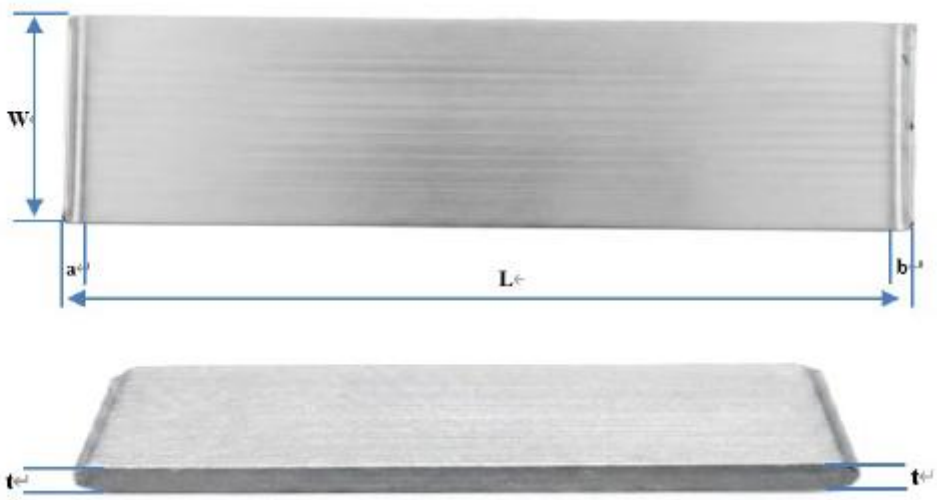
FLAT HEAT PIPE / MHP-2550A300A

General Specification

Item		Description
Part Number		MHP-2550A300A
Material of Container		Aluminium 3003
Wick Structure		Groove
Working Fluid		Acetone
Dimension	Thickness	2.5 mm
	Width	50.0 mm
	Length	300 mm
Weight		44 g (Unit Weight)
Qmax	Horizontal	135 W (at 50°C)
	Vertical	228 W (at 50°C)
Typical Thermal Resistance		<0.25°C / W (Average)
Operating Inclination, Ø		0 ~ 90°
Operating Temperature		-40 ~ 180°C

Dimensions

The dimensional attributes of this shall conform to the following figure.



Thickness (t)	Width (W)	Length (L)	Ineffective Length (a)	Ineffective Length (b)
2.5 ± 1	50.0 ± 0.15	300.0 + 0/-1	3.0	3.0

Dimensions are in mm

Material

Container	Aluminium 3003
Working Fluid	Acetone
Surface Treatment	None

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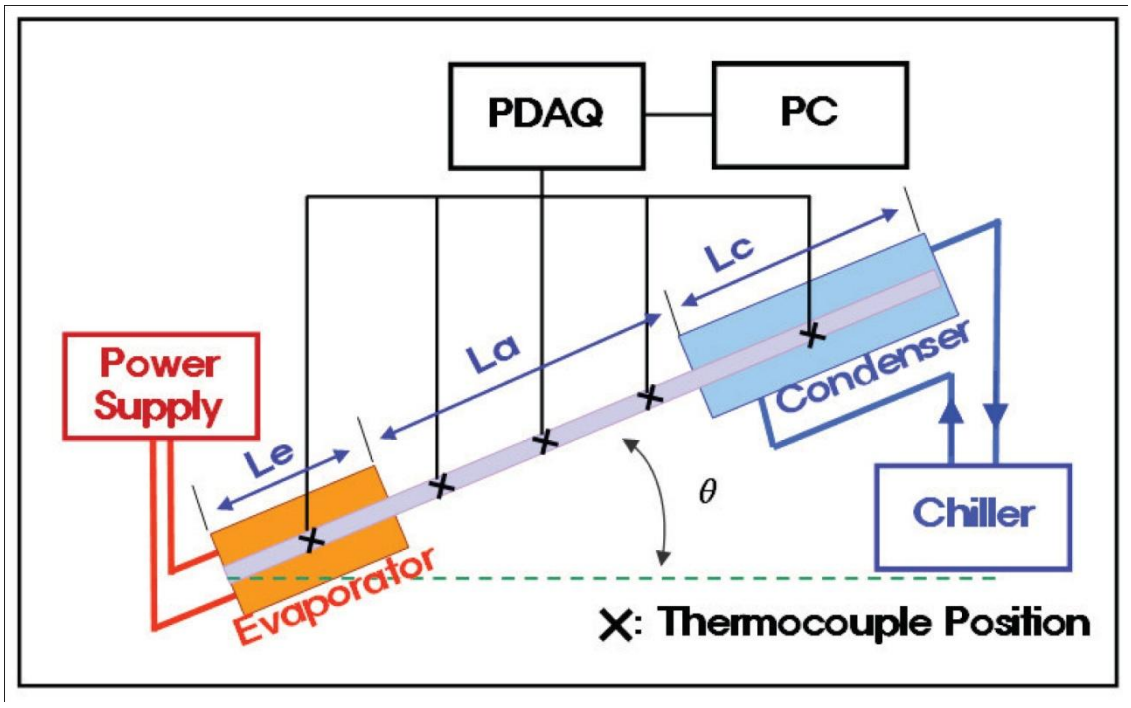

