schneider
Tailored to Your Business

Instrumentation Products

Ball Valves and Ball Valve Manifolds

Introduction

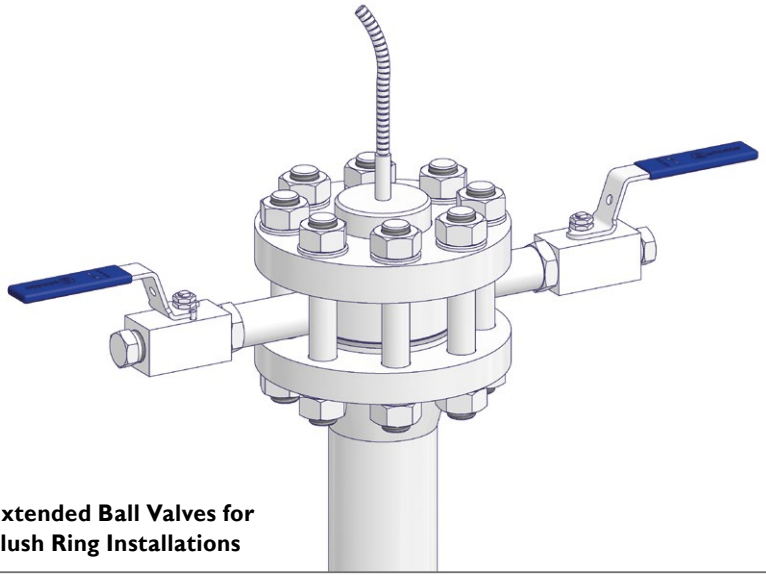
Introduction

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, Ball Valve Manifolds and the relevant Accessories required for instrumentation installations globally.

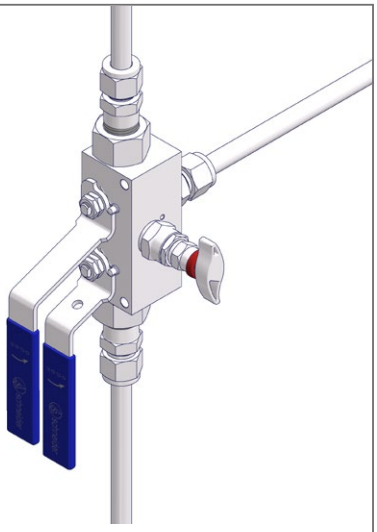
Selection can be made from a comprehensive range of bodies with a variety of connections and material options, optimizing installation and access opportunities. Many of the valves shown in this catalogue are available from stock or within a short period of time. The dimensions shown in this catalogue 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.

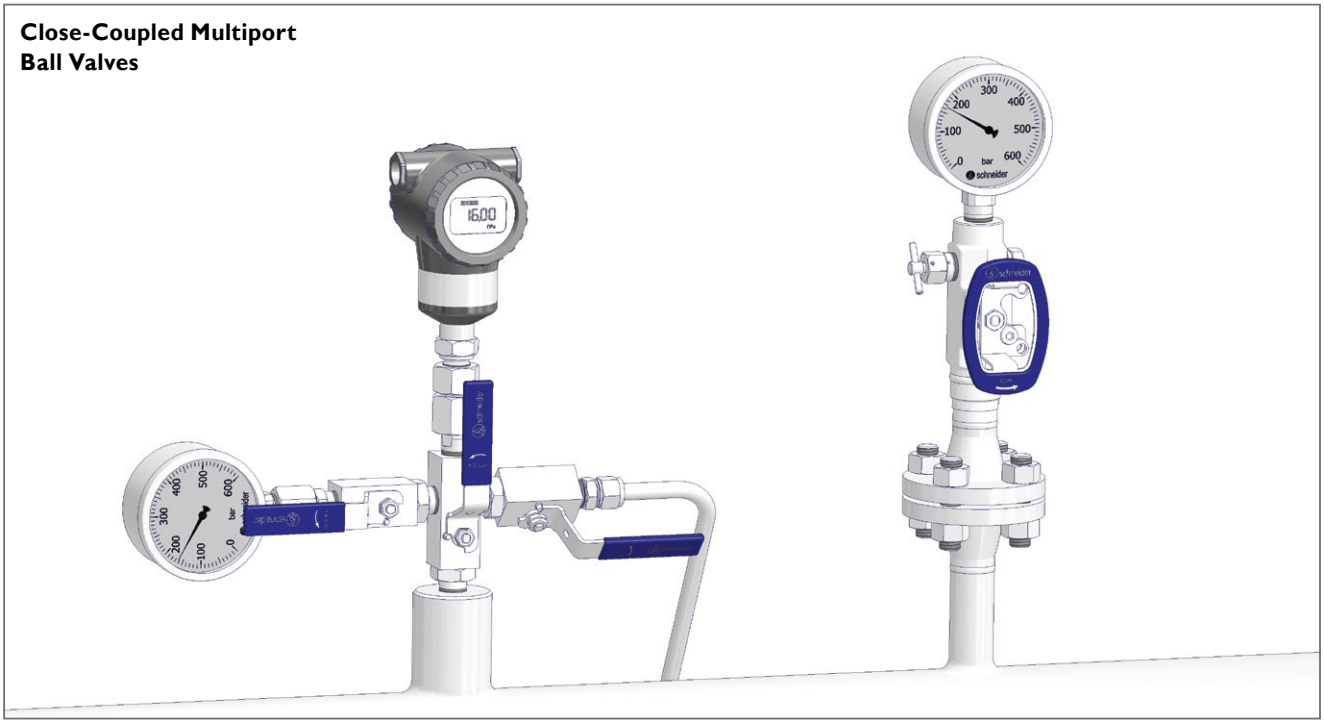


Extended Ball Valves for Flush Ring Installations



Double Block & Bleed Ball Valve Manifold Installation

Close-Coupled Multiport Ball Valves

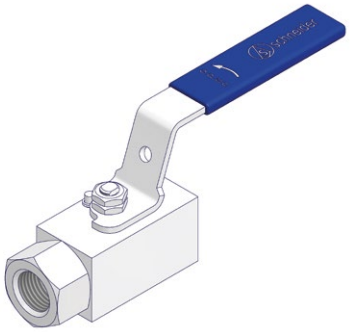


Contents

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 Seal 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
Carbon Steel	A105				A105
Austenitic Stainless Steel	316 quadruple certified*	1.4401	X5CrNiMo17-12-2	S31600	316
		1.4404	X2CrNiMo17-12-2	S31603	316L
	6Mo	1.4547	X 1CrNiMoCuN20-18-7	S31254	
Austenitic-Ferritic Stainless Steel	Duplex	1.4462	X2CrNiMoN22-5-3	S31803	F51
	Superduplex	1.4410	X2CrNiMoN25.7.4	S32750	F53
Nickel Based Alloys	Alloy 400	2.4360	NiCu30Fe	N04400	
	Alloy C-276	2.4819	NiMo 16 Cr 15 W	N10276	
	Alloy 625	2.4856	NiCr22Mo9Nb	N06625	

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

Ball Valve Components

Components	Carbon Steel	Stainless Steel	Exotic Alloys					
	Material / Material No.							
Body	A105	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**.

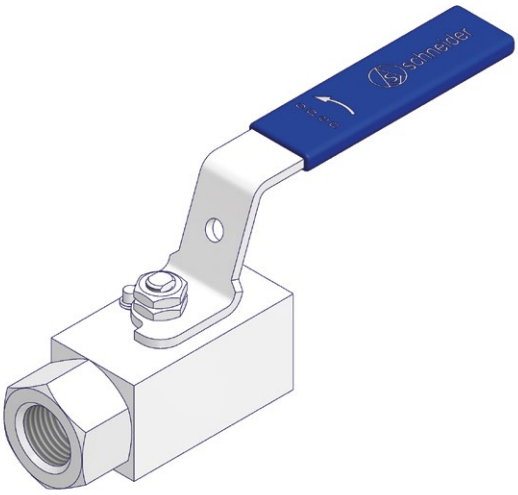
KA Series I Standard Ball Valve Design

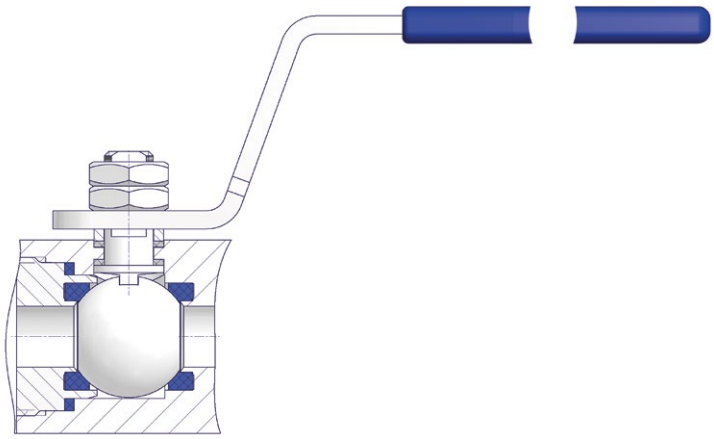
Standard Ball Valve Design – Bore Size 10 mm (0.39")

