KOENIG & BAUER

MetalCoat 483 ▪ MetalCoat 480 – The coating stars

we’re on it.

MetalCoat 483 – The new star of the coating world

As the most modern coating machine on the market, the MetalCoat 483 meets the highest conceivable demands in terms of quality and productivity. With its newly developed three-roller coating application system, the MetalCoat 483 rises to every challenge. Both problematic coatings and demanding substrate qualities are handled reliably and at high speeds.

High-end – also for coating!
Dedicated drives, touchpanels with memory function, laser-assisted machine makeready: These and other cutting-edge technologies are now also available for the coating of metal sheets. The MetalCoat 483 makes no compromises when it comes to the implementation of modern technologies – it is the fastest, most modern and most productive coating machine in the world.

The MetalCoat 483 is available as free-standing coating machine with fully automatic sheet feeder for internal and exterior coating applications or as inline coater for clear varnish after printing.

An intermediate feeder can be supplied between Koenig & Bauer MetalPrint printing presses and inline coaters for further production flexibility.

It is compatible with conventional solvent and water-based lacquers (on request) as well as UV materials.

The MetalCoat 483 can be supplied with VacuMatic front register infeed table for high precision cross or longitudinal stenciling and spot coating or with a belt infeed table for solid coating.

Technical benefits

- Excellent coating results with individual drive technology and new coating head design
- Rubber lined coating cylinder or optional with photopolymer plate for UV application
- Memory function of machine settings
- Designed for tinplates, TFS as well as aluminium sheets (optional)
- Large sheet format up to 1000 mm x 1200 mm (39.37” x 47.24”)
- Be one step ahead by using ultralight tinplate with thickness down to 0.100 mm (0.00394 inch) (optional)
- High precision cross or longitudinal stenciling and spot coating
- Electronic synchronisation to feeder 780 and other line components

High performance coater type MetalCoat 483

The new MetalCoat 483 is the solution for changing process parameters of lacquers in metal decorating and combines the advantages of the individual drive technology and high automatisation degree of the MetalCoat 480 with the coating head design of the MetalCoat 470.

- Designed for high speed and large sheet format
- Suitable for tinplates, TFS as well as aluminium sheets (optional)
- Individual drive technology and new coating head design for excellent coating results
- New design and arrangement of lacquer carrying parts for faster washing
- Roller setting for washing pneumatically activated
- Pneumatic coupling for fast coating cylinder change
- Motorised coating cylinder setting
- Motorised setting of metering roller and forme roller
- Laser-assisted rapid zero setting of the coating cylinder
- Control of coating cylinder clutch position to avoid damages
- Coater is available with belt infeed table and front-lays for solid coating or with VacuMatic front register infeed table and gripper drum for high precision cross or longitudinal stenciling and spot coating
- Pneumatically controlled scraper blade system for impression cylinder
- Extraction of solvent loaded air integrated in the coater as part of the ECO or HighEcon TNV concept of our thermal ovens
- Quick tool-free format change by hand-wheel and digital readouts
- Fast roll-out for coating cylinder change
- Delivery with round belts for fast and tool-free format change
- Robust design with low maintenance
- Electronic synchronisation between coater, feeder 780 and other line components

Optional features

Further available options

- Vacuum system for gripper drum to operate with aluminum sheets
- Automatic sheet size setting instead of quick manual format change by digital readouts
- Flexo Scraping System instead of standard system for fast scraper blade change, short run-in time and long blade lifetime
- Solvent scraper system as secondary scraper device for more flexible production
- Coating cylinder for UV application with photopolymer plate
- Lacquer heater
- Quick Change Kit for fast lacquer changes and final cleaning of lacquer carrying parts outside of the machine
- Set of parts to use ultralight tinplate with thickness down to 0.100 mm (0.00394 inch)

Quality control devices

- Inline viscosity measuring device
- Inline wet film weight measuring device
- Inline sheet position control device – misregistered sheets will be removed manually in the cooling zone of the wicket oven

MetalCoat 480 – The perfect solution for UV inline coating

The MetalCoat 480 is ideally suited for the application of protective coatings within a UV printing line. As the most modern machine on the market for inline coating, it incorporates a whole host of cutting-edge technologies, including specialised coating application systems. The MetalCoat 480 rises to every challenge – irrespective of whether that means problematic coatings, demanding substrate qualities or increased speeds to match the overall line.

