



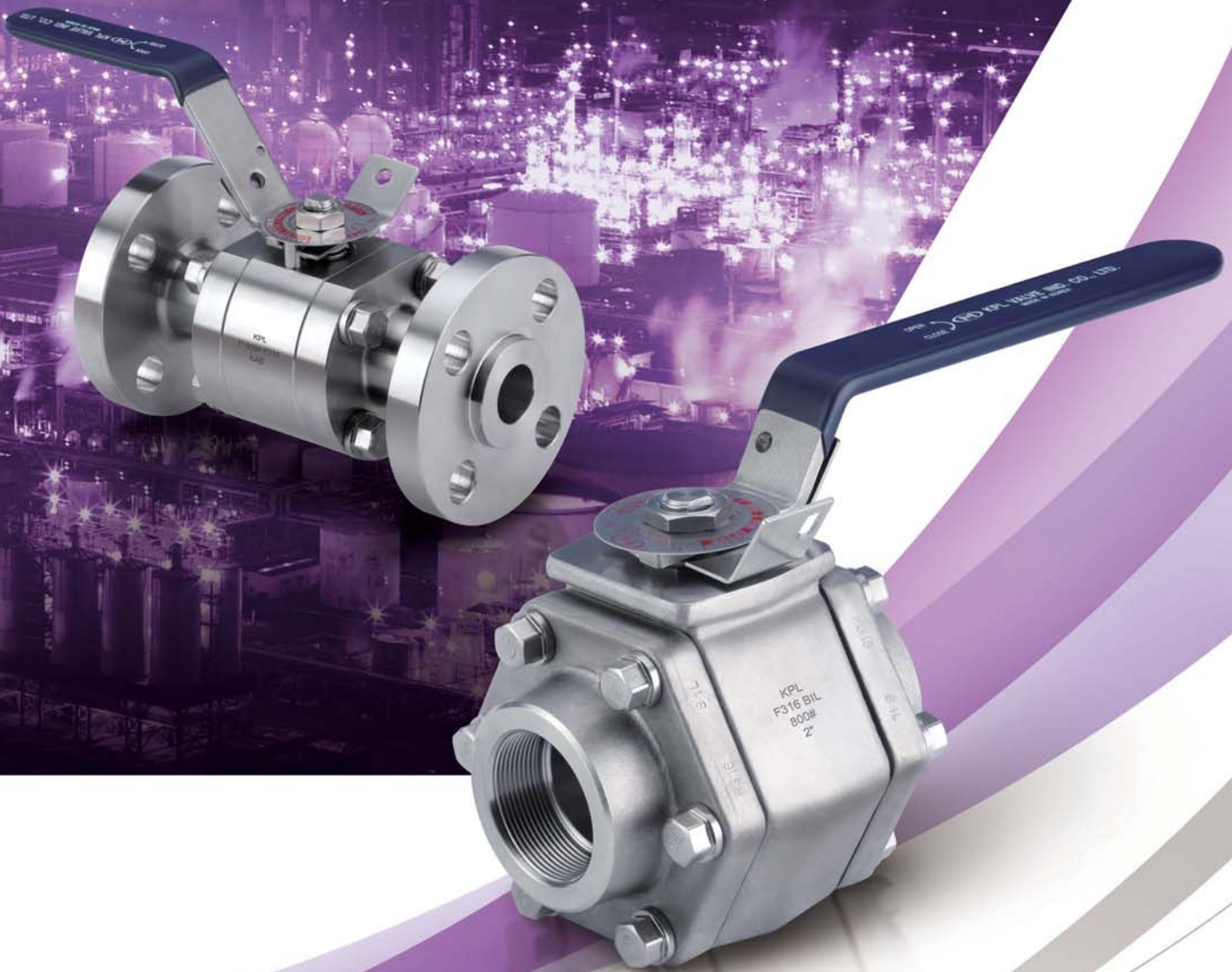
API Q1 6D
License # 6D-0694



Deutsche
Akkreditierungsstelle

ISO 9001 / 14001

KPL FORGED BALL VALVE



KPL VALVE IND. CO., LTD.

INTRODUCTION

The KPL Ball Valves reflect many years of manufacturing and field testing based on accepted design criteria and sound engineering practices. You can rely on these ball valves to provide dependable, low cost, safe operation with which the name KPL has been associated for nearly 20 years throughout the process piping industry.

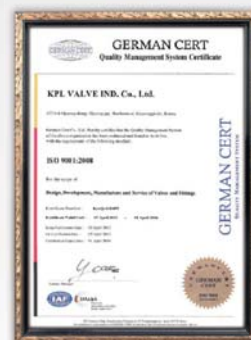


CERTIFICATIONS

Total reliability on products comes from exhaustive inspection and thorough such analysis as mechanical and physical properties over the whole processes.



ISO 14001:2004



ISO 9001:2008



Fire Test BS 6755



Fire Test API 6D
API 6FA



Fire Test API 6D
API 607



API 6D Certi

TECHNICAL FEATURES

DESIGN

Floating Ball Valves are manufactured in the main types ; One piece End Entry Type.

Two piece Screwed and Bolted Construction.

Three piece Bolted Construction. Valves can be supplied Full or Reduced Bore and manufactured in forged construction. Bolted and Screwed Body connections give of service and maintenance on site.

Valves can be supplied with either Raised Face, Ring Type Joint, Socket weld or Screwed End connections.

Pressure rating is from ANSI 150 thru ANSI 2500.

MATERIAL SELECTION

Valves are manufactured in a range of materials such as Carbon steel, Low Temp Carbon steel, Stainless steel, Duplex, Monel, Titanium, Inconel and other Special Alloys.

BODY / END CAP SEAL

Graphite ring, O-ring or PTFE seal guarantee perfect sealing between Body and Connector.

The Graphite ring continues to provide a seal in the event of a fire. O-ring can be supplied suitable for AED applications.

SEAT

Valves seat design gives perfect seal with various materials in both high and low pressure applications.

STEM

Stems are manufactured separately from the Ball and incorporate O-ring, Graphite ring, RTFE ring and Anti-Static devices.

TEST

Valves are tested in accordance with BS 6755 Pt. 1, API 6D, API 598 and ASME B16.34

Valves should be Inspected by regulated pressure whether there is any leakage or not, after valves are fabricated and installed.

ACCESSORIES

Include locking device, pipe pups, extended bonnet and actuators. Suitable materials, components seats and O-ring can be supplied for valves with explosive decompression or Cryogenic applications.

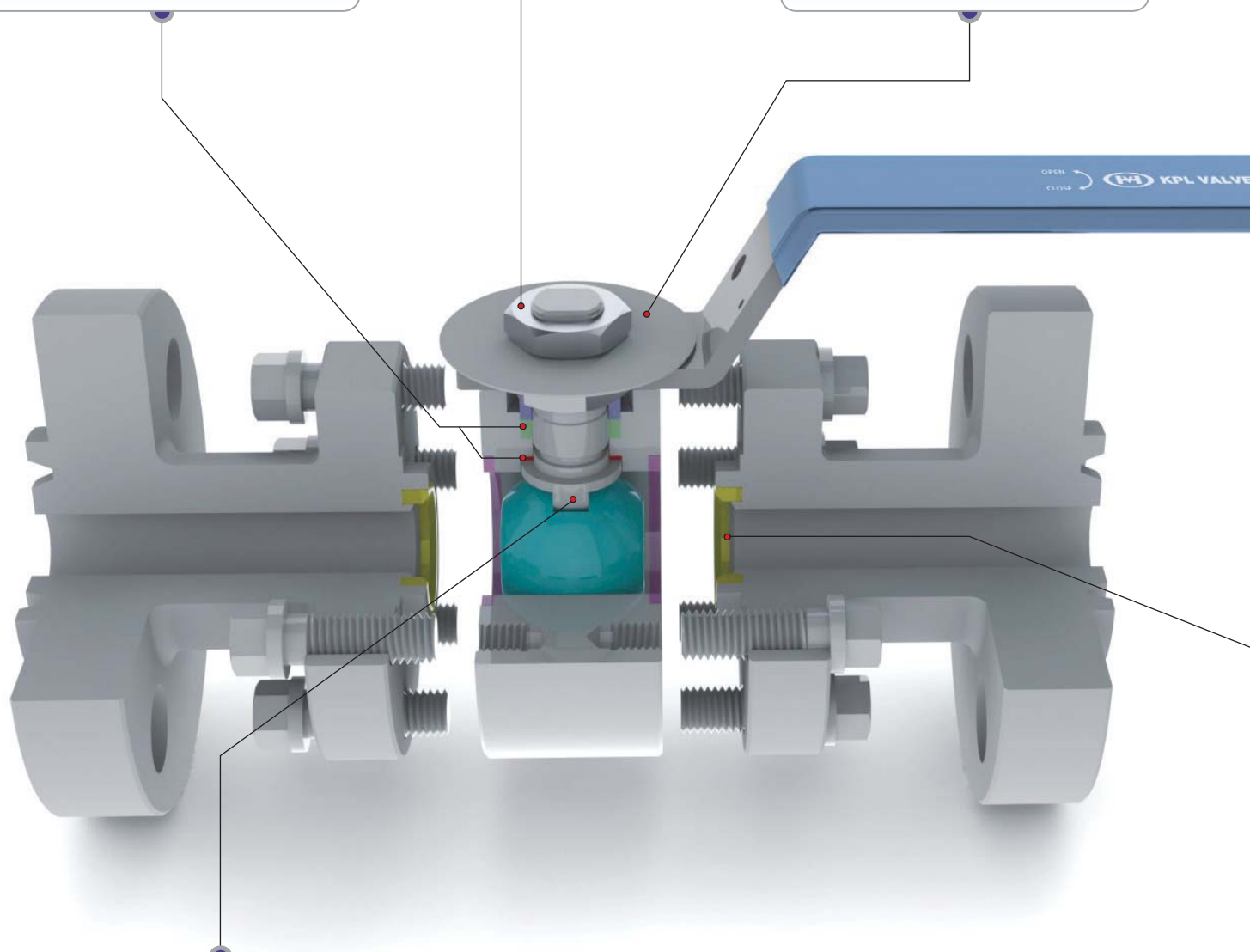
FORGED BALL VALVE CONSTRUCTION AND FEATURES

DOUBLE STEM SEALS

A through RTFE thrust washer provides primary stem sealing and insures smooth, low torque operation even at high pressures and in high cycling applications.

The self locking nut locks the lever to the stem.

The nameplate fixed to the stem on top of the lever by means of a locking nut, gives all of the information to promptly and easily identify the valve.



ADJUSTABLE STEM

PACKING single gland nut adjustment of compensates for wear during operation and provides reliable secondary back-up seal.

THREE PIECE CONSTRUCTION

Allow fast, economical installation and enables center section of valve to be swung out of line for quick inspection or maintenance.



The lever is plastic lined and is free to run go degrees apart from completely open to completely closed position.

IND. CO., LTD.

The fire safe characteristic of our valves has been proved with many tests on prototype and finally certified according to BS6755 and API 607.

CONSTRUCTION TO BS5351

Our KPL ball valves have been designed fully in accordance with the requirements of BS5351

FULL AND REDUCED BORE

The valves are manufactured in sizes ranging from 3/8" (10mm) through 2" (50mm) and pressure rating an ANSI

150 AND 2500LB for both the full bore and reduced bore version. The ends are threaded NPT or socket weld.

FLOATING BALL

The floating ball is pressed against the seat by the pressure the medium in the line. The greater is the pressure the tighter is the contact.

