

## REFRACTOMETERS AND POLARIMETERS

Hand and bench refractometers and polarimeters



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# Refractometers and polarimeters

## Hand Refractometers

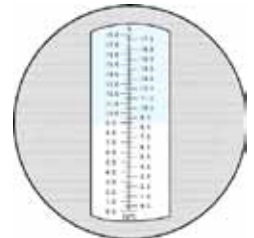


### HR-110 Hand refractometer, 0-18%

Measuring range: 0-18% Brix

Resolution: 0.1% Brix

Without ATC

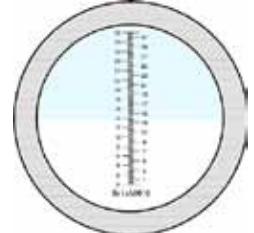


### HR-120 Hand refractometer, 0-32%

Measuring range: 0-32% Brix

Resolution: 0.2% Brix

Without ATC



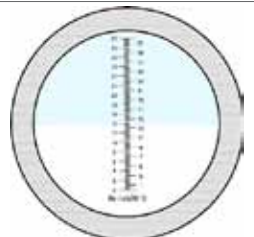
### HR-130 Hand refractometer, 0-32% ATC

Measuring range: 0-32% Brix

Resolution: 0.2% Brix

With ATC

Compensation temperature range: 10°C-30°C

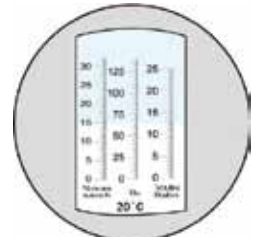


### HR-140 Hand refractometer, 0-32% ATC, triple scale

Measuring range: 0-32% Brix, 0-140° OE (Oechsle), 0-40° Babo (KMN)

Resolution: 0.2% Brix, 1% OE, 0.2° Babo

Without ATC

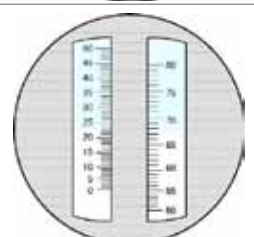


### HR-150 Hand refractometer, 0-80%, double scale

Measuring range: 0-80% Brix

Resolution: 1% Brix

Without ATC



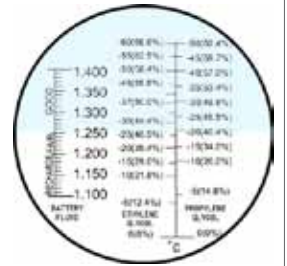
### HR-160 Hand refractometer for urine and protein

Measuring range: Serum Protein 0-12g/dl, Specific Gravity 1.000-1.050sg,  
Refractive Index: 1.330RI-1.360RI  
Resolution: Serum Protein 0.2g/dl, Specific Gravity 0.005sg, Refractive Index 0.0005RI.  
Without ATC



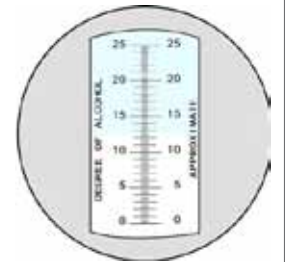
### HR-170 Hand refractometer, for battery, antifreeze

Measuring range: Ethylene Glycol -60°C (66.6%)-0°C (0%),  
Propylene Glycol, -50°C(62.4%)-0°C (0%),  
Battery 1.100-1.400sg  
Resolution: Ethylene Glycol 5°C, Propylene Glycol 5°C, Battery 0.01sg. Without ATC



### HR-180 Hand refractometer for wine and grape

Measuring range: Alcohol° 0-25%  
Resolution: Alcohol° 0.2%. Without ATC



### HR-190 Hand refractometer, 0-28%, for salinity

Measuring range: Salinity: 0-28%  
Resolution: Salinity: 0.2%. With ATC.  
Compensation temperature range: 10°C-30°C



### HRD-300 Digital refractometer 0-45%,

Brix Measuring range: 0-45% Brix Resolution: 0.1% Brix  
Automatic Temperature Compensation. Temperature range: 0-40°C, 32-104°F  
Precision of temperature measurement: 1°C, 2°F Temperature resolution 0.1°C  
Operation temperature 0-35°C, 32-90°F Storage temperature: 0-50°C, 32-122°F  
Dimension and weight: 185x59x45mm, 230g Power Supply: 1 battery 9v Alarm of Low Voltage



### HRD-400 Digital refractometer 0-28%, for salinity

Measuring range: 0-28% Resolution: 0.1%  
Automatic Temperature Compensation. Temperature range: 0-40°C,  
32-104°F Precision of temperature measurement: 1°C, 2°F  
Temperature resolution 0.1°C Operation temperature 0-35°C, 32-90°F  
Storage temperature: 0-50°C, 32-122°F  
Dimension and weight: 185x59x45mm, 230g Power Supply: 1 battery 9v



### HRD-500 Digital refractometer, for urine, serum and DI

Measuring range: Urine SP.G 1.000-1.050, Serum P. 0-12g/dl,  
Refractive Index 1.3330-1.3900 Resolution: Urine SP.G 0.001, Serum P. 0.1g/dl,  
Refractive Index 0.0001 Automatic Temperature Compensation. Temperature range: 0-50°C, 32-122°F  
Precision of temperature measurement: 1°C, 2°F Temperature resolution 0.1°C  
Operation temperature 0-35°C, 32-90°F  
Storage temperature: 0-50°C, 32-122°F  
Dimension and weight: 185x59x45mm, 230g Power Supply: 1 battery 9v



# Refractometers and polarimeters

## 2WAY ABBE BENCH REFRACTOMETER

Main prism: horizontal Secondary prism: fitted on a hinge  
Refraction index scale: Nd 1.300 – 1.700  
Precision: Nd  $\pm$  0.0003  
Division: Nd 0.0005  
Sugars scale: 0-95% from Nd 1.300 – 1.530  
Precision: 0-50% = 0.2%; 51-95% = 0.1%  
Division: 0,25%  
Thermometer scale: 0°C - 70°C, div. 1°C  
Weight: 4 Kg Size: 140 x 100 x 235 mm



## POL-1 BENCH POLARIMETER

Circular polarimeter using Nicol prisms, with monochrome light source (589.3 Nm sodium bulb). Measurement range:  $\pm$  180°  
Precision: 0.05% Division: 1°  
Magnification: 3x Eyepiece: with fine focusing  
Stabilisation time: 5 mins. approx.  
Polarimeter tubes: 100 mm and 200 mm  
Size: 510 x 135 x 380 mm Power supply: 230V/50Hz, 30W  
Replacement parts for POL-1 polarimeter:

- POL-1.1 Sodium bulb
- POL-1.2 100 mm polarimeter tube
- POL-1.3 200 mm polarimeter tube



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