

KOENIG & BAUER

MetalStar 3 – Peak performance class in metal decorating



we're on it.

MetalStar 3 – Peak performance class in metal decorating

Extended automation, high technical
availability and robust engineering
“Made in Germany”



For decades, the MetalStar series has been the benchmark for automation and production speed in metal decorating. With an output of up to 9,000 sheets per hour, the MetalStar 3 is the fastest metal decorating press on the market.

Features such as automatic plate changing, washing systems and the many other automation modules all serve one purpose: The shortest possible makeready times and thus maximum productivity.

Place your trust in the most successful press in the field of metal decorating – the MetalStar 3.



Experience the features of the MetalStar 3 and get highest performance

The MetalStar 3 offers a range of application-oriented automation modules matched to your company's job structure, and thus establishes optimum prerequisites for the highest performance and a maximum production output. Depending on the chosen level of automation of the MetalStar 3, numerous make-ready processes can be performed simultaneously – simple and effective.

The MetalStar 3 already incorporates the following equipment in its basic version

- DriveTronic high-performance feeder, specially designed to handle scroll and rectangular sheets
- Further improved high-precision KunziMatic registration system
- Semi-automatic plate changers
- New ErgoTronic console with touchscreen functionality
- Lateral, circumferential and diagonal register controlled from the console
- Unused inking units can be disengaged
- Internet-based remote diagnosis and maintenance
- Plasma-coated blanket and impression cylinders specifically for metal decorating
- Fully automatic format setting

- Automatic roller washing
- Two-stage impression switching (plate/blanket – blanket/impression cylinder)
- The MetalStar 3 is prepared for 0.100 mm technology

Designed for high production speeds

- Specially designed guide elements for scratch-free sheet transport
- Unit substructures cast in one piece for minimum vibration
- Sheet travel sensors in each printing unit
- Precision cylinder bearings, preloaded for play-free running
- Specially developed gripper system to avoid the risk of damage to the sheets



DriveTronic feeder: Perfect harmony in function and performance

- Stepless, continuous pile lift ensures a constant height for sheet feeding
- Automatic feeder head height compensation
- Double-sheet detectors both on the feeder and at the infeed
- Suction-belt feed table with multi-chamber vacuum system
- Special sheet separating facility on the suction-belt feed table
- Simple adaptation for scroll or rectangular sheets

High-precision KunziMatic registration system

- Precise sheet alignment thanks to the modified KunziMatic registration system
- Vacuum side lay registration
- Gentle feeding of the sheets to the first impression cylinder by infeed drum



DriveTronic SIS – Simply ingenious

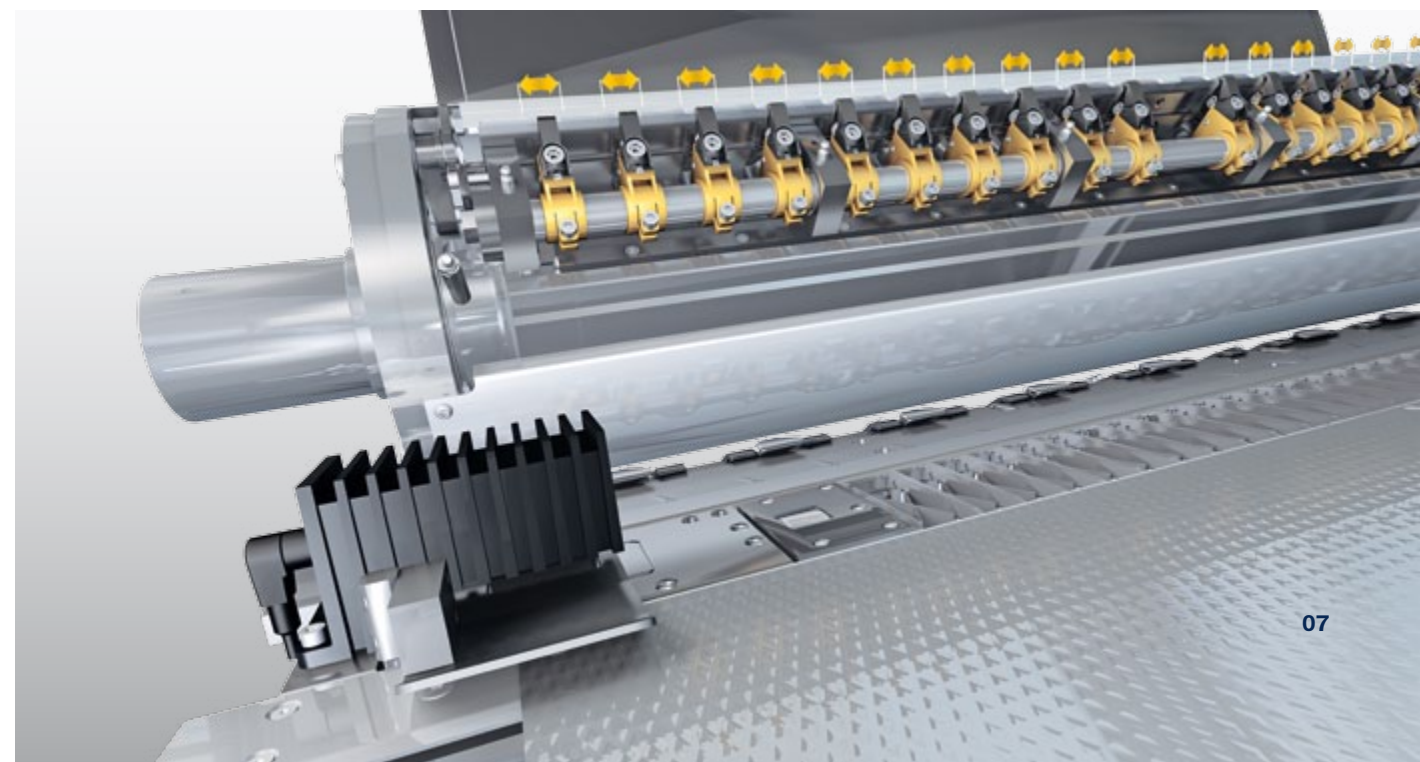
The first sidelay-free infeed in metal decorating

