Pressure Gauge with Built-In Pressure Transmitter

MAN-V

- Housing: 100 mm
- Connection: G½, ½" NPT
- Material: stainless steel
- Measuring ranges:
  -1 ... 0 bar ... 0 ... +600 bar
- Analogue output: 4 ... 20 mA
- Options:
  Liquid filling
  Transmitter

- Applications:
  Chemical industry
  Food industry
  Mechanical engineering
  Plant construction
- Complying with standards:
  EMC 2014/30/EU
  PED 2014/68/EU
  RoHS 2011/65/EU

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Application

The KOBOLD all stainless steel pressure transducers are suitable for harsh conditions resulting from high demands on pressure measurement in production plants of the chemical or other comparable industries. The use of high quality stainless steel for both measuring system and housing guarantees resistance against aggressive media and environment. They can be used for liquid or gaseous substances which do not crystallize and which are not highly viscous.
All the pressure gauges comply with general international guidelines and take account of standard as well as application-specific requirements.

Housing, installation and connection

The stainless steel housing has a diameter of 100 mm. The gauges are most often installed straight into the customer's screw necks. For pressure gauges to be built into or onto control panels there are also variations with a mounting strip front or back. Gauges are supplied with a G½ connecting thread as standard.
Diaphragm seals can be mounted for viscous, crystallising, aggressive materials or higher temperature materials to prevent the material being measured from penetrating into the measuring system. Other types of connection are available on request.

Technical Details

Ranges:	from 0 ... 15 to 0 ... 10000 psi relative, (from 0 ... 1 to 0 ... 600 bar or equivalent units) [1]
Accuracy (% FSV):	local readout, ≤ 0,5; transmitter, ≤ 0.25 typical; ≤ 0.5 max.
Working pressure:	100 % of FSV for static pressure; 90 % of FSV for pulsating pressure
Over pressure limit:	30 % of FSV
Process fluid temperature:	-13 ... +212 °F (-25 ... +100 °C); 14 ... +149 °F (-10 ... +65 °C) when filled
Output signals:	for pressure ranges ≤ 8700 psi (600 bar): 4 ... 20 mA, 0 ... 5 V_{DC}, 0 ... 10 V_{DC}
Calibration:	limit-point as per DIN 16086
Zero calibration:	± 10 % span typical
Span calibration:	± 10 % span typical
Compensated temperature range:	14…+176 °F; (-10...+80 °C)
Thermal drift:	≤ 0.011 % span / °F
Annual drift:	≤ 0.2 % of span
Supply and max load:	see chapter "Electrical Connection"
Response time (10 ... 90 %):	<3 ms

[1] Ranges > 600 bar available upon request.

MAN-VF2 - Standard Model

Safety designation:	S1 as per EN 837-2
Electric connection:	junction box as per VDE with exit for cables Ø 0.27 ... 0.51" (Ø 7 ... 13 mm)
Protection degree:	IP 55 as per EN 60529 / IEC 529
Socket material:	AISI 316L st. st.
Bourdon tube:	AISI 316L st.st. seamless tube
Case:	stainless steel
Ring:	stainless steel, bayonet lock
Window:	tempered glass
Movement:	stainless steel with internal limit stops for minimum and maximum pressure
Dial:	aluminium, white with black markings
Pointer:	adjustable, aluminium, black
Ambient temperature:	-13 ... +149 °F (-25 ... +65 °C)
Special versions:	high overpressure: 200 % of FSV for pressure ranges ≤3000 psi (250 bar), accuracy of local readout ≤1.0 % of FSV

MAN-VF7 - Filled Model

Filling liquid:	dielectric oil
Protection degree:	IP 67 as per EN 60529 / IEC 529
Ambient temperature:	14 ... +149 °F (-10 ... +65 °C)
Other features:	as Standard Model

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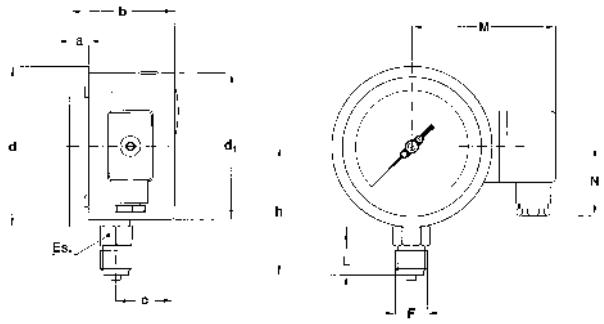
Order Details (Example: **MAN-VF261B7VDT**)

