CooliBlade®

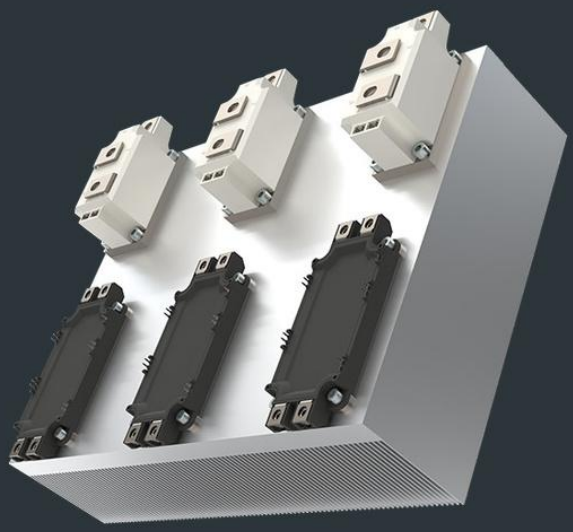
PRODUCT BROCHURE

2D HEAT SPREADING FOR NARROW AIR DUCTS

CooliBlade AURORA-X

A drop-in replacement for aluminium heat sinks

Built to order for each module layout



Built for high-power converters

A free-form NEOcore-X evaporator built into the baseplate.

Drives **AC drives, frequency converters**	Storage **Battery energy storage**	E-mobility **EV charging**
Buildings **Lifts**	Renewables **Solar converters**	Backup power **UPS power sources**

Direct form-factor replacement for aluminium heat sinks in narrow air ducts.

Solid aluminium hits its limit

At higher power densities, solid aluminium cannot move heat sideways fast enough, and skived and extruded heat sinks reach their limit. AURORA-X builds CooliBlade's patented NEOcore two-phase thermal channels directly into the aluminium baseplate, and delivers higher power in the same footprint.

Spreads in both directions

Heat spreads across the baseplate the moment it leaves the module surface, not only along the fin axis.

No derating from position

Module position and uneven power loading no longer set the derating limit for the whole stack.

Gravity-assisted

A passive thermosiphon for layouts where the hot components sit in the lower area of the heat sink.

−24 K
lower module case temperature at 4.2 kW total load

+850 W
more power before the junction temperature limit (+23 %)

28 K
cooler at 4.8 kW total load; the advantage grows with load

Measured against a skived aluminium heat sink of the same form factor, three SEMiX 3p+ modules, 40 °C ambient, 600 m³/h. Temperatures at module case.

