Special Documentation
Mechanical accessories for pressure measuring devices

Pressure measurement

Manifolds, oval flange adapters, pressure gauge valves, shutoff valves, siphons, condensate pots, cable shortening kits, adapter test, flushing rings, block&bleed valves, protective roofs

One point of contact saves time and cuts cost

Endress+Hauser offers you the complete service portfolio for pressure measurement, ranging from engineering, project management, measuring devices and accessories to pre-assembled solutions and attractive life cycle management.

Your benefits

- A single supplier for the transmitter and accessories ensures that everything is delivered in one shipment and no parts are missing
- The transmitter and accessories match
- One central point of contact

Endress+Hauser
People for Process Automation

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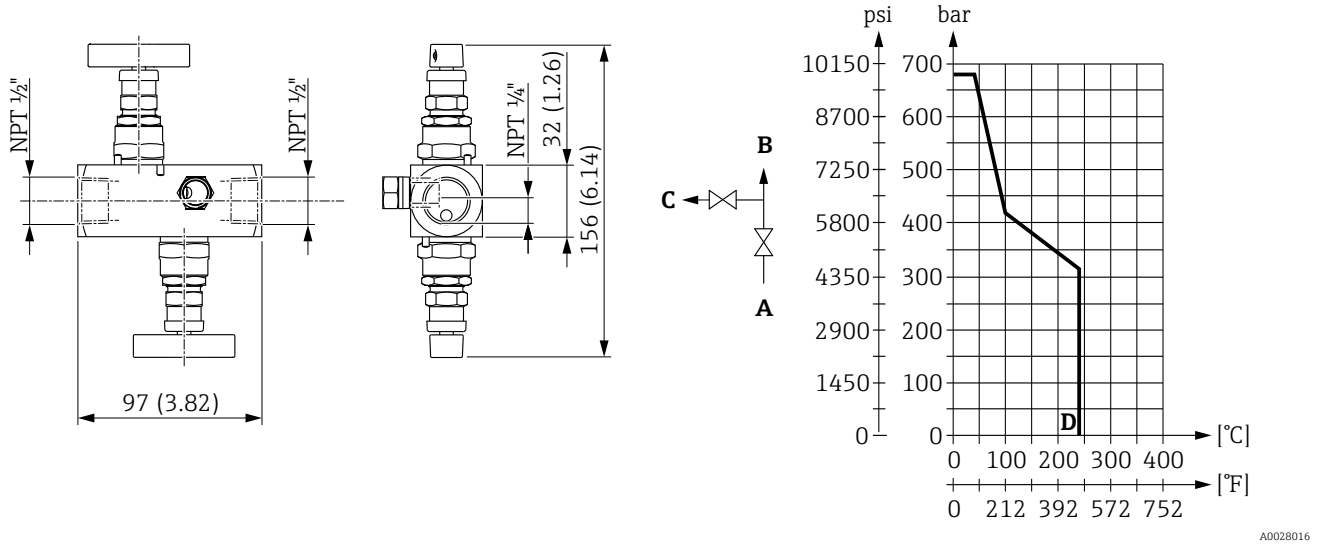
DA63M 2-valve manifold for Cerabar

Use The manifold is used to connect pressure gauges, pressure transmitters and pressure switches.

2-valve manifold, milled, FNPT x FNPT



A Process side (inlet)
B Transmitter side (outlet)
C Venting
D PTFE packing

Engineering unit mm (in)

Design and weight

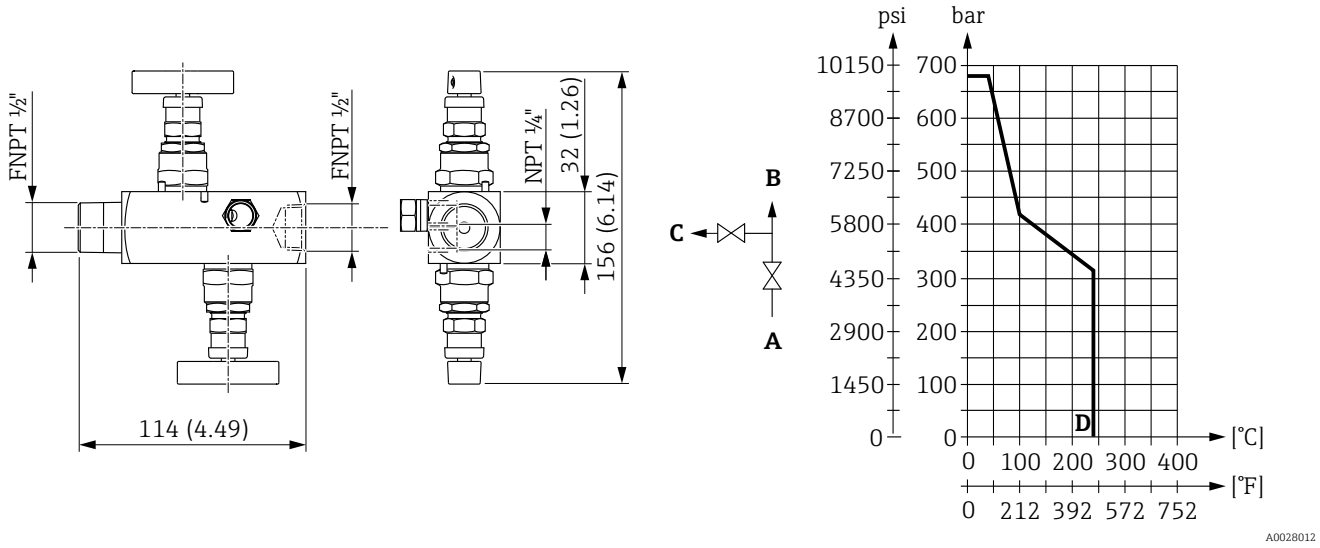
Component part	Description
Process side (inlet)	FNPT ½"
Transmitter side (outlet)	FNPT ½"
Air vent	NPT ¼"
Weight	1 kg (2.21 lb)

Materials and application

Component part	"316L" version [1]	"Alloy C276" version [2]
Housing	1.4404	2.4819
Protection cap	1.4404	2.4819
Locknut	1.4401	1.4401
Valve body	1.4404	1.4404
Gland nut	1.4401	1.4401
Packing [3]	PTFE up to +230 °C (+446 °F)	

1) Product Configurator, order code for "Version", option "TB2"
2) Product Configurator, order code for "Version", option "TB3"
3) Pay attention to the pressure and temperature limits of the measuring device!

2-valve manifold, milled,
MNPT x FNPT



A Process side (inlet)
B Transmitter side (outlet)
C Venting
D PTFE packing

Engineering unit mm (in)

Design and weight

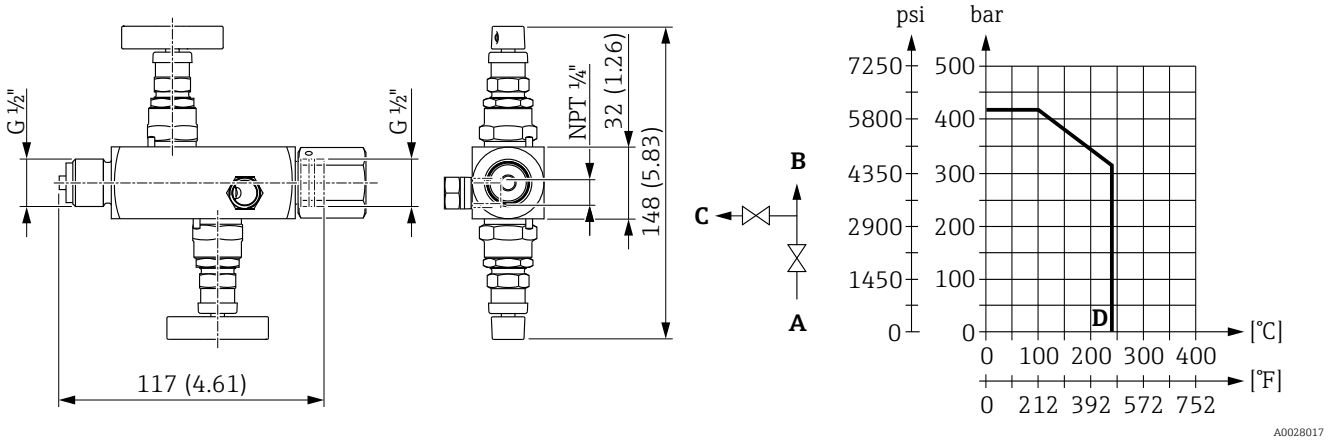
Component part	Description
Process side (inlet)	MNPT ½"
Transmitter side (outlet)	FNPT ½"
Air vent	NPT ¼"
Weight	1 kg (2.21 lb)

Materials and application

Component part	"316L" version [1]	"Alloy C276" version [2]
Housing	1.4404	2.4819
Protection cap	1.4404	2.4819
Locknut	1.4401	1.4401
Valve body	1.4404	1.4404
Gland nut	1.4401	1.4401
Packing [3]	PTFE up to +230 °C (+446 °F)	

1) Product Configurator, order code for "Version", option "TB2"
2) Product Configurator, order code for "Version", option "TB3"
3) Pay attention to the pressure and temperature limits of the measuring device!

2-valve manifold, milled,
G ½" + adjusting nut



A Process side (inlet)
B Transmitter side (outlet)
C Venting
D PTFE packing

Engineering unit mm (in)

Design and weight

Component part	Description
Process side (inlet)	ISO228 G½" EN837
Transmitter side (outlet)	G ½" + adjusting nut
Air vent	NPT ¼"
Weight	1 kg (2.21 lb)

Materials and application

Component part	"316L" version [1]	"Alloy C276" version [2]
Housing	1.4404	2.4819
Protection cap	1.4404	2.4819
Locknut	1.4401	1.4401
Valve body	1.4404	1.4404
Gland nut	1.4401	1.4401
Packing [3]	PTFE up to +230 °C (+446 °F)	

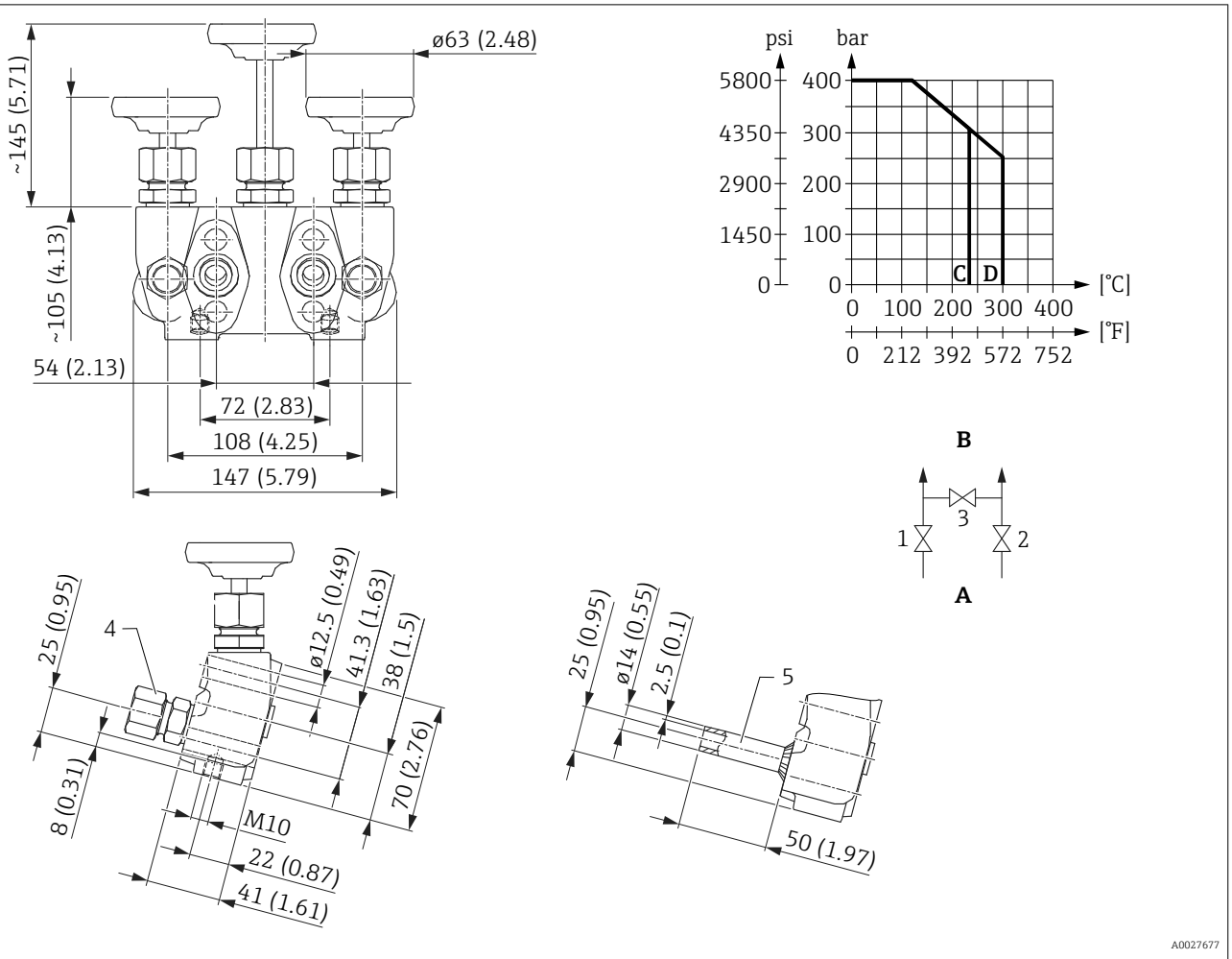
1) Product Configurator, order code for "Version", option "TB2"
2) Product Configurator, order code for "Version", option "TB3"
3) Pay attention to the pressure and temperature limits of the measuring device!

