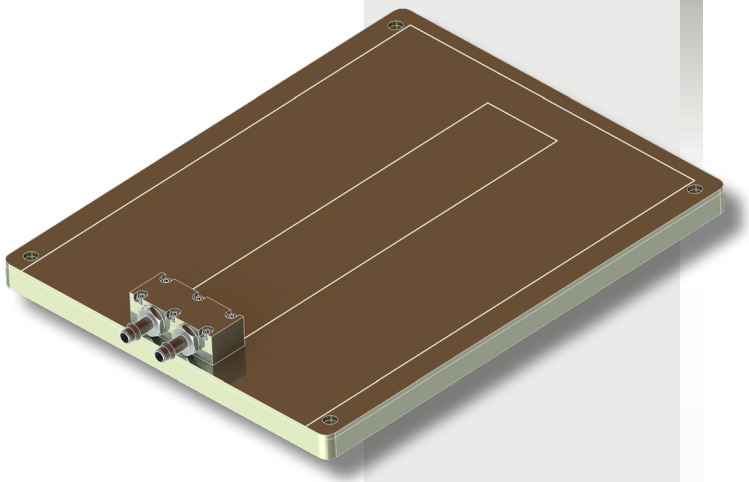
WAKEFIELDTHERMAL
RUGGED & DEFENSE

HIGH PERFORMANCE NEXT GENERATION LIQUID COLD PLATE DATA SHEET



Wakefield Thermal's vacuum-brazed liquid cold plates are created by machining two metal plates with interior channels and fin structures (zipper fin), which are then carefully sealed together inside a vacuum chamber. A filler metal with a lower melting point is melted into the joints of the cold plate via capillary action. The vacuum created in the chamber removes the atmosphere, thus preventing the forming of oxides that would normally form during the brazing process. Without the vacuum, a flux would be required to protect the joints as they are formed. The vacuum-brazing process creates an exceptionally strong joint and does not require any brazing flux. The vacuum-brazed cold plate has unparalleled flexibility in its design, as it is not limited by the bending radius limitations of Wakefield Thermal's standard tube and plate cold plates.

FEATURES & BENEFITS

- Compatible with the industry's most common power module devices (SiC & GaN, IGBT's, SCRs)
- High thermal performance
- Lightweight design for critical applications
- Vacuum brazed construction ensures metal-to-metal flux-free joint
- Ideal low pressure drops for medium and low flow rates
- Leak-free (pressure tested) and corrosion-free construction
- Fully customizable to fit different size footprints

APPLICATIONS

- EV/ Battery Cooling
- Inverters
- Aerospace & Defense
- UPS Power Supplies
- Data Center/Server
- High Power Optics
- Medical
- Instrumentation

