

Thermal Innovations and Products

OEM Design - Production - QC

► Factsheet

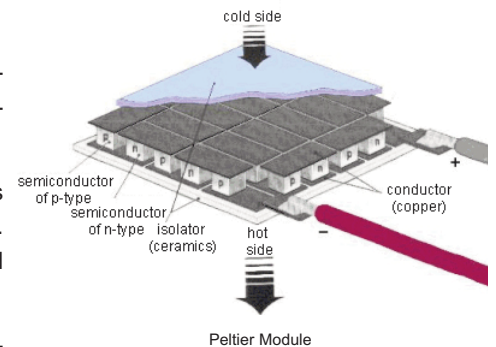
INHECO OEM

Introduction

INHECO is a leading supplier of innovative thermal management products and services in life science, electronics and food business areas. Our solutions cover consulting, R&D and manufacturing of feasibility samples, prototypes and series products.

INHECO is focused on high-end applications in high-end/low-mid volume market areas where excellent temperature accuracy is required, with small to medium heat loads. High-end thermal technologies like thermoelectric (Peltier) modules, heat pipes and vapour chambers are our choices for outstanding thermal performance.

INHECO's main focus lies in life science applications where an exact temperature control of chemical or biological probes is essential. The product range varies from heated & cooled positions, shakers and incubators for LabAutomation systems to PCR thermocyclers and liquid chiller for cooling of gas chromatography injection ports. INHECO products are CE & UL certified and, if required, prepared for use under IVD / FDA conditions.

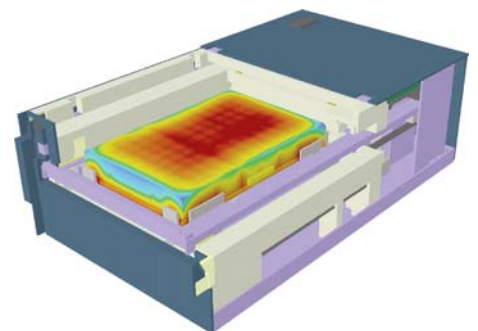


OEM Product Groups

INHECO looks back at a history of more than 10 years in developing high end thermal management solutions. Based on the specifications of the future product, INHECO develops concepts utilizing innovative thermal heat transfer mechanisms.

OEM product groups:

- Liquid Chiller based on peltier technology
- Air conditioner Peltier driven
- Air cooled Peltier Systems for maintaining temperature
- Water cooled Peltier Systems
- Rapid temperature cycling systems
- Shaker
- Automated Systems (motor driven drawers, lids)



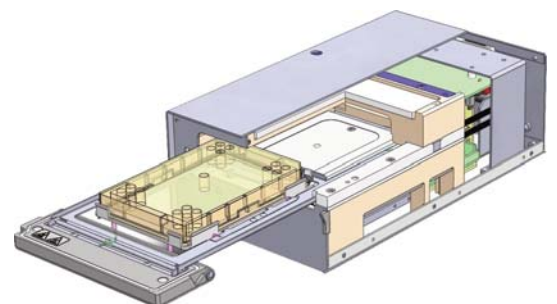
7300013: Incubator/Shaker CFD model

OEM Development Process

The INHECO development process of OEM products is ISO 9001:2008 based, with experience in developing IVD/FDA compliant products.

INHECO has a variety of R&D capabilities and development tools that support and enhance the development process of new products. INHECO uses the following R&D capabilities:

- Development of thermal management concepts
- Analytical calculations
- Development of electronic hardware
- Development of soft- and firmware
- Prototyping (feasibility, functional and pre-series samples)
- Experiments and tests (performance, life time and safety)
- Risk analysis and risk management
- Integration of strategic suppliers for critical components
- Documentation (R&D project documentation, product documentation)
- Product transfer from R&D to series production
- Verification and validation (PLV, verification and validation of tools and tests)



7300013: Incubator/Shaker 3D CAD model

Development Tools

- 3-D design software (Solid Works)
- Thermal, fluid dynamical and mechanical simulation (Cosmos Works)
- Test rigs
- Climate chamber
- Customized measurement tools
- Infra red camera



7300013: Incubator/Shaker series production model

OEM Production

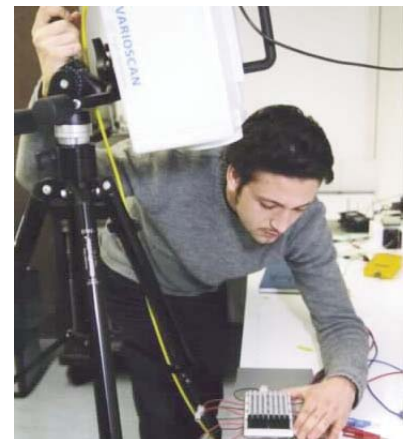
Besides the development services, INHECO offers also series production of devices, especially in low/mid volume areas. The production standards of INHECO include:

- Skilled manufacturing personnel for electronic and mechanical production
- Semi-automated assembly tools
- Route cards for every product
- Assembly instructions for every product
- Calibrated production tools
- ESD controlled environment
- Continuous training and skill improvement

Quality Control

The ISO 9001:2008 certified quality management of INHECO guarantees a constant quality of manufactured products. This is assured through

- Inspection of incoming goods
- Inspection during production/assembly process
- Burn-it tests for specific OEM products
- Calibration and adjustments
- 100% thermal end test (automated and semi-automated)
- Life time tests
- Development of test tools (measurement heads, laser rpm counters, etc)
- QC analysis and documentation (QC database, test reports etc)
- QC Audits for key suppliers
- Continuous improvement processes
- Safety & transport tests



Thermal imagery

Logistics

The logistic capabilities of INHECO include:

- Tailor made logistics (e.g. packaging, transport, customs, custom labelling)
- Serial number tracking
- ERP based logistics, supporting various inventory control methods
- Frame contracts, safety stocks, JIT etc.



ISO 9001:2008 certified by TÜV

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