DA63M 3-valve manifold for Deltabar

Use

The manifold is used to connect impulse lines to the differential pressure transmitter.

3-valve, forged, steam applications



A Process side
B Transmitter side
C PTFE packing
D Pure graphite packing
1, 2 The transmitter can be disconnected from the impulse lines with valves 1 and 2.
3 Valve 3 is used for zero point compensation between the impulse lines.
4 Cutting ring
5 Weld connection

Engineering unit mm (in)

Design and weight

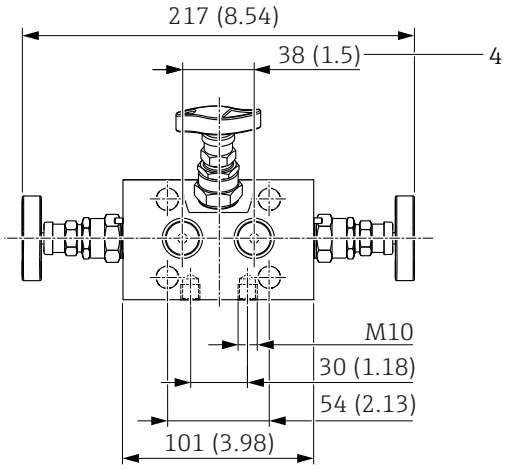
	Description
Housing	Die-pressed part
Surface	Phosphatized steel
Stem thread	Internal
Valve seat	Replaceable
Valve stem	Cold-rolled surface, with back seat and non-rotating needle tip
Hand wheels	Plastic
Input	Bite ring fitting for tube Ø12 mm (0.47 in), series S, G 3/8 Welding nipples for tube Ø 14 x 2.5 mm
Output	IEC61518, Type A
Mounting	4 screws (L = 55 mm (2-1/8")) and 2 seals
Weight	Approx. 3,2 kg (7 lb)

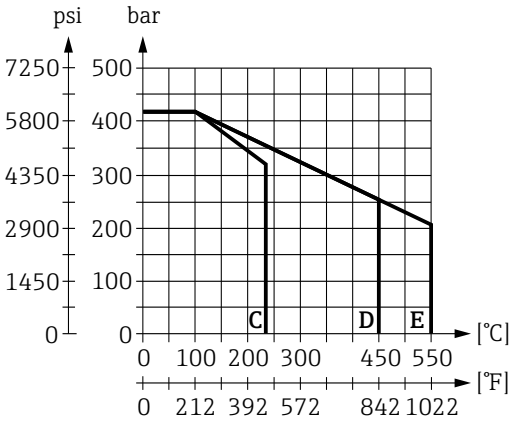
Materials and application

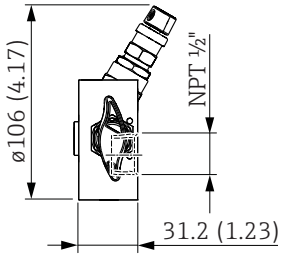
	"Steel" version [1]	"316Ti" version [2]
Housing	1.0460	1.4571
Housing temperature application limits	−10 to +300 °C (+14 to +572 °F)	−40 to +300 °C (−40 to +572 °F)
Bonnet	1.0501	1.4571
Valve seat	1.4571	1.4571
Valve stem	1.4104	1.4571
Needle tip	1.4122	1.4571
Packing [3]	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +300 °C (+572 °F)	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +300 °C (+572 °F)
Union nut	Steel	1.4571
Welding nipple	1.4515	1.4571
Fixing screws	Carbon steel ASTM A449, Type 1	1.4301 ASTM A193 B8 Cl.2
Seal	▪ PTFE: −10 to +80 °C (+14 to +176 °F) (in accordance with EN61518) ▪ FKM Viton: −15 to +120 °C (+5 to +248 °F) ▪ Graphite: −40 to +120 °C (−40 to +248 °F) (in accordance with EN61518)	

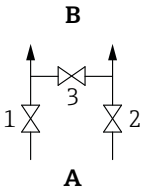
1) Product Configurator, order code for "Version", option "AA1"
2) Product Configurator, order code for "Version", option "AA2"
3) Pay attention to the pressure and temperature limits of the measuring device!

3-valve, milled, gas and liquid applications









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A Process side
B Transmitter side
C PTFE packing
D Pure graphite packing 1.0460
E Pure graphite packing 1.4404
1, 2 The transmitter can be disconnected from the impulse lines with valves 1 and 2.
3 Valve 3 is used for zero point compensation between the impulse lines.
4 Distance between impulse line inputs.

Engineering unit mm (in)

Design and weight

Component part	Description
Surface	Phosphatized steel
Stem thread	External
Valve stem	Cold-rolled surface, with back seat and non-rotating needle tip
Input	FNPT ½"
Output	IEC61518, Type A
Mounting	4 screws (L = 45 mm (1-3/4")) and 2 seals
Weight	Approx. 2 kg (4.4 lb)

Materials and application

Component part	"Steel" version [1]	"316L" version [2]
Housing	1.0460	316L (1.4404)
Housing temperature application limits	−10 to +450 °C (+14 to +842 °F)	−40 to +550 °C (−40 to +1022 °F)
Bonnet	316 (1.4401)	316 (1.4401)
Valve stem	1.4104	1.4404
Needle tip	1.4122	1.4571
Packing [3]	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +450 °C (+842 °F)	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +550 °C (+1022 °F)
Gland nut	1.4301	1.4301
T-handle	Stainless steel	Stainless steel
Fixing screws	Carbon steel ASTM A449, Type 1	1.4301 ASTM A193 B8 Cl.2
Seal	▪ PTFE: −10 to +80 °C (+14 to +176 °F) (in accordance with EN61518) ▪ FKM Viton: −15 to +120 °C (+5 to +248 °F) ▪ Graphite: −40 to +120 °C (−40 to +248 °F) (in accordance with EN61518)	

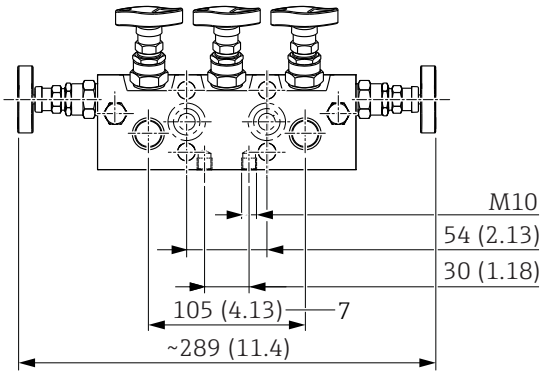
1) Product Configurator, order code for "Version", option "AB1"
2) Product Configurator, order code for "Version", option "AB2"
3) Pay attention to the pressure and temperature limits of the measuring device!

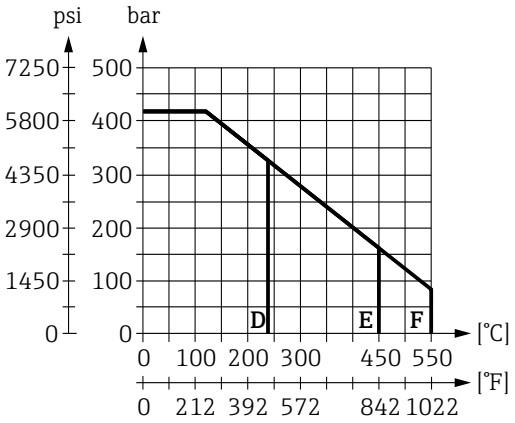
DA63M 5-valve manifold for Deltabar

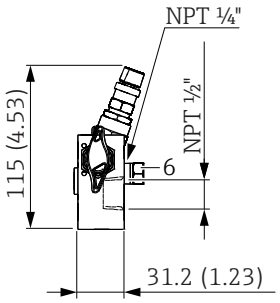
Use

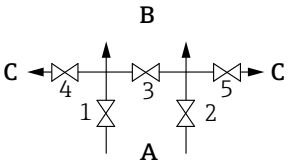
The manifold is used for differential pressure transmitter installation or zero point adjustment and to shut off the impulse line.

5-valve, milled, venting, gas and liquid applications









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A Process side
B Transmitter side
C Venting
D PTFE packing
E Pure graphite packing 1.0460
F Pure graphite packing 1.4404
1, 2 The transmitter can be disconnected from the impulse lines with valves 1 and 2.
3 Valve 3 is used for zero point compensation between the impulse lines.
4, 5 The impulse lines can be vented or blown clear with valves 4 and 5.
6 Vent connection NPT ½", female
7 Distance between impulse line inputs.

Engineering unit mm (in)

Design and weight

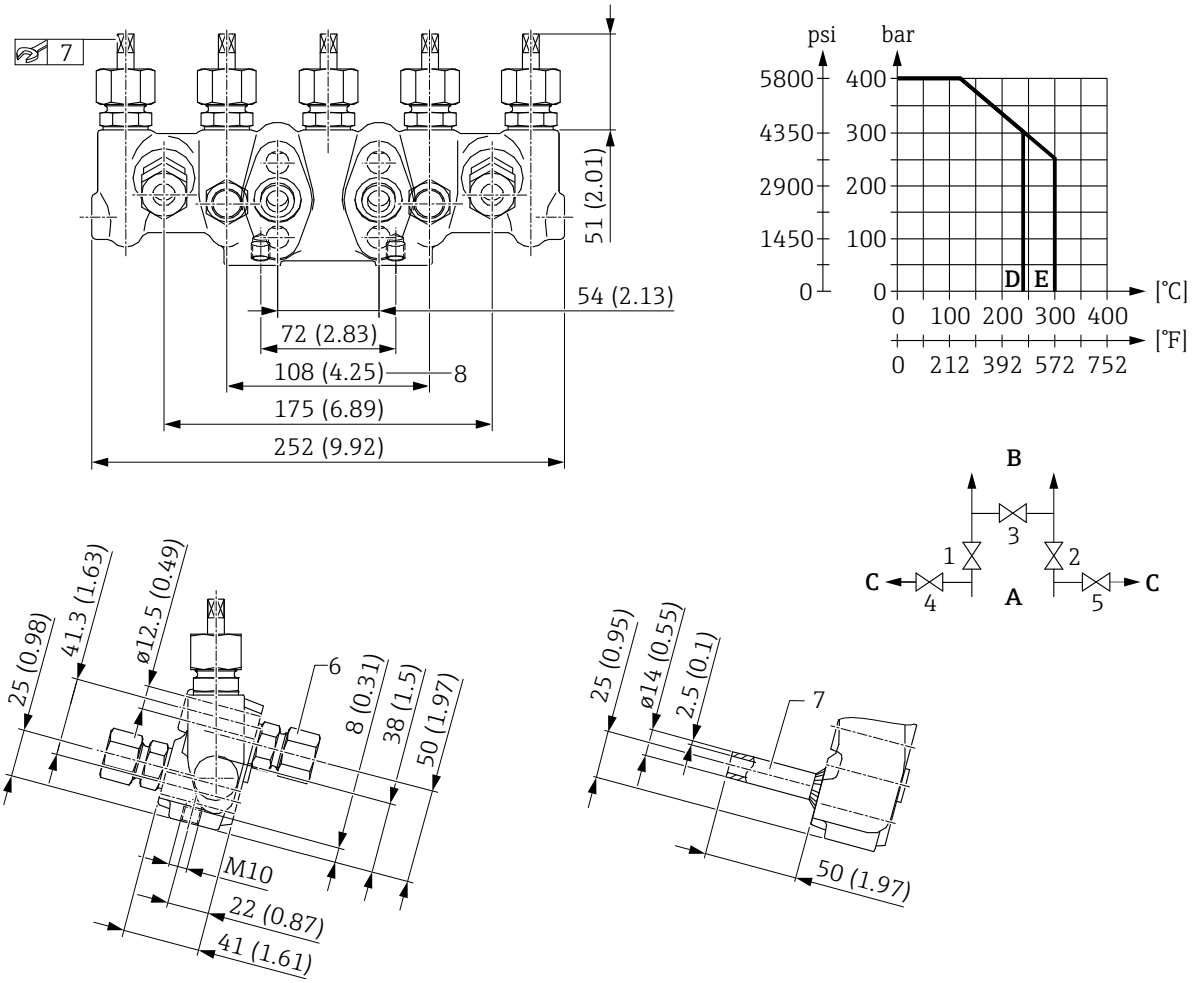
	Description
Surface	Phosphatized steel
Stem thread	External
Valve stem	Cold-rolled surface, with back seat and non-rotating needle tip
Input	FNPT ½"
Output	IEC 61518, Type A
Mounting	4 screws (L = 45 mm (1-3/4")) and 2 seals
Weight	Approx. 3,3 kg (7.3 lb)
Vent connection	NPT ½" female

