CONCENTRATION MEASUREMENT

CONCENTRATION MONITOR

Concentration Measurement for Documented Liquids and Mixtures

The CONCENTRATION MONITOR determines concentrations in liquid 2-component mixtures. Depending on the medium, measurement is based on density using RHOTEC or sound velocity using SONATEC; conversion uses a suitable product-specific polynomial.





Specific Measurement Task
Concentration in documented liquid 2-component mixtures.

RHOTEC or SONATEC
Density or sound velocity as the physical measured variable.

Product-Specific Evaluation
Concentration determined using a suitable mathematical polynomial.

Measuring Principle

RHOTEC measures density; SONATEC measures sound velocity. This physical measured variable is only output as a concentration when a suitable mathematical polynomial describes the product-specific relationship. The measurement principle and characteristic curve are selected to suit the medium and measuring range.

Applications

- Extract / °Plato, Brix, Oechsle
- Ethanol and Methanol
- Sodium and Potassium Hydroxide
- Sulphuric Acid, Phosphoric Acid, Hydrochloric Acid
- Nitric and Boric Acid
- Sodium Chlorite, Formalin / Formaldehyde
- Hydrogen Peroxide, Glycerine and Glycol
- Acetone, Ammonia, Ammonium Nitrate, Urea

Temperature drift of the measurement signal is automatically compensated. European patent application: 1 439 438 B1.

Technical Data

Measuring ranges and accuracies for technical preselection. R = RHOTEC, S = SONATEC.

PARAMETER	CONCENTRATION MONITOR
Density	0,0001 - 3,0000 g/cm³
Sound Velocity	400 - 3.000 m/s
Extract / °Plato	0 - 30 °Plato / Extract
Brix	0 - 80 °Brix
Oechsle	0 - 30 °Oechsle
Accuracy, Density / Sound Velocity	± 0,0001 g/cm³ (R) / ± 0,05 m/s (S)
Accuracy, Extract / °Plato	± 0,03 (R) / ± 0,07 (S)
Brix Accuracy	± 0,03 °Brix (R) / ± 0,07 °Brix (S)
Concentration Accuracy	± 0,1 wt-%

Specific Media and Ranges

Ethanol and Methanol	**0 - 100 %**
Sodium and Potassium Hydroxide	**0 - 100 %**
Sulphuric Acid	**0 - 98 %**
Phosphoric Acid	**0 - 75 %**
Hydrochloric Acid	**0 - 42 %**
Nitric and Boric Acid	**0 - 63 %**
Sodium Chlorite	**0 - 30 %**
Formalin / Formaldehyde	**0 - 40 %**
Hydrogen Peroxide	**0 - 90 %**
Glycerine and Glycol	**0 - 100 %**
Acetone	**0 - 100 %**
Ammonia / Ammonium Nitrate	**0 - 100 %**
Urea	**0 - 32 %**

Two Measurement Principles

Choice of density or sound velocity.

Product-Specific Evaluation

Concentration determined using a mathematical product polynomial.

Hygienic Design

Various materials and flange connections.

Design & Integration

We support you with the project-specific selection and integration of the **CONCENTRATION MONITOR** - from measuring range and installation position to process connection and interfaces.

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