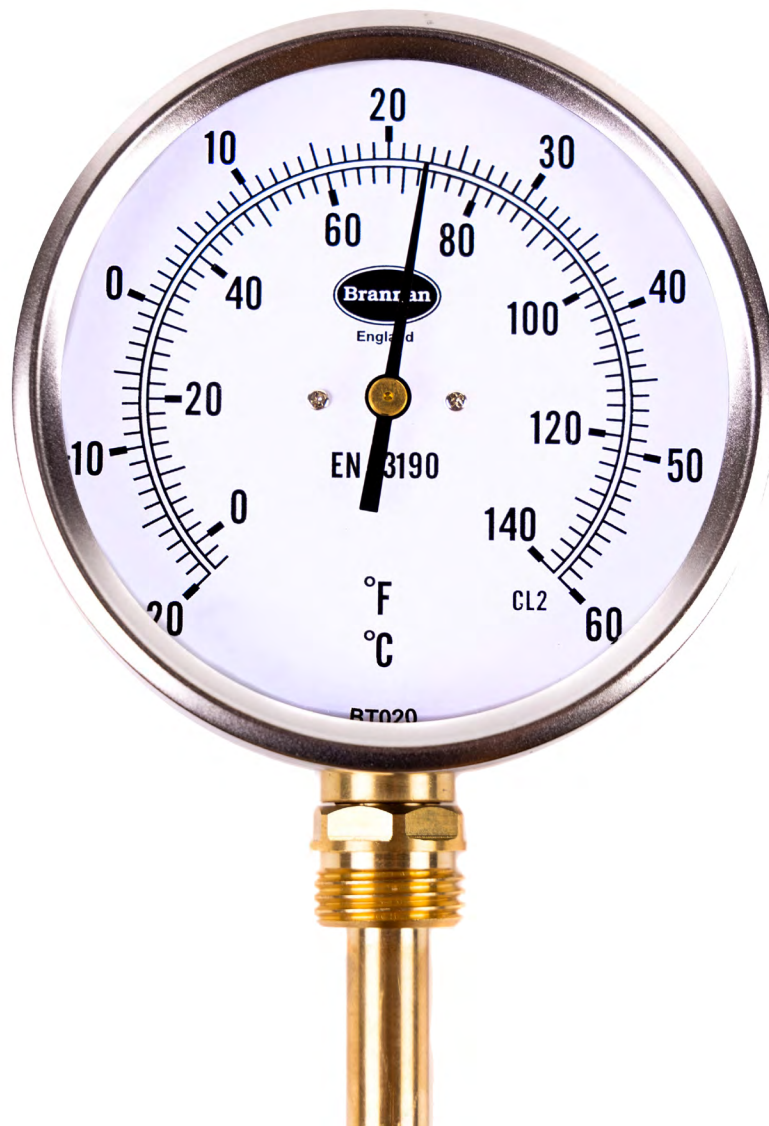




INDUSTRIAL THERMOMETER OPERATIONAL GUIDE

Manufacturing pressure gauges and thermometers in the UK since 1913



Industrial thermometer selection

When selected, stored, installed and used correctly Brannan Industrial Thermometers will give many years of safe and reliable service.

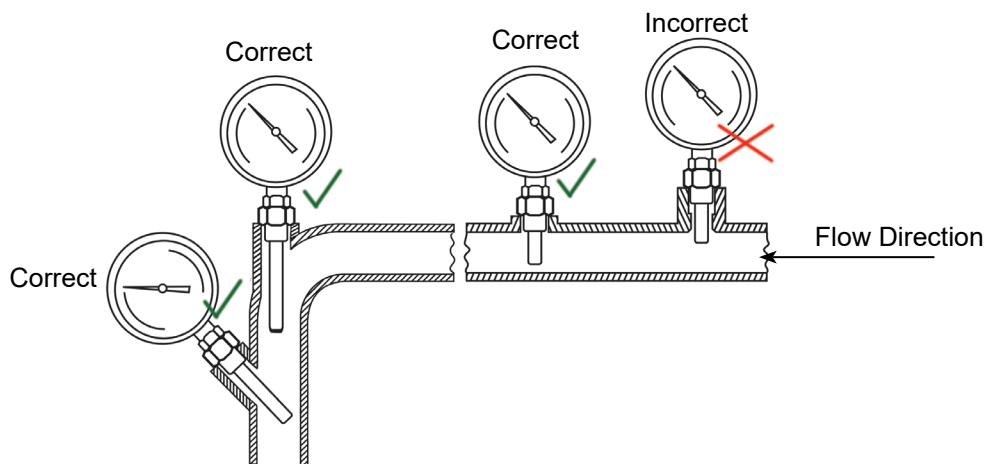
The following key points are provided as guide and are not an exhaustive list. Industrial thermometers should always be selected and installed by a qualified instrumentation engineer.

