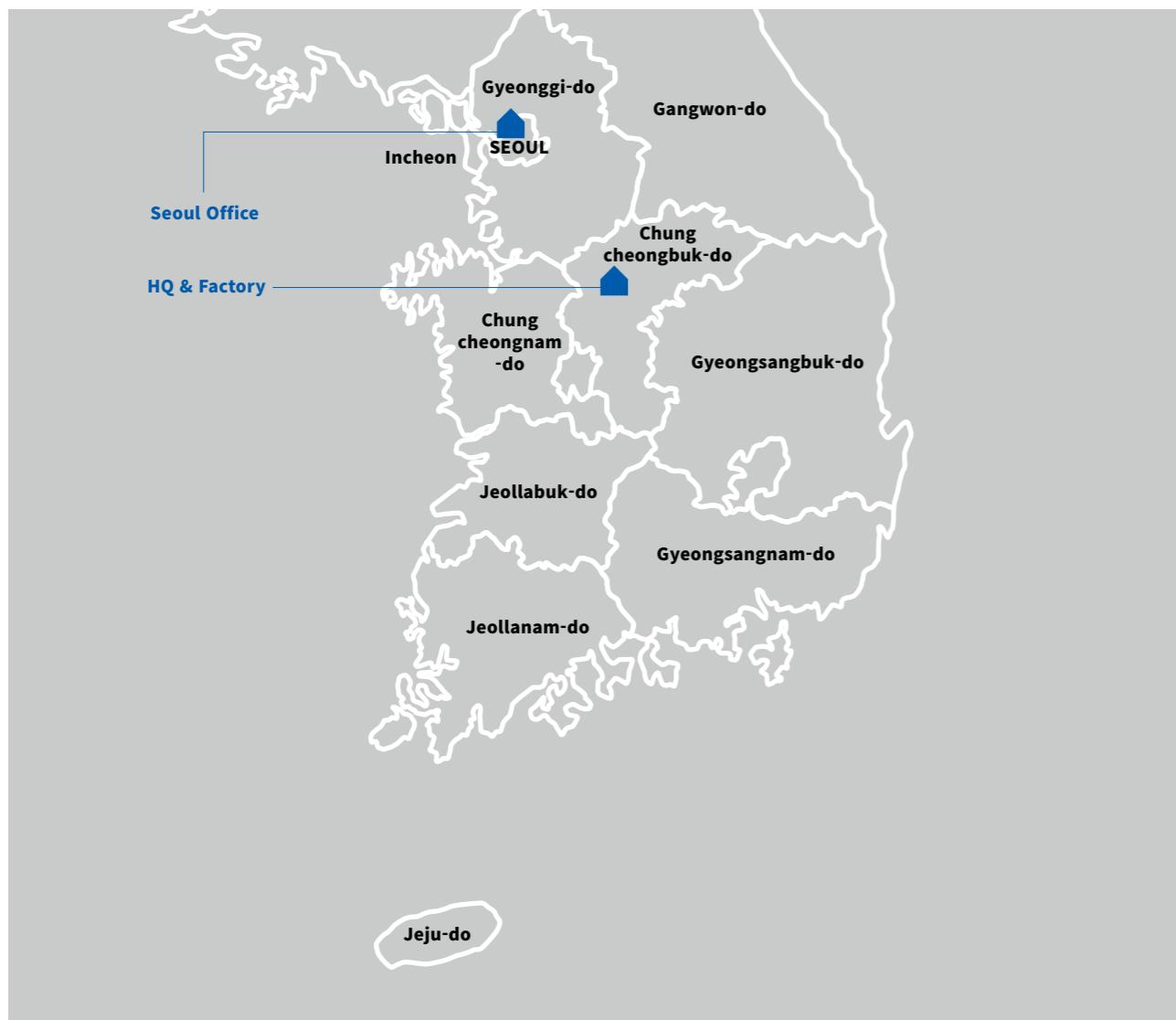


1.3-Address



HQ & FACTORY

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Global Solution for Gas Industry



PE PIPING SYSTEM
Product catalogue



주식회사 폴리텍
POLYTEC CO., LTD.

SAFETY
IS OUR BUSINESS

Introduction

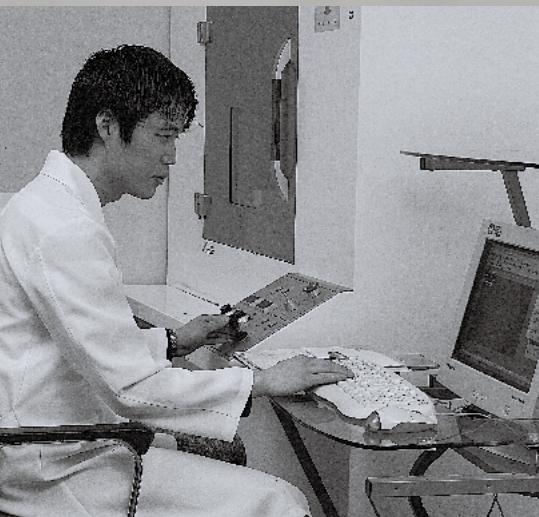


POLYTEC CO., LTD, founded in 1988, has been pursuing its way to the global leader for PE ball valves.

