

Analog Refractometers IR and LR Series

Industrial and Lighted Models



Version 2.0

OVERVIEW

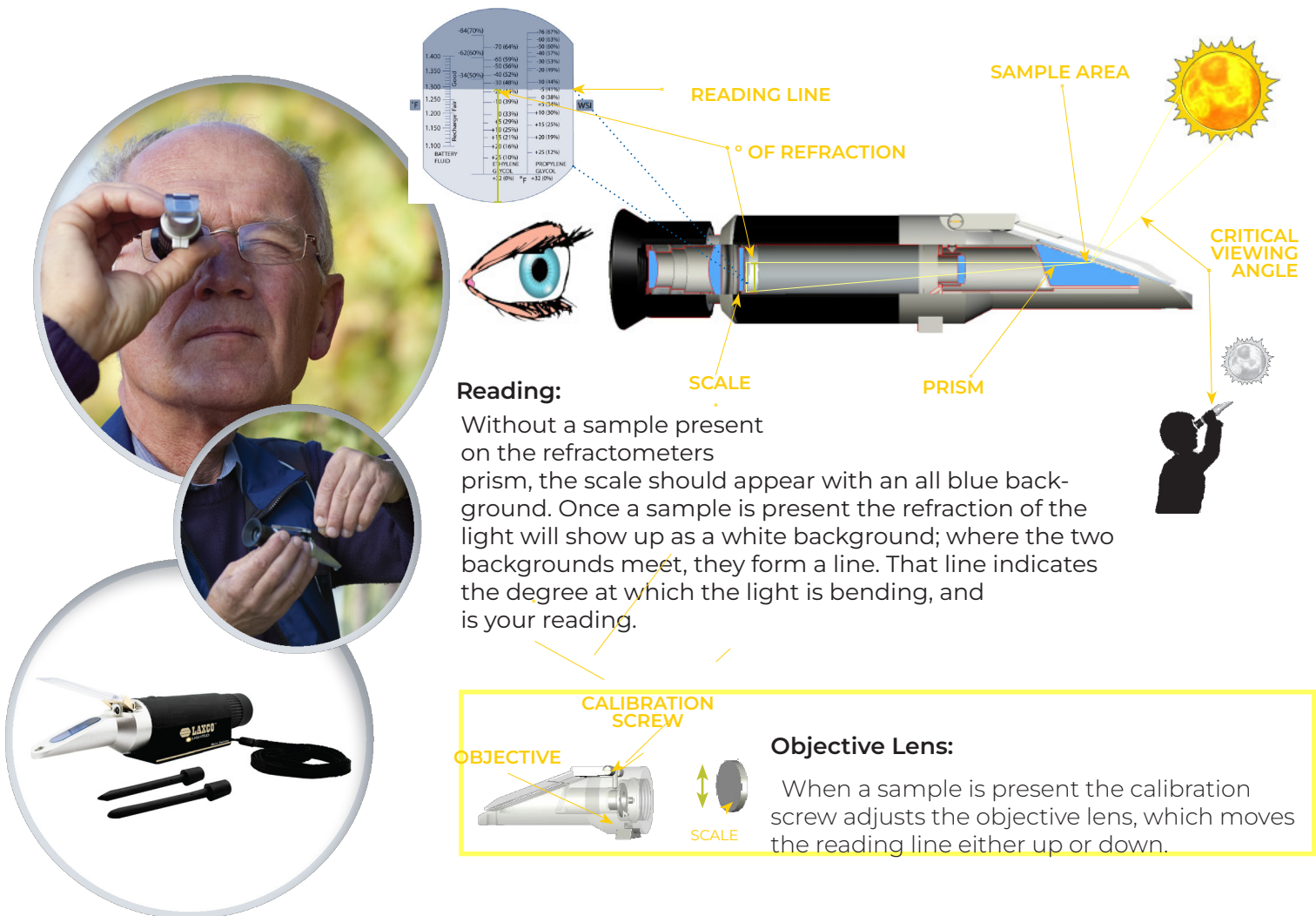
Concept:

A refractometer measures the degree of the bend of light as it passes through a sample. This degree of bend (refraction) can be measured on a multitude of different types of scales. Common scales include: Brix, Baume, Specific Gravity, Refractive Index, & Salinity.

