



DUAL-SIDED, HIGH-FLOW COLD PLATES

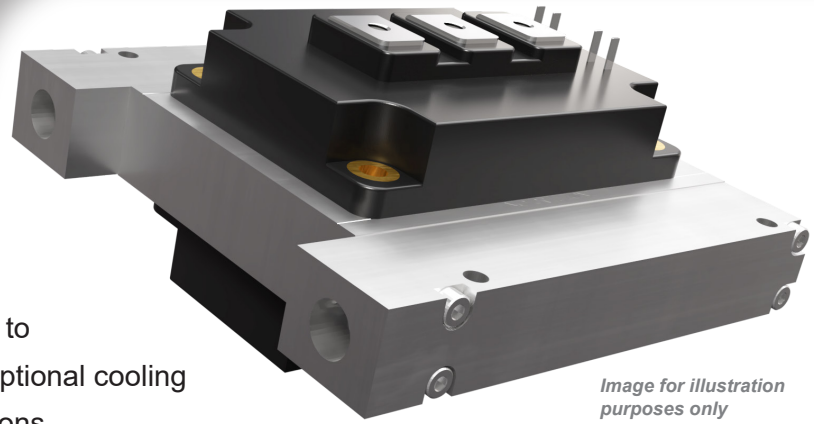


Image for illustration purposes only

Dual-Sided High-Flow Cold Plates provide the flexibility to mount components on both sides, increasing their exceptional cooling performance and adaptability for high-demand applications.

These cold plates can be used in high-flow applications, where coolant flows up to 4 GPM are readily accommodated. At these higher flow rates, a thermal resistance as low as 0.0021°C/W can be achieved.

Each cold plate has etched “NO DRILL ZONES” on both sides to provide a visual guide for various mounting schemes. The component cooling area can only be drilled to a depth of 7mm to avoid damaging the internal fluid channels (please see drawings on the following individual part pages).

FEATURES AND BENEFITS

- » Dual-sided cooling: Cool components on both sides of the cold plate
- » High volumetric flow rate, up to 4 GPM
- » Thermal resistance as low as 0.0021°C/W
- » Compact size
- » 1/4" NPT threaded inlet and outlet ports
- » Provides uniform cold plate surface temperature
- » Maximum pressure: 100 psi

ADDITIONAL COMPONENTS DEPLOYED IN LIQUID COOLING LOOPS



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** and **Leak Detectors** to monitor the system. The **iCDM** (Industrial Cooling Distribution Module) is a liquid loop in a single stand-alone system that connects to an external cold plate.

ATS COLD PLATES

- » **Innovative Technology**
Superior heat transfer with a flexible design platform
- » **Easy Connection**
Industry standard threaded ports allow for hassle-free connection options
- » **Safe & Reliable**
Individually tested, leak-free
- » **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 cold plate to fit into your application

APPLICATIONS

Automotive Industry, Uninterruptible Power Supplies, Wind Turbines, Photovoltaic Inverters, Power Electronics, Induction Heaters, Motor Devices, Utility Vehicles, Anywhere Power Devices are used





ATS-THCP-1000

Dimensions (L x W x H)

Component Area

62 x 62 mm
(2.4 x 2.4")

Overall

77 x 131 x 24 mm
(3.0 x 5.2 x 0.9")

