Pressure Transmitter ED 701

Hygienic and industrial process connections

Zero setting function

Accuracy < 0.1% FS

Quick response time < 25 ms

High long-term stability

Excellent repeatability

Active compensation for temperature drifts

4 ... 20 mA and Voltage outputs

Complete range of electrical connections

ATEX II 1G, II 2G, II 1/2G and II 1D

CIP/SIP

Description

The ED 701 is a pressure transmitter available in 4 ... 20 mA current loop or in voltage output signal versions. This transmitter offers a very high accuracy over a wide temperature range, an excellent repeatability and very long term stability.

The piezo-resistive silicon sensor is anodic bonded on a very stable glass base, which is attached to a stainless steel construction. This assembly guaranties an excellent thermal isolation.
The sensor is isolated from the process by a stainless steel diaphragm (1.4404 / 316L) and a filling liquid.

The electronics are located within the hermetically sealed transmitter housing which give the ED 701 an excellent resistance to humidity, shock and vibration. Protection class, from IP 65 to IP 67 only depends on the choice of the electrical connection.

The electronics are a state-of-the-art signal processing unit fitted with a fast micro-controller allowing the compensation of drift effects due to temperature on the sensor signal, over a wide temperature range with a fast response time.

The ED 701 is available with a great variety of pressure and electrical connections to meet all requirements. The electrical connection can be replaced easily and gives access to the Auto-zero adjustment.

The ED 701 is a very flexible transmitter suitable for all types of applications and more specifically for food and beverage, pharmaceutical, and biotech applications.

BOURDON HAENNI
made to measure

Ordering Details

Ordering code digit	1	2	3	4	5	6	7	8	9	10	11	12
Pressure connection												
Male thread G½" EN 837-1	1											
Male thread G¼" EN 837-1	2											
Male thread M20x1.5 DIN 16288	3											
Male thread G½" DIN 3852 with O'ring [3])	4											
Male thread G⅛" EN 837-1	5											
Female thread G½" DIN 3852	6											
Female thread G¼" DIN 3852	7											
Male thread G½" EN 837-1 for assembly with pressure seal [11])	8											
Male thread G¼" EN 837-1 for assembly with pressure seal [11])	9											
Male thread ½"- 14NPT, ASP N152	A											
Female thread ¼"-18NPT, ASP N152	B											
Male thread 7/16"- 20UNF	E											
Male thread G½" flush diaphragm cone [3, 9])	W											
Male thread G1" flush diaphragm cone [3])	J											
Male thread G1" flush diaphragm O'ring [3])	K											
Male thread G½" flush dia. DIN 3852 (Combi Connect) [3, 4])	L											
Clamp 21.3, ISO 2852 [1, 4])	M											
Clamp DN 33.7/DN 38 (1½"), ISO 2852 [1])	N											
Clamp DN 40/DN 51 (2"), ISO 2852 [1])	P											
Clamp DN 63.5 (2½"), ISO 2852 [1])	Q											
Output signal												
4 ... 20 mA		2										
0 ... 10 V DC		4										
0 ... 5 V DC		5										
Approvals												
CE conform			0									
ATEX			1									
Electrical connection												
2 meter shielded cable 3 conductors				1								
Fischer Plug (IP 67) [2])				2								
DIN 41524 Binder Plug				3								
DIN 43650 Plug				4								
Bendix 6 pole Plug				5								
M12, 4 pole Industrial Plug (IP 67), for add-on cable, see chapter Accessories				6								
½" NPT, cable length 1 m (IP 67)				7								
2 meter shielded cable 3 conductors, IP 67				9								
Field Housing IP 67 [5]), cable gland brass nickel-plated				A								
Field Housing IP 67 [5]), all stainless steel, cable gland stainless steel				B								
Field Housing IP 67 [5]), cable gland PA				C								
Accuracy												
0.4% FS, compensated temperature –10 … 125°C, medium temperature up to 125°C [7])					1							
0.2% FS, compensated temperature –10 ... 125°C, medium temperature up to 125°C [7])					2							
0.1% FS, compensated temperature –10 … 80°C, medium temperature up to 125°C [7, 8])					3							
0.4% FS, at specified adjusted temperature for medium temperature up to 300°C [6, 10])					A							
0.2% FS, at specified adjusted temperature for medium temperature up to 200°C [6])					B							

1) Maximum pressure depends on clamp fork. Operating temperature must be considered.
2) Cable socket included.
3) See chapter "Pressure connection tightness with O'ring" for details.
4) Combi Connect and Clamp 21.3 availability: From 1 bar, available with all accuracy ordering code (code 5)
From 400 mbar, limited to accuracy ordering code 5 = 1 and A (± 0.4% FS)
5) Cable diameter 5 to 12 mm.
6) For a standard adjustment at 25°C, no optional ordering code is required. For specific temperature adjustment, the optional ordering code /9007/TTTT must be supplied. Refer to options and accessories chapter for further details.

Maximum Medium temperature:
The maximum medium temperature depends on the applied ambiant temperature.
For Tamb ≤ 80°C, the maximum allowed medium temperature will be 150°C
For Tamb ≤ 60°C, the maximum allowed medium temperature will be 200°C
For Tamb ≤ 40°C, the maximum allowed medium temperature will be 300°C.
CAUTION: Not respecting these limits will cause product damage.

The compensated temperature range is ± 25°C of the adjusted temperature or –10°C ... 80°C if the standard calibration applies. If the adjusted temperature is above 125°C or 175°C or 200°C, the compensated temperature range will always be 100°C .. 150°C or 150°C ... 200°C or 200°C … 250°C respectively, depending on the maximum allowed medium temperature.
Code A and B are only available with flush diaphragm pressure connection types, i.e. ordering code 1 = J, K, L, M, N, P, Q, W
7) Optional code /9007/TTTT applies. The maximum calibration temperature is limited to 125°C.
8) If the calibration temperature is above 80°C, the calibrated temperature lies outside of the compensated range.
9) Available only for pressure ranging ≥ 0 …10 bar, ≤ 0 …40 bar and accuracy code A or B, i.e. only with integrated cooling neck.
10) See oil filling chapter on page 5 concerning the temperature limitations, for medium temperature above 200°C, only available for pressure connections code J and W.
11) These pressure connections are membrane less. Code 11 must be coded 9, no oil filling.

