

Reproduce Real-World Temperature Environments and Discover New Characteristics of Materials

Compact Thermostatic Chamber for Autograph
Precision Universal Testing Machines

TCE-N300A



The thermostatic chamber controls the temperature in the testing space, enabling tensile, bending, and compression tests under a variety of temperature conditions.

▶ The temperature can be set using special software

The temperature can be set, and the temperature data from the thermostatic chamber can be recorded, using TRAPEZIUM X-V software.

▶ Wide temperature control range

With liquid nitrogen gas spray control, the low-temperature region can be controlled down to -70 °C!

The high-temperature region can be controlled up to 300 °C!

▶ Reaches set temperatures faster!

Approximately 25 minutes to increase to 300 °C
Approximately 25 minutes to decrease to -70 °C

Note: Check the specifications regarding the conditions required for the above-mentioned times.

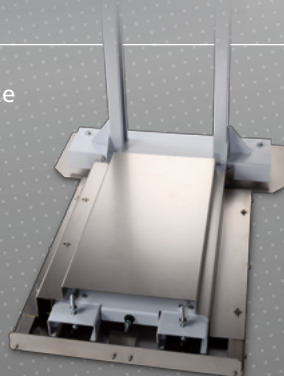
▶ Measure elongation using a video extensometer

Elongation can be measured in the range of 50 to 200 °C by adding optional video extensometer capability.

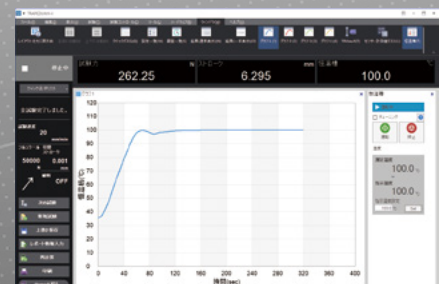
▶ Thermostatic chamber positioning is easy

A new stand with rails has been added to the lineup, enabling easy positioning of the thermostatic chamber in the testing space. In addition, an optional TCE positioning device for stands with casters has been added.

TCE Positioning Device



Software Window



In Combination with
the Stand with Casters



In Combination with
the Stand with Rails



Main Unit		Standard Height	125 mm Extension Type	250 mm Extension Type
Temperature Usage Range *1 *2		-70 to +300 °C		
Heating System		Heater		
Cooling System *3		Liquid Nitrogen Gas Spray		
External Dimensions	Width	Caster Type: 680 mm; Rail Type: 410 mm		
	Depth	Caster Type: 860 mm; Rail Type: 1280 mm		
	Height <small>Note: The height changes depending on the testing machine main unit.</small>	Caster Type: 1405 to 1815 mm Rail Type: 1300 to 1730 mm	Rail Type: 1420 to 1850 mm	Rail Type: 1550 to 1980 mm
Chamber Inner Dimension	Width	300 mm		
	Depth	300 mm		
	Height	600 mm	725 mm	850 mm
Weight		Caster Type: 80 kg Rail Type: 70 kg	Rail Type: 76 kg	Rail Type: 82 kg
Power Requirement		Single-phase 200 to 230 V, 50/60 Hz		
Power Capacity		2.7 kVA for 200 V; 3.5 kVA for 230 V		
Temperature Increase Rate *4		25 minutes from room temperature to 300 °C		
Temperature Decrease Rate *4		25 minutes from room temperature to -70 °C		
Temperature Stability *4 *5		Within ±2 °C		
Temperature Distribution		Minimum to maximum for three measurement locations is within 3 °C		
Temperature Distribution Measurement Points *6		Three points: The center of the thermostatic chamber, and 110 mm below and above the center	Three points: The center of the thermostatic chamber, and 132.5 mm below and above the center	Three points: The center of the thermostatic chamber, and 155 mm below and above the center

*1: The indicated temperature for the thermostatic chamber is measured by a resistance temperature detector (Pt 100) situated within the thermostatic chamber at the back (in front of the fan) at center height.

*2: There could be a difference between the indicated temperature for the thermostatic chamber and the temperature of the actual sample. In this case, measure the temperature of the actual sample, and change the temperature settings of the thermostatic chamber to obtain the target temperature.

*3: Use a cooling gas cylinder that satisfies the specifications noted below.

Gas: Liquid nitrogen (LN2)

Container: Pressurized container (with siphon tube and safety valve)

Gas pressure: 0.05 to 0.1 MPa

*4: This is the rate for an empty chamber when the vertical pull rod insertion port is packed with an insulating material. In addition, this rate is when the power voltage is maintained at 200 V.

*5: A thermostatic chamber control thermometer is used for measurements within 30 minutes after the temperature is reached.

*6: A thermometer inserted in a 30 mm aluminum rod situated within the chamber at the center is used for these measurements.

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