


TUV-Germany
ISO 9001


USA
API 6D


BV-France
CE


Russia
GOST


Sweden
P MARK


Germany
FFI

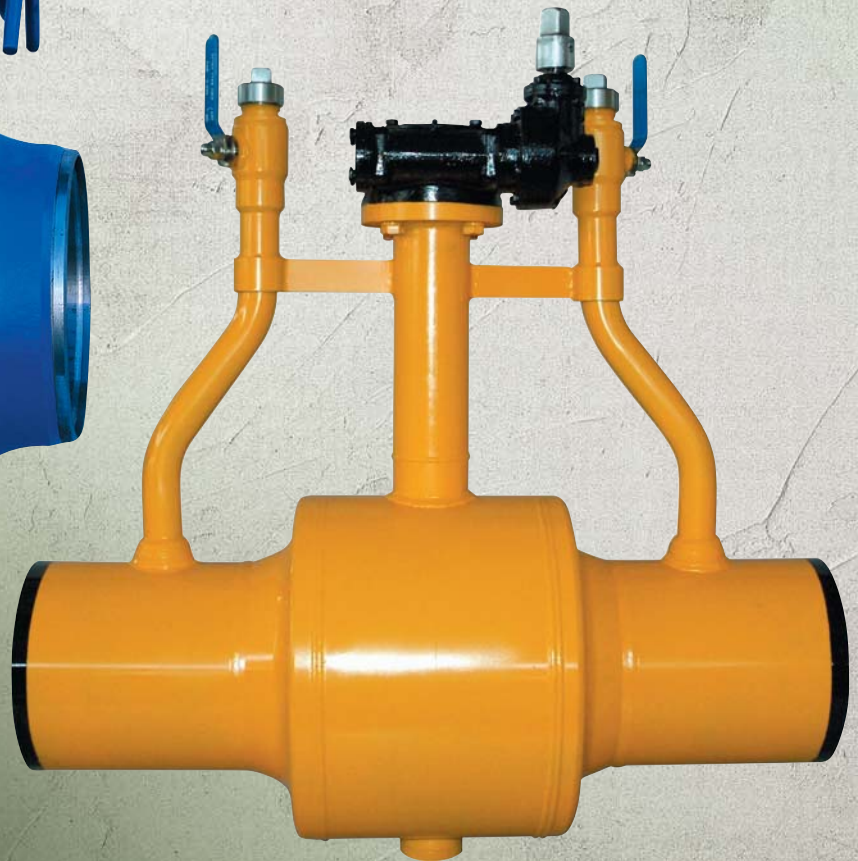

Korea
NT


Korea
INNO-BIZ

Bulletin K07-10



KMC STANDARD FULLY WELDED BALL VALVES



General Information / 회사소개

KMC is a reputable manufacturer and specialist of fully welded body ball valves supplying high quality and reliable products especially for city gas and district heating systems.

KMC는 도시가스 및 지역난방 등에 사용되는 고품질 완전 용접형 볼밸브 전문 제조업체입니다.

KMC standard fully welded ball valves have been developed to meet all requirements for general piping specifications and advanced design, function and quality in comparison with European valves.

유럽산 제품보다 뛰어난 품질과 성능 및 디자인으로 배관 설계 사양을 충족합니다.

Nowadays KMC has become the largest manufacturer and supplier of large size fully welded ball valves up to maximum DN1500(60") and KMC has established sales network worldwide.

용접형 볼밸브 분야 세계 최대규모로 1500A까지 생산가능하고 전세계에 판매망을 가지고 있습니다.

As a leading manufacturer and exporter using the latest technology and most modernized production facilities, KMC aims at maintaining the highest quality, quick delivery & competitive price.

최신시설과 기술로 "고품질, 신속한 납품, 경쟁력 있는 가격"을 지향합니다.

Advanced design 최신설계



Roundness Testing 진원도검사



Pressure Testing 압력검사



Ready for Shipment 출하준비



Features of Welded Ball Valve

Benefits

- International Certifications and Standards
세계 각국에서 요구되고 있는 각종 인증서 보유 및 관련 국제 규격에 의한 제품 설계 및 생산함.
- Designed to satisfy in district heating network, heat transfer piping, oil pipelines and gas industry application
지역난방, 열 수송, 오일, 가스 등 각종의 pipeline 조건에 만족하도록 설계 개발됨.
- Long lifetime as same as the pipeline system
pipeline 수명과 동일하게 밸브 수명을 갖춤.
- Low running cost with Maintenance-free, no adjustment or lubrication
특별한 유지 보수 및 추가 주유 등 관리가 필요 없어 유지 관리 비용의 저감 효과가 매우 높음.
- Bi-directional valve
밸브설치에 방향성이 없음.
- Easy available for pre-insulated construction and adopted to pre-insulated single/twin piping systems
보온이 용이한 구조로 single/twin pipeline의 밸브 사양으로 채택됨.

