

## PR21 | Process Refractometer

This process refractometer has been developed for direct insertion into pipes and boilers and is ideal for process control in the food, beverage, pulp and paper, sugar and sweetener, and chemical industries, as well for separation of products.

There is no need to install a bypass line. This simplifies installation in pipes or boilers.

Installation of the process refractometer is simple and fast due to the use of standardized flanges.

Depending on the diameter of the pipe a T-piece or adapter has to be welded on.

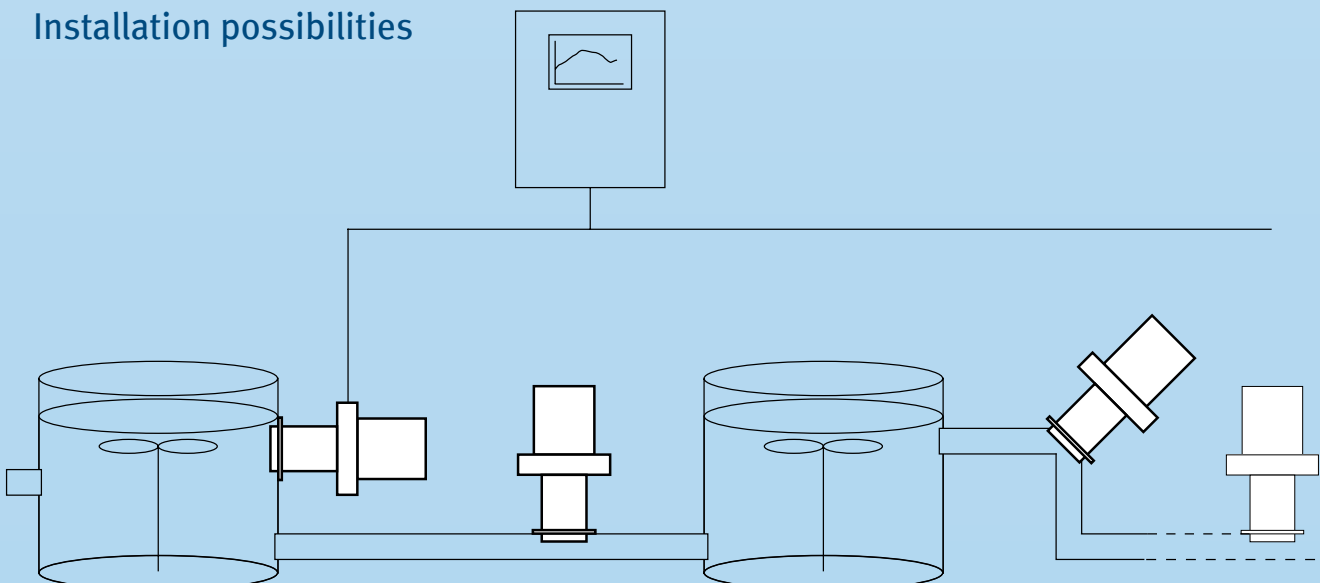


### Fields of application:

Determination of mixing ratios, quality and quantity inspection in the following industries:

- Pulp and paper industries
- Chemical industry
- Beverage industry
- Food industry
- Sugar and sweetener industry
- Textiles industry
- Metalworking industry
- Petrochemical industry
- Wastewater management

### Installation possibilities



	Model / Article-No.	Refraction Index (nD)	Sugar Scale (% Brix)	Accuracy (nD) / Brix	Resolution (nD) / Brix	Linearity (nD) / Brix
PR21-Series High Precision	PR21-H1	1.32000nD...1.49000nD	0%...80%	+/-0.00002nD	0.00001nD	0.00002nD
	PR21-H2	1.35500nD...1.53178nD	15%...95%			
	PR21-H3	1.39000nD...1.55000nD	35%...>95%	+/-0.02%	0.01%	0.02%
	PR21-H4	1.45000nD...1.60000nD	-			
	PR21-H5	1.50000nD...1.65000nD	-			

