

ATAGO® ABBE REFRACTOMETER

NAR™ Series

Standard (Liquid Only)

NAR™ -1T LIQUID

Cat.No.1211



Refractive Index and Brix of liquid samples.

Standard (Liquid and Solid)

NAR™ -1T SOLID

Cat.No.1212



Refractive Index and Brix of liquid samples and solid samples, such as film and glass.

High Temperature

NAR™ -2T

Cat.No.1220



Compatible with a water/oil bath at a temperature as high as 120°C.

Model	NAR™ -1T LIQUID	Cat.No.1211	NAR™ -1T SOLID	Cat.No.1212	NAR™ -2T	Cat.No.1220
Measurement Range	Refractive Index (nD) 1.3000 to 1.7000 Brix 0.0 to 95.0%		Refractive Index (nD) 1.3000 to 1.7000 Brix 0.0 to 95.0%		Refractive Index (nD) 1.3000 to 1.7000 Brix 0.0 to 95.0%	
Minimum scale	Refractive Index (nD) 0.001, Brix 0.5%		Refractive Index (nD) 0.001, Brix 0.5%		Refractive Index (nD) 0.001, Brix 0.5%	
Measurement accuracy	Refractive Index (nD) ±0.0002, Brix ±0.1%		Refractive Index (nD) ±0.0002, Brix ±0.1%		Refractive Index (nD) ±0.0002, Brix ±0.1%	
Average dispersion value	—		nF-nC (to be calculated according to conversion table)		nF-nC (to be calculated according to conversion table)	
Measurement temperature	5 to 50°C		5 to 50°C		5 to 120°C	
Thermometer accuracy	±0.2°C		±0.2°C		0 to 100°C...±0.2°C, 100 to 120°C...±0.5°C	
Power supply	AC100 to 240V, 50/60Hz		AC100 to 240V, 50/60Hz		AC100 to 240V, 50/60Hz	
Power consumption	5VA		5VA		5VA	
Dimensions and weight	13×18×23cm, 1.8kg (main unit) 10×11×7cm, 0.5kg (thermometer)		13×18×23cm, 1.8kg (main unit) 10×11×7cm, 0.5kg (thermometer)		12×20×25cm, 2.8kg (main unit) 10×11×7cm, 0.5kg (thermometer)	

Calibration solutions on Page 99

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Abbe Refractometers conforms to ASTM Standards (P.99)

Special Order Option
The sample stage height can be customized.

Original. Irreplaceable. A True Classic.

High Accuracy

NAR™ -3T

Cat.No.1230

High Accuracy



The most accurate of the series, thanks to the larger scale, high intensity lamp, and improved optical systems.

High Refractive Index

NAR™ -4T

Cat.No.1240

High Concentration



Up to 1.8700 Refractive Index. Polymer samples and more.

Custom Refractive Index Ranges Available by Special Order

Low Refractive Index

NAR™ -1T • LO

Cat.No.1217

Measurement Range:
Refractive Index (nD) 1.1500 to 1.4800
Measurement temperature: 5 to 50°C

NAR™ -2T • LO

Cat.No.1227

Measurement Range:
Refractive Index (nD) 1.1500 to 1.4800
Measurement temperature: 5 to 120°C

High Refractive Index

NAR™ -2T • HI

Cat.No.1228

Measurement Range:
Refractive Index (nD) 1.4700 to 1.8700
Measurement temperature: 5 to 120°C

NAR™ -2T • UH

Cat.No.1229

Measurement Range:
Refractive Index (nD) 1.7000 to 2.0800
Measurement temperature: 5 to 120°C

Circulating constant temperature bath **P.98**

Calibration solutions on Page 99

NAR™ -3T Cat.No.1230

Refractive Index (nD) 1.30000 to 1.71000
Brix 0.00 to 95.00%
Refractive Index (nD) 0.0002, Brix 0.1%
Refractive Index (nD) ±0.0001, Brix ±0.05%
nF-nC
(to be calculated according to conversion table)
5 to 50°C
±0.2°C
AC100 to 240V, 50/60Hz
5VA
12×31×34cm, 6.8kg (main unit)
10×11×7cm, 0.5kg (thermometer)

NAR™ -4T Cat.No.1240

Refractive Index (nD) 1.4700 to 1.8700
Refractive Index (nD) 0.001
Refractive Index (nD) ±0.0002
—
5 to 50°C
±0.2°C
AC100 to 240V, 50/60Hz
5VA
13×18×23cm, 1.8kg (main unit)
10×11×7cm, 0.5kg (thermometer)

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ATAGO® ABBE REFRACTOMETER

DR™ -A1-Plus



Digital Display

DR™ -A1-Plus

Cat.No.1311



888
Digital

The DR™-A1-Plus features numeric displays of measured refractive index or Brix as well as temperature readings. Any potential user error from reading analog scale is eradicated. This unit features a brighter field of view than its predecessor, the DR™-A1, making it easier to measure inhomogeneous and/or dark samples.

