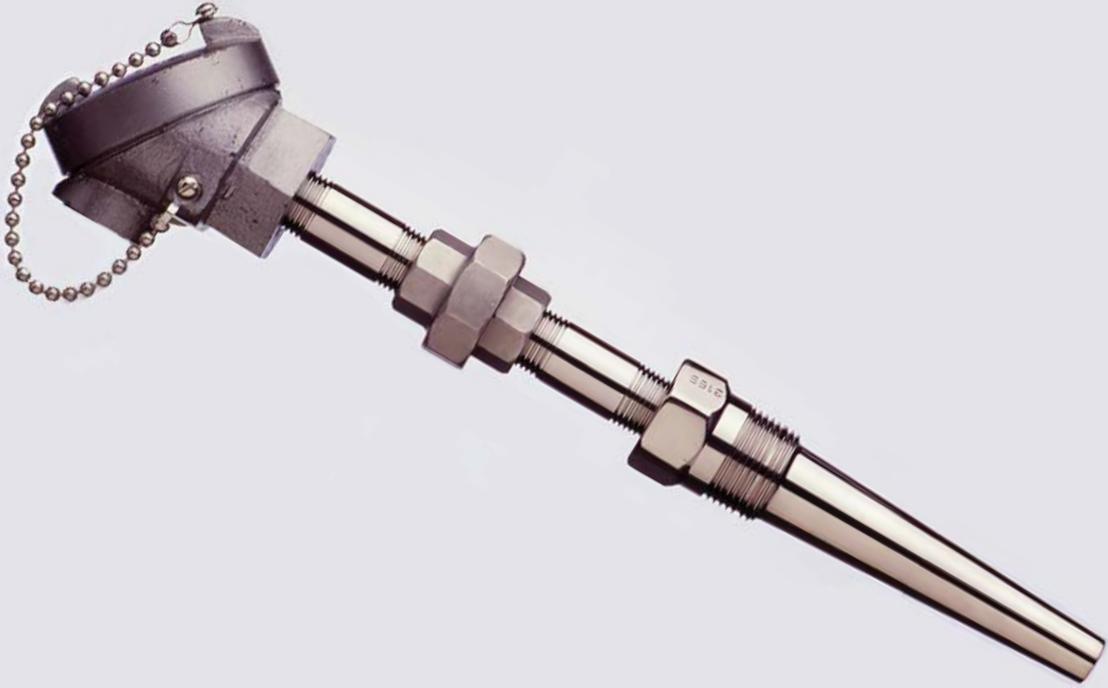


# THERMOCOUPLES & RTDS

*Daily Thermetrics Product Advantages*



# THERMOCOUPLES & RTDs



**DAILY**  
THERMETRICS

# Not all THERMOCOUPLES and RTDs are created equal

Identifying critical design specifications, manufacturing operations, and inspection tests

## It's not the cost of the thermocouple, it's the cost associated with replacing it

Every thermocouple and Resistance Temperature Detector (RTD) purchased from Daily Thermetrics is designed, engineered, and manufactured by **Daily Thermetrics, an ISO 9001:2008 Certified Company**. This enables Daily Thermetrics to offer **same-day delivery**, while at the same time ensuring consistent quality to a recognized international standard for every order.

Daily Thermetrics understands that with thermocouples and RTDs, it's not the cost of the temperature sensor, but all the costs and time involved with replacing that sensor. Every thermocouple and RTD is backed by Daily Thermetrics' promise to our customers that we will exceed expectations and provide the most reliable temperature sensor available anywhere.

Daily Thermetrics leads the industry in providing our clients with the best manufacturing and NDT techniques to ensure maximum temperature sensor service life and performance.

## Corrosion is your weakness Sealing against it is our strength

**Corrosion**, the dangerous effect of **moisture**, at a minimum, is linked to a change in the purity of the thermocouple element wires. As these wires corrode, the voltage generated at a given temperature will vary, ultimately offering a temperature reading outside of the accepted tolerance. **Eventually, corrosion will have an impact on the operational life of thermocouples and RTDs and is a common cause of premature failure of the temperature sensor.** Corrosion can begin as early as the manufacturing stage if proper practices are not employed.

