

## Made in Baden Württemberg

Our hand refractometers are the result of our total commitment to quality, innovative technology, years of experience and consistent further development of tried and tested systems.

## HM Hand refractometers

Type HM 10/HM 15 | HM 18/HM 32 | Digital 0 - 45%

**HM hand refractometers are used for fast and precise determination of the concentration of cooling lubricant emulsion concentrations.**

The refractive index of a specific liquid is determined by optical measurement with the refractometer. HM refractometers are suitable for the measurement of mineral oil based products as well as partially synthetic and synthetic liquids.





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### Applications:

The determination of emulsion concentrations can be carried out quickly and accurately using a refractometer. One drop of the respective fluid is applied to the prism using the supplied pipette. For the purpose of measurement, the refractometer is held horizontally against a light source. Viewed through the ocular, the result is clearly visible as a light/dark cut-off on a scale. In order to obtain the exact percentage concentration of the emulsion, the measured value must be multiplied by the specific lubricant concentrate correction value.

The measurements are performed with pure fluids at a temperature of 20°C.

### Design features:

HM hand refractometers are precision measuring instruments that are simple to use and easy to clean. Due to their robust and practical design, they are suitable for daily use in workshops. The supplied pouch provides protection against fouling. HM hand refractometers are available for various measuring ranges.

### Correction diagram

For determination of the correction value for the respective emulsion, a 10 % concentrate is produced as a test fluid and measured in the refractometer. As a correction diagram, a coordinate system is plotted. The measured value is marked off on the vertical (ordinate) and the fluid concentration in per cent by volume on the horizontal (abscissa). Since the value indicated on the refractometer scale can be above or below the actual 10%, the measured value is marked off on the ordinate for determination of the correction value. A horizontal line is drawn from the respective value and a vertical line is drawn from the abscissa from the value 10. Through the intersection of both lines, a straight line is drawn through the zero point of the coordinate system. The straight line now assigns the respective indicated value to the corresponding concentration in per cent by volume.

### Measuring range

- Type HM 10** linear incrementing 0...10%
- Type HM 15** linear incrementing 0...15%
- Type HM 18** linear incrementing 0...18%
- Type HM 32** linear incrementing 0...32%
- Digital** linear incrementing 0...45%