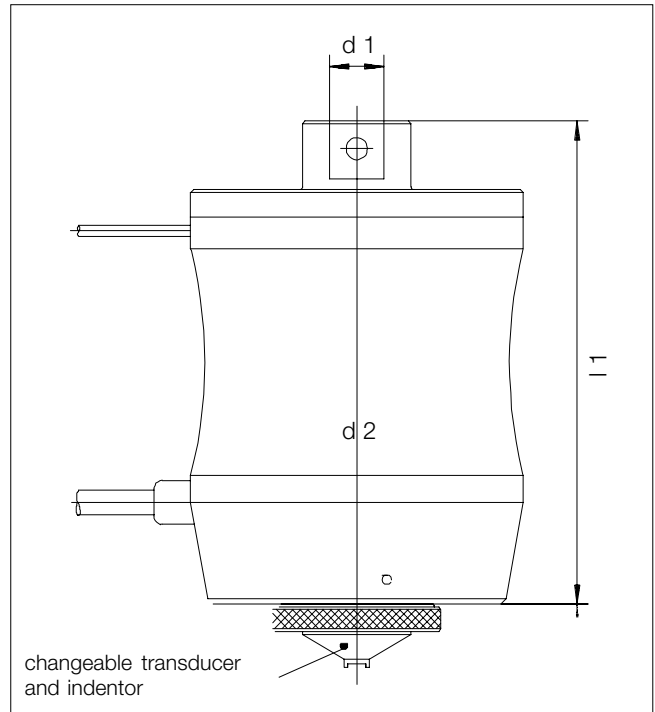


Product Information

Hardness measurement head 06524x.00.0x/TC-HTHUx.x.x01



Range of application

The hardness measurement head is constructed so that it can be put to use with all Zwick materials testing machines, and for automation. On the whole the hardness measurement head embraces all hardness tests with indentation depth measurement, as

- Universal hardness HU macro range (DIN 50359-1 and pr DIN EN ISO 14577),
- Rockwell hardness scales A to K, N, T (DIN EN ISO 6508), as well as HMR5/250,
- Rockwell hardness scales R, L, M, E, K, a (ASTM D 785),
- Ball indentation hardness H (ISO 2039),
- Vickers depth measurement HVT (VDI/VDE 2616-1), and
- Brinell depth measurement HBT (VDI/VDE 2616-1).

Advantages of the hardness measurement head

- Use of a hardness measurement head together with a universal testing machine enables rational and economic testing.
- The *testXpert*[®] test software guarantees variable test sequence configuration.
- A digital travel measurement system (resolution 0.04 µm), a load cell (ranges: 2 N to 200 N or 5 N to 2500 N) and an interchangeable indenter with measurement transducer are integrated in the hardness measurement head.

- Rapid and automatic approach also at different test piece heights
- Automatic test sequence and evaluation
- Shortest possible test durations
- Constant test conditions are guaranteed
- Configuration of customised test sequences
- Can be used in the production line
- Manifold display of results

Advantages of the universal hardness test method

- Test procedure to standards
- Continuous measurement of the test load and indentation depth
- Uniform hardness scale for all materials
- The force-indentation curve, as well as different sequences of the loading procedure permit further statements on materials:
 - Plastic and elastic portions of the indentation energy
 - Plastic hardness
 - Indentation modulus
 - Creep behaviour
 - Relaxation behaviour and
 - Universal hardness

Product Information

Hardness measurement head 06524x.00.0x/TC-HTHUx.x.x01

Order item	TC-HTHU2.5.001 (/H01) ¹ 065240.00.00 (/01) ¹	TC-HTHU0.2.001 (/H01) ¹ 065241.00.00 (/01) ¹	Unit
Load cell: Accuracy grade 1 according to DIN EN 10002 part 2			
Indentation depth measurement system: Accuracy grade 0.2 according to DIN EN 10002 part 4			
Test load	5 ... 2500	2 ... 200	N
Standard resolution (<i>increased resolution</i>)	0.04 (0.02)	0.04 (0.02)	µm
Measurement path	4	4	mm
Mounting bore (d1)	Ø 20 ^{H9}	Ø 20 ^{H9}	mm
Dimensions (d2 * l1 + transducer foot)	Ø 122*176	Ø 122*176	mm
Weight	3.9	3.9	kg
Temperature range	+15 ... +35	+15 ... +35	°C

¹ increased resolution

Indenter with transducer

Description	Order item
Indenter (Vickers pyramid 136°) for universal hardness tests to DIN 50359-1 and Vickers hardness tests to DIN EN ISO 6507-1	065240.01.00
Indenter (Hard metal ball 1/16", 1.587 mm) for hardness tests to Rockwell HRG, HRB, HRF, HR15T, HR30T, HR45T	065240.27.00
Indenter (Steel ball 1/8", 3.175 mm) for hardness tests to Rockwell HRM, HRK, HRE	065240.28.00
Indenter (Steel ball dia. 5 mm) for ball indentation hardness H	065240.22.00
Transducer foot for use with indentors Vickers pyramid, hard metal ball, dias. 1/16" (1.587 mm), 1/8" (3.175 mm), and steel ball dia. 5 mm	065240.02.00
Indenter (Diamond cone 120°) for hardness tests to Rockwell HRA, HRC, HRD, HR15N, HR30N, HR45N	065240.10.00
Indenter (Hard metal ball dia. 10 mm) for hardness tests to Rockwell HMR 10/1000, HM 10/1500 and HMR 10/3000	065240.14.00
Transducer foot for use with indentors diamond cone 120° and hard metal ball dia. 10 mm	065240.11.00

Diamond table and HU Accessory

Description	Order item	
Diamond table to DIN EN 10109-1 for tests to HR30T (modified Rockwell methods) for objects thinner than 0.6 mm, and a max. hardness of 80 HR30T. Specimen support: smooth polished diamond plate, dia. approx. 4.5 mm	065240.90.00	
HU Accessory for tests on balls,	mounting for balls with dia. 2 ... 3 mm	065240.91.00
	mounting for balls with dia. 3 ... 5 mm	065240.92.00
	mounting for balls with dia. 5 ... 10 mm	065240.93.00
	mounting for balls with dia. 10 ... 25 mm	065240.94.00

Compound tables

Description	Order item
Compound table with Fmax 2.5 kN (Table size 135 x 135 mm)	
- travel 25 x 25 mm, manual micrometer	065240.80.00
- travel 25 x 25 mm, digital micrometer, digital display and transmission of the position	065240.81.00
Compound table with Fmax 1 kN (Table size 200 x 200 mm)	
- travel 25 x 25 mm, manual micrometer	3212.34
Compound table with Fmax 500 N (Table size 135 x 135 mm)	
- travel 50 x 50 mm, manual micrometer	065243.05.00
- travel 25 x 25 mm, digital micrometer, digital display and transmission of the position	065243.06.00
- travel 50 x 50 mm, motorised movement, control via PC RS232	065243.07.00
Adapter plate for compound tables at the materials testing machine, fixing direct to the base crosshead	3212.34.01