DriveTronic SIS is yet another unique feature of metal decorating presses from Koenig & Bauer MetalPrint as an alternative to the conventional side lay solution. The sheets are no longer aligned laterally while on the feed table; instead, a sensor measures the exact position of the sheet edge as it lies in the infeed. The gripper bar of the infeed drum then shifts to the left or right by the calculated "pulling distance" during sheet transfer from the front lays to the first printing unit. As a result, the sheet is allowed double the usual time for alignment at the front lays compared to a conventional vacuum side lay. DriveTronic SIS requires no operator intervention and guarantees ultimate alignment accuracy.



DriveTronic SIS (Sensoric Infeed System)

- Patented Koenig & Bauer system for a sidelay-free sheet infeed
- Electronically controlled lateral alignment
- Gentle sheet positioning with ultimate alignment accuracy
- No settings required
- No pulling errors
- Faster make-ready



Printing units – The key to high quality

Fundamental to the printing units of the MetalStar presses is a substructure frame cast in a single piece for maximum torsional rigidity. The double-size impression cylinders and transfer systems run in multiple-row antifriction roller bearings, whose absolutely play-free setting provides for ultimate quiet running and precision.

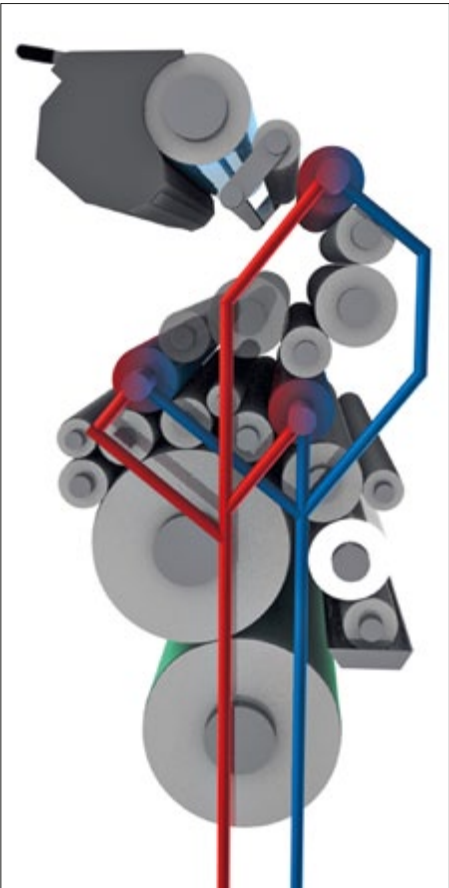
The high repeat accuracy of the MetalStar ink ducts can be attributed firstly to the bleed-free ink metering, but at the same time also to the overall inking unit design, which allows optimum dissipation of the heat from the rollers. A further effect is fast attainment of an ink-water balance, which then remains stable even over longer runs. Waste is reduced accordingly.

- Drive concept**
- Continuous gear train free of sources of vibration
 - Play-free cylinder bearings for quiet running and precision

- Ink duct**
- Flexurally rigid, ceramic-coated ink duct roller with large diameter
 - Ink keys with carbide tips
 - Ink duct roller speed follows the press speeds
 - Exact reproducibility, wear-free
 - EasyClean ink duct plates for fast ink changes

- Inking unit**
- High repeat accuracy and production stability
 - Excellent printing of solids
 - Remote adjustment of oscillation timing and vibrator frequency
 - Ink train separation
 - Disengaging of unused inking units
 - Ink-run up programs
 - Very fast ink-water balance

- Dampening unit**
- Differential drive to eliminate hickeys
 - Dampening forme rollers can be switched during production



