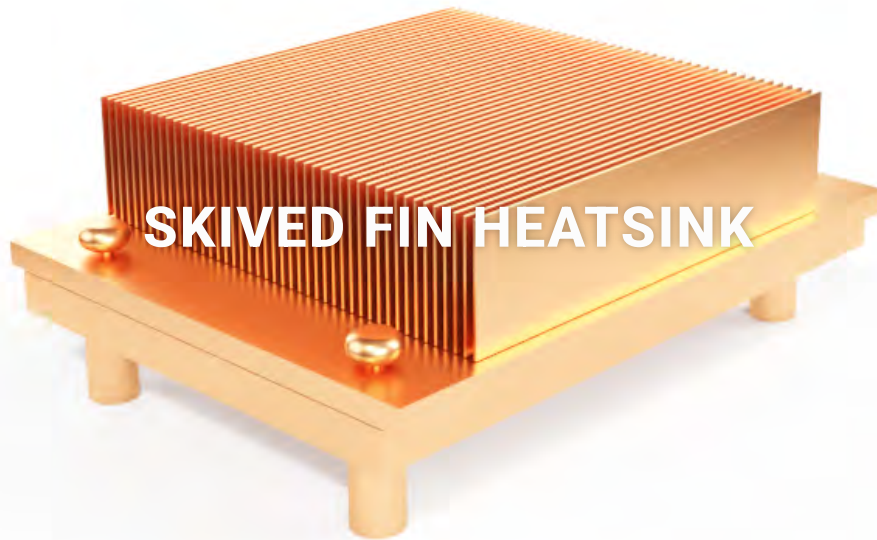




Skived Fin Heatsink | High-Density Thermal Management Solutions

Cofan's **Skived Fin Heatsinks** are advanced thermal management devices engineered for high-performance cooling of electronic components. Manufactured using precision **skiving technology**, these heatsinks are crafted from a single block of high-conductivity aluminum or copper, forming both the base and fins as one seamless unit. This **integrated construction** maximizes thermal conductivity, eliminates joint resistance, and enables high-density fin arrangements for superior heat dissipation.

PRODUCTS

OSFP Thermal Solutions

Passive Cooling (Heatsink)

- Bonded Fin Heatsink
- Crimped Heatsink
- Extruded Heatsink
- Skived Fin Heatsink
- Stacked/Zipper Fin Heatsink
- BGA Heatsink

Active Cooling (Fan)

- AC Fans
- DC Fans
- DC Blowers
- DC Impellers
- Crossflow Fans
- Frameless DC Fans

Metal Fabrications

- CNC Machining
- Die Casting
- Extrusion
- Plastic Injection Molding
- Sheet Metal

Cold Plates

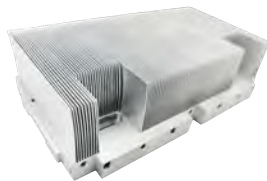
Heat Pipes

Vapor Chambers

Air Filtration

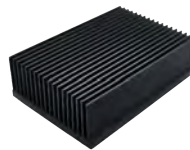
Product Information

- Process: CNC
- Material: Aluminum
- Application: Thermal Management
- Finish: Anti-oxidant
- Part No: 06.01.00031



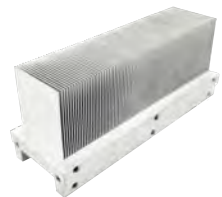
Product Information

- Process: CNC
- Material: Aluminum
- Application: Thermal Management
- Finish: Black Anodizing
- Part No: 06.01.00032



Product Information

- Process: CNC
- Material: Aluminum
- Application: Thermal Management
- Finish: Anti-oxidant
- Part No: 06.02.00033



Product Information

- Process: CNC
- Material: Aluminum
- Application: Thermal Management
- Finish: Anti-oxidant
- Part No: 06.03.00034

Product Information

- Process: CNC
- Material: Copper
- Application: Thermal Management
- Finish: Anti-oxidant
- Part No: 06.03.00036