POLYTEC is a leading PE valves manufacturer in the society of low pressure gas distribution network. Since its first export of PE Gas Ball Valves in 1996, POLYTEC has been loved by its customers in more than 25 countries across 6 continents.

Under the company motto ‘SAFETY IS OUR BUSINESS’, POLYTEC supplies its PE Ball Valves to many pipeline fields around the globe and enjoys its reputation as a quality valves maker. Beyond the gas application, POLYTEC has also supplied its valves to industrial, water and waste water market and has gotten good responses from our customers.

We serve our clients with sincerity and dignity and say “Your Project Is Our Pleasure.”



HISTORY of POLYTEC

- OCT 1988 Established
- OCT 1993 Started Development of Polyethylene Ball Valve
- MAR 1995 Co-developed PE ball valve with Korean Gas Safety Corp
- OCT 1995 Started Mass Production of PE Valve Approved by Korean Gas Safety Corp.
- JAN 1997 Certified ISO 9001 by TUV Rheinland Group
- JUL 1997 Approved ANSI/ASME B 16.40 by AGA Research
- NOV 1997 Approved NT (New Technology) Mark by National Institute of Technology & Quality
- NOV 1998 Awarded Excellent Venture Business Company by Small & Medium Business Administration
- APR 2000 Approved CSA (Canadian Standard) Mark by CSA International
- JUL 2000 Approved DVGW “G” Mark by DVGW Laboratory (German Standard)
- DEC 2002 Awarded Korea World-Class Product by Minister of Commerce, Industry and Energy in Korea
- DEC 2002 Appointed Excellent Company by Small & Medium Business Administration
- APR 2003 Established BEIJING POLYTEC CO.,LTD in China as a Joint Venture
- JUN 2005 Approved EN 1555-4 by TUV Rheinland Group
- AUG 2005 Approved BGC Transco T/SP/V/7 Part2 by TUV Rheinland Group
- NOV 2005 Approved CE Mark by TUV SUD Group
- DEC 2006 Approved EN 1555-4 PE80 Yellow by TUV Rheinland Group
- DEC 2006 Approved ISO 14001 by Korean Standard Association
- JUN 2007 Appointed as an Export Promising Company by Small & Medium Business Administration
- JAN 2008 Appointed as an Excellent Quality Deployment Company by Chungbuk Province
- FEB 2008 Appointed as an Excellent Product (PE Ball Valve) by Public Procurement Service
- FEB 2012 Appointed as Global Level SME by Small & Medium Business Administration
- NOV 2013 Awarded Silver Medal for National Quality Squad Competition by President of Korea
- Aug 2016 Approved EN 1555-4 PE80 & PE100 2011 version by TUV NORD Group

The Polytec polyethylene valves are produced within ISO 9001 certified manufacturing facility and fully tested to ensure the highest level of quality.

The Polytec valve is the result of extensive research and has been designed and manufactured for long-term reliability, safe operation, and easy maintenance in gas and water distribution applications.

These ruggedly built valves combine large flow bores with easy installation and operation, and are virtually maintenance free.

FEATURES & BENEFITS

- Conforms to the requirements of ASME B16.40/DVGW/CSA/EN1555-4/GIS V7 Part 2
- Full Bore Opening (1/2 inch through 16 inch / 20mm through 400mm)
- Reliable Construction (All plastic design)
- Easy Operation (1/4 turn / Multi-turn)
- ISO 9001 & ISO 14001 Certified Manufacturer
- Maintenance Free
- Integral Purges for Hassel Free Purge System
- High Head Extension Available
- Independent, Third Part Tested



Product

POLYTEC Polyethylene(PE) Ball Valve is mainly used as a flow control fitting in low pressure gas distribution network. It opens/closes the gas flow at the time of emergency, maintenance, piping replacement and etc.



The merits of POLYTEC PE Ball Valve are;

1. All plastic design allows longer service life than steel valves.
2. The plastic body is free from the corrosion caused by chemical substances contained in the gas (LPG, LNG and other gas fuels), or by electrical contact.
3. Full bore design and smooth PE wall allows maximum flow capacity for the gas transportation.
4. Integral purge connection for compact, cost effective installation.
5. Massively designed body is resistant to all piping loads both in mechanical and thermal load.
6. Specially compounded seats show excellent elasticity and toughness over the valve's entire service life.