Each type of scale converts the degree of refraction, to something more useful to each industry's application it is used in. For example: The automotive industry uses an IRA series refractometer to measure the percentage of water to glycol to ensure proper mixing of coolant.

Critical Viewing Angle:

The angle at which light enters into the refractometer is very important to the crispness of the line being formed. If too much light is reflected off from the surface of the prism, the line formed may be very fuzzy.



OVERVIEW

AUTOMOTIVE

FOR ANTIFREEZE & BATTERY ACID

Ensure the proper dilution of antifreeze or check the charge level of battery acid. The antifreeze scales measure ethylene & propylene glycol in both freeze point degrees and the ratio of water to glycol.



CLINICAL/VETERINARY

FOR SERUM PROTEIN, SPECIFIC GRAVITY AND REFRACTIVE INDEX

Quickly and accurately get indication of basic health parameters such as dehydration and blood protein levels. This three-scale model measures total serum protein, urine specific gravity, and refractive index.



SALINITY

FOR AQUACULTURE, FOOD PROCESSING & WILDLIFE MANAGEMENT

Measure salt levels in water and other saline fluids. The dual scale gives a direct reading of specific gravity and concentration (parts per thousand).



BRIX

FOR WINE, BEVERAGES, FOODS &

Measure sugar concentration levels for various beverages and foods, or in industrial fluids such as cutting coolants, glycol solutions, and flux rinsing compounds. The scale gives a direct Brix reading.

LR Lighted Series

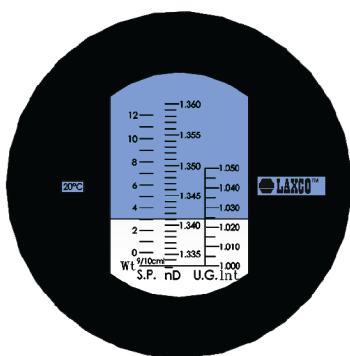
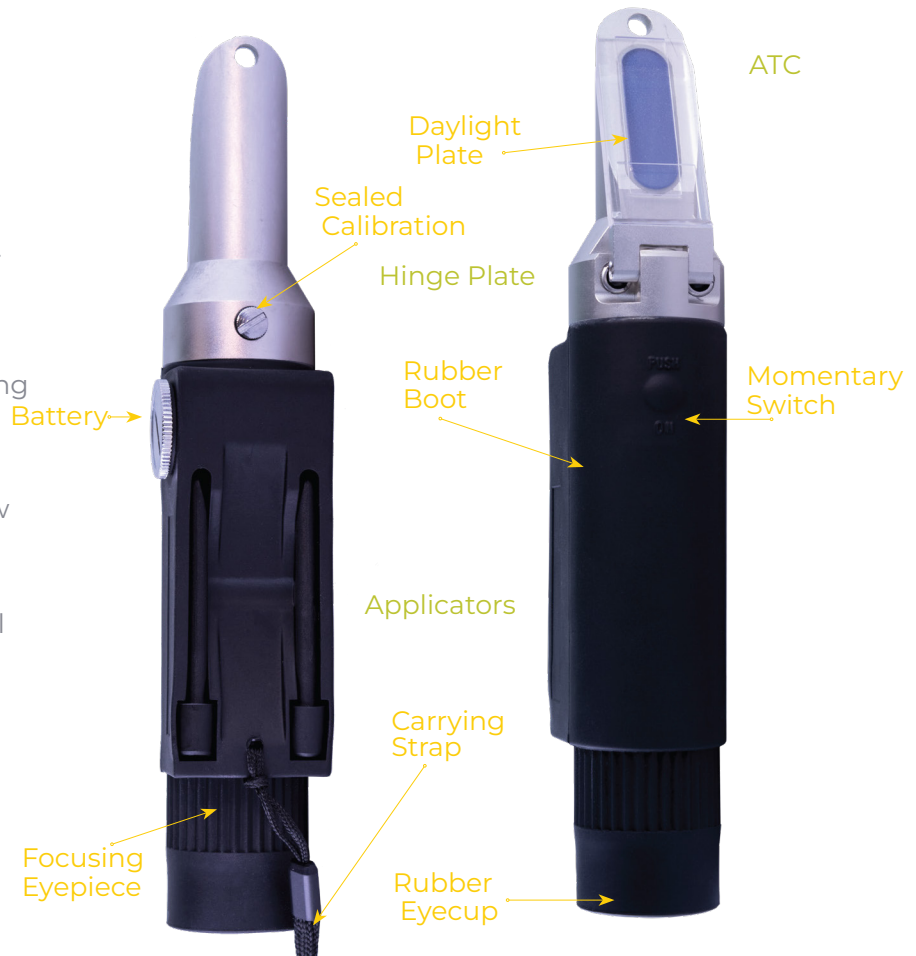
Illuminating Results for All Applications

