

10. Optical instruments and Microscopes

Refractometers/Hand held refractometers

1 Precision refractometers, basic model

Simple and precise optical instruments to analyse liquids and their solid contents. Models are equipped with an automatic temperature compensation device (ATC). Supplied with a plastic box and comfortable leather-type case.

Type	For	Measuring range	Accuracy	PK	Cat. No.
RSM/ATC	Salinity	0 - 100‰	1‰	1	9.801 249
RMA/ATC	Wine	0 - 25% Vol 0 - 40% Brix	0,2% Vol 0,2% Brix	1	9.801 252
RGA/ATC	Alcohol	0 - 80% Vol	1% Vol	1	9.801 256
RCS/ATC	Salinity	0 - 28‰	0,2‰	1	9.801 250
RPC/ATC	Freezing point batteries	-50 - 0 °C	5 °C	1	9.801 251
RBO/ATC	Wine	1,10 - 1,40 0 - 140° Oe 0 - 25° Babo 0 - 32% Brix	0,1 1° Oe 0,2° Babo 0,2% Brix	1	9.801 254
RBB/ATC	Wine	0 - 25% Vol 0 - 22° Be' 0 - 40% Brix 0 - 32% Brix	0,2% Vol 0,2° Be' 0,2% Brix 0,2%	1	9.801 255
RCZ/ATC				1	9.801 200
RBC/ATC		0 - 10% Brix	0,1%	1	9.801 241
RLC/ATC		0 - 18% Brix	0,1%	1	9.801 242
RFC/ATC		28 - 62% Brix	0,2%	1	9.801 244
RPU		0 - 80% Brix	1%	1	9.801 246
RMM/ATC	Honey and jam	58 - 90% Brix 38 - 43° Be' 17 - 27 water	0,5% Brix 0,5° Be' 1% water	1	9.801 247

Manual hand-held refractometers

Precision instruments for quick daily use. Various scales and functions ensure there is a suitable refractometer for every application area.

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Type	Measuring range	Accuracy	PK	Cat. No.
HRKFZ1	Anti freeze: 50-0 °C Battery acid: 1.10-1.30 g/cm³	Ethylene-Propylene: 5%, Battery acid: 0.01	1	7.603 129
HRN32	0-32% Brix	0.2% Brix	1	9.801 121 ²
HR181	0-18% Brix	0.1% Brix	1	9.801 123 ³
HRN82	45-82% Brix	0.2 %Brix	1	9.801 124
HR27-100	1000-1070 d2020, 0-100‰ Salinity	0.001 d2020, 1‰ Salinity	1	9.801 127
HRH30	12-30% water content in honey	0.1% water	1	9.801 130
HRT32	0-32% Brix	0.2% Brix	1	9.801 142
HRN20	0-20% Brix	0.2% Brix	1	9.801 149
HR900	0-90% Brix	0.2% Brix	1	9.801 150 ⁴
HR901	1333-1517 nD	0.0005 nD	1	9.801 151

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9.801 121

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9.801 123

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9.801 150

10. Optical instruments and Microscopes

Refractometers/Hand held refractometers

GENERAL CATALOGUE EDITION 20

Refractometers, hand-held, precision

For simple, manual measurement of concentrations and refractive indices of liquids. Hand-held, precision refractometers with focussing eyepiece, soft rubber eyecups (to reduce straylight ingress, also spectacle lenses do not slip off and are not scratched), case and conversion tables. Hand-held refractometers cannot be fitted with a thermostatic controller and so measurements have to be temperature compensated.

ATAGO

Models with extra code M: Basic model

Models with extra code T: with automatic temperature compensation (ATC)

Models with extra code α : with automatic temperature compensation (ATC) and protection class IP65

