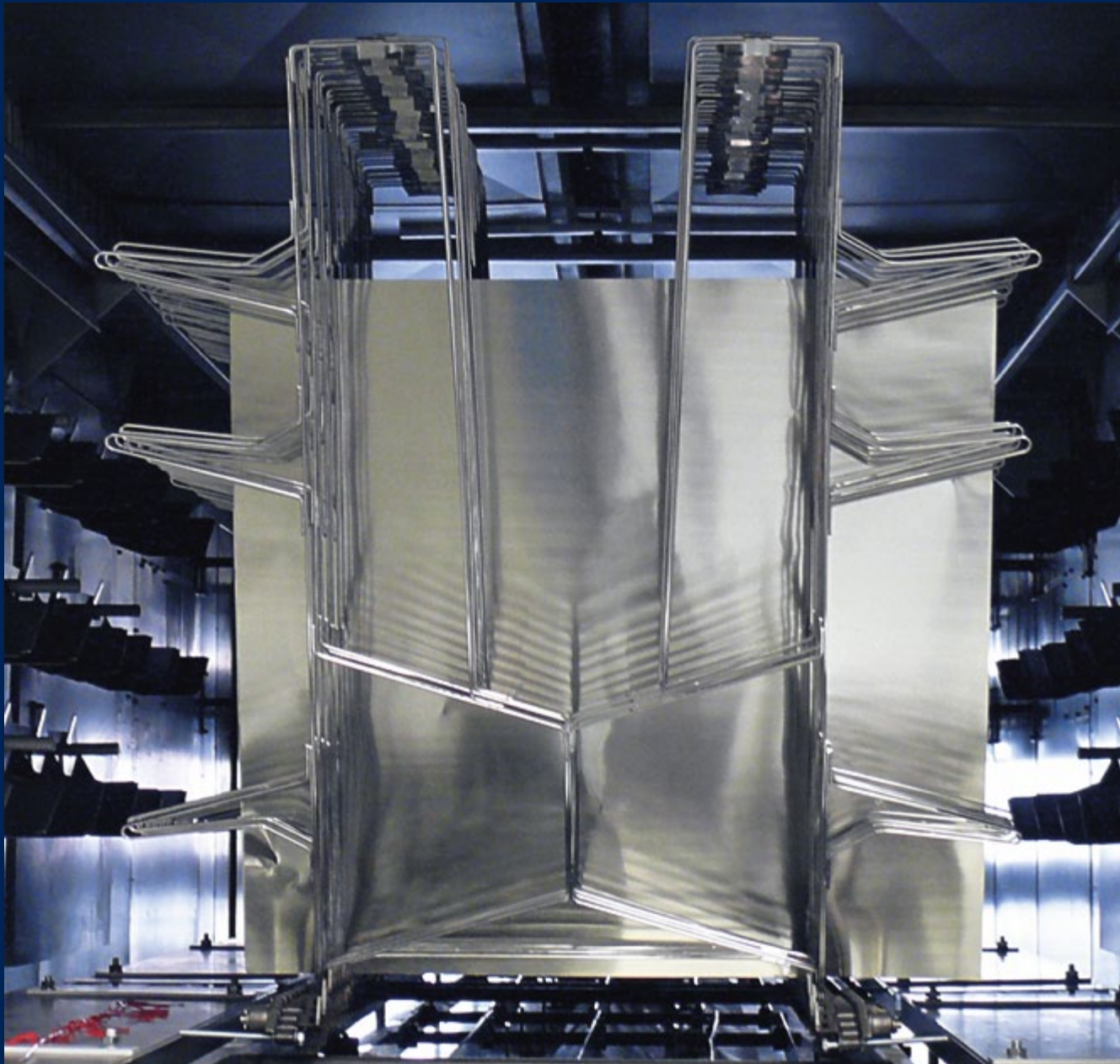


KOENIG & BAUER

Drying & Curing Solutions



we're on it.

Drying & Curing Solutions Setting the Standard in Metal Decorating Performance

Advanced drying and curing technologies for efficient, reliable and future-ready metal decorating production.

