

GREEN COFFEE PRE-HEATING

Reduce
the **CO₂**
emissions



PRE-HEATING

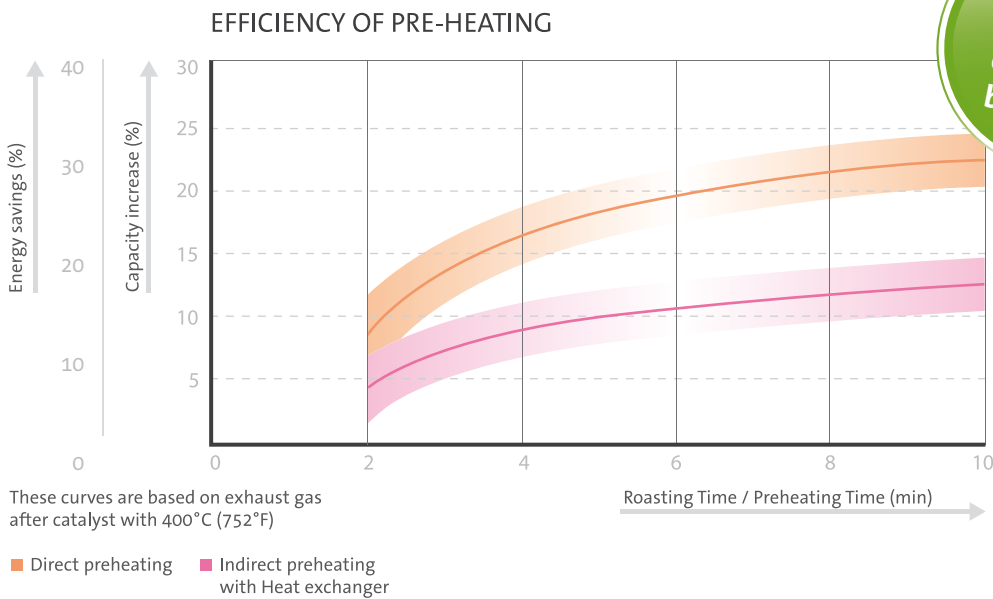
Roasting of coffee requires a thermal energy of 700 – 750 kJ / kg of beans by physical laws. This thermal energy is introduced into the bean by the thermodynamic methods of heat transfer such as : *heat conduction / heat convection / heat radiation* depending on the machine type and conditions. The individual roasting machine and the thermodynamic methods respond to a specific exhaust temperature of 250– 450 °C depending on the roasting process and the exhaust cleaning method. This energy could be recovered by means of preheating the green coffee immediately before the roast.

These different methods will

1. Reduce the energy costs by up to 25%
 2. Reduce the CO₂ emissions by 25%
 3. Enhance capacity of the machine
(up to 20% and under special conditions more)
- Additional energy recovering by pre-heating the burner air is possible, too

The saving effect depends on:

1. Roasting time
(the longer, the more heat could be recovered)
2. The temperature of the exhaust gas.



Reduce the CO₂ emissions by 25%

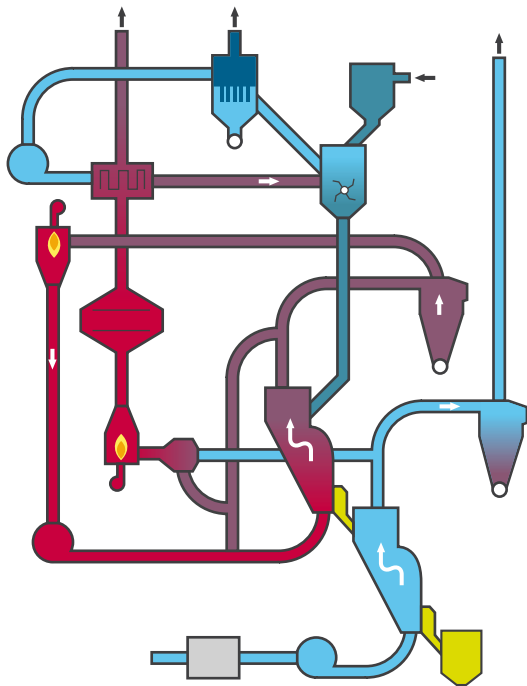
- Energy saving
- Climate protecting
- higher capacity
- more flexibility



NEUHAUS NEOTEC OFFERS TWO OPTIONS:

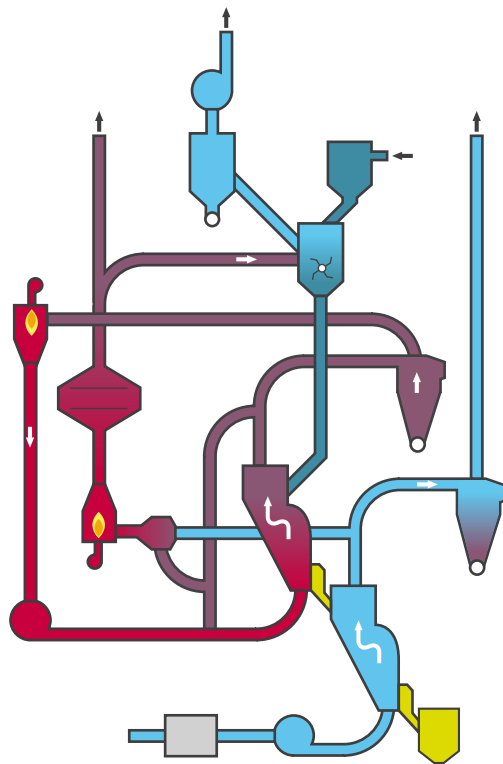
Option 1

Clean air preheating
(ambient air is used after it has been preheated by a heat exchanger.)



Option 2

Exhaust air preheating.
The exhaust air is in direct contact with the green bean and it offers more efficiency.



PRE-HEATING

The preheating process ensures:
No influence on the bean taste (as it merely shortens the drying process, and this before the Maillard reaction starts) The temperature of the coffee bean will not exceed 100 °C. The system could be added to any roaster of the Neuhaus Neotec series.

Invitation

Neuhaus Neotec offers to visit and test our pre-drying units in our pilot plant and laboratory in our facilities in Ganderkesee (Bremen).

