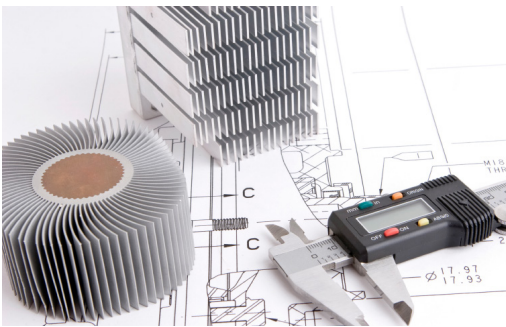


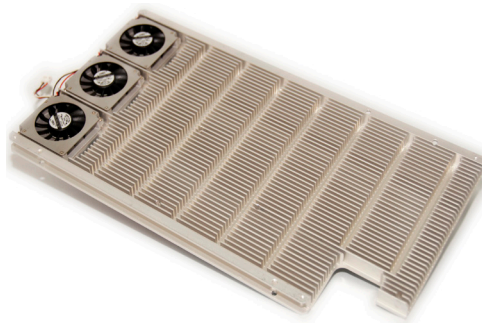
# **baknor**<sup>®</sup>

The Way To Cool

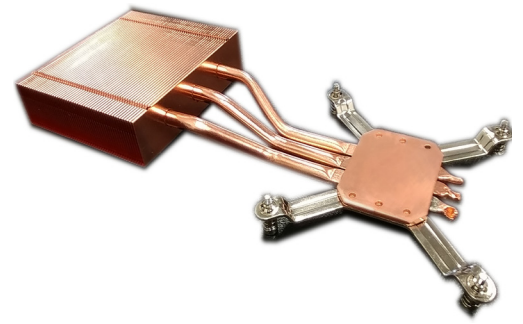
## Thermal Management Design and Manufacturing



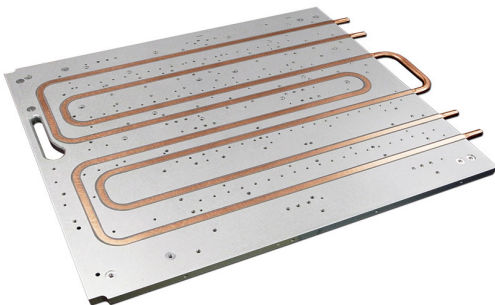
Natural Convection



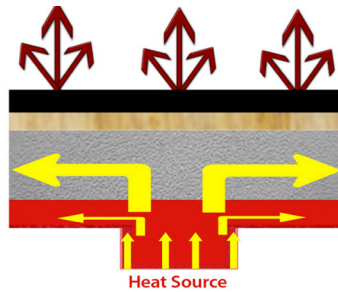
Forced Convection



Phase Change Cooling



Liquid Cooling



Advanced Materials



Cabinet Cooling

Various Liquid Cold Plate  
Manufacturing Capability

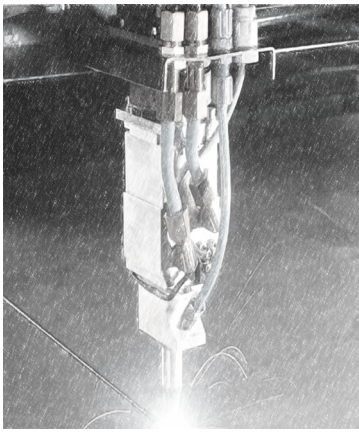
Various Channel Capabiliy  
For Liquid Cooling

With our proven success in thermal management design and manufacturing, with customers around the world, you can rely on Baknor for innovative cooling solutions for the electronic industry.

Baknor designs and manufactures solutions such as extruded aluminum heat sinks, bonded-fin heat sinks, liquid-cooled cold plates and various thermal assemblies. Our outstanding engineers have special expertise that gets you to market with the best solutions possible.

