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USER GUIDE

VPEL

Produal

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VPEL - Differential pressure transmitter for water

User Guide

PRODUAL
measure-be sure.

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1 Safety precautions

The product is developed, manufactured and tested according to high quality standards. However, instructions for safe use shall be taken account when installing, using or disposing the product or parts of product.

Read this user guide carefully before commissioning, using or servicing this device. To avoid any kind of damage to people or property, follow the instructions carefully. Produal is not liable for any hazards or damages to people or property which are caused by ignoring the using or installation instructions.

To avoid electrical shock or damage to equipment, disconnect power before installing or servicing the product. Use only a proper wiring rated for the full operating voltage and maximum current in the system even in the event of a fault.

The product condition must be checked before installation. Do not drop the product or use excessive force during installation. Do not use the product if any damages are visible.

After installation the product will be part of a system whose specifications and performance characteristics are not designed or controlled by Produal. Refer to national and local authorities to ensure that the installation is functional and safe.

The product should only be used in professionally designed applications. Unauthorised modifications are not allowed. The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or property.

In this document, there are different kind of warnings and notes. The warning and note types are defined in the following table.

Sign	Description
WARNING:	The warning symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION:	The caution symbol indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
Important:	The important symbol indicates a potentially hazardous situation which, if not avoided, could result in damage to the device or property.
Note:	The note symbol indicates a useful tip or a recommended way to complete a task. These notes also provide information that is useful but not critical to the user.

1.1 Intended use

VPEL differential water pressure transmitters are intended to be used for measuring differential water/glycol pressure in heating and cooling systems.

These transmitters are intended to be connected to building automation systems in the HVAC/R industry.

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2 Commissioning

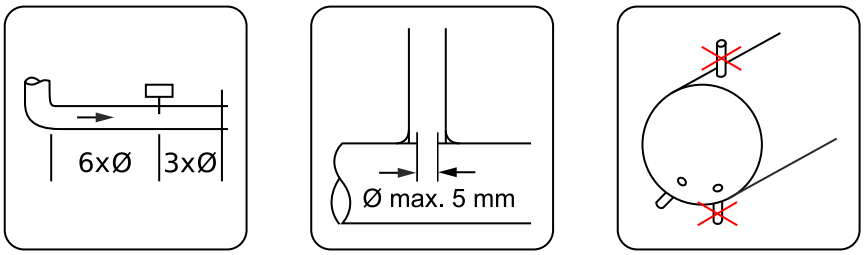
2.1 Installation location

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.

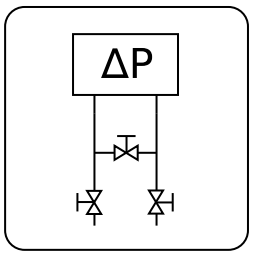
- Ambient temperature is too low or high.
- Exposure to vibration.
- Assembly location is too close to a heat source.
- Assembly location is too tight. Device should be installed to a place, where it is easy to service.
- Pipes to the transmitter are installed incorrectly. There are air bubbles in the 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.



2.2 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.

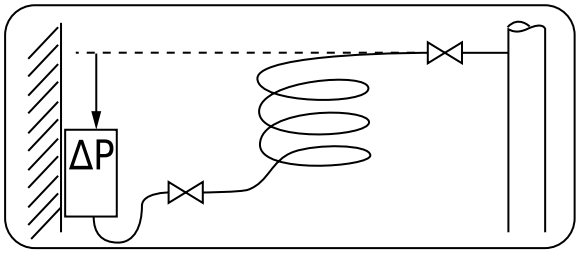


Important: To prevent overload, install a valve between measuring pipes. Do not install against fluid and closed valve. The sensor breaks due the high overpressure.

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

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4. Fit the measuring pipes (# 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.

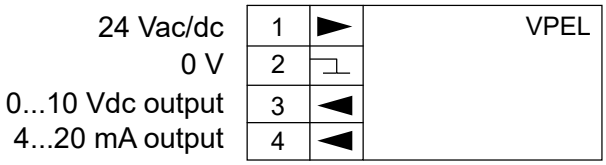


5. Connect the cables to device and tighten the cable entry.
   The cables should from a "drip loop" to prevent water from entering the housing.
6. Open the shunt valve.
7. Open the pressure line valves carefully to prevent pressure shocks.
8. Close the shunt valve.

2.3 Wiring

WARNING: Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energised electricity network.

WARNING: This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (safety extra low voltage) electricity network.



2.4 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

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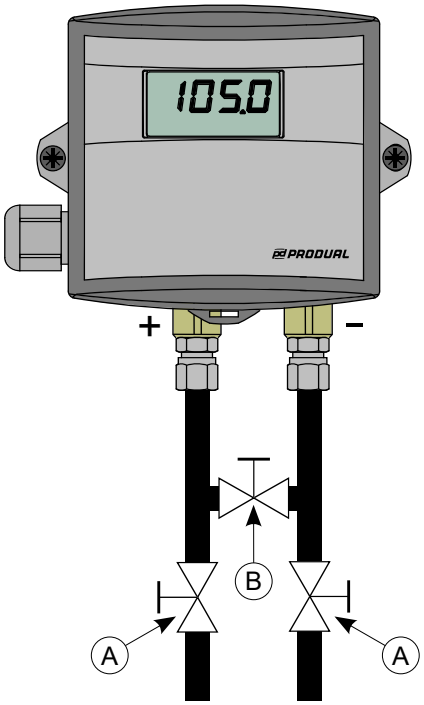
3 Maintenance

3.1 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 ±10 % of the range. Bigger drift is considered as a sensor fault.

1. Open the shunt valve.

Note: When the shunt valve is opened, there is a flow between measurement lines until the next step is completed.



A. Process connection valve
B. Shunt valve

2. Close the process connection valves.
3. Open the device cover.
4. Press the zeroing button for five seconds.
   The indicator light is on when the button is pressed.

Important: If the indicator light flashes when pressing the button, the device is faulty or there is too much pressure in the measurement connections.

4 Disposal

The device is considered as electrical and electronic equipment for disposal in terms of the applicable European Directive. At the end of life the product must enter the recycling system at an appropriate collection point.

- The device must be disposed through channels provided for this purpose.
- The disposal must be completed according to the local and currently applicable laws and regulations.

Generally all metals can be recycled as material. Plastics and cardboard packaging material can be used in energy recovery. Printed circuit boards need selective treatment according to IEC 62635 guidelines. To aid recycling, plastic parts are marked with an appropriate identification code. Contact your local Produal distributor for further information on environmental aspects and recycling instructions for professional recyclers.



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