HeatMatrix®
TURNS WASTE HEAT INTO PROFIT

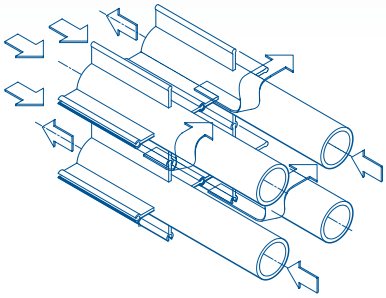
HeatMatrix® LUVO

The HeatMatrix® LUVO is a 'gas/gas' heat exchanger that increases efficiency of industrial boilers by integrating hot flue gas with cold combustion air. This configuration improves efficiency up to 4%. The exchanger fits on every boiler and is easy to install.

HeatMatrix® LUVO for Steam boiler applications

The majority of the steam boilers have flue gas exit temperatures between 130 and 230 °C. these high exit temperatures are equivalent to a 5-10% energy loss and are an opportunity for energy cost savings.
A practical way to improve boiler efficiency is combustion air preheating with hot flue gas. Existing solutions for combustion air preheating use 1 or more heavy metal cross flow exchangers, which are only economically attractive for large heavy duty boilers.

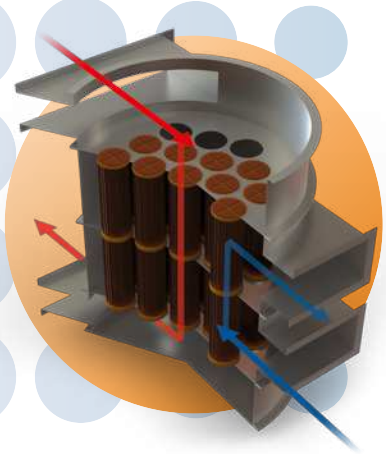
HeatMatrix offers a simple heat exchanger for direct heat integration of combustion air and boiler flue gas. The HeatMatrix® LUVO can be integrated in the existing flue gas ducting and does not require additional support due its low weight. The combustion air is preheated in a compact counter current configuration, which results in a high efficiency.



HeatMatrix® LUVO design

Key features HeatMatrix® LUVO

- Lightweight
- Corrosion resistant
- High efficiency
- Saves energy
- Easy to install



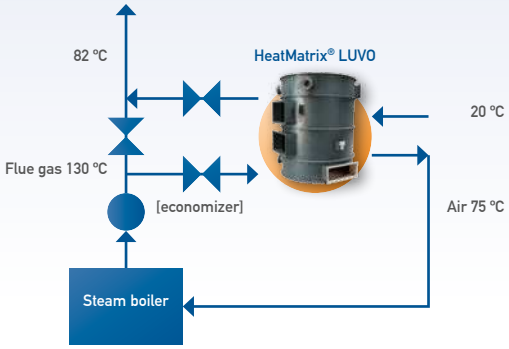
HeatMatrix® LUVO for steam boilers

HeatMatrix® LUVO

Case: 8 ton/hr steam boiler

The case below shows the potential savings for a low capacity steam boiler equipped with a HeatMatrix LUVO heat recovery unit. This standard unit is designed for easy installation, has a low pressure drop and does not require additional equipment.

Capacity	8 ton/hr
Boiler duty	5 MW
Combustion air	8,680 kg/hr
Flue gas temperature	130 °C
Air intake temperature	20 °C
Air burner inlet temperature	75 °C
Duty HeatMatrix LUVO	127 kW
HeatMatrix LUVO dimensions	1.3 x 2.6 m

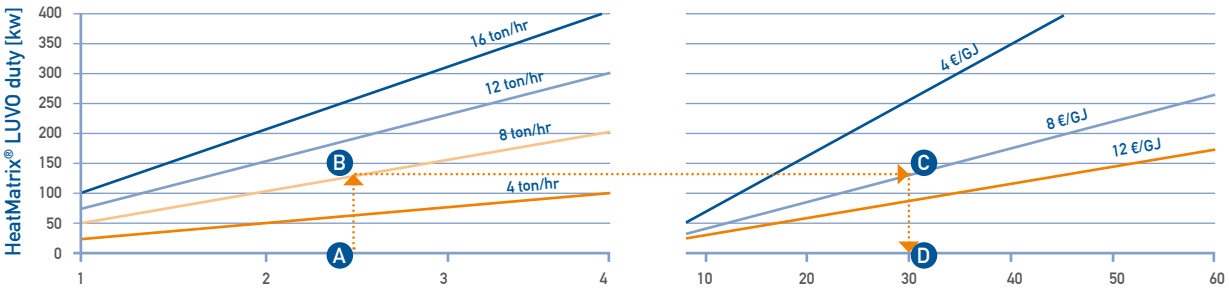


As a rule of thumb every 21°C reduction of flue gas temperature improves boiler efficiency by 1%. Using the graphs below the potential savings can be calculated for any boiler capacity operating 8,000 hr per year and actual fuel cost (0.25 €/m³ natural gas is 8 €/GJ and 0.45 €/litre heating oil is 12 €/GJ).

The savings for the 8 ton/hr boiler (A) at 2.5% efficiency improvement (B) and 8 €/GJ (C) are 30,000 €/yr (D). The carbon dioxide emission is reduced by 223,000 kg/yr based on natural gas. In some cases efficiency improvements above 3% could require additional blower modifications.

Graphs for calculating potential natural gas savings

(follow steps from A to D)



Contact information

Please contact the HeatMatrix engineers for more information about energy saving opportunities.

HeatMatrix Group BV
De Ooyen 15, 4191 PB Geldermalsen, The Netherlands

T : + 31 - (0)10 - 848 53 17
E : info@heatmatrixgroup.com

www.heatmatrixgroup.com