

MS1 Conductivity meter

The essential instrument for
every boilerhouse



spirax
/sarco

MS1 conductivity meter, the essential instrument for every boilerhouse

The importance of TDS testing

Steam boilers can only produce good quality steam of an acceptable dryness fraction if the level of total dissolved solids (TDS) is kept below certain limits to avoid foaming.

Automatic blowdown systems are often fitted to control TDS levels, but regulations in most countries also recommend that regular testing of boiler water and feedwater TDS is carried out and records kept.

Regular conductivity testing of condensate return can also help to identify operational problems such as boiler water carryover, or contamination of condensate by raw water or process chemicals.

For all these purposes a conductivity meter is essential.

The MS1 meter

The Spirax Sarco MS1 is a compact, battery powered conductivity meter designed for use in the boilerhouse and is particularly suitable for measuring the conductivity of boiler water, feedwater, or condensate samples in order to estimate TDS levels.

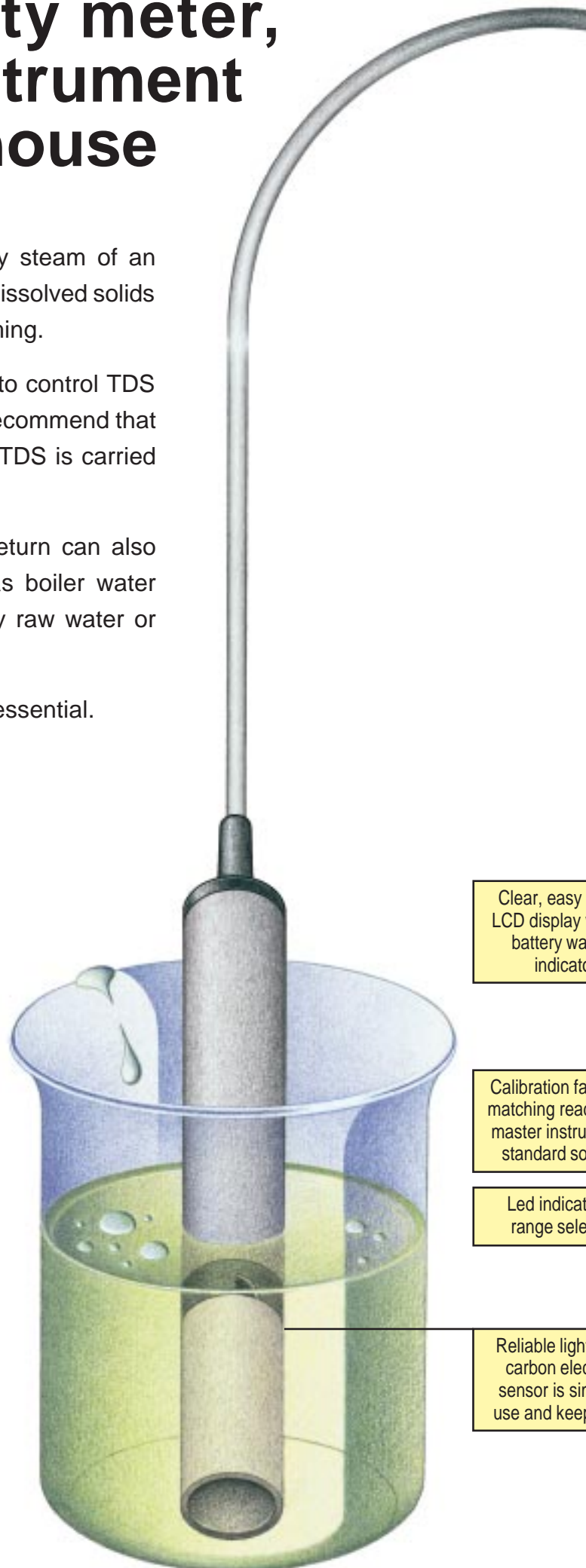
The instrument is fitted with a permanently wired carbon electrode sensor with integral temperature sensor, and can be used for sample temperatures up to 45°C, though it is more usual to cool samples to around 25°C before testing, using a sample cooler.

Conductivity probe testing

A unique feature of the MS1 is the facility to check the condition of conductivity probes while they are still installed in the boiler.

A plug-in extension lead is provided which enables the probe ac resistance to be measured, a task that cannot be carried out with an ohm meter.

From the readings obtained it is possible to diagnose malfunctions before they become problems.