Pressures and temperatures allowable by each type on the graph pressure temperature limits.

BUBBLE TIGHT SEALING MECHANISM

Floating ball design support the ball with two rigid RTFE seats placed in the valve body, one on the upstream pressure pushes the ball, which compresses the downstream side seat to completely shut off fluid flow.

ANTI BLOWOUT STEM

A design ensures the valve stem cannot be blown out of the body in the even of the gland being remove while the valve is under pressure.

FIRE SAFETY

API 607 is internationally recognized as the official standards for defining fire safe testing procedures and evaluation.

The fire safe characteristic of our valves has been proved with many test on prototypes and finally certified according to API 607.

BALL VENT

The optional upstream relief hole in the zone of ball and body cavity will relieve excess pressure upstream and preserve the integrity of valve with preventing possible seat damage.

ANTI - STATIC DEVICE

If the fluid handled by the valve is flammable, the valve must be provided with an anti-static device which achieves electrical continuity between the ball stem and the valve body.

TESTING TO BS6755 AND API 598

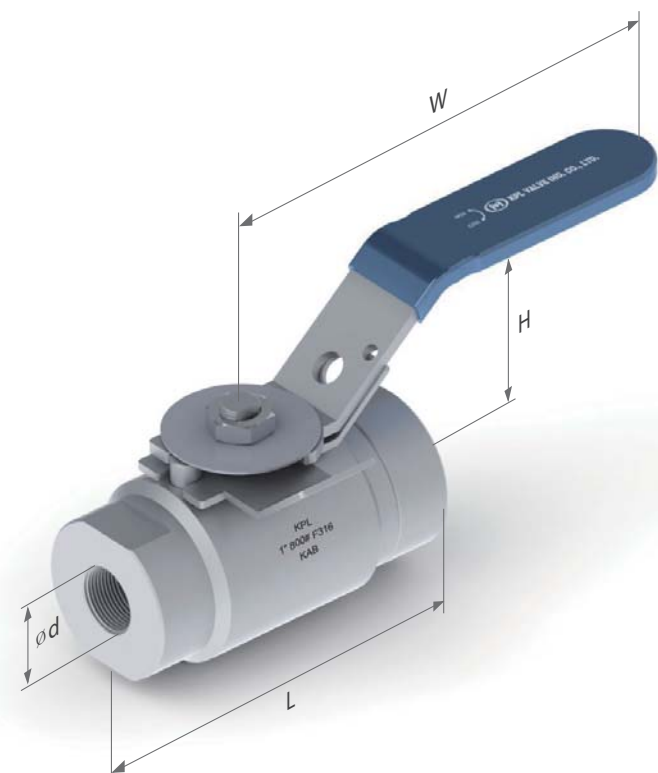
The hydro tests for seat sealing and body sealing are carried out respectively at 110% and 150% of the rated cold working pressure.

Low pressure seat test is carried out at 80 psi with dry air.

The hydro tests seat pressure shall not exceed the seat rating.

KPL 800# FORGED BALL VALVE

Screwed Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
1920	2900	2112	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 800, MAX 1920 psig@100°F

Temperature Rating

- -20°F to 450°F, MAX 450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Two-piece construction.
- Available in stainless or carbon steel.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- Viton O-ring seal and PTFE packing as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

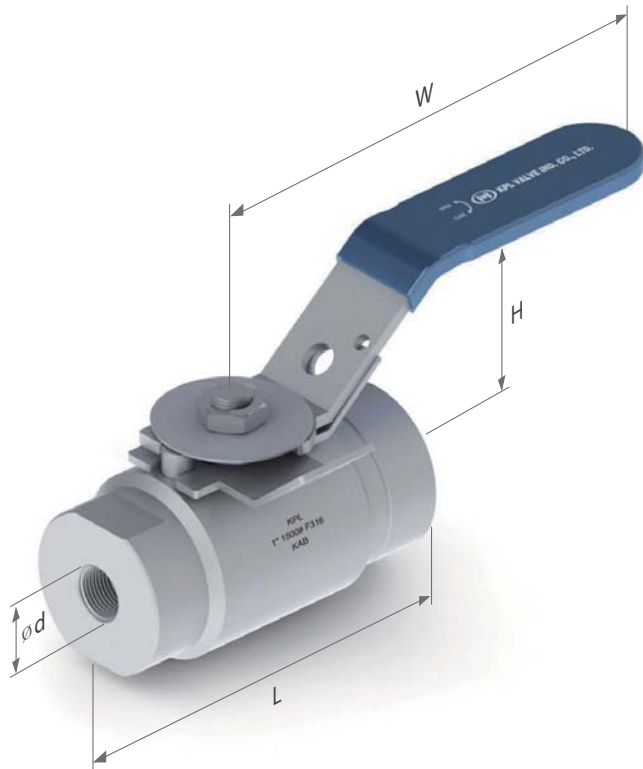
(UNIT / mm)

REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		85	11	52	120	0.9	8	
3/8"	1/4"	85	11	52	120	0.9	8	8
1/2"	3/8"	85	11	52	120	0.9	8	8
3/4"	1/2"	90	14	55	120	1	13	32
1"	3/4"	110	20	73	160	1.9	32	54
1 1/4"	1"	120	25	89	182	3.3	46	105
1 1/2"	1 1/4"	135	32	93	182	4.1	83	190
2"	1 1/2"	150	38	99	182	5.4	120	275
	2"	170	50	125	280	7		460

* Dimensions are subject change without notice.

KPL 1500# FORGED BALL VALVE

Screwed Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
3600	5400	3960	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 1500, MAX 3600 psig@100°F

Temperature Rating

- -20°F to 176°F, MAX 176°F @ 100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Two-piece construction.
- Available in stainless or carbon steel.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- NYLON seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- Viton O-ring seal and PTFE packing as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	NYLON			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

(UNIT / mm)

REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		93	11	68	160	1.2	8	
3/8"	1/4"	93	11	68	160	1.2	8	8
1/2"	3/8"	93	11	68	160	1.2	8	8
3/4"	1/2"	115	14	82	160	2.3	13	32
1"	3/4"	140	20.5	88	182	4	32	54
1 1/4"	1"	140	25	93	182	4.5	46	105
1 1/2"	1 1/4"	157	32	102	182	6.5	83	190
2"	1 1/2"	192	38	115	182	8.5	120	275
	2"	220	50	136	280	13		460

* Dimensions are subject change without notice.

KPL 800# FORGED BALL VALVE

Screwed Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
1920	2900	2112	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 800, MAX 1920 psig@100°F

Temperature Rating

- -20°F to 450°F, MAX 176°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

(UNIT / mm)

REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		78	11	52	120	0.9	8	
3/8"	1/4"	78	11	52	120	0.9	8	8
1/2"	3/8"	78	11	52	120	0.9	8	8
3/4"	1/2"	85	14	55	120	1.2	13	32
1"	3/4"	105	20.5	73	160	2	32	54
1 1/4"	1"	117	25	89	182	4.3	46	105
1 1/2"	1 1/4"	130	32	93	182	5	83	190
2"	1 1/2"	142	38	99	182	7.8	120	275
	2"	160	50	130	280	11.6		460

* Dimensions are subject change without notice.

KPL 800# FORGED BALL VALVE

Socket Welded Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
1920	2900	2112	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 800, MAX 1920 psig@100°F

Temperature Rating

- -20°F to 450°F, MAX 176°F@100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

(UNIT / mm)

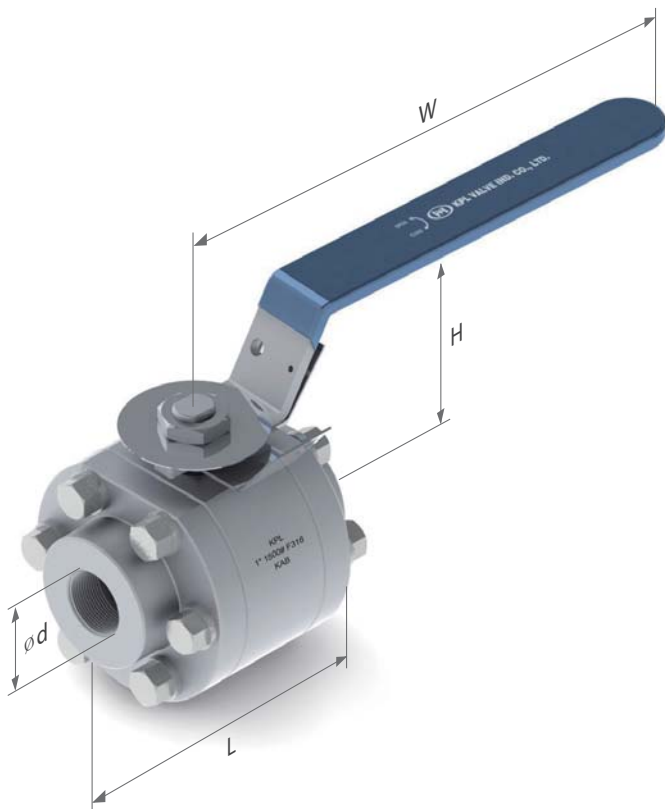
REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		146	11	52	120	1.3	8	
3/8"	1/4"	146	11	52	120	1.3	8	8
1/2"	3/8"	146	11	52	120	1.3	8	8
3/4"	1/2"	151	14	55	120	1.7	13	32
1"	3/4"	157	20.5	73	160	2.5	32	54
1 1/4"	1"	170	25	89	182	5.1	46	105
1 1/2"	1 1/4"	181	32	93	182	6.2	83	190
2"	1 1/2"	190	38	99	182	8.7	120	275
	2"	205	50	130	280	12.2		460

* Especially, With extended SW end piece, Soft seat is safe from welding heat.

* Dimensions are subject change without notice.

KPL 1500# FORGED BALL VALVE

Screwed Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
3600	5400	3960	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 1500, MAX 3600 psig@100°F

Temperature Rating

- -40°F to 176°F, MAX176°F@100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8)or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- NYLON seats.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	NYLON			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

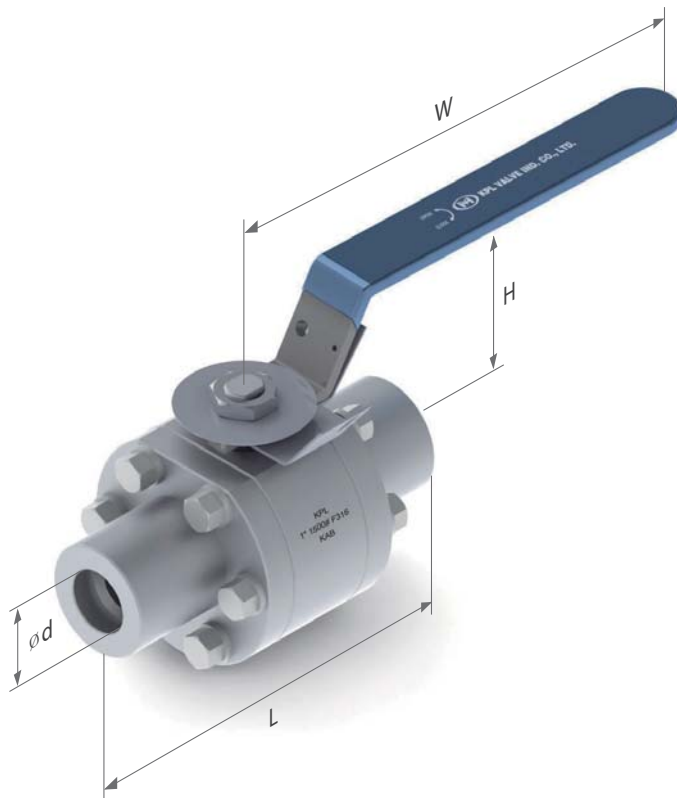
(UNIT / mm)

REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		90	11	69	160	2.8	8	
3/8"	1/4"	90	11	69	160	2.8	8	8
1/2"	3/8"	90	11	69	160	2.8	8	8
3/4"	1/2"	100	14	72	160	3.4	13	32
1"	3/4"	120	20	85	182	5	32	54
1 1/4"	1"	130	25	89	182	10	46	105
1 1/2"	1 1/4"	145	32	94	182	12	83	190
2"	1 1/2"	160	38	103	182	15	120	275
	2"	170	50	134	280	19		460

* Dimensions are subject change without notice.

