

## DC THERMOSIPHON 300 FOR ELECTRONICS COOLING

Dantherm DC Thermosiphon 300 is used for cooling of cabinets and enclosures containing sensitive electronic equipment.

The Thermosiphon uses the thermodynamic method of passive heat exchange based on internal natural convection. In the cooling process, it circulates cooling fluid without the necessity of a compressor, due to a vertical, closed loop circuit.

Convective movement of the fluid starts, when fluid is heated by the heat load inside a cabinet causing the fluid to evaporate into gas. The phase shift from fluid into gas demands energy. The Thermosiphon utilizes the phase-shifting energy to cool down the inside of the cabinet. Convection moves the heated gas upwards in the system, as it is simultaneously replaced by cool, heavier fluid returning via gravity. The only mechanically moving parts are internal and external fans.

The Dantherm DC Thermosiphon is applied in radio base stations, Telecom cabinets/shelters, battery compartments/rooms and indoor/outdoor cabinets.

## FEATURES AND BENEFITS

### Energy-efficiency and environment

- Reliable and energy-efficient cooling. Energy-efficient fans with long service life and minimal power consumption. Efficient cooling circuit using environmentally friendly refrigerant R134a.

### Cabinet

- Mono-block, plug and play unit ensures easy installation.
- Closed loop cooling protects equipment against ambient environment.
- Constructed of sheet metal (EN 10143 & EN 10327), powder coated with RAL 7035.
- Environment protected components in ambient air circuit for optimum air stream.

### Heat Management

- Thermosiphon cooling method—passive heat exchange based on natural convection without requiring a compressor.
- Passive cooling utilizes natural principle of heat transfer. No need for compressor; just a normal cooling circuit with coils and refrigerant.
- The unit works in extreme temperatures from -33°C to +55°C.

### Controller

- Built-in digital controller - Dantherm CC1 controller, temperature sensor placed on control board.
- Energy-saving control strategy. Fans are controlled with unique, stable RPM independent of supply voltage fluctuations.
- Configuration parameters stored in on-board, non-volatile memory. Configurable digital in/outputs.
- Regulates internal and external fans to achieve optimum inside temperature at minimum power consumption.

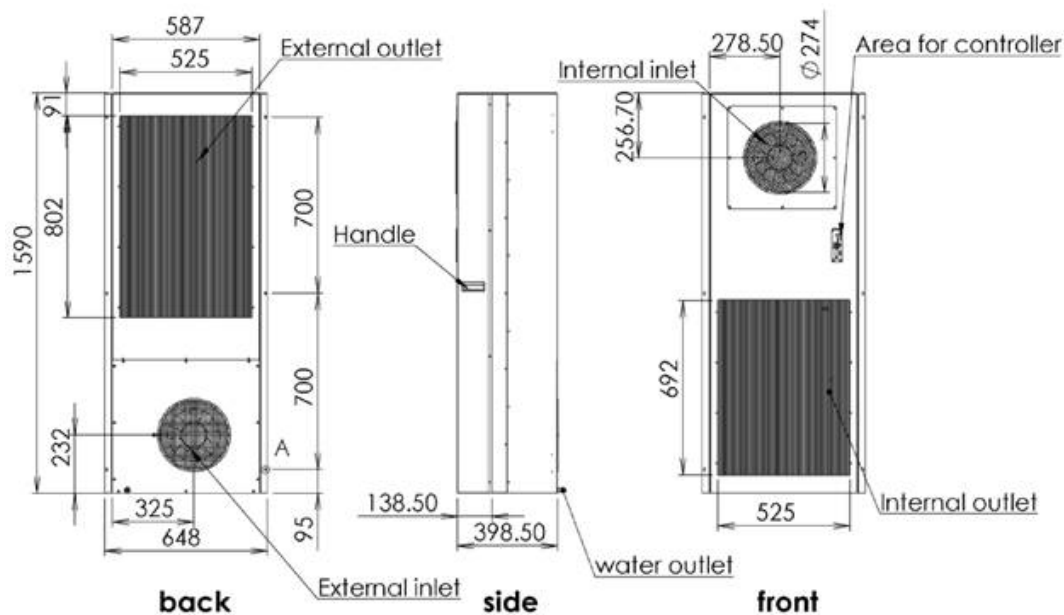
### Optional Features

- Optional external temperature sensor connection.
- Wall duct for inside mounting.

**TECHNICAL DATA**  
**DC THERMOSIPHON 300**

<b>Item number</b>	<b>366226</b>	
<b>Dimensions, weight &amp; mounting</b>		
Unit dimensions (height×width×depth)	mm	1590×587×399
Single packing dimensions (height×width×depth) (cardboard + pallet)	mm	759×1755×760
Net weight	kg	73.5
Single package weight incl. unit (multi package, ask Dantherm)	Kg	96
Mounting method		Door/ side mounting
Controller location/interface		On the interface of the unit
<b>Environmental protection &amp; performance</b>		
Operational temperature range	°C	-33 ~ +55
Storage temperature	°C	-40 ~ +70
Storage relative humidity	RH	5~95%
Noise level, outside 2m distance from front at 80% fan speed	dB(A)	65
Protection from dust, water and wind driven rain according to EN 60529	IP Class 2	55
Refrigerant / amount	Kg	R134a / 2.7
Expected service life		Min. 10 years
<b>Cooling capacity &amp; operational data</b>		
Cooling capacity at 60°C internal and 45°C ambient	W/K	300
Internal airflow	m <sup>3</sup> /h	1900
External airflow	m <sup>3</sup> /h	2000
Power consumption at 60°C internal and 45°C ambient	W	440
<b>Power, frequency &amp; range</b>		
Input voltage range	VDC	36-57
<b>Key components</b>		
Controller		Dantherm CC1
Fans		EBM R3G310
Sheet metal parts		Aluzinc + powder coating
Colour	RAL	7035

**DIMENSIONS**



Subject to change without notice.