



BACKER
CALESCO



COMFORT SOLUTIONS

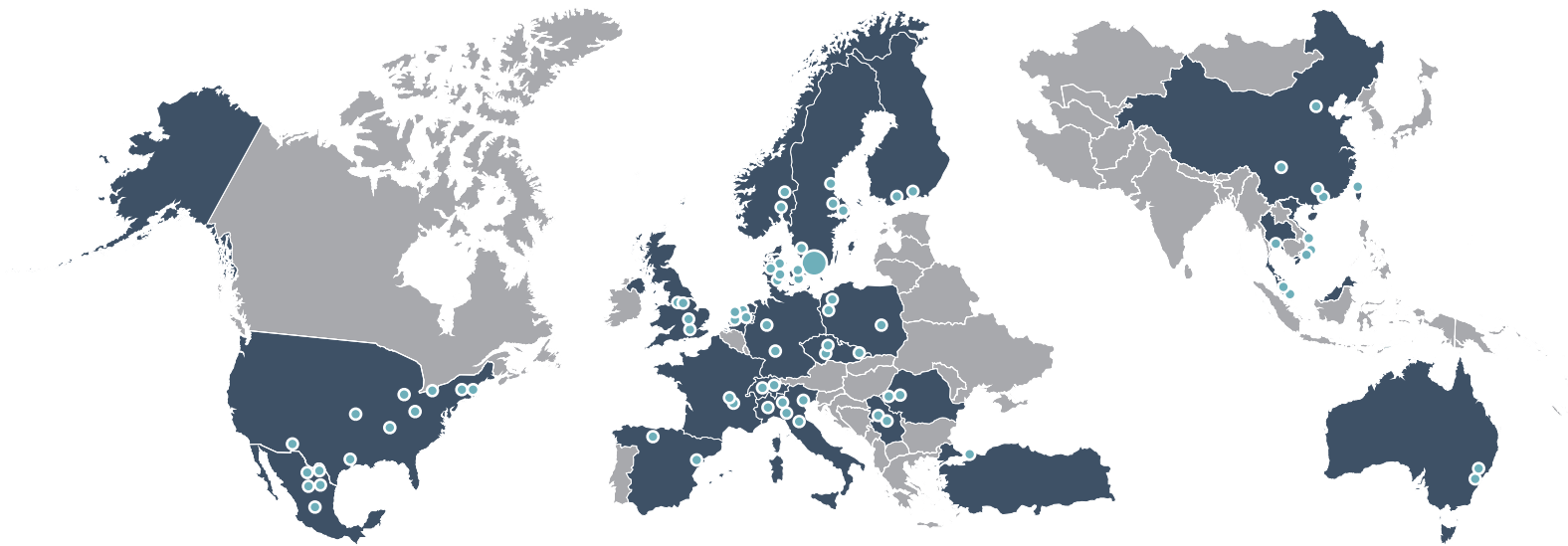
RELIABILITY · ENERGY EFFICIENCY · COMFORT

BACKER CALESCO

EVERYDAY · EVERYWHERE

Our heating products together with our measurement and control devices offer our customers complete solutions. Our engineers will not only suggest solutions, they can also take part in and contribute to your product development by using our advanced technical tools and lab facilities. Our extensive experience and competence as well as our reliable quality and service guarantee your success. Our ambition is to not only be a supplier, but your preferred partner.

Together we can make it happen!



NORTH AMERICA

EUROPE

ASIA/OCEANIA

MEMBER OF BACKER-GROUP

Backer develops, produces and sells customised solutions and components for electric heating, measurement and control. The original technology was stainless steel tubular elements. However, the constant growth of the Group, both organically and through acquisitions, has enabled the integration of several new technologies. Today the Group offers a far wider product range, with a vast number of technologies for several industry sectors and a large variety of applications.

