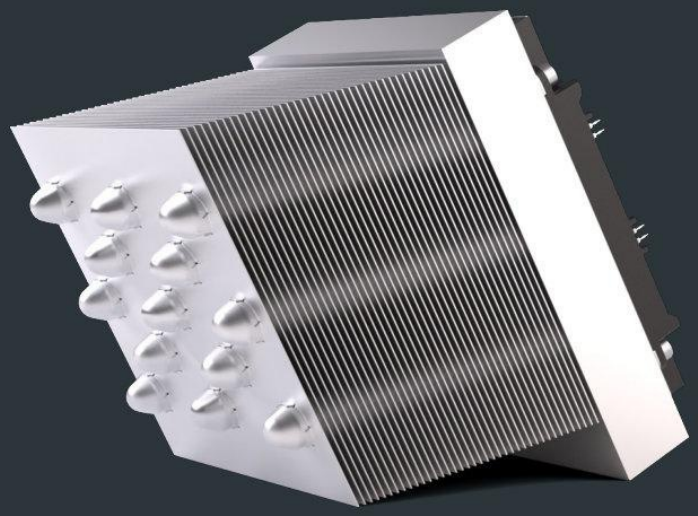
COOLING FOR THE SiC TRANSITION

CooliBlade ULTIMA-X

40 % more power per module.
Same modules, same footprint.



Built for high-power converters

Measure ULTIMA-X in your own setup, IGBT or SiC.

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

Fits SEMiX 3p, Infineon EconoDUAL 3 and similar 17 mm half-bridge modules. Two modules per heat sink, no adapters.

SiC makes cooling the bottleneck

Silicon carbide lets inverters and drives switch faster and deliver more power from the same module packages used today. The losses are concentrated in much smaller chips, so the heat sink decides how much of that potential you can actually use.

More power per package

SiC versions of 17 mm half-bridge modules push more power through the same footprint and baseplate area.

Concentrated heat

Smaller chips mean higher heat flux. NEOcore spreads it with internal conductivity up to 1000× that of aluminium.

Every kelvin counts

Lower junction temperature gives margin for higher current, higher ambient or longer lifetime.

−19 K
lower power module baseplate temperature at 1 kW per module

−30 %
lower thermal resistance at 1 kW (45 vs. 64 K/kW)

+40 %
more power per module at the same temperature rise

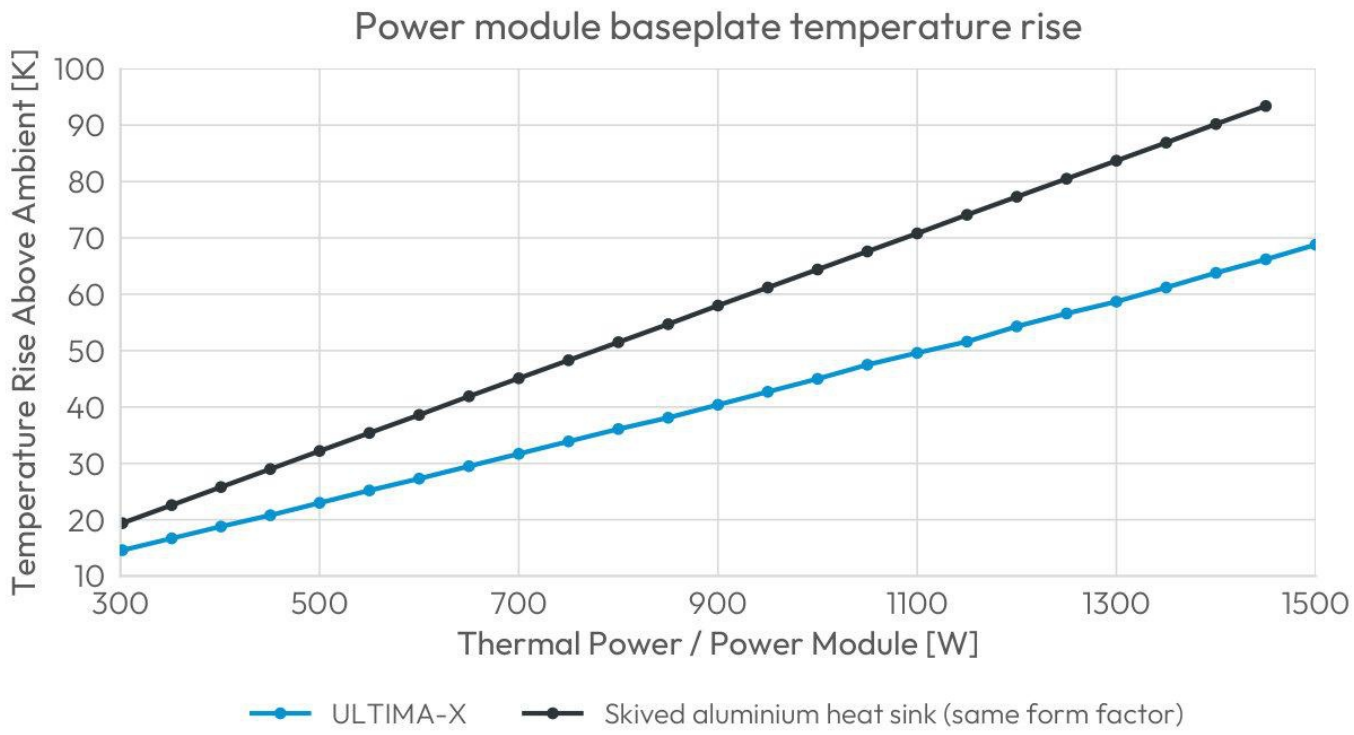
Compared with a skived aluminium heat sink of the same form factor, 200 m³/h per power module. Temperatures at power module baseplate.

