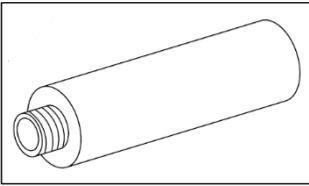


Cold barrier A-22P-A51

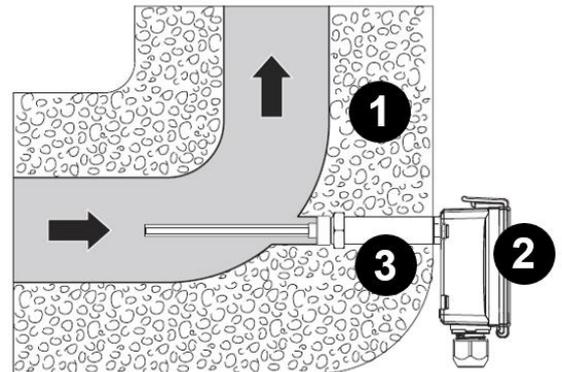


The cold barrier **A-22P-A51** is available as an accessory to our 01DT-1.., 22DT-1.., 01CT-1.. or 22CT-1.. sensors if they are used as immersion temperature sensors in refrigeration systems.

Application

In order to prevent condensation water in the long term, cooling lines are insulated with a material (**no. 1**) with particularly low thermal conductivity and high resistance to water vapour diffusion (e.g. Armaflex).

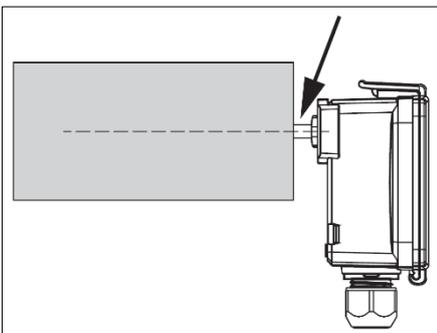
In order for a sensor measurement point of an immersion temperature sensor (**no. 2**) to be ideally insulated, we offer what are known as cold barriers (**no. 3**). The cold barrier is made from plastic, is 50 mm long and is fitted as a spacer between sensor housing and thermowell head. It provides a defined thermal barrier between the cooling pipe and the environment.



For cooling applications with higher ambient air humidity, it is recommended to select the length of the rod sensor so that the housing of the sensor protrudes several centimeters from the immersion sleeve and is outside the cooling tube's surrounding insulation (see illustrations). Otherwise condensate may form inside the sensor housing, which may cause the connections to corrode over a longer period of time and an incorrect temperature value to be measured due to the higher electrical resistance associated with this.

Cold barriers in such applications offer the advantage of additional thermal resistance and more importantly, a defined distance of at least 5 cm between the sensor housing and the thermowell, which is screwed into the pipe. It is important to ensure that the length of the rod sensor is selected to match the length of the thermowell + cold barrier (in extreme cases, two cold barriers can even be screwed together for a total distance of 10 cm).

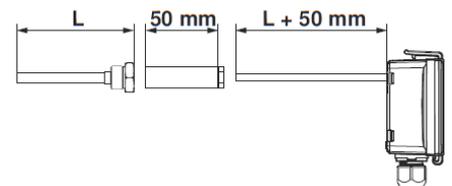
In addition, the cold barrier provides mechanical strength, so that the metal sleeve of the sensor is less easily damaged when a force is applied to the external housing and the long lever arm and allows sensors to later be more easily replaced without damaging the insulation.



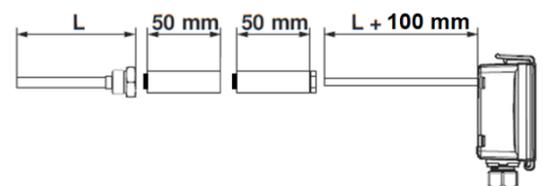
If there are uncertainties regarding possible condensation and the correct distance of the sensor housing from the chilled water, the easiest method is to measure the temperature at the entrance of the metal rod to the rod sensor housing (see arrow in the adjacent picture). In this case, the rod temperature should be only 2-4°C below the ambient air in the room. If the temperature difference is higher, it is recommended to increase the distance of the sensor from the tube.

