schneider
Tailored to Your Business

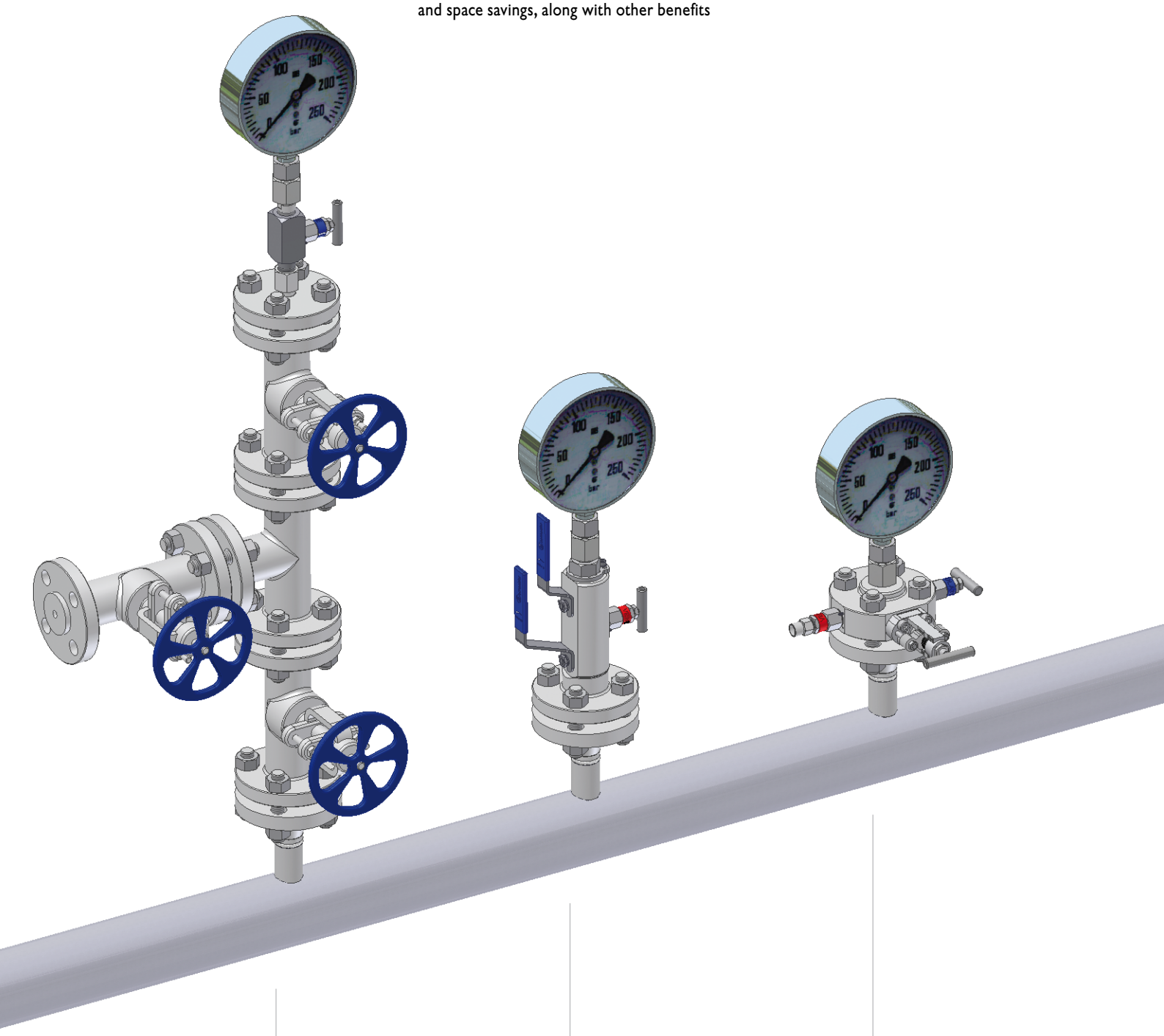
Instrumentation Products

Monoflanges & VariAS-Blocks

Introduction

Introduction

The Schneider Monoflanges and VariAS-Blocks are designed to overcome the problems of traditional assemblies on primary isolation duties. By combining piping and instrument valves in a single assembly, they provide weight and space savings, along with other benefits including reduced potential leak points and safer hook-up. This more compact and efficient arrangement reduces not only pipework vibration and associated stress but also installation and maintenance costs.



Conventional

Schneider VariAS-Block

Schneider Monoflange

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Monoflange Series

Monoflange Series

Schneider Monoflanges are designed to replace conventional mutiple-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 Schneider Monoflange Series are available as Process Monoflanges and Intrument Monoflanges.

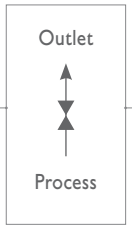
Process Monoflanges

Designed to replace the traditional primary isolation valve, the Primary Isolation Valve (OS&Y bolted bonnet) incorporates a primary isolate piping valve combined with instrument double block & bleed functions.

Instrument Monoflanges

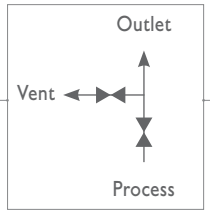
Instrument Monoflanges work in conjunction with a pre-installed primary valve to provide a compact instrument block and bleed valve or are used when primary valves with an OS&Y bolted bonnet are not required.

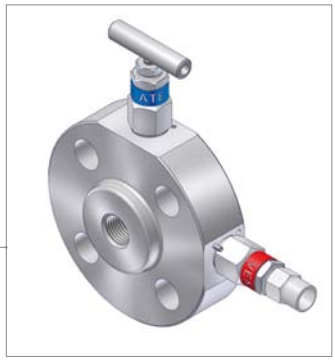
Block
1st Isolate: OS&Y



Block
1st Isolate: Needle

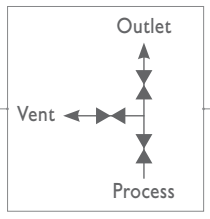
Block & Bleed
1st Isolate: OS&Y
Vent: Needle





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

Monoflange Features

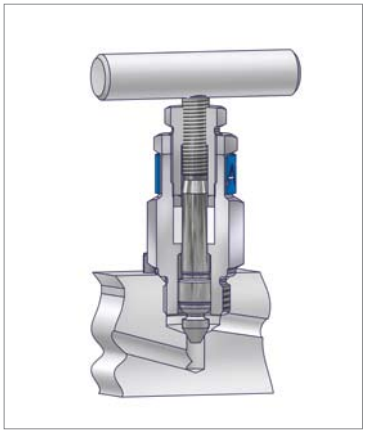
Standard Features

- ASME B16.5 flange connections
  Flange size 1/2″ to 2″ (DN15 to DN50)
  Flange Class 150 to 2.500
- Outlet connection 1/2 NPT female
- Vent connection 1/4 NPT female
- Seat metal / metal
- Packing PTFE or graphite
- Material of construction 316 / 316L
- Vent valve with anti-tamper head unit

