

Instrumentation Hardware

Close-Coupled Installation Hardware



Introduction

Introduction

The AS-Schneider Group with its headquarters in Germany is one of the World's Leading Manufacturers of Instrumentation Valves, Manifolds, Flush Rings and combined customized solutions named as Close-Coupled Installation Hardware. AS-Schneider also offers a large variety of Ball Valves and the relevant Accessories required for instrumentation installations globally.

This brochure is an extract only, if you need further information, you can find them on our website

Instrumentation Ball Valves --> <https://as-schneider-inbound.com/instrumentation-ball-valves/>

Close-Coupled Flush Rings --> <https://as-schneider-inbound.com/flushrings/>

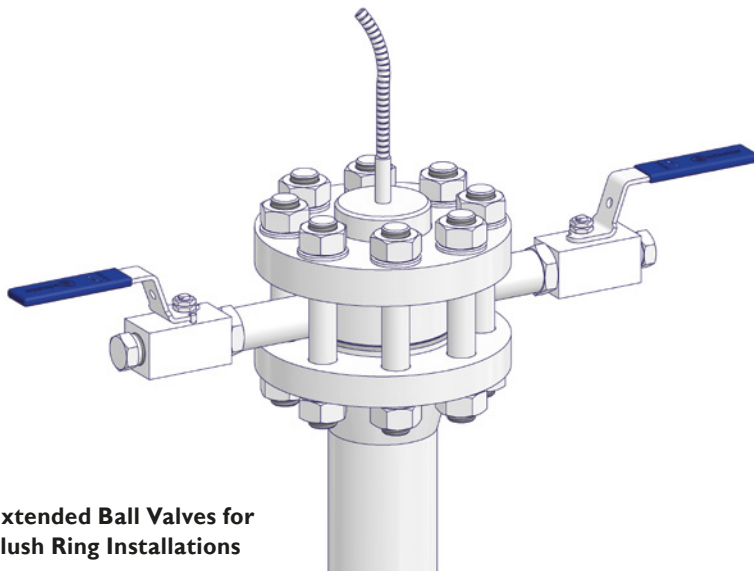
Close-Coupled Installation Details --> <https://as-schneider-inbound.com/close-coupled-installation-details/>

or get in direct contact with your responsible sales team.

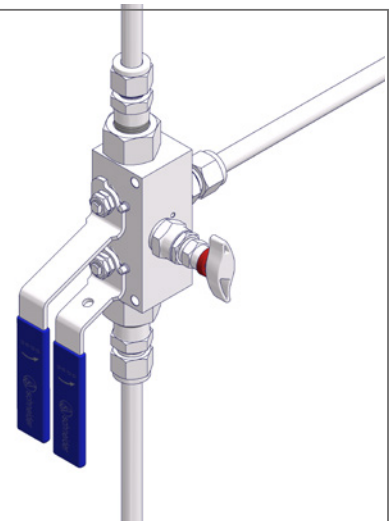
Note: Not every configuration which can be created in the ordering information is feasible / available.

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.

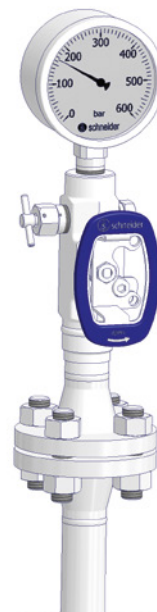


**Extended Ball Valves for
Flush Ring Installations**



**Double Block & Bleed Ball
Valve Manifold Installation**

**Close-Coupled Multiport
Ball Valves**



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K Series I Standard Ball Valve Design

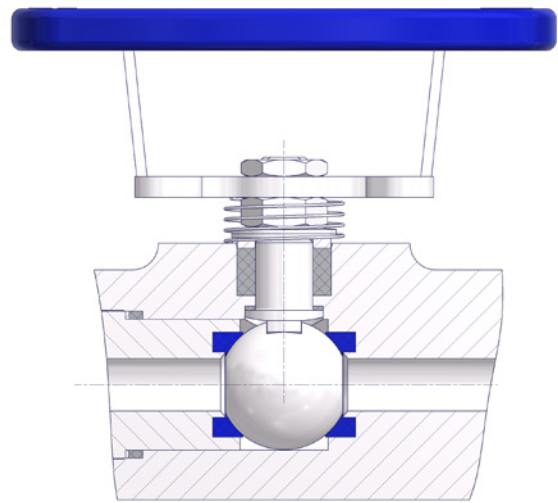
K Series Ball Valves

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
- 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 conformity optional
- Anti-Static Design
- 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	

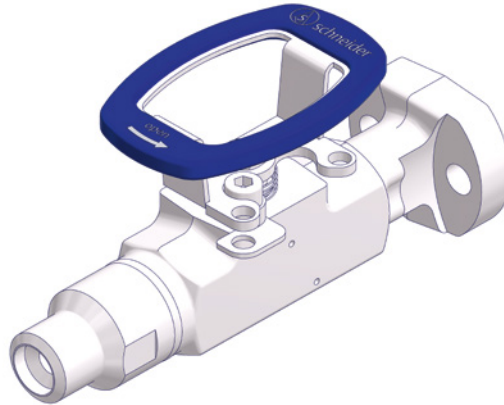
Wetted components listed in **bold**.

