FLAT HEAT PIPE / MHP-2550A450A

General Specification

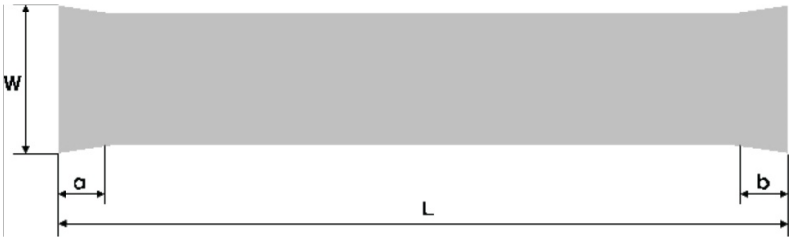
Item		Description
Part Number		MHP-2550A450A
Material of Container		Aluminium 1070
Wick Structure		Groove
Working Fluid		Acetone
Dimension	Thickness	2.5 mm
	Width	50.0 mm
	Length	450 mm
Weight		26.0 g (Average)
Qmax	Horizontal	75.0 W (at 50°C)
	Vertical	270.0 W (at 50°C)
Typical Thermal Resistance		<0.2°C / W (Average)
Operating Inclination, Ø		0 ~ 90°
Leak Temperature Criterion		170°C

Scope

This specification details the requirements and applications for 2.5 mm x 50.0mm x 450.0mm.

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 mm	50.0 mm	450.0 mm	2.5 mm	2.5 mm

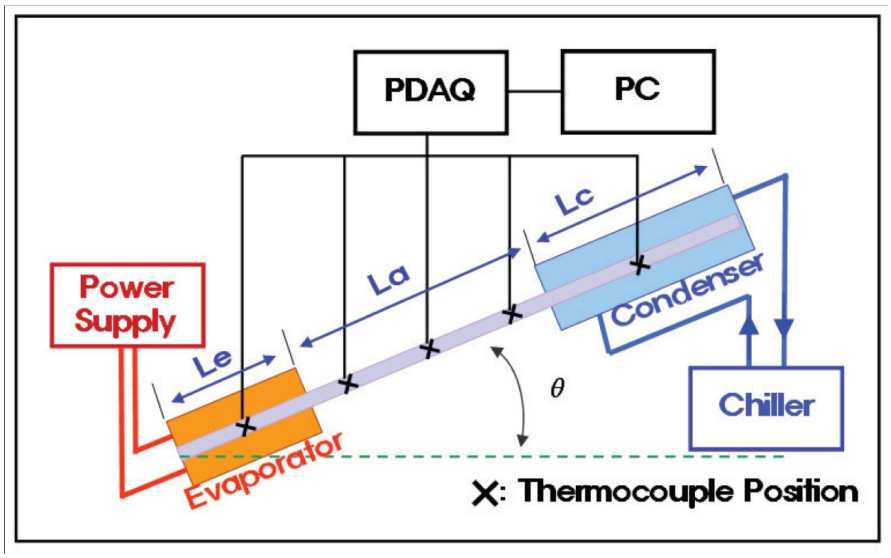
Material

Container	Aluminium 1070
Working Fluid	Acetone
Surface Treatment	None

AMEC Thermasol
1-2 Steam Mill Lane, Great Yarmouth, Norfolk, NR31 0HP
Telephone: +44(0) 1493 668622
Email: sales@amecthermasol.co.uk **Website:** www.amecthermasol.co.uk

FLAT HEAT PIPE / MHP-2550A450A

Test Data for MHP-2550A150A



Qmax Test Apparatus

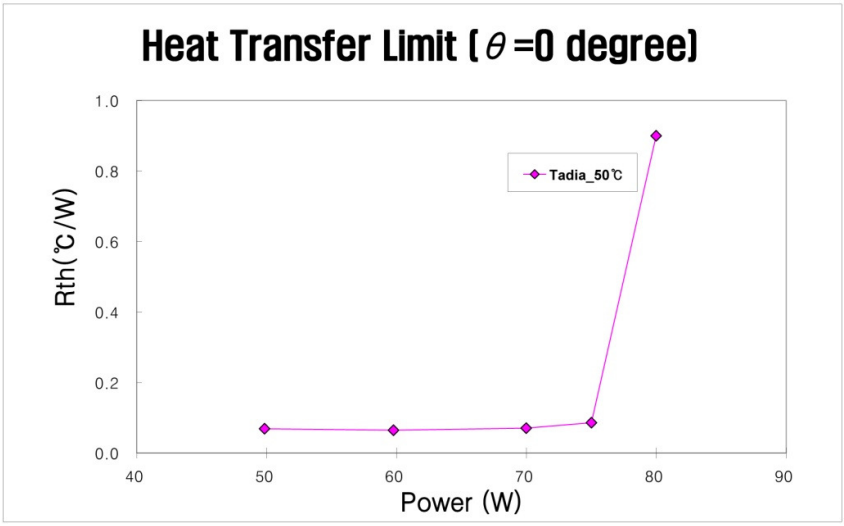


Fig. 3 Maximum Heat Transfer Rate at Θ=0°, Tadia=50℃
(Le=30mm, La=70mm, Lc=50mm)