Screwed Design – Stem Seal: Packing

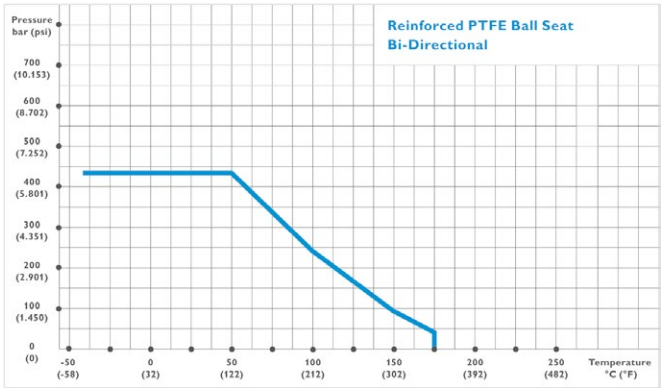
Features

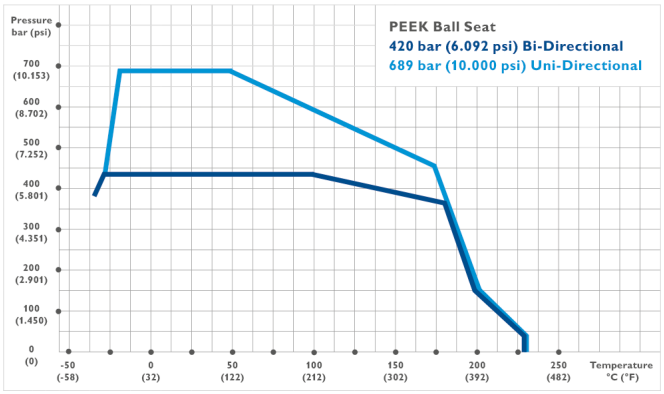
- Floating Ball Design
- Ball Valve Seat:
  – Reinforced PTFE or
  – PEEK
- Ball Seats are encapsulated in end connector / body
- Stem Seal: Standard Packing in PTFE and Graphite
- Anti-Static Design as Standard acc. to ISO 17292
- Anti-Blowout Stem Design
- Seat Leakage Class VI acc. to ANSI/FCI 70-2
- Positive Stop Pins
- 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
- All Non-wetted Parts in 316 Stainless Steel
- Fire Safe tested acc. to ISO 10497 and API 607 for PTFE and PEEK





Pressure-Temperature Ratings





Note: Above-mentioned Pressure-Temperature Ratings are based on the standard material 316 stainless steel.
Other materials as shown on page 5 might have different Pressure-Temperature Ratings.

Low Temperature Limits:

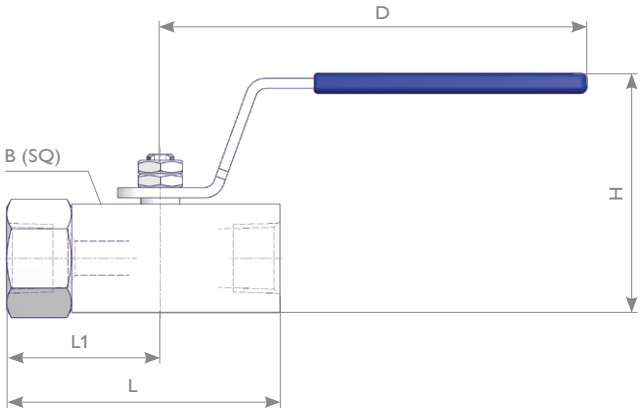
KA1 / KA2 Type 420 bar (6.092 psi): -40°C

Low Temperature Limits:

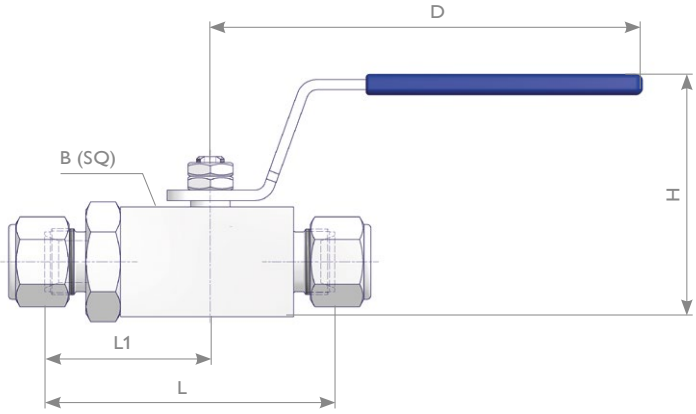
KA3 Type 420 bar (6.092 psi): -30°C
KA3 Type 689 bar (10.000 psi): -30°C
KA4 Type 420 bar (6.092 psi): -30°C

Ball Valve Dimensions

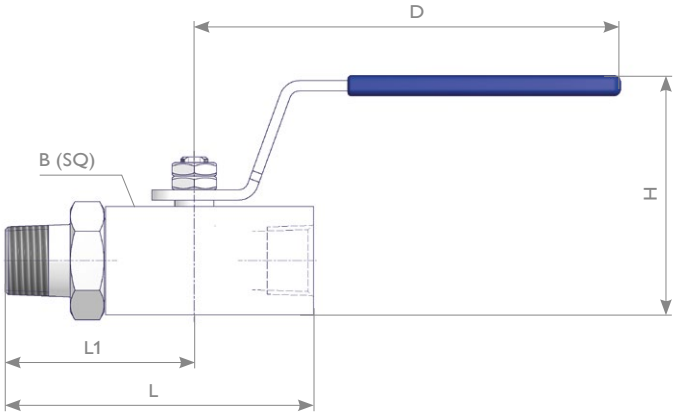
Female x Female



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						

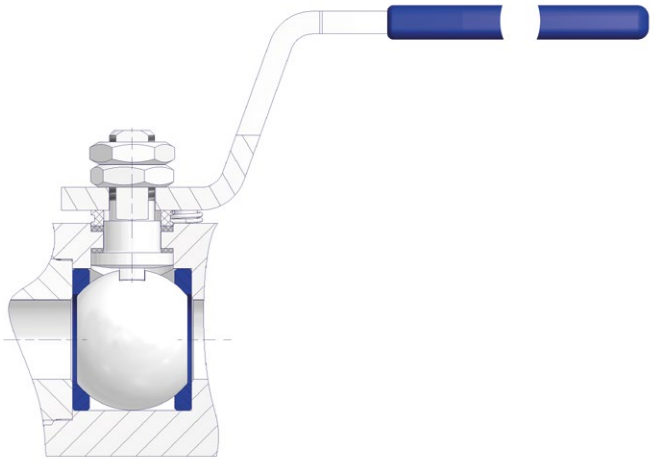
KB & KC Series I Standard Ball Valve Design

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

Screwed Design – Stem Seal: Packing

Features

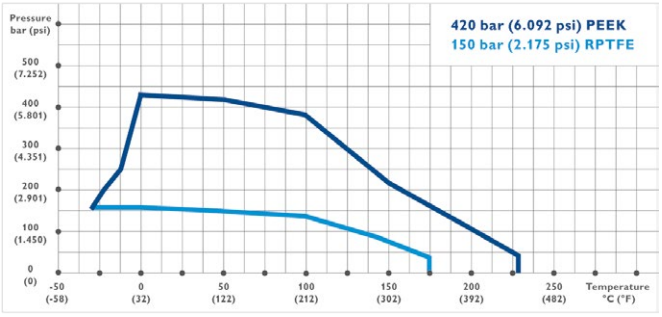
- Floating Ball Design – Bi-Directional
- Ball Valve Seat:
  – PEEK or
  – Reinforced PTFE optional
- Self Venting Ball Seats
- Stem Seal: Reinforced PTFE Packing
- Metal Sealing between body and end connector
- Anti-Static Design as standard acc. to ISO 17292
- Max. allowable (Working) Pressure (PS):
  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

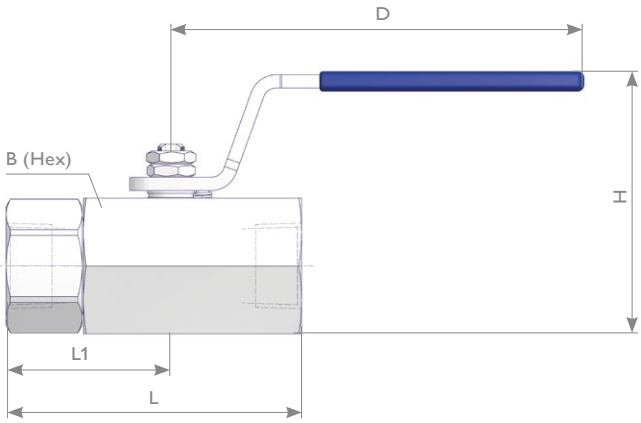
Pressure-Temperature Ratings



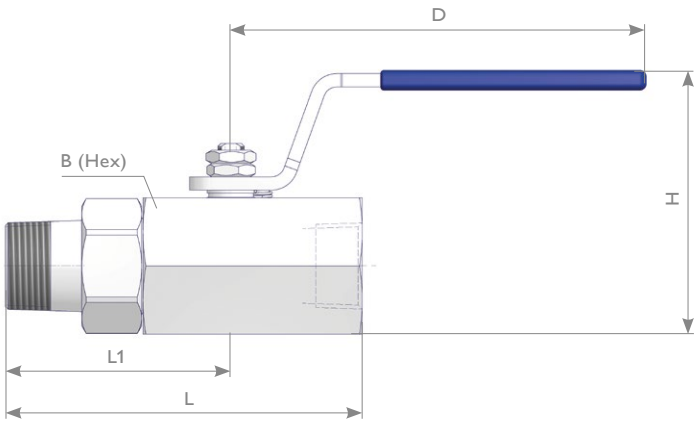
Above-mentioned Pressure-Temperature Rating is based on the standard material 316 stainless steel.
Other materials as shown on page 5 might have different Pressure-Temperature Ratings.