Inline coater type 480 in a 6-colour MetalStar printing line

High speed – also for coating!
High productivity need not end at the delivery of the printing press. Through electrical synchronisation of the overall line and a consistent focus on maximised speed, the MetalCoat 480 is able to keep pace with the high production outputs of modern presses like the MetalStar 3 and Mailänder 280. Inline coating is no longer a bottleneck!

The MetalCoat 480 can be supplied with VacuMatic front register infeed table for high precision cross or longitudinal stenciling and spot coating or with a belt infeed table for solid coating.

Technical benefits

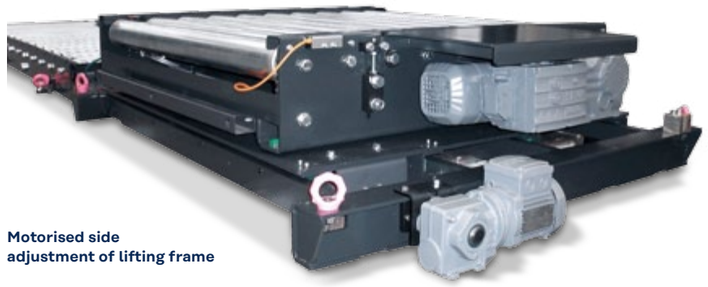
- Individual drive technology for optimised machine settings
- Rubber lined coating cylinder or optional with photopolymer plate for UV application
- Memory function of machine settings for reduced make-ready times
- Designed for tinplates, TFS as well as aluminium sheets (optional)
- Large sheet format up to 1000 mm x 1200 mm (39.37” x 47.24”)
- Be one step ahead by using ultralight tinplate with thickness down to 0.100 mm (0.00394 inch) (optional)
- High precision cross or longitudinal stenciling and spot coating
- Electronic synchronisation to other line components

High performance single sheet feeder 780

- Designed for high speed and large sheet format
- Suitable for tinplates, TFS as well as aluminium sheets (optional)
- Remote feeding start from main control panel
- Clearly arranged operating console
- Fast lifting and lowering of pile frame
- Permanent control of pile height during sheet feeding
- Lifting frame stops automatically after last sheet has been removed, avoiding feeding any non-metal material
- Self teaching double sheet ejection system
- Permanent magnets and blowing nozzles to separate sheets
- Reduced noise level by new developed blowing nozzles
- Free adjustable magnets at side guides for sheet separation
- Format setting and pile centering by handwheel
- Adjustable sheet arrival while machine is operating for optimised sheet conveying to the infeed-table
- Oil-free compressor and vacuum pump for low maintenance

Optional features

Stop & Turn with laser assisted pile centering



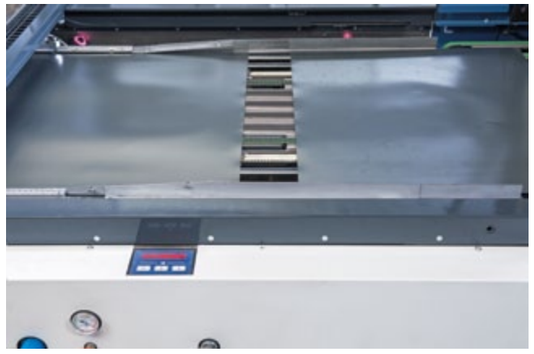
Motorised side adjustment of lifting frame

Further available options

- Automated pallet changer for reducing the pile change time to 20 – 30 seconds
- Motorised roller conveyor sections
- Pallet side feeding and unloading system
- Customised conveyor solutions for flexible pallet logistics
- Stop & Turn device with turn table for faster pile alignment and less damages
- Laser assisted pile centering
- Motorised side adjustment of lifting frame instead of manual adjustment
- Special sheet guiding systems for scroll sheets
- Overhead magnet bars with rollers for scroll sheets
- Air blowing nozzles at side guides to separate aluminum sheets
- Continuous pile lifting during production
- Anti-flecking system for flame treatment of the sheets
- Sheet straightening device

High performance coating

Highly accurate spot coating



- Gripper drum with magnets and vacuum system (optional) ensures perfect registration of the sheets
- VacuMatic infeed table for perfect register