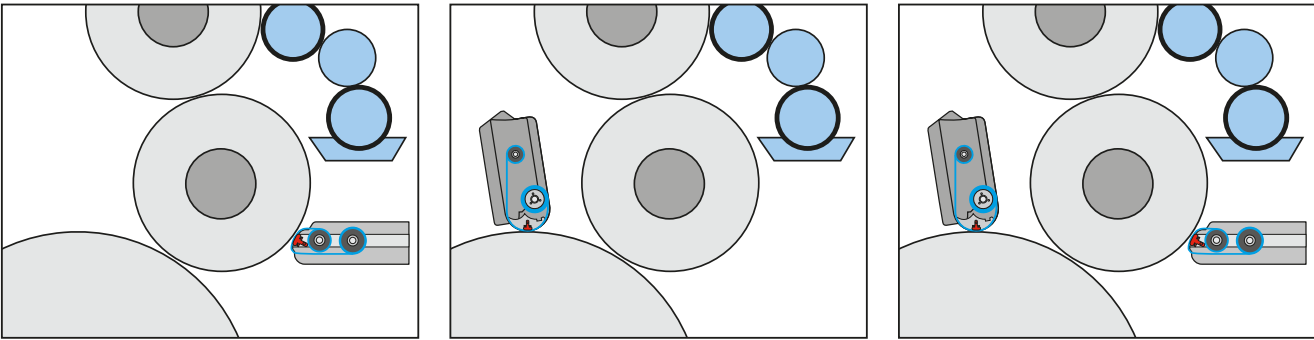
Inking unit temperature control



Modern multi-roller inking unit

CleanTronic washing systems for outstanding results

The time spent on washing is a significant factor for press availability. With this in mind, the CleanTronic washing systems have been developed specifically for maximum environment-friendly efficiency. Here, too, a focus is placed on simultaneous processes. That shortens job changeover times and increases productivity.



CleanTronic

– One fixed washing beam

CleanTronic

– One swing-action washing beam

CleanTronic Synchro

– Two independent washing beams



CleanTronic washing beams

- Blanket washing with the fixed beam of the standard CleanTronic system (feeder side)
- Blanket or impression cylinder washing with the swing-action beam of the optional CleanTronic system (delivery side)
- Simultaneous blanket and impression cylinder washing with CleanTronic Synchro (feeder and delivery side)
- Blanket washing from both sides with CleanTronic Synchro
- Washing time reduced by up to 50 %
- Washing programs can be defined and selected via the ErgoTronic console
- Washing cloth can be replaced during production

Optional features

CleanTronic SRW* (Simultaneous Roller Wash)

Separate drive enables separate washing of the ink rollers, also during parallel blanket or impression cylinder washing.

CleanTronic UV

- Permits blanket washing with the UV lamps in standby mode
- Eliminates waiting times before and after washing
- More efficient make-ready
- Increased service life of UV lamps



Separate inking unit drive



Plate change with DriveTronic SPC You cannot get faster than that

Plate changing on the MetalStar can be automated to suit the user's individual requirements. You simply choose the solution which best matches your job structure – SAPC, FAPC or DriveTronic SPC. One thing is common to all three variants: Their reliable and intuitive handling.

Simultaneous plate changing with DriveTronic SPC even runs parallel to washing processes and thus no longer influences overall make-ready time.

SAPC (Semi-Automatic Plate Change)

- Automated plate change
- Pneumatic opening and closing of the plate cylinder guard
- Automatic rotation to the change positions
- Automatic clamping and tensioning of the plate
- Change time: less than 2 minutes per printing unit

FAPC (Fully Automatic Plate Change)

- Fully automatic plate change
- Change process includes register zeroing
- Plate change completed in 3 cycles
- Parallel changing in several units
- Divided rear plate clamps
- Change time: 3 minutes for all printing units

DriveTronic SPC (Simultaneous Plate Change)

- Fully automatic plate change, simultaneously in all printing units
- Plate cylinder direct drive with dedicated high-torque motors
- Plate change parallel to other make-ready processes
- No waiting time for register zeroing
- Change time: 1:50 minutes (all printing units), but effectively zero as parallel to washing



AC servo drives

DriveTronic Plate Ident*

- Optical plate detection during the change process (greater process reliability)
- Register correction already before the first print (make-ready and waste savings)
- Plausibility checks by way of data matrix code (job/plates, plates/printing units, units/color separations)
- Automatic loading of presetting data controlled by data matrix code

*Optional, only available in combination with DriveTronic SPC

Components for faster make-ready

CleanTronic Synchro

- Automatic parallel washing of blankets and impression cylinders
- Two independent washing beams
- Cloth-based washing system

Your benefits

- Considerably reduced washing times through parallel processes
- Low solvent consumption = cost savings
- Significant reduction in VOC emissions

**DriveTronic SRW
(Simultaneous Roller Wash)**

- Separate inking unit drive
- Possibility for simultaneous washing of blankets, impression cylinders and ink rollers
- Especially interesting for customers with frequent ink changes

Your benefits

- Substantial make-ready savings through parallel washing processes
- Faster ink changes
- Correspondingly higher productivity

FAPC

(Fully Automatic Plate Change)

- Fully automatic, unattended plate change completed in three cycles
- Parallel changing in several printing units
- Time-optimised process enables all plates to be changed in 3:00 minutes

Your benefits

- Faster make-ready
- Operator is free to attend to other make-ready tasks
- High process stability

**DriveTronic SPC
(Simultaneous Plate Change)**

- Simultaneous, fully automatic plate change in all printing units, parallel to other make-ready processes
- Plate cylinder direct drive: dedicated motors for each plate cylinder
- Especially interesting for customers with very short to medium runs and thus frequent job changes
- All plates changed in 1:50 minutes

Your benefits

- Faster make-ready through plate change parallel to other processes
- Significantly higher productivity