Ball Valve Dimensions

Female x Female



Male x Female



Ball Valve Dimensions

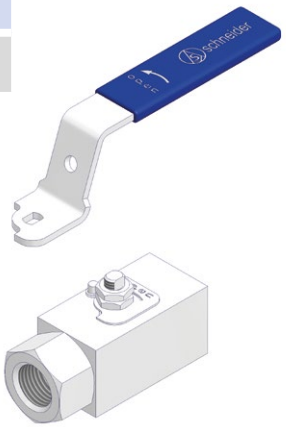
Style	Size	Max. allowable (Working) Pressure bar (psi)	Seat Material	Standard Part Number	Bore Size mm (inch)	Dimensions mm (inch)				
						L	B	D	H	L1
Female x Female	1/2 NPT	150 (2,175)	RPTFE	KB1-LN4LN4-S	14 (0.55")	89.4 (3.52")	41.0 (1.61")	125.0 (4.92")	79.3 (3.12")	49.9 (1.96")
		420 (6,092)	PEEK	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

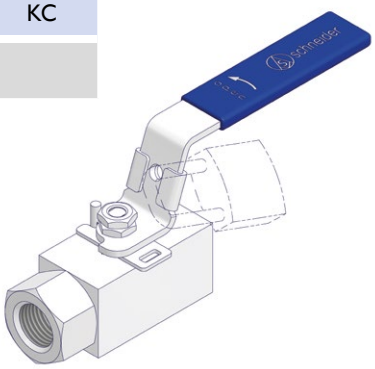
Loose Handle
Handle is supplied separately.
(Option Code R)

KA	KB	KC
available	on request	



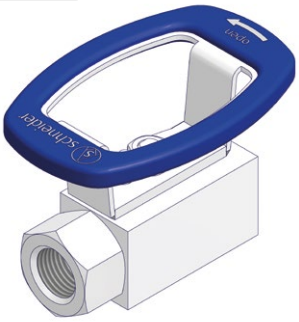
Lockable Handle
Valves can be locked in either the open or closed position with a padlock **(Option Code W)**. Lockable Handle incl. Padlock **(Option Code U)**.

KA	KB	KC
available		



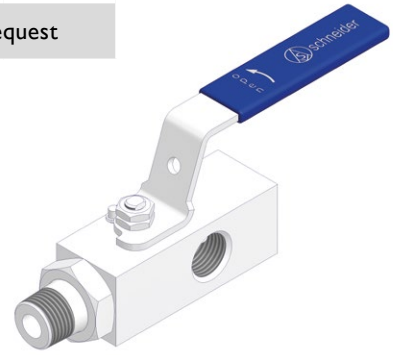
Oval Handle
Oval Handle – Optional to standard lever type.
(Option Code Q)

KA	KB	KC
available	–	



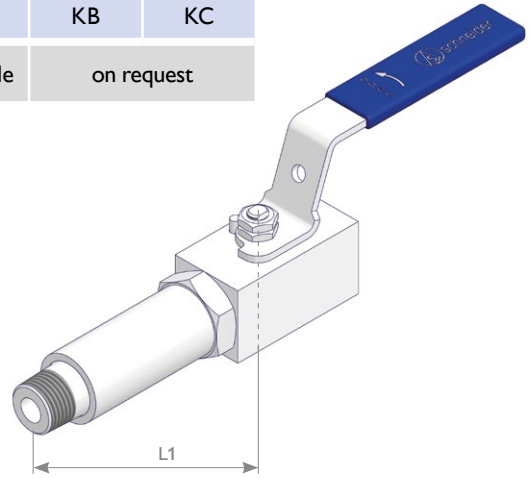
Multi-Ported Ball Valve
Three ports of same size. **(Option Code T)**

KA	KB	KC
available	on request	



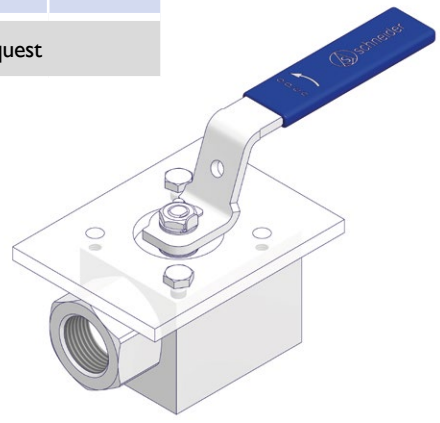
Extended Body
Extended Body – Extended by approx. 60 mm (2.4") and a L1 of 115 (4.52") at KA, 128 (5.04") at KB and 145 (5.7") at KC Series. **(Option Code E)**

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	Lockable Handle incl. Padlock	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.

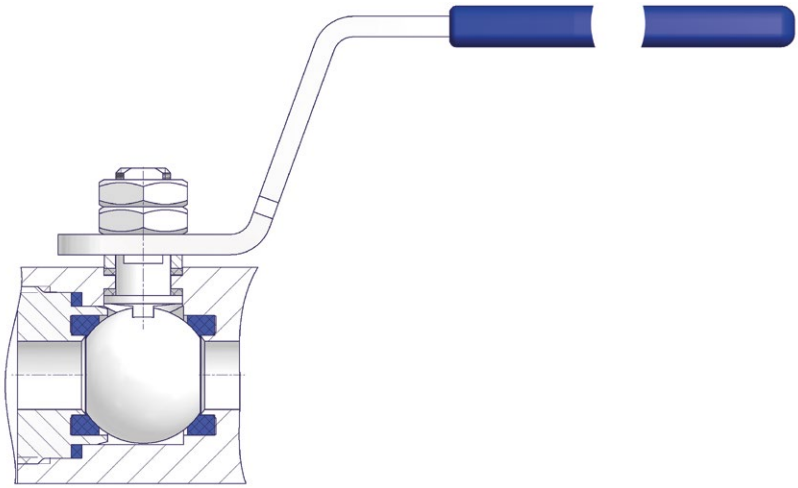
BA Series I Ball Valve Design

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

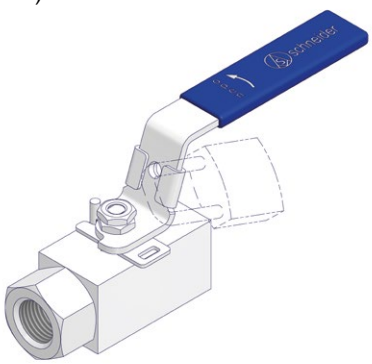
Features

- 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

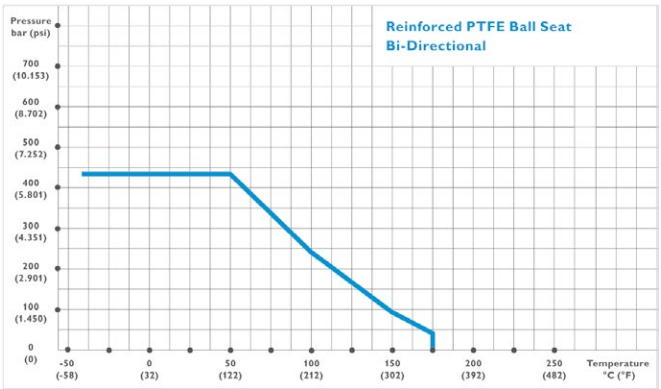
Note: Ball Valve Manifolds with Bore Size 14 / 20 mm available on request.

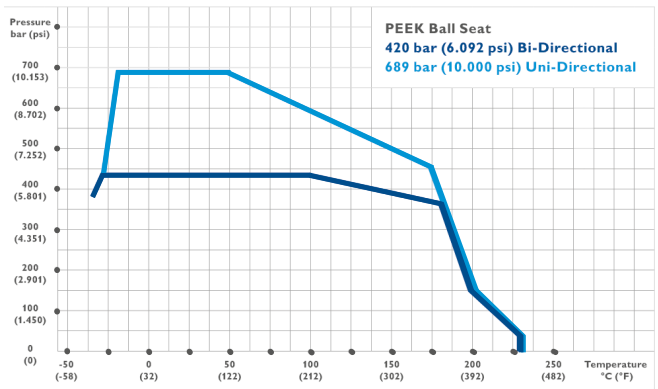


Lockable Handle Design
Valves can be locked in either the open or closed position with a padlock (Option Code W). Lockable Handle incl. Padlock (Option Code U).



Pressure-Temperature Ratings – Ball Valve





Note: Above-mentioned Pressure-Temperature Ratings are based on the standard material 316 stainless steel.
Other materials as shown on page 18 might have different Pressure-Temperature Ratings.

Low Temperature Limits:

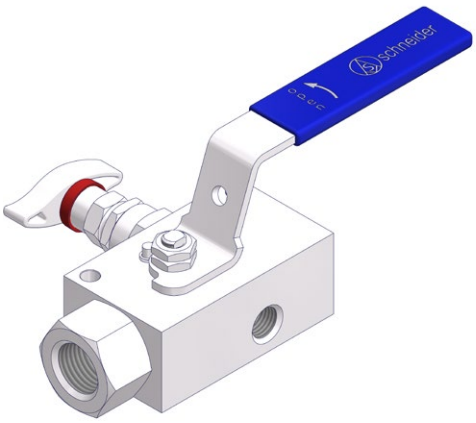
Seal Material: Ball Seat RPTFE -40°C
Ball Seat PEEK -30°C

Block & Bleed Valves

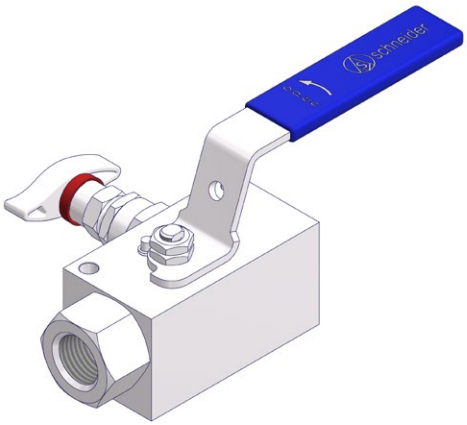
The Double Block & Bleed Ball Valve Manifolds are combining a Primary Isolate Ball Valve and a choice of Ball or Needle Vent/Bleed Valve into one body for applications up to 10,000 psi (689 bar).
The standard end connections are 1/2 NPT, for further options please see ordering information on page 19 or contact the factory.