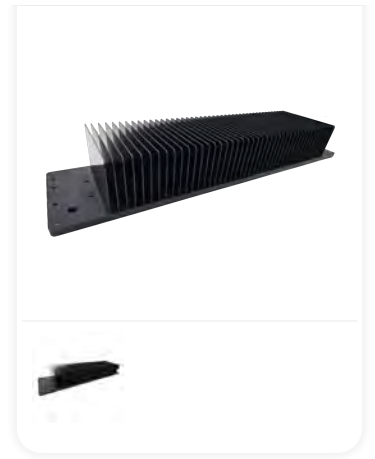
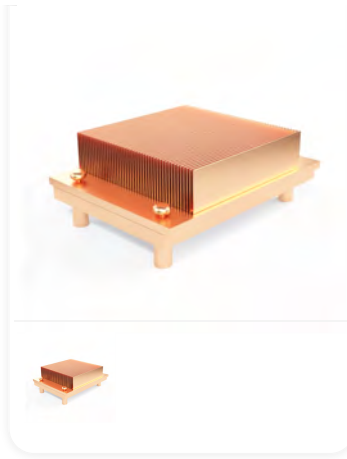
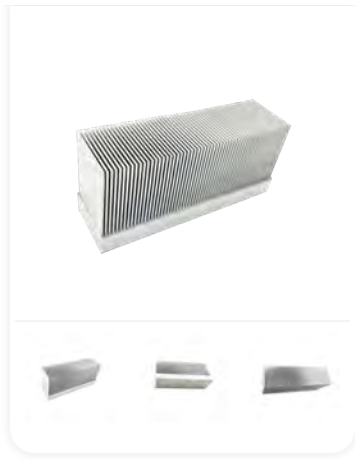
Product Information

- Process: CNC
- Material: Aluminum
- Application: Thermal Management
- Finish: Black Anodizing
- Part No: 06.03.00039

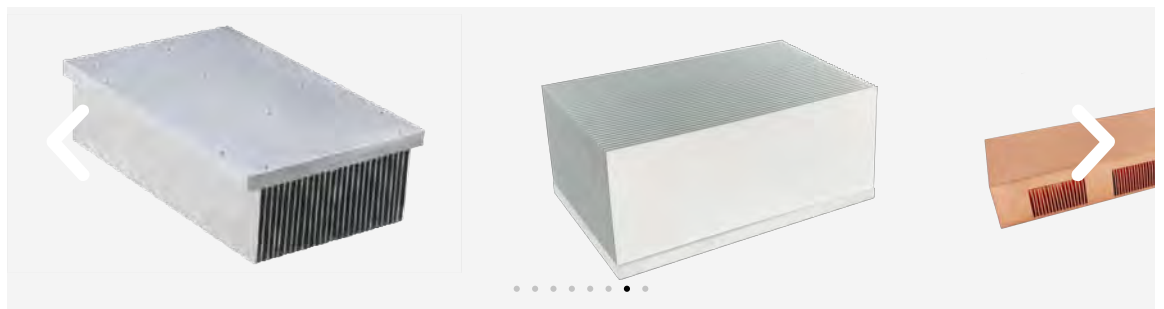
Friction Stir Welding

Thermal Pad / Grease

MCPCBs



- COFAN'S SKIVED FIN HEATSINK -



What Is a Skived Fin Heatsink?

A **skived fin heatsink** is created by partially cutting thin layers of metal from a solid base using a precision wedge tool. These layers are then folded upright to form cooling fins. This process is repeated at exact intervals to produce closely spaced fins with a high aspect ratio, significantly increasing the available surface area for heat transfer.

Unlike extruded, bonded, or stamped heatsinks, the skived process produces a **monolithic structure**—the fins and base are a single piece of metal with no adhesives, soldering, or brazing. This ensures minimal thermal resistance and a direct, efficient path for heat conduction.

Advantages of Skived Fin Heatsinks

- **High Fin Density** – Aspect ratios exceeding 50:1 in both copper and aluminum without CNC machining, wire EDM, or extrusion.
- **Superior Thermal Performance** – Seamless base-to-fin interface eliminates thermal barriers.
- **Design Flexibility** – Customizable fin geometry, spacing, and height for specific thermal and spatial requirements.
- **Cost Efficiency** – Low tooling costs, no minimum production quantities, and economical copper fabrication.
- **Fast Prototyping** – Quick sample turnaround for design validation and thermal testing.
- **Integration Ready** – Easily combined with heat pipes, liquid cooling systems, and fans for enhanced cooling.
- **Reliability** – No voids, delamination, or inhomogeneity associated with bonded or brazed fins.