Industrial thermometer selection

- To ensure safety in use, to maintain measurement accuracy and to provide maximum gauge life, Industrial thermometers must be installed and used correctly.
- Brannan offers various industrial thermometer designs in various materials and a range of accessories suitable for the safe operation of many processes, temperature mediums and applications.
- **Industrial thermometers should always be selected and installed by a qualified engineer.**
- The following Standard should also be the source of reference for additional information:
BS EN 13190 : 2001 Dial Thermometers
- **Each application is different and only a qualified engineer with full knowledge of the process, the temperature media, the operating conditions, the safety conditions and the environmental conditions can select the correct thermometer to meet the safety, environmental and operational requirements.**

Industrial thermometer handling and storage

- Handle industrial thermometers with care.
- Dropping or damaging a dial thermometer will adversely affect its accuracy, reduce its operating life or possibly cause thermometer failure.
- Industrial thermometers should always be stored in their original packaging.
- Industrial thermometers should be stored in a dry environment
- Refer to the product data sheet for specific storage conditions.



Industrial thermometer installation

- **To ensure safety in use, to maintain measurement accuracy and to provide maximum gauge life, industrial thermometer must be installed and used correctly.**
- The following Standards should also be the source of reference for additional information:
BS EN 13190 : 2001 Dial Thermometers
- **The following key points are provided as guide and are not an exhaustive list.**
- **Dial thermometers should always be installed by a qualified engineer.**
- **Always use an appropriate pocket or thermowell when installing the thermometer.**
 - Always use an appropriate pocket or thermowell when installing the thermometer.
 - An appropriate thermowell should be selected by a qualified instrument engineer.
 - The material and design of the pocket or thermowell should be selected by a qualified instrument engineer to suit the application and the temperature and flow rate of the temperature medium.
 - To ensure heat transfer within the pocket or thermowell and to ensure accurate readings a suitable temperature transfer paste should be used inside the pocket..
- **Observe ambient temperature limits:**
 - Ambient temperature limits are listed on all Brannan product data sheets, please refer to these for more information.
 - Do not use the thermometer outside of its ambient operating temperatures.
 - Exposing the thermometer case to higher temperatures will affect its accuracy and reduce its operating life. Very high temperatures may result in thermometer failure.
- **Consider environmental conditions:**
 - Dust and water ingress into the thermometer will result in loss of accuracy and reduced thermometer life.
 - Instruments with IP ratings of less than IP67 are not dust proof or waterproof and should be installed indoors in a suitably dry and clean environment.
- **Avoid vibration:**
 - Vibration will significantly reduce the life of the thermometer and will adversely affect its accuracy.
 - Where possible, install the gauge in such a way that it is not subject to vibration.
 - Where vibration cannot be avoided, vibration effects can be reduced by using a glycerine or silicone oil filled thermometer.

Thermometer mounting

- **Mounting angle:**
 - To ensure accuracy thermometers should be mounted in a vertical position, unless marked otherwise.
- **Install and tighten using a spanner:**
 - Install the thermometer using a spanner across the flats of the screw connection.
 - Do not apply force to the thermometer head or case to tighten or realign the thermometer this will damage the accuracy of the thermometer or cause it to fail.

Industrial thermometer installation

- **Always install a pocket or thermowell with the thermometer**
 - An appropriate pocket or thermowell should be installed with every thermometer.
 - The material and design of the pocket or thermowell should be selected by a qualified instrument engineer to suit the application and the temperature and flow rate of the temperature medium.

Industrial thermometer inspection

- Industrial thermometers should be inspected at regular periods.
- Inspection frequency is best determined by the end user. It should be based on:
 - The safety and operational requirements of the process application
 - The environment in which the thermometer is used
 - The frequency of use
 - Any evidence of a change in reading
 - The consequence of an incorrect reading
 - The thermometer being subject to any misuse, over temperature, corrosion or other damage.

Industrial thermometer re-calibration

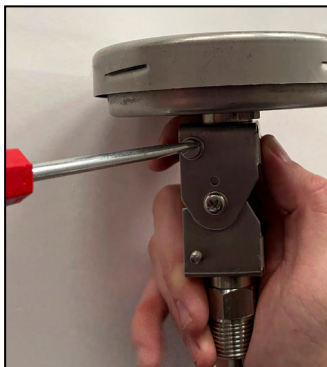
- Brannan recommend every dial thermometer should be recalibrated at least once every year, more frequently if necessary.
 - Recalibration frequency is best determined by the end user based on:
 - The safety and operational requirements of the process application
 - The environment in which the instrument is used
 - The frequency of use
 - Any evidence of a change in reading
 - The consequence of an incorrect reading
 - The thermometer being subject to any misuse, over temperature, corrosion or other damage
- For recalibration and/or repair, please return the gauge to Brannan or a suitable calibration laboratory.



