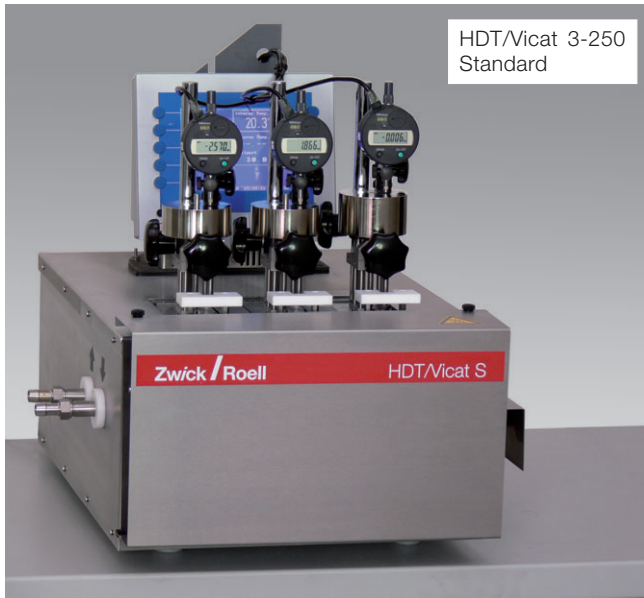


## Product Information

### HDT/Vicat Standard



#### Applications area

Determination of Heat Deflection Temperature (HDT) on thermoplastics, hard rubber, as well as fiber reinforced and filled hardenable plastics, according to ISO 75 Parts 1 to 3 and ASTM D 648 Method B

Determination of Vicat Softening Temperature (VST) on thermoplastics, according to ISO 306 and ASTM D 1525

Determination of creep test characteristics under deflection loading

#### Determination

The HDT/Vicat Standard instruments have been designed for use in received goods control, product monitoring, as well as for education and training purposes. Various instruments with up to 6 testing stations are available. Set-up of the test sequence and test data representation are performed comfortably with connected PC (Option).

#### Test sequence

As soon as the immersion liquid has reached the starting temperature, the specimens are placed in the testing stations and manually lowered into the bath. The next step is to manually place the test weight, called for in the Standard, onto the testing station and start the menu guided test sequence on the PC. After pre-tempering while under load, the travel signals are set to zero by the program, and the heating of the immersion liquid is started with the pre-set heating rate. As soon

as the required flexure, edge fiber extension or penetration is achieved at all stations, the heating is switched off and the test is ended.

The cooling of the immersion liquid is started automatically by the program via magnetic valve, or it can be started manually. Then the specimens can be taken out of the bath.

#### Functions, elements and interfaces

- Built-in microprocessor-controlled electronics for temperature control and test data acquisition
- Easily readable test data display
- Safety thermostat
- Electronic bath level monitoring (only with instruments up to 300 °C)
- Test control and data acquisition via PC with *testXpert*® II (2 RS232-Interfaces required in PC)
- Integrated compensation of the thermal expansion of the testing stations with PC operation
- Manual immersion of the testing stations
- Manual placing of the test weights

#### Cooling of the immersion liquid

The instruments have a cooling water connection as standard. For faster cooling, there is also a connection for an external cooling unit (Option).

#### Specimen data

VST specimen dimensions, max.: 10 x 6.5 x 10 mm  
HDT specimen dimensions, max.: 13 x 15 x 130 mm  
HDT support distances: 64 and 100 mm

## Product Information

### HDT/Vicat Standard

| Instrument                                 | HDT/Vicat         | HDT/Vicat         | HDT/Vicat         | Technical data for all instruments  |
|--|-------------------|-------------------|-------------------|---|
|  | 1-250<br>Standard | 2-250<br>Standard | 3-250<br>Standard |   |
| Number of testing stations                 | 1                 | 2                 | 3                 | <b>Technical data for all instruments</b><br>Indicated accuracy at 250 °C ± 0.5 °C<br>Ambient temperature curve ± 0.1 °C<br>Resolution of temperature measurement 0.1 °C<br>Temp. sensor: 1 x measurement of the bath temp.<br>Heating time: 50 / 120 K/h or freely adjustable.<br><u>Travel measurement by digital transducers:</u><br>Resolution 0.001 mm<br>Indicated accuracy ± 0.01 mm<br><u>Supply:</u><br>Supply voltage 230/240 V<br>Mains frequency 50/60 Hz<br>Power 2000 W |
| Max. testing stations <sup>(1)</sup>       | 3                 | 3                 | 3                 |   |
| Max. temperature [°C]                      | +20...+250        | +20...+250        | +20...+250        |   |
| Cooling                                    | manual            | manual            | manual            |   |
| Oil filling quantity [l], approx.          | 12.5              | 12.5              | 12.5              |   |
| Height x width x depth [mm]                | 460 x 440 x 570   |                   |                   |   |
| Weight (without accessories) [kg], approx. | 30                | 30                | 30                |   |
| <b>Item numbers</b>                        | <b>VI-1250STD</b> | <b>VI-2250STD</b> | <b>VI-3250STD</b> |   |