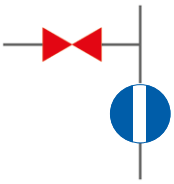
Ball Valve Manifolds with Ball Pattern Isolate (Block) and Needle Pattern Vent

Side Vent - Type BABA



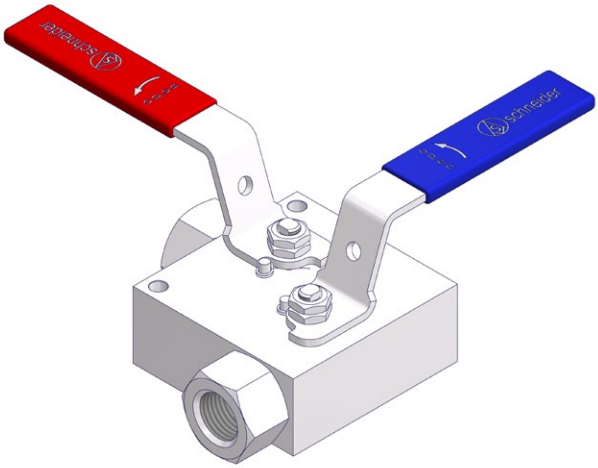
Bottom Vent - Type BABD/BABC

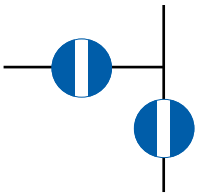




Ball Valve Manifolds with Ball Pattern Isolate (Block) and Vent

Type BACA/BACB





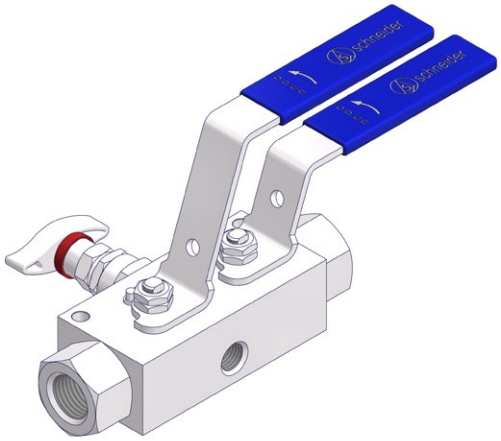
BA Series I Double Block & Bleed Ball Valve Manifolds

Double Block & Bleed Valves

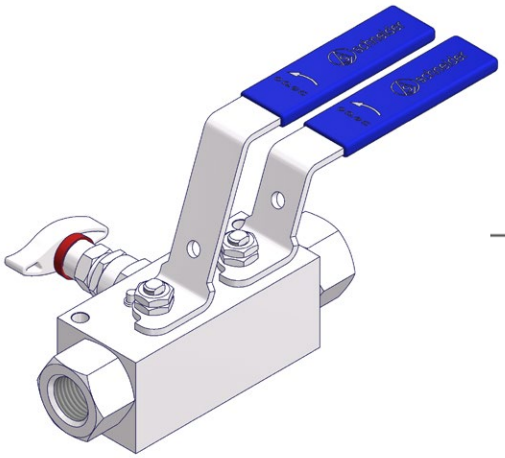
The Double Block & Bleed Ball Valve Manifolds are combining a Primary and Secondary Isolate Ball Valve and a choice of Ball or Needle Vent/Bleed Valve into one body for applications up to 10,000 psi (689 bar).
The standard end connections are 1/2 NPT, for further options please see ordering information on page 19 or contact the factory.

Ball Valve Manifolds with Ball Pattern Isolate (Block) and Needle Pattern Vent

Side Vent - Type BADA

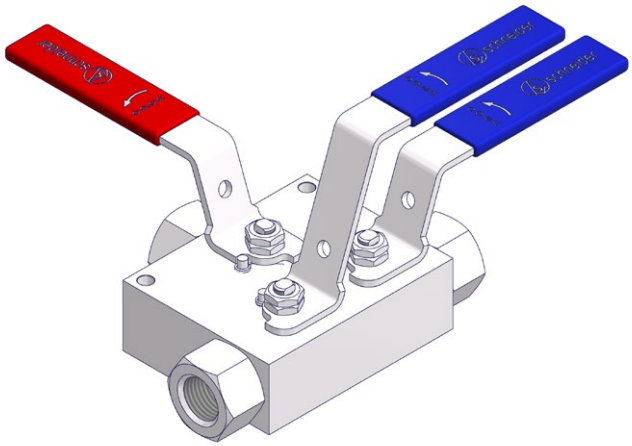


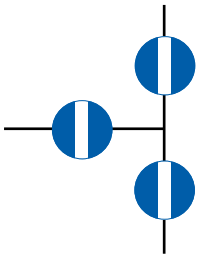
Bottom Vent - Type BADD/BADC



Ball Valve Manifolds with Ball Pattern Isolate (Block) and Vent

Type BAEA/BAEB



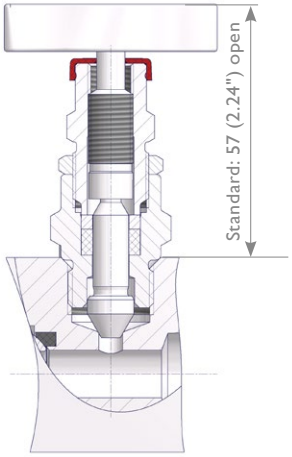


Standard Needle Valve Design – Bore Size 5 mm (0.197")

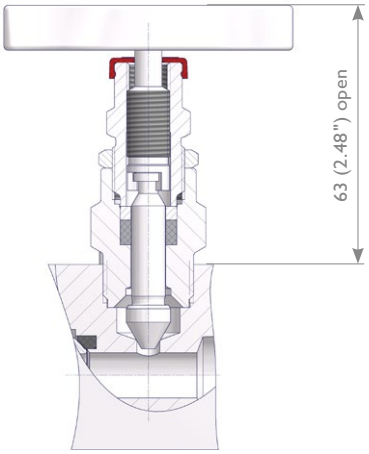
Features

- Integral Valve Seat – Metal to Metal Seated
- Non-rotating Needle
- External Stem Thread – Packing below stem threads. Stem Threads are protected from process media (non-wetted, helps to prevent stems from galling
- Stem with cold rolled threads
- Blow-out proof Needle
- Back Seat – Metal to Metal secondary needle seal
- Lock Pin – Eliminiates unauthorized removal of the bonnet
- Color Coded Dust Cap for Operating thread protection
- Standard Packing in PTFE and Graphite available
- Max. allowable (Working) Pressure (PS): 420 bar (6,092 psi) – 689 bar (10,000 psi) optional
- Anti-Tamper Valve Head Options available
- All non-wetted Parts in 316 stainless steel

Standard Design
420 bar (6,092 psi)

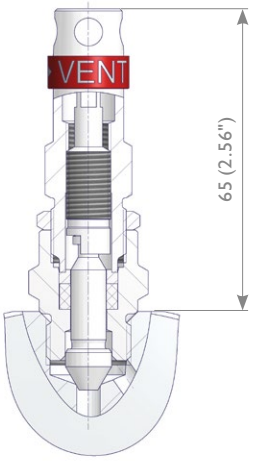


High Pressure Design
689 bar (10,000 psi)

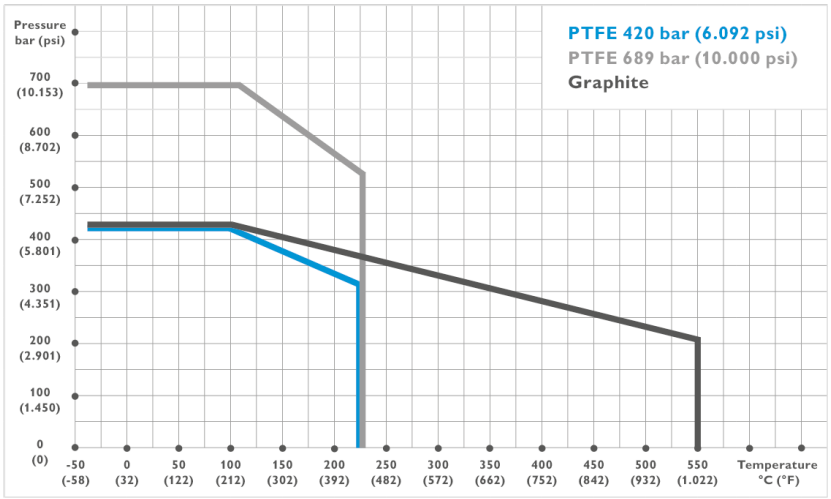


Body-to-Bonnet Seal is below the threads eliminating process fluid corrosion.