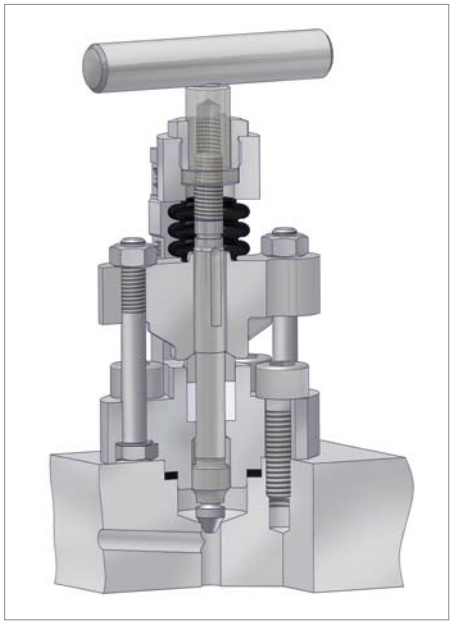
Optional Features

- API flange connections (up to 10.000 psi)
- EN flange connections
- DIN flange connections
- FPM O-ring stem sealing
- Materials of construction including A350 LF2, A105, Duplex, Super Duplex, Monel®, Hastelloy®, 6Mo alloys, Incoloy®
- Fire safe tested to ISO 10497 / API 607
- Anti-tamper head units (also lockable) for all vaves
- NACE MR0175 / ISO 15156 compliant materials
- Pressure test certificates and material certification
- Bellows sealed valve head units
- Swivel gauge connections including 1/2 NPT female and G 1/2 female (1/2″ BSPP) threads, see also Accessories page 19
- According TA-Luft
- Oxygen Service

If you don't find your option please contact us.



Screwed Bonnet



OS&Y Bolted Bonnet

Pressure-Temperature Rating Needle Valve

PTFE

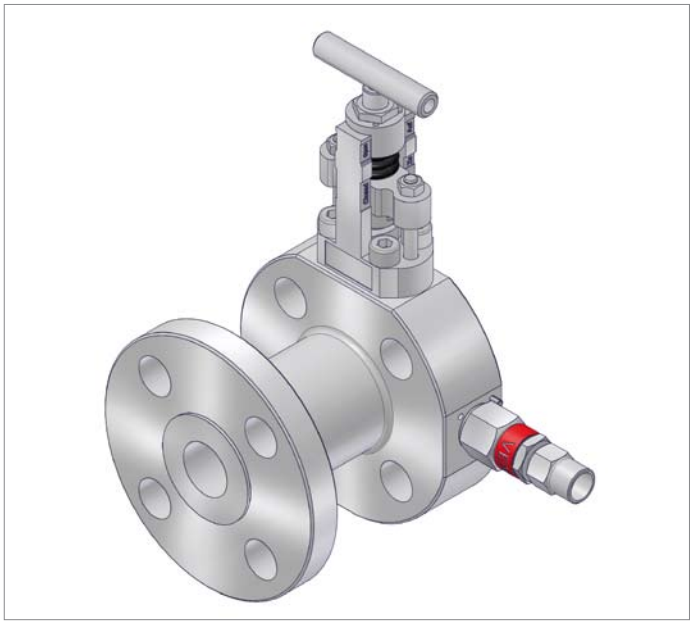
Graphite

Note:
Starting from 1 1/2″ Class 900/1500 the valve head units are 45° angled for convenient operation:

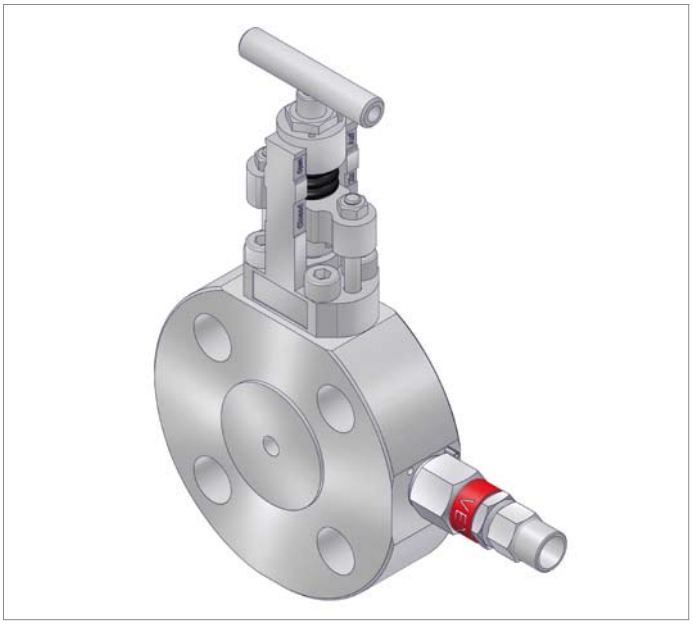
Monoflange Options

Flange x Flange Types

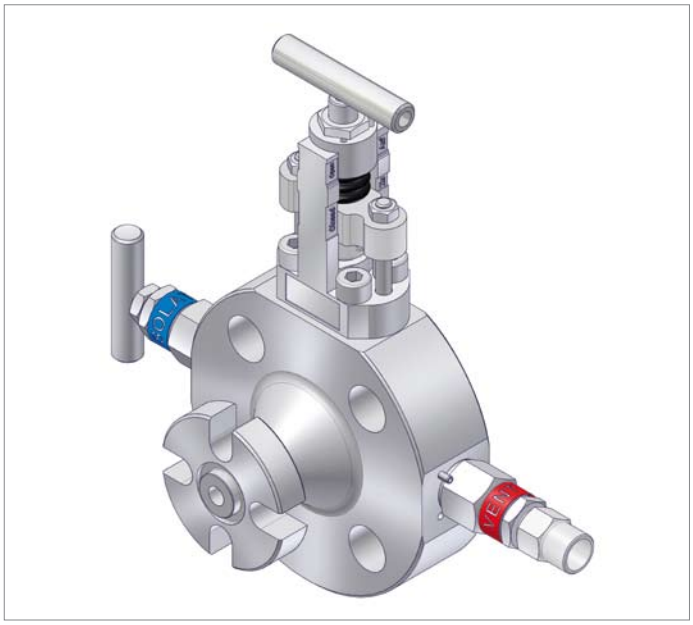
- Dual Flange Style
- Wafer Style
- RD1 Style
- RFB Style



