



Pressure Sensors

QBE620-P...

for liquid and gaseous media

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 $\frac{1}{2}$ "

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

Ordering

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

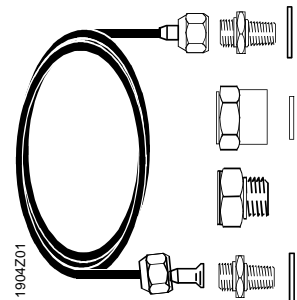
Example: 4 pressure sensors QBE620-P1 and 2 mounting brackets AQB22.1 and 2 mounting kits AQB51.1

Accessories

Das benötigte Zubehör ist gesondert zu bestellen.

AQB22.1 Montagebügel zur Befestigung des Druckfühlers bei abgesetzter Montage. Abmessungen siehe "Massbilder".

- AQB51.1** Mounting kit comprising:
- 2 brass thread adapters, 2 x G^{1/8}", male
 - 2 copper seals, 1/8"
 - 1 m copper tube with retaining nuts at each end, G^{1/8}" female
 - 1 thread adapter, G^{1/8}" female to G^{1/2}" female, with 1 copper seal, 1/2"
 - 1 thread adapter, G^{1/8}" female to R^{1/2}" 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 HVAC Products.

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.

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

Mounting notes

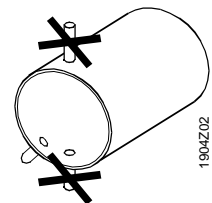
Mounting instructions are enclosed with the sensor.

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.

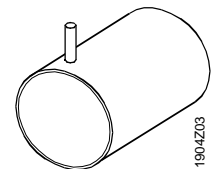
Pressure measurement with liquids

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

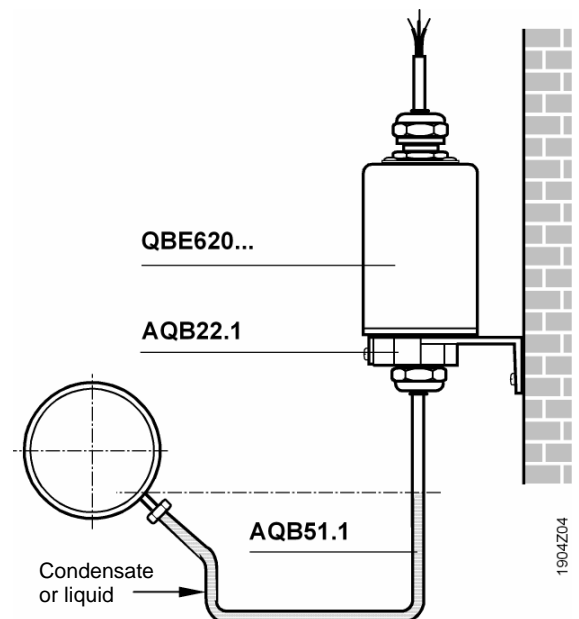
The tapping point should be at the top so that no condensate reaches the sensor.



Remote mounting

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

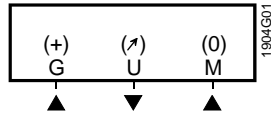
For remote mounting a fixing bracket AQB22.1 and mounting kit AQB51.1 can be delivered, see "Accessories".



Technische Daten

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)
Funktional data	Application range	0...40 bar (see "Type summary")
	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	
Protection	Protection standard	IP 65 to EN 60 529
Connections	Connection cable	PVC, length 2 m, 3 x 0.25 mm ² stranded wires
	Screw fitting	external thread G1/2"
Environmental conditions	Operation to	
	Climatic conditions	
	Temperature	–15...+85 °C
	Humidity	<95 % r.h.
	Storage/transport	
	Climatic conditions	
Temperature	–25...+70 °C	
Humidity	<95 % r.h.	
Standards	Electromagnetic compatibility	
	Immunity to	EN 61 000-6-2, EN 61 326-1
	Emissions to	EN 61 000-6-3, EN 55 022, EN 61 326-1
	CE conformity to EMC directive	89/336/EEC
Materials	Base	stainless steel (1.4305)
	Measuring element	ceramics diaphragm
	Cover	Aluminium (Al Mg Si1), with silver-grey powder coating
	Sealant	FPM rubber
	Sealing compound	Synthetic resin
	Fixing bracket AQB22.1	die-cast aluminium
	Mounting kitt AQB51.1	see "Accessories"
	Weight (including packaging)	0.31 kg

Internal diagram

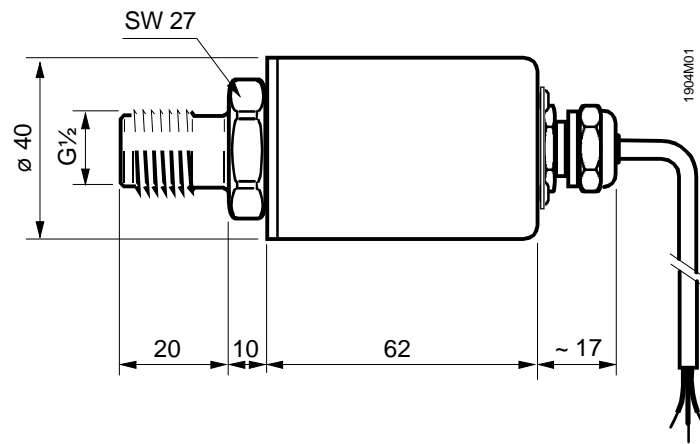


Legend

SBT terminal marking	Color of core	Meaning
G (+)	Brown	Supply voltage AC 24 V or DC 18 ... 33 V
U (⌚)	Green	Output signal DC 0...10 V (signal ground GND)
M (0)	White	GND

Dimensions

All dimensions in mm



Montagebügel AQB22.1