Ordering details (continued)

Ordering code digit	1	2	3	4	5	6	7	8	9	10	11	12
Pressure units												
Gauge pressure (100 mbar up to 40 bar)						3						
Absolute pressure (500 mbar up to 40 bar)						4						
Negative gauge pressure (0…–100 mbar, –1…9 bar)						5						
Pressure range [1])												
100 mbar up to 40 bar: gauge pressure							See code					
500 mbar up to 40 bar: absolute pressure							below					
Wetted parts												
All Stainless Steel										1		
Hastelloy C [5])										2		
Strengthened stainless steel membrane [3])										3		
Stainless steel, gold plated [5])										9		
Oil filling (see details on page 5)												
FDA approved white oil (Standard) [6])											1	
Silicon											0	
Halocarbon											2	
No oil filling [7])											9	

Pressure range details (see chapter Options and Accessories for more)

Code	Range mbar	Code	Range bar	Code	Range psi
126	0...100	015	0...0.6	05D	0...1.5
136	0...160	025	0...1	06D	0...2.5
A56	0...200	035	0...1.6	07D	0...3
146	0...250	A15	0...2	08D	0...4
156	0...400	045	0...2.5	09D	0...6
A66	0...500	055	0...4	45D	0...7.5
166	0...600	A25	0...5	10D	0...10
D06	0…–100 [2]) [4])	065	0...6	11D	0...15
D16	0…–160 [2]) [4])	075	0…10	12D	0…30
D26	0…–200 [2]) [4])	085	0…16	13D	0…60
D46	0…–400 [2]) [4])	A35	0…20	51D	0…75
D56	0…–500 [2])	095	0...25	14D	0...100
D66	0…–600 [2])	105	0...40	15D	0...150
H66	–100…100 [2]) [4])	D85	0…–1 [2])	16D	0…200
H76	–200…200 [2]) [4])	315	–1…0 [2])	17D	0…300
H86	–500…500 [2])	H05	–1…1 [2])	18D	0…400
C46	–200…0 [2]) [4])	525	–1…3 [2])	32D	0…500
C56	–500…0 [2])	535	–1…5 [2])	70D	–1.5…1.5 [2]) [4])
		545	–1…9 [2])	71D	–3…3 [2]) [4])
				72D	–6…6 [2])
				80D	–15…15 [2])
				60D	–1.5…0 [2]) [4])
				61D	–3…0 [2]) [4])
				62D	–6…0 [2])
				81D	–15…30 [2])
				82D	–15…60 [2])
				83D	–15…150 [2])

1) Combi Connect and Clamp 21.3 availability:
From 1 bar, available with all accuracy ordering code (code 5)
From 400 mbar, limited to accuracy ordering code 5 = 1 and A (± 0.4% FS)
2) Valid only for ordering code digit 6, negative gauge pressure (code 5)
3) Available with the flush diaphragm connections ordering code J, K, N, P, Q only, pressure range >1 bar and accuracy 0.2% and 0.4%. Compensated temperature range ±25°C of the adjusted temperature (standard 0,50°C) TC ±0.3% FS/10K.
4) Valid only for ordering code digit 5, accuracy 0.4% FS (code 1)
5) Available only for pressure connection with flush diaphragm, i.e. ordering code digit equals J, K, L, M, N, P, Q, W
6) Medium temperature –10°C…200°C
7) Only for assembly with pressure seal.

Language of certificate and service manual

Please specifiy in plain text with the ED 701 ordering information. Documents are available in English, German and French.
Per default, certificate and service manual are delivered according to the country and communication language specified within by the order.

Technical data

Measurement characteristics

Pressure range Gauge pressure 0...100 mbar, 0...40 bar
Abs. pressure 0...500 mbar, 0...40 bar
Pressure ranges available within the defined ordering code.

Adjustment
Auto-Zero function by press-button located behind the electrical plug.
Please remove plug to get access. ED 701 must be powered.

Accuracy	According to ordering code 5
Hyteresis and repeatability	± 0.05% FS
Long term stability	± 0.2 % FS/year

Temperature influence (in compensated range)

Accuracy code 5 = 1 (± 0,4% FS)
TC zero = ± 0.2% FS/10K, **TC span** = ± 0.15% FS/10K
Accuracy code 5 = 2 (± 0.2% FS)
in temperature range –10°C … 80°C
TC zero = ± 0.1% FS/10K, **TC span** =± 0.1% FS/10K
in temperature range >80°C … 125°C
TC zero = ± 0.2% FS/10K, **TC span** =± 0.15% FS/10K
Accuracy code 5 = 3 (± 0.1 % FS)
TC zero = ± 0.05% FS/10K, **TC span** = ± 0.05% FS/10K

Response time 10 ... 90%, 25 ms

Electrical specification

Supply voltage	9 ... 30 V DC (4…20 mA) 9 ... 28 V DC (4…20 mA EEX) 15 ... 30 V DC (0…10 V DC)
Insolation Resistance	>1 GOhm, 500 V DC
Load	$R_L < 50 \times U_B - 450$

Influence of the Power supply
Protected against reverse signal polarity.

Operating Temperature limits with FDA white oil (standard)

For accuracy code 1, 2 and 3, -10°C ... 125°C for wetted parts all stainless steel
For accuracy code A and B, -10°C... 200°C for wetted parts all stainless steel

Operating Temperature limits with silicon oil / halocarbon

For accuracy code 1,2 and 3, -30°C ... 125°C for wetted parts all stainless steel
For accuracy code A and B, -30°C... 300°C for wetted parts all stainless steel

Operating Temperature limits versus used O'ring

-20°C .... 100°C for NBR
-50°C .... 120°C for EPDM
-20°C .... 200°C for FPM (Viton).
These values are indicative values only. Values are given for dry air temperatures. O'Ring supplier data must be consulted.

Compensated temperature range

-10°C ... 125°C with accuracy code 5 = 1, 2 (± 0.4% FS, ± 0.2% FS)
-10°C ... 80°C with accuracy code 5 = 3 (0.1%FS)
-10°C ... 80°C or ± 25°C around the calibration temperature with accuracy code = A,B (± 0.4%FS, ± 0.2%FS)

Sterilisation Temperature

140°C, 30 minutes

Sterilisation

Complete device, not powered, only flush diaphragm versions (without O'ring seal) and Fischer electrical plug.
Process duration 60 minutes, not powered, sterilisation temperature max. 140°C, pressure 3500 mbar.

