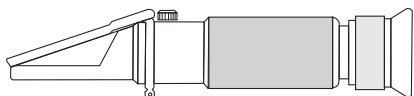


### 0 to 18% Brix Refractometer with ATC

Model RF12



#### Introduction

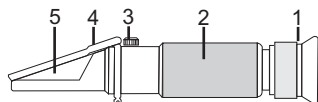
Congratulations on your purchase of the Extech RF12 Brix Refractometer. Precision optical instruments should be handled gently; avoid touching the optical surface. Careful use of these instruments will provide years of reliable service.

#### Specifications

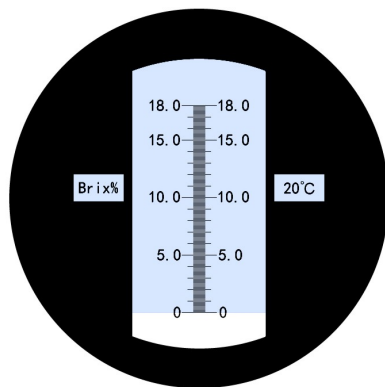
Range	0 to 18% Brix
Resolution	0.1%
ATC range	50 to 86°F / 10 to 30°C
Dimensions	6.7 x 1.6 x 1.2" (170 x 40 x 30mm);
Weight	5.5 oz. (155g)

#### Description

1. Eyepiece
2. Mirror Tube
3. Adjustment screw
4. Cover Plate
5. Prism



Scale



#### Operation

This instrument measures the refractive index of a sample and displays the results in % Brix.

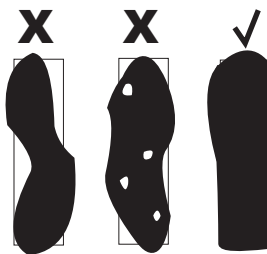
##### 1. Zero Adjustment

Cover the prism with a few drops of distilled water from the included vial. Close the cover plate and view the light/dark boundary (shadowline). If necessary, turn the adjustment screw until the shadowline aligns with the scale's zero line. The zero calibration should be performed at 68°F/20°C. After the zero adjustment, clean the prism with a soft cloth.

##### 2. Sample Preparation and Reading

To take a sample reading, open the cover plate and place a few drops of the sample on the measurement prism. Close the cover plate so that the liquid spreads across the entire surface of the prism without air bubbles or dry spots. Allow the sample to remain on the prism for approximately 30 seconds.

While holding the instrument under a light source, look through the eyepiece. The brix concentration is determined by the intersection of the boundary of the light and dark fields on the scale. If the scale appears out of focus, adjust by rotating the eyepiece until the scale is in focus. The instrument also features an eye-guard to prevent stray light from entering the eyepiece and causing reflections.



It may be necessary to adjust the position of the light source to maximize the contrast of the shadowline. Under normal conditions, optimal contrast is obtained by holding the instrument underneath and perpendicular to a light source.

Once a reading has been taken, wipe dry with a clean cloth (do not wash or rinse) and place the instrument in the supplied plastic case. Store the instrument in a safe, dry environment.

##### 3. Automatic Temperature Compensation (ATC)

Temperature is one of the single most important factors influencing accurate refractometer readings and is one of the largest sources of measurement error. Automatic temperature compensation relieves the user of the responsibility to measure temperature and apply a correction factor when taking readings. The RF12 makes this correction automatically. Using 68°F (20°C) as a reference, readings are automatically adjusted to compensate for temperature variance between 50°F to 86°F (10°C to 30°C).

#### International Brix% Scale

Brix to Refractive Index (nD) Conversion Table

%	nD	%	nD	%	nD	%	nD
0	1.333	5	1.3403	10	1.3478	15	1.3557
1	1.3344	6	1.3418	11	1.3494	16	1.3573
2	1.3359	7	1.3433	12	1.3509	17	1.3589
3	1.3373	8	1.3448	13	1.3525	18	1.3605
4	1.3388	9	1.3463	14	1.3541		

Source: International Sugar Analysis Committee

#### Warranty

**FLIR Systems, Inc. warrants this Extech Instruments brand device to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies to sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department for authorization. Visit the website [www.extech.com](http://www.extech.com) for contact information. A Return Authorization (RA) number must be issued before any product is returned. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. FLIR Systems, Inc. specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. FLIR's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.**

#### Calibration, Repair, and Customer Care Services

**FLIR Systems, Inc. offers repair and calibration services for the Extech Instruments products we sell. NIST certification for most products is also provided. Call the Customer Service Department for information on calibration services available for this product. Annual calibrations should be performed to verify meter performance and accuracy. Technical support and general customer service is also provided, refer to the contact information provided below.**

Support Lines: U.S. (877) 439-8324; International: +1 (603) 324-7800

Technical Support: Option 3; E-mail: [support@extech.com](mailto:support@extech.com)

Repair & Returns: Option 4; E-mail: [repair@extech.com](mailto:repair@extech.com)

Product specifications are subject to change without notice

Please visit our website for the most up-to-date information

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