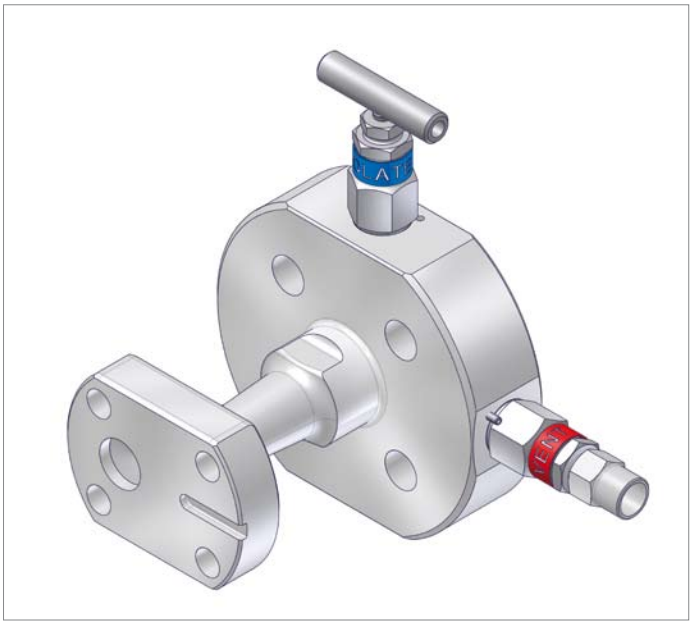
Dual Flange Style



Wafer Style



RD1 Style
For Direct Mounting of Transmitters acc. to EN 61518



RFB Style
For Direct Mounting of Rosemount Transmitter Model 3051

Dual Outlet Types for Direct Mounting to Horizontal or Vertical Pipe Lines

Vertical Pipe Line, Radial Outlet

Horizontal Pipe Line, Axial Outlet

Process Monoflange (e.g. Block & Bleed)
Swivel Gauge Adaptor installed on outlet

Vertical Pipe Line, Radial Outlet

Horizontal Pipe Line, Axial Outlet

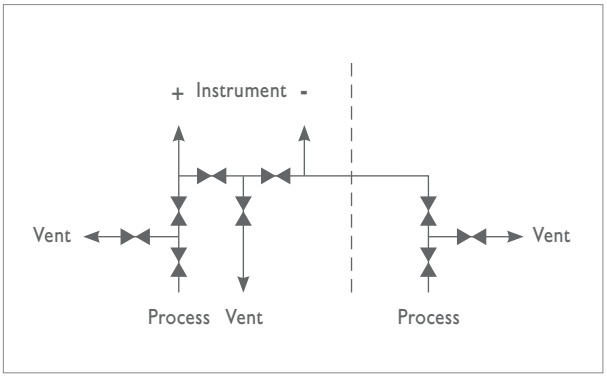
Instrument Monoflange (SM Type) with an integral Swivel Gauge Adaptor. For more information see Modular Mounting System Catalogue AS-3601.

Monoflange Assemblies

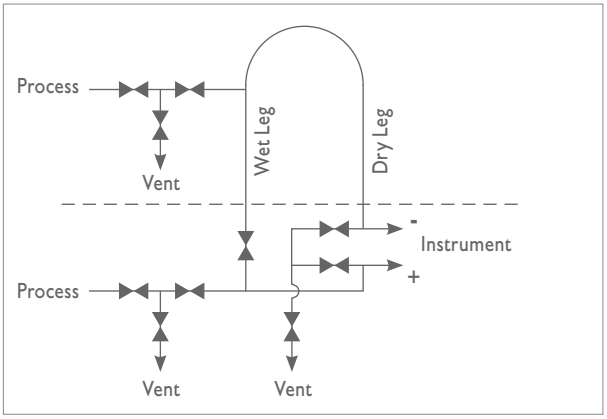
Monoflange Assemblies

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.

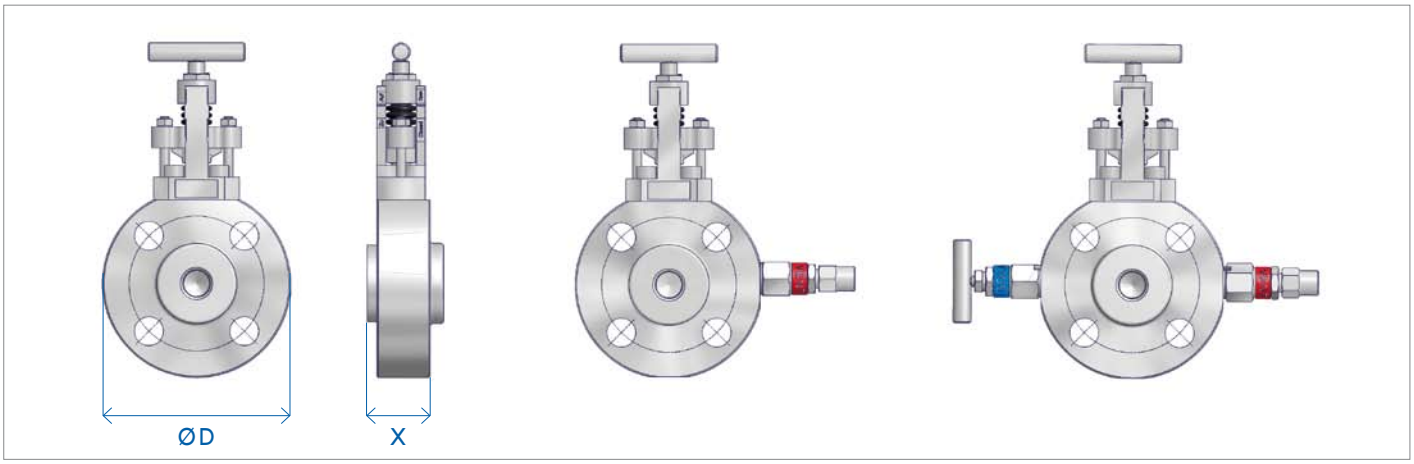
Flow Assembly
consisting of:
- 1 x Process Monoflange V-Type, e.g. DB&B with an integrated 3 valve manifold (High Pressure Side +)
- 1 x Process Monoflange, e.g. DB&B (Low Pressure Side -)