KEY BENEFITS

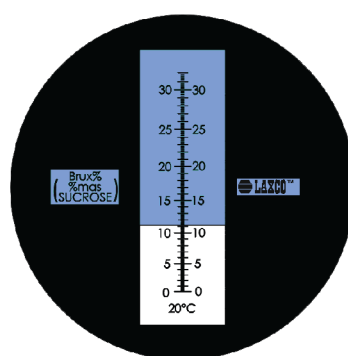
- Consistent, easy-to-use LED illumination
- Sharp, high-contrast scale
- Rugged, rubberized housing protects against moisture and other damage
- Daylight plate stays in open position for convenient sample preparation
- Rubber eyecup and grip for easy focusing and comfortable viewing
- Includes carrying case, calibration screw driver, batteries, calibration solution, and 2 droppers Automatic temperature compensation adjusts for ambient temperature fluctuations within normal range of 50 ° to 86 ° F (10 to 30 C) to maintain calibration

AUTOMATIC TEMPERATURE COMPENSATION (ATC)

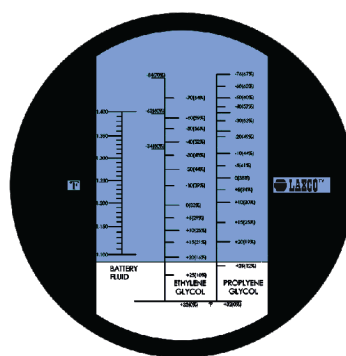
All models come standard with ATC functionality, which prevents the need for constant re-calibration. As the ambient temperature changes, the scale will automatically compensate for the difference in the degree of the refraction of light. This ensure an accurate reading every time.



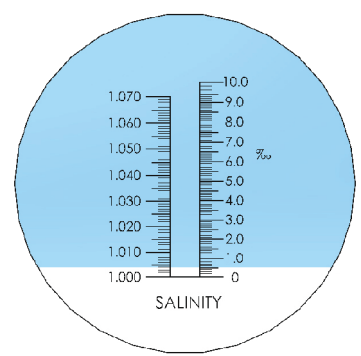
CLINICAL



BRIX



AUTOMOTIVE



SALINITY



LED ILLUMINATION

Laxco LR Lighted Series refractometers incorporate an LED lamp between the daylight plate and prism to prevent the need for ambient light to obtain a reading. Works well in low light situations where there is not a lot of ambient light.

HINGED DAYLIGHT PLATE

Two ball plungers on each side of the daylight plate locks the daylight in the up or down position to prevent flapping during operation or while applying sample to prism.

BUILT TO LAST

CALIBRATION SCREW

Calibration set screw is sealed with water proof cap to prevent water from entering into the system.

