

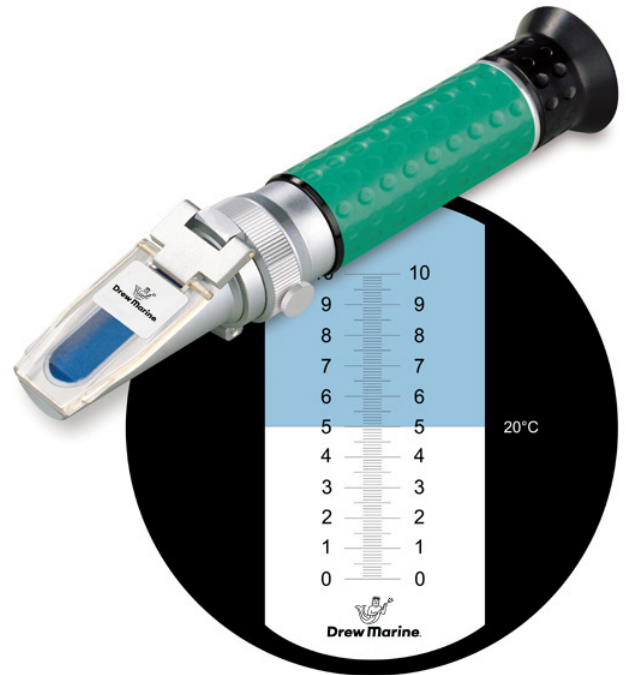
DESCRIPTION

The OPTISCOPE™-10 is a handheld optical instrument used to determine the concentration of DREWGARD® XTA in a cooling water system. The OPTISCOPE-10 measures the change in direction of transmitted light when passed through a cooling water sample containing DREWGARD XTA. The degree of directional change is measured in percent and is directly proportional to the concentration of DREWGARD XTA. The instrument is calibrated using distilled water as a reference standard.

APPLICATION AND USE

The OPTISCOPE-10 is easy to use and gives fast and accurate determinations of DREWGARD XTA concentrations. This assures optimal concentrations of DREWGARD XTA are maintained for system protection and cost effective application.

Use of the OPTISCOPE-10 is a simple two-step process comprised of calibration with distilled water, and then concentration determination using a cooling water sample. The concentration determination is made by multiplying the percentage reading from the scope by a factor of two. This gives the DREWGARD XTA concentration in percent. The scale of the OPTISCOPE-10 can be read in increments of 0.1% corresponding to an accuracy of 0.2% for the concentration of DREWGARD XTA.



FEATURES

- Easy to Use
- Accurate
- Easy to calibrate
- Vinyl Carrying Case

BENEFITS

- No special training required
- Assures adequate protection at the lowest possible cost
- No additional tools are required
- Protects instrument for years of reliable service



Contact your Drew Marine representative for more information

OPTISCOPE™ -10 Components



Rubber Hood

Houses and protects the focusable lens. Prevents light from entering through the eyepiece during use.

Calibration Ring

Mechanism used to zero or calibrate the OPTISCOPE-10, without the requirement of additional tools

Rubber Grip

Insulates the OPTISCOPE-10 against hand heat for accurate results.

