



Functions

This series of HDT/VICAT testing machine is mainly used to determine temperature of deflection under load and Vicat softening temperature of thermoplastic plastics, pipes and fittings.

High integration of the equipment, the configuration of the implementation components and sensors make the equipment with high reliability, high temperature resistance, small deformation, sensitive response, accurate data transmission and other characteristics; The use of the equipment with the chiller can be doubled to improve the utilization rate of the equipment. The test station is made of low expansion coefficient alloy, which can meet the standard requirements within 200°C without correction. This machine is widely used in thermoplastics and polymer materials Vicat softening temperature and load deformation temperature test. It is especially suitable for the production, inspection, development and research of products and materials by pipe manufacturers, product quality checkpoints, construction engineering quality checkpoints, construction companies, scientific research colleges and other units.

Standards

ISO2507, ISO75, ISO306, ASTM D648, ASTM D1525

GB/T 8802, GB/T 1633, GB/T 1634

Features

- HDT and VICAT test can be conducted at the same time
- The test station has minimal deformation under heat, and the deflection temperature without correction can reach 200°C

HDT/VICAT Testing Machine | TSV series

- The test station has the function of automatic loading and automatic lifting, which eliminates manual handling of weights
- Compared with traditional design, the volume of the tank is reduced by more than 50%, which effectively reduces the user's use cost
- Switzerland made high precision micrometer provides high accurate displacement measurement with high stability
- Up to six test stations, maximally up to six deformation transducers, and one temperature transducer
- All test stations are motor-driven, raised from the bath by the touch of a button on the control panel, allowing easy placement of the test specimen
- Once the software is started, the test is completely automatic and is performed according to the user-defined program. Upon test completion, it will automatically cool the bath to the starting temperature in preparation for subsequent tests. The initial cooling temperature is high, up to 280°C, which greatly improves the utilization rate of the equipment.
- Professional test software with friendly interface, easy to operate

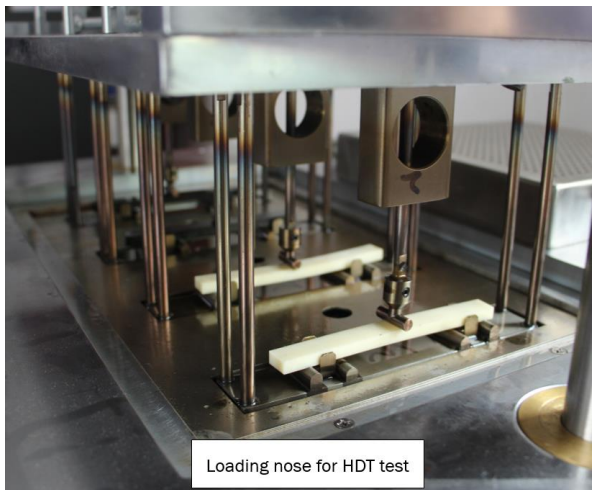
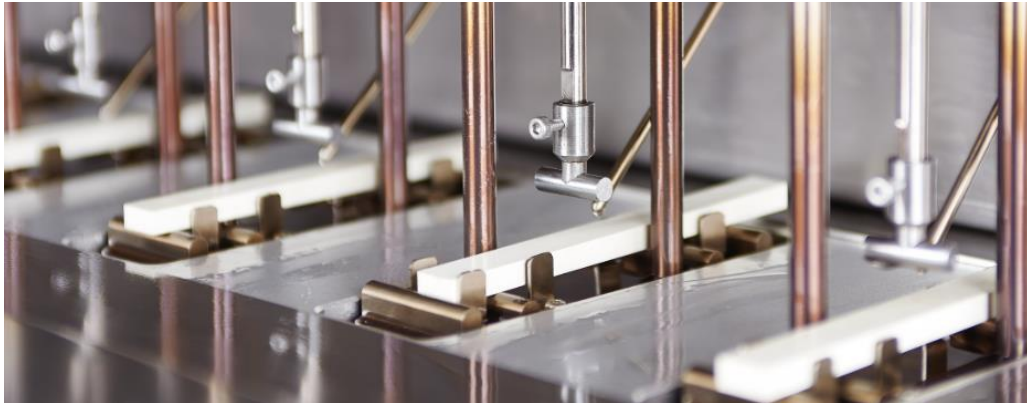
Chiller (optional)

If equipped with the chiller, it can quickly cool the oil and greatly accelerate the cooling efficiency. Compared with the traditional cooling method, it has the following advantages:

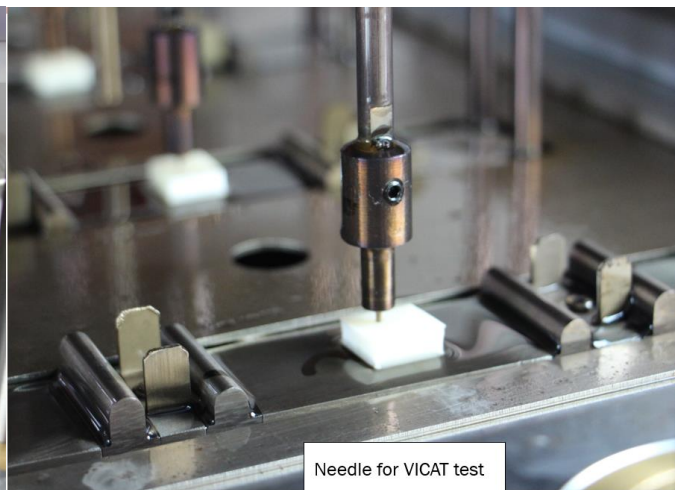
- The initial cooling temperature is high, up to 280°C.
- The cooling speed is fast, and the cooling time can be reduced to 45min when the equipment is used with the chiller, which greatly improves the utilization rate and working efficiency of the equipment.
- The initial temperature of heating is low, and the use of the chiller can cool the oil to below 25°C, reducing the test error; This can meet the requirements for the initial temperature of the heating device specified in ISO ASTM standards.
- To save water resources, the tank is cooled by the water chiller, and the water is recycled during use to save water