PRODUCTION LOCATIONS

- Backer Calesco main office and production in Sweden
- Production facilities in China, Poland & Vietnam
- Sales office/warehouse in the US



Customised solutions

INDUSTRY SECTORS



AUTOMOTIVE



LIFE SCIENCE



RAILWAY



BATTERY



COMFORT



COMMERCIAL
EQUIPMENT

COMFORT HEATING SOLUTIONS

RELIABILITY · ENERGY EFFICIENCY · COMFORT

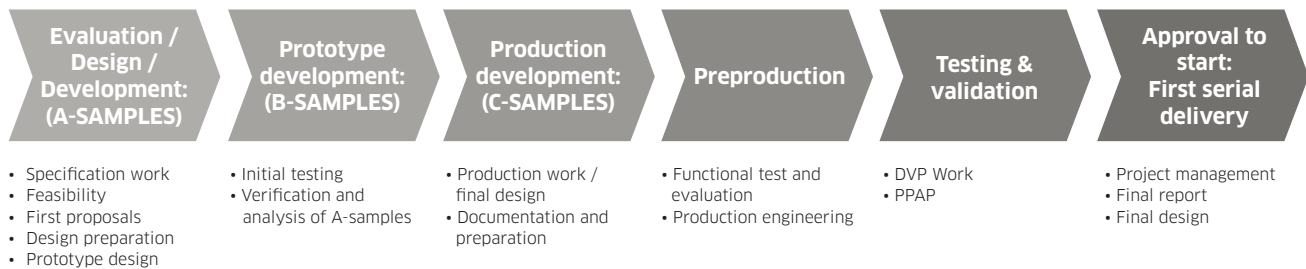
Backer Calesco offers a variety of solutions for comfort heating. Our heaters are found in applications such as waterbeds, floors for housing or RVs, bathroom mirror demisters, panel heaters and towel heaters. Our domestic products offer you great solutions for easy and safe heating. We give you warmth where it's needed most for enhanced comfort.

Typical applications

Mirrors	Infrared Panels
Waterbeds	Radiators
Floors	Heat pumps

PRODUCT DEVELOPMENT

We work together in a gate model to make sure we reach target in cost and production SOP



DVP PERFORMANCE TESTING

- To validate the design, we perform the test needed to fulfil the specification
- Temperature profile (sensor and image)
- Resistance to climate and environment
- Electrical durability and resistance
- Specific customer requirements

QUALITY

We strive to deliver the highest quality products combined with a flexible way of working. This permeates the whole process including sales, product development, manufacturing, customer service and logistics. Backer Calesco delivers products that meet all relevant standards and tests, certifying products according to customer specifications. We are also able to carry out tests in modern labs, constantly improving our product performance and energy efficiency.

CERTIFICATIONS

Backer Calesco is certified:
ISO 9001 · ISO 14001 · IATF 16949

Our facilities in China, Poland & Vietnam are certified:
ISO 9001 · ISO 14001 · IATF 16949



Innovations for the future

A partnership with Backer Calesco gives you a dedicated team of designers, project engineers and technical experts in the fields of electric heating, measurement and control, ready to provide you with the optimal solutions for your needs.

MIRROR HEATING (DEMISTER)



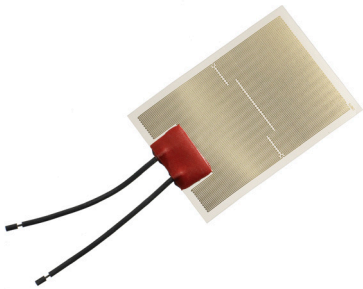
READY TO INSTALL

Steam-free bathroom mirrors

Foil heaters are used for bathroom mirrors and the heaters are simple to install and prevent the mirror from steaming up. The heaters have a low, even temperature that makes the mirror safe to touch but still keeps the mirror clear, and they have very low running costs. The Backer Calesco mirror heater must be connected to the lighting circuit or to the electrical circuit through a separate switch. The installation must be in accordance with existing regulations.

Benefits

- Low, even temperature makes the mirror safe to touch but still keeps it clear
- Very low running costs
- Your mirror will always remain steam-free while the heater is on
- Simple to install



Standard selection	Voltage	Power	Size
PM101164-00	230V	27W	290x290 mm
P0796100	230V	70W	300x590 mm
P0796200	230V	85W	500x600 mm
P0854600	230V	90W	345x780 mm
P0967300	230V	60W	500x500 mm
P0967500	230V	85W	570x760 mm
P0967600	230V	132W	600x1100 mm
PM100728-00	230V	30W	Di=350 mm

Model Greenline (low power)	Voltage	Power	Size
PM102792-00	230V	18W	400x450mm
PM102794-00	230V	25W	500x500mm
PM102798-00	230V	43W	570x760mm
PM102800-00	230V	66W	600x1100mm
PM102796-00	230V	28W	Di=600mm

General SEMKO/SSA approval

Width (mm)	Length (mm)	Power W/cm ²
100-600	200-1100	50-400

All heaters have adhesive, 1000 mm cables, silicone insulated terminals and are approved by Semko according to IEC C0335-1.