KPL 1500# FORGED BALL VALVE

Socket Welded Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
3600	5400	3960	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 1500, MAX 3600 psig@100°F

Temperature Rating

- -40°F to 176°F, MAX 176°F@100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- NYLON seats.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	NYLON			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

(UNIT / mm)

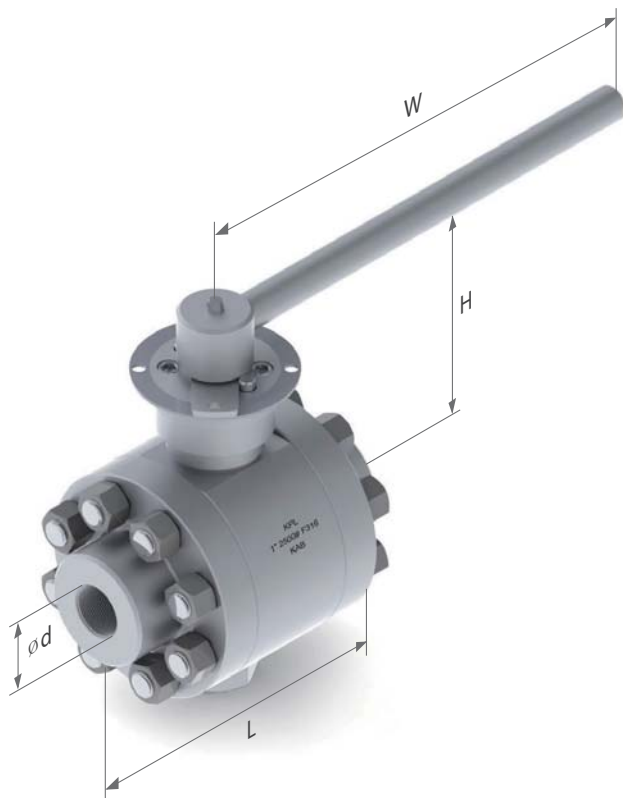
REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		176	11	69	160	3.2	8	
3/8"	1/4"	176	11	69	160	3.2	8	8
1/2"	3/8"	176	11	69	160	3.2	8	8
3/4"	1/2"	181	14	72	160	3.9	13	32
1"	3/4"	190	20	85	182	7.1	32	54
1 1/4"	1"	200	25	89	182	13.5	46	105
1 1/2"	1 1/4"	211	32	94	182	15	83	190
2"	1 1/2"	220	38	103	182	19	120	275
	2"	235	50	134	280	23.5		460

* Especially, With extended SW end piece, Soft seat is safe from welding heat.

* Dimensions are subject change without notice.

KPL 2500# FORGED BALL VALVE

Screwed Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
6000	9000	6600	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 2500, MAX 6000 psig@100°F

Temperature Rating

- -20°F to 482°F, MAX450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8)or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- PEEK seats.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	PEEK			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

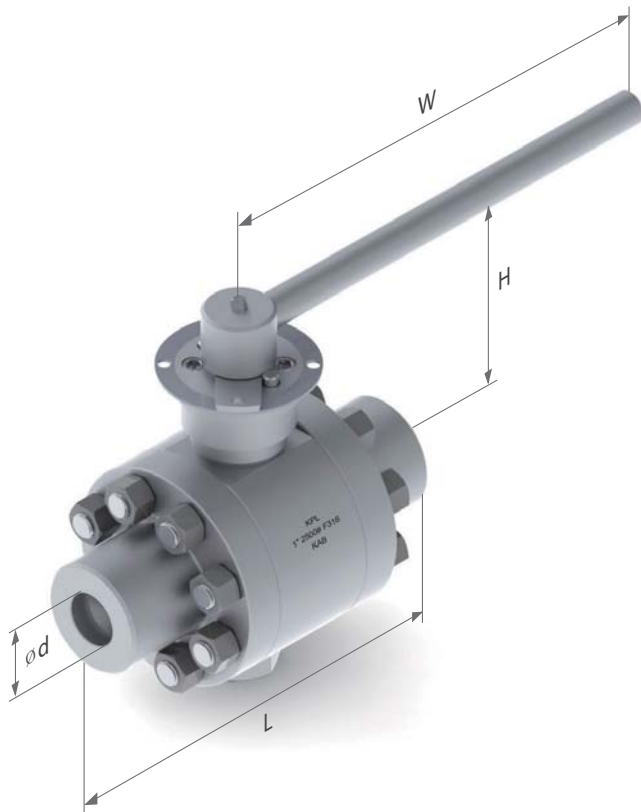
(UNIT / mm)

REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		105	9	110	250	5	8	
3/8"	1/4"	105	9	110	250	5	8	8
1/2"	3/8"	105	9	110	250	5	8	8
3/4"	1/2"	115	12	130	300	6.6	13	32
1"	3/4"	134	16	149	350	10	32	54
1 1/4"	1"	142	22	155	380	13	46	105
1 1/2"	1 1/4"	158	26	151	457	16	83	190
2"	1 1/2"	172	32	163	453	21	120	275
	2"	190	42	186	500	28		460

* Dimensions are subject change without notice.

KPL 2500# FORGED BALL VALVE

Socket Welded Ends, Full & Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
6000	9000	6600	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 2500, MAX 6000 psig@100°F

Temperature Rating

- -20°F to 482°F, MAX 450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- PEEK seats.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Socket-welding and thread ANSI B 16.11
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	PEEK			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

(UNIT / mm)

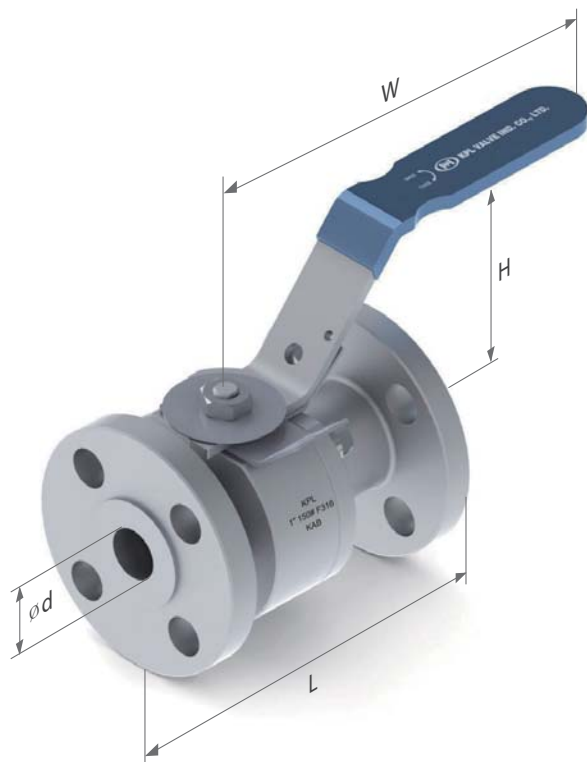
REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT (KG)	Cv Factors	
							R/B	F/B
1/4"		180	9	82	182	6	8	
3/8"	1/4"	180	9	82	182	6	8	8
1/2"	3/8"	180	9	82	182	6	8	8
3/4"	1/2"	200	12	130	300	7.5	13	32
1"	3/4"	220	16	149	350	11	32	54
1 1/4"	1"	240	22	155	350	15	46	105
1 1/2"	1 1/4"	250	26	151	457	18	83	190
2"	1 1/2"	300	32	163	453	23	120	275
	2"	370	42	186	500	30		460

* Especially, With extended SW end piece, Soft seat is safe from welding heat.

* Dimensions are subject change without notice.

KPL 150# FORGED BALL VALVE

Integral Flanged Ends, Full Bore and Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
275	425	303	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 150, MAX 275 psig@100°F

Temperature Rating

- -20°F to 450°F, MAX 450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Two-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other packing's are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - ANSI B 16.10
- Flange dimension - ANSI B 16.5
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE (TEFLON), GRAPHITE (SPWD)			
7	PACKING	PTFE (TEFLON), GRAPHITE			

DIMENSION TABLE

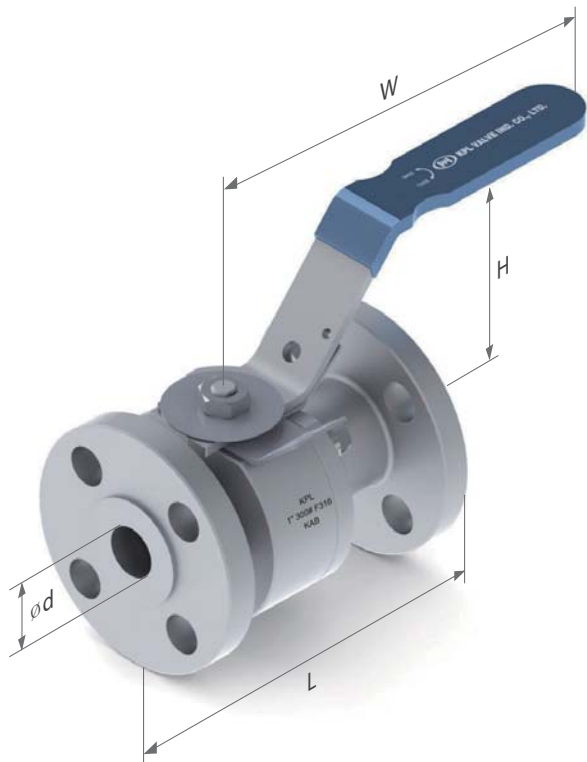
(UNIT / mm)

SIZE	DIMENSION (UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	108	11	85	163	2.1
1/2"FB	108	14	89	163	2.3
3/4"RB	117	14	89	163	2.8
3/4"FB	117	20.5	97	178	3.5
1"RB	127	20.5	97	178	4.2
1"FB	127	25	119	197	5.1
1-1/4"RB	140	25	119	197	5.6
1-1/4"FB	140	32	124	197	6.7
1-1/2"RB	165	32	124	197	8.5
1-1/2"FB	165	38	128	197	9.8
2"RB	178	38	128	197	11.5
2"FB	178	50	131	280	14.7

* Dimensions are subject change without notice.