Design Construction & Characteristics

One-piece welded body & end-piece

- Long lasting against frequent operation, impurities and chemical without body leakage.
본체의 외부누설을 차단하는 완벽한 기밀 구조로 각종 불순물, 화학성분, 빈번한 사용 등에 대한 연속성 높음.
- Stress analysis to withstand stresses in district heating network & natural gas pipeline network.
지역난방 및 가스 전달 pipeline의 배관 응력에 충분히 견딜 수 있도록 응력 구조해석에 의한 본체설계.
- Easy installation, no servicing, long working life with low running costs.
현장 설치가 용이하며, 특별한 보수 없이 장기적으로 유지관리 비용의 저감 효과가 매우 높음.

Ball

- Mirror polished stainless steel ball tested spherical roundness.
내식성의 스테인레스 재질 사용하며, 정밀 광택 연마 및 진원도 관리로 기밀성능이 매우 우수함.
- Floating ball with seat rings supported by dish springs remains leak-tight regardless of pressure fluctuations.
접시 스프링 채택 구조의 floating 볼은 유체압력의 변동에 대응하여 완벽한 기밀 성능을 유지시킴.
- Trunnion ball applicable to high pressure or large size valves reduces sealing load against the fluid pressure, enhance seat lifetime with lower operational torque.
고압, 대형 규격에 적용되는 trunnion 볼은 유체압력에 따른 sealing load를 저감시키며 낮은 작동 torque를 유지함으로 seat의 수명을 대폭 연장함.

Seats Rings & Seat Springs

- Bubble tight excellent sealing with carbon-reinforced PTFE(Teflon) seats.
탄소 강화 PTFE seat를 채택하여 bubble tight의 완벽한 기밀 성능을 발휘함.
- Self-lubricating capabilities without additional lubricant, resistant to corrosion, ageing and extreme temperatures.
자기 윤활성능으로 원활한 동작을 위한 추가 윤활제의 투입 필요가 없으며 부식, 노화 및 극한 온도 사용에 대한 저항성이 높음.
- Pre-loaded seat springs ensure leak-tight at low pressure.
pre-load된 스프링 구조로 sealing balance를 유지시켜 미압에서도 완벽한 기밀 성능을 유지함.
- Absorb stem loading moments and reduce valve operational torque.
스템 모멘트를 흡수하여 밸브의 작동 torque를 낮춤.

Stem & Stem sealing

- Anti blow-out stem according to international standards.
각종 국제 규격 기준에 따른 anti blow-out 구조임.
- Accurate machining of sealing surface with O-rings ensures leak-tight sealing.
정밀 가공된 stem은 O-ring과의 조합으로 완벽한 기밀 성능을 유지함.
- Double O-rings ensure the stem sealing and can be replaced with the valves in fully open or fully closed position by removing the back-up ring after having released all the pressure in the body cavity.
2중의 O-ring 구조를 채택하며, 밸브의 설치 조건 상태에서 교체 가능한 구조로 설계됨.
- Stem extension is available according to customer design requirement.
고객의 사양에서 요구되는 stem 높이로 제작 납품됨.

Thrust Bearing & Dry Bearing

- The PTFE thrust bearing between the stem shoulder and neck part acts as a stem seal.
PTFE 트러스트 베어링은 stem 기밀성능 유지기능을 가짐.
- Stem dry bearing, metal with PTFE coating having self-lubricating capabilities need no additional lubricant, reduces side thrust effect on packing and prevents stem wobbling, and low friction coefficient to reduce operational torque at pressurized cavity condition.
PTFE 코팅된 드라이베어링은 자기윤활기능이 있어 추가 윤활제의 투입 필요 없이 stem에 걸리는 thrust 힘을 낮추고 stem의 위치를 정확하게 유지시켜주며, 또한 저 마찰계수로 cavity 내압 상태에서 stem의 작동 torque를 낮춤.

Worm Gear Operator(Vertical & Horizontal type)

- Removable splined bushing to permit accurate positioning between gear drive and valve stem.
밸브 스템과 기어 드라이브의 정확한 위치 제어를 위하여 스플라인드 부싱 구조를 채택함.
- Tapered roller bearings which support both axial and radial forces generated by the gearing have excellent load bearing capacity.
테이퍼 롤러 베어링은 축방향, 축과 수직 방향의 힘을 지탱하여 기어의 우수한 베어링 성능을 갖춤.

