	10.9	14.5	15.9	18.1	0.05	0.05
1"	9.4	13.0	14.5	18.1	10.9	14.5	15.9	18.1	0.06	0.06
1-1/4"	10.9	13.8	16.7	21.7	13.0	15.9	18.8	21.7	0.08	0.08
1-1/2"	12.3	14.5	18.1	25.4	14.5	18.1	21.7	25.4	0.09	0.09
2"	12.3	14.5	18.1	25.4	14.5	18.1	21.7	25.4	0.12	0.12
2-1/2"	14.5	18.1	21.7	36.2	21.7	25.4	29.0	36.2	0.16	0.16
3"	14.5	18.1	21.7	36.2	21.7	25.4	29.0	36.2	0.18	0.18
4"	14.5	18.1	21.7	36.2	21.7	25.4	29.0	36.2	0.22	0.27
5"	18.1	21.7	25.4	43.5	25.4	29.0	36.2	43.5	0.28	0.34
6"	18.1	21.7	25.4	43.5	25.4	29.0	36.2	43.5	0.33	0.44
8"	21.7	25.4	29.0	58.0	29.0	36.2	43.5	58.0	0.44	0.51
10"	25.4	29.0	36.2	58.0	29.0	36.2	43.5	58.0	0.55	0.66
12"	29.0	36.2	43.5	58.0	36.2	43.5	50.7	58.0	0.81	0.99

† Bolt torques are for flat face flanges. * Maximum recommended torques are those listed for 250 psi service.

CHEMLINE Plastics Limited
Your Pipeline To Quality

Other Chemline Product Lines

Actuation & Actuated Valves

Electric Actuators
- Four different series provide a range of control features and output torques up to 2,655 in.-lb. These will power all Chemline ball and butterfly valves up to 14".

Pneumatic Actuators
- P Series is a premium quality line designed for long cycling life in demanding industrial applications. Output torques are up to 31,300 in.-lb. spring return (SR) and 40,660 in.-lb. double acting (DA) with 80 psi air. They will power all Chemline ball and butterfly valves up to 24" DA and 20" SR

Actuation Service
- Chemline supplies actuators separately and actuation service for any metal valves.

700 Series Diaphragm Valves
- Modular line of pneumatically actuated and manual weir diaphragm valves up to 4". They share common bodies and diaphragms. Only five different actuators sizes power nine valve sizes (730 Series).

Electromni® Electric

Q Series Electric

V Series Electric

A Series Electric

A Series Electric

PA Series Aluminum Pneumatic

PP Series Plastic Pneumatic

P3 Series Stainless Steel Pneumatic

PH Series High Temperature Pneumatic

PG Series 180° Rotation Pneumatic

Type 730 NC Pneumatic Diaphragm Valves
1/2" – 4"

Type 750 Pneumatic Diaphragm Valves
1/2" – 2"

Type 710 Pneumatic Diaphragm Valves
3/8" & 1/2"

Type 760 Manual Diaphragm Valves
1/2" – 4"

Type 720 Manual Diaphgram Valves
3/8" & 1/2"

Controls & Flow Meters

Gauge Isolators
- For any pressure instrument

Air Release Valves
- Both economical and performance models

Back Pressure/Relief Valves

Pressure Regulating/ Reducing Valves

Characterized Control Valves
- Single seat globe type with a PTFE bellow stem seal, available with a selection of Cv's characterized either linear or equal percentage.

Variable Area Flow Meters
- For water, chemicals or air, maximum 220 USGPM (water)

SG Series Gauge Isolators
1/4" & 1/2"

AR Series Air Release Valves
1/2" – 3"

AA Series Air & Vacuum Release Valves
1-1/4" & 3"

SB17 Mini Back Pressure/Relief Valves
1/4" – 3/8"

SB10/11 & 12 Back Pressure/ Relief Valves
3/8" – 4"

SR50 Pressure Regulating/ Reducing Valves
3/8" – 3"

EK Series Pneumatic Characterized Control Valves
1/2" – 4"

EHK Series Pneumatic High Pressure Characterized Control Valves
1/2" – 4"

EE Series Electric Characterized Control Valves
1/2" – 4"

Variable Area Flow Meters
3/8" – 2-1/2"