Level Assembly
(Wet/dry leg installation)
consisting of:
- 1 x Process Monoflange V-Type, e.g. DB&B with an integrated 4 valve manifold (High Pressure Side +)
- 1 x Process Monoflange, e.g. DB&B (Low Pressure Side -)



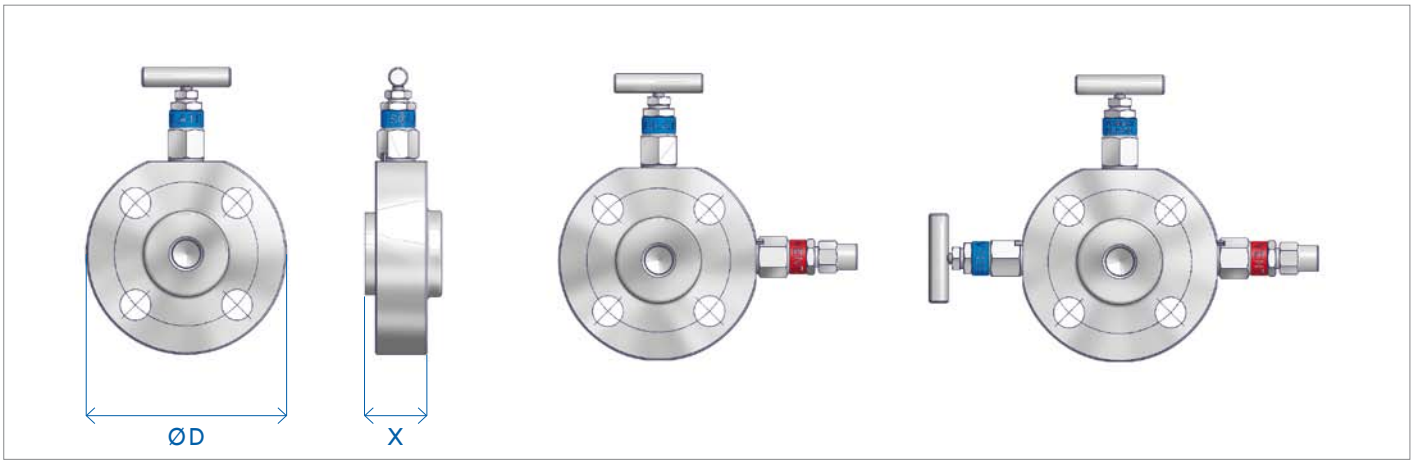
Process Monoflange Weights and Dimensions



Flange x Thread

Flange Size (in)	Flange Class	ØD (mm)	Flange Face		Approx. Weight (kg)
			RF x (mm)	RTJ x (mm)	
1/2	150	98.6	36.6	--	2,5
1/2	300	98.6	36.6	40.6	2,6
1/2	600	98.6	41.4	40.6	2,6
1/2	900/1500	120.7	41.4	41.4	3,5
1/2	2500	133.4	41.4	41.4	4,3
3/4	150	98.6	36.6	--	2,6
3/4	300	117.3	36.6	41.4	3,5
3/4	600	117.3	41.4	41.4	3,5
3/4	900/1500	130.0	41.4	41.4	4,1
3/4	2500	139.7	41.4	41.4	4,8
1	150	108.0	36.6	41.4	3,0
1	300	124.0	36.6	41.4	3,9
1	600	124.0	41.4	41.4	3,9
1	900/1500	149.3	41.4	41.4	5,1
1	2500	158.8	42.4	42.4	6,1
1 1/2	150	127.0	36.6	41.4	4,1
1 1/2	300	155.4	36.6	41.4	6,0
1 1/2	600	155.4	41.4	41.4	6,0
1 1/2	900/1500	177.8	41.4	41.4	7,4
1 1/2	2500	203.2	51.4	52.9	11,4
2	150	152.4	36.6	41.4	5,4
2	300	165.1	36.6	42.9	6,4
2	600	165.1	41.4	42.9	6,9
2	900/1500	215.9	45.4	46.9	12,0
2	2500	235.0	58.4	59.9	17,5

Instrument Monoflange Weights and Dimensions



Flange x Thread

Flange Size (in)	Flange Class	ØD (mm)	Flange Face		Approx. Weight (kg)
			RF x (mm)	RTJ x (mm)	
1/2	150	88.9	33.6	--	1,6
1/2	300	95.3	33.6	37.6	2,0
1/2	600	95.3	38.4	37.6	2,0
1/2	900/1500	120.7	38.4	38.4	2,9
1/2	2500	133.4	38.4	38.4	3,7
3/4	150	98.6	33.6	--	2,0
3/4	300	117.3	33.6	38.4	2,9
3/4	600	117.3	38.4	38.4	2,9
3/4	900/1500	130.0	38.4	38.4	3,5
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1	900/1500	149.3	38.4	38.4	6,8
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2	600	165.1	38.4	39.9	6,2
2	900/1500	215.9	45.4	46.9	11,6
2	2500	235.0	58.4	59.9	17,0

Ordering Information | Monoflange

1 2	3	4	5 6	7	8 9 10	11	12	13	14
M G	B	-	N F	E	L N 4	-	S	C	N

Monoflange Type

Outlet connection			Type
Axial	Radial	Dual	
MA	MB	MC	Block (OS&Y)
MD	ME	MF	Block & Bleed (OS&Y / Needle)
MG	MH	MJ	Double Block & Bleed (OS&Y / Needle / Needle)
MK	ML	MM	Block (Needle)
MN	MO	MQ	Block & Bleed (Needle / Needle)
MR	MS	MT	Double Block & Bleed (Needle / Needle / Needle)

Packing

A	PTFE
B	Graphite

Process Connection (ASME Flange)

NA	1/2" RF	NM	1 1/2" RTJ
NC	1/2" RTJ	NN	2" RF
ND	3/4" RF	NQ	2" RTJ
NF	3/4" RTJ	NR	2 1/2" RF
NG	1" RF	NT	2 1/2" RTJ
NJ	1" RTJ	NU	3" RF
NK	1 1/2" RF	NW	3" RTJ

DIN, EN, API Flanges on request!

ASME Flange Class

A	150	E	900/1500
B	300	F	2500
C	600		

Outlet Connection

Thread Connection		Transmitter Interface	
LGQ	G 1/2 Female (Integral Swivel Gauge Adaptor)	RD1	EN 61518 type A
LN4	1/2 NPT Female	RFB	For Rosemount 3051

For ASME Flange Connections on Outlet use designator of process connection.
Dual Flange Type is standard - Wafer Style see options.

