# **BADOTHERM®**

## **Accessories – Temperature compensator**

#### **Description**

The Temperature Compensator is used in situation where there is a combination of high process temperatures and low measuring span in combination with the requirement of lang capillaries. In this combination the response times in cold conditions can increase to a delay that is unacceptable for the situation. Where fast response times are key to the functioning of a safe operation with high process temperatures the TC can be of an indispensable need.

#### **Material of construction**

All parts are manufactured from certified AISI 316(L) materials. As the parts of the TC are not a wetted part it is always made from AISI 316(L). In case of harsh environmental conditions parts can be made in different materials.

Parts	Material
Tube	
Temperature compensator	AISI 316(L)
Intermediate diaphragm	

#### **Solution Background**

To overcome this problem Badotherm has designed a 'Temperature Compensator' solution. This description does not completely cover the functionality of the design because it not only compensates for temperature, but also for response time.

The Temperature Compensator is used to lower the response time in combination with long capillaries and extreme high or low temperatures. It uses a specially designed secondary diaphragm and two different fill fluids to meet high temperature specifications, and maintain acceptable response times specifications, and keep acceptable response times. The compensator has a specially designed second diaphragm that is placed between the Diaphragm Seal and the transmitter. The first part between the Diaphragm Seal and the Temperature compensator is filled with high temperature fill fluid with a high viscosity.

After the Temperature Compensator the process temperature is reduced to approximately ambient temperature and those conditions are acceptable for fill fluids with a low viscosity. The lower viscosity, even at lower ambient temperatures and longer capillary lengths, reduces the overall response time of the Diaphragm Seals System.



### **Typical fill fluid combinations**

All combination can be made possible however below are the

combination selected the most	
Process side	Instrument side
BSO-42	BSO-36
BSO-21	BSO-36
BSO-25	BSO-06





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