Anti-Tamper Valve Head Unit



Pressure-Temperature Ratings – Needle Valve

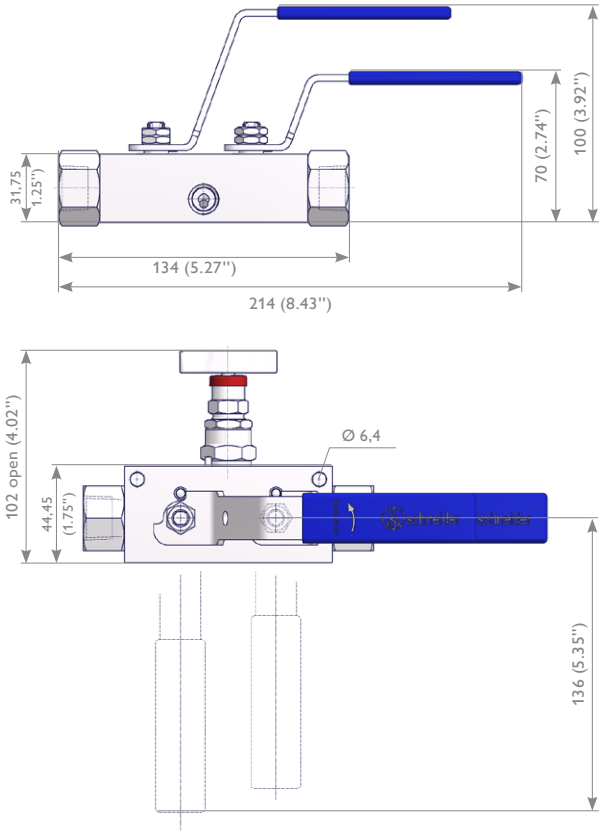


Low-temperature Limits:
- PTFE and Graphite Packing: -40°C (-40°F)
- Carbon Steel ASTM A105: -29°C (20.2°F)

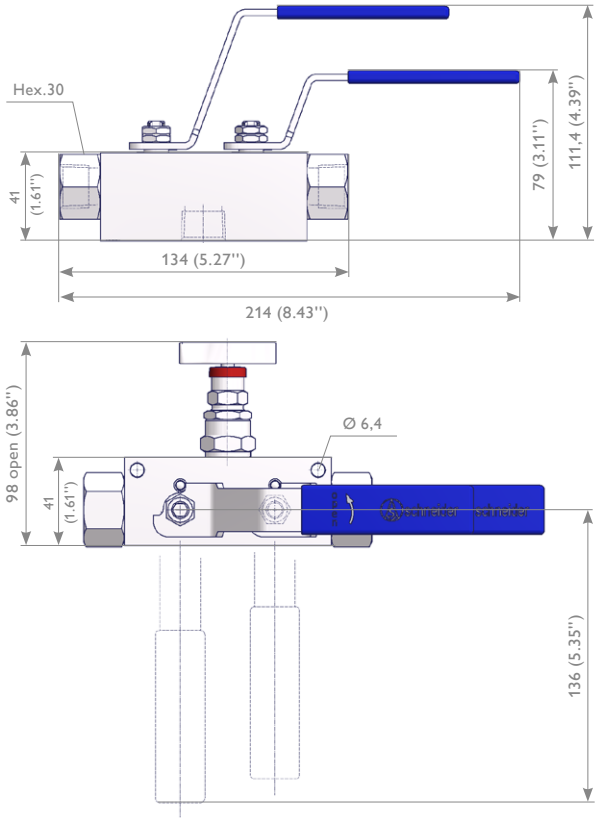
BA Series I Double Block & Bleed Ball Valve Manifold Dimensions

Ball Valve Manifolds with Ball Pattern Isolate (Block) and Needle Pattern Vent

Side Vent - Type BADA

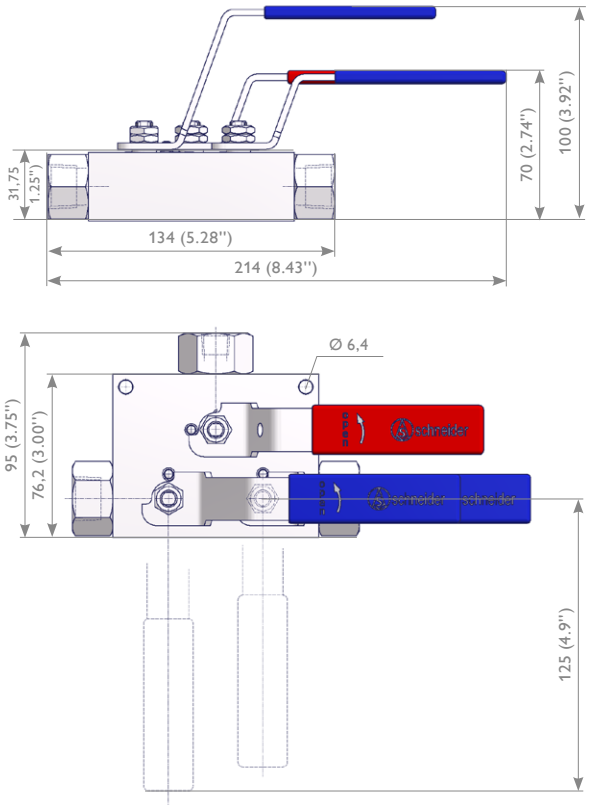


Bottom Vent - Type BADD/BADC



Ball Valve Manifolds with Ball Pattern Isolate (Block) and Vent

Side Vent - Type BAEA/BAEB

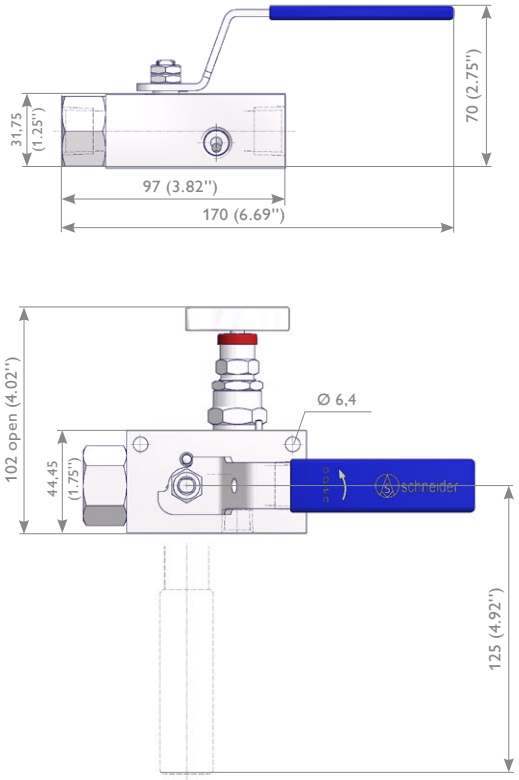


Note:
Ball Valve Manifold Dimensions based on standard design 420 bar (6.092 psi)

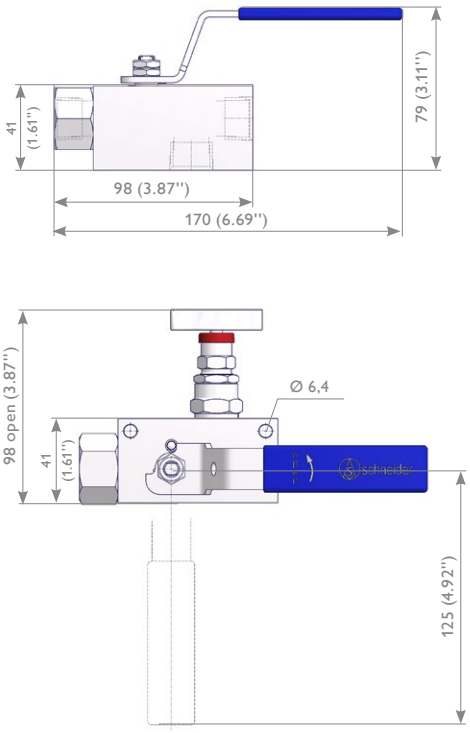
BA Series I Block & Bleed Ball Valve Manifolds Dimensions

Ball Valve Manifolds with Ball Pattern Isolate (Block) and Needle Pattern Vent

Side Vent - Type BABA

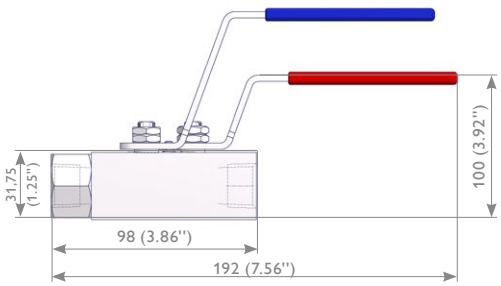


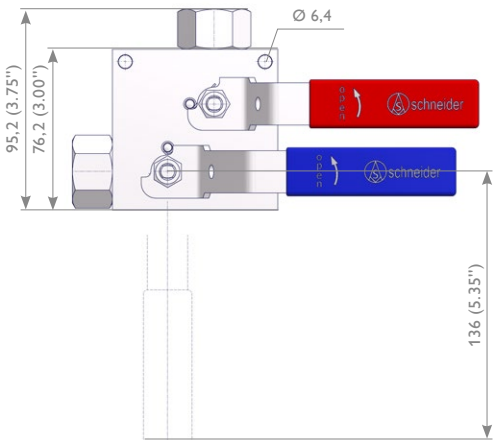
Bottom Vent - Type BABD/BACC



Ball Valve Manifolds with Ball Pattern Isolate (Block) and Vent

Type BACA/BACB





Note:
Ball Valve Manifold Dimensions based on standard design 420 bar (6.092 psi)

BA Series I Materials and General Features

Materials

	Type	Components	Stainless Steel	Exotic Materials		
Wetted Parts	Ball Valve	**Body**	316/316L	Alloy 400	Alloy C-276	Duplex
		Body End Connector				
		Ball				
		Stem				
		Ball Seat	Reinforced PTFE or PEEK			
		Body Seals	PTFE, Reinforced PTFE or Graphite			
	Needle Valve	**Bonnet**	316/316L	Alloy 400	Alloy C-276	Duplex
		Needle				
		Packing	PTFE or Graphite			

All Non-wetted Parts in 316 Stainless Steel except Handle Grip in Vinyl

General Features

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).

