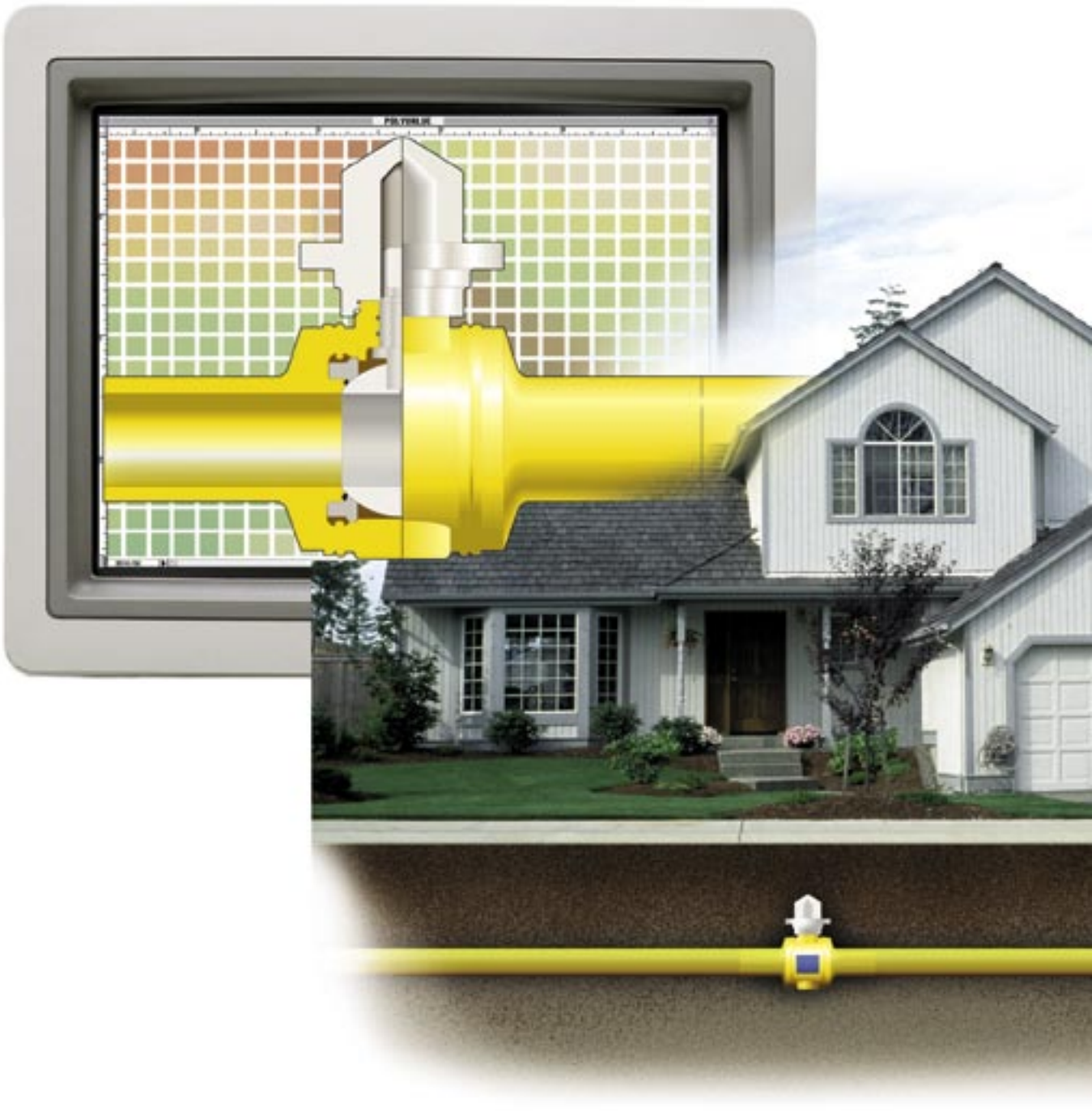
NORDSTROM POLY-GAS® VALVES

POLYETHYLENE VALVES

FOR NATURAL GAS



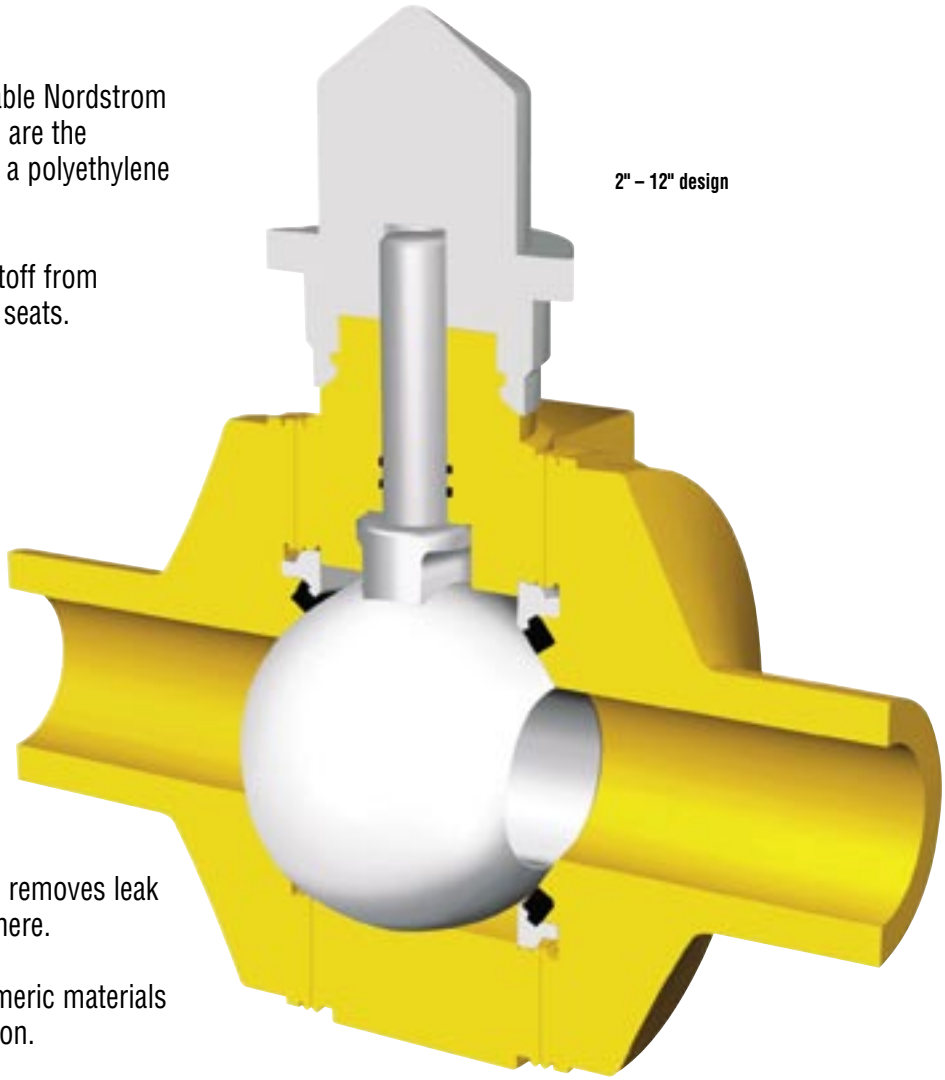
FLOWSERVE®

Why use Flowserve Nordstrom Poly-Gas® Valves?

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

More than **two million** Nordstrom Poly-Gas® valves have been sold since 1976 and are in use throughout the world. Here's why:

- Rugged and reliable Nordstrom Poly-Gas® valves are the strongest part of a polyethylene piping system.
- Bubble-tight shutoff from dual elastomeric seats.