BATTERY

Easy to remove, water tight, sealed battery compartment.



OPTICS

All glass optics, with large field of view creates a bright, sharp, crisp line for easy reading of sample measurement.

DURABLE, ALL METAL CONSTRUCTION


MODELS

Specifications & Ordering Information

BRIX MODELS

	Model	Application	Scale Range	Division	Accuracy
	LR-B10ATC	BRIX for Wine, Beverages, Foods & Industrial Fluids	0 - 10 ° Brix	0.1 °	± 0.1 °
	LR-B18ATC	BRIX for Wine, Beverages, Foods & Industrial Fluids	0 - 18 ° Brix	0.1 °	± 0.1 °
	LR-B32ATC	BRIX for Wine, Beverages, Foods & Industrial Fluids	0 - 32 ° Brix	0.2 °	± 0.2 °

CLINICAL MODELS

	LR-C200ATC	CLINICAL for Serum Protein, Specific Gravity & Refractive Index	Serum Protein 0 to 12 g/100ml Specific Gravity 1.000 to 1.050 Refractive Index 1.330 to 13.360 nD	.2 .0001 .0005	± .2 ± .0001 ± .005
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SALINITY MODELS

	LR-S10ATC	SALINITY for Aquaculture, Food Processing and Wildlife Management	Salinity 0 - 100 ppt Specific Gravity 1.000 to 1.070	1 ppt .0001	± 1 ppt ± .0001
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AUTOMOTIVE MODELS

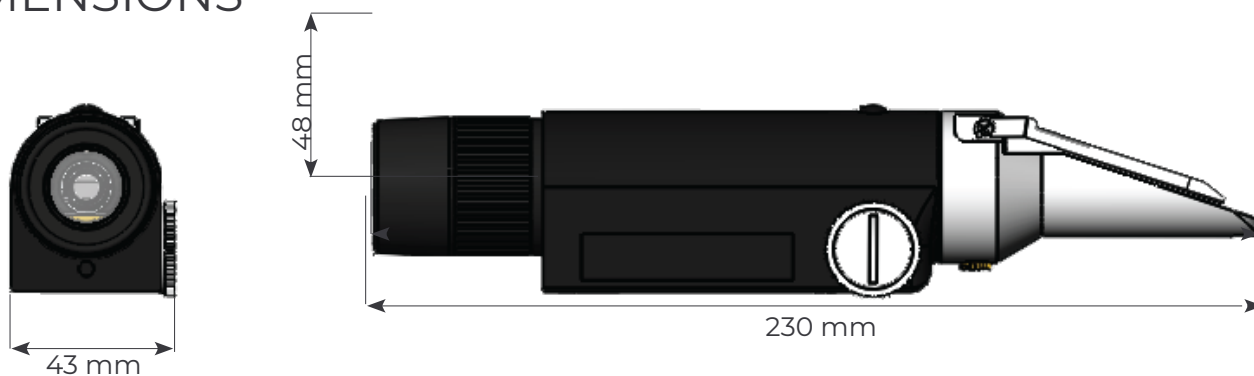
	LR-A100ATC	AUTOMOTIVE for coolant and battery fluid testing	Ethylene -84 ° to 32 ° F (0% to 67%) Propylene -76 ° to 32 ° F (0% to 70%) Battery Fluid 1.100 to 1.400	5 ° 5 ° 0.01	± 5 ° ± 5 ° ± 0.01
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ACCESSORIES

