promeos
HEATELLIGENCE

Ladle Heating Systems

Preheating allows energy savings of 60 %

⊕ reduced preheating time

Reduced preheating time
The homogeneously distributed heat input at a high energy density allows an unmatched quick heating of the ladle. Generally the heating-up times are cut down 50 % and more.

⊕ increased durability

(exact heat-up curves, homogeneous temperature distribution with functions for drying, sintering and warming)

Increased durability
So called “hot spots” that are due to local fire or flames as well as cold areas (“temperature holes”) are completely eliminated. A minimal loss of material and an increased durability of the ladle lining are the positive consequences. The temperature control device allows continuously variable temperature regulation and even a precise realization of given temperature curves.

⊕ 70 % reduction of operating costs*

70 % Reduction of operating costs
Energy savings of 70 % are not unusual. This is due to the extremely improved heat transfer and the continuously variable power control, which is the reason for the function for temperature holding at stand-by time.

⊕ 80 % CO_2 emission savings*

80 % CO_2 Emission savings
70 % less CO_2 emissions and significantly lower levels of pollutants (CxHy und NOx) mean > 80 % reduction of CO_2 equivalents.

Σ ROI ⊲ 12 months

ROI < 12 Months
Usually your investment is recovered within a period of max. 12 months. We will compile you with a detailed amortization calculation with every offer you receive from us.

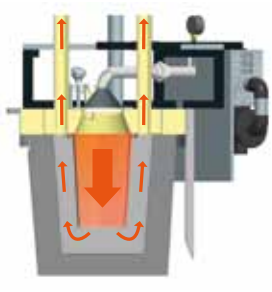
* Maximum value proven by customer data

Ladle heating station: 5 parking areas for ladles and 3 heating systems for ladles of different sizes. Automated complete system with a device for the utilization of flue gas.

top: bronze, burner 30 kW, T=1,000 °C, 45 % energy savings
below: cast iron, burner 80 kW, drum type ladle

Ladle Heating with the Best System

The transport ladles lined with refractory material are heated to a target temperature in the empty state. For this purpose a geometrically adjusted and insulated cap is placed on the ladle. Inside the cap, the integrated burner transmits the heat first onto a radiating body made of high temperature resistant steel that is adjusted to the internal contour of the ladle, which in turn transfers the energy as infrared radiation to the lining of the ladle.



Functional principle of the ladle heating system

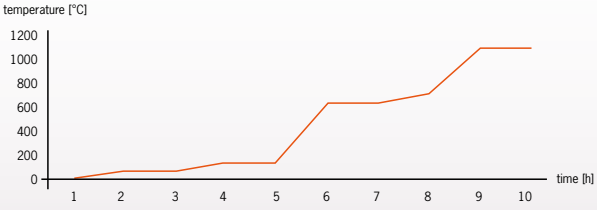
Aluminium (1.25 t); burner 100 kW, in use since 2007.

Energy efficiency – Heat the Ladles not the Hall

The heat is homogeneously and effectively transmitted all over the ladle wall. The hot gas flow is directed to the bottom of the ladle and afterwards through a narrow slot between the radiating body and the lining of the ladle to the hot gas outlet, whereby the heat transfer is additionally improved. The promeos ladle heating system is, apart from the flue pipes, a closed system that prevents unnecessary energy use caused by exciting flames and additionally guarantees you the most silent operating mode. The promeos ladle heating system combines maximum energy efficiency with ideal industrial safety and maximum process reliability.

Functions for Drying, Sintering and Warming

The continuously variable power control enables the realization of the exact given drying and sintering curves on new ladle linings. Besides, the high performance dynamics of the burner allows the hot and prepared ladle to be held on stand-by with minimum energy requirement. This is another important aspect with regard to energy performance.



Drying Curve Refractory Concrete

promeos offers

heating solutions for all types of ladles. Size, form, material or branches do not play any role.

Until now, more than 30 systems for the following applications and sizes have been put into operation:

Materials:	aluminium, steel, cast iron, non-ferrous metals, gray iron
Ladle size:	30 kg – 17,000 kg
Temperature:	< 1,100 °C
Therm. output:	30 kW – 1,200 kW

Iron casting, burner 900 kW, T=1,100 °C, wind power industry

promeos
contact

Partner@promeos

Gießener Straße 14
GER-90427 Nuremberg
Germany

Fon +49 911-377367-0
Fax +49 911-377367-20

www.promeos.com
marketing@promeos.com