Reaching around the world to bring you the future in THERMOELECTRICS
CUSTOM AND STANDARD THERMOELECTRIC ASSEMBLIES

TE Technology, Inc. provides all aspects of thermoelectric assembly design, manufacturing, testing and production under one roof. We offer the best solutions with the highest quality, competitive prices and fast turn-around.

Engineering Assistance
When you call TE Technology you talk with an engineer - not a salesperson. We work with you on every project and become important members of your design team.

Manufacturing Excellence
Forty years of thermoelectric experience go into every product. We provide reliable, durable, cost-effective systems, and we provide them on-time. Our large inventory and vast global resources provide added versatility.

MISSION STATEMENT
Serve our customers through quality, cost-effective, on-time thermoelectric assembly production. Remain at the forefront of thermoelectric technology and development on a global basis, and use our thermoelectric expertise, materials and equipment to give our customers a competitive edge.
TE Technology software confirms assemblies are optimized according to your needs.

Our unique TE potting compound seals out water vapor and adds mechanical strength.

Why TE Technology is a leader

• EXPERIENCE
  Technical expertise in all relevant disciplines and the most design experience in the industry.

• LEADERSHIP
  Authorship of many technical papers published around the world, and participation in global research and development.

• DESIGN EXPERTISE
  Proprietary modeling software combined with experience reduces development costs.

• MOISTURE PROTECTION
  Proprietary sealing technology provides durability and a hermetic seal from water vapor.

• VALUE
  Sources from all over the world provide the best performance-to-cost ratio.

• UNIQUE TESTING
  Exclusive series of testing methods and equipment to ensure top performance.

• COMPLETE SERVICE
  Design, manufacturing and testing under one roof.

Our assembly area adapts to large and small production orders.
High fin density heat sink extrusion delivers top performance while lowering production costs.

Efficient design means fewer parts, smaller size.

Complete Assembly is custom designed to your application's requirements: temperature, size, weight and power consumption.

- High fin density heat sink extrusion delivers top performance while lowering production costs.
- Efficient design means fewer parts, smaller size.
Thermoelectric assemblies are solid-state heat pumps that extract or add heat to an object. These assemblies can be used for cooling, heating and power generation. Thermoelectric assemblies consist of a cold sink, modules, heat sink, fan and vapor sealing material.

Thermoelectric Module uses electrical current to pull heat from the cold sink and push it into the heat sink.

- Unique TE modules vapor sealed with TE Technology’s proprietary compound provides unparalleled reliability, durability and protection against moisture.
  - Global selection process of module components improves performance-to-cost ratio.

Advantages of using Thermoelectrics:
- Precise temperature control
- Vibration free
- Low maintenance
- Small
- Silent
- CFC free, no “green house” effect
- Operational in high ambient temperatures
- Operational in any orientation

**SUPERIOR PROCESSES PRODUCE SUPERIOR PRODUCTS**

**WHY SHOULD TE TECHNOLOGY DESIGN YOUR THERMOELECTRIC COOLER?**

**EXPERIENCE**
Forty years of experience goes into every design. Performance, size, manufacturability, budget - we optimize all of these and give you exactly what you need.

**COMPETITIVE EDGE**
An exclusive line of heat sinks, modules, vapor seals, and special optimization ensures that your competition will not surpass you.

**SHORT DESIGN CYCLES**
We eliminate guesswork and risky assumptions and make the prototype right the first time.

**LOWEST COST**
A custom thermoelectric assembly gives the capacity and features needed without increased cost for anything extra. It’s the lowest cost solution!

[downloadable technical papers]

www.tetech.com
**PLATE-TO-PLATE**

**Typical Applications:**
- Detectors
- Sensors
- CCD’s
- Small laser diodes
- Integrated circuits
- Lamps

**How It Works:**
- Object is cooled through direct contact with a customized cold plate
- Plate style heat exchanger on hot side attaches to other secondary heat sink

**System Benefits:**
- Ability to control temperature with high precision

---

**AIR-TO-AIR**

**Typical Applications:**
- Electronic enclosures
- Medical cabinets
- Small refrigerators
- Environmental chambers
- Battery boxes
- Minibars
- Picnic boxes
- Vending machines

