ATS ADVANCED THERMAL SOLUTIONS, INC.
Innovations in Thermal Management®

IGBT Cold Plates

High Performance

Image for illustration purposes only

ATS-CP-1003

ATS IGBT cold plates have unmatched thermal performance because of their mini-channel fin design. The ATS-CP-1003 cold plate, at a flow rate of 4 L/min, can transfer 1kW of heat at 6.8°C temperature difference between the cold plate base and inlet fluid temperature. If the coolant has particles, a #60 filter or finer is recommended to remove possible particles in the liquid.

FEATURES AND BENEFITS

- More than 30% improvement in thermal performance compared to commercially available cold plates
- Compatible with industry accepted coolants
- 1/4 NPT threaded input and output
- Low pressure drop
- Lightweight for ease of transportation
- Provides uniform cold plate surface temperature when IGBTs are installed
- Maximum pressure: 60 psi
- **Applications:** Automotive Industry, Uninterruptible Power Supplies, Wind Turbines, Photovoltaic Inverters, Power Electronics, Induction Heaters, Motor Devices, Utility Vehicles, Anywhere power devices are used

DIMENSIONS (L X W X H)
162 X 147 X 20 mm
(6.4 X 5.8 X 0.8")

INLET/OUTPUT PORTS
1/4 – 18 NPT

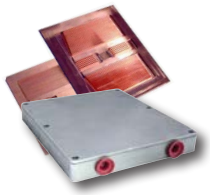
MATERIAL
ALUMINUM, UNFINISHED

WEIGHT
1,102g

ADDITIONAL COMPONENTS DEPLOYED IN LIQUID COOLING LOOPS

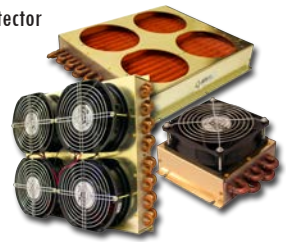
Flow Meter

Leak Detector



Cold Plates

Chillers



Heat Exchangers

ATS has the products needed to design a complete liquid cooling loop: **Cold Plates** to transfer and remove the heat from the source, **Heat Exchangers** to transfer heat from the liquid to the air with or without a fan, and **Chillers** to circulate and condition the fluid in the system. In addition, ATS offers **Flow Meters** to instantaneously measure the volumetric flow rate of the fluid in the system and **Leak Detectors** to notify users of any leaks in the system.

ATS COLD PLATES

» Innovative Technology
Superior heat transfer, flexible design platform

» Compact Design
Designed to fit standard IGBT and other power electronics applications

» Easy Connections
Industry standard threaded hole sizes allows for hassel-free connection options

» Safe & Reliable
Leak Free (100% tested:100 psi)

» Custom Options
Choose from various options, i.e; fitting types, material types, device mounting and more. Contact ATS for additional information

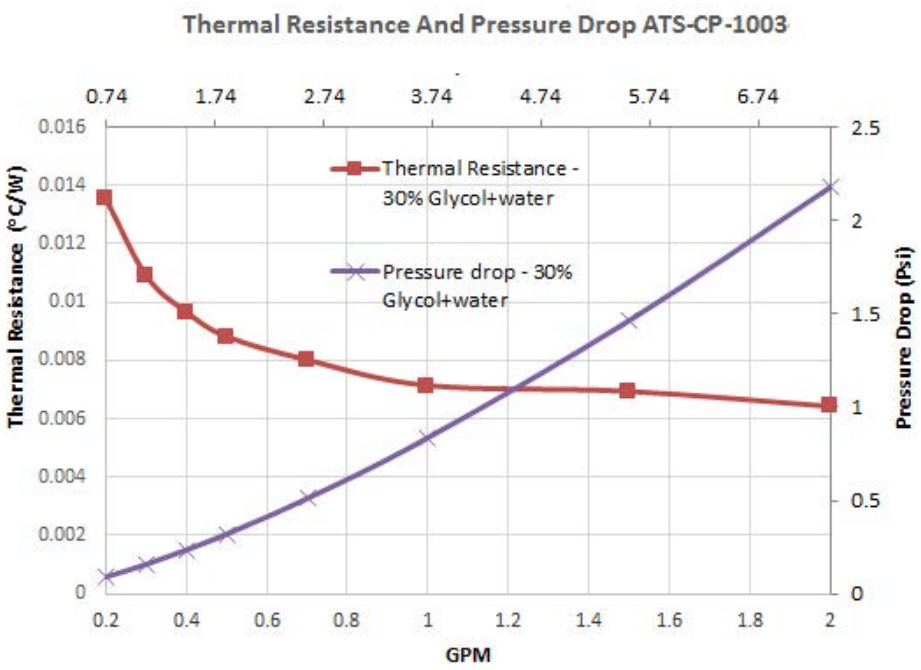
» Customization Available!
ATS will customize any of the cold plates to fit into your application

