

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

# iPR FR<sup>2</sup>

## Full-Range Inline Process Refractometer



## SPECIFICATIONS

## iPR FR<sup>2</sup>

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	±0.000007 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**

\* Standard conditions (589 nm, 20°C)  
\*\* 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 applications of the model

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