

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 hypochlorite¹. 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 to 1" 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 hand²

Low Down Time

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

Minimum Dead Volume

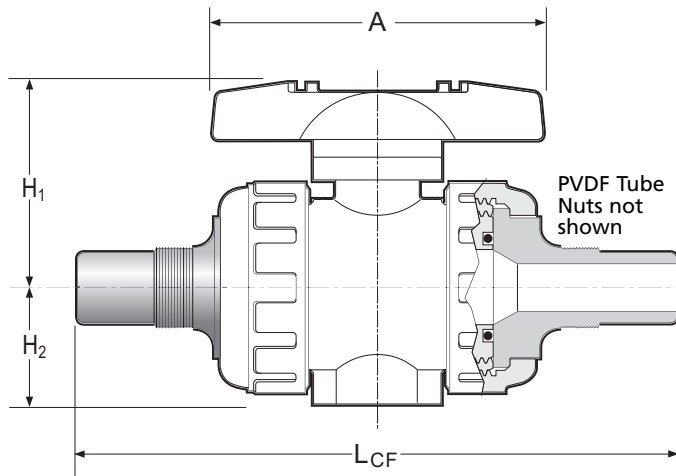
- The flared tubing connection has minimum dead volume desirable on sodium hypochlorite and ultrapure applications



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

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

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DIMENSIONS INCHES

Valve Size	Tube Size ¹	A	H ₁	H ₂	LCF
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).

¹ChemFlare™ 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.

²Tube size must be equal or smaller than the valve size.



55 Guardsman Road, Thornhill, Ontario, Canada, L3T 6L2

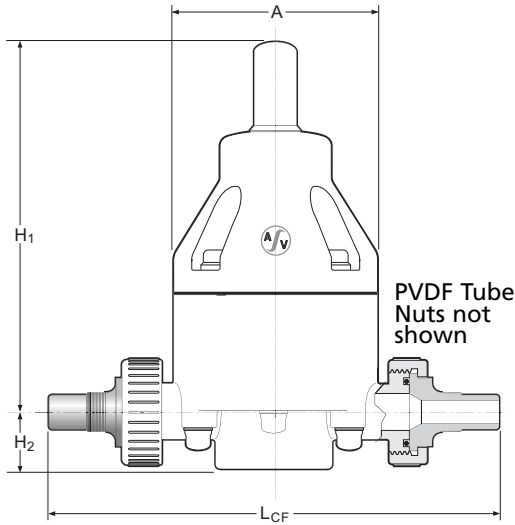
Tel: 905-889-7890 request@chemline.com

Fax: 905-889-8553 www.chemline.com



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

ChemFlare™ End Connectors



DIMENSIONS INCHES

Valve Size	Tube Size ¹	A	H ₁	H ₂		L _{CF}
				PVC	PP/PVDF	
1/2"	1/4"	3.2	6.9	1.0	0.9	7.74
1/2"	3/8"	3.2	6.9	1.0	0.9	8.26
1/2"	1/2"	3.2	6.9	1.0	0.9	8.34
3/4"	3/4"	4.2	8.0	1.5	1.4	9.72
1"	1"	4.2	8.0	1.5	1.4	10.20

MAXIMUM PRESSURES PSI

Valve Size	Tube Size ¹	PVC				PP					PVDF					
		20°C 68°F	30°C 86°F	40°C 104°F	50°C 122°F	30°C 86°F	40°C 104°F	50°C 122°F	60°C 140°F	70°C 158°F	30°C 86°F	50°C 122°F	70°C 158°F	80°C 176°F	90°C 194°F	100°C 212°F
1/2"	1/4"	150	105	60	15	150	90	60	37	15	150	100	60	45	30	15
1/2"	3/8"	150	105	60	15	150	90	60	37	15	150	100	60	45	30	15
1/2"	1/2"	150	105	60	15	150	90	60	37	15	150	100	60	45	30	15
3/4"	3/4"	111	105	60	15	107	90	60	37	15	107	100	60	45	30	15
1"	1"	77	72	60	15	72	67	60	37	15	72	62	52	43	30	15

Temperature Ranges: PVC 0 to 60°C (32 to 140°F), PP -20 to 90°C (-4 to 194°F), PVDF -40 to 100°C (-40 to 212°F).

¹ChemFlare™ ends are available for reduced tube sizes down to 1/4". Tube nuts are always supplied with end connectors.

SAMPLE SPECIFICATION

- All Back Pressure/Relief Valves in PVC, PP or PVDF shall be Chemline SB10 or SB11 Series or equal in sizes 1/2" to 2". SB10 shall have inlet set pressure range of 3 to 60 psi and SB11 shall have an inlet set pressure range of 7 to 150 psi. All valves shall have a maximum inlet pressure rating of 150 psi. Valves shall be suitable for aggressive, clean, non-scaling chemicals.
- All valves shall have a large Teflon® coated control diaphragm to fully open at 10-15% over pressure, provide low hysteresis ("backlash") and no flutter.
- Static seals shall be EPDM or FPM (Viton®).
- End connections shall be ChemFlare™ design for connection to flared Teflon® PFA tubing.
- PVC compound shall have an ASTM cell classification 13463-A, with minimum suffix "A" designation for chemical resistance as per ASTM D-1784.
- All polypropylene material shall conform to ASTM D-4101 PP 0211B67272 material requirements.
- All PVDF material shall be unpigmented conforming to ASTM D-3222 Type 2 suspension resin material requirements and also with USDA Title 21, Chapter I, 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.

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