

High-Tech Fastener Company Picks Sirius Over Competition

After unsatisfactory experiences with competitive pyrometers, this nationally known manufacturer of fasteners for aerospace applications recently installed fifteen Model PSC Sirius SI16 pyrometers on their Inductoheat, Ameritherm, and Tocco induction heating machines.

The machines pre-heat high-duty alloy blanks that are then forged into fasteners used in aircraft and space module construction. The accuracy, precision adjustable focus and laser aiming of the Sirius pyrometer is critical to ensure correct temperature and heat distribution in the blanks. This is essential to avoid post-forging stresses that could give rise to fastener failure in use.

A company spokesman, who selected the PSC Sirius SI16's over the competition, stated that "The Process Sensors product was the only one that met or exceeded our rigid requirements in the manufacturing environment. All the pyrometers have performed flawlessly."

The Application

Induction heating uses high frequency electromagnetic energy to rapidly heat metals. Application constraints typically include confined sighting paths, small targets, variable emissivity surfaces, smoke in the sight path and strong magnetic fields.

The design features of the Sirius pyrometers are aimed at eliminating or minimizing the impact of these factors on the measurement. The narrow, short wavelength spectral response reduces errors due to variable emissivity. Adjustable focusing and laser aiming simplify sighting on specific areas of the product, while avoiding partial obstructions in the sight path. Digital signal processing and careful electronic design minimize magnetic interference.

The Market

Induction heating machines are common across manufacturing industries wherever metals are heat treated or formed. The fastener industry, auto and aircraft components manufacturing, tool making and pipe forming, as examples, all use a multiplicity of induction heating systems.



Sirius SI16 pyrometer monitoring induction heated blank (File photo)

This processing method is also found in less obvious applications such as rebar coating and bearing manufacturing.

Many induction heating OEM's have traditionally used competitive IR sensors, but it is clear that the high accuracy, wide temperature ranges, small spot sizes, adjustable focus laser aiming, standard analog and digital outputs of the SI16 is establishing credibility as the preferred sensor of choice in the induction heating marketplace.

Model No.: PSC's Sirius SI16-0300-1300-1-2-2-5-1-A

Temperature range: 572°F to 2372°F (300 to 1300°F)

Note: The customer would not allow us to publish the company name or that of the spokesman. If you would like more details, please contact Scott Nagle: snagle@processsensors.com