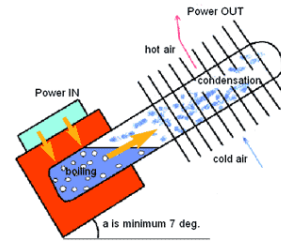


Description and Operating principle

The heat pipe is composed of an aluminium block, condenser (cooling fins) and copper tube connecting the evaporator to the condenser. Cooling is achieved by conduction through the aluminium block and heat transfer through the fluid (evaporation plus condensation) and fin network.

Heat pipes offer a very high thermal efficiency allowing the extraction of high heat fluxes from areas where conventional heat sinks are not practical and transferring the unwanted heat to where it can be more readily dissipated. This facility opens up many possibilities for the hard pressed designer.

Heat pipes are passive heat transfer systems, without any moving parts and are highly reliable. Their proven robustness is utilised in many demanding railway traction applications.



Insulated Heat pipes - HSM 87, HSM 92 for Semiconductor Devices

Using ceramic tubes between the evaporator and condenser (adiabatic zone) and a dielectric fluid provides electrical isolation between these two parts, with no increase in thermal resistance. This construction provides an electrical isolation up to 9 kvolts continuous. The fluids used, HFE 7 1 00, FC72 are environmentally safe. In these applications, the electronic devices, diodes and thyristors, are clamped between two heatpipes

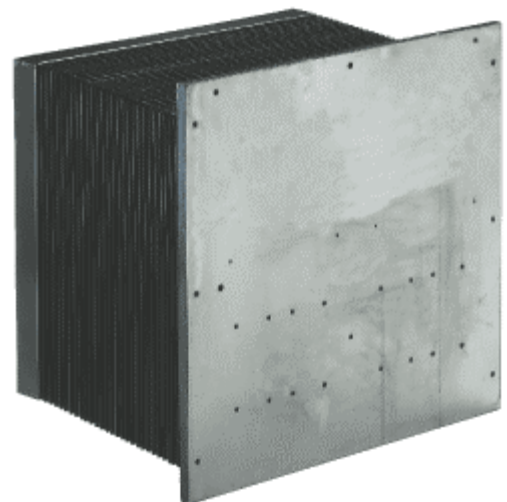


HSM 92

Heat pipes – HSM57. HSM64 for Semiconductor Devices

The HSM57 provides a compact and lightweight forced air cooled solution for cooling an inverter which comprises four IGBT's. The optimum performance is achieved by manufacturing methods which minimise the thermal resistance between the various components of the heat pipe assembly and utilising both water and methanol as the heat transfer fluids.

Type HSM64 is designed for operation in natural convection and utilises the same production processes as the HSM57 with fin spacing optimised for convection air flow.



