

Melting redefined!

Flameless promeos[®] gas burners
in melting and holding furnaces



METAL

Heating solutions
for foundries

Gas heat with the ease of electricity – pure CO₂sts saving!

New Standards in energy efficiency, crucible life and process quality.



Melting furnaces are equipped either with conventional gas flame burners or with electric heating units. While gas burners impress with their excellent melting capacity at reasonable energy costs, electric heating units are used at special requirements for homogeneous heating and material quality. Considering the rise of electricity prices and the extremely disadvantageous CO₂ balance of power versus gas, the use of gas furnaces is the natural choice.

Our promise is **“Gas heating with the ease of electric heating”** – and we mean it! This is by no means a marketing slogan. Our promise is solidly based on our newly developed technology for melting and holding furnaces. promeos® combines the advantages of homogeneous electric heaters with the ecological and economical advantages of gas burners.

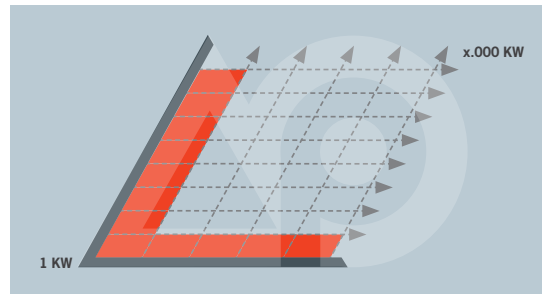
The promeos® burners, individually designed in shape and dimension, allow the hot flue gas to be evenly distributed into the furnace chamber. In addition, due to the absence of open flames, high power density for high mean furnace temperatures can easily be achieved. High melt outputs are the consequence, without harmful hot spots and with substantially reduced material stress.

Compared to systems equipped with diffusion burners, the noise level is considerably lower and the CO and NO_x emissions are reduced by 50 %.

Burner modules, simply integrated, pure CO₂sts saving.



Can be designed in any way. Modular extension in all directions.



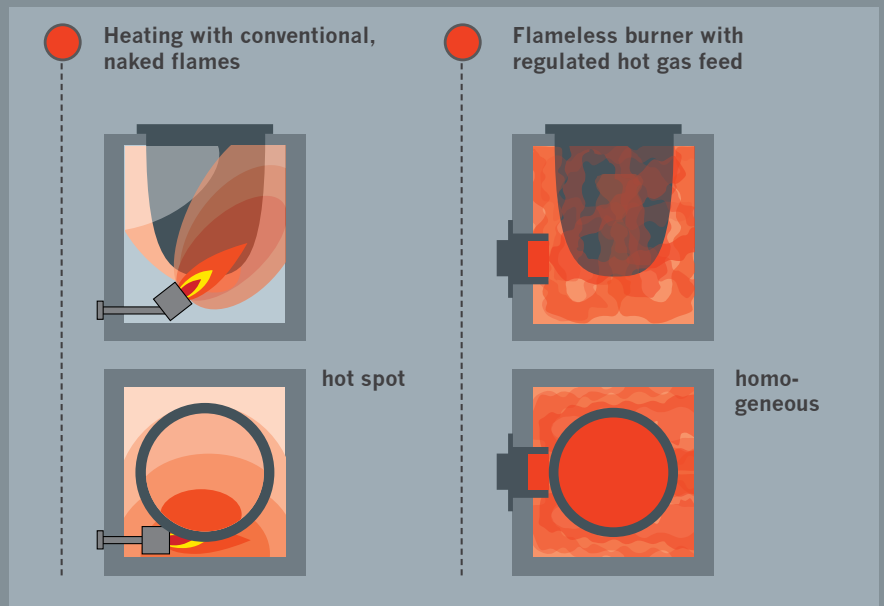
Burner dimension	Heating capacity
150 x 200 mm	30 - 120 kW
100 x 400 mm	40 - 160 kW
300 x 200 mm	60 - 240 kW
200 x 400 mm	80 - 320 kW
300 x 400 mm	120 - 480 kW
400 x 400 mm	160 - 640 kW

HEAT TRANSFER

Homogeneous temperatur fields. No „hot spots“. Best crucible life.

Hot flue gases from one or several burners evenly heat the furnace chamber around the crucible. As a consequence, a steady, practically constant heat exchange via gas radiation and convection takes place. This avoids thermal stress due to spot heating, resulting in a drastically increased lifetime of the crucible. In addition, the crucible itself can be optimized in terms of conductivity and mechanical stability.