Body Material

C	A105	M	Alloy 400
F	Duplex	S	316 / 316L
H	Alloy C-276	V	Alloy 625
L	A350 LF2		

Vent Connection

A	Without (Block Type Only)	E	1/2 NPT Female
C	1/4 NPT Female	F	1/2 NPT Female plugged
D	1/4 NPT Female plugged		

Options

B	Oxygen Service	T	All Valve Head Units Anti-Tamper
N	NACE MR0175 / ISO 15156	W	All Valve Head Units Anti-Tamper lockable incl. padlock
S	Wafer Style (Flange x Flange)	Y	Vent Valve Head Units Anti-Tamper lockable incl. padlock

VariAS-Block Series

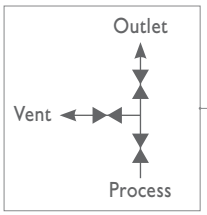
VariAS-Block Series

The VariAS-Block Series are designed to replace conventional, multiple-valve installations.
The VariAS-Blocks are forged, one-piece double block and bleed assemblies for primary isolation of pressure take-offs, where the valve is directly mounted to the vessel or process pipe. Instruments may be directly mounted to the valve outlet or remote mounted with impulse pipe work.

Features two independently operable ball valves for isolation with an intermediate needle valve alternatively ball valve for venting.

Flange x Flange

Flange x Thread



Flange x Flange

Flange x Thread

VariAS-Block Features

Standard Features

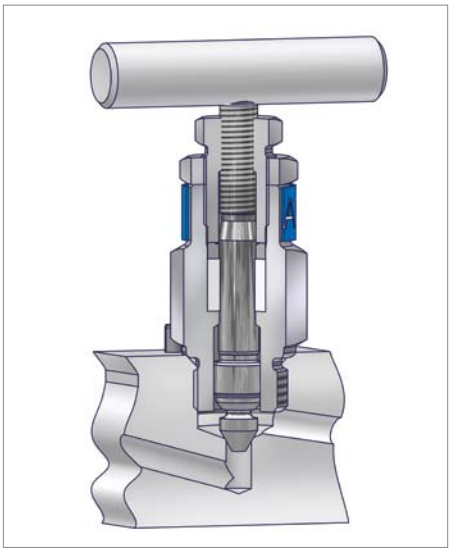
- ASME B16.5 flange connections
  Flange size 1/2″ to 2″ (DN15 to DN50)
  Flange Class 150 to 2.500
- Ball / Needle / Ball design
- Ball Bore size 3/8″ (9,5 mm)
- One-piece forged body
- Outlet connection 1/2 NPT female or flange connection acc. to process connection
- Vent connection 1/2 NPT female
- Fire safe tested to ISO 10497 / API 607
- Anti-static design
- Antiblowout stems
- Ball valve seats carbon-filled PTFE
- Vent valve seat metal / metal
- Material of construction 316 / 316L

Optional Features

- API flange connections (up to 10.000 psi)
- Materials of construction including A350 LF2, A105, Duplex, Super Duplex, Monel®, Hastelloy®, 6Mo alloys, Incoloy®
- Ball / Ball / Ball design
- Ball / Needle design
- Needle / Needle / Needle design
- Ball Bore size 20mm
- Ball valve seats PEEK, PTFE
- Anti-tamper head units (also lockable)
- NACE MR0175 / ISO 15156 compliant materials
- Pressure test certificates and material certification
- Swivel gauge connections including 1/2 NPT male and female threads,
  see also Accessories page 19

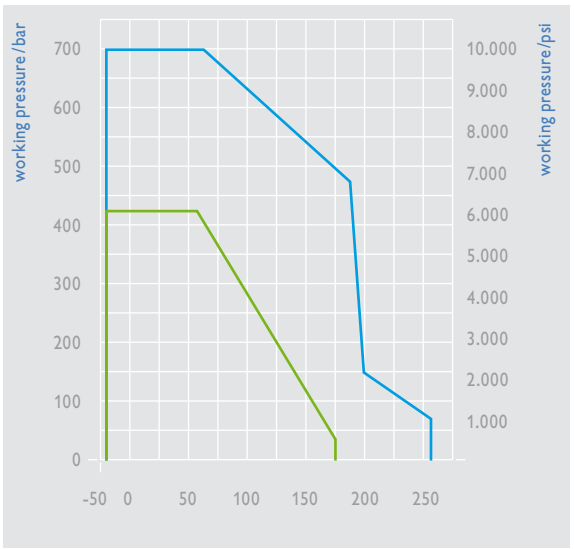
If you don't find your option please contact us.

Ball Valve Design



Needle Valve Design

Pressure-Temperature Rating Ball Valve



Pressure-Temperature Rating Needle Valve

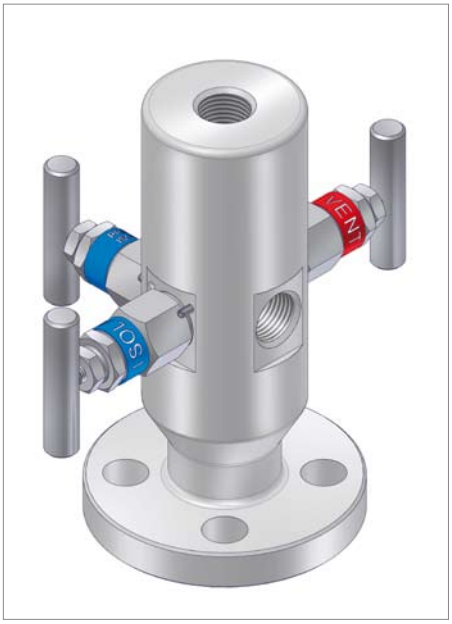
VariAS-Block Options

Block & Bleed Types
DE series – Features one ball valve and a needle valve for venting.

Flange x Thread

Thread x Thread

Double Block & Bleed Types
DC series – Features two independently operable needle valves and a needle valve for venting.