Pre-insulated Twin Ball Valves for district heating pipeline network

- KMC PI twin ball valves meet the international standards and are only approved by Korea District Heating Corp.
국제 규격에 요건을 만족하는 KMC 공장보온 Twin 밸브는 중소기업청의 구매조건부 조달 계획에 의하여 개발, 생산되는 제품으로 한국지역난방공사에서 유일하게 승인한 밸브임.

Standard Welded End Ball Valves /

Lever Type

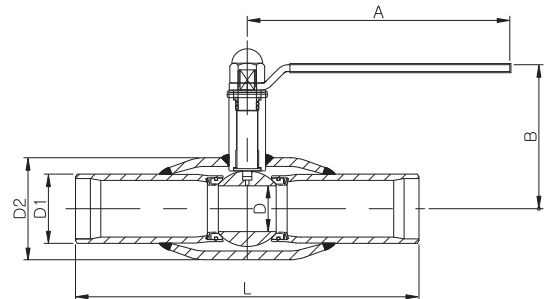
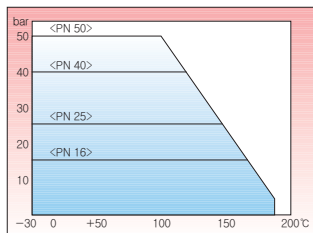
용접형 볼밸브(레버타입)

Regular Bore



- Body : A106-B or Equivalent
- End piece : A106-B or Equivalent
- Ball : AISI 304 or Equivalent
- Seat : Carbon Reinforced PTFE

Pressure-Temperature Curve
Standard Seat : Carbon filed PTFE



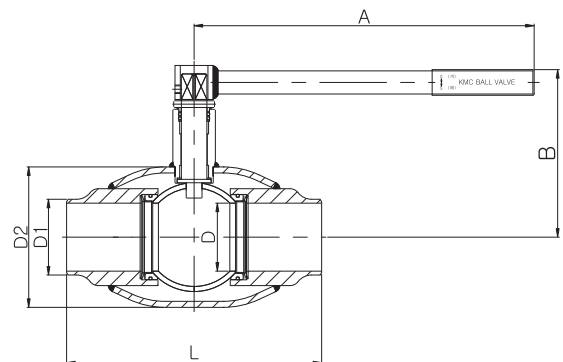
SIZE	A	B	L	D	D1	D2
DN15	129	90	300	10	21.7	34
DN20	129	90	300	15	27.2	42
DN25	159	103	300	20	34.0	48
DN32	159	107	300	25	42.7	60
DN40	230	120	300	32	48.6	76
DN50	230	126	300	40	60.5	89
DN65	300	177	300	50	76.3	114
DN80	300	186	300	65	89.1	140
DN100	400	210	325	80	114.3	185
DN125	400	214	325	100	139.8	216
DN150	450	220	350	125	165.2	219

Full Bore



- Body : A106-B or Equivalent
- End piece : A105 or Equivalent
- Ball : AISI 304 or Equivalent
- Seat : Carbon Reinforced PTFE

Operating Temperature : -29°C ~ +200°C
Pressure Rating : 10K, 20K,
PN 16 ~ 50
ANSI Class 150 & 300



SIZE	A	B	L	D	D1	D2
DN15	129	90	210	15	21.7	42.7
DN20	159	103	230	20	27.2	48
DN25	159	107	260	25	34.0	60
DN32	230	120	260	32	42.7	76
DN40	230	126	300	40	48.6	89
DN50	300	177	300	50	60.5	114
DN65	300	186	300	65	76.3	140
DN80	400	210	300	80	89.1	165
DN100	400	214	325	100	114.3	216
DN125	450	220	350	125	139.8	219
DN150	450	280	490	150	165.2	355

Standard Welded End Ball Valves

Gear & Actuator Type

용접형 볼밸브(기어 및 액추에이터 타입)

