Tirelessly innovative in sheet transport.

Content

Our Customers

... come first!

This applies to all our customers, whether they are engineering groups, paper mills, banknote printers or family printers.

For more than 75 years, the MABEG brand has been associated with reliability and robustness in sheet feeders and ReelSheeters.
Through continuous new and further developments we have constantly updated,
improved and expanded - often based on customer requests.
As a result, our product portfolio has grown for our customers, and today MABEG offers, in addition to the traditional products
a wide range of products, from complete sheet handling systems, e.g. for inspection and serialisation tasks
to customised and licensed sheet transport systems for digital presses and ReelSheeters with register cut for paper
with register cutting for paper mills.

We have always concentrated on our core competence - sheet handling and ReelSheeters - and have earned the reputation of
being a reliable customers the reputation of a reliable specialist supplier with unique know-how. It goes without saying that our
competent and fast service is of great advantage for our customers.

We briefly present the range of services for our customer groups on the following pages.

MABEG product groups for mechanical engineering companies at a glance:

- Sheet feeders
    - Custom-made
    - Prototypes
    - Small series

- Sheet stackers

- Sheet transport systems as a basis for your own technologies and applications

- Licensed development

- Suction heads and sidelays for your own machines
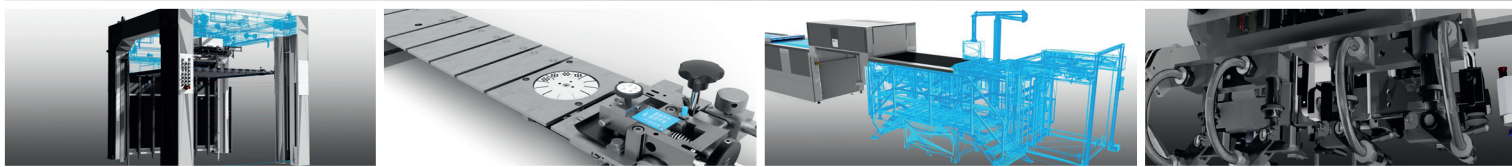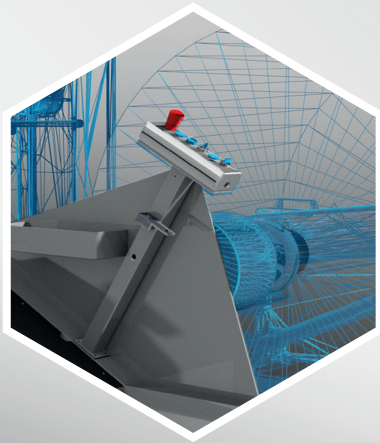
Mechanical engineering companies

Mechanical engineering companies

As a specialist in sheet handling, MABEG offers mechanical engineering companies from various industrial sectors a broad range of options. To give an example, MABEG can relieve the strain on your design department during the development of a complex new sheet feeding concept by designing and engineering the sheet feeder required.

We are also experienced in the development and building of custom lab-scale equipment.
One area of focus here is the supply of bespoke sheet feeders for test or lab-scale machines to mechanical engineering firms from fields such as the digital printing sector.

What is more, we are able to take responsibility for the development and realisation of entire sheet handling concepts on behalf of tech firms - from one-off laboratory machines to small series production.
Subject to negotiation, we are also open to technology transfer as a basis for licensed series production.

We naturally also supply tried and tested MABEG suction heads and sidelays for integration
into your own development projects.
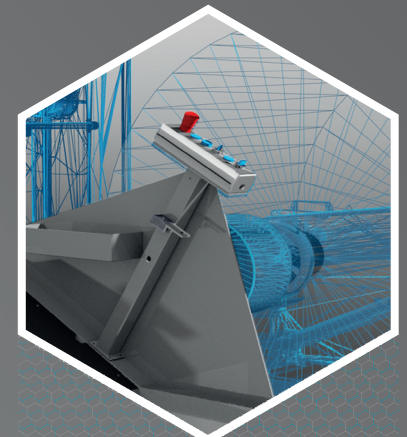
MABEG product groups for print shops and the packaging industry at a glance:

- Sheet feeders
    - As upgrades for existing (special-purpose) machinery

- Sheet transport systems MSP 106 and MSP 54
    - Sheet coding
    - Track-and-trace technologies
    - Ink-jet printing
    - Labelling

- Suction heads and sidelays as components for your own machines
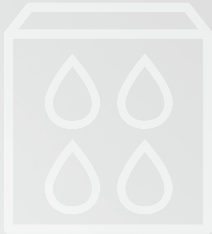
Print shops and the packaging industry

Print shops and the packaging industry

Our MSP 106 and MSP 54 production lines offer print shops and the packaging industry a perfect modular basis for sheet coding and numbering, track-and-trace technologies, ink-jet printing and labelling.

We offer the replacement or retrofitting of MABEG sheet feeders to existing special-purpose machines as a means of improving productivity and reducing costs. Working in close cooperation with you the customer, we develop tailored solutions based around a sheet feeder that matches your needs to the letter.

The MABEG-Service department is always on hand to assist you with any questions you have about maintenance, repairs or spare parts.

