DIAS Infrared Systems

Quality Management in the Forging Industry

with digital DIAS pyrometers
PYROSPOT

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Quality Management with Pyrometers in the Forging Industry

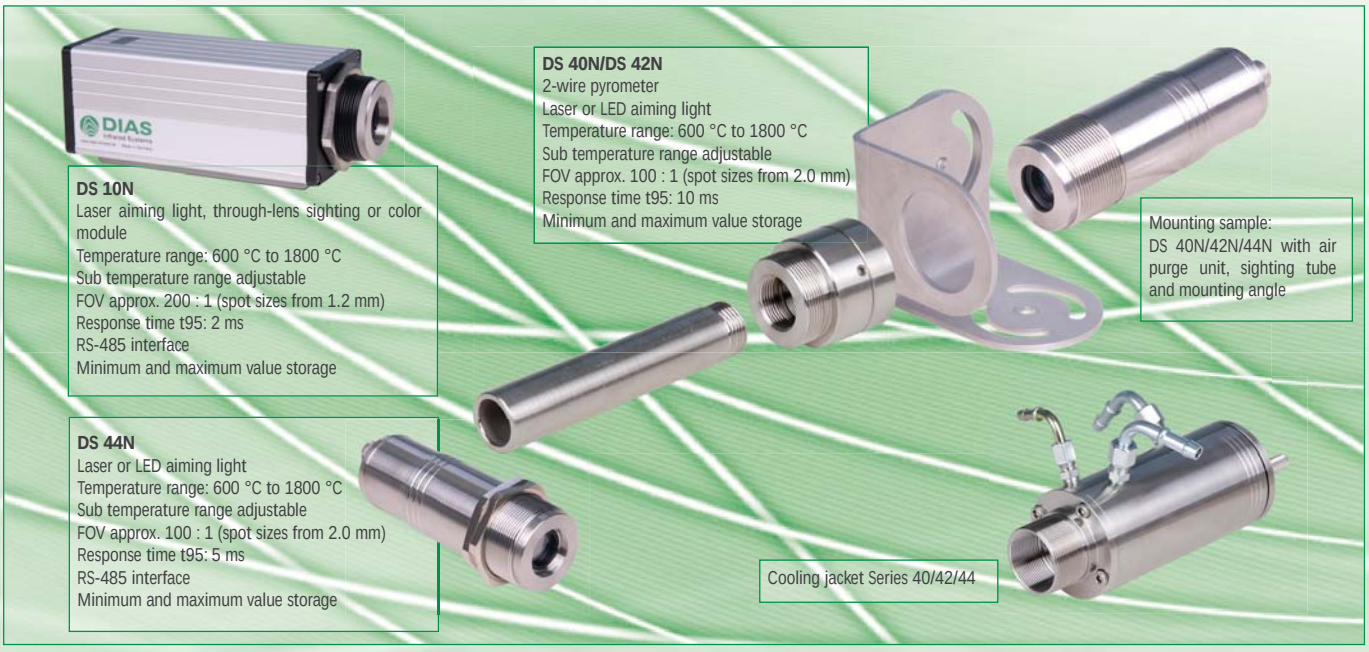
One of the most important parameters in the forging industry is the correct temperature of the work piece. This forging temperature is between 950 °C and 1250°C depending on the material and process. The forging billets are heated in gas fired or induction furnaces and thus cannot be measured directly with common thermocouples. Only the inner temperature of gas fired furnaces is controlled by thermocouples but not the work piece itself. Even this temperature measurement method cannot be used in induction furnaces.

That is the reason why it is essential to check the work pieces for the correct forging temperature directly at the exit of the furnace with pyrometers before it will be taken into the forging press. These pyrometers must have a very short response time, very small spot sizes, and a peak picker as the parts are always moving. Only the combination of these 3 properties enables a very exact measurement even if the work piece has scale on the surface.

So the pyrometer can detect the real material temperature in smallest scratches of the scale and store it in the peak picker. Additionally this fast measurement enables the controlling of a separator to reject too hot or too cold parts and to record each forging piece.

The very robust stationary pyrometers **PYROSPOT DS 40N** and **DS 42N** in 2-wire technique or the **PYROSPOT DS 44N** and **DS 10N** are used for such applications. The **PYROSPOT DS 44N** and **DS 10N** offer a digital interface (RS-485) additionally to the standard linear analogue output of 4 to 20 mA. This enables a linking of several pyrometers in a bus system or the integration in an already existing bus system. The pyrometers are equipped with LED- or laser targeting light or thru-lens viewfinder or a video module for the exact alignment .

The software **PYROSOFT Spot** and **PYROSOFT Spot Pro** enable the setting of all parameters and thus the optimal adaption to the process as well as a digital analyzing of the temperature values. Solid adjustable mounting angles are available for the easy alignment and strong mounting of the pyrometers. Air purge units and sighting tubes are used to keep the lens clean of contamination for a long term maintenance free operation. Cooling jackets can be used if the ambient temperature exceeds the maximum operation temperature of the pyrometers.



TÜV SÜD ISO 9001

We are certified for many years according to ISO 9001

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