

Type MA 15

Application

Diaphragm pressure gauges are used for measuring pressure in difficult conditions. They are used to measure pressure whilst being unaffected by the media.

All parts of the instrument are made of special materials to handle corrosive process fluids and to withstand aggressive ambient and permanent weathering.

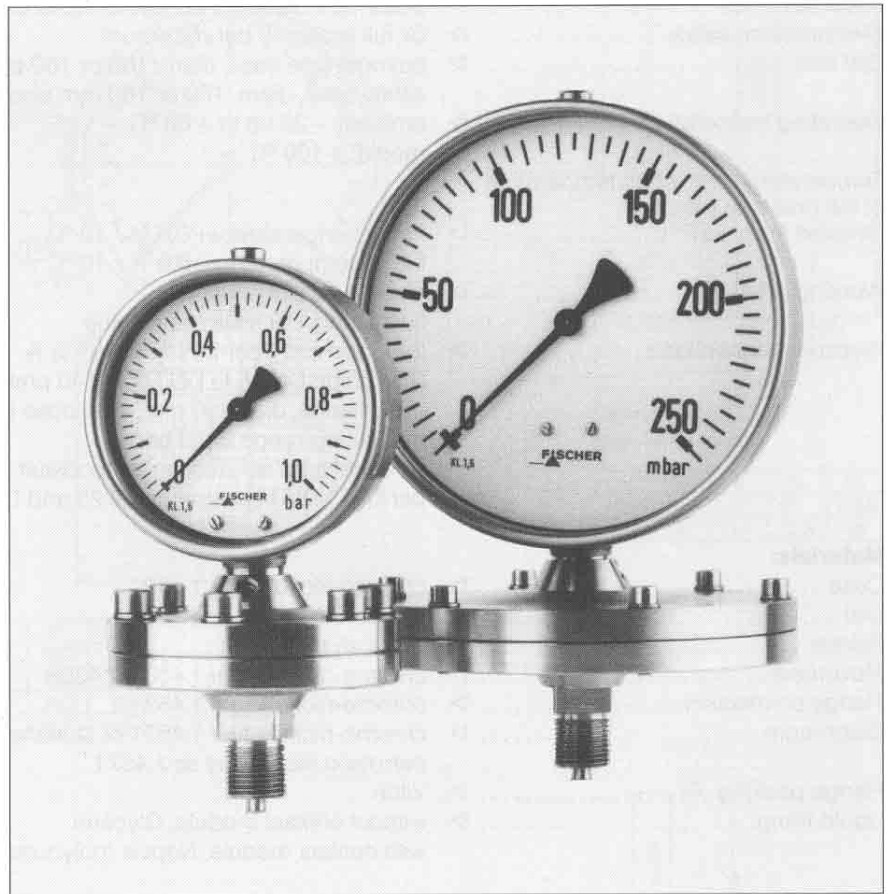
Process connection may be a large size flange which enable the measurement of highly viscous media. For the foodstuff and beverage industries we offer screwed tubes acc. DIN 11851.

To make the travel of the pointer less sensitive to shocks and vibration the item can be filled with liquid dampening. This also increases life of the gauge and protects it against icing.

The requirements of DIN 16006 are met by a safety casing with break-proof dividing wall between the measuring system and scale as well as a blow-out disc.

The diaphragm pressure gauge can easily be equipped with FISCHER contact modules and transducers with output signal 0-20/4-20 mA.

All these electrical supplements are available intrinsically safe for application in hazardous areas.



Special Features

- high corrosion resistance
- manufactured acc. DIN
- high overpressure safe
- suitable for open-air installation

Construction and functioning

The diaphragm element consists of a thin convoluted membrane which is held between two flanged halves, where the bottom half incorporates the pressure entry. The diaphragm deflects when a pressure is applied.

By means of push rod and geared movement this deflection is converted into rotation of a concentric pointer to be indicated on a dial scale. The value indicated is proportional to the pressure applied.