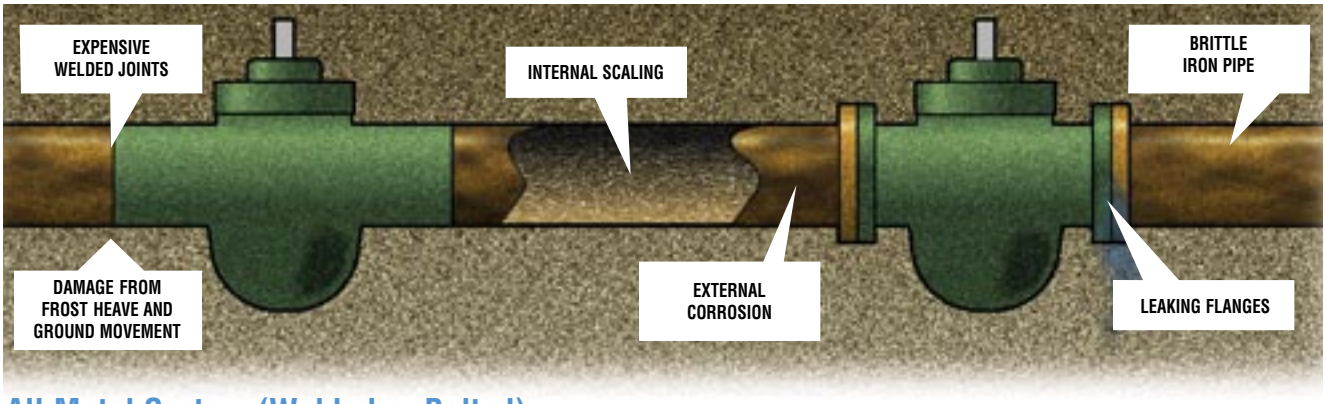
2" – 12" design

- Fused body shell removes leak paths to atmosphere.
- High-grade polymeric materials eliminate corrosion.
- Multiple elastomeric stem seals.
- No metal internal parts.
- Smooth bore gives excellent flow characteristics in both full and reduced port designs.

½" – 2"
Polyvalve II™
(C-style) design

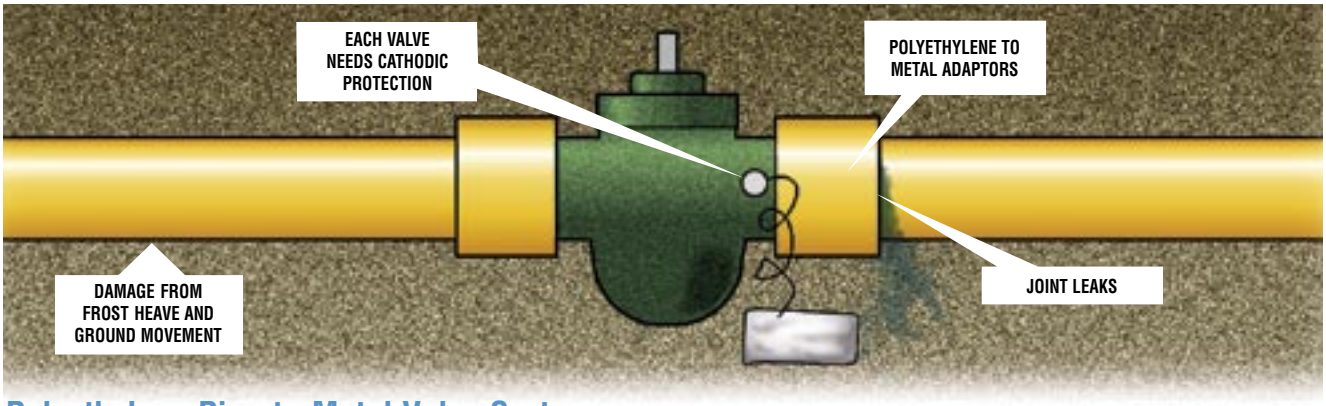
Note: Has high-strength stainless steel stem. 2" C-style is reduced bore only.

Why use polyethylene valves?



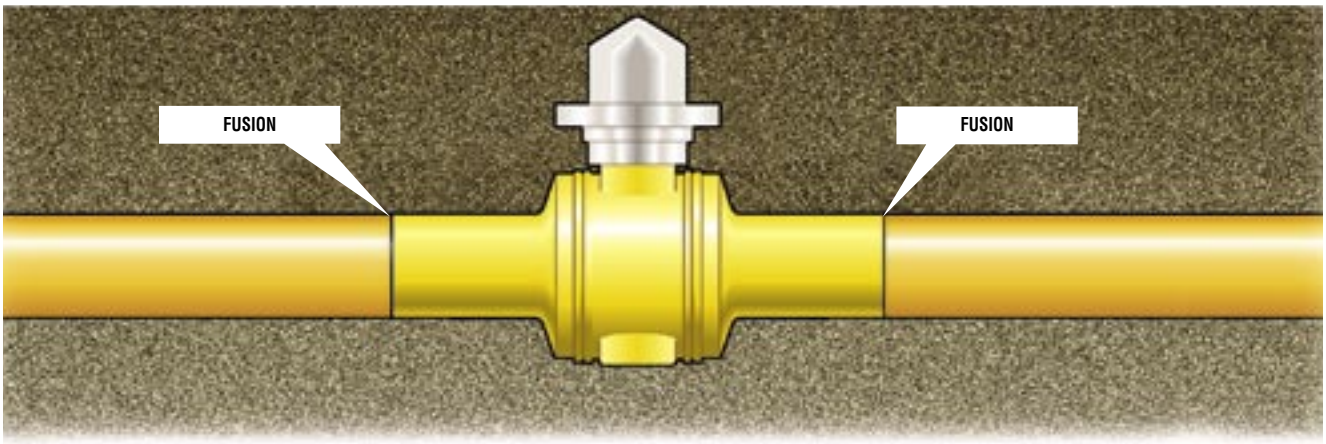
All Metal System (Welded or Bolted):

- Subject to external corrosion, internal scaling and damage from ground movement.
- Seismic activity, frost heave or settling can rupture brittle iron pipe.