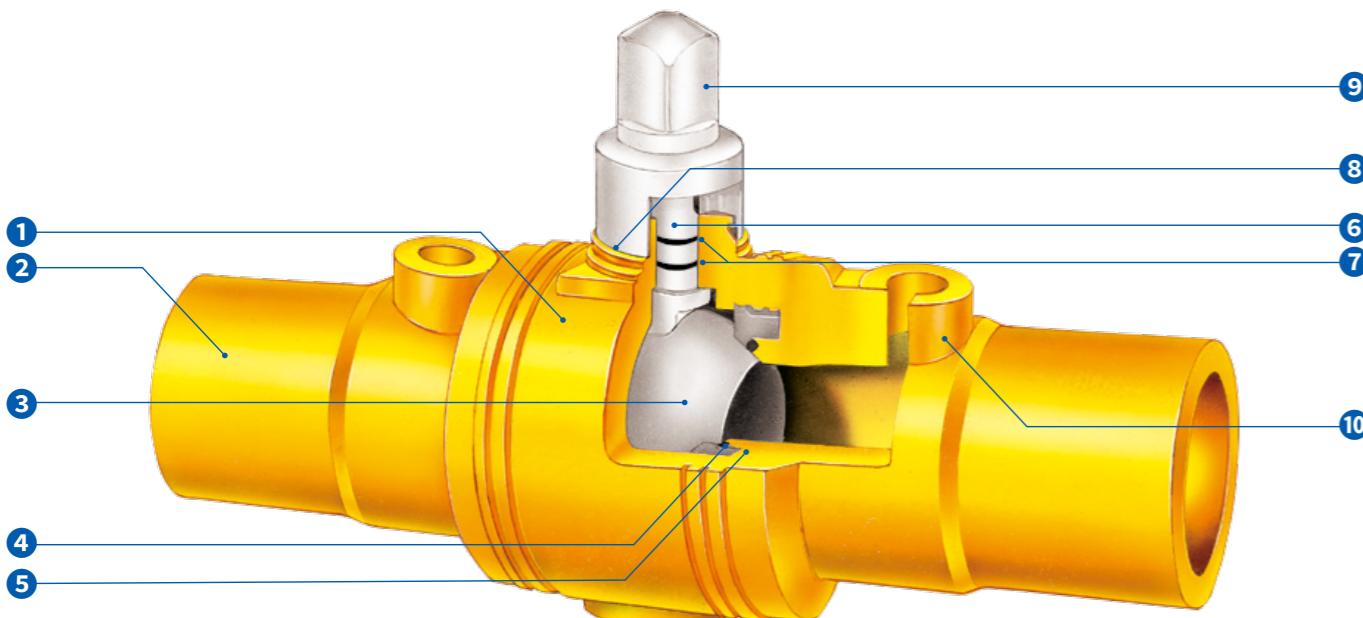


04

05

Product

General Information



POLYTEC PE BALL VALVE FOR GAS

Please check before inquiring.

- ✓ Valve size
- ✓ Valve body material
- ✓ Bore type (Full or Reduced)

- ✓ Standard Dimension Ratio(SDR) number
- ✓ Special service conditions (if applicable)

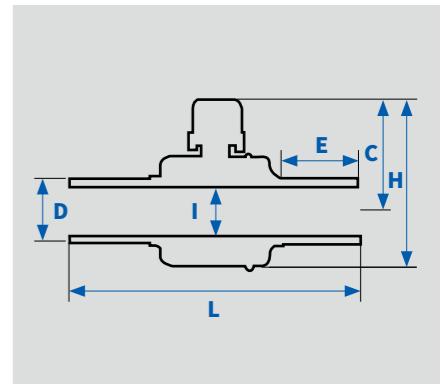
SMALL SIZE VALVE IN MD-PE & HD-PE, 1/4 TURN



SMALL SIZE PE BALL VALVE IN HD-PE



SMALL SIZE PE BALL VALVE IN MD-PE



MATERIALS OF CONSTRUCTION

NO	COMPONENT	MATERIAL	OPERATING FEATURES
1	BODY	Polyethylene	PE80 (PE2708), PE100 (PE4710)
2	END	Polyethylene	PE80 (PE2708), PE100 (PE4710)
3	BALL	PP or POM	Excellent Strength & Thermal Resistance
4	RETAINER	PP	Positive Seal under any Condition, Retains Seat under High Differential Pressure
5	BALL SEAT	NBR	Reliable Sealing From -29°C to 60°C
6	STEM	POM	Excellent Durability & Strength
7	STEM SEAL	NBR	Superior Sealing with Dual O-rings
8	WEATHER SEAL	NBR	Protects from Ground Water and Dirt
9	OPERATOR	PP or POM	50mm(2°) Square or Hexagon
10	PURGE CONNECTOR	PP	Integral Easy Purge Connection

OPERATING FEATURES

ITEM	OPERATING FEATURES
OPERATING	GAS PE80 (MDPE) : 8 bar PE10 (HDPE) : 10 bar
MATERIALS	PE80 (DAELIM TR-418Y, TOTAL 3802YCF, etc.) PE100 (INEOS SOLVAY ELTEX TUB121, TOTAL XSC50 Orange, etc.)
TEMPERATURE	From -29°C to 60°C (-20°F to 140°F)
PIPE CONNECTION VIA	Butt Fusion or Electro Fusion
BORE	Reduced Bore & Full Bore (Standard Port & Full Port)
STEM TYPE	Short Stem or Extended, as Required
SDR	11, Other SDR's Available on Request

SIZE AND DIMENSIONS (mm)