Standard Ball Valve Design

Single-Ported Ball Valve with following connections:

Inlet: Flanged, Threaded or Welded

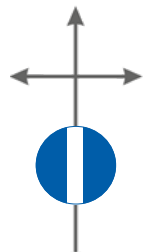
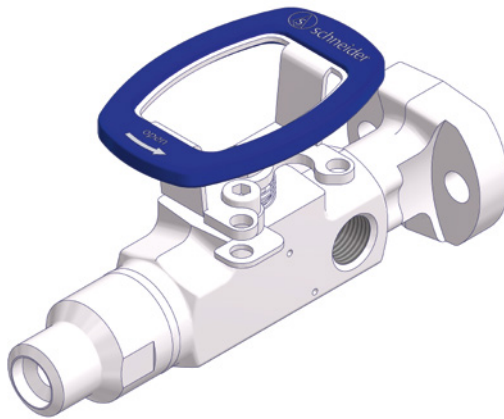
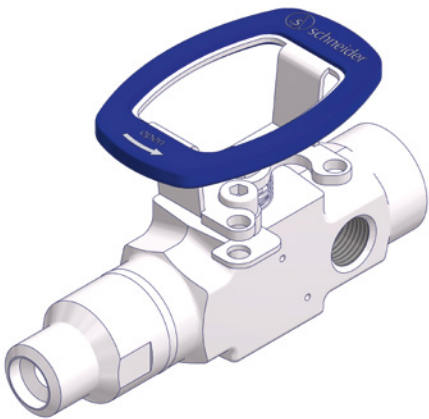
Outlet: Threaded or Flanged



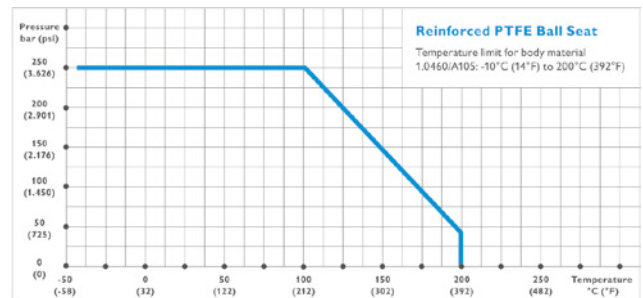
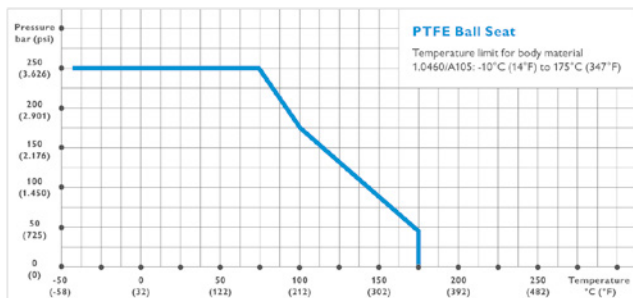
Multi-Ported Ball Valve with following connections:

Inlet: Flanged, Threaded or Welded

Outlet – Multiport Type: Threaded or Flanged & Threaded



Pressure-Temperature Ratings



K Series I Instrumentation Hardware Sets

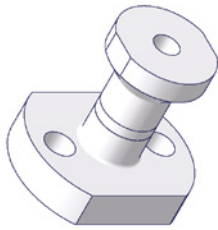
K Series | Instrumentation Hardware Sets

AS-PN Addendum	Branch Orientation	Instrument Type	Outlet Interface	Vent Ports	Accessories	Additional
A	Vertical	Gauge	3/4" NPT (f)	Vent & plugs	-	-
B	Horizontal	Gauge	3/4" NPT (f)	Vent & plugs	-	-
C	Vertical	Gauge	3/4" NPT (f)	Hand & plugs	-	Welded Ports
D	Horizontal	Gauge	3/4" NPT (f)	Hand & plugs	-	Welded Ports
E	Horizontal	Transmitter	IEC 61518-A	Vent & plugs	Screws & Gasket	-
F	Vertical	Transmitter	IEC 61518-A	Vent & plugs	Screws & Gasket	-
G	Horizontal	Transmitter	IEC 61518-A	Hand & plugs	Screws & Gasket	Welded Ports
H	Vertical	Transmitter	IEC 61518-A	Hand & plugs	Screws & Gasket	Welded Ports

Inlets / Outlets

1 Inlet Options

Various inlet types and sizes available.



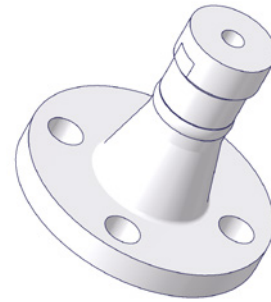
I-Flange



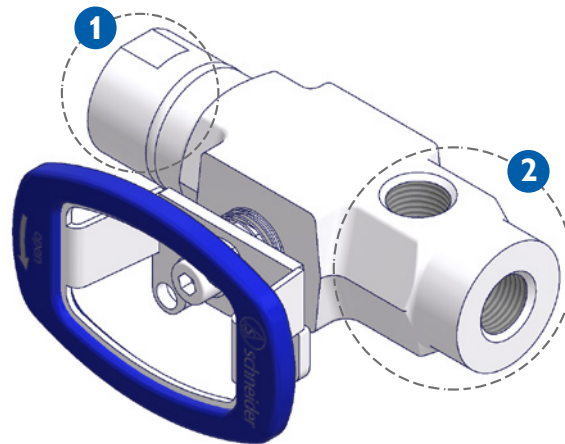
Welding



Thread

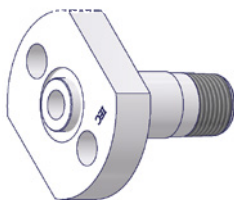


Welding Neck Flange

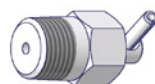


2 Outlet Options

In all 3 outlets, the following options can be flexibly combined and mounted with each other.