Flange x Thread

Thread x Thread

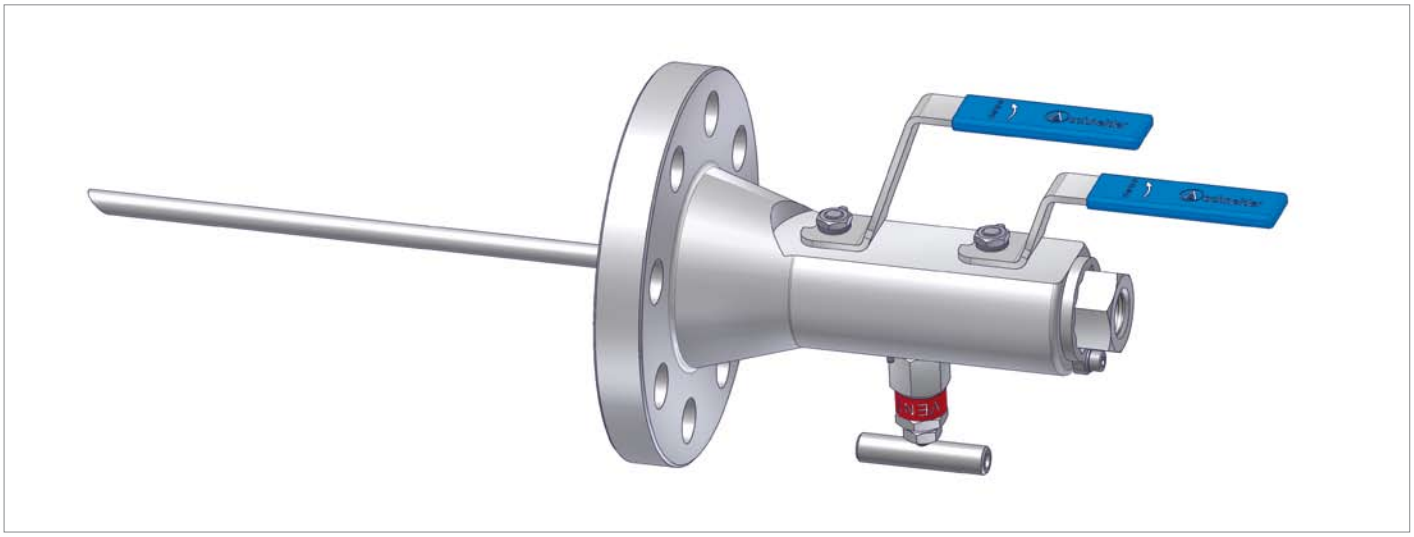
VariAS-Blocks for Injection and Sampling Applications

VariAS-Blocks for Injection and Sampling Applications

All options and configurations shown within the standard VariAS-Block range can be offered by the addition of a customized injection probe respectively sampling probe which extends from the pipe flange into the process stream. Available with 3/8″ (9,5 mm) bore only. The probe lengths must be specified by the customer. The probe O.D. is 3/8″ (9,5 mm).

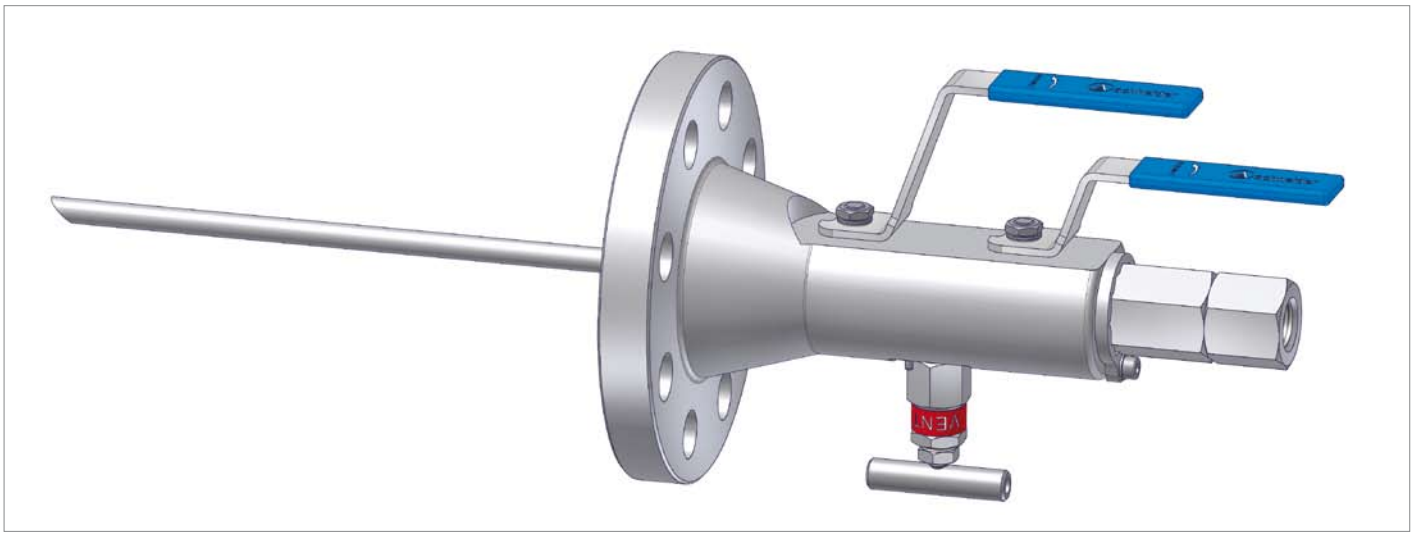
VariAS-Block for Sampling Applications

This design has been developed to remove a sample directly from the process stream at full system pressure.