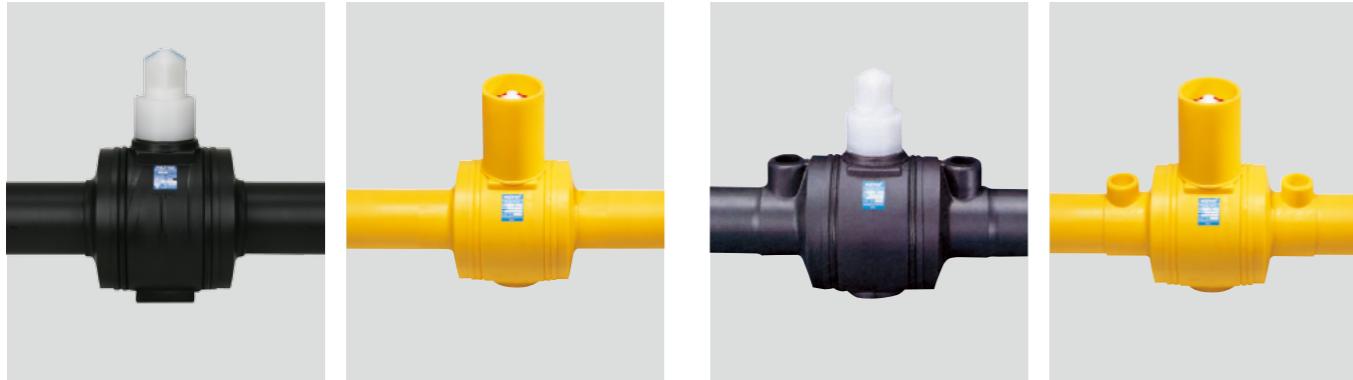
SIZE(D)		JIS	L	H	C	I	E	WEIGHT (kg)
ISO	ASTM IPS (mm)							
20mm	1/2"	21.3	-	292	130	94	27	92
25mm	3/4"	26.7	20A	292	130	94	27	92
32mm	1"	33.4	25A	292	130	94	27	92
40mm	1 1/4"	42.1	30A	292	130	94	27	92
50mm	1 1/2"	48.3	40A	310	144	96	32	71
63mm(R)	2"	60.3	50A-R	310	144	96	32	84

* The numbers for dimension in above table is reference only

SIZE AND DIMENSIONS, CTS (mm)

SIZE(D)			L	H	C	I	E	WEIGHT (kg)
ASTM	CTS (mm)	W.T (mm)						
1/2"	15.9	0.062	1.58	292	130	94	27	92
		0.090	2.27	292	130	94	27	92
3/4"	22.2	0.077	1.95	292	130	94	27	92
1"	28.6	0.099	2.51	292	130	94	27	92
1 1/4"	34.9	0.090	2.27	292	130	94	27	92

* The numbers for dimension in above table is reference only

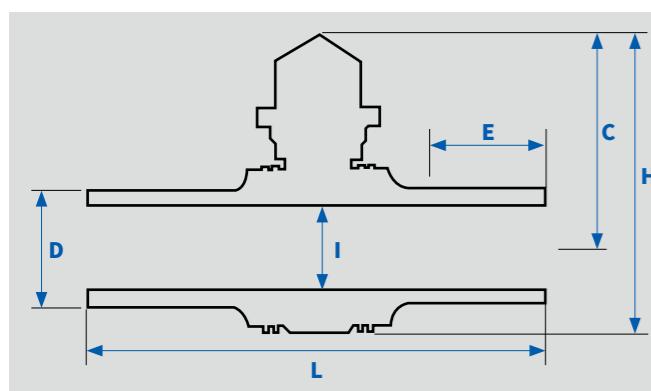
STANDARD TYPE PE VALVE IN MD-PE & HD-PE, 1/4 TURN

