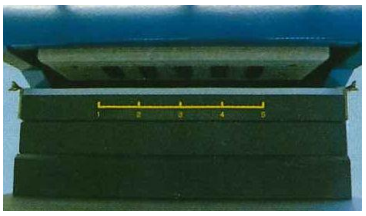
884 | Heat Gradient Tester
Model HG-3

■APPLICATION

The **Heat Gradient Tester**'s wide range of applications include determination of the optimum temperature necessary for the heat sealing treatment for packaging and cloth materials as well as measurement of the heat sensitivity of such products as sensitive paper. Efficiently designed, this instrument readily and accurately evaluates these properties. The temperature gradient set for testing is produced and controlled in five small heating plates. For ease in operation, a constant pressure is applied to the plates, for a fixed period of time, by an air cylinder.

Previously, evaluating specimens at various temperatures involved raising or lowering the tester's temperature. Because temperature stabilization often resulted in time loss, this method was found to be inefficient. The improved Heat Gradient Tester's five plates are of constant area (10 x 25mm) and are controlled by independent temperature controllers. Therefore, the desired temperature gradient is easily produced and testing time is reduced.

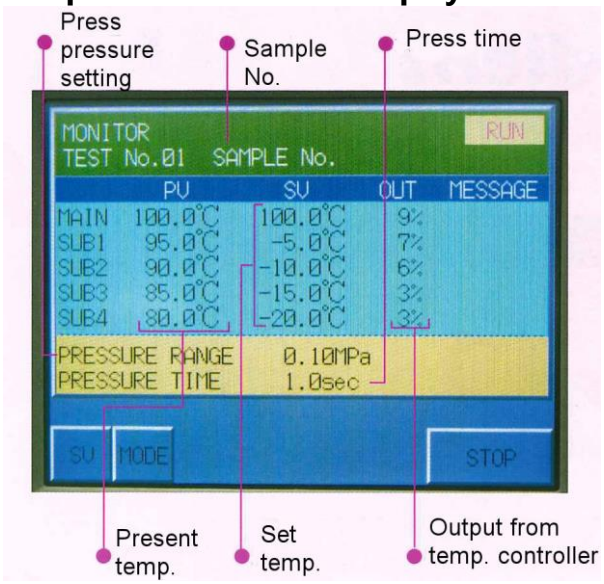


Heating plates (5 plates is standard)

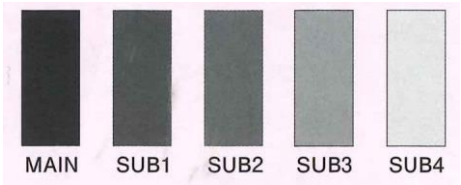
FEATURES

- Temperature settings and temperature gradient are easily and accurately known because temperature of all five points is set at the same time.
- Easy to use. Conditions are displayed on the display.
- Computer-controlled PID split control assures high accuracy and fast temperature recovery.
- Errors have been minimized by applying pressure to the heating plates under the same conditions and for a known time.
- To assure safety, start switch has to be pressed with both hands.
- Assures labor-saving testing at reduced cost.

Temperature control & display



Test example of thermal paper



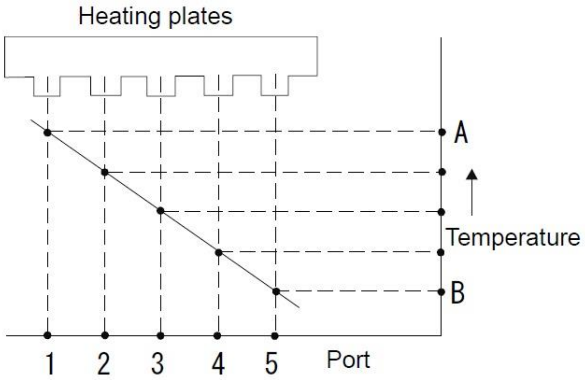
Set temp.:	100°C
Heat gradient:	5°C
Pressure:	0.1MPa
Press time:	1 sec.

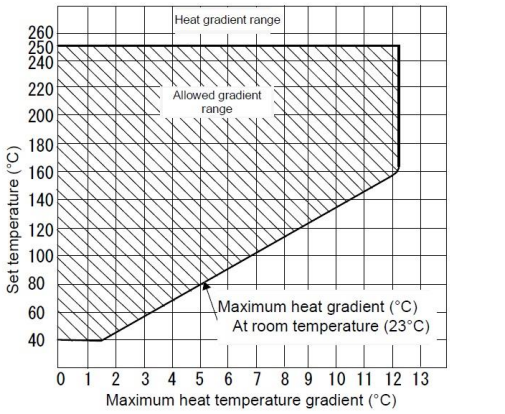
Temperature gradient

The slope of the temperature gradient allowed at any given time affects the operating efficiency of various tests, including heat sealing, heat setting, and heat sensitivity tests.
This tester handles the maximum temperature gradient as follows:

Maximum temperature gradient: Based on the assumption that the temperature gradient is uniform for the five heating plates, the maximum temperature gradient is defined as the temperature difference between heating plates 1 and 5 divided by the difference in these numbers.

Maximum temperature gradient: T = (A - B)/4 (°C)





The maximum temperature of the heating plates is 250°C.

■SPECIFICATIONS

Temperature range	50ºC to 250ºC
Temperature accuracy	±0.3%
Temperature gradient	50.0°C max. (Temperature difference of 5 heating plates at test temperatures above 150°C) *Refer to the gradient range on the previous page.
Applied pressure	0.08 to 0.4MPa (Gauge pressure)
Pressure applying duration	0.5 to 99.9sec. in 0.1sec. steps
Heating plate stroke	Approx. 20mm
Seal size	10 x 25mm (5 heating plates)
Heater capacity	900W (150W x 6)
Power requirement	Single-phase, AC100V, 50Hz or 60Hz, 1kVA
Compressed air	0.5MPa
Dimensions	W500 x D380 x H500mm
Weight	Approx. 70kg

Specifications are subject to change without notice.

TOYO SEIKI SEISAKU-SHO, LTD.
5-15-4, Takinogawa, Kita-ku, Tokyo 114-8557, Japan
Tel:+81-3-3916-8183 Fax:+81-3-3916-8173
www.toyoseiki.co.jp

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