PARTS

Part #	Description
RP-DPA-5	Daylight plate assembly

DIMENSIONS



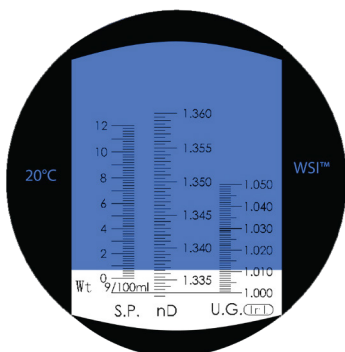
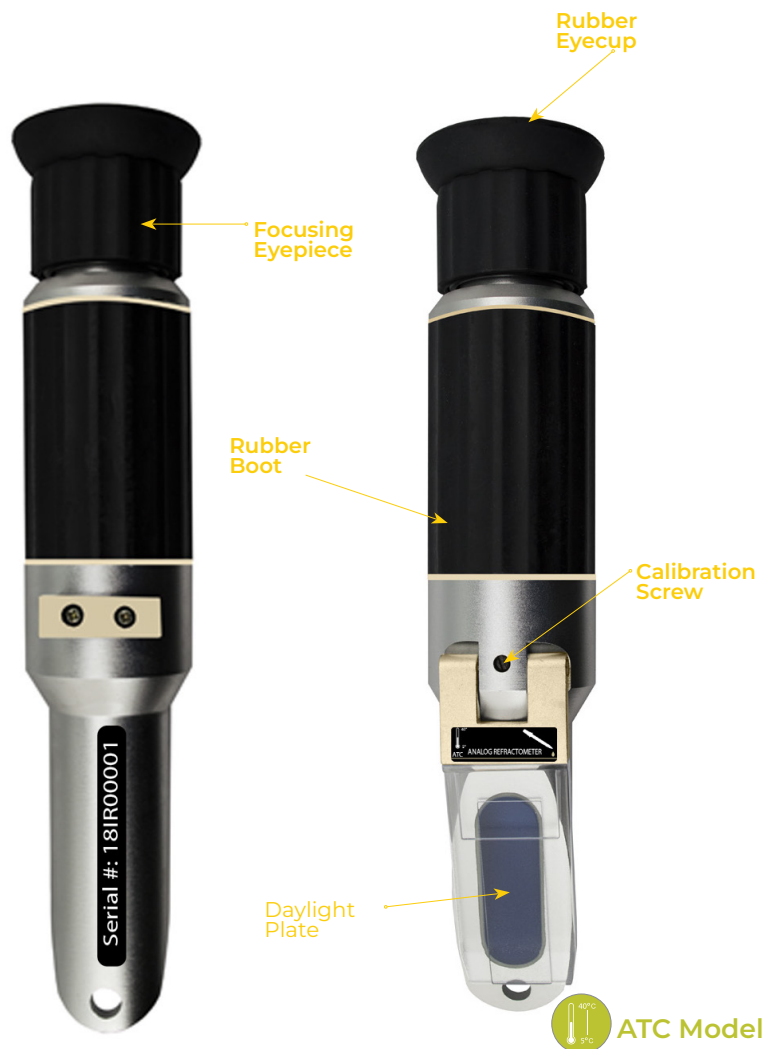
IR Industrial Series

KEY BENEFITS

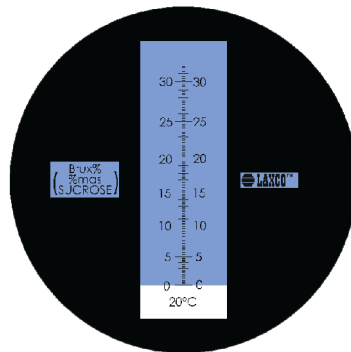
- All metal body to ensure long life
- One-piece daylight plate for quick, easy replacement in case of accidental damage
- Smooth focusing eyepiece
- Integrated footrest allows the unit to be placed securely on any flat surface
- Machined hole for hanging the refractometer in a convenient location
- Easy to access calibration screw
- Focusable eyepiece with rubber eyecup
- Water resistant seal between prism and main body to prevent damage to internal objective lens