Regular Bore

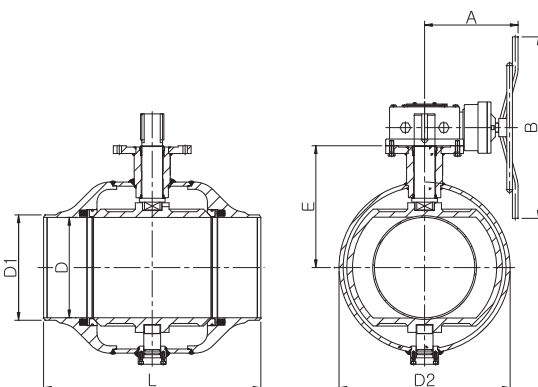


- Body : A516 Gr, 60 or Equivalent
- End piece : A216 Gr, WCB or Equivalent
- Ball : A351 Gr, CF8 or Equivalent
- Seat : Carbon Reinforced PTFE

Operating Temperature : -29°C ~ +200°C
 Pressure Rating : 10K, 20K,
 PN 16 ~ 50
 ANSI Class 150 & 300

SIZE	A	B	L	D	D1	D2	E
DN200	243	400	400	150	213.3	267	315
DN250	252	500	560	200	267.4	356	346
DN300	236	500	635	250	318.5	457	402
DN350	331	600	650	300	355.6	508	491
DN400	331	600	760	337	406.4	559	479
DN500	360	700	910	387	508.0	680	540
DN600	413	800	1065	489	609.6	812	662
DN700	433	900	1346	591	711.2	1016	790
DN800	433	900	1524	686	812.8	1172	793
DN900	433	900	1727	781	914.4	1237	913
DN1000	433	900	1900	874	1016.0	1385	965
DN1100	550	900	2000	976	1117.6	1600	970
DN1200	550	900	2100	1020	1219.2	1700	975
DN1300	550	900	2200	1166	1320.8	1967	980
DN1400	550	900	2300	1262	1422.4	2100	990

Full Bore

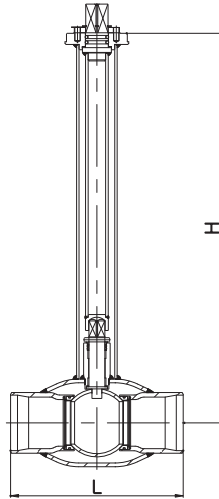


- Body : A516 Gr, 60 or Equivalent
- End piece : A216 Gr, WCB or Equivalent
- Ball : A351 Gr, CF8 or Equivalent
- Seat : Carbon Reinforced PTFE

SIZE	A	B	L	D	D1	D2	E
DN200	252	500	580	200	216.3	356	345
DN250	236	500	550	250	267.4	457	402
DN300	331	600	630	300	318.5	508	491
DN350	331	600	762	337	355.6	559	479
DN400	360	700	840	387	406.4	660	540
DN500	413	800	1010	489	508.0	812	662
DN600	433	900	1140	591	609.6	1016	790
DN700	433	900	1346	686	711.2	1095	860
DN800	433	900	1524	781	812.8	1237	913
DN900	433	900	1727	874	914.4	1385	965
DN1000	550	900	1900	976	1016.0	1600	970
DN1100	550	900	2000	1020	1117.6	1700	975
DN1200	550	900	2100	1166	1219.2	1967	980
DN1300	550	900	2200	1262	1320.8	2100	990
DN1400	550	900	2300	1360	1422.4	2281	990

Underground Ball Valves / 매몰형 볼밸브

Standard Valves with Stem Extension



Regular Bore

SIZE	H	L
DN50	740	300
DN65	750	300
DN80	770	300
DN100	780	325
DN150	800	350
DN200	600	400
DN250	660	560
DN300	690	635
DN400	760	760
DN500	830	910
DN600	880	1065
DN700	930	1346
DN800	980	1524
DN900	1030	1727

Full Bore

SIZE	H	L
DN50	740	300
DN65	750	300
DN80	770	300
DN100	780	325
DN150	800	350
DN200	600	400
DN250	660	560
DN300	690	635
DN400	760	760
DN500	830	910
DN600	880	1065
DN700	930	1346
DN800	980	1524
DN900	1030	1727

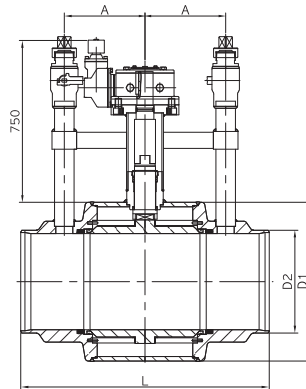
Operating Temperature : -29℃ ~ +200℃
 Pressure Rating : 10K, 20K,
 PN16 ~ 100
 ANSI Class 150 ~ 600

- Body : A106-B, A516-60 or Equivalent
- End piece : A106-B, A216-WCB, A105 or Equivalent
- Ball : AISI 304 or Equivalent
- Seat : Carbon Reinforced PTFE

Option : Above specified stem height is based on KMC standard or applicable specifications. If customer requested, the stem extension height can be adjustable.

