



VALVE & ACTUATION SPECIFICATION GUIDE



BALL VALVES
BUTTERFLY VALVES
CHECK VALVES
SPECIALTY VALVES & FITTINGS
ELECTRIC ACTUATION



CHEMLINE PLASTICS
SUPERIOR FLOW SOLUTIONS

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VALVE & ACTUATION SPECIFICATION GUIDE



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Socket



Threaded



Flanged



ChemFlare™

PVC

body materials

SAMPLE SPECIFICATION – TYPE 24

1. All PVC ball valves 1/2" to 4" will be Chemline Type 24 True Union or equal.
2. PVC valves with EPDM or FKM ("Viton®") seals will be 230 psi rated up to 4" at 20°C/68°F.
3. Valves will be suitable for temperatures up to 60°C/140°F.*
4. Valves will be NSF/ANSI 61 Certified for contact with drinking water.
5. Valves will be full port with a threaded-in seat carrier, two-way blocking design.
6. Handle will have a built-in spanner wrench for adjustment or removal of the seat carrier.
7. Valves will have blowout-proof stems with double o-rings for safety.
8. Ball seats will be PTFE with elastomer cushions for and better sealing at low pressures and longer life.
9. Valves will have a base with threaded inserts for screws to panel mount or anchor the valve.
10. **Socket** ends shall be Schedule 80 and conform to ASTM D-2467.
11. **Threaded** ends shall be Schedule 80 and conform to ASTM D-2464.
12. **ChemFlare™** ends will be compatible with Chemline's ChemFlare™ Leak-Free tubing system.
13. **Flanged** ends shall be ANSI Class 150.
14. Every valve will undergo a factory hydrostatic pressure test to assure quality. All valves will be labelled with manufacturer's inspection number for traceability to production.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



Socket



Threaded



Flanged



Butt



ChemFlare™



body materials

SAMPLE SPECIFICATION – TYPE 25

1. All plastic ball valves 1/2" to 2" will be Chemline Type 25 or equal.
2. PVC valves with EPDM or FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 60°C/140°F.*
3. Polypropylene valves with EPDM or FKM ("Viton®") seals will be 150 psi rated, suitable for temperatures up to 80°C/176°F.*
4. PVDF valves with FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 140°C/284°F.*
5. Valves will be full port with a threaded-in seat carrier, two-way blocking design.
6. Valves will have blowout-proof stems with double o-rings for safety.
7. Ball seats will be PTFE with elastomer cushions for and better sealing at low pressures and longer life.
8. Handle will have thumb lock to fix position open or closed.
9. Valves will have a base with stainless steel threaded inserts for screws to panel mount or anchor the valve.
10. PVC **Socket** ends shall be Schedule 80 and conform to ASTM D-2467.
11. **Threaded** ends shall be Schedule 80 and conform to ASTM D-2464.
12. **ChemFlare™** ends will be compatible with Chemline's ChemFlare™ Leak-Free tubing system.
13. PP or PVDF **Butt** or **Socket** fusion ends in will be compatible with Chemline PP or PVDF metric piping systems.
14. **Flanged** ends shall be ANSI Class 150.
15. Every valve will undergo a factory hydrostatic pressure test to assure quality.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



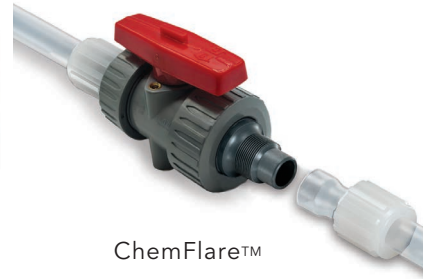
Socket



Threaded



Flanged



ChemFlare™



body materials

SAMPLE SPECIFICATION – TYPE 26

1. All ball valves 1/2" to 4" will be Chemline Type 26 True Union or equal.
2. 1/2" to 2" PVC, CPVC and PVDF valves with EPDM or FKM (Viton®) seals will be 230 psi rated at 20°C (68°F).
3. 2-1/2" to 4" PVC, CPVC and PVDF valves with EPDM or FKM (Viton®) seals will be 150 psi rated at 20°C (68°F).
4. PP valves with EPDM or FKM (Viton®) seals will be 150 psi rated at 20°C (68°F).
5. PVC and CPVC materials shall meet ASTM D-1784, PVDF shall meet ASTM D-3222 and PP shall meet ASTM D-4101.
6. PVC and CPVC valves with EPDM or FKM (Viton®) seals will be certified under NSF/ANSI Standard 61 for contact with drinking water.
7. Valves will be full port with a threaded-in seat carrier, two-way blocking design.
8. Handle will have a built-in spanner wrench for adjustment or removal of the seat carrier.
9. Valves will have blowout-proof stems with double o-rings for safety.
10. Ball seats will be PTFE with elastomer cushions for and better sealing at low pressures and longer life.
11. Valves will have a base with threaded inserts for screws to panel mount or anchor the valve.
12. Socket ends shall be Schedule 80 and conform to ASTM D-2467.
13. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
14. ChemFlare™ ends will be compatible with Chemline's ChemFlare™ leak-free tubing system.
15. Flanged ends shall be ANSI Class 150.
16. Every valve will undergo a factory hydrostatic pressure test to assure quality.