Clear, easy LCD display battery warning indicator

Calibration facility matching readout master instrument standard solution

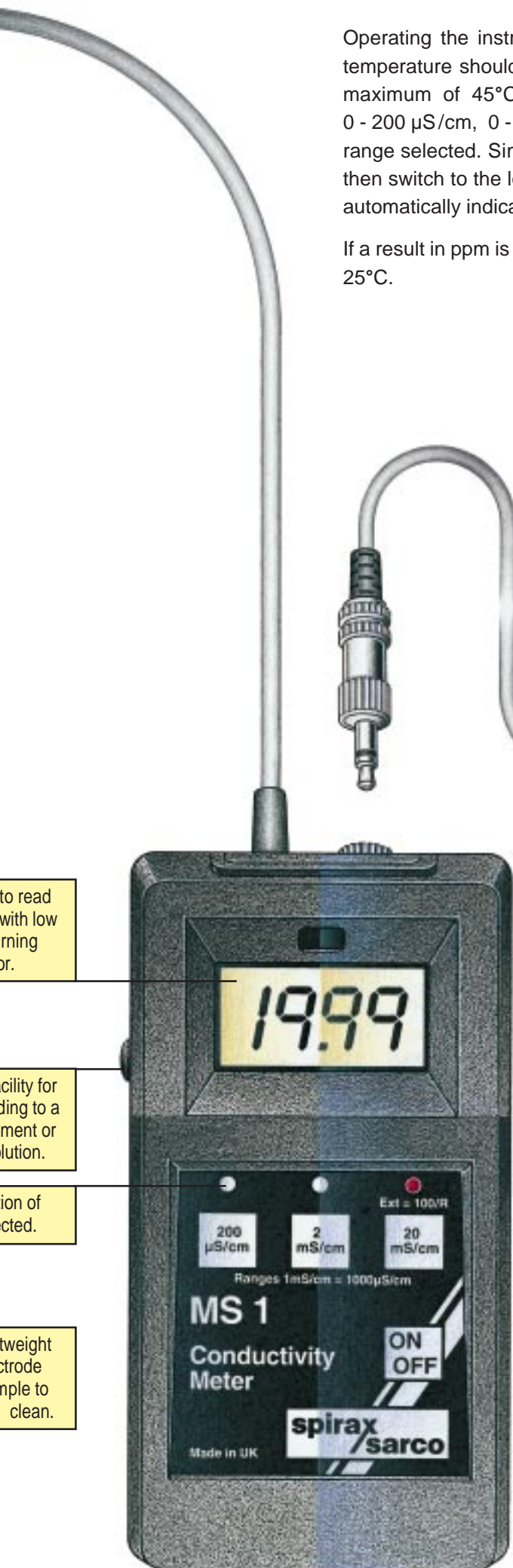
Led indicator range selection

Reliable light emitting diode carbon electrode sensor is simple to use and keep

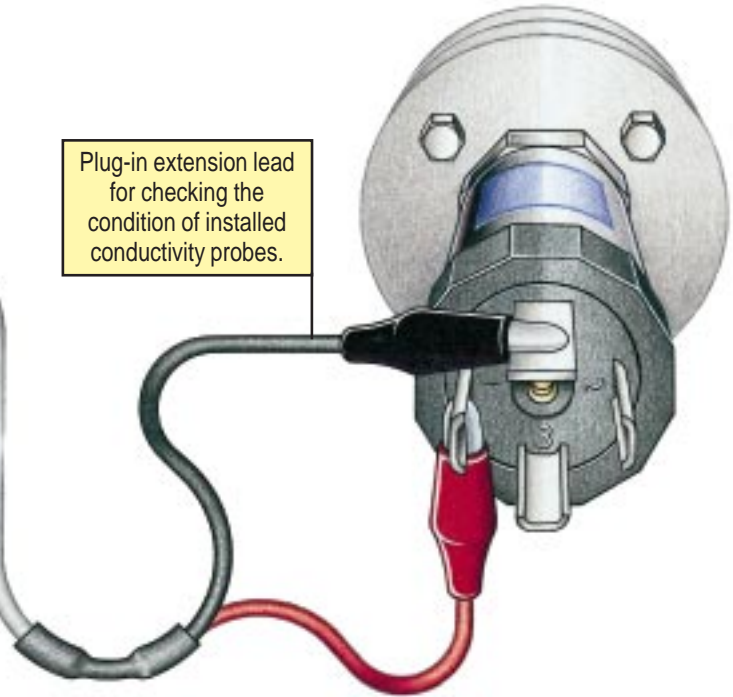
Using the MS1 meter

Operating the instrument is very straightforward. Ideally, the neutralised sample temperature should be as near to 25°C as possible, but any temperature up to a maximum of 45°C is satisfactory. The instrument has three range switches, 0 - 200 $\mu\text{S}/\text{cm}$, 0 - 2 mS/cm and 0 - 20 mS/cm . Light emitting diodes indicate the range selected. Simply select the highest range to start with, (right hand button), then switch to the lower ranges to obtain a more accurate reading. The display will automatically indicate '1' if an inappropriately low range is selected.

If a result in ppm is required, multiply the $\mu\text{S}/\text{cm}$ result by 0.7 for a neutral sample at 25°C.



Plug-in extension lead for checking the condition of installed conductivity probes.



Using the extension lead

Conductivity probes measure the ac resistance of the water, so a standard meter which indicates dc resistance cannot be used for checking purposes.