KPL 300# FORGED BALL VALVE

Integral Flanged Ends, Full Bore and Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
720	1100	792	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 300, MAX 720 psig@100°F

Temperature Rating

- -20°F to 450°F, MAX 450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Two-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other packing's are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - ANSI B 16.10
- Flange dimension - ANSI B 16.5
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE (TEFLON), GRAPHITE (SPWD)			
7	PACKING	PTFE (TEFLON), GRAPHITE			

DIMENSION TABLE

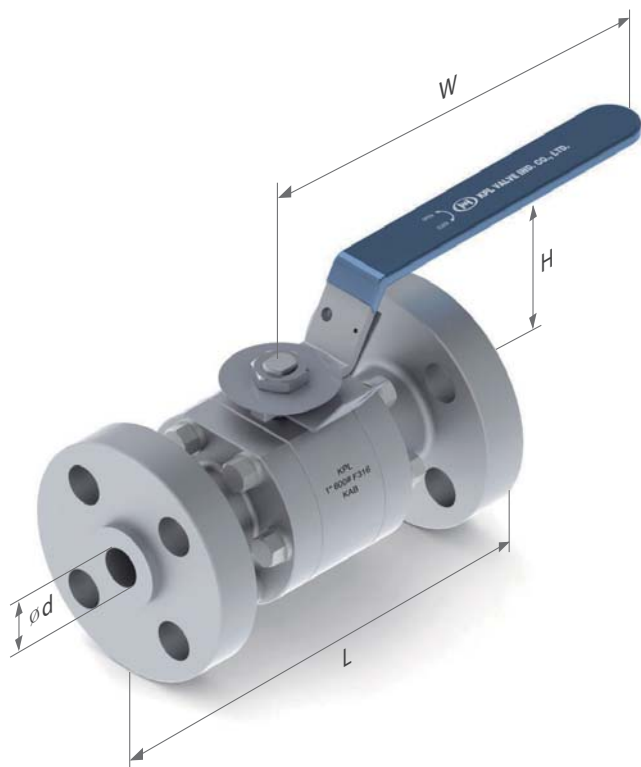
(UNIT / mm)

SIZE	DIMENSION (UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	140	11	85	163	2.9
1/2"FB	140	14	89	163	3.3
3/4"RB	152	14	89	163	4.5
3/4"FB	152	20.5	97	178	5.3
1"RB	165	20.5	97	178	5.9
1"FB	165	25	120	197	6.9
1-1/4"RB	178	25	120	197	7.4
1-1/4"FB	178	32	126	197	8.9
1-1/2"RB	190	32	126	197	12
1-1/2"FB	190	38	131	197	14
2"RB	216	38	131	197	14.5
2"FB	216	50	130	280	15.3

* Dimensions are subject change without notice.

KPL 600# FORGED BALL VALVE

Integral Flanged Ends, Full Bore and Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
1440	2175	1600	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 600, MAX 1440 psig@100°F.

Temperature Rating

- -20°F to 450°F, MAX450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8)or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other packing's are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - ANSI B 16.10
- Flange dimension - ANSI B 16.5
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

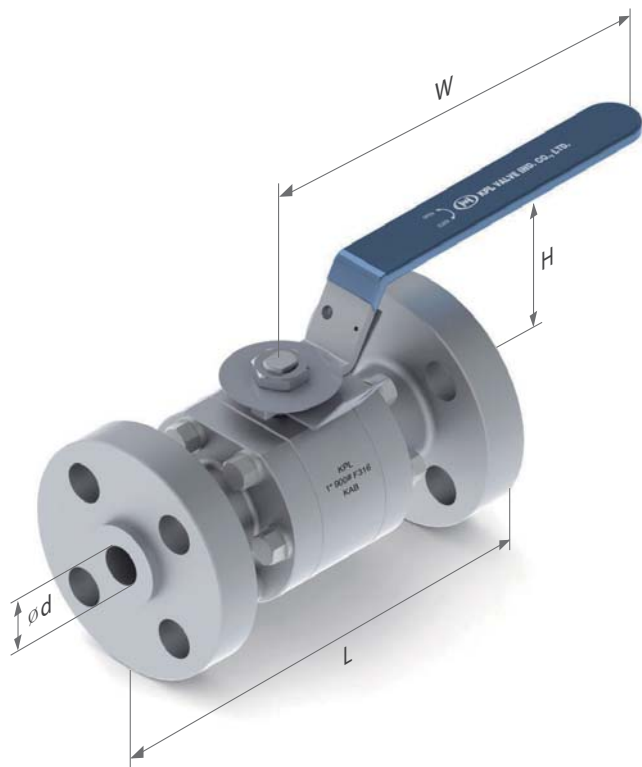
(UNIT / mm)

SIZE	DIMENSION(UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	165	11	85	163	3.4
1/2"FB	165	14	89	163	4.1
3/4"RB	190	14	89	163	5.7
3/4"FB	190	20.5	93	173	6.1
1"RB	216	20.5	97	178	7.2
1"FB	216	25	119	197	8
1-1/4"RB	229	25	121	197	9.4
1-1/4"FB	229	32	125	197	11.2
1-1/2"RB	241	32	125	197	15.5
1-1/2"FB	241	38	131	197	17.6
2"RB	292	38	131	197	20
2"FB	292	50	131	280	25

* Dimensions are subject change without notice.

KPL 900# FORGED BALL VALVE

Integral Flanged Ends, Full Bore and Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
2160	3250	2400	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 900, MAX 2160 psig@100°F

Temperature Rating

- -20°F to 450°F, MAX 450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- NYLON seats.
- Other packing's are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - ANSI B 16.10
- Flange dimension - ANSI B 16.5
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	NYLON			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

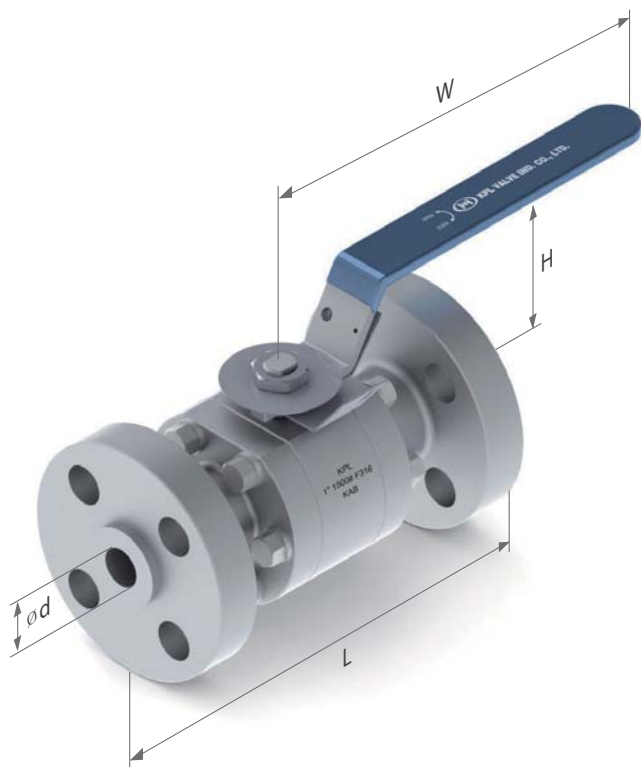
(UNIT / mm)

SIZE	DIMENSION(UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	216	11	100	160	6.5
1/2"FB	216	14	103	160	8.4
3/4"RB	229	14	92	180	8.6
3/4"FB	229	20	121	182	10.6
1"RB	254	20.5	114	198	11.4
1"FB	254	25	126	182	14.2
1-1/4"RB	279	25	119	198	14.6
1-1/4"FB	279	32	138	280	18
1-1/2"RB	305	32	123	198	21.6
1-1/2"FB	305	38	145	280	27
2"RB	368	38	140	280	36
2"FB	368	50	145	280	40

* Dimensions are subject change without notice.

KPL 1500# FORGED BALL VALVE

Integral Flanged Ends, Full and Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
3600	5400	4000	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 1500, MAX 3600 psig@100°F

Temperature Rating

- -20°F to 176°F, MAX 176°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- NYLON seats.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - ANSI B 16.10
- Flange dimension - ANSI B 16.5
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	NYLON			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

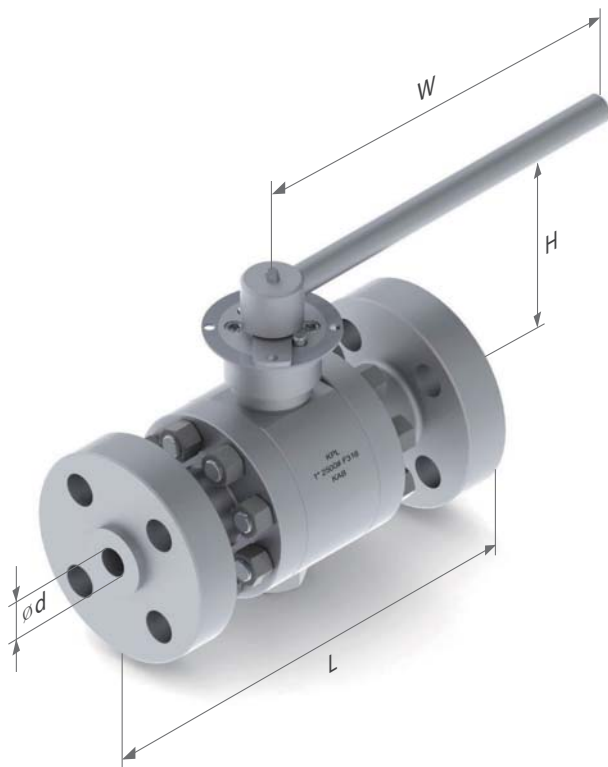
(UNIT / mm)

SIZE	DIMENSION(UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	216	11	100	182	6.5
1/2"FB	216	14	100	182	8.4
3/4"RB	229	14	110	182	8.6
3/4"FB	229	20	114	182	10.6
1"RB	254	20	114	182	11.4
1"FB	254	25	114	280	14.2
1-1/4"RB	280	25	114	280	14.6
1-1/4"FB	280	32	119	280	18
1-1/2"RB	306	32	119	280	21.6
1-1/2"FB	306	38	150	457	27
2"RB	369	38	150	457	36
2"FB	369	48	163	453	40

* Dimensions are subject change without notice.

KPL 2500# FORGED BALL VALVE

Integral Flanged Ends, Full and Reduce Bore.