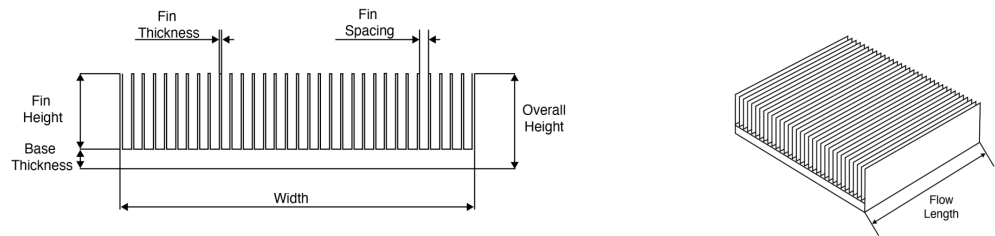
Technologies Replaced by Skived Fin Heatsinks

- **Extruded Heatsinks**
Ideal for replacing obsolete or unavailable aluminum extrusion profiles with thermally equivalent, near-net shape designs without minimum order requirements.
- **Bonded & Folded Fin Heatsinks**
Matches or exceeds the fin density of bonded/folded designs while offering better thermal performance through integrated construction.
- **Brazed Folded Fin Heat Exchanger Chassis**
Eliminates the need for brazing by integrating the fin array into the base structure, reducing cost and improving conductivity.

Standard High Power Electronics Heatsinks

CofanThermal’s PowerFin heatsinks are engineered to provide optimal thermal management for high-performance, high-power, electronic devices. These heatsinks are designed to ensure efficient heat dissipation, improving device reliability and extending operational lifespan. Suitable for applications across industrial, automotive, telecom, and renewable energy sectors these heatsinks are optimized for cooling in natural or forced convection air-to-air regimes.

When standard off-the-shelf solutions cannot meet your specific requirements for thermal performance, form factor, space constraints, material preferences, noise reduction, aesthetics, or cost considerations, Cofan provides the capability to manufacture and offer custom skived fin heatsink designs. Outlined below are the geometric and mechanical design criteria for skived fin heatsinks.



Aluminum	Inches		Metric (MM)	
	Min	Max	Min	Max
*Flow Length	0.39	23.62	10	600
*Width	1.97	62.99	50	1600
Fin Height	0.20	4.72	5	120
Fin Thickness	0.004	0.08	0.1	2
Fin Gap	0.004	2.00	0.1	50
Base Thickness	0.02	1.38	0.5	35

Copper	Inches		Metric (MM)	
	Min	Max	Min	Max
*Flow Length	0.39	11.811	10	300
*Width	1.97	62.992	50	1600
Fin Height	0.20	4.7244	5	120
Fin Thickness	0.004	0.0394	0.1	1
Fin Gap	0.004	1.378	0.1	35
Base Thickness	0.02	1.378	0.5	35

Aluminum	Inches	Metric (MM)	Copper	Inches	Metric (MM)
Alloy	1060, 1100, 6063, 6101		Alloy	C110	

Skived Power Fin Aluminum Heatsink Series

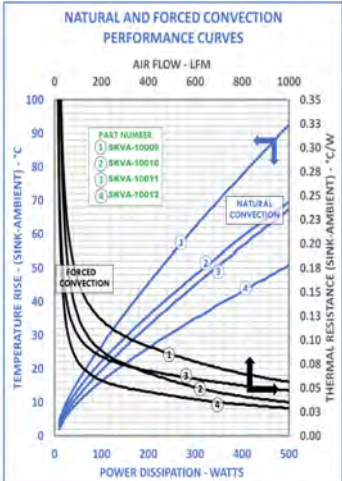
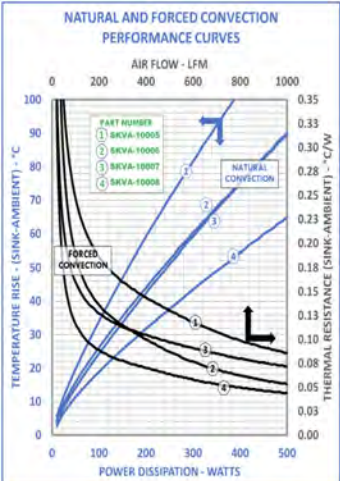
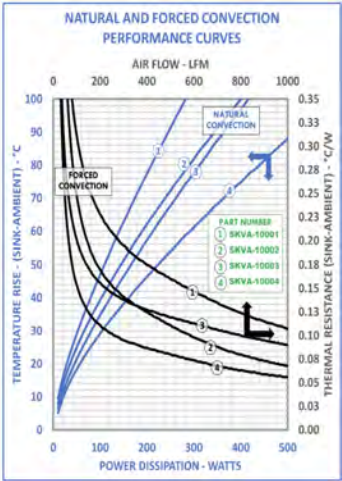
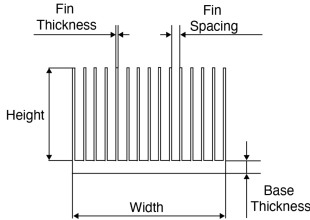
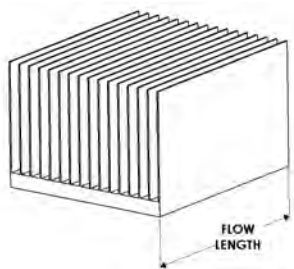
Manufactured with Cofan's proprietary skived fin technology, this one-piece design maintains a **monolithic, seamless heat path** between the thermal base and fins.