**Test station**

- Optional 3, 4 and 6 stations.
- 10N and 50N dead weights for loading
- Specimen deformation is measured by Swiss made micrometer with resolution up to 0.001mm and measurement accuracy better than 0.005mm.
- Temperature controller is Japan made RKC meter with accuracy better than 0.5°C.
- Test station assembly is made of **Invar Steel**, with extremely small deformation at high temperature, which greatly improves test accuracy and stability.



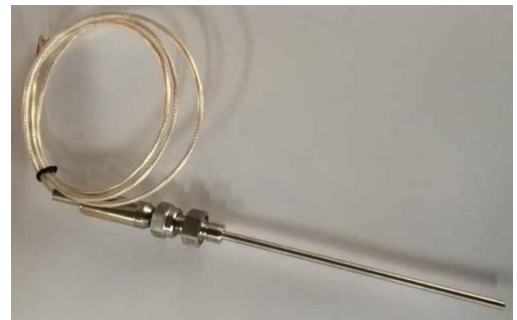
Loading nose for HDT test



Needle for VICAT test

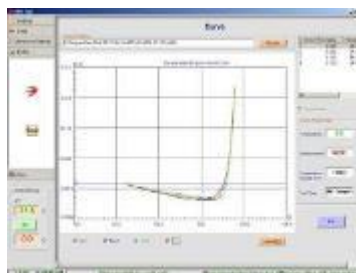
Temperature sensor

Platinum resistance sensor, compact structure, high accuracy of measurement, can be immediately measured hot oil temperature feedback to the controller.

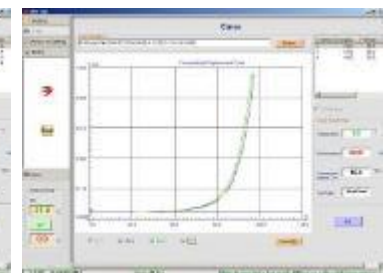


Test software

- Friendly and easy operation interface
- Test resume function when a sudden shutdown happens
- Powerful monitor function on test curve
- Test curve can be real-time zoomed in
- Multi-station test curves can be generated on a single report
- Test report can be printed out
- Test report can be exported to EXCEL for review and print



HDT test curve



VICAT test curve

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Specifications

Model		TSV302A	TSV302B	TSV302C
Test station		3	4	6
Immersion bath volume		9L	9L	14L
Heat transfer medium		Dimethyl silicone oil, temperature to 300℃ Viscosity: 300 cSt, or 300 mm ² /s <i>Known silicon oil brand: DON CORNING PMX-200 350 cSt, Shin-Etsu KF96-300</i>		
		Or transformer oil, 10#, temperature to 200℃		
Temperature sensor		3	4	6
Temperature range		Ambient ~ 300℃		
Temperature accuracy		±0.5℃		
Heating speed	Speed A	5±0.5℃/6min		
	Speed B	12±1℃/6min		
Micrometer		3	4	6
Deformation measurement range		0~10mm		
Deformation resolution		0.001mm		
Deformation measurement accuracy		0.003mm		
Vicat Loading capacity:		GA=10N±0.2N, GB=50N±1N		
HDT test		Method A: USE FIBRE STRESS 1.80Mpa		
		Method B: USE FIBRE STRESS 0.45Mpa		
		Method C: USE FIBRE STRESS 8.00Mpa		
HDT test span		Outer span: 100mm, ASTM D648 Inner span: 64mm, ISO 75		
Maximum heating power		4.5kW		
Power requirements		3-phase AC380V±10% 50HZ 16A		
Dimension (LxWxH)		816×620×720mm		1020×620×720mm
Weight		115kg		180kg
Cooling		45min (280℃ to 25℃, if chiller is equipped)		

Standard accessories:

No.	Name	Description	QTY
1	Machine	TSV302 series	1
2	Oil bath		1
3	Lifting system	Motorized load and unloading	1
4	Test stations	Inwa alloy	3/4/6
5	Agitator	AC motor driving	1
6	Temperature control system		1
6.1	Temperature controller		1
6.2	Temperature sensor	Platinum resistance temperature sensor, measuring range 50℃~350℃	3/4/6
7	Deformation measurement	Swiss made micrometer, SYLVAC brand	3/4/6

HDT/VICAT Testing Machine | TSV series

8	Loading nose for HDT		3/4/6
9	Needle for VICAT		3/4/6
10	Weights for HDT	1000g, 500g, 200g, 100g, 50g, 20g, 10g, 5g, 2g, 1g	3/4/6
11	Weights for VICAT	10N±0.2N, 50N±1N	3/4/6
12	Computer	Lenovo brand	1
13	Special tools		
13.1	Sample clamp	For specimen handling	1
13.2	Phillips screwdriver		1
13.3	Hexagon wrench	2mm, 2.5mm	2
13.4	Plier	To remove needle from VICAT specimen	1
13.5	Funnel	Oil filling	1
14	Documents		1
14.1	Test software		1
14.2	Quality certificate		1
14.3	Manual		1

Optional accessories:

Chiller	45 minutes cooling start from 280℃ KANSAS brand Model: ICA-2 2.2kW, 1-phase 220V 50Hz 600*600*1160mm, 120kg	1
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