Type	For	Measuring range	Accuracy	Minimum scale value	PK	Cat. No.
MASTER 53 α	Sugar	0,0 - 53,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix	1	7.619 590 1
MASTER-S10 α	Sodium chloride	0,0 - 10,0 g/100 g	$\pm 0,2$ g/100 g	0,1 g/100 g	1	9.801 372
MASTER-S28 α	Sodium chloride	0,0 - 28,0 g/100 g	$\pm 0,2$ g/100 g	0,2 g/100 g	1	7.653 540
MASTER-20T	Sugar	0,0 - 20,0% Brix	$\pm 0,2$ % Brix	0,1 % Brix	1	9.801 301
MASTER-53T	Sugar	0,0 - 53,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix	1	9.801 472
MASTER-20M	Sugar	0,0 - 20,0 % Brix	-	0,1 % Brix	1	6.235 710
MASTER-53M	Sugar	0,0 - 53,0% Brix	-	0,5 % Brix	1	9.801 302
MASTER-S10M	Sodium chloride	0,0 - 10,0 g/100 g	-	0,1 g/100 g	1	9.801 370
MASTER-S28M	Sodium chloride	0,0 - 28,0 g/100 g	-	0,2 g/100 g	1	9.801 335
MASTER-S/Mill- α	Salinity, Sea water	0,0 - 100,0 ‰	± 2 ‰	1 ‰	1	9.801 359
	Spec. density	1,000 - 1,070	$\pm 0,001$	0,001		
MASTER 500	Universal application	0,0 - 90,0 % Brix	-	1,0 % Brix	1	6.261 851
MASTER-BR	Freezing point coolant*	0 - 70%, 0 ... -50 °C	-	5 °C	1	9.801 348
MASTER-RI	Refractive index	1,435 - 1,520 nD	-	0,001 nD	1	9.801 360
HSR-500	Sugar	0,0 - 90,0% Brix	-	0,2 % Brix	1	9.801 312 2
R-5000	Refractive index	1,333 - 1,520 nD	-	0,001 nD	1	9.801 313
HHR-2N	Honey	12,0 - 30,0% humidity	-	0,1 %	1	9.801 333 3
MASTER-20 α	Fruit juice, cutting oil	0,0 - 20,0 % Brix	$\pm 0,2$ % Brix	0,1 % Brix	1	6.230 298
MASTER-TA	Wine	0,0 - 25,0 %	$\pm 0,3$ % T.A.	0,2 % T.A.	1	6.231 790
		T.A., 0,0 - 40,0 % Brix	$\pm 0,2$ % Brix	0,5 % Brix		
MASTER-OE	Wine	0 - 130 Oe	± 2 Oe	2 Oe	1	7.970 129
		0,0 - 33,0 % Brix	$\pm 0,2$ % Brix	0,5 % Brix		
MASTER-GOE	Wine	30 - 170°	$\pm 2^\circ$	1°	1	6.286 459
		0,0 - 40,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix		
MASTER-KMW	Wine	0,0° - 27,0°	$\pm 0,5^\circ$	0,5°	1	6.286 460
		0,0 - 33,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix		
MASTER-BAUME	Wine	0,0 - 21,0 Baume	$\pm 0,3$ Baume	0,2 Baume	1	6.229 977
		0,0 - 40,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix		
MASTER-80H	Sugar	30,0 - 80,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix	1	6.230 295
MASTER-93H	Sugar	45,0 - 93,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix	1	6.238 823
MASTER-100H	Sugar	60,0 - 100,0 % Brix	$\pm 0,5$ % Brix	0,5 % Brix	1	7.652 042
MASTER-Honey/BX	Honey	12,0 - 30,0% humidity	$\pm 0,2$ % Brix	0,2 % Brix	1	6.286 461
		58,0 - 90,0 %				

*for Ethylene glycol and Propylene glycol



10. Optical instruments and Microscopes

Refractometers/Hand held refractometers

1 2 Digital hand-held refractometer LLG-uniREFRACTO 1 and 2

NEW

LLG-uniREFRACTO 1 and 2 are compact digital **2-scale** hand refractometers for measuring the sugar content and refractive index of liquids. Easy switch from **Brix to RI scale**.

Calibrate simply with distilled water. Easily to clean under running water due to waterproof housing (IP65). Automatic temperature correction and sample plate made of stainless steel, on both models.

Two models with different measuring ranges are available:

LLG-uniREFRACTO 1 from 0 - 54 % Brix and 1.33 - 1.42 RI

LLG-uniREFRACTO 2 from 0 - 95 % Brix and 1.33 - 1.54 RI

Specifications

Resolution:	0.1 % Brix/0.0001 RI
Accuracy:	±0.2 % Brix/±0.0003 RI
Operating temperature:	5 to 40 °C
Measuring temperature:	5 to 60 °C
Rel. Humidity:	<95 %
Protection class:	IP65
Warranty:	3 years

Type	PK	Cat. No.
LLG-uniREFRACTO 1	1	6.263 630
LLG-uniREFRACTO 2	1	6.263 631

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Digital Hand-held Pocket Refractometer PAL series

For measurement of various high concentration samples such as jam, marmalade, jelly, honey, concentrated juice or acidity and salinity. Ingress Protection class IP65 means that they can be cleaned under running water. Easily calibrated since "zero-setting" (calibration) is achieved using water. Temperature measurement with Automatic Temperature Compensation. Various models for a variety of applications, e.g. measurement of urine, salt, sugar.