Storage Temperature

-55°C ... 150°C For version fitted with O'ring seals, refer to operating temperature

Ambient temperature (housing)

-10°C .. 80°C

Materials specification

Wetted part
Stainless Steel W.1.4435 (fitting body) and W.1.4404 (AISI 316L, diaphragm)

Parts not in contact with medium
Stainless Steel W.1.4301 (housing), W.1.4305 (AISI 304 connector base) and electrical connector material.

Certificate EN10204 3.1B available on request

EMC

Influence of EMC	Less than 0.15% FS
Conformity	EN 50081-1, EN 50082-2, EN 61326, EN 50121-4

ATEX data

Intrinsically safe conforming to EN 50020 and EN 50281-1-1
Applications:

II 1G	II 1D	Device located in zone 0/zone 20
II 1/2G	II 1D	Pressure connection in zone 0/zone 20 Housing and electrical connection in zone 1/zone 20
II 2G	II 1D	Device located in zone 1/zone 20

Intrinsically safety EEx ia IIC. The device can only be connected to an approved intrinsically safe current loop with the following boundery values:
U_0 = 28 V I_k = 100 mA P = 1.5 W
The device internal capacity and inductivity values are:
C_i = 1 nF L_i = 0.1mH

Pressure connection tightness with O'ring

The mounting examples on page 7 gives details on the appropriate tightness methods for each type of pressure connection. This description is applicable to the pressure connections identified by the ordering code 4, J, K, L, W. All those pressure connections can be sealed by the mean of an O'ring, located at the rear of the thread (or tightness surface). Per default, the device is delivered with an NBR O'ring seal. Alternate O'ring material can be ordered separately, refer to accessory list.
Flush diaphragm male thread G1" and G1/2" cone, ordering code J and W respectively. This is a metal to metal seal realized thank to the Bourdon-Haenni unique cone construction. The assembly must be realized with the adequate welding sleeve. Refer to the accessory list.
Flush diaphragm male thread G1" with O'ring, ordering code K. The seal is usually realized by the O'ring seal, located on the front of the pressure port.

Over pressure limits

Pressure range 0…P (bar)	0.1…35	0.4…1.0	1.6…5	6…20	25…35	40
Maximum pressure P_{max} [bar]	1	3	15	60	105	120

Technical data

Environmental specification

Humidity According to EN 60068-2-38
Vibrations According to EN 60068-2-6
Shocks According to EN 60068-2-31

Oil filling

The standard oil filling is the FDA approved paraffin oil (White oil). Paraffin oil can withstand temperature in range –10°C up to 200°. The paraffin oil filling is the best choice for food, beverage, pharmaceutical and biotech applications.
For high medium temperature above 200°C (up to 300°C), choose the silicon oil filling. Silicon oil filling may also be recommended for general industrial applications.
For oxygen service, or painting industry, choose the halocarbon filling. Halocarbon is silicon free and withstands temperature –20°C … 300°C. With this particular filling, we guaranty that all parts in contact with the medium, or that may be in contact with (e.g. in case of membrane damage), are silicon free. Components located inside of the sealed transmitter housing may contain silicon in solid form.

Protection class

Rating IP 65 and IP 67, depending on electrical plug.

Mounting

Position at calibration time: Vertical

Switch ON time

5 sec.

Test Certificate

Delivered with the transmitter. Test certificate, 6 points rising at ambient temperature (T_{amb} = 25°C).

Physical characteristics

Weight
Between 223 and 885 g depending of the version.

Dimensions
See drawings.

Zero setting function

The Zero setting function is available directly on the device by removing the electrical plug. The Zero is activated pressing the push button located on the top of the electronic unit. Pressing the Zero button will cause the applied pressure to be considered as zero. This function allows initialization of the zero point e.g. in level measurement.

Pressure connection availability overview table

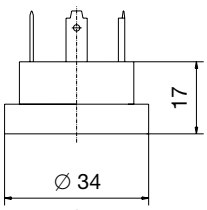
Code	Pressure connection	Materials			Oil filling					Accuracy					
		1,4435	Hastelloy-C	Gold plated	Strengthened membrane	FDA	Silicon	Halocarbon	P < 1 bar	P ≥ 1 bar	0.1% FS	0.2% FS	0.4% FS	0.2% for high medium temperature (up to 200°C)	0.4% for high medium temperature (up to 200°C)	0.4% for high medium temperature (up to 300°C)
1	Male thread G1/2“ EN 837-1	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
2	Male thread G1/4“ EN 837-1	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
3	Male thread M20x1.5 DIN 16288	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
4	Male thread G1/2“ DIN 3852 with O’ring	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
5	Male thread G1/8“ EN 837-1	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
6	Female thread G1/2“ DIN 3852	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
7	Female thread G1/4“ DIN 3852	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
8	Male thread G1/2“ EN 837-1 for pressure seal	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
9	Male thread G1/4“ EN 837-1 for pressure seal	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
A	Male thread 1/2 „ - 14NPT, ASP N152	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
B	Male thread 1/4 „ - 14NPT, ASP N152	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
E	Male thread 7/16“ -20UNF	●				●	●	●	●	●	●	●	●	[8]	[8]	[8]
J	Male thread G1“ flush diaphragm with cone	●	●	●	○[1]	○[2]	●	●	●	●	●	●	●	●	●	○[7]
W	Male thread G1/2“ flush diaphragm with cone	●	●	●		○[2]	●	●		○[4]				●	●	○[7]
K	Male thread G1“ flush diaphragm with O’ring	●	●	●	○[1]	○[2]	●	●	●	●	●	●	●	●	○[9]	
L	Male thread G1/2“ flush diaphragm DIN 3852	●	●	●		○[2]	●	●	○[3]	●	○[5]	○[5]	○[6]	●	○[9]	
M	Clamp 21.3, ISO 2852	●	●	●		○[2]	●	●	○[3]	●	○[5]	○[5]	○[6]	●	○[9]	
N	Clamp 33.7/38, ISO 2852	●	●	●	○[1]	○[2]	●	●	●	●	●	●	●	●	○[9]	
P	Clamp 40/51, ISO 2852	●	●	●	○[1]	○[2]	●	●	●	●	●	●	●	●	○[9]	
Q	Clamp 63.5, ISO 2852	●	●	●	○[1]	○[2]	●	●	●	●	●	●	●	●	○[9]	