Socket



Threaded



Flanged



body materials

SAMPLE SPECIFICATION – TYPE 33

1. All plastic multiport ball valves 1/2" to 2" will be Chemline Type 33 or equal.
2. PVC valves with EPDM or FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 60°C/140° F.*
3. Polypropylene valves with EPDM or FKM ("Viton®") seals will be 150 psi rated, suitable for temperatures up to 80°C/176°F.*
4. PVDF valves with FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 120°C/248°F. *
5. Manual valves will have horizontal third port design, allowing the option of straight thorough flow through the left and right ports using the standard T-Port ball.
6. Actuated valves will have the optional L-Port ball for 90 degree operation.
7. All ports will have threaded-in seat carriers, three-way blocking design.
8. Valves will have blowout-proof stems with double o-rings for safety.
9. Ball seats will be PTFE with elastomer cushions for and better sealing at low pressures and longer life.
10. Handle will be Safety Lock type, holding the valve in each 90 degree position requiring manual squeezing of trigger to move the handle.
11. Handle will be lockable with padlock in any valve position.
12. Handle will have a built-in spanner wrench for adjustment or removal of the seat carrier.
13. PVC Socket ends shall be Schedule 80 and conform to ASTM D-2467.
14. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
15. PP or PVDF Butt or Socket fusion ends in will be compatible with Chemline PP or PVDF metric piping systems.
16. Flanged ends shall be ANSI Class 150.
17. Every valve will undergo a factory hydrostatic pressure test to assure quality.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



Socket



Flanged



body materials

SAMPLE SPECIFICATION – HC SERIES

1. All 6" plastic ball valves will be Chemline HC Series High Capacity or equal with full port.**
2. PVC valves with EPDM or FKM ("Viton®") seals will be 85 psi rated, suitable for temperatures up to 60°C/140° F.*
3. Polypropylene valves with EPDM or FKM ("Viton®") seals will be 85 psi rated, suitable for temperatures up to 80°C/176°F.*
4. PVDF valves with FKM ("Viton®") seals will be 85 psi rated, suitable for temperatures up to 120°C/248°F.*
5. Valves will have bolted-on flanges to allow the body to slide out for maintenance if necessary. Bolts will be 304 SS.
6. Valves will be trunnion design to minimize opening and closing torques under pressure. Valves will have a one-piece ball with upper stem and lower stem (trunnion) and PTFE bearings.
7. Ball seats will be PTFE with elastomer cushions for and long term sealing performance.
8. Valves will have provision on the base to anchor the valve.
9. PVC Socket ends shall be Schedule 80 and conform to ASTM D-2467.
10. PP or PVDF Butt or Socket fusion ends in will be compatible with Chemline PP or PVDF metric piping systems.
11. Flanged ends shall be ANSI Class 150.
12. Every valve will undergo a factory hydrostatic pressure test to assure quality.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.

** Full port means the hole in the ball has diameter equal or close to the pipeline ID. Flow is essentially unrestricted.



Socket



Threaded



body materials

SAMPLE SPECIFICATION – SM SERIES

1. All plastic low flow control valves 1/2" to 1" will be Chemline SM Series Metering ball valves.
2. PVC valves with EPDM or FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 60°C/140° F.*
3. Polypropylene valves with EPDM or FKM ("Viton®") seals will be 150 psi rated, suitable for temperatures up to 80°C/176°F.*
4. Ball will molded solid with an outer V-groove for linear flow control over a 180-degree range of handle rotation.
5. Valves will have a position indicating scale 0 to 180 degrees with 5-degree increments, to allow fine flow control and settable flow rates.
6. Valves will have a threaded-in seat carrier for two-way blocking design and blowout-proof stem with double o-rings for safety.
7. Ball seats will be PTFE with elastomer cushions for positive closure and long life.
8. Valves will have a base with stainless steel threaded inserts for screws to panel mount or anchor the valve.
9. **PVC Socket** ends shall be Schedule 80 and conform to ASTM D-2467.
10. **Threaded** ends shall be Schedule 80 and conform to ASTM D-2464.
11. **ChemFlare™** ends will be compatible with Chemline's ChemFlare™ leak-free tubing system.
12. **PP Butt fusion** ends in will be compatible with Chemline PP metric piping systems.
13. Every valve will undergo a factory hydrostatic pressure test to assure quality.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



Socket



Threaded



body materials

SAMPLE SPECIFICATION – SP SERIES

1. All plastic linear flow control valves 1/2" to 2" will be Chemline SP Series Proportional ball valves.
2. PVC valves with EPDM or FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 60°C/140° F.*
3. PP valves with EPDM or FKM ("Viton®") seals will be 150 psi rated, suitable for temperatures up to 80°C / 176°F.*
4. PVDF valves with FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 140°C/284°F.*
5. Ball port will be hydraulically designed for linear flow control over a 90-degree range of handle rotation.
6. Valves will have a position indicating scale 0 to 90 degrees with 5-degree increments, to allow fine flow control and settable flow rates.
7. Valves will have a threaded-in seat carrier for two-way blocking design and blowout-proof stem with double o-rings for safety.
8. Ball seats will be PTFE with elastomer cushions for positive closure and long life.
9. Valves will have a base with stainless steel threaded inserts for screws to panel mount or anchor the valve.
10. PVC Socket ends shall be Schedule 80 and conform to ASTM D-2467.
11. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
12. ChemFlare™ ends will be compatible with Chemline's ChemFlare™ leak-free tubing system.
13. PP or PVDF Butt or Socket fusion ends in will be compatible with Chemline PP or PVDF metric piping systems.
14. Every valve will undergo a factory hydrostatic pressure test to assure quality.