MABEG product groups for Banknote and security printers at a glance:

- Sheet feeders
    As upgrades for existing (special-purpose) machinery

- Sheet transport systems MSP 106 and MSP 54
    MSP 106 for sheet inspection and sorting
    MSP 106 for sheet coding
    MSP 106 for track-and-trace technologies
    MSP 106 for ink-jet printing

- Service
    e.g. replacement of suction heads and sidelays

Banknote and security printers

Banknote and security printers

With the MSP series, MABEG offers banknote and security printers as the perfect basis for sheet inspection and sorting. The MSP can be equipped with banknote sheet inspection systems from almost any manufacturer, printing heads for sheet numbering and track-and-trace systems. This makes it possible to carry out transmitted-light inspection (e.g. with UV light) and reflected-light inspection of the top and bottom faces of the sheet at various wavelengths in one pass. The modular design of the MSP allows the adaptation of the sorting and stacking steps that follow the inspection process to the customer's specific requirements.

The MSP 106 is also perfectly suited to inspection and sorting tasks at paper mills, where it can be used to assure the level of quality required by banknote printers.

The MSP 54 model is available for the processing of smaller sheet formats. Applications include the numbering and coding of items such as tax stamps and visa documents. The MSP 54 can also be mounted directly on digital printing presses and and uses inspection systems to verify the individual print and storage in databases.

In the case of existing special-purpose production setups, sheet feeders can be replaced or retrofitted in order to improve productivity and reduce costs. Working in close cooperation with you the customer, we develop tailored solutions based around a sheet feeder that matches your needs.

MABEG product groups **for paper mills at a glance:**

- RS family of ReelSheeters
    RS 106 X - RC - 1S as a stand-alone ReelSheeter
    with optional register cut relative to a watermark or cut mark
    106 RS ReelSheeter combined with the MSP 106 inspection and coding line

- The MSP 106 sheet transport system
    Sheet numbering/coding
    Inspection and sorting

Tailored solutions combining cross cutting with register cuts, sheet numbering, inspection and sorting are available on request.

Paper mills

Paper mills

MABEG offers compact, high-precision reel sheeters for short to medium runs at paper mills, and in particular for banknote and security paper. Their compact design and high level of automation minimises downtime between jobs.

MABEG ReelSheeters can be fitted with an optional register cutter that ensures accurate cut positioning relative to a watermark or cut mark. If this option is selected, the ReelSheeter comes with a full transmitted-light camera system for image recognition.

The MABEG MSP 106 inspection and sorting line offers an ideal platform for the cost-effective inspection and sorting of paper stacks. The MSP 106 can be equipped with banknote paper inspection systems from almost any manufacturer, printing heads for sheet numbering and track-and-trace systems. This makes it possible to carry out transmitted-light inspection (e.g. with UV light) and reflected-light inspection of the top and bottom faces of the sheet at various wavelengths in one pass. The modular design of the MSP 106 allows the adaptation of the sorting and stacking steps that follow the inspection process to the customer's specific requirements. This enables paper mills to improve their own production processes and supply print shops with nothing but perfectly cut sheets.
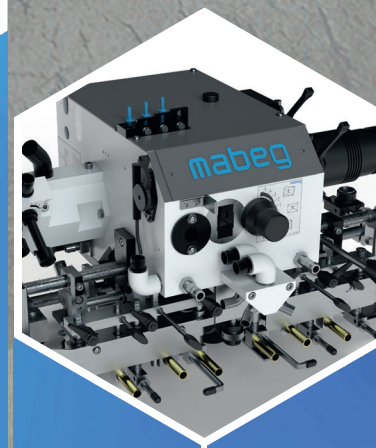
Lines

ReelSheeter

Sheet stacker
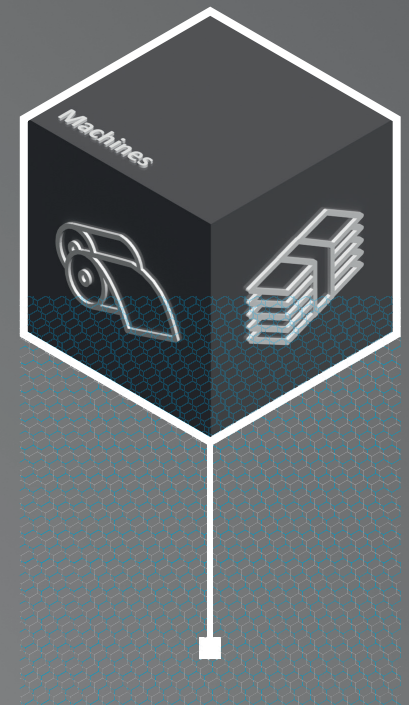
Sheet feeder

Components

Machines

... as tirelessly as leafcutter ants transporting their leaves

Leaf-cutting ants have specialised in the persistent cutting and transporting of leaves, and so we too have specialised exclusively in the subjects of cutting and transporting sheets. Today we call it sheet handling and cross cutting of rolls and use the most modern technologies for it, but the perseverance and dedication has remained as with nature's role models.

At the same time, the range of materials that can be processed has expanded.
Today, our inline ReelSheeters are used to cut thin papers as of 40 g/m² and thin foils as well as banknote paper with security strips are cut to register. In sheet handling the range extends from highly sensitive packaging with flocking to banknote paper and thick cellulose sheets for paper mills.