Material

Aluminum 6063

Unfinished

Weight

491 g



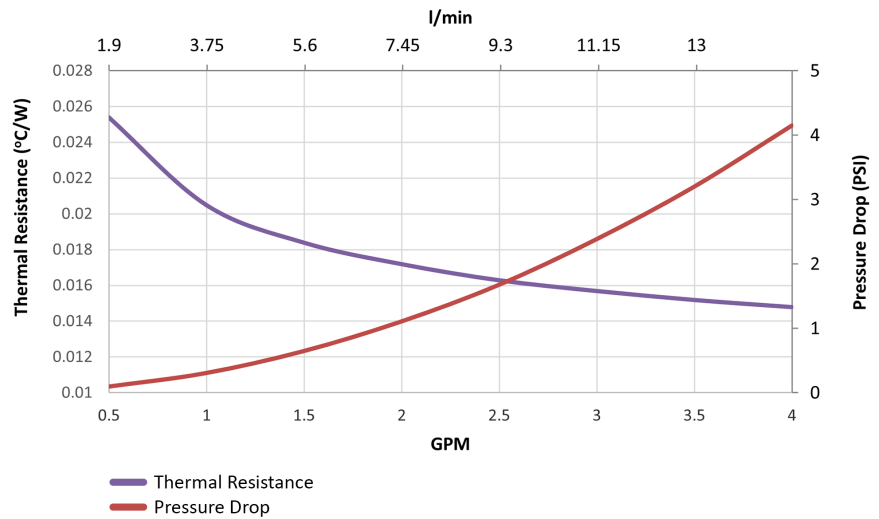
PERFORMANCE

Thermal Resistance and Pressure Drop for ATS-THCP-1000
(water as fluid)

THCP-1000 Performance (Water as fluid)		
Flow Rate (GPM)*	Thermal Resistance (°C/W)	ΔP (psi)**
0.5	0.0254	0.090
1.0	0.0205	0.300
1.5	0.0184	0.640
2.0	0.0172	1.100
2.5	0.0163	1.670
3.0	0.0157	2.380
3.5	0.0152	3.198
4.0	0.0148	4.150

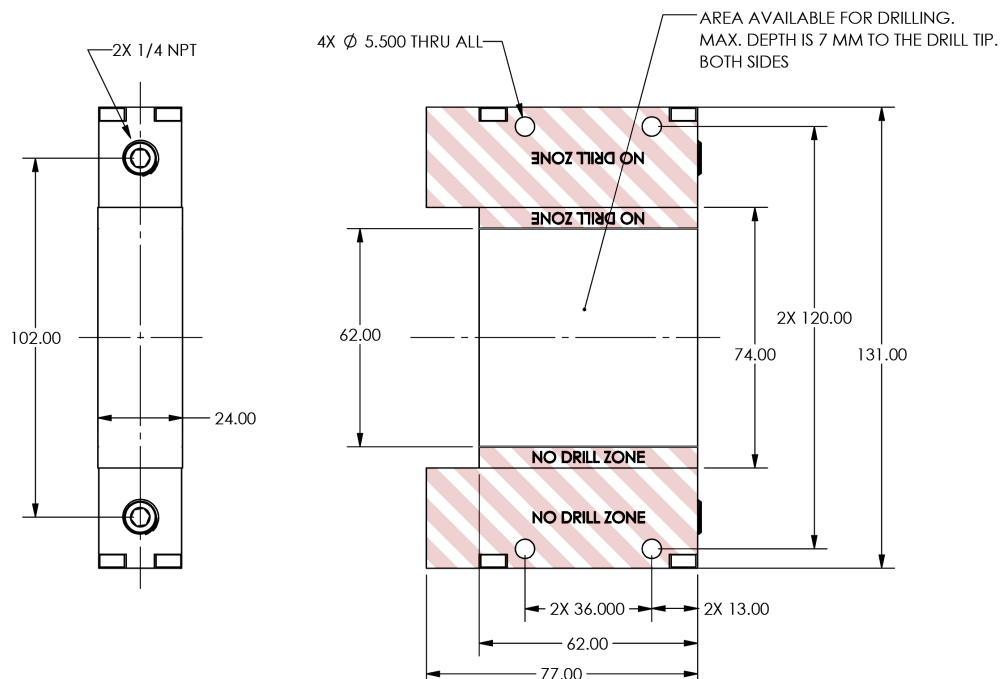
* Note: To convert to l/min, multiply by 3.8

** Note: To convert to kPa, multiply by 6.9



MECHANICAL SPECIFICATIONS

(all dimensions in mm)





ATS-THCP-1001

Dimensions (L x W x H)

Component Area

128 x 78 mm

(5.0 x 3.1")

Overall

143 x 147 x 24 mm

(5.6 x 5.8 x 0.9")