ATAGO

Specifications

Resolution:	Brix 0.1 %
Measurement accuracy:	Brix ±0.2 %
Ambient operating temperature:	10 to 40 °C
Ingress protection class:	IP65
Power supply:	2 x AAA Batteries (incl.)
Dimensions:	55 x 31 x 109 mm
Weight:	100 g

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9.801 375

Type	Measuring range	Temp. range °C	PK	Cat. No.
PAL-1	0.0 - 53.0 Brix	10 - 100	1	9.801 375
PAL-3	0.0 - 93.0 Brix	10 - 100	1	9.801 382
PAL-Alpha	0.0 - 85.0 Brix	10 - 100	1	9.801 362
PAL-RI	1.3306 - 1.5284nD	5 - 45	1	9.801 383
PAL-BX/RI	0.0 - 93.0 Brix, 1.3306 - 1.5284nD	Brix: 10 - 100, nD: 5 - 45	1	6.231 591
PAL-22S	12.0 - 30%	10 - 40	1	6.232 434
PAL-10S	1000 - 1060 S.G.	10 - 35	1	6.236 094
PAL-102S	0.0 - 70.0 cutting oil	10 - 100	1	6.242 530
PAL-UREA	0.0 - 55.0%	10 - 40	1	6.258 218
PAL-SALT	0.00 - 10.0 % g/100g	5 - 100	1	6.283 064
PAL-DOG/CAT	DOG: 1000 - 1060 S.G. CAT: 1000 - 1080 S.G.	10 - 35	1	6.286 468
PAL-BX/ACID F5 (Multi Fruits)	0.0 - 60.0 % Brix, 0.10 - 3.00 % Acid, 0.10 - 3.50 % Acid, 0.10 - 4.00 % Acid	10 - 40	1	6.286 469
PAL-BX/ACID1 (Citrus)	0.0 - 60.0 % Brix, 0.10 - 4.00 % Acid	10 - 40	1	6.286 470
PAL-BX/ACID2 (Grape & Wine)	0.0 - 60.0 % Brix, 0.10 - 4.00 % Acid	10 - 40	1	6.286 471
PAL-BX/ACID3 (Tomato)	0.0 - 60.0 % Brix, 0.10 - 3.00 % Acid	10 - 40	1	7.910 614
PAL-BX/ACID4 (Strawberry)	0.0 - 60.0 % Brix, 0.10 - 3.50 % Acid	10 - 40	1	6.286 472
PAL-BX/ACID5 (Apple)	0.0 - 60.0 % Brix, 0.10 - 4.00 % Acid	10 - 40	1	6.286 473
PAL-BX/ACID11 (Plum)	0.0 - 60.0 % Brix, 0.10 - 4.00 % Acid	10 - 40	1	6.286 474
PAL-BX/ACID14 (Pear)	0.0 - 60.0 % Brix, 0.10 - 4.00 % Acid	10 - 40	1	6.286 475
PAL-BX/ACID40 (Coffee cherry)	0.0 - 60.0 % Brix, 0.10 - 1.90 % Acid	10 - 40	1	6.286 476
PAL-BX/ACID91 (Milk)	0.0 - 60.0 % Brix, 0.10 - 0.30 % Acid	10 - 40	1	6.286 477
PAL-BX/ACID96 (Yogurt)	0.0 - 60.0 % Brix, 0.10 - 3.00 % Acid	10 - 40	1	6.286 478
PAL-BX/ACID101 (Beer)	0.0 - 60.0 % Brix, 0.10 - 20.00 % Acid	10 - 40	1	6.286 479
PAL-BX/ACID181 (Vinegar)	0.0 - 60.0 % Brix, 0.50 - 12.00 % Acid	10 - 40	1	6.286 480

Digital hand-held refractometers DR101-60/DR201-95/DR301-95

Digital hand-held refractometer with two different scales, Brix and RI. Handling is fast and very easy, distilled water is used for calibration. The waterproof case allows the refractometer DR101-60 to be rinsed under running water. With automatic temperature compensation.

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DR301-95 offers 2 additional user-defined scales and can be connected to a computer. Specialities: optional temperature compensation feature and upper and lower tolerance alarm.