Materials and application

	"Steel" version [1]	"316L" version [2]
Housing	1.0460	316L (1.4401)
Housing temperature application limits	−10 to +550 °C (+14 to +1 022 °F)	−40 to +550 °C (−40 to +1 022 °F)
Bonnet	316 (1.4401)	316 (1.4401)
Valve stem	1.4104	1.4101
Needle tip	1.4122	1.4571
Packing [3]	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +450 °C (+842 °F)	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +550 °C (+1 022 °F)
Gland nut	1.4301	1.4301
T-handle	Stainless steel	Stainless steel
Screw plug	1.0501	1.4404
Fixing screws	Carbon steel ASTM A449, Type 1	1.4301 ASTM A193 B8 Cl.2
Seal	▪ PTFE: −10 to +80 °C (+14 to +176 °F) (in accordance with EN61518) ▪ FKM Viton: −15 to +120 °C (+5 to +248 °F) ▪ Graphite: −40 to +120 °C (−40 to +248 °F) (in accordance with EN61518)	

1) Product Configurator, order code for "Version", option "BB1"
2) Product Configurator, order code for "Version", option "BB2"
3) Pay attention to the pressure and temperature limits of the measuring device!

5-valve, forged, purge valve, steam applications



A Process side
B Transmitter side
C Blow clear
D PTFE packing
E Pure graphite packing
1, 2 The transmitter can be disconnected from the impulse lines with valves 1 and 2.
3 Valve 3 is used for zero point compensation between the impulse lines.
4, 5 The impulse lines can be vented or blown clear with valves 4 and 5.
6 Bite ring fitting
7 Weld connection
8 Distance between impulse line inputs.

Engineering unit mm (in)

Design and weight

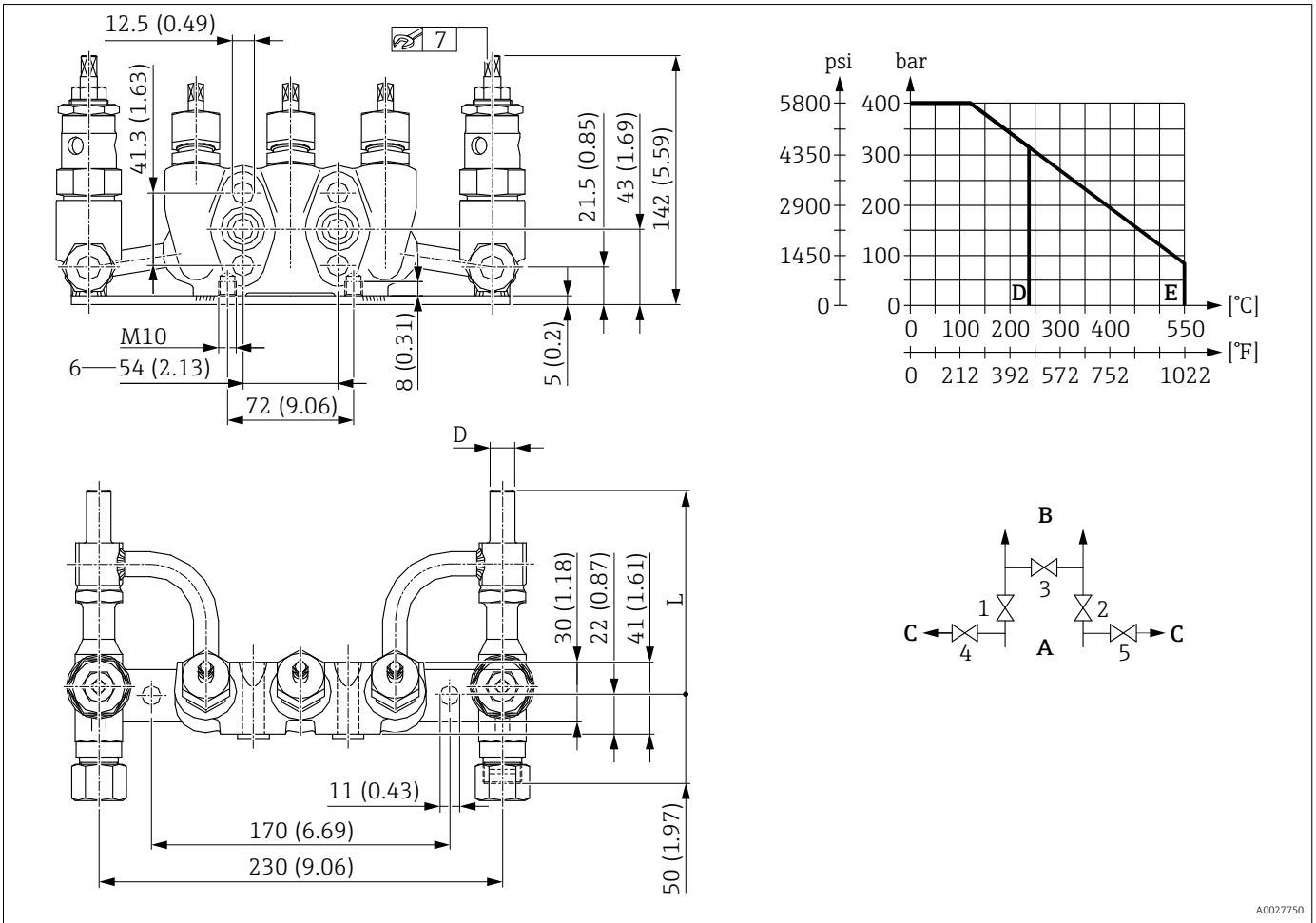
	Description
Housing	Die-pressed part
Surface	Phosphatized steel
Stem thread	Internal
Valve seat	Replaceable
Valve stem	Cold-rolled surface, with back seat and non-rotating needle tip
Inlet/blow clear	Bite ring fitting for tube Ø12 mm (0.47 in), series S, G 3/8 Welding nipples for tube Ø 14 x 2.5 mm
Output	IEC 61518, Type A
Mounting	4 screws (L = 55 mm (2-1/8")) and 2 seals
Weight	Approx. 4,6 kg (10.2 lb)

Materials and application

	"Steel" version [1]	"316Ti" version [2]
Housing	1.0460	1.4571
Housing temperature application limits	−10 to +300 °C (+14 to +572 °F)	−40 to +300 °C (−40 to +572 °F)
Bonnet	1.0501	1.4571
Valve seat	1.4571	1.4571
Valve stem	1.4104	1.4571
Needle tip	1.4122	1.4571
Packing [3]	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +300 °C (+572 °F)	▪ PTFE: up to +230 °C (+446 °F) ▪ Pure graphite: up to +300 °C (+572 °F)
Union nut	Steel	1.4571
Fixing screws	Carbon steel ASTM A449, Type 1	1.4301 ASTM A193 B8 Cl.2
Seal	▪ PTFE: −10 to +80 °C (+14 to +176 °F) (in accordance with EN61518) ▪ FKM Viton: −15 to +120 °C (+5 to +248 °F) ▪ Graphite: −40 to +120 °C (−40 to +248 °F) (in accordance with EN61518)	

1) Product Configurator, order code for "Version", option "CA1"
2) Product Configurator, order code for "Version", option "CA2"
3) Pay attention to the pressure and temperature limits of the measuring device!

5-valve HT, forged, purge valve, high-temperature steam applications



A Process side
B Transmitter side
C Purge valve
D PTFE packing
E Pure graphite packing
1, 2 The transmitter can be disconnected from the impulse lines with valves 1 and 2.
3 Valve 3 is used for zero point compensation between the impulse lines.
4, 5 The impulse lines can be vented or blown clear with valves 4 and 5.
6 Distance between impulse line inputs.

Engineering unit mm (in)

Design and weight

	Description
Housing	Die-pressed part
Surface	Phosphatized steel
Manifold, stem thread	Internal
Purge valves	External stem thread
Valve seat	Replaceable
Valve stem	Cold-rolled surface, with back seat and non-rotating needle tip
Input	Butt weld connection for tube 14 x 2.5 mm
Outlet, manifold	IEC 61518, Type A
Outlet, purge valve	Bite ring fitting for tube 14 mm (0.55 in), series S
Mounting	4 screws (L = 55 mm (2-1/8")) and 2 seals
Weight	Approx. 5,6 kg (12.4 lb)

Materials and application

	"Steel" version [1]		"316Ti" version [2]	
	Valve block	Purge valve	Valve block	Purge valve
Housing	1.0460	1.5415	1.4571	1.4571
Housing temperature application limits	−10 to +200 °C (+14 to +392 °F)	−10 to +550 °C (+14 to +1022 °F)	−40 to +200 °C (−40 to +392 °F)	−40 to +550 °C (−40 to +1022 °F)
Bonnet	1.0501	1.7709	1.4571	1.4571
Valve seat	1.4571	1.4021	1.4571	1.4571
Valve stem	1.4104	1.4021	1.4571	1.4571
Needle tip	1.4122	1.4122	1.4571	1.4571
Packing [3]	PTFE: to +230 °C (+446 °F)	Pure graphite: +550 °C (+1022 °F)	PTFE: to +230 °C (+446 °F)	Pure graphite: +550 °C (+1022 °F)
Union nut	Steel	-	1.4571	-
Gland nut	-	2.0550	-	1.4301
Fixing screws	Carbon steel ASTM A449, Type 1		1.4301 ASTM A193 B8 Cl.2	
Seal	▪ PTFE: −10 to +80 °C (+14 to +176 °F) (in accordance with EN61518) ▪ FKM Viton: −15 to +120 °C (+5 to +248 °F) ▪ Graphite: −40 to +120 °C (−40 to +248 °F) (in accordance with EN61518)			

1) Product Configurator, order code for "Version", option "DA1"
2) Product Configurator, order code for "Version", option "DA2"
3) Pay attention to the pressure and temperature limits of the measuring device!