Qmax TesT Apparatus

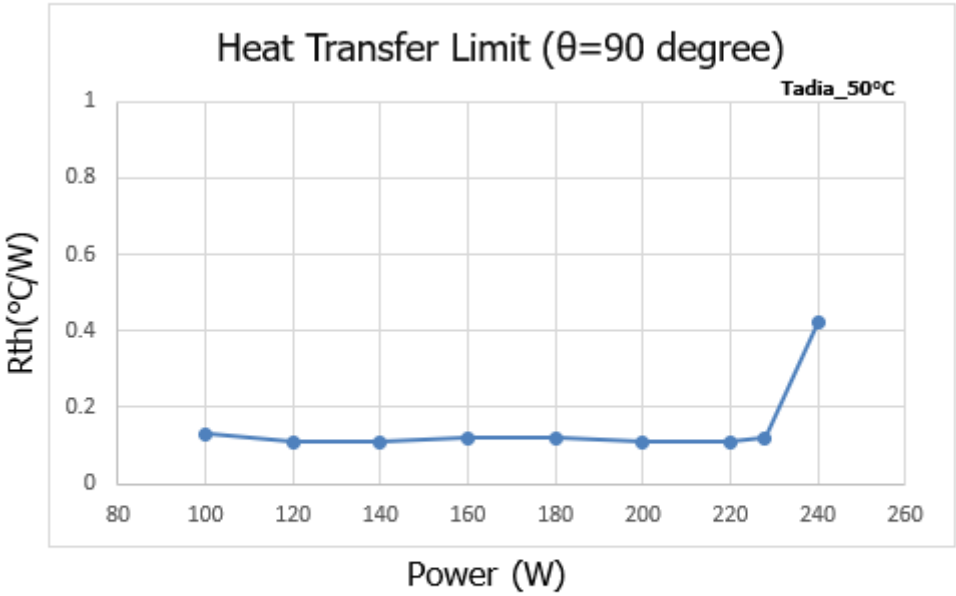

Fig. 4 Maximum Heat Transfer Rate at θ=90°, Tadia=50°C
Chiller=25°C (Le=20mm, La=50mm, Lc=30mm)