Today, our product portfolio is one of the most comprehensive in terms of sheet separation, sheet transport and cross cutting.

MABEG MSP-Series

Sheet transport lines for inspection & sorting, coding & printing, track & trace

As the world's recognised specialist in sheet handling, MABEG's MSP series offers the ideal platform for coding, printing, inspection and sorting tasks. Highest precision is combined with the reliability MABEG is known for. Reliability for tough everyday industrial use. Our worldwide and highly specialised customers confirm this.

The quality criterion for coding, printing and inspection systems, regardless of the camera or printing system used, is high-precision sheet transport. Any inaccurate or even uncontrolled movement of the sheet leads to distortions in printing or image capture. The result is that the available resolution potential cannot be fully exploited. During sheet inspection this can lead to good sheets being mistakenly identified as bad sheets due to insufficient precision in sheet transport, which causes avoidable costs. This is why the MSP series features outstanding sheet transport precision thanks to unique belt guidance and drive technology.

There is a choice of the MSP 54 for medium format up to 54 x 76 cm sheet size and the MSP 106.
The MSP 106 allows sheets up to 106 cm wide to be conveyed, with maximum sheet lengths ranging from 76 to 145 cm, depending on the model. This means that not only can 3B sheets be conveyed in portrait and landscape format, but format 6 can also be covered. Both models have modular configuration options, allowing them to be optimally adapted to the task at hand.
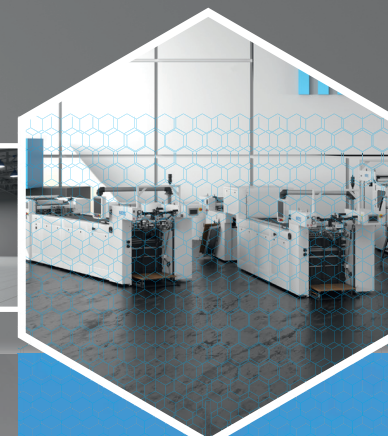
MABEG MSP 54

The flexible platform for small and medium sheet sizes

The MABEG MSP 54 has been developed for medium sheet sizes up to 54 x 76 cm and is the ideal platform for inspection and sorting tasks and coding by inkjet or laser. An F-format version with sheet sizes up to 60.5 x 76 cm is also available as an option.

The MSP 54 is modular and can be freely configured:

- For applications from above and below
- With ejection into double cassettes, e.g. for waste sheets or for job separation
- For direct connection to other presses, e.g. digital presses
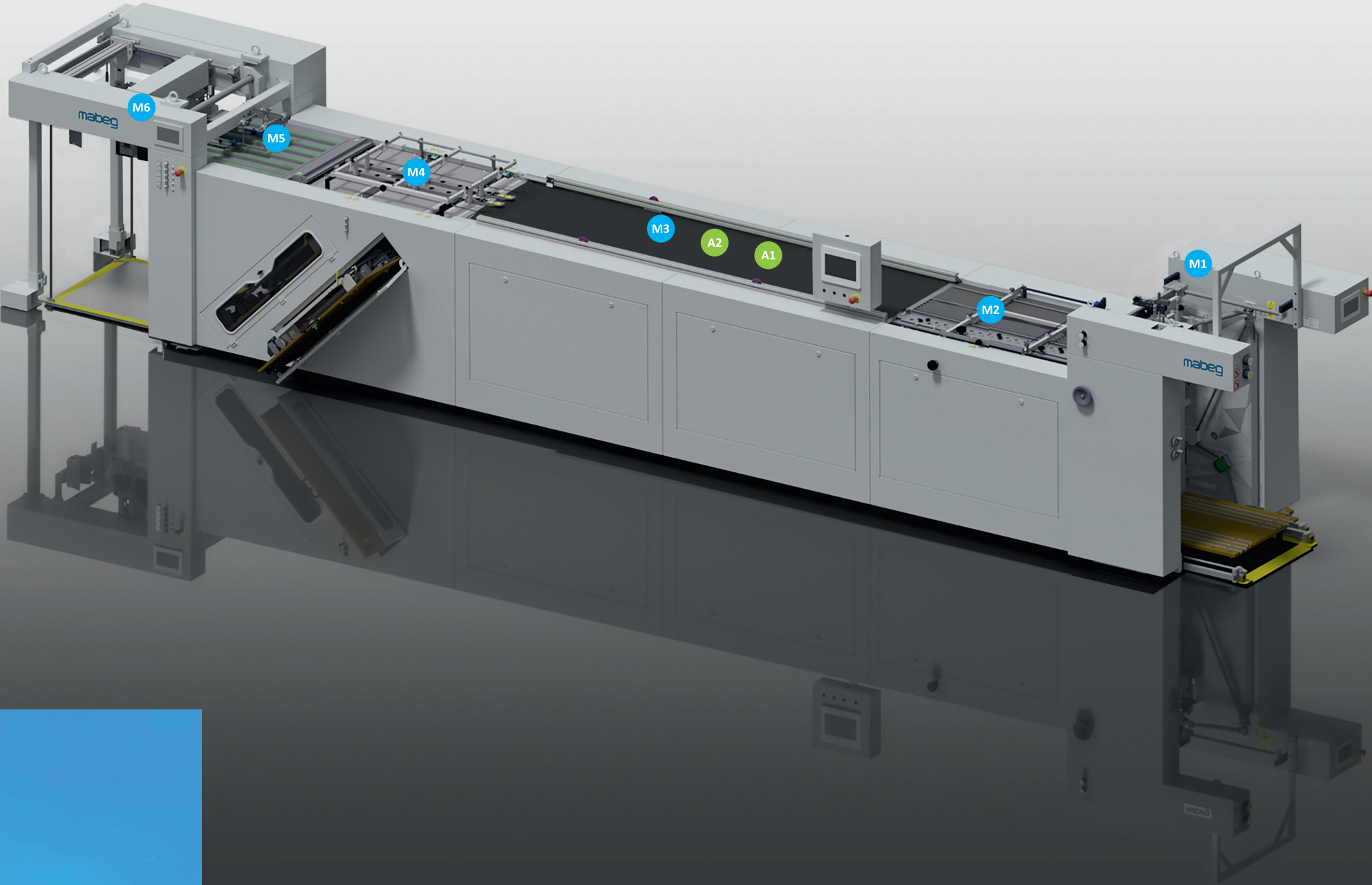- With special equipment for perforated stamp sheets