Natural Convection Optimized Product Series

- CFD-optimized fin spacing, thickness, and base geometry for passive cooling
- Constructed from electrical-grade, ultra-high thermal conductivity aluminum
- Custom machining and width/length configurations available

Natural Convection Part Number and Specifications Table

Part Number	Width		Height		Flow Length		Fin Thickness		Fin Spacing		Base Thickness		Number of Fins	Weight	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm		lbs	kg
SKVA-10001	4.78	121.41	2.86	72.64	7	177.8	0.05	1.27	0.27	6.73	0.5	12.7	16	2.9	1.3
SKVA-10002					12	304.8								2.9	1.3
SKVA-10003			5.22	132.59	7	177.8								2.9	1.3
SKVA-10004					12	304.8								2.9	1.3
SKVA-10005	7.87	199.90	2.86	72.64	7	177.8	0.05	1.27	0.34	8.51	0.5	12.7	20	4.1	1.9
SKVA-10006					12	304.8								7.1	3.2
SKVA-10007			5.22	132.59	7	177.8								5.7	2.6
SKVA-10008					12	304.8								9.8	4.5
SKVA-10009	10.78	273.81	2.86	72.64	7	177.8	0.05	1.27	0.32	8.13	0.5	12.7	30	7.4	3.4
SKVA-10010					12	304.8								10.4	4.7
SKVA-10011			5.22	132.59	7	177.8								9.5	4.3
SKVA-10012					12	304.8								14.6	6.6

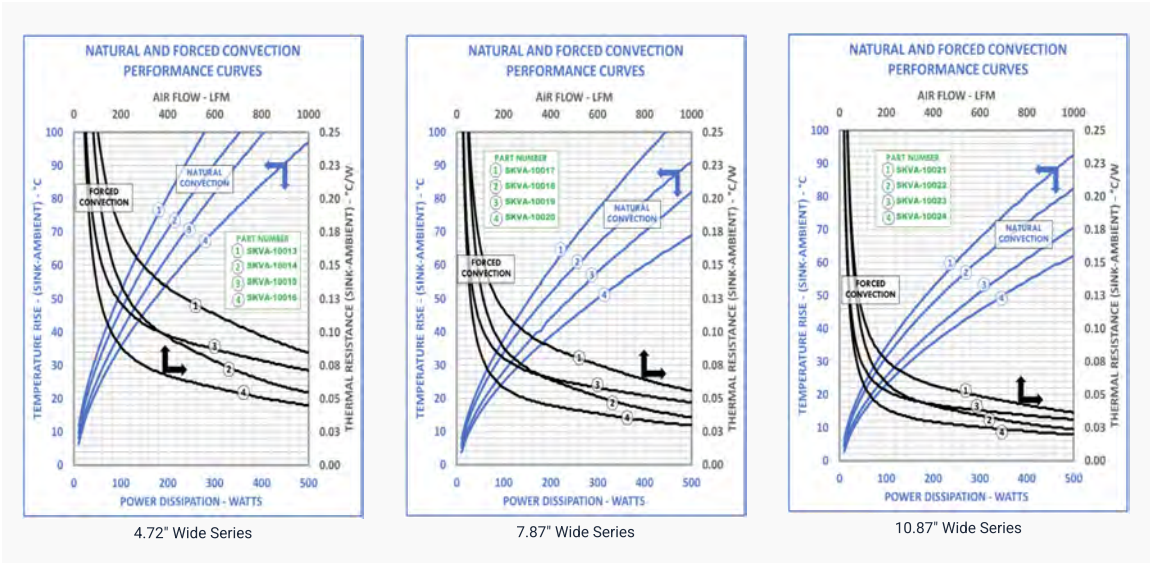
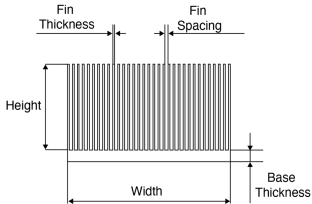
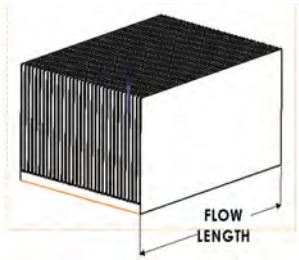


