Differential pressure gauge
For very low differential pressures, from 2.5 mbar
Model 736.51, with diaphragm element

for further approvals see page 4

switchGAUGE

Applications

- Differential pressure measurement at measuring points with very low differential pressures, for transparent, gaseous, dry, clean, oil and grease free media, also in aggressive environments
- ⊕ media chamber also suitable for corrosive media
- Process industry: Chemical industry, petrochemical industry, on/offshore
- Filter monitoring in ventilation and heating systems or in overpressure and clean rooms
- Differential pressure controlled monitoring of ventilator and blast pressures

Special features

- Differential pressure measuring ranges from 0 … 2.5 mbar
- Ingress protection IP66
- Case and wetted parts from stainless steel
- Version with switch contact for PLC applications

Fig. left: Model 736.51, NS 100
Fig. right: Model 736.51, NS 160 with switch contacts

Description

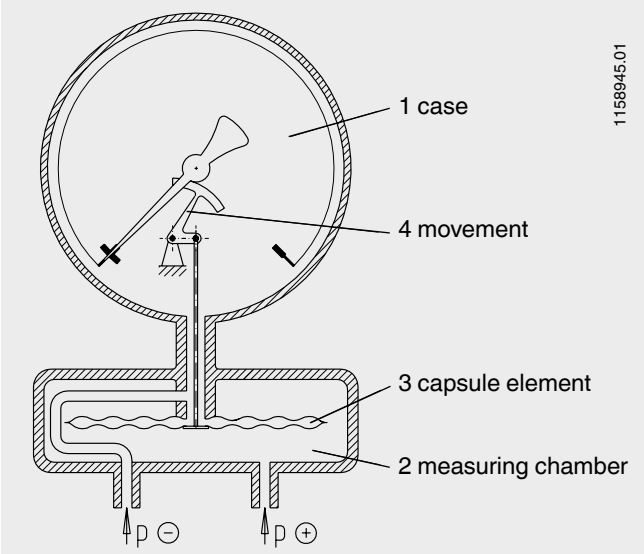
The model 736.51 capsule pressure gauge is based upon the proven capsule measuring system. The capsule measurement principle is particularly suitable for low pressures. On pressurisation, the expansion of the capsule element, proportional to the incident pressure, is transmitted to the movement and indicated.

For the version with switch contact, magnetic snap-action contacts, reed switches, inductive contacts and electronic contacts are available. For triggering programmable logic controllers (PLC), electronic contacts and reed switches can be used.

Specifications

Model 736.51	
Nominal size in mm	■ 100 ■ 160
Accuracy class	■ 1.6 ■ 1.0
Scale ranges	0 ... 2.5 mbar to 0 ... 100 mbar other units (e.g. psi, kPa) available or all other equivalent vacuum or combined pressure and vacuum ranges
Scale	■ Single scale ■ Dual scale
Zero point setting	Via adjustment appliance at case circumference, stainless steel (wetted)
Pressure limitation	
Steady	Full scale value
Fluctuating	0.9 x full scale value
Overload safety and max. working pressure (static pressure)	■ 200 mbar on ⊕ side ■ 200 mbar on both sides
Connection location	Lower mount (radial)
Process connection	■ 2 x G ½ B ■ 2 x ½ NPT Others on request
Permissible temperature	
Medium	+60 °C [+140 °F] maximum
Ambient	-20 ... +60 °C [-4 ... 140 °F]
Temperature effect	When the temperature of the measuring system deviates from the reference temperature (+20 °C): max. ±0.6 %/10 K of full scale value
Case	Version S1 per EN 837: With blow-out device in case back
Switch contacts	■ Without ■ Magnetic snap-action contact (model 821) ■ Inductive contact (model 831) ■ Electronic contact (model 830 E) ■ Reed contact (model 851) For further information on switch contacts, see data sheet AC 08.01
Wetted materials	
Process connection, pressure element, measuring chamber, case	Stainless steel 1.4571
Plug blow-out device	PUR
Movement	Stainless steel
Dial	Aluminium, white, black lettering
Instrument pointer	Aluminium, black
Set pointer	Aluminium, red
Window	Laminated safety glass
Sealings	PTFE and NBR
Non-wetted materials	
Bayonet ring	Stainless steel
Ingress protection per IEC/EN 60529	IP66
Mounting	According to affixed symbols ⊕ high pressure, ⊖ low pressure

Illustration of the principle



Design and operating principle

- Pressure-sealed case (1) with capsule element in pressure-sealed measuring chamber (2).
- The capsule element (3) is pressurised inside and from outside. ⊕ pressure enters measuring chamber (2), ⊖ pressure enters capsule element (3) and case (1)
- Pressure differential between ⊕ and ⊖ side causes stroke movement of the capsule element and deflects the capsule element
- The deflection is transmitted to the movement (4) and indicated.

