schneider
Tailored to Your Business

Instrumentation Products

Ball Valves

Introduction

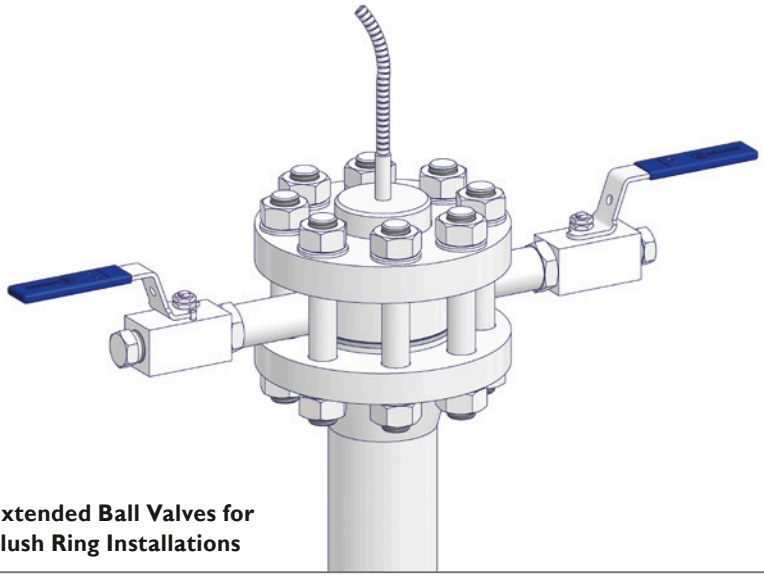
Introduction

The AS-Schneider Group with its headquarters in Germany is one of the World's Leading Manufacturers of Instrumentation Valves and Manifolds. AS-Schneider offers a large variety of Ball Valves and the relevant Accessories required for instrumentation installations globally.

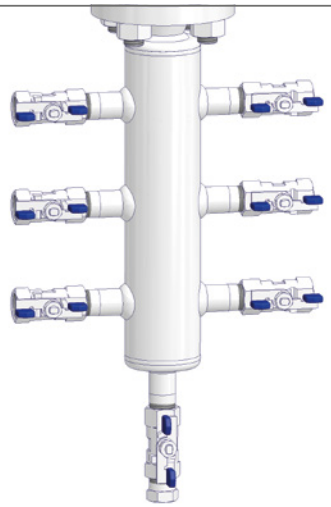
Selection can be made from a comprehensive range of bodies with a variety of connections and material options, optimizing installation and access opportunities. Many of the valves shown in this catalogue are available from stock or within a short period of time. The dimensions shown in this catalogue apply to standard types. If you need the dimensions for your individual type please contact the factory.

Continuous product development may from time to time necessitate changes in the details contained in this catalogue. AS-Schneider reserves the right to make such changes at their discretion and without prior notice.

All dimensions shown in this catalogue are approximate and subject to change.

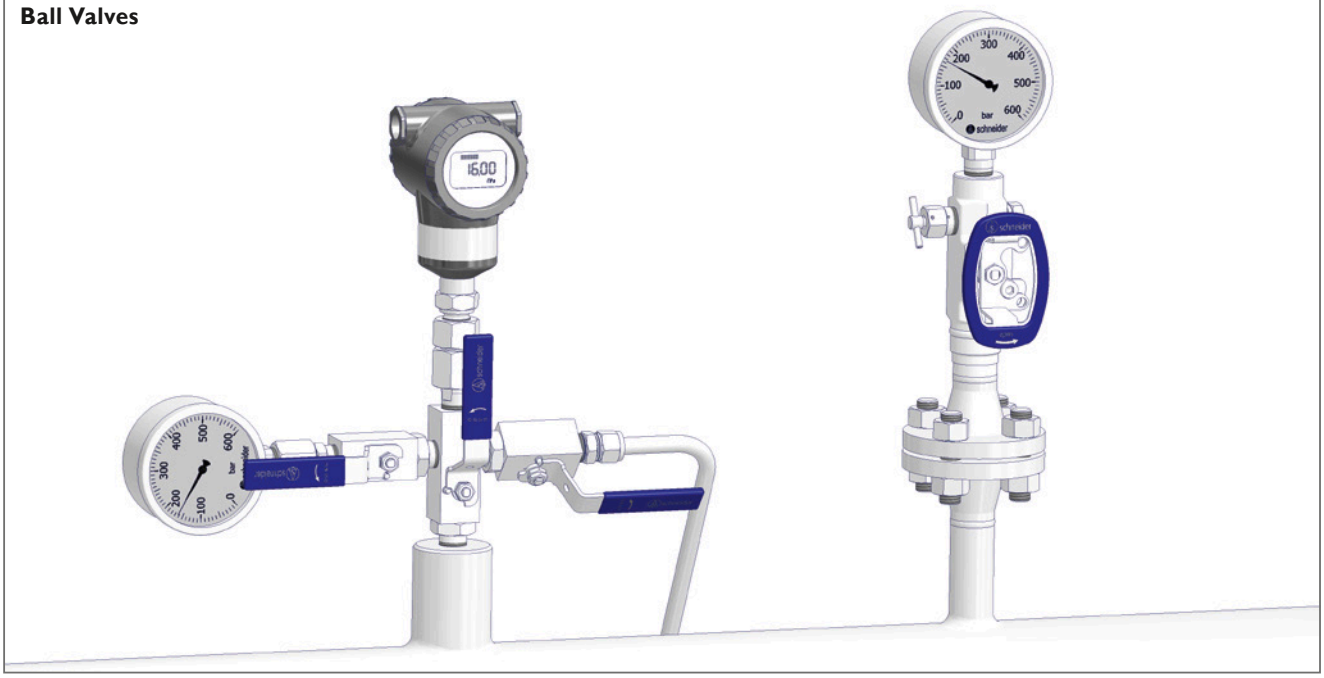


Extended Ball Valves for Flush Ring Installations



Low Pressure Ball Valves for Air Header Installations

Close Coupled Multiport Ball Valves



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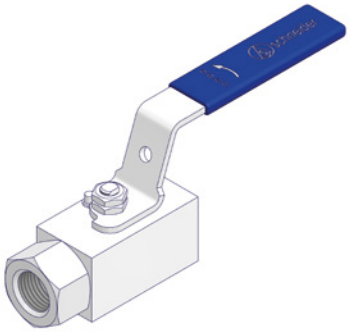
KA, KB & KC Series I General Features