S/T NPC IN HD-PE

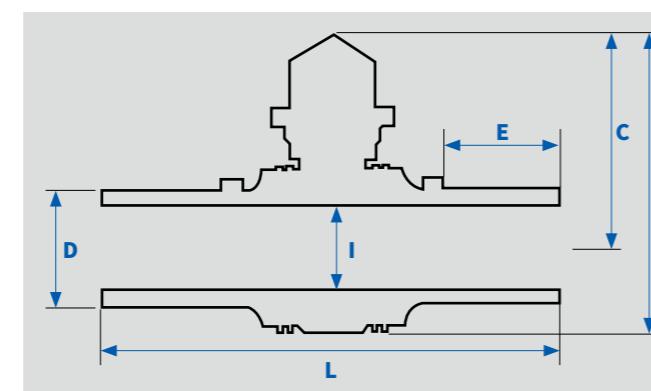
S/T NPC WITH COLLAR IN MD-PE

S/T PC IN HD-PE

S/T PC WITH COLLAR IN MD-PE



NPC: NO PURGE CONNECTION

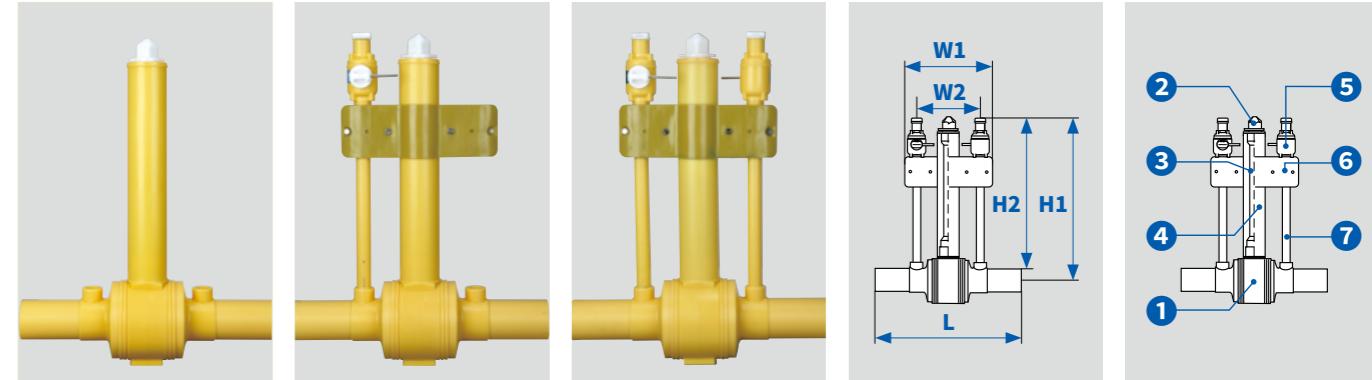


PC: PURGE CONNECTION

SIZE AND DIMESIONS (mm)

SIZE(D)			L	H	C	I	E	WEIGHT(kg)			
ISO	ASTM	JIS	PC	NPC	PC	NPC	PC	NPC	NPC		
63mm	2"	50A	660	498	250	178	45	170	170	2.6	2.1
90mm	3"	75A	660	541	305	216	64	170	170	4.5	4
110mm-R	4"-R	100A	660	541	305	216	64	170	170	5.3	4.6
110mm	4"	100A	730	610	381	264	91	170	170	90.1	8.5
125mm	-	-	730	610	381	264	91	170	170	9.6	8.8
140mm	5"	125A	730	610	381	264	91	170	170	10.4	9.6
160mm-R	6"-R	150A	730	610	381	264	91	170	170	11.6	10.2
160mm	6"	150A	810	665	485	331	118	170	170	19.2	18.1
180mm	-	-	770	665	485	331	118	150	170	19.5	18
200mm-R	-	-	730	610	381	264	91	170	170	12.2	10.9
200mm	-	-	845	765	630	421	170	145	170	43.6	40.2
225mm	8"	200A	845	765	630	421	170	145	170	44.6	41.6
250mm	10"	250A	828	765	630	421	202	140	170	45.2	43.3
280mm	-	-	828	765	630	421	202	140	170	46.2	44.1
315mm	12"	300A	828	765	630	421	202	140	170	47.8	44.9
315mm-F	12"	300A	978	910	805	491	289	145	170	108.5	102.7
355mm	14"	350A	978	910	805	491	289	145	170	111.7	115.8
400mm	16"	400A	978	910	805	491	289	145	170	114.4	108.3

* The numbers for dimension in above table is reference only

STEM EXTENSION TYPE PE VALVE IN MD-PE & HD-PE, 1/4 TURN

NPS: STEM EXTENSION

1PS: STEM EXTENSION WITH 1 PURGE SYSTEM

2PS: STEM EXTENSION WITH 2 PURGE SYSTEM

DIMENSION OF 2PS VALVE

MATERIALS OF COMPONENTS

SIZE AND DIMESIONS (mm)

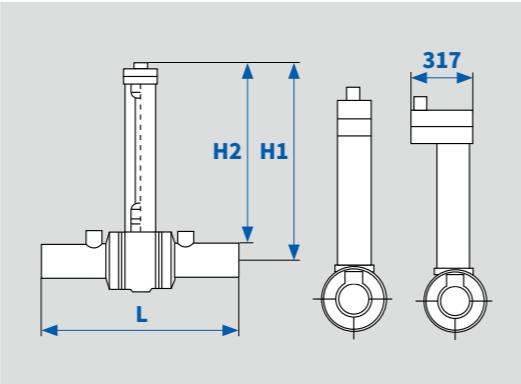
SIZE(D)	SIZE(D)			L	H1	H2	W1	W2	WEIGHT(kg)		
	ISO	ASTM	JIS	PC	NPC	PC	NPC	NPC	1PS	2PS	
63mm	2"	50A	50A	660	730	700	376	250	5.2	7.8	8.8
90mm	3"	75A	75A	660	765	720	376	250	7.2	9.7	10.8
110mm-R	4"-R	100A	100A	660	765	708	376	250	7.9	10	11.3
110mm	4"	100A	100A	730	811	755	446	320	11.7	14.4	15.5
125mm	-	-	-	730	811	748	446	320	11.9	14.5	15.6
140mm	5"	125A	125A	730	811	741	446	320	13.2	15.9	17.1
160mm-R	6"-R	150A	150A	730	811	731	446	320	14.7	16.8	18.2
160mm	6"	150A	150A	810	881	801	514	390	23.3	26	27.3
180mm	-	-	-	770	881	790	514	390	23.8	26.3	27.7
200mm-R	-	-	-	730	811	711	446	320	15.3	17.4	18.8
200mm	-	-	-	850	967	867	578	450	47.3	49.64	51.06
225mm	8"	200A	200A	850	967	856	578	450	47.8	50.14	51.56
250mm	10"	250A	250A	810	967	841	578	450	48.2	51.34	52.76
280mm	-	-	-	810	967	827	578	450	50.1	53.24	54.66
315mm	12"	300A	300A	820	967	809	578	450	51.8	54.94	56.36
315mm-F	-	-	-	980	1041	875	734	600	116.7	118.11	121.75
355mm	14"	350A	350A	980	1041	856	734	600	117.9	119.31	122.95
400mm	16"	400A	400A	980	1041	831	734	600	121.9	123.31	126.95