PASSIVE AND SUSTAINABLE

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

Measured performance

ULTIMA-X (ULTIMAX-V02-M1-2-180-X01) compared with a skived aluminium heat sink of the same form factor without NEOcore: 400 m³/h through the heat sink (200 m³/h per power module), temperature at the power module copper baseplate.



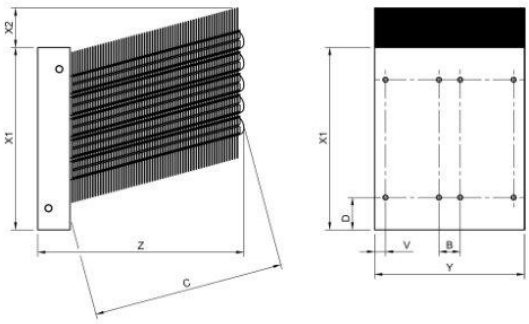
Power module baseplate temperature rise above ambient [K], 200 m³/h per power module (values of the graph above)

Power / module [W]	302	401	500	600	700	800	900	1000	1100	1200	1300	1400	1450
ULTIMA-X	**14.6**	**18.8**	**23.0**	**27.3**	**31.7**	**36.1**	**40.4**	**45.0**	**49.6**	**54.3**	**58.7**	**63.8**	**66.2**
Skived heat sink	19.4	25.8	32.2	38.6	45.1	51.5	58.0	64.4	70.8	77.3	83.7	90.2	93.4

Technical data

Product code	ULTIMAX-V02-M1-2-180-X01
Installation	Vertical (ULTIMA-V platform)
Power modules	2 × 17 mm half-bridge
Condenser length	180 mm
Main dimensions (X1 × Y × Z)	170 × 140 × 193 mm
Weight	3850 g
Material / working fluid	Aluminium / acetone
Ambient temperature	−50 °C to +60 °C
Max. internal temperature	150 °C
Compliance	CE, UL, RoHS, REACH

Dimensions



X1 170 · X2 37 · Y 140 · Z 193 · C 180 · D 30 · V 10 · B 20 mm. Detailed drawings and installation angles in the datasheet.

From reference to your design

Contact us about an evaluation sample: cooliblade.com

1 Evaluate

Start with the reference heat sink. Mount your modules and measure the performance in your own setup.

2 Adapt

The NEOcore platform adapts to your design: condenser length, fin layout, number of modules, orientation and mounting.

3 Scale

Move to series production of your own version, with every unit performance tested.