



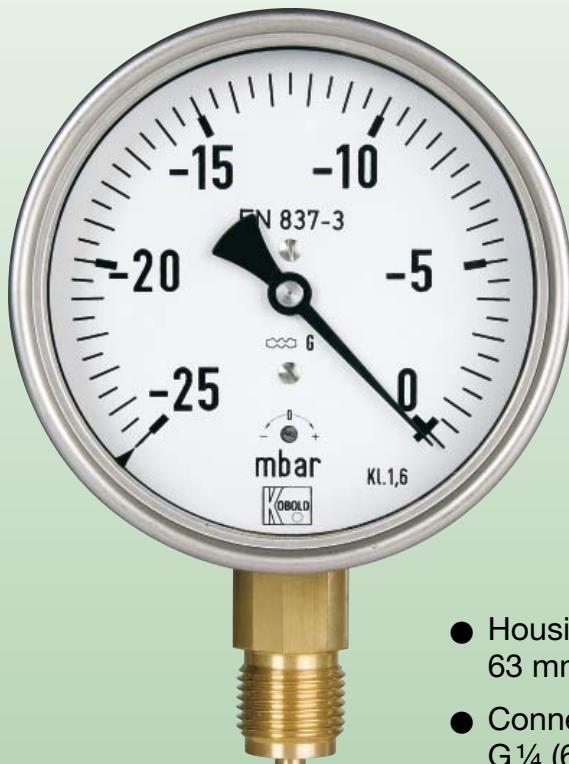
Capsule Element Pressure Gauges

according to EN 837-3 · for Low Positive/
Negative Pressures in Gaseous Media



measuring
• monitoring
• analysing

MAN-K



- Housing:
63 mm, 80 mm, 100 mm, 160 mm
- Connection:
G 1/4 (63 mm housing)
G 1/2 (80, 100, 160 mm housing)
- Material
Housing: stainless steel
Connection:
brass or stainless steel
- Measuring ranges:
-10...0 mbar ... -600...0 mbar
0...10 mbar ... 0...600 mbar
- Accuracy class: 1.6



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KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
Head Office:
+49(0)6192 299-0
+49(0)6192 23398
info.de@kobold.com
www.kobold.com

Application

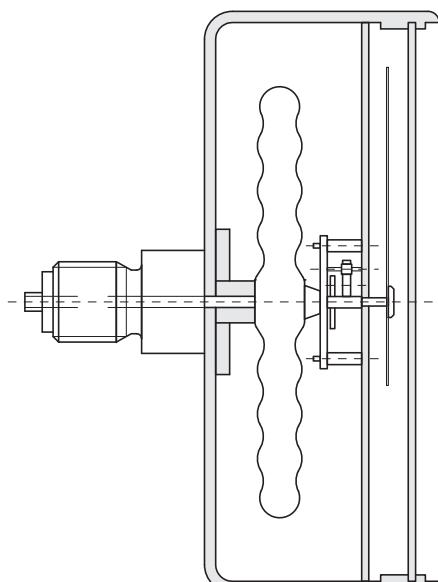
The KOBOLD pressure gauges with capsule elements are being used to measure low positive/negative pressures in gaseous media. All stainless steel pressure gauges with capsule element are manufactured by using high-quality stainless steel and are therefore suitable for use with corrosive gases.

All the pressure gauges comply with general international guidelines and take account of standard as well as application-specific requirements. They are the result of the over 70 years experience we have in building pressure gauges.

Measuring principle

The capsule system consists of two half capsule elements which are soldered together. The element makes a defined stroke when subjected to pressure. A special measuring mechanism converts this movement into pointer-rotation.

Unifilar drawing



Housing

The following housing diameters are available: 63 mm, 80 mm, 100 mm and 160 mm. The housing material is stainless steel.

Installation

The gauges are most often installed straight into the customer's screw necks. Depending on the required installation the instruments can be supplied with a panel clamp, triangular front ring or mounting flange. Optional gauge models with an installation border on the front are also available for installation into or onto control panels.