* The numbers for dimension in above table is reference only

MATERIALS OF COMPONENTS

NO	COMPONENT	MATERIAL	REMARK
1	VALVE	PE	
2	OPERATOR	PP or POM	
3	SUB-STEM	POM	
4	STEM PROTECTING PIPE	PE	
5	PURGE VALVE	PE Valve	
6	SUPPORT BRACKET	PE	
7	PURGE PIPE	PE	

GEARED TYPE PE VALVE IN MD-PE & HD-PE, 2 1/2 TURN



NPS GEARED VALVE

1PS GEARED VALVE

2PS GEARED VALVE

DIMENSION OF GEARED VALVE

SIZE AND DIMENSIONS (mm)

SIZE(D) ISO	ASTM	JIS	L	WEIGHT(kg)		
				NPS	1PS	2PS
160mm	6"	150A	810	905	829	28.4
180mm	-	-	770	905	838	29
200mm	-	-	845	996	895	52.9
225mm	8"	200A	845	996	880	53.9
250mm	10"	250A	828	996	860	54.6
280mm	-	-	828	996	845	55.5
315mm	-	300A	828	996	837	56.8
315mm-F	12"-F	300A-F	978	865	705	120.9
355mm	14"	350A	978	865	680	124.2
400mm	16"	400A	978	865	650	126.8
						32.3
						32.8
						56.8
						59.7
						60.8
						61.8
						63.8
						124.7
						126.6
						128.1
						130.7

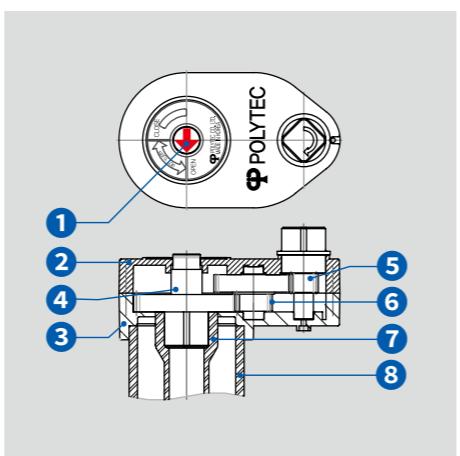
* The numbers for dimension in above table is reference only

STRUCTURE & MATERIAL

NO	COMPONENT	MATERIAL
1	SUB STEM GEAR INDICATOR	Luminous sheet
2	HOUSING TOP	POLYETHYLENE
3	HOUSING BOTTOM	POLYETHYLENE
4	SUB STEM GEAR	66Nylon+Brass or ZA8
5	HANDLE GEAR	66Nylon+Brass or ZA8
6	MIDDLE GEAR	66Nylon+Brass or ZA8
7	SUB STEM	POM
8	STEM PROTECTING PIPE	POLYETHYLENE

GEAR INFORMATION

NO	ITEM	DESCRIPTION
1	GEAR RATE	9:1
2	REVOLUTION	2 1/2
3	CRASH STRENGTH	203N·m
4	OPERATING TORQUE	68N·m
5	OPERATOR DIMENSION	50mm (2 '') SQUARE
6	OPERATING TEMPERATURE	From -29° to 60°

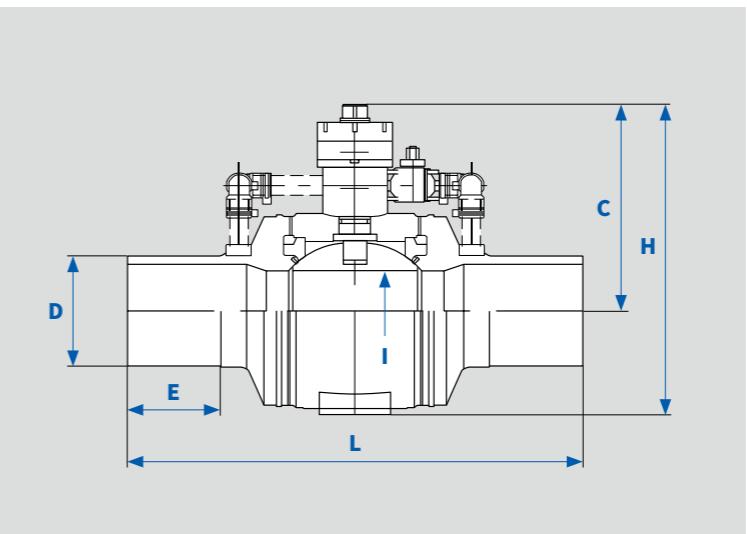


MATERIALS OF COMPONENTS

Functional Features of Bypass System



Break-away torque under high differential pressure is one of few challenges large diameter PE ball valve has. To tackle this issue, Polytec offers Bypass system. With Bypass line installed on the valve, pressure equalization for both side of the valve is obtained and it makes open operation much easier than no Bypass condition.



