



Nordstrom Poly-Chem[®] Valves
Polyethylene Valves
for Chemical Services



Experience In Motion

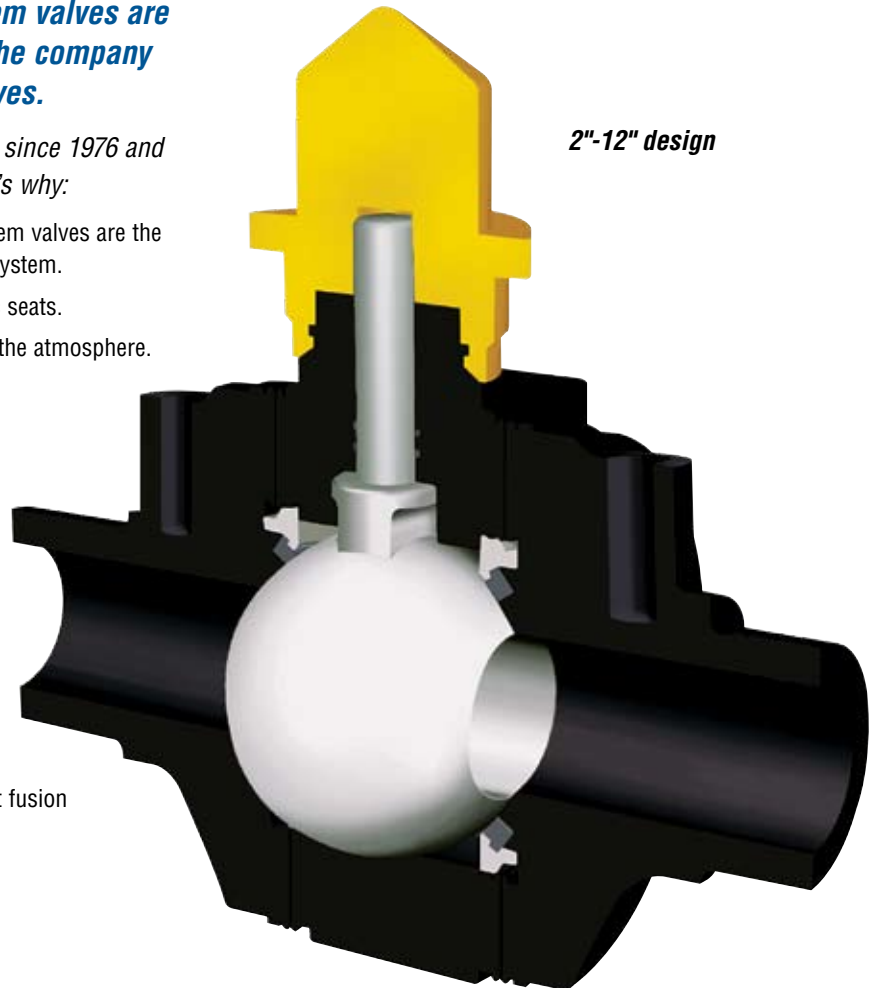


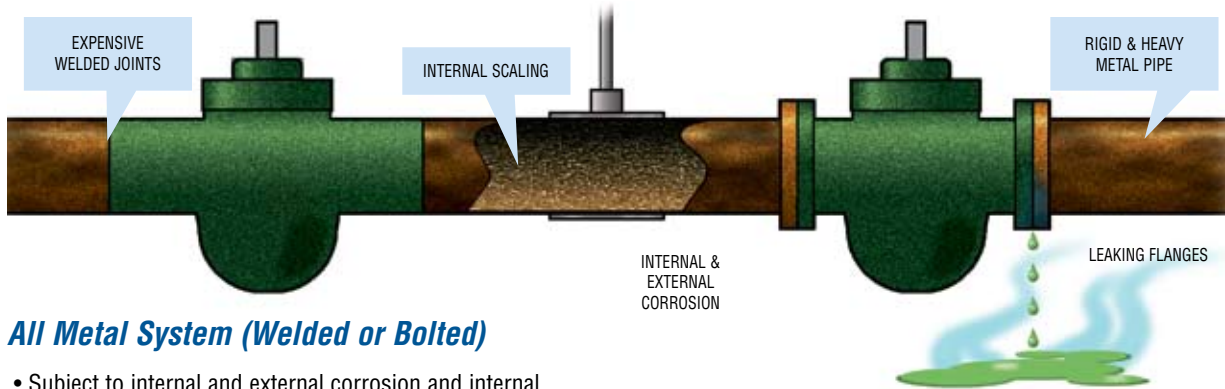
Why use Nordstrom Poly-Chem valves?

