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SM Series Metering Ball Valves

Chemline SM Series Metering Ball Valve is designed for fine linear 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. If higher C_V values are required, refer to SP Series Proportional ball valves.

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®)

Fine Flow Control

Full Size Range

Features

Precise Linear Flow Control
- Provided by a special V-groove ball and wide handle travel (0° to 180°)

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

High End Ball Valve Features
- Full Blocking design
- Double Stem O-Rings for safety
- 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



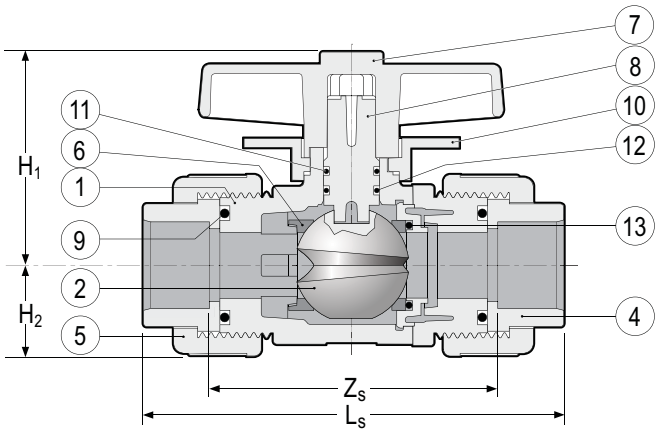


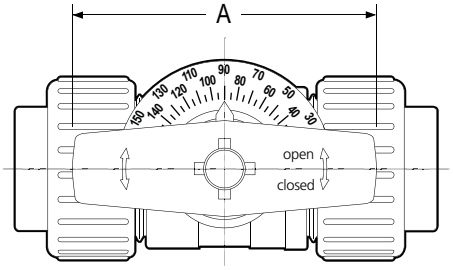
Integral 180° Scale with 5° Increments
- Fine linear flow control and settable flow rates

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

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SM Series Metering Ball Valves





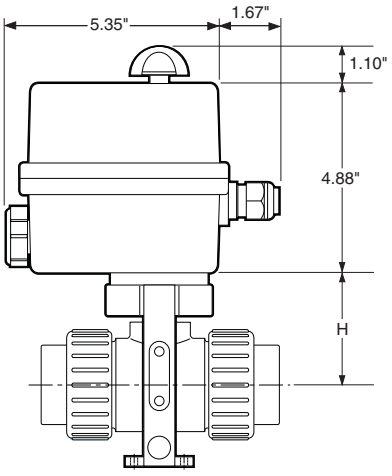
PARTS

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
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®)

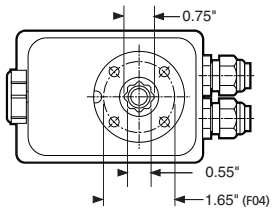
DIMENSIONS INCHES

Size	PVC						PP					
	A	Z_S	L_S	H	H_1	H_2	A	Z_S	L_S	H	H_1	H_2
1/2"	2.60	2.76	4.02	1.97	2.05	0.81	2.60	2.71	3.86	1.97	2.05	0.90
3/4"	3.07	3.23	4.72	2.36	2.44	1.00	3.07	3.19	4.45	2.36	2.44	1.10
1"	3.46	3.43	5.16	2.60	2.80	1.14	3.46	3.35	4.76	2.60	2.80	1.30
1-1/4"	3.86	3.86	5.91	2.91	3.23	1.42	3.86	3.82	5.43	2.91	3.23	1.55
1-1/2"	4.25	3.98	6.42	3.76	3.54	1.57	4.25	3.98	5.83	3.76	3.54	1.71
2"	4.64	4.76	7.75	4.90	4.33	1.97	4.64	4.76	6.93	4.90	4.33	2.11