Model	Version	Thread connection	Output	Measuring range (bar)	Gasket	Options
MAN-VF...	**2** = standard **7** = filled	**6** = G½ male bottom **8** = G½ male back eccentric **S** = ½" NPT male bottom **U** = ½" NPT male back eccentric **X** = special connection (as per description)	**1** = 4 ... 20 mA **4** = 0 ... 5 V_{DC} **5** = 0 ... 10 V_{DC}	**AD** = -1 ... 0 **A0** = -1 ... 0,6 **A1** = -1 ... 1,5 **A2** = -1 ... 3 **A3** = -1 ... 5 **A4** = -1 ... 9 **A5** = -1 ... 15 **A6** = -1 ... 24 **B2** = 0 ... 1 **B3** = 0 ... 1,6 **B4** = 0 ... 2,5 **B5** = 0 ... 4 **B6** = 0 ... 6 **B7** = 0 ... 10 **B8** = 0 ... 16 **B9** = 0 ... 25 **B0** = 0 ... 40 **C1** = 0 ... 60 **C2** = 0 ... 100 **C3** = 0 ... 160 **C4** = 0 ... 250 **C5** = 0 ... 400 **C6** = 0 ... 600 **XX** = special scale (ask factory)	**V** = FKM **E** = EPDM **N** = NBR **C** = Chloroprene (CR) Gasket	**DT** = Dial Tagging **SN** = Serial No. on dial **WM**[1] = Wall mounting with back flange **FP**[2] = Flush Panel w. front flange **SG** = Shatterproof safety glass **CR** = Calibration report **SR**[3] = Oxygen service **YY** = special (please specify in writing)

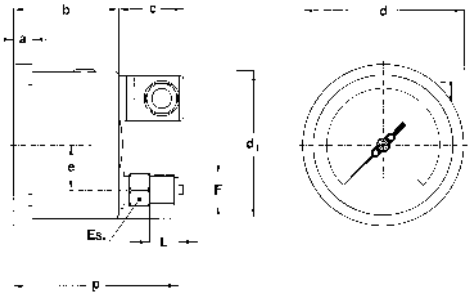
[1] only for thread connection code "6" and "S"
[2] only for thread connection code "8" and "U"
[3] only for model MAN-VF26…

Dimensions [mm]

6 - Lower connection



8 - Back connection eccentric



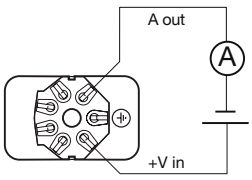
Connection	F	a	b	c	d	d1	e	h	p	ES	L	N	M	Weight[1)]
Lower	G ½ A ½-14 NPT	0.51" (13)	2.85" (72.3)	1.57" (40.1)	4.35" (110.6)	3.97" (101)	-	3.48" (88.5)	4.47" (113.7)	0.86" (22)	0.78" (20)	1.35" (34.5)	3.55" (90.4)	1.67 lbs (0.76 kg)
Back	G ½ A ½-14 NPT	0.51" (13)	2.85" (72.3)	1.33" (34)	4.35" (110.6)	3.97" (101)	1.22" (31)	3.28" (83.5)	4.20" (106.7)	0.86" (22)	0.51" (13)	-	-	1.69 lbs (0.77 kg)

[1)] add 0.85 lbs (0.339 kg), when filled

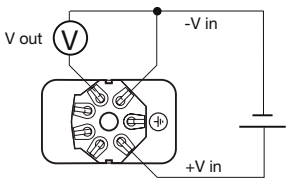
Electrical connection

Output signal	4...20 mA 1	0...5 V_{DC} 4	0...10 V_{DC} 5
N. wires	2	3	3
Load (Ohm)	$R_L \leq$ (Vin-10)/0.02	$R_L \geq$ 5 KΩ	$R_L \geq$ 10 KΩ
Supply: +Vin	10...30	8...30	14...30
Ground	(pls. refer to Installation Manual)		

4...20 mA



0...5 V_{DC}
0...10 V_{DC}



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