Option Printers
Circulating constant temperature bath **P98**

Measurement Range	Refractive Index (nD) 1.3000 to 1.7100, Brix 0.0 to 100% (ATC is executed at 5 within 50°C)
Resolution	Refractive Index (nD) 0.0001, Brix 0.1%
Measurement accuracy	Refractive Index (nD) ±0.0002, Brix ±0.1%
Measurement temperature	5 to 50°C
Thermometer accuracy	±0.2°C
Output	Printer and PC (via RS-232C)
Power supply	AC adapter (100 to 240V (50/60Hz) AC input)
Power consumption	16VA
Dimensions and weight	13×29×31cm, 6.0kg (main unit) 10.5×17.5×4cm, 0.7kg (AC adapter)

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MULTI-WAVELENGTH

DR™ -M Series



Multi-wavelength (max.1,100nm)

DR™ -M2

Cat.No.1410

DR™ -M4

Cat.No.1414



MAX
1,100
nm

Refractive index and Abbe number measurements are available at any wavelength between 450 and 1,100nm. Either measured refractive index or Abbe number along with the wavelength are displayed on the LCD.

* For measurement at wavelengths above 680nm the optional Near Infrared Ray Viewer is required.

Option Printers
Circulating constant temperature bath **P98**

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Abbe Refractometers conforms to ASTM Standards (P93)

Special Order Option

The sample stage height can be customized.

Breaking the D-line Barrier. Endless Possibilities.

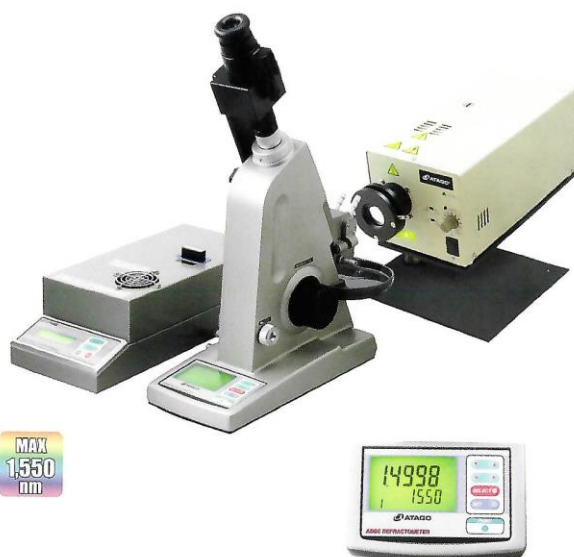
Multi-wavelength (max.1,550nm)

DR™ -M2/1550

Cat.No.1412

DR™ -M4/1550

Cat.No.1415



Refractive index and Abbe number measurements are available at any wavelength between 450 and 1,550nm. Either measured refractive index or Abbe number along with the wavelength are displayed on the LCD.

Option Printers

Circulating constant temperature bath

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	DR™-M2 Cat.No.1410	DR™-M4 Cat.No.1414
Measurement Range	Refractive Index 1.3278 to 1.7379 (450nm) 1.3000 to 1.7100 (589nm) 1.2912 to 1.7011 (680nm) 1.2743 to 1.6840 (1,100nm)	Refractive Index 1.5219 to 1.9218 (450nm) 1.4700 to 1.8700 (589nm) 1.4545 to 1.8543 (680nm) 1.4260 to 1.8258 (1,100nm)
Resolution	Refractive Index 0.0001, Abbe number : 0.1	
Measurement accuracy	Refractive Index ±0.0002 (with the attached test piece at 500 to 650nm)	
Wavelength range	From 450 to 1100nm (with interference filters) (for measurement at wavelengths ranging from 681 to 1,100nm, the optional Near Infrared Ray Viewer is required)	
Measurement temperature	5 to 50°C	
Output	Printer	
Light source	Halogen lamp	
Power supply	AC100 to 240V 50/60Hz	
Dimensions and weight	13×29×31cm, 6.0kg (main unit) 15×33×11cm, 3.0kg (power supply unit)	

	DR™-M2/1550 Cat.No.1412	DR™-M4/1550 Cat.No.1415
Measurement Range	Refractive Index 1.3278 to 1.7379 (450nm) 1.3000 to 1.7100 (589nm) 1.2912 to 1.7011 (680nm) 1.2743 to 1.6840 (1,100nm) 1.2662 to 1.6759 (1,550nm)	Refractive Index 1.5167 to 1.9166 (450nm) 1.4700 to 1.8700 (589nm) 1.4559 to 1.8557 (680nm) 1.4298 to 1.8296 (1,100nm) 1.4211 to 1.8209 (1,550nm)
Resolution	Refractive Index 0.0001, Abbe number 0.1	
Measurement accuracy	Refractive Index ±0.0002 (with the attached test piece at 589nm)	
Wavelength range	From 450 to 1,550nm (with interference filters)	
Measurement temperature	5 to 50°C	
Output	Printer	
Light source	Monochromatic light source device	
Power supply	AC100 to 240V 50/60Hz	
Dimensions and weight	22×30×20 to 30cm, 5.2kg 13×29×31cm, 6.0kg (main unit) 15×33×11cm, 3.0kg (power supply unit)	

Measurement of birefringent samples

Measurement of birefringent (double refraction) materials requires an optional Polarizing Eyepiece (Part No. RE-1146). Double refraction measurements are available at wavelengths between 450 and 680nm. Contact us for more details.