TEST PRESSURE (psi)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
6000	9000	6600	80

* Body & seat rating given in above conform to API 598

SPECIFICATION

Valve Body Pressure Rating

- ANSI Class 2500, MAX 6000 psig@100°F

Temperature Rating

- -20°F to 482°F, MAX 482°F @ 100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- PEEK seats.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - ANSI B 16.10
- Flange dimension - ANSI B 16.5
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	PEEK			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

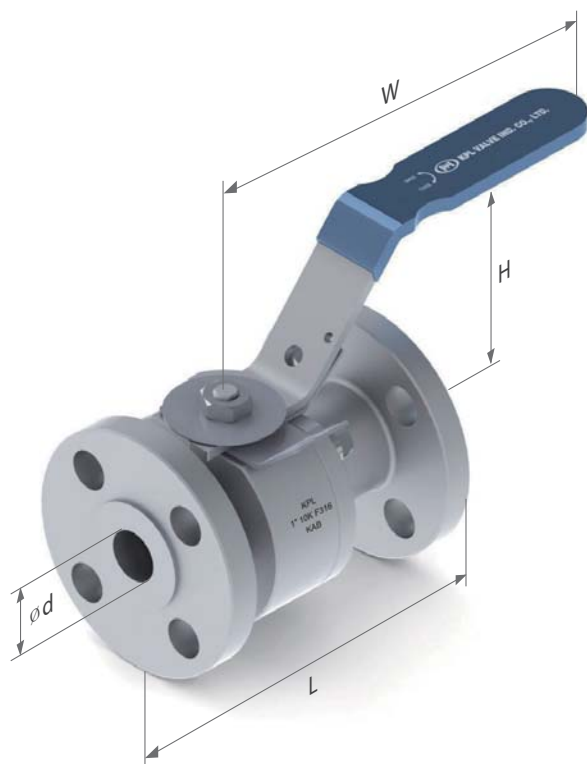
(UNIT / mm)

SIZE	DIMENSION(UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	264	9	113	250	11
1/2"FB	265	12	126	300	12.5
3/4"RB	273	12	126	300	14.5
3/4"FB	274	16	156	350	16
1"RB	309	16	149	350	23.4
1"FB	308	22	165	400	26
1-1/4"RB	349	22	155	380	32.1
1-1/4"FB	349	26	151	457	33.5
1-1/2"RB	384	26	151	457	42.7
1-1/2"FB	384	32	163	453	45.8
2"RB	451	32	163	453	63.2
2"FB	451	42	186	500	67

* Dimensions are subject change without notice.

KPL 10K FORGED BALL VALVE

Integral Flanged Ends, Full and Reduce Bore.



TEST PRESSURE (kg / cm²)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
14	20	16	6

* Body & seat rating given in above conform to JIS2003/KS B 2304

SPECIFICATION

Valve Body Pressure Rating

- JIS / KS 10K, MAX14Kg /cm² psig@100°F

Temperature Rating

- -20°F to 450°F, MAX450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Two-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8)or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - JIS B 2002
- Flange dimension - JIS B2220
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

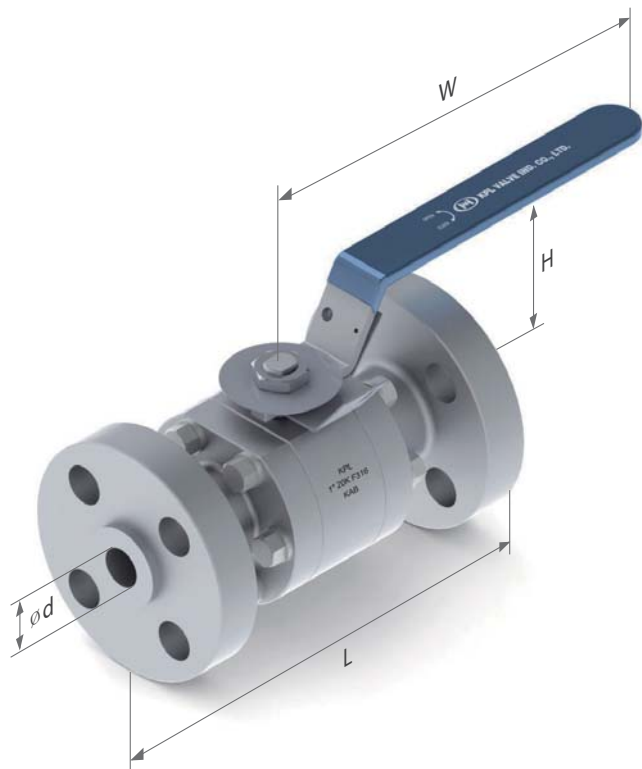
(UNIT / mm)

SIZE	DIMENSION(UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	108	11	85	163	2.2
1/2"FB	108	14	89	163	2.4
3/4"RB	117	14	89	163	2.8
3/4"FB	117	20.5	97	178	3.5
1"RB	127	20.5	97	178	4.9
1"FB	127	25	119	197	5.8
1-1/4"RB	140	25	119	197	6.6
1-1/4"FB	140	32	126	197	6.9
1-1/2"RB	165	32	125	197	7.8
1-1/2"FB	165	38	128	197	9
2"RB	178	38	130	197	11.3
2"FB	178	50	136	280	14.5

* Dimensions are subject change without notice.

KPL 20K FORGED BALL VALVE

Integral Flanged Ends, Full and Reduce Bore.



TEST PRESSURE (kg /cm²)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
34	50	38	6

* Body & seat rating given in above conform to JIS2003/KS B 2304

SPECIFICATION

Valve Body Pressure Rating

- JIS / KS 20K, MAX34Kg /cm² psig@100°F

Temperature Rating

- -20°F to 450°F, MAX450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - JIS B 2002
- Flange dimension - JIS B2220
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

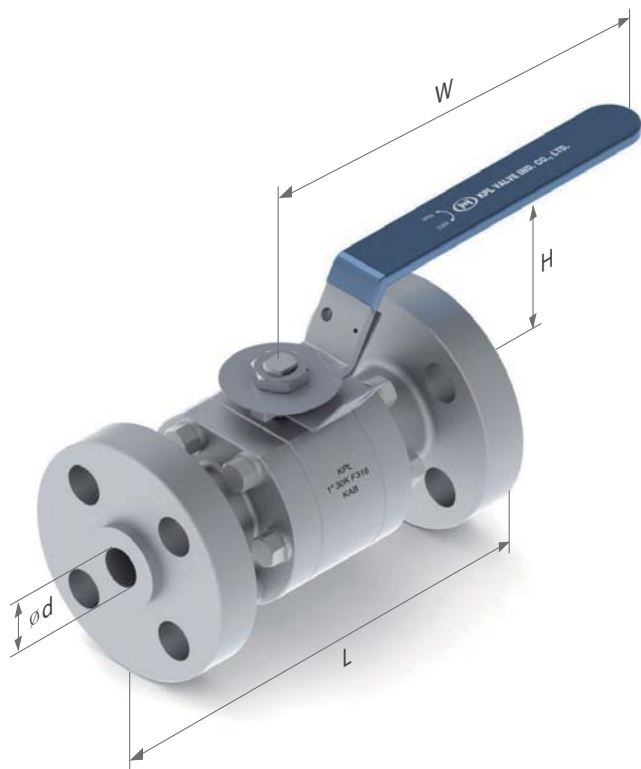
(UNIT / mm)

SIZE	DIMENSION(UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	140	11	85	163	2.4
1/2"FB	140	14	89	163	2.9
3/4"RB	152	14	89	163	4.2
3/4"FB	152	20.5	97	178	5
1"RB	165	20.5	97	178	5.4
1"FB	165	25	120	197	6.5
1-1/4"RB	178	25	120	197	6.7
1-1/4"FB	178	32	126	197	8
1-1/2"RB	190	32	126	197	11.2
1-1/2"FB	190	38	131	197	13.4
2"RB	216	38	131	197	13.8
2"FB	216	50	130	280	16.6

* Dimensions are subject change without notice.

KPL 30K FORGED BALL VALVE

Integral Flanged Ends, Full and Reduce Bore.



TEST PRESSURE (kg / cm²)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
51	75	57	6

* Body & seat rating given in above conform to JIS2003/KS B 2304

SPECIFICATION

Valve Body Pressure Rating

- JIS / KS 30K, MAX51Kg /cm² psig@100°F

Temperature Rating

- -20°F to 450°F, MAX450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - JIS B 2002
- Flange dimension - JIS B2220
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE (TEFLON), GRAPHITE (SPWD)			
7	PACKING	PTFE (TEFLON), GRAPHITE			

DIMENSION TABLE

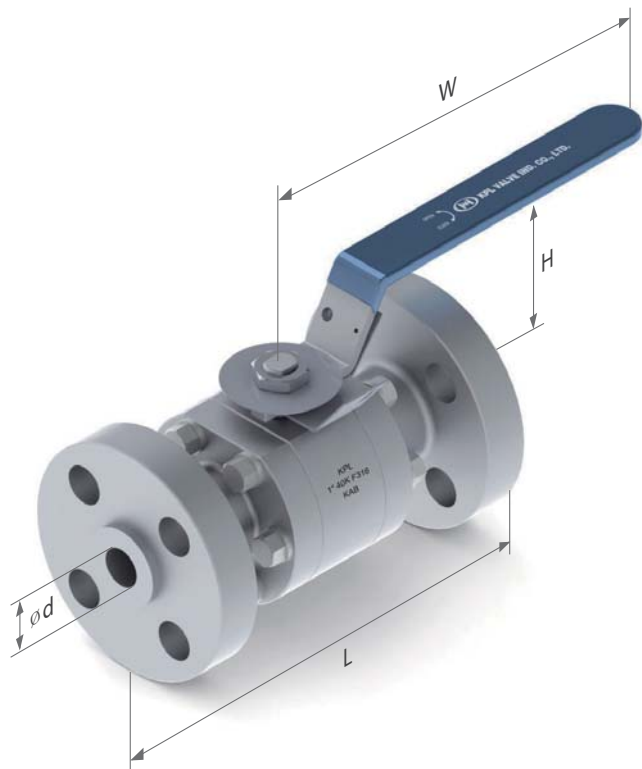
(UNIT / mm)

SIZE	DIMENSION (UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	165	11	86	163	3.7
1/2"FB	165	14	89	163	4.6
3/4"RB	190	14	89	163	5
3/4"FB	190	20.5	97	178	6.2
1"RB	216	20.5	97	178	7
1"FB	216	25	119	197	8.4
1-1/4"RB	229	25	119	197	8.6
1-1/4"FB	229	32	124	197	10.4
1-1/2"RB	241	32	124	197	13
1-1/2"FB	241	38	130	197	15.6
2"RB	292	38	127	197	18
2"FB	292	50	131	280	21.6

* Dimensions are subject change without notice.

KPL 40K FORGED BALL VALVE

Integral Flanged Ends, Full and Reduce Bore.