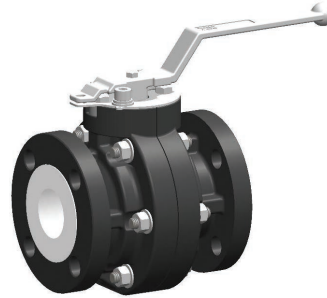
* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



HB1 Model



HB2 Model



HB3 Model



body materials

SAMPLE SPECIFICATION – HB SERIES

NOTE: Specification below is for:

- valves with PPG bodies, suitable for temperatures up to 266°F/130°C *, and for
- valves with PPSG bodies, suitable for temperatures up to 320°F/160°C.*

1. All composite fluoropolymer lined ball valves 1" and 1-1/2" will be Chemline HB1 Series HYBRID ball valves or equal, pressure rated 150 psi or HB2 Series pressure rated to 200 psi.
2. All composite fluoropolymer lined ball valves 2" and 3" will be Chemline HB3 Series HYBRID ball valves or equal, pressure rated 200 psi.
3. Composite ball valves will have interior steel reinforcement of flanges for durability.
4. Composite body material will be (either)
PPG engineering plastic – Polypropylene with 30% glass fiber (OR)
PPSG high performance plastic – glass-filled Polyphenylene Sulfide
5. Body will be "split" design, permitting disassembly and replacement of parts.
6. Flange dimensions will be according to ASME/ANSI B16.5 Class 150.
7. PFA lining will be minimum 3.0 mm thickness in compliance with ASTM F1545.
8. Stem sealing will be PTFE chevron packing.
9. Valve seats will be PTFE.
10. All interior wetted parts will be of PFA or PTFE. Any exposed external parts will be minimum grade 304 stainless steel.
11. Hand lever operator will be lockable, open or closed position.
12. Operator mounting flange will be integral to the body. Fasteners used to mount operators will not be pressure retaining. Mounting flange and exposed stem dimensions will be according to ISO 5211.
13. All valves will be factory pressure tested according to API 598.

* At maximum temperatures, pressure ratings are lower than the maximum 150 psi for HB1. At maximum temperatures, pressure ratings are lower than the maximum 200 psi for HB2 and HB3. Refer to manufacturer's data.



Lever Operated



Gear Operated



body materials

SAMPLE SPECIFICATION – TYPE 58

1. All plastic butterfly valves sizes 1-1/2" to 24" for PVC, PE or PP piping will be Chemline Type 58 or equal.
2. Valve bodies will be wafer style one-piece moulded in Polypropylene (PP).
3. Wafer style body will have a full set of locating bolt holes, dimensions according to ASME/ANSI B16.5 Class CL 150.
4. The PP material of the disc and body has been tested as per ASTM D4101.
5. Flow direction will be bidirectional. Valve will seal closed with pressure on either side.
6. Discs shall be solid PP, PVC, CPVC or PVDF and will have EPDM or FKM (Viton®) double o-ring disc seals top and bottom.
7. Shaft shall be 316 stainless steel.
8. Seat will be EPDM or FKM (Viton®), full seat type with raised o-ring face.
9. Operator mounting flange and shaft dimensions have standard dimensions according to DIN 5211 for exchange of manual operators or actuators. Fasteners used to mount operators will not be pressure retaining.
10. 1-1/2" to 6" shall have hand lever moulded of PPG with 19-stop position lock plate.
11. All gear operators will have visual position indicator and open/close position travel stops that allow adjustment of the disc closing. Sizes 8" to 10" shall have ABS gear operator with PP hand wheel. Sizes 12" to 24" will be supplied with epoxy coated cast iron gear operator.



Lever Operated



Gear Operated

PVC

PP

body materials

SAMPLE SPECIFICATION – TYPE 61

1. All plastic butterfly valves 2-1/2" to 8" will be Chemline Type 61 elastomer seated or equal, pressure rated 150 psi.
2. PVC body valves with PVC disc and EPDM or FKM ("Viton®") seals will be suitable for temperatures up to 60°C / 140°F.*
3. Polypropylene valves with Polypropylene, CPVC, ABS or PVDF disc and EPDM or FKM ("Viton®") seals will be suitable for temperatures up to 80°C/176 °F.*
4. Flow direction will be bidirectional. Valve will seal closed with pressure on either side.
5. Valves will be NSF/ANSI 61 certified for contact with drinking water.
6. Wafer style bodies will have dimensions according to ASME/ANSI B16.5 Class 150. Valves 2-1/2" to 4" will have 4 locating bolt holes and 6" and 8" will have 8 holes.
7. Shaft will be 316 stainless steel.
8. Seat will be EPDM or FKM ("Viton®"), full seat type with raised o-ring face.
9. Operator mounting flange and shaft dimensions have standard dimensions according to DIN 5211 for exchange of manual operators or actuators. Fasteners used to mount operators will not be pressure retaining.
10. 2-1/2" to 8" shall have ABS hand lever moulded of PPG with 19-stop position notch plate. Hand lever will be reversible with twin scales on the notch plate.
11. Gear operators will have visual valve position indicator, also open/close travel stops that allow adjustment of the disc closing.
12. Every valve will undergo a factory hydrostatic pressure test to assure quality. Valves will be labelled with manufacturers' inspection number for traceability to production.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



Gear Operated

PP

body materials

SAMPLE SPECIFICATION – GY SERIES

1. All plastic butterfly valves sizes 28" to 40" for HDPE and FRP piping or ducting will be Chemline GY Series with one-piece moulded Polypropylene (PP) body.
2. Bodies will be wafer style with a full set of locating bolt holes, dimensions according to ASME/ANSI B16.5 Class CL 150.
3. Pressure rating will be 45 psi (3 bar) at 122°F (50°C)
4. Flow direction will be bidirectional. Valve will seal closed with pressure on either side.
5. Discs shall be solid PP, PVC or CPVC.
6. Shaft shall be 410 stainless steel.
7. Seat will be EPDM or FKM ("Viton®"), full seat type with raised o-ring face.
8. Operator mounting flange and shaft dimensions have standard dimensions according to DIN 5211 for exchange of manual operators or actuators. Fasteners used to mount operators will not be pressure retaining.
9. All gear operators will be coated steel with visual position indicator and open/close position travel stops that allow adjustment of the disc closing.