1) Only for pressure range >1 bar, accuracy 0.2% and 0.4%.
2) Maximum medium temperature 200°C with accuracy code A
3) Only from 400 mbar. Accuracy 0.4% only
4) Only from 10 bar and only for accuracy code A and B
5) Only for pressure range >1 bar
6) Only for pressure range >0.4 bar
7) Limited to 200°C with oil filling FDA
8) Use an adaptor for high temperature
9) Use appropriate O’ring or seal for temperature up to 200°C. We recommend Viton

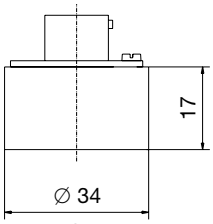
● Available
○ Available with restrictions

Drawing (all dimensions in mm)

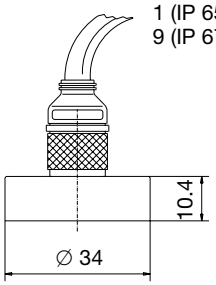
DIN 43650 plug
Code [3]): 4



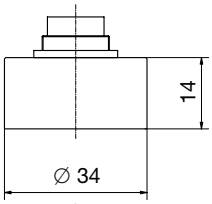
Bendix 6 pole plug
Code [3]): 5



Cable 3 conductors
IP 65 / IP 67 Code 3):
1 (IP 65)
9 (IP 67)



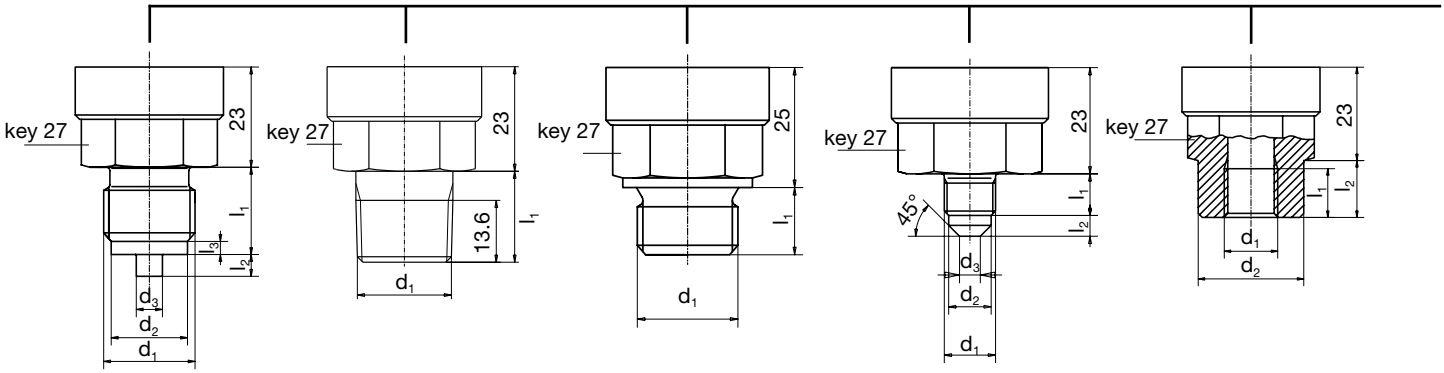
DIN 41524
Binder plug
Code [3]): 3



3) Cross reference to ordering code digit 4, electrical connection, see page 2

Code[2])	Thread d_1	l_1
A	½"-14NPT	20

Code[2])	Thread d_1	d_2	d_3	l_1	l_2
E	7/16"-20UNF	9.2	4.5	9	4.5



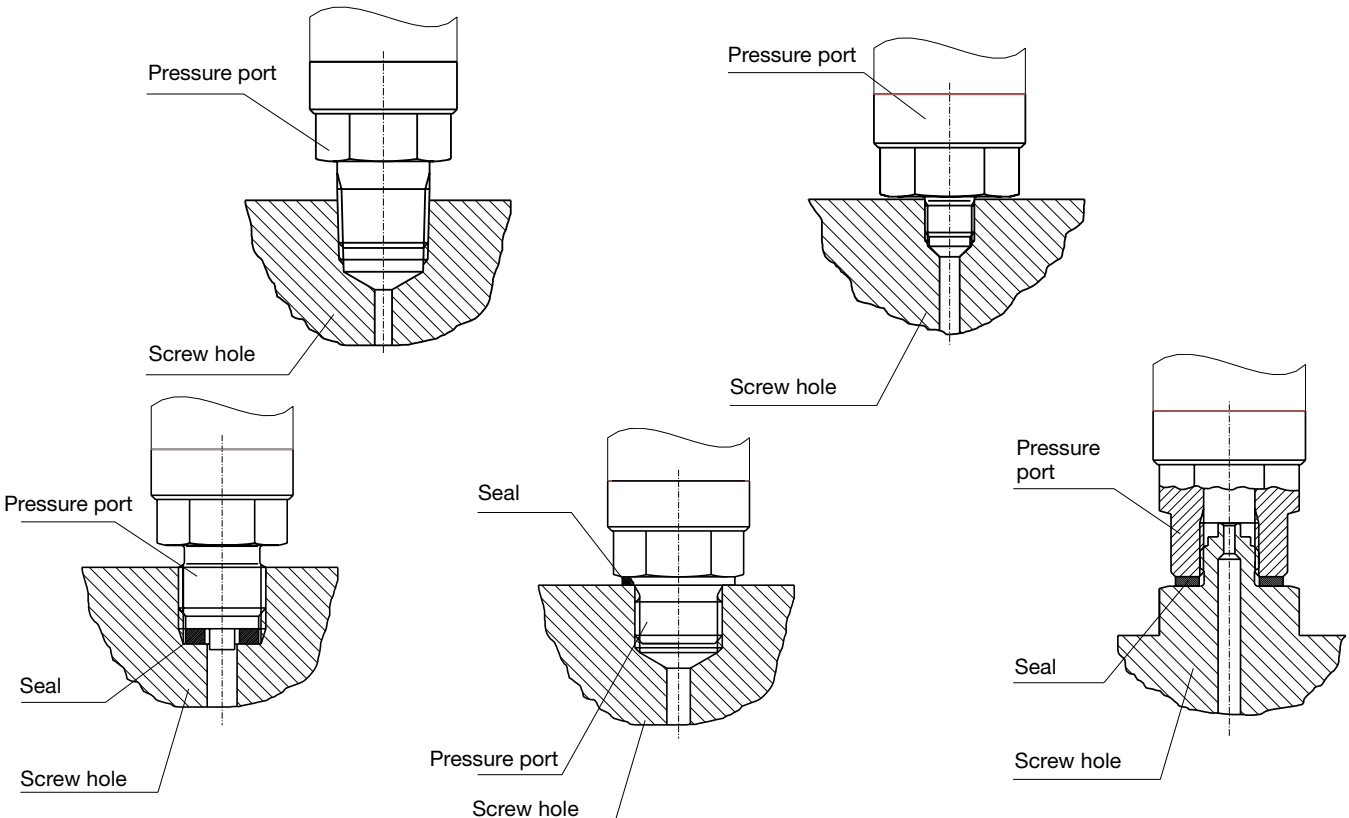
Code[2])	Thread d_1	d_2	d_3	l_1	l_2	l_3
1	G½"	17.5	6	20	3	3
2	G¼"	9.5	5	13	2	2
3	M20x1.5	17.5	6	20	5	2
5	G⅛"	8	5	10	2	2