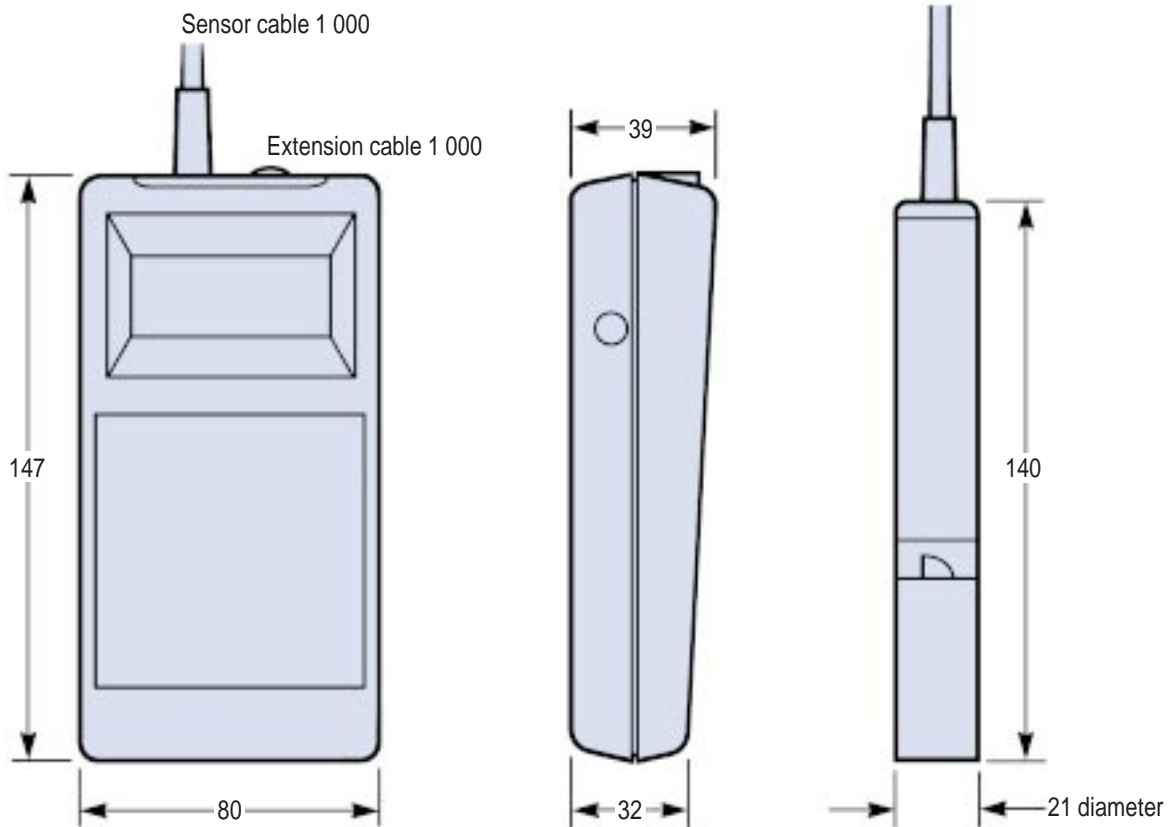
The MS1 is supplied with a plug-in extension lead which enables ac resistance to be measured.

Operation of the MS1 and interpretation of the probe condition from the ac resistance is explained in the instructions provided with the instrument.

User benefits

- Easy to use, lightweight, portable instrument.
- Automatic temperature compensation saves time cooling the sample.
- Wide, selectable range for accurate readings.
- Automatic switch off saves batteries.
- Can check operation of conductivity probe installed in boiler.
- Protective case included.

Dimensions (approximate) in millimetres



Specification

Ranges	0 - 200 $\mu\text{S}/\text{cm}$, 0 - 2 mS/cm and 0 - 20 mS/cm^*
Range indication	Decimal point and LED above selection key
Temperature compensation	Automatic, 2 % / $^{\circ}\text{C}$. Reference temperature 25 $^{\circ}\text{C}$
Resolution	0.1 $\mu\text{S} / \text{cm}$
Accuracy	+/- 1.5 % or +/- 3 digits, (whichever is greater) at 25 $^{\circ}\text{C}$
Calibration range	+/- 20 %. 20 turns (approximately)
On / off	Auto-off timer
Sensor	PVC cell with carbon electrodes
Extension cable	Twin core, 3.5 mm jack plug and crocodile clips
Battery	PP3, 9 volt

*1 $\text{mS}/\text{cm} = 1\,000\ \mu\text{S}/\text{cm}$

How to specify

Temperature compensated, portable conductivity meter with three ranges.
Complete with extension lead for ac resistance measurement of installed conductivity probes.

How to order

Spirax Sarco MS1 conductivity meter.

Some of the products shown
may not be available in certain markets.

MS1

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