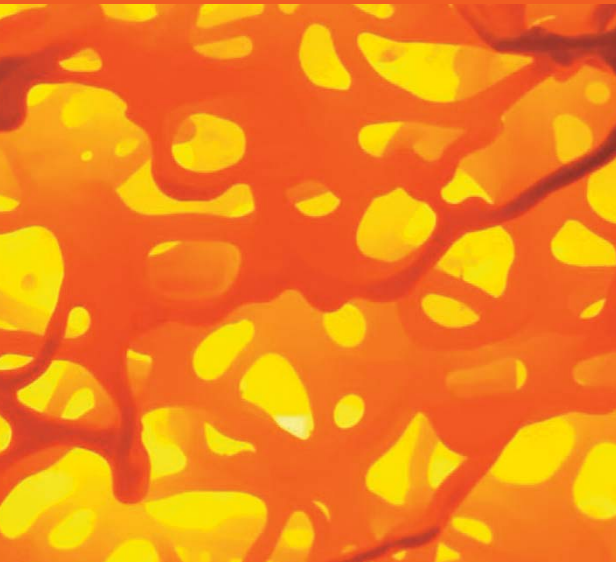




# **GAS-POROUS BURNER FOR INDUSTRIAL FURNACE ENGINEERING**



## Our performance

promEOS is a manufacturer of special burners which operate 'without a flame'. We enhance your industrial processes in all situations where exactly specified heat is required. Our engineers analyze your process and develop individual solutions (CFD – 3D-CAD). With a gas porous burner we generate heat in the exact quantity and pattern necessary.

The product range extends thus from single standard porous burner modules for integration in existing burning chamber to tailor-made stand-alone combustion systems with full drive technology and feedback control systems. The porous burner provides in a compact manner precisely the right amount of heat flow volume which is both homogenous and infinitely adjustable.

## Your benefits

Furnace engineering is required for both process technology and manufacturing to ensure optimal product quality. Porous burners allow the heat to be distributed over the required area and applied where the process needs it, as opposed to being directed to only one spot.

The following benefits are the result of rapid adjustment, precise control, homogenous distribution of the heat flow volume and the flameless combustion:

- enhanced quality of your products
- increased performance
- lower warm-up time or start-up time of your equipment
- energy saving potential up to 30% for your processes

**INNOVATIVE  
HEAT**



## Porous burner technology

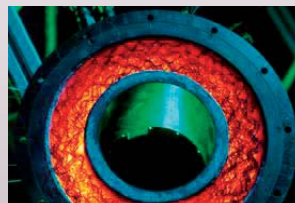
In a porous burner the combustion takes place in a porous high temperature ceramic, the combustion reactor, instead of in an open flame. This results in a flameless, volumetric combustion in the form of glowing ceramic foam which can be used as a radiating surface as well as a homogenous source of heat.



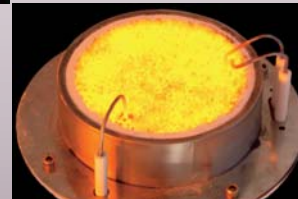
Any forms are possible such as round or square burners, lines, cylinders, rings, rhombuses and other specially tailored shapes.

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.



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



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

**FURNACE ENGINEERING  
BROUGHT INTO SHAPE**



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 2 kW up to over 1,000 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 NO<sub>x</sub> 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>

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

## ADVANTAGES OF THE POROUS BURNER

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





### TEXTILE PAPER



### STEEL ALUMINIUM GLASS

- Preheating for moulds and dies
- Steel ladle heating
- Preheating for filter boxes
- Preheating for transport containers
- Heating for front mould slides
- Partial melting
- Fire polishing



- Non-ferrous metals
- Ceramics
- Synthetic Materials
- Varnishing and Lamination
- Foodstuffs
- Alcohol and Tobacco
- Heat treatment
- Firing
- Tempering
- Thermo- and plastics vibration welding
- Heat setting
- Drying
- Baking
- Roasting

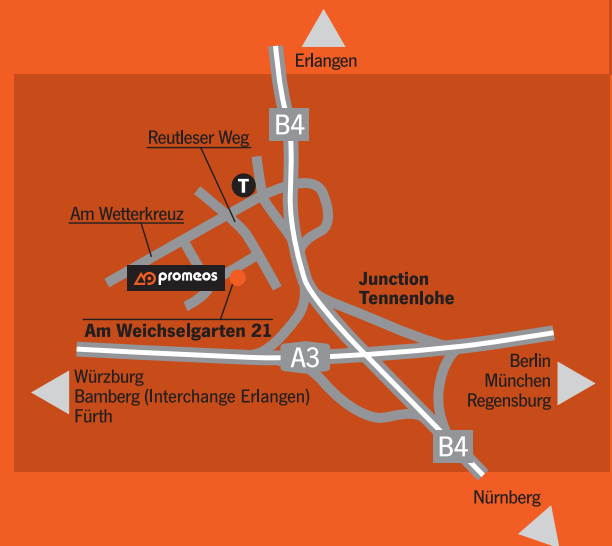
# INDUSTRIES & EXAMPLES OF APPLICATION



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