선택사항 : 고객의 요청에 따라 stem 높이 조절 가능

Forged Ball Valve (Integral Type)



Operating Temperature : -29℃ ~ +200℃
 Pressure Rating : 10K, 20K,
 PN16 ~ 50
 ANSI Class 150 & 300

Full Bore

SIZE	A	D1	D2	L
DN50	150	114	60.5	410
DN65	150	139	76.3	410
DN80	150	164	89.1	420
DN100	150	184	114.3	430
DN150	200	260	165.2	580
DN200	200	341	216.3	590
DN250	250	440	267.4	680
DN300	250	492	318.5	770
DN400	250	672	406.4	840
DN500	300	807	508	910
DN600	350	970	609.6	1030

- Body : A105
- End piece : A105
- Ball : AISI 304 or Equivalent
- Seat : Carbon Reinforced PTFE

Underground Ball Valves /

매몰형 볼밸브

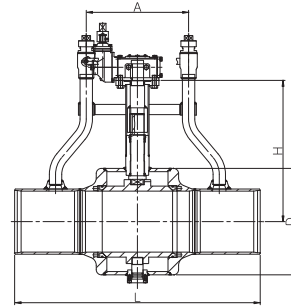
Forged Ball Valve (Welded Type) 단조볼브 (용접형)



- Body : A105
- End piece : A105
- Ball : AISI 304
- Seat : Carbon Reinforced PTFE

Option : One purge or two purges is available upon customer requirement.

선택사양 : 1퍼지 또는 2퍼지 선택 가능



Operating Temperature : -29°C ~ +200°C
 Pressure Rating : 10K, 20K,
 PN 16 ~ 50
 ANSI Class 150 & 300

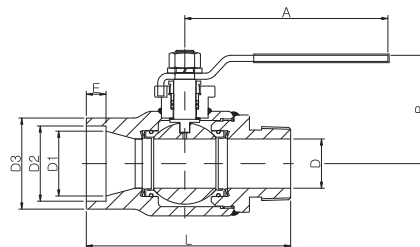
Full Bore

SIZE	A	H	L	D
DN50	300	760	1000	110
DN65	300	770	1000	138
DN80	300	790	1000	165
DN100	300	800	1000	165
DN150(H)	400	850	1000	200
DN150(G)	400	600	1000	300
DN200	400	680	1000	380
DN250	400	690	1000	450
DN300	500	730	1200	550
DN400	500	850	1480	670
DN500	600	900	1765	800
DN600	650	950	1800	970

Purge Ball Valve 퍼지용 볼밸브



- Body : A105
- End cap : AISI 304
- Ball : AISI 304
- Seat : Carbon Reinforced PTFE

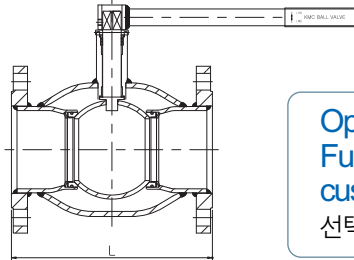


Operating Temperature : -29°C ~ +200°C
 Pressure Rating : 10K, 20K,
 PN 16 ~ 50
 ANSI Class 150 & 300

SIZE	A	B	L	D	D1	D2	D3	E
DN25	110	70.5	120	20	27.2	34.5	47	13
DN50	165	88	166	40	52.7	81.1	74	16

Flanged End Ball Valves / 플랜지형 볼밸브

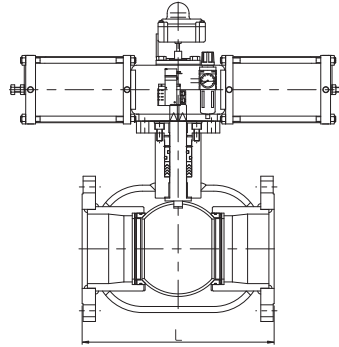
Lever Type



Option :
Full bore is available upon
customer requirement.