Code[2])	Thread d_1	l_1
4	G½"	14

Code[2])	Thread d_1	d_2	l_1	l_2
6	G½"	28	15	17.5
7	G¼"	26	12	14
B	¼"-18NPT	26	10.2	12.5

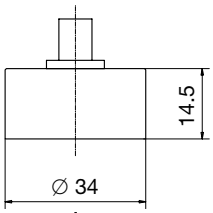
2) Cross reference to ordering code digit 1, process connection, see page 2

Mounting example

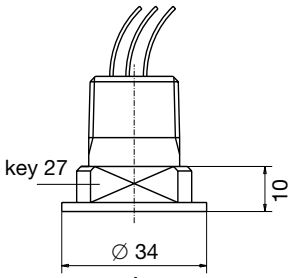


Drawing (all dimensions in mm)

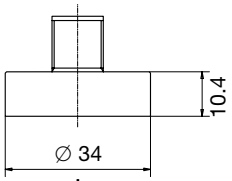
Fischer plug
Code [3]): 2



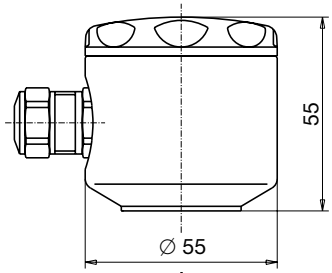
NPT 3 conductors
Code [3]): 7



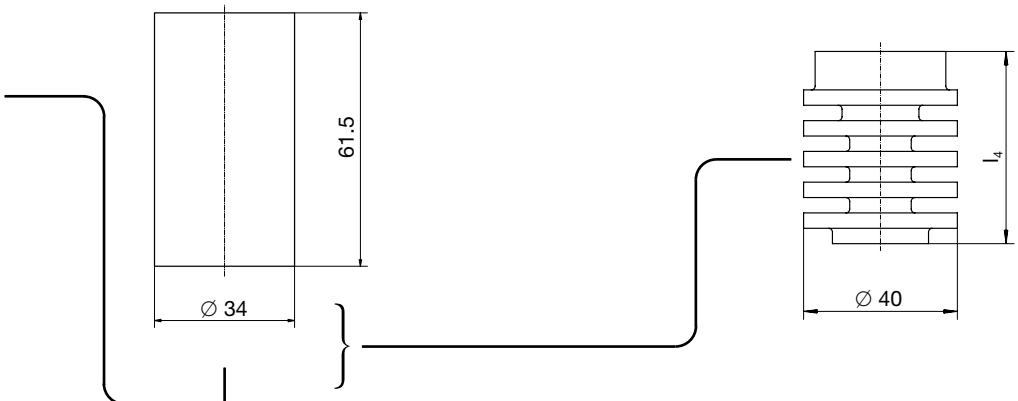
M12 industrial plug
Code [3]): 6



Field housing
Code [3]): A, B or C

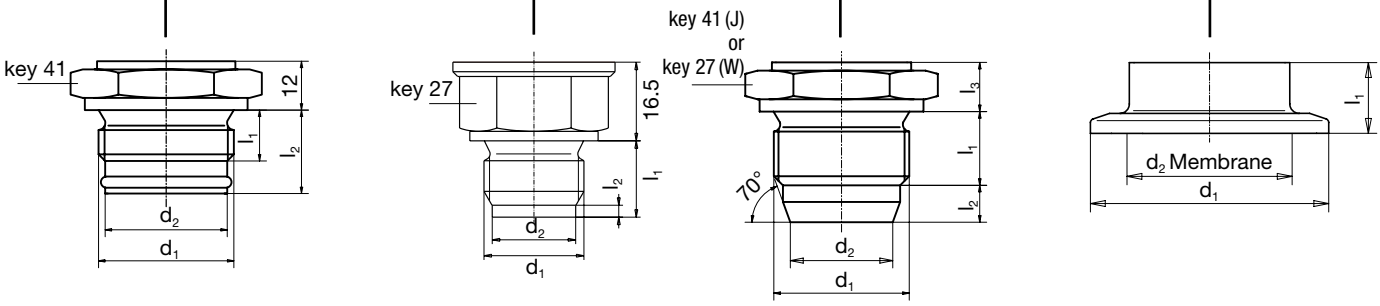


3) Cross reference to ordering code digit 4, electrical connection, see page 2



Only for ordering code digit 5 = A and B

Code[2])	l_4
K, J	48
L, W	50
M, N, P, Q	40.5



Code[2])	Thread d_1	d_2	l_1	l_2
K	G1"	30	12.5	20.5

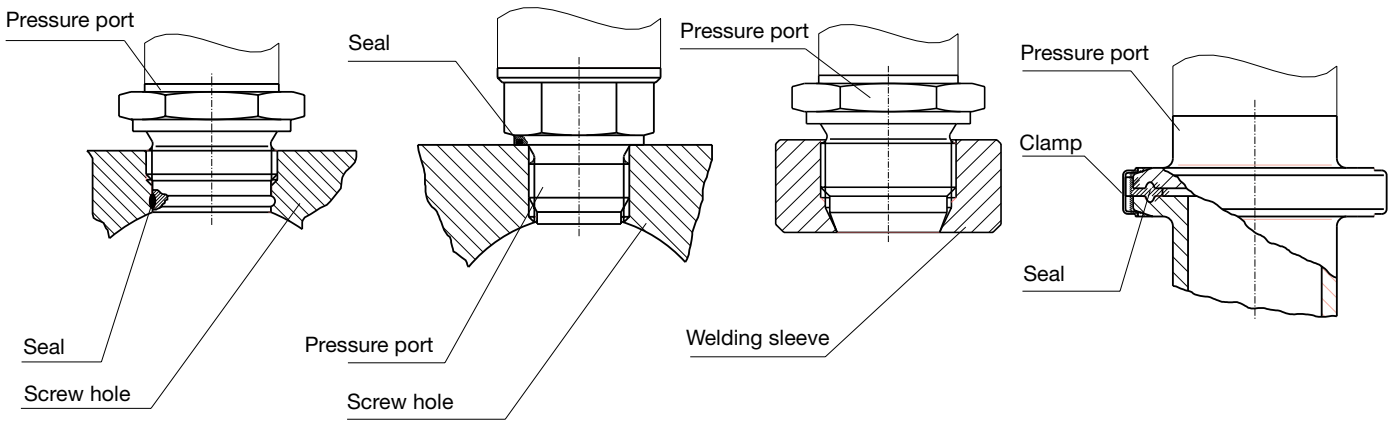
Code[2])	Thread d_1	d_2	l_1	l_2
L	G½"	17.5	16	2.5

Code[2])	Thread	d_2	l_1	l_2	l_3
J	G1"	25.5	18	9	12
W	G½" [3])	15.2	13.7	9	16.5

Code[2])	Nominal size	d_1	d_2	l_1
M	DN 21.3	34	17.5	15
N	DN 33.7/DN 38	50.5	24	15
P	DN 40/DN 51	64	24	15
Q	DN 63.5	77.5	24	15

2) Cross reference to ordering code digit 1, process connection, see page 2
3) Code W, G½" cone is only available for accuracy code A or B.

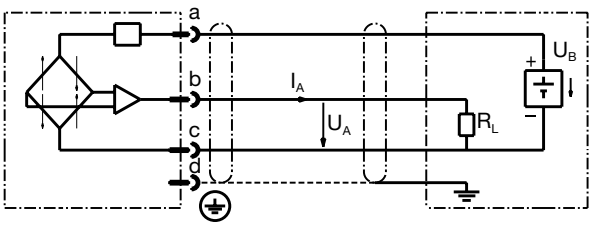
Mounting example



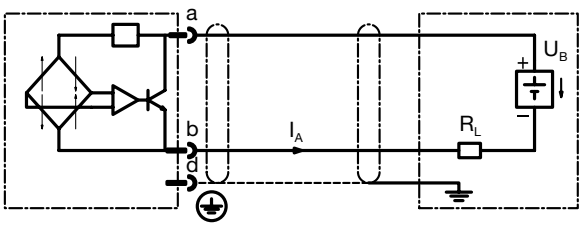
Connecting diagram

Electrical connection

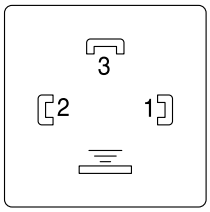
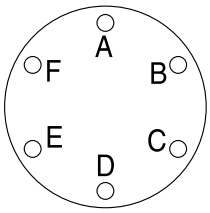
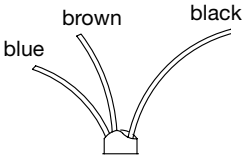
