SIEMENS

1 9xx

QBE9200…
QBE9210…

Pressure Sensors

for liquid

- **Piezo-resistive measuring system**
- **DC 4…20 mA or DC 0 ...10 V output signal**
- **Measurement unaffected by changes in temperature**
- **High temperature stability**
- **No mechanical aging or creepage**
- **External thread G¼"**
- **Excellent EMC characteristics**

Use

Pressure sensors QBE92x are suitable for the measurement of static and dynamic positive pressure in heating or district heating plants.

Technical design

Pressure sensors QBE92x operate on the piezo-resistive measuring principle. The ceramics diaphragm (thick-film hybrid technology) acquires the pressure through direct contact with the medium. The measurement is converted electronically into a linear output signal of DC 4…20 mA or DC 0...10 V.

Type summary

Type reference	*Pressure range*			*Output signal*
QBE9200-P6	0...6 bar	0...0.6 MPa	0...87.0 psi	0…10 V
QBE9200-P10	0...10 bar	0...1.0 MPa	0...145.0 psi	0…10 V
QBE9200-P16	0...16 bar	0...1.6 MPa	0...232.0 psi	0…10 V
QBE9200-P25	0...25 bar	0...2.5 MPa	0...362.6 psi	0…10 V
QBE9210-P6	0...10 bar	0...1.0 MPa	0...87.0 psi	4…20 mA
QBE9210-P10	0...10 bar	0...1.0 MPa	0...145.0 psi	4…20 mA
QBE9210-P16	0...16 bar	0...1.6 MPa	0...232.0 psi	4…20 mA
QBE9210-P25	0...25 bar	0...2.5 MPa	0...362.6 psi	4…20 mA

Ordering

When ordering, please give name and type reference, e.g.:
Pressure sensor **QBE9200-P10**
Any accessories required must be ordered separately.

Equipment combinations

Pressure sensors QBE92x can be combined with all devices or systems capable of processing the DC 4…20 mA or DC 0 ...10 V output signals from the pressure sensor.

Mechanical design

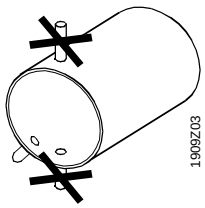
Pressure sensors QBE92x are compact units and cannot be dismantled. No changes or adjustments are possible.

Mounting notes

Pressure sensors QBE92x are designed for direct connection to screwed fittings with G¼" thread. 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 shutoff device be fitted.

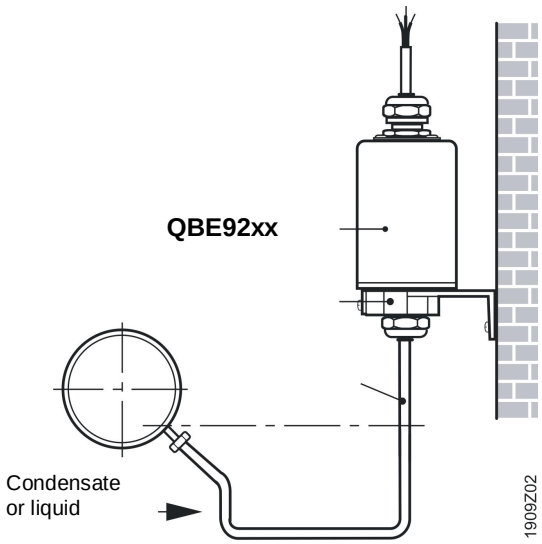
Pressure measurement with liquids

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.



Remote mounting

If the temperature of medium is lower than 0 °C or higher than +125 °C, the sensor should be fitted remotely, taking care that no condensate can reach the sensor.



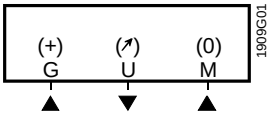
Technical data

Electrical interface	Power supply	with extra-low voltage only (SELV, PELV)
	Supply voltage (QBE9200…)Current consumption	DC 14...30 V< 6 mA
	Supply voltage (QBE9210…) Current consumption	DC 8…32 V <20 mA
	Output signal QBE9200…	DC 0 ...10 V, R_{Load} >10 kΩ (not galvanically separated, 3-wire connection, short-circuit proof and protected against polarity reversal)
	Output signal QBE9210…	DC 4…20 mA , $R_{Load} \leq \frac{\text{Operating voltage} - 11\ V}{0.02\ A}$ Ohm (not galvanically separated, 2-wire connection, short-circuit proof and protected against polarity reversal)
Functional data	Application range	refer to "Type summary"
	Accuracy: According IEC60770	(FS = Full Scale) <±1 % FS
	Temperature influence:	<±0.05 % FS/K
	Response time	<3 ms / <10 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 slightly corrosive liquids
	Admissible temperature of medium	-25...+125 °C
	Maintenance	maintenance-free
	Mounting position	Optional
Protection	Protection standard	IP 65 to EN 60 529
	Protection class	III according to EN 60 730
Connections	Connecting cable	PVC, length 1.5 m, 3 x 0.25 mm^2 stranded wires
	Screwed fitting	external thread G¼"
Environmental conditions	Operation to Climatic conditions Temperature Humidity	IEC 60 721-3-3 class 3K7 −25...+85 °C insensitive to condensation
	Storage / transport Climatic conditions Temperature Humidity	IEC 60 721-3-2 class 2K4 −40...+85 °C insensitive to condensation

Directives and standards	Electromagnetic compatibility	
	Immunity to	EN 61 326-1
	Emissions to	EN 61 326-1
	CE conformity to EMC directive	2004/108/EG
	C-Tick conformity (EMC)	EN 61 000-6-3
Environmental compatibility	provides information on environmentally compatible product design and assessment (RoHS compliance, composition of substances, packaging, environmental benefit, disposal).	ISO 9001 (quality) RL 2002/95/EG (RoHS)
Materials	Base	stainless steel (1.4305)
	Measuring element	ceramics diaphragm
	Cover	stainless steel (1.4305)
	Sealant	FPM fluor-caoutchouc spec.
	Fixing bracket AQB22.1	die-cast aluminium
	Mounting kit AQB2001	see "Accessories"
Weight	Including packaging	0.265 kg

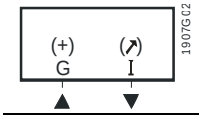
Internal diagram

QBE9200…



BT terminal marking	*Color of core*	*Meaning*
G (+)	Brown	Supply voltage 14…30 V
U (↗)	Green	Output signal DC 0...10 V (signal ground GND)
M (0)	White	GND

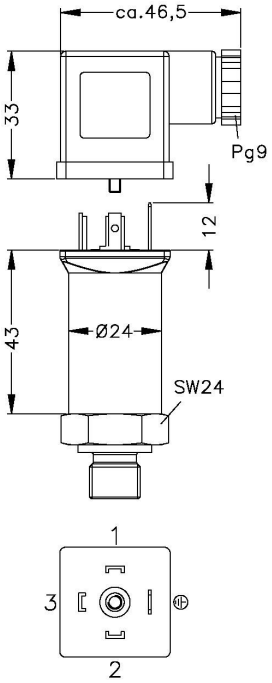
QBE9210…



BT terminal marking	*Color of core*	*Meaning*
G (+)	Brown	Supply voltage DC 8…32 V
I (↗)	Green	Output signal DC 4...20 mA

Dimensions

QBE9200…
QBE9210…



Dimensions in mm