

High Pressure Temperature Dilemma

APPLICATION

Fluid temperature in a high pressure vessel (15,000 psi) was required as part of a control system. It was determined that the best measurement location would be the pipe feeding the storage vessel. Temperature range varied between outdoor ambient and 200°C maximum. Vibration from the pump was moving the fluid was present but at low level.

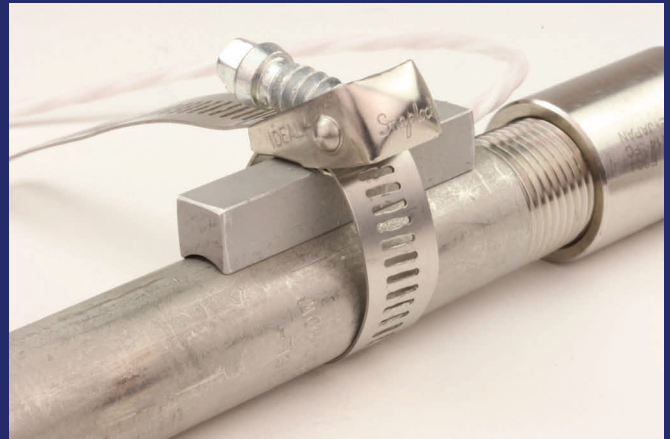


CHALLENGE

Most direct immersion RTDs and RTD/thermowell assemblies have a maximum pressure rating of 3,000 to 7,000 psi which wasn't anywhere near high enough for this application. Plus the pipe feeding the tank was small and would not provide enough immersion for an accurate measurement. Also, any immersed probe would interfere with the flow rate which was not desirable.



13499



Surface mount RTD

SOLUTION



Because of the high pressure and small pipe size it was determined that an immersion style sensor was not practical. A standard surface mount RTD was offered as the best solution for the application. The 13499 is a sensing element embedded in an aluminum block which provides a fast time response and good heat transfer between the pipe and sensor. A generous layer of insulation over the sensor is required to isolate it from ambient conditions and insure the highest possible accuracy. The sensor can be mounted with a standard hose clamp, tape, or an adhesive such as epoxy or silicone rubber. Other methods are also possible. For further information visit our website and enter 13499 in the search box.

www.burnsengineering.com