



Dimensions: mm

Turbidity in the low and medium ranges is measured by means of scattered light. The principle exploited to do this is the Tyndall effect. Accordingly, the intensity of the scattered light is proportional to the number of suspended particles. The spatial distribution of the scattered light is largely dependent on the size and shape of the particles. In order to ensure that different measuring instruments will yield comparable results, therefore the standard ISO 7027 (identical with EN 27027) was drawn up, stipulating 90° measurement. Reflections from the vessel walls can adversely affect measurements at low turbidity levels, since the probe then erroneously reacts as if turbidity were higher. It is especially important to take account of this when performing control measurements in small vessels. The distance between the probe and the nearest wall should be at least large enough that the impact of reflections from it is smaller than the lowest detectable turbidity level (i.e. radial 5 cm and axial 15 cm for black vessel walls).

The SSN-T probe is recommended for low and medium turbidity ranges. The probe employs the 4-beam pulsed-light method, in which signals captured by two receivers are compared with one another to fully compensate for intensity and sensitivity changes. These are additionally driven by a second light source with reversed function. As a result, deposits on the measurement windows do not affect the probes. Measurements are performed using infrared light (920 nm), and are therefore virtually unaffected by outside light. The output signal of the probe compensated for temperature, soiling and outside light influences is a non-linear analog voltage in the range 0 ... 10 V.

For application of the turbidity probe in conjunction with a Multi Parameter Instrumentation a separate power supply N 15/20 is necessary (watertight enclosure IP 65; 230 V AC). The output signal from the probe is connected with an input of the Multi Parameter Controller via the power supply. The controller makes signal linear and realizes calibration, display and output of the measured turbidity in NTU (nephelometric turbidity units).

## Specifications

<b>Materials</b>	probe window POM, probe body stainless steel 1.4571 (SS 316)
<b>Dimensions</b>	diameter 38 mm, length 137 mm, screw-mounted cap R 1"
<b>Optical components</b>	90° scattered-light measurement with pulsed infrared light, wavelength 880 nm, multi-beam pulsed light evaluation
<b>Applications</b>	river water, boiler water, purified wastewater, raw and drinking water
<b>Measuring range</b>	2 ... 100 NTU or FNU (standard); special version: 5 ... 1000 NTU or FNU
<b>Temperature range</b>	0 ... 50 °C
<b>Pressure</b>	max. 6 bars
<b>Power</b>	± 15 V DC, max. 150 mA (with power supply N 15/20: 230 V AC or special version 110 V AC)
<b>Electrical connection</b>	fixed cable 13 m (for immersion probe) with watertight plug IP 68
<b>Process connection</b>	channel or basin installation (immersion probe) <ul style="list-style-type: none"> <li>• with probe support and probe extension pipe (stainless steel, 0.5 ... 2.5 m)</li> <li>• integrated in multi-parameter immersion housing</li> </ul> installation in a vessel or pipe (insertion probe) <ul style="list-style-type: none"> <li>• ball-valve bulkhead assembly (mounting and dismantling of probe without process interruption; material stainless steel; welding bush necessary; ball-valve 40 mm inside diameter; pressure max. 1 bar)</li> <li>• flow-through housing for laboratory application (material PVC, 1" connection; for measuring ranges &gt; 20 NTU only; medium pressure max. 6 bar)</li> </ul>