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 Manifold → 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.

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

Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
B	A	D	A	S	1	–	L	N	4	L	N	4	–	A			

BA **Ball Valve Manifold – Bore Size 10 mm**

Type

D	Double Block & Bleed | Ball x Ball x Needle
E	Double Block & Bleed | Ball x Ball x Ball
B	Block & Bleed | Ball x Needle
C	Block & Bleed | Ball x Ball

Vent Connection

	Size	Orientation
A	1/4 NPT Female	Side Vent
B	1/2 NPT Female	Side Vent (Not for BAD/BAB Type)
C	1/4 NPT Female	Bottom Vent (not for BAE/BAC Type)
D	1/2 NPT Female	Bottom Vent (not for BAE/BAC Type)

Material

S	316/316L
F	S31803 (Duplex)
M	Alloy 400
H	Alloy C-276

Seal Material

	Packing	Ball Seat
1	PTFE	Reinforced PTFE
2	Graphite	Reinforced PTFE
3	PTFE	PEEK
4	Graphite	PEEK

Inlet

LN	NPT Female Thread
JN	NPT Male Thread
TK	1/2 NPT Female Thread c/w Twin Ferrule Tube Fitting Connector

	Thread Size		Fitting Size (for TK-Type)
2	1/4"	3	10 mm
3	3/8"	4	12 mm
4	1/2"	8	3/8"
6	3/4"	9	1/2"

Outlet

LN	NPT Female Thread
JN	NPT Male Thread
TK	1/2 NPT Female Thread c/w Twin Ferrule Tube Fitting Connector

	Thread Size		Fitting Size (for TK-Type)
2	1/4"	3	10 mm
3	3/8"	4	12 mm
4	1/2"	8	3/8"
6	3/4"	9	1/2"

Options – Specify in alphabetical order

A	Vent Port Plugged
M	Wetted Parts with 3.1 Certificate
P	Pressure Testing acc. to API598
H	10,000 psi → Ball seat in PEEK

Operation Options*

W	Lockable Handle
U	Lockable Handle Incl. Padlock

* Option Code W and U: Needle Valve with Anti-Tamper Head Unit

K Series I General Features

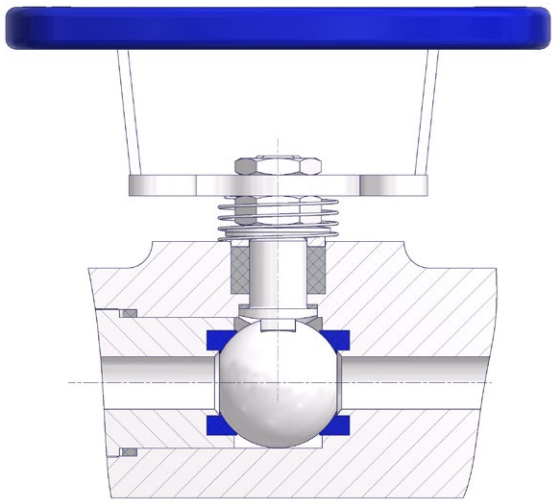
K Series Ball Valves

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.

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 types shown in this catalogue are available from stock or within a short period of time.

Features

- Floating Ball Design – Bi-Directional
- 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
- Stem Seal: PTFE or Graphite
- Max. allowable (Working) Pressure (PS): 250 bar (3,626 psi) | Class 1,500
- Anti-Blowout Stem Design
- Anti-Static Design
- Low Operation Torque
- Fire Safe tested acc. to ISO 10497 / API 607
- Wide Range of Connections available
- Pressure Test acc. to ISO 5208
  – Leakage Rate A acc. to ISO 5208
- 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 conformitiy optional
- Vented Ball
- Spring Loaded Ball Seat } Uni-Directional
- Ball Seat: PEEK, PCTFE and PFA
- Stellited Ball
- Padlock for Lockable Handle
- Extended Stem
- Cryogenic Applications tested acc. BS 6364
- 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.

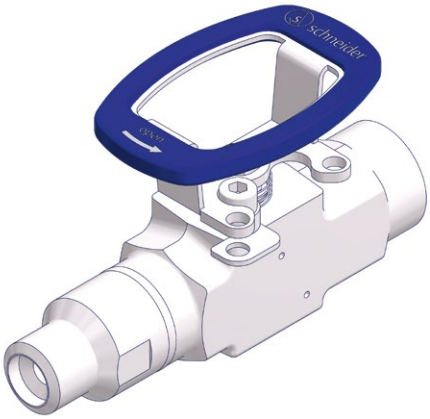
Components	Carbon Steel	Stainless Steel
	Material / Material No.	
Body	1.0460 / A105	F316 / F316L
Body End Connector		
Ball	316 / 316L	
Stem		
Seat Carrier	316 /316L	
Disc Spring	Inconel 718	
Primary Stem Seal	Reinforced PTFE	
Ball Seat	PTFE or Reinforced PTFE	
Packing	PTFE or Graphite	
Body Seals		
Gland	316	
Hex Nut	300 Series	
Locking Plate		
Oval Handle		
Handle Grip	Vinyl	
Stop Screw	A2	

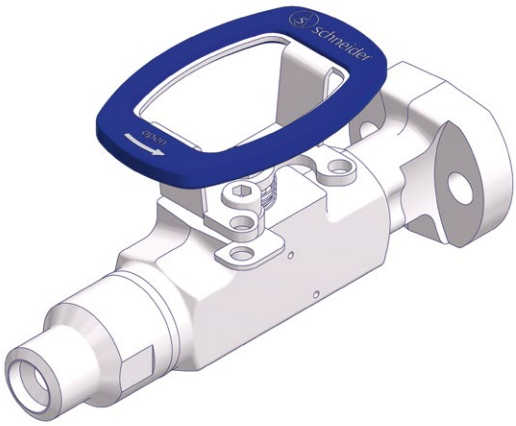
Wetted components listed in **bold**.

Standard Ball Valve Design

Single-Ported Ball Valve with following connections:

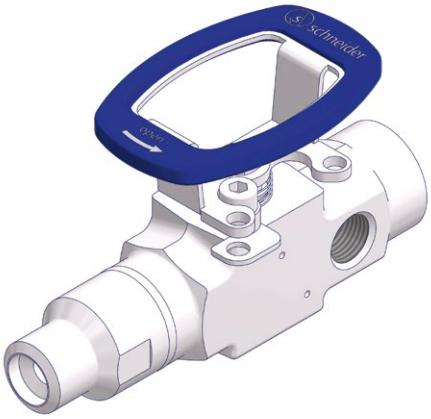
Inlet: Flanged, Threaded or Welded
Outlet: Threaded or Flanged

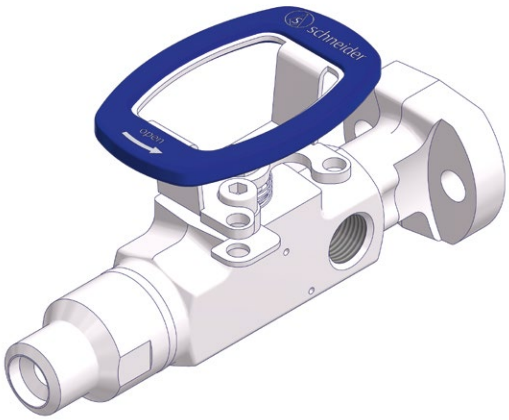


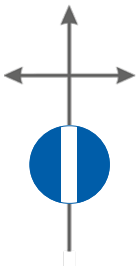


Multi-Ported Ball Valve with following connections:

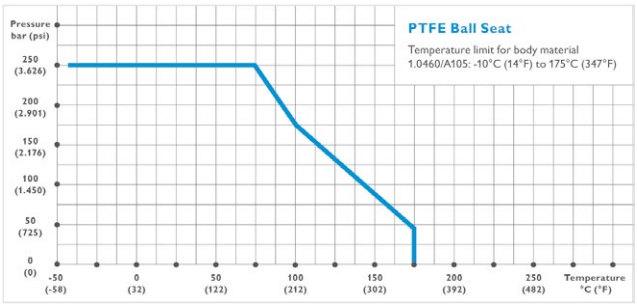
Inlet: Flanged, Threaded or Welded
Outlet – Multiport Type: Threaded or Flanged & Threaded

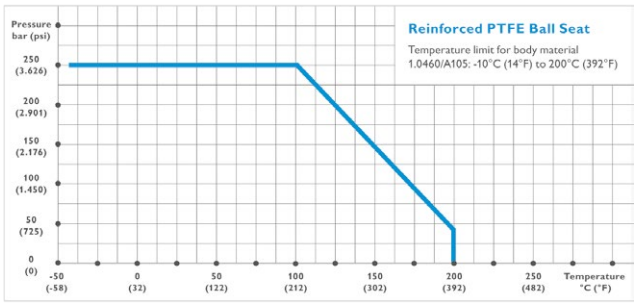






Pressure-Temperature Ratings

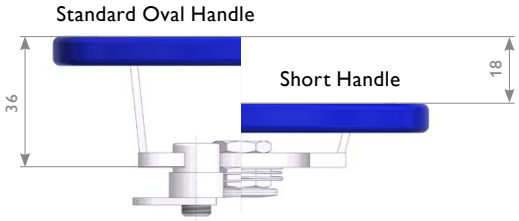




K Series I Operation and Bonnet Options

Short Handle

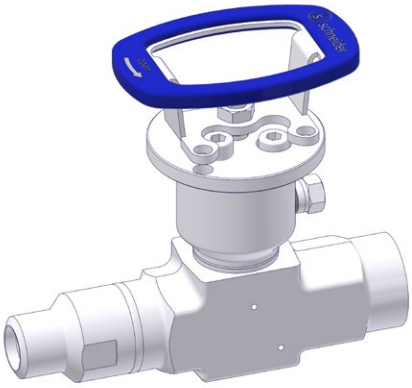
Similiar in shape to the Standard oval handle but shortened by 18mm