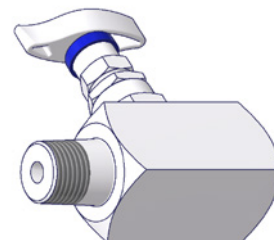
I-Flange



Vent Valve



Plug



Hand Valve

KM Series I Standard Ball Valve Design

KM Series | Metal Seated Ball Valve

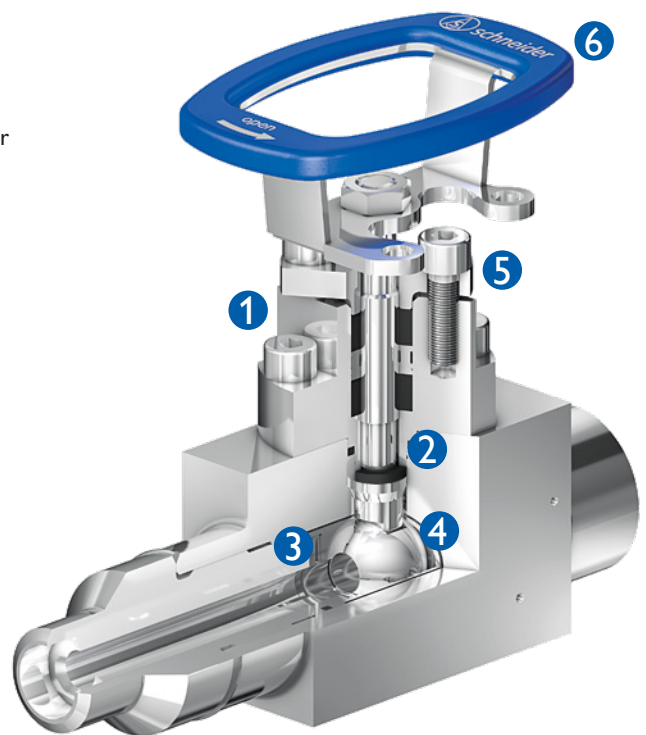
Extreme operating conditions with temperatures up to 450°C (842°F) and pressures up to 420 bar (6,092 psi) require special sealing technology in ball valves.

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.

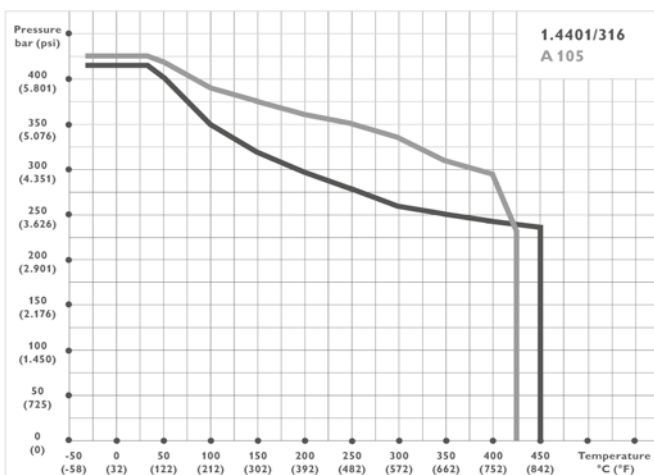
When developing the KM Series AS-Schneider uses the latest surface and material knowledge combined with comprehensive engineering know-how. The result is a ball valve with zero leakage even under extreme operating conditions with respect to working pressure and temperature – even though a smooth operation 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 dismantled 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 $< 4,6 \times 10^{-6}$ 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 dismantled during operation

