



ceba S.p.A.

IRON & STEEL

www.cebasrl.com

ENERGY SAVING FOR LADLE PREHEATERS

Heat recuperator: combustion air is preheated using exhaust to minimize fuel consumption and increase the efficiency of the equipment.



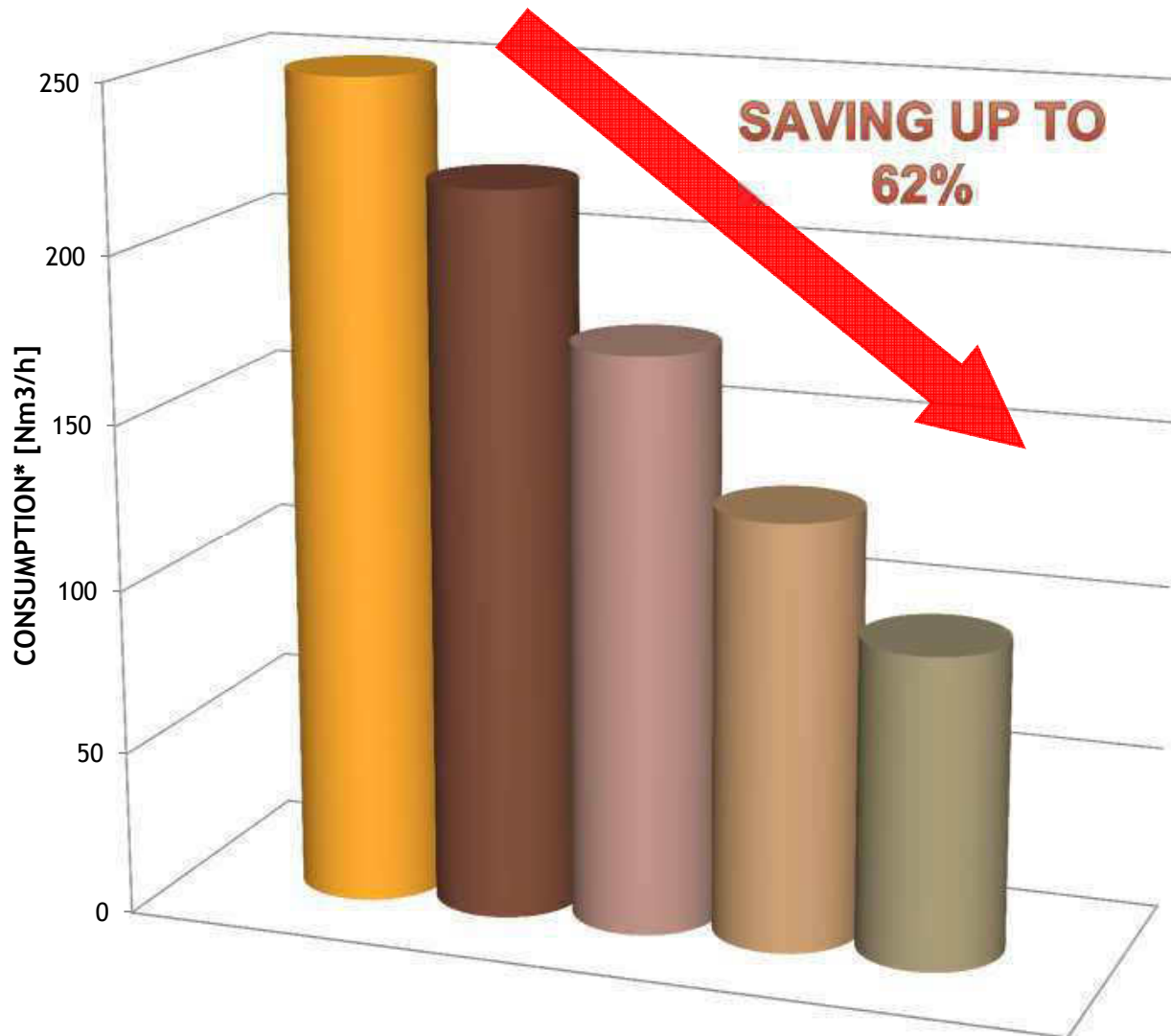
Since more than 25 years CEBA is continuously looking for new technological solutions to increase efficiency, reduce fuel consumption and achieve lowest emissions.