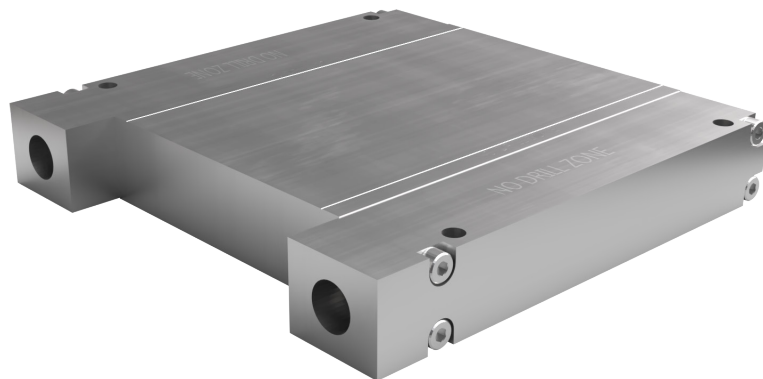
Material

Aluminum 6063

Unfinished

Weight

1,046 g



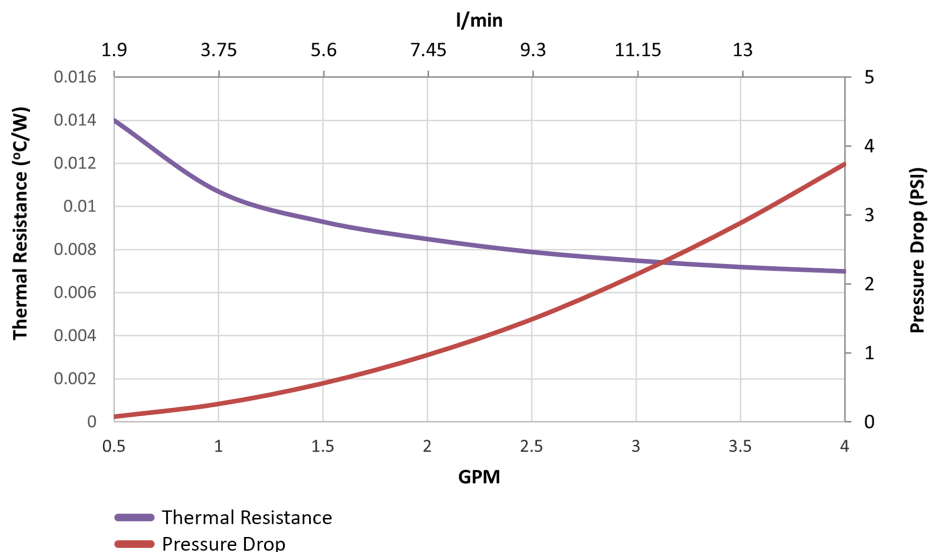
PERFORMANCE

THCP-1001 Performance (Water as fluid)		
Flow Rate (GPM)*	Thermal Resistance (°C/W)	ΔP (psi)
0.5	0.0140	0.071
1.0	0.0107	0.255
1.5	0.0093	0.553
2.0	0.0085	0.962
2.5	0.0079	1.480
3.0	0.0075	2.130
3.5	0.0072	2.880
4.0	0.0070	3.739

* Note: To convert to l/min, multiply by 3.8

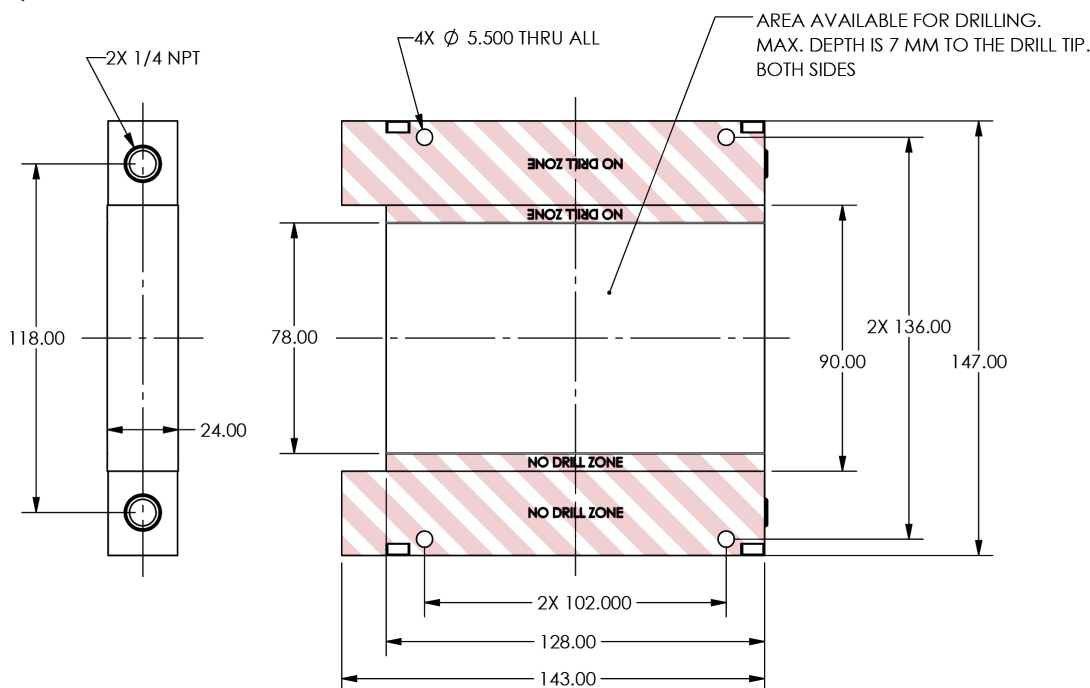
** Note: To convert to kPa, multiply by 6.9

