

Resources International, Inc.

'Heat Pipes & Thermosyphons'

AEOLUS AERO TECH, Pvt. Ltd.

'**Aeolus Aero Tech Pvt. Ltd.**' (Aeolus) based in Bengaluru, Karnataka, India, provides Products, Services and Technology Solutions in Alternative Energy, Automobile, Aeronautical, Space Tech, Defense and General Engineering OEMS. Aeolus offers a variety of lab equipments for academic and R & D, assists its customers in manufacturing and assembly of metallic and composite structures as well as testing and lifetime engineering support.

- ✓ Global Leader in Aerospace Products and Services
- ✓ Delivers affordable, high Technology Solutions
- ✓ Uncompromising Business Ethics & Delivery
- ✓ World class Technical Expertise & Collaboration
- ✓ Dedicated to Customer Satisfaction & Mission
- ✓ Assist with Manufacturing, Assembly and Testing
- ✓ Provide Life-time Engineering & Technical Support
- ✓ Champion Alternative, Green Energy Solutions

Aeolus Products & Services Domains

1. Educational Labs
2. Heat Pipes & Thermosyphons
3. Wind Tunnels
4. Space Science Products
5. Micro-Gravity Research
6. CubeSat: Design, Develop & Deploy
7. Wind Energy Technologies (500 W to 5 KW)

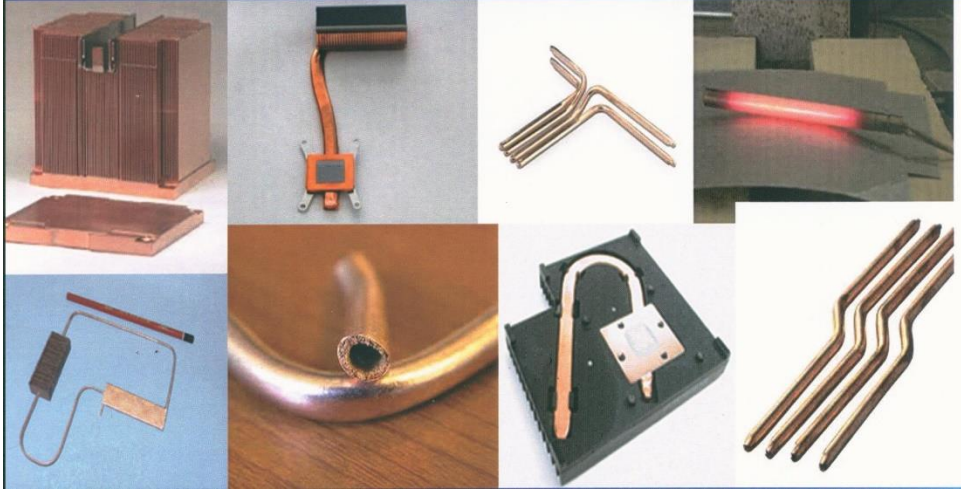
Heat Pipes are a means of transferring high rates of heat passively across small temperature gradients. These function as thermal 'superconductors'. Capillary action of a 'wick' provides bi-directional operation.

Thermosyphon is a heat pipe made using an evacuated sealed tube, charged with a working fluid. It uses gravity for its operations and is unidirectional.

a) Heat Pipe Applications: (Inclusive of and not limited to)