Bypass is like a comfort insurance for our large size PE ball valve. You can live without it but it will make your life more comfortable and less worrisome.

SIZE AND DIMENSIONS (mm)

SIZE(D) ISO	ASTM	JIS	L	H	C	I	E
315mm-F	12"-F	300A-F	978	980	665	289	145
355mm	14"	350A	978	980	665	289	145
400mm	16"	400A	978	980	665	289	145

* The numbers for dimension in above table is reference only

NO	PART NAME	MATERIAL	REMARK
1	STANDARD VALVE	POLYETHYLENE	
2	50mm ELBOW	POLYETHYLENE	
3	50mm COUPLER	POLYETHYLENE	
4	50mm PIPE	POLYETHYLENE	
5	GEAR SYSTEM	POLYETHYLENE	
6	BY-PASS VALVE	POLYETHYLENE	High Differential Pressure Equalizer

TEST METHODS

Each valve is designed and tested in accordance with EN155-4 : 2011(Europe) and other international standards such as ASME B16.40 : 2013(U.S.A.), GIS/V7 Part 2(UK), DVGW(Germany) & CSA(Canada), Gost(Russia).

In addition to the tests which are international requirements, the following additional tests are performed by Polytec to gain the maximum assurance that these valves will perform to our customer expectations.



1. HYDROSTATIC STRENGTH TEST

The purpose of the Hydrostatic Strength Test is to check the welding of Body and End parts, and the Seat of the Operating Adaptor for any leakage. No leakage shall occur under pressure at the test temperature specified in the standards.

EN1555-4	According to “Hydrostatic strength” of table 1
ASME B16.40	According to “6.3.3 Sustained pressure test”

2. SEAT AND PACKING TEST

The purpose of the test is to verify the pressure containing ability of the valve closure element and seat, and no leakage shall occur under pressure specified in the standards while the valve is closed.

EN1555-4	According to “Leaktightness of seat and packing” of table 1
ASME B16.40	According to “6.2.1 Shell test” and “6.2.2 Seat test” of table 1

3. TORQUE TEST

The purpose of the test is to determine whether the torque required for opening and closing the valve is restricted within the limit specified in the standards. Additionally, the Stop Resistance Test can be performed together with the Torque Test, and the Operating Adaptor shall not be damaged under torque of minimum 150N.m.

EN1555-4	According to “Operating torque”, “Stop resistance” and “Actuation mechanism resistance” of table 1
ASME B16.40	According to “6.3.1 Operational test”

4. TEMPERATURE RESISTANCE TEST

The purpose of the Temperature Resistance Test is to check the leakage and torque of the valve under low and high temperature, and shall be leak tight with torque within the limit of the standards while being tested under the temperature, cycle, and pressure condition specified in the standards.

EN1555-4	According to “Thermal cycling resistance dn>63mm” of table 1
ASME B16.40	According to “6.3.2 Temperature resistance test”

5. PRESSURE DROP TEST

The Pressure Drop Test is to check the pressure loss of valve, and the pressure loss level shall be within the requirement specified in the standards.

EN1555-4	According to “pressure drop” of table 1
ASME B16.40	According to “6.3.4 Flow capacity”

6. IMPACT RESISTANCE TEST

The Impact Resistance Test is to check the efficiency of the Operating Adaptor which drives the valve to close and open position. The valve shall be operated smoothly and shall pass the leakage test after impact by a mass with specific weight, dropped from a height specified in the standards.

EN1555-4	According to “Impact loading resistance” of table 1
ASME B16.40	According to “6.3.5 Impact resistance”

7. BENDING / TENSILE LOAD TEST

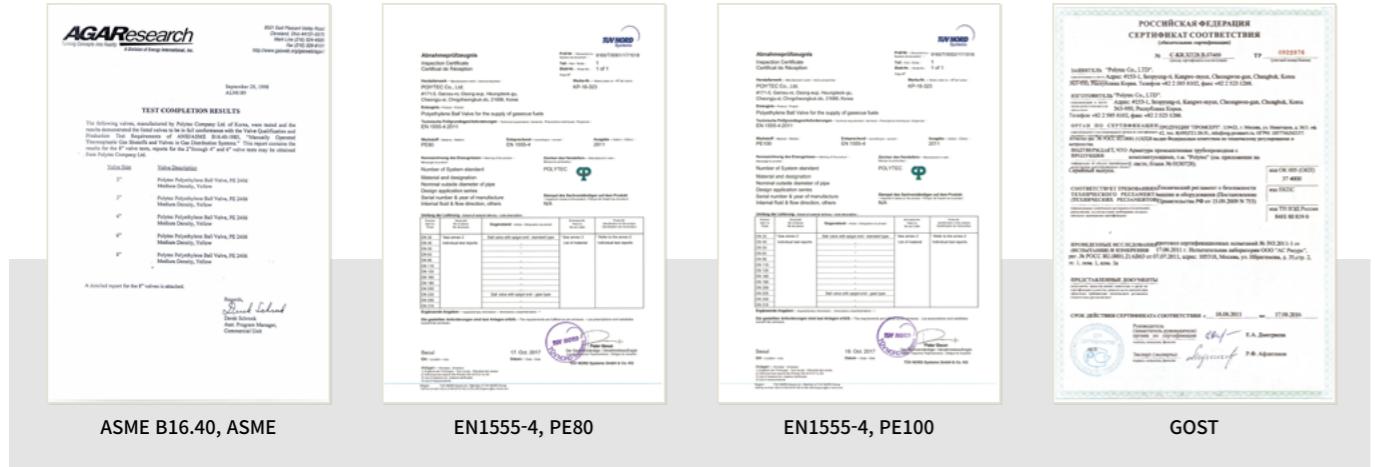
The purpose of the test is to verify the performance of the valve, to resist the environmental influence after the valve is installed and buried underground. The valve must assure the leak tightness and operating torque while and after sustaining bending / tensile load as specified in the standard.