MABEG MSP 54 - 2C1S - 1100

Application example #1: Line for single-sided inspection and coding tasks

Base: MSP 54 - 2C1S - 1100

M1 Sheet feeder with original MABEG suction head ClassicFeed
M2 Alignment table
M3 Precision application table
M4 Double diverter gate in two cassettes **(2C)**
M5 Transfer table
M6 Sheet stacker for accepted sheets **(1S)**

Applications (example typical application):

A1 Inkjet from above (apply codes)
A2 Inspection by camera-system from above
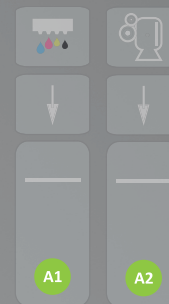
Brief specification

Material weight: 60 to 300 g/m² paper and light cardboard
(other values project-specific on request)

Sheet format: min. 225 x 150 mm (w x l) (other values project-specific on request)
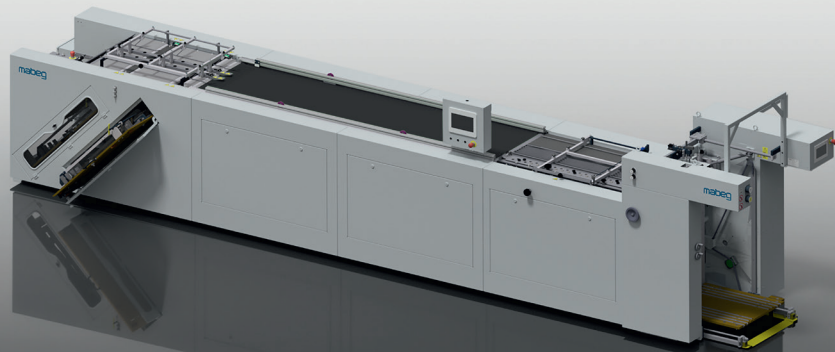max. sheet width: 540 mm (optional F-format 605 mm)
max. sheet lenght: 760 mm