Specifications	DR101-60 DR201-95 DR301-95
Temperature measurement:	0-40 °C 0-40 °C 5-40 °C
Temperature accuracy:	0.5 °C 0.5 °C 0.5 °C
Temperature compensation:	10-40 °C 10-40 °C 5-40 °C
Dimensions:	105 x 60 x 35 mm 175 x 95 x 50 mm 175 x 95 x 50 mm
Net weight:	150 g 150 g 400 g
Power supply:	1.5 V battery 1.5 V battery 9 V battery, AC adapter

Type	Measuring range	Accuracy	Graduations	PK	Cat. No.
DR101-60	1.330-1.4419 nD 0.0-60.0 % Brix	0.0005 nD 0.25 % Brix	0.0001 nD 0.1 % Brix	1	9.801 117
DR201-95	1.3330-1.5318 nD 0-95 % Brix	0.0003 nD 0.2 % Brix	0.0001 nD 0.1 % Brix	1	6.230 350
DR301-95	1.3330-1.5318nD 0-95 % Brix	0.0002 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.236 921 1

Digital refractometers

Type PR-32α

Can be used to measure fruit juices, soft drinks, diluted soluble oils, aqueous cleaning solutions, etc.

Type PR-101α

Applications include measuring fruit juices, lemonade, coffee, diluted soluble oils and anti-freeze solutions.

Type PR-201α

It can be used for accurately measuring jams, concentrated fruit juices, coolants and similar products.

Type PR-301α

Especially suited to measuring jellies, liquid cane sugar, etc.

Type PET-109

This model is used for simply determining the concentration of ethyl alcohol, which is used in foods and for cleaning, cooling and other purposes.

Type PR-RI

A new Refractive Index model has been added to the popular long-selling "Palette Series". It is suitable for measuring the refractive indices of liquid samples in pharmaceutical and chemical products. Ambient temperature: 10 to 40 °C.

ATAGO

Specifications (all types):

Measurement time:	3 seconds (Type PET-109, Measurement time: 2 seconds)
Sample volume:	0.1 ml
Power supply:	9 V battery
Dimensions:	170 x 90 x 40 mm
Weight:	300 g

Type	Measuring range	Graduations	Accuracy	Working Temp. range °C	PK	Cat. No.
PR-32α	0,0 - 32,0 % Brix	0,1 % Brix	0,1 % Brix	5,0 - 40,0	1	9.801 376 2
PR 101α	0,0 - 45,0 % Brix	0,1 % Brix	0,2 % Brix	5,0 - 40,0	1	9.801 377
PR-201α	0,0 - 60,0 % Brix	0,1 % Brix	0,1 % Brix	10,0 - 40,0	1	9.801 378
PR-301α	45,0 - 90,0 % Brix	0,1 % Brix	0,1 % Brix	10,0 - 40,0	1	9.801 379
PET-109	0,0 - 45,0 % (w / w)	0,1 % (w / w)	0,5 % (w / w)	10,0 - 35,0	1	9.801 344
PR-RI	1,3306 - 1,4436 nD	-	± 0,0002 nD / 20 °C	5,0 - 45,0	1	9.801 369 3

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9.801 369

1 Digital bench refractometer, Smart-1

The Smart-1 is an automatic refractometer with an extra-wide measurement range. This model measures low-concentration samples, e.g. soup, medium-concentration samples e.g. sauce or ketchup, and high-concentration (Brix) samples e.g. jam, marmalade or honey within a food factory. In addition the Smart-1 can be used to control the concentration of a variety of industrial solutions, including water-soluble cutting oil, cleaning solutions and glycol anti-freeze. ATAGO

Specifications

Measurement range:	0.00 to 95.00 % Brix
Readability:	0.1 % Brix
Measurement accuracy:	±0.05 % Brix
Temperature compensation range:	+5.00 to +40.00 °C
Interface:	RS232C
Ingress protection class:	IP64 (except a.c. adapter)
Supply requirement:	100-240 V 50/60 Hz a.c.
Dimensions and weight:	12 x 27 x 9 cm, 2.0 kg
a.c. adapter:	10.5 x 17.5 x 4 cm, 0.7 kg

Type	PK	Cat. No.
SMART-1	1	9.801 390

Digital Refractometer RX-5000i/RX-5000i-Plus

The most accurate refractometer in the world is now even more stylish, smart, and functional. Featuring intuitive touch screen technology, the new RX-i series makes navigation and selection a breeze. The RX-5000i measures with the same accuracy level as the RX-5000alpha ±0.03 % Brix and ±0.00004 nD. The RX-5000i-Plus measures with the same accuracy level as the RX-5000alpha-Plus ±0.010 % Brix and ±0.00002 nD. The RX-i series come with newly added functions, such as USB flash drive and self-diagnosis capability. These products come standard with a 2 year warranty. The warranty period can be extended to 3 years if the product is registered with ATAGO. FDA 21 CFR Part 11 Software Included in Standard Delivery ATAGO

