

Series: TM-2200

BRITTLENESS TEMPERATURE TESTER



Model TM-2200

Outline

The brittleness temperature tester refers to JIS K 6261-2 (Rubber, vulcanized or thermoplastic – Determination of low-temperature properties – Part 2: Low-temperature brittleness), JIS K 7216 (Testing Method for Brittleness Temperature of Plastics) and measures the brittleness temperature and 50% brittleness temperature of vulcanized rubber and plastic at low temperatures. The TM-2200 series has a higher refrigerating capacity than conventional testers and secures sufficient striking energy to improve test efficiency and stability. Two types are available depending on the number of holders: a single type with a single specimen holder (for 5 specimens) and our original multiple-holder type that can have 4 specimen holders (for 5 specimens) and test all the specimens immersed in the cooling medium by simply switching the dial. In addition, there are two types of cooling methods, one is the dry ice input type, and the other is the refrigerator-equipped type, which can be selected according to the test situation.

Features

- High-performance PDI control digital temperature control design is adopted for temperature control.
- Equipped with a timer function that notifies the passage of the test piece cooling time after reaching the test temperature.
- The striking hammer secures a peripheral speed of 2.0 ± 0.2 m / sec and striking energy of 3.0 J or more, enabling highly accurate measurement under the conditions specified by JIS.
- The one equipped with a refrigerator has a pre-cooling timer, and the refrigerator can be started at the desired time, for example, the test can be started just before the start of work.
- A torque driver is attached to keep the mounting torque of the test piece, which has a great effect on the test results, constant.

Specifications

	Single holder type		Multiple holder type	
	Refrigerator Type	Dry Ice Type	Refrigerator Type	Dry Ice Type
	TM-2210	TM-2215	TM-2220	TM-2225
Striker Speed	2.0 $\pm$ 0.2 m / sec (touch-panel setting range: 1.80 – 2.20 m/sec)			
Striker Tip	R1.6 $\pm$ 0.1 mm			
Test Chamber	Made of stainless steel (SUS304) with a stirrer			
Temperature Range	-70 °C to 20 °C			
Temperature Control	PID temperature controller with PT100Ω sensor			
Heat Transfer Medium	Ethanol			
Cooling Time Counter	Set on the touch-panel screen (59 min 59 sec max.)			
Safety Device	Emergency stop SW, Door SW, Inverter abnormality, Leakage breaker, Overheat protector, Empty chamber heating protection device			
Accessories	Hex wrench set, Torque driver			
Number of Test Piece Clamps	1 (holding 5 test pieces)		4 (holding 5 test pieces in each clamp)	
Cooling Method	Air-cooled two-stage refrigerator	Powdered dry ice	Air-cooled two-stage refrigerator	Powdered dry ice
Heating Method	3kW heater	1.5kW heater	3kW heater	1.5kW heater
Timer for Reserving Start of Chiller Operation	Touch-panel setting (99 hr 59 min max.)	—	Touch-panel setting (99 hr 59 min max.)	—
Attached Grip	Type A test piece gripper 2 pieces		Type A test piece gripper 8 pieces	
Power Supply	Three-phase AC200V 40A 50 / 60Hz	Three-phase AC200V 15A 50 / 60Hz	Three-phase AC200V 40A 50 / 60Hz	Three-phase AC200V 15A 50 / 60Hz
External Dimensions/ Weight (when the test tank is empty)	TM-2210, 2220 Approx. 900 (width) x 900 (depth) x 1210 (height) mm Approx. 450kg TM-2215, 2225 Approx. 900 (width) x 900 (depth) x 1210 (height) mm Approx. 420kg			
Options	Clamp for JIS K7216 type B test pieces, Damper for chuck part cover, Test piece cutting blade (forging blade or exchangeable blades)			



~ Simulate product testing in the lab ~

UESHIMA SEISAKUSHO CO., LTD.

6-5-22, Yaho, Kunitachi-shi, Tokyo 1860011, JAPAN

TEL: +81-42-572-1397 FAX: +81-042-573-1520

E-mail: sales@ueshima-seisakusho.com

<https://www.ueshima-seisakusho.co.jp>

<Contact>