Indication of measuring value is shown on a dial of 270°.

Technical Data

Scale ranges	▷ as per ordering charge flange size 160 mm, 0-25 mbar up to 0-400 mbar flange size 100 mm, 0-6 bar up to 0-25 bar
Accuracy class	▷ class 1.6 / class 2.5 in case of items coated with PTFE foil
Overpressure safety	▷ 5x full scale, 40 bar maximum
Dial size	▷ bayonet type case, diam. 100 or 160 mm, standard case acc. DIN 16026 safety case, diam. 100 or 160 mm acc. DIN 16006
Operating temperature	▷ ambient: -20 up to +60 °C media: +100 °C
Temperature error when temperature of the pressure element deviates from +20 °C	▷ rising temperature: +0,6 % / 10 °C falling temperature: - 0,6 % / 10 °C
Working pressure	▷ steady: full scale value fluctuating: 0.9 x full scale value
Pressure connection	▷ threaded entry per DIN 16288 G 1/2 A DIN flange DN 15 to DN 50, PN 40 preferably DN 25 and DN 50 open flange, diam. 50 mm, with loose male fitting flange per DN 50, PN 40, measuring range $\geq 0,6$ bar screwed tube connection for foodstuff and beverage industries per DIN 11851 preferably DN 25 and DN 50

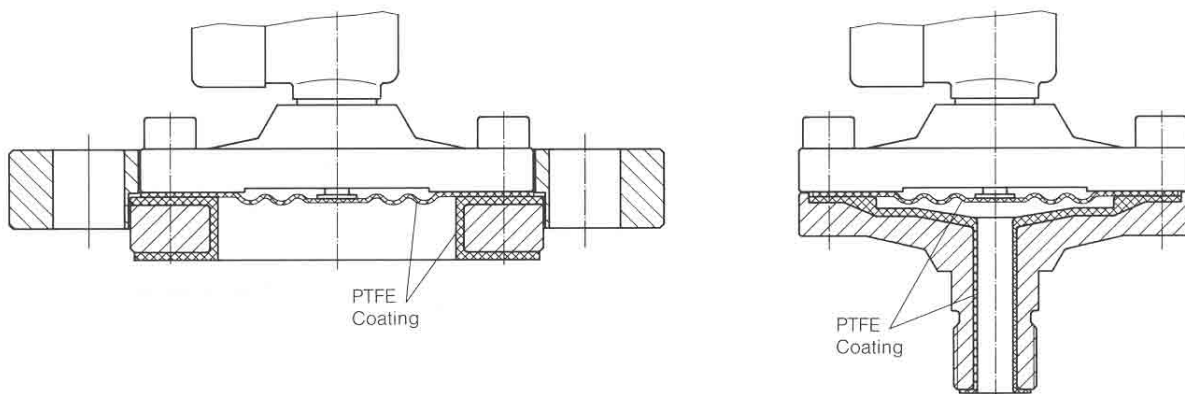
Materials:

Case	▷ chrome-nickel-steel 1.4301
Dial	▷ aluminium
Pointer	▷ black aluminium
Movement	▷ chrome-nickel-steel 1.4301/1.4305
Flange connection	▷ chrome-nickel-steel 1.4571
Diaphragm	▷ chrome-nickel-steel 1.4571 or Duratherm® corrosion resistance as 1.4571
Flange packing	▷ Viton
Liquid filling	▷ without contact module: Glycerin with contact module: Napvis (polybutene)

