WIRE KÖRNER

Ofenanlagen für Draht und Band
Furnaces for wire and strip

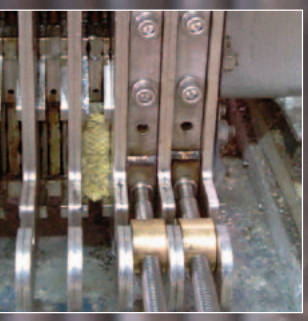
Wiping systems

FOR EFFICIENT
WIRE PRODUCTION

AUTOMATIC CONTROL

PRECISE COATING

LOW MATERIAL COSTS



> No rejects thanks to continuous process monitoring with AZCS.''

WIPING SYSTEMS

Wire KÖRNER offers you a wide spectrum of wiping systems for commercial coating and heavy coating.

Automatic regulation of the zinc coating is a special feature that guarantees layers of consistent thickness and minimal zinc consumption.

Mechanical wiping systems

Wire KÖRNER offers mechanical systems mainly designed for commercial galvanisation at 30 to 130 g/m², with long-lasting wiping pads for vertical or oblique removal.

Their distinguishing feature is how easy they are to maintain, because the pads can be changed within two minutes.

Nitrogen wiping systems

Nitrogen wiping systems are used for class A, B and C coatings with high DxV. They are ideal for:

- Wire diameters between 0.8 and 9.0 mm,
- Zinc coatings between 85 and 600 g/m².

The manual adjustment control allows the wiping nozzles to be precisely set and calibrated along multiple axes. This ensures that the wire runs concentrically through the nozzle, and that an even thickness of zinc coating is laid down over its entire circumference.

The individual wire-feed makes it possible simultaneously to coat wires of different diameters, and hence differing speeds, in the same piece of equipment.

In comparison with traditional systems, equipment speeds up to 300 percent higher can be handled. This means a considerable increase in productivity for the whole piece of equipment.

The nozzles are made from hardened stainless steel and are therefore very low-maintenance.

Quenching the wire with water ensures that the zinc coating is fixed before the wire reaches the deflection roller.

Systems with automatic control

The AZCS (Automatic Zinc Coating Thickness) system that is used in conjunction with the nitrogen wiping further improves product quality: it precisely regulates the coating of zinc, and achieves, in this way, not only an even and reproducible thickness of coating, but also high surface-quality.

Automatic measurement of the thickness of the zinc-coating on every single wire determines the input size for the automatic control of the nitrogen throughput to the individual nozzles. The controls can be set individually for each diameter of wire. Control accuracy is five percent. The results are impressive: the system reduces variations in coating thickness to approximately 10 to 15 g/m².

The automatic system also reduces zinc consumption, because the thickness of the zinc coating is always maintained close to the target value, and excess zinc drips down immediately into the zinc bath. Over and above this, the nitrogen which is used for wiping reduces the formation of zinc ash, which brings with it yet more saving in zinc.

Process monitoring with AZCS ensures that no rejects are produced. If the screen is showing “green”, the galvanizing process is running perfectly.

Especially when combined with precise manual setting of the wiping nozzles, the automatic nitrogen-throughput control achieves optimum results – in both the concentricity and the evenness of the zinc coating.

On top of this, there is no need to go to the expense of making manual spot checks during production.

... and the costs

Zinc wiping with AZCS is extremely economical; under normal conditions it saves four- or even five-figure euro sums annually.

An example from the real world: with an annual production duration of 7,200 hours and a total of 24 wires, the automatic nitrogen wiping-system saves up to 500 tonnes of zinc a year.

Potential savings per year:

500 TONNES OF ZINC

ABOUT WIRE KÖRNER

Wire KÖRNER GmbH designs and manufactures plant 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 channel furnaces for patenting, annealing, galvanizing, hardening, tempering and chemical treatments. The company provides design, engineering, manufacture, erection, commissioning and after sales service. Wire KÖRNER 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 has been designed for very 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 batch galvanizing. 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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PROFILSTRASSE 9 • 58093 HAGEN

FON: +49.2331.800 68-0 • FAX: +49.2331.800 68-8

WWW.WIREKOERNER.COM • INFO@WIREKOERNER.COM