KM Series I Ordering Information

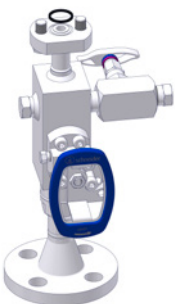
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18					
						K	M	9	-	L	N	4	L	N	4	-	S	x	x	x	x	-	x					
KM Metal Seated Ball Valve Series																												
Seal Material																												
Packing						Ball / Seat						End Connector Seal Ring																
9	Graphite	Coated 1.4401/316						Graphite																				
Inlet																												
Thread Type		Butt Weld End				ASME Flange				I-Flange																		
N	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																					
		6	For 3/4" pipe			K	1/2" pipe																					
						M	3/4" pipe																					
						N	1" pipe																					
						Q	1/2" pipe																					
Inch Sizes		Wall Thickness BW				ASME Flange				Flange Interface																		
4	1/2	N	Schedule 40			A	Class 150			A	Special Groove 25,5x21,3x1,2																	
6	3/4	P	Schedule 80			B	Class 300			D	EN 61518-A																	
8	1	Q	Schedule 160			C	Class 600			E	EN 61518-B																	
		A	Socket Weld for all SW			D	Class 900																					
		E	Class 1500																									
Outlet																												
Thread Type		Butt Weld End				I-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	EN 61518-A																					
4	1/2	Q	Schedule 160			E	EN 61518-B																					
6	3/4	Socket Weld																										
8	1	A	for all SW																									
Material Body Body End Connector / Ball / Stem																												
C	LF2/A105 1.4401/316 incl. coating (Ball and Ball Seat)											M	Alloy 400 UNS N04400 incl. coating (Ball and Ball Seat)															
H	Alloy C-276 UNS N10276 incl. coating (Ball and Ball Seat)											S	1.440.1/316 incl. coating (Ball and Ball Seat)															
Options – Specify in alphabetical order																												
B	Cleaned for Oxygen Service (O2)																											
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 (materials 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 15+16												Accessories																
A	Thread x vent valve x plug					C	Thread x vent valve x plug					None																
B	Plug x thread x vent valve					D	Plug x thread x vent valve					None																
E	Flange interface x vent valve x plug					G	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					H	Plug x flange interface x vent valve					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)

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

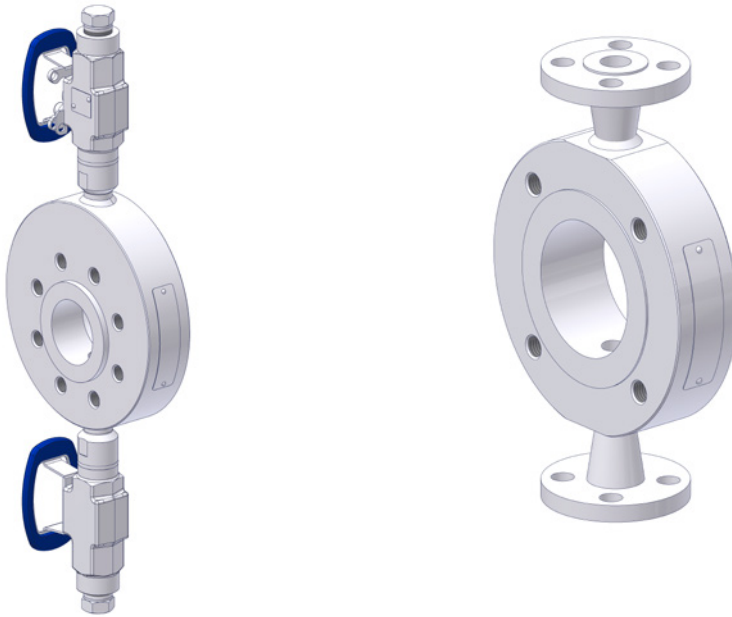
* More information you will find in our brochure AS-1601 - Instrumentation Hardware.

KM Series Ball Valve | Examples



Close-Coupled Flush Ring I Features

Product Examples



Standard Features

- Meets pressure class from 150 to 2500
- Up to 6"
- Fully welded
- 1 or 2 flush ports
- Concentric or eccentric cavity position
- Direct mounted per threads

Valves:

Several Ball-, Gate or Globe valves

Fire safe:

in acc. to API 607 and ISO 10497

NACE:

0175 and ISO 15156

Factory tested

by default acc. ASME B16.34 DIN EN 12266-1 P/T rating ANSI /

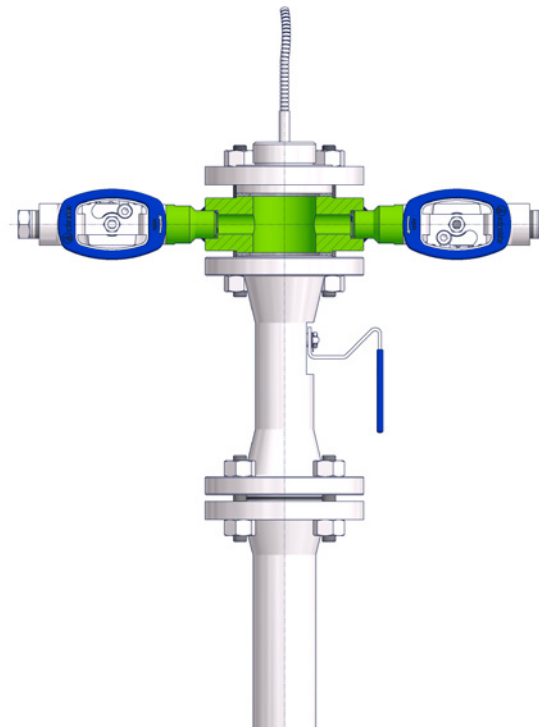
ASME B16.34

PTFE or Graphite

Optional Features

- Painting
- Special Cleaning
- NDE testing
- PFA Lining
- 1 or 2 vent / flushing connection
- Alloys