Sheet run height: 1.100 mm
Stack height: 900 mm incl. palette

Speed / Capacity   max. 120 m/min or max. 12.000 sheets per hour
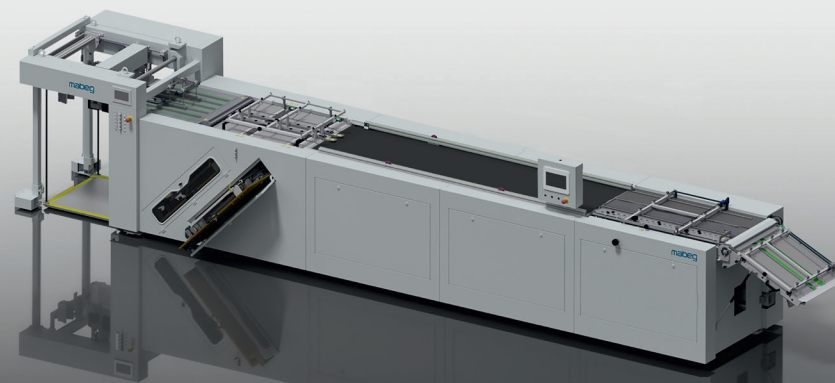
The production capacity depends on application, material, sheet size, grammage, climatic conditions, general surrounding conditions.
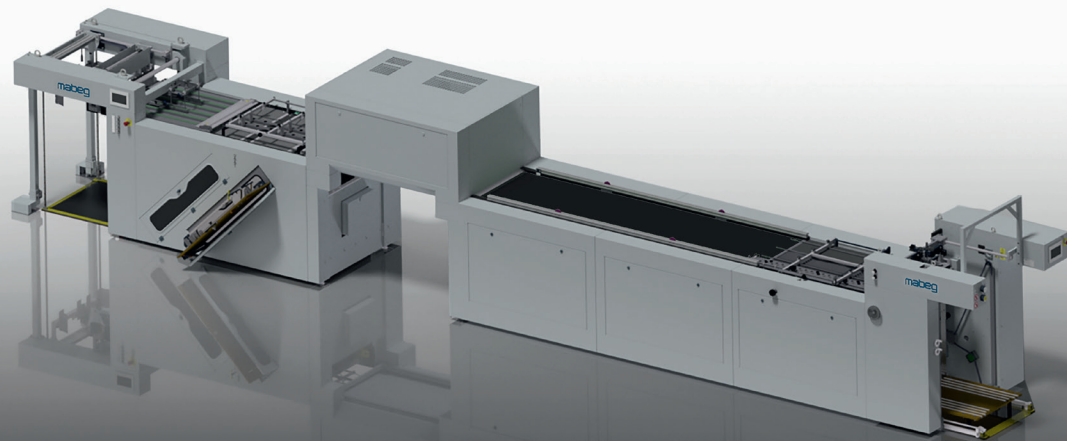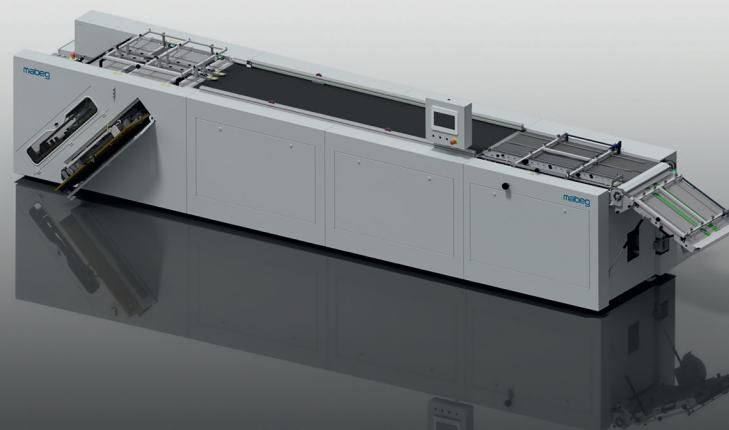
Technical changes reserved!

MABEG MSP 54 - 2C - 1100 M1

MABEG MSP 54 - 2C1S - 1100 - **with direct linking** M3

MABEG MSP 54 - TR - 2C1S - 1100 M2

MABEG MSP 54 - 2C - 1100 - **with direct linking** M4

Configuration examples MSP 54

As stand-alone Linie

M1 **MSP 54 - 2C - 1100**
Short and cost-efficient line with 2 cassette compartments for sheet sorting.
A sheet stacker can be retrofitted.

M2 **MSP 54 - TR - 2C1S - 1100**
Line with optional overhead table, e.g. for double-sided sheet inspection in just one pass.

For direct linking

M3 **MSP 54 - 2C1S - 1100 with direct linking**
The sheets are transferred directly from a preceding press machine. For example, sheets can be taken over from a digital press and verified.

M4 **MSP 54 - 2C - 1100 with direct linking**
Naturally, all other configuration configuration options are also available for direct connection.
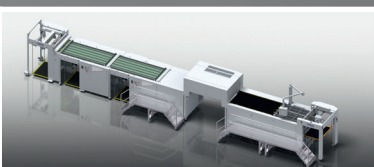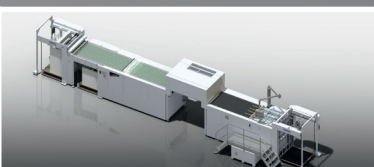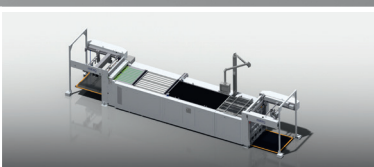
MABEG MSP 106

The universal platform for sheets of 300 up to 1060 mm width

The MSP 106 has a modular design with many configuration options for sheet alignment, precision tables, ejectors and sheet stackers.
Each line is configured individually according to requirements.

In addition to automation and NONSTOP functions, several precision tables can be integrated for a wide range of applications and several sheet stackers for sorting. High-resolution inspection and coding tasks can thus be combined as desired: for example, inspection tasks in different wavelength ranges on the top side of the sheet, the bottom side of the sheet and in transmitted light combined with ink-jet coding.

The heart of the MABEG MSP 106 is the precision application table. This has been developed and optimised for perfect sheet travel.
The result is an application table of unique precision, particularly suitable for all inspection tasks as well as for coding, printing with ink jets and for fingerprint technologies.

