VEE GEE

REFRACTOMETERS

VEE GEE Scientific

Laboratory Equipment & Supplies



1.888.610.7664 www.calcert.com sales@calcert.com

VEE GEE's benchtop and handheld refractometers provide users with highly accurate readings for a wide range of applications in the agricultural, food & beverage, chemical and manufacturing industries.

We offer a large breadth of scales for specific applications such as Brix, NaCl, Salinity, Specific Gravity of Seawater, Coolant, Battery Acid, and more.

Our portable line of optical and digital refractometers offers the convenience to perform sample analysis where and when you need. With added temperature control, our Abbe benchtop unit takes the accuracy of your Brix/Refractive Index analysis to the next level in the laboratory.

X-Series
Handheld Refractometers
Compact & Portable

The X-Series handheld refractometers are exceptionally simple to operate and provide quick, accurate measurements for the concentration of nearly any aqueous solution in a wide range of applications.

Made durable with industrial-grade design features to provide years of reliable use even in the field. Rugged metal housing construction with slip-resistant rubber grip and a Non-Roll stand to protect from rolling off surfaces.

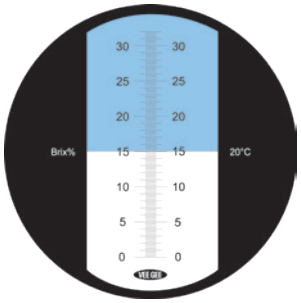
No need to recalibrate or apply correction factors in work environments with large temperature swings with the Automatic Temperature Compensation (ATC) feature included on Models BTX-1, BTX-20, STX-3, CTX-1 & CTX-2. The effective compensation range is 50-86˚ F / 10-30˚ C.

X-Series
Handheld Refractometers



Protective Grip
The rubber grip reduces hand slipping and guards against user's hand heat to maintain accuracy

Tool-Free Calibration
Tools not required with our patented "Zero-Ring" calibration (non ATC units only)



Accurate & Sharp Readings
Large scale is best in class delivering clear, sharp figures, screen shading and incredible contrast for overall accuracy

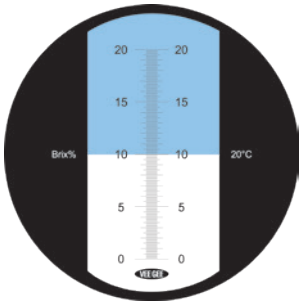
Quick Results
High quality optical glass prism and all-metal housing design allows the sample and prism to reach temperature equilibrium quickly

X-SERIES SPECIFICATIONS	
Sample Type	Transparent and Translucent
Sample Quantity	>0.1 mL
Prism	Optical Glass
Prism Housing	Copper Alloy w/Nickel-Chrome Coating
Included	Carrying Case, Plastic Transfer Pipet, Instruction Manual * ATC models include calibration screwdriver.
Warranty	1-Year

X-Series Handheld Refractometers

For Food, Beverage, and Agriculture Applications

BRIX HANDHELD REFRACTOMETERS							
Cat. No.	Model No.	Scale	Range	Resolution	Accuracy	ATC	Approx Length (in/mm)
43001	BX-1	Brix	0 to 32%	0.2%	±0.2% Brix	No	6.5 / 165
43002	BTX-1	Brix	0 to 32%	0.2%	±0.2% Brix	Yes	6.5 / 165
43003	BX-2	Brix	28 to 62%	0.2%	±0.2% Brix	No	5.9 / 150
43004	SGX-1	Brix/Specific Gravity Beer Wort	0 to 32% 1.000 to 1.130	0.2% / 0.001	±0.2% / ±0.001	Yes	6.5 / 165
43005	BX-3	Brix	60 to 92%	0.2%	±0.2% Brix	No	5.5 / 140
43007	BX-4	Brix	45 to 82%	0.2%	±0.2% Brix	No	5.5 / 140
43009	BX-10	Brix	0 to 10%	0.1%	±0.1% Brix	No	7.3 / 185
43011	BX-20	Brix	0 to 20%	0.1%	±0.1% Brix	No	7.3 / 185
43012	BTX-20	Brix	0 to 20%	0.1%	±0.1% Brix	Yes	7.3 / 185
43015	BX-50	Brix	0 to 50%	0.5%	±0.5% Brix	No	5.7 / 145

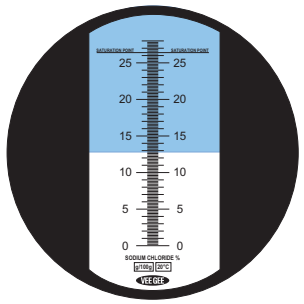


Cat No. 43012/Model BTX-20
For specific scale images, visit product on our website.