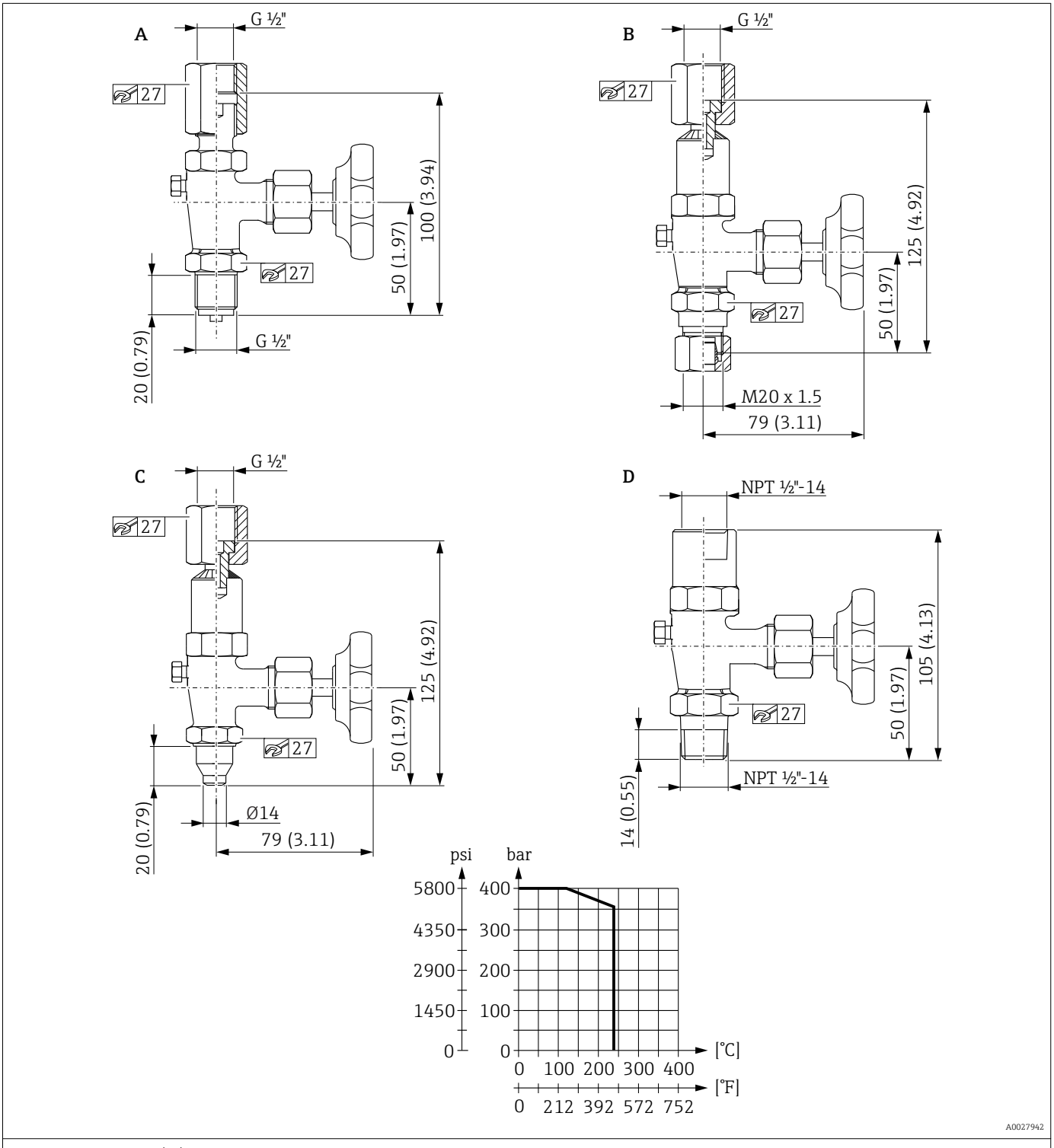
PZAV: Pressure gauge valves for Cerabar and Ceraphant

Use

Suitable for shutting off the impulse lines and for mounting pressure transmitters with ISO228 G ½" DIN16270 or MNPT ½" threads.

Simple shutoff valves do not have a vent screw.

Pressure gauge valve without a test connection



Engineering unit mm (in)

Design

Item	Input	Outlet (to measuring device)	Option	
A	ISO228 G ½" EN837	G ½" female, adjusting nut	1 [1]	A [2]
B	Ermeto 12S	G ½" female, adjusting nut	1 [1]	B [2]
C	Weld connection	G ½" female, adjusting nut	1 [1]	C [2]
D	MNPT ½"	FNPT ½", internal	1 [1]	D [2]

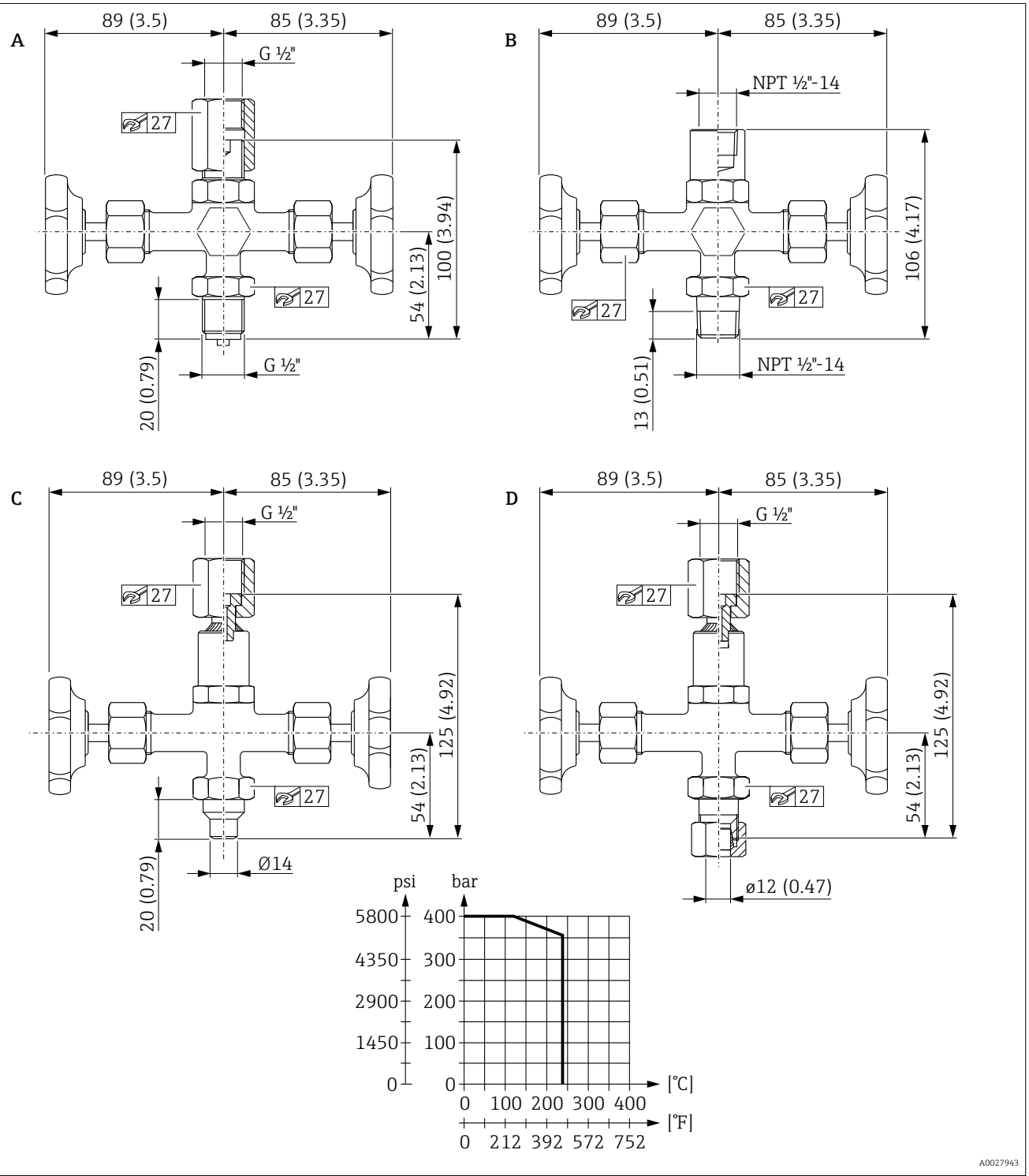
1) Product Configurator, order code for "Valve"
2) Product Configurator, order code for "Process connection (outlet x inlet)"

Technical data

	"Steel" version [1] [2]	"316Ti" version [3] [2]
Housing	1.0460	1.4571
Valve stem	1.4104	1.4571
Needle tip	1.4104	1.4571
Packing [4]	PTFE up to +230 °C (+446 °F)	PTFE up to +230 °C (+446 °F)
Input	1.0460	1.4571
Output	1.0460	1.4571
Vent screw	A4 (316)	A4 (316)
Hand wheel	Plastic	Plastic
3.1 Certificate	PZAV-B	PZAV-B

1) Product Configurator, order code for "Valve body; seal", option "1"
2) Cerabar M: Product Configurator, order code for "Accessories enclosed", option "P2"
3) Product Configurator, order code for "Valve body; seal", option "2"
4) Pay attention to the pressure and temperature limits of the measuring device!

Pressure gauge valve with test connectionM20x1.5



Engineering unit mm (in)

Design

Item	Input	Outlet (to measuring device)	Option	
A	ISO228 G ½" EN837	G ½" female, adjusting nut	2 [1]	A [2]
B	Ermeto 12S	G ½" female, adjusting nut	2 [1]	B [2]
C	Weld connection 14x2.5	G ½" female, adjusting nut	2 [1]	C [2]
D	MNPT ½"	FNPT ½", internal	2 [1]	D [2]

1) Product Configurator, order code for "Valve"
2) Product Configurator, order code for "Process connection (outlet x inlet)"

Technical data

	"Steel" version [1] [2]	"316Ti" version [3]
Housing	1.0460	1.4571
Valve stem	1.4104	1.4571
Needle tip	1.4104	1.4571
Packing [4]	PTFE up to +230 °C (+446 °F)	PTFE up to +230 °C (+446 °F)
Input	1.0460	1.4571
Output	1.0460	1.4571
Vent screw	1.0460	1.4571
Hand wheel	Plastic	Plastic
3.1 Certificate	PZAV-B	PZAV-B

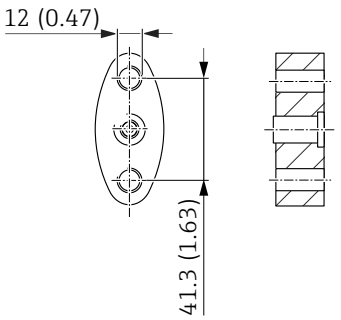
1) Product Configurator, order code for "Valve body; seal", option "1"
2) Cerabar M: Product Configurator, order code for "Accessories enclosed", option "P2"
3) Product Configurator, order code for "Valve body; seal", option "2"
4) Pay attention to the pressure and temperature limits of the measuring device!

Combination of shut-off valve or manifold and measuring device

The possible combinations of manifold or valve and measuring device are described in the following table:

	Version			
	2-valve		3-valve	5-valve
	Process connection on valve manifold or shut-off valve for measuring device			
	1/2 FNPT	ISO228 G½ EN837	IEC61518	
Shut-off valve order code	PZAV-##D#	PZAV-##A# PZAV-##B# PZAV-##C#	-	
Manifold order code	DA63M-TB#BFG DA63M-TB#BGG	DA63M-TB2BHH	DA63M-A##### DA63M-B##### DA63M-C##### DA63M-D##### DA63M-K##### DA63M-L#####	
	Can be combined with the following process connections (Product Configurator, oder code for "Process connection")			
Deltabar S PMD75 Deltabar M PMD55	-	-	All NPT1/4-18 IEC61518 process connections	
Cerabar S PMP71 Cerabar S PMC71	RA, RB, RC, RD, RE, RF	GA, GB	-	-
Cerabar S PMP75	UB, UD	UA, UC		
Cerabar M PMP51 Cerabar M PMC51	RKJ, RKC, RLJ, RLC, RJF	GCJ, GCC, GCF	-	-
Cerabar M PMP55	UCJ, UEJ	UBJ, UDJ		
Cerabar PMP11/21 Cerabar PMC11/21	VWJ, VXJ	WBJ	-	-
Deltabar FMD71 Deltabar FMD72	RKJ, RKC, RLJ, RLC, RJF	GCJ, GCC, GCF	-	-

PZO: Oval flange adapter for Deltabar



Engineering unit mm (in)

Use

The oval flange adapter is used to connect the impulse lines to the oval flange process connection of the differential pressure transmitter (IEC 61518).