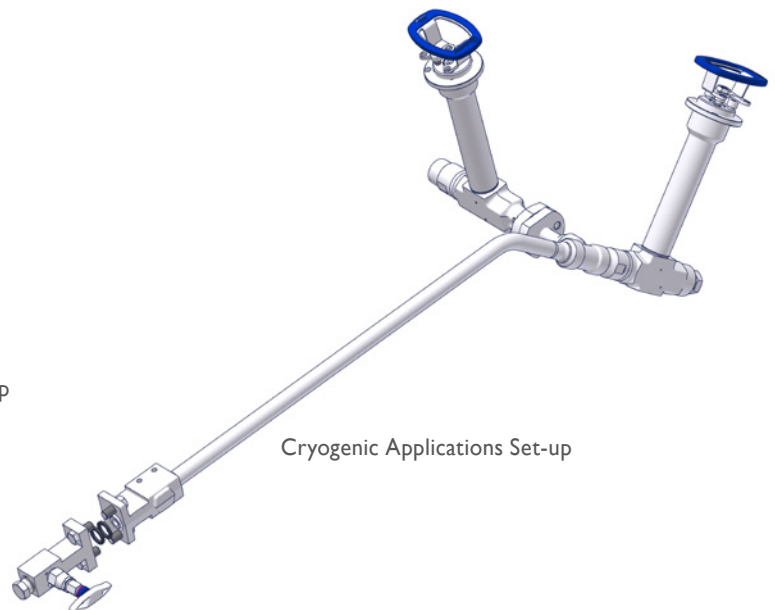
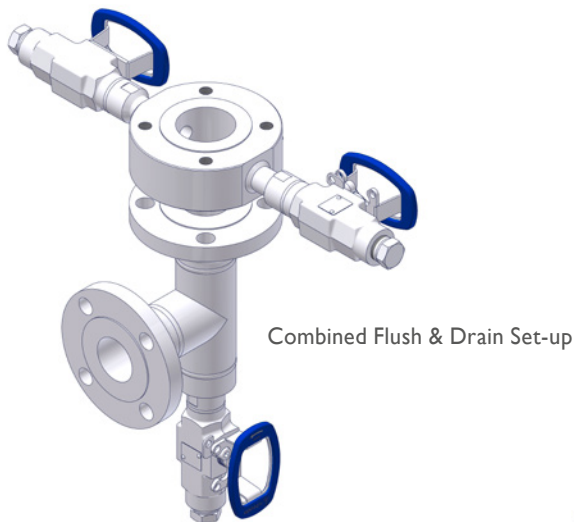
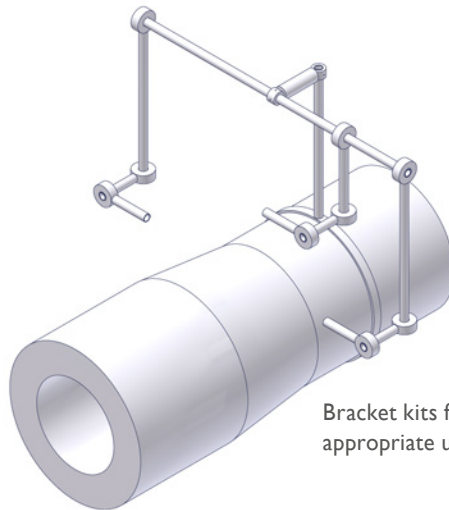
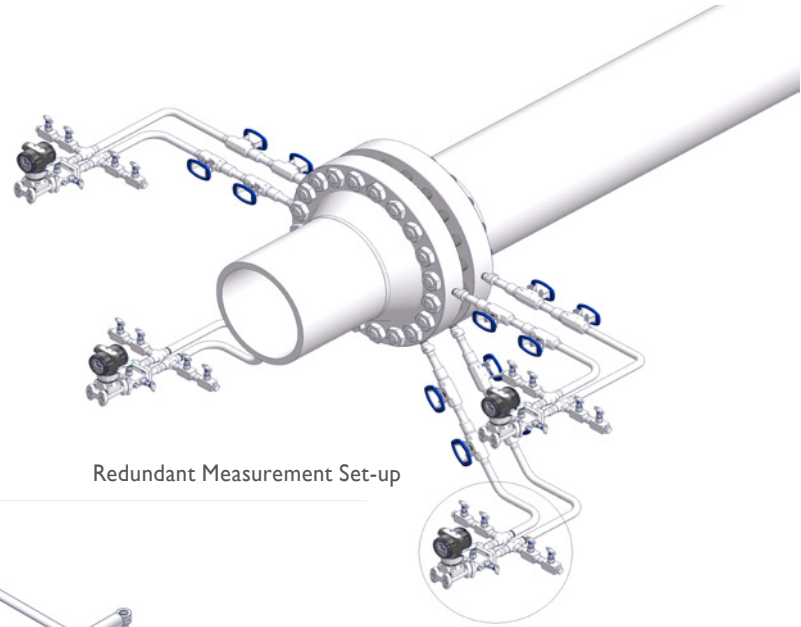
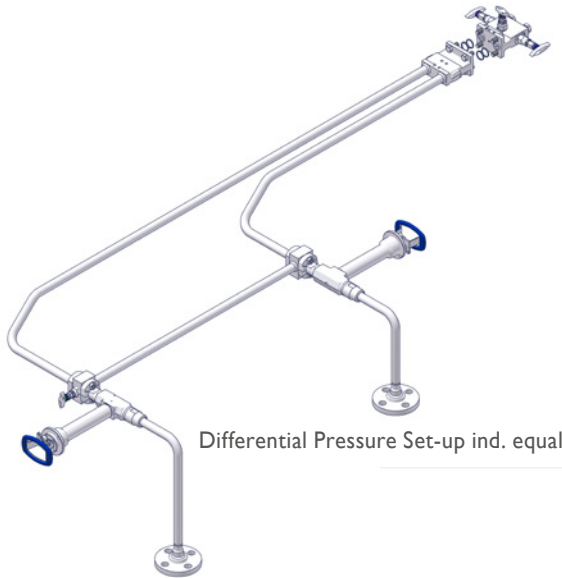
If you don't find your options in this catalogue, please contact the factory.