Precise film weights, low lacquer consumption

Coating head 483
- New designed three-roller coating head – practice-oriented solution for dynamic process parameters of coatings

Coating head 480
- Two-roller coating head specially suitable for inline overvarnish or
- FlexoCoat coating head with Anilox roller specially suitable for UV varnish

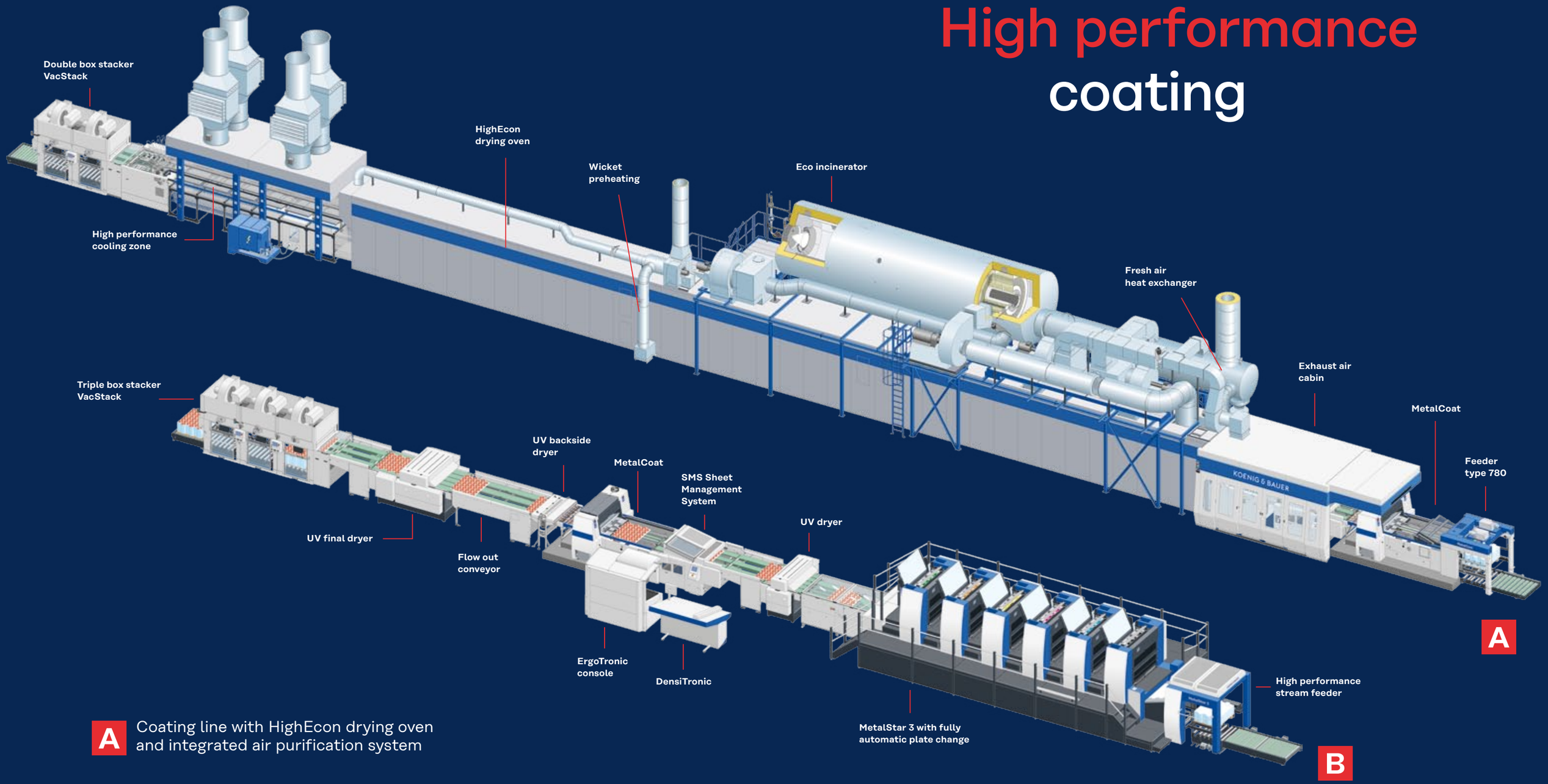
Coating head MetalCoat 483

Individual roller drive technology

for metering and forme roller, coating cylinder and counter pressure cylinder.