Connection

The gauges with 63 and 80 mm housing diameter are supplied with a G 1/4 connecting thread as standard, gauges with housing diameter of 100 mm and above with G 1/2 connecting thread. The connection is made of brass or stainless steel. Other connection types are available on request.

Measuring ranges

The measuring ranges of the various types are graduated according to DIN recommendations and lie between -10...0 mbar to -600...0 mbar and 0...+10 mbar to 0...+600 mbar. Other scales with measuring ranges in PSI, Pa or with your company logo are available on request.

Damping liquid

Pneumatic capsule gauges cannot be supplied with damping fluid.

Contacts

Pneumatic capsule gauges cannot be supplied with contacts.

Fields of application

- Medical technology
- Filter status measurements
- Leak testing
- Air-conditioning technology
- Exhaust-gas measurements
- Gas production

Technical Details

Standard Capsule element pressure gauges for gases														
Connection/Housing	NG 63		NG 80		NG 100		NG 160							
	Model													
Bottom connection 	MAN-...	..KD21..	..KD21Y..	..KE22..	..KF22..	..KF22Y..	..KG22..	..KG22Y..						
Back connection 	MAN-...	..KD23.. centrical	..KD23Y.. centrical	..KE24.. centrical	..KF24.. centrical	..KF24Y.. centrical	..KG24.. centrical	-						
Triangular front ring and clamp, Back connection 	MAN-...	..KD23K.. centrical	-	..KE24K.. centrical	..KF24K.. centrical	-	..KG24K.. centrical	-						
Accuracy class	1,6													
Housing version	stainless steel 1.4301													
Filling	without													
Ring	stainless steel 1.4301													
Pointer	aluminium, black anodized													
Movement	brass													
Throttle	without													
Window	instrument glass													
Measuring element	CuBe2													
Protection	IP 43			IP 54										
Overrange protection (short time)	1.3 times	10 times	1.3 times	1.3 times	10 times	1.3 times	10 times							
Weight	see table													
Ambient temperature	-20...+60 °C													
Connection	brass													
Thread connection	G 1/4 male		G 1/2 male											
Max. temperature of medium	80 °C													
Contacts	none													
Indicating range	Code of indicating range													
-10...0 mbar	-	-	-	..E5	-	..E5	-	-						
-16...0 mbar	-	-	..E6	..E6	-	..E6	-	-						
-25...0 mbar	-	-	..E7	..E7	-	..E7	-	-						
-40...0 mbar	..E8	..E8	..E8	..E8	..E8	..E8	..E8	-						
-60...0 mbar	..E9	..E9	..E9	..E9	..E9	..E9	..E9	-						
-100...0 mbar	..E0	..E0	..E0	..E0	..E0	..E0	..E0	-						
-160...0 mbar	..E1	..E1	..E1	..E1	..E1	..E1	..E1	-						
-250...0 mbar	..E2	..E2	..E2	..E2	..E2	..E2	..E2	-						
-400...0 mbar	..E3	..E3	..E3	..E3	..E3	..E3	..E3	-						
-600...0 mbar	..E4	..E4	..E4	..E4	..E4	..E4	..E4	-						
0...10 mbar	-	-	..F7	..F7	-	..F7	-	-						
0...16 mbar	-	-	..F8	..F8	-	..F8	-	-						
0...25 mbar	..F9	-	..F9	..F9	-	..F9	-	-						
0...40 mbar	..F0	..F0	..F0	..F0	..F0	..F0	..F0	-						
0...60 mbar	..F1	..F1	..F1	..F1	..F1	..F1	..F1	-						
0...100 mbar	..F2	..F2	..F2	..F2	..F2	..F2	..F2	-						
0...160 mbar	..F3	..F3	..F3	..F3	..F3	..F3	..F3	-						
0...250 mbar	..F4	..F4	..F4	..F4	..F4	..F4	..F4	-						
0...400 mbar	..F5	..F5	..F5	..F5	..F5	..F5	..F5	-						
0...600 mbar	..F6	..F6	..F6	..F6	..F6	..F6	..F6	-						