Thermal Resistance and Pressure Drop for ATS-THCP-1001
(water as fluid)



MECHANICAL SPECIFICATIONS

(all dimensions in mm)





ATS-THCP-1002

Dimensions (L x W x H)

Component Area
198 x 78 mm
(7.8 x 3.1")

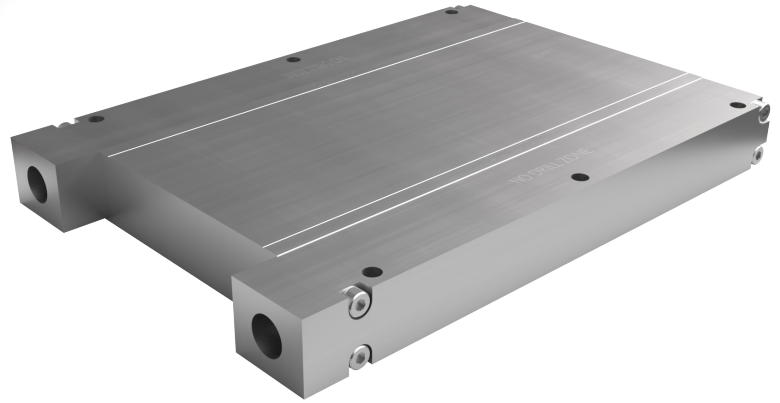
Overall
209 x 147 x 24 mm
(8.2 x 5.8 x 0.9")

Material

Aluminum 6063
Unfinished

Weight

1,540 g



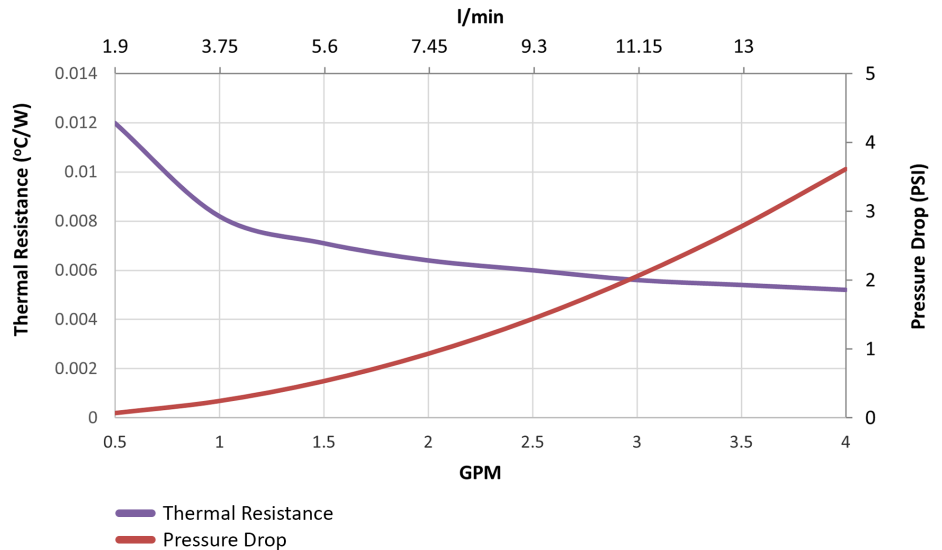
PERFORMANCE

THCP-1002 Performance (Water as fluid)		
Flow Rate (gallon/min)*	Thermal Resistance (°C/W)	ΔP (psi)
0.5	0.0120	0.065
1.0	0.0082	0.240
1.5	0.0071	0.527
2.0	0.0064	0.925
2.5	0.0060	1.432
3.0	0.0056	2.052
3.5	0.0054	2.778
4.0	0.0052	3.615