AUTOMATIC TEMPERATURE COMPENSATION

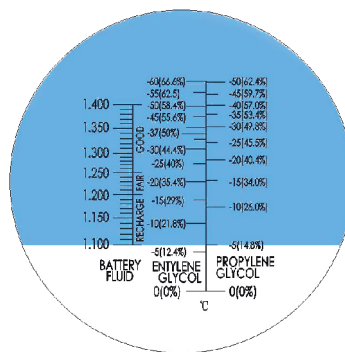
Some models come equipped with ATC functionality, which prevents the need for constant re-calibration. As the ambient temperature changes, the scale will automatically compensate for the difference in the degree of the refraction of light. This ensure an accurate reading



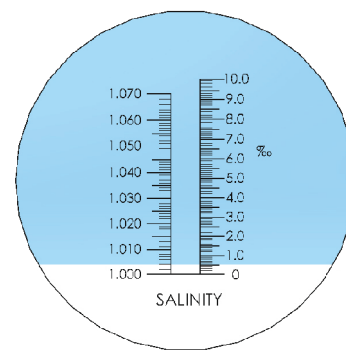
CLINICAL



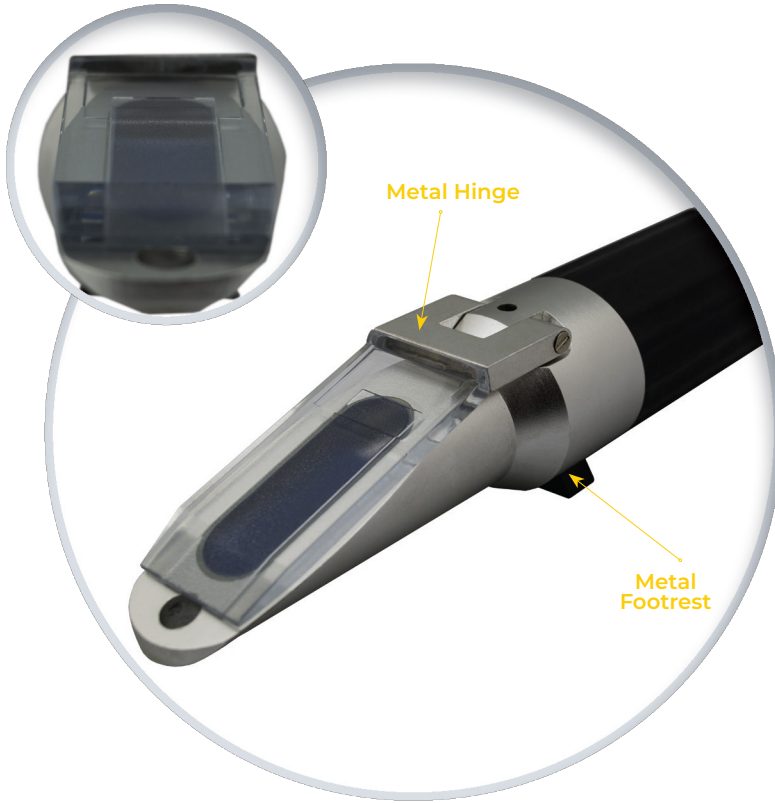
BRIX



AUTOMOTIVE



SALINITY



METAL HINGED DAYLIGHT PLATE

U-shaped metal hinged bracket provides durability of frequent lifting and closing. Two screws allow the daylight plate to be quickly removed or replaced in the event of accidental breakage.

METAL FOOTREST

Foot rest allows the refractometer to be placed on any flat surface without the unit rolling.

LARGE DAYLIGHT PLATE FOR MAXIMUM BRIGHTNESS

CALIBRATION SCREW

Calibration set screw is easily accessible on top of the refractometer to make it easy to calibrate.