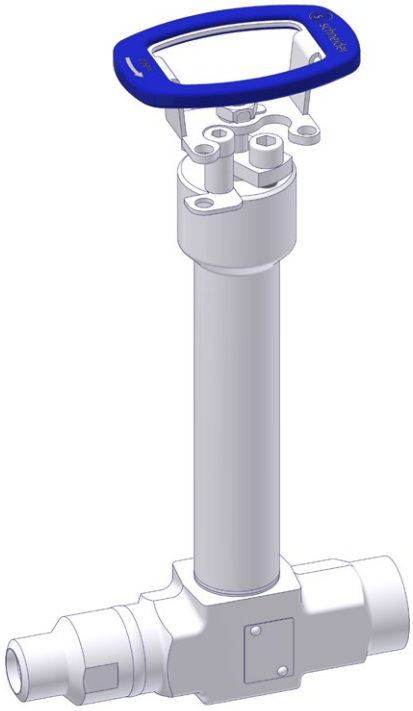
Extended Handle

Fugitive Emission Bonnet (FE Bonnet)

with lantern ring and threaded vent port



Extended Bonnet for Cryogenic Service



K Series I Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
K	E	A	S	-	B	F	S	S	A	A	-	6	P	N	6	-	x	x	x	-	x

K **Ball Valve Fully Welded – Bore Size 10 mm**

Rating

D	Class 900
E	Class 1,500

Bonnet

A	Standard	L	Cryo (fill also box 4 with "L")
F	Fugitive Emission Bonnet		

Ball / Ball Seat Design

S	Standard (Bi-Directional)
V	Vented Ball (Uni-Directional)

Inlet

A	I-Flange	M	Male Thread
B	Butt Weld End	N	ASME Welding Neck Flange Sched.80
F	Female Thread	S	Socket Weld End

Outlet

A	I-Flange	M	Male Thread
B	Butt Weld End	S	Socket Weld End
F	Female Thread		

Material Body

A	Alloy 20 UNS N08020	L	ASTM A350 LF2
C	A105 / 1.0460	M	Alloy 400 UNS N04400
H	Alloy C-276 UNS N10276	S	1.4404 / 1.4401 / 316 / 316L

Material Ball

A	Alloy 20 UNS N08020	M	Alloy 400 UNS N04400
H	Alloy C-276 UNS N10276	S	1.4404 / 1.4401 / 316 / 316L

Material Packing

A	PTFE	W	TA-Luft
B	Graphite		

Material Ball Seat

A	PTFE	K	PCTFE
C	Carbon filled PTFE	P	PEEK
F	PFA		

Inlet

Thread Type		Butt Weld End		ASME Flange		Flange	
N	NPT	4	1/2" pipe	A	1/2" RF	T	Flange Interface
		6	3/4" pipe	C	1/2" RTJ		
		8	1" pipe	D	3/4" RF		
		Socket Weld End		G	1" RF		
		4	For 1/2" pipe	J	1" RTJ		
		6	For 3/4" pipe	K	1 1/2" RF		
				M	1 1/2" RTJ		
				N	2" RF		
				Q	2" RTJ		

Inch Size		Wall Thickness BW		ASME Flange		Flange Interface	
2	1/4	N	Schedule 40	A	Class 150	A	Special Groove 25,5x21,3x1,2
3	3/8	P	Schedule 80	B	Class 300	D	EN 61518-A
4	1/2	Q	Schedule 160	C	Class 600	E	EN 61518-B
6	3/4			D	Class 900		
8	1	A	For all SW	E	Class 1500		
				Note: Class 2500 is too high for this ball valve			

Outlet

Thread Size		Butt Weld End		Flange	
N	NPT	4	1/2" pipe	T	Flange Interface
		6	3/4" pipe		
		8	1" pipe		
		9	2" pipe		
		Socket Weld End			
		4	For 1/2" pipe		

Inch Sizes		Wall Thickness BW		Flange Interface	
2	1/4	N	Schedule 40	A	Special Groove 25,5x21,3x1,2
3	3/8	P	Schedule 80	D	IEC 61518-A
4	1/2	Q	Schedule 160	E	IEC 61518-B
6	3/4				
8	1	**A**	**Socket Weld**		

Options – Specify in alphanumerical order

A	Extended Handle	K	Cleaned for Isocyanate Service (ISO)	R	P3 - Finish Coating (11-P3)
B	Cleaned for Oxygen Service (O2)	L	Handwheel Low	T	Multiport 1/2NPT Female
D	Cleaned for Chlorine Service (CL2)	M	Wetted Parts with 3.1 certificate	W	Accessory kit - 2x 7/16-20UNFx1" ASTM A193 B8M Cl.2; 1x seal ring
E	Extended Body	P	Cleaned for Phosgene Service (PHS)		
F	Cleaned for Ethylene Oxide Service (EO)	Q	P1 - Primer Coating (11-P1)		

Options – Instrumentation Hardware Sets*

Configuration (Outlet 1 x Outlet 2 x Outlet 3) - thread or flange interface specified in digit 15+16				Accessories
A	Thread x vent valve x plug	C	Thread x hand valve - seal welded x plug - seal welded	None
B	Plug x thread x vent valve	D	Plug - seal welded x thread x hand valve - seal welded	None
E	Flange interface x vent valve x plug	G	Flange interface x hand valve - seal welded x plug - seal welded	2x 7/16-20UNFx1", ASTM A449 Type 1, 1x seal ring*
F	Plug x flange interface x vent valve	H	Plug - seal welded x flange interface x hand valve - seal welded	2x 7/16-20UNFx1", ASTM A449 Type 1, 1x seal ring*

Wetted Parts according to a.m. material list are supplied according to NACE MR0175/ MR0103 and ISO 15156/17945 (latest issue)

Note: Not every configuration which can be created in the ordering information if feasible / available.

* More information you will find in our brochure *AS-1601 - Instrumentation Hardware.*

KM Series I Metal Seated Ball Valves

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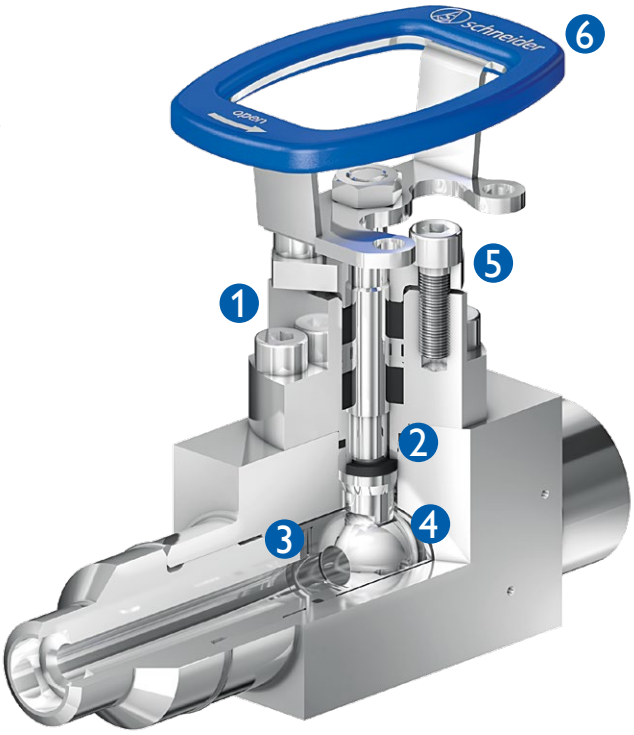
Extreme operating conditions with temperatures up to 450°C (842°F) and pressures up to 420 bar (6,092 psi) require special sealing technology in ball valves.

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.

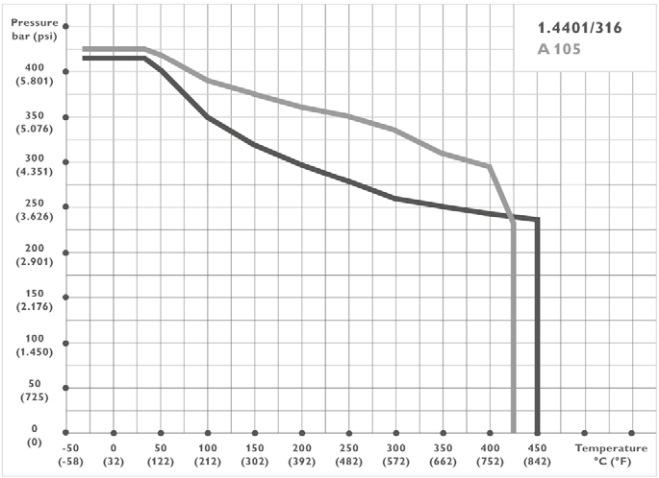
When developing the KM Series AS-Schneider uses the latest surface and material knowledge combined with comprehensive engineering know-how. The result is a ball valve with zero leakage even under extreme operating conditions with respect to working pressure and temperature – even though a smooth operation 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 LF2 / A105N
- 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



Pressure-Temperature Rating



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

KM Series I Innovative 'Dissolution' Ball Valve Design

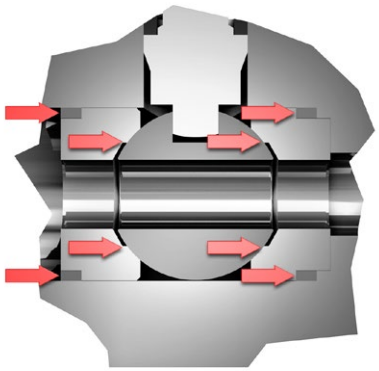
Best tightness performance with maximum comfort

Large forces are required to preserve the tightness between ball and ball seats and the tightness between ball seats and valve body. These forces are often applied by a screw connector or when assembling the ball valve body (for example a three piece body).