선택사양 : 풀보아 플랜지형 볼 밸브

Actuator Type



Operating Temperature : -29°C ~ +200°C
Pressure Rating : 10K, 20K,
PN 16 ~ 50
ANSI Class150 & 300

Advantages of KMC Flanged End Ball Valve

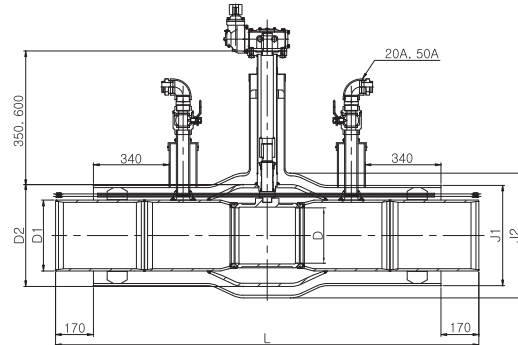
KMC 플랜지형 볼밸브의 장점

- 1 **Elegant shape & optimized volume**
부피가 작고 중량이 가벼우며 견고하다
- 2 **No leakage through fully welded body**
완전 용접형 바디로 외부 누설이 전혀 없다
- 3 **Excellent durability with R-PTFE Seat**
R-PTFE Seat로 뛰어난 기밀성과 수명을 보장한다
- 4 **Diversified application of flange spec**
다양한 규격의 Flange 부착 적용이 가능하다
- 5 **Stem extension is available according to customer design requirement.**
고객의 설계 요건에 따라 Stem 길이 변경이 용이하다

SIZE	L		
	STD	10K	20K
DN15	140	108	140
DN20	150	117	152
DN25	160	127	165
DN32	180	140	178
DN40	200	165	190
DN50	230	178	216
DN65	270	190	241
DN80	280	203	283
DN100	300	229	305
DN125	325	356	381
DN150	350	394	403
DN200	400	457	502
DN250	530	533	568
DN300	630	610	648
DN350	690	686	762
DN400	762	762	838
DN500	914	914	991
DN600	1067	1067	1143
DN700	1346	-	-
DN800	1524	-	-
DN900	1727	-	-
DN1000	1900	-	-
DN1100	2000	-	-
DN1200	2100	-	-
DN1300	2200	-	-
DN1400	2300	-	-

Pre-Insulated Ball Valves

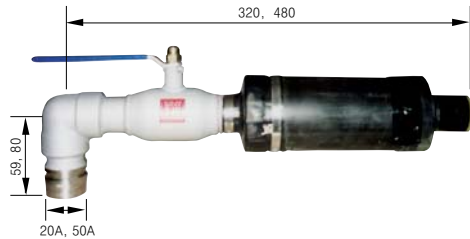
공장보온 볼밸브



Stem extension is available according to customer design requirement.

선택사양 : 고객의 사양에서 요구되는 stem 높이로 제작 납품됨.

Air Vent Ball Valve



Operating Temperature :
-29°C ~ +200°C

Pressure Rating :
10K, 20K,
PN16 ~ 50
ANSI Class 150 & 300

Main Materials

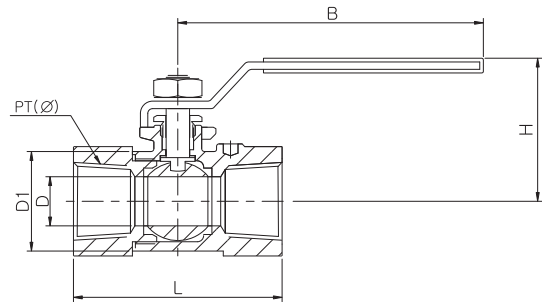
주요재질

- 1 End Piece : Carbon steel
ASTM A106 Gr. B or Equivalent
앤드피스 : 탄소강
- 2 Insulation : Polyurethane EN253,
ISO1922, 4590, etc.
보온재 : 폴리우레탄
- 3 Casing Pipe : High Density
Polyethylene Pipe(HDPE)
외관 : 고밀도 폴리에틸렌 파이프
- 4 Leak Detection Wire : Ni-Cr & Cu
Tinned Wire, Cu Wire
누수감지선 : 피복동선 또는 니동선
- 5 District Heating End Cap :
Shrinkable DHEC
DH엔드캡 : 열수축 튜브

SIZE	D	D1	D2	L		J1	J2
				NO-VENT	VENT		
DN20	15	27.2	42	1000	1000	90	-
DN25	20	34.0	48	1000	1000	90	-
DN32	25	42.7	60	1000	1000	110	-
DN40	32	48.6	76	1000	1000	110	-
DN50	40	60.5	89	1000	1000	125	160
DN65	50	76.3	114	1000	1500	140	175
DN80	65	89.1	140	1000	1500	160	210
DN100	80	114.3	165	1000	1500	200	235
DN125	100	139.8	216	1000	1500	225	260
DN150	125	165.2	219	1000	1500	250	305
DN200	150	216.3	267	1000	1600	315	365
DN250	200	267.4	355	1450	1800	400	500
DN300	250	318.5	457	1610	1900	450	560
DN350	300	355.6	508	1650	2000	500	630
DN400	337	406.4	558	1700	2100	560	710
DN450	337	457.2	558	1700	2200	630	800
DN500	387	508.0	660	1700	2250	710	800
DN550	438	558.8	718	1800	2450	710	900
DN600	489	609.6	812	1900	2450	800	1000
DN650	540	660.4	898	2000	2500	850	1100
DN700	591	711.2	1016	2100	2600	900	1200
DN750	635	762.0	1020	2200	2650	950	1200
DN800	686	812.8	1095	2300	2700	1000	1300
DN850	737	863.6	1172	2400	2800	1000	1300

