

## Sanitary Thermowell for Small Diameter Lines

Case A080218

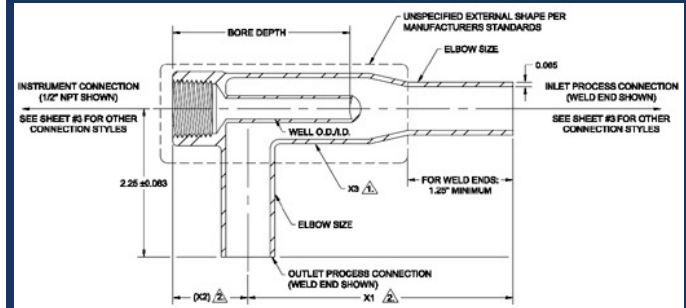
### Application

A pharmaceutical manufacturer needs to accurately monitor the temperature of a gas flowing through a small diameter line. It is necessary that the gas maintains a constant temperature and any variations in temperature are identified and corrected.

### Challenge

A thermowell in a small diameter tube must allow for accurate temperature measurement of the gas. The sensing element must be easily removed for calibration while minimizing the effects of the surrounding environment and disruption of the flow.

It is not practical or cost effective to use a direct immersion style temperature probe for this type of installation. Disrupting the flow rate of a gas or fluid in a small diameter line with a direct immersion probe can lead to diminished accuracy and compromise the structural integrity of the probe. Standard surface mount probes are often times poorly insulated from the effects of the outside environment and therefore cannot be relied upon in applications where accuracy is critical.



### SWE Sanitary Elbow Thermowell

### Solution

Design an elbow style thermowell with removable sensor for use in small diameter lines. The SWE thermowell is ideally suited for use in small diameter process piping where direct immersion temperature probes cannot be used but where temperature measurement is critical. The integrated thermowell allows for accurate temperature measurement, while minimizing the effects of stem conduction and disruption to the flow. A major benefit of the SWE thermowell is the quick disconnect sensor fitting. This allows for easy removal of the sensing element for calibration and replacement. It is ideally suited for applications with line sizes .5" to 6" The SWE series meets the 3-A sanitary standards of the International Association of Milk, Food and Environmental Sanitarians, US Public Health Service and Dairy Industry Committee.