



WIREKÖRNER

Ofenanlagen für Draht und Band
Furnaces for wire and strip

Dual-layer fluidized-bed furnaces

FOR RESOURCE-SAVING

WIRE PRODUCTION

LOW ENERGY CONSUMPTION

REDUCED EMISSIONS

LOW COSTS

**Engineering made
in Germany** ●●●



What does not exist cannot fail and requires no energy.

Jacob Friedman, Ph.D, P.Eng.
Ryerson University, Canada

With its new, patent-pending dual-layer fluidized-bed furnace, Wire KÖRNER cuts capital, energy and maintenance costs for its customers in the wire processing industry, while enhancing the quality of the end products.

This innovative furnace design does without a number of components which used to be considered indispensable in the past - such as, for example, the complex and expensive distributor tiles, perforated distribution pipes and stand-by blowers.

Economical

The absence of distributor elements markedly reduces the flow resistance inside the furnace. Hence the required blower capacity can be lower than that of competing designs by about 20 percent.

Through carefully customized control algorithms, efficiency is maximized at all loads. This saves up to 15 percent energy. For a typically sized furnace this means more than 7,000 Euros per year saved on energy.

Efficient

The combustion gas is premixed outside the furnace. This makes for a uniform gas-air mixing ratio throughout the fluidized bed.

The advantages are uniform temperature distribution over the complete width and length of the furnace, high heat transfer efficiency and optimal end product quality.

Eco-friendly

As the mixing ratio of the combustion gas is optimal at all times, emissions of unburned hydrocarbons are minimum.

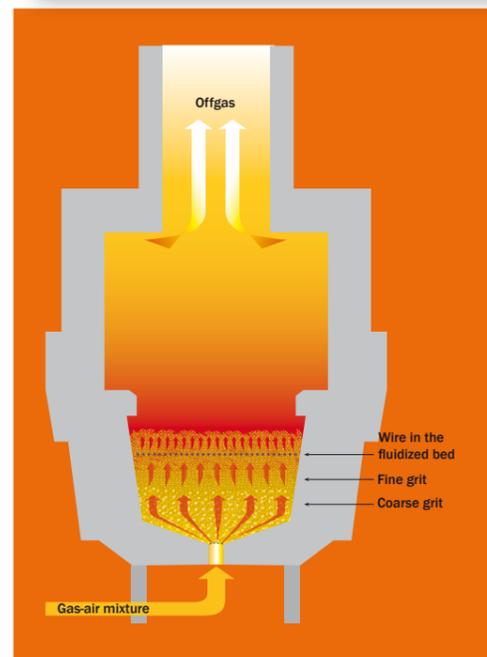
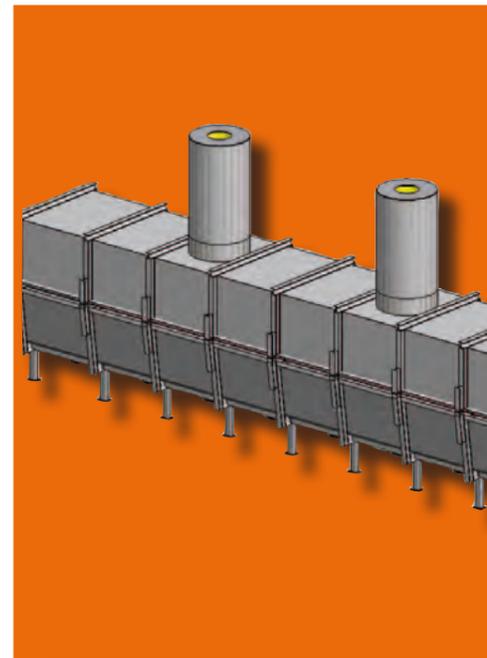
Simple

Wire KÖRNER has made the furnace design substantially simpler. The actual fluidized bed rests on a layer of coarse grit, which serves as a filter layer. The individual grains of the sand are big enough to be held in place when the air-fuel gas mixture is flowing through the voids from below. In contrast to this, the fine grit above the filter layer fluidizes, transferring the thermal energy into the wire.

This design makes pipes, grates, distributor tiles and additional blowers for cooling superfluous. The overall simplified furnace design markedly reduces capital costs. The new design also no longer requires a stand-by blower in the event of a power failure to provide cooling air to cool the steel structures, which were necessary in the past.

Cost effective

Wire KÖRNER has also reduced the maintenance effort as there are fewer components to be maintained. For example, having to replace distributor elements has become a thing of the past.



ABOUT WIRE KÖRNER

Wire KÖRNER GmbH designs and manufactures plants and equipment for the complete process chain of wire and narrow strip heat treatment, from the drawn wire through to the finished end product. The range of heat treatment plants comprises bell-type, chamber and continuous furnaces for patenting, annealing, galvanizing, hardening and tempering. The company provides design, engineering, manufacture, erection, commissioning and after sales services and maintains a worldwide network of branches and licensees.

Wire KÖRNER's numerous quality and efficiency-enhancing innovations regularly attract the industry's attention. For example, the recently developed wire patenting furnace with an innovative atmosphere control system achieves substantial energy savings, or the recuperative immersion burner for ceramic galvanizing furnaces designed for extremely long service lives, just to mention a few examples.

Wire KÖRNER is a company of the KÖRNER Group, which was established in 1928. Thus the company builds on more than 80 years of experience in industrial furnace technology and auxiliary equipment. Within the group, Zink KÖRNER GmbH specializes in plants for hot dip galvanizing of piece goods, small parts and pipes. TVT KORDT GMBH develops plants for thermal process technology, with a focus on industrial furnaces for the heat treatment of steels, special steels and non-ferrous metals.



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