DURABLE, ALL METAL CONSTRUCTION



MODELS

Specifications & Ordering Information


BRIX MODELS

Model	Application	Scale Range	Division	Accuracy	ATC
 IR-B10ATC	BRIX for Wine, Beverages, Foods & Industrial Fluids	0 to 10 ° Brix	0.1 °	± 0.1 °	YES
 IR-B18		0 to 18 ° Brix	0.1 °	± 0.1 °	NO
 IR-B32		0 to 32 ° Brix	0.2 °	± 0.2 °	NO
 IR-B32ATC		0 to 32 ° Brix	0.2 °	± 0.2 °	YES
 IR-B62		28 to 62 ° Brix	0.2 °	± 0.2 °	NO
 IR-B82		45 to 82 ° Brix	0.5 °	± 0.5 °	NO
 IR-B90		58 to 90 ° Brix	1.0 °	± 1.0 °	NO





CLINICAL MODELS

Model	Application	Scale Range	Division	Accuracy	ATC
 IR-C200	CLINICAL for Serum Protein, Specific Gravity & Refractive Index	• Urine Specific Gravity 1.000 to 1.050	0.002 .2 g/dl 0.0005	0.002 .2 g/dl 0.0005	NO
 IR-C200ATC		• Serum Protein 1 to 12 g/dl • Refractive Index 1.334 to 1.360	0.002 .2 g/dl 0.0005	0.002 .2 g/dl 0.0005	YES

SALINITY MODELS

Model	Application	Scale Range	Division	Accuracy	ATC
 IR-S10ATC	SALINITY for Aquaculture, Food Processing and Wildlife Management	Specific Gravity 1.000 to 1.070 Salinity 0 to 10‰	± 0.001 ± 0.1 ‰	± 0.001 ± 0.1 ‰	YES

AUTOMOTIVE MODELS

Model	Application	Scale Range	Division	Accuracy	ATC
 IR-A100	AUTOMOTIVE for coolant and battery fluid testing	Ethylene -84 ° to 32 ° F Propylene -60 ° to 32 ° F Battery Fluid 1.100 to 1.400	5 ° 5 ° 0.01	± 5 ° ± 5 ° ± 0.01	NO
 IR-A100ATC		Ethylene -84 ° to 32 ° F Propylene -60 ° to 32 ° F Battery Fluid 1.100 to 1.400	5 ° 5 ° 0.01	± 5 ° ± 5 ° ± 0.01	YES
 IR-A200		Ethylene -60 ° to 0 ° C Propylene -50 ° to 0 ° C Battery Fluid 1.15 to 1.30	5 ° 5 ° 0.01	± 5 ° ± 5 ° ± 0.01	NO
 IR-A200ATC		Ethylene -60 ° to 0 ° C Propylene -50 ° to 0 ° C Battery Fluid 1.15 to 1.30	5 ° 5 ° 0.01	± 5 ° ± 5 ° ± 0.01	YES

ACCESSORIES

Calibration Chart

Model #	Cal Fluid	RI	Model #	Cal Fluid	RI
IR-A100/ATC	Distilled Water	0	IR-B62	RP-CAL46P	46
IR-A200/ATC	Distilled Water	0	IR-B82	RP-CAL46P	46
IR-A100ATC	Distilled Water	0	IR-B90	RP-CAL60P	60
IR-A300F	Distilled Water	0	IR-C200/ATC	Distilled Water	0
IR-B10ATC	Distilled Water	0	LR-C200ATC	Distilled Water	0
IR-B10ATC	Distilled Water	0	IR-S10ATC	Distilled Water	0
IR-B18	Distilled Water	0	IR-S28	Distilled Water	0
IR-B32/ATC	Distilled Water	0	RL-S10ATC	Distilled Water	0
IR-B32ATC	Distilled Water	0			

CALIBRATION FLUID

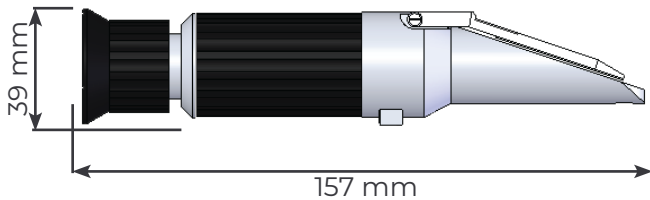
Part #	Description
RP-CAL46	Calibration fluid, 46° Brix
RP-CAL60	Calibration fluid, 60° Brix

