



# WATER & SOIL INSTRUMENTS

## Handheld Refractometers

### RFH Series



- ✓ Metal body
- ✓ Rubber hand grip blocks hand heat
- ✓ Calibration screen
- ✓ Cushioned rubber eyepiece
- ✓ Prism mounted in high-impact plastic

OMEGA's RFH Series refractometers are instruments that determine the concentration of an aqueous solution by measuring its refractive index. All water-based solutions can make light bend. The bending of light increases at a rate proportional to the increasing solution concentration. The handheld refractometer is a precise optical instrument. It is small, light, needs only a few drops of solution to take a measurement and is very user friendly. Refractometers are used throughout the food, agriculture, chemical, and manufacturing industries. Our analog and digital refractometers are among the finest optical instruments in the world. We offer a complete line of refractometers that are suitable for all applications: Brix (Brix Scale = number of grams of cane sugar dissolved in 100 mL of distilled water), alcohol, propylene glycol, protein in serum, salinity, specific gravity, industrial fluids, refractive index (nD), along with many other scales that provide the user with limitless flexibility.

The RFH101 thru RFH107 and the RFH112 thru RFH114 are ideal for monitoring sugar concentrations in foods and beverages. Some common applications are controlling ripeness of fruit in the field and measuring fruit juices, wine, honey, soft drinks, and industrial fluids.

The RFH200 Series is ideal for the measurement of salinity, saltwater, and brine, and for food processing and canning applications.

The specialty refractometers have a wide range of applications, from ethylene and propylene glycol to proteins.



## Handheld Salinity Refractometers

To Order							
Model No.	Scale	Accuracy/Range	Resolution	ATC	Description/Applications	Dimensions mm (inch)	Weight g (lb)
RFH201	Salinity	0 to 10%	1.00%	—	Seawater and brine	30 x 40 x 190 (1.2 x 1.6 x 7.5)	185 (0.40)
RFH211ATC	Salinity	0 to 10%, 1.00 to 1.07 sp gr	1%, 0.001 sp gr	10 to 30°C 50 to 86°F	Salinity or density and solutions with ATC	30 x 40 x 190 (1.2 x 1.6 x 7.5)	200 (0.44)
RFH202	Salinity	0 to 28%	0.20%	—	Food processing, canning and seawater	30 x 40 x 190 (1.2 x 1.6 x 7.5)	175 (0.39)

Comes complete with cleaning cloth, suction tube, screwdriver, carrying case, distilled water and operator's manual.



## Handheld Brix Refractometers

Model No.	Scale	Range	Accuracy/Resolution	ATC	Description/Applications	Dimensions mm (inch)	Weight g (lb)
RFH101	Brix	0 to 10%	0.1%		Low-concentration juices and industrial fluids	30 x 40 x 190 (1.2 x 1.6 x 7.5)	155 (0.34)
RFH111ATC	Brix	0 to 10%	0.1%	10 to 30°C 50 to 86°F	Low-concentration juices and industrial fluids with ATC	30 x 40 x 190 (1.2 x 1.6 x 7.5)	155 (0.34)
RFH102	Brix	0 to 18%	0.2%		Fruit juices, soft drinks, grape wine and industrial fluids	30 x 40 x 170 (1.2 x 1.6 x 6.7)	185 (0.40)
RFH112ATC	Brix	0 to 18%	0.2%	10 to 30°C 50 to 86°F	Fruit juices, soft drinks and industrial fluids with ATC	30 x 40 x 170 (1.2 x 1.6 x 6.7)	185 (0.40)
RFH103	Brix	0 to 32%	0.2%		Fruit juices, soft drinks and industrial fluids	30 x 40 x 170 (1.2 x 1.6 x 6.7)	185 (0.40)
RFH113ATC	Brix	0 to 32%	0.2%	10 to 30°C 50 to 86°F	Fruit juices, soft drinks and industrial fluids with ATC	30 x 40 x 170 (1.2 x 1.6 x 6.7)	200 (0.44)
RFH104	Brix	28 to 62%	0.2%		Concentrated fruit juices	30 x 40 x 150 (1.2 x 1.6 x 5.9)	160 (0.35)
RFH114ATC	Brix	28 to 62%	0.2%	10 to 30°C 50 to 86°F	Concentrated fruit juices and canned foods that use a sugar infusion with ATC	30 x 40 x 150 (1.2 x 1.6 x 5.9)	160 (0.35)
RFH105	Brix	45 to 82%	0.5%		Concentrated fruit juices, condensed milk, liquid sugar and jam	26 x 40 x 150 (1.0 x 1.6 x 5.9)	160 (0.35)
RFH106	Brix	58 to 90%	0.5%		Honey, jam and marmalade	30 x 40 x 160 (1.2 x 1.6 x 6.3)	175 (0.39)
RFH107	Brix	0 to 90%	0.1%		Fruit juices, soft drinks and industrial fluids	40 x 40 x 160 (1.6 x 1.6 x 6.3)	180 (0.40)

Comes complete with cleaning cloth, suction tube, screwdriver and operator's manual.

**Ordering Example:** RFH101, refractometer for low-concentration juices and industrial fluids.

## Specialty Refractometers

Model No.	Scale	Range	Accuracy/Resolution	ATC	Description/Applications	Dimensions mm (inch)	Weight g (lb)
RFH312ATC	sp gr; RI	0 to 12 g/dl, sp gr: 1.0 to 1.050, Refractive Index: 1.330 to 1.360 RI	0.001	10 to 30°C 50 to 86°F	Measures the specific gravity and refractive index of urine, blood serum, plasma, albumen and protein with ATC	30 x 40 x 160 (1.2 x 1.6 x 6.3)	175 (0.39)
RFH401	sp gr; °F	sp gr: 1.15 to 1.3, -60 to 32°F	0.01 sp gr; 2°F	10 to 30°C 50 to 86°F	Measures the freezing points of ethylene and propylene glycol coolants and specific gravity of battery fluid	40 x 40 x 160 (1.6 x 1.6 x 6.3)	180 (0.40)
RFH402	sp gr; °C	sp gr: 1.15 to 1.3, -50 to 0°C	0.01 sp gr; 1°C	10 to 30°C 50 to 86°F	Measures the freezing points of ethylene and propylene glycol coolants and specific gravity of battery fluid	40 x 40 x 160 (1.6 x 1.6 x 6.3)	180 (0.40)
RFH500COT	nD	1.333 to 1.384	0.01		Oil, water, coolants, cleaning solutions, fire extinguishers, chromatating solutions, plating and acid baths, anodizing solutions	26 x 40 x 170 (1.0 x 1.6 x 6.7)	175 (0.39)
RFH505RI	nD	1.333 to 1.520	0.001		Measures mineral oil left in a compressor when changing to polyol ester.	30 x 40 x 190 (1.2 x 1.6 x 7.5)	600 (1.32)

Comes complete with cleaning cloth, suction tube, screwdriver, carrying case and operator's manual.

**Ordering Example:** RFH401, refractometer for ethylene and propylene glycol coolants.