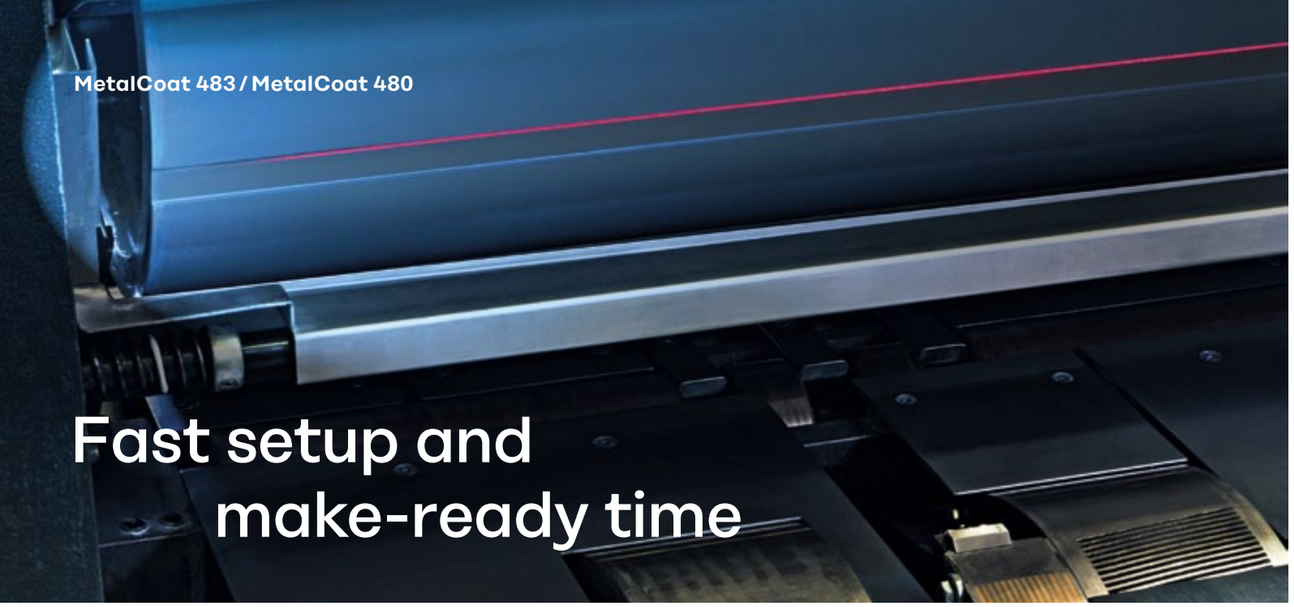
Your benefits
- Uniform coating application achieves optimum quality for your products and reduces lacquer consumption
- Easy repeatability and fast setup through storage of the machine-related settings in the PLC

High performance coating



A Coating line with HighEcon drying oven and integrated air purification system

B 6-colour MetalStar 3 printing line with inline coater MetalCoat, UV drying system and triple box stacking unit

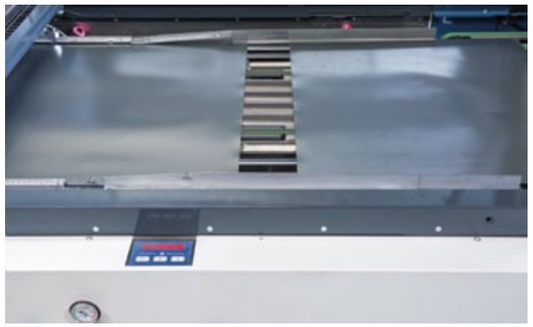


Fast setup and make-ready time

Fast coating cylinder change in upright position
- Pneumatic clutch for coating cylinder change within only 2 minutes
- Fast rollout on rails
- Coating cylinder lifting device integrated in the oven exhaust air cabin

Laser-assisted rapid zero setting of the coating cylinder
- Fast set-up of high precision cross coating jobs

Fast format setting
- Fast manual format setting with digital readouts
  or
- Automatic format setting from the control panel (optional)



