

# Refractometer Series

Economy, Industrial, & Lighted

Version 1.0



# 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 RHA 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 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.

**Reading:**  
Without a sample present on the refractometers prism, the scale should appear with an all blue background. Once a sample is present the refraction of the light will show up as a white background; where the two backgrounds meet, they form a line. That line indicates the degree at which the light is bending, and is your reading.

**Objective Lens:**  
When a sample is present and the calibration screw adjust the objective lens, which moves the reading line either up or down.

**Diagram Labels:** READING LINE, ° OF REFRACTION, SAMPLE AREA, CRITICAL VIEWING ANGLE, PRISM, SCALE, CALIBRATION SCREW, OBJECTIVE, SCALE.

# 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 & INDUSTRIAL FLUIDS

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.

# RL Lighted Series

Illuminating Results for All Applications

## KEY BENEFITS

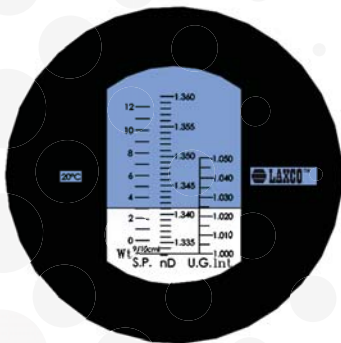
- Consistent, easy-to-use LED illumination
- Sharp, high-contrast scale
- Rugged, rubberized housing protects against moisture and other damage
- Daylight plate stays in open position for convenient sample preparation
- Rubber eyecup and grip for easy focusing and comfortable viewing
- Includes carrying 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



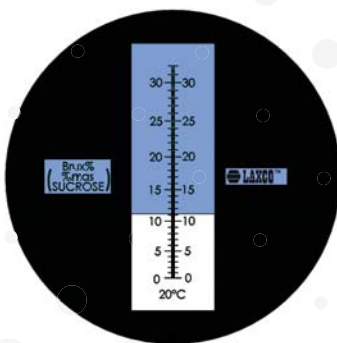
## AUTOMATIC TEMPERATURE COMPENSATION (ATC)

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

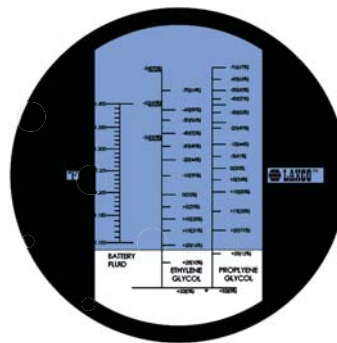
DEVELOPED IN THE U.S., BY U.S. ENGINEERS



CLINICAL



BRIX



AUTOMOTIVE

SALINITY





## OVERVIEW



### LED ILLUMINATION

Laxco RL Light Series refractometers incorporate an LED lamp between the daylight plate and prism to prevent the need of 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
	RLB-10ATC	BRIX for Wine, Beverages, Foods & Industrial Fluids	0 - 10 ° Brix	0.1 °	± 0.1 °
	RLB-32ATC	BRIX for Wine, Beverages, Foods & Industrial Fluids	0 - 32 ° Brix	0.2 °	± 0.2 °

### CLINICAL MODELS

	RLC-200ATC	CLINICAL for Serum Protein, Specific Gravity & Refractive Index	Serum Protein 0 to 12 g/100mil Specific Gravity 1.000 to 1.050 Refractive Index 1.330 to 1.360 nD	.2 .0001 .0005	± .2 ± .0001 ± .005
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### SALINITY MODELS

	RLS-10ATC	SALINITY for Aquaculture, Food Processing and Wildlife Management	Salinity Specific Gravity 1.000 to 1.070	0 - 100 ppt 1.000 to 1.070	1 ppt .0001	± 1 ppt ± .0001
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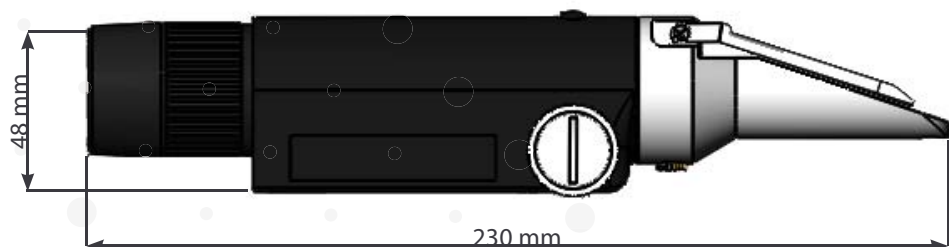
### AUTOMOTIVE MODELS

	RLA-200ATC	AUTOMOTIVE for coolant and battery fluid testing	Ethylene Propylene Battery Fluid	-84 ° to 32 ° F (0% to 67%) -76 ° to 32 ° F (0% to 70%) 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





LMC Compound Microscopes Series

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