



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

| <i>Type reference</i> | <i>Order number</i> | <i>Pressure range</i> |             | <i>Output signal</i> |
|-----------------------|---------------------|-----------------------|-------------|----------------------|
| <b>QBE2003-P1</b>     | S55720-S290         | 0...1 bar             | 0...100 kPa |                      |
| <b>QBE2003-P1.6</b>   | S55720-S291         | 0...1.6 bar           | 0...160 kPa |                      |
| <b>QBE2003-P2.5</b>   | S55720-S292         | 0...2.5 bar           | 0...250 kPa |                      |
| <b>QBE2003-P4</b>     | S55720-S293         | 0...4 bar             | 0...400 kPa |                      |
| <b>QBE2003-P6</b>     | S55720-S294         | 0...6 bar             | 0...600 kPa |                      |
| <b>QBE2003-P10*)</b>  | S55720-S295         | 0...10 bar            | 0...1.0 MPa |                      |
| <b>QBE2003-P16*)</b>  | S55720-S296         | 0...16 bar            | 0...1.6 MPa |                      |
| <b>QBE2003-P25*)</b>  | S55720-S297         | 0...25 bar            | 0...2.5 MPa |                      |
| <b>QBE2003-P40</b>    | S55720-S298         | 0...40 bar            | 0...4.0 MPa |                      |
| <b>QBE2003-P60</b>    | S55720-S299         | 0...60 bar            | 0...6.0 MPa |                      |
| <b>QBE2103-P1</b>     | S55720-S300         | 0...1 bar             | 0...100 kPa |                      |
| <b>QBE2103-P1.6</b>   | S55720-S301         | 0...1.6 bar           | 0...160 kPa |                      |
| <b>QBE2103-P2.5</b>   | S55720-S302         | 0...2.5 bar           | 0...250 kPa |                      |
| <b>QBE2103-P4</b>     | S55720-S303         | 0...4 bar             | 0...400 kPa |                      |
| <b>QBE2103-P6</b>     | S55720-S304         | 0...6 bar             | 0...600 kPa |                      |
| <b>QBE2103-P10*)</b>  | S55720-S305         | 0...10 bar            | 0...1.0 MPa |                      |
| <b>QBE2103-P16*)</b>  | S55720-S306         | 0...16 bar            | 0...1.6 MPa |                      |
| <b>QBE2103-P25*)</b>  | 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 diaphragm\*) (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 1/2" 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 1/2" 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>.

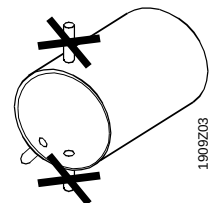
Appropriate measures must be taken to ensure a leak-proof fitting.

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*

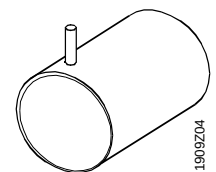
The tapping point should be at the side, near the bottom of the pipe. Do not measure the pressure from the top of the pipe (where it may be affected by airlocks) or the bottom (where it may be affected by dirt).

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 construction 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)<br>AC 24 V $\pm 15\%$ , 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<br>or<br>Circuit breaker max. 13 A<br>Characteristic B, C, D according to EN 60898<br>or<br>Power source with current limitation of max. 10 A |
|                      | Output signal QBE2003           | DC 0 ...10 V, load > 10 k $\Omega$ , < 100 nF, 3                                                                                                                  |
|                      | Output sig                      |                                                                                                                                                                   |

|                          |                             |                                 |                                                                                                                        |
|--------------------------|-----------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Directives and standards | Product standard            |                                 | EN 61326-1<br>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.**) | Stainless steel 1.4404 / AISI 316L                                                                                     |
|                          |                             | Sealant                         | 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

Ø

Published by:  
Siemens Switzerland Ltd.  
Smart Infrastructure  
Global Headquarters  
Theilerstrasse 1a  
CH-6300 Zug  
Switzerland  
Tel. +41 58-724 24 24  
[www.siemens.com/buildingtechnologies](http://www.siemens.com/buildingtechnologies)

© Siemens Switzerland Ltd 2005  
Delivery and techn