



Pressure sensor for liquid and gaseous media QBE620-P...

Pressure sensor for the measurement of positive pressure in HVAC applications.

- Piezo-resistive system of measurement
- DC 0 ...10 V output signal
- Complete sensor cast in synthetic resin
- Measurement unaffected by changes in temperature
- High temperature stability
- No mechanical ageing or creepage
- External thread G ½"

Use

The QBE620-P... pressure sensors are suitable for the measurement of static and dynamic positive pressure in HVAC applications, particularly in hydraulic and pneumatic systems using liquid or gaseous media.

The sensor operates on piezo-resistive measuring principles. The ceramic diaphragm (thick-film hybrid technology) measures the pressure through direct contact with the medium.

The measurement is converted electronically into a linear output signal of DC 0 ...10 V.

Type summary

Seven different pressure sensor types are available, covering the entire pressure range from 0 ... 40 bar.

Type	Pressure range			Signal
QBE620-P1	0 ... 1 bar	0 ... 100 kPa	0 ... 14,5 psi	DC 0 ...10 V
QBE620-P4	0 ... 4 bar	0 ... 400 kPa	0 ... 58 psi	DC 0 ...10 V
QBE620-P5	0 ... 5 bar	0 ... 500 kPa	0 ... 72 psi	DC 0 ...10 V
QBE620-P10	0 ... 10 bar	0 ... 1,0 MPa	0 ... 145 psi	DC 0 ...10 V
QBE620-P16	0 ... 16 bar	0 ... 1,6 MPa	0 ... 232 psi	DC 0 ...10 V
QBE620-P25	0 ... 25 bar	0 ... 2,5 MPa	0 ... 362 psi	DC 0 ...10 V
QBE620-P40	0 ... 40 bar	0 ... 4,0 MPa	0 ... 580 psi	DC 0 ...10 V

Ordering

When placing an order, please specify the quantity, product description and type code.

Example: 4 pressure sensors QBE620-P1 and 2 mounting brackets AQB22.1 and 2 mounting kits AQB51.1

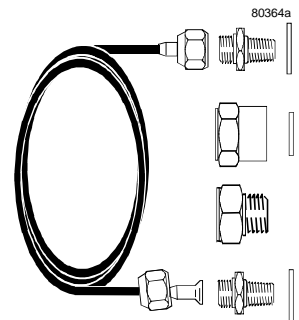
Accessories

Any accessories required must be ordered separately.

AQB22.1 Fixing bracket for sensor (for remote mounting). Dimensions see page 5

AQB51.1 Mounting kit comprising:

- 2 brass thread adapters, 2 x G¹/₈", male
- 2 copper seals, 1/₈"
- 1 m copper tube with retaining nuts at each end, G¹/₈" female
- 1 thread adapter, G¹/₈" female to G¹/₂" female, with 1 copper seal, 1/₂"
- 1 thread adapter, G¹/₈" female to R¹/₂" male
- Mounting instructions (no. 35 757)



The components of the AQB51.1 mounting kit are supplied by SERTO, but the kit must be ordered from Landis & Staefa Division.

Other mounting arrangements can be ordered directly from the SERTO range.

Compatibility

The QBE620-P... pressure sensors can be combined with all devices or systems capable of processing the DC 0 ...10 V output from the pressure sensor.

Mechanical design

The QBE620-P... sensors are compact units, encapsulated in synthetic resin, and cannot be dismantled. No changes or adjustments are possible.

Mounting

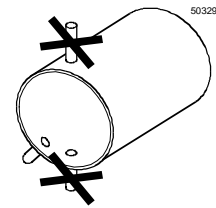
Mounting instructions are enclosed with the sensor.

The QBE620-P... sensors are designed for direct connection to screwed fittings with G $\frac{1}{2}$ " threads. Appropriate measures must be taken to ensure a leak-proof fitting.

To provide for test measurements without leakage of the medium, it is strongly recommended that an appropriate test adapter and shut-off device should be fitted.

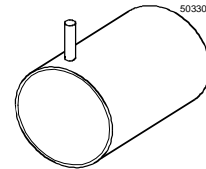
Pressure measurement with liquids

The tapping point should be at the side, near the bottom of the pipe. Do not measure the pressure from the top of the pipe (where it may be affected by airlocks) or the bottom (where it may be affected by dirt). Always evacuate the system.



Pressure measurement with condensing gases

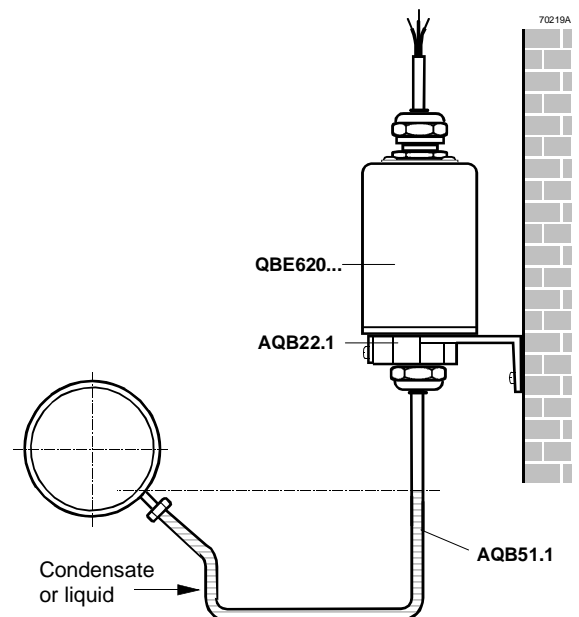
The tapping point should be at the top so that no condensate reaches the sensor.



