

## **OPERATING AND MAINTENANCE INFORMATION FOR THERMOMETERS**

### **Unpacking**

Please check the packing material carefully in order to avoid loss of spare parts. Dial thermometers with long distance line are packed with rolled-up lines. Please be careful while unrolling, so that the sensitive connection areas (towards the sensing element and the case) cannot break. In case of any breakage, the instrument cannot be used at all.

### **Installation**

The mounting place of the thermometer shall have good access. Dial thermometers should be mounted vibration free, avoiding inaccurate indication. The case shall be heat protected. Dial thermometers can be supplied with a long distance line between the case and the sensing element. The whole system has a defined pressure. The line has to be protected against breakage, rust and mechanical destruction. Longer lines have to be installed in loops while avoiding any twisting or breaking. Any bending near the connections towards the sensing element and/or the case has to be avoided.

The accurate installation of the sensing element is the key to achieve good measuring results. The specified depth of immersion of the stem into the medium shall be matched. In order to achieve quick results, the medium should be kept moving or should be flowing around the sensing element.

The stem shall be fitted into a bend or extension in case you use elements with small diameters. In case of bigger element diameters, the stem shall be mounted with an angle of 45° against the flow direction. These installation advices are also valid when using stems with thermowells. The cavity between stem and thermowell can be either filled with oil (for temperatures up to 200°C) or heating paste (for higher temperatures) to get better temperature transfer.

Dial thermometers are maintenance-free.