Note:
Versions with switch contact contain plastic components and copper alloy parts. They are incorporated in the pressure-sealed case (1), i.e. they are wetted! We therefore recommend an application test.

Approvals

Logo	Description	Country
	EAC (option) Pressure equipment directive	Eurasian Economic Community
	GOST (option) Metrology, measurement technology	Russia
	KazInMetr (option) Metrology, measurement technology	Kazakhstan
-	**MTSCHS (option)** Permission for commissioning	Kazakhstan
	BelGIM (option) Metrology, measurement technology	Belarus
	UkrSEPRO (option) Metrology, measurement technology	Ukraine
	Uzstandard (option) Metrology, measurement technology	Uzbekistan
-	**CPA** Metrology, measurement technology	China

1) Only for instruments with inductive contact model 831

Certificates (option)

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. indication accuracy)

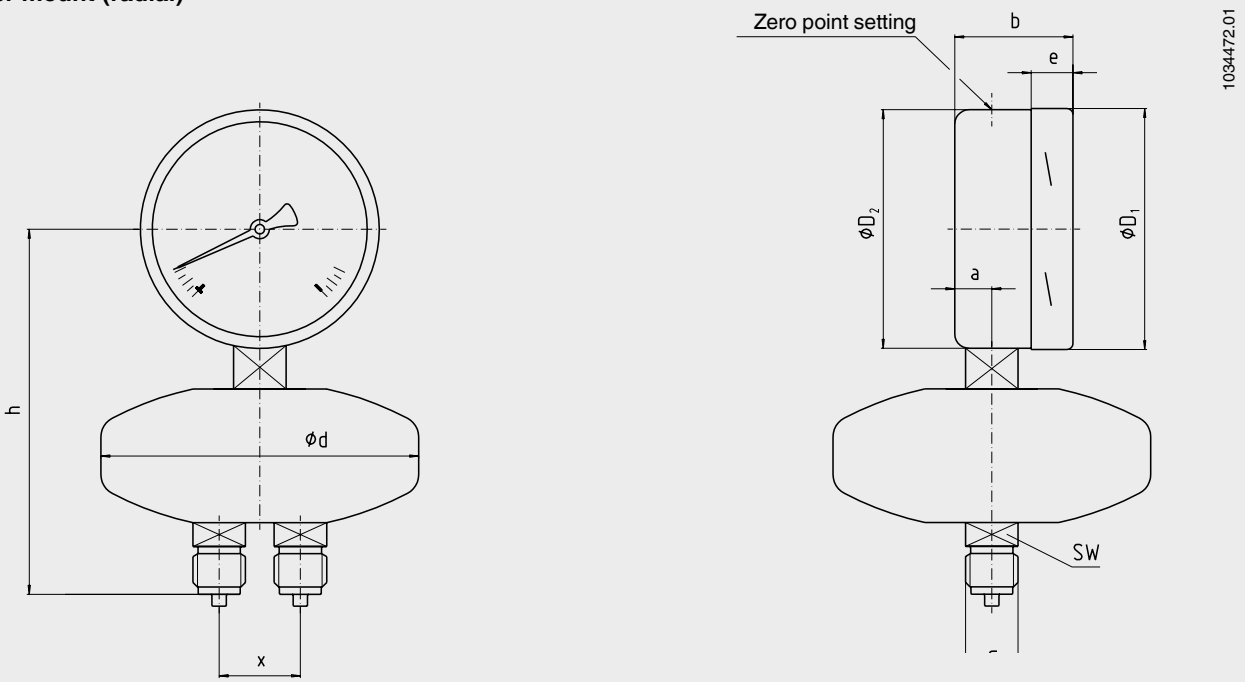
Approvals and certificates, see website

Accessories

- Panel mounting flange, polished stainless steel
- Surface mounting flange, stainless steel
- Instrument mounting bracket for wall or pipe mounting
- Sealings (model 910.17, see data sheet AC 09.08)
- Valves (models IV30/IV50, see data sheet AC 09.23)
- Diaphragm seal

Dimensions in mm

Lower mount (radial)



NS	Dimensions in mm										Weight in kg
	a	b	D_1	D_2	d	e	G	h ±1	X	SW	
100	15.5	49.5	101	99	133	17.5	G ½ B	170	37	22	1.70
160	15.5	49.5	161	159	133	17.5	G ½ B	200	37	22	2.20

Process connection per DIN 16003

Ordering information

Model / Nominal size / Scale range / Process connection / Options

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