Modes:

- Displays the measurement value once the sample reaches the target temperature
- Measures refractive index and temperature at fixed intervals and displays the estimated measurement value at the target temperature
- The thermo-module can be turned off. Without temperature control, the measurement value is displayed in 4 seconds after the START key is pressed
- Displays the measurement value once a certain level of sample stability is achieved.
- Only on the RX-5000i-Plus: Measuring of Low Brix Liquid Samples (such as teas), obtaining highly repeatable results (0.010 % Brix).

Specifications

Measurement range:	0.000 to 100.00 % Brix, 1.32422 to 1.58000 nD
Resolution	
RX-5000i:	0.01 % Brix, 0.00001 nD
RX-5000i-Plus:	0.005 % Brix, 0.00001 nD
Accuracy	
RX-5000i:	0.03 % Brix, 0.00004 nD
RX-5000i-Plus:	0.010 % Brix, 0.00002 nD
Working temperature:	5 to 40°C
Output terminals:	USB, RS-232C
Power supply:	100 - 240 V, 50/60 Hz
Dimensions:	370 x 260 x 140 mm
Weight:	6.6 kg

Type	PK	Cat. No.
RX-5000i	1	6.266 906
RX-5000i-Plus	1	6.245 034



6.266 906

Digital Laboratory refractometers

The DR6000 refractometers work with hardly any service and are very quiet, good for long-term work in the lab. Very easy to operate due to an intuitive touch screen.

A.KRÜSS Optronic

Optional connections to printer, PC or network provide highest flexibility. High precision through integrated peltier thermostat (T-model). Flow measurement cells enable continuous measuring (TF-model). The devices are used wherever a substance in watery solutions has to be measured.

Areas of usage: beverage, chemistry, pharma, food, paper, sewerage, textile, petrochemistry, cosmetics.

Specifications

Interface:	RS-232, USB, Ethernet
Temperature measurement:	5 to 90 °C
Temperature resolution:	0.1 °C
Temperature measurement accuracy:	0.05 °C (0.1 °C T-models)
Measurement mode:	Single, interval
Scales:	7 default, custom
Protection class:	IP 65
Power supply:	90-260 V, 56/60 Hz, 60 W

Type	Measuring range	Accuracy	Graduations	PK	Cat. No.
DR6000	1.3200-1.5800 nD 0-95 % Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.239 384
DR6000-T	1.3200-1.5800 nD 0-95 % Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.237 965
DR6000-TF	1.3200-1.5800 nD 0-95 % Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	9.801 101
DR6100-T	1.3200-1.700 nD 0-95 % Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.241 690
DR6100-TF	1.3200-1.700 nD 0-95 % Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.235 892
DR6200-T	1.32000-1.58000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 102 1
DR6200-TF	1.32000-1.58000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 103
DR6300-T	1.32000-1.70000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 104
DR6300-TF	1.32000-1.70000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 105

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9.801 102

2

Adjustable Electronic Peltier Thermostat PT31

This electronic water-bath thermostat with Peltier element is a versatile, high-performance instrument. In one application, it can be used to set the correct refractometer temperature. It is extremely robust, compact and easy to operate. Thanks to its small footprint it does not take up valuable space in the laboratory.

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Specifications

Temperature range:	8 to 40 °C, adjustable
Accuracy of temperature:	±0.2 °C
Resolution:	0.1 °C
Pump performance:	20 l/h
Max. pump pressure:	2000 Pa
Cooling power:	15 W
Heating power:	30 W
Power supply:	115-230 V a.c.
Dimensions (W x D x H):	80 x 140 x 210 mm
Weight:	1.5 kg

Type	PK	Cat. No.
PT31	1	9.841 515



10. Optical instruments and Microscopes

Refractometers/Benchtop refractometers

1 Abbe Refractometer Model RMT

Laboratory refractometer for precisely measuring liquids, solids, semi-liquids and powders. Optical refraction index and Brix scale reading system, with an excellent boundary line brightness and contrast. Prism with large windows, equipped with movable shrouds to keep out light. Focussable eyepiece.

Exacta Optech

Standard accessories: Calibrating glass prism, thermometer, dust cover, mono-bromonaphtalene standard (bottle), calibrating screw driver, wooden case.