Technical data

	"Steel" version [1) 2)]	**"316L" version** [3) 2)]
Process connection	FNPT ½"-14 / JIS RC ¼"	FNPT ½"-14
Seal [4) 5)]	▪ PTFE: −10 to +80 °C (+14 to +176 °F) (in accordance with EN61518) ▪ FKM Viton	▪ PTFE: −10 to +80 °C (+14 to +176 °F) (in accordance with EN61518) ▪ FKM Viton
Fixing screw [6) 7)]	▪ 2x fixing screw M10 ▪ 2x fixing screw UNF 7/16-20	▪ 2x fixing screw M10 ▪ 2x fixing screw UNF 7/16-20
Additional options	Cleaned of oil+grease (oxygen use)	▪ Cleaned of oil+grease (oxygen use) ▪ EN10204-3.1 certificate

1) Product Configurator, order code for "Material", option "2"
2) Deltabar M: Product Configurator, order code for "Accessories enclosed", option "P1"
3) Product Configurator, order code for "Material", option "1"
4) Alternative models (e.g. kidney flange), materials and seals available
5) Pay attention to the pressure and temperature limits of the measuring device!
6) Fixing screws are optional
7) Material: ASTM A449 Type 1, electrogalvanized

DA61V: shutoff device for pipes

Use

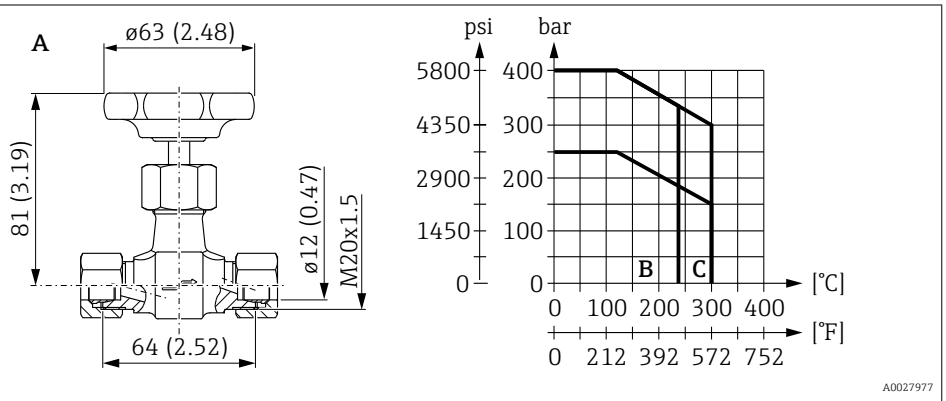
Suitable for shutting off the impulse lines (e.g. for Deltatop flow applications).

The shutoff valve is designed to separate the measuring system from the measuring tube if leaks are discovered or if maintenance work needs to be performed on the impulse lines.

Installation and commissioning

The shutoff valves must be closed on completion of the installation. As part of routine commissioning, the shutoff valves must first be opened carefully and the integrity of the entire system checked to ensure it is leak-tight.

Shutoff assembly with screw-in bonnet



A Inlet cutting ring; outlet cutting ring
B PTFE packing
C Pure graphite packing

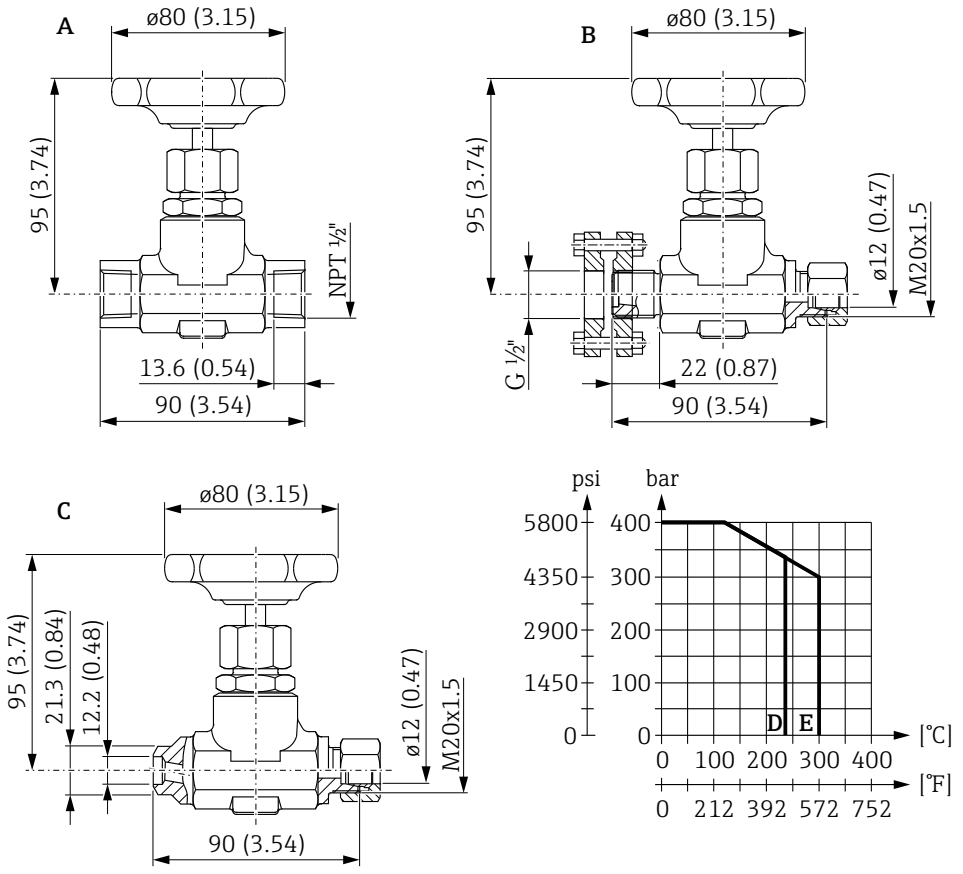
Engineering unit mm (in)

Technical data

	"C22.8" version [1]	"316Ti" version [2]
Housing	1.0460	1.4571
Valve stem	1.4104	1.4571
Needle tip	1.4122	1.4571
Packing [3]	PTFE up to +230 °C (+446 °F) Pure graphite up to +300 °C (+572 °F)	PTFE up to +230 °C (+446 °F) Pure graphite up to +300 °C (+572 °F)
Union nut	Steel	1.4571
Certificate [4]	3.1 Certificate	3.1 Certificate
Weight	0,47 kg (1.04 lb)	0,47 kg (1.04 lb)

1) Product Configurator, order code for "Material", option "C"
2) Product Configurator, order code for "Material", option "D"
3) Pay attention to the pressure and temperature limits of the measuring device!
4) Product Configurator, order code for "Additional options", option "F1"

Shutoff assembly with integrated bonnet



A Inlet FNPT ½"; outlet FNPT ½"
B Inlet nipple DIN 19207 and threaded flanges; outlet cutting ring
C Inlet weld connection; outlet cutting ring
D PTFE packing
E Pure graphite packing

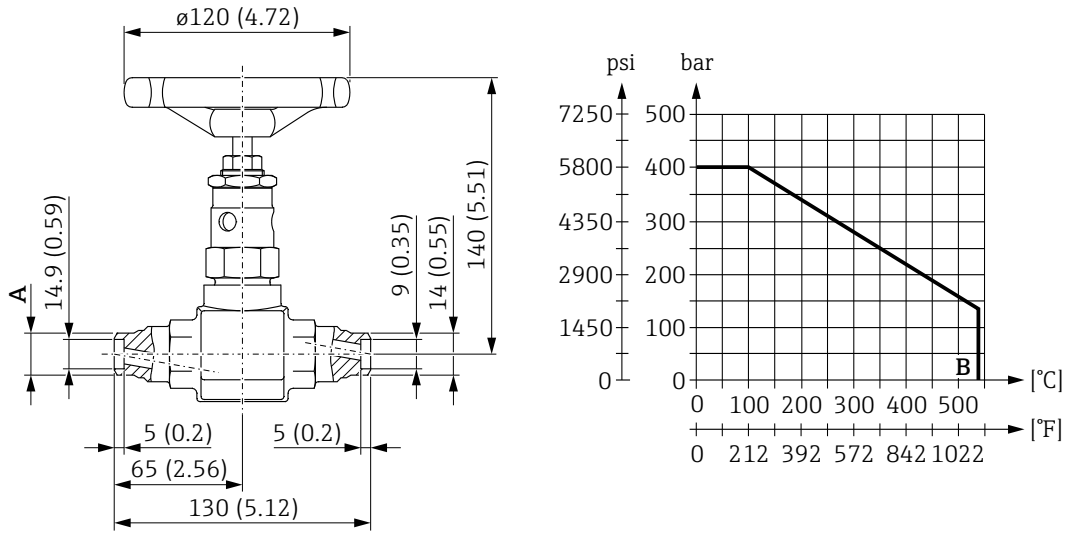
Engineering unit mm (in)

Technical data

	"C22.8" version [1]	"316Ti" version [2]
Housing	1.0460	1.4571
Bonnet	1.0501	1.4571
Valve seat	1.4571 / 1.4021	1.4571
Valve stem	1.4571 / 1.4021	1.4571
Needle tip	1.4122	1.4571
Packing [3]	PTFE up to +200 °C (+392 °F) Pure graphite up to +300 °C (+572 °F)	PTFE up to +230 °C (+446 °F) Pure graphite up to +300 °C (+572 °F)
Union nut	Steel	1.4571
Certificate [4]	3.1 Certificate	
Weight	▪ A [5]: 0,8 kg (1.76 lb) ▪ B [6]: 1,45 kg (3.2 lb) ▪ C [7]: 0,73 kg (1.61 lb)	

1) Product Configurator, order code for "Material", option "C"
2) Product Configurator, order code for "Material", option "D"
3) Pay attention to the pressure and temperature limits of the measuring device!
4) Product Configurator, order code for "Additional options", option "F1"
5) Product Configurator, order code for "Inlet", option "C" and order code for "Outlet", option "C"
6) Product Configurator, order code for "Inlet", option "V" and order code for "Inlet", option "W"
7) Product Configurator, order code for "Inlet", option "E" and order code for "Inlet", option "K"

Shutoff assembly with integrated bonnet, high-temperature version



A Weld connection, inlet 21,3 mm (0.84 in) or 17,2 mm (0.68 in); weld connection, outlet 14 mm (0.55 in)
B Pure graphite packing

Engineering unit mm (in)

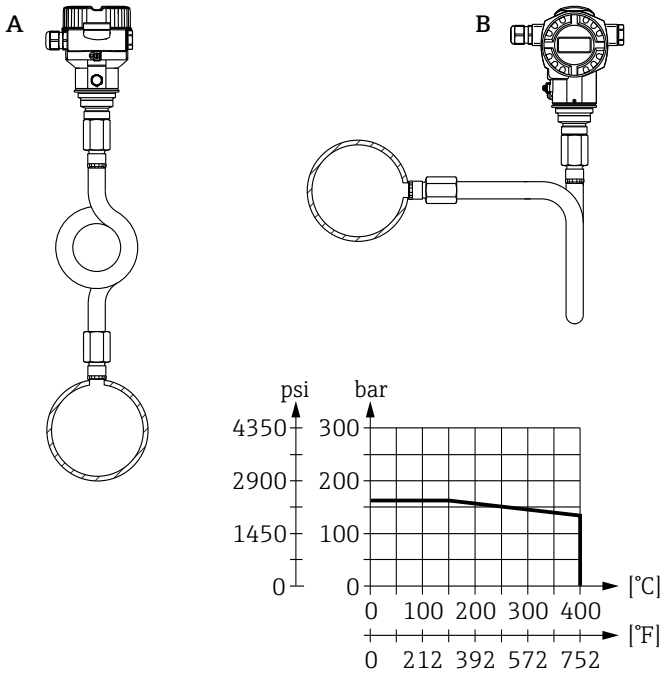
Technical data

	"16Mo3" version [1]
Housing	1.5415
Bonnet	1.7709
Valve seat	1.4021
Valve stem	1.4021
Needle tip	1.4122
Packing [2]	Pure graphite: up to +530 °C (+986 °F)
Union nut	Steel
Certificate [3]	3.1 Certificate
Weight	1,6 kg (3.53 lb)

1) Product Configurator, order code for "Material", option "G"
2) Pay attention to the pressure and temperature limits of the measuring device!
3) Product Configurator, order code for "Additional options", option "F1"

PZW: Siphons for Cerabar and Ceraphant

Overview



A O-shaped siphon. Suitable for vertical installation.
B U-shaped siphon. Suitable for horizontal installation.