* Note: To convert to l/min, multiply by 3.8

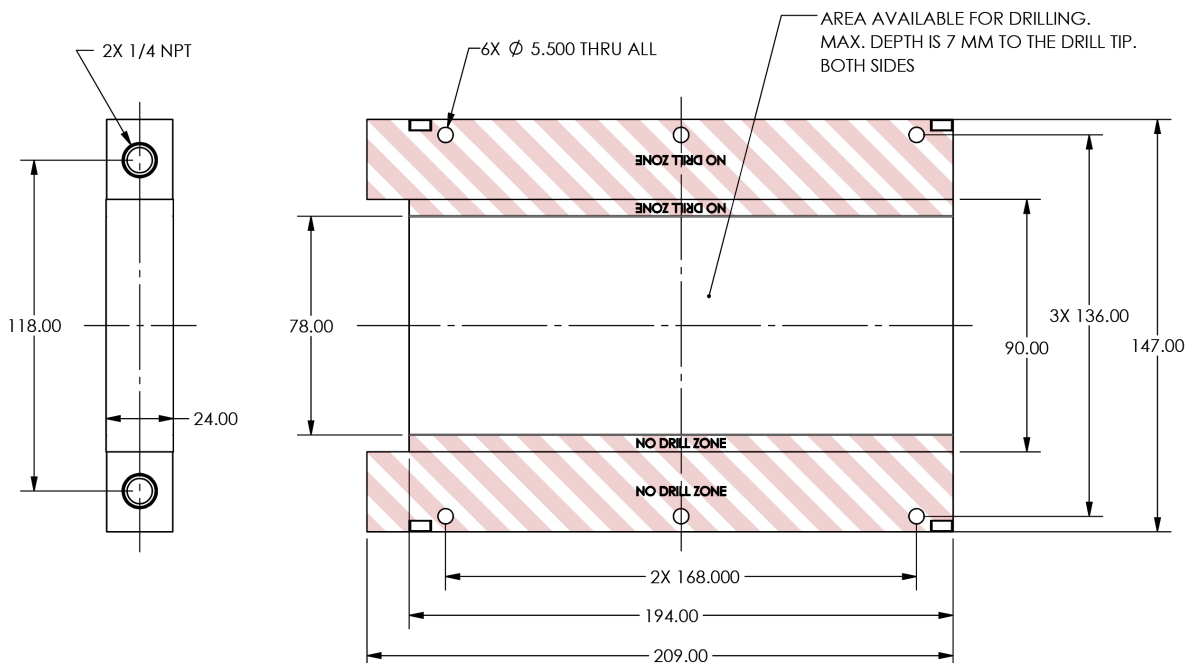
** Note: To convert to kPa, multiply by 6.9

Thermal Resistance and Pressure Drop for ATS-THCP-1002
(water as fluid)



MECHANICAL SPECIFICATIONS

(all dimensions in mm)





ATS-THCP-1003

Dimensions (L x W x H)

Component Area
260 x 127 mm
(10.2 x 5.0")

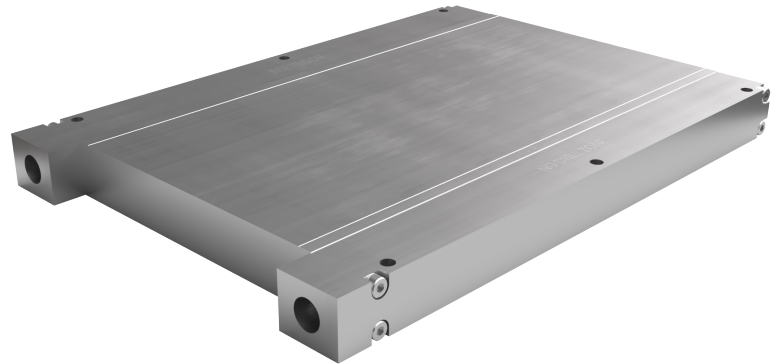
Overall
275 x 196 x 24 mm
(10.8 x 7.7 x 0.9")