Many sensor manufacturers perform an inexpensive "crimping" procedure to attach the transition housing to the probe sheath.

Crimping does not provide a permanent seal, and if the epoxy within the transition housing has not thoroughly settled, moisture can find its way into the sensor, thus increasing the chances of premature sensor failure and/or sensor error. **Daily**

**Thermetrics has adopted a strict "no crimp" policy in order to keep moisture out.** All of Daily Thermetrics' transition housings are permanently sealed to the probe via silver braze.

TRANSITION HOUSING

SILVER BRAZED



## Can you say 'X-ray'?

Every hot junction, every time

In order to ensure the integrity of the welds at the tip of the temperature sensor, Daily Thermetrics X-rays the sensing tip (i.e., "hot junction") of every Thermocouple and RTD.

Daily Thermetrics has made a substantial investment to acquire **state-of-the-art X-ray equipment** which has been custom tailored to meet the demands set forth by Daily Thermetrics' Quality Control department. This X-ray facility, located on-site at our fabrication plant, offers immediate inspection for both critical rush orders and standard delivery orders. All of the temperature sensors made by Daily Thermetrics undergo a rigorous inspection process far exceeding those set forth by industry standards. **Real-time, live feed with 360° rotational views** are closely examined, and still images\* are captured for every sensor.

Using this powerful X-ray imaging, **all of the sensing tips in Daily Thermetrics' thermocouples and RTDs are inspected** to ensure that each sensor is free from imperfections, manufacturing defects, and/or weld impurities.

## Looking out for your cold junctions

In order to ensure the integrity of the "cold" junctions within the transition housing, **Daily Thermetrics X-rays the transition housing of every Thermocouple and RTD.** (The transition housing is the extremity of the sensor probe at the opposite end of the hot junction tip. More specifically, the transition housing is the section in which the internal thermocouple/RTD wires are "transitioned" into flexible lead-wire.)

As stated above, Daily Thermetrics' advanced technology X-ray equipment allows for real-time, live feed with 360° rotational views which enable our highly trained technicians to detect any imperfections before the product leaves our facility, ensuring that our customers receive it right the first time, every time. **100% of the transition housings are X-ray inspected to ensure that each sensor is free from imperfections and/or manufacturing defects.**

*\*Still images can be captured and saved as a digital file and e-mailed to the client upon request.*

## EMERGENCY?

Manufacturing 24/7

Large Inventory of Rare & Standard Materials

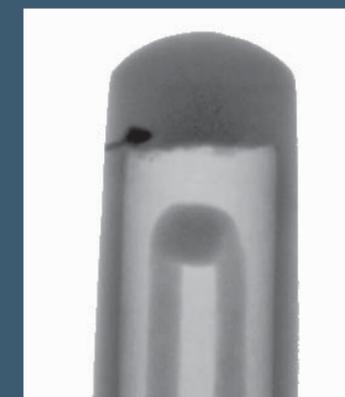
On-call Engineers, Designers, & Technical Service Personnel

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## X-ray: The TRUE Inspection

*Can you see the problem?*



The above x-ray image is an excellent example of a thermocouple that passed a traditional visual inspection. As you can see, under X-ray inspection, there is a serious welding defect in the tip of the thermocouple where the metallic cap is welded to the thermocouple sheath. Cracks, defects, and imperfections such as these are perfect examples of why X-raying is by far the superior inspection method for all thermocouples and RTDs.

Daily Thermetrics' policy is to X-ray inspect every single temperature sensor, from our most unique offerings to more standard, traditional products.

Daily Thermetrics Corporation, a division of Daily Instruments, Inc., is internationally recognized for its excellence in designing, engineering, manufacturing, and delivering superior products to the demanding needs of our customers. The engineering staff and personnel at Daily Thermetrics are highly trained and dedicated to solve the problems and meet the challenges presented by the Refining & Petrochemical Industry. Clients around the world have relied on Daily Thermetrics' experience and expertise for over 35 years. Daily Thermetrics' world headquarters is in Houston, Texas, USA.



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