Flexo Scraping System
- Fast scraper blade change within 2 minutes
- Short run-in time (approx. 1 minute)
- Uniformly distributed force across the width
- No need for a secondary scraper with solvent
- Best scraping performance
- Longer blade lifetime
- Minimises washing time by special shape of the coating pan

New design and arrangement of lacquer carrying parts and Quick Change Kit (MetalCoat 483)
- Faster lacquer changes
- Final cleaning of lacquer carrying parts outside the machine

Drip tray (MetalCoat 483)
- Support device with drip tray located on the infeed table
- Easy cleaning of the third roller

Touch & Control operation
Modern HMI control using touch panel, for intuitive operation and user guidance.

- Precise motorised cylinder adjustment and electronic film weight setting
- All machine settings can be stored for repeated jobs, means repeatable quality, usability and reduced set-up times
- Comfortable machine operation from one side
- Electrical synchronisation between feeder, coater and other line components
- Easy repeatability through storage of the machine-related settings in the PLC

Further available optional features

Use of photopolymer plates

The MetalCoat 483 is designed for application of solvent based, water based or UV lacquers. Traditional rubber lined cylinders or photopolymer plates for the coating cylinders can be used for UV varnish.

Sheet thickness reduction down to 0.100 mm (0.00394 inch)

Savings in material costs and further improvement of sustainability in can production will be achieved through the use of ultra-light tinplate of 0.100 mm. The MetalCoat 483, MetalCoat 480 and other Koenig & Bauer MetalPrint equipment like our drying oven, sheet handling devices and printing presses have been further developed for production with 0.100 mm sheet material.

Solvent extraction

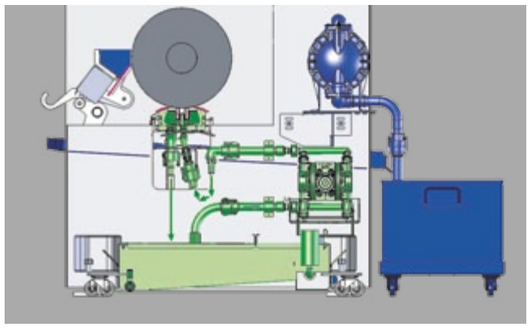
HighEcon exhaust air cabin

Exhaust air extraction system for MetalCoat 483/480

- Integrated solvent extraction system for high efficient exhaust ventilation and minimisation of the exhaust air with low solvent concentration
- Part of the heat recovery system of Koenig & Bauer MetalPrint Eco incineration systems

Solvent scraping device

- Secondary scraper device for more flexible production
- Simple operation and adjustment since the solvent blade is thrown on pneumatically



Scraper blade grinding device

- Grinding unit
- Dressing unit
- Pneumatic sledge

Coating line solutions with continuous drying ovens

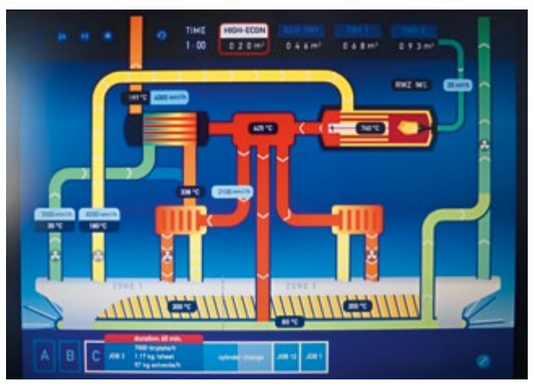
Koenig & Bauer MetalPrint coating lines with thermal drying ovens ensure high production output combined with excellent quality and cost-effective operations.