Standard Features

KA Series



KB Series

KC Series

Series	KA	KB	KC
Bore Size mm (inch)	Ø 10 (0.39")	Ø 14 (0.55")	Ø 20 (0.79")
Basic Design	2 Piece Body Design		
	Anti-Blowout Stem		
	Floating Ball Design – Bi-Directional		
	Low Operating Torque		
	Anti-Static Design acc. to ISO 17292		
Body Shape	Square	Hexagon	
Seat Material / max. allowable (Working) Pressure (PS) bar (psi)	Reinforced PTFE 420 (6,092)	PEEK 420 (6,092)	
	PEEK 420 (6,092)	Reinforced PTFE 150 (2,175)	
	PEEK 689 (10,000) Uni-Directional		
Stem Seat Material	PTFE or Graphite	Reinforced PTFE	
Fugitive Emission Application		Tested and certified acc. to ISO 15848-1	
Fire Test		Fire-type tested and certified acc. to ISO 10497 / API 607 – For PEEK Ball Valve Seat only	

Sour Gas Service:
Wetted parts according to a.m. material list are supplied as standard according to NACE MR0175/MR0103 and ISO 15156 (latest issue).

Low Temperature Service:
On request.

Oxygen Service:
On request.

Pressure Test:
A shell test at 1.5 times the max. allowable (working) pressure and a seat leakage test are performed acc. to EN 12266-1 - P10, P11 and P12 respectively MSS-SP61 (and complies also with ASME B31.1 and B31.3) at every standard AS-Schneider Ball Valve → 100% Pressure Tested!

Pressure Test acc. to API 598 on request.

Certification:
Certified Mill Test Report (CMTR) as Inspection certificate 3.1 acc. to EN 10 204 for valve body material and pressure test available on request.

PMI Test on request.

Handle Options and Body Design Options see Page 10.

Manufactured acc. to the following Codes and Specifications

- ASME B16.34 Valves – Flanged, Threaded and Welding End
- ASME B31.3 Process Piping
- ASME B31.1 Power Piping

Body Material Options

Material Group	AS Material Designation	Material No.	Short Name	Equivalent UNS-No.	Material Grade acc. to ASTM	Ball Valves
Carbon Steel	LF2				LF2	Optional
Austenitic Stainless Steel	316 quadruple certified*	1.4401	X5CrNiMo17-12-2	S31600	316	Standard
		1.4404	X2CrNiMo17-12-2	S31603	316L	Standard
	6Mo	1.4547	X 1CrNiMoCuN20-18-7	S31254		Optional
Austenitic-Ferritic Stainless Steel	Duplex	1.4462	X2CrNiMoN22-5-3	S31803	F51	Standard
	Superduplex	1.4410	X2CrNiMoN25.7.4	S32750	F53	Optional
Nickel Based Alloys	Alloy 400	2.4360	NiCu30Fe	N04400		Standard
	Alloy C-276	2.4819	NiMo 16 Cr 15 W	N10276		Standard
	Alloy 625	2.4856	NiCr22Mo9Nb	N06625		Optional

* Quadruple certified means 316 / 316L / 1.4401 / 1.4404

Ball Valve Components

Components	Carbon Steel	Stainless Steel	Exotic Alloys					
	Material / Material No.							
Body	LF2	316 / 316L	Alloy 400	Alloy C-276	Duplex	UNS S32750	Alloy 625	6Mo
Body End Connector								
Ball	316 / 316L							
Stem								
Ball Seat	Reinforced PTFE or PEEK							
Body Seals (KA Series only)	PTFE, Reinforced PTFE or Graphite							
Stem Seals								
Gland	316							
Hex Nut	316							
Handle	316							
Handle Grip	Vinyl							
Stop Pin	A4							
Anti-Static Spring	316							

Wetted components listed in **bold**.

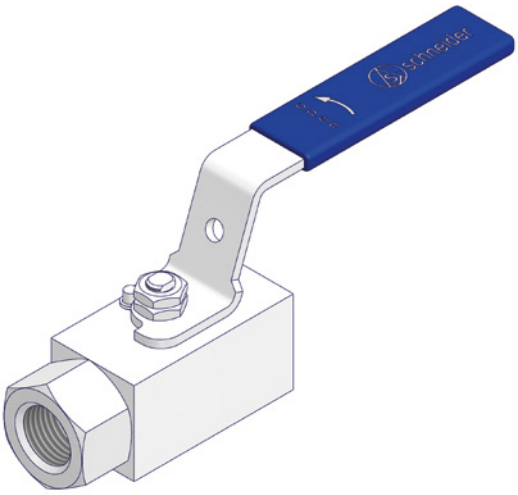
KA Series I Standard Ball Valve Design

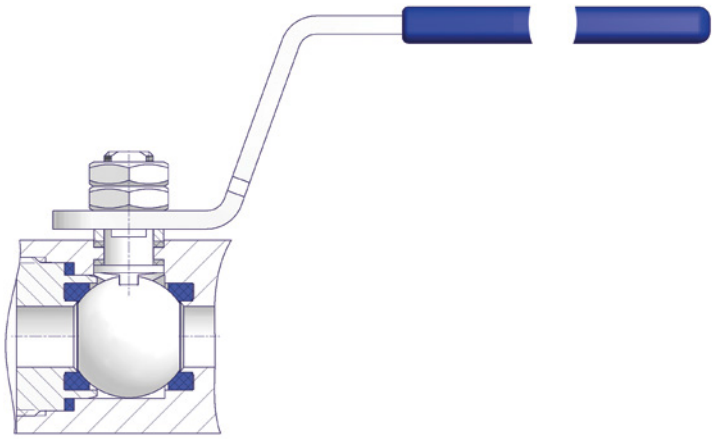
Standard Ball Valve Design – Bore Size 10 mm (0.39")