Use

Siphons according to DIN 16282 are used to cool the medium. Suitable for liquids, gases and vapors.

Function

The pressure transmitter is separated from the process by the O-shaped pipe (vertical installation) or the U-shaped pipe (horizontal installation). In the event of damp gases and vapor, condensate also forms, causing an additional temperature reduction in relation to the process.

Pressure measurement in vapors

Use siphons for pressure measurement in vapors. The siphon reduces the temperature to almost ambient temperature. Fill the siphon with liquid before commissioning. Preferably mount the device with the siphon below the tapping point.

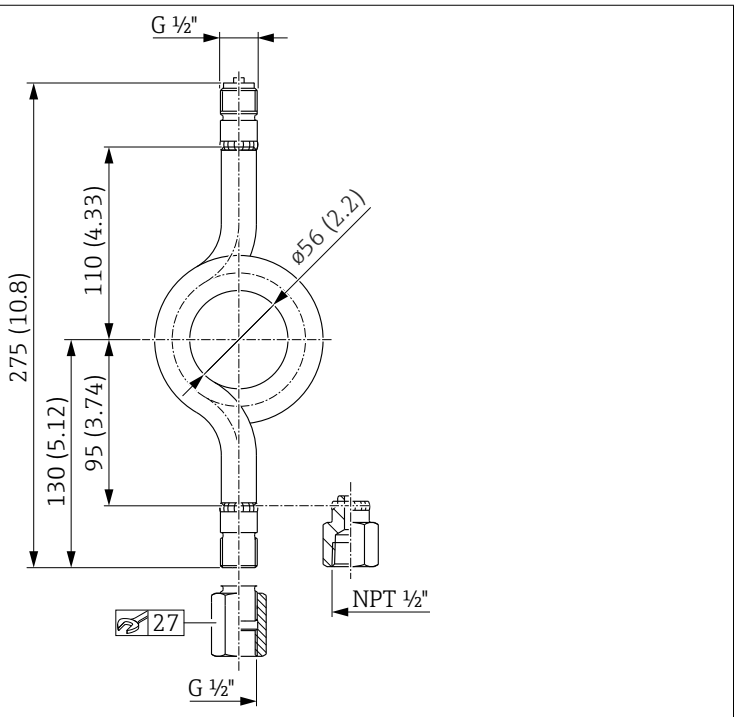
Advantages:
- defined water column only causes minimal/negligible measured errors
- only minimal/negligible thermal effects on the device

Mounting above the tapping point is also possible. Note the max. permitted ambient temperature of the device!

Cooling effect

The cooling effect depends on the pressure, medium and ambient temperature. Average cooling effect for gases: 50 to 100 °C (122 to 212 °F)

Siphons - O-shaped



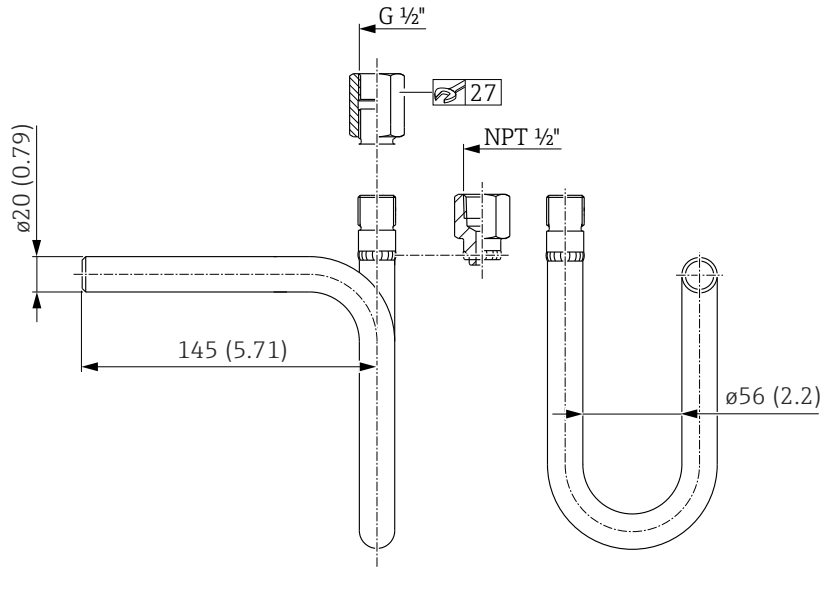
Engineering unit mm (in)

Technical data

	"St35.8" version [1) 2)]	"316Ti" Version [3) 2)]
Process connection [4)]	▪ FNPT ½" x MNPT ½" ▪ FNPT ½" x weld connection ▪ G ½" internal x G ½" ▪ G ½" internal x weld connection	
Pipe	ST35.8	316Ti
Maximum operating pressure upstream from siphon (process side) at maximum operating temperature [5)]	▪ 104 bar (1 508 psi) at 400 °C (752 °F) ▪ 120 bar (1 740 psi) at 300 °C (572 °F) ▪ 160 bar (2 320 psi) at 120 °C (248 °F)	
Additional options	Basic model	▪ Basic model ▪ EN10204-3.1 certificate

1) Product Configurator, order code for "Pressure tapping", option "2" and order code for "Pipe; seal", option "1"
2) Cerabar M: Product Configurator, order code for "Accessories enclosed", option "P4".
3) Product Configurator, order code for "Pressure tapping", option "2" and order code for "Pipe; seal", option "2"
4) Additional process connections available
5) Pay attention to the pressure and temperature limits of the measuring device!

U-shaped siphons



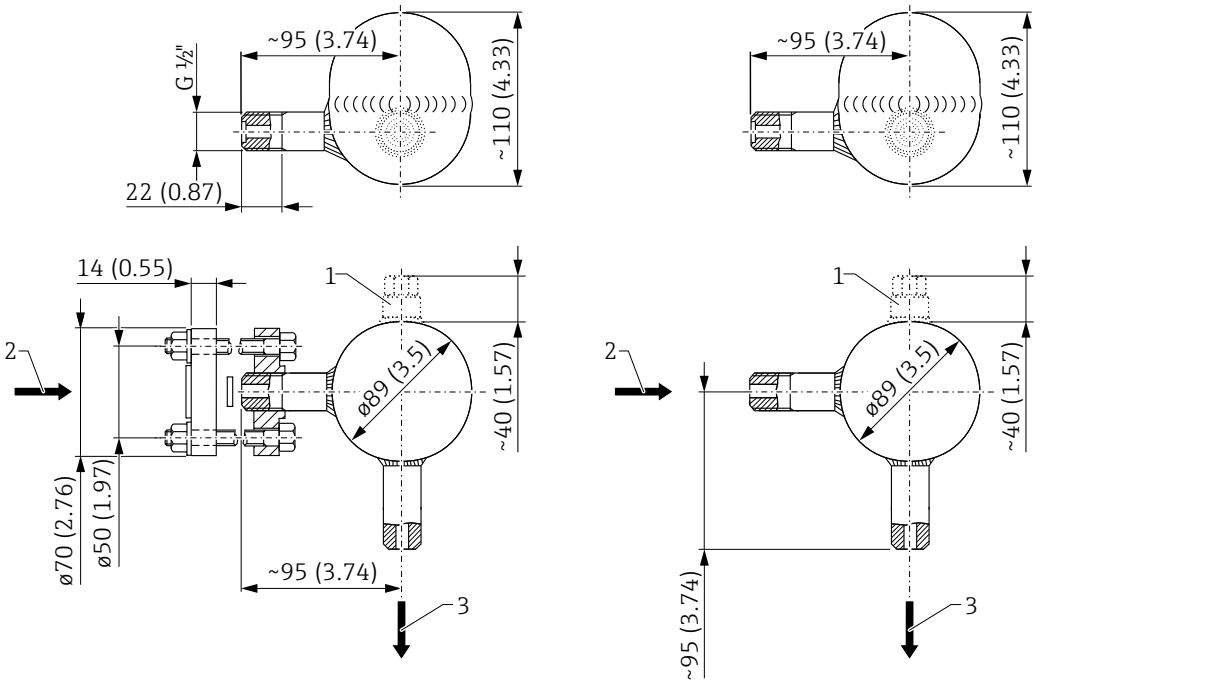
Engineering unit mm (in)

Technical data

	"St35.8" version [1) 2)]	"316Ti" Version [3) 2)]
Process connection [4)]	▪ FNPT ½" x MNPT ½" ▪ FNPT ½" x weld connection ▪ G ½" internal x G ½" ▪ G ½" internal x weld connection	
Pipe	ST35.8	316Ti
Maximum operating pressure upstream from siphon (process side) at maximum operating temperature [5)]	▪ 104 bar (1 508 psi) at 400 °C (752 °F) ▪ 120 bar (1 740 psi) at 300 °C (572 °F) ▪ 160 bar (2 320 psi) at 120 °C (248 °F)	
Additional options	Basic model	▪ Basic model ▪ EN10204-3.1 certificate

1) Product Configurator, order code for "Pressure tapping", option "1" and order code for "Pipe; seal", option "1"
2) Cerabar M: Product Configurator, order code for "Accessories enclosed", option "P4".
3) Product Configurator, order code for "Pressure tapping", option "1" and order code for "Pipe; seal", option "2"
4) Additional process connections available
5) Pay attention to the pressure and temperature limits of the measuring device!

DA61C: Condensate pot for steam applications



1 Filling cap, NPT ½ (optional)
2 From the primary device
3 To the differential pressure transmitter

Engineering unit mm (in)

Use

For flow and level measurement applications in order to maintain constant conditions in the condensate columns. Excess condensate can flow back into the main pipe or vessel.

Design

Hot-pressed hemispherical heads welded together.

Technical data

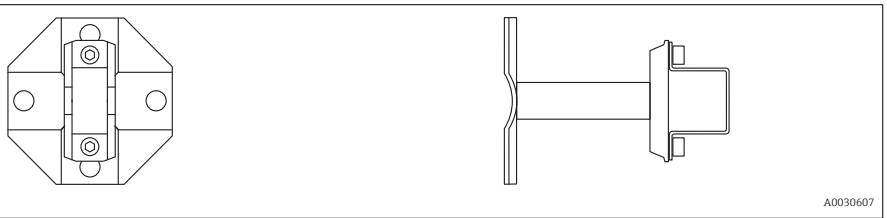
	"HII (265 GH)" version [1]	"316L" version [2]	"16Mo3" version [3]
Weight	1,7 kg (3.8 lb)	1,7 kg (3.8 lb)	2,2 kg (4.9 lb)
Volume	300 cm^3	300 cm^3	250 cm^3
Pressure, temperature [4]	PN 100, 300 °C (572 °F)	PN 100, 400 °C (752 °F)	PN 250, 500 °C (932 °F)
Filling cap	NPT ½"		
Inlet	▪ Weld connection 21,3 mm (0.84 in) ▪ Nipple, weld connection 17,2 mm (0.68 in) ▪ G ½" DIN 19207 steel ▪ G ½" DIN 19207 stainless steel		
Outlet	▪ Weld connection 21,3 mm (0.84 in) ▪ Nipple, 12 mm (0.47 in) ▪ Nipple G ½" DIN 19207		
Certificate	3.1 Certificate [5]		

1) Product Configurator, order code for "Material; volume; PN", option "B"
2) Product Configurator, order code for "Material; volume; PN", option "C"
3) Product Configurator, order code for "Material; volume; PN", option "K"
4) Pay attention to the pressure and temperature limits of the measuring device!
5) Product Configurator, order code for "Additional options", option "F1"

Mounting bracket for DA63M

If the transmitter is mounted on a shutoff device (e.g. manifold or shutoff valve), it is recommended to use the bracket provided. This makes it easier to disassemble the transmitter. Alternatively, the transmitter can be mounted directly via a mounting bracket (→ 32).