	Model / Article-No.	Refraction Index (nD)	Sugar Scale (% Brix)	Accuracy (nD) / Brix	Resolution (nD) / Brix	Linearity (nD) / Brix
PR21-Series Standard Precision	PR21-S1	1.3200nD...1.4900nD	0%...80%	+/-0.0002nD	0.0001nD	0.0002nD
	PR21-S2	1.3550nD...1.5317nD	15%...95%			
	PR21-S3	1.3900nD...1.5500nD	35%...>95%	+/-0.1%	0.1%	0.1%
	PR21-S4	1.4500nD...1.6000nD	-			
	PR21-S5	1.5000nD...1.6500nD	-			

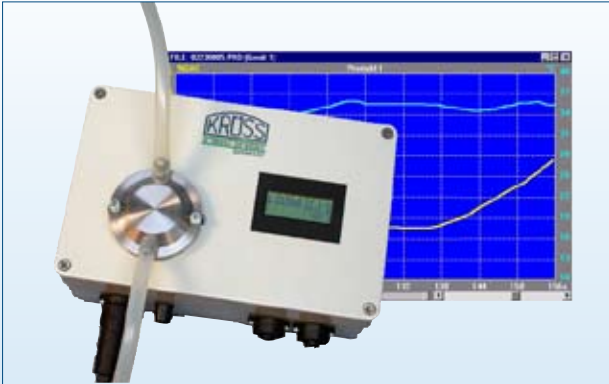
Specifications PR21S and PR21H	
Measurement mode	Refractive index, sugar concentration, user defined
Measurement unit	Refractive index [nD], sugar conc. [%Brix], user defined [%]
Measurement time	1 sec
Temp. measurement	-10...200°C
Temp. resolution	0.1°C
Temp. measurement accuracy	0.2°C
Temperature compensation	ICUMSA arbitrary
Temperature sensor	PT1000
Process temperature	-5...160°C
Ambient temperature	0...60°C
Prism	Sapphire
Illumination	LED 590nm

Sensor PR21S and PR21H	
Explosion protection	optional
Housing	Stainless steel
Interface to control unit	CAN - Bus, Ethernet
Protection class	IP65
Working voltage	24V

### PC Windows Software

With PC Windows software PR WIN, all measurement data can be graphically displayed, stored and analyzed on a PC, an ideal solution in any production department. Up to 16 process refractometers can be connected to one computer.

## IR10 | Process Refractometer



The IR10 measures the refractive index with high accuracy and enables sophisticated process monitoring. Measurements are not influenced by color or turbidity. The IR10 provides a temperature-compensated reading to meet your process requirements. It covers a high range of applications in the food, sugar, beverage, chemical, textile, paper, metalworking and petrochemical industries. The instrument is also ideal for waste-water control and a number of other quality inspections.

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- Metalworking industry
- Petrochemical industry
- Wastewater management

### Features:

- Excellent price-performance ratio
- Wide measuring range 1.3300nD to 1.5600nD; 0% to 95% Brix
- User-friendly touch screen
- Only 2 seconds measuring time
- Password protected
- Easy-to-clean prism inside the test chamber
- Stainless steel test chamber, suitable for food samples
- User-friendly interfaces for direct connection to an SPS control system
- Small sample quantities needed
- Very easy to instal, no special requirements

### Specifications IR10

<b>Measurement range</b>	1.3300nD - 1.5600nD 0% - 95% Brix
<b>Accuracy</b>	0.0002nD; 0.2%Brix
<b>Resolution</b>	0.0001nD; 0.1%Brix
<b>Measurement units</b>	Refractive index [nD] Saccarose [%Brix] Invert sugar [%Brix] Glucose [%Brix] Fructose [%Brix]
<b>Measurement time</b>	~2 sek.
<b>Temperature measurement</b>	-10 to 99.9°C
<b>Temperature resolution</b>	0.1°C
<b>Temperature accuracy</b>	0.2°C
<b>Temperature compensation</b>	ICUMSA
<b>Temperature sensor</b>	PT1000
<b>Prism</b>	Sapphire
<b>Illumination</b>	LED 590nm
<b>Housing</b>	Cast steel
<b>Interfaces</b>	RS232, analog 4-20mA / 0-20mA
<b>Protection class</b>	IP65
<b>Working voltage</b>	24V
<b>Display</b>	LCD 120x32 Pixel
<b>Operation</b>	Touchscreen
<b>Output</b>	1 Relay