

Constant product quality through fast and precise inline Brix measurement

Refractometer IRM-11

Benefits in production process

In liquid media, the density and refractive index vary when the concentration, i.e. the proportion of dissolved solids in the liquid, changes.

Based on refractometry as an inline analysis method, the IRM-11 continuously and precisely measures the concentration of substances such as sugar or salts in media. This enables the determination of the alcohol content, or the mixing ratio of juices, mixed drinks and soft drinks, or the dry matter in milk products.

Analysis by determining the °Brix, °Plato or nD index value offers particular advantages if measurements are already taken using a hand refractometer. To avoid deviations in product quality, these manual measurements must be carried out at very short intervals, often every 20 minutes. The IRM-11 offers enormous potential for increasing efficiency and quality.



Advantages of the IRM-11

- The measurement takes place fully automatically at the desired time interval (adjustable from 2 s)
- With the IRM-11, approximately 1 man-hour of working time can be saved per shift, and employees can devote themselves to other tasks without interruption
- In the case of manual measurement, the entire product produced between measurements, e.g. every 20 minutes, may be defective. IRM-11 can avoid product losses by its permanent measuring method
- Temperature fluctuations lead to deviations in the measured values. The IRM-11 is fully temperature compensated and therefore always delivers precise results even with rapid changes
- The simple installation guarantees precise measurement during mixing in the tank or exact adjustment during the running process

Customer experiences and applications

- Brewery: measurement of mash concentration and wort, determination of alcohol content after fermenter
- Juice / mixed drink production: concentrate measurement and end product dosage control for consistent quality, product transition control
- Dairy: Determination of dry matter in milk and whey
- Wine production: continuous determination of the sugar or alcohol content during the ongoing process

Technical Specifications At-a-Glance

- Front-flush, very compact refractometer for determining the concentration of all types of liquid
- Measurement of refraction with output in °Brix, Plato, refractive index nD or customized. Measuring range 0-85 °Brix or 1.3330-1.5000 nD
- Simple hygienic inline integration without bypass in the process
- Hygienic front-flush design with 2 "Tri-Clamp or Varivent connection according to 3-A and FDA
- Process temperature up to 100°C (212 °F) continuous, CIP / SIP cleaning up to 140°C (284 °F) for max. 60 min.
- Long-life LED light source with highly resistant sapphire optics



Examples of media and measurement concentrations

- Determination of sugar content in juices, liquids, and concentrates from fruit, grapes, vegetables, etc
→ 0...32 °Brix
- Determination of salt content (NaCl) in liquids e.g. sea water, beverages, etc
→ 0...10 °Brix
- Analysis of grape must and alcoholic beverages
→ 0...32 °Brix
→ 30...130 °Oe (Oechsle)
→ Alcohol content: 4.4...19%

Order code

IRM 11 Refractive index meter

Fitting

TC2 aTri-Clamp 2"

V40 Varivent type N, 1 1/2" - 4"

Surface finish

1 R_a Mechanical (3A)

2 R_a Electropolish (BPE)

Scale

BR BRIX

RN Refractive Index

PL Plato

XX Other (consult factory)

Electrical connection

M M12 connector

P Cable gland

N 1/2 NPT

Cap

1 Opaque plastic

2 Stainless steel

IRM 11 TC2 1 BR M 1