Lever Operated



Gear Operated



body materials

SAMPLE SPECIFICATION – HY SERIES

NOTE: Specifications below are for:

- valves with PPG bodies, suitable for temperatures up to 266°F/130°C* and for
- valves with PSG bodies, suitable for temperatures up to 320°F/160°C.*

1. All composite fluoropolymer lined butterfly valves 3" to 12" will be Chemline HY Series HYBRID Butterfly valves or equal, pressure rated 150 psi.
2. Flow direction will be bidirectional. Valve will seal closed with pressure on either side.
3. Composite butterfly valves will have a steel core for durability.
4. Composite body material will be (either)
PPG engineering plastic – Polypropylene with 30% glass fiber (OR)
PPSG high performance plastic – glass-filled Polyphenylene Sulfide
5. Body will be "split" design, permitting disassembly and replacement of parts.
6. Flange dimensions will be according to ASME/ANSI B16.5 Class 150.
7. Wafer style bodies will have a full set of locating bolt holes.
8. Lug body valves will be suitable for dead end service, full pressure rating when valve is installed either side. Lug threads will be in the valve's steel core, not insert lugs.
9. Disc/shaft will be one-piece design, 304 stainless steel, over-moulded with minimum 3.0 mm thickness of PFA in compliance with ASTM F1545.
10. Shaft sealing will be with a three-stage system incorporating Belleville spring washers.
11. Seat will be PFA, minimum 3.0 mm thick. Inside surfaces contacting the disc will be spherically designed for optimal sealing and extended life.
12. Elastomeric seat back-up pads will be precision moulded of FKM ("Viton®") to ensure zero leakage, minimal seat wear, and long cycle life.
13. Operator mounting flange will be integral to the body. Fasteners used to mount operators will not be pressure retaining. Mounting flange dimensions and exposed square shaft dimensions will be according to ISO 5211.
14. All valves will be factory pressure tested according to API 598.

* At maximum temperatures, pressure ratings are lower than the maximum 150 psi. Refer to manufacturer's data.



Lug Lever Operated

Lug Gear Operated

VE-CF body materials

SAMPLE SPECIFICATION – TYPE CST-K

NOTE: Specification below is for valves with vinyl ester composite body, TFM seat (liner), FKM seat backings and PFA covered disc/shaft. The valve is available with other seat, seat backing and disc materials. See the data sheet.

1. All fluoropolymer lined butterfly valves 2" to 12" will be Type CST-K from Chemline Plastics Limited.
2. Pressure rating will be 150 psi.*
3. Body material will be VE-CF composite, vinyl ester carbon filled with 10% carbon and 10% glass fibers.
4. Body will be "split" design, permitting disassembly and repair.
5. Wafer style body will have a full set of locating bolt holes, dimensions according to ASME/ANSI B16.5 Class CL 150.
6. Lug body will have a full set of 304 SS moulded-in lugs. Lug thread and bolt pattern dimensions will be according to ASME/ANSI B16.5 Class CL 150. Lugs will be designed for dead end service, full pressure rating when valve is installed either side.
7. Disc/shaft will be one-piece design, 316 stainless steel, over-moulded with minimum 2.5 mm thickness of PFA.
8. Shaft sealing will be with a three-stage system incorporating Belleville spring washers.
9. Seat will be TFM, a high-density grade of PTFE, minimum 3.0 mm thick.
10. Elastomeric seat back-up pads will be moulded FKM ("Viton®").
11. Operator mounting flange and shaft dimensions have standard dimensions according to DIN 5211 for exchange of manual operators or actuators. Fasteners used to mount operators will not be pressure retaining.
12. Hand lever operator (lever and position lock plate) will be solid 304 stainless steel.
13. Gear operator will be of corrosion resistant composite plastic construction (FRP) with all exposed metal parts (bolts, hand wheel shaft) of 304 stainless steel. Operators will have visual valve position indicator, also open/close travel stops that allow adjustment of the disc closing.

* At maximum temperatures, pressure ratings are lower than the maximum 150 psi. Refer to manufacturer's data.



Wafer Lever Operated



Wafer Gear Operated



Lug Gear Operated

Iron

body materials

SAMPLE SPECIFICATION – TYPE CST

NOTE: Specification below is for valves with epoxy-coated ductile iron body, TFM seat (liner), FKM seat backings and PFA covered disc/shaft. The valve is available with other body seat, seat backing and disc materials.

1. All fluoropolymer lined butterfly valves 1-1/2" to 42" will be Type CST from Chemline Plastics Limited.
2. Body material will be epoxy-coated ductile iron.
3. Body will be "split" design, permitting disassembly and repair.
4. Wafer style body will have two locating bolt holes, dimensions according to ASME/ANSI B16.5 Class CL 150.
5. Lug thread and bolt pattern dimensions will be according to ASME/ANSI B16.5 Class CL 150. Lugs will be designed for dead end service, full pressure rating when valve is installed either side.
6. Disc/shaft will be one-piece design, 316 stainless steel, over-moulded with minimum 2.5 mm thickness of PFA.
7. Shaft sealing will be with a three-stage system incorporating Belleville spring washers.
8. Seat will be TFM, a high-density grade of PTFE, minimum 3.0 mm thick.
9. Elastomeric seat back-up pads will be moulded FKM ("Viton®").
10. Operator mounting flange and shaft dimensions have standard dimensions according to DIN 5211 for exchange of manual operators or actuators. Fasteners used to mount operators will not be pressure retaining.
11. Hand lever operator (lever and position lock plate) will be solid 304 stainless steel.
12. Gear operators will have visual valve position indicator, also open/close travel stops that allow adjustment of the disc closing.