PASSIVE AND SUSTAINABLE

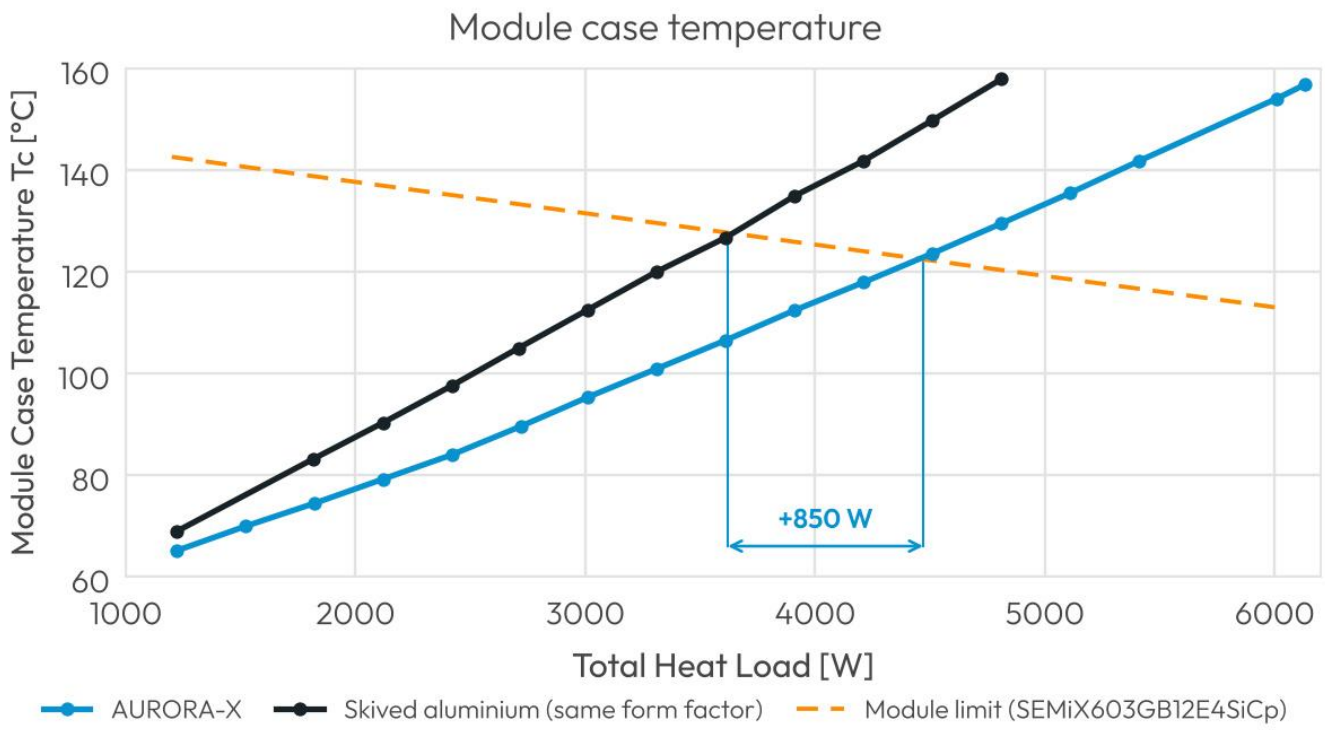
No pumps, no liquids to connect and no maintenance. Made of fully recyclable aluminium, without copper, epoxy or silicones.

NOTHING ELSE CHANGES

Same footprint and mounting as the aluminium heat sink it replaces. IP65 compatible, mounts like an aluminium heat sink.

Measured performance

AURORA-X compared with a skived aluminium heat sink of the same form factor: three SEMiX 3p+ form factor modules, 40 °C ambient, 600 m³/h. Module case temperature Tc, with the SEMiX603GB12E4SiCp limit at rated Tj 150 °C.



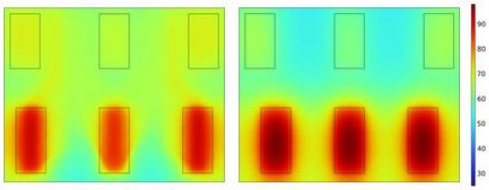
Module case temperature Tc [°C], 40 °C ambient, 600 m³/h (values of the graph above)

Total load [W]	1221	1818	2120	2420	2710	3010	3310	3610	3910	4210	4510	4810
AURORA-X	**65.1**	**74.4**	**79.2**	**84.0**	**89.4**	**95.3**	**100.9**	**106.5**	**112.4**	**117.9**	**123.6**	**129.5**
Skived heat sink	68.9	83.2	90.3	97.6	105.0	112.5	120.0	126.7	134.9	141.8	149.8	157.9

Technical data

Product	AURORA-X
Technology	NEOcore-X passive two-phase thermosiphon
Construction	Fully integrated aluminium, sealed evaporator
Module interface	Direct mount to integrated evaporator base
Orientation	Hot components in the lower area
Dimensions and weight	Customisable
Mounting	IP65 compatible, mounts like aluminium

Where the heat goes



AURORA-X Skived aluminium

Surface temperature under identical load and airflow. Aluminium concentrates heat above each module; the NEOcore-X channel spreads it across the whole structure, so the peak the modules see is lower.

Send us your cooling case

Free feasibility evaluation: cooliblade.com

1 Model

We model your case against our validated test data.

2 Evaluate

A free feasibility evaluation, no obligation. If a passive thermal channel does not close the gap in your cabinet, we will say so.

3 Scale

CooliBlade carries the thermal design the whole way, from first prototype to industrial series production.