On the following pages, some typical configurations are presented.
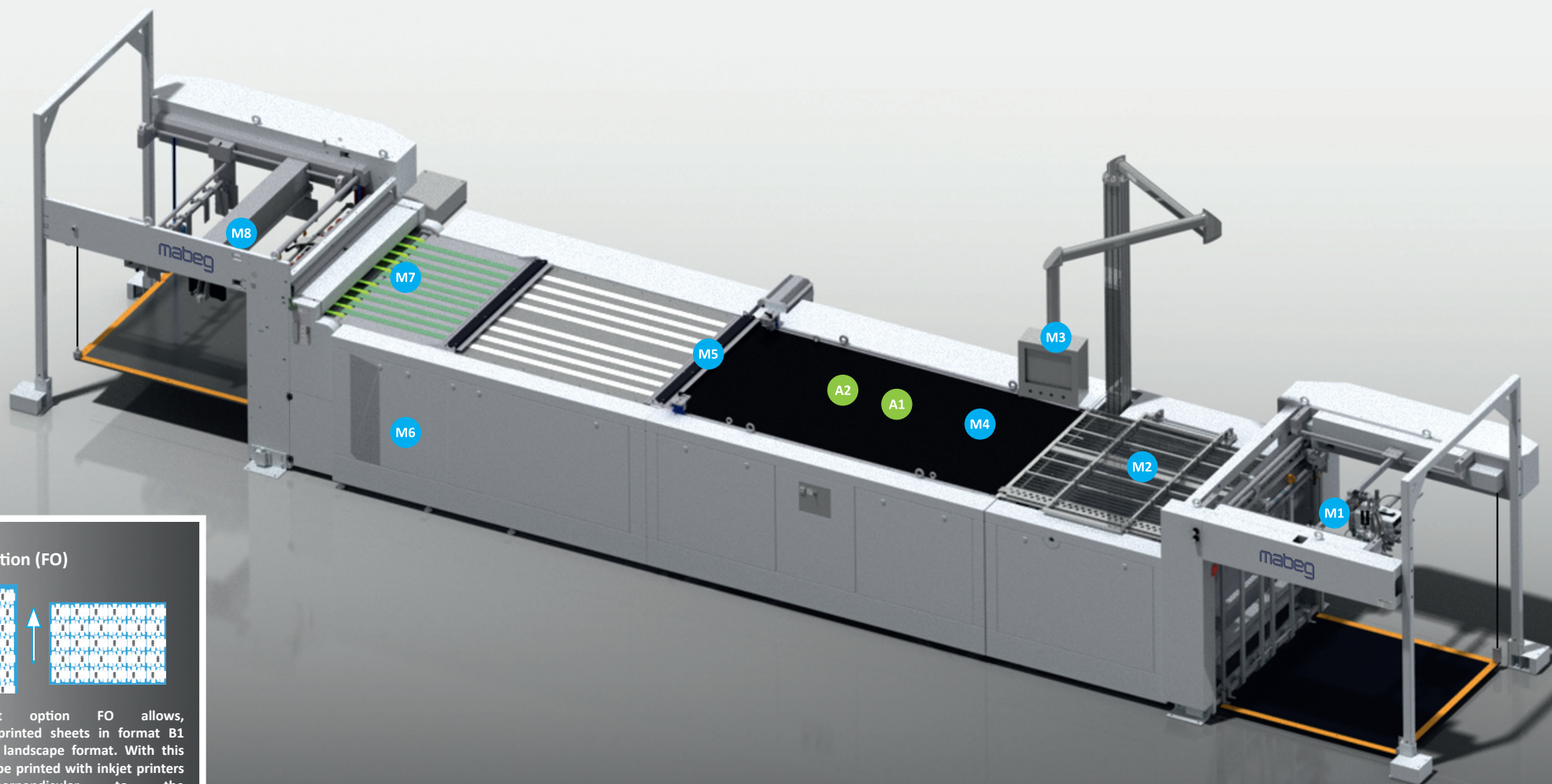Of course, other configurations are possible - please contact us.

Application examples

MABEG MSP 106 - FO106 - 1B1S - 1100

Format Option (FO)
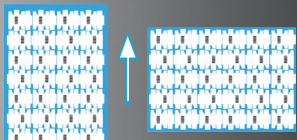
The format option FO allows, to transport printed sheets in format B1 in portrait or landscape format. With this barcodes can be printed with inkjet printers printers perpendicular to the to the direction of transport. The high-precision alignment table with sheet orientation monitoring ensures precise positioning of the coding on the sheet. the exact positioning of the coding on the sheet.

Apllication examplel #1: Coding

Base: MSP 106 - FO106 - 1B1S - 1100

The configuration example shows an MSP 106 - FO106 - 1B1S - 1100 for single-sided coding with verification and ejection into a reject box.
Typical application is the application of codes with directly following verification by camera systems and the ejection of sheets with faulty codes.
This configuration is used, for example, for tax stamps, visa documents and other special documents.

The MSP 106 - FO106 - 1B1S - 1100 shown here has a maximum stack height of 900 mm (incl. pallet) and is configured as a line for short to medium runs.
run sizes. Of course, other versions of the MSP 106, e.g. with stack heights of 1,500 mm (incl. pallet), can also be used for coding.

The FO format option allows printed sheets in 3B format to be transported on edge or in landscape format. This means that barcodes can always be printed optimally perpendicular to the transport direction with inkjet printers. The high-precision alignment section with sheet orientation monitoring ensures the exact positioning of the coding on the sheet.