Polyethylene Pipe-to-Metal Valve Systems:

- Subject to the inherent weakness of combining incompatible materials.
- May suffer damage from ground movement.
- Leaks may occur where the polyethylene and metal meet.
- Requires cathodic protection for each metal valve to prevent corrosion.



All-Polyethylene Systems:

- Intrinsically safe.
- Pipe is fused to the valves so there are no leak points.
- No chance of corrosion.
- Little chance of rupture because polyethylene systems flex when the ground moves.

NORDSTROM POLY-GAS® VALVES FOR NATURAL GAS

Poly-Gas® Valve Availability

MATERIALS

Materials of Construction

Item	½" through 2" Polyvalve II™ (C-style)	2" through 12"
Body	Polyethylene	Polyethylene
Ball	Acetal	Polypropylene
Seat Retainer	Acetal	Polypropylene
Seat	Buna N	Buna N
Stem	Stainless Steel	Acetal
Stem Seal	Buna N	Buna N
Ground Water Seal	Neoprene	Neoprene
Wrench Adapter	Acetal	Polypropylene*
Adapter Screw	Stainless Steel	
Adapter Button	Acetal	

**Note: 12" has gear box and cast iron 2" square nut adaptor.*
8" will have a choice of either gearing or wrench.
2" C-style is Reduced Bore only.

Body Materials Chart

Resin Supplier	Material Designation	Color	ASTM Material Designation	Material Density
CP Chem	TR-418 (D6500)	Yellow	PE 2406	Medium
CP Chem	TR-480 (D6800)	Black	PE 3408	High
CP Chem	H-516 (D8100)	Black	PE 3408	High
Fina	3407B	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's requirements.

CODES AND STANDARDS

- Flowserve Nordstrom Poly-Gas® valves meet or exceed the requirements of:
  U.S. Department of Transportation 49CFR, Part 192
  ANSI B16.40
  ASTM D-2513
- In addition, as required by customers, certain sizes and materials of valves meet or exceed the requirements of CSA B137.0 and B137.4
- Nordstrom Poly-Gas® valves have successfully passed 10,000-hour tests to ISO 4437
- Flowserve Nordstrom Valves is an ISO 9001 certified company.

APPLICATIONS

For use in:

- Natural gas distribution
- Natural gas gathering
- Landfill gas (methane)
- Hydrocarbon fuel gases
- Hydrogen
- Air
- Other inert gases (helium, argon, neon)

12" Poly-Gas® valve installation

Poly-Gas® Valve Availability

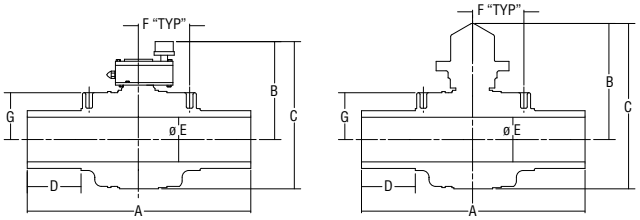
Poly-Gas® Valve Availability Chart (Ball Valves for Natural Gas)

Size (Inches)	Size (Metric)	Body Pieces	Bore	Vent Pipe Size (IPS) Min	Vent Pipe Size (IPS) Max	End Config.	C_v	K_v	Equiv. Feet of Pipe	Available SDRs
½	16-20	2	full †			BF* or SF**	18	260	2	9.3
¾	25	2	full †			BF	25	361	3.2	9.3, 10, 11
1	32	2	reduced †			BF	40	577	3.8	9.3, 11, 12.5
1¼	40	2	reduced †			BF	45	649	9.6	9.3, 11, 12.5
2	55-63	3	full	½"	¾"	BF	175	2528	3.8	9.3, 11
	50-63	2	reduced †			BF	110	1586	9.6	9.3, 11
3	90	3	full	½"	¾"	BF	390	5624	5.3	9.3, 11, 13.5
	90	3	reduced			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
	100-110	3	reduced			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
	125-160	3	reduced			BF	900	12978	24.3	9.3, 11, 13.5
8	225	2	full	1"	1¼"	BF	3650	52633	5.5	11, 13.5
	225	3	reduced			BF	1350	19467	40.3	9.3, 11, 13.5
12	315	3	full			BF	7000	73542	10.6	11, 13.5