Digiflow FLOW X3

Paddle Wheel Flow Meters & Instrumentation

Flow Sensors

- Available in CPVC, PVDF, 316L Stainless Steel or Brass
- NEMA 6,6P (IP68) sensors are available for outdoor/ submersible applications
- High Accuracy: ± 0.75% of full scale with standard K factor
- Excellent low flow measurement. Accurately measures flow velocities down to 0.15 m/s (0.5 to 25 ft./sec.)
- ECTFE (Halar®) rotor, ceramic shaft and bearings: Offers long service life on corrosive industrial services

Direct Mount Flow Sensors

Remote Flow Sensors

Mini Flow Sensors

Ultra Low Flow Sensors

Oval Gear Flow Sensors

No-Flow Switches

Adjustable Flow Switches

Adjustable Ultra Low Flow Switches

Blind Transmitters

Ultra Low Flow Blind Transmitters

Hot-Tap Flow Sensors

Electromagnetic Flow Transmitters

Hot-Tap Electromagnetic Flow Transmitters

Instruments

- Modular Design: 1/4" DIN size instruments can be mounted 3 ways: directly to sensor, remotely to panel or wall mounted

Flow Monitor/ Transmitters

Battery Powered Flow Monitor

Batch Controllers

Direct Mount **Panel Mount** **Wall Mount**

Installation Fittings

- Sensor installation fittings are available for all sizes and types of pipes

Tees:
1/2" to 1-1/2"

Bolt-On Saddles:
2" to 12"

Metal Strap-On Saddles:
3" to 18"

Wafer Fittings:
10" and 12"

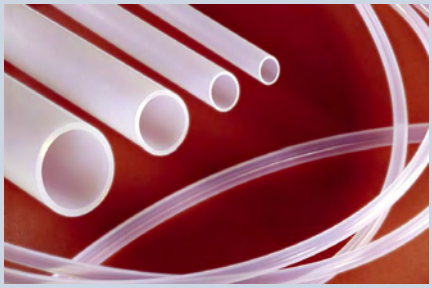
Weld-On Adaptors:
1-1/2" to 24"

CHEMLINE Plastics Limited
Your Pipeline To Quality

Other Chemline Product Lines

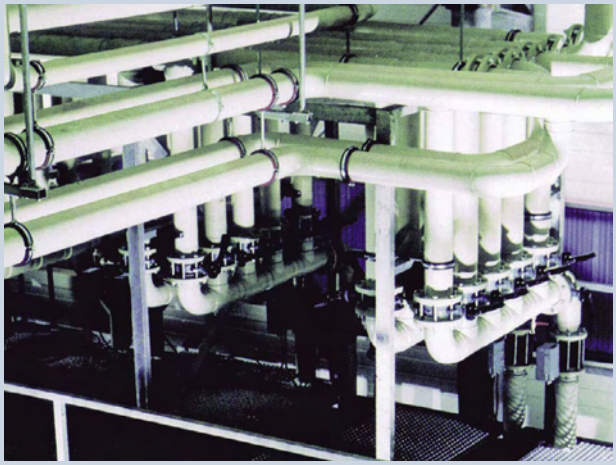
Teflon® Tube, Fittings, Valves & Piping

- PFA Tube, ChemFlare™ Fittings, Valves & Tools 1/8" to 1"
- ChemBond™ PFA Butt Weld Pipe & Fittings 1/2" to 2" and Butt Weld Tube Fittings 1/4" to 1"



Piping Systems

- Polypropylene (PP) Pipe & Fittings 1/2" to 56"
- PolyPure® Unpigmented PP Piping System 1/2" to 4"
- PVDF Pipe & Fittings to 12"
- ECTFE (Halar®) Pipe & Fittings 1" to 4"
- AirPro® Polyethylene Piping System 1/2" to 4"
- Sani-Tech® PP & PVDF Piping Systems 1/2" to 4"
- Dual Containment Pipe & Fittings
- Custom Fabrication
- Manifold Fabrication



Polypropylene butt welded piping installation

PE manifold produced on Chemline's CNC saddle welding machine

Pipe Welding Machines

- For PP, PE, PVDF, PFA or ECTFE pipe, fittings and valve ends
- Butt or socket fusion models available for rent or purchase
- Butt welding machines types are heating element or non-contact infra red (IR)
- Field or shop fabrication machines available for all pipe size ranges

Maxiplast Heating Element Butt Welder for Field or Shop

4001 Heating Element Butt Welding Shop Machine

Debeaders, Pipe Saws & Other Fabrication Tools

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Your Pipeline To Quality Valves, Piping, Flow Meters and Controls

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