Capsule Element Pressure Gauges according to EN 837-3
for Low Positive/Negative Pressures in Gaseous Media Model MAN-K

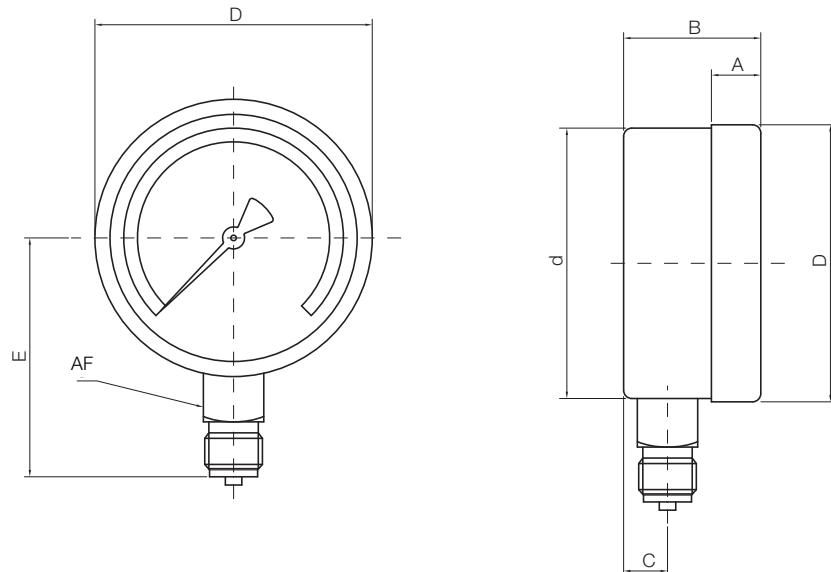
Technical Details

All stainless steel capsule element pressure gauges for industrial applications							
Connection/Housing	NG 63	NG 100	NG 160				
	Typ						
Bottom connection	 MAN-...	..KD25..	..KF26..	..KG26..			
Back connection	 MAN-...	..KD27.. centrical	..KF28.. centrical	..KG28.. centrical			
Triangular front ring and clamp, back connection	 MAN-...	..KD27K.. centrical	..KF28K.. centrical	..KG28K.. centrical			
Accuracy class	1,6						
Housing version	stainless steel 1.4301						
Filling	ohne						
Ring	stainless steel 1.4301						
Pointer	aluminium, black anodized						
Movement	stainless steel 1.4571						
Throttle	none						
Window	safety glass						
Measuring element	stainless steel 1.4571						
Protection	IP 43	IP 54					
Overrange protection (short time)	1.0 times/0.9 times/1.3 times of full scale						
Weight	see table						
Ambient temperature	-20...+80 °C						
Connection	stainless steel 1.4571						
Thread connection	G 1/4 male	G 1/2 male					
Max. temperature of medium	80 °C						
Contacts	none						
Indicating range	Code of indicating range						
-10...0 mbar	-	-	-				
-16...0 mbar	-	-	-				
-25...0 mbar	..E7	..E7	..E7				
-40...0 mbar	..E8	..E8	..E8				
-60...0 mbar	..E9	..E9	..E9				
-100...0 mbar	..E0	..E0	..E0				
-160...0 mbar	..E1	..E1	..E1				
-250...0 mbar	..E2	..E2	..E2				
-400...0 mbar	..E3	..E3	..E3				
-600...0 mbar	..E4	..E4	..E4				
0...10 mbar	-	-	-	..F7			
0...16 mbar	-	-	-	..F8			
0...25 mbar	..F9	..F9	..F9				
0...40 mbar	..F0	..F0	..F0				
0...60 mbar	..F1	..F1	..F1				
0...100 mbar	..F2	..F2	..F2				
0...160 mbar	..F3	..F3	..F3				
0...250 mbar	..F4	..F4	..F4				
0...400 mbar	..F5	..F5	..F5				
0...600 mbar	..F6	..F6	..F6				