**How It Works:**
- Air is cooled as it is recirculated within the enclosure and through the cold sink

**System Benefits:**
- Effective cooling of multiple objects
**LIQUID-TO-AIR**

**Typical Applications:**
- Laser diodes
- CPU coolers
- Liquid reservoirs
- Temperature baths
- Water coolers
- Gene cloning equipment
- Aquariums
- Beverage coolers

**How It Works:**
- Object is cooled through direct thermal and mechanical contact with cold plate

**System Benefits:**
- Cooling can be applied exactly where needed

---

**PLATE-TO-AIR**

**Typical Applications:**
- Therapy pads for medical treatments
- Laser chillers
- Cooling process fluids
- Temperature baths
- Semiconductor processing equipment

**How It Works:**
- Serpentine liquid channel on cold side
- Object is cooled via contact with a secondary liquid loop

**System Benefits:**
- Effective cooling in areas remote to the cooler

---

**TE TECHNOLOGY, INC.**

**EXPERIENCE**

**GLOBAL SOURCES**

**TECHNOLOGY**

[cooling assemblies](www.tetech.com)
We do not just “inspect” the quality of our assemblies, we build it in. We control all aspects of assembly to ensure stringent quality standards are achieved. In addition, our in-house machine shop utilizes computer controlled equipment to build components according to exact specifications.

**Superior Test Capability**

TE Technology is the ONLY thermoelectric manufacturer that designs and sells a wide range of test equipment. This unique equipment provides complete characterization of materials, modules and systems at only seconds per test. TE Technology’s exclusive series of tests assures that all assemblies are top performers.

**Best Value**

From your initial call to final production, TE Technology is relentless in achieving the optimal balance of size, weight, cost and performance for your specific needs.

---

**Call TE Technology**

to get the

**best solution**

for your

**thermoelectric needs.**

---

*Highly trained manufacturing specialists build air cooling assemblies for the telecommunications industry.*

*Assembler inspects solder joints on an air cooler.*

*Engineer tests the thermal performance of a prototype refrigerator for the food service industry.*
A state-of-the-art machining center provides manufacturing precision and efficiency.

Inspector checks flatness of a machined heat sink plate. Quality flatness promotes good thermal contact, resulting in optimum thermal transfer.

Quality flatness promotes good thermal contact, resulting in optimum thermal transfer.

Every assembly is thoroughly checked for performance.

MANUFACTURING EXCELLENCE

QUALITY ASSURANCE
In addition to ISO, we build to meet military, medical, aerospace, and NASA standards.

AUTOMATION
Our in-house machine shop utilizes the latest in equipment, software, and CNC machining.

TRAINING
Manufacturing specialists are continually NASA trained and certified in soldering and inspection.

ON-TIME DELIVERY
We maintain a large inventory of raw materials to expedite your orders.

VERSATILITY
TE Technology accommodates everything from single piece prototypes to large scale manufacturing.

www.titech.com

thermoelectric test systems
STANDARD PRODUCTS

TE Technology’s standard products allow you to quickly and inexpensively evaluate thermoelectrics for your application. We stock a wide range to meet your cooling needs, so you can begin testing immediately. Standard products can also act as a starting point for future customization. No matter how you use them, you gain extensive savings on engineering and development costs and time!

The CP-065, a medium sized plate-to-air exchanger, easily interfaces with your apparatuses.

The AC-045 air-to-air exchanger cools electronic enclosures and similar environments.

The TC-1600 temperature controller may be wired to some of our standard products for turnkey operation.

HOW TO APPLY THERMOELECTRICS IS UP TO YOU...

Used in CONSUMER applications to keep beverages cold.

Used in SPACE to grow protein crystals in AIDS research.

Applied in the MEDICAL field to cool laser diodes in surgical instruments.

ARE STANDARD PRODUCTS RIGHT FOR YOU?

- Low cost
- Quick turn-around
- Wide range of inventory
- Can be modified to meet your needs
- Great for low volume production

more standard products

www.tetech.com

The TC-1600 temperature controller may be wired to some of our standard products for turnkey operation.

...THE POSSIBILITIES ARE ENDLESS
Reaching around the world to bring you the future in THERMOELECTRICS.

Phone: (231) 929-3966
Fax: (231) 929-4163
E-mail: cool@tetech.com
Website: www.tetech.com
1590 Keane Drive
Traverse City, MI 49686-8257
USA