Use

The pressure sensors are suitable for the measurement of relative pressure in HVAC plant, particularly in hydraulic and pneumatic systems using liquid or gaseous media (steam applications).

Type summary

Type reference	*Order number*	*Pressure range*		*Output signal*
QBE2003-P1	S55720-S290	0...1 bar	0...100 kPa	
QBE2003-P1.6	S55720-S291	0...1.6 bar	0...160 kPa	
QBE2003-P2.5	S55720-S292	0...2.5 bar	0...250 kPa	
QBE2003-P4	S55720-S293	0...4 bar	0...400 kPa	
QBE2003-P6	S55720-S294	0...6 bar	0...600 kPa	
QBE2003-P10*)	S55720-S295	0...10 bar	0...1.0 MPa	
QBE2003-P16*)	S55720-S296	0...16 bar	0...1.6 MPa	
QBE2003-P25*)	S55720-S297	0...25 bar	0...2.5 MPa	
QBE2003-P40	S55720-S298	0...40 bar	0...4.0 MPa	
QBE2003-P60	S55720-S299	0...60 bar	0...6.0 MPa	
QBE2103-P1	S55720-S300	0...1 bar	0...100 kPa	
QBE2103-P1.6	S55720-S301	0...1.6 bar	0...160 kPa	
QBE2103-P2.5	S55720-S302	0...2.5 bar	0...250 kPa	
QBE2103-P4	S55720-S303	0...4 bar	0...400 kPa	
QBE2103-P6	S55720-S304	0...6 bar	0...600 kPa	
QBE2103-P10*)	S55720-S305	0...10 bar	0...1.0 MPa	
QBE2103-P16*)	S55720-S306	0...16 bar	0...1.6 MPa	
QBE2103-P25*)	S55720-S307	0...25 bar	0...2.5 MPa	mA

Mode of operation

The pressure sensors operate on the piezo-resistive measuring principle. The ceramic or stainless steel diaphram*) (thick-film hybrid technology) acquires the pressure through direct contact with the medium. The measurement is converted electronically

*) Applies to QBE2003-P10, QBE2003-P16, QBE2003-P25, QBE2103-P10, QBE2103-P16, and QBE2103-P25

Mechanical design

The pressure sensor consists of:

- Sensor hood with DIN EN 175301-803-A plug-in connection
- Piezo-resistive measuring element integrated in the stainless steel case
- Pressure connection external thread G ½" and inside thread M5*) for use with accessory AQB2001**)
- Plug DIN EN 175301-803-A (plugged in)

No changes or adjustments are possible.

*) The following types do not have M5 inside threads:
QBE2003-P10, QBE2003-P16, QBE2003-P25, QBE2103-P10, QBE2103-P16, and QBE2103-P25

**) Cannot be used on types QBE2003-P10, QBE2003-P16, QBE2003-P25, QBE2103-P10, QBE2103-P16, and QBE2103-P25. A solution on the construction side using the ½" threaded connection is possible.

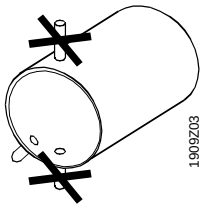
Mounting notes

Mounting Instructions are enclosed with the sensor. For further information about mounting location and mounting position refer to the sensor mounting user's manual at the BT download center: http://siemens.com/bt/download.
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

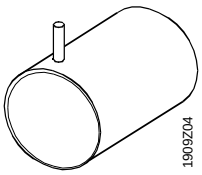
The tapping point should be at the side, near the bottom of the pipe. Do not measure the pressure from the top of the pipe (where it may be affected by airlocks) or the bottom (where it may be affected by dirt).

Always purge the system.



Pressure measurement with condensing gases

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



Important note

Ensure suitable constructions measures are undertaken to avoid pressure shocks in the plant; pressure shocks may damage the pressure sensor's diaphragm.
In the event that pressure shocks are unavoidable, a panel screw (M5) may be able to weaken the effect. Contact in this case your nearest Siemens branch office.

Disposal



The device is considered electrical and electronic equipment for disposal in terms of the applicable European Directive and may not be disposed of as domestic garbage.

- Dispose of the device via the channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Technical data

Electrical interface	Power supply	Protection by extra low voltage (SELV, PELV)
		AC 24 V ±15%, 50...60 Hz or DC 12...33 V
	Current consumption	<7 mA, < 0.5 VA
	Current consumption	<23 mA, < 0.7 VA
	External supply line protection	Fuse slow max. 10 A or
		Circuit breaker max. 13 A Characteristic B, C, D according to EN 60898 or
		Power source with current limitation of max. 10 A
	Output signal QBE2003	DC 0 ...10 V, load >10 kΩ, < 100 nF, 3
	Output sig	

Directives and standards	Product standard		EN 61326-1 Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements
Materials	Pressure connection		Stainless steel 1.4404 / AISI 316L
	Plug housing		Polyarylamide 50 % GF VO
	Materials and media contact	Press. connection Meas.elem.**) Sealant	Stainless steel 1.4404 / AISI 316L Ceramics Al2O3 (96 %) Stainless steel FPM
Conformity	EU Conformity (CE)		8000078214 ***)
	RCM Conformity		CE1T1909en_C1 ***)
Weight	Including packaging		0,171 kg

*) The following types do not have M5 inside threads.

QBE2003-P10, QBE2003-P16, QBE2003-P25, QBE2103-P10, QBE2103-P16, and QBE2103-P25

**) Stainless steel for types QBE2003-P10, QBE2003-P16, QBE2003-P25, QBE2103-P10, QBE2103-P16, and QBE2103-P25

***) The documents can be downloaded from http://siemens.com/bt/download.

Internal diagram

Dimensions

QBE2003-P…
QBE2103-P…

***) The following types do not have**
M5 interior threads:

QBE2003-P10
QBE2003-P16
QBE2003-P25
QBE2103-P10
QBE2103-P16
QBE2103-P25

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