L LABORATORY

P PROCESS

S SOFTWARE

A AUTOMATION

SCHMIDT HAENSCH

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iPR HR²

High-Res Inline Process Refractometer

Our process refractometer for all applications where inline measurements need to be as precise as laboratory analysis

Specifications

High-Resolution Inline Process Refractometer

Measurement principle	Total internal reflection refractometer
Measuring scales	100+ standard scales, freely definable custom scales, internal storage 4 simultaneous scales
Measuring range	1.3200 - 1.3720 RI / 0 - 25 Brix
Accuracy	± 0.00003 RI / ± 0.02 Brix at 25 °C*
Resolution	0.000002 RI / 0.001 Brix
Reproducibility	0.00001 RI / 0.01 Brix
Process temperature	- 10 to + 150 °C (with water cooling) CIP/SIP up to 150 °C for 30 minutes
Ambient temperature	- 10 to + 55 °C
Temperature sensor accuracy	± 0.1 °C
Temperature measurement	NTC dual sensor for measurement of sample temperature placed inside the prism
Process pressure	0 - 10 bar (up to 30 bar with APV connection)
Interfaces standard	2 insulated 4 - 20 mA active analog outputs (≤ 500 Ω) 2 digital output switch (up to 1 A) 1 serial output (RS232) User programmable 2 line illuminated display
Interface optional	1 serial output (RS485 or USB)
Mechanical interfaces standard	VariVent type N 1.4404 Stainless steel
Mechanical interface optional	VariVent type N Hastelloy C276 APV 1.4404 Stainless steel
Cooling water connection	Straight screw-in fitting, G 1/8 o., for flexible hose 6 mm ID 8 mm OD, a/f 14 mm, 1.4571 Stainless steel
Dimensions	312 mm x Ø 149 mm
Weight	5500 g
IP class	IP69K
Light source, wavelength	LED, 589 nm
Power supply	24 V DC
Current consumption	< 120 mA (20 - 28 V)
Wetted parts	YAG, 1.4404 Stainless steel, FFKM (optional Hastelloy C276)
Housing material	1.4404 Stainless steel
Available immersion depths	0 - 90 mm

Typical refractometer applications:

- Determination of refractive index
- Determination of dry substance
- Determination of mass percent
- Brix measurement
- Quality and concentration control
- Standard scales (Brix, Oechsle, Degree Plato, Zeiss, Fat, Honey) with automatic temperature compensation
- Qualitative analysis – identification of samples
- Interface detection
- Quantitative analysis of dissolved solids in water or other solvents
- Quantitative analysis of condensates
- Disinfectants
- Purity control for pharmaceuticals
- Liquid-liquid extraction
- Water purity and many more

Typical industries for the model:

- Pharmaceutical industry
- Chemical industry
- Food & Beverage
- Sanitary Industry
- Packaging Industry

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