Screwed Design – Stem Seal: Packing

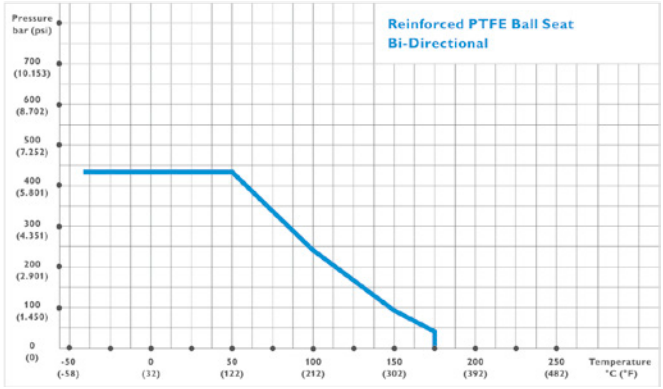
Features

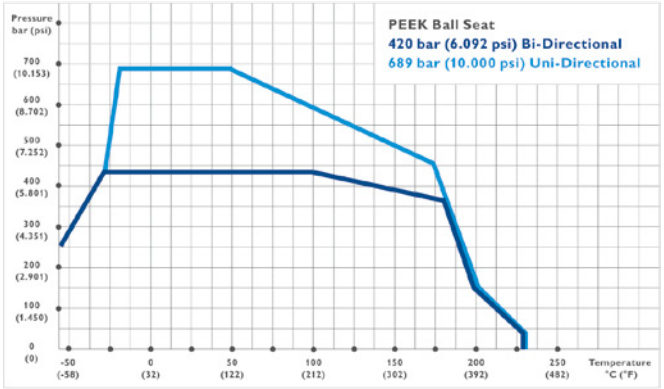
- Floating Ball Design
- Ball Valve Seat:
  – Reinforced PTFE or
  – PEEK
- Ball Seats are encapsulated in end connector / body
- Stem Seal: Standard Packing in PTFE and Graphite
- Anti-Static Design as Standard acc. to ISO 17292
- Anti-Blowout Stem Design
- Seat Leakage Class VI acc. to ANSI/FCI 70-2
- Max. allowable (Working) Pressure (PS):
  420 bar (6,092 psi) with PTFE and PEEK Seats
  → Bi-Directional
- Max. allowable (Working) Pressure (PS):
  689 bar (10,000 psi) with PEEK Seats only
  → Uni-Directional
- Positive Stop Pins
- All Non-wetted Parts in 316 Stainless Steel





Pressure-Temperature Ratings





Low Temperature Limits:

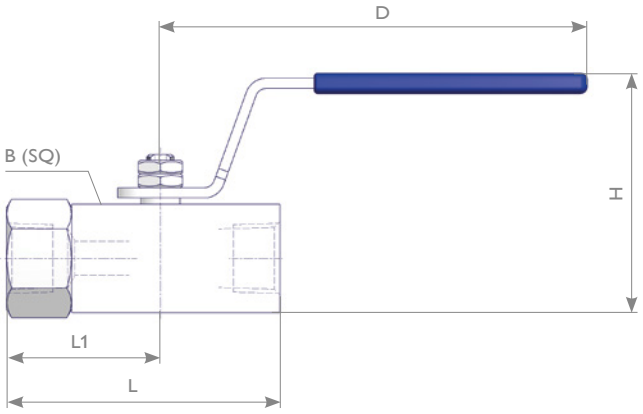
KA1 / KA2 Type 420 bar (6.092 psi): -40°C

Low Temperature Limits:

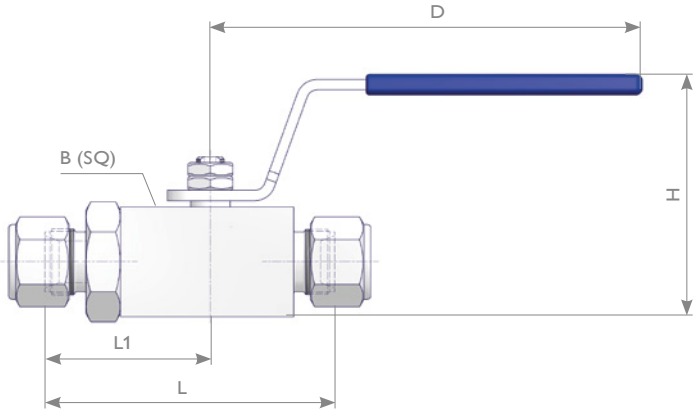
KA3 Type 420 bar (6.092 psi): -55°C
KA3 Type 689 bar (10.000 psi): -30°C
KA4 Type 420 bar (6.092 psi): -30°C