■ **More jobs**

■ **More turnover**

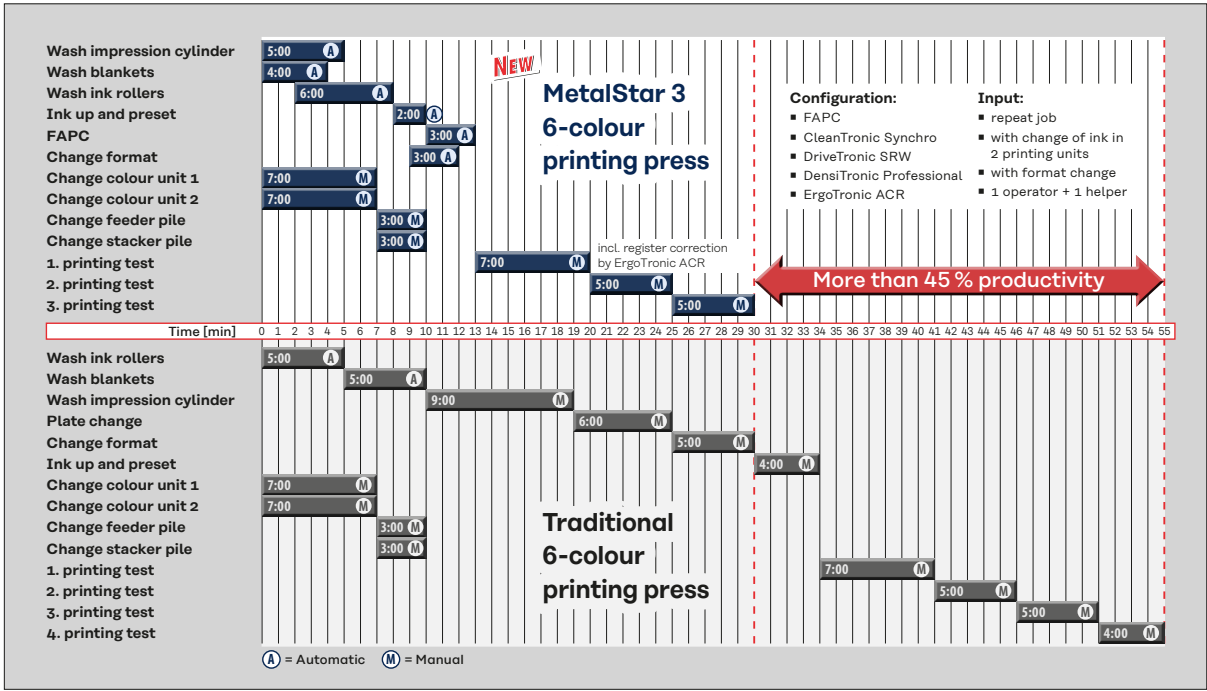
■ **More profit**

Example

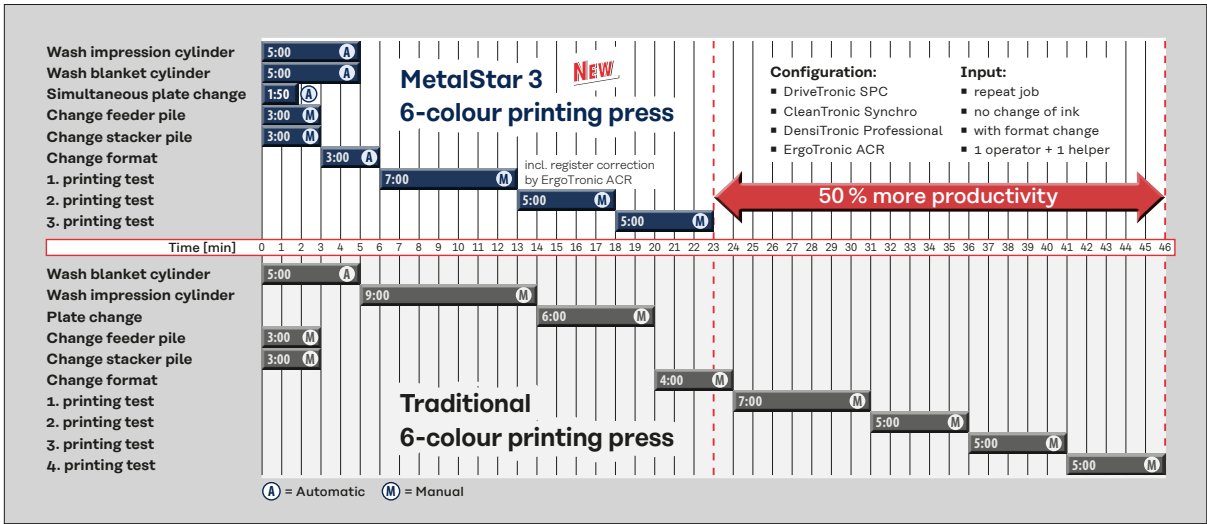
Average reduction in make-ready time per printing job	20 min.
6 job changes/day = Time saving	2 h
Based on 250 working days = Increased productivity	500 h/year

Make-ready comparison

Simultaneous make-ready processes – Highest automation with FAPC, DriveTronic SRW and CleanTronic Synchro