INFRARED PANEL HEATING



We design customized heaters for infrared heating panels. Our thin flexible foil heaters fit perfectly in the compact and customized panels, which can be designed to provide other functions such as wall decoration.

FLEXIBLE FOIL FLOOR HEATING

Flexible foil floor heating

Our heating film is a low profile heater (0.3 mm) and the parallel circuits ensure a robust operation of the heating element. Our floor heating does not need to be glued or fastened with a filler, which ensures easy installation. It can be used for wood/laminate floors for housing and for RVs. The design also affords the freedom to cut the heaters in the correct length during assembly. This makes it possible to cover as much of the floor surface as desired.

Benefits

- Low profile
- Even heat distribution
- Robust operation
- Easy installation
- Cost efficient

230V Heater selection

Part	Width	Power	Unit
Floor heater	600mm	120W/m ²	Meter
Floor heater	600mm	80W/m ²	Meter
Floor heater	600mm	60W/m ²	Meter
Floor heater	300mm	120W/m ²	Meter
Floor heater	300mm	80W/m ²	Meter
Floor heater	300mm	60W/m ²	Meter

Part	m ²	Power	Unit
Heat package kit	5	80W/m ²	pcs
Heat package kit	8,4	80W/m ²	pcs
Heat package kit	10	80W/m ²	pcs
Heat package kit	15	80W/m ²	pcs

The basic UFH film is approved up to 120 W m², 230 V, by Semcoin accordance with:

EN 60335-1:2002+A11+A1, EN 60335-2-96:2002+A1, EN 50336:2003.

It can, however, be designed for powers up to 400 W/m² @ 230 V for special applications.

42V Heater selection

Part	Width	Power	Unit
Floor heater	300mm	75W/m ²	Meter
Floor heater	400mm	75W/m ²	Meter
Floor heater	600mm	75W/m ²	Meter

The basic UFH film is based on printed carbon and silver tracks, with copper band reinforced distribution tracks along both sides of the web. The heating system is designed only to be connected to an approved power transformer in accordance with EN 60335-1:2002 (max 42 V).

READY TO INSTALL



WATERBED HEATING

Safe, Precise and Economical Heating

Our technical knowledge from over 30 years of experience in waterbed heat technology now gives you the latest waterbed heaters on the market, which are built with the same technology developed for medical care.

Backer Calesco is the pioneer in the waterbed heater business and has developed and designed waterbed heaters in Sweden since 1984. Our technical experience ensures high quality and long-term reliability.



READY TO INSTALL

LMF Heater

The LMF heater provides the lowest possible magnetic radiation along with the natural safety of a Backer Calesco product. It is a self-limiting, grounded and shielded heater with a thermal insulated bottom side to minimize heat loss. The patented circuit layout minimizes the magnetic field in the bed.

Benefits

- Grounded/double insulated
- Overheating protection and and child safety lock
- Copper circuit for low magnetic field
- All-pole switch ensures low electric field
- Electronic thermostat, min. temperature difference between heater and mattress
- Power consumption in standby mode is less than 0.5W
- New touchpad control unit with a modern design with possible wall installation

Power	250W
Power supply	230V, 50 Hz (US 110V 60Hz)
Heating circuit	Etched copper foil
Overheating protection	Manually resettable protector incorporated in the element
Power density	0.1/cm ² or less
Element insulation	Double electric insulation (two-layer polyester)
Thermostat material	Fire resistant plastic, UL 94HB
Temperature range	20-36°C
Dimensions	580x300x4mm
Weight	0.3 KG



PTC Heater

PTC means Positive Temperature Coefficient and is a well-known technology often used thanks to its safe and reliable characteristics. Backer Calesco has developed a system as the first company in the world to make foil heaters with a PTC effect for waterbeds.