Forced Convection Optimized Products Series

- Designed for high airflow environments
- Fin geometry refined for minimal pressure drop and maximum forced convection efficiency
- Electrical-grade, ultra-high thermal conductivity aluminum construction
- Fully customizable width and length

Forced Convection Part Number and Specifications Table

Part Number	Width		Height		Flow Length		Fin Thickness		Fin Spacing		Base Thickness		Number of Fins	Weight	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm		lbs	kg
SKVA-10013	4.78	121.41	2.86	72.64	7	177.8	0.05	1.27	0.19	4.83	0.5	12.7	20	3.2	1.5
SKVA-10014					12	304.8								5.6	2.5
SKVA-10015			5.22	132.59	7	177.8								4.9	2.2
SKVA-10016					12	304.8								8.3	3.8
SKVA-10017	7.87	199.90	2.86	72.64	7	177.8	0.05	1.27	0.20	5.08	0.5	12.7	30	4.9	2.2
SKVA-10018					12	304.8								8.5	3.8
SKVA-10019			5.22	132.59	7	177.8								7.4	3.3
SKVA-10020					12	304.8								12.6	5.7
SKVA-10021	10.78	273.81	2.86	72.64	7	177.8	0.05	1.27	0.32	8.13	0.5	12.7	45	7.3	3.3
SKVA-10022					12	304.8								12.5	5.7
SKVA-10023			5.22	132.59	7	177.8								10.9	4.9
SKVA-10024					12	304.8								18.7	8.5

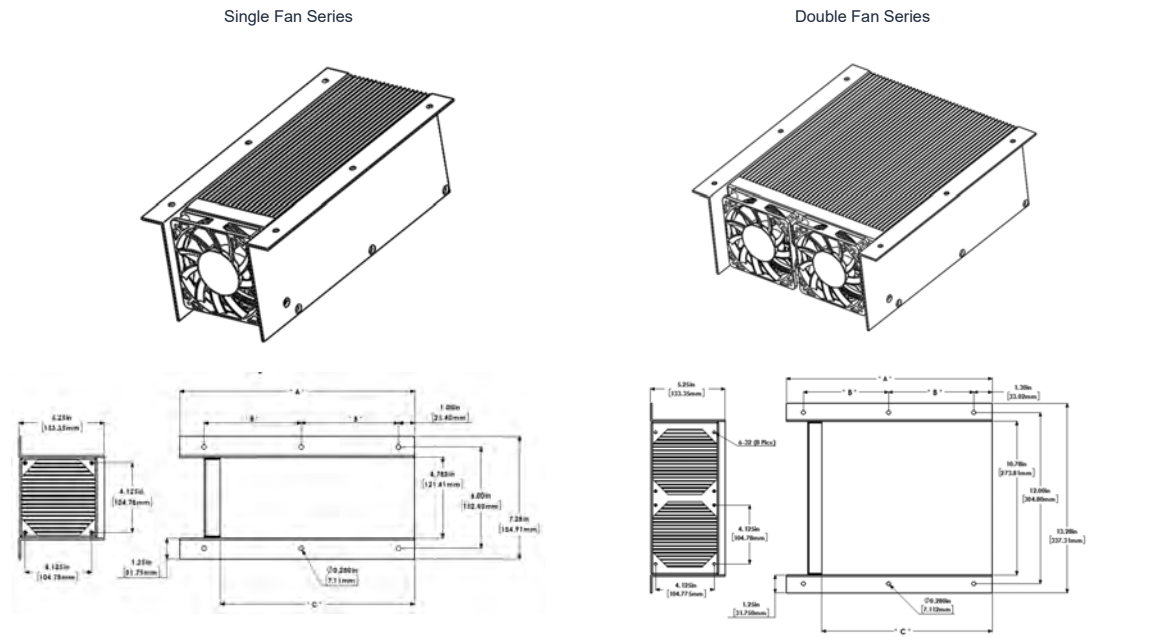


Skived Power Fin Heatsink Fan Assembly Series

These Heatsinks are manufactured using Cofan's Skived Fin Manufacturing Technology. This one-piece, integrated construction method ensures optimal thermal performance by maintaining a monolithic, seamless heat path between the heat source located on the thermal base and the heat-dissipating fins.