Ball Valve Dimensions

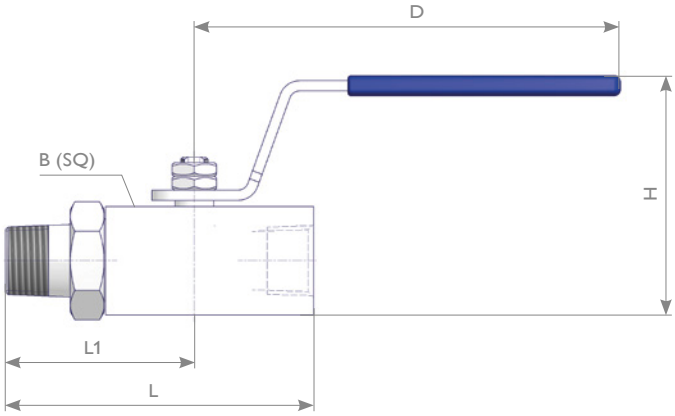
Female x Female



Twin Ferrule Compression Fitting



Male x Female



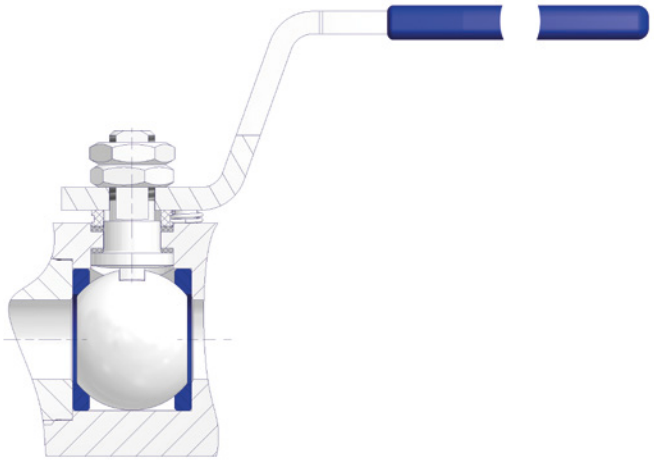
Ball Valve Dimensions

Style	Size	Max. allowable (Working) Pressure bar (psi)	Seat Material	Standard Part Number	Bore Size mm (inch)	Dimensions mm (inch)				
						L	B	D	H	L1
Female x Female	1/2 NPT	420 (6,092)	RPTFE	KA1-LN4LN4-S	10 (0.39")	80 (3.15")	31.5 (1.25")	130 (5.1")	70 (2.76")	45 (1.77")
		689 (10,000)	PEEK	KA3-LN4LN4-SH			38.0 (1.50")		76 (3.00")	
Male x Female		420 (6,092)	RPTFE	KA1-JN4LN4-S		90 (3.54")	31.5 (1.25")		70 (2.76")	55 (2.17")
		689 (10,000)	PEEK	KA3-JN4LN4-SH			38.0 (1.50")		76 (3.00")	
Twin Ferrule Compression Fitting (Tube O.D.)	10 mm	420 (6,092)	RPTFE	KA1-HK3HK3-S		84 (3,31")	31.5 (1.25")		70 (2.76")	48 (1.89")
	12 mm			KA1-HK4HK4-S						
	3/8"			KA1-HK8HK8-S						
	1/2"			KA1-HK9HK9-S						

KB & KC Series I Standard Ball Valve Design

Standard Ball Valve Design – Bore Size 14 mm (0.55") and 20 mm (0.79")

Screwed Design – Stem Seal: Packing



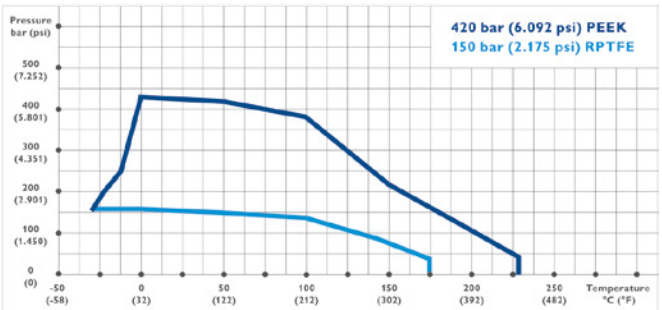
Features

- Floating Ball Design – Bi-Directional
- Ball Valve Seat:
  – PEEK or
  – Reinforced PTFE optional
  (with higher operating torque)
- Self Venting Ball Seats
- Stem Seal: Reinforced PTFE Packing
- Metal Sealing between body and end connector
- Anti-Static Design as standard acc. to ISO 17292
- Max. allowable (Working) Pressure (PS):
  420 bar (6,092 psi) with PEEK Seats and
  150 bar (2,175 psi) with RPTFE Seats
- Anti-Blowout Stem Design
- Seat Leakage Class VI acc. to ANSI/FCI 70-2
- Positive Stop Pins
- All Non-wetted Parts in 316 Stainless Steel
- Fire Safe tested and certified – For PEEK Ball Valve Seat only
- Ball Valve tested and certified acc. to ISO 15848-1
  (Measurement, test and qualification procedures for fugitive emissions)