Calibration Ring Set Screw

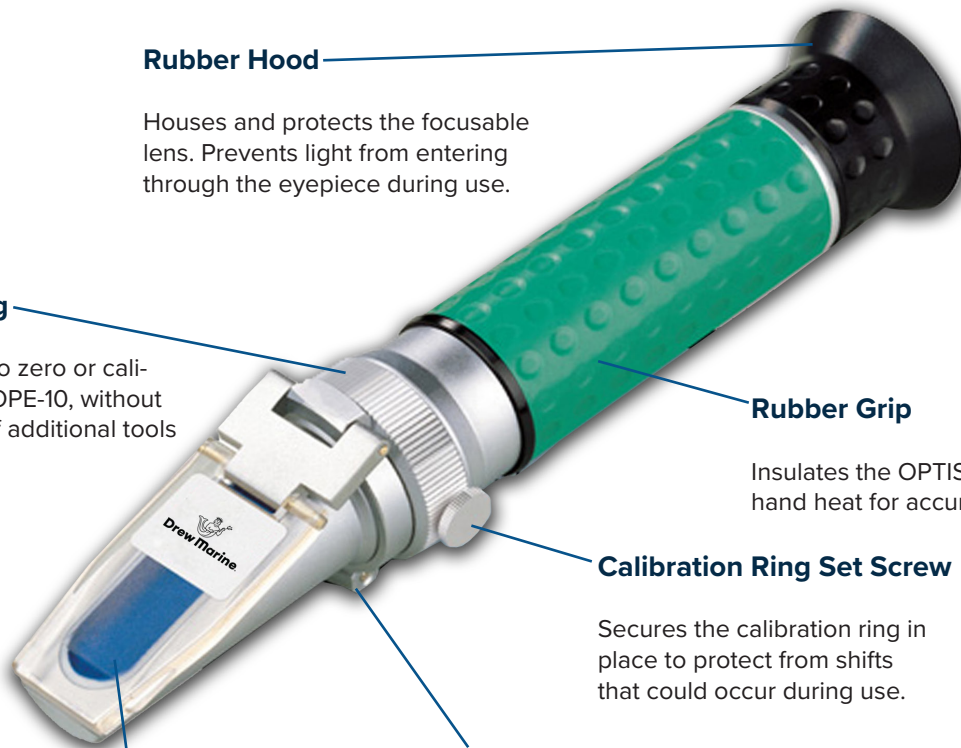
Secures the calibration ring in place to protect from shifts that could occur during use.

Cover Plate & Prism

The prism and sample are covered by the plate during readings.

Non-Roll Stand

Protects against damage to the instrument when set down between measurements.



PRECAUTIONS

- The OPTISCOPE-10 is an optical instrument. It can become damaged if dropped or handled in a rough manner.
- The prism is made of optical glass and is susceptible to scratches – do not apply any rough or abrasive material and take care when cleaning the prism.
- After each use, clean the prism surface and the plastic prism cover with a soft cloth or tissue soaked in water and wipe off with a dry cloth or soft tissue.
- Do not hold the OPTISCOPE-10 under a stream of water from a faucet. Do not splash it with or dip it in water.
- If the surface of the prism becomes coated with an oily solution or similar, it will repel test samples and affect readings. If this occurs, the prism should be cleaned with a weak detergent.

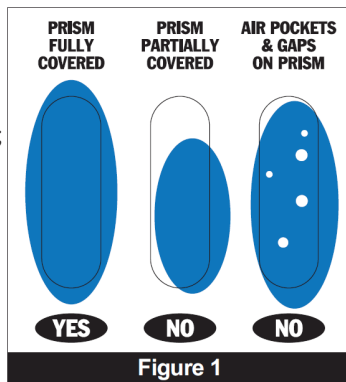


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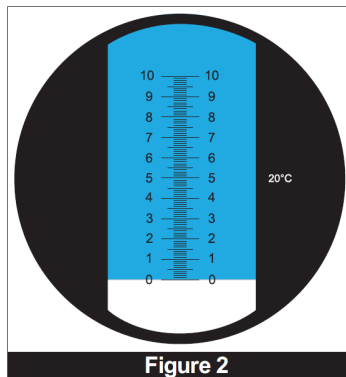
CALIBRATION

The **OPTISCOPE-10** must be calibrated at the start of each day before its use for **DREWGARD XTA** concentration determination.

1. Open the plastic prism cover and apply 1-2 drops of distilled water (maintained at ambient temperature) on the surface of the prism. Hold the instrument at an angle such that the prism is level so that the distilled water will not run off the prism.
2. Gently close the plastic cover over the prism. The distilled water should spread as a thin, even layer in-between the prism and the plastic cover. Ensure that the distilled water covers the entire surface of the prism; otherwise, the calibration will not be accurate. If needed, reapply the distilled water and ensure that it covers the entire surface of the prism (FIGURE 1).