For Water/Wastewater, Aquatic and Aquaculture Applications

SODIUM CHLORIDE AND SALINITY HANDHELD REFRACTOMETERS							
Cat. No.	Model No.	Scale	Range	Resolution	Accuracy	ATC	Apprpx. Length (in/mm)
43033	SX-1	NaCl	0 to 10%	0.1%	±0.1%	No	7.3 / 185
43035	SX-2	NaCl	0 to 28%	0.2%	±0.2%	No	6.5 / 165
43036	STX-3	Salinity	0 to 100 ppt	1.0 ppt	±1.0 ppt	Yes	7.3 / 185
		Specific Gravity of Seawater	1.000 to 1.070	0.001	±0.001		



Cat No. 43035/Model SX-2
For specific scale images, visit product on our website.



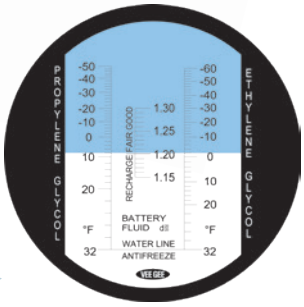
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X-Series Handheld Refractometers



For Light Industrial, Chemical, and Automotive Applications

GENERAL PURPOSE AND INDUSTRIAL CHEMICAL HANDHELD REFRACTOMETERS							
Cat. No.	Model No.	Scale	Range	Resolution	Accuracy	ATC	Approx. Length (in/mm)
43055	NDX-2	Refractive Index	1.435 to 1.520	0.001	±0.001	No	5.5 / 140
43062	CTX-1	Propylene Glycol Freezing Point	-58 to 32°F / -50 to 0°C	33.80°F 1°C	±1°C	Yes	5.9 / 150
		Ethylene Glycol Freezing Point	-50 to 0°C	1°C	±1°C		
		Battery Acid Specific Gravity	1.10 to 1.40	0.01	±0.01		
43064	CTX-2	Propylene Glycol Freezing Point	-50 to 32°F / -45.56 to 0°C -60 to 32°F / -51.11 to 0°C	2°F -16.67°C	±2°F	Yes	5.9 / 150
		Ethylene Glycol Freezing Point	-60 to 32°F	2°F	±2°F		
		Battery Acid Specific Gravity	1.10 to 1.40	0.01	±0.01		
43071	URX-60	Urea	0 to 60%	0.5%	±0.5%	No	5.7 / 145



Cat No. 43062/Model CTX-1
For specific scale images, visit product on our website.

ACCESSORIES		
Cat. No.	Description	Model
43000-DLXXX	Daylight Plate Kit	X-Series Handheld Refractometers Kit includes: Ring, Hinge, Plate, and Screw. Assembled
43RP-008	Soft Fabric Carrying Case	X-Series Handheld Refractometers
1111	Soft Vinyl Carrying Case	BX-1, BTX-1, BX-2, BX-3, BX-4, BX-50, SX-2, NDX-2, CTX-1, CTX-2
1111L	Soft Vinyl Carrying Case	BX-10, BX-20, BTX-20, SX-1, STX-3



Cat No. 43000-DLXXX
Daylight Plate Kit

Transfer Pipets

One-piece, unbreakable polyethylene plastic pipettes

Transfer and deliver small volumes of liquid quickly and safely

- Bulk packed versions come in handy dispenser box
- Sterile versions available single wrapped or 20 wrapped at a time
- Lot-to-lot traceability on sterile versions

