

Constant product quality through fast and precise inline Brix measurement

Refractometer IRM-11

Benefits in the production process

In liquid media, the density and thus the 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. This offers enormous **potential for increasing efficiency and quality**.

Advantages with IRM-11

- The measurement takes place **fully automatically** at the desired time interval (adjustable from 2 s)
- With IRM-11, approx. **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. IRM-11 is **fully temperature compensated** and therefore always delivers **precise results even with rapid changes**
- The **simple installation** guarantees precise measurement already during mixing in the tank or exact adjustment during the running process

Customer experiences / 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 specification 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 continuous, CIP / SIP cleaning up to 140°C 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,...
→ 0...32 °Brix
- Determination of salt content (NaCl) in liquids e.g. sea water, beverages, ...
→ 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

Process connection

TC2 Tri-Clamp 2"

V40 Varivent type N, DN40/50

Surface quality of wetted parts

1 mechanically polished

2 electropolished

Scale

BR °Brix

RN Refractive Index

PL °Plato

XX Other (consult factory)

Electrical connection

M M12 plug, 4 pin

P Cable gland M16 × 1.5

Cap

1 opaque plastic

2 stainless steel

IRM-11 / TC2 / 1 / BR / M / 1