

Product Information

HDT/Vicat Allround with integrated cooling unit



HDT/Vicat 6-300 Allround, motorized test weight application



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

Description

The HDT/Vicat Allround instruments have been designed for comfortable testing in research and development, incoming 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).

Automatic 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 place the test weight, called for by the standard, manually or optionally motorized, and then start the test sequence from the PC Software. 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 and then the specimens can be taken out of the bath.

Functions, elements and interfaces

- Built-in SPS-control for temperature regulation and test data acquisition
- Cooling controlled by magnetic valve
- Motorized immersion of the testing stations
- Manual or optional motorized placing of the test weights
- Safety thermostat
- Electronic bath level monitoring
- Test control and data acquisition via PC with *testXpert*® II (RS232-Interface required in PC)
- Integrated compensation of the thermal expansion

Cooling of the immersion liquid

The instruments are equipped with an integrated cooling unit for short cooling times.

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

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Instrument	HDT/Vicat	HDT/Vicat	HDT/Vicat	HDT/Vicat	HDT/Vicat	HDT/Vicat
	3-300	3-300	4-300	4-300	6-300	6-300
	Allround	Allround	Allround	Allround	Allround	Allround
Number of testing stations	3	3	4 ⁽¹⁾	4 ⁽¹⁾	6	6
Temperature range [°C]	20...300	20...300	20...300	20...300	20...300	20...300
Test weight application	manual	motorized	manual	motorized	manual	motorized
Oil filling quantity [l], approx.	12	12	18	18	18	18
Dimensions						
Height [mm]	900	900	900	900	900	900
Width [mm]	1230	1230	1480	1480	1480	1480
Depth [mm]	700	700	700	700	700	700
Weight (w/o access.) [kg], approx.	138	137	160	160	160	160
Item numbers	VI-3300	VI-3300	VI-4300	VI-4300	VI-6300	VI-6300
	ALL.002	ALL.003	ALL.002	ALL.003	ALL.002	ALL.003

⁽¹⁾ Expandable by retrofitting up to 6 testing stations

Technical data for all instruments

Indicated accuracy at 250 °C ± 0.5 °C

Ambient temperature curve ± 0.2 °C

Resolution of temperature measurement 0.1 °C

Temperature sensors: 1 x measurem. of the bath temperature, in addition, 1 sensor near the specimen for each testing station.

Heating time: 50 K/h, 120 K/h or freely adjustable.

Travel measurement by inductive deflection/penetration transducers (LVDT):

Travel measurement range 15 mm

Indicated accuracy ± 0.01 mm

Supply:

Supply voltage 230 V, mains frequency 50 Hz, power 3000 W

Accessories

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

Description	Item number
Vicat test needle	VI-ACCESSO.001
Vicat weight set basic, 10 N and 50 N, according to ISO 306 and ASTM D 1525 (required once for each testing station)	VI-ACCESSO.003
HDT test plunger	VI-ACCESSO.011
HDT calibration and centering tool for adjustment of HDT test plunger	VI-ACCESSO.010
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 once for each testing station) ⁽²⁾	VI-ACCESSO.014
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 once for each testing station) ⁽²⁾	VI-ACCESSO.015
Calibration set for deflection/penetration transducer, for Vicat and HDT tests (required once)	VI-ACCESSO.030
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.	VI-ACCESSO.020
Thermal fluid, 10 liter	VI-ACCESSO.040
Thermal fluid, 5 liter	VI-ACCESSO.041

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