Standard Design Material 316

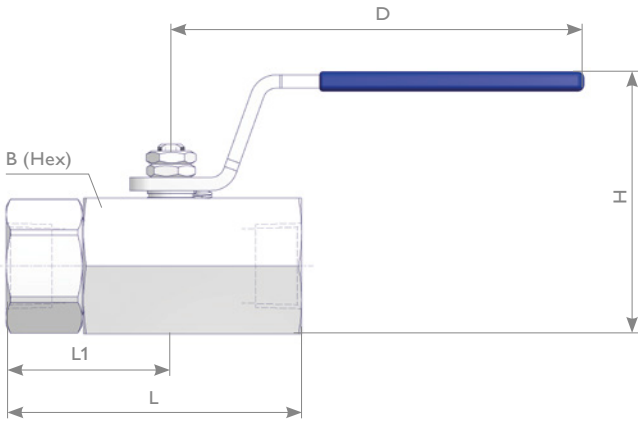
Design concerning Exotic Materials

Pressure-Temperature Ratings

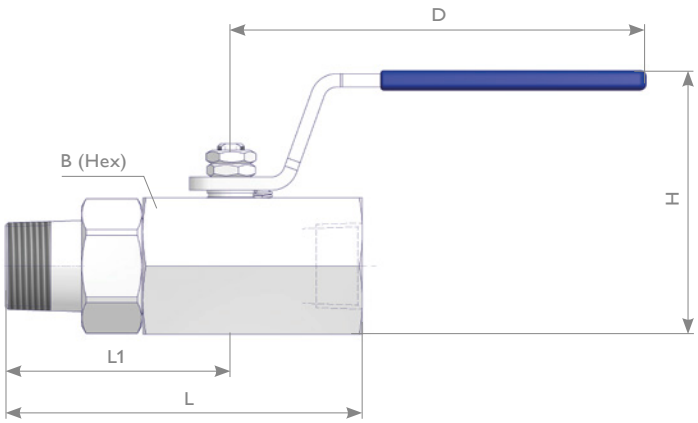


Ball Valve Dimensions

Female x Female



Male x Female



Ball Valve Dimensions

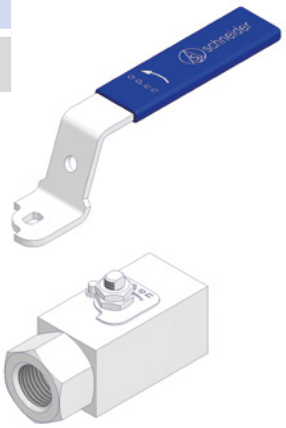
Style	Size	Max. allowable (Working) Pressure bar (psi)	Seat Material	Standard Part Number	Bore Size mm (inch)	Dimensions mm (inch)				
						L	B	D	H	L1
Female x Female	1/2 NPT	150 (2,175)	RPTFE	KB1-LN4LN4-S	14 (0.55")	89.4 (3.52")	41.0 (1.61")	125.0 (4.92")	79.3 (3.12")	49.9 (1.96")
		420 (6,092)	PEEK	KB3-LN4LN4-S						
	3/4 NPT	150 (2,175)	RPTFE	KB1-LN6LN6-S						
		420 (6,092)	PEEK	KB3-LN6LN6-S						
Male x Female		150 (2,175)	RPTFE	KB1-JN6LN6-S		107.4 (4.23")				67.9 (2.67")
		420 (6,092)	PEEK	KB3-JN6LN6-S						
Female x Female		150 (2,175)	RPTFE	KC1-LN6LN6-S	20 (0.79")	111.4 (4.39")	57.2 (2.25")	150.3 (5.92")	115.5 (4.55")	63.4 (2.50")
		420 (6,092)	PEEK	KC3-LN6LN6-S						
	1 NPT	150 (2,175)	RPTFE	KC1-LN8LN8-S						
		420 (6,092)	PEEK	KC3-LN8LN8-S						
Male x Female		150 (2,175)	RPTFE	KC1-JN8LN8-S		132.4 (5.21")				84.4 (3.32")
		420 (6,092)	PEEK	KC3-JN8LN8-S						

KA, KB & KC Series I Options

Ball Valve Options

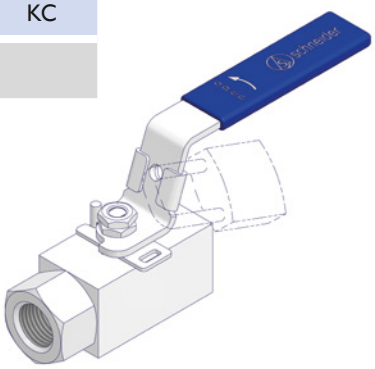
Loose Handle
Handle is supplied separately.
(Option Code R)

KA	KB	KC
available	on request	



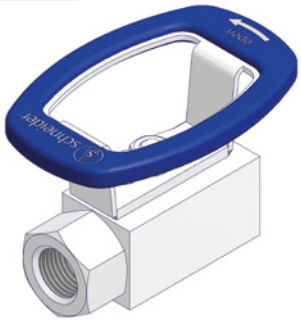
Lockable Handle
Valves can be locked in either the open or closed position with a padlock **(Option Code W)**. Padlock to be ordered separately. **(Option Code U)**

KA	KB	KC
available		



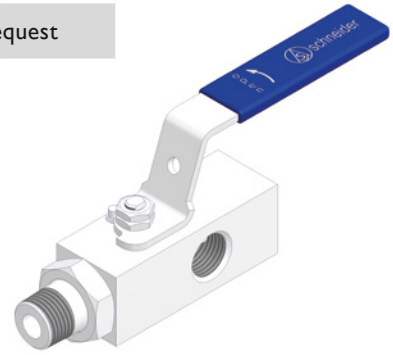
Oval Handle
Oval Handle – Optional to standard lever type.
(Option Code Q)

KA	KB	KC
available	–	



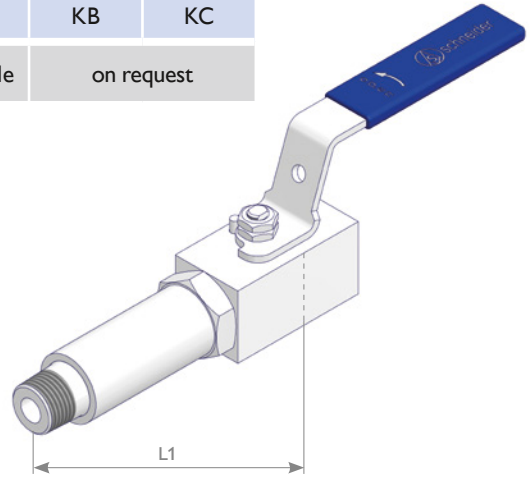
Multi-Ported Ball Valve
Three ports of same size. **(Option Code T)**

KA	KB	KC
available	on request	



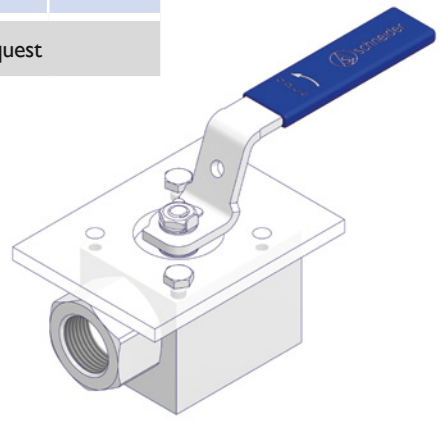
Extended Body
Extended Body – Extended by approx. 60 mm (2.4") and a L1 of 115 (4.52") at KA, 128 (5.04") at KB and 145 (5.7") at KC Series. **(Option Code E)**

KA	KB	KC
available	on request	



Panel Mount
Valve can be mounted to panels up to a thickness of 6 mm (0.24") – Delivered with suitable bolts.
(Option Code C)

KA	KB	KC
on request		



Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
K	A	1	–	L	N	4	L	N	4	–	S	E	M		

KA	Ball Valve – Bore Size 10 mm
KB	Ball Valve – Bore Size 14 mm
KC	Ball Valve – Bore Size 20 mm

Seal Material

	Available for			Packing	Ball Seat
1	KA	KB	KC	PTFE	Reinforced PTFE
2	KA			Graphite	Reinforced PTFE
3	KA	KB	KC	PTFE	PEEK
4	KA			Graphite	PEEK

Inlet — **KA Series only**

	Thread Type		Fitting Type
LN	NPT Female	HK	Twin Ferrule Tube Fitting
JN	NPT Male	TK	1/2 NPT Twin Ferrule Tube Fitting Male Connector
JG	BSP Parallel (G) Male – EN837-1 (G 1/2 only)		

	Thread Size		Fitting Size
2	1/4 – NPT only	3	10 mm
4	1/2	4	12 mm
6	3/4	8	3/8"
8	1	9	1/2"