Closed-Coupled Installation Details | Examples

Examples

Close-Coupled Installation Details can be used in all industries where measuring is required. Regardless of if you have a pressure, flow or level measurement. Using a wide range of compact designs and self-contained systems, they promise accurate measurement while ensuring high environmental and human safety. With less installation and maintenance efforts, Close-Coupled Installation Details promise an extended life cycle of the measurement arrangement.



Monoflanges

AS-Schneider Monoflanges are designed to replace conventional multiple-valve installations currently in use for interface with pressure measuring systems. By combining customer specified valves into a single manifold, the number of leak paths is considerably reduced and the mass of the system is lowered reducing the stresses from loading and vibration. The AS-Schneider Monoflange Series are available as Process Monoflanges and Instrument Monoflanges.

Process Monoflanges

Process Monoflanges are designed to replace the traditional primary isolation valve and are Close-Coupled to the process piping flange, for connecting process to instruments. The primary isolation valve needs to be of process design, therefore it's a valve with OS&Y

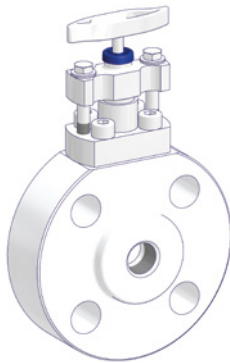
Bolted Bonnet. The secondary isolation valve and the bleed valve are provided with screwed bonnets. The combining of piping and instrument valves into a single unit has benefitted various markets.

Instrument Monoflanges

Instrument Monoflanges are Close-Coupled to a pre-installed primary isolation valve to provide a compact Instrument Double Block & Bleed Valve or are used when primary isolation valves with an OS&Y Bolted Bonnet are not required. The needle valves of the Instrument Monoflanges are provided with a screwed bonnet.

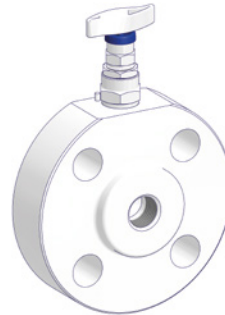
Block

1st Isolate: OS&Y



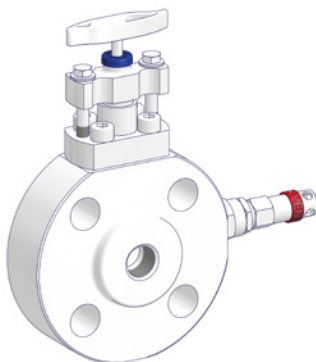
Block

1st Isolate: Needle



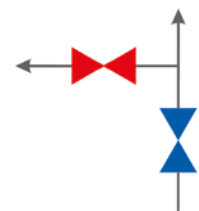
Block & Bleed

1st Isolate: OS&Y
Vent: Needle



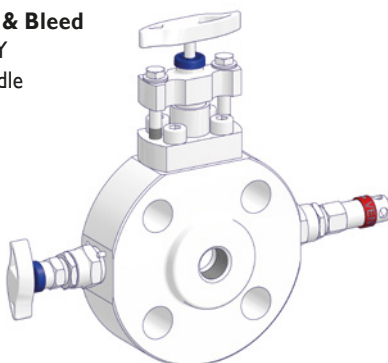
Block & Bleed

1st Isolate: Needle
Vent: Needle



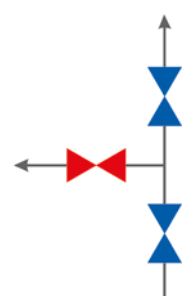
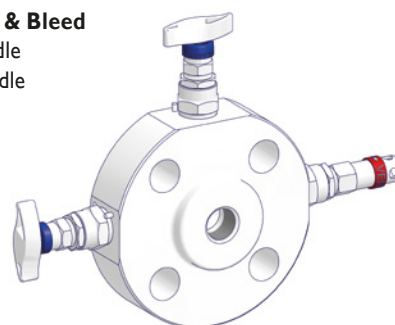
Double Block & Bleed