Mounting bracket for 2-valve manifold



Engineering unit mm (in)

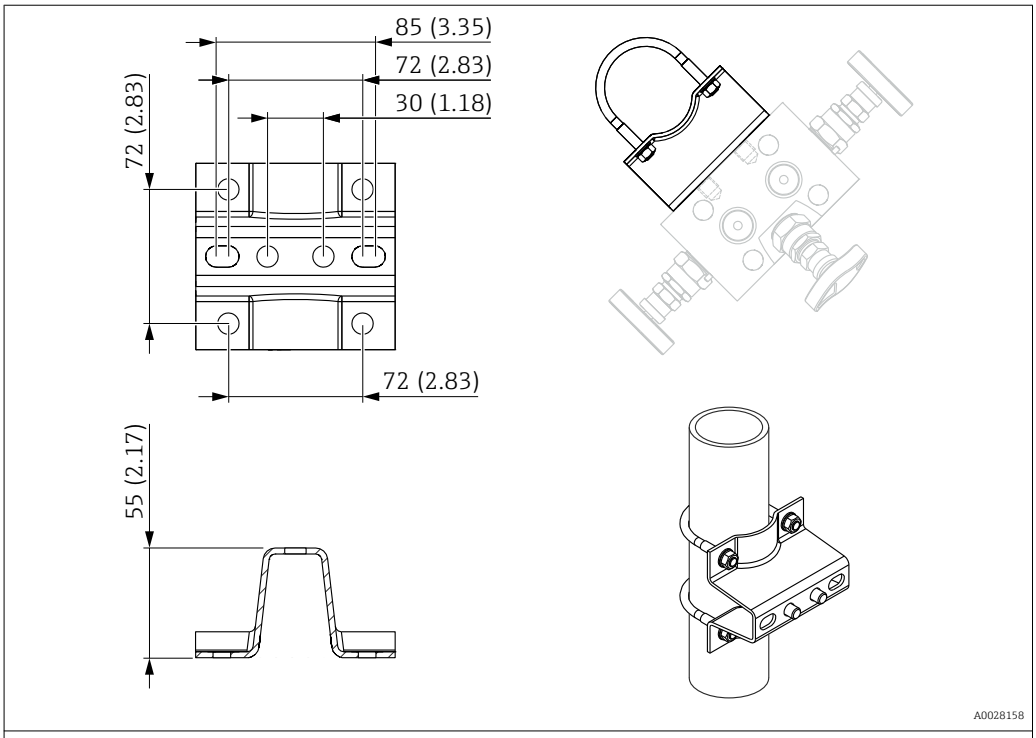
Ordering information:

Product structure for DA63M, Product Configurator, order code for "Additional options", option "EC".

The mounting bracket set contains:
- 1 mounting bracket
- 1 U-bolt
- 2 Allen screws ISO4762 - M6x10
- 1 U-fixing bracket M8 for 2" pipe
- 2 washers 8.4 DIN 125-B
- 2 hexagonal nuts DIN EN 24032-M8

Mounting bracket for 3- and 5-valve manifold

If the transmitter is mounted on a shutoff device (e.g. manifold or shutoff valve), it is recommended to use the bracket provided. This makes it easier to disassemble the transmitter.



Engineering unit mm (in)

The mounting bracket set contains:
- 1 mounting bracket
- 2 "U" bolts
- 4 washers – 8.4
- 4 hexagonal nuts M8
- 2 washers – 10.5
- 2 hexagonal-headed bolts M10x14
- 2 hexagonal-headed bolts 3/8-16 UNC x 5/8"

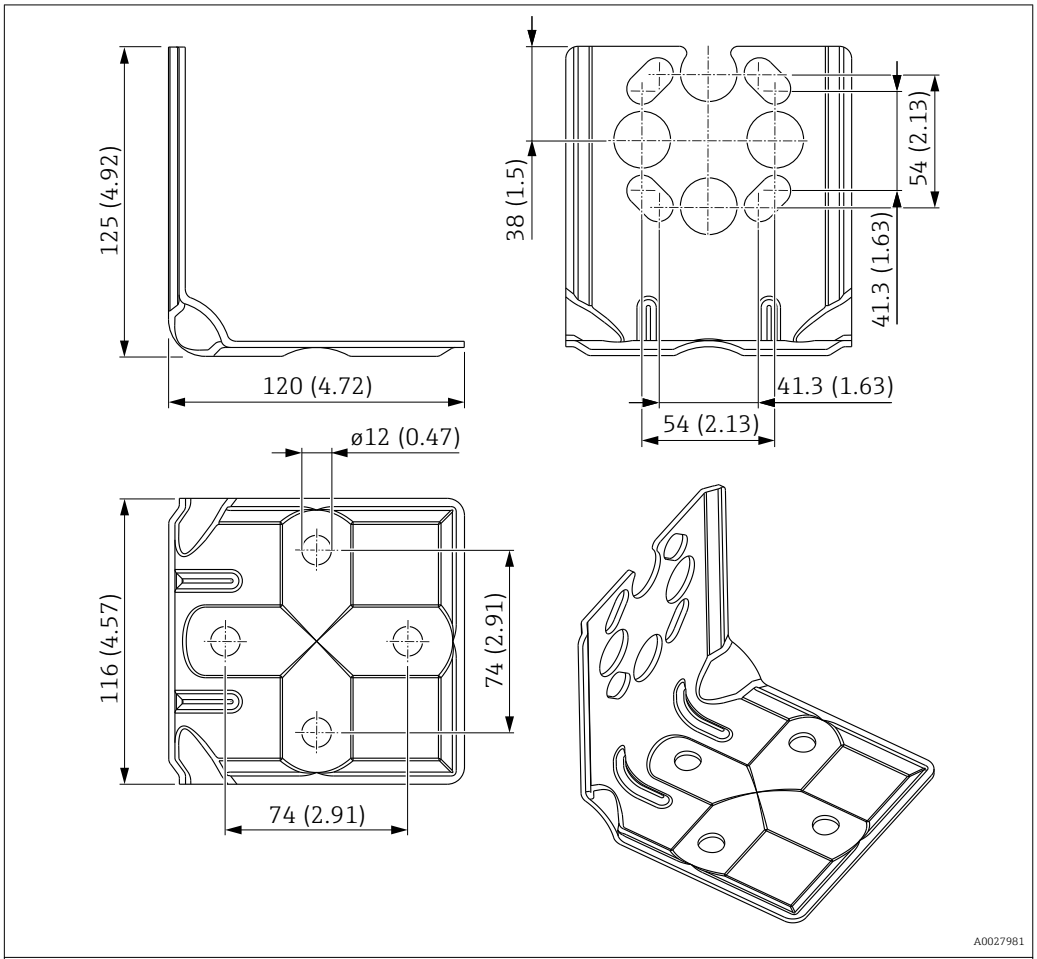
Ordering information:

Product structure for DA63M, Product Configurator, order code for "Additional options", option "EA" or "EB".

Mounting bracket for Deltabar PMD55 and PMD75

Standard version

Mounting bracket for wall and pipe mounting including retaining bracket for pipe mounting and two nuts.



Engineering unit mm (in)

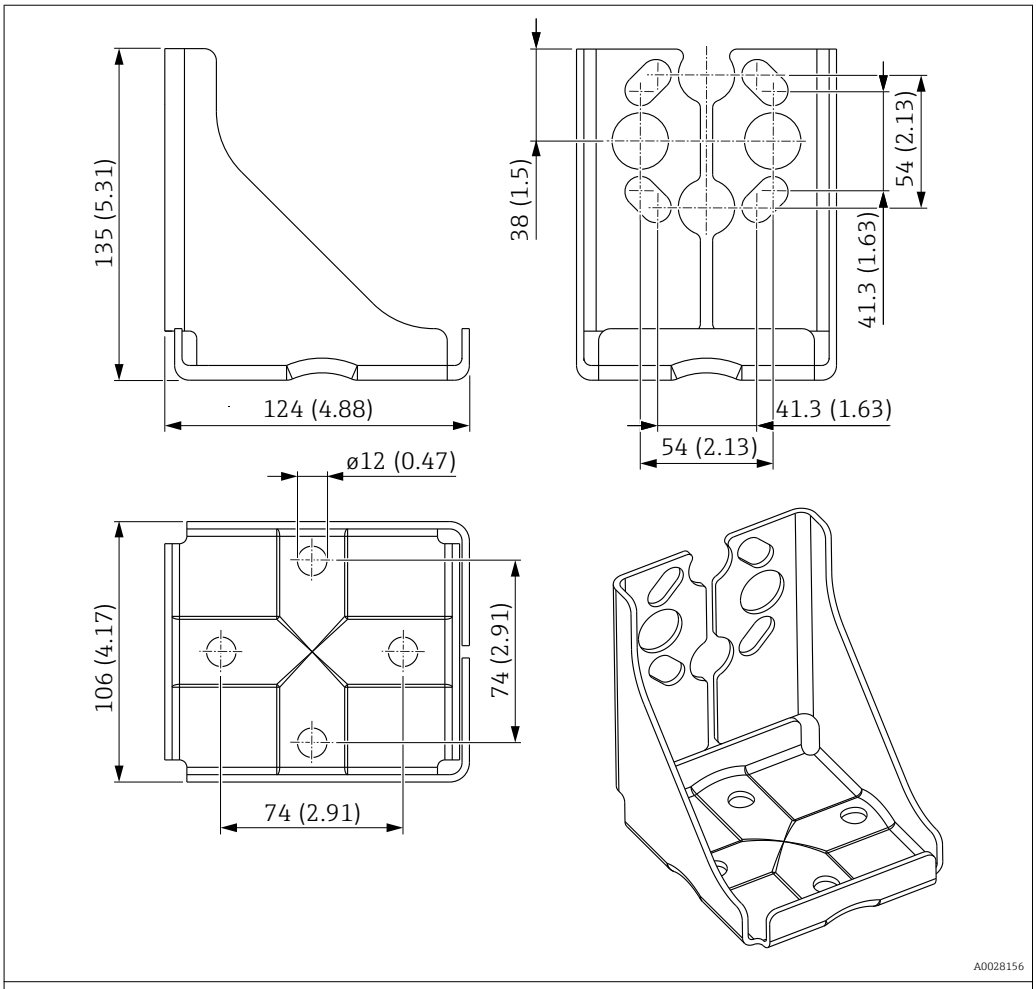
Materials and ordering information

Component part	Material	Order option [1]	Order number
Mounting bracket	316L (1.4404)	PD	-
Screws	▪ 7/16 UNF (Deltabar M and Deltabar S): A4-70 ▪ M12 (Deltabar S): A2-70 ▪ M10 (Deltabar M and Deltabar S): A4-70	-	On request
Adapter plate for PMD55	304	PC	-
Screws	▪ 7/16 UNF: A2-70 ▪ M10: A2-70	-	▪ 7/16 UNF: 71098632 ▪ M10: 71101935

1) Product Configurator, order code for "Accessories enclosed"

Reinforced version

Mounting bracket for wall and pipe mounting including retaining bracket for pipe mounting and two nuts.



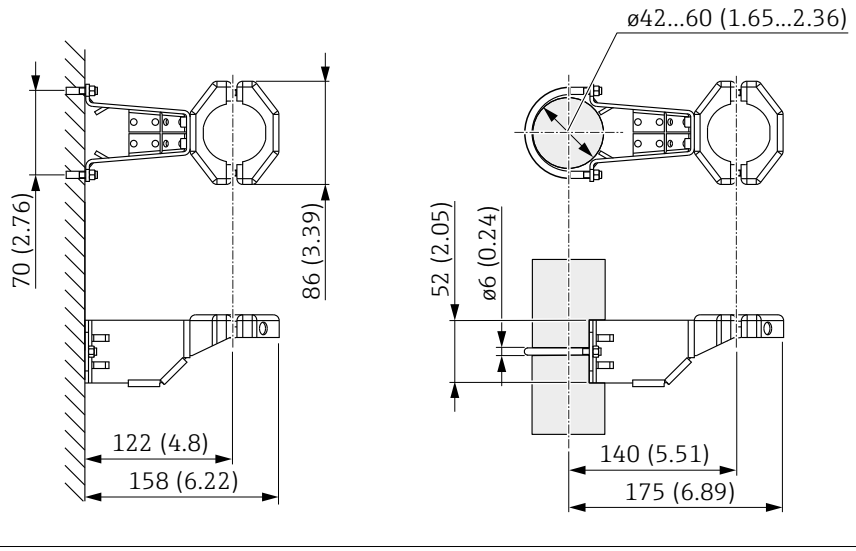
Engineering unit mm (in)

Materials and ordering information

Component part	Material	Order option [1]	Order number
Mounting bracket	316L (1.4404)	PB	-
Screws	▪ 7/16 UNF (Deltabar M and Deltabar S): A4-70 ▪ M12 (Deltabar S): A2-70 ▪ M10 (Deltabar M and Deltabar S): A4-70	-	▪ 7/16 UNF screws: 52024609 ▪ M12 screws: 52024610 ▪ M10 screws: 52024611
Adapter plate for PMD55	304	PC	-
Screws	▪ 7/16 UNF: A2-70 ▪ M10: A2-70	-	▪ 7/16 UNF: 71098632 ▪ M10: 71101935

1) Product Configurator, order code for "Accessories enclosed"

Mounting bracket for Cerabar and Deltapilot



Engineering unit mm (in)

Ordering information:

Product Configurator, order code for "Accessories enclosed", option "PA"

Materials

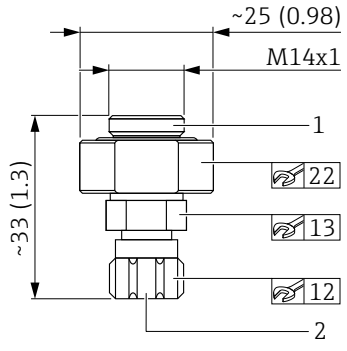
Component part	Material	Order number
Mounting bracket	316L (1.4404)	71102216

Test adapter for Waterpilot and Deltapilot

Use

Test adapter for level probe for functional testing or calibration under pressure.

