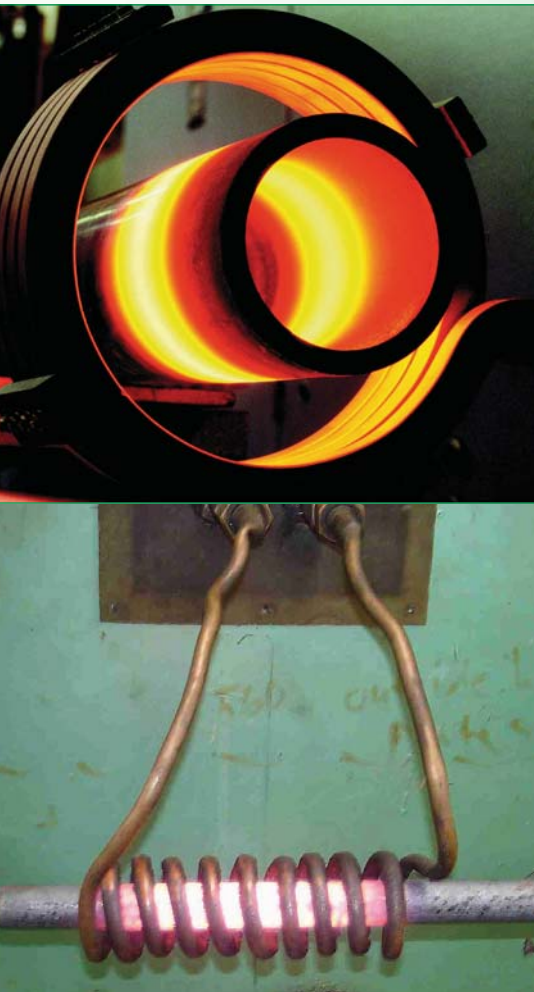


Induction Hardening

with digital DIAS Pyrometers
PYROSPOT



Quality assurance in induction hardening



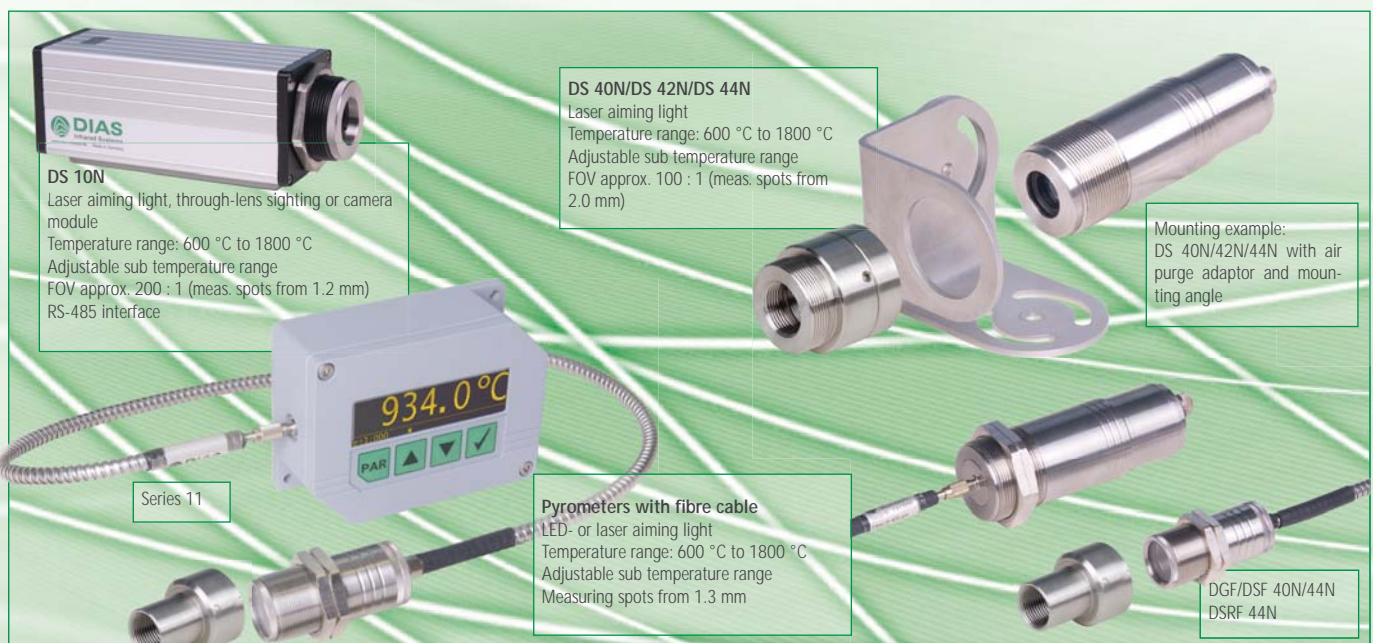
The inductive hardening is a heat treatment for surface hardening, mainly used for complicated shaped workpieces or for partially hardening of specific parts of an item. One of the most important parameters at induction hardening is the correct temperature of the item to guarantee the required quality of the product. This temperature is approximately 900 °C depending on the material.

In the most cases the item will be quenched with water after having reached the correct hardening temperature. Pyrometers enable a fast and very accurate measurement and a complete documentation of the surface temperature of each single part. The output of the pyrometer is used for the controlling of this very fast heating process. Pyrometers with very short response times and small spotsizes are used for these applications so that the correct measurement of the item can be done even between the windings of the induction coil.

The robust stationary pyrometers **PYROSPOT DS 40N, DS 42N, DS 44N** or **DS 10N** are used here. Depending on the process and the measuring task often fibre optic pyrometers are used. As the optic head and the fibre optic cable do not contain any electronics these parts can be mounted very close to the induction coil without any interference of the strong electromagnetic field.

An additional advantage of these pyrometers is the very small size of the optic head. Here the pyrometer models **PYROSPOT DSF 40N, DSF 44N, DSRF 44N** or **DSF 11N** are used. The pyrometers of series 40 and 42 are 2-wire pyrometers, the instruments of the series 44, 10 and 11 are 4 wire pyrometers and offer additionally to the standard analog output of 4 to 20mA an online RS-485 interface. 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 are used to keep the lens clean of contamination for a long term maintenance free operation.



DS 10N
Laser aiming light, through-lens sighting or camera module
Temperature range: 600 °C to 1800 °C
Adjustable sub temperature range
FOV approx. 200 : 1 (meas. spots from 1.2 mm)
RS-485 interface

DS 40N/DS 42N/DS 44N
Laser aiming light
Temperature range: 600 °C to 1800 °C
Adjustable sub temperature range
FOV approx. 100 : 1 (meas. spots from 2.0 mm)

Mounting example:
DS 40N/42N/44N with air purge adaptor and mounting angle

Series 11
Pyrometers with fibre cable
LED- or laser aiming light
Temperature range: 600 °C to 1800 °C
Adjustable sub temperature range
Measuring spots from 1.3 mm

DGF/DSF 40N/44N
DSRF 44N

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Technische Änderungen vorbehalten. Technical details are subject to change. 15.08.13



We are certified for many years according to 9001

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