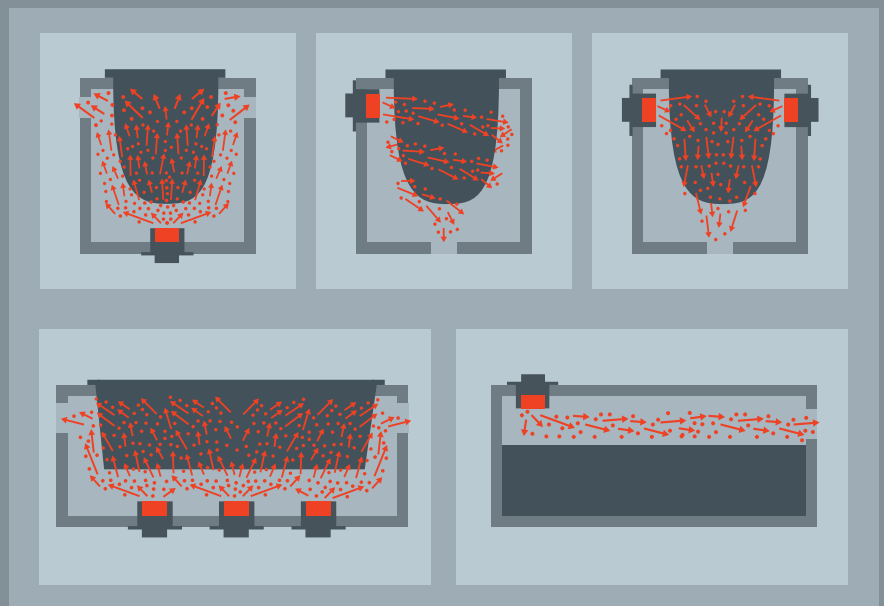
Invitation and obligation for all crucible manufacturers!



Modular design. Easy integration. Optimum temperature fields.

The promeos® premix burner modules reo®, neo and ceo® can easily be integrated into furnace walls. Selecting the right burner type, it can be used as local radiator, pure hot gas nozzle or the combination of both. The unique flexibility of burner capacity and geometry allows their integration into all kinds of crucible furnaces, directly fired shaft melting furnaces and holding furnaces – unlimited opportunities for creative furnace designers.

Invitation and obligation for all furnace manufacturers!




Paradigm change: Conceived. Developed. Realized.

Knowledge can only express itself through action. promeos® has delivered the proof of concept itself. Because pictures speak louder than words, the top view of a hot holding furnace is shown here as an example. The furnace chamber with its 600 kg crucible is heated with a single burner module (150 mm x 200 mm) only. However, the achieved homogeneity doesn't ask for more. Let's follow this path together – to reduce stress and extend life time.

Invitation and obligation for all melting process owners!





Burner module, simply integrated into the wall of a crucible furnace.

Our Competitive Advantage:

- + optimized heat transfer, light weight insulation
- + no "hot spots"
- + high power density / furnace temperature
- + volumetric combustion
- + high turn down ratio
- + Gas heat instead of electricity

Your Value Proposition:

- + up to 35% energy savings
- + increased crucible life
- + high melting rates
- + reduced noise and pollutant emissions (70 dB possible, CO and NO_x reduced by 50 %)
- + melting and holding
- + up to 50 % cost savings and up to 65 % CO₂-reduction

Unique variability. Sustainable idea.

The promeos® burner technology has set new standards – to the benefit of producers, furnace manufacturers and the environment.

Being a burner producer we want to share our technology with those who're willing to deliver sustainable value to global customers. Based on its cost saving and CO₂ reduction potential, promeos® products create a sustainable competitive advantage. That's why we offer our burners to furnace and plant manufacturers. At the same time, we're ready to supply our own furnaces to the process owners in case an OEM partner is not available.