<sup>(1)</sup> By retrofitting

| Instrument                                 | HDT/Vicat         | HDT/Vicat         | HDT/Vicat         | HDT/Vicat         | HDT/Vicat         | HDT/Vicat         |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|  | 1-300<br>Standard | 2-300<br>Standard | 3-300<br>Standard | 4-300<br>Standard | 5-300<br>Standard | 6-300<br>Standard |
| Number of testing stations                 | 1                 | 2                 | 3                 | 4                 | 5                 | 6                 |
| Max. testing stations <sup>(1)</sup>       | 3                 | 3                 | 3                 | 6                 | 6                 | 6                 |
| Max. temperature [°C]                      | +20...+300        | +20...+300        | +20...+300        | +20...+300        | +20...+300        | +20...+300        |
| Cooling                                    | Solenoid valve    | Solenoid valve    | Solenoid valve    | Solenoid valve    | Solenoid valve    | Solenoid valve    |
| Oil, filling quantity [l], approx.         | 18                | 18                | 18                | 26                | 26                | 26                |
| Height x width x depth [mm]                | 460 x 440 x 570   |                   |                   | 460 x 550 x 650   |                   |                   |
| Weight (without accessories) [kg], approx. | 40                | 40                | 40                | 40                | 40                | 40                |
| <b>Item numbers</b>                        | <b>VI-1300STD</b> | <b>VI-2300STD</b> | <b>VI-3300STD</b> | <b>VI-4300STD</b> | <b>VI-5300STD</b> | <b>VI-6300STD</b> |

<sup>(1)</sup> By retrofitting

#### Accessories

Information about other accessories, e.g. PC workstations, upon request.

| Description  | Item number                                    |
|--|--|
| Vicat test needle  | <b>VI-ACCESSO.001</b>                          |
| Vicat weight set basic, 10 & 50 N, according to ISO 306 and ASTM D 1525 (required 1x per station)  | <b>VI-ACCESSO.002</b>                          |
| HDT test plunger   | <b>VI-ACCESSO.011</b>                          |
| HDT calibration and centering tool for adjustment of HDT test plunger  | <b>VI-ACCESSO.010</b>                          |
| HDT Weight Set ISO 75-2 flatwise. For specimen size 4 x 10 mm (thickness x width, ± 0.05 mm) and 80 mm length (± 2 mm), for flexural stress of 1.8, 0.45 or 8 MPa (required 1x per station) <sup>(2)</sup>   | <b>VI-ACCESSO.012</b>                          |
| HDT Weight Set ISO 75-2 edgewise. For specimen size 10 x 4 mm (thickness x width, ± 0.05 mm) and 120 mm length (± 2 mm), for flexural stress of 1.8, 0.45 or 8 MPa (required 1x per station) <sup>(2)</sup>  | <b>VI-ACCESSO.013</b>                          |
| Calibration set for deflection/penetration transducer, for Vicat and HDT tests (required 1x)   | <b>VI-ACCESSO.030</b>                          |
| Universal weight set to cover Vicat and HDT test Standards. All loads from 1 up to 5500 g can be achieved in 1 g intervals. The weights are stackable, 21 single weights are included: 10 pieces of 1 g, 2 pieces of 10 g, 100 g and 1000 g as well as one piece of 20 g, 50 g, 200 g, 500 g and 2500 g. | <b>VI-ACCESSO.020</b><br><b>VI-ACCESSO.040</b> |
| Thermal fluid, 10 liter  |  |
| Thermal fluid, 5 liter   | <b>VI-ACCESSO.041</b>                          |
| Optional cooling unit: External cooling for oil-baths, manually shiftable. Cooling time from 300 °C down to 30 °C 12 minutes approximately, 500 W power  | <b>VI-ACCESSO.050</b>                          |

<sup>(2)</sup> When using the HDT-weight set, the specimen dimensions must be within ± 0.05 mm.