STERILE R



TRANSFER PIPETS							
	Cat. No.	Vol. (mL)	Working Vol. (mL)	Approx. Length (in/mm)	Graduations (mL)	Packaging 500 per box	Sterile
a	20327-1	5	1	5.9 / 150	0.25	Bulk	
	20327-1SB	5	1	5.9 / 150	0.25	20/bag	✓
	20327-1S	5	1	5.9 / 150	0.25	1/single wrap	✓
b	20327-2	5	2	6.1 / 155	0.5	Bulk	
	20327-2SB	5	2	6.1 / 155	0.5	20/bag	✓
	20327-2S	5	2	6.1 / 155	0.5	1/single wrap	✓
c	20327-3	7	3	6.1 / 155	0.5	Bulk	
	20327-3SB	7	3	6.1 / 155	0.5	20/bag	✓
	20327-3S	7	3	6.1 / 155	0.5	1/single wrap	✓

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MDX-Series
Digital Refractometers
Compact, Durable and Accurate

The MDX-Series Digital Refractometers feature IP65/67 ratings making them ideal for use in the field and in a multitude of environments.

Delivering quick, digital accuracy with high-end performance features like:

- Automatic Temperature Compensation (ATC)
- Continuous Loop Average Readings



Intuitive to Use
Easy operation with large readable digital LCD display that shows all data needed on screen

Quick Results
Simply place 4-5 drops of your sample into the well, close the prism cover, and press the "READ" button



Easy to Clean
Prism cover and rubber grip surround not only add extra protection, they are removable for easy cleaning



MDX-SERIES SPECIFICATIONS	
ATC Range	32 to 104°F / 0 to 40°C
IP Rating	IP67: detecting unit IP65: body
Prism	Optical Glass
Wavelength	589.3 nm LED
Sample Cell	Stainless Steel
Calibration Solution	Distilled Water (not included)
Min. Sample Volume	0.3 mL
Battery	1 X AAA, 1.5V
Dimensions (L x W x H in/mm)	4.8 x 2.3 x 1 / 121 x 58 x 25
Weight (lb/kg)	0.198 lb / 0.089 kg
Included	Hard shell case with protective lining, disposable pipette, (1) AAA Battery, and user manual
Warranty	1-Year Parts and Labor

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MDX-Series Digital Refractometers

For Food, Beverage, and Agriculture Applications

DIGITAL BRIX/SUGAR REFRACTOMETER

Cat. No.	Model No.	Scale	Range	Resolution	Accuracy
48101	MDX-101	Brix	0.0 to 50.0% Brix	0.1% Brix	±0.2% Brix
		Refractive Index	1.3330 to 1.4200 nD	0.0001 nD	±0.0003 nD
48102	MDX-102	Brix	0.0 to 90.0% Brix	0.1% Brix	±0.2% Brix
		Refractive Index	1.3330 to 1.5300 nD	0.0001 nD	±0.0003 nD
48103	MDX-103	Dextran	0.0 to 10.5%	0.1%	±0.2%
		Fructose	0.0 to 68.0%	0.1%	±0.2%
		Glucose	0.0 to 59.0%	0.1%	±0.2%
		Lactose	0.0 to 16.5%	0.1%	±0.2%
		Maltose	0.0 to 15.5%	0.1%	±0.2%
		Sucrose (Brix)	0.0 to 90.0%	0.1%	±0.2%

DIGITAL HONEY REFRACTOMETER

Cat. No.	Model No.	Scale	Range	Resolution	Accuracy
48301	MDX-301	Brix	0.0 to 90.0% Brix	0.1% Brix	±0.2% Brix
		Moisture	5.0 to 38.0%	0.1%	±0.2%
		Baume	33.0 to 48.0°	0.1°	±0.2°
		Refractive Index	1.3330 to 1.5300 nD	0.0001 nD	±0.0003 nD

DIGITAL WINE REFRACTOMETER

Cat. No.	Model No.	Scale	Range	Resolution	Accuracy
48401	MDX-401	Brix	0.0 to 50.0% Brix	0.1% Brix	±0.2% Brix
		PA (% v/v)	0.0 to 22.0%	0.1%	±0.2%
		Oechsle (Oe)	0 to 150°	1°	±2°
		KMW (Babo)	0.0 to 25.0°	0.1°	±0.2°