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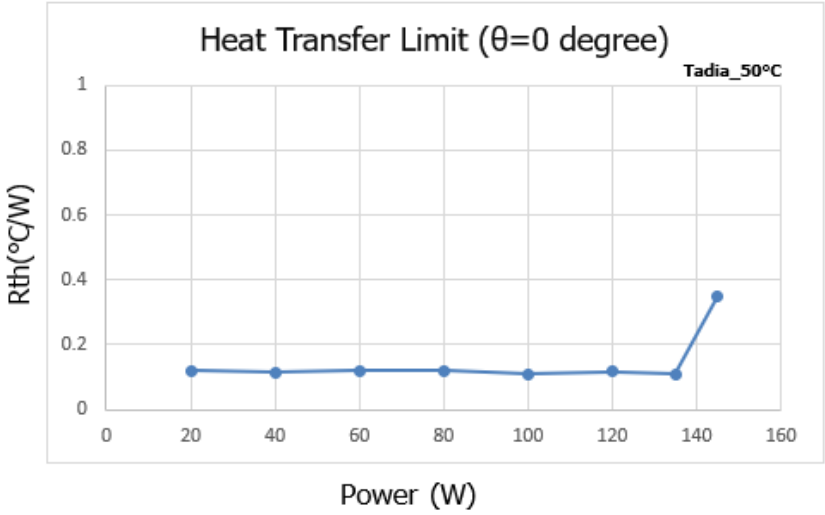

Fig. 3 Maximum Heat Transfer Rate at θ=0°, Tadia=50°C
Chiller=25°C (Le=20mm, La=50mm, Lc=30mm)

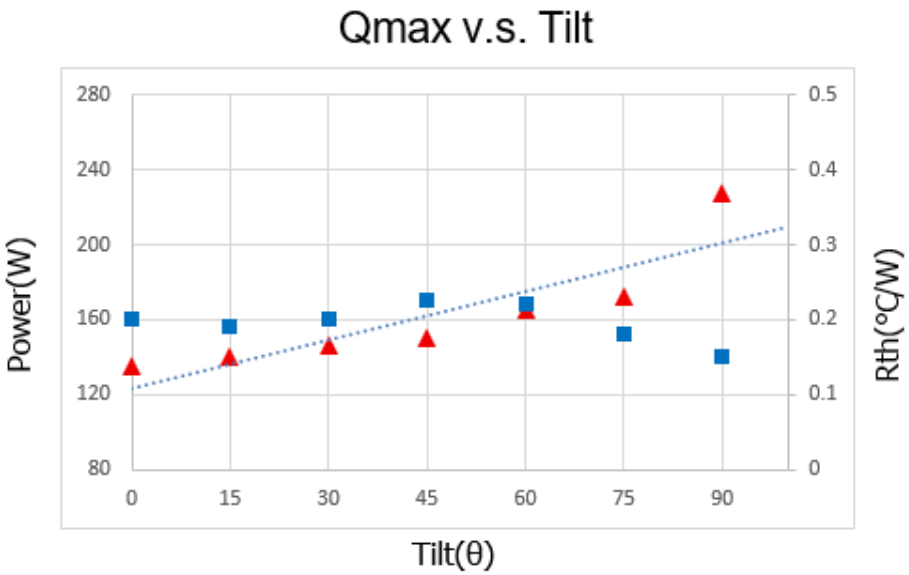

Fig. 5 Maximum Heat Transfer Rate vs. Inclination at Tadia=50°C

Chiller=25°C (Le=20mm, La=50mm, Lc=30mm)

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Operating Range

	Operating	Storage
Temperature	-40 ~ 100°C	-10 ~ 40°C
Humidity	80 % RH Max (at 60°C)	80 % RH Max (at 60°C)
Tilt Angle	0 ~ 90 degree	Horizontal

Table 3. Operating Environment

	Operating	Storage
Temperature	-40 ~ 180 °C	-10 ~ 40
Humidity	80 % RH Max(at 60°C)	80 % RH Max(at 60°C)
Tilt Angle	0 ~ 90 degrees	Horizontal

High Temperature Leak Test

Every manufactured component is sealed with a mechanical pinch system. The mechanical pinch of container results in a cold weld seal. The average leak temperature is about 170°C.