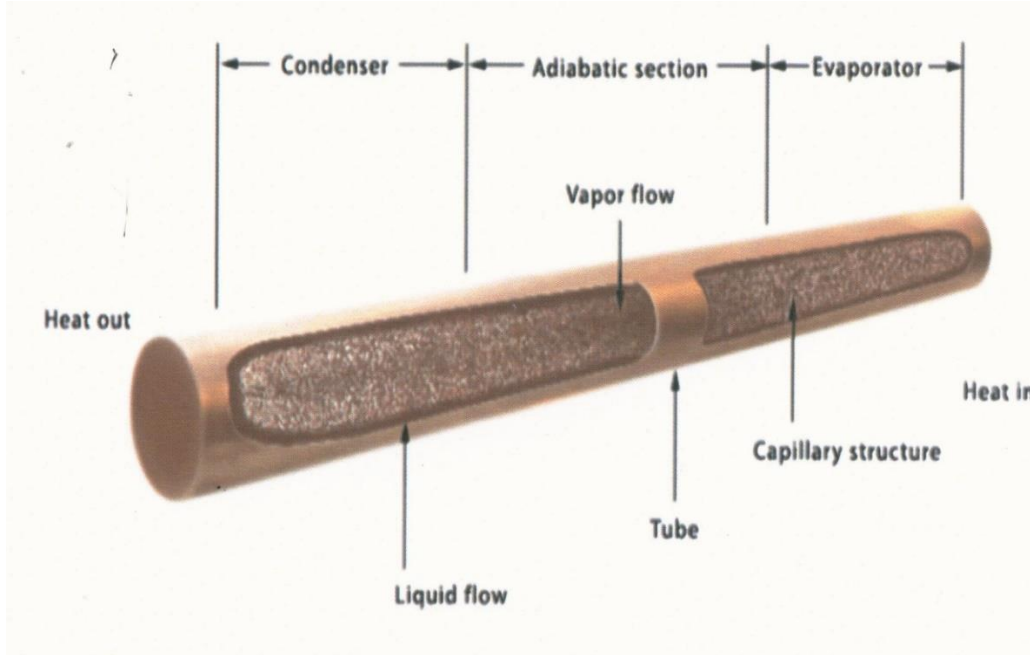
- ✓ Space Craft
- ✓ Consumer Electronics (PC / Laptops / Notebooks / Tablets)
- ✓ UPS & Servers
- ✓ Motor Drives & Controllers
- ✓ Die Molding
- ✓ Telecommunication
- ✓ Transportation

HEAT PIPES & THERMOSYPHONS



Heat Pipes from Aeolus

b) Heat Pipe Operation:



- ✓ At the hot interface of a heat pipe, a liquid in contact with a thermally conductive solid surface turns into a vapor by absorbing heat.
- ✓ The vapor then travels along the heat pipe to the cold interface and condenses back into a liquid, releasing the latent heat.
- ✓ The liquid then returns to the hot interface through either capillary action or gravity and the cycle repeats.

b) Working Fluid: The working liquid inside the Heat Pipe is designed based on the application.

- a) Water b) Ethanol c) Methanol d) Acetone e) Mercury

c) Wick Structure:



- ✓ Capillary heat pipes have various wick structures
- ✓ Most common: Wrapped or Sintered
- ✓ High performance & manufacturing


d) Wickless Heat Pipes:



- ✓ Gravity assisted Thermosyphons
- ✓ High effectiveness
- ✓ Different orientation
- ✓ Mainly used in a wide range of solar heaters

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e) Advantages of Heat Pipes:

	<ul style="list-style-type: none">✓ Minimum Maintenance✓ Flexible sizes✓ Eliminate hot spots✓ Reduce wastage✓ Improve product quality✓ Increase lifespan✓ Effective heat transport✓ Improves conduction✓ Reduced cost✓ No added volume✓ Reduced overall weight
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f) INDUSTRY Sector: Industrial Clients handle compliance own country regulations and international Space Use norms. As required, we offer customized industrial applications

- ✓ Durable components
- ✓ Longer shelf-life,
- ✓ Fully functional and
- ✓ Reliable over its lifetime.

g) Import Formalities: All sales are subject to Client obtaining required approvals and clearances by the respected authorities in their home country and release by the country of origin. Securing required approval / permit / import license / customs clearance, etc. and any related costs are the client's responsibility. Aeolus shall provide the standard shipping documents to facilitate these and offer customized solutions to suit our individual Client's exacting needs.

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