# FLAT HEAT PIPE / MHP-1220A200A

## General Specification

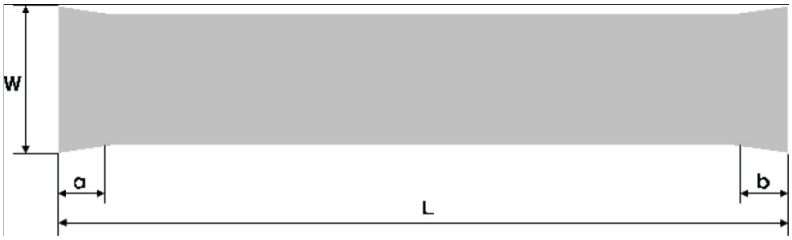
| Item | | Description |
|---|---|---|
| Part Number | | MHP-2040A250A |
| Material of Container | | Aluminium 1070 |
| Wick Structure | | Groove |
| Working Fluid | | Acetone |
| Dimension | Thickness | 2.0 mm |
| | Width | 40.0 mm |
| | Length | 250 mm |
| Weight | | 15.8 g (Average) |
| Qmax | Horizontal | 45.0 W (at 50°C) |
| | Vertical | 175.0 W (at 50°C) |
| Typical Thermal Resistance | | <0.3°C / W (Average) |
| Operating Inclination, Ø | | 0 ~ 90° |
| Leak Temperature Criterion | | -40~100°C |

## Scope

This specification details the requirements and applications for 2.0mm x 40.0mm x 250.0mm.

## Dimensions

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




| Thickness (t) | Width (W) | Length (L) | Ineffective Length (a) | Ineffective Length (b) |
|---|---|---|---|---|
| 2.0 mm | 40.0 mm | 250.0 mm | 2.5 mm | 2.5 mm |

## Material

| | |
|---|---|
| **Container** | Aluminium 1070 |
| **Working Fluid** | Acetone |
| **Surface Treatment** | None |

# Test Data – MHP-2040A150A


**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

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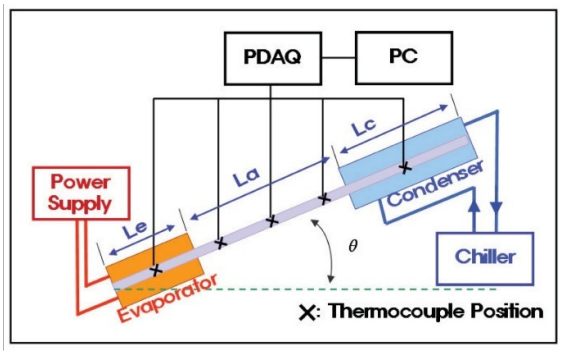
## Test Data – MHP-2040A150A



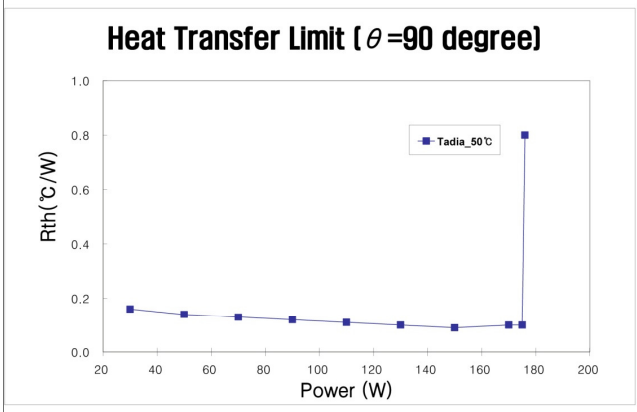




Fig. 4 Maximum Heat Transfer Rate at θ=90°, Tadia=50℃
(Le=30mm, La=70mm, Lc=50mm)

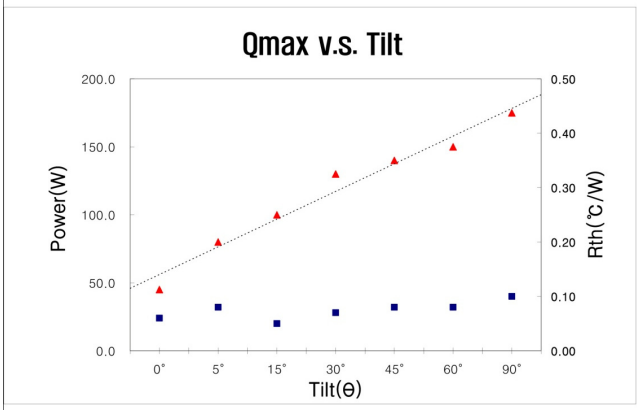



Fig. 5 Maximum Heat Transfer Rate vs. Inclination at Tadia=50℃
(Le=30mm, La=70mm, Lc=50mm)

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## Test Data – MHP-2040A150A

### 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.

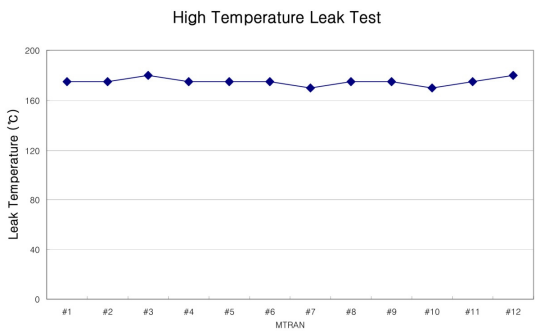


Fig. 6 Leak Test at High Temperature

### 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).

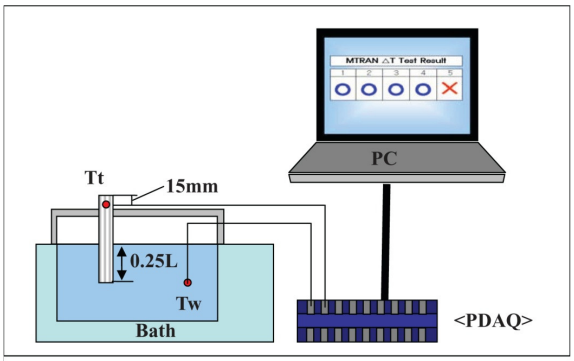


Fig. 7 Thermal Response Test Apparatus

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