Adjustable stem bimetal thermometer

Face alignment

- Before rotating the thermometer face ensure the thermometer is set in the back connection alignment.
- Never rotate the thermometer face when the bracket is set in an angled alignment.

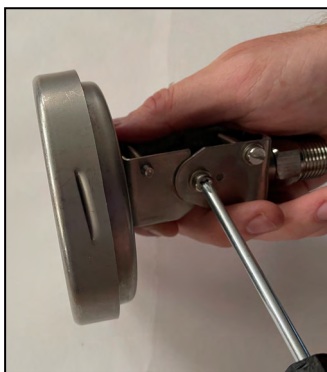


When rotating the thermometer face ensure the thermometer is set in back connected alignment. Loosen off the two screws on either side of the adjustable bracket and the bracket will revolve with little force required.



Holding both the thermometer face and the adjustable bracket, rotate the thermometer face to the desired position. Retighten the two screws on either side of the adjustable bracket.

Setting the connection angle



To adjust the thermometer face display angle, first loosen off the single screw shown by a 1/2 turn.

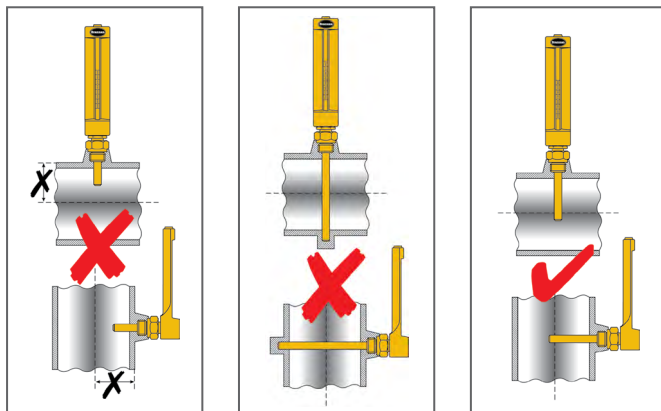


Set the thermometer face to the required angle. Retighten the screw.

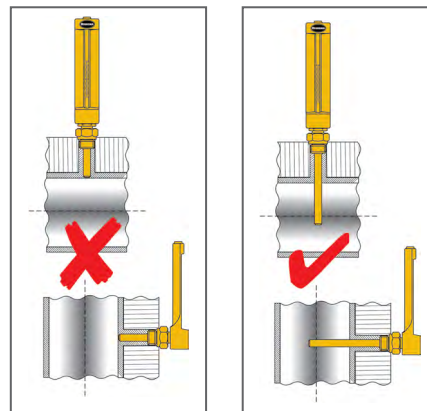
Liquid-in-glass thermometers

Installation of liquid-in-glass thermometers

- The installation of a liquid-in-glass thermometers should be carried out by qualified instrumentation engineer.
- To ensure an accurate reading is displayed by the thermometer, the correct position and length of thermometer should be selected, an appropriate thermowell used with temperature transfer paste and the stem immersed sufficiently in the temperature medium.

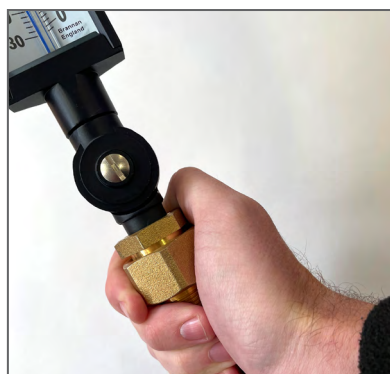


Straight and angled v-line thermometer installation

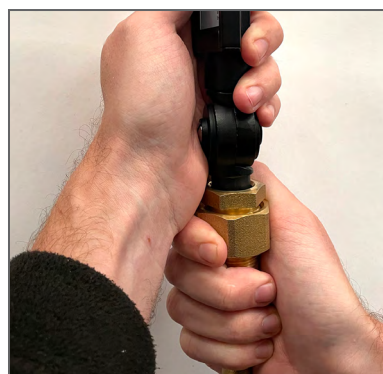


Straight and angled v-line thermometer installation - with lagging

Adjustable angle thermometers - Rotating thermometer face

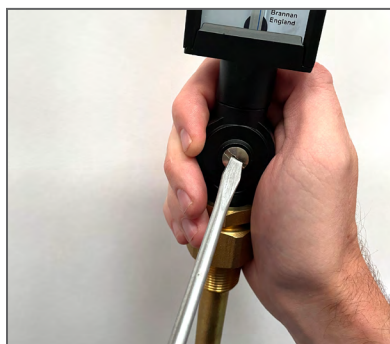


Hold the connection by hand



Rotate the locking nut

Adjustable angle thermometers – angular alignment



Loosen the screw shown.



Adjust the face as required.



Tighten the screw until the face is held securely.

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