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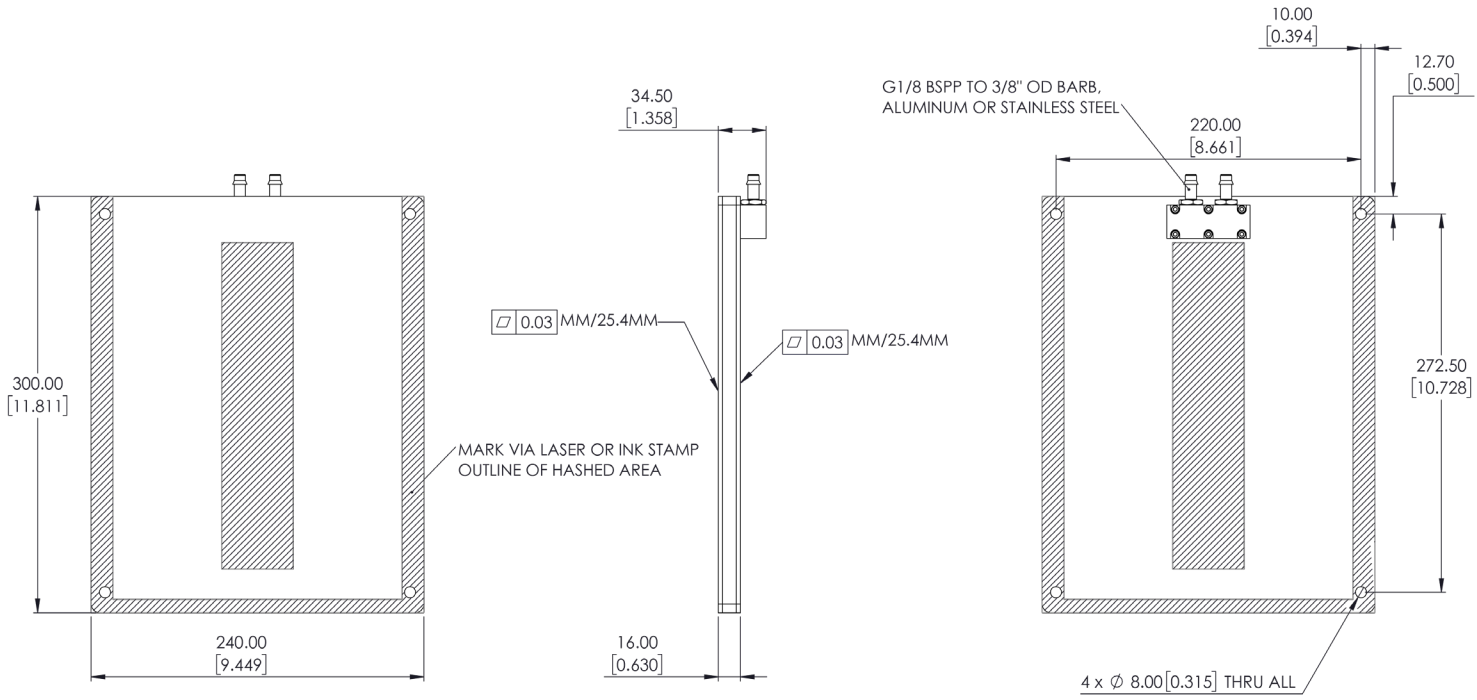
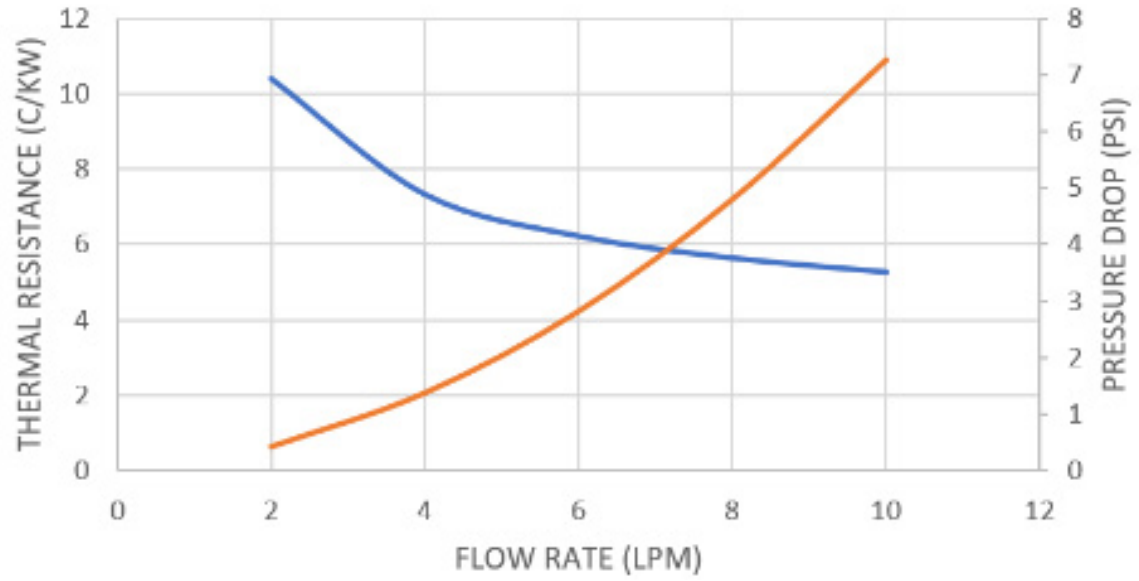


NOTES:
1. HATCHED AREAS SIGNIFY ACCEPTABLE DRILL LOCATIONS
2. FINISH: CLEAR CHROMATE

For other component items,

CONTACT WAKEFIELD

THERMAL CURVES



PLEASE NOTE:

1. Thermal performance is defined as average plate temperature minus incoming fluid temperature divided by the power in kilowatts

2. Fluid is 50/50 EGW

THERMAL SOLUTIONS SEGMENT

APPLIED SOLUTIONS GROUP
THE HEICO COMPANIES

COOLVATION
Innovative Thermal Solutions

5 STEP
THERMAL ENGINEERING GUIDE
From Concept To Cooling

COOLVATION provides thermal management engineering services to improve products' thermal performance while applying cost effective solutions to eliminate unnecessary manufacturing costs. COOLVATION is a seamless resource extension for our customers' thermal & mechanical engineering teams from ideation to lab testing.

Customer Thermal Challenge
Physical limitations
Power constraints
Air flow/ fluid conditions
Environmental conditions
Component specifications
Define ideal state

01 STEP

Execution
Concept analysis
(CFD-ansys/ ice pack, fin optimizations software)
Solid model
Analysis & verification
Cost analysis

02 STEP

Collaboration
Review conditions
Statement of work to customer
Historical consideration along with cutting edge technologies to provide cost effective solution

03 STEP

Global Manufacturing
Global manufacturing facilities
Global warehousing
Global labs to support future program

04 STEP

Solution & Verification
Dedicated new product development center
Prototype
Physical thermal lab testing
Proven manufacturability

05 STEP

WAKEFIELDTHERMAL

CIA DESIGN

VETTE CORP.

Coolcentric™

PRECISION ENGINEERING LLC
ADVANCED METALWORKING | Fabricating Solutions, Forming Results