

# Cooling devices –mounting constructions

## Description

Cooling devices are designed to be installed between diaphragm seal and pressure indicator. That can be a pressure gauge or pressure transmitter. The most ideal situation for safety and performance is that the pressure instrument is lower than 50°C.

## Application set-ups

### Direct mount

Direct mount construction is where the pressure indicator is directly mounted to the diaphragm seal. Because of the close distance between pressure indicator and process the cooling function of this construction is limited. Based on a worst case vertical mounting position and a maximum temperature of 50°C a maximum process temperature of 120°C advice. There are factors that influence the conduction of heat such as insulation, mounting position and material. The values given are based on the worst case situation.

	Process T	Sensor T
DM	120°C	<50°C



### Extended Direct Mount

Extended Direct Mount (EDM) construction is possible in different lengths. The principle is, the further the pressure indicator is from the process, and the less influence there is from the process temperature. Based on a horizontal mounting position and a maximum temperature of the pressure sensor of 50°C results in below table. There are factors that influence the conduction of heat such as insulation, mounting position and material. The values given are based on the worst case situation.

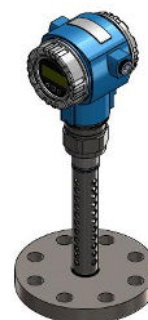
	Process T	Sensor T
EDM80	175°C	<50°C
EDM150	220°C	<50°C



### Temperature Reducer

The temperature reducer is a construction specifically design for the more severe process temperatures where a capillary solution is not wishful. The principle is that the relation between the surface of the seal filling fluid and the outside area of the tube is at is best to reduce conduction, and stimulate convection to the environment. The result of this construction is that the process temperature can go up to 300°C before reaching the sensor temperature of 50°C. There are factors that influence the conduction of heat such as insulation, mounting position and material. The values given are based on the worst case situation.

	Process T	Sensor T
TR	300°C	<50°C



### Capillary (remote) mount

Remote mount by means of a capillary is the option when you are exceeding the limits of the cooling devices, or have space limitations. The maximum temperature for capillary is well under the limitations of fill fluids and pressure – temperature limitations of the flanges. Badotherm advices to use a minimum length of 1 meter of capillary and a mounting bracket for the instrument.

	Process T	Sensor T
Capillary	>300°C	<50°C



Holland – Romania – India – Thailand – Dubai – USA

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