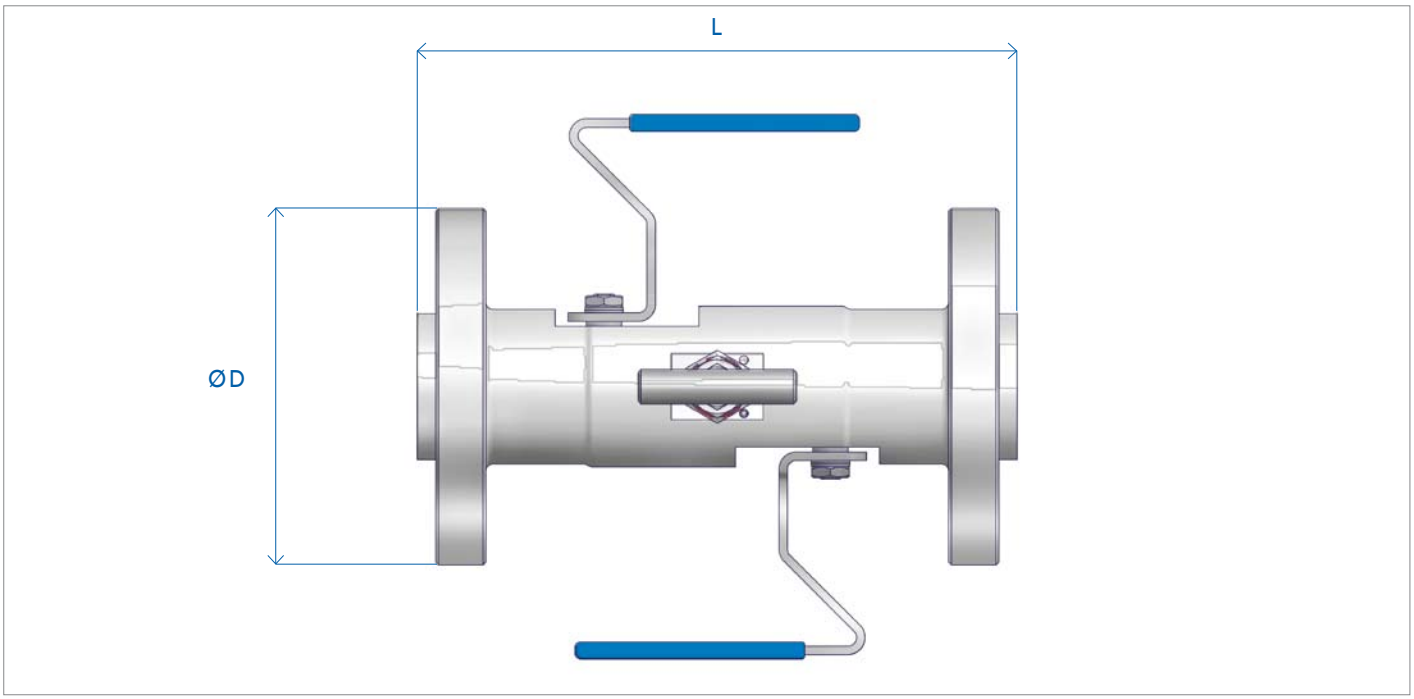


VariAS-Block for Injection Applications

This design has been developed to inject directly into the process stream at full system pressure. The integral check valve (optional) eliminates the risk of back flow out of the process stream during the injection. Available on both flanged and threaded connections.



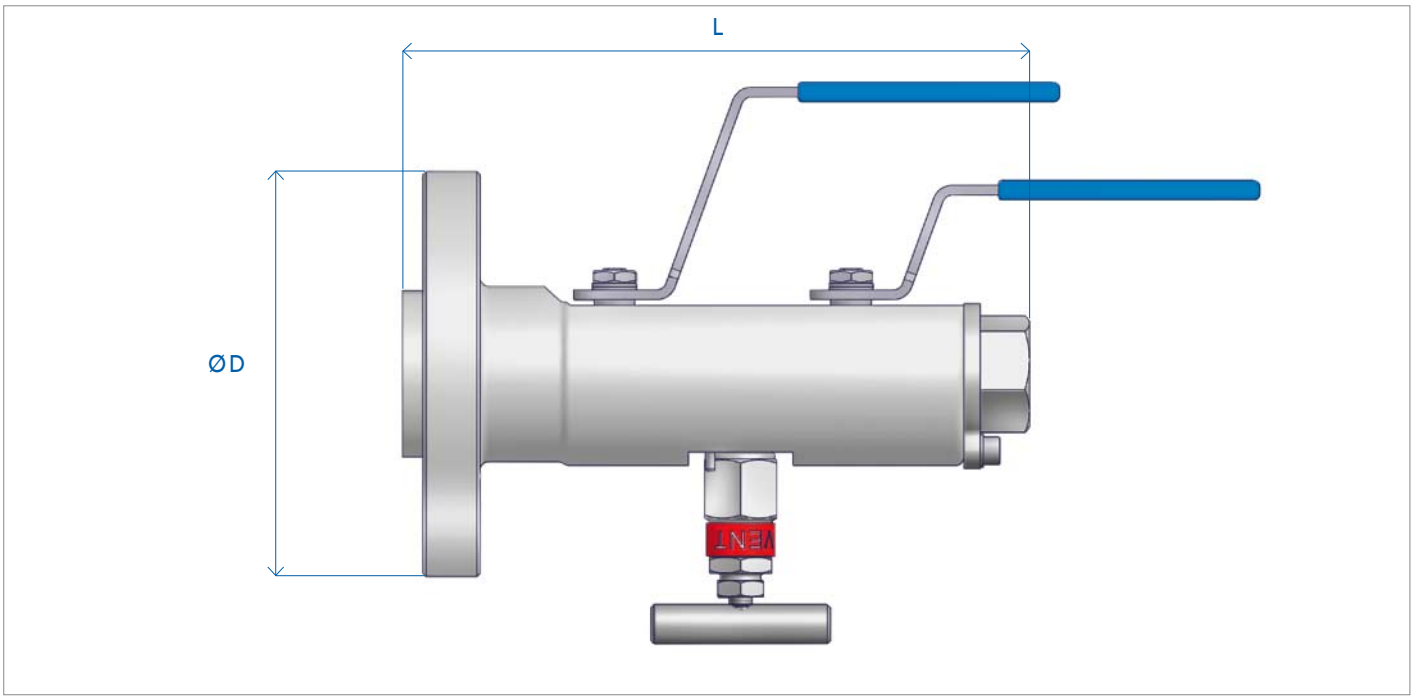
VariAS-Block Weights and Dimensions



Flange x Flange

Flange Size (in)	Flange Class	ØD (mm)	Flange Face		Approx Weight (kg)
			RF x (mm)	RTJ x (mm)	
1/2	150	88.9	199.2	--	3,3
1/2	300	95.3	199.2	207.2	3,9
1/2	600	95.3	208.8	207.2	4,0
1/2	900/1500	120.6	208.8	208.8	5,7
1/2	2500	133.4	208.8	208.8	8,1
3/4	150	98.6	199.2	--	3,9
3/4	300	117.3	199.2	208.8	5,0
3/4	600	117.3	208.8	208.8	5,2
3/4	900/1500	130.0	208.8	208.8	7,0
3/4	2500	139.7	240.8	240.8	9,9
1	150	108.0	199.2	208.8	4,9
1	300	124.0	199.2	208.8	6,0
1	600	124.0	208.8	208.8	6,0
1	900/1500	149.3	240.8	240.8	10,0
1	2500	158.8	240.8	240.8	13,0
1 1/2	150	127.0	199.2	208.8	6,4
1 1/2	300	155.4	231.2	240.8	9,3
1 1/2	600	155.4	240.8	240.8	10,4
1 1/2	900/1500	177.8	240.8	240.8	15,2
1 1/2	2500	203.2	265.8	268.8	25,2
2	150	152.4	231.2	240.8	9,4
2	300	165.1	231.2	243.8	11,5
2	600	165.1	240.8	243.8	13,4
2	900/1500	215.9	265.8	268.8	27,6
2	2500	235.0	265.8	268.8	38,3