Screwed Ball Valves

스크류 볼밸브



SIZE	D	D1	PT	L		H	B
				10K	20K		
DN15	12	29.0	1/2"	58	61	49	93
DN20	15	32.2	3/4"	64	68	54	110
DN25	20	40.5	1"	80	85	67	135
DN32	25	47.6	1-1/4"	86	96	68	135
DN40	32	60.0	1-1/2"	98	100	68	165
DN50	40	72.5	2"	113	127	84	165

Option : 1piece welded body or screwed joint body is available upon customer requirement.

선택사양 : 용접형 보디 또는 스크류 보디 선택 가능

Materials & Specifications

재질 및 사양

- 1 **Body** : A351-CF8M, A216-WCB
Ball : A351-CF8M
Seat : R-PTFE
- 2 **Size(생산규격)**
DN15(1/2") ~ DN50(2")
- 3 **Pressure(사용압력)**
10K, 20K
PN 16 ~ 25
- 4 **Temperature(사용온도)**
-29°C(-20°F) ~ 200°C(392°F)
- 5 **Ends Connection(연결부)**
Socket Welded, Screwed
- 6 **Operator(작동방법)**
Lever Handle
- 7 **Application(용도)**
Heat exchanger, Steel plant, Gas, Air,
Water, Oil, Chemical, Freezer system, etc.