1st Isolate: OS&Y
2nd Isolate: Needle
Vent: Needle



Double Block & Bleed

1st Isolate: Needle
2nd Isolate: Needle
Vent: Needle



Monoflanges – Assembly Examples

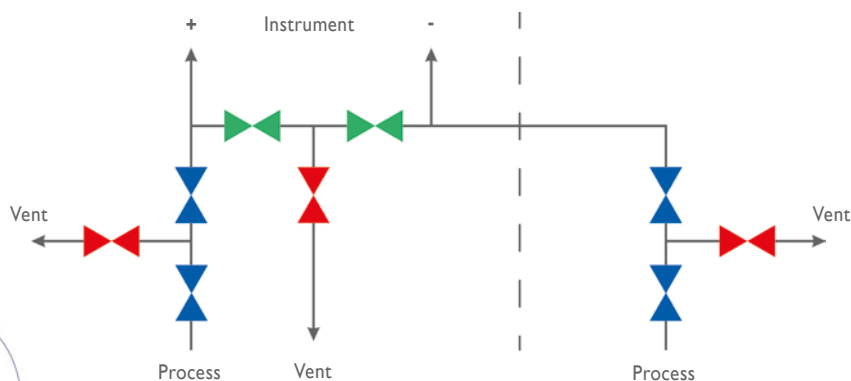
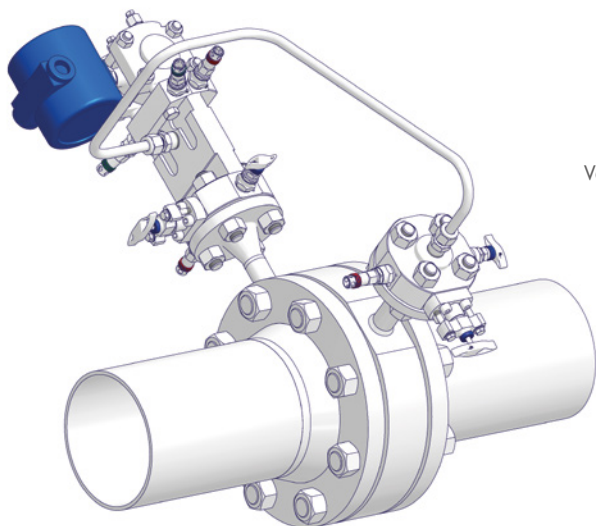
Assembly Examples

There are various possibilities in using the Monoflange concept not only for Pressure Applications. The following pictures are showing two examples for Differential Pressure Assemblies – Flow and Level.

Flow Assembly

Consisting of:

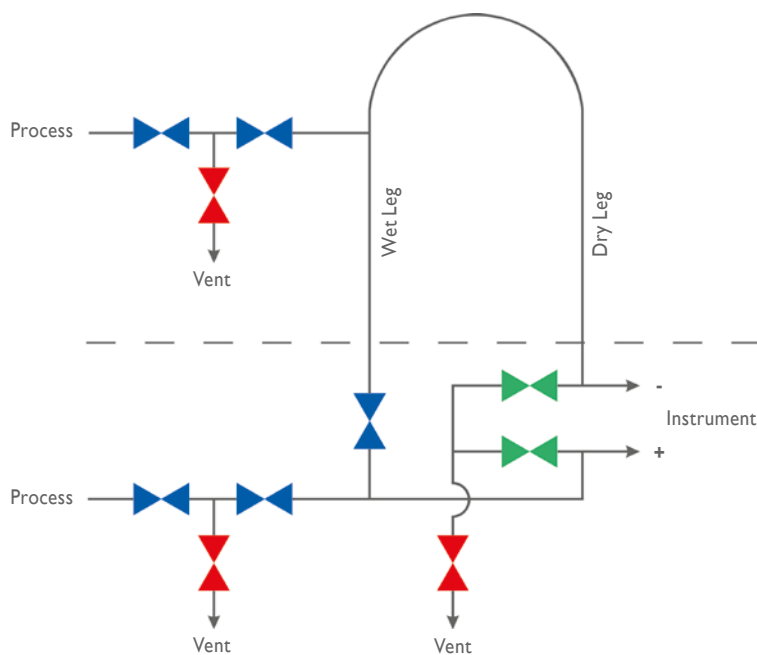
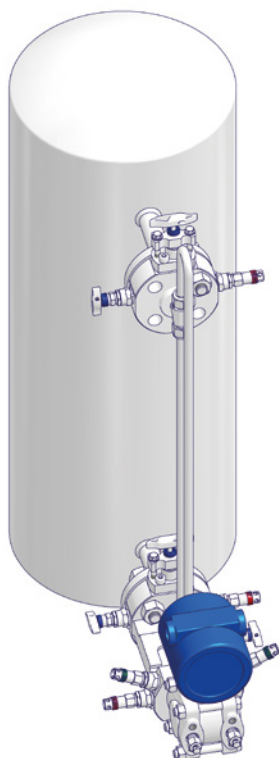
- 1 x Process Monoflange Type V, e.g. DB&B with an Integrated 3 Valve Manifold (High Pressure Side +)
- 1 x Process Monoflange, e.g. DB&B (Low Pressure Side -)



Level Assembly

Consisting of (Wet / Dry Leg Installation):

- 1 x Process Monoflange Type V, e.g. DB&B with an Integrated 4 Valve Manifold (High Pressure Side +)
- 1 x Process Monoflange, e.g. DB&B (Low Pressure Side -)