CEBA has designed two innovative and exclusive high efficiency systems for horizontal ladle heating stations.

→ Recuperator with CEBASEAL

→ Regenerative system (patented)

ENERGY SAVING FOR LADLE PREHEATERS

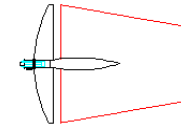


*measured values on a 90 ton ladle at 1000°C

SYSTEM TYPE

■ Shield with gap

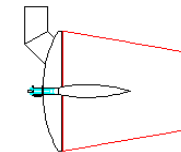
CONSUMPTION : 250 Nm³/h



■ Shield with stack

CONSUMPTION: 220 Nm³/h

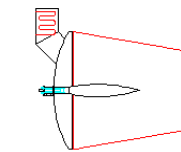
SAVING: **12%**



■ Shield with heat exchanger

CONSUMPTION: 175 Nm³/h

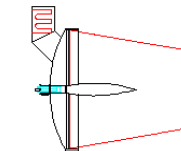
SAVING: **30%**



■ Shield with heat exchanger and CEBA-SEAL system

CONSUMPTION: 130 Nm³/h

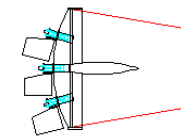
SAVING: **48%**



■ Shield with regenerative burners
PATENTED SYSTEM

CONSUMPTION: 95 Nm³/h

SAVING: **62%**



ONLY BY CEBA

ENERGY SAVING FOR LADLE PREHEATERS



CASE STUDY: HEAT EXCHANGER WITH CEBASEAL 140 ton ladle

Av.* Consumption without heat recovery: 220 Nm³/h

Av.* consumption with heat exchanger: 175 Nm³/h

Av.* consumption with heat exchanger and CEBASEAL: 130 Nm³/h

Working time/day: 20 h (equal to more than 7000 h/year)

Annual saving [Nm³/h]: 657.000

Annual saving [0,25 €/Nm³]: 164.250,00 [EURO]

- Evaluated operating time: working time for a duration of 6 months

CEBASEAL is an innovative system designed by CEBA to reach a high seal between ladle and cover.

ENERGY SAVING FOR LADLE PREHEATERS

MAIN ADVANTAGED OF CEBASEAL COMPARED TO THE TRADITIONAL SYSTEMS:

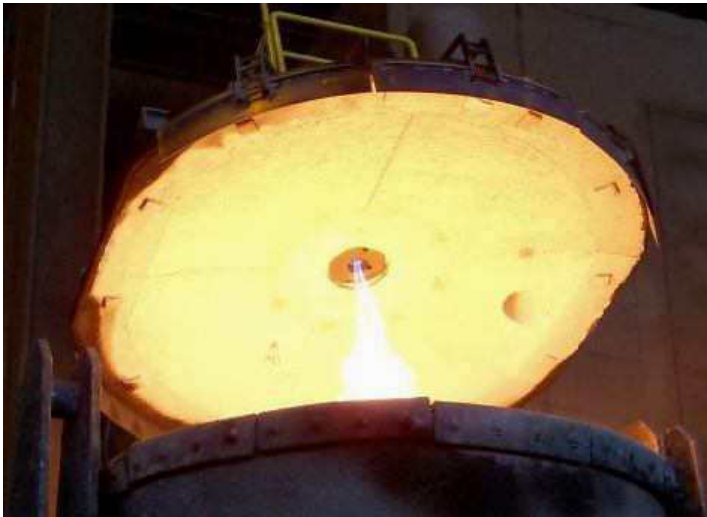
- Higher efficiency
- Lower fuel gas consumption
- Lower Nox emission
- Simpler operation
- Lower maintenance

SHORTER PAY BACK TIME



ENERGY SAVING FOR LADLE PREHEATERS

Oxygen/fuel burner



- Air cooled burner (no water required)
- Reduction of fuel gas consumption
- Ladle final temperature up to 1350° C
- Fast re-heating (15 min)