Drying and curing play a decisive role in achieving high-quality, stable and economical metal decorating. For decades, Koenig & Bauer MetalPrint has been shaping this field with pioneering solutions that ensure flawless results and maximum efficiency throughout the entire production process.

While each technology offers its own strengths, the principle behind our systems remains the same: delivering reliable performance, energy-efficient operation and consistent curing results. From powerful thermal drying to cutting-edge UV and UV-LED curing, and from smart heat recovery to exhaust air purification, every solution is engineered to optimise production, reduce operating costs and support sustainable metal decorating.

Developed with deep process expertise and based on global market leadership, our drying and curing portfolio combines proven engineering with modern innovations. Modular system design allows seamless integration into new lines or existing production environments, tailored precisely to your requirements.

The result: stable production, reduced energy consumption, lower emissions and reliable curing quality, sheet by sheet. Trusted by metal decorators worldwide, our technology delivers the performance and future-readiness that keeps you ahead in a competitive market.

COMPLIANT. SECURE. FUTURE-PROOF.

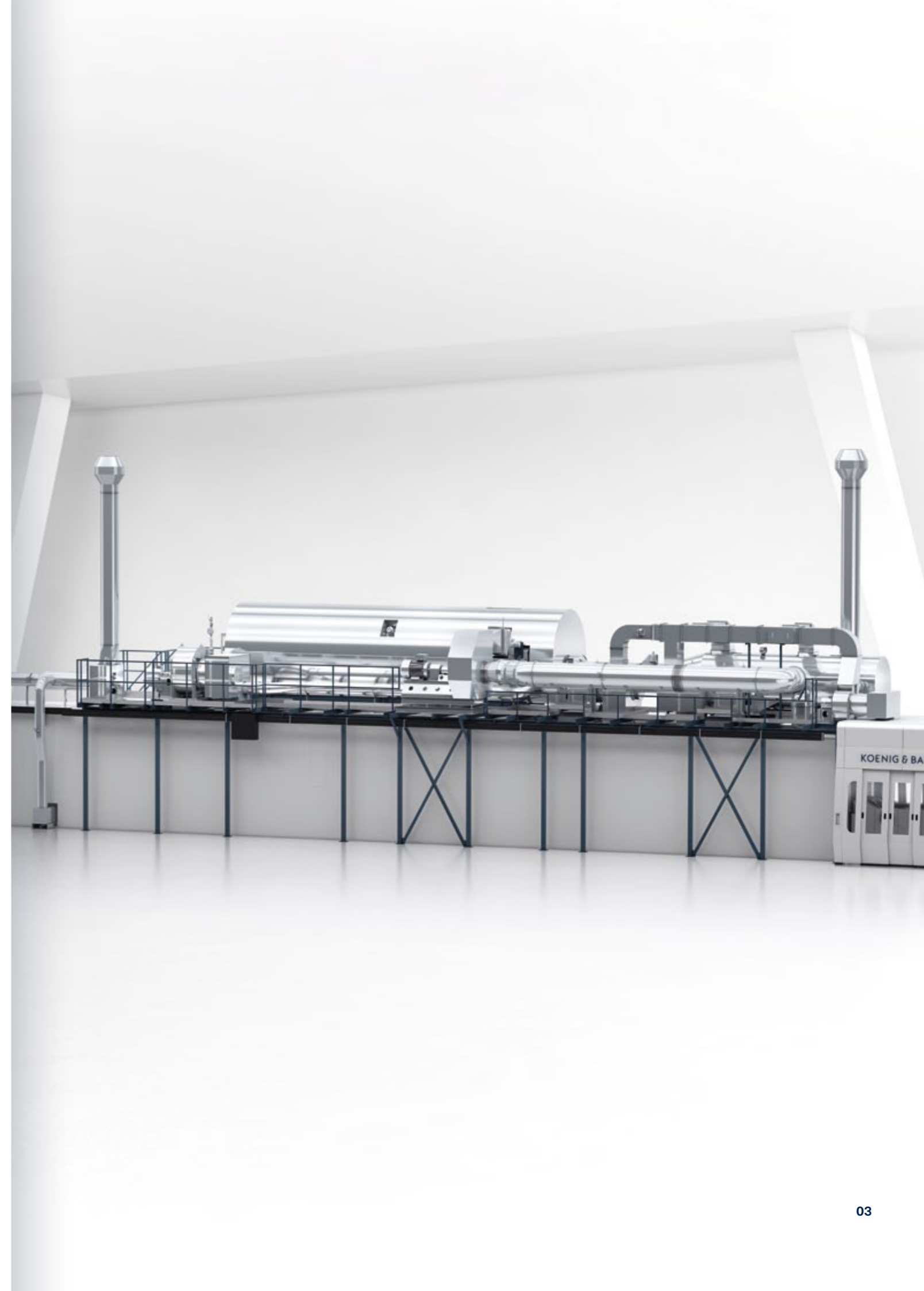


Every product in this brochure meets the latest EU mandates, ensuring your market access remains seamless beyond 2027:

- **Machinery Regulation (2023/1230):** Guaranteed software integrity to prevent operating bans and eliminate liability traps.
- **CRA & IEC 62443:** "Secure by Design" architecture providing mandatory lifecycle protection and proactive security updates.

Our entire portfolio serves as your strategic shield for NIS2 obligations.

Secure your production with our compliant solutions.



MetalCure UV Unmatched Uptime – Uncompromising Efficiency

Established high-power curing solution for metal decorating.

Elevate your production with MetalCure UV, the leading drying solution designed for the most demanding high-quality requirements in metal decorating. Established in over 70 percent of our radiation-curing metal printing machines, its success is built on proven reputation and seamless integration.

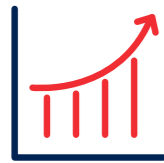
Benefit from its uncompromising process reliability. Our reflector technology ensures optimal focus, precisely where you need it, while minimising heat impact on the substrate by 30 percent.