TEST PRESSURE (kg /cm²)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
68	100	75	6

* Body & seat rating given in above conform to JIS2003/KS B 2304

SPECIFICATION

Valve Body Pressure Rating

- JIS / KS 40K, MAX68Kg /cm² psig@100°F

Temperature Rating

- -20°F to 450°F, MAX450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8) or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- Reinforced PTFE seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - JIS B 2002
- Flange dimension - JIS B2220
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	RTFE - Teflon / 15% Glass Fiber Filled			
		RTFE - Teflon / 25% Carbon Fiber Filled			
6	GASKET	O-RING, PTFE (TEFLON), GRAPHITE (SPWD)			
7	PACKING	PTFE (TEFLON), GRAPHITE			

DIMENSION TABLE

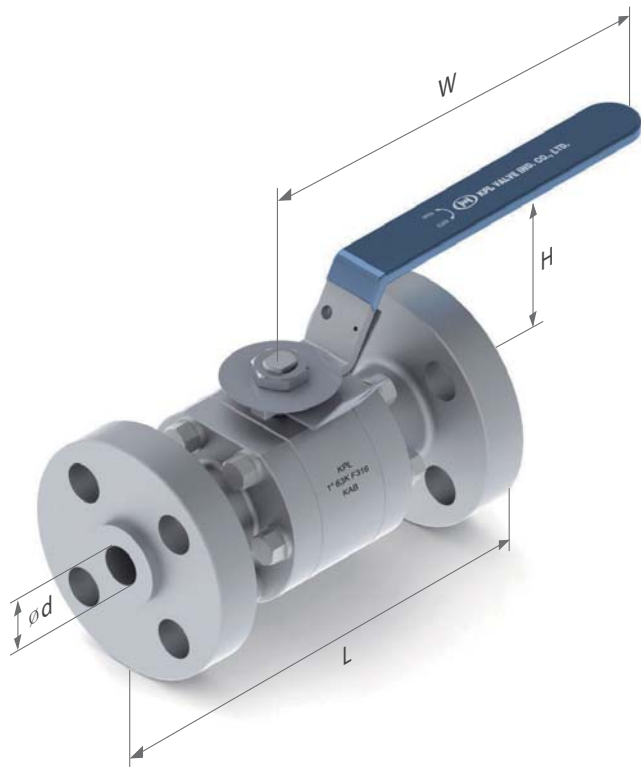
(UNIT / mm)

SIZE	DIMENSION (UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	165	11	85	163	3.9
1/2"FB	165	14	89	163	4.9
3/4"RB	190	14	89	163	5.2
3/4"FB	190	20.5	97	178	6.5
1"RB	216	20.5	97	178	7.3
1"FB	216	25	119	197	8.7
1-1/4"RB	229	25	121	197	8.9
1-1/4"FB	229	32	124	197	10.9
1-1/2"RB	241	32	126	197	13.5
1-1/2"FB	241	38	131	197	16.2
2"RB	292	38	147	197	18.5
2"FB	292	50	131	280	22.1

* Dimensions are subject change without notice.

KPL 63K FORGED BALL VALVE

Integral Flanged Ends, Full and Reduce Bore.



TEST PRESSURE (kg /cm²)

MAX. Working Pressure	Shell (Hydro)	Seats	
		Hydro	Pneu
107	160	118	6

* Body & seat rating given in above conform to JIS2003/KS B 2304

SPECIFICATION

Valve Body Pressure Rating

- JIS / KS 63K, MAX107Kg /cm² psig@100°F

Temperature Rating

- -20°F to 450°F ,MAX450°F @100 psig.
- Dependent upon seal & seat choice.

Body and End Cap

- Three-piece construction.
- Available in stainless or carbon steel.

Body Bolts & Nuts

- ASTM A193Gr B7(B8)or ASTM A194 Gr 2H(B8).
- Other bolts are available according to body material.

Ball and Stem

- 316 stainless steel, balls are solid of forged or cast.

Seats

- NYLON seats.
- Other seats are available, consult KPL Valve.

Body Seal and Stem Packing

- PTFE as standard.
- Other packing's are available, consult KPL Valve.

Operation

- Valves are supplied with handle operator.
- A locking device or pneumatic and electric automation optionally available.

Seat / Seal Leakage

- Conform to API 598 or ANSI B16.34 or BS6755.
- All valves are tested to bubble-tight standards.

Design Specification

- ANSI B 16.34
- BS5351
- API 6D
- Face to face dimension - JIS B 2002
- Flange dimension - JIS B2220
- BS 5251, NACE MR-01-75, and API 607(BS6755) optionally available.

* Monel, titanium, hastelloy C and other special materials are available to customer spec.

* Fire safe or Anti-static are optional.

STANDARD COMPONENT MATERIAL

NO.	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105	F304	F316	F316L
1	BODY	A105	A182-F304	A182-F316	A182-F316L
2	END CAP	A105	A182-F304	A182-F316	A182-F316L
3	BALL	A276-304 / A276-316			A276-316L
4	STEM	A276-316 / A276-304			A276-316L
5	SEAT-RING	NYLON			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE(SPWD)			
7	PACKING	PTFE(TEFLON), GRAPHITE			

DIMENSION TABLE

(UNIT / mm)

SIZE	DIMENSION(UNIT-mm)				Approx. Weight(kg)
	L	d	H	W	
1/2"RB	216	11	100	160	6.5
1/2"FB	216	14	103	160	8.4
3/4"RB	229	14	92	180	8.6
3/4"FB	229	20	121	182	10.6
1"RB	254	20.5	114	180	11.4
1"FB	254	25	126	182	14.2
1-1/4"RB	279	25	119	198	14.6
1-1/4"FB	279	32	138	280	18
1-1/2"RB	305	32	123	198	21.6
1-1/2"FB	305	38	145	280	27
2"RB	368	38	140	280	28.4
2"FB	368	50	145	280	32

* Dimensions are subject change without notice.

KPL METAL SEATED BALL VALVES

KPL Metal seated ball valves are specially coated matched balls and seats to stand up to high temperatures, high pressures and abrasive service.

The valves are typically provided with tungsten carbide 316ss ball and seats or electro less NICKEL plated (ENP) 17-4PH ball and seats.

High precision machining and seat to ball rubbing result in superior ball and seat interfacing for reliable sealing conforming ANSI/FCI 70-2 Class A, Class VI and API 598.

APPLICATIONS

- High Temperature and Abrasive Service
- Liquids, gas and steam
- Chemical and petrochemical plants
- Oil and Gas production
- Power plants

PRESSURE RATINGS

- Class 150 , 300 , 600 , 900 , 1500 , 2500

TEMPERATURE RANGE

- - 50°C ~ 400°C. Consult KPL valve for higher temperature applications

VALVE TIGHTNESS

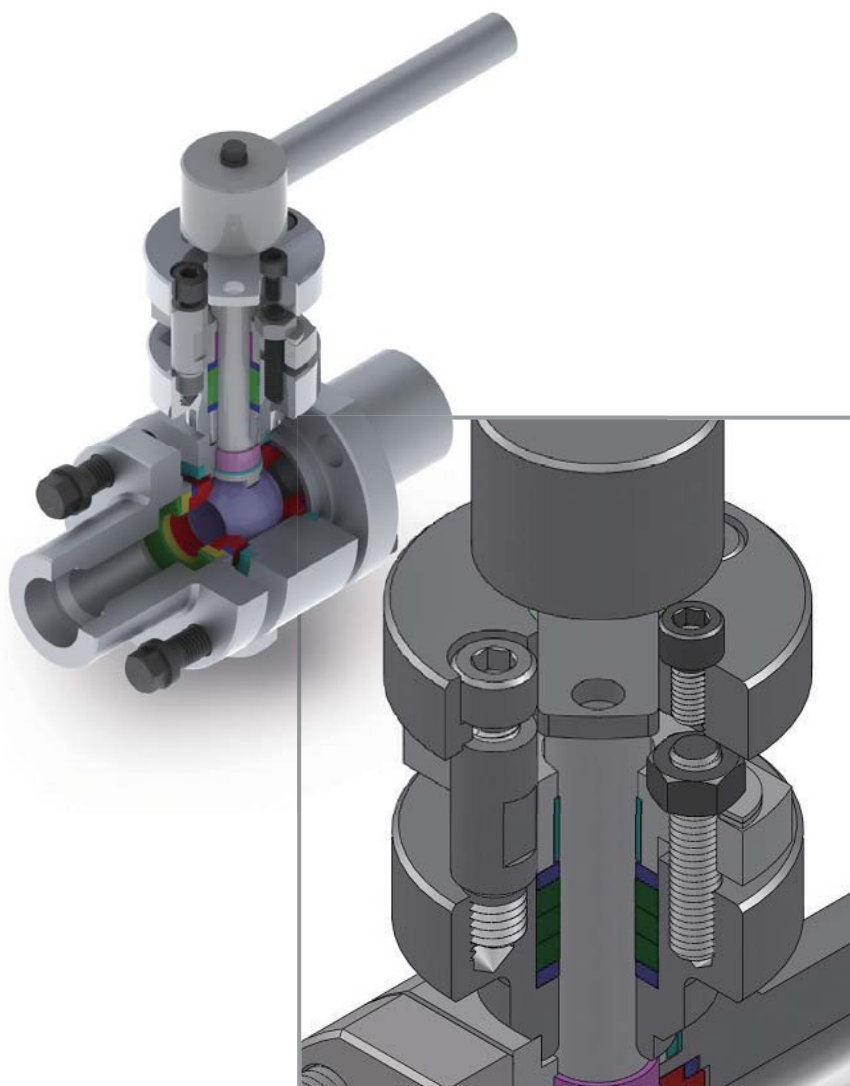
- API 598. ANSI / FCI 70-2 Class 5 and 6.

OPERATOR

- Manual , pneumatic or electric actuator

AVAILABLE END CONNECTIONS

- Socket weld, Thread End , Flange End.
- Per customer specification

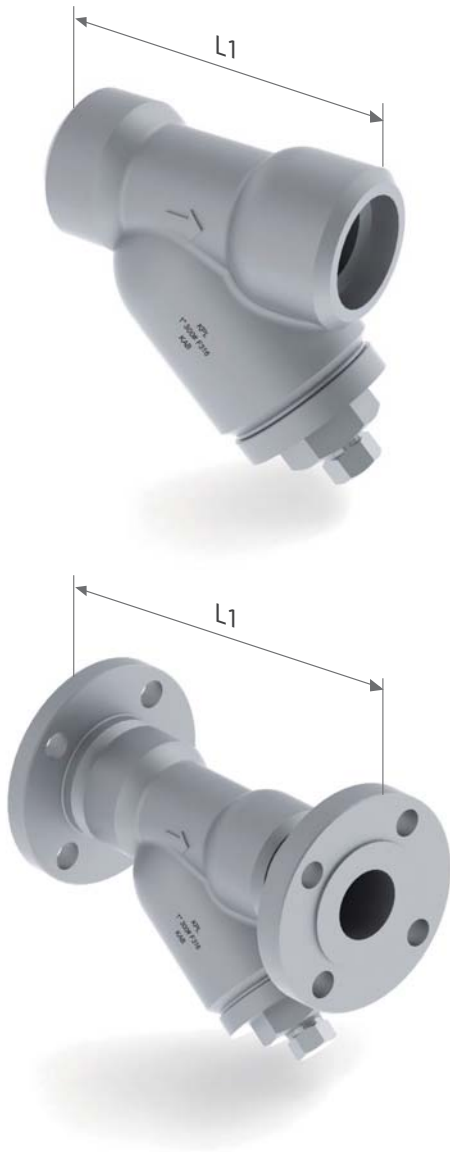


Live Loaded stem packing with dual anti extrusion rings ensures zero emissions.