- M1 Sheet feeder with MABEG ClassicFeed suction head
- M2 Alignment table
- M3 HMI Touch Screen control panel
- M4 MABEG precision application table
- M5 Highly dynamic diverter gate (rejection of defective sheets)
- M6 Reject box for rejected sheets
- M7 Transfer table
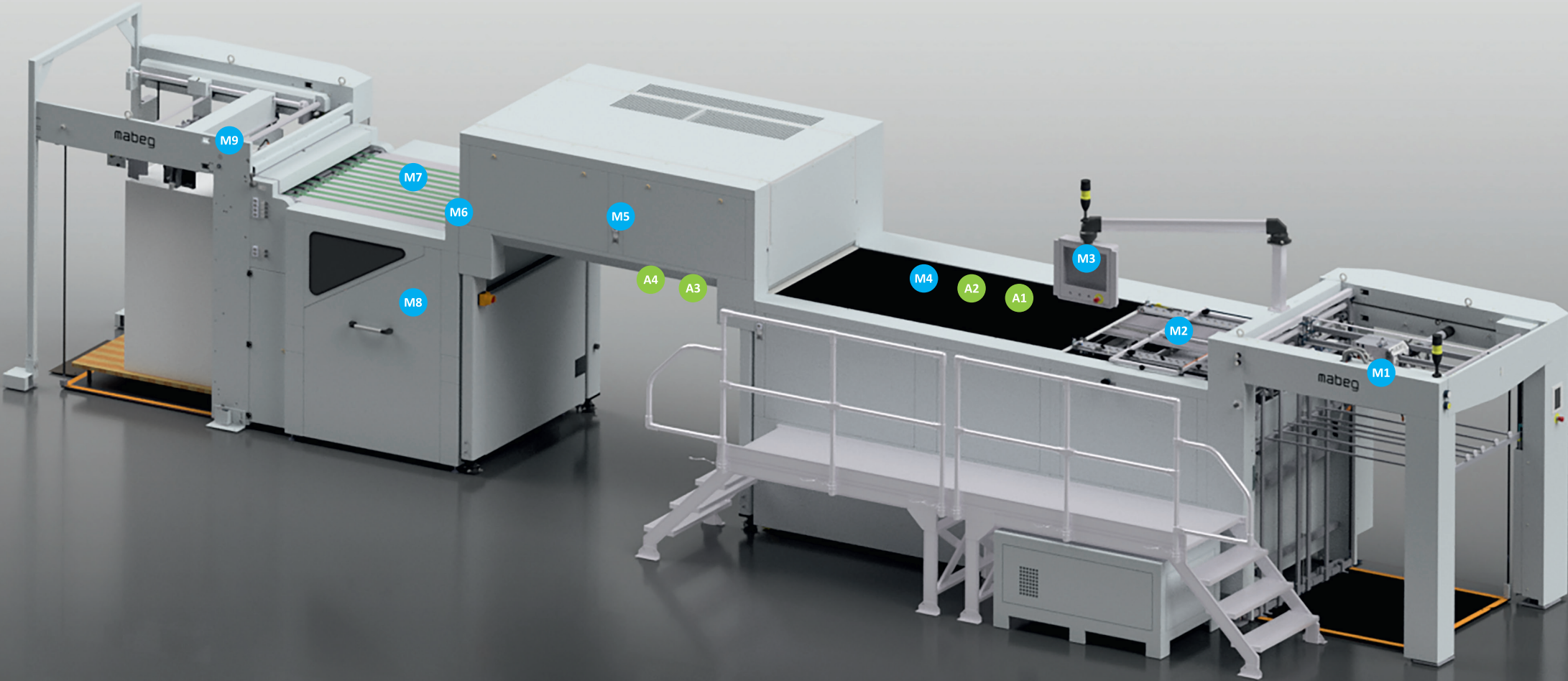- M8 Sheet stacker for good sheets (pile height: 900 mm incl. pallet)
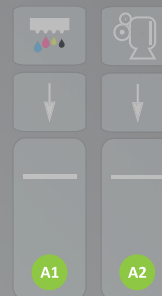
Applications (example):

- A1 Inkjet from above (apply codes)
- A2 Inspection und verification by camera systems

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MABEG MSP 106 - FO106 - T24R24 - 1B1S - 1700

Application example #2: Track & Trace and serialisation

Base: MSP 106 - FO106 - T24R24 - 1B1S - 1700

This configuration is frequently used in track & trace and serialisation of luxury packaging.
Coding can be applied to the top and bottom of the sheet in just one sheet pass without turning the sheets.
The M5 module is the so-called overhead table. At this table the sheets are transported by a continuous precision belt with perfect vacuum and completely free access.
This ensures easy access even to the underside of the sheet and eliminates the need to move retaining tapes when positioning the print heads.

The FO format option allows sheets in 3B format to be transported in portrait or landscape format. This means that barcodes can always be printed optimally vertical to the transport direction with inkjet printers. The high-precision alignment section with sheet orientation monitoring ensures the exact positioning of the coding on the sheet.

Today, modern fingerprint or track & trace systems are often used for further product security. Due to its high transport precision, the MSP series is the ideal platform for fingerprint and track & trace systems. These achieve the highest read rates on the MSP, so that no unnecessary waste is produced.