Remote mounting

If the ambient conditions in respect of temperature $-15 \dots + 80 \text{ }^\circ\text{C}$ and vibration cannot be maintained, the sensor should be fitted remotely, taking care that no condensate can reach the sensor.

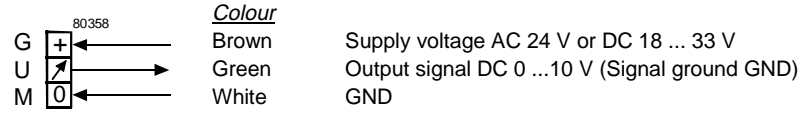
For remote mounting a fixing bracket AQB22.1 and mounting kit AQB51.1 can be delivered, see "Accessories".



Technical data

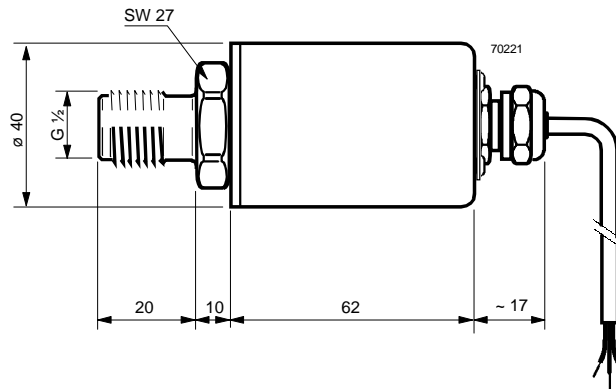
Electrical interface	Power supply	With extra-low voltage only (SELV, PELV)
	Supply voltage – Max. voltage tolerance Current consumption	AC 24 V, 50 ... 60 Hz or DC 18 ... 33 V ±15 % at AC 24 V < 5 mA
	Output signal	DC 0 ... 10 V, $R_{Load} > 10 \text{ k}\Omega$ (no electrical isolation, three-wire connection, short-circuit proof and protected against polarity reversal)
Product data	Application range	0 ... 40 bar (seven sensor types)
	Accuracy:	(FS = full scale)
	Total of linearity, hysteresis and reproducibility	< ± 0.5 % FS
	Zero point offset voltage	< 50 mV
	Temperature drift:	
	TC zero point	< ± 0.05 % FS / K
	TC sensitivity	< ± 0.015 % FS / K
	Response time 90 %	< 5 ms
	Nominal pressure	Relative pressure as in "Type summary" (Measurement of difference from ambient pressure)
	Max. admissible pressure	2 x scale end value of measuring range (FS)
	Rupture pressure	3 x scale end value of measuring range (FS)
	Media	Neutral and mildly corrosive liquids and gases
	Admissible temp. of medium	–15 ... + 80 °C
Maintenance	No maintenance required	
Orientation	Any	
Materials	Base	Stainless steel (1.4305)
	Measuring element	Ceramic diaphragm
	Cover	Aluminium (Al Mg Si1), with silver-grey powder coating
	Sealant	FPM rubber (Viton®)
	Sealing compound	Synthetic resin
	Fixing bracket AQB22.1	Aluminium diecast
	Mounting kit AQB51.1	see "Accessories"
	Connection	Connecting cable
Screwed fitting		External thread G1/2"
General ambient conditions	Temperature ranges	
	Operation	– 15 ... + 80 °C
	Storage	– 25 ... + 85 °C
	Ambient humidity	Class D to DIN40040
Dimensions / Weight	Weight (including packaging)	0.31 kg
	Dimensions	see page 5
Safety	Protection standard	IP65 to EN60529
	Meets the requirements for CE marking in:	EG89/336 (EMC), EN50081-1, EN50081-2, EN50082-2

Internal diagram

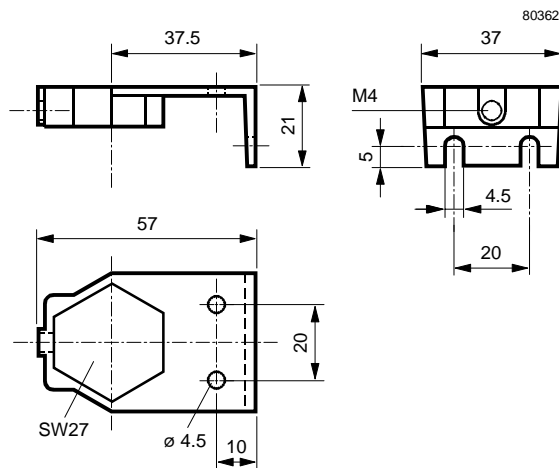


Dimensions

All dimensions in mm



Fixing bracket AQB22.1



SIEMENS

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