HSM 64

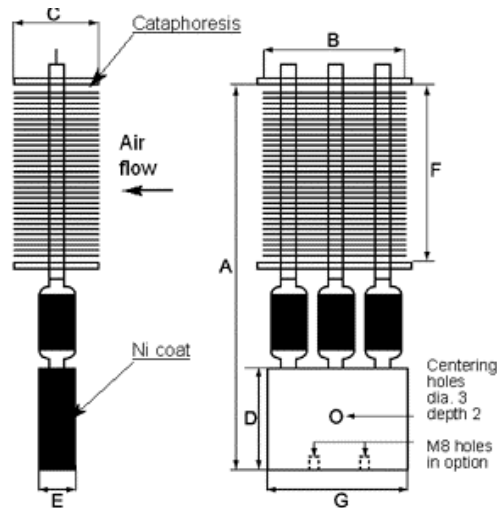
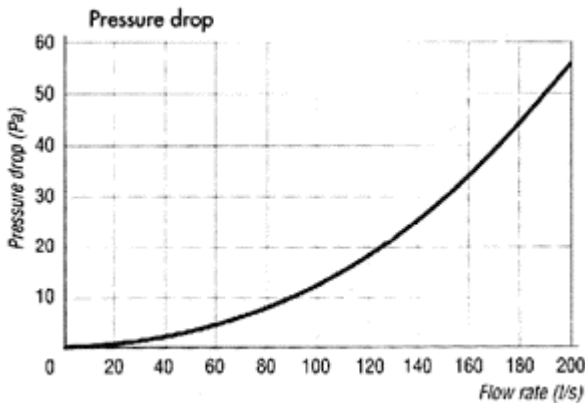
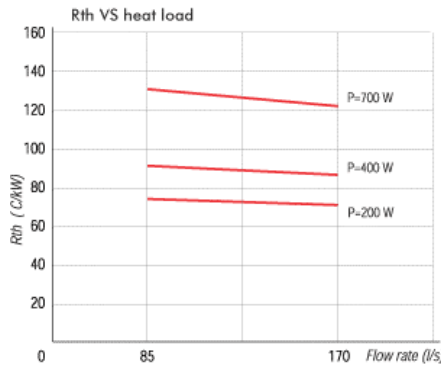
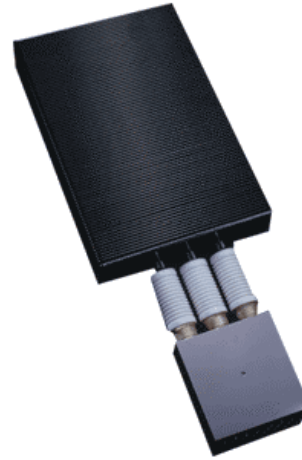
Features/benefits

- High thermal performance
- Cooling of high power press pack components
- Instantaneous heat transfer limits temperature peaks and increases component life.
- Temperature equalisation across component
- Easy maintenance
- No moving parts.

Options

- Component mounting on both sides
- Fluids available

Dielectric (for use with ceramic insulating tubes)
 HFE7100
 FC72



Catalog Number	Ref. Number	A	B	C	D	E	F	G	Weight	Tubes
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(Qty)
HSM 87	P 208 048	423	170	50	90	30	250	90	3,7	3
HSM 92	W 206 513	697	200	50	115	30	492	120	3,5	4

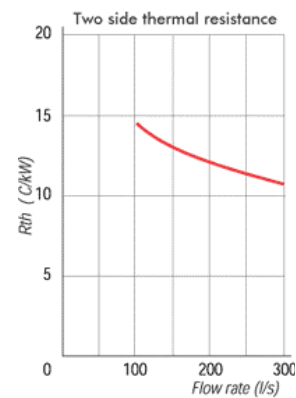
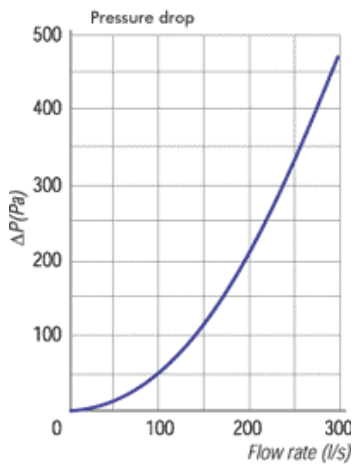
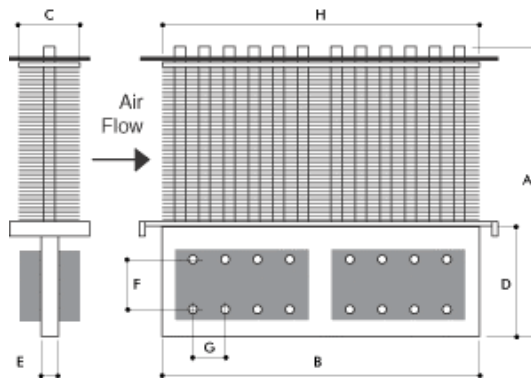
Features/benefits

- High thermal performance
- Cooling of high power press pack components
- Instantaneous heat transfer limits temperature peaks and increases component life.
- Temperature equalisation across component
- Easy maintenance
- No moving parts.