Low spoilage rates, less stoppages, higher productivity

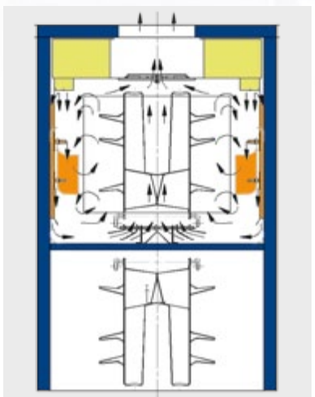
- Smooth sheet transport through the complete line
- Special conveyor and air distribution control device in the thermal oven designed for operation with lightweight sheets
- Vacuum dynamic sheet speed control devices for loader and unloader of the thermal oven for damage-free sheet transport, higher line efficiency and reduced spoilage

HighEcon drying oven

Koenig & Bauer MetalPrint has developed a new generation of drying ovens which guarantees even greater energy savings and efficiency. Key features of the new HighEcon drying oven concept are the automatically controlled exhaust air volume, a reduction of up to 70 % in gas consumption compared to an oven without air purification, modified air flows within the oven, and the use of frequency controllers for all fans. Together, these features enable the handling of extremely thin metal sheets down to a thickness of just 0.100 mm.



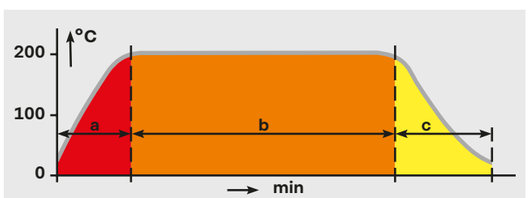
HighEcon flow diagram



Air circulation within the oven

Optimised air circulation and temperature control

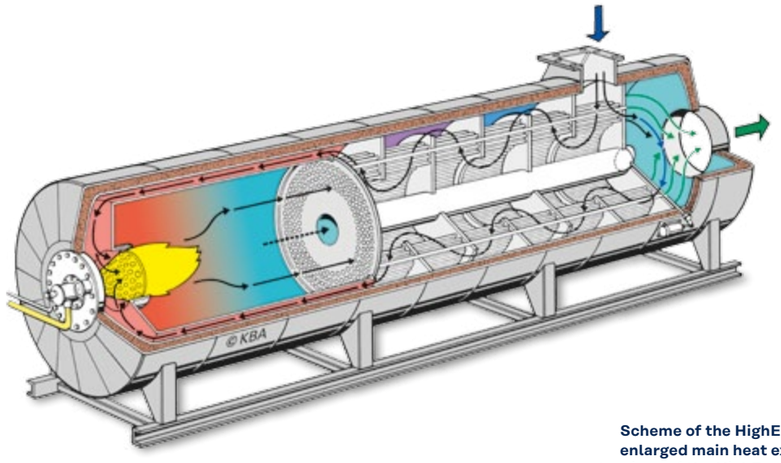
Perfect temperature curves are achieved by a special injection nozzle system.
Once the drying temperature is reached, the metal sheets are consistently baked at temperatures within +/-1,5 %.



Metal temperature curve

HighEcon / EcoTNV – Air purification with payback

The HighEcon and EcoTNV systems are by far the most economical air purification systems for use on coating lines for metal packaging. Even when compared to installations with no air pollution control equipment, both systems achieve 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, they also contribute to reduced CO^2 emissions and lower operating costs.

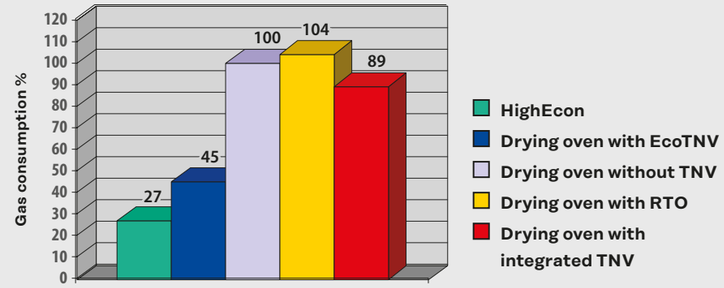


Scheme of the HighEcon TNV with enlarged main heat exchanger, the centerpiece of the HighEcon drying oven

HighEcon TNV
The HighEcon air purification and drying oven system is based on an enlarged fresh-air heat exchanger and a main heat exchanger with maximum heat recovery coefficient of 60 % which remains fixed. Variations in the production conditions are taken into account by way of the automatic exhaust air volume control. The exhaust air volume is adjusted automatically and steplessly between its minimum and maximum settings. The HighEcon system is especially suitable for new installations and high performance coating lines.

EcoTNV
The EcoTNV system possesses a flexible, high-performance heat exchanger. The heat recovery coefficient of the heat exchanger is set automatically to the maximum attainable value for the current production conditions. The exhaust air volume remains constant. The EcoTNV system is especially suitable as a retrofit package for existing lines or for new decorating/coating or coating lines for lower outputs.

