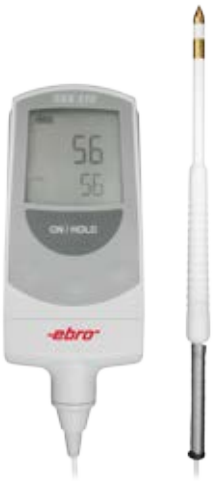
Concentration

On the next pages you will find various Digital Hand Refractometers which are available as single and dual scale models for a broad application range. In addition, we have a Salt Meter for measuring the salt content for example in fluid and semi solid food in our range.



Refractometer

Description:

Digital handheld refractometers for measuring the concentration of different substances in liquid and semi-solid products. The devices feature an automatic temperature compensation and are easy to use.

Applications:

Concentration measurement of:

- Sugar
- Salt
- Alcohol
- Urea

Salt Meter

Description:

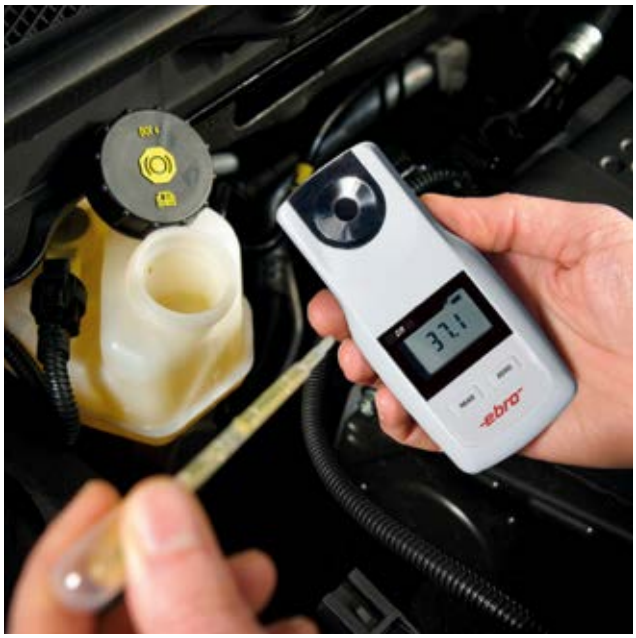
The SSX 210 Salt Meter is used to measure the salt content in fluid and semi-solid food products, such as meat, cold cuts, cheese, salads etc. The measurement is performed by determination of the electrical conductivity, as it is dependent on the salt content.

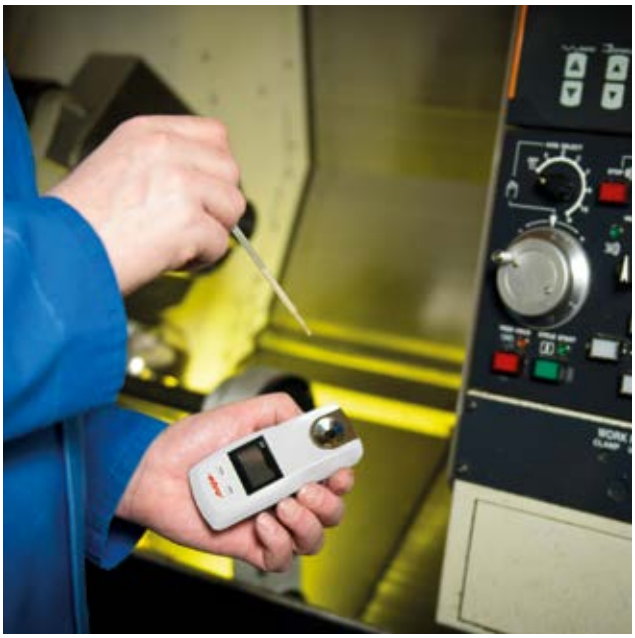
Applications:

Concentration measurement of:

- Salt

Refractometer and Salt Meter Set





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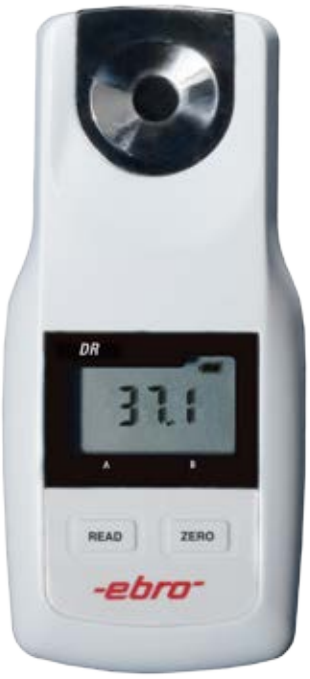
DR Digital Hand Refractometers
with internal light source

The digital refractometers determine the concentration of various matters, which are solved in fluid or semi-solid substances. They have two decisive advantages to the common, optical refractometers. Thanks to the internal light, they can be used independent from the ambient light. In addition, they calculate and show the measurement values automatically in the display - no reading or converting a scale is necessary any more!

ebro offers models for various applications, which are presented on the following pages.



Technical Data

Measurement Performance	
Automatic Temperature Compensation (ATC)	ICUMSA (depending on model)
Working temperature range	+5 °C ... +40 °C (+41 °F ... +104 °F)
Sample temperature range	+5 °C ... +60 °C (+41 °F ... +140 °F)
Temperature sensor accuracy	±1 °C (+5 °C ... +40 °C)
Measurement time	2 sec.
Sample indicator	High, Low or No sample
Protection class	IP 65 (water resistant)
Battery	3V 2 x AAA (LR03)
Battery lifetime	10,000 readings (minimum)
Construction	
Prism material	Optical glass
Prism seal	Silicon rubber and Viton
Sample dish	316 stainless steel
Sample surface diameter	8 mm
Sample volume	0.3 ml
Case material	ABS

- Wide application scope
- Single and duo scale models
- Zero-calibration with water

DR Digital Brix Refractometers
for the determination of the sugar concentration

The concentration of sugar, important quality characteristic for the production of wine or jam, can be determined very fast and reliable with the Brix-refractometers. This is the typical application of refractometers.