The MetalCure UV system is engineered for maximum availability. Experience significantly shorter warm-up and cool-down periods, alongside the ability to perform washing cycles while the lamps remain in standby mode. These features drastically reduce job changeover times and boost the overall productivity of your metal printing machine.



MetalCure UV – The Industry Choice

Boost your production line with superior process reliability, minimised heat impact, and optimised changeover times.



Optimised reflector geometry focuses energy precisely where needed, reducing heat by 30 percent and ensuring high efficiency



100 percent console integration allows for seamless control and overview of all parameters directly from the main desk, ensuring a simple operating experience



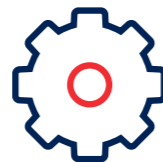
Lamps remain in standby during cleaning with CleanTronic UV, eliminating time-consuming restarts and drastically shortening make-ready times when switching between different printing jobs



Integrated operating hours counters and precise sensor-based monitoring enable a reliable service life calculation, ensuring you only replace lamps when their performance truly declines



30 percent shorter warm-up and 50 percent shorter cool-down periods minimise downtime and ensure your line stays productive through fast re-ignition after any interruption



Stepless power control up to 200 W/cm and flexible interdeck positions allow you to adapt the drying performance perfectly to any specific job requirement



MetalCure LED

Maximise your energy savings and productivity with mercury-free LED technology.

Step into the future of sustainable production with MetalCure LED, our most energy-efficient curing solution for metal decorating.

The system's modular design allows for precise format-dependent power adjustment. By activating only the required segments for your specific sheet width, you eliminate wasted energy and optimise efficiency for every job. With the elimination of IR-radiation, MetalCure LED ensures minimal heat impact on the substrate.

Designed for maximum availability, the system eliminates warm-up and standby phases entirely. Your metal printing machine is ready to produce at full power instantly. With an exceptional service life of 20 000 hours and more, a mercury-free design for a safer workplace, and minimal maintenance requirements, MetalCure LED is the ultimate choice. Experience precision and power that pays off with every sheet.