Forced Convection Standard Product Modular Series

- Integrated heatsink and fan modules for turnkey cooling
- CFD-optimized fin and fan matching for maximum performance
- Built from electrical-grade, high-thermal-conductivity aluminum alloy
- Modular, standard product configurations with custom machining available



			"A"		"B"		"C" Heatsink Length		Total Heatsink Surface Area		Thermal Resistance	Weight	
Part Number*	Series Type	Fan Type	Inches	mm	Inches	mm	Inches	mm	Inches	mm	°C/W	lbs	kg
SKVA-10025	Single Fan	120mm, DC, Ball Bearing	7.00	177.8	2.50	63.5	4.50	114.3	742.5	18,860	0.1	5.3	2.40
SKVA-10026			9.50	241.3	3.75	95.3	7.00	177.8	1,515.0	38,481	0.09	7.2	3.25
SKVA-10027			12.00	304.8	5.00	127.0	9.50	241.3	1,567.5	39,815	0.07	9.1	4.11
SKVA-10028			14.50	368.3	6.25	158.8	12.00	304.8	1,980.5	50,305	0.05	10.9	4.96
SKVA-10029	Double Fan		14.59	370.6	6.00	152.4	12.00	304.8	4,536.0	115,214	0.028	20.6	9.36
SKVA-10030			16.59	421.4	7.00	177.8	14.00	355.6	5,292.0	134,417	0.025	23.8	10.78
SKVA-10031			18.59	472.2	8.00	203.2	16.00	406.4	6,048.0	153,619	0.024	26.9	12.20

* Note:
1. Fans are ordered separately and not included in part number.
2. Cofan recommends fan part number: F-1225HH12B-R02 (25mm Fan Thickness, 12V, Duall Ball Bearing, 3200 RPM, No Connector; 2-Wire@4" Length)
3. Contact Factory for Tolerances and Dimensional Modifications or Customer Designs

Market Applications for Skived Fin Heatsinks

Computers & Electronic Components

- CPU, BGA, GPU & LGA's professors
- Server cooling (Fan pack assemblies)
- Network routers
- Notebooks, memory products

LED Lighting

- Sports stadium illumination
- High bay & street lighting
- Automotive
- Phototherapy
- UVC Sterilization
- UVC Curling
- Horticulture
- Signs & displays (Architectural)

Telecommunications

- 5G base stations
- Antennas arrays
- Cabinet & enclosures
- Backhaul fiber optic
- Modules
- Radio unit

Industrial Equipment & Components

- Variable speed motor controls
- Uninterruptible power supplies
- Wind turbines & generators
- Air-to-air heat exchangers
- EV batteries & recharging
- IGBT Inverters
- Energy storage
- Traction drive system
- Smart grid systems
- Power microgrids

- Optoelectronics & lasers
 - LIDAR Systems
 - Photovoltaic
- Sic MOSFET's
 - LASER's & photonics
 - Solar

Defense & Aerospace

- Chassis with integrated heat exchangers (May eliminate fin brazing operations)
- Metal core PCB's

* Maybe Combined with Cofan's Hybrid Heatsink Manufacturing Process - Friction Stir Welding to produce increased flow lengths and widths.

Special Features Options Integrated Into Skiving Process

- Screw/Bolt Head Countersink Reliefs
- Mounting Flanges
- Mounting/ Bracket Channels

Secondary CNC Machining Operations

- CNC Machining (Tapped Holes, Mounting Bosses, recessed Cavities, etc.)
- Rounded Edges for Safe Handling

Value Added Operations/ Capabilities

- Mounting Hardware (Plus Pins, Captive Screw Assemblies) Attachment Methods
 - Thermal Interface Material
 - Fan/ Heatsink Assemblies
- Integrated Heatpipes, Vapor Chambers and Liquid Cooling
 - Sheet Metal Shrouds for Ducted Airflow
 - Electromechanical Assembly

Finishing Operations

- Anodizing
- Plating (Chem Film, Nickel, Chrome, etc.)

Contact Manufacturing Services

- Electromechanical Assembly
