DR301-95, DR201-95, DR101-60 | DIGITAL HAND-HELD REFRACTOMETERS

For mobile use - with a large measurement range!

Quick, precise measurement results simplify incoming goods inspection, optimise quality assurance and reduce work processes.
The devices can easily be carried on inspection rounds, as they are lightweight and fit into any lab coat pocket.

Fields of application

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

- Beverages
- Food
- Sugar / sweeteners
- Chemicals
- Flavours
- Petrochemicals
- Cosmetics / hygiene
- Metalworking
- Pharmaceuticals
- Water / effluent
- Education / research

Special features

- Large measuring range
- High precision
- Calibrated with water
- Display of measurement results in various units
- Automatic temperature compensation
- Robust casing
- Little weight

	DR301-95	DR201-95	DR201-95-OE	DR101-60	DR101-60-OE
Measurement range	1.3330–1.5318 nD 0–95 %Brix	1.3330–1.5318 nD 0–95 %Brix	0–250 °Oechsle 0–95 %Brix	1.3330–1.4419 nD 0–60 %Brix	0-150 °Oechsle 0 – 60 %Brix
Accuracy	±0.00015 nD ±0.1 %Brix	±0.0003 nD ±0.2 %Brix	±1 °Oechsle ±0.2 %Brix	±0.0005 nD ±0.25 %Brix	±1 °Oechsle ±0.2 %Brix
Resolution	0.0001nD 0.1 %Brix	0.0001nD 0.1 %Brix	1 °Oechsle 0.1 %Brix	0.0001nD 0.1 %Brix	1 °Oechsle 0.1 %Brix
Temperature measurement	5–40 °C 41–104 °F	0–40 °C	0–40 °C	0–40 °C	0–40 °C
Temperature accuracy	±0.5 °C	±0.5 °C	±0.5 °C	±0.5 °C	±0.5 °C
Temperature compensation	5–40 °C	10–40 °C	10–40 °C	10–40 °C	10–40 °C
Prism	optical glass				
Housing	Plastic				
Dimensions in cm	18.0 x 10.0 x 6.0	13.0 x 8.0 x 4.0		11.0 x 6.2 x 3.2	11.0 x 6.2 x 3.2
Weight	500 g	200 g		160 g	160 g
Power supply	9 V Battery, (Adaptor available separately)	1.5 V Battery		1.5 V Battery	1.5 V Battery

DR301-95

The digital handheld refractometer DR301-95 has more functions than a simple handheld refractometer and at the same time is more cost-effective than a desktop unit. Besides the refractive index, sugar and salt scales, up to two other user-defined scales can be programmed. To do this, the handheld refractometer can be connected to a PC via a serial interface.
The software supplied with it allows results to be managed and printed out. While the instrument can be operated as a mobile unit with a 9 V block battery, the optionally available power supply unit turns the DR301-95 into a small laboratory refractometer. The sample plate is made of stainless steel and is so flat that it can be cleaned quickly and easily. The instrument is calibrated simply with distilled water and has an optional temperature compensation feature.
For incoming goods control applications, an upper and lower tolerance alarm can be entered.

DR301-95

DR201-95

DR201-95 and DR201-95OE

The DR201-95 is a compact digital handheld refractometer which eliminates any user-related reading errors of manual handheld refractometers.
Specially developed for fast and easy quality control and process control, it has a wide measuring range for a refractive index scale and a sugar scale.
One DR201-95 can thus often replace several existing instruments. For wine-growing, a special model is available with an Oechsle scale instead of a sugar scale. Both instruments are low-maintenance and are calibrated simply with distilled water. The 1.5 V battery lasts for over 1000 measurements.

DR101-60 und DR101-60-OE

As an entry-level model in digital refractometry, the DR101-60 covers many areas of application where the wide measurement range of the DR201-95 is not required. It offers excellent value for money, in terms of both procurement and operation. Calibration is also with distilled water. The waterproof case allows the DR101-60 to be rinsed under running water.
This digital handheld refractometer also has an automatic temperature compensation feature, of course.

DR101-60

HR SERIES | MANUAL HAND-HELD REFRACTOMETERS

Quick on-site measurements!

Manual handheld refractometers are for fast everyday use. They are particularly easy to use and very sturdy. Various scales and additional functions ensure that there is exactly the right handheld refractometer for many application areas. This makes for reliability when reading, as the measured value does not first have to be converted.

Some models have an automatic temperature compensation feature which increases measurement precision for measurements which are performed at 10–40 °C instead of 20 °C. For calibration, distilled water is required, or else a small calibration plate is provided.