Outlet

	Thread Type		Fitting Type
LN	NPT Female	HK	Twin Ferrule Tube Fitting
JN	NPT Male	TK	1/2 NPT Twin Ferrule Tube Fitting Male Connector
LM	Adjusting Nut BSP Parallel (G) Female – EN837-1 (G 1/2 only)		

	Thread Size		Fitting Size
2	1/4 – NPT only	3	10 mm
4	1/2	4	12 mm
6	3/4	8	3/8"
8	1	9	1/2"

	Material I Body
S	1.4401 / 1.4404 / 316 / 316L
F	Duplex UNS S31803
M	Alloy 400 UNS N04400
H	Alloy C-276 UNS N10276

	Options – Specify in alphabetical order		
B	Cleaned for Oxygen Service (on request)	E	Extended Body (other Series on request)
C	Panel Mount (on request)	T	Multi Port Design (other Series on request)
M	Wetted Parts with 3.1 Certificate	H	10,000 psi → Ball Seat in PEEK
P	Pressure Test acc. to API 598		

	Operation Options		
W	Lockable Handle	Q	Oval Handle
U	Padlock for Lockable Handle	R	Loose Handle (other Series on request)

Wetted Parts according to above mentioned material list are supplied according to NACE MR0175/MR0103 and ISO 15156 (latest issue).
Note: Not every configuration which can be created in the ordering information is feasible / available.

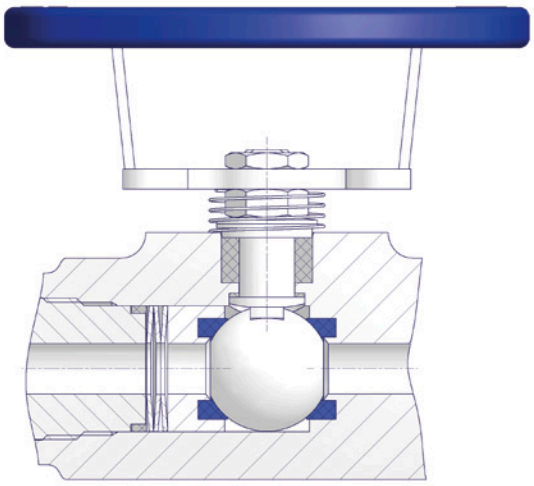
K Series I General Features

K Series Ball Valves

AS-Schneider's K Series Ball Valves are very robust, forged ball valves which are designed especially for severe service for the chemical and petrochemical process industry. They are especially used for close coupled hook-ups. End connector and valve body are full penetration welded for environmental protection.

Features

- Floating Ball Design
- 2 Piece Design – Fully Welded
- Forged Body in 1.0460 / A105 and 316
- Ball Bore Size 10 mm (0.39")
- Ball Seats are encapsulated in Seat Carrier
  – Material: PTFE or Carbon filled PTFE
- Spring Loaded Ball Seat
- Stem Seal: PTFE or Graphite
- Max. allowable (Working) Pressure (PS): 250 bar (3,626 psi) I Class 1,500
- Anti-Blowout Stem Design
- Low Operation Torque
- Fire Safe tested acc. to ISO 10497 / API 607 – With Graphite Seals only
- Wide Range of Connections available
- Pressure Test acc. to EN 12266 and MSS SP61
  – Leakage Rate A acc. to EN 12266-1
- Seat Leakage Class VI acc. to ANSI/FCI 70-2
- Materials comply to NACE MR 0175 / MR0103 / ISO 15156
- Ergonomic Oval Handles – Can be locked in opened and closed position



Optional Features

- Fugitive Emission Bonnet – TA-Luft conformity optional
- Anti-Static Design
- Vented Ball
- Ball Seat: PEEK, PCTFE and PFA
- Stellited Ball
- Padlock for Lockable Handle
- Extended Stem
- Cryogenic Applications
- Special Cleaning for Chlorine and Oxygen Service
- Optional Materials:
  ASTM A350-LF2, Alloy 400, Alloy C-276, Duplex, etc.

For further details, please contact the factory.

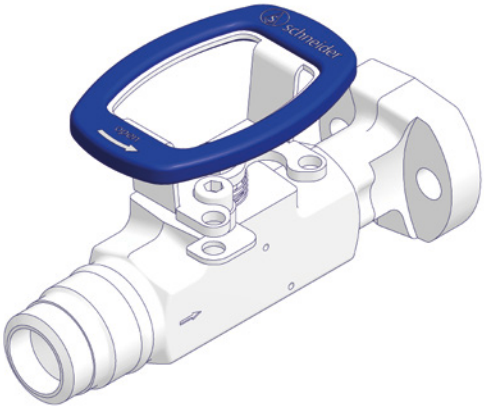
Components	Carbon Steel	Stainless Steel
	Material / Material No.	
Body	1.0460 / A105	316 / 316L
Body End Connector		
Ball	316 / 316L	
Stem		
Seat Carrier	316 / 316L	
Disc Spring	Inconel 718	
Primary Stem Seal	Reinforced PTFE	
Ball Seat	PTFE or Reinforced PTFE	
Packing	PTFE or Graphite	
Body Seals		
Gland	316	
Hex Nut	300 Series	
Locking Plate		
Oval Handle		
Handle Grip	Vinyl	
Stop Screw	A2	

Wetted components listed in **bold**.

