944

True surface temperature
measurement system, 30°C to 350°C

The 944 system allows true surface temperature of surface sensors to be measured by controlling and adjusting the temperature along the sensor.

Description

The fundamental problem with surface temperature measurement is that it is subject to large stem conduction errors, also because heat conducted from the surface of the hot plate causes a localized cold spot to be created. It means that the temperature indicated by the hot plate is not necessarily the temperature at the point of measurement.

An ideal system would not disturb the heat flux from the hot plate, which is exactly what 944 system does.

Key features:

- Indicated true surface temperature
- Temperature operating range: 30°C to 350°C
- Resolution of 0.1°C

Principle of operation

A fine wire type N thermocouple is used as the surface temperature sensor. A second junction of 2 to 3 mm along the thermocouple senses the temperature difference due to heat flux along the sensor.

A heater heats the thermocouple stem until the temperature gradient is zero, thus creating a measurement without stem conduction, or disturbance of the hot plate’s surface.

944 system can be used with the surface sensor calibrator 983.

Specifications

Temperature range	30°C to +350°C
Stability	±1°C
Accuracy	±2°C with traceable certification ±5°C without certification
Probe assembly	Diameter: 7.5 mm Length: 150 mm Lead length: 850 mm

General specifications

Size	90 x 153 x 265 mm
Weight	4 kg
Display	Resolution: 0.1°C or 0.1°F
Power supply	100 / 120 V (50/60 Hz) or 200 / 240 V (50/60 Hz)

Models and accessories

Instrument:

944 True surface temperature measurement system, 30°C to 350°C

Delivered in standard with:

- Type N thermocouple, 935-14-81
- User manual
- Traceable certificate

Please specify supply voltage required at the order: 100 / 120 V (50/60 Hz) or 200 / 240 V (50/60 Hz)

UKAS 5 point comparison calibration

Packing information:

Size 90 x 153 x 265 mm

Weight without packing 4 kg