Fig. 1

Fields of application

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

- Beverages
- Food
- Sugar / sweeteners
- Chemicals
- Flavours
- Petrochemicals
- Cosmetics / hygiene
- Metalworking
- Pharmaceuticals
- Water / effluent
- Education / research

Fig. 2

Fig. 4

Fig. 3

Fig. 5

Model	Fig. Nr.	Measurement range	Accuracy	scale division	Temperature compensation	Thermo-meter	Field of application
HR10	Fig. 1	0–10 %Brix	0.1 %Brix	0.1 %Brix	-	-	For sugar concentration in fruit juces, soft drinks, vegetables, foods and cooling lubricants
HR18-01	Fig. 1	0–18 %Brix	0.1 %Brix	0.1 %Brix	-	-	For sugar concentration in fruit juces, soft drinks, vegetables, foods and cooling lubricants
HRKL32	Fig. 2	0–32 %Brix 0–140 °Oechsle 0–27° KMW BaBo	0.2 %Brix 1 °Oechsle 0.2° KMW BaBo	0.2 %Brix 1 °Oechsle 0.2° KMW BaBo	-	-	For the measurement of Brix and alcohol content in must by either oechsle and Klosterneuburg scale
HRN20	Fig. 2	0–20 %Brix	0.2 %Brix	0.2 %Brix	-	-	For sugar concentration in fruit juces, soft drinks, vegetables, foods and cooling lubricants
HRN32	Fig. 2	0–32 %Brix	0.2 %Brix	0.2 %Brix	-	-	For sugar concentration in fruit juces, soft drinks, vegetables, foods and cooling lubricants
HRT32	Fig. 3	0–32 %Brix	0.2 %Brix	0.2 %Brix	automatically	-	For sugar concentration in fruit juces, soft drinks, vegetables, foods and cooling lubricants
HRN62	Fig. 3	28–62 %Brix	0.2 %Brix	0.2 %Brix	-	-	For analysing chemical and technical liquids, such as oils, fats, coolants, lubricants
HRT62	Fig. 3	28–62 %Brix	0.2 %Brix	0.2 %Brix	automatically	-	For analysing chemical and technical liquids, such as oils, fats, coolants, lubricants
HRN82	Fig. 3	45–82 %Brix	0.2 %Brix	0.2 %Brix	-	-	For analysing chemical and technical liquids, such as oils, fats, coolants, lubricants
HR92	Fig. 3	58–92 %Brix 38–43 °Baume 12–27 % Water	1 %Brix 0.5 °Baume 1 % Water	1 %Brix 0.5 °Baume 1 % Water	-	-	For examination of highly concentrated sugars, de termination of water content in honey and analysing fats, lubricants and cooking oil
HRH30	Fig. 2	12–30 % Water content in honey	0.1 % Water content in honey	0.1 % Water content in honey	-	-	For examination of highly concentrated sugars, de termination of water content in honey and analysing fats, lubricants and cooking oil
HR900	Fig. 5	0–90 %Brix	0.2 %Brix	0.2 %Brix	-	6–36 °C	Universal hand refractometer with stage switch for all ranges. Adjustable prisms for sharp contours, direct and indirect light guidance for measurement of clear and opaque substances. With thermometer
HR901	Fig. 5	1.333–1.517 nD	0.0005 nD	0.0005 nD	-	6–36 °C	Universal hand refractometer with stage switch for all ranges. Adjustable prisms for sharp contours, direct and indirect light guidance for measurement of clear and opaque substances. With thermometer
HR27-100	Fig. 2	1.000–1.070 d_{20}^{20} 0–100 ‰ Salinity	0.001 d_{20}^{20} 1 ‰ Salinity	0.001 d_{20}^{20} 1 ‰ Salinity	-	-	For salinity analysis
HRS16	Fig. 1	1,333–1,373 nD 0–160 ‰ Salinity	0.001 nD 2 ‰ Salinity	0.001 nD 2 ‰ Salinity	-	-	For salinity analysis
HR146	Fig. 2	1,3330–1,3834 nD 0-28 % Salinity	0.001 nD 0.2 % Salinity	0.001 nD 0.1 % Salinity	-	-	For salinity analysis
HRM18	Fig. 2	0–12 g/dl 1.333–1.360 nD 1.000–1.050 UG	0.2 g/dl 0.0005 nD 0.002 UG	0.2 g/dl 0.0005 nD 0.002 UG	-	-	For the measurement of serum protein and specific urine weight
HRMT18	Fig. 2	0–12 g/dl 1.333–1.360 nD 1.000–1.050 UG	0.2 g/dl 0.0005 nD 0.002 UG	0.2 g/dl 0.0005 nD 0.002 UG	automatically	-	For the measurement of serum protein and specific urine weight
HRO32	Fig. 2	0–32 %Brix 30–130 °Oe 4.4–19 % Alcohol	0.2 %Brix 1 °Oe 0.1 % Alcohol	0.2 %Brix 1 °Oe 0.1 % Alcohol	-	-	For the measurement of Oechsle, Brix and alcohol content in must
HROT32	Fig. 3	0–32 %Brix 30–130 °Oe 4.4–19 % Alcohol	0,2 %Brix 1 °Oe 0.1 % Alcohol	0.2 %Brix 1 °Oe 0.1 % Alcohol	automatically	-	For the measurement of Oechsle, Brix and alcohol content in must
HRKFZ1	Fig. 3	Anti freeze: 50–0 °C Battery acid: 1.10–1.30 g/cm³	Ethylen-Propylen: 5 °C Battery acid: 0.01 g/cm³	Ethylen-Propylen: 5 °C Battery acid: 0.01 g/cm³	-	-	Anti freeze and battery fluid tester
HR25-800	Fig. 4	0–80 %Brix	0.5 %Brix	0.5 %Brix	-	-	Universal hand refractometer with stage switch for all ranges. Adjustable prisms for sharp contours, direct and indirect light guidance for measurement of clear and opaque substances