

L LABORATORY

P PROCESS

S SOFTWARE

A AUTOMATION

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iPR B⁴

Basic Inline Process Refractometer

Our entry-level process refractometer with wide measuring range for various applications in food, pharma and more



Specifications

Basic 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	1.32000 - 1.51000 RI / 0 - 85 Brix
Accuracy	± 0.00011 RI / ± 0.08 Brix*
Reproducibility	0.00005 RI / 0.035 Brix
Resolution	0.00001 RI / 0.01 Brix
Process temperature	- 10 to + 90 °C (CIP/SIP up to 150 °C for 30 minutes)
Ambient temperature	- 10 to + 55 °C
Temperature sensor accuracy	± 0.1 °C
Temperature measurement	NTC 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 ($\leq 500 \Omega$) 2 digital output switch (up to 1 A) 1 serial output (RS232)
Interface optional	1 serial output (RS485 or USB)
Mechanical interfaces standard	VariVent type N 1.4404 Stainless steel
Mechanical interface optional	APV 1.4404 Stainless steel
Dimensions	245 mm x Ø 136 mm
Weight	5300 g
IP class	IP69K
Light source, wavelength	LED, 589 nm
Power supply	24 V DC
Current consumption	< 120 mA (20 - 28 V)
Wetted parts	Sapphire, 1.4404 Stainless steel
Housing material	1.4404 Stainless steel
Available immersion depths	0 - 90 mm

*Standard conditions (t= 20 °C, p= 1013 mbar)

Typical refractometer applications:

- Determination of refractive index
- Determination of dry substance
- Determination of mass percent
- Brix measurement
- Standard scales (Brix, Oechsle, Zeiss, Fat, Honey)
- Automatic temperature compensation
- Qualitative analysis – identification of samples
- Interface detection
- Quantitative analysis of dissolved solids in water or other solvents
- Quantitative analysis of sugars, solves, glycol, fat, oechsle

Typical industries for the model:

- Sugar industry
- Beverages
- Food (oil from palm, corn, sunflower, soya)
- Essential oil
- Chemical industry