In a conventional design, the transmission of force of the ball seat to valve body sealing is being effected directly by the ball, so as the pressure increases, the actuation torque also rises significantly. The max. allowable (Working) Pressure (PS) of Metal Seated Ball Valves from most manufacturers is thus about 100 bar – because this is the limit that still permits actuation of the valve.

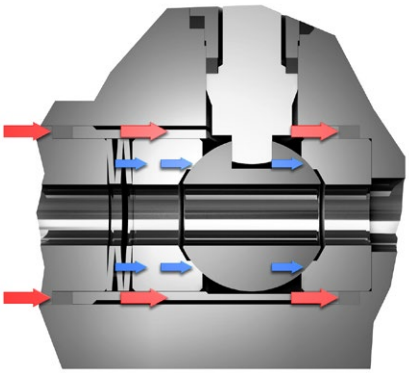
With the 'Dissolution' Ball Valve Design, AS-Schneider has introduced an innovative solution. This patented design offers an optimum distribution of forces and loads in the valve, so they are only present where they are actually needed. The ball valve can thus be actuated without problems even under extreme conditions.

Conventional Ball Valve Design



The forces required to maintain the tightness are stressing all components - even the ball and ball seats. The operating torque is thus very high.

'Dissolution' Ball Valve Design



The forces needed to maintain the tightness between ball seat and valve body are only directed onto the corresponding graphite seal rings. The ball is only spring-loaded, which ensure a low, defined, minimum pressure off the balls on the ball seat. A smooth operation is the consequence.

KM Series I Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
K	M	9	-	L	N	4	L	N	4	-	S	x	x	x	x	-	x

KM — Metal Seated Ball Valve Series

Seal Material

	Packing	Ball / Seat	End Connector Seal Ring
9	Graphite	Coated 1.4401/316	Graphite

Inlet

	Thread Type		Butt Weld End		Butt Weld End		Flange
LN	NPT	4	1/2" pipe	A	1/2" pipe	T	Flange Interface
		6	3/4" pipe	C	3/4" pipe		
		8	1" pipe	D	1" pipe		
		9	2" pipe	F	1/2" pipe		
			Socket Weld End	G	3/4" pipe		
		4	For 1/2" pipe	J	1" pipe		
				K	1/2" pipe		
				M	3/4" pipe		
				N	1" pipe		
				Q	1/2" pipe		

	Thread Size		Wall Thickness BW	1	Flange Interface
4	1/2	N	Schedule 40	A	Special Groove 25,5x21,3x1,2
6	3/4	P	Schedule 80	D	IEC 61518-A
		A	**Socket Weld End**	E	IEC 61518-B

Outlet

	Thread Type		Butt Weld End		Flange
LN	NPT Female	A4	1/2" pipe	TD	Acc. IEC 61518 - Type A
LH	BSP Parallel (G) Female - DIN3852	A6	3/4" pipe		
		A8	1" pipe		
			Socket Weld End		
		D4	For 1/2" pipe		
		D6	For 3/4" pipe		

	Thread Size		Wall Thickness BW	1	Flange Interface
4	1/2	N	Schedule 40	A	Special Groove 25,5x21,3x1,2
6	3/4	P	Schedule 80	D	IEC 61518-A
		A	**Socket Weld End**	E	IEC 61518-B

Material Body | Ball and Ball Seat

C	1.0460/A105 (Body) | 1.4401/316 incl. coating (Ball and Ball Seat)
S	1.4401/316 (Body) | 1.4401/316 incl. coating (Ball and Ball Seat)

Options – Specify in alphabetical order

B	Cleaned for Oxygen Service
E	Extended Body
M	Wetted Parts with 3.1 certificate
P	Pressure Testing acc. to API 598
T	Multiport Design - Three outlet ports of same size
U	Padlock for Lockable Handle
W	Accessory kit - 2x 7/16-20UNFx1", ASTM A193 B8M Cl. 2, 1x seal ring (material same as ball valve packing, either graphite or PTFE)

Options - Instrumentation Hardware Sets

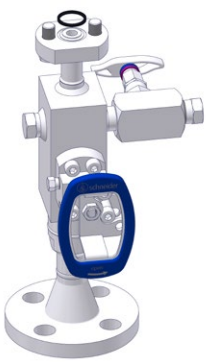
	Configuration (Outlet 1 x Outlet 2 x Outlet 3) - thread or flange interface specified in digit 8 to 10)	Accessories
A	Thread x vent valve x plug	None
B	Plug x thread x vent valve	None
C	Thread x hand valve - seal welded x plug - seal welded	None
D	Plug - seal welded x thread x hand valve - seal welded	None
E	Flange interface x vent valve x plug	2x 7/16-20UNFx1", ASTM A449 Type 1, 1x seal ring*
F	Plug x flange interface x vent valve	2x 7/16-20UNFx1", ASTM A449 Type 1, 1x seal ring*
G	Flange interface x hand valve - seal welded x plug - seal welded	2x 7/16-20UNFx1", ASTM A449 Type 1, 1x seal ring*
H	Plug - seal welded x flange interface x hand valve - seal welded	2x 7/16-20UNFx1", ASTM A449 Type 1, 1x seal ring*

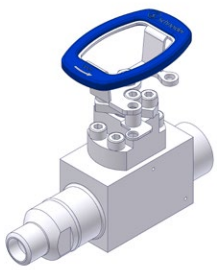
** seal ring material same as ball valve packing, either graphite or PTFE*

Wetted Parts according to a.m. material list are supplied according to NACE MR0175/MR0103 and ISO 15156/17945 (latest issue)

Notes: Not every configuration which can be created in the ordering information is feasible / available.

KM Series Ball Valve | Examples

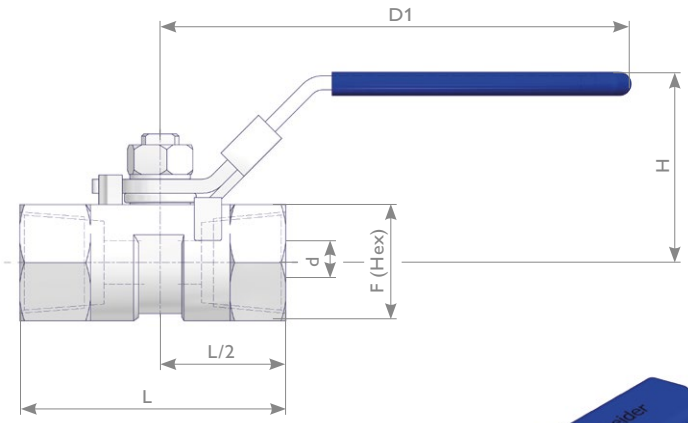


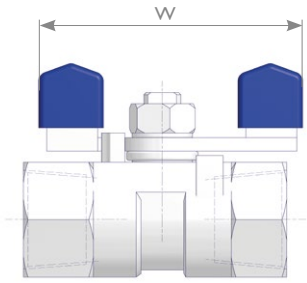


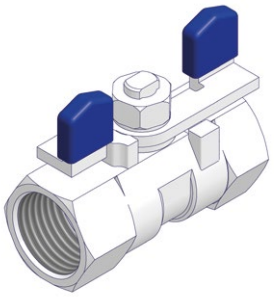
Low Pressure Ball Valves 1,000 psi (69 bar)

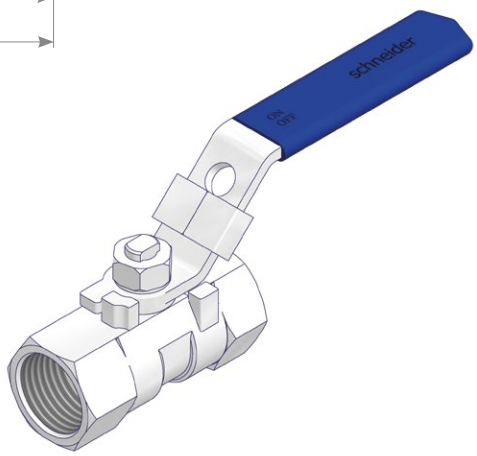
Features

- 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 available
- 2 Handles are available:
  – Lockable Handle
  – Butterfly Handle

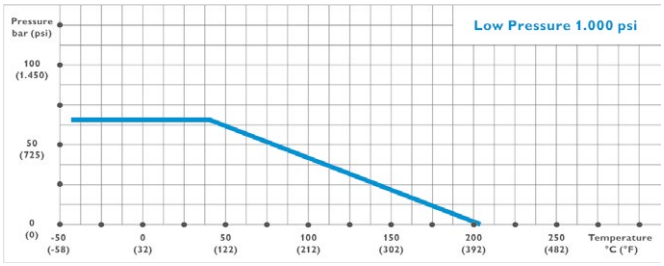








Pressure-Temperature Rating



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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