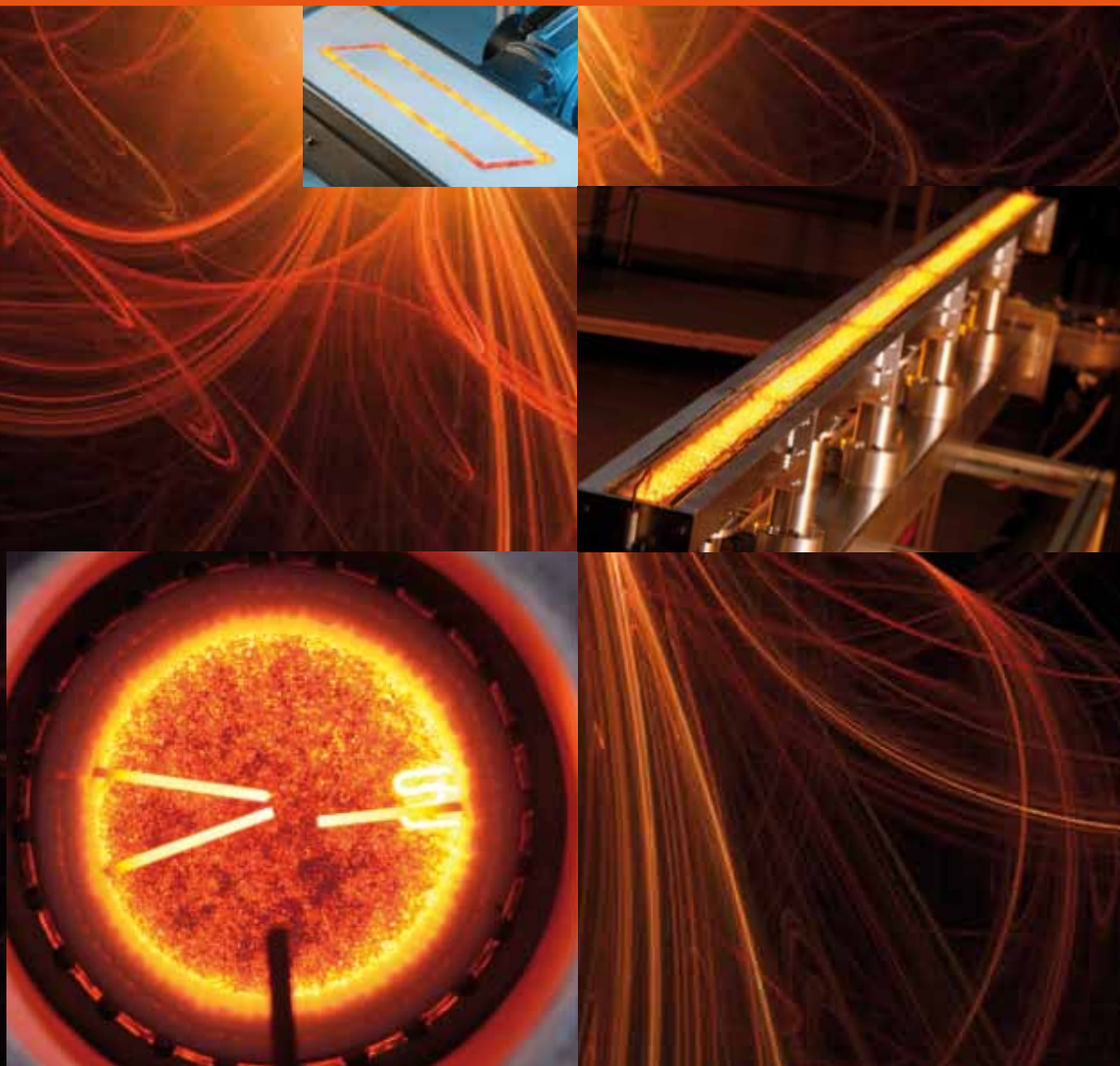


## Porous burners – the better process heat solution



## Our performance

Based on the unique features of the flameless porous burner combustion technology, promeos develops and manufactures tailored heating systems for process applications. We enhance your industrial facilities in all situations where exactly specified heat is required and/or special combustion solutions are needed, e.g. the utilization of special process gases.

promeos employs an excellent team of highly motivated experts in the fields of mechanical engineering, process and combustion technology, chemistry, materials sciences and electronics engineering. The deep and complementary know-how and the great industrial experience allow us to offer optimum and custom-made solutions for a wide range of market segments.

With the turn-key delivery, the installation and initial start-up of your system are done by promeos service technicians. In addition, promeos offers training courses and in-place instructions as well as a first class after-sales service.