Flowserve Nordstrom Poly-Chem valves are everything you'd expect from the company that invented polyethylene valves.

Millions of Polyvalves have been sold since 1976 and are in use throughout the world. Here's why:

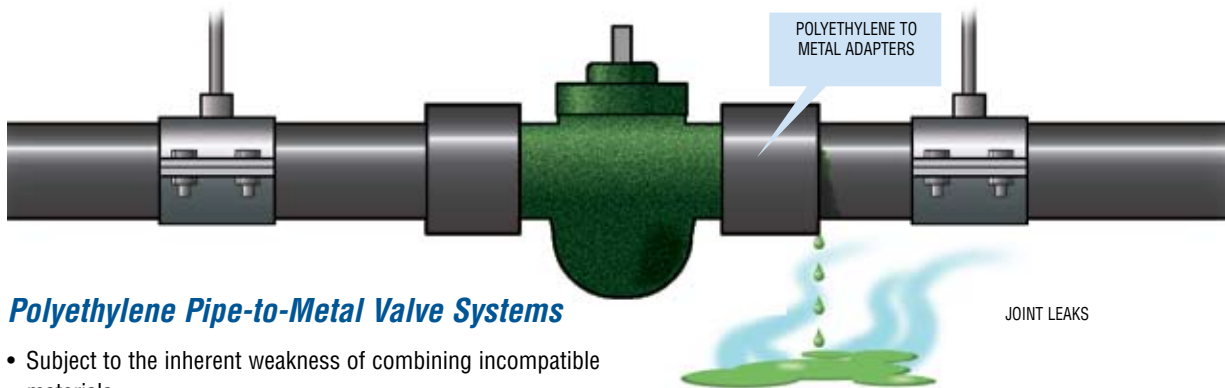
- Rugged and reliable Nordstrom Poly-Chem valves are the strongest part of a polyethylene piping system.
- Drop-tight shutoff from dual elastomeric seats.
- Fused body shell removes leak paths to the atmosphere.
- Multiple elastomeric stem seals.
- No metal internal parts.
- Corrosion-free due to high-grade polymeric materials.
- Smooth bore gives excellent flow characteristics in both full and reduced port designs.
- Suitable for buried service or above ground service
- Wide variety of trim for your specific application.
- Flanged end configuration available (butt fusion end configuration is standard).





All Metal System (Welded or Bolted)

- Subject to internal and external corrosion and internal scaling.
- Hazardous leaks at pipe connections.
- High cost of alloy pipe, valves, and fittings.
- Rigid metal piping systems expensive to modify.
- Not flexible or adaptable.



Polyethylene Pipe-to-Metal Valve Systems

- Subject to the inherent weakness of combining incompatible materials.
- Hazardous leaks may occur where the polyethylene and metal meet.
- High cost of alloy valves and adapters.



All-Polyethylene Systems

- Intrinsically safe.
- Pipe is fused to the valves so there are no leak points.
- No chance of internal or external corrosion.
- Lightweight and flexible.
- Can rest on ground.

Poly-Chem Valve Availability

Body Resin

Resin Supplier	Material Description	Color	ASTM Material Designation	Material Density
CP Chem	TR-480 (D4000/4100)	Black	PE 3408	High

Note: On 8" full bore and 12" full bore, only the main body section is available in TR-480 material but different pipe ends are fused on to suit customer requirements.

Available with flanged ends. Contact the factory for dimensions and pricing.