MetalCure LED – The Future of Efficiency

Transform your production with mercury-free technology, instant-start capability, and modular power control for unmatched energy savings and eco-friendly results.



Benefit from a significantly lower power demand during production and nearly zero energy consumption in standby mode, leading to a substantial reduction in your overall operating costs



Experience an exceptional service life of 20 000 hours with minimal maintenance requirements, ensuring long-term investment security and lower operating costs



Optimise energy consumption by activating only the required LED segments for your specific sheet width, eliminating wasted power and maximising job efficiency



The total elimination of IR radiation ensures nearly no heat impact on the substrate



Designed for maximum availability, the system eliminates warm-up and standby phases entirely, ensuring your machine is ready to produce at full power instantly



The mercury-free and ozone-free design eliminates hazardous waste and the need for exhaust systems, making it a sustainable and future-proof choice



Line Solutions with Thermal Dryer

Flexible thermal drying for metal decorating and coating – available with HighEcon air purification for wicket and drum ovens.

Koenig & Bauer MetalPrint thermal drying ovens combine high output with cost-effective operation. The smart oven generation features AirFlow Pro for precise temperature distribution – essential for modern BPA-NI coatings – and a double-walled design to minimise contamination. Automated setups and intelligent controls reduce operator workload while ensuring energy-efficient production.

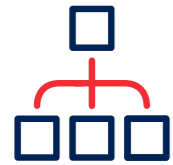
Tailored solutions for every requirement:

- **Space-saving & high-efficiency ovens:**
for printing, coating, and tandem lines.
- **Wicket & drum dryers:**
specifically engineered for the metal packaging industry.
- **HighEcon system:**
the most economical integrated air purification for solvent-based applications.
- **Smart production & efficiency:**
job data management and electrical settings allow for rapid, repeatable changeovers. Demand-oriented control optimises consumption; for instance, the cooling zone automatically adjusts to ambient temperatures – saving energy during colder periods.
- **Demand-oriented operation:**
vacuum and drives are only activated during sheet transport for maximum efficiency.
- **Advanced support:**
for maximum uptime, the remote analysis and LifeCam support resolve many of service cases virtually, ensuring a fast return to efficient production.



Thermal Dryer and Air Purification

High-performance drying for metal decorating and coating: flexible solutions with optional HighEcon integrated exhaust air purification.



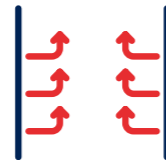
Versatile for printing, coating lines, and drum dryers



Energy-saving cooling zone with intelligent, ambient temperature-dependent fan control



Efficient VOC cleaning meeting the strictest global emission standards



Integrated AirFlow Pro baffles ensure precise air distribution, delivering exceptionally uniform sheet temperatures for superior heating quality and process stability



HighEcon minimises gas consumption by utilising heat recovered from integrated exhaust air purification to power the entire drying process



Future-proof and lower CO₂ footprint via waste heat recovery, hydrogen blending, or a dedicated 100 percent green hydrogen system



Thermal Dryer for Printing Lines

High-performance drying for conventionally printed metal sheets.

In the metal decorating industry, thermal drying remains the benchmark for the highest quality standards. It delivers superior surface hardness, maximum scratch resistance, and exceptional ink flexibility. The oven process ensures complete drying, allowing the ink layer to withstand intensive post-processing and forming. Custom-engineered solutions with dryer lengths ranging from 15 m to 42 m ensure precise synchronisation with production speeds and a seamless workflow from loading to unloading. For inline coating lines, systems can be configured with an optional pre-dryer or allow for coating application directly onto undried ink, depending on the specific process requirements.

Guided by the principle “intelligence meets efficiency,” processes are optimised for maximum productivity. Integrated job data

management via intuitive touch panels enables rapid job changes without manual readjustment. Specialised airflow technology ensures homogenous drying while minimising energy consumption.

For thin gauge substrates, AirFlow Pro and AirFlow Lightweight significantly reduce sheet vibrations, keeping contact with freshly printed surfaces to an absolute minimum.