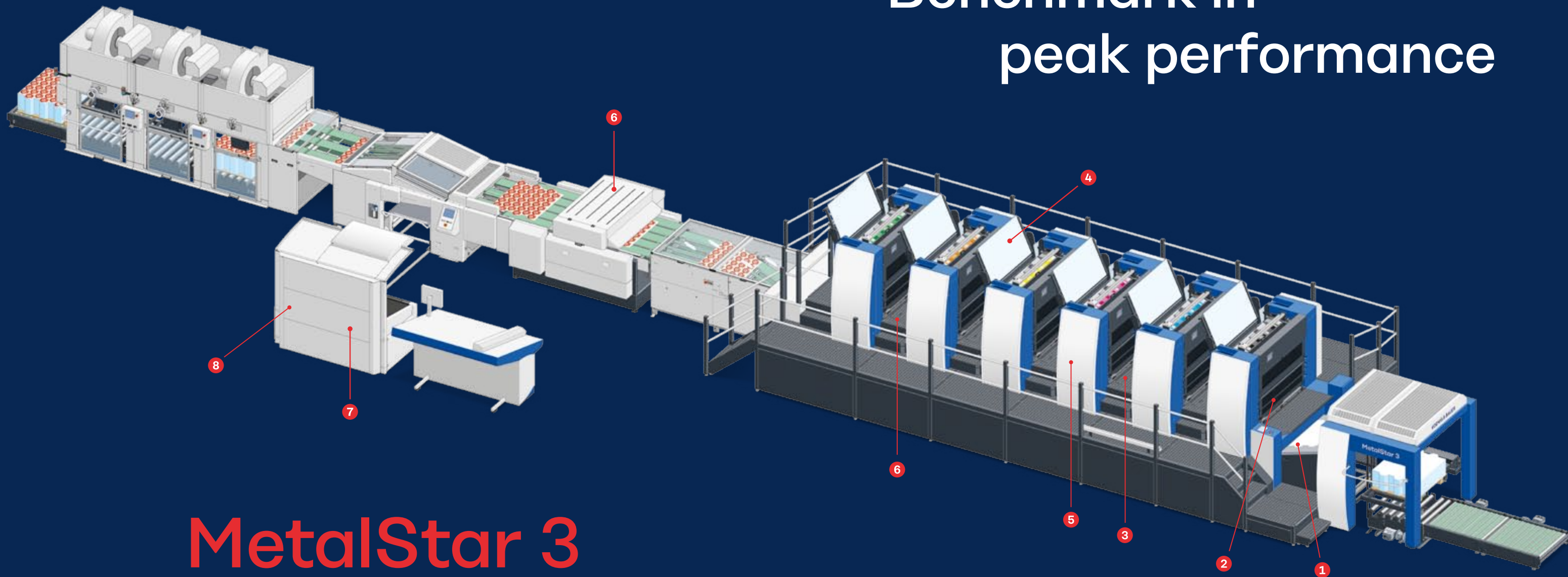


Simultaneous make-ready processes – Highest automation with DriveTronic SPC and CleanTronic Synchro



Values given in the diagrams are usage-based averages that may vary depending on press features, process settings, operating conditions, quality specifications and consumables used.

Benchmark in peak performance



MetalStar 3

8 ErgoTronic console

Windows®-based ErgoTronic console with wallscreen, ErgoTronic ACR and CIP3 interface. Easy to use user interface via touchscreen.

7 LogoTronic Professional

CIP4 JDF-capable production planning- and control software to interact with MIS and prepress. Integrated CIPLinkX interface.

6 MetalCure UV drying systems

UV interdeck and UV final dryer systems by Koenig & Bauer MetalPrint. Full dryer control via ErgoTronic console and integrated sensor for the measurement of the UV output.

5 RBC Rapid Blanket Change

Significantly faster blanket changes with the automated RBC Rapid Blanket Change system. Blanket change is done within 2 minutes and requires only 1 operator.

4 FAPC

Fully Automatic Plate Change in 3 cycles parallel in all units. Only 3 minutes change time for all printing units.

3 CleanTronic Synchro

Simultaneous washing of blanket and impression cylinder with 2 separate washing bars.

2 CleanTronic SRW

Substantial make-ready savings through parallel washing of rollers, blankets and impression cylinder.

1 DriveTronic SIS

Patented Koenig & Bauer system for a sidelay-free sheet infeed. Gentle sheet positioning with ultimate alignment accuracy.

Automatic blanket changes – Only from Koenig & Bauer

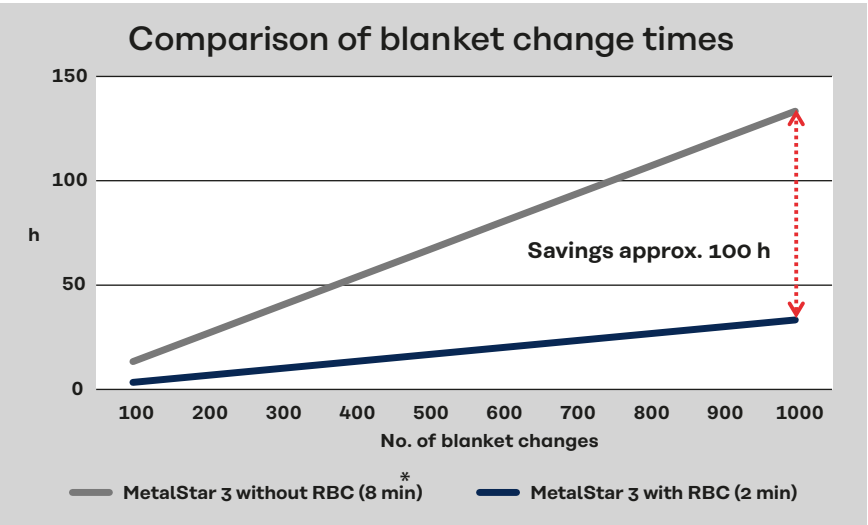
RBC (Rapid Blanket Change) is a new feature which Koenig & Bauer MetalPrint has developed specifically to minimise the time which metal decorating users must spend on blanket changes.

In metal decorating, edge marking often shortens the service life of the printing blankets and necessitates frequent blanket changes. That leads to considerable costs and press downtimes, and in turn to significantly reduced line productivity.

