

Turbidity



Characteristics

System	Optical Turbidimeter
Processing	Indication, switching, measuring
Process connection	Welded nozzle, Milk-pipe connection
Media	Liquids, viscous media
Pressure range	-1...+10 bar
Media temperature	0...+90°C CIP-/SIP-capable, 120°C < 30 min

Application

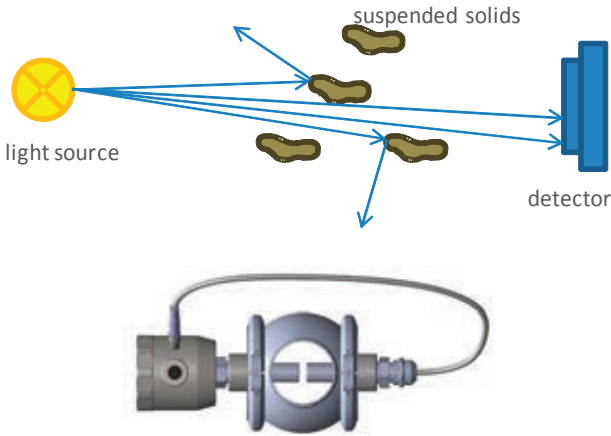
- Continuous turbidity measurement
- Brewery
- Dairy
- Food- and beverage industry
- Machine building
- Pharmacy industry
- Cosmetic industry
- Biotechnology

Product information

Turbidity

Function

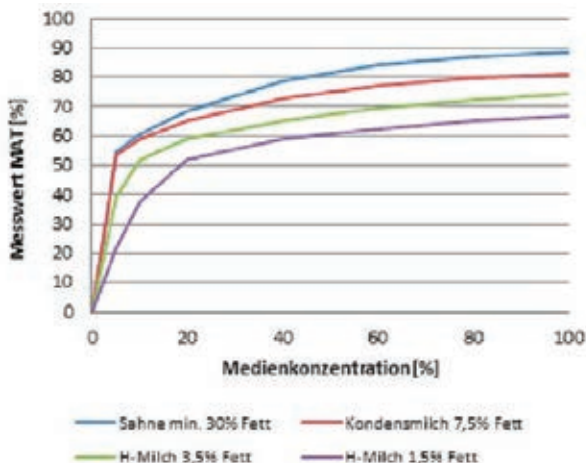
The turbidity measurement method is based on the optical principle of light scattering. The device emits a light beam. This applies to particles in the fluid and parts of the light will be reflected (scattered). In the opposite to the light source is a light sensor, receiving with increasing scattering (higher proportion of particles → greater turbidity) less and less light. The following images show the effect:



From knowledge of the emitted and the received light, the integrated microcontroller computes the turbidity as a percentage of the maximum measurement value. This value can be converted with an integrated conversion table into a material-specific concentration values, or in the formazine based unit FAU. The values for the current output, the two switching outputs and the optional connected LC display derived from this result.

There are a variety of parameters in the operating menu to fit the turbidimeter for the best result in the application. For instance: because of the programmable time behavior, short-term disturbances in the medium courses no uncontrolled switching operations or troubled measured values at the current output.

As an example, measurement diagrams for various dairy products



Advantage

The parts coming into contact with the media complies with FDA requirements and are CIP-/SIP capable. Steam sterilization for a short time – up to 120°C.

- No mechanical moving parts
- Compact construction design for food and hygiene compliance
- Independent of pressure, temperature and density changes
- Maintenance-free
- Installation without gaps and cavity-free
- Detection of liquids such as milk or beer

Mounting

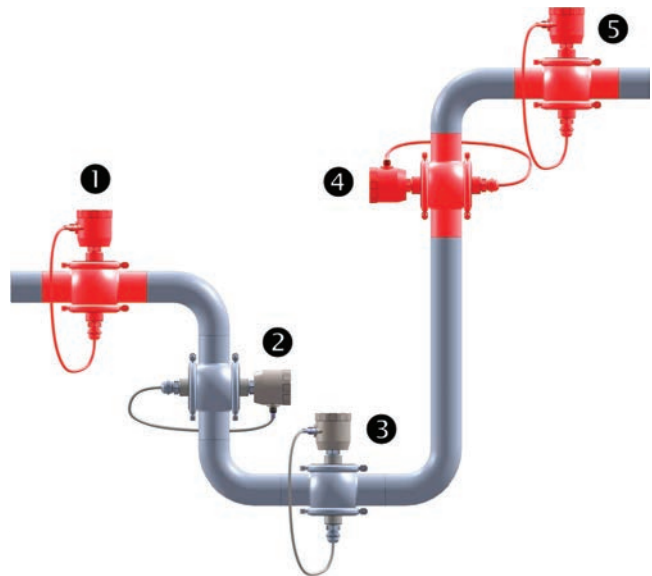
The following notes must be observed:

- The measuring tube must be completely filled
- Air bubbles and foam formation should be avoided
- The installation near inspection glasses should be avoided
- No sedimentation in the near of the optic itself

Installation

The following instructions must be observed:

- The measuring tube must be completely filled
- Air bubbles and foaming must be prevented.
- Installation near viewing glasses must be avoided.
- Sediments may not deposit near the lens.



Position	Characteristic
1	Danger – bubbles or partly filled pipe
2	Ideal – good measurement result
3	Ideal – good measurement result
4	Danger – open line section
5	Danger – bubbles or partly filled pipe

Mistakes reserved, technical specifications subject to change without notice.