



IGBT Cold Plates

High Performance

ATS-CP-1004

ATS IGBT cold plates have unmatched thermal performance because of their mini-channel fin design. The ATS-CP-1004 cold plate, at a flow rate of 4 L/min, can transfer 1kW of heat at 5.9°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

- » 1/4 NPT threaded input and output
- » More than 30% improvement in thermal performance compared to industry standard
- » Low pressure drop
- » Compatible with Semikron SKIM® 93 and other IGBTs or high power devices
- » Lightweight for ease of transportation
- » Provides uniform cold plate surface temperature
- » Maximum pressure: 60 psi



Image for illustration purposes only

DIMENSIONS (L X W X H)

162 X 172 X 20 mm
(6.4 X 6.8 X 0.8")

INLET/OUTPUT PORTS

1/4 – 18 NPT

MATERIALS

ALUMINUM, UNFINISHED

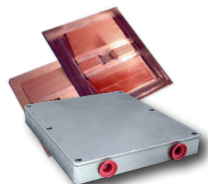
WEIGHT

1,280g

ADDITIONAL COMPONENTS DEPLOYED IN LIQUID COOLING LOOPS



Flow Meter



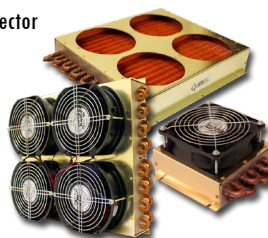
Cold Plates



Chillers



Leak Detector



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 hassle-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

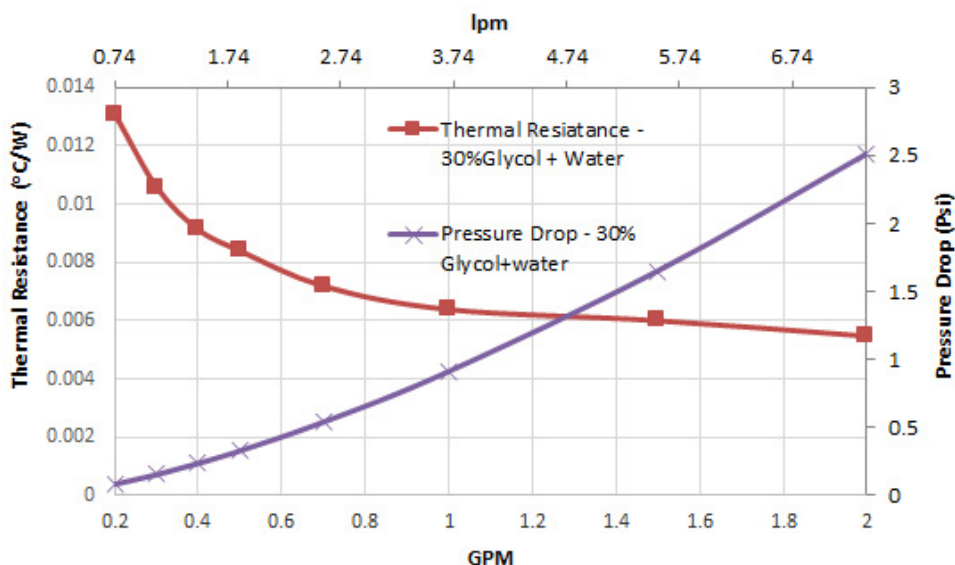
- » Semikron SKIM® 93
- » Other IGBTs or high power devices





PERFORMANCE CURVES

Thermal Resistance And Pressure Drop ATS-CP-1004



ATS Cold Plate Family

Part Number	Dimensions* (L x W x H)	Flow Rate (L/min)	ΔT @ 1kW
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 x 20	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

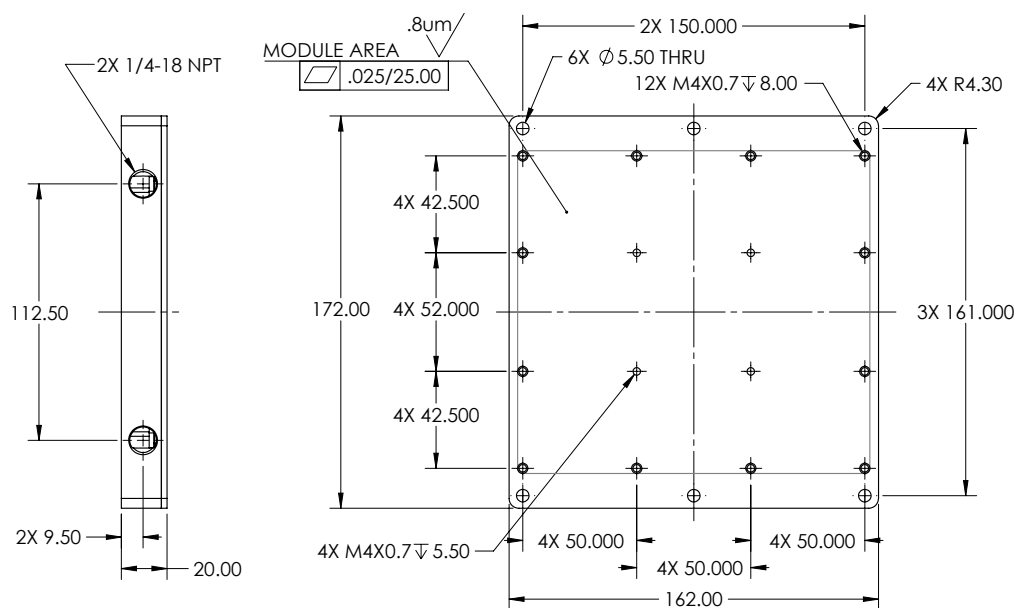
Flow rate (gallon/min)**	R (°C/W)	DeltaP (psi)
2	0.0055	2.5
1	0.0064	0.91
0.5	0.0084	0.33
0.2	0.013	0.09

* All Dimensions in mm

** Note: To convert to l/min, multiply by 3.7

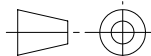
MECHANICAL SPECIFICATIONS

(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.