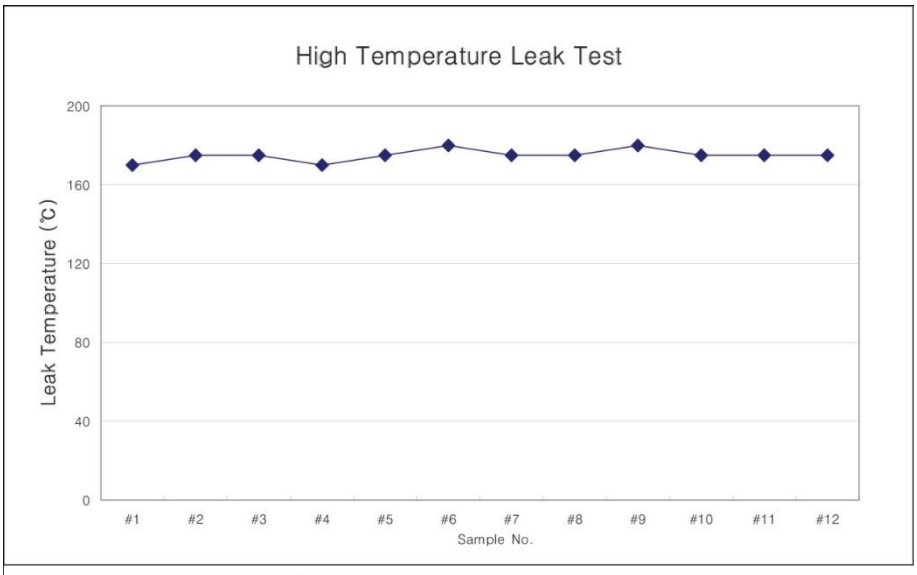

Fig. 6 Leak Test at High Temperature

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Thermal Response Test

A thermal response test and vacuum leakage check are carried out to ensure its operation. The experimental test bench is schematically shown in Fig.6. Water bath temperature, **(Tw)** is set at 50°C and the temperature of other end, **Tt** is measured immediately after it is placed vertically into the water bath. The criterion for acceptance is 5°C (Tw – Tt).

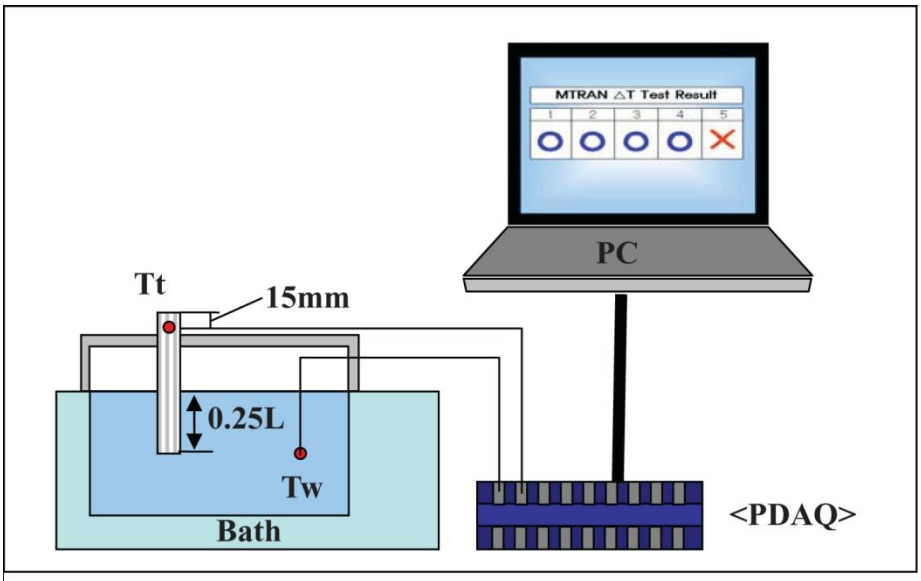

Fig. 7 Thermal Response Test Apparatus

ANNOTATION

All specifications shown herein are typical values and are not guaranteed. It is recommended to test in the application for suitability.

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