SAMPLE SPECIFICATION – HD SERIES

NOTE: Specification below is for:

- valves with PPG bodies, suitable for temperatures up to 266°F/130°C *, and for
- valves with PPSG bodies, suitable for temperatures up to 320°F/160°C.*

1. All composite fluoropolymer lined diaphragm valves 1/2" to 6" will be Chemline HD Series HYBRID diaphragm valves or equal, weir type, pressure rated 150 psi.
2. Composite diaphragm valves will have interior steel reinforcement of flanges for durability.
3. Composite body material will be (either)
 - PPG engineering plastic – Polypropylene with 30% glass fiber (OR)
 - PPSG high performance plastic – glass-filled Polyphenylene Sulfide
4. Flange dimensions will be according to ASME/ANSI B16.5 Class 150.
5. PFA lining will be minimum 3 mm thickness in compliance with ASTM F1545.
6. Diaphragm will be three-piece with M-PTFE diaphragm, PTFE gas barrier and FKM (Viton®) cushion rubber.
7. All interior wetted parts will be of PFA or PTFE. The only external metal parts will be 304 stainless steel bolts and nuts.
8. All valves will be factory pressure tested according to API 598.

* At maximum temperatures, pressure ratings are lower than the maximum 150 psi. Refer to manufacturer's data.



Socket



Internals

PVC

body materials

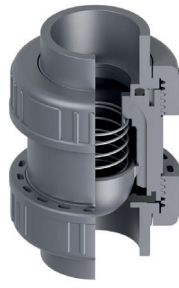
SAMPLE SPECIFICATION – EC SERIES

1. All PVC Ball Check valves 1/2" to 2" will be Chemline EC Series or equal, with precision-machined ball, slip-out True Union design.
2. PVC valves will have an EPDM or FKM ("Viton®") uniseat/seal for tight shut-off.
3. Valves will be 230 psi rated suitable for temperatures up to 60°C/140°F.*
4. Socket ends shall be Schedule 80 and conform to ASTM D-2467.
5. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
6. Flanged ends shall be ANSI Class 150.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



Socket



Internals



body materials

SAMPLE SPECIFICATION – ES SERIES

1. All PVC Spring Check valves 1/2" to 4" will be Chemline ES Series Spring Check type, slip-out true union design.
2. PVC valves will have an EPDM or FKM ("Viton®") uniseat/seal for tight shut-off.
3. Valves will be 230 psi rated up to 2-1/2" and 150 psi rated for 3" and 4" suitable for temperatures up to 60°C/140°F.*
4. Springs will be stainless steel, with minimum 0.45 mm thick PTFE covering for chemical resistance. "Teflon" spray coated springs are not acceptable.
5. Socket ends shall be Schedule 80 and conform to ASTM D-2467.
6. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
7. Flanged ends shall be ANSI Class 150.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



Socket

PVC

body materials

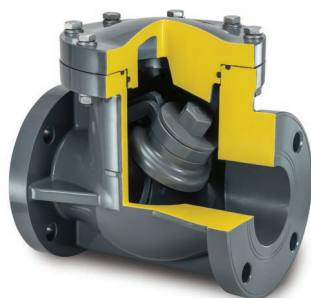
SAMPLE SPECIFICATION – EF SERIES

1. All PVC Foot valves 1/2" to 3" will be Chemline EF Series or equal, with precision-machined ball, True Union design.
2. PVC valves will have an EPDM or FKM ("Viton®") uniseat/seal for tight shut-off.
3. Valves will be 230 psi rated suitable for temperatures up to 60°C/140°F.*
4. Socket ends shall be Schedule 80 and conform to ASTM D-2467.
5. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
6. Flanged ends shall be ANSI Class 150.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



Flanged



Internals



body materials

SAMPLE SPECIFICATION – SW SERIES

1. All Swing Check valves in PVC, CPVC, PP or PVDF sizes 1/2" to 8" shall be Chemline SW Series or equal with one-piece moulded flanged body and removable access cover.
2. Elastomer seals will be EPDM or FKM ("Viton®").
3. Flanged ends shall be ANSI Class 150.



PVC

body materials

SAMPLE SPECIFICATION – WE SERIES

1. All PVC wafer check valves 2-1/2" to 8" will be Chemline WE Series or equal.
2. PVC valves with EPDM or FKM ("Viton®") seals will be 150 psi rated, suitable for temperatures up to 60°C/140°F.*
3. Valves will be fitted with a 316 SS spring for fast disc closure.
4. Valves will have locating ears for centering valve between flanges.
5. Valves will be NSF/ANSI 61 certified for contact with drinking water.
6. Valve body is wafer type to fit between ANSI Class 150 flanges.
7. All wafer check valves will be installed a distance downstream from pumps, valves, or elbows, etc., at least 5 times the nominal pipe diameter.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



SAMPLE SPECIFICATION – WP SERIES

1. All plastic wafer check valves 2" to 12" will be Chemline WP Series or equal.
2. PVC valves with EPDM or FKM ("Viton®") seals will be 150 psi rated, suitable for temperatures up to 60°C/140°F.*
3. Polypropylene valves with EPDM or FKM ("Viton®") seals will be 150 psi rated, suitable for temperatures up to 80°C/176°F.*
4. PVDF valves with FKM ("Viton®") seals will be 230 psi rated, suitable for temperatures up to 100°C/212°F.*
5. Valves will be fitted with a 316 SS or Hastelloy spring for fast disc closure.
6. Valves will have an eye bolt to allow for centering valve between flanges.
7. Valve body is wafer type to fit between ANSI Class 150 flanges.
8. All wafer check valves will be installed a distance downstream from pumps, valves, or elbows, etc., at least 5 times the nominal pipe diameter.