An ongoing innovation process containing both product optimization and the invention of new technologies is part of our entrepreneurial philosophy. In-house product qualification programs guarantee for a reliable and approved product basis, while numerous research partnerships with leading Universities and research Institutes keep us up-to-date in terms of new scientific inventions and expertise.

## Your benefits

Furnace engineering is required for both process technology and manufacturing to ensure optimum product quality. The outstanding design features of our burners and its ease of integration into any kind of apparatus allow the heat to be distributed over/ into the required area/volume and applied where the process needs it, as opposed to being directed to only one spot. We supply "tailor made suits" for your individual needs, powerful and efficient.

The unique combination of features like the power density, a rapid and precise power adjustment (similar to electric heating devices), a homogeneous heat flux and its compact and modular design result in the following benefits:

- enhanced quality of your products
- increased performance
- reduced warm-up time or start-up time of your equipment
- energy saving potential of up to 70% for your processes
- operational cost saving of 50% by substituting electrical heating systems



## Innovative process heat

promeos porous burners – we guarantee your competitive advantage over the long term by means of worldwide patent protection

The square burner consisting of four single lines for concentrated heat input, here, for instance as preheating for a mould





# Porous burner technology

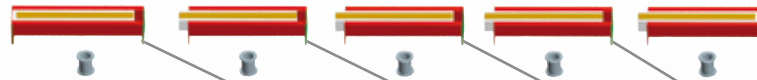
In a porous burner the combustion takes place in a porous high temperature ceramic, the combustion reactor, instead of in an open flame. This results in a flameless, volumetric combustion in the form of glowing ceramic foam which can be used as a radiating surface as well as a homogenous source of heat.



Any forms are possible such as round or square burners, lines, cylinders, rings, rhombuses and other specially tailored shapes.

Special applications require special solutions, for example line shaped burner heads which concentrate the heat from convection and radiation exactly where it is needed.

The length of a reactor can thus be extended if desired. Dimensions of several meters in length with a reactor width from 15 – 200 mm allow specific burning performances from 2 to 600 kW/m in length.



## Furnace engineering – brought into shape



The surface burner is an axial burner with optional dimensions. Flexible performance is achieved by means of a combination of various elements.

Ring-type burner – any type of tailor-made design is possible, for example for heating shafts or sockets



Power density	<ul style="list-style-type: none"> <li>infinitely adjustable heat flow volume from 150 – 3,000 kW/m<sup>2</sup> with a combustion size at a reactor depth of 15 mm</li> </ul>
Performance	<ul style="list-style-type: none"> <li>from 1 kW up to over X000 kW by means of the parallel connection of elements</li> </ul>
Flameless combustion	<ul style="list-style-type: none"> <li>heat source instead of an open flame which means <ul style="list-style-type: none"> <li>- the flame does not come into contact with the product</li> <li>- no combustion influence caused by external convection or external atmosphere</li> <li>- no sensitivity to airflow or movement</li> </ul> </li> <li>direct heat transfer through hot gas and radiation</li> </ul>
Adjustment of heat transfer	<ul style="list-style-type: none"> <li>control range up to 1:20 with Lambda 1,3</li> <li>rapid adjustment and modified process conditions</li> <li>adjustment of the radiation and gas temperature</li> <li>precise control between 900 and 1,400 °C at ± 3 K in a few seconds</li> </ul>
Homogeneity	<ul style="list-style-type: none"> <li>targeted surface heat input at each required place</li> <li>products are handled with care</li> <li>homogenous temperature distribution</li> </ul>
Design / shape	<ul style="list-style-type: none"> <li>any profile as either line or surface burner</li> </ul>
Emissions	<ul style="list-style-type: none"> <li>minimum emissions of CO and NOx across the whole performance spectrum</li> </ul>
Fuel	<ul style="list-style-type: none"> <li>all gases in accordance with EN 483</li> <li>oil vapour mixture</li> <li>low calorie gas</li> <li>has no effect on volatile gas pressure</li> </ul>

## Porous burners – the better process heat solution

- +** 70% reduction of operational costs
- +** 45% emissions savings
- +** 50% productivity

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Σ ROI most **←** 12 months  
ROI guaranteed **←** 24 months

promEOS porous burner solutions are used in the following industrial sectors:



- ▶ Aluminium
- ▶ Steel
- ▶ Ceramics
- ▶ Glass
- ▶ Plastics / synthetic materials
- ▶ Textiles / glass fibers
- ▶ Paper / film
- ▶ Packaging / food
- ▶ Recycling
- ▶ Energy
- ▶ Chemical industry
- ▶ Special gases

## Selection of our costumers





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contact

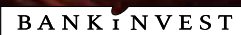
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