

VPEL - Differential pressure transmitter for water

User Guide

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1 Commissioning

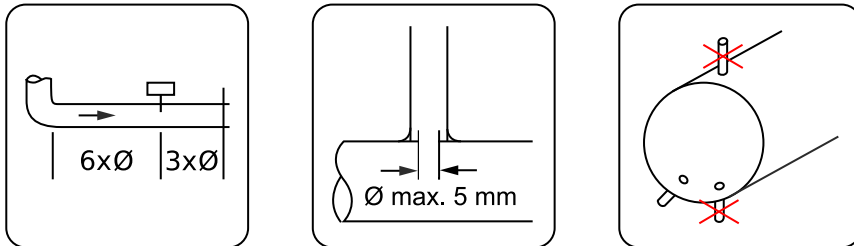
1.1 Installation location

Device is installed to a water pipe measuring point. A suitable sealing method should be used to ensure a proper and safe measurement.

Assembly location of the device should be chosen with care. All error factors which affects to the measurement, must be prevented as well as possible. The following list defines the typical measurement error factors.

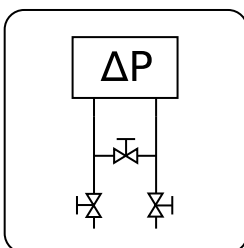
- Ambient temperature is too low or high.
- Exposure to vibration.
- Assembly location is too close to a heat source.
- Assembly location is too tight. Device should be installed to a place, where it is easy to service.
- Pipes to the transmitter are installed incorrectly. There are air bubbles in the liquid.
- Assembly location is too close to liquid mixing point.
- Measurement point is not sealed.

All changes in the geometry of the pipe cause interference to the flow. Safe distance around the measuring point can be determined by the diameter of the duct. See the following figure about the safe distances and measurement point locations.



1.2 Fitting the transmitter

1. Choose the measurement point location.
2. Install a valve in each line, and a shunt valve across the high and low pressure lines.

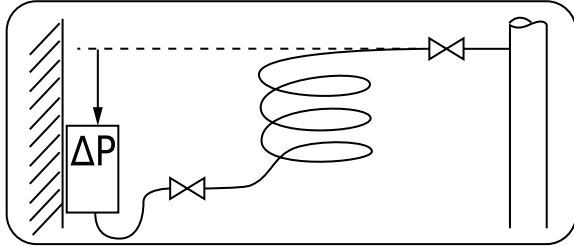


Important: To prevent overload, install a valve between measuring pipes. Do not install against fluid and closed valve. The sensor breaks due the high overpressure.

3. Install the transmitter lower than measuring point in the pipe.

- Fit the measuring pipes (\varnothing 8 mm) to the measuring points and connect the pipes to the transmitter.

Bend the pipes into a spiral with horizontal loops. In this way condensation water and air bubbles gets away from the pipe.



- Connect the cables to device and tighten the cable entry. The cables should form a "drip loop" to prevent water from entering the housing.
- Open the shunt valve.
- Open the pressure line valves carefully to prevent pressure shocks.
- Close the shunt valve.

1.3 Wiring

CAUTION: Device wiring and commissioning can only be carried out by qualified professionals. Always make the wirings while the power is switched off.

24 Vac/dc	1	▶	VPEL
0 V	2	⊥	
0...10 Vdc output	3	◀	
4...20 mA output	4	◀	

1.4 Jumper settings

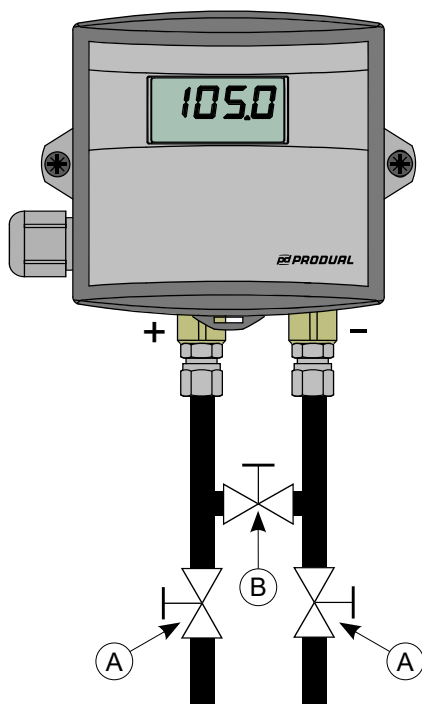
		■	● ●
Output	S1	0...10 Vdc	4...20 mA
Range	S2	VPEL 1.0/2.5: 0...2.5 bar VPEL 4.0/6.0: 0...6.0 bar	VPEL 1.0/2.5: 0...1.0 bar VPEL 4.0/6.0: 0...4.0 bar

2 Maintenance

2.1 Zeroing

The possible zero point drifting can be eliminated by using the zeroing push button on the circuit board. The maximum drift value that can be zeroed is $\pm 10\%$ of the range. Bigger drift is considered as a sensor fault.

1. Close the process connection valves.



- A. Process connection valve
- B. Shunt valve

2. Open the shunt valve.
3. Open the device cover.
4. Press the zeroing button until the indicator light illuminates.
The indicator light turns off when the zeroing is successful. The indicator light flashes if the device is faulty.