

CUSTOM MODIFICATIONS

Exhaustive Research...
Made Possible by OMEGA!

CUSTOM ENGINEERING LEVEL I



NIST Traceable Sensor with Multiple Bends Facilitates Easy Installation

...If You Don't See What You're Looking For, Ask Us!



Rugged Connector Clamp Provides Termination for This Reduced Tip Probe

A CASE IN POINT

The R&D division of a large diesel engine manufacturer is testing the effects of minor engine load variations on exhaust temperature. The design modifications to follow are precise, and the test personnel need to get the most accurate temperature measurements possible.

PROBLEM

The operating environment of the sensor is one of constant vibration, and any probe used needs to be pre-bent at several places to fit tight space restrictions. (Customer faxes OMEGA drawings of desired dimensions.)

To allow easy replacement, an additional exact spare sensor is needed. The engineer is also interested in knowing the measurement difference between the two test sensors when hooked to the same instrumentation, so any deviations can be accounted for.

OMEGA SOLUTION

To combat the harsh vibrations of this application, OMEGA recommends a rugged transition joint probe with an $\frac{1}{8}$ " diameter Inconel sheath.

Comparing the two thermocouples to each other and to National Institute of Standards and Technology standards is simple, since the customer takes advantage of OMEGA's precision calibration service. This "CAL 4" procedure provides the user with a deviation report of each thermocouple compared to an NIST standard at specific temperature points. These readings can be as accurate as 0.11°C (0.198°F), depending on the temperature points chosen.

