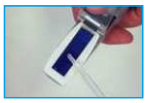
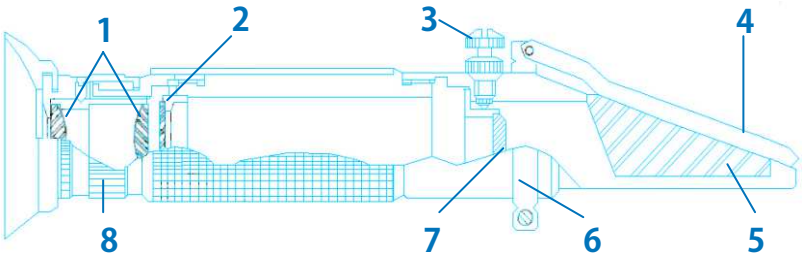


Product Information Flyer

BINICE ® METALWORKING FLUID
REFRACTOMETER
Instructions for Use



1. Eyepiece
2 Scale
3. Scale Calibrating K nob
4. Plastic cover
5. Prism
6. Frame for plastic cover
7. Lens
8. Scale focusing k nob

Figure 1. Refractometer Schematic

A refractometer is a hand-held optical instrument, which can be used to measure the mix concentration of metalworking fluids. The refractometer provides a numeric reading by measuring the refractive index of the fluid mix. This allows the operator to monitor the concentration of the metalworking fluid.

Calibration

Proper calibration of the refractometer is necessary toobtain an accurate refractive index measurement. Before calibrating the instrument, ensure that the temperatures of the refractometer, water and metal-working fluid sample are at ambient, as accurate calibration is temperature dependent. Proceed as follows:

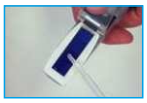
Place a few drops of water between the plastic cover (4) and the prism (5). Hold the refractometer horizontally and point it at a light source. Look into the eyepiece (1) and adjust the scale calibrating knob (8) until the boundary line which separates the light and dark areas of the scale is aligned with the zero line on the scale. Figure 2 depicts a typical refractometer scale.

Instructions for Use

1. Lift the plastic cover and dry the prism with a clean, dry cloth. Place one or two drops of metalworking fluid on the prism and close the plastic cover.

2. Note the refractometer scale reading at the point where the boundary line separates the light and dark areas on the scale. Determine the concentration by multiplying the refractometer scale reading by the refractometer factor of your metalworking fluid (refer to calculations in Figure 3).

TEL : 0755-27706260 Mobile : 13580778787
FAX : 0755-27186379 E-mail : binice.oil@qq.com
Web : www.bi-nice.com QQ : 81474415
ADD : ChenWu Village,ShaBo Community,PingShan District,ShenZhen.



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NOTE:

Consult your BINICE metalworking fluid Product Information Folder to obtain the appropriate refractometer factor. If tramp oil has leaked into your system, these refractometer factors will no longer be accurate. In this case, a slightly lower refractometer factor should be used to compensate for the presence of tramp oil. Alternatively, a more accurate concentration measurement can be obtained using a chemical titration kit.

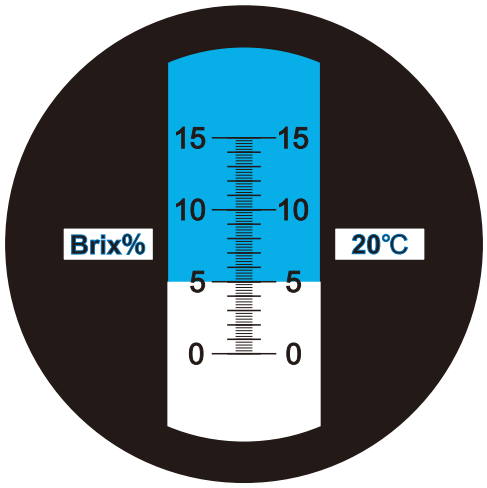

Figure 2. A Typical Refractometer Scale

Figure 3

BINICE® METALWORKING **Fluid Mix Concentration (%) = Refractometer Reading×Factor**

EXAMP LE:

The Product Factor for BINICE® 5000P METALWORKING Fluid = 1.0

A 5.0 reading on the BINICE® METALWORKING Fluid Refractometer Scale, as seen in Figure 2, multiplied by the Product Factor of 1.0 yields a 5.0% mix concentration.

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