Your benefits

- Significantly faster blanket changes
- Higher productivity
- Constant printing conditions
- Further enhanced print quality

- Change times are reduced by more than half, to approx. 2 minutes per printing unit
- Toolless program-controlled change process
- Even tensioning provides for equal printing conditions in all printing units
- Sensor-monitored changing process
- Easy and convenient to use by one operator



*Change times depends on the operator and can vary in practice

RBC (Rapid Blanket Change)

- Automatic blanket change
- Automatic positioning of the blanket cylinder
- Automatic clamping and tensioning of the blanket

**Change time approx.
2 minutes per printing unit**

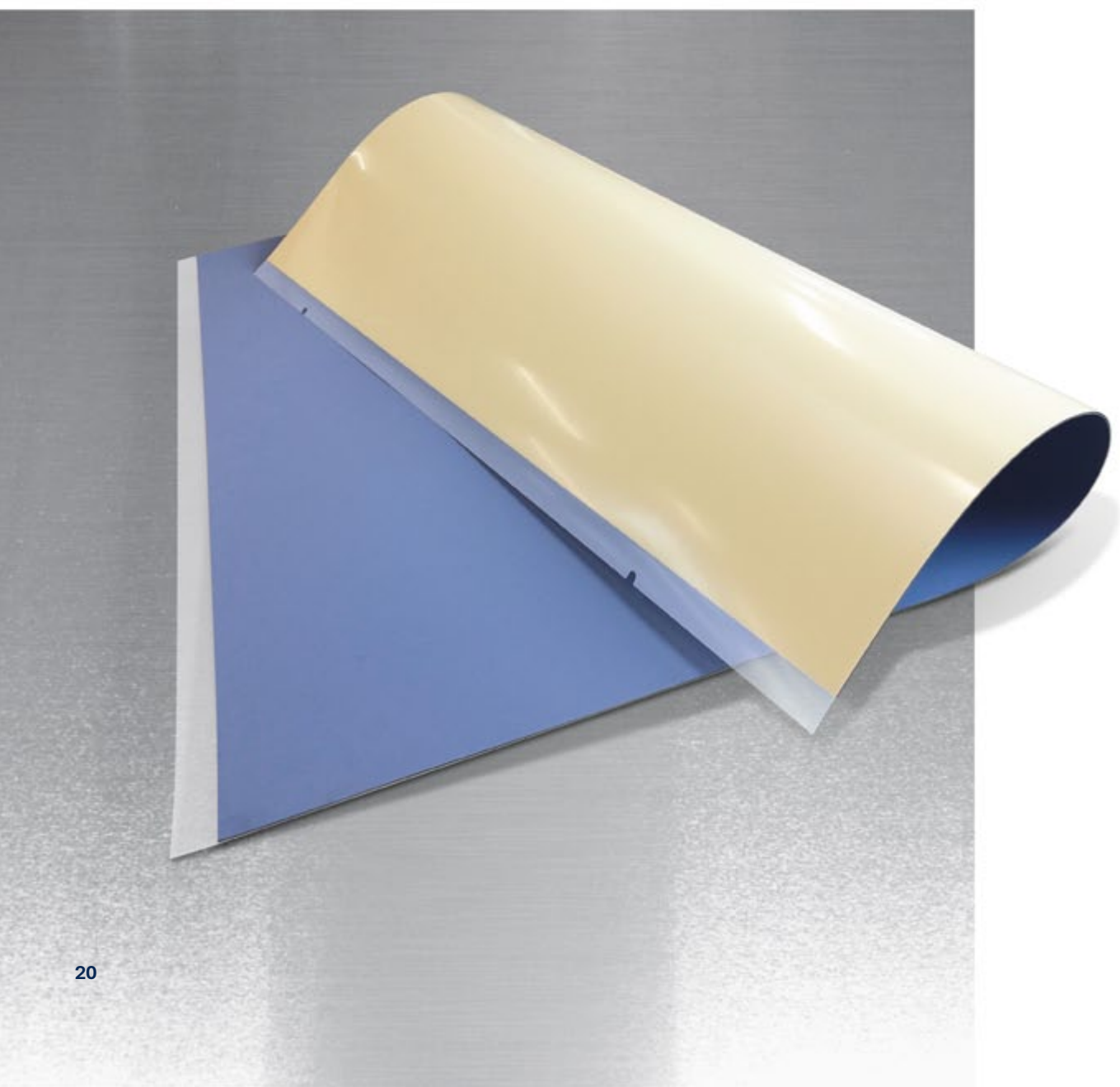
Program-controlled
blanket change
at the touch of a button



MetalPremium RBC UV™

New blanket specifically for metal decorating

In cooperation with a leading blanket manufacturer, Koenig&Bauer MetalPrint has developed a special blanket which not only satisfies all the requirements for fast automatic blanket changes, but also offers specific benefits for the metal decorating process.

