

## Teqwave H – Ultrasonic concentration meter

Inline device with best-in-class hygienic design – plug and play for food and beverage processes



More information and current pricing:

[www.ch.endress.com/D9HB](http://www.ch.endress.com/D9HB)

### Benefits:

- High accuracy and repeatability – concentration calculation with latest algorithms
- Fulfilment of hygienic requirements – easily cleanable full-bore sensor
- Full transparency – constant monitoring of product quality without sampling
- Highest process safety – reliable metering due to robust, maintenance-free sensor
- Customized usage – innovative application concept, expendable for changing measuring tasks
- Simplified process control – user-friendly operation and clear status visualization
- Local data backup – integrated data storage for measured values up to 7,5 years

### Specs at a glance

- **Max. measurement error** Density:  $\pm 0.01 \text{g/cm}^3$  Temperature:  $\pm 0.5 \text{K}$  Sound velocity:  $2 \text{m/s}$
- **Measuring range** Concentration According to concentration app data sheet, maximum 0 to 100 % Sound velocity 600 to 2000 m/s Temperature concentration app data sheet, maximum 0 to  $+100 \text{ }^\circ\text{C}$  ( $32$  to  $+212 \text{ }^\circ\text{F}$ ) Density 0.7 to  $1.5 \text{g/cm}^3$
- **Medium temperature range** 0 to  $120 \text{ }^\circ\text{C}$  ( $32$  to  $248 \text{ }^\circ\text{F}$ )
- **Max. process pressure** max. 16 bar at  $20 \text{ }^\circ\text{C}$  (232 psi at  $68 \text{ }^\circ\text{F}$ )

**Field of application:** Teqwave H is ideal for real-time liquid analysis in hygienic applications like spirits and soft drink production. End customers and equipment manufacturers value its highly accurate in situ

concentration measurement and hygienic design. Teqwave reduces the operational expenditure by monitoring various measuring parameters at once. Match your Teqwave transmitter perfectly to your production needs by flexible definition and extension of your application range.

## Features and specifications

### Density/Concentration

#### Measuring principle

Ultrasonic concentration

#### Product headline

Inline device with best-in-class hygienic design – plug and play for food and beverage processes.

High accuracy and repeatability – concentration calculation with latest algorithms.

Continuous quality monitoring of beverages and in cleaning processes.

#### Sensor features

Fulfilment of hygienic requirements – easily cleanable full-bore sensor.

Full transparency – constant monitoring of product quality without sampling. Highest process safety – reliable metering due to robust, maintenance-free sensor.

Nominal diameter: DN 25 (1"). Accurate and independent of flow profile.

Sensor housing made of stainless steel (3-A, EHEDG).

#### Transmitter features

Customized usage – innovative application concept, expendable for changing measuring tasks. Simplified process control – user-friendly operation and clear status visualization. Local data backup – integrated data storage for measured values up to 7,5 years.

Industry-compliant, easy installation via DIN rail. 3.5" TFT color touch screen or LED indication. 4-20 mA, Modbus TCP.

#### Nominal diameter range

DN 8 (3/8") to DN 25 (1")

#### Measured variables

Concentration, density, sound velocity, temperature

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**Density/Concentration****Max. measurement error**Density:  $\pm 0.01 \text{g/cm}^3$ Temperature:  $\pm 0.5 \text{K}$ Sound velocity:  $2 \text{m/s}$ 

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**Measuring range**

Concentration According to concentration app data sheet, maximum 0 to 100 %

Sound velocity 600 to 2000 m/s

Temperature concentration app data sheet, maximum 0 to  $+100 \text{ }^\circ\text{C}$  ( $32$  to  $+212 \text{ }^\circ\text{F}$ )Density 0.7 to  $1.5 \text{ g/cm}^3$ 

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**Max. process pressure**max. 16 bar at  $20 \text{ }^\circ\text{C}$  (232 psi at  $68 \text{ }^\circ\text{F}$ )

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**Medium temperature range**0 to  $120 \text{ }^\circ\text{C}$  ( $32$  to  $248 \text{ }^\circ\text{F}$ )

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**Ambient temperature range**0 to  $50 \text{ }^\circ\text{C}$  ( $32$  to  $122 \text{ }^\circ\text{F}$ )

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**Sensor housing material**Stainless steel V4A 1.4571

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**Degree of protection**

Sensor: IP68 (with cable plugged in), IP66 (without cable connector)

Transmitter: IP40

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**Display/Operation**

LED status indication

TFT color touch display

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**Outputs**4-20mA / Modbus TCP

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**Inputs**DC 24 V ( $18$  to  $35 \text{ V}$ )

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Density/Concentration

**Power supply**

Power supply

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**Hazardous area approvals**

Non-hazardous area

UK; Non-hazardous area

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**Product safety**

CE, C-tick

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