Benefits

- Double insulated
- Overheating protection and child safety lock
- Low, even surface temperature provides long-lasting performance
- Controller with simple functions
- Designed for low consumption
- The small design of the control unit fits most waterbed frame openings

Power	250W
Power supply	230V, 50 Hz
Heating circuit	Carbon
Overheating protection	PTC built in the carbon circuit
Power density	0.1/cm ² or less
Element insulation	Double electric insulation (two-layer polyester)
Thermostat material	Fire resistant plastic, UL 94HB
Temperature range	20-36°C
Dimensions	580x300x4mm
Weight	0.3 KG



TEMPERATURE MANAGEMENT

ELECTRONIC CONTROL SYSTEMS

Control and energy balance

Flexible foil heaters provide excellent thermal transfer where you need it most. Heaters are used in thermal control design to protect components under cold-case environmental conditions or to make up for heat that is not dissipated. It is usually necessary to arrange some form of control to ensure that the desired temperature is maintained; accurate temperature control is therefore needed. This can be achieved with electromechanical thermostats of bimetallic type when temperatures and surface ratings are low, while electronic thermostats are preferred when temperatures and surface loads are high. We can fit thermostats, temperature fuses and sensors of thermo element type, thermistors and resistance sensors directly to elements in accordance with customer specifications. This helps to ensure reliable control.

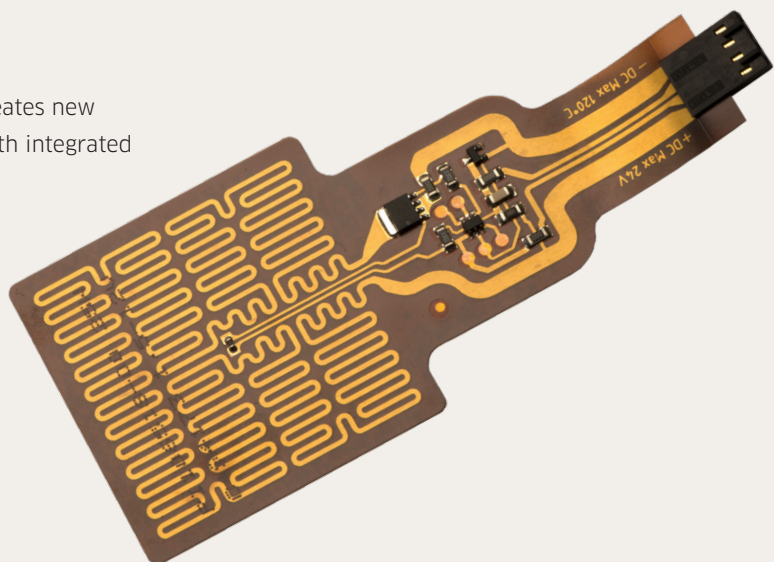
SMART HEATER!

Heater concept with integrated control

The demand for smart simple solutions creates new applications and we can offer solutions with integrated thermal controllers and sensors.

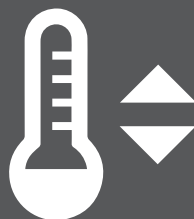
Typical components

- Thermostat
- Resistance controlled
- NTC
- PTC
- PT100/PT1000
- Thermocouple
- Overheat protection



HEATER

+



MEASUREMENT
& CONTROL

=



COMPLETE
SOLUTION



Customised solutions

Customers often come to us with an idea about a new project/solution, a need for our expertise or because they want to enter a partnership with us. We are more than happy to share our facilities, vast experience and expertise at this initial stage. The earlier we are involved in a project, the more we can control the optimisation of core issues, such as the choice of materials, components and technology, temperature control, energy consumption and sustainability, cost efficiency and compliance with all applicable norms, regulations and standards.



FOIL HEATING SOLUTIONS

Advantages

- Thin, flexible & lightweight
- Customised shapes
- Multiple temperature zones
- Simple assembly
- Quick heating
- Efficient heat transmission
- Low energy consumption
- High quality
- Wide material selection

Technical specifications

We offer standard products as well as customised solutions
Voltage: Up to 1000V
Power density: From 0 to 5W/cm²
Max. temperature: 600°C



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