VariAS-Block Weights and Dimensions



Flange x Thread

Flange Size (in)	Flange Class	ØD (mm)	Flange Face		Approx Weight (kg)
			RF x (mm)	RTJ x (mm)	
1/2	150	88.9	199.2	--	2,9
1/2	300	95.3	199.2	207.2	3,2
1/2	600	95.3	208.8	207.2	3,2
1/2	900/1500	120.6	208.8	208.8	4,1
1/2	2500	133.4	208.8	208.8	5,3
3/4	150	98.6	199.2	--	3,2
3/4	300	117.3	199.2	208.8	3,8
3/4	600	117.3	208.8	208.8	3,8
3/4	900/1500	130.0	208.8	208.8	4,8
3/4	2500	139.7	240.8	240.8	6,2
1	150	108.0	199.2	208.8	3,7
1	300	124.0	199.2	208.8	4,2
1	600	124.0	208.8	208.8	4,4
1	900/1500	149.3	240.8	240.8	6,4
1	2500	158.8	240.8	240.8	7,9
1 1/2	150	127.0	199.2	208.8	4,4
1 1/2	300	155.4	231.2	240.8	5,9
1 1/2	600	155.4	240.8	240.8	6,4
1 1/2	900/1500	177.8	240.8	240.8	8,8
1 1/2	2500	203.2	265.8	268.8	13,9
2	150	152.4	231.2	240.8	5,9
2	300	165.1	231.2	243.8	7,0
2	600	165.1	240.8	243.8	7,9
2	900/1500	215.9	265.8	268.8	15,1
2	2500	235.0	265.8	268.8	20,8

VariAS-Block Ordering Information

Ordering Information | VariAS-Block

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	N

VariAS-Block Type

	Block & Bleed
DD	3/8" (9,5mm) Bore Ball Valve (Ball/Ball)
DE	3/8" (9,5mm) Bore Ball Valve (Ball/Needle)
	Double Block & Bleed
DA	3/8" (9,5mm) Bore Ball Valve (Ball/Ball/Ball)
DB	3/8" (9,5mm) Bore Ball Valve (Ball/Needle/Ball)
DC	Needle Valve (Needle/Needle/Needle)
DP	20mm Bore Ball Valve (Ball/Needle/Ball) ≥ Flange Size 1"

Seals

	Packing / Body seals	Ball seat
1	PTFE	Carbon filled PTFE
2	Graphite	Carbon filled PTFE
3	PTFE	PEEK
4	Graphite	PEEK

Process Connection

	ASME Flange Size				Thread
NA	1/2" RF	NJ	1" RTJ	JN	Male NPT
NC	1/2" RTJ	NK	1 1/2" RF	LN	Female NPT
ND	3/4" RF	NM	1 1/2" RTJ		
NF	3/4" RTJ	NN	2" RF		
NG	1" RF	NQ	2" RTJ		

Process Connection (continued)

	ASME Flange Class				Thread Size
A	150	E	900/1500	4	1/2"
B	300	F	2500	6	3/4"
C	600				

Outlet Connection

	ASME Flange Size				Thread
NA	1/2" RF	NJ	1" RTJ	LG	Female G (EN837-1)
NC	1/2" RTJ	NK	1 1/2" RF	JN	Male NPT
ND	3/4" RF	NM	1 1/2" RTJ	LN	Female NPT
NF	3/4" RTJ	NN	2" RF		
NG	1" RF	NQ	2" RTJ		

Outlet Connection (continued)

	ASME Flange Class				Thread Size
A	150	E	900/1500	4	1/2"
B	300	F	2500	6	3/4"
C	600				

Body Material

C	A105	M	Alloy 400
F	Duplex	S	316/316L
H	Alloy C-276	V	Alloy 625
L	A350 LF2		

Vent Connection

C	1/4 NPT Female	E	1/2 NPT Female
D	1/4 NPT Female plugged	F	1/2 NPT Female plugged

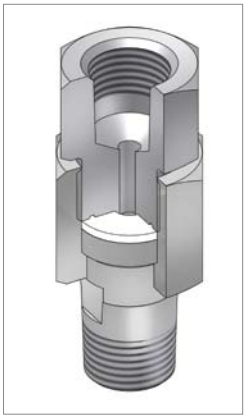
Options

N	NACE MR0175 / ISO 15156
W	All Valves lockable incl. padlock

Accessories for Monoflanges and VariAS-Blocks

Swivel Gauge Adaptors

The Swivel Gauge Adaptor enables the easy positioning of the gauge in any direction through 360°.



Ordering Code

INLET	OUTLET	SEAL RING	MATERIAL	PART NUMBER
1/2 NPT Male	1/2 NPT Female	PTFE		S007.45.206.05
1/2 NPT Male	1/2 NPT Female	316 SST	316 SST	S007.45.206.15
1/2 NPT Male	1/2 NPT Male	316 SST		S007.45.207.12

Gauge Syphons

Designed to replace the pigtail type of syphon, this compact style provides a thermal barrier between hot vapors and the pressure instrument.

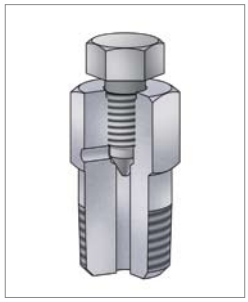
This Gauge Syphon reduces also the amount of potential gauge whip on vibrating lines by bringing the gauge closer to the process connection.

Ordering Code

INLET	OUTLET	MATERIAL	PART NUMBER
G 1/2 Male	G 1/2 Female	316 SST	S006.47.201.05
1/2 NPT Male	1/2 NPT Female	316 SST	S006.47.203.05

Hex Nipples

Vent Valves



Screw Plugs

Ordering Code

	CONNECTIONS	MATERIAL	PART NUMBER
HEX NIPPLES	1/2 NPT Male	316 SST	S006.11.249.04
VENT VALVES	1/4 NPT Male	316 SST	S312.09.405.02
	1/2 NPT Male	316 SST	S312.09.405.04
SCREW PLUGS	1/4 NPT Male	316 SST	S006.14.441.01
	1/2 NPT Male	316 SST	S006.14.441.03

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