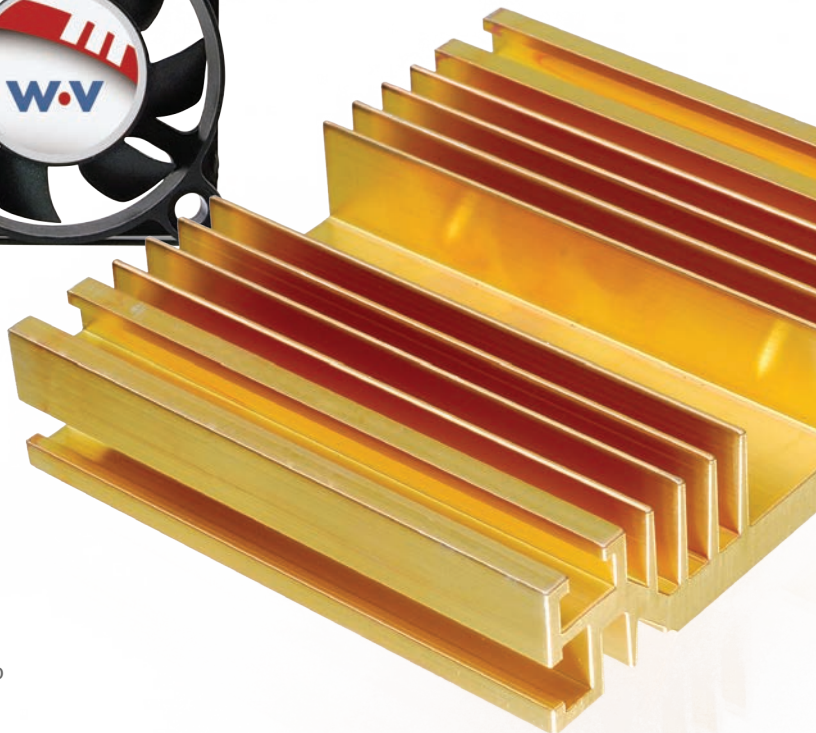


## Forced Convection

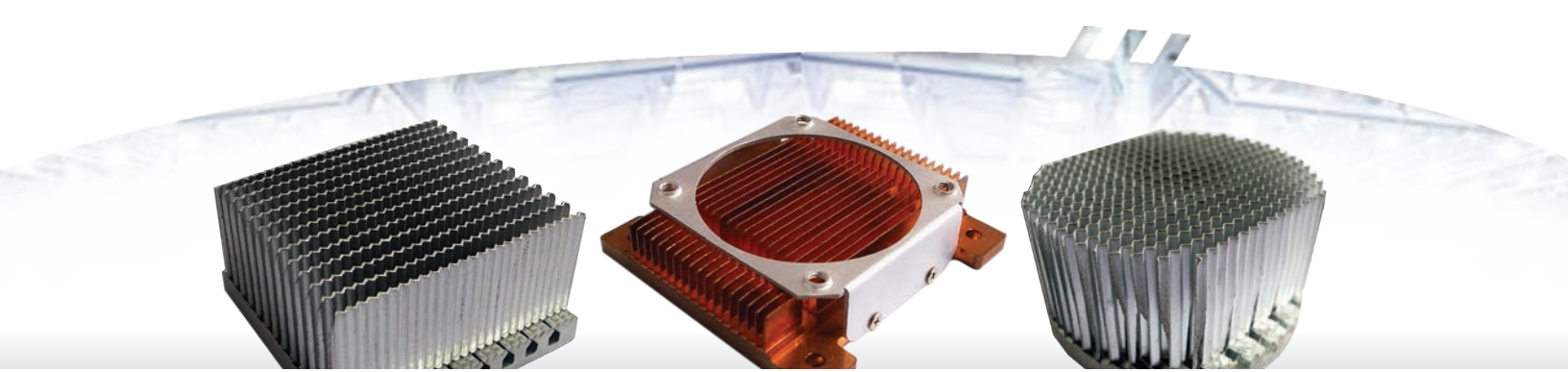
### [ thermal cooling products ]

Forced convection is a mechanism in which the fluid motion is generated by an external source like a pump, fan or other device.

While the term forced convection can be used to refer to any fluid, it is most commonly associated with force air cooling. Because of the usually high air speeds associated with forced convection, significant amounts of heat can be transported quickly and efficiently.



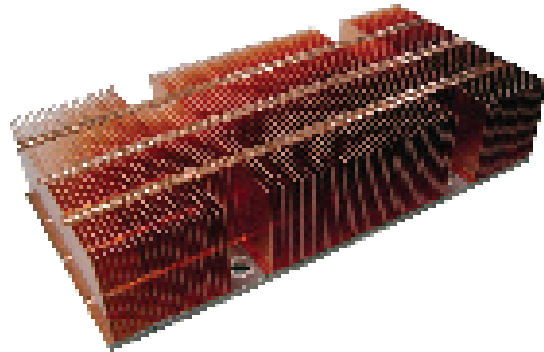
The amount of surface area on the heat sink is an important criteria to help meet the thermal performance, but too much surface area will cause the heat sink to have a large pressure drop. The more pressure drop associated with the heat sink, the more strain is put on the fan and the worse the fan performs. The Wakefield-Vette engineers will help find the optimal operation point to achieve the thermal requirements.



*Skived Fin Product Examples*

## Skived, Zipper Fin

Skived Fin heat sinks can be an alternative to extruded heat sinks when looking for a fin density which can't be achieved by extrusion technology. Skived heat sinks can be manufactured from either copper or aluminum and usually have 0.5mm (0.020") thick fins.



## Fans

Wakefield-Vette manufactures a line of DC axial fans used on fan heat sinks which can be used on BGAs, VGAs and CPU coolers. The fans range in size from 30x10mm to 120x38mm with the most common sizes in between. The fans are available in 5 and 12 volt as the most common with a couple of the larger fans available in 24V and 48V for use in industrial applications.

Each fan is available with either sleeve, ball & sleeve or dual ball bearing system. The sleeve bearing system is rated at 18K hours at 25C, the ball & sleeve is rated at 30K hours at 25C and the dual ball is rated at 50k hours at 25C. The fans can be purchased as either two wire or three wire fans with the option on the third wire as locked rotor, tachometer or external thermal sensor.



## Contact Us

Wakefield-Vette is Global. Global presence means our engineering, design, sales and support are close to our customers, in the Americas, Europe, Middle East and Asia. It means multi-national manufacturing and delivery. And it means a global Wakefield-Vette supply chain that can deliver, and provide support quickly, anywhere, with the highest quality solutions at the lowest landed cost.

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### Find Out More:

About Forced Convection products:  
[wakefield-vette.com/products/forced-convection](http://wakefield-vette.com/products/forced-convection)  
About wakefield-vette and other thermal solutions:  
[wakefield-vette.com](http://wakefield-vette.com)

