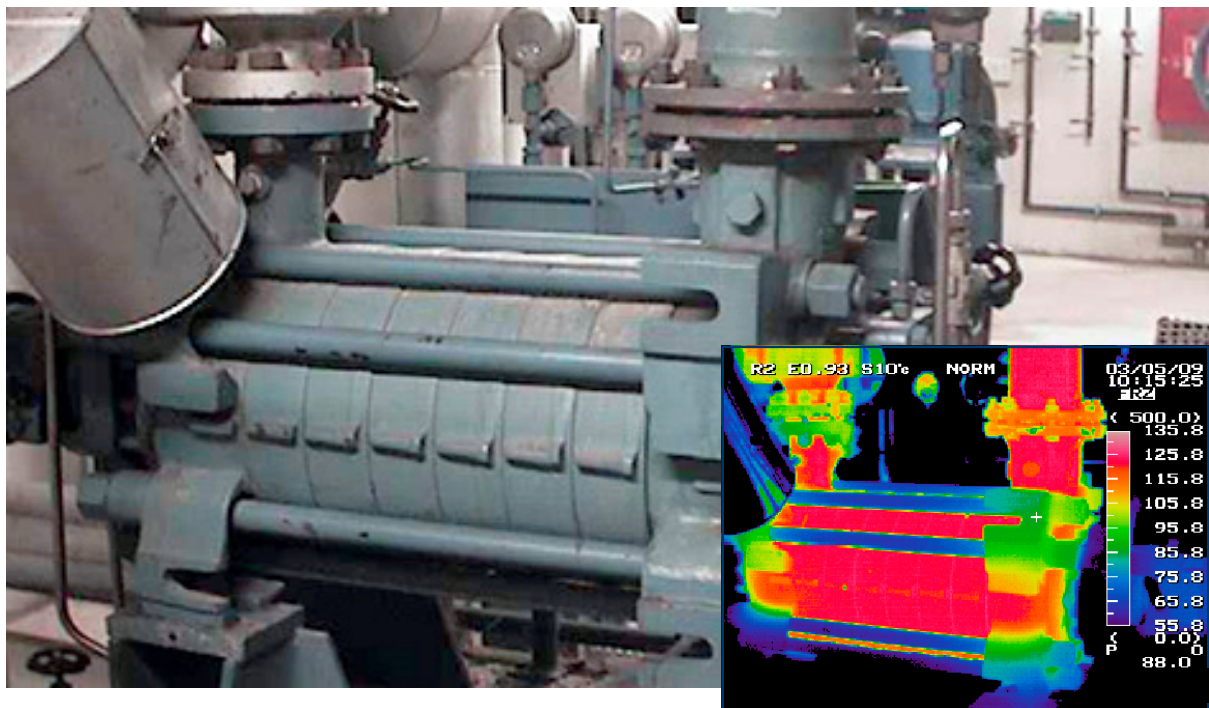


Thermography



Thermography – the key to:

- Leak tracing, distance heating, circuit connection, central heating, sewage and drains, hot utility water and ventilation ducts, and defective surfaces
- Building X-rays, thermal bridges in structures, poor or variable insulation, cavity or under-roof walls, concealed pipes, draughty doors and windows
- Indoor climate – draughts caused by variations in surface temperature, damp and condensation as a result of poor insulation
- Electric panels and installations in general – loose couplers and clamps, poor contact surfaces, overstressed components, insulation faults in materials and leads, old coils, transformers (possibly, concealed low voltage transformers), and ruptured under-floor heating cables.
- Thermographs of boilers (firebricks, fire shields, etc), heat exchangers (heat distribution), checking bearings and other moving parts
- Insulation tests of refrigeration and freeze stores, exhibition cases, gondolas, defective condensers and evaporators, and other insulation in general.