* At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.



PP

body materials

SAMPLE SPECIFICATION – GT SERIES

1. All plastic gate valves sizes 1-1/2" to 8" for PVC, PE or PP piping will be Chemline GT Series with one-piece moulded Polypropylene (PP) body and PP disc.
2. Valves will be OS&Y (outside yolk and spindle) type with rising stainless steel spindle.
3. Elastomer seals will be EPDM or FKM (Viton®).
4. Flanged ends shall be ANSI Class 150.



NA Series Angle Body



NG Series Globe Body



body materials

SAMPLE SPECIFICATION – NG & NA SERIES

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



SB11 HypoValve with ChemFlare™ PFA Tubing System



SB11 HypoValve with ECTFE (Halar) Piping System



SB11 with True Union Socket Ends

PVC

body materials

SAMPLE SPECIFICATION – SB10/11 SERIES HYPOVALVE

1. All Back Pressure/Relief Valves in PVC shall be Chemline SB10 or SB11 Series or equal in sizes 1/2" to 1". 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.
2. All exposed external metal parts including spring tensioning bolt and body bolts shall be 304 stainless steel covered with polyethylene caps.
3. All valves shall have a large PTFE coated control diaphragm to fully open at no more than 10-15% over pressure.
4. Static seals shall be FPM (Viton®).
5. Socket ends 1/2" to 1" shall be Schedule 80 and conform to ASTM D-2467.
6. PVC compound shall have an ASTM cell classification 11564 as per ASTM D-1784 and a chemical resistance of 1 as per ASTM D-5260.
7. All valves shall have chemical resistant labels permanently marked with manufacturing number to provide production level traceability.
- 8a. End connections shall be ChemFlare™ design for connection to flared PFA tubing.
- 8b. End connections shall be ECTFE (Halar®) design for fusing to ECTFE (Halar®) piping.

SAMPLE SPECIFICATION – SB10/11 SERIES SOCKET UNION VALVE

1. All Back Pressure/Relief Valves in PVC shall be Chemline SB10 or SB11 Series or equal in sizes 1/2" to 1". 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.
2. All exposed external metal parts including spring tensioning bolt and body bolts shall be 304 stainless steel covered with polyethylene caps.
3. All valves shall have a large PTFE coated control diaphragm to fully open at no more than 10-15% over pressure.
4. Static seals shall be EPDM or FPM (Viton®).
5. Socket ends 1/2" to 1" shall be Schedule 80 and conform to ASTM D-2467.
6. Threaded ends 1/2" to 1" shall conform to ASTM D-2464.
7. PVC compound shall have an ASTM cell classification 11564 as per ASTM D-1784 and a chemical resistance of 1 as per ASTM D-5260.
8. All valves shall have chemical resistant labels permanently marked with manufacturing number to provide production level traceability.



PVC

PP

PVDF

body materials

SAMPLE SPECIFICATION – SB12 SERIES

1. All Back Pressure/Relief 1/2" to 4" Valves in PVC, PP or PVDF in sizes shall be Chemline SB12 - 1/2" to 3" with inlet pressure settings 5 to 150 psi, 4" with inlet pressure settings 7 to 90 psi.
2. Static seals shall be FKM (Viton®) OR EPDM.
3. Control diaphragm will be PTFE covered and fully open at 10-15% over pressure.
4. Exposed fasteners will be 304 SS.
5. Socket ends shall be Schedule 80 and conform to ASTM D-2467.
6. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
7. ChemFlare™ ends will be compatible with Chemline's ChemFlare™ Leak-Free tubing system.
8. PP or PVDF Butt or Socket fusion ends in will be compatible with Chemline PP or PVDF metric piping systems.
9. Flanged ends shall be ANSI Class 150.
10. Every valve will undergo a factory hydrostatic pressure test to assure quality.
11. All valves shall have labels permanently marked with manufacturing number to provide production level traceability.



PVC

PP

PVDF

body materials

SAMPLE SPECIFICATION – SR50 SERIES

1. All Pressure Reducing/Regulating valves in PVC, PP or PVDF shall be Chemline SR50 Series or equal. Sizes 1/2" to 1-1/2" shall have an outlet pressure setting of 15 to 135 psi and sizes 2" to 3" shall have an outlet pressure setting of 15 to 90 psi.
2. Static seals shall be FKM (Viton®) OR EPDM.
3. Control diaphragm will be PTFE covered.
4. Exposed fasteners will be 304 SS.
5. Socket ends shall be Schedule 80 and conform to ASTM D-2467.
6. Threaded ends shall be Schedule 80 and conform to ASTM D-2464.
7. ChemFlare™ ends will be compatible with Chemline's ChemFlare™ Leak-Free tubing system.
8. PP or PVDF Butt or Socket fusion ends in will be compatible with Chemline PP or PVDF metric piping systems.
9. Flanged ends shall be ANSI Class 150.
10. Every valve will undergo a factory hydrostatic pressure test to assure quality.
11. All valves shall have labels permanently marked with manufacturing number to provide production level traceability.