Selecting the probe length for air duct / immersion temperature sensors 01DT-1.. / 22DT-1..

When selecting the probe length, you must bear in mind that this must be 50 mm longer than the length of the thermowell. In other words, the probe length is made up of the size of the immersion pocket and the size of the cold barrier (e.g. with an thermowell length of 150 mm, the probe length is 200 mm).

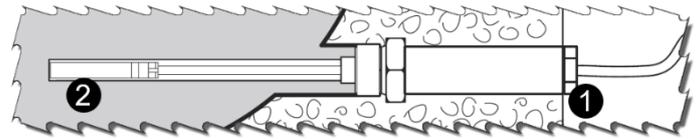


With an insulation thickness in excess of 50 mm, 2 cold barriers can be used piggyback. In this case, the probe length is made up of the thermowell length and twice the length of the cold barrier (100 mm).

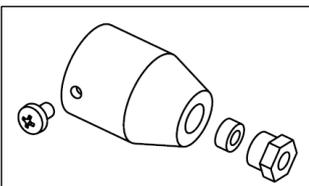


Selecting the probe length for cable sensors 01CT-1.. / 22CT-1..

With cable sensors, the sensor is fixed to the cable using the cold barrier's compression fitting (**no. 1**). Regardless of the selected immersion pocket and cold barrier, the same cable sensor with a probe length of 50 mm (**no. 2**) can always be used.



Adapter for Siemens thermowells A-22P-A53

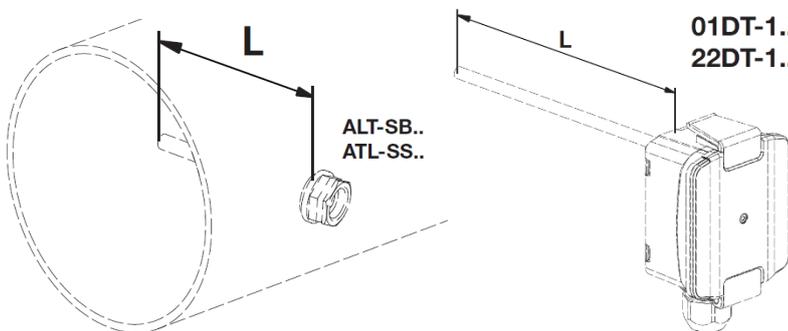


The adapter for Siemens thermowell A-22P-A53 is used in retrofitting when a temperature sensor from Siemens is replaced by a Belimo temperature sensor, but there is no need to replace the thermowell from Siemens.

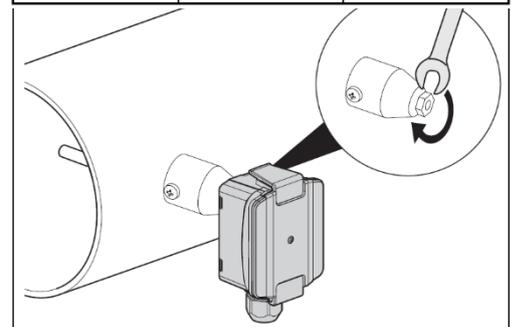
This offers the advantage of a quick replacement, because the pipe/line remains tightly sealed and the flow in the pipe does not have to be interrupted.

Application

The 100 mm and 150 mm Siemens thermowells are installed most frequently (Alt-..100 and Alt-..200). Our immersion temperature sensors 01DT-1.. /22DT-1.. 150 mm or 200 mm are also suitable for this application.



Siemens	L (mm)	22DT-1.. 01DT-1.. L (mm)
Alt-SB100	100	150
Alt-SB150	150	200
Alt-SB200	200	300
Alt-SB280	280	450
Alt-SS100	100	150
Alt-SS150	150	200
Alt-SS280	280	450



A-22P-A53 Adapter set

The adapter set consists of the adapter, a fastening screw, a syringe with thermal contact fluid and installation instructions. All components are packaged in a plastic pouch.