

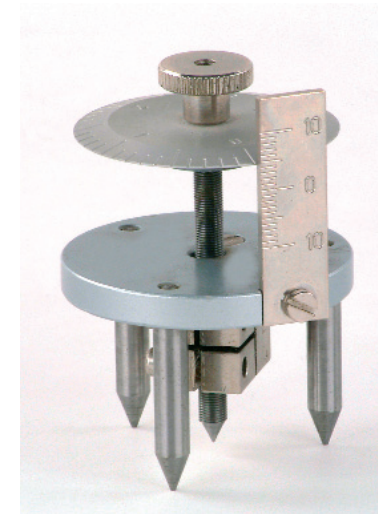
Caution:

- This device may only be operated by qualified personnel or by persons they instruct in its use. Supervision is obligatory.
- Take care that the device does not fall during repositioning, packing or unpacking. In the event this does occur, have the device examined or repaired by authorized service personnel.
- The device contains no components requiring maintenance on the part of the user.
- The device may be repaired only by authorized service personnel.



DG100-2S Spherometer

NTL - Fruhmann - 7372 Karl - Austria - 2004/04/27



Instructions for operating the spherometer

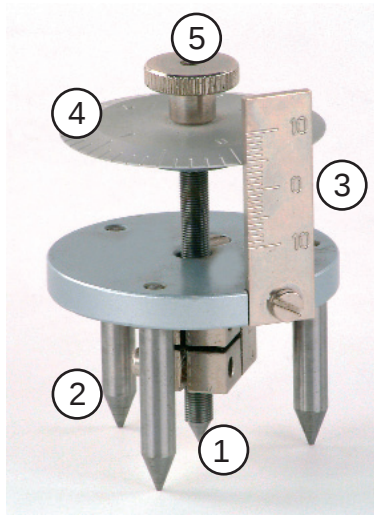
NTL's spherometer is a model for demonstration purposes which may be used for measuring the thickness and radius of curvature of spherical surfaces. The spherometer has been specially designed for use in schools and at universities.

Measuring range: -10...0...+10 mm

Measuring accuracy: 0.01 mm

Diameter: 50 mm

Height: 70 mm



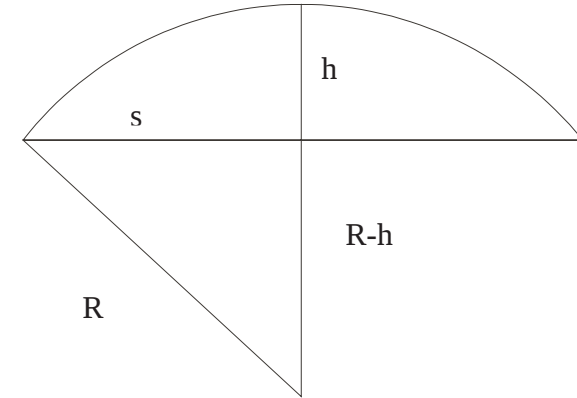
Component Parts:

- 01 - Measuring point
- 02 - Leg with base point
- 03 - Vertical measuring scale
- 04 - Disc scale
- 05 - Micrometer adjustment screw

Operation:

The spherometer consists of three legs with pointed tips which together form an equilateral triangle with sides 50 mm in length. A micrometer adjustment screw with a measuring point passes through the centre point of the instrument. A vertical measuring scale allows exact determination of the position of the measuring point relative to the surface being measured. Measuring point s is located 29.0 mm from each of the spherometer's leg ends. The radius of curvature may be calculated using the following equation:

$$R = \frac{s^2}{2h} + \frac{h}{2}$$



Legend:

- R - radius of curvature
- h - height of curvature
- s - distance of measuring point s from each of the spherometer's three leg points
- $s = 29 \text{ mm}$

Note:

The position of the measuring point can be adjusted using the micrometer screw. Just when the measuring point is touching the object to be measured can be ascertained by cautiously turning the micrometer adjustment screw and observing whether the entire spherometer turns with it or the spherometer is seen to tilt lightly.

Two complete turns of the micrometer adjustment screw are approximately equivalent to 1 mm of vertical distance.