Standard Ball Valve Design

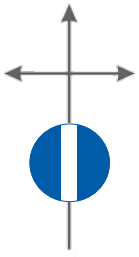
Single-Ported Ball Valve with following connections:

Inlet: Flanged, Threaded or Welded
Outlet: Threaded or Flanged

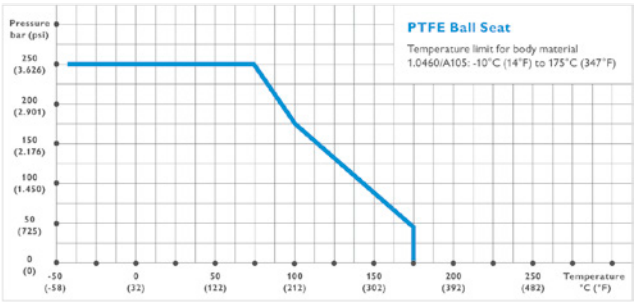


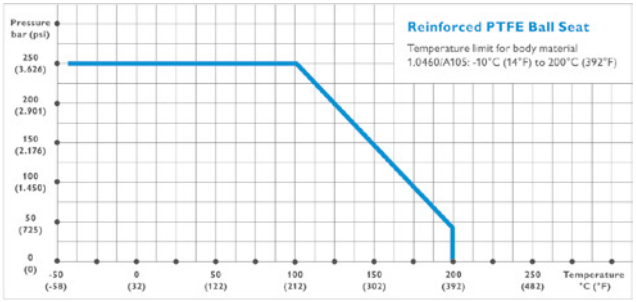
Multi-Ported Ball Valve with following connections:

Inlet: Flanged, Threaded or Welded
Outlet – Multiport Type: Threaded or Flanged & Threaded



Pressure-Temperature Ratings





KM Series I Metal Seated Ball Valves

KM Series I Metal Seated Ball Valves

Extreme operating conditions with temperatures up to 450°C (842°F) and pressures up to 420 bar (6,092 psi) require special sealing technology in ball valves.

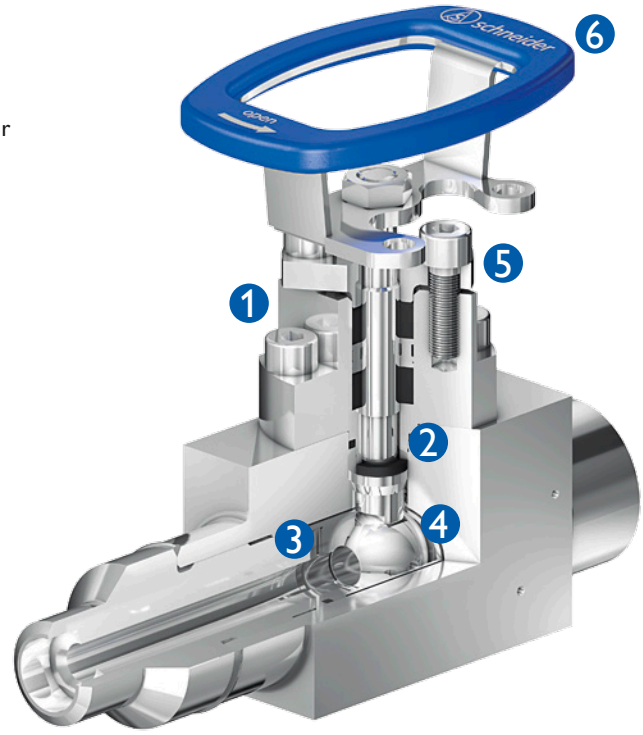
Standard soft seated ball valves simply aren't ready for this kind of requirements. Their plastic seals would fail. Metal seated ball valves don't have this problem. However, most metal seated ball valves are not available for high pressures and also not available for smooth operation. AS-Schneider entered the Metal Seated Ball Valve arena with the KM Series.

When developing the KM Series AS-Schneider uses the latest surface and material knowledge combined with comprehensive engineering know-how. The result is a ball valve with zero leakage even under extreme operating conditions with respect to working pressure and temperature – even though a smooth operation is provided.

Features

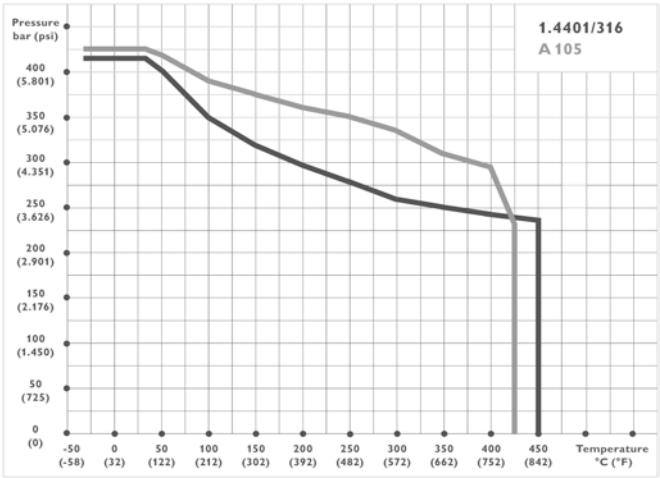
- 2 Piece Design – Fully Welded
- Ball Bore Size 10 mm (0.39")
- Seat and Ball Surfaces coated with Hardalloy and Carbide compounds
- 'Dissolution' Ball Valve Design and an outstanding axial bearing washer at the stem – For smooth operation (even at high working pressures)
- Double Sealing System in fugitive emission bonnet consisting of premium-quality graphite sealing rings
- Pressure Rating: Class 2,500
- Max. allowable Temperature (TS): -29°C (-20°F) to 450°C (842°F)
- Anti-Blowout Stem Design
- Can be locked in opened and closed position
- Oval Handle can be dismounted during operation
- Even Non-wetted Parts are made of 316 Stainless Steel for operation in corrosive environments
- Seat Leakage: ANSI / FCI 70-2 Class V
- Body Material: 1.4401 / 316 or 1.0460 / A105
- Materials comply to NACE MR 0175 / MR0103 / ISO 15156
- Ball Valve meets requirements of TA-Luft (leak rate < 4,6 x 10-6 mbar x l/s)
- Fire Safe tested acc. to ISO 10497 and API 607
- Design Basis: ISO 17292, ASME B16.34, MESC SPE 77/170, MESC SPE 77/110

For more details see our Catalogue 'AS-1902 I KM Series – Metal Seated Ball Valve'.