Test adapter for level probe with outer diameter 22 mm (0,87 in) or 29 mm (1,14 in)

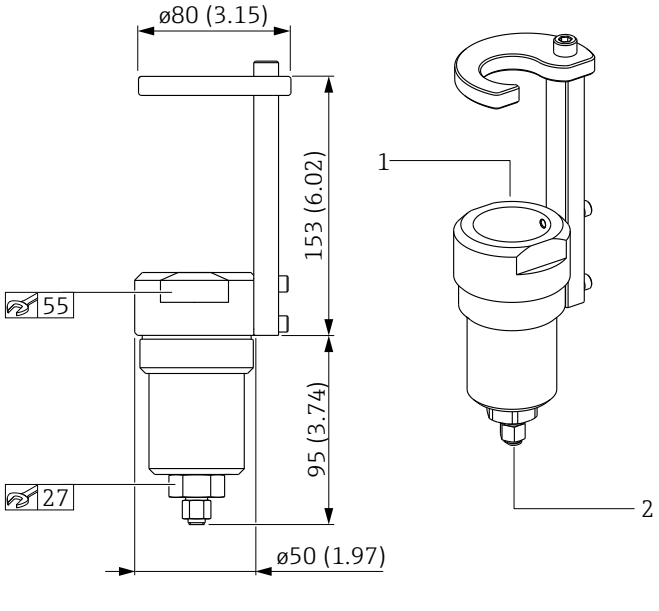


1 Level probe connection
2 Compressed air hose connection, internal diameter, quick coupling piece 4 mm (0.16 in)

Engineering unit mm (in)

- Observe the maximum pressure for compressed air hose and maximum overload for level probe
- Maximum pressure for the quick coupling piece provided: 10 bar (145 psi)
- Adapter material: 304 (1.4301)
- Material of quick coupling piece: anodized aluminum
- Order number 52011868

Test adapter for level probe with outer diameter 42 mm (1,65 in)



1 Level probe connection
2 Compressed air hose connection

Engineering unit mm (in)

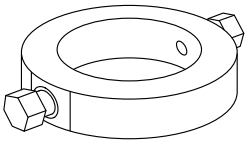
- Observe the maximum pressure for compressed air hose and maximum overload for level probe
- Maximum pressure for the quick coupling piece provided: 10 bar (145 psi)
- Adapter material: 304 (1.4301)
- Material of quick coupling piece: anodized aluminum
- Order number 71110310

Cable shortening kit for Waterpilot and Deltapilot

Use	The cable shortening kit is used to shorten a cable easily and professionally.
Ordering information for Waterpilot	Order number: 71222671 Ordering information: Product Configurator, order code for "Accessories enclosed" option "PW" Associated documentation SD00552P/00/A6. The cable shortening kit is not designed for the FMX21 with FM/CSA approval.
Ordering information for Deltapilot	Order number: 71125862 Ordering information: Product Configurator, order code for "Accessories enclosed" option "PW" Associated documentation SD00553P/00/A6.

Additional accessories

Flushing rings



A0028007

Use

Any matter collected upstream from the process isolating diaphragm can be flushed away through the flush boreholes on the side. The pressure compartment can be vented. Various nominal widths and forms allow adaption to the respective process flange.

Endress+Hauser offers flushing rings as **T**echnical **S**pecial **P**roducts (TSP).

For further information please contact your local Endress+Hauser Sales Center.

Technical data

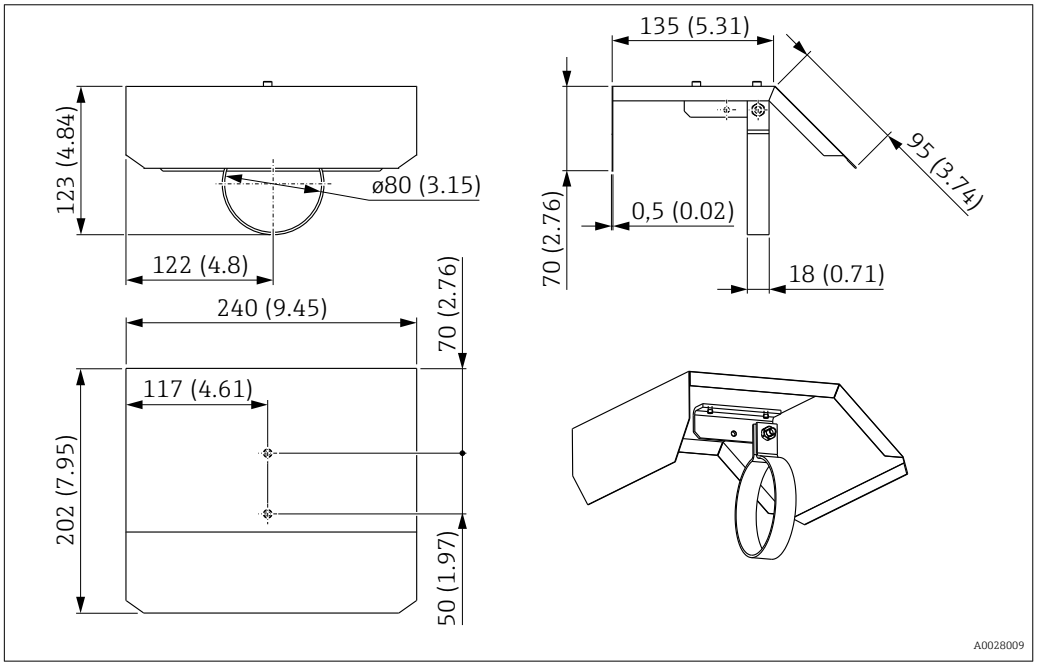
	Description
Design	2 x NPT ½" (screws, stainless steel)
Nominal pressure	PN 16-400
Class	150-2500 lbs
Standards	DIN / ASME / JIS
Material	▪ 316L ▪ Alternative materials are available, e.g. Duplex, Alloy C-276
Options	▪ EN10204-3.1 material certificate ▪ NACE MR0175 ▪ Special cleaning ▪ Alternative rinse connections

Protective roofs

Use

To protect the transmitter from direct sunshine, precipitation and ice.

Protective roof, 316L



Protective roof for Cerabar S, Deltabar S and Deltapilot S transmitters with T14 aluminum housing and display.

Including bracket for direct installation on the transmitter housing.

Protective roofs are also available for Cerabar M with F31 and F15 housing.

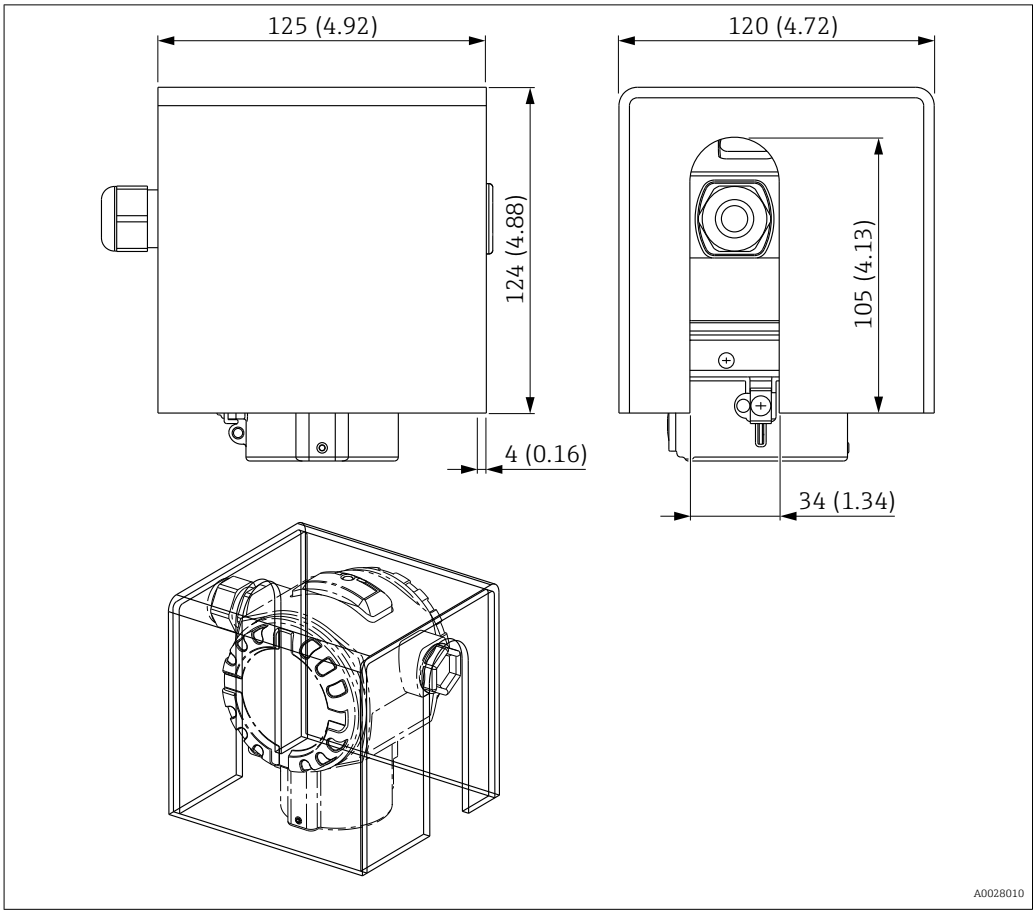
Technical data

	Material
Protective roof	316L
Weight	0,48 kg (1.06 lb)
Clamp screw	A4
Retainer	316L

Endress+Hauser offers protective roofs as **T**echnical **S**pecial **P**roducts (TSP).

For further information please contact your local Endress+Hauser Sales Center.

Protective roof, PVC



Protective roof for Cerabar S, Deltabar S and Deltapilot S transmitters with T14 aluminum housing and display.

Technical data

	Material
Protective roof	PVC (4 mm (0.16 in))

Endress+Hauser offers protective roofs as **T**echnical **S**pecial **P**roducts (TSP).

For further information please contact your local Endress+Hauser Sales Center.

Welding flanges and weld-in adapters

For details refer to TI00426F/00/ "Weld-in adapters, process adapters and flanges".

Ordering information

Detailed ordering information is available from the following sources:
- In the Product Configurator on the Endress+Hauser website: www.endress.com -> Click "Corporate" -> Select your country -> Click "Products" -> Select the product using the filters and search field -> Open product page -> The "Configure" button to the right of the product image opens the Product Configurator.
- From your Endress+Hauser Sales Center: www.addresses.endress.com

Product Configurator - the tool for individual product configuration
- Up-to-the-minute configuration data
- Depending on the device: Direct input of measuring point-specific information such as measuring range or operating language
- Automatic verification of exclusion criteria
- Automatic creation of the order code and its breakdown in PDF or Excel output format
- Ability to order directly in the Endress+Hauser Online Shop

Supplementary documentation

Field of Activities

Pressure measurement, powerful instruments for process pressure, differential pressure, level and flow:

FA00004P/00/

Field of Activities

System components and data manager solutions to complete your measuring point:

FA00016K/09/

71357285

www.addresses.endress.com

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People for Process Automation