DAYLIGHT PLATES

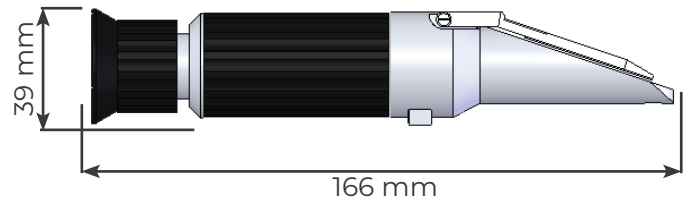
Part #	Description
RP-DPA-2	Daylight plate assembly for models IR-B18, 32, 32ATC, 62, & 82, IR-A100, 100ATC, 200, 200ATC, 300F, and IR-S28
RP-DPA-3	Daylight plate assembly for models LR-B10ATC, LR-C200, 200ATC, LR-S10ATC
RP-DPA-4	Daylight plate assembly for model LR-B90

DIMENSIONS

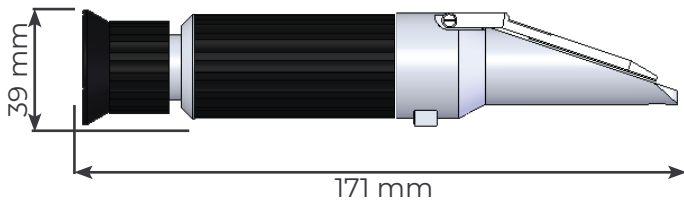
Models: IR-B82 & IR-B90



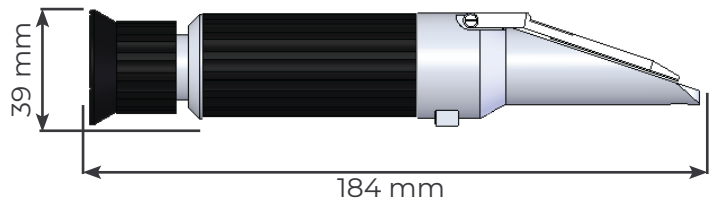
Models: IR-A100 & IR-A200



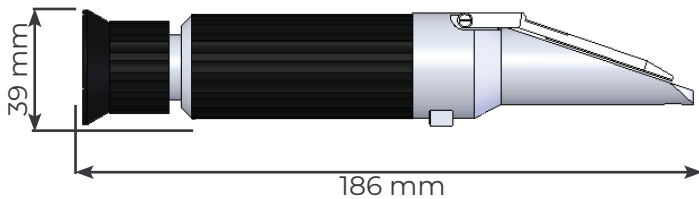
Models: IR-A300F, IR-A400, IR-B55 & IR-B62



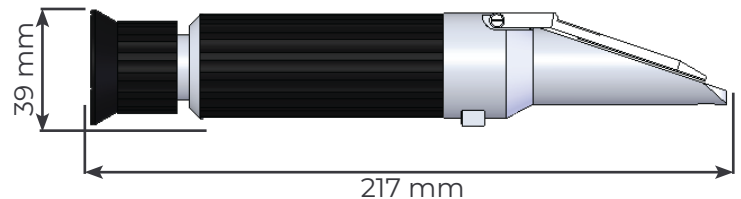
Models: IR-C200



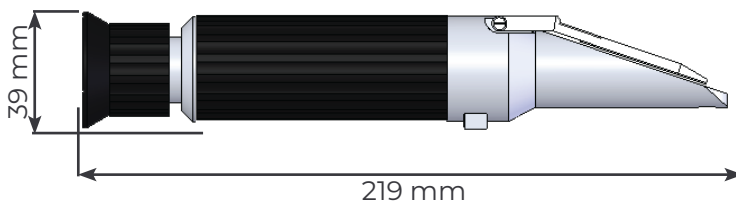
Models: IR-B32



Models: IR-B18



Models: IR-B10





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