Further efficiency is achieved in the cooling zone through intelligent, ambient temperature-dependent fan control. Continuous monitoring of gas and electricity consumption provides real-time insights via the HMI or seamless data transfer to MIS systems. Finally, the service-friendly design – featuring CE-compliant maintenance platforms and advanced remote analysis options – guarantees maximum system availability.



Thermal Dryer for Coating Lines

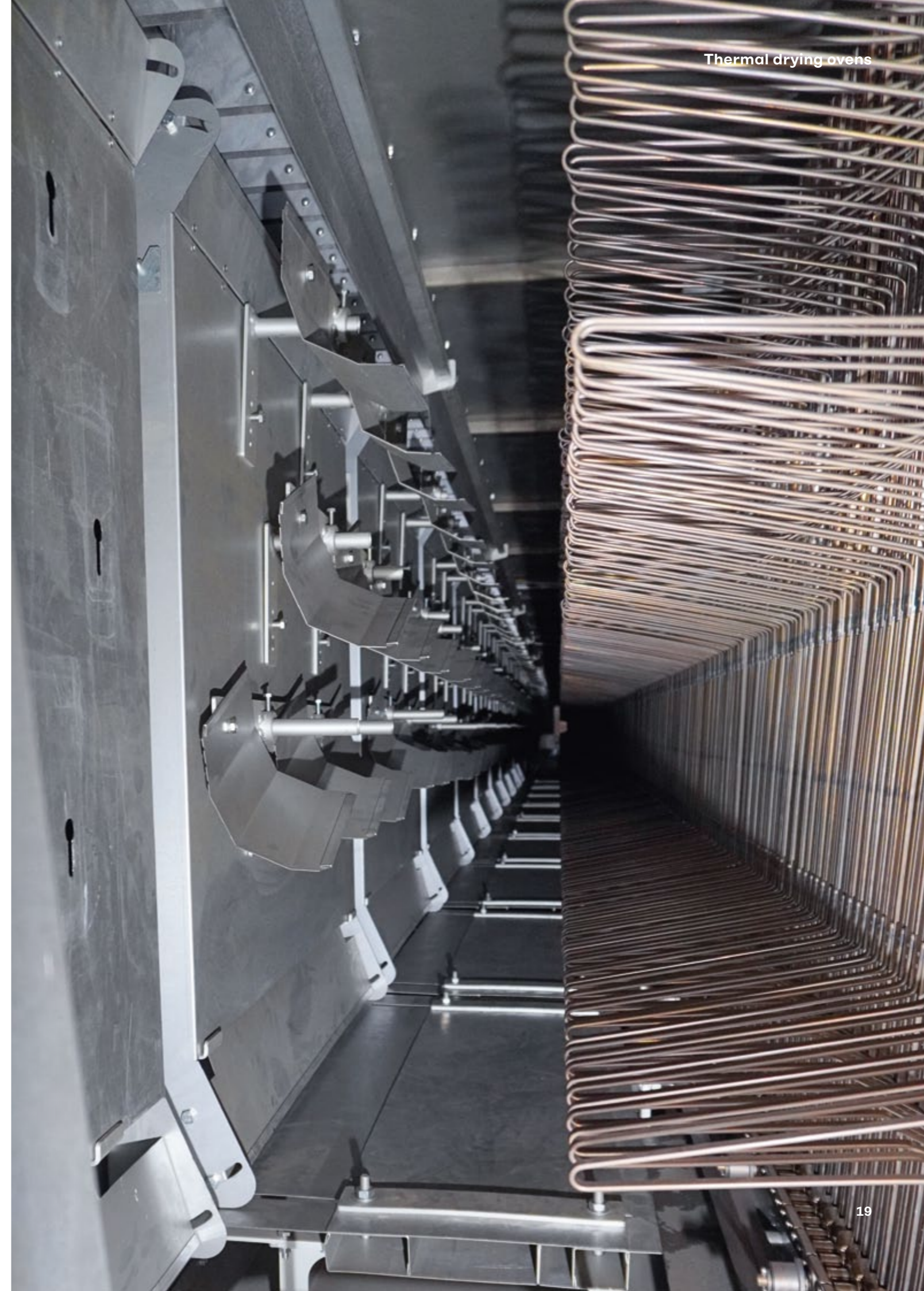
Thermal drying for coated metal sheets – maximum efficiency with proven HighEcon technology.