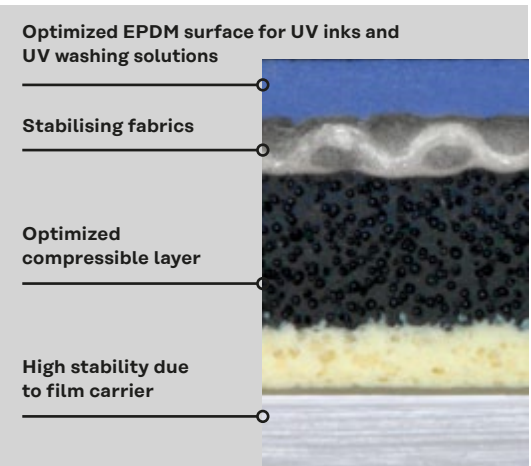


Innovative blanket MetalPremium RBC UV™ based on a film as carrier in the new type of pneumatic blanket clamping and tensioning device

The top layer of the blanket can be stripped to match the print format, so as to avoid ink-build-up on the impression cylinder from the non-image areas (so-called “picture framing”). The blanket clamping and tensioning system eliminates the need for aluminium rails on the blanket. The standard thickness of 2.35 mm means that it is also no longer necessary to insert packing sheets under the blanket.

Your benefits

- No sinking/stretching of the blanket
- No need for re-tensioning of the blanket
- More precisely constant thickness over the whole format
- No packing sheets required
- Blankets can be stripped during make-ready to avoid “picture framing”



Shining finishes: Inline coating tower

Chamber blade system with laser-engraved anilox roller. Remote setting of both the printing pressure and the lateral, circumferential and diagonal register from the ErgoTronic console. The pneumatic coating forme clamping and tensioning is accomplished without tools at the press of a button.

Coater

- High-flow chamber blade system with laser-engraved anilox roller
- Quick-action clamps and register pin system for coating plates
- Anilox rollers in lightweight design for fast and user-friendly exchange
- Crane for exchanging the anilox rollers
- Perfect register
- Available for UV coatings

Automated coating forme change

- Automatic cylinder positioning, plate clamping and tensioning
- Change time approx. 1:40 minutes
- Pressure setting and lateral, circumferential and diagonal register controlled from the ErgoTronic console

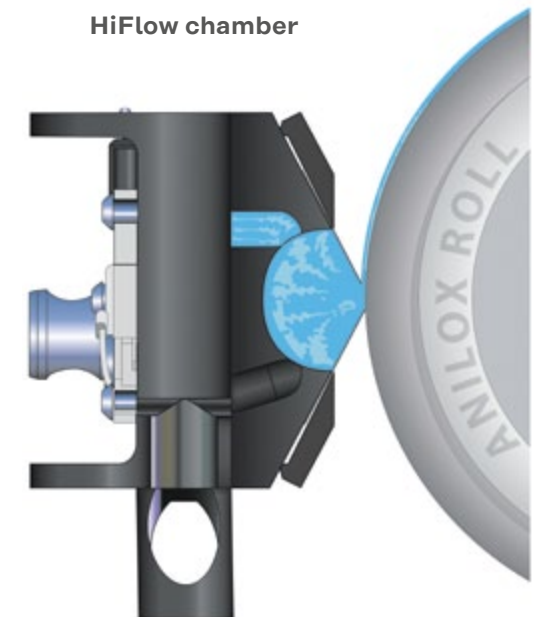
Coating supply (optional)

- Fully automatic system with console integration
- Cleaning can run parallel to other make-ready processes

HiFlow blade chamber

- Chamber volume reduced by approx. 70 %
- Increased coating flow velocity
- Avoids coating starvation problems and reduces foaming
- Constant coating quality thanks to even pressure distribution and linear motion to the roller
- Automatic compensation of blade wear

HiFlow chamber



Profile view

UV interdeck dryer

- Lamp output 160 W/cm (option: 200 W/cm)
- Minimised distance between dryer and substrate
- Each unit is connected to an exhaust air ventilation system
- Inline sensor measures UV output directly in the radiation unit (optional)
- CleanTronic UV to eliminate waiting times before and after washing (optional)



UV final dryer by Koenig & Bauer

Design, Manufacturing, Service from Koenig & Bauer

- Lamp output 160 W/cm (option: 200 W/cm)
- New reflector geometry reduces energy consumption
- Full dryer control via the ErgoTronic console
- Lamp replacement without tools
- Dryers are water and air cooled
- Water cooled shutters for the UV lamps
- Aluminium lamp housing, can be opened up for easy access to sheet conveyor system
- The unit is connected to an exhaust air ventilation system
- Stepless adjustment of the lamp output
- Plug-in system for cooling water and electrical connections

ErgoTronic console technology – Simple operating philosophy

Thanks to comprehensive console and preset capabilities, alongside an ergonomically arranged and intuitive user interface, work on the MetalStar is child’s play. All operating functions are clearly structured for process-oriented access via the modern touchscreen monitor.

Additional touch panels with direct function keys help to maximise operator convenience at the feeder or directly on the press itself.



ErgoTronic

- Wallscreen for visualisation of all press settings
- ColorTronic ink metering with ink profile displays on console
- Fast communication of job data via CIPLinkX or USB port
- Integrated remote maintenance module with Internet link for remote maintenance

New TouchTronic operating functions

- Touchscreen for intuitive access to all press functions
- Less start-up waste thanks to new functions to establish ink profiles
- All operating functions accessible with no more than 2 clicks
- Job list with preview images and functions for job order optimisation based on ink coverage
- Uncomplicated handling of spot colours

Control console functions

- Job changeover program JobAccess for automatic job presetting
- Job-specific saving of all relevant press parameters for repeat jobs
- Remote register setting
- Control for all peripheral equipment
- Unbroken production data acquisition in conjunction with LogoTronic Professional