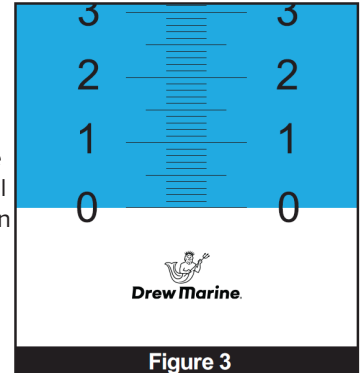
3. Look through the eyepiece and direct the **OPTISCOPE-10** toward a source of light by holding it upwards. If needed, focus and adjust the scale by gently turning the eyepiece (rubber hood) either clockwise or counterclockwise. Be careful not to overturn the focusing mechanism.
4. Look at the scale through the eyepiece, the upper field of the view will be seen as blue while the lower field will be seen as white (FIGURE 2).
5. Confirm that the boundary line crosses the scale at "0" (FIGURE 3). If not, gently loosen the set screw on the calibration ring and while looking through the eyepiece, gently turn the calibration ring clockwise or counterclockwise until the boundary line is at zero. Gently tighten the set screw. Do not over-tighten as the boundary line might shift slightly.
6. When the calibration is complete, gently wipe the prism dry using soft tissue paper.



GENERAL USE

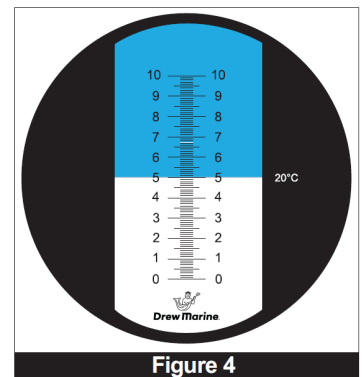
The sample must be at ambient temperature prior to testing.

1. Open the plastic prism cover and apply 1-2 drops of sample solution on the surface of the prism. Hold the instrument at an angle such that the prism is level so that the sample solution will not run off the prism.
2. Gently close the plastic cover over the prism. The sample solution should spread as a thin, even layer in-between the prism and the plastic cover. Ensure that the sample solution covers the entire surface of the prism; otherwise, the results will be inaccurate. If needed, reapply the sample solution and ensure that it covers the entire surface of the prism (FIGURE 1).

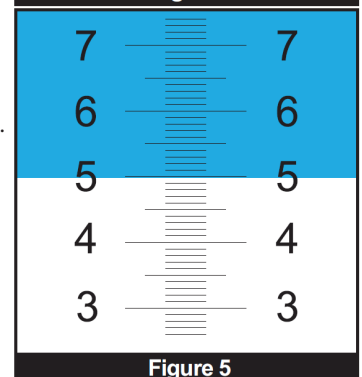


3. Look through the eyepiece and direct the **OPTISCOPE-10** toward a source of light by holding it upwards. If needed, focus and adjust the scale by gently turning the eyepiece (rubber hood) either clockwise or counterclockwise. Be careful not to overturn the focusing mechanism.

4. Look at the scale through the eyepiece, the upper field of the view will be seen as blue while the lower field will be seen as white (FIGURE 4). The reading is taken at the point where the boundary line of the blue and white fields crosses the scale (FIGURE 5).



5. The **DREWGARD XTA** concentration in percentage (%) equals: **THE SCALE READING X 2.**
6. After each measurement, the sample must be cleaned from the prism using soft tissue paper and water.



Contact your Drew Marine representative for more information

SATISFACTORY RANGES

System	Scale Reading	DREWGARD XTA Concentration
Standard Cooling	4.0 – 6.0	8.0 – 12.0 %
Narrow Range Specifications	4.5 – 5.5	9.0 – 11.0 %

CONTROL AND DOSING

Below satisfactory	Increase Dosage
Satisfactory	Maintain Dosage
Above satisfactory	Decrease Dosage

PACKAGING AND CONTENTS

The OPTISCOPE-10 (PCN 1AB2940) is supplied in a vinyl carrying case with a plastic transfer pipet (1)

IMPORTANT INFORMATION

Drew Marine maintains Safety Data Sheets on all of its products. Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees.

Our Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Drew Marine products.



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