Material

Aluminum 6063
Unfinished

Weight

2,784 g



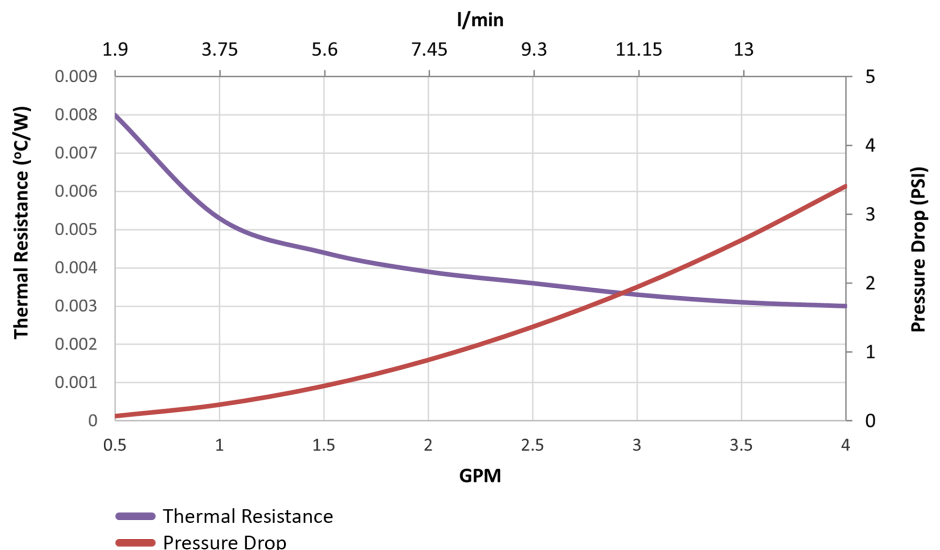
PERFORMANCE

THCP-1003 Performance (Water as fluid)		
Flow Rate (gallon/min)*	Thermal Resistance (°C/W)	ΔP (psi)
0.5	0.0080	0.064
1.0	0.0053	0.230
1.5	0.0044	0.500
2.0	0.0039	0.878
2.5	0.0036	1.360
3.0	0.0033	1.940
3.5	0.0031	2.624
4.0	0.0030	3.412

* Note: To convert to l/min, multiply by 3.8

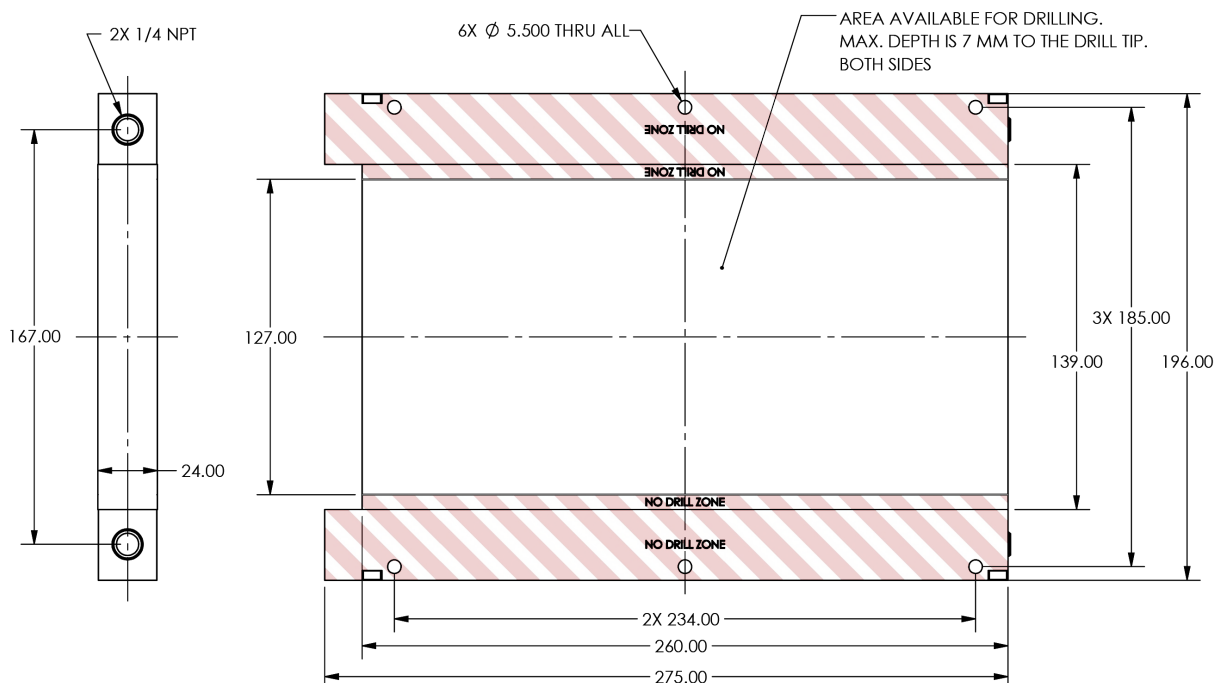
** Note: To convert to kPa, multiply by 6.9