**Job changeover with
“One-Button Job Change”**

- Preparation of the next job while production is still running
- Make-ready savings up to 50 % with new JobAccess program
- Automatic execution of all preselected make-ready processes in time optimised order
- Presetting of format and substrate thickness
- Job-specific presetting of ColorTronic ink metering
- Preselection and activation of washing functions

Optional features

ErgoTronic console with online measuring systems

- DensiTronic Professional for density and spectral measurements
- ErgoTronic ACR for register correction for automatic register control

**LogoTronic CIPLinkX
Ink profile presetting via CIP3 file**

- CIP3/PPF-interface for transferring of “presetting data” from prepress to the consoles of the linked Koenig & Bauer presses
- Job/Master data management, storage of job data for repeat jobs
- Re-learning function for the transmission curves
- CIP3 preview image on the press console

**LogoTronic Professional
Comprehensive management system for Koenig & Bauer presses (optional)**

- CIP3/CIP4 interface to prepress
- JDF/JMF or XML interface to an MIS
- Order- and processmanagement
- Press presetting
- Master data, including central color database
- Automatic shop floor data collection
- PressWatch for graphic representation of the overall production process
- SpeedWatch for graphic representation of job progress



DensiTronic Professional – colour quality control



DensiTronic Professional
measuring table

DensiTronic Professional is a modern measuring system for the online control of the print quality. It can measure not only colour densities in control strips but also spectral and colorimetric values in the image. The DensiTronic Professional system sensor combines a spectrometer and a densitometer in one measuring head. The colour corrections are calculated automatically and transferred to the printing units.

The DensiTronic Professional saves time in adjusting the printing press and is an efficient tool for quality control.

Quality measurement and control New dimensions of quality

Runs and turnaround times are becoming ever shorter, but the demands placed on print production in terms of quality and economic efficiency continue to grow nevertheless. Against this background, new ideas and approaches to press engineering are absolutely imperative. Online quality management systems are gaining ever greater importance. Koenig & Bauer MetalPrint has implemented all the latest advances and offers future-oriented solutions for print quality control.

ErgoTronic ACR (Automatic Camera Register)

- Special register marks and measuring system with handheld measuring head
- Measurement by way of the printed register marks, processing of the measured values, and calculation of the necessary corrections for lateral, circumferential and diagonal register settings





Koenig & Bauer MetalPrint Service for maximum performance

Safeguard the value of your press!

The Koenig & Bauer MetalPrint Service supports you with a comprehensive range of services to ensure that your machines and systems produce reliable throughout their service life. From one-off press relocations through to regular service calls and even visits with a technician spending several days on site – Koenig & Bauer MetalPrint defines a service program tailored to your specific needs. We maximise the productivity and availability of your equipment.

We would be pleased to define a service package to match your individual requirements. You can reach us by e-mail to: service-metalprint@koenig-bauer.com or by phone on: +49 711 699 71-300.

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Some of our service products at a glance

Original spare parts

- Manufactured to the highest quality standards
- Ensures the reliability of your press
- Safeguard the value of your press

Preventive maintenance

- Optimum press settings and maintenance as a basis for constantly high production quality
- Enhanced productivity thanks to increased press availability
- Qualified technicians and competent advice

Remote Service & Hotline support

- Competent problem solving around the clock by phone and online
- Almost 80 % of all cases can be solved successfully by remote maintenance
- Maximum data security through special hardware encryption
- Interactive assistance via Visual Line Support
- Select Remote service package available with attractive flat rate
- Significant time and productivity gains

Consumables

- We offer a wide range of consumables such as blankets, rollers, UV lamps and chemicals
- All consumables are specifically geared to MetalStar presses
- For optimum results in metal printing

MetalStar 3: Technical data

Standard 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 – 0.40 (0.100 mm on request)	mm	0.0047 – 0.0157 (0.00394" on request)	inch

Print format				
Maximum printing area	995 x 1200	mm	39.17 x 47.24	inch
Gripper margin	3	mm	0.1181	inch
Print start	5 from edge of sheet	mm	0.1969 from edge of sheet	inch

Standard plate and blanket dimensions				
Size of printing plate	1095 x 1220 x 0.40	mm	43.11 x 48.03 x 0.0157	inch
Plate thickness	0.30 – 0.40	mm	0.0118 – 0.0157	inch
Size of pre-bar blanket	1220 x 1275	mm	48.03 x 50.20	inch
Size of blanket MetalPremium RBC UV™	1210 x 1180	mm	47.64 x 46.46	inch

Production speed ¹				
Maximum mechanical speed	10000	sheets/h	167	spm

Feeder pile				
Maximum weight	3500	kg	7716.18	lbs

Electric power supply				
Standard	400 V/50 Hz, 3 phase			

Configurations ²	2-Colour MetalStar 3	3-Colour MetalStar 3	4-Colour MetalStar 3	5-Colour MetalStar 3	6-Colour MetalStar 3	7-Colour MetalStar 3	8-Colour MetalStar 3
Machine length without roller conveyor	10417 mm 410.12"	12060 mm 474.80"	13702 mm 539.45"	15438 mm 607.80"	16987 mm 668.78"	18630 mm 733.46"	20273 mm 798.15"
Total connected load of machine without dryers	99 kVA	116 kVA	132 kVA	150 kVA	166 kVA	183 kVA	199 kVA

¹ Dependent on individual processing parameters, e.g. the inks and substrates used.
² The listed data applies to the basic version of the MetalStar 3.

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.