IGBT COMPATIBILITY

- Semikron SemiX® 33
- Infineon EconoPACK™ +
- Fuji Semiconductor M629
- Powerex Intellimod™ L-Series
- Other IGBTs or high power devices

RoHS COMPLIANT

PERFORMANCE CURVES



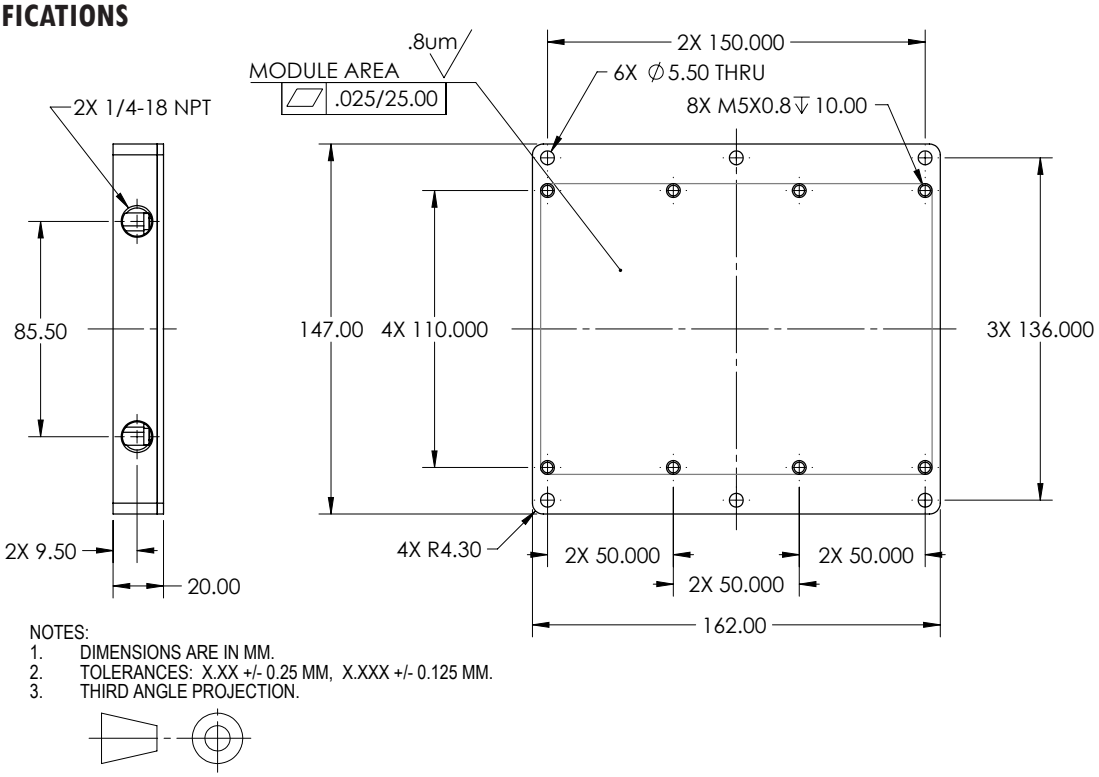
ATS Cold Plate Family			
Part Number	Dimensions* (L x W x H)	Flow Rate (L/min)	ΔT @ kW
ATS-CP-1000	202 x 130 x 20	4 L/min	5.50°C
ATS-CP-1001	198 x 147 x 20	4 L/min	5.00°C
ATS-CP-1002	162 x 136 x20	4 L/min	7.00°C
ATS-CP-1003	162 x 147 x 20	4 L/min	6.80°C
ATS-CP-1004	162 x 172 x 20	4 L/min	5.90°C

Flow rate (gallon/min)**	R (°C/W)	DeltaP (psi)
2	0.0064	2.2
1	0.007	0.83
0.5	0.0087	0.32
0.2	0.014	0.09

* All Dimensions in mm
** Note: To convert to l/min, multiply by 3.7

MECHANICAL SPECIFICATIONS

(all dimensions in mm)



NOTES:
1. DIMENSIONS ARE IN MM.
2. TOLERANCES: X.XX +/- 0.25 MM, X.XXX +/- 0.125 MM.
3. THIRD ANGLE PROJECTION.

For further technical information, please contact Advanced Thermal Solutions, Inc. by phone: 1-781-769-2800, email **ats-hq@qats.com** or visit www.qats.com.