In the metal packaging industry, thermal drying is the all-round solution for the highest demands on internal, external, and protective coatings. Continuous developments, such as the AirFlow Pro principle, guarantee optimised airflow in the heating and curing zones, perfectly meeting the requirements of even sensitive BPA-NI coatings.

The heart of the system is the integrated air purification with the HighEcon system. This process is revolutionary in its economy, as the solvent-laden exhaust air is used as a valuable energy source. As the solvent load increases, external gas consumption drops to a minimum, because the thermal energy from the solvent combustion is fed directly back into the drying process.

Advantages at a glance

- Gas savings of up to 70 percent compared to systems without integrated air purification
- Strict compliance with emission limits to protect the environment
- Resource-saving cooling zone with demand-oriented power adjustment based on ambient temperature
- Full transparency of all consumption data displayed on a touch panel
- Intelligent job data management with automated setting suggestions or adoption of proven data from previous jobs
- Efficient remote support through detailed remote analysis to avoid on-site assignments



Thermal Dryer Options

Individual options for special requirements

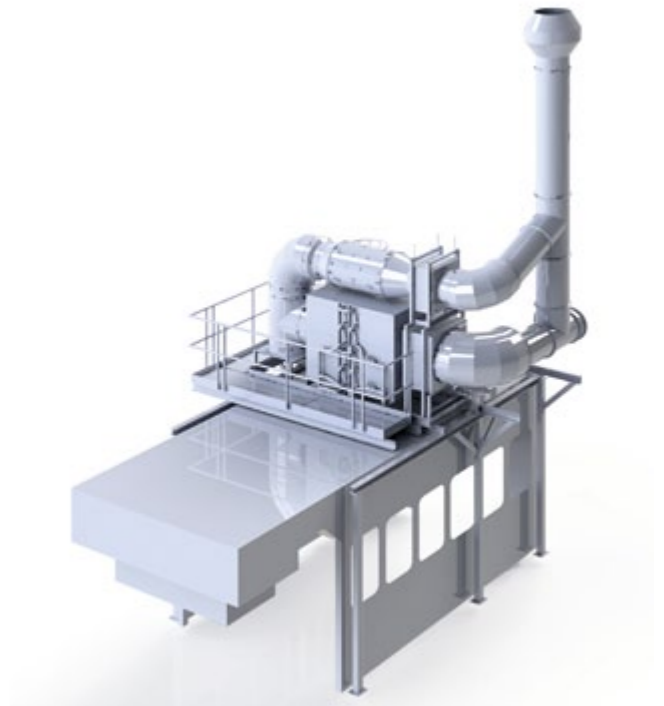
Hydrogen-ready technology Future-proof & flexible

- **A key to climate neutrality:** strategic foundation for reaching global net-zero targets
- **Sustainable production:** seamless transition to green manufacturing through hybrid or pure hydrogen operation
- **Maximum flexibility:** continuously adjustable H₂ ratio for dynamic adaptation to market availability and pricing
- **Cost efficiency:** significant reduction of CO₂ tax burdens through the integration of green hydrogen into heating processes



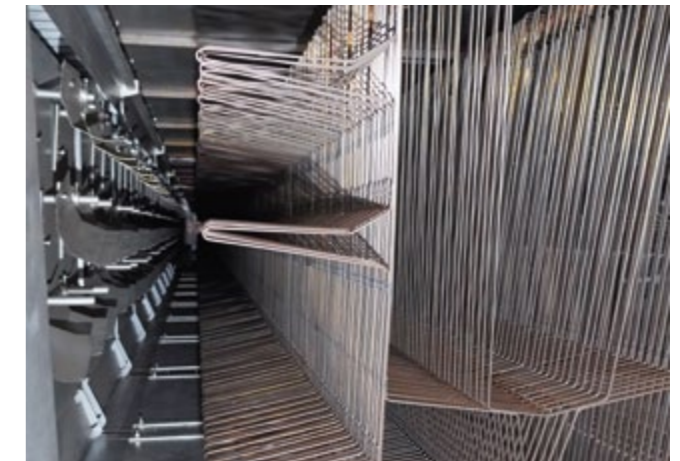
Air-to-water heat exchangers Waste heat recovery