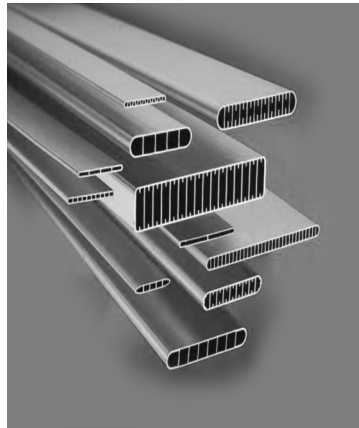
## Liquid Cooling

Laser  
Welded



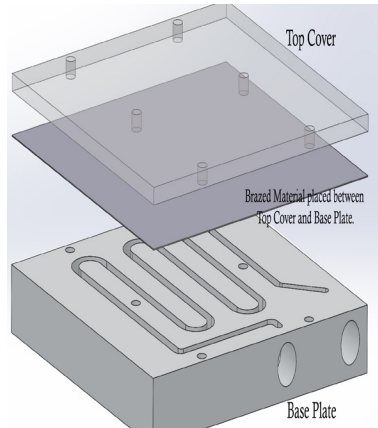
Tube Liquid  
Cold Plates

Micro Extrusions  
For Liquid Cooling



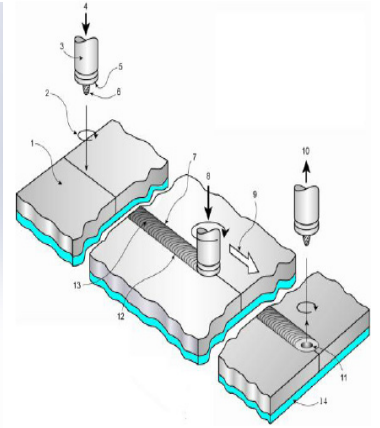
Extruded, Skived or  
Machined Channel

Brazed  
Liquid Cold Plate

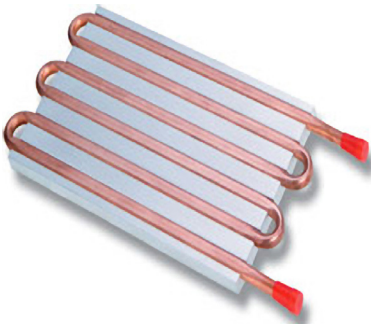


Pin Fin Channels  
Forged or Machined

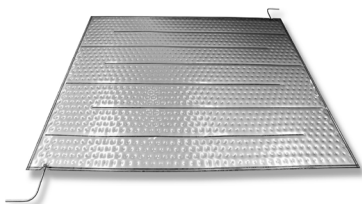
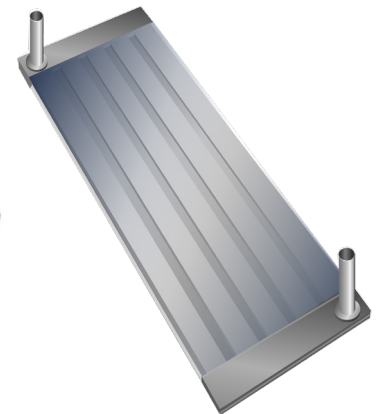
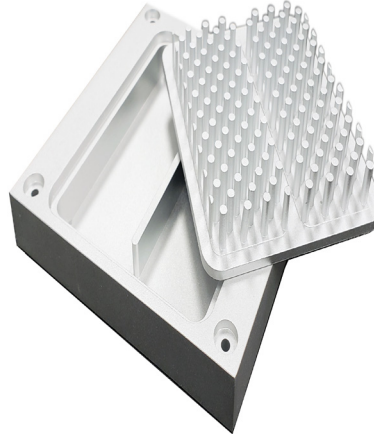
Friction Stir  
Welded



Extruded & Welded  
Liquid Cold Plate



Pillow Liquid  
Cold Plates



Liquid Cold Plates With Various Types Of Turbulators

Increase thermal performance  
by creating a turbulent flow of the cooling liquid.

Innovative thermal solutions optimized for best cost.  
From prototypes to low volume production or complex to high volume requirements  
Baknor has the right solution for your application.

## Natural Convection Custom Heat Sinks

Standard Heat Sinks  
Standard Extruded Profiles

Difficult Thermal Challenges  
associated with densely packed electronics,  
low/no airflow, high ambient temperatures  
and power densities .