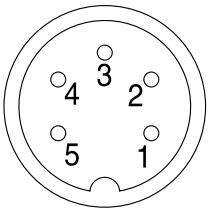
For Voltage signal Output 0 … max. 10 V



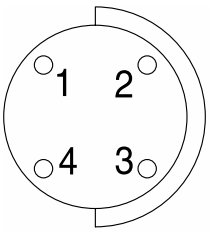
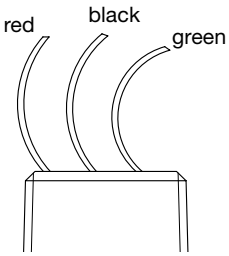
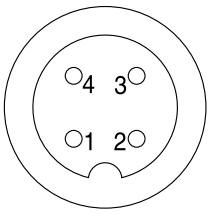
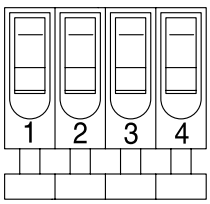
For 4 ... 20 mA current loop version



Pin assignment

Contact	DIN 43650 plug		Bendix 6 poles plug		Cable 3 conductors		DIN 41524 Binder plug	
	4...20 mA	0...5/10 V DC	4...20 mA	0...5/10 V DC	4...20 mA	0...5/10 V DC	4...20 mA	0...5/10 V DC
a	1	1	B	B	Blue	Blue	3	3
b	2	2	E	E	Brown	Brown	1	1
c	-	3	-	D	-	Black	-	4
d	GND	GND	Case	Case			Case	Case
View soldering side, cable socket								

Pin assignment

Contact	Fischer plug		NPT 3 conductors		M12 industrial plug		Field housing	
	4...20 mA	0...5/10 V DC	4...20 mA	0...5/10 V DC	4...20 mA	0...5/10 V DC	4...20 mA	0...5/10 V DC
a	1	1	Red	Red	3	3	1	1
b	2	2	Black	Black	1	1	2	2
c	-	3	-	Green	-	4	-	3
d	Case	Case			Case	Case	4	4
View soldering side, cable socket								

Options and accessories

Alternate pressure ranges

Code	Range mbar	Code	Range mbar	Code	Range bar	Code	Range in H_2O
B06	0...150	A76	0...2000	L35	0...2.8	17G	0...40
B26	0...300	196	0...2500	L45	0...7	18G	0...50
B36	0...350	206	0...4000	L05	0...8	19G	0...60
B46	0...700	A86	0...5000	L25	1...10	22G	0...100
176	0...1000	216	0...6000	L15	0...12	30G	0...300
P46	0...1250	P76	0...7300	L55	0...30	40G	0...750
B56	0...1400	226	0...10000	E05	–0.1…1 [1]		
186	0...1600	P86	0...18300	E65	–1…1.6 [1]		
				F05	–1…2 [1]		
				E15	–0.1…2 [1]		
				F15	–1…10 [1]		
				F45	–1…12.5 [1]		
				F25	–1…20 [1]		
				F35	–1…24 [1]		

