



Hegewald & Peschke
Meß- und Prüftechnik GmbH

Product information

Hardness measuring station for crank shafts

L=1400mm, D=420mm



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Application:

The hardness measuring station for crank shafts has been especially designed for this purpose and uses a Rockwell gauge head. Clamping and unclamping as well as positioning the specimen are done manually. Positioning and clamping of the measuring gripper (with the hardness gauge head) are carried out by a motor and activated with responding controllers and sensors.

All control elements for setting up the machine and for electromotive positioning and clamping of the measuring gripper can be found in the operating panel at the front of the device.

Via the serial interface at the hardness gauge head measured values can be sent to a data acquisition device (printer, PC).

An advantage of this test stand is, that the crank shaft has to be fixed once and the hardness tester can be moved easily along the crank shaft to the desired testing position.

Specification of the hardness measuring station:

- Hardness testing according to the standard of Rockwell C-method (as well as other methods according to the specification of the gauge head)
- Measurement vertical to the axis and centric on every bearing (OT, UT, +/-90°)
- Grasp of the crank shaft between live centers (cone=60°, Dmax=56mm)
- Clamping and positioning of the shaft are done manually, bracing and measuring are done motor-driven (fully automatic hardness testing optionally possible)
- Geometry data of the specimen (other dimensions possible):
- length of crankshaft up to 1500 mm
- weight up to 250 kg
- air care circuit diameter up to 420 mm
- crank pin diameter 20 - 205 mm
- height of stroke up to 300 mm
- minimum main pin bearing breadth 16 mm
- minimum edge measurement distance (e.g. to crank web) 7 mm
- dimension of test stand: 2350 mm height x 2100 mm width x 1200 mm depth, 470 kg weight

- output of the measured values via RS232 interface (standard protocol is provided, ASCII possible)
- The station is delivered with certificate and it is capable of MPA-acceptance.

Testing procedure / technical outline:

The crankshaft is taken to the measuring station using an appropriate hoisting device (hoisting device and lifting accessories not included in delivery) and it is then clamped between the peaks.

Therefore the clamping table is driven to its setting-up position which is accessible from top. The crankshaft can be rotated around its axis and positioned manually beneath the gauge head. When the testing position is reached, the operator activates the electromechanical/pneumatic clamping and centring.

The hardness gauge head is moveable in Z-direction by an electro motor. The hardness test can be carried out manually or with an electro motor. For the safety of the operator electromotive/ -pneumatic moves are two hand operated.

Specification gauge head R (Rockwell standard test forces):

- Operating principle: according to EN 10109-1/2/3, ASTM-E18 analogue to Rockwell
- Pre-stress: 98 N (10 kp)
- Rockwell test loads: 588 - 980 - 1471 N (60 - 100 - 150 kp)
- Brinell test loads: 612 - 1226 - 1839 N (62,5 - 125 - 187,5 kp)
- Selectable scales: HRA, HRB, HRC, HRD, HRF, HRG, HB/30 (187,5 - 2,5) further scales; optionally on request (e.g. HB5 - HB10 - kg/mm² - N/mm²)

Connection data:

1x 230VAC - 50/60Hz, (max. 16A)
PC-network-connection (RS232)
1x pressurised air (6 bar)