Note: C_v in US gal/min @ 1 psi Δ P
K_v in litres/min @ 1 bar Δ P

** Butt Fusion*
*** Socket Fusion*
† Polyvalve II™ (C-Style) Valves

Dimension Data



ANSI Valve Dimensions

Size	Bore	A	B	C	D	E	F	G	Weight (lbs.)
½	full	10.0	3.4	4.8	2.8	0.50			1.2
¾	full	10.0	3.4	4.8	2.8	0.75			1.2
1	reduced	10.0	3.4	4.8	2.8	0.90			1.2
1¼	reduced	10.0	3.4	4.8	2.8	0.90			1.2
2	full	14.7	6.4	9.1	3.6	1.85	2.7*	2.4*	3.8
	reduced	13.0	4.5	6.5	3.7	1.35			3.1
3	full	15.0	8.0	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	4.5	3.62	5.0*	3.75*	19.5
	reduced	15.0	8.0	11.4	4.0	2.50			8.9
6	full	25.0	12.6	18.6	5.0	5.20	6.6*	5.1*	38.0
	reduced	20.0	10.4	15.0	5.3	3.62			23.0
8	full	69.5	12.5	19.9	24.0	6.66	7.7	7.00	98.0
	reduced	20.0	12.6	18.6	5.0	4.78			42.5
Gear Operated									
8	full	69.5	14.3	22.1	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 Valve Dimensions

Size	Bore	A	B	C	D	E	F	G	Weight (kg)
16-20	full	254	86	122	71	12.7			0.5
25	full	254	86	122	71	19.1			0.5
32	reduced	254	86	122	71	22.9			0.5
40	reduced	254	86	122	71	22.9			0.5
55-63	full	373	164	231	91	47.0	69*	61*	1.7
50-63	reduced	330	115	165	94	34.3			1.4
90	full	381	203	290	102	63.5			4.0
	reduced	325	164	231	91	47.0			2.0
100-110	full	508	264	381	114	91.9	127*	95*	8.8
	reduced	381	203	290	102	63.5			4.0
150-160 & 180	full	635	320	472	127	132.1	168*	130*	17.2
125-160	reduced	508	263	381	133	91.9			10.4
225	full	1765	318	504	610	169.2	196	177.8	44.5
	reduced	508	320	472	127	121.4			19.3
Gear Operated									
225	full	1765	363	561	653	169.2	196	178	60.8
315	full	2129	443	704	762	251.7			138.3

**Optional vent holes. Contact factory for other vent options.*

Note: Valves are generally available in these metric sizes and may be available in other metric dimensions. Due to wall thickness considerations, all SDRs in some sizes may not be available. Contact your Flowserve representative for exact availability.

How to Order

Please provide the following information when you order:

- Valve size
- Valve body material
- Bore type (full or reduced)
- Standard Dimension Ratio (SDR) number
- End configuration (butt fusion or socket fusion)
- Special service conditions

Flowserve Nordstrom Poly-Gas® Valve Figure Number System

The Poly-Gas® valve figure number system utilizes a five digit number which describes the valves as shown below.

8 X X X X

Identifies the valve as a Nordstrom Poly-Gas® valve for natural gas service.

Material designation:
0. **Uponor UAC 2000 (Size 12" ends only)**
1. **No Longer Used**
2. **No Longer Used**
3. **No Longer Used**
4. **CP Chem TR-418 (D6500)**
5. **CP Chem H-516 (D8100)**
6. **CP Chem TR-480 (D6800)**
7. **Not Used**
8. **FINA 3407B**

Defines flow passage (full or reduced) and end connection (ANSI or Metric dimension):
1. **Full opening - American iron pipe size ends**
2. **Reduced opening - American iron pipe size ends**
3. **Full opening - Metric ends**
4. **Reduced opening - Metric ends**
5. **Full opening - CTS ends or other special features**
6. **Reduced opening - CTS ends or special feature ends**

Standard Dimensions Ratio (SDR) (00 = other special feature[1])

[1] Special feature ends include integral socket ends, stub end SDR, etc.

From the ½" ball valve to the industry's first 12-inch polyethylene ball valve, Nordstrom Poly-Gas® valves are available in the widest range of sizes on the market today. They are shipped in cartons to shield them from ultraviolet light and to protect the valve ends from damage.