COATING MATERIALS DATA

Coating	Description	Temp · Limit	Process	Hardness(HRc)	Base Metal
ENP	Electro less Nickel Plating	280°C	Electroplated	60-65	17-4PH(A564 Gr630)
CrC	Chromium Carbide	550°C	HVOF (High Velocity Oxygen Fuel)	60-65	Stainless Steel Nickel Base alloys
WC-Co	Tungsten Carbide	400°C		68-72	
(W/Cr)C	Tungsten Chromium Carbide	350°C		68-72	

KPL FORGED Y-TYPE STRAINER



Standard Component Materials

Part	Material
Body	Carbon & Stainless Steel
Cap	Carbon & Stainless Steel
Flange	Carbon & Stainless Steel
Holder	Stainless Steel
Screen	Stainless Steel
Gasket	Teflon
Plug	Carbon & Stainless Steel

Standard Specification Table

Mesh	Pitch(mm)	Wire dia. (mm)	PRP(%)	SWG
20	1.27	0.315	56.5	30
30	0.847	0.25	49.6	33
40	0.635	0.193	48.4	36
50	0.508	0.193	38.4	36
60	0.423	0.152	41	38
80	0.318	0.12	38.7	40
120	0.211	0.08	38.5	44

Dimension Table (SW, Thread)

CLASS	SIZE	15A	20A	25A	32A	40A	50A
800#	L1	68	90	96	145	145	160

Dimension Table (Flange)

CLASS	SIZE	15A	20A	25A	32A	40A	50A
150# / 10k	L1	135	140	155	225	225	250
300# / 20k	L1	140	165	175	240	240	251
600# / 30,40k	L1	165	175	190	255	255	292

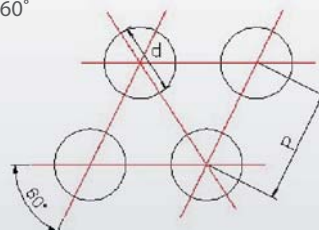
POROUS PLATE

The Effective Filtering Area Ratio : $\frac{S}{A} \times \frac{r1 \times r2}{10000}$

S: Surface area of screen
A: Section area of pipe
r1: Percentage of open area of wire cloth
r2: Percentage of open area of perforation plate

Porous Ratio of Perforated Plate : $F = 0.91 \times \left(\frac{d}{p}\right)^2$

F: Porous ratio
d: Pore diameter
p: Pitch 60°

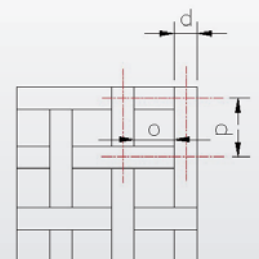


Porous Ratio of Screen :

$N = \left(P - \frac{P-W}{P}\right) = \left(\frac{d}{p}\right)^2$

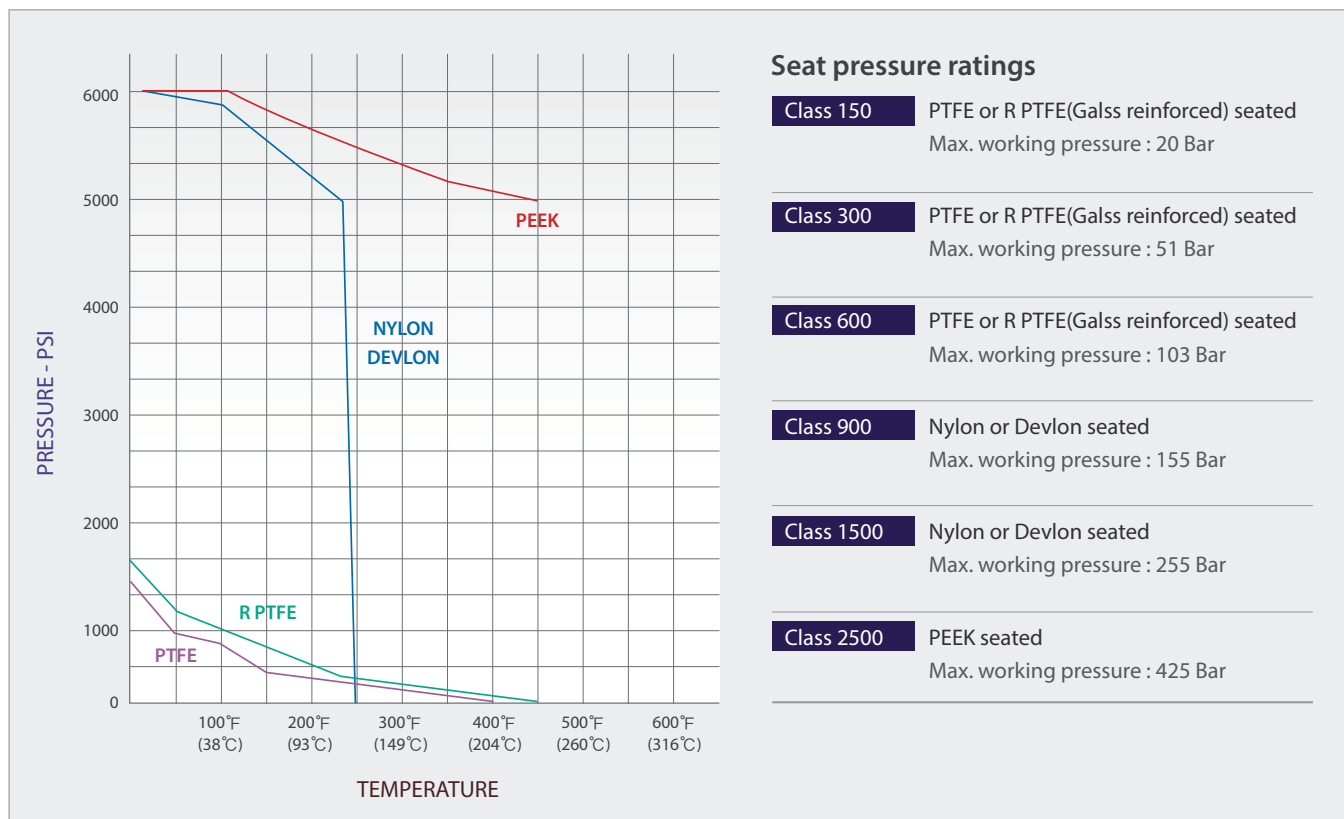
$P = \frac{25.4}{m}$

m: Mesh
p: Pitch
w: Wire diameter
o: Opening
N: Porous ratio



ENGINEERING DATA

Pressure Temperature Data



Low Temperature Limits

BODY MATERIAL	°F	°C
A216 WCB / A105	-20	-29
A352 LCC / A350 LF2	-58	-50
A351 CF3 / A182 F304	-200	-328
A351 CF8M / A182 F316		

SEAT MATERIAL	°F	°C
Nylon	-22	-30
PEEK	-40	-40
PCTFE (Kel - F)	-320	-196
RTFE	-48	-50

Ball Valve Torque Value

(Unit : N-m)

SIZE		CLASS						
FB	RB	150 / 10K	300 / 20K	600 / 40K	800	900 / 63K	1500	2500
	1/2"	13	15	18	23	45	53	78
1/2"	3/4"	20	24	30	38	58	65	105
3/4"	1"	25	39	48	54	75	100	155
1"	1-1/4"	38	40	58	65	85	125	189
1-1/4"	1-1/2"	42	45	70	78	99	155	200
1-1/2"	2"	50	58	77	85	115	182	256
2"	2-1/2"	57	66	88	110	130	195	350

* Typical service factor commonly used in the industry are : water and other liquids - 1.3 / Dry gases - 1.5

* Torque may be changed according to different medium and trim material

* Class 1500# : Floting Type (1/2" RB ~ 1-1/2" RB) / Trunnion Type : (1-1/2" FB ~ 2" FB)

* Class 2500# : Floting Type (1/2" RB ~ 1-1/4" RB) / Trunnion Type : (1-1/2" FB ~ 2" FB)

ENGINEERING DATA

LIST OF MATERIAL SPECIFICATIONS - ASME / ANSI B16.34

Applicable ASTM Specification

Material Group No.	Nominal Designation	Forgings Spec - Grade Notes	Castings Spec - Grade Notes	Tubular Product Spec - Grade Notes
1.1	Carbon	A105 (1) (2) A350 - LF	A216 - WCB (1)	A672 - B70 A672 - V70
1.10	21/4 Cr - Mo	A182 - F22 (4)	A217 - WC 9 (3) (5)	
2.1	18 Cr - 8 Ni	A182 - F304 (7) A182 - F304H	A351 - CF3 (8) A351 - CF8 (7)	A312 - TP304 (7) A312 - TP304H A358 - 304 (7) A376 - TP304H A430 - FP304 (7) A430 - FP304H
2.2	16 Cr - 12 Ni - 2Mo	A182 - F316 A182 - F304H		A312 - TP316 (7) A312 - TP316H A358 - 316 (7) A312 - TP316 (7) A376 - TP316H A430 - FP316 (7) (9) A430 - FP316H
	18 Cr - 8 Ni		A351 - CF3A (10)	A351 - CF8A (10)
	18 Cr - 13 Ni - 3Mo			A312 - TP317 (7)
	18 Cr - 9 Ni - 2Mo		A351 - CF3M (11) A351 - CF8M (7)	
2.3	18 Cr - 8 Ni	A182 - F304L		A312 - TP304L (8)
	16 Cr - 12 Ni - 2Mo	A182 - F316L		A312 - TP316L
2.8	22 Cr - 5Ni -3Mo - N	A182 - F51		A789 - S31803 A790 - S31803

NOES:

- Upon prolonged exposure to temperatures above 800°F (425°C), the carbide phase of carbon steel may be converted to graphite.
- Only killed steel shall be used above 850°F (455°C)
- Use normalized and tempered material only.
- Permissible, but not recommended for prolonged usage above about 1100°F (595°C)
- Not to be used over 1100°F (595°C)
- At temperatures over 1000°F (540°C), use only when the carbon is 0.04% or higher.
- Not to be used over 800°F (425°C)
- For temperatures above 1000°F (540°C), use only if the material is heat treated by heating it to a minimum temperature of 1900°F (1040°C) and quenching 'in water or rapidly cooling by other means.
- Not to be used over 650°F (345°C)
- Not to be used over 850°F (455°C)

PRESSURE - TEMPERATURE RATINGS FOR STANDARD CLASS VALVES - ASME / ANSI B16.34

Ratings for Group 1.1 Materials

(°F/psi)

Temperature, °F	Working Pressure by Classes, psi					
	150	300	600	900	1500	2500
-20 to 100	285	740	1,480	2,220	3,750	6,170
200	260	675	1,350	2,025	3,375	5,625
300	230	655	1,315	1,970	3,280	5,470
400	200	635	1,270	1,900	3,170	5,280
500	170	600	1,200	1,795	2,995	4,990
600	140	550	1,095	1,640	2,735	4,560
650	125	535	1,075	1,610	2,685	4,475
700	110	535	1,065	1,600	2,665	4,440
750	95	505	1,010	1,510	2,520	4,200
800	80	410	825	1,235	2,060	3,430
850	65	270	535	805	1,340	2,230
900	50	170	345	515	860	1,430
950	35	105	205	310	515	860
1000	20	20	105	155	260	430

Ratings for Group 1.10 Materials

(°F/psi)

Temperature, °F	Working Pressure by Classes, psi					
	150	300	600	900	1500	2500
-20 to 100	290	750	1,500	2,250	3,750	6,250
200	260	750	1,500	2,250	3,750	6,250
300	230	730	1,455	2,185	3,640	6,070
400	200	705	1,410	2,115	3,530	5,880
500	170	665	1,330	1,995	3,325	5,540
600	140	605	1,210	1,815	3,025	5,040
650	125	590	1,175	1,765	2,940	4,905
700	110	570	1,135	1,705	2,840	4,730
750	95	530	1,065	1,595	2,660	4,430
800	80	510	1,015	1,525	2,540	4,230
850	65	485	975	1,460	2,435	4,060
900	50	450	900	1,350	2,245	3,745
950	35	375	755	1,130	1,885	3,145
1000	20	260	520	780	1,305	2,170
1050	20 (1)	175	350	525	875	1,455
1100	20 (1)	110	220	330	550	915
1150	20 (1)	70	135	205	345	570
1200	20 (1)	40	80	125	205	345