Thermal Resistance and Pressure Drop for ATS-THCP-1003
(water as fluid)



MECHANICAL SPECIFICATIONS

(all dimensions in mm)





ATS-THCP-1004

Dimensions (L x W x H)

Component Area
326 x 178 mm
(12.8 x 7.0")

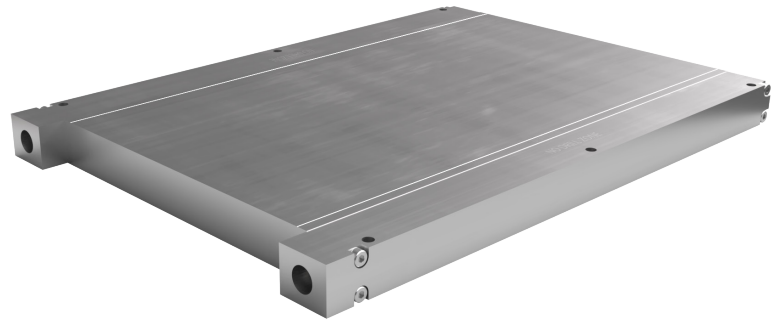
Overall
341 x 247 x 24 mm
(13.4 x 9.7 x 0.9")

Material

Aluminum 6063
Unfinished

Weight

4,446 g



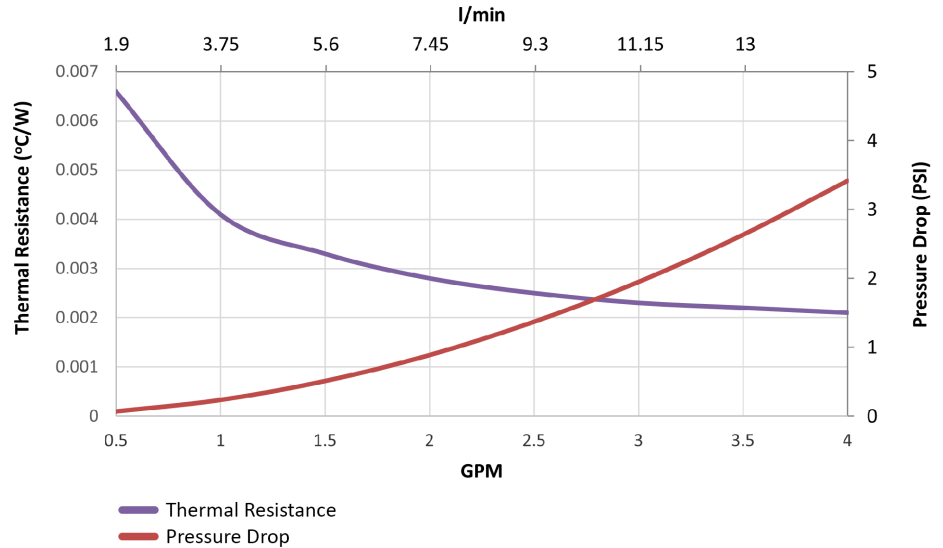
PERFORMANCE

THCP-1004 Performance (Water as fluid)		
Flow Rate (gallon/min)*	Thermal Resistance (°C/W)	ΔP (psi)
0.5	0.0066	0.066
1.0	0.0041	0.232
1.5	0.0033	0.505
2.0	0.0028	0.881
2.5	0.0025	1.364
3.0	0.0023	1.943
3.5	0.0022	2.629
4.0	0.0021	3.414

* Note: To convert to l/min, multiply by 3.8

** Note: To convert to kPa, multiply by 6.9

Thermal Resistance and Pressure Drop for ATS-THCP-1004
(water as fluid)



MECHANICAL SPECIFICATIONS

(all dimensions in mm)