- **Waste heat transformation:** conversion of unused thermal energy from dryers into valuable cost savings
- **Versatile energy use:** efficient repurposing of energy for building heating, process water, or district heating networks
- **Eco-friendly operations:** increase in facility energy efficiency while lowering both energy costs and CO₂ emissions



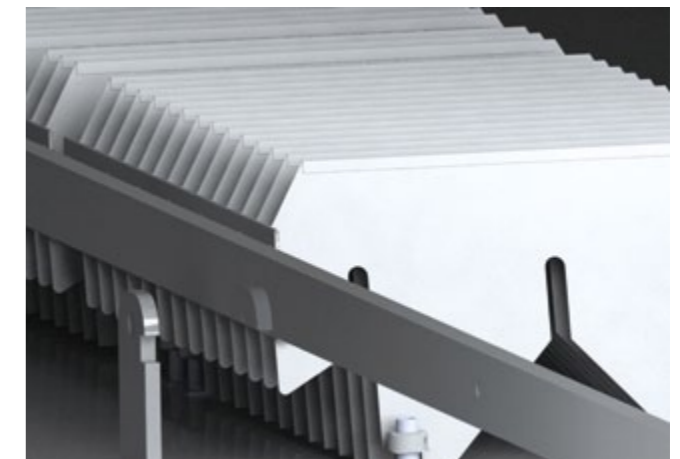
AirFlow Pro Even temperature distribution in the come-up zone

- Engineered for BPA-NI and sensitive coatings requiring minimal temperature variance
- Increased number of special baffle plates for maximum uniformity
- Effective reduction of localised overheating to prevent hot spots and yellowing
- Reduced turbulence and sheet movement for stable processing
- Double-walled design for reduced contamination in the oven



AirFlow Lightweight Optimised airflow for thin metal sheets

- Optimised internal airflow from the bottom in addition to AirFlow Pro
- Significant reduction of air turbulence to prevent sheet movement on the wickets
- Improved process stability
- Reduced spoilage and waste for higher production efficiency



MetalCure Sample Configurations

Single coating line
MetalCoat 484
UV-LED curing



Printing line
MetalStar 4
UV-LED curing



Printing and coating line
MetalStar 4 and
MetalCoat 484
2 x UV curing



Thermal Dryer Sample Configurations

Single coating line
MetalCoat 484
Thermal drying



Tandem coating line
2 x MetalCoat 471
2 x Thermal drying



Air Purification

Thermal drying for coated metal sheets – maximum efficiency with proven HighEcon technology.

