

1. Title:

Modular wall heating system with variable decoration fronts

2. Abstract:

An Austrian company has developed a wall/ceiling heating element, which can be powered between with 12-24V. The element consists of an inner part (called the "heating core") and a front part that can be selected from different materials and designs: glass, metal, furniture wood or other suitable materials.

The panel is very thin and directly screwed to the wall with invisible fixation points.

The main use to heat a rather larger part of walls (or parapets) with a low temperature to save energy. The different front materials and decors allow a full integration of the heating surface into the room.

Big advantages are very short heating up phase and cosy integration into existing buildings through an unlimited number of design possibilities.

The company is looking for partners interested in sales and distribution, also production under a licence agreement is possible.

3. Description:

Electric panel heating is quite common and different systems are in use since the early eighties. This heating system offers extreme fast heating up phase and has an unlimited number of design possibilities.

The heating panel consists of the heating core (about 25 mm thick) that is directly screwed to the wall and includes an insulation plus convective path on the backside. On this part the front panel is screwed at the sides (almost invisible). The front panel can consist of painted glass, furniture wood or metal cases (including coil-coated or painted aluminium or aluminium-compounds). For the glass version security glass is used and different marble-imitating decors are available.

The standard formats for the panel are 600x600 mm, 600x1000mm, 600x1200 and 600x1500mm. The energy consumption per square meter of heating panel is about 300W/m² at full operation, but can be easily reduced by thermostats or time-switches.

The power supply is achieved by electronic power supplies that produce safe 12V for the operation of the heater. For single elements the power supply is built into the panel, for larger installations a central power supply may be used as alternative.

Following the philosophy of low-temperature heating with rather larger heated surfaces the product delivers temperatures that are at the level of human body temperature and creates a high level of infrared radiation and only relatively little convection heat. This reduces dust in the air and improves warm feeling at the body.

The customer decides if he wants to give the heater a flashy look or if he wants the heating surface to fully blend into the wall decoration (e.g. with wooden wall panels etc.).

The heating is maintenance free, easy to control and has a longer lifetime than conventional heating centrals or boilers.

The low temperatures and the quick switch-on/switch-off allow to adjust the heating to the occupation of the room or building and thereby makes significant energy and cost savings possible.

The technology is the first that provides a finished surface and can be installed as prefabricated modules.

The technology can be used as additional heating or as a full heating system for low-energy construction (passive houses) and in areas with low heating loads (Britain, Mediterranean Sea). It can be installed anytime without changing the existing heating or saving first-time installation of pipes at all.

The product is produced in small series, large-scale serial production is prepared but can also be made by a licensee. The product is already licensed for the market of Great Britain, other countries are still open.

Innovations and advantages of the offer

- Wall- or ceiling heaters normally require extensive installation and fettling or painting, because the surface is not finished. This system comes fully finished and is variable in front materials and decors.
- The product can be easily taken away and installed somewhere else - no heating investment must be left when you move to another flat or house.
- Can be pre-fabricated as fully finished wall-system or cassettes for ceilings
- Temperature can be perfectly controlled with thermostats, time- and day-programs or remote controls through internet and SMS. Heating of single rooms easily and quickly possible (e.g. hotel rooms that get heated only when a guest checks in: within minutes the room can be warmed to the perfect level, while empty rooms stay unheated or at lower stand-by temperatures).
- The comfort level is similar to an under floor-heating system, but without the need to change the complete floor.
- Reduce heating costs by reducing the measured room temperature without loss of comfort or with increased comfort level (no cold walls)
- Much lower investment cost than conventional fossile or wood heatings (no chimney, no storage, no boiler, no pipes, no pumps, no radiators)
- The heating surface becomes part of your wall, there is no need to hide ugly and bulky radiators.
- It is maintenance free and has an expected lifetime of at least 30 years, double the time of conventional heating systems like gas, oil or pellets.
- Easy installation (linking the powerlines, thermostats and temperature controls) and simple to check for correct functioning, because no moving parts and no leakages are possible (No maintenance costs)
- Safe, because it runs on low-voltage power via safety transformers
- Many surface designs already available, but an unlimited number of different colours and structures is possible. The design is protected and cannot be copied by competitors, due to patents and trade secrets

8. Current stage of development

Introduced in the market in Britain, ready for market in Europe and non-EU Mediterranean countries.

9. Intellectual Property Rights

Choose from **one** of the following:

- Patent/s applied for but not yet granted (specify geographical coverage in the comments box)
- Patent/s granted (specify the geographical coverage in the comments box)
- Copyright registered
- Exclusive rights
- Secret know-how
- Other (e.g. registered design, plant variety rights etc – please specify in the comments box.)

Any comments:

13. Brief summary of market applications of the technology

For renovations, new-buildings with low energy consumption or passive houses, part time use, large factories. The technology can be modified to heat historic buildings, public places, mobile homes and caravans etc.

14. Type of collaboration sought:

Select **one or more** of the following:

- License agreement
- Technical cooperation¹
- Joint venture
- Manufacturing agreement (subcontracting & co-contracting)
- Commercial agreement with technical assistance
- Financial Resources

15. Type of partner sought

The partner can be an industrial company, a medium-sized SME or a wholesale or retail firm.

16. Specific area of activity of the partner

The partner should have an access to the market of heating systems or to the construction industry (prefab modules for the interior), a utility / power producer / grid

17. Task to be performed by the partner

The partner shall take care of introducing the product in the market. Further technical and design-development can be done together. Co-development of new versions and modifications as well as additional applications is possible and welcome.

The target market is Europe and the neighbour countries in stage one, North and Central America and Asia in stage 2.

Exclusive distribution or production licensing agreement is possible.