

- L** LABORATORY
- P** PROCESS
- S** SOFTWARE
- A** AUTOMATION

iPR FR²

Full-Range Inline Process Refractometer



SPECIFICATIONS

iPR FR²

Measuring range 1	1.3200 - 1.5300 RI / 0-100 Brix
Measuring range 2	1.4200 - 1.6000 RI / 50 - 100 Brix
Resolution	0.00001 RI / 0.01 Brix
Accuracy	± 0.00007 RI / ± 0.05 Brix at 25 °C
Process temperature	-10 °C to 150 °C (with water cooling)
Ambient temperature	-10 ° to +45 °C
Pressure load capacity	MPa (145 psi, 10 bar) - up to 30 bar available with APV connection
Temperature measurement	NTC sensor for measurement of sample temperature placed inside the prism
Interfaces	2 insulated 4 - 20 mA analog outputs 2 digital output switch (up to 1 A) 1 serial output (RS232, alternatively RS485 or USB)
Power supply	24 V DC
Prism	Sapphire
Light source / wavelength	589 nm LED
Process pressure (max.)	MPa (145 psi, 10 bar)
Process contact material	Sapphire, Stainless steel or Hastelloy
Mounting accessories	VariVent (Tuchenhagen), APV or TriClamp*

* Optional

Refractometer applications

The applications of Refractometers are highly diverse.

Applications often used

- › Determination of refractive index
- › Determination of dry substance
- › Determination of mass percent
- › Brix measurement
- › 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 sugars, solves, glycol, fat, oechsle
- › Starch according to Ewers
- › Peptid synthesis
- › Distillation
- › Dairy Fat Content
- › Lactose content in Food & Beverage
- › Betaine
- › and many more

Typical industries of the model

- › Chemical industry
- › Cosmetics
- › Food & Beverage
- › Packaging Industry
- › Pharmaceutical and medical industry
- › Polymers
- › Semiconductor industry