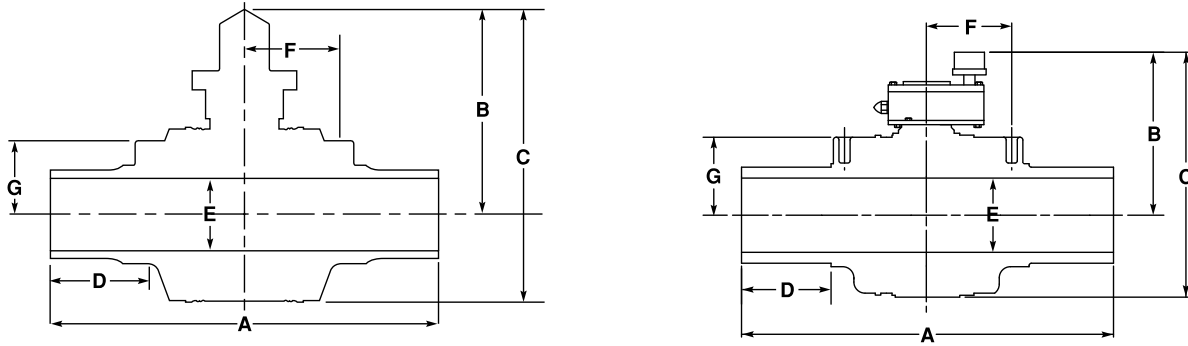
Maximum Allowable Service Pressures

*Poly-Chem Valves for Chemical Services
PE 3408 Material*

Temperature	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17
	psig bar	psig bar	psig bar	psig bar	psig bar
Acids, bases, dry gas gathering, drain water, and salt water					
74°F	200	160	128	110	100
23°C	13.8	11	8.8	7.6	6.9
140°F	100	80	64	55	50
60°C	6.9	5.5	4.4	3.8	3.4
Gaseous Hydrocarbons					
74°F	128	102	82	71	64
23°C	8.8	7.1	5.3	4.9	4.4
140°F	64	51	41	35	32
60°C	4.4	3.5	2.8	2.4	2.2
Liquid Hydrocarbons					
74°F	100	80	64	55	50
23°C	6.9	5.5	4.4	3.8	3.4
140°F	50	40	32	28	25
60°C	3.4	2.8	2.2	1.9	1.7

Poly-Chem Valve Availability

Dimensions



ANSI

Size	Bore	A	B	C	D	E	F	G	Weight (lb.)
2	full	12.8	6.4	9.1	3.6	1.85	2.7	2.4	3.8
3	full	15.0	8.6	11.4	4.0	2.50			8.9
	reduced	12.8	6.4	9.1	3.6	1.85			4.5
4	full	20.0	10.4	15.0	3.5	3.62	5.0	3.75	21.0
	reduced	15.0	8.6	11.4	4.0	2.50			8.9
6	full	23.5	12.6	18.6	5.0	5.20	6.6	5.1	38.0
	reduced	20.5	10.4	14.9	5.0	3.62			27.5
8	full	69.5	12.5	19.9	24.0	6.66	7.7	7.0	98.0

Gear Operated

8	full	69.5	14.8	22.2	25.7	6.66	7.7	7.0	134.0
12	full	83.8	17.5	27.7	30.0	9.91			305.0

Metric

Size	Bore	A	B	C	D	E	F CL of body to cl of vent hole	G to top of vent pad	Weight (kg)
55-63	full	325	164	231	91	47.0	69	61	1.7
90	full	381	218	290	102	63.5			4.0
	reduced	325	164	231	91	47.0			2.0
100-110	full	508	264	381	89	91.9	127	95	9.5
	reduced	381	218	290	102	63.5			4.0
150-160 & 180	full	597	320	472	127	132.1	168	130	17.2
125-160	reduced	521	263	378	127	91.9			12.5
225	full	1765	318	504	610	169.2	196	178	44.5

Gear Operated

225	full	1765	376	564	653	169.2	196	178	60.8
315	full	2129	443	704	762	251.7			138.3

Blue numbers indicate optional vent holes.