WEGMANN®
automotive

Dosing crucible furnace for die casting.
Output: 100 kW

ZINC



MK
Renningen GmbH

ALUMINIUM

Holding furnaces for Aluminium.
Output: 30 - 120 kW



VW

Burner system for a magnesium smelting furnace.
Output: 3 x 350 kW

MAGNESIUM



FEDERAL MOGUL

ALUMINIUM

Burner system for a mobile holding pot.
Output: 20 - 100 kW



WMS
Weser-Metall

Crucible furnace to refine lead.
Output: 2 x 200 kW

LEAD



Balzer
Industrieföfen und Prozesswärme

ALUMINIUM

Burner system for a shaft melting furnace.
Output: 2 x 500 kW

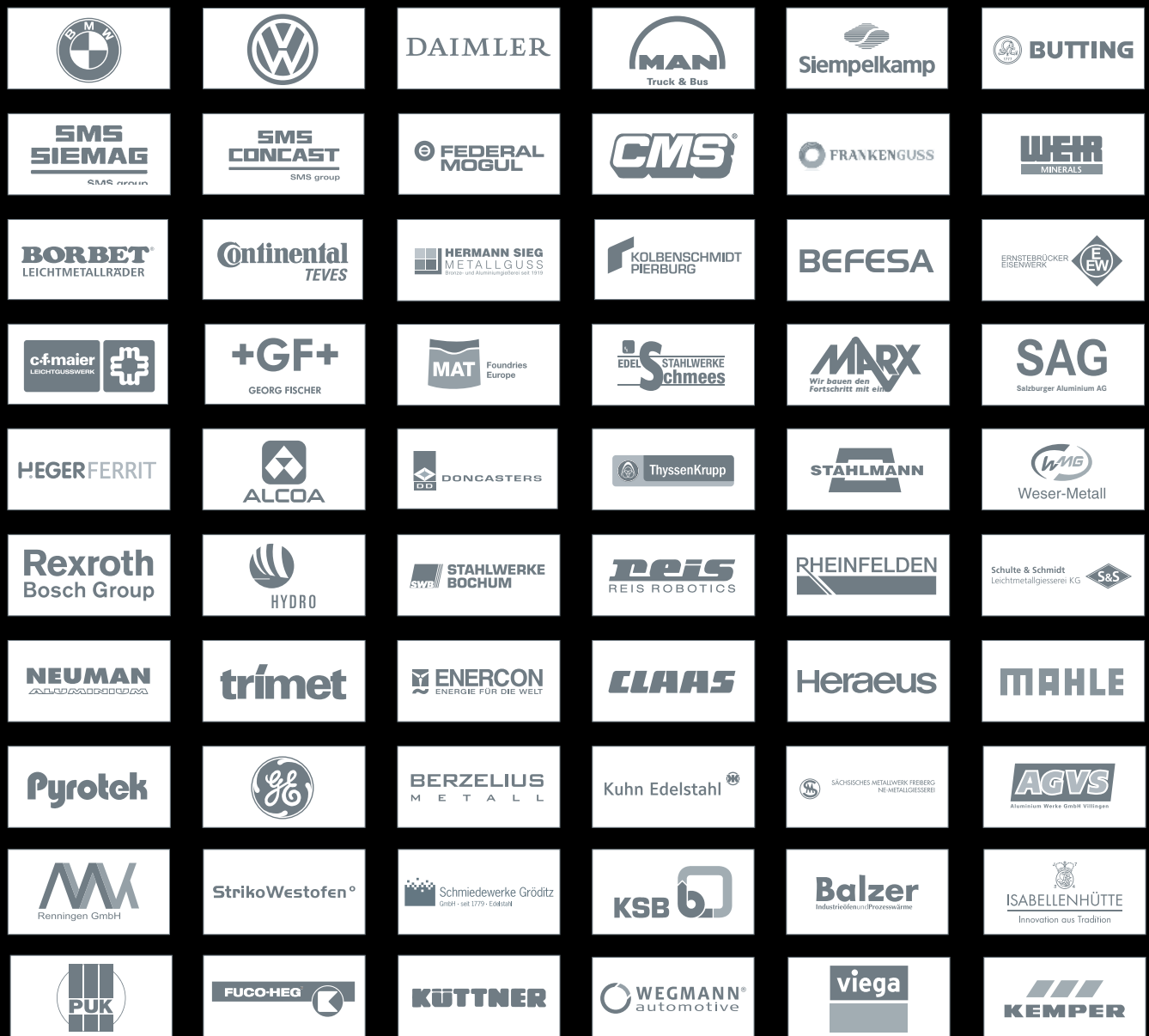


PUK

Holding furnace for zinc coating.
Output: 360 kW

ZINC

Selected references from the metal industry



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