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Test Data for MHP-2550A150A

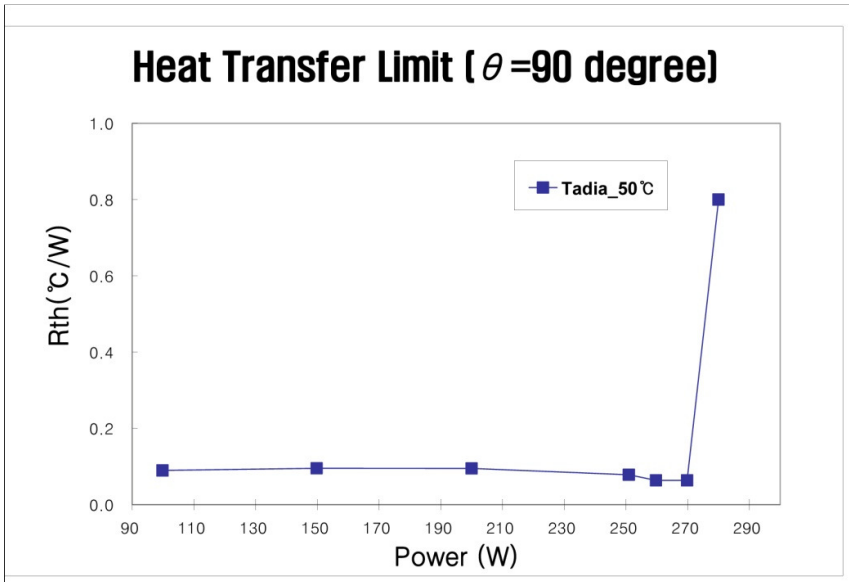

Fig. 4 Maximum Heat Transfer Rate at Θ=90°, Tadia=50℃
(Le=30mm, La=70mm, Lc=50mm)

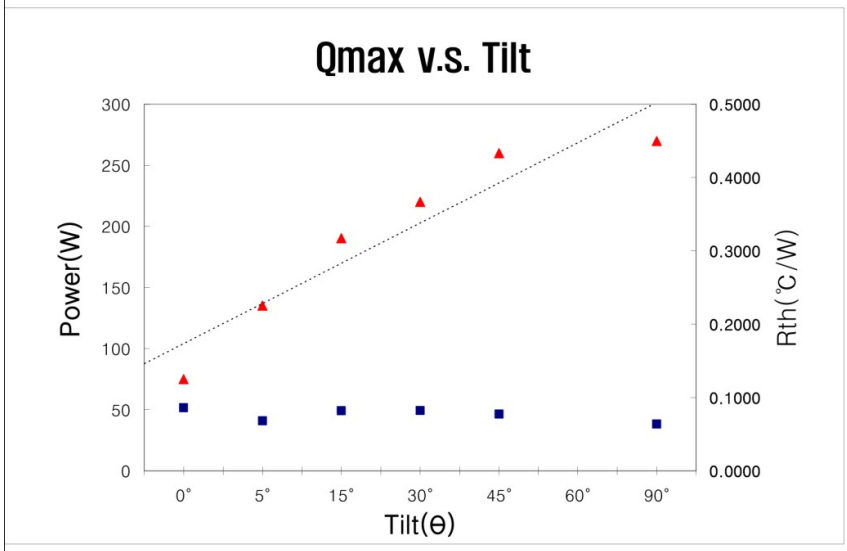

Fig. 5 Maximum Heat Transfer Rate vs. Inclination at Tadia=50℃
(Le=30mm, La=70mm, Lc=50mm)

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Test Data for MHP-2550A150A

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.

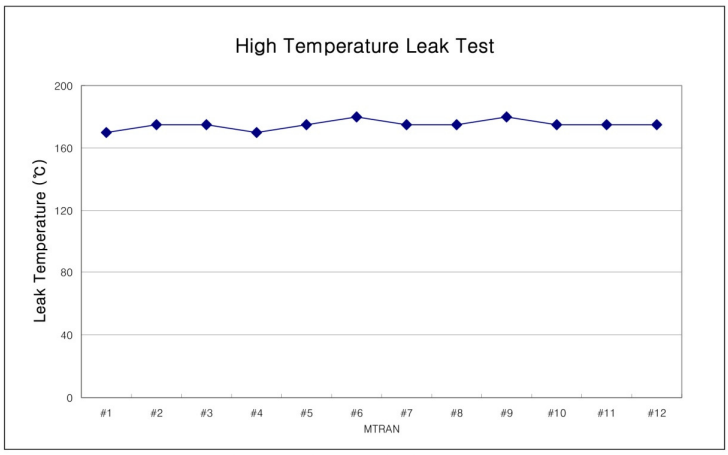

Fig. 6 Leak Test at High Temperature

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).

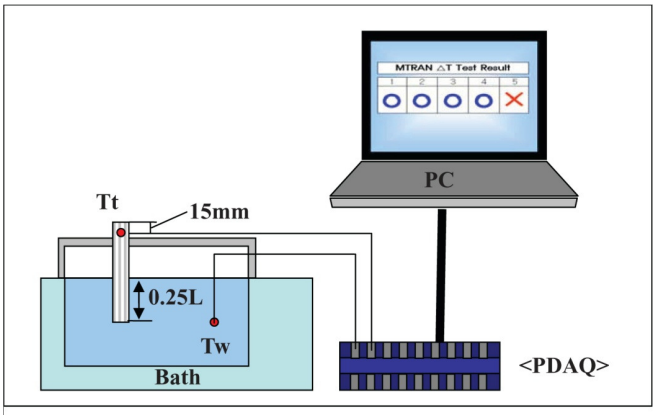

Fig. 7 Thermal Response Test Apparatus

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