ENGINEERING DATA

PRESSURE - TEMPERATURE RATING FOR STANDARD CLASS VALVES - ASME B 16.34

Ratings for Group 2.1 Materials

(°F/psi)

Temperature, °F	Working Pressure by Classes, psi					
	150	300	600	900	1500	2500
-20 to 100	275	720	1,440	2,160	3,600	6,000
200	230	600	1,200	1,800	3,000	5,000
300	205	540	1,055	1,585	2,640	4,400
400	190	495	940	1,410	2,350	3,920
500	170	485	875	1,310	2,185	3,640
600	140	435	830	1,245	2,075	3,460
650	125	430	815	1,225	2,040	3,400
700	110	425	805	1,210	2,015	3,360
750	95	425	795	1,195	1,990	3,320
800	80	405	790	1,180	1,970	3,280
850	65	395	780	1,165	1,945	3,240
900	50	390	770	1,150	1,920	3,200
950	35	380	750	1,125	1,870	3,120
1000	20	320	645	965	1,610	2,685
1050	20(1)		620	925	1,545	2,570
1100	20(1)	255	515	770	1,285	2,145
1150	20(1)	200	390	585	980	1,630
1200	20(1)	155	310	465	770	1,285
1250	20(1)	115	220	330	550	915
1300	20(1)	85	165	245	410	685
1350	20(1)	60	125	185	310	515
1400	20(1)	50	95	145	240	400
1450	20(1)	35	70	105	170	285
1500	20(1)	25	50	70	120	120

NOES:

- 1 All pressures are given as gage pressure.
- 2 Pressure in Kg/cm² are shown for convenience.
- 3 Material groups are as listed in page.
- 4 For temperature limitations, see footnotes on page

Ratings for Group 2.2 Materials

(°F/psi)

Temperature, °F	Working Pressure by Classes, psi					
	150	300	600	900	1500	2500
-20 to 100	275	720	1,440	2,160	3,600	6,000
200	235	620	1,240	1,860	3,095	5,160
300	215	560	1,120	1,680	2,795	4,660
400	195	515	1,025	1,540	2,570	4,280
500	170	480	955	1,435	2,390	3,980
600	140	450	900	1,355	2,255	3,760
650	125	445	890	1,330	2,220	3,700
700	110	430	870	1,305	2,170	3,620
750	95	425	855	1,280	2,135	3,560
800	80	420	845	1,265	2,110	3,520
850	65	420	835	1,255	2,090	3,480
900	50	415	830	1,245	2,075	3,460
950	35	385	775	1,160	1,930	3,220
1000	20	350	700	1,050	1,750	2,915
1050	20(1)	345	685	1,030	1,720	2,865
1100	20(1)	305	610	915	155	2,545
1150	20(1)	235	475	710	1,185	1,970
1200	20(1)	185	370	555	925	1,545
1250	20(1)	145	295	440	735	1,230
1300	20(1)	115	235	350	585	970
1350	20(1)	95	190	290	480	800
1400	20(1)	75	150	225	380	630
1450	20(1)	60	115	175	290	485
1500	20(1)	40	85	125	205	345

Ratings for Group 2.3 Materials

(°F/psi)

Temperature, °F	Working Pressure by Classes, psi					
	150	300	600	900	1500	2500
-20 to 100	230	600	1,200	1,800	3,000	5,000
200	195	505	1,015	1,520	2,530	4,220
300	175	455	910	1,360	2,270	3,780
400	160	415	825	1,240	2,065	3,440
500	145	380	765	1,145	1,910	3,180
600	140	360	720	1,080	1,800	3,000
650	125	350	700	1,050	1,750	2,920
700	110	345	685	1,030	1,715	2,880
750	95	335	670	1,010	1,680	2,800
800	80	330	660	985	1,645	2,740
850	65	320	645	965	1,610	2,680

NOES:

- 1 All pressures are given as gage pressure.
- 2 Pressure in Kg/cm² are shown for convenience.
- 3 Material groups are as listed in page.
- 4 For temperature limitations, see footnotes on page

Ratings for Group 2.8 Materials

(°F/psi)

Temperature, °F	Working Pressure by Classes, psi					
	150	300	600	900	1500	2500
-20 to 100	230	600	1,200	1,800	3,000	5,000
200	195	505	1,015	1,520	2,530	4,220
300	175	455	910	1,360	2,270	3,780
400	160	415	825	1,240	2,065	3,440
500	145	380	765	1,145	1,910	3,180
600	140	360	720	1,080	1,800	3,000
650	125	350	700	1,050	1,750	2,920
700	110	345	685	1,030	1,715	2,880
750	95	335	670	1,010	1,680	2,800

ENGINEERING DATA

STEEL STANDARDS COMPARISON

ASTM	UNS/AISI	DIN	AFNOR	BS	JIS
A105	AISI 1020	C22 1.0402	A4 8 XC18S	1503-221-490(En 3A)	SF50 (SC30)-(S2BC)
A182-F1	K12822	15 Mo 3 1.5415	-	1503-240-420	SFHV 12B - G 3213
A182-F5	K41545	12CrMo 19.5 1.7362	Z 12CD5	1503-625-520	SFHV 25 - G 3213
A182-F11	K11572	24 CrMoV-55 1.7733	15CD 5.05	1506-661-440	SFHV 23B - G 3213
A182-F22	K21590	10 CrMo 9.10 1.7380	12 CD 9.10	1503-622-490	SFHV 24B - G 3213
A182-F304	S30400	X5 CrNi 18.9 1.4301	26 CN 18.09	1503-304-S15	SUS 304 - G 4303
F182-F304H	S30409	X5 CrNi 18.9 1.4301	26 CN 18.09	1503-304-S49	SUS 304H - G 4303
F182-F304L	S30403	X2 CrNi 18.9 1.4306	22 CN 18.10	1503-304-S12	SUS 304L - G 4303
F182-F316	S31600	X5 CrNiMo 18.10 1.4401	26 CND 17.11	1503-316-S16	SUS 316 - G 4303
F182-F316H	S31609	X5 CrNiMo 18.12	-	1503-316-S49	SUS 316H - G 4303
F182-316L	S31603	X2 CrNiMo 18.10 1.4404	22 CND 17.12	1503-316-S12	SUS 316L - G 4303
A182-F321	S32100	X5 CrNiTi 18.9 1.4541	26 CNT 18.10	1503-321-S31	SUS 321
A182-F347	S34700	X5 CrNiNb 18.9 1.4550	26 CN Nb 18.10	1503-347-S17	SUS 347
A193-B6 (A276.Type 410)	AISI 410 S41000	X10 Cr 13 1.4006	Z10 C 13	410-S21	SUS 410 - G 4303
A193-B7	AISI 4140	42 CrMo 4 1.7225	42 CD 4	1506-621-A	SNB 7 - G 4107 (SMC 4)
A193-B8	AISI 304	X5 CrNi 18.9 1.4301	26 CN 18.09	1506-801-B	SUS 304 - G 4303
A193-B8M	AISI 316	X5 CrNiMo 18.10 1.4401	26 CNT 18.10	1506-845	SUS 316 - G 4107
A193-B16	-	24 CrMoV 55 1.7733	38 CDV 4.05	1506-661	SNB 16 - G 4107
A194-2H		C45 1.0503	A60/CC45	1506-162	S45C - G 4051
A194-Gr4	-	24 CrMo 5 1.7258	40 D2	1506-240	-
A194-Gr8	AISI 304	X5 CrNi 18.9 1.4301	26 CN 18.09	1506-801-B	SUS 304 - G 4303
A194-Gr8M	AISI 305	X5 CrNiMo 18.10 1.4401	26 CND 17.11	1506-845	SUS 316 - G 4303
A276 - Type 420	"AISI 420 S42000"	X30 Cr13 1.4028	Z30 C13	420-S45	SUS 420 J2
A320-L7	AISI 4140	42 CrMo 4 1.7225	42 CD 4	1506-621-A	SCM3 - G 4105
A350-LF2		TT St E36 1.0508	A48 FPI (A36-208)	1503-223-410 (32A LT50)	-
A582-Type 303	AISI 303 S30300	X10 CrNiS 18.9 1.4305	Z10 CNF 18.09	303-S21	SUS 303
A582-Type 416	AISI 416 A41600	X12 CrS 13 1.4005	Z12 CF 13	416-S21	SUS 418

Above comparison is to be intended as a guide.

A light difference in material requirements may be found between one standard and other.

Therefore, the use of an equivalent standard is always subject to Customer's agreement.

HOW TO ORDER

1. VALVE MODEL

Code	K
Description	KPL Forged ball valve

2. PRESSURE RATING

Code	A	B	C	D	E	F	G	Z
Class	150	300	600	800	900	1500	2500	Other

3. VALVE SIZE

Code	R1	R2	R3	R4	R5	R6
Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"

Code	F1	F2	F3	F4	F5	F6
Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"

4. BODY MATERIAL

Code	A	LF	F6	F4	FL	F0	F9	F5	F3	F4
Description	105	A350 LF2	F182 F316	A182 304	F182 F316L	A182 304L	A182 F91	A182 F51 (UNS S31803)	A182 F53 (UNS S31750)	A182 F44 (UNS S31254)

Code	AN	M4	I6	I8	I9	IH	T2	F2	W9	Z
Description	C95800	MONEL 400	INCONEL 625	INCOLOY 825	INCOLOY 925	INCOLOY 800 HT	TITANIUM Gr2	A182 F22	A217 WC9	Others

5. TRIM MATERIAL

Code	1	2	3	4	5	6	7	8	9
Description	A105+ENP	A350 LF2+ENP	316SS	304SS	316L SS	304L SS	17-4PH	A182 F51	A182 F53

Code	10	11	12	13	14	15	16	17
Description	A182 F44	MONEL 400	INCONEL 625	INCOLOY 825	INCOLOY 925	INCOLOY 800 HT	TITANIUM Gr2	C95800

6. CONNECTION

Code	F	R	B	S	T	O	Z
Description	RF Flange	Ring Type Joint	Butt Weld	Stub End	Thread End	Socket Weld	Others

7. OPERATING

Code	1	2	3	4	5	Z
Description	Lever	Pneumatic Actuator Single Acting	Pneumatic Actuator Double Acting	Electric Actuator	Bare Stem	Other

8. SEAT MATERIAL

Code	P	RG	RC	N	D	P	DE	PC
Description	PTFE	RPTFE(Glass Filled)	RPTFE(Carbon Filled)	Nylon	Devlon	PEEK	Derlin	PCTFE

9. SEAL MATERIAL

Code	P	G	Z
Description	PTFE	Graphite	Others

10. OPTIONS

Code	1	2	3	4	5	Z
Description	Fire Safety	Extended Bonnet	Locking Device	Oil Free	Anti Static Device	Other

KPL FORGED BALL VALVE

www.kplvalve.com



Factory & Head office

739-4, Ojung-dong, Ojung-gu, Bucheon-city, Kyunggi-do, Korea.

TEL_+82-32-673-4413~5

FAX_+82-32-673-4416

www.kplvalve.com

Seoul office

Ra 1108, Jungang U-tong danji 1258, Kurobon-dong, Kuro-gu, Seoul, Korea.

TEL_+82-2-2619-8813

FAX_+82-2-2625-2560

E-mail:sales@kplvalve.com



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