Code	Range mm H_2O	Code	Range m H_2O	Code	Range m H_2O	Code	Range m H_2O
177	0...1000	028	0...1	L58	0...30	H08	-1...1 [1]
P47	0...1250	038	0...1.6	L78	0...32	H18	-2...2 [1]
187	0...1600	A18	0...2	108	0...40	H28	-5...5 [1]
A77	0...2000	048	0...2.5	A48	0...50	H38	-10...10 [1]
197	0...2500	L38	0...2.8	118	0...60	C08	-2...0 [1]
207	0...4000	058	0...4	L88	0...64	C18	-5...0 [1]
A87	0...5000	A28	0...5	L68	0...70	D88	0...-1 [1]
217	0...6000	068	0...6	128	0...100	E08	-0.1...1 [1]
P77	0...7300	L48	0...7	L98	0...128	E18	-0.1...2 [1]
227	0...10000	L08	0...8	B08	0...150	E68	-1...1.6 [1]
P87	0...18300	078	0...10	138	0...160	F08	-1...2 [1]
		L28	1...10	A58	0...200	F18	-1...10 [1]
		L18	0...12	148	0...250	F28	-1...20 [1]
		088	0...16	B28	0...300	F38	-1...24 [1]
		A38	0...20	B38	0...350	F48	-1...12.5 [1]
		098	0...25	158	0...400		

Code	Range MPa	Code	Range KPa	Code	Range KPa	Code	Range KPa
013	0...0.6	072	0...10	A62	0...500	392	-60...0
023	0...1	L22	1...10	162	0...600	402	-100...0
033	0...1.6	L12	0...12	B42	0...700	C92	0...-60
A13	0...2	082	0...16	172	0...1000	D02	0...-100
043	0...2.5	A32	0...20	P42	0...1250	642	-10...15
053	0...4	092	0...25	B52	0...1400	652	-15...10
883	-0.1...0.9	L52	0...30	182	0...1600	662	-15...25
E03	-0.1...1	L72	0...32	A72	0...2000	672	-25...15
E13	-0.1...2	102	0...40	192	0...2500	682	-20...40
		A42	0...50	202	0...4000	692	-40...20
		112	0...60	H32	-10...10	702	-40...60
		L82	0...64	H42	-20...20	712	-60...40
		L62	0...70	H52	-50...50	722	-60...100
		122	0...100	H62	-100...100	732	-100...60
		132	0...160	352	-10...0	742	-100...150
		A52	0...200	362	-16...0	G02	-100...200
		142	0...250	C22	-20...0	G12	-100...500
		B22	0...300	372	-25...0	922	-100...300
		B32	0...350	382	-44...0	932	-100...500
		152	0...400	C32	-50...0		

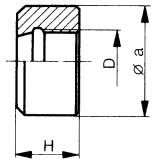
1) Valid only for ordering code digit 6, negative gauge pressure (code 5)

Options

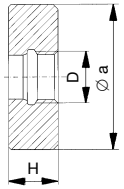
Designation	Ordering code
Adjusted to specific customer pressure range. The desired range must be given in plain text. Example: /SETR 500 mbar…2500 mbar	**/SETR**
Adjusted for specific medium temperature Example: /9007/0100 the ED 701 is adjusted for 100°C medium temperature.	**/9007/TTTT**

Accessories

Welding sleeves

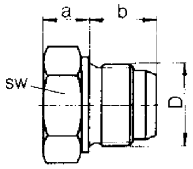


Code [2])	D	a	H	Material	Ordering code
J	G1	55	23	Stainless steel 1.4435	**D 11737.0002**
J	G1	55	23	Hastelloy C	**D 11737.0022**
W	G½"	35	20	Stainless steel 1.4435	**D 11737.0000**
W	G½"	35	20	Hastelloy C	**D 11737.0020**



Code [2])	D	a	H	Material	Ordering code
K	G1	60	20.5	Stainless steel 1.4435	**D 12403.1**

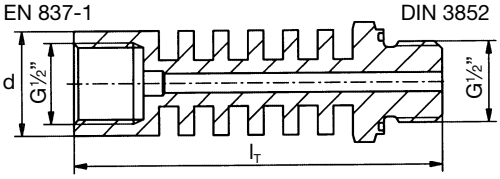
Front piece with thread



Code [2])	D	a	b	sw	Material	Ordering code
J	G1	18	27	41	Stainless steel 1.4435	**D 11870.0002**
J	G1"	18	27	41	Hastelloy C	**D 11870.0022**
W	G1/2"	12	23	27	Stainless steel 1.4435	**D 11870.0000**
W	G1/2"	12	23	27	Hastelloy C	**D 11870.0020**

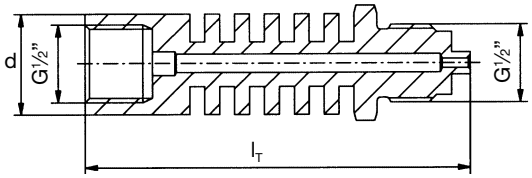
Adapter for high temperature (cooling device)

EN 837-1 DIN 3852



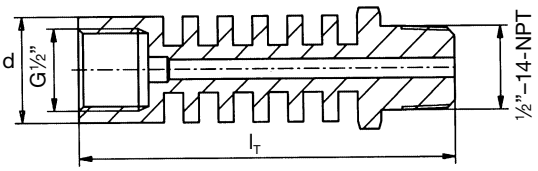
Code [2])	T_{med} max.	l_T	d	Connection	Material	Ordering code
1	300°C	123	40	G½"	Stainless steel 1.4435	**D 12361.0**
1	200°C	95	27	G½"	Stainless steel 1.4435	**D 12361.1**
1	150°C	68	27	G½"	Stainless steel 1.4435	**D 12361.21**

EN 837-1 EN 837-1



Code [2])	T_{med} max.	l_T	d	Connection	Material	Ordering code
1	300°C	131	40	G½"	Stainless steel 1.4435	**D 12361.2**
1	200°C	103	27	G½"	Stainless steel 1.4435	**D 12361.3**
1	150°C	79	27	G½"	Stainless steel 1.4435	**D 12361.22**