EN1555-4	According to “Resistance to bending between supports”, “Leaktightness under bending with thermal cycling dn≤63mm”, “Leaktightness under tensile load” and “Leaktightness under and after bending applied to the operating mechanism” of table 1
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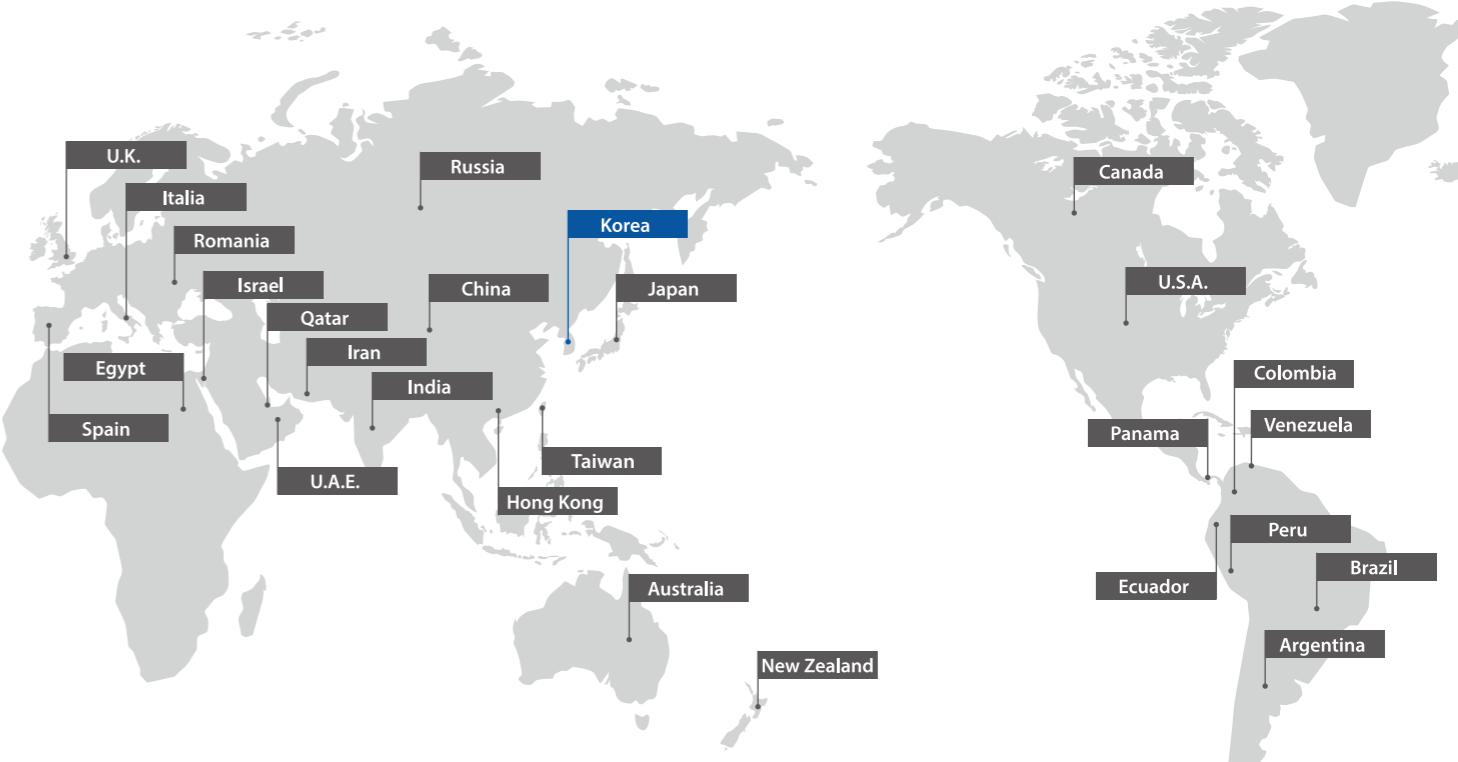
ALL POLYTEC VALVES PASSED THESE TESTS.

Additional customized tests for any specific requirements of customers can be performed by POLYTEC.

INTERNATIONAL CERTIFICATES (PE VALVES)



WORLDWIDE CUSTOMERS



CONTINENT	COUNTRY
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Europe / CIS	U.K. / Romania / Spain / Italia / Russia
Asia-Pacific	Australia / New Zealand / China / Hong Kong / Japan / Taiwan / India
MENA	Iran / U.A.E. / Egypt / Qatar / Israel