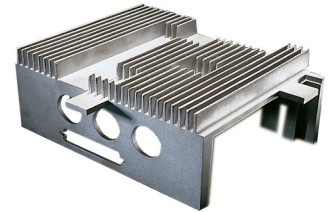
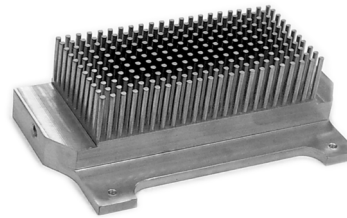
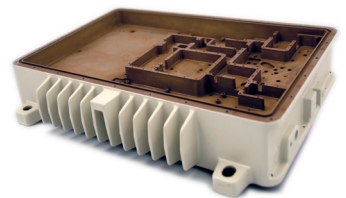
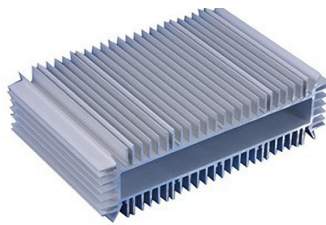
Die Casting  
High Thermal  
Conductivity  
200 W/mK

Machined  
Heatsinks

Extruded  
Heat Sinks

Forged  
Heat Sinks

Casted  
Heat Sinks



Baknor can prepare a variety of aluminum surface finishes to bring your product to the quality standards required for your application, especially when cosmetics are critical.

Anodizing - Chromating  
Electro Plating  
E Paint-Powder Coating

Baknor's extensive knowledge of cooling systems weighs various tradeoffs and factors such as functionality, volume, mass, cost, packaging, manufacturability, efficiency, and the reliability and safety of heat dissipation components.

From prototypes to low volume production or complex to high volume requirements, Baknor has the right solution for your designs.

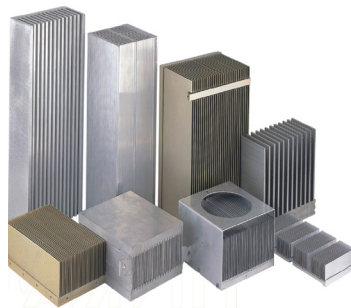
Custom Thermal Solutions  
We Design For You or We Build To Your Print  
Assembly of Multiple Parts

## Heat Sinks, Fan Assemblies, Phase Change Cooling

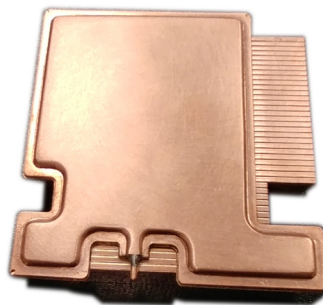
Skived Heatsinks



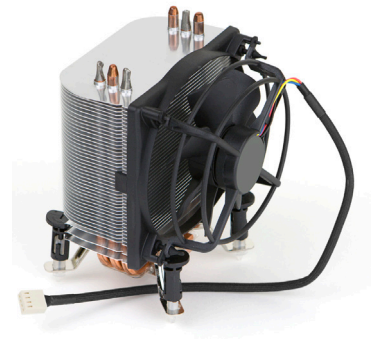
Bonded Fin Heat Sinks



Vapor Chambers



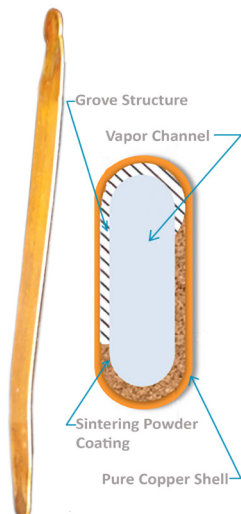
Forced Convection Heat Sink Assemblies



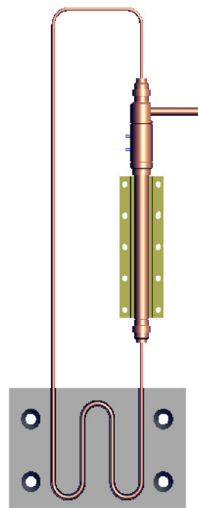
Heat Pipes And Assemblies



Ultra Thin Heat Pipes



Loop Heat Pipes



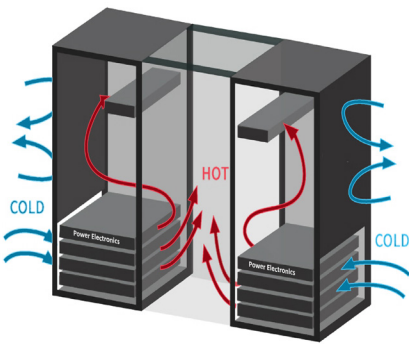
Aluminum Extruded Phase Change Cooling



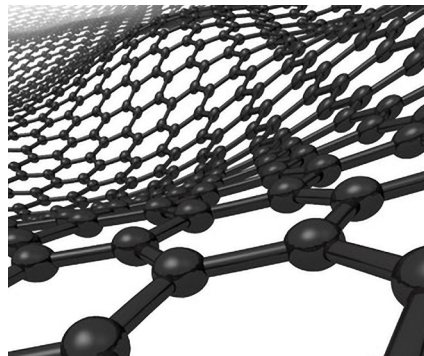
Engineering  
Thermal Design Solutions  
Analysis & Simulation  
Electro Mechanical  
Design Services