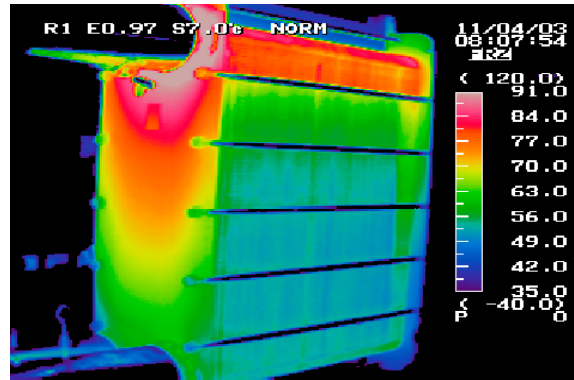
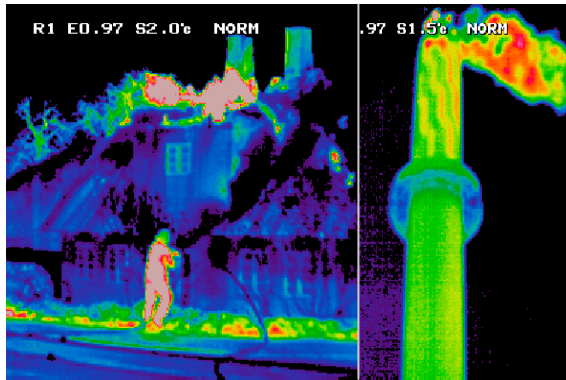
What is thermography?

Thermography [Greek]: Method of determining the heat radiated by a body (both organic and inorganic). Initially it was used in medical science for the examination of circulatory disorders and tumours, as the temperature of skin covering growths is often lower than of the surrounding skin – infectious conditions in glands can be determined.

Infrared energy is a form of electromagnetic energy caused by atomic and molecular rotation and vibration in materials whose temperatures are above absolute zero 0°K (-273°C).

Infrared energy is of the same kind as visible light but is of longer wavelength and therefore invisible to the naked eye. In the electromagnetic spectrum the infrared band is located between visible light and microwaves. A digital photo of the infrared radiation is called a thermogram (temperature image).

Its development from the heavy stationary piece of equipment weighing several hundred kilos that it used to be to a portable camera weighing less than 2 kilos has made it easy to introduce into buildings, machinery, ships, etc.



FORCE Technology has thermography cameras with thermal sensitivities of 0.08°C at 30°C, which make faults right down at electronic level visible.

The advantages of this type of troubleshooting are:

- Unbeatable accuracy
- No interruption to processes or machinery
- No destructive intervention
- Low costs.

Thermography can contribute to the prevention of fires, hold-ups in operations, rot and fungus attack, moisture and humidity damage, destruction of boiler walls, poor cooling, etc.

Technical data

NEC THERMO TRACER - TH7102 WL and FLIR THERMOCAM™ S40
0.08°C UFPA detector, -40°C +2000°C
at 320 x 240 pixels and 50/60 Hz.
Measures from -40 to +500°C as standard
at a resolution of 0.5°C.

Report

Naturally, FORCE Technology adapts to customers' reporting requirements. Reports can be submitted on CD ROM, video tape, by email or in written form. Thermography reports are always attached images from the actual surroundings of the thermographic display. Thermography is carried out in accordance

with the specifications of Danish Standard DS/EN 13187 – except in the case of electrical installations, where thermography is performed in accordance with the guidelines of the Danish Technological Institute (DTI).

Service agreements involving periodic thermography of production equipment can prevent unnecessary and costly breakdowns.

FORCE Technology is accredited in a large number of areas.

Accreditation guarantees our customers uniform standardized measuring and analysis methods, which provide credible results and comply with statutory performance requirements.

FORCE Technology has a variety of calibration stands and equipment. We can perform calibration of every type of measuring equipment onsite or in our calibration workshop, including on instruments for the measuring of:

- Pressure
- Temperature
- Air velocity
- Volume flow
- Calibration gases
- Digital and analogue signals
- Noise
- Vibrations.



Further information:

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