EN 837-1

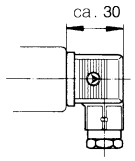


Code [2])	T_{med} max.	l_T	d	Connection	Material	Ordering code
1	300°C	125	40	½"–14-NPT	Stainless steel 1.4435	**D 12361.6**
1	200°C	97	27	½"–14-NPT	Stainless steel 1.4435	**D 12361.7**
1	150°C	70	27	½"–14-NPT	Stainless steel 1.4435	**D 12361.23**

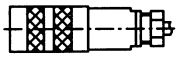
2) Cross reference to ordering code digit 1, process connection, see page 2

Electrical accessories

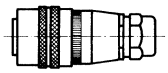
Designation	Ordering code
Cable socket connector DIN 43650	**E 6844.0**



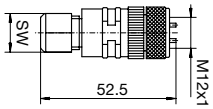
Designation	Ordering code
Cable socket connector Binder	**E 13265.0**



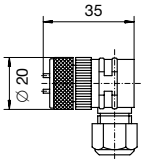
Designation	Ordering code
Cable socket connector Bendix	**E 6586.1**



Designation	Ordering code
Cable socket connector M12	**E 15560.0**



Designation	Ordering code
Cable socket connector M12	**E 15560.1**



Designation		Ordering code
M12 Extension cable		**E 15543.x LLL**
Type	Shielded PVC cable	0
	Shielded PUR cable	1
	Standard PVC cable	2
	Standard PUR cable	3
Length	2 meter cable	002
	5 meter cable	005
	10 meter cable	010
	20 meter cable	020

O'ring seals

O'rings are available in NBR, Viton and EPDM materials. The O'rings are delivered in 5 units pack

Code	Designation	Material	Ordering code
4, L, W	O'ring for male threads G½"	NBR	**A8550.9010**
4, L, W	O'ring for male threads G½"	Viton	**A8550.9011**
4, L, W	O'ring for male threads G½"	EPDM	**A8550.9012**
J	O'ring for G1" cone	NBR	**A8550.9020**
J	O'ring for G1" cone	Viton	**A8550.9021**
J	O'ring for G1" cone	EPDM	**A8550.9022**
K	O'ring for G1" flush diaphragm O'ring	NBR	**A8550.9030**
K	O'ring for G1" flush diaphragm O'ring	Viton	**A8550.9031**
K	O'ring for G1" flush diaphragm O'ring	EPDM	**A8550.9032**

Accessories for CombiConnect

See data sheet 3400-3, Flexbar HRT accessories.

Assembly with pressure seals: Overview table

Type	Ordering code	Applicable pressure range [bar]	TC of seal [%/10K FS] [1)]
Process seal with threaded connection	D051	on request	
Diaphragm seal series 1090, Clamp	1091-1092	0.25 … 40	0.5
connection ISO 2852	1093-1094	0.25 … 40	0.6
Diaphragm seal series 1060,	1061-1062	6 … 40	2.0
Union Nut Connection	1063-1064	2.5 … 40	2.0
	1065-1066	1.6 … 40	2.0
Diaphragm seal D100	D100 .. D114	4 … 40, -1 … 3, -1 … 9	–
	D120 – D121	10 … 40	–
Diaphragm seal D 200	D200 ... D214	1 … 40, -1 … 3, -1 … 9	0.15
Diaphragm seal D 300	D300 … D314	1 … 40, -1 … 0, -1 … 9	0.15
	D300 … D314	0.16 … 1, on request	
Diaphragm seal Series 1030	1031 … 1042	0.2 … 40	0.3
	1045 - 1046	on request	

Table continued on page 12

Type	Ordering code	Applicable pressure range [bar]	TC of seal [%/10K FS] [1)]
Diaphragm seals monted on Iso or ANSI flanges D600 and D 400	D421 … D424 D621 … D624 D631 … D634	1 … 40	0.15
	D411 … D414	4 … 40	–
Specific chemical seals	D801 … D804	4 … 40	–
	D801 … D804	1 … 4	on request
	D820-D824-D825	on request	
	D850 – D851	on request	
Chemical seals for hygienic pressure	DN 38	10 … 40	–
	DN 51	4 … 40	–
	DAXX	< 10, on request	
Hygienic seal DN38	DAPH	on request	
Diaphragm seal series 1100 and 1140 Connection B DIN 11887 and SMS 1147	1107	0.25 … 40	2.0
	1101		1.7
	1103 – 1143		0.6
	1105 – 1145		0.3
	1109		0.3
	1111		0.2
Tubular seal Type 1520, SMS 1146 connection	1521	0.25 … 40, on request	
	1523		
	1524 – 1526	0.25 … 4, on request	
	1524 – 1526	4 … 40	0.15
Tubular seal type 1530, DIN 11887 connection	1531	0.25 … 40	0.2
	1532		0.7
	1537		0.7
	1534		0.3
	1533		0.1
	1536		0.2
	1535		0.1
	1539		0.2
Tubular seal type 1540, sterile screwed connection ISO	1547	0.25 … 40	1.0
	1541		0.1
	1545		0.3
	1542		0.5
	1543		0.4
	1544		0.1
	1546		0.2
Tubular seal type 1620, Clamp ISO 2852 connection	1627	0.25 … 40	1.0
	1621		0.1
	1622		0.2
	1623		0.4
	1624		0.2
	1625		0.2
	1626		0.3
Tubular seal type 1630, Clamp ISO 2852 connection	1633	1 … 40	on request
	1634	1 … 4	on request
	1635	0.6 … 4	on request
	1636	0.6 … 4	on request
	1634 … 1636	4 … 40	0.15
Tubular seal type 1650, sandwich version according to DIN 2526	1653	0.25 … 40	0.3
	1655		0.2
	1656		0.1
	1657		0.3
	1658		0.2
	1659		0.2
Tubular seal type 1660, sandwich version with groove according to DIN 2512	1663	0.25 … 40	0.3
	1665		0.2
	1666		0.1
	1667		0.3
	1668		0.2
	1669		0.2
Tubular seal type 1680, connection compression fitting with ferrule according to DIN 2353 type L	1683	0.25 … 40	0.5
	1685		0.2
	1686		0.3
	1687		0.3
	1688		0.2
	1689		0.4
Tubular seal type 1690, compression fitting	1693 … 1699	0.25 … 40	on request

1) The given value relates to a 1 bar sensor. The additional TC when mounting with a capillary must be taken into account.