## Engineering Design Services

### Cabinet Cooling



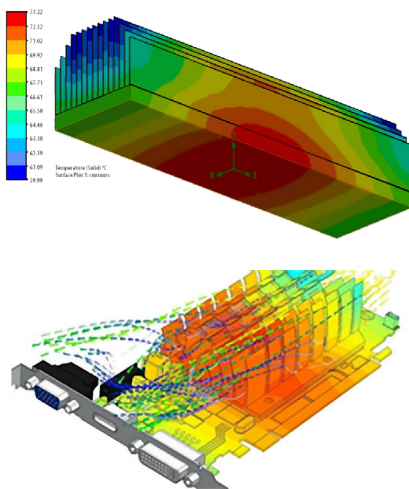
### Advanced Materials Film Heat Sink



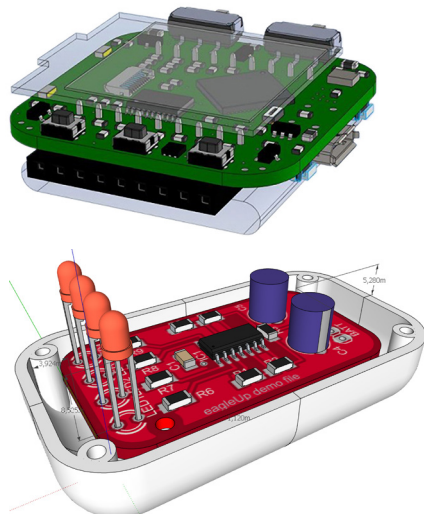
### Collaborative Engineering



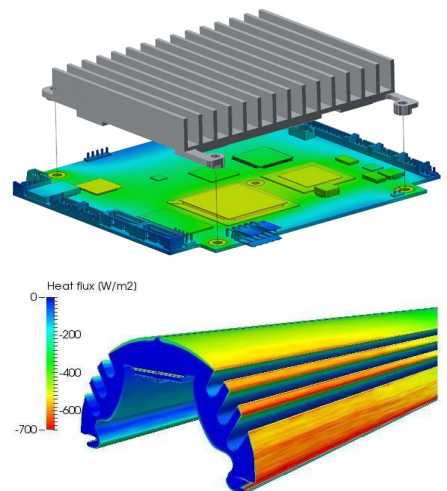
### Thermal Design Services



### Electro Mechanical Design Services



### Thermal Analysis And Simulations

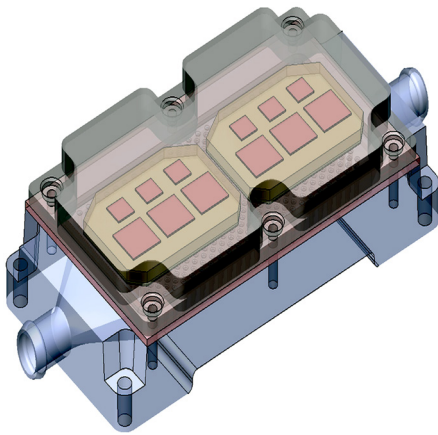


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Baknor's engineering team will help you find innovative cooling solutions for your unique and specific needs in the advanced microelectronics and power component industries . From start to finish, our goal is to assure your application needs are met in a cost effective and timely manner. This includes working with you to analyze your requirement, design the performance required, and simulate your application to ensure success of your prototypes and production.

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## Baknor The Way To Cool

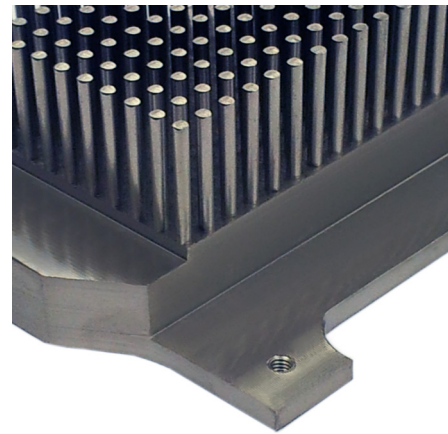


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