PVC

CPVC

PPG

body materials

SAMPLE SPECIFICATION – TYPE 25 BALL VALVES WITH CHEMFLARE™ ENDS

1. All PVC ball valves 1/2" to 1" will be Chemline Type 25 True Union or equal.
2. PVC valves with EPDM or FKM (Viton®) seals will be 230 psi rated.
3. Valves will be suitable for temperatures up to 60°C/140°F.²
4. Valves will be NSF/ANSI 61 certified for contact with drinking water.
5. Valves will be full port with a threaded-in seat carrier, two-way blocking design.
6. Handle will have a built-in spanner wrench for adjustment or removal of the seat carrier.
7. Valves will have blowout-proof stems with double O-rings for safety.
8. Ball seats will be PTFE with elastomer cushions for and better sealing at low pressures and longer life.
9. Valves will have a base with threaded inserts for screws to panel mount or anchor the valve.
10. ChemFlare™ ends will be compatible with Chemline's ChemFlare™ leak-free tubing system.

² At maximum temperatures, pressure ratings are lower than the maximums stated. Refer to the Chemline data sheet.

SAMPLE SPECIFICATION FOR SB10/11 BACK PRESSURE/RELIEF VALVES WITH CHEMFLARE™ ENDS

1. All Back Pressure/Relief Valves in PVC, PP or PVDF shall be Chemline SB10 or SB11 Series or equal in sizes 1/2" to 1". 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. SB12 valves shall have an inlet set pressure range of 5 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.
2. All valves shall have a large PTFE coated control diaphragm to fully open at 10-15% over pressure, provide low hysteresis ("backlash") and no flutter.
3. Static seals shall be EPDM or FPM (Viton®).
4. End connections shall be ChemFlare™ design for connection to flared PFA tubing.
5. PVC compound shall have an ASTM cell classification 13463-A, with minimum suffix "A" designation for chemical resistance as per ASTM D-1784.
6. All polypropylene material shall conform to ASTM D-4101 PP 0211B67272 material requirements.
7. 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.
8. All valves shall have chemical resistant labels permanently marked with manufacturing number to provide production level traceability.



body materials

SAMPLE SPECIFICATION – CC SERIES

1. All calibration columns shall Chemline CC Series and be manufactured from highly-translucent polyvinyl chloride (PVC) material.
2. Graduations shall be easy-to-read imprinted white lettering with PP coating to ensure chemical resistance.
3. Graduations shall have dual-scale USGPH and mL, with ascending and descending increments.
4. The Calibration Columns shall be available with end cap connections of NPT (Female), but optional connection types are listed below.
5. All connections with be CNC machined or injection moulded from PVC material.
6. All bottom connections will come with NPT (Female) threading.
7. The top connection will be either open, NPT threaded end cap, removeable vented dust cap or removeable NPT threaded end cap that is CNC machined or injection moulded from PVC material.
8. Calibration Columns with the removeable top end cap (CC4) are convenient for cleaning the cyclinder and will include a highly -visible float to improve graduation measurement.



body materials

SAMPLE SPECIFICATION – GA SERIES

1. 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 PTFE-bonded EPDM. Two concentric convex moulded rings will provide effective sealing using low bolt torques.



SAMPLE SPECIFICATION – ERS SERIES

Electric rotary actuators for specified ball and butterfly valves shall be Chemline ERS Series or equal. Chemline will do actuator and accessory mounting and bench testing. Actuators will have the following standard features:

1. CSA Special Inspection Labelled
2. Suitable for voltages 120/240 VAC (50/60 Hz), 3-wire on-off control.
3. 30% duty cycle reversible motor with thermal overload protection.
4. Gear train with irreversible spur gears to eliminate possible backlash and valve drift.
5. NEMA 4X/IP66 rated enclosure – Polyamide cover and base, stainless steel fasteners.
6. PC control board and on-board 4-watt heater/thermostat.
7. Separate external DIN electrical plugs, black for power and grey for signal. Actuator will be pre-wired inside so cover need not be removed for installation.
8. Permanently attached manual override and mechanical visual position indicator.
9. End-of-travel controlled with limit switches, fully adjustable, cam-actuated, SPDT (single pole double-throw) type rated to 250 VAC. Two will be provided for open-close control and two extra for open-close position feedback.
10. Fixed mechanical travel stops for ¼-turn operation, not included for 180-degree operation.
11. Mounting bolt circle and drive socket in the base with dimensions according to ISO 5211.
12. Labels permanently marked with manufacturing number to provide production traceability.



SAMPLE SPECIFICATION – ERF SERIES

Electric rotary actuators for specified ball and butterfly valves shall be Chemline ERF Series or equal. Chemline will do actuator and accessory mounting and bench testing. Actuators will have the following standard features:

1. CSA Special Inspection Labelled
2. Suitable for voltages 12VAC/VDC or 24VAC/VDC (50/60 Hz), 3-wire on-off control.
3. 30% duty cycle reversible motor with thermal overload protection.
4. Gear train with irreversible spur gears to eliminate possible backlash and valve drift.
5. NEMA 4X/IP66 rated enclosure – Polyamide cover and base, stainless steel fasteners.
6. PC control board and on-board 4-watt heater/thermostat.
7. Separate external DIN electrical plugs, black for power and grey for signal. Actuator will be pre-wired inside so cover need not be removed for installation.
8. Permanently attached manual override and mechanical visual position indicator.
9. End-of-travel controlled with limit switches, fully adjustable, cam-actuated, SPDT (single pole double-throw) type rated to 250 VAC. Two will be provided for open-close control and two extra for open-close position feedback.
10. Fixed mechanical travel stops for ¼-turn operation, not included for 180-degree operation.
11. Mounting bolt circle and drive socket in the base with dimensions according to ISO 5211.
12. Labels permanently marked with manufacturing number to provide production traceability.