1. FUGITIVE EMISSION BONNET WITH DOUBLE SEALING SYSTEM AND LANTERN RING
2. OUTSTANDING AXIAL BEARING WASHER INTEGRATED AT THE STEM
3. SMOOTH OPERATION DUE TO 'DISSOLUTION' BALL VALVE DESIGN
4. SEAT AND BALL SURFACES COATED WITH HARDALLOY AND CARBIDE COMPOUNDS
5. ADJUSTMENT CAPABILITY FOR PACKING WITH GLAND FOLLOWER
6. OVAL HANDLE CAN BE DISMOUNTED DURING OPERATION

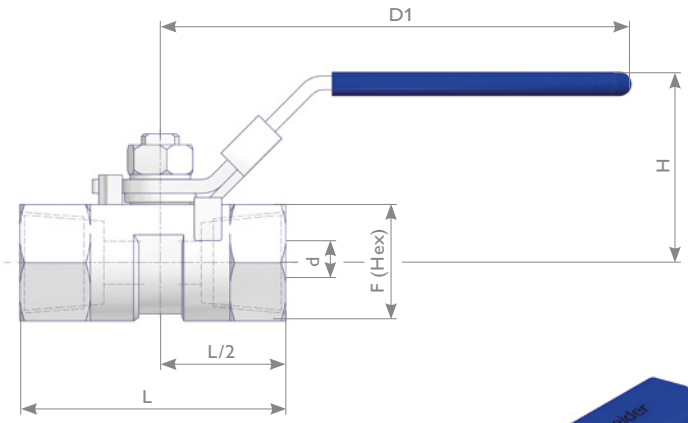
Pressure-Temperature Rating

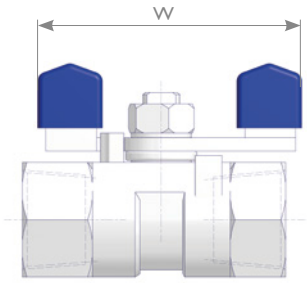


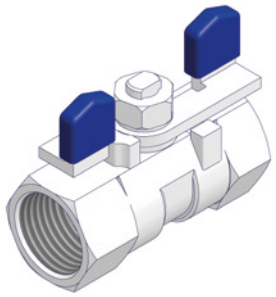
Low Pressure Ball Valves 1,000 psi (69 bar)

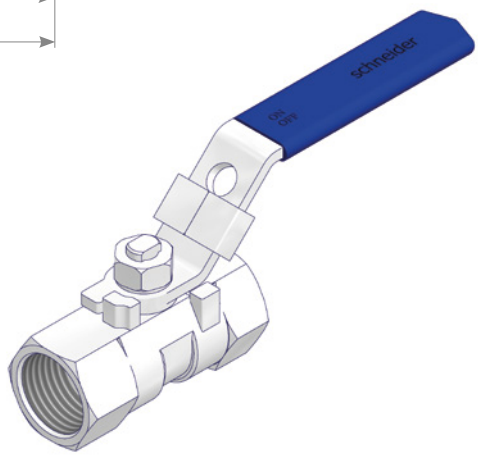
Features

- Floating Ball Design
- One Piece Design
- Reduced Bore
- Ball Valve Seat – PTFE
- Body and Stem: 316 Stainless Steel
- Stem Seal: PTFE
- Max. allowable (Working) Pressure (PS): 69 bar (1,000 psi)
- Anti-Blowout Stem Design
- Connections: Female NPT Threaded
- Test Standard: API 598
- Steam Rating: 125 psi (8.6 bar) WSP
- NACE MR0175 Full Compliance
- 2 Handles are available:
  – Lockable Handle
  – Butterfly Handle

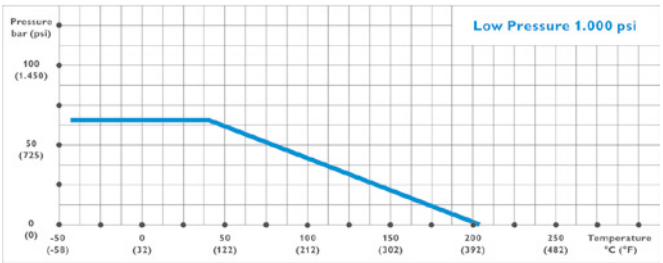








Pressure-Temperature Rating



Materials of Construction

Components	Material	Components	Material
Body	ASTM A351 Gr. CF8M	Packing	PTFE
Cap	ASTM A351 Gr. CF8M	Washer	304
Ball	ASTM A351 Gr. CF8M	Spring Washer	304
Stem	316	Hexagon Nut	304
Ball Seat	PTFE	Handle	304
Thrust Washer	PTFE	Handle Grip	Vinyl
		Locking Plate	304

Ball Valve Dimensions

Size D	Handle Typ	d		D1		W		F (Hex)		L		H		Part Number
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1/4 NPT	Lockable Handle	5.0	0.20	66.0	2.60			17.0	0.67	39.0	1.54	31.0	1.22	520519
	Butterfly Handle					51.0	2.00					30.0	1.18	520731
3/8 NPT	Lockable Handle	7.0	0.28	76.0	3.00			21.0	0.83	44.0	1.73	35.0	1.38	521561
1/2 NPT	Lockable Handle	9.2	0.36	96.0	3.78			25.0	0.98	56.0	2.20	43.0	1.69	520594
	Butterfly Handle					56.5	2.22					34.0	1.34	520730
3/4 NPT	Lockable Handle	12.5	0.49	96.0	3.78			32.0	1.26	59.0	2.32	46.0	1.81	522008
1 NPT		16.0	0.63	110.0	4.33			38.0	1.50	71.0	2.80	50.0	1.97	522135

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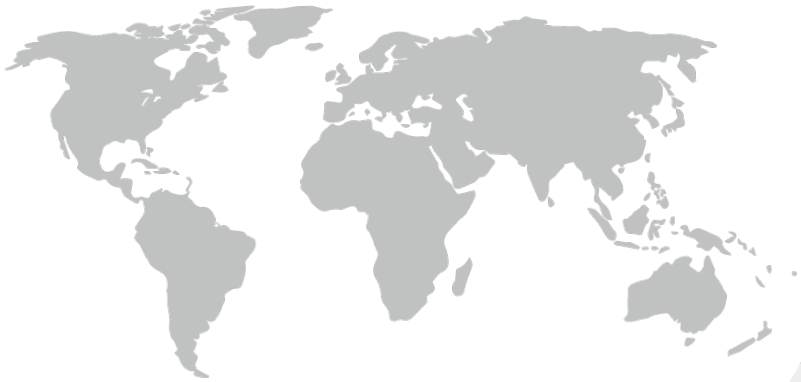

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AS-1901-EN I November 2017