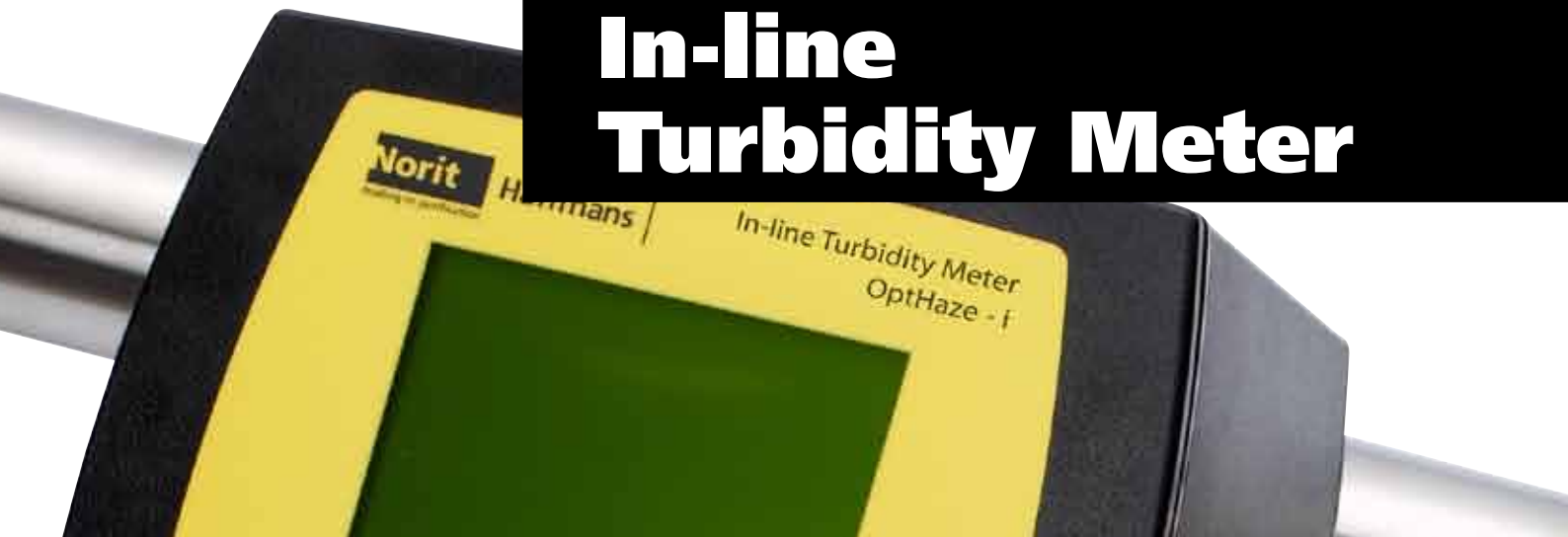


# In-line Turbidity Meter



## In-line Turbidity Meter

### General product information

In the beer and beverage industries, turbidity is a determining factor in the quality of a beverage and serves as an acceptance criteria for consumers. It is especially important to continuously control and measure the turbidity during production.

The In-line Turbidity Meter, type OptHaze-i, measures the scattered light caused by particles and incorporates the latest standards from MEBAK (Mittleuropäische Brautechnische Analysekommission)

- 90° measuring angle
- Red light  $650 \pm 30$  nm to eliminate most of the effects of color of the beverage
- Formazin calibration standard

Particles smaller than  $1 \mu\text{m}$ , such as proteins, mainly cause the light to be scattered under  $90^\circ$  and are measured with the  $90^\circ$  sensor. Hence, particles larger than  $1 \mu\text{m}$ , such as Diatomaceous Earth, yeast and fruits pulp mainly cause the light to scatter forward. To increase the expressiveness of the turbidity measurement, a second sensor measures the forward scattered light under a  $25^\circ$  angle.

The In-line Turbidity Meter can be installed anywhere in the process where the determination of turbidity is critical to the quality of the beverage. The turbidity probe is constructed in accordance with the CE hygienic directive and EHEDG design recommendations. It is easily mounted in a Varivent process connection and executed as a smart sensor, ready to use, calibrated in a range of 0 to 20 EBC.

Available in an execution for simultaneous measurement of  $90^\circ$  and  $25^\circ$  turbidity, the user-friendly control unit can be supplied in either field or panel mounted versions.



## OptHaze-i

# In-line Turbidity Meter



Turbidity probe

## Benefits

- Cost saving
  - one device for different product types - lower investment costs
  - no maintenance
- Measurement result comparability
  - correlation with lab turbidity meter, type VOS Rota 90/25 and most of the lab turbidity meters that incorporate the MEBAK standard

## Application

- In-line, at critical locations in the production line where the determination of turbidity of beverages is required

## Technical Data

### Control unit

Power supply	85-264 V 50-60 Hz (optional 24 VDC)
Dimensions	200 x 200 x 80 (LxWxH mm)
Mounting	wall mounting/panel mounting

### Turbidity probe

Connection	Varivent (>DN 50)
Dimensions	200 x 90 (LxD mm)

### Measuring range

Measuring range	0.00 - 500.00 EBC	Measuring angle	90° and 25°
Measuring units	EBC, ASBC, Helm, FTU	Wave length	650 + 30 nm
Beverage color	max. 50 EBC	Process temperature	-5 to 130 °C
Resolution	0.01 EBC	Process pressure	max. 16 bar(e)

Memory capacity up to 999 measurements with trending ability

Number of calibration curves 7

Protection class IP 67

## Scope of Supply

- Control unit
- Control unit wall mounting set
- Turbidity probe
- Mains cable
- Probe communication cable
- I/O cable for analogue output
- Software set (CD +RS cable)
- Calibration beaker with spare O-ring for Varivent connection
- Instruction manual

## Options

- Control unit pipe/probe mounting set (DN 40 - DN 125)
- Control unit with profibus
- In-line housing with Varivent connection, inspection glasses and clamps for turbidity probe (pipe dimension to be specified at time of enquiry)
- Calibration liquid, type Formazin 500 ml, 1000 EBC
- Calibration liquid, type AEPA 200 ml, available in various calibration standards
- Certificate of measurement

**Haffmans BV reserves the right to make changes in the technical specifications at any time.**



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