For Water/Wastewater, Aquatic and Aquaculture Applications

DIGITAL SODIUM CHLORIDE REFRACTOMETER

Cat. No.	Model No.	Scale	Range	Resolution	Accuracy
48201	MDX-201	NaCl (%)	0.0 to 28.0%	0.1%	±0.2%
		NaCl (ppt)	0 to 280 ppt	1 ppt	±2 ppt
		Specific Gravity	1.000 to 1.217	0.001	±0.002
		Refractive Index	1.3330 to 1.4200 nD	0.0001 nD	±0.0003 nD

DIGITAL SEAWATER REFRACTOMETER

Cat. No.	Model No.	Scale	Range	Resolution	Accuracy
48202	MDX-202	Salinity	0 to 100 ppt	1 ppt	±2 ppt
		Chlorinity	0 to 57 ppt	1 ppt	±2 ppt
		Specific Gravity	1.000 to 1.075	0.001	±0.002
		Refractive Index	1.3330 to 1.4200 nD	0.0001 nD	±0.0003 nD

For Light Industrial, Chemical, and Automotive Applications

DIGITAL DEF (UREA)/BATTERY ACID REFRACTOMETER

Cat. No.	Model No.	Scale	Range	Resolution	Accuracy
48602	MDX-602	DEF (Urea)	0.0 to 51.0%	0.1%	±0.2%
		Refractive Index	1.3330 to 1.4200 nD	0.0001 nD	±0.0003 nD
		Battery Acid Specific Gravity	1.000 to 1.500	0.001	±0.005

DIGITAL COOLANT REFRACTOMETER

Cat. No.	Model No.	Scale	Range	Resolution	Accuracy
48603	MDX-603	Ethylene Glycol (% v/v)	0.0 to 65.0%	0.1%	±0.5%
		Ethylene Glycol Freezing Point	-80.0 to 32.0°F / -50.0 to 0.0°C	0.1°F / 0.1°C	±1.0°F / ±0.5°C
		Propylene Glycol (% v/v)	0.0 to 73.0%	0.1%	±0.5%
		Propylene Glycol Freezing Point	-100.0 to 32.0°F / -50.0 to 0.0°C	0.1°F / 0.1°C	±1.0°F / ±0.5°C

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C10
Abbe Refractometer
High Precision Benchtop Unit

The C10 Abbe Refractometer is a high precision benchtop instrument measuring the Refractive Index (nD) of liquids, glass, plastic and film.

With an oversized, easy to read scale and Prism Temperature Control feature, the C10 delivers Brix and Refractive Index Scales and dispersion measurements with high precision.

Made of easy to clean, durable metal housing, the C10 is a long-lasting tool perfect for Education, Food, Beverage and Industrial Laboratories.



C10

C10 ABBE REFRACTOMETER SPECIFICATIONS	
Dispersion (nF-nC)	Dial Readings w/Conversion Charts
Ambient Temperature	41 to 95°F / 5 to 35°C 32 to 158°F / 0 to 70°C
Measuring Temperature	0 to 70°C
Optical Wavelength	589 nm
Prism	Optical Glass
Prism Housing	SUS316 Stainless Steel
Circulator Nozzles	2 for Primary Prism, 2 for Secondary Prism; accepts 3/8" ID tubing
Dimensions (L x W x H in/mm)	5.5 x 3.5 x 9.4 / 140 x 90 x 240
Weight	9.9 lb / 4.5 kg
Supplied With	2 x LR44, 1.5V Batteries
	Glass Standard (1.5163 nD)
	Bromonaphthalene Contact Liquid (4 mL bottle)
	Scale Adjustment Tool
Warranty	1-Year Parts and Labor

C10 ABBE REFRACTOMETER				
Cat. No.	Scale	Range	Resolution	Accuracy
C10	Brix	0.0 to 95.0%	0.25% Brix	±0.15% Brix
	Refractive Index	1.3000 to 1.7200 nD	0.0005 nD	±0.00025 nD

Refractometer Standards, Letter of NIST Traceability Certification

REFRACTOMETER STANDARDS				
Cat. No.	Type	Brix Value (68°F / 20°C)	R.I. Value (68°F / 20°C)	Bottle Volume
45000-OS025	Oil	60.00%	1.4420 nD	7.4 mL / 0.25 oz
45000-OS200	Water	0.00%	1.33297 nD	7.4 mL / 0.25 oz
45000-OS001	Contact Solution	0.00%	1.65 nD	7.4 mL / 0.25 oz

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