Dimensions

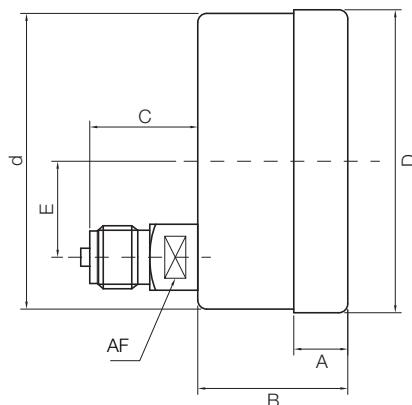
Bottom connection

Code	NG	A	B	C	d	D	E	AF
MAN-KE 21(Y)/25	63 mm	6	31	13	62	68	55	14
MAN-KE 22	80 mm	5	43.5	16	80	84	76	22
MAN-KF 22(Y)/26	100 mm	17	48	15	100	101	86,5	22
MAN-KG 22(Y)/26	160 mm	21	50	15	159	162	117	22



Anschluss hinten

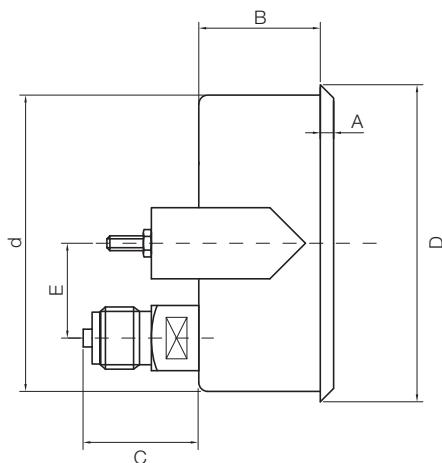
Code	NG	A	B	C	d	D	E	AF
MAN-KD 23(Y)/27	63 mm	6	28	26	63	68	0	14
MAN-KE 24	80 mm	5	43.5	35	80	84	0	22
MAN-KF 24(Y)/28	100 mm	17	49	36	100	101	0	22
MAN-KG 24/28	160 mm	21	50	34	159	162	0	22



Dimensions

Triangular front ring

Code	NG	A	B	C	d	D	E	AF
MAN-KE 23/27K	63 mm	6	26	26	62	68	0	14
MAN-KE 24K	80 mm	5	43.5	35	80	84	0	22
MAN-KF 24/28K	100 mm	5	41	36	101	107	0	22
MAN-KG 24/28K	160 mm	5	45	30	160	162	0	22



Weight

NG 63	
Code	Weight
MAN-KD 21(Y)	0.13 kg
MAN-KD 23(Y)	0.14 kg
MAN-KD 23K	0.18 kg
MAN-KD 25	0.16 kg
MAN-KD 27	0.15 kg
MAN-KD 27K	0.19 kg

NG 100	
Code	Weight
MAN-KF 22(Y)	0.6 kg
MAN-KF 24(Y)	0.5 kg
MAN-KF 24K	0.6 kg
MAN-KF 26	0.6 kg
MAN-KF 28	0.5 kg
MAN-KF 28K	0.6 kg

NG 80	
Code	Weight
MAN-KE 22	0.4 kg
MAN-KE 24	0.4 kg
MAN-KE 24K	0.4 kg

NG 160	
Code	Weight
MAN-KG 22(Y)	1.0 kg
MAN-KG 24(Y)	1.0 kg
MAN-KG 24K	1.1 kg
MAN-KG 26	1.0 kg
MAN-KG 28	1.0 kg
MAN-KG 28K	1.1 kg