E Series Electric Actuation on a SM Series Ball Valve

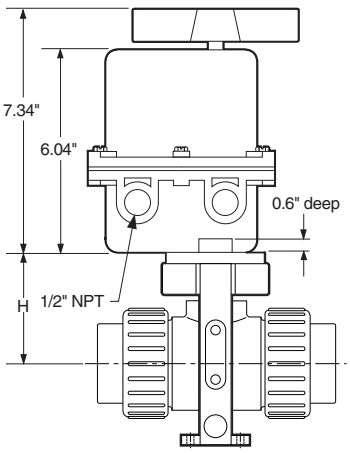


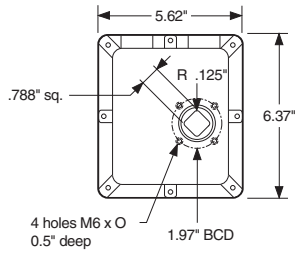
Side View



Bottom View

Q Series Electric Actuation on a SM Series Ball Valve







ELECTRICALLY ACTUATED

- The metering ball valve becomes a proportional control valve with the addition of an E Series electric actuator with on-board positioner
- Thermoplastic housing and mounting bracket
- Manual override
- Position indication
- Different voltages are available

SM Series Metering Ball Valves

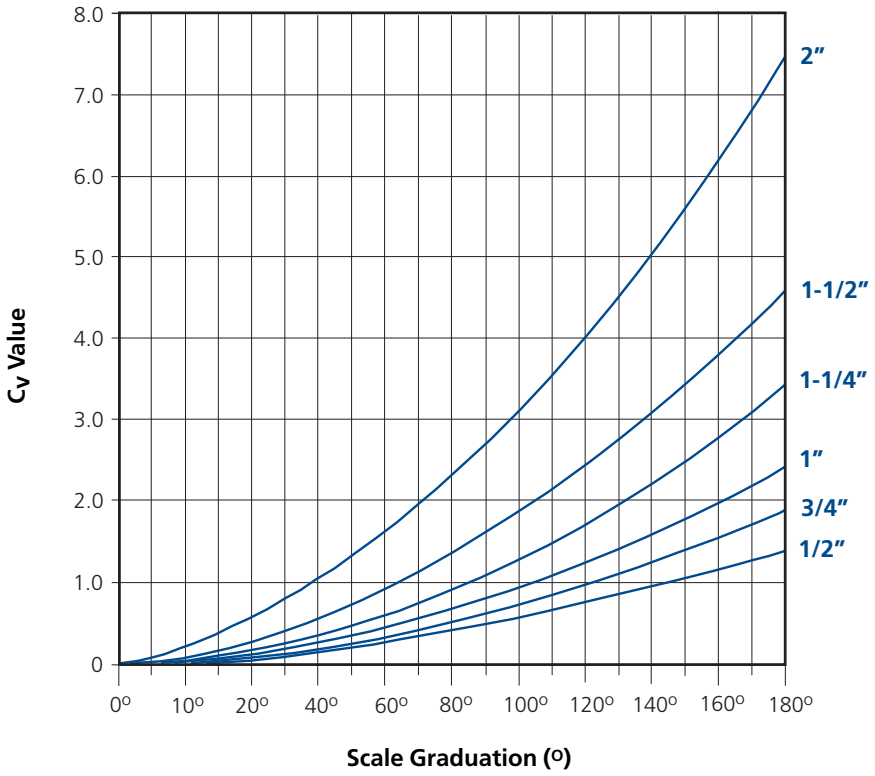
WORKING PRESSURES PSI

NET WEIGHTS LB. C_V VALUES

Size	PVC 20°C 68°F	PVC 40°C 104°F	PVC 60°C 140°F	PP 20°C 68°F	PP 40°C 104°F	PP 60°C 140°F	PP 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).

C_V VALUE vs. VALVE OPENING



SAMPLE SPECIFICATION

1. All low flow control valves, 1/2" to 2", will be Chemline SM Series metering ball valves.
2. Body material will be PVC or PP, and O-rings will be EPDM or FPM (Viton®).
3. Seats will be Teflon® PTFE with elastomer cushions for positive closure with minimum stem torques and automatic compensation for seat wear and expansion.
4. Body will be full blocking design with double stem o-rings for safety, rated at 230 psi maximum working pressure for PVC and 150 psi for PP material.
5. Ball will be floating design, molded solid with a V-groove for linear flow control over a 180° range of handle rotation.
6. Position indicating scale will be 0° to 180° with 5° increments for fine flow control and settable flow rates.
7. End connections will be 1/2" to 2" ANSI socket, FNPT threaded, 150 lb flanged, butt fusion for Chemline metric PP pipe or ChemFlare for Chemline Teflon tubing.

ORDERING EXAMPLE

Chemline Metering Ball Valve	SM	A	010	E	S
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, socket 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 liner control valve

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