

Turbidity Measurement



Photo: Schwimmbad & Sauna, www.schwimmbad.de

The term "turbidity" is used to describe the cloudiness or milkiness of water.

In physical terms, turbidity is due to particles of varying sizes scattering or absorbing light, giving the water in question a cloudy appearance.

This turbidity is caused by suspended particles such as sludge, limestone, yeast or microorganisms.

The phenomenon of turbidity is measured using optoelectronic meters. An artificial light source emits a known intensity of light through a sample.

The suspended particles scatter or absorb the light. The scattered light is then recorded on a photodetector.

Scattered light is generally measured at an angle of 90°. This measurement principle is known as nephelometry.

The results are expressed in terms of FNU (Formazin Nephelometric Units) - identical with NTU (Nephelometric Turbidity Units) and TE/F (Turbidity Units Formazin).

TB 210 IR with infrared light source (EN ISO 7027)

The compact Lovibond® infrared turbidimeter TB 210 IR is designed to allow fast, precise on-site testing. The unit measures the scattered light at an angle of 90°, as stipulated in EN ISO 7027.

The wide measuring range from 0.01-1100 TE/F = NTU = FNU makes the instrument suitable for various applications, ranging from drinking water to waste water.

As infrared light is used for measurement purposes, the unit can be used to test both coloured and colourless liquids.

Technical data

Measurement cycle	approx. 8 seconds
Display	backlit LCD (on keypress)
Optics	LED ($\lambda = 860 \text{ nm}$) and photosensor amplifier in water proof sample chamber, infrared light
Keypad	polycarbonate membrane, splash proof
Power supply	9 V power pack battery
Auto - OFF	automatic switch-off
Storage	internal ring memory for 16 data sets
Additional feature	real time clock and date
Range (Auto-range)	0,01 - 1100 NTU
Resolution	0.01 - 9.99 NTU = 0.01 NTU 10.0 - 99.9 NTU = 0.1 NTU 100 - 1100 NTU = 1 NTU
Accuracy	$\pm 2,5 \%$ of reading or $\pm 0.01 \text{ NTU}$ (0 - 500 NTU) $\pm 5 \%$ (500 - 1100 NTU)
Housing	ABS
Dimensions (L x W x H)	190 x 110 x 55 mm
Weight (base unit)	approx. 0.4 kg
Ambient conditions	Temperature: 0 – 40 °C rel. humidity: 30 – 90%
Reference instrument	Software based user calibration using T-CAL-Standards (see accessories)
Approval	CE
Order code	26 60 20

Accessories

Turbidity standard set
T-CAL (< 0.1, 20, 200, 800 NTU)
Order code: 19 41 50

Set of 12 empty sample vials, 24 mm \varnothing
Order code: 19 76 55



Delivery content

- TB 210 IR in a sturdy plastic case
- 4 turbidity standards (< 0.1, 20, 200 and 800 NTU)
- Battery
- 3 vials (\varnothing 24 mm) with lids
- Warranty information
- Certificate of Compliance
- Instruction manual