Comparison gas consumption
- 6 000 operating hours/year
- 20 % set-up time
- 80 % production
- TNV 10 000 Nm³/h
- Speed 7 000 sheets/h
- Average solvent load 60 kg/h
- Fresh air heat exchanger
- Average sheet weight 1.2 kg

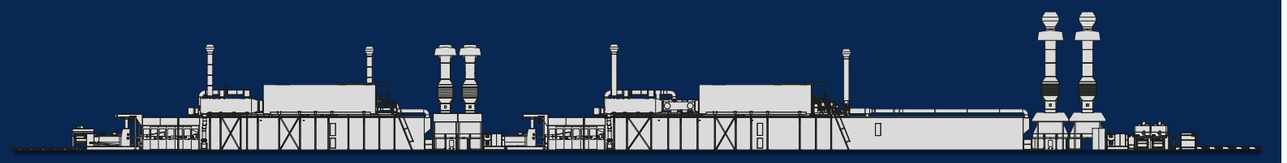


Gas savings HighEcon / EcoTNV

Optimised solution for your product

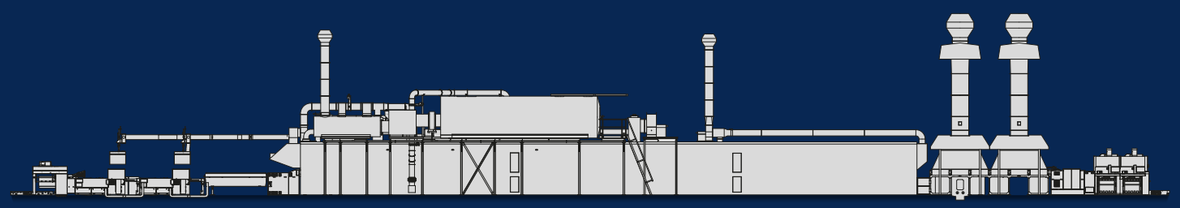
Tandem coating line

Your benefits
- Save time – external and internal coating in one pass
- Save energy with HighEcon technology
- Save money – lower investment and operation costs
- Great flexibility – thanks to single-mode operation



Double coating line

Your benefits
- Save time – two internal coatings in one pass
- Save energy with HighEcon technology
- Save money – lower investment and operation costs



MetalCoat 483 ▪ MetalCoat 480: Technical data

Sheet format				
Maximum	1000 x 1200	mm	39.37 x 47.24	inch
Minimum	510 x 710	mm	20.08 x 27.95	inch
Thickness	0.12 – 0.50 (0.100 mm on request)	mm	0.0047 – 0.0197 (0.00394" on request)	inch

Cylinder diameter				
Spot coating	Ø 328.7	mm	Ø 12.94	inch
Plain coating	Ø 324 – 339 mm	mm	Ø 12.76 – 13.35	inch

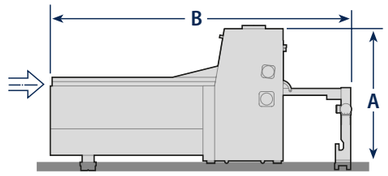
Production speed [1]				
Maximum mechanical speed	up to 8000	sheets/h	up to 133	spm
Maximum mechanical speed as inline version	up to 9000	sheets/h	up to 150	spm

Feeder pile				
Maximum weight	3500	kg	7716.18	lbs

Connected load (depending on accessories)				
without feeder	20 – 30	kW		
with feeder	33 – 43	kW		

Compressed air				
6 bar/80 psi	4	m³/h		

Dimensions	**MetalCoat 483 / 480**
Height of machine (A)	1675 mm 65.94"
Width of machine	3020 mm 118.90"
Length of machine (B) [2]	3750 mm 147.64"



[1] Dependent on individual processing parameters, e.g. the lacquer and substrates used.
[2] The additional length of the corresponding feeder is approx. 2475 mm.

The illustrations and descriptions may depict or refer in part to special versions and options.
Subject to technical and design modifications. Country-specific variants may apply.
More detailed information can be obtained from your local Koenig & Bauer representative.

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