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## No. 532 High Temperature HDT Tester



## ■ APPLICATION

The High Temperature HDT Tester evaluates thermal properties, and is manufactured according to the following standards.

- Test method for distortion temperature under load (DTUL) JIS K7191-1,2 (ISO75-1,2)
- Test method for Vicat softening temperature (VST) JIS K7206 (ISO 306)

Test for deflection temperature under load is to heat the sample in the air oven at a constant rate while applying the specified bending stress with an indenter, and to evaluate the temperature at which the deflection of the sample reaches the standard deflection as deflection temperature under load (DTUL).

The test can be performed either by the flatwise method or edgewise method, depending on the bending direction of the sample. The tester can perform Vicat softening temperature test for measuring the temperature at which a needle-shaped indenter penetrates 1mm into the sample. In addition, ball pressure test specified in the heat resistance test for electric products can be carried out with the tester by exchanging an indenter and some parts (option).

## ■ FEATURES

- All operations other than sample placement are automated.
- Automatically corrects the stand deflection caused by temperature.
- Measures the temperature at which the deflection of the test piece reaches the standard deflection while raising the temperature in the air oven at a constant rate under the specified bending stress.
- Capable of performing VICAT softening temperature test and ball pressure test (option).
- With adoption of the two-step separate loading system, the load elevator enables the tester to perform VICAT softening temperature test conforming to new JIS (Japanese industrial standard) same as ISO (International Standard).
- The tester is designed in consideration of safety and accurate operation.
- The zero point (displacement) settings confirmation at start up is displayed in color.
- Double complete guards, such as sample overheating prevention and tester overheating prevention, are provided.
- The main unit and the computer unit are separated and equipped with caster wheels, providing excellent space efficiency and operability.

## ■ SPECIFICATIONS

Model	HT-3R	HT-6R
Sample holders	3	6
Test temperature range	Room temperature+30°C to 450°C	
Heat transfer medium	Air	
Heating rate	<ul style="list-style-type: none"> <li>■ 120°C/h (DTUL)</li> <li>■ 50°C/h (VICAT)</li> </ul>	
Temperature distribution	±1.5°C (Error among each specimens)	
Wind speed	4 to 5m/s	
Temperature control system	PID control, SSR drive system	
Temperature sensor	Platinum resistance thermometer (Pt100)	
Number of temp. sensor (Including sensor for control)	4	7
Cooling system	Cooling by compressed air	
Displacement measurement	LVDT ( 1/1000mm indication)	
Specimen support	<ul style="list-style-type: none"> <li>■ DTUL (HDT), Flatwise...Standard</li> <li>■ DTUL (HDT), Edgewise...Optional</li> </ul>	
Weight	<ul style="list-style-type: none"> <li>■ DTUL (HDT), Flatwise: 1.80MPa (Standard)</li> </ul> <p>Note: In case of 0.45MPa, since the weight is same 76.5g which is the total of the weights of weight pan, load rod, presser and LVDT core, it gives specified load without adding a weight.</p> <ul style="list-style-type: none"> <li>■ DTUL (HDT), Edgewise: 0.45MPa &amp; 1.80MPa (Optional)</li> <li>■ VST (VICAT): 10N, 50N (Optional)</li> <li>■ Ball pressure test: 20N (Optional)</li> </ul>	
Data processing unit (Standard)	<ul style="list-style-type: none"> <li>■ Software</li> <li>■ Personal computer</li> <li>■ LCD monitor</li> <li>■ Ink-jet printer</li> </ul>	
Dimensions	W1110 x D795 x H1640mm	
Net weight	Approx. 185kg	
Power supply	Single-phase, AC200V, 50Hz or 60Hz, 3.0kVA	
Compressed air supply	0.4 to 0.7MPa, 5L/min. or grater	
Related standards	<ul style="list-style-type: none"> <li>■ DTUL (HDT): ISO75 (JIS K 7191), ASTM D 648</li> <li>■ VST (VICAT): ISO306 (JIS K 7206), ASTM D 1525</li> <li>■ Ball pressure test: IEC 335-1</li> </ul>	

## ■ STANDARD ACCESSORIES & OPTIONS

● Standard    ○ Option

	Name	Model	Part No.	HT-3R/ HT-6R
1	Specimen support & weight for DTUL, Flatwise (ISO)	HFW3 (for HT-3R) HFW6 (for HT-6R)	-----	●
2	Weight for DTUL, Edgewise (ASTM), 1/2" - 0.45MPa	12-045	-----	○
3	Weight for DTUL, Edgewise (ASTM), 1/2" - 1.80MPa	12-180	-----	○
4	Weight for DTUL, Edgewise (ASTM), 1/4" - 0.45MPa	14-045	-----	○
5	Weight for DTUL, Edgewise (ASTM), 1/4" - 1.80MPa	14-180		○
6	Weight for DTUL, Edgewise (ASTM), 1/8" - 0.45MPa	18-045	-----	○
7	Weight for DTUL, Edgewise (ASTM), 1/8" - 1.80MPa	18-180	-----	○
8	Specimen support , 10N weight and needle for VICAT	HV3-10 (for HT-3R) HV6-10 (for HT-6R)	-----	○
9	Specimen support, 50N weight and Needle for VICAT	HV3-50 (for HT-3R) HV6-50 (for HT-6R)	-----	○
10	Specimen support, 20N weight and ball type presser for ball pressure test	HB3-20 (for HT-3R) HB6-20 (for HT-6R)	-----	○
11	Dummy resistor for temperature Check (0°C, 300°C)	-----	-----	○
12	Micrometer including installation jig for LVDT displacement check	-----	-----	○

*Specifications are subject to change without notice.*



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