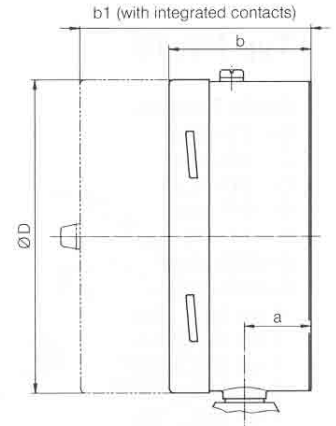
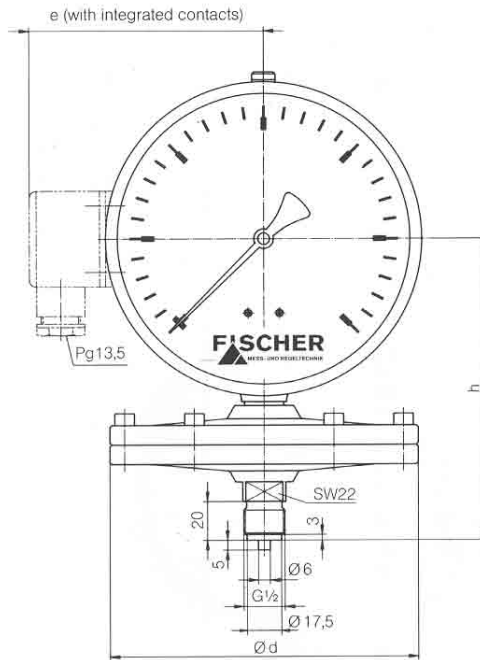
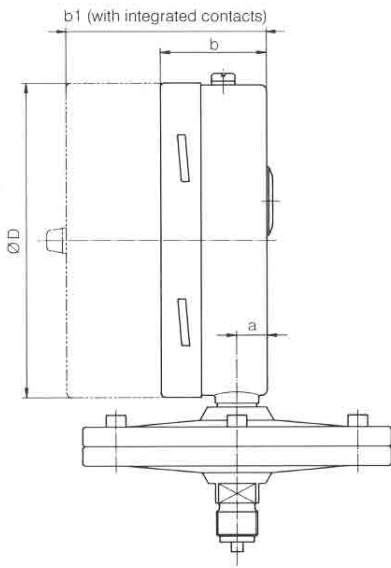
Wetted parts

Coat	▷ (only for measuring range ≥ 160 mbar) in case of high aggressive process fluid inner parts are coated as follows: wetted parts: PTFE foil, 2 mm thick diaphragm: PTFE foil, 0,5 mm thick diaphragm sealing: ring of Viton coated with PTFE
Sealing	▷ to seal these coated parts at the gauge side please use special sealing of PTFE

PTFE Coated Parts



Measurements

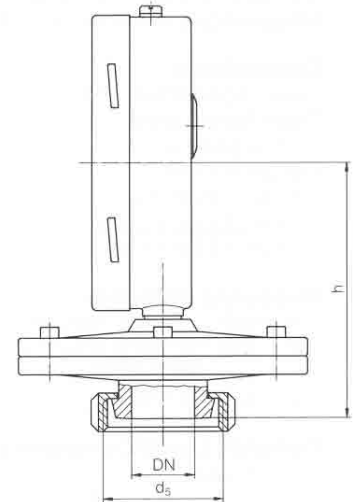
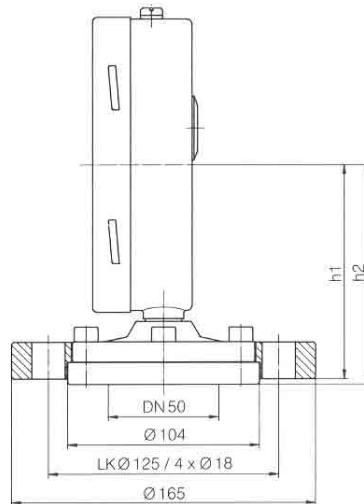
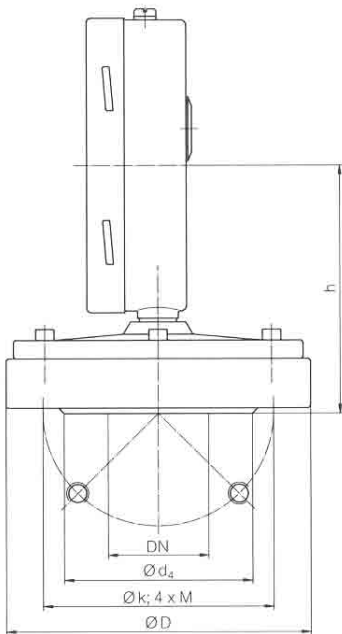


