

## POLDI HARDNESS TESTER



The POLDI hardness tester is the simplest and most economical device for measuring hardness according to Brinell and determining tensile strength of engineered and tool steels, dies, forgings, railway material, beams, sheets, pipes, cast steel and various parts of steel, as well as determining hardness according to Brinell for cast bronze, aluminum, brass, copper, grey and chilled cast iron.

The POLDI hardness tester allows the user to perform the impact test with the help of a hammer almost anywhere including: workshops, at assembly sites or any other places. Brinell hardness and tensile strength can be seen in commonly available conversion tables.

### DIRECTIONS FOR USE:

A quenched steel ball with the diameter of 10 mm is put between the piece tested and a calibrated steel bar of a defined tensile strength (check test piece). A single strong hammer stroke creates ball impressions into the test piece and the piece tested at the same time. Diameters of both impressions have to be measured carefully with the magnifier provided with the tester. Based on the values measured, Brinell hardness and tensile strength of the piece tested can be found in the supplied table. If a measuring microscope is available, diameters of the impressions can be taken more precisely.

When the POLDI hardness tester uses the check test piece made of steel having the strength of 70 kg/mm<sup>2</sup>, the deviation of the tensile strength converted from the Brinell hardness compared to the real tensile strength in steel having the strength of 50-100 kg/mm<sup>2</sup> is maximum  $\pm 3\%$ . In case of milder types of iron and steel and steel having the strength of 100-150 kg/mm<sup>2</sup> (e.g. with hardened, heat treated and high alloyed steels) it is a maximum of  $\pm 5\%$ . With the strength of 150 – 200 kg/mm<sup>2</sup>, inaccuracy under certain conditions can be even a little higher.

The POLDI hardness tester, as well as being a Brinell hardness tester, may be used for all forgeable iron and steel types with the exception of austenitic steels, e.g. steel with 25 % Ni, steel with 14 % Mn, corrosion resistant Cr-Ni steel, non-magnetic steel, etc.

Each calibrated steel piece can be used for about 40 tests.