SAMPLE SPECIFICATION – ER SERIES

Electric rotary actuators for specified ball and butterfly valves shall be Chemline ER Series or equal. Chemline will do actuator and accessory mounting and bench testing. Actuators will have the following standard features:

1. CSA Approved
2. Suitable for voltages 120/240 VAC (50/60 Hz), 3-wire on-off control.
3. 50% duty cycle reversible motor with thermal overload protection.
4. Gear train with irreversible spur gears to eliminate possible backlash and valve drift.
5. NEMA 4X/IP66 rated enclosure – Polyamide cover and base, stainless steel fasteners.
6. PC control board and on-board 4-watt heater/thermostat.
7. Separate external DIN electrical plugs, black for power and grey for signal. Actuator will be pre-wired inside so cover need not be removed for installation.
8. Permanently attached manual override and mechanical visual position indicator.
9. End-of-travel controlled with limit switches, fully adjustable, cam-actuated, SPDT (single pole double-throw) type rated to 250 VAC. Two will be provided for open-close control and two extra for open-close position feedback.
10. Fixed mechanical travel stops for ¼-turn operation, not included for 180-degree operation.
11. Electronic torque limiter
12. Dedicated terminal to download onboard diagnostics.
13. Mounting bolt circle and drive socket in the base with dimensions according to ISO 5211.
14. Labels permanently marked with manufacturing number to provide production traceability.



SAMPLE SPECIFICATION – V SERIES

1. All electric actuators shall be Chemline V Series or equal, CSA Approved 1/4 turn reversible rotary actuator with embedded thermal overload protection switch.
- 2a. All electric actuators shall have a 2-piece NEMA 4X/IP66 Polyamide PA6 cover, die cast aluminum base with thermally bonded epoxy powder coating, and stainless steel fasteners.
- 2b. All electric actuators shall have the option of a 2-piece die cast aluminum base and cover with thermally bonded epoxy powder coating for NEMA 6/IP68 (5 meters for 72 hours) requirement.
3. All electric actuators shall have PC board control and built-in on-board self-regulated anti-condensation heater/thermostat.
5. All electric actuators shall consist of a reversible type electric motor with irreversible gears to eliminate gear backlash or valve drift or stand gears.
6. All electric actuators shall have a permanently-attached manual override and visual position indicator.
7. All electric actuators shall have a visual mechanical indication, showing output shaft and valve position.
8. All electric actuators shall be minimum 50% duty cycle for high cycling applications.
9. All electric actuators shall have voltage options of 120/240 VAC (50/60 Hz), and 12/24 VDC or 24 VAC (50/60 Hz).
10. All electric actuators shall have two fully adjustable, cam-actuated, end-of-travel limit switches of the snap-acting, double-throw type rated to 250VAC and listed to carry a power load equal to or greater than the locked rotor current of the actuator.
11. All electric actuators shall have torque outputs from 1,327 to 2,655 in-lbs.
12. All electric actuators shall have a permanently lubricated gear train.
13. All electric actuators shall have an ISO mounting bolt circle and output drive.
14. All electric actuators shall be available with terminal-wired internal options such as extra limit switches, adjustable 3-position control, 4-20 mA positioners and/or output signal, battery backup or mechanical spring failsafe, feedback potentiometer, cycle length control, 2-wire control, mechanical brake capability.
15. All electric actuators shall be custom tagged with manufacturers' inspection number(s) to provide traceability.
16. All actuators shall have an electronic torque limiters.
17. All actuators shall have a dedicated failure report terminal.



SAMPLE SPECIFICATION – VSL SERIES

1. All electric actuators shall be Chemline VSL Series or equal, CSA Approved 1/4 turn reversible rotary actuator with embedded thermal overload protection switch.
2. All electric actuators shall have a 2-piece die cast aluminum base and cover with thermally bonded epoxy powder coating for NEMA 6/IP68 (5 meters for 72 hours) requirement.
3. All electric actuators shall have PC board control with separately powered 30-watt heater/thermostat with voltage options of 120 VAC (50/60 Hz), 240 VAC (50/60 Hz), or 24VDC / 24VAC (50/60 Hz).
4. All electric actuators shall consist of a reversible type electric motor with irreversible epicyclic gears to eliminate gear backlash or valve drift or standard gears.
5. All electric actuators shall have a permanently-attached manual override and visual position indicator.
6. All electric actuators shall have a visual mechanical indication, showing output shaft and valve position.
7. All electric actuators shall be minimum 50% duty cycle for high cycling applications.
8. All electric actuators shall have voltage options of 120/240 VAC (50/60 Hz), and 12/24 VDC or 24 VAC (50/60 Hz).
9. All electric actuators shall have two fully adjustable, cam-actuated, end-of-travel limit switches of the snap-acting, double-throw type rated to 250 VAC and listed to carry a power load equal to or greater than the locked rotor current of the actuator.
10. All electric actuators shall have torque outputs from 1,327 to 2,655 in-lbs.
11. All electric actuators shall have a permanently lubricated gear train.
12. All electric actuators shall have an ISO mounting bolt circle.
13. All electric actuators shall be available with terminal-wired internal options such as extra limit switches, adjustable 3-position control, 4-20 mA positioners and/or output signal, battery backup or mechanical spring failsafe, feedback potentiometer, cycle length control, 2-wire control, mechanical brake capability.
14. All electric actuators shall be custom tagged with manufacturers' inspection number(s) to provide traceability.





VALVE & ACTUATION SPECIFICATION GUIDE



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SUPERIOR FLOW SOLUTIONS

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