Advantages of KMC Screw Ball Valve

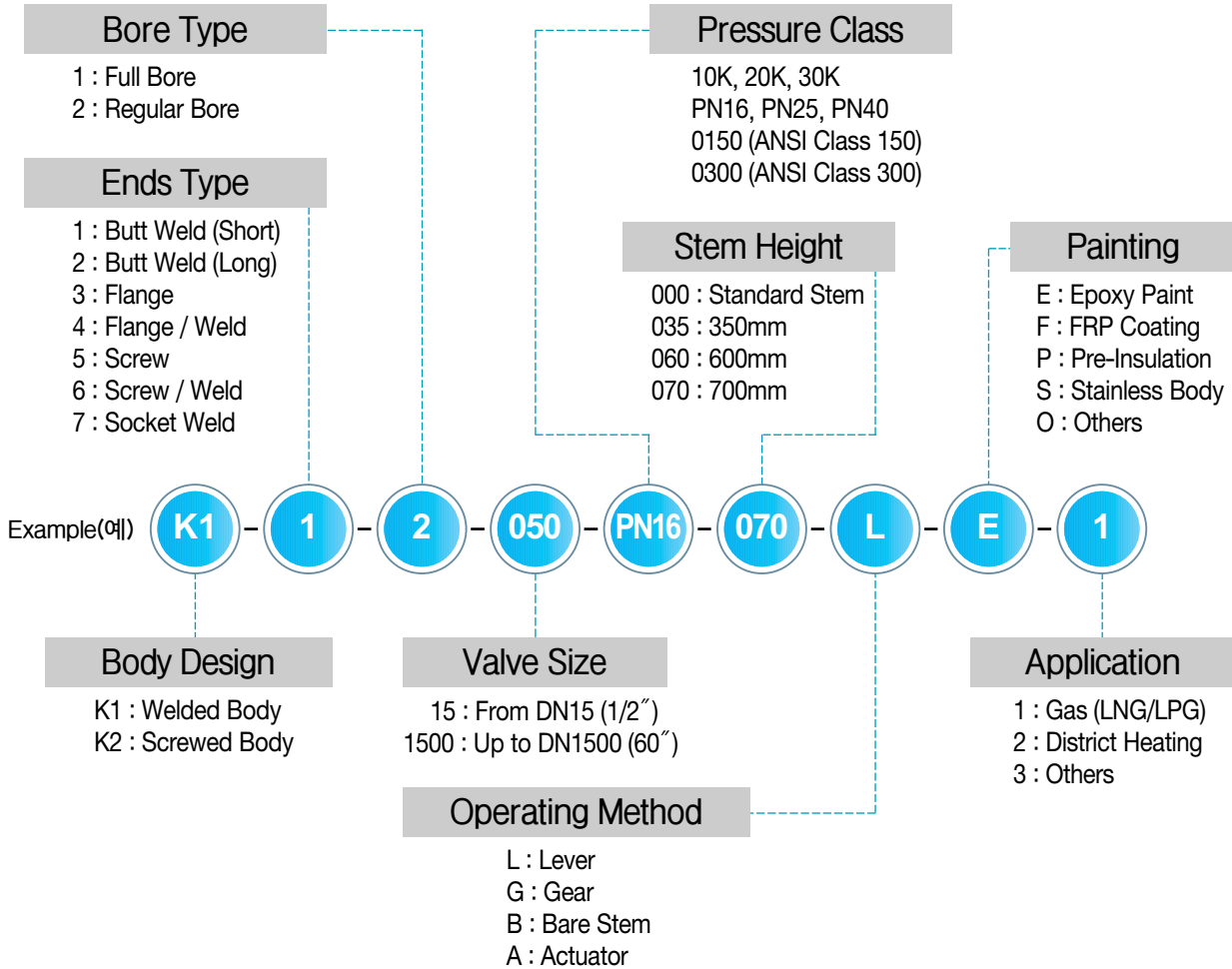
KMC Screw 볼 밸브의 장점

- 1 **Easy installation**
배관 및 각종 기기 장치에 설치가 용이하다
- 2 **Reliable materials by precise casting**
정밀주조제작으로 소재 결함이 없다
- 3 **Simple design & high quality in sealing**
밸브 구조가 단순하여 경제적이고 기밀성이 우수하다
- 4 **Excellent corrosion resistance for chemical**
화학 유체에 대한 내식성이 강하고 부식이 없다
- 5 **Ends connection(socket welded, screwed)is available upon customer requirement.**
나사형과 소켓용접형 등 다양한 밸브 연결이 가능하다

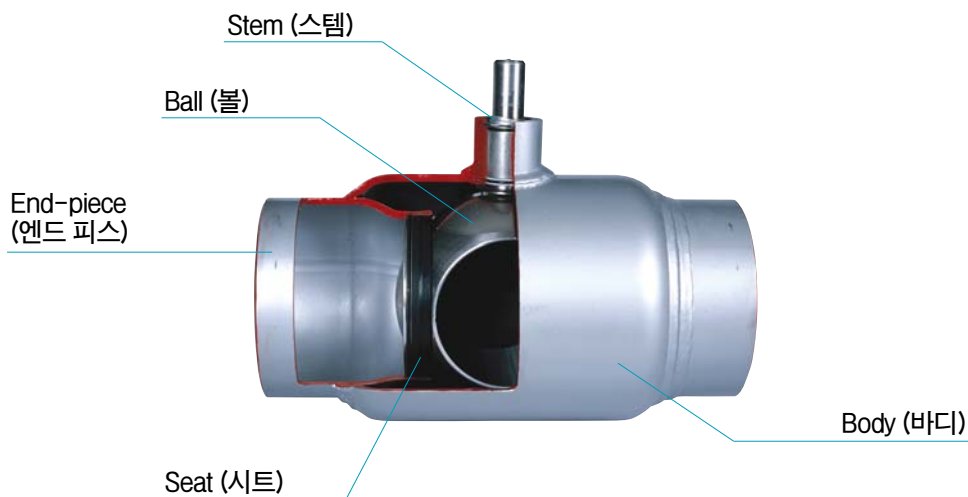
1-Piece Welded Body Screwed Ball Valve
Certificated for Gas Valve by KGSC
한국가스안전공사검인품

Valve Numbering System

밸브 번호 시스템



Main Parts Construction 주요 부품 구조



High Quality Quick Delivery Competitive Price



The 1st - KMC Manufacturing Factory



The 2nd - KMC Manufacturing Factory



The 3rd - KMC Manufacturing Factory



KMC R&D Center



336-831 충남 아산시 인주공단 1026번지
TEL : 041-534-2347
FAX : 041-534-2348
<http://www.kmcvalve.co.kr>
E-mail : ovs@kmcvalve.co.kr



1026, Inju Industrial Complex, Asan-City,
Chungnam-Do, Korea 336-831
TEL : +82-41-534-2350
FAX : +82-41-534-2348
<http://www.kmcvalve.co.kr>
E-mail : ovs@kmcvalve.co.kr