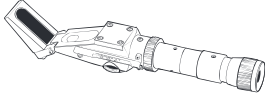


0 to 90% Brix Refractometer

Model RF30



Introduction

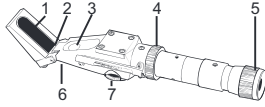
Congratulations on your purchase of the Extech RF30 Brix Refractometer. Precision optical instruments should be handled gently; avoid touching the optical surface. Careful use of these instruments will provide years of reliable service.

Specifications

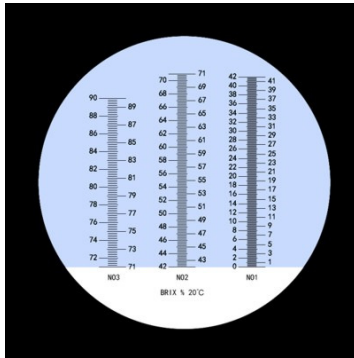
| | |
|------------|--|
| Range | 0 to 90% Brix in three scales: 1: (0 to 42%), 2: (42 to 71%), 3: (71 to 90%) |
| Resolution | 0.2% |
| Dimensions | 7.5 x 1.6 x 1.2" (190 x 40 x 30mm); |
| Weight | 5.5 oz. (155g) |

Description

- Cover plate
- Light window
- Prism
- Sharpness ring
- Eyepiece and Focus
- Light window
- Scale select knob



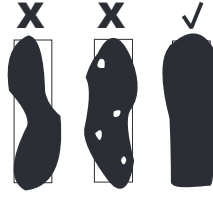
Scale:



Operation

This instrument measures the refractive index of a sample. The measurement is displayed in % Brix.

- The 20°C zero calibration is factory set. No further adjustment is necessary.
- Select the scale (1, 2 or 3) by rotating the scale select knob.
- To take a sample reading, open the cover plate, place a few drops of the sample (a vial of distilled water is included) on the measurement prism. Close the prism 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. Rotate the eyepiece to adjust the focus
- The sucrose concentration is determined by the intersection of the boundary of the light and dark fields (known as the shadowline) on the printed scale. Adjustment of the sharpness ring can improve the shadowline definition.
- It may be necessary to adjust the position of the light source to maximize the contrast of the shadowline. The light window may also be opened or closed to improve contrast.
- Change the range if the line is offscale.
- 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.



Temperature Compensation

The RF30 Refractometer has been designed for use with a 20°C standard temperature. If the temperature of the measurement deviates from 20°C, the reading must be manually compensated in accordance with the Temperature Compensation Table.

Example: Reading = 20%, Temperature = 28°C
20% + 0.62% (add from table) = 20.62%.

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 Repair & Returns: Option 4; E-mail: repair@extech.com
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Temperature Compensation Table (Referenced To 20°C)

| % | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
|----|----------------------------------|------|------|------|------|------|------|------|------|
| °C | Subtract from the measured value | | | | | | | | |
| 10 | 0.52 | 0.58 | 0.59 | 0.61 | 0.64 | 0.67 | 0.69 | 0.71 | 0.72 |
| 11 | 0.48 | 0.51 | 0.54 | 0.55 | 0.58 | 0.61 | 0.63 | 0.65 | 0.65 |
| 12 | 0.44 | 0.47 | 0.49 | 0.50 | 0.52 | 0.55 | 0.57 | 0.58 | 0.58 |
| 13 | 0.39 | 0.42 | 0.44 | 0.44 | 0.45 | 0.49 | 0.50 | 0.51 | 0.51 |
| 14 | 0.35 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.44 | 0.44 |
| 15 | 0.29 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 |
| 16 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.28 | 0.29 | 0.30 | 0.30 |
| 17 | 0.18 | 0.19 | 0.20 | 0.20 | 0.21 | 0.21 | 0.22 | 0.22 | 0.23 |
| 18 | 0.12 | 0.13 | 0.13 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 |
| 19 | 0.06 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.08 |
| | Add to the measured value | | | | | | | | |
| 21 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.08 | 0.08 |
| 22 | 0.13 | 0.14 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.16 | 0.16 |
| 23 | 0.20 | 0.21 | 0.21 | 0.22 | 0.22 | 0.23 | 0.23 | 0.23 | 0.23 |
| 24 | 0.27 | 0.28 | 0.29 | 0.29 | 0.30 | 0.30 | 0.31 | 0.31 | 0.31 |
| 25 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.38 | 0.39 | 0.39 | 0.40 |
| 26 | 0.42 | 0.43 | 0.44 | 0.44 | 0.46 | 0.46 | 0.47 | 0.47 | 0.48 |
| 27 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.55 | 0.56 | 0.56 |
| 28 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.64 | 0.65 |
| 29 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.73 |
| 30 | 0.74 | 0.75 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 | 0.81 | 0.81 |

| % | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----|----------------------------------|------|------|------|------|------|------|------|------|
| °C | Subtract from the measured value | | | | | | | | |
| 10 | 0.74 | 0.74 | 0.74 | 0.75 | 0.76 | 0.77 | ---- | ---- | ---- |
| 11 | 0.67 | 0.67 | 0.67 | 0.68 | 0.68 | 0.69 | ---- | ---- | ---- |
| 12 | 0.60 | 0.60 | 0.60 | 0.60 | 0.61 | 0.61 | ---- | ---- | ---- |
| 13 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | ---- | ---- | ---- |
| 14 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.46 | ---- | ---- | ---- |
| 15 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.37 | 0.07 |
| 16 | 0.30 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.30 | 0.30 | 0.30 |
| 17 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.22 |
| 18 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| 19 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.07 |
| | Add to the measured value | | | | | | | | |
| 21 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.07 |
| 22 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 | 0.15 |
| 23 | 0.24 | 0.24 | 0.24 | 0.24 | 0.23 | 0.22 | 0.23 | 0.23 | 0.22 |
| 24 | 0.31 | 0.31 | 0.32 | 0.32 | 0.31 | 0.31 | 0.31 | 0.30 | 0.30 |
| 25 | 0.40 | 0.40 | 0.40 | 0.40 | 0.39 | 0.39 | 0.39 | 0.38 | 0.37 |
| 26 | 0.48 | 0.48 | 0.48 | 0.48 | 0.47 | 0.47 | 0.46 | 0.46 | 0.45 |
| 27 | 0.56 | 0.56 | 0.56 | 0.56 | 0.55 | 0.55 | 0.54 | 0.53 | 0.52 |
| 28 | 0.65 | 0.64 | 0.64 | 0.64 | 0.64 | 0.63 | 0.62 | 0.61 | 0.60 |
| 29 | 0.73 | 0.73 | 0.73 | 0.72 | 0.72 | 0.71 | 0.70 | 0.69 | 0.68 |
| 30 | 0.82 | 0.81 | 0.81 | 0.81 | 0.80 | 0.79 | 0.78 | 0.77 | 0.75 |

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 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.