- Measurement of the sugar concentration in fluids and semi-solid substances
- For controls at the production, incoming goods or in stock
- Various measurement ranges available

DR-10: Basic refractometer for low sugar concentrations
DR-12: Basic refractometer for high sugar concentrations
DR-13: Refractometer for sugar with wide measurement range
DR-14: Refractometer for sugar with very wide measurement range

Type	Scale	Range	Resolution	Accuracy	Part No.
DR-10	Sugar % (°Brix)	0 – 54	0.1	± 0.2	1340-5650
DR-12	Sugar % (°Brix)	40 – 95	0.1	± 0.2	1340-5677
DR-13	Sugar % (°Brix)	0 – 85	0.1	± 0.2	1340-5678
DR-14	Sugar % (°Brix)	0 - 95	0.1	± 0.2	1340-5679

DR Digital Food and Beverages Refractometers
for the F&B industry

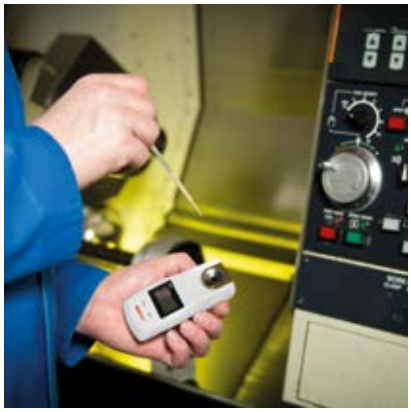
The food and beverages refractometers have been created for various applications of the f&b industry. In addition to the brix refractometers, they address most applications.

- Various measurements for the food and beverages industry
- For controls at the production, incoming goods or in stock
- Versions with one or two channels availabe

DR-810: Refractometer for measuring the water and sugar in honey
DR-50: Refractometer for measuring starch
DR-620: Refractometer for producing canned food (sugar and salt)
DR-710: Refractometer for producing wine (mass fraction and Oechsle-D)

Type	Channel	Scale	Range	Resolution	Accuracy	Part No.
DR-810	A	Sugar % (°Brix)	0-54	0.1	± 0.2	1340-5680
	B	Water in honey %	40-95	0.1	± 0.2	
DR-50	A	Starch %	0 - 30	0.1	± 0.2	1340-5653
DR-620	A	Sugar % (°Brix)	0 – 54	0.1	± 0.2	1340-5668
	B	Salt % (NaCl)	0 - 28	0.1	± 0.2	
DR-710	A	% Mass w/w	0 – 35	0.1	± 0.2	1340-5662
	B	Oechsle (German)	30 - 130	1	± 1	

DR Digital Special Refractometers
for various applications



Using refractometers, the sugar concentration is by far not the only thing that can be measured. Also, not only the f&b industry can use them. Our diverse refractometer models address the demands of customers e.g. in the chemical industry, of sports medicine and veterinaries.

- Diverse measurements
- For the chemical and automobile industries, sports medicine, animal health, etc.
- Additional refractometer types and measurements available upon request

DR-660: General purpose refractometer (°Brix and refractive index)

DR-661: General purpose refractometer with wide measurement range (°Brix and refractive index)

DR-340: Refractometer for the automotive industry (Adblue ® and antifreeze)

DR-440: Refractometer for antifreezes (Ethylen- and Propylenglycol)

DR-450: Refractometer for plumbers (Ethylenglycol Vol. % and °C protection)

DR-910: Refractometer for the chemical industry (CaCl2 and NaCl)

DR-920: Refractometer for the sports medicine (SG human and sugar)

DR-930: Refractometer for the animal health (SG small and large mammals)

Type	Channel	Scale	Range	Resolution	Accuracy	Part No.
DR-660	A B	Sugar % (°Brix) refractive index	0 – 54 1.33 – 1.54	0.1 0.0001	± 0.2 ± 0.0003	1340-5682
DR-661	A B	Sugar % (°Brix) refractive index	0 – 95 1.33 – 1.54	0.1 0.0001	± 0.2 ± 0.0003	1340-5683
DR-340	A B	DEF Ethylenglycol °C protection	0 – 85 -40 – +30	0.1 1	± 0.2 ± 1	1340-5672
DR-440	A B	Ethylenglycol °C protection Propylenglycol °C protection	-50 – 0 0 – +50	1 1	± 1 ± 1	1340-5674
DR-450	A B	Ethylenglycol Vol. % Ethylenglycol °C protection	0 – 60 0 – 60	0.1 0.1	± 0.2 ± 0.2	1340-5687
DR-910	A B	$CaCl_2$ % Salt % (NaCl)	0 – 20 0 – 28	0.1 0.1	± 0.2 ± 0.2	1340-5684
DR-920	A B	SG Urine (human) Sugar % (°Brix)	1000 – 1050 0 – 30	0.0005 0.1	± 0.001 ± 0.2	1340-5685
DR-930	A B	SG Urine (mammal, small) SG Urine (mammal, large)	1000 – 1050 1000 – 1050	0.0005 0.0001	± 0.001 ± 0.001	1340-5686