Monoflanges | Ordering Information

Ordering Information

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		D	B	2	-	N	G	C	L	N	4	-	S	C	
VariAS-Blocks															
Block & Bleed															
DD	10 mm (0.39") Bore Ball Valve (Ball / Ball)														
DE	10 mm (0.39") Bore Ball Valve (Ball / Needle)														
Double Block & Bleed															
DA	10 mm (0.39") Bore Ball Valve (Ball / Ball / Ball)														
DB	10 mm (0.39") Bore Ball Valve (Ball / Needle / Ball)														
D2	14 mm (0.55") Bore Ball Valve (Ball / Needle / Ball) ≥ Flange Size 3/4"														
DK	20 mm (0.79") Bore Ball Valve (Ball / Needle / Ball) ≥ Flange Size 1"														
Seals – Standard Valve Design								Seals – Fugitive Emission Application Design							
Packing/Body Seals				Ball Seat				Packing/Body Seals				Ball Seat			
1	PTFE			Reinforced PTFE*1				D	Graphite			Reinforced PTFE*1			
2	Graphite			Reinforced PTFE*1				E	PTFE			Reinforced PTFE*1			
3	PTFE			PEEK*1				F	PTFE			PEEK*1			
4	Graphite			PEEK*1				G	Graphite			PEEK*1			
								H	Lip Seal + Graphite			Reinforced PTFE*2			
								I	Lip Seal + Graphite			PEEK*2			
								J	O-Ring + Graphite			Reinforced PTFE*2			
								K	O-Ring + Graphite			PEEK*2			
								M	Graphite			Metal Seated*3			
Process Connection															
ASME Flange Size								Thread							
NA	1/2" RF	NJ	1" RTJ	NR	2 1/2" RF	JN	Male NPT	LN	Female NPT						
NC	1/2" RTJ	NK	1 1/2" RF	NT	2 1/2" RTJ										
ND	3/4" RF	NM	1 1/2" RTJ	NU	3" RF										
NF	3/4" RTJ	NN	2" RF	NW	3" RTJ										
NG	1" RF	NQ	2" RTJ												
Process Connection (continued)															
ASME Flange Class								Thread Size							
A	150	D	900*4			4	1/2"								
B	300	E	1,500			6	3/4"								
C	600	F	2,500												
Outlet Connection															
ASME Flange Size								Thread							
NA	1/2" RF	NJ	1" RTJ	NR	2 1/2" RF	LG	Female G (EN837-1)								
NC	1/2" RTJ	NK	1 1/2" RF	NT	2 1/2" RTJ	JN	Male NPT								
ND	3/4" RF	NM	1 1/2" RTJ	NU	3" RF	LN	Female NPT								
NF	3/4" RTJ	NN	2" RF	NW	3" RTJ										
NG	1" RF	NQ	2" RTJ												
Outlet Connection (continued)															
ASME Flange Class								Thread Size							
A	150	D	900*4			4	1/2"								
B	300	E	1,500			6	3/4"								
C	600	F	2,500			8	1"								
Body Material															
C	A105	L	A350 LF2			V	Alloy 625 UNS N06625								
F	Duplex UNS S31803	M	Alloy 400 UNS N04400			D	Super Duplex UNS S32750								
H	Alloy C-276 UNS N10276	S	1.4401 / 1.4404 / 316 / 316L			B	6Mo UNS S31254								
Vent Connection															
C	1/4 NPT Female			E	1/2 NPT Female										
D	1/4 NPT Female plugged			F	1/2 NPT Female plugged										
Options															
1	Sampling Probe (starting from 1 1/2" Flange Size)														
Q	Needle Valve: Stainless Steel Handwheel and Locking Plate Design														
R	Needle Valve: Stainless Steel Handwheel and Locking Plate Design incl. Padlock														
V	Injection Probe incl. Check Valve (starting from 1 1/2" Flange Size) – Available for 3/8" Bore Ball Valve only														
W	All Valves lockable incl. Padlock														
	Note: Flange x Thread Design – Position of Secondary Isolation Valve on opposite side of Primary Isolation Valve														

*1 Available for Ø 10, Ø 14 and Ø 20.

*2 Available for Ø 14 and Ø 20.

*3 Available for Ø 10 only.

*4 Relevant for Flange Sizes ≥ 3" only. For Flange Sizes 1/2" to 2 1/2" Class 1,500 (Code E) to be used.

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.

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ARMATURENFABRIK FRANZ SCHNEIDER GMBH + CO.KG
World Headquarters
Bahnhofplatz 12, 74226 Nordheim, Germany
Tel: +49 7133 101-0
www.as-schneider.com



ARMATURENFABRIK FRANZ SCHNEIDER SRL
Gradinari 32-38, 100404 Ploiesti
Romania
Tel: +40 244 384 963
www.as-schneider.ro



AS-SCHNEIDER ASIA-PACIFIC PTE. LTD.
970 Toa Payoh North, #02-12/14/15, Singapore 318992,
Singapore
Tel: +65 62 51 39 00
www.as-schneider.sg



AS-SCHNEIDER AMERICA, INC.
17449 Village Green Dr, Houston, TX 77040
United States of America
Tel: +1 281 760 1025
www.as-schneider.com



AS-SCHNEIDER MIDDLE EAST FZE
P.O. Box 18749, Dubai
United Arab Emirates
Tel: +971 4 880 85 75
www.as-schneider.ae



AS-SCHNEIDER INDIA PRIVATE LIMITED
Rathinam Techzone Campus, Eachanari
641021 Coimbatore, Tamil Nadu
Tel: +91 999 544 2201
www.as-schneider.com