Options

- Component mounting on both sides
- Fluids available

Water
 Methanol (-20°C/+40°C)
 Dielectric (for use with ceramic insulation tubes)



Catalog Number	Ref. Number	A	B	C	D	E	F	G	Weight	Tubes
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(Qty)
HSM 57	F750817	500	394	130	160	26	124	57	385	35

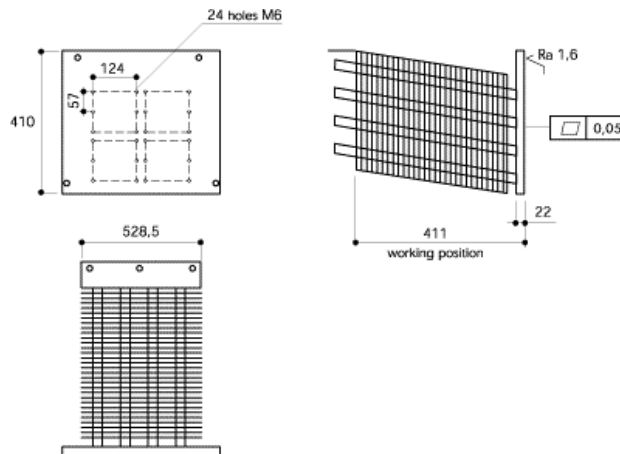
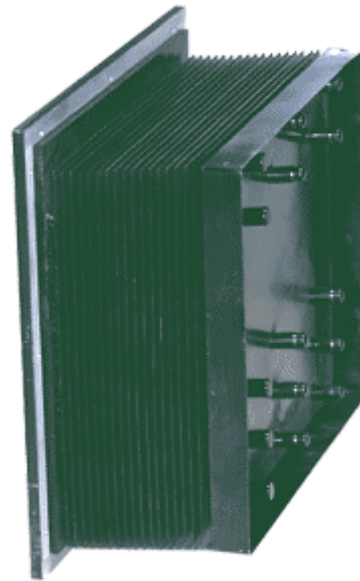
Features/benefits

- High thermal performance
- Cooling of high power modular components
- Instantaneous heat transfer limits temperature peaks and increases component life.
- Temperature equalisation across component
- Easy maintenance
- No moving parts.

Options

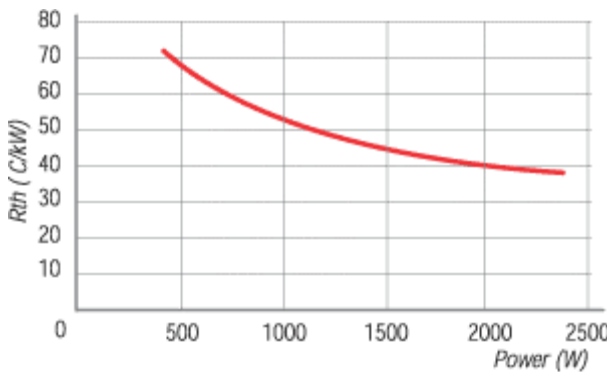
- Component mounting on both sides
- Fluids available

Water
Methanol (-20°C/+40°C)

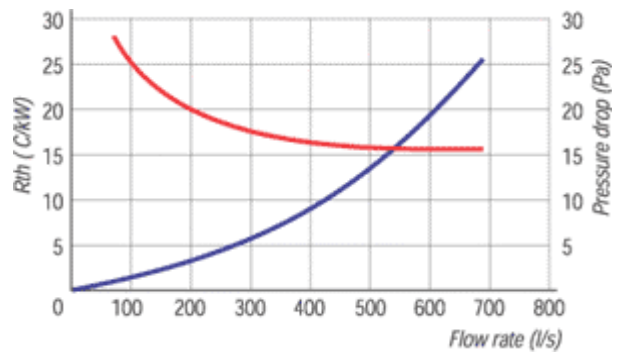


Weight : 20kgs

HSM 64 - Natural Convection



HSM 64 - Forced Convection



Rth for a 1300W power dissipation