Connection acc. DIN 16288 Standard Design

scale range	case Ø	ØD	Ød	a	h	b	b1	e
≧ 0,6 bar	100	101	99	16	128	52	100	89
	160	161	99	15,5	158	54	102	119
≧ 400 mbar	100	101	157	16	125	52	100	89
	160	161	157	15,5	155	54	102	119

Safety Case acc. DIN 16006

case Ø	ØD	a	b	b1
100	101	31	67	115,5
160	161	34	72,5	118



Flange Connection acc. DIN PN 40

DN	ØD scale range:		Ød ₄	Øk	M	h case diam.	
	≧ 0,6 bar	≧ 400 mbar				100	160
15	105	157	45	65	M12	109	139
20	105	157	58	75	M12	106	136
25	115	157	68	85	M12	106	136
40	150	157	88	110	M16	106	136
50	165	165	102	125	M16	106	136

Male Fitting Flange

case Ø	h1	h2
100	117	120
160	147	150

Screwed Tube Connection acc. DIN 11851

DN	d ₅ acc. DIN 405T1	h case diam.	
		100	160
25	RD 52 x 1/6	107	137
50	RD 78 x 1/6	113	143

Order Nos

Typ MA 15

Scale Ranges

0- 25 mbar	▽	56
0- 40 mbar	▽	57
0- 60 mbar	▽	58
0-100 mbar	▽	59
0-160 mbar	▽	60
0-400 mbar	▽	82
0-600 mbar	▽	83
-1 up to 0 bar	▽	31
-1 up to 0,6 bar	▽	32
-1 up to 1,5 bar	▽	33
-1 up to 3 bar	▽	34
-1 up to 5 bar	▽	35
0-0,6 bar	▽	01
0-1 bar	▽	02
0-1,6 bar	▽	03
0-2,5 bar	▽	04
0-4 bar	▽	05
0-6 bar	▽	06
0-10 bar	▽	07
0-16 bar	▽	08
0-25 bar	▽	09
Special range	▽	99

Nominal Pressure

10 bar (scale range \leq 400 mbar)	▷	E
40 bar (scale range \geq 0,6 bar)	▷	H

Measuring System

Measuring system of stainless steel 1.4571-Duratherm	▷	V
Measuring system coated with PTFE foil	▷	U

Connections

Lower connection BSP 1/2"	▷	87
Open flange with male fixing flange DN 50 (orifice plate \geq 0,6 bar)	▷	FL
Flange connection DN 25, PN 40	▷	F2
Flange connection DN 50, PN 40	▷	F5
Screwed tube connection DIN 11851, DN 25	▷	M2
Screwed tube connection DIN 11851, DN 50	▷	M5

Measuring indication

Case with cam ring (bayonet type) bezel 100 mm	▷	L
Case with cam ring (bayonet type) bezel 160 mm	▷	M
Case acc. DIN 16006, diam. 100 mm	▷	O
Case acc. DIN 16006, diam. 160 mm	▷	P

Optional: Liquid Dampening

without liquid filling	▷	0
liquid filling (glyzerin)	▷	1
liquid filling with integrated contact module (Napris)	▷	2

Optional: Pointer

without special pointer	▷	0
adjustable set hand	▷	1
readjusting maximal pointer (scale range from 0-60 mbar)	▷	2

Optional: Contact Modules / Transducers

without alarm signal	▷	0
integrated contact module per datasheet KG 01 (scale range \geq 100 mbar)	▷	1
integrated remote transmitter per datasheet	▷	2

Optional: Special Dial / Range etc.

without extras	▷	0
If any other extras are required please state in the ordering text	▷	S