Poly-Chem Valve Availability

Materials of Construction and Trim Selection

Item	Cat A Trim	Cat B Trim	Cat C Trim
Body	HDPE	HDPE	HDPE
Ball	Polypropylene	Polypropylene	Polypropylene
Seat Retainers	Polypropylene	Polypropylene	Polypropylene
Seats	EPDM	EPDM	Viton A
Stem	Modified Polyethylene Oxide	Poly-etherimide	Poly-etherimide
Stem Seals	EPDM	EPDM	Viton A
Groundwater Seal	Buna	Buna N	Buna N
Wrench Adapter	Polypropylene	Polypropylene	Polypropylene
Primary Applications	Strong bases: Hydroxides, caustics Organic acids: Acetic Ammonia and ammonium salt solutions Nonpotable water Air and inert gases	Alcohols and glycols	Metal salt solutions: Bicarbonates, bromides, carbonates, chlorides, cyanides, ferri-cyanides, fluorides, hypochlorites, nitrates, oxides, phosphates, sulphates, or sulphides, of Aluminum, Barium, Calcium, Copper, Iron, Magnesium, Mercury, Nickel, Potassium, Silver, Sodium, Tin, or Zinc. Inorganic Acids: Hydrochloric, nitric, sulphuric, phosphoric, hydrofluoric, boric. ¹ Other: Crude oil, produced water, carbon dioxide, hydrogen sulphide, landfill methane and leachate, hydrogen peroxide.

• Poly-Chem Valves are not suitable for use on aromatic hydrocarbons, ketones, ethers, gasoline.

• Poly-Chem Valves are not intended for fuel gas services.

• Please refer to the PE pipe manufacturers recommendations for additional service compatibility information or send full service details to Nordstrom Valves for our advice.

¹ Contact Flowserve for inorganic acid concentration limits.

Ball Valves for Chemical Services

Size		Body Pieces	Bore	Vent Pipe Size (IPS)		End Config.	C _v	K _v	Equiv. Length of Pipe (ft.)	Available SDRs
in.	metric			Min.	Max.					
2	55-63	3	Full	½"	¾"	BF	175	2528	3.8	9.3, 11
3	90	3	Full	½"	¾"	BF	390	5624	5.3	9.3, 11, 13.5
		3	Reduced	½"	¾"	BF	240	3461	14.1	9.3, 11, 13.5
4	100-110	3	Full	¾"	1"	BF	700	10094	5.8	9.3, 11, 13.5
		3	Reduced	¾"	1"	BF	400	5768	17.8	9.3, 11, 13.5
6	150-160-180	3	Full	1"	1¼"	BF	1800	25957	6.1	9.3, 11, 13.5
		3	Reduced	1"	1¼"	BF	900	12978	24.3	9.3, 11, 13.5
8	225	2	Full	1"	1¼"	BF	3650	52633	5.5	11, 13.5
12	315	3	Full	—	—	BF	7000	73542	10.6	11, 13.5

Note: C_v in US gal/min @ 1 psi ΔP. K_v in litres/min @ 1 bar ΔP

How to Order

Please provide the following information when you order:

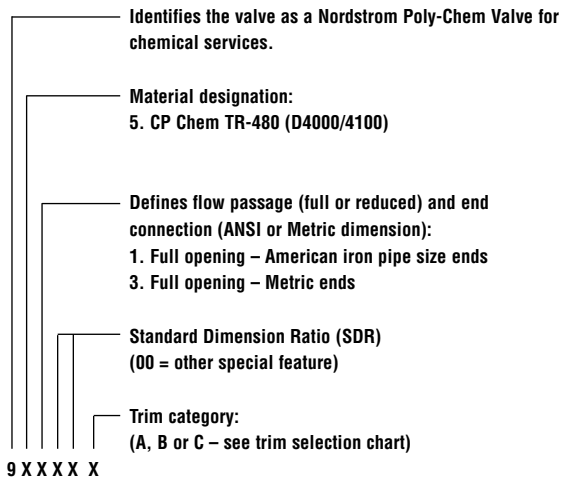
- Valve size
- Valve body material
- Full bore or reduced bore
- Standard Dimension Ratio (SDR) number
- Trim category (A, B or C)
- Wrenches available upon request

Note: Butt fusion ends are standard, flanged ends available as an option.



Poly-Chem Valve Figure Number System

The Polyvalve PE valve figure number system utilizes a five digit number which describes the valves as shown below.



With sizes up to 12" Nordstrom Poly-Chem valves come in the widest range of sizes on the market. They're shipped in cartons to shield them from ultraviolet light and protect the valve ends from damage.

For Use In:

- Acids
- Bases
- Dry gas gathering
- Salt water
- Gaseous hydrocarbons
- Liquid hydrocarbons

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