

## Wet Differential Pressure Sensors

### Product Description

The Siemens QBE Series Wet Differential Pressure Sensors utilize a well-proven ceramic technology making them an ideal choice across a broad spectrum of applications.

### Product Numbers

Product Number	Operating Differential Pressure Rating (psi)	Max. Differential Pressure Between High & Low Ports (psi)	Burst Pressure (psi)
QBE3100UD25	0 to 25	72	540
QBE3100UD50	0 to 50	116	
QBE3100UD100	0 to 100	290	

### Pressure Rating



#### CAUTION:

- The maximum manifold pressure rating is 250 psi.
- Exceeding the maximum differential pressure will damage the sensor.

### Warning/Caution Notations

<b>WARNING:</b>		Personal injury/loss of life may occur if you do not follow the procedures as specified.
<b>CAUTION:</b>		Equipment damage or loss of data may occur if you do not follow the procedures as specified.

### Contents

- Sensor
- Rubber gasket
- Conduit plug with cable gland
- 90° mounting bracket and mounting screws

### Required Tools

- Thread Sealant
- (2) open-ended wrenches or (4) crescent wrenches: 1/2", 5/8", 11/16", and 9/16"
- Small, Phillips screwdriver
- Small, flat-blade screwdriver

### Installation Time

30 minutes

### Prerequisites

- Use two male connector compression fittings with 1/4"-18 NPT threads rated for system pressure for the HIGH and LOW pressure ports of the sensor (not included).
- Prepare the fittings with Loctite 565 Thread Sealant or equivalent anaerobic liquid to prevent leakage.



#### CAUTION:

Do not use putty, gasket-type material, or tape.

### Installation

#### Installing the Sensor

1. Assemble compression fittings to the sensor finger-tight, and then tighten a minimum 2 to 3 turns with 5/8" wrench or to a maximum 25 ft-lbs (34 Nm) while holding the sensor fitting with the 11/16" wrench. See Figure 1.

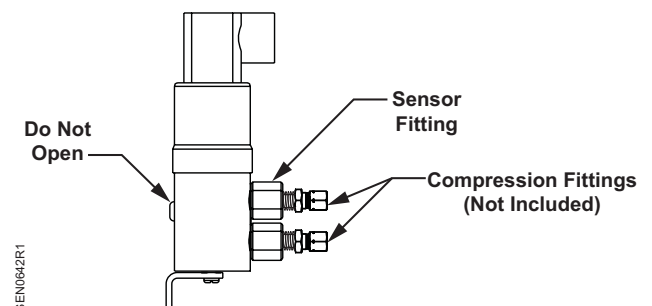
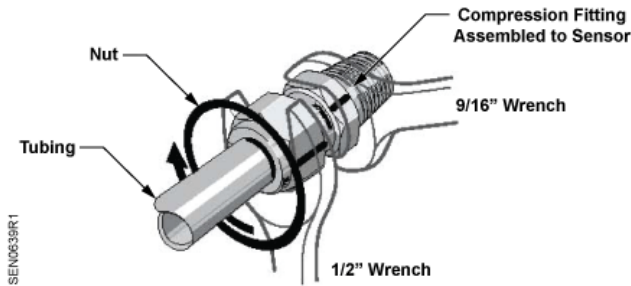


Figure 1. Sensor Fitting Location.

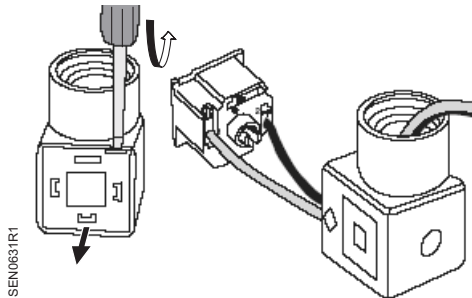
2. Insert the HIGH and LOW pressure lines into the appropriate compression fittings. Be sure to fully insert the pressure lines against the inside shoulder and finger-tighten the nut.
3. While holding the fitting body with the 9/16" wrench, tighten the nut 1-1/4 turn with the 1/2" wrench. See Figure 2.



**Figure 2. Attaching Compression Lines to the Compression Fittings.**

## Wiring

1. Use a Phillips or flat-blade screwdriver to completely remove the mounting screw from the conduit cap.
2. Use a flat-blade screwdriver to pry up cover where indicated. (LIFT is embossed on the cover.) See Figure 3.

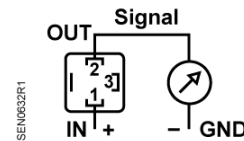


**Figure 3. Accessing and Connecting to the Wiring Terminals.**

3. Feed wiring through the conduit cap and terminate wires as shown.

**NOTE:** For non-conduit installations, insert plastic connection with gland before terminating wires.

## Current Output



<b>Terminal</b>	
<b>1 (IN)</b>	Operating voltage 7.5 to 33 Vdc
<b>2 (OUT)</b>	Output signal 4 to 20 mA
<b>3</b>	Not used

**Figure 4. Wiring Terminals, Sensor Top View.**

4. Snap the termination board back into the conduit cap.

**NOTE:** The termination board can be oriented in any direction.

5. Remove white, protective cap from sensor.
6. Insert rubber gasket onto sensor's metal leads. Observe the different slot sizes on the gasket.



## CAUTION:

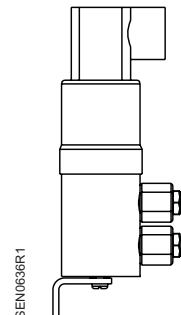
Lead slots in the conduit cap must be oriented to the sensor's metal leads.

**NOTE:** The ground lead may appear slightly bent, but do not attempt to straighten it. Insert the ground lead into the conduit cap first to correct any alignment issues.

7. Snap conduit cap onto sensor.
8. Replace and secure with the mounting screw.

## Mounting the Sensor

1. Use the two screws and washers provided with the mounting bracket to mount the sensor to the bracket.

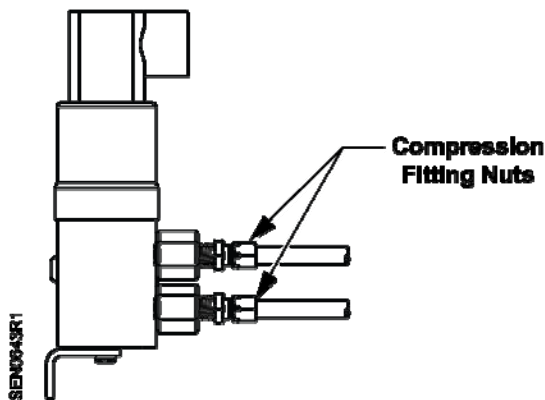


**Figure 5. Approved Mounting Position.**

2. Mount the bracket to the wall.

3. Ensure that the sensor is oriented to enable air bleeding, if necessary. The conduit cap may be positioned to face left, right, front or back.
4. If air bleeding is desired:
  - a. Carefully loosen the two nuts of the compression fittings assembled to the sensor. See Figure 6.

**NOTE:** While holding the fitting body with the 9/16" wrench, loosen the nuts with the 1/2" wrench.



**Figure 6. Compression Fitting Nuts Location.**

- b. Carefully tighten the nut after bubble-free media flows out.

The installation is now complete.

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