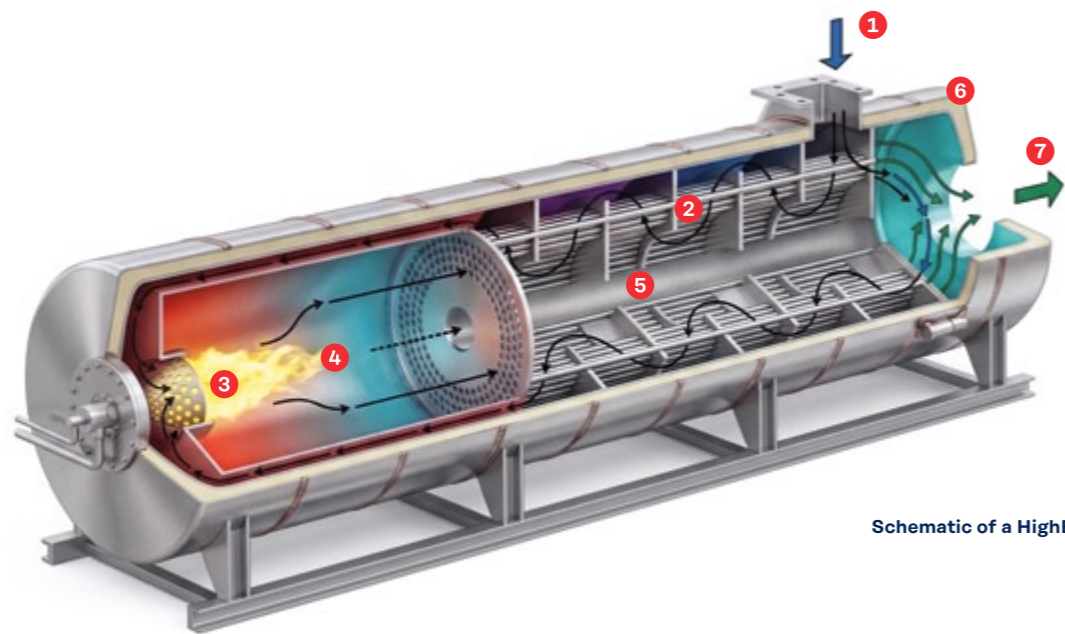
HighEcon air purification with payback

The HighEcon system is by far the most economical air purification system for use on coating lines for metal packaging. Even when compared to installations with no air purification equipment, the system achieves a dramatic reduction in gas consumption under normal production conditions with typical changeover patterns.

This means that in addition to purification of the solvent-laden air, it also contributes to reduced CO₂ emissions and lower operating costs.

HighEcon

The HighEcon air purification and drying oven system is based on a larger main heat exchanger and fresh-air heat exchanger with a maximum heat recovery coefficient over 60 percent, a value that remains fixed. Allowance is made for variations in the production conditions by the automatic exhaust air volume control. The exhaust air volume is adjusted between the minimum and maximum settings automatically and progressively. The HighEcon system is especially suitable for new installations and high-performance coating lines.



Schematic of a HighEcon

- 1 Exhaust air inlet
- 2 Tubular heat exchanger
- 3 KXB-burner
- 4 Combustion chamber
- 5 Internal bypass
- 6 Insulation
- 7 Purified air outlet



Thermal Dryer for Drums and Lids

Koenig & Bauer MetalPrint drum dryers are available in various versions, each specifically tailored to our customers' individual needs.

All drum dryers are based on the established Koenig & Bauer MetalPrint drying technology. Regardless of whether the oven is needed as a multiple-row, as a double-tunnel or as a wicket oven, Koenig & Bauer MetalPrint has the ideal solution.

- **Ovens for spray-coated or lined drums, and intermediate drums or pails respectively, in a 1 to 4-row design**
- **Double tunnel ovens**
for simultaneous curing of drums lined on the inside and coated on the outside
- **Wicket ovens for drum ends**
the most economical integrated air purification for solvent-based applications
- **Energy-saving inline air purification**
with integrated EcoTNV system

Customised heating

Depending on the coating type and capacity, ovens feature one or several heating units for maximum temperature accuracy. Special nozzles inject hot air into the tunnel, creating a circulation volume significantly higher than standard fans. This ensures powerful airflow with lower power consumption, achieving excellent heat transfer and faster warm-up times.

AirFlow Clean further optimises air distribution. The double-walled construction ensures uniform temperatures on tunnel walls and baffle plates. This results in a more homogeneous heat distribution and fewer contaminants. For maintenance, the plates are quickly removable for easy cleaning.

Demand-oriented cooling

Effective cooling is essential for exterior-coated drums to prevent internal vacuums that cause problems at filling stations. Koenig & Bauer MetalPrint offers single- and multi-step cooling zones with high air circulation. Cooling times and capacities are precisely designed to suit local climatic conditions, ensuring safe shipping and filling.



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602-41-en 04/2026
Printed in Germany