Specifications

Range:	1.300 to 1.700 nD 0 to 95 % Brix
Precision:	0.001 nD 0.2 % Brix
Thermometer:	0 to 70 °C

Type	PK	Cat. No.
RMT	1	9.801 257



2 Abbe refractometer AR4

Classic refractometer for solids and liquids. Coloration and clouding scarcely influence the measuring results. Handling is simple and the device can easily be calibrated through calibration plates (included). LED illumination (guarantees extremely long life), digital thermometer, optional flow measurement cell and thermostat connections.

A.KRÜSS Optronic

Specialty: adjustable scales, temperature-controlled prisms.

Specifications

Thermometer:	digital -40 to 120 °C
Illumination	Scale lighting, LED light (590 nm) for measuring prism
Dimensions	140 x 100 x 270 mm
Weight	4.4 kg
Power supply	110 V/220 V, switchable

Type	Accuracy	Measuring range	Graduations	PK	Cat. No.
AR4	0.0002 nD 0.1 % Brix	1.3000-1.7000 nD 0-95 % Brix	0.0005 nD 0.1 % Brix	1	9.801 110



3 Abbe Refractometer Model RMI

High-precision refractometer suitable for measuring high temperature liquids, solids, semiliquids and powders. Optical refraction index and Brix scale reading system, with an excellent boundary line brightness and contrast due to the low voltage lighting system. Large sized prism (6 cm²) with movable shrouds. Focussable eyepiece.

Exacta Optech

Standard accessories: Calibrating glass prism, thermometer, dust cover, mono-bromonaphtalene standard (bottle), 220 V cable, calibrating screw driver.

Specifications

Range:	1.300 to 1.700 nD 0 to 95 % Brix
Precision:	0.001 nD 0.2 % Brix
Thermometer:	0 to 100 °C

Type	PK	Cat. No.
RMI	1	9.801 258



Refractometers/Benchtop refractometers



1 Digital Abbe refractometer, DR-A1-Plus

ATAGO

Very simple operation, where only the refraction boundary line has to be moved to the measurement cross hairs. The refractometer displays measurements directly (as a refractive index or in Brix (%)) in digits together with temperature. Measurements can be taken easily by anyone using this refractometer without taking an analogue scale reading in advance. Dispersive value can not be measured using this refractometer.

Specifications

Measurement range:	1.3000 - 1.7100 nD 0.0 - 95.0 Brix
Resolution:	0.0001 nD 0.1 % Brix
Accuracy:	0.0002 nD 0.1 % Brix
Temperature range:	0 to 50.0 °C
Power supply:	a.c. adapter (100 to 240 V 50/60 Hz)
Dimensions:	130 x 290 x 310 mm
Weight:	6.0 kg

Type	PK	Cat. No.
DR-A1-Plus	1	6.283 092



2 Sucrose (Brix) Standards

Reagecon

Certified stabilized Sucrose (Brix) Standards.

- ISO17025 accredited
- Uncertainty of measurement of 0.11 % for all Brix values at 20 °C
- Equivalent nominal Refractive Index values from ICUMSA published tables reported on Certificate of Analysis
- Compatible with any brand of Refractometer
- 12 month shelf life
- Provided in high quality HDPE 15 ml dropper bottles.

Brix %	Refractive Index at 20 °C	PK	Cat. No.
0	1.332986nD	1	6.264 212
5	1.340264nD	1	6.265 876
10	1.347824nD	1	6.257 923
15	1.355679nD	1	6.263 260
20	1.363842nD	1	6.264 889
30	1.381149nD	1	6.258 368
40	1.399860nD	1	7.660 408
50	1.420087nD	1	6.258 369
60	1.441928nD	1	6.265 875



3 Refractive Index standards

Reagecon

Certified standards with values expressed in Refractive Index (R.I) units nD.

- ISO17025 accredited with an uncertainty of measurement up to ± 0.00014 nD units at 20 °C
- 12 month shelf life
- Aqueous Based
- Compatible any brand of Refractometer.
- Convenient high quality 15 ml HDPE dropper bottle.

Refractive Index at 20 °C	PK	Cat. No.
1.34325nD	1	6.265 877
1.34782nD	1	7.658 877
1.37233nD	1	6.265 878
1.38115nD	1	6.258 375
1.39032nD	1	6.265 879
1.40978nD	1	6.265 142
1.42009nD	1	6.258 376
1.44193nD	1	6.265 880