

TH 312 THERMAL CONDUCTIVITY OF NON-METALLIC MATERIALS, Guarded hot plate method



Photograph includes optional equipment

GENERAL DESCRIPTION

This bench top unit is for testing of thermal conductivity of non-metallic materials using guarded hot plates bases on ASTM C177-04.

The equipment consists of a central heater with hot plates, a guard ring with heater and hot plates, and two water cooled cold plates. Two specimens are inserted between the hot plates and cold plates. The assembly is encased in a test cabinet with insulation. The cold plates are clamped together to provided a uniform pressure.

A service module provides power supply and heater control unit, power measurement unit and temperature indicators. The unit requires outside water supply.

TYPICAL EXPERIMENTS

- Determination of thermal conductivity.

TECHNICAL DATA

- Hot plate : 1 ea.
- Hot plate heater : 500 W with control knob.
- Guard ring heater : 500 W with control knob.
- Cold plates : 2 ea.
- Sensor with digital display : Temperatures hot plates, cold plates and cooling water.
: Differential temperatures, 0.1°C resolution.
- Sample specimens : Voltage and current for measuring input power.
- Power supply : 2 ea for 3 different materials.
: 220V 1Ph 50Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT

- TH 312-050 Computer Interface
This includes sensors, computer interface unit, and software for data display and analysis by computer (separately supplied).

No	Input Power		Temperature (°C)																							
	Voltage (V)	Current (A)	Th1	Th2	Td	Tc1	Tc2	Tc3	Tc4	Tc5	Tc6	Tc7	Tc8	Tc9	Tc10	Tc11	Tc12	Tc13	Tc14	Tc15	Tc16	Tc17	Tc18	Tc19	Tc20	
1	45	0.46	75.4	78.9	37.9	37.5	31.3	32.3	32	0.9	-0.8	0.4	0.1	0												
2	46.5	0.475	75.5	77.1	38.3	38.3	32.1	32.9	32.8	0.7	-0.8	0.2	0													
3	36.5	0.375	58.3	66.6	37.2	37.3	32.3	32.8	32.8	0.3	-0.6	-0.1	-0.2													

Net (unpacked) shipping dimensions WxLxH : 47 x 97 x 42 cm
Net weight : Approx. 41 kg