M1 Sheet feeder with original MABEG suction head ClassicFeed
M2 Alignment table
M3 Touch screen operation panel
M4 MABEG precision application table **(T)**
M5 Second MABEG precision application table for reverse side applications **(R)**
M6 Diverter gate (ejection of faulty codes)
M7 Transfer table
M8 Waste box for rejected sheets **(1B)**
M9 Sheet stacker for accepted sheets (stack height: 1.500 mm including palette) **(1S)**
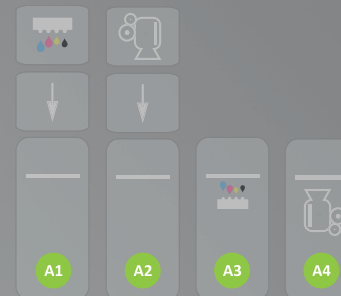
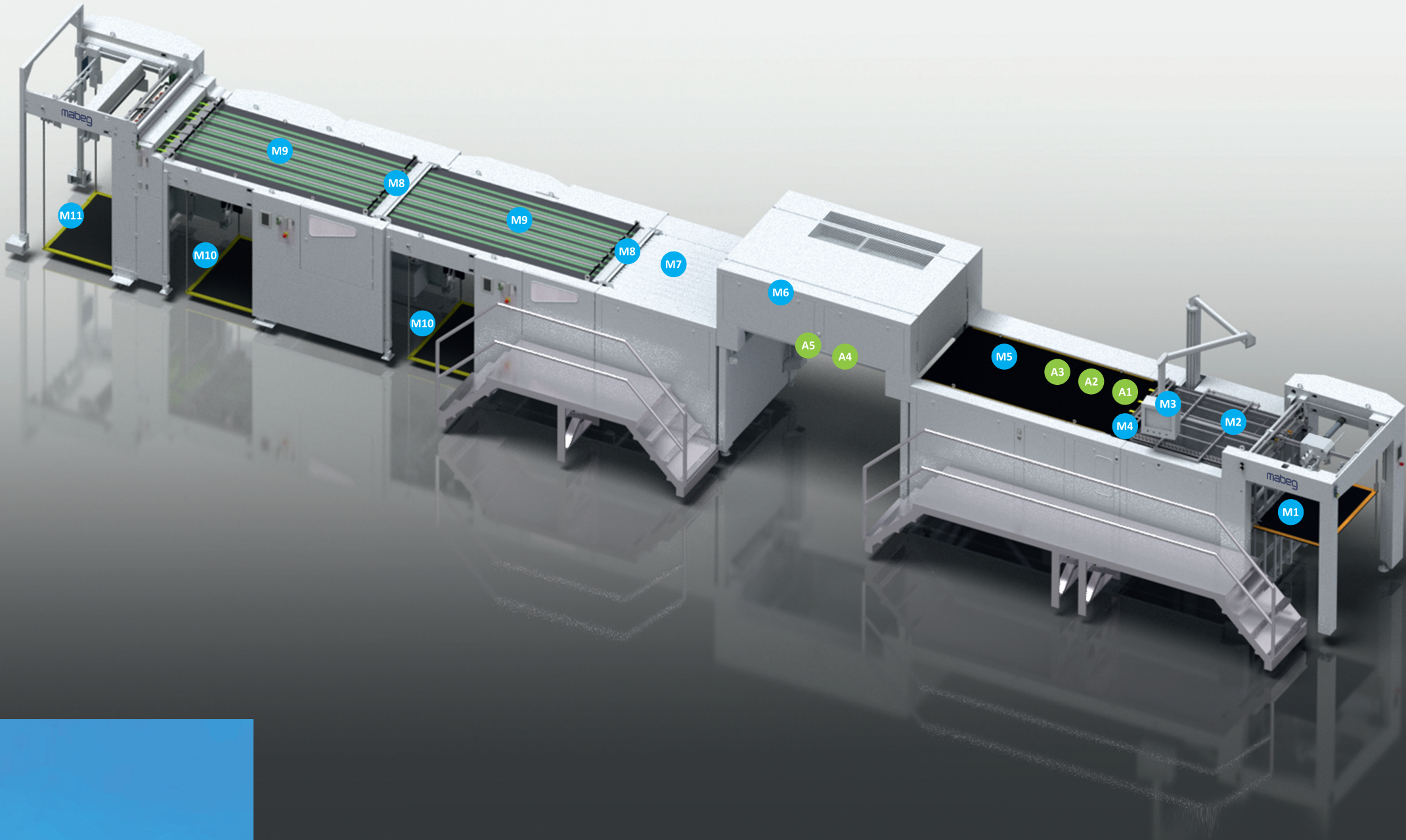**Applications (example):**

A1 Inkjet from above (apply codes)
A2 Inspection by camera systems from above
A3 Inkjet from below (apply codes)
A4 Inspection by camera systems from below

MABEG MSP RS 106 - TLI - T24R24 - L15 - 3S - 1700

Application example #3: Sorting line for banknote printing sheets

Basis: MSP 106 - TLI - T24R24 - L15 - 3S - 1700

The tasks of a sorting line for banknote print sheets are diverse and complex. The configuration shows an implemented example of an MSP with sheet feeder with manual non-stop, with inspection options for transmitted light inspection, sheet top and bottom, and with 3 sheet stackers.

Sheet alignment is followed by the TLI transmitted light inspection module. Here watermarks are typically inspected in the UV wavelength range. Next comes the inspection table for checking sheets from above, followed by the overhead table for checking the reverse side of the sheet. At the overhead table the printed sheets are fully accessible so that no area needs to be excluded from inspection. The camera systems, typically for the visible and infra-red wavelength ranges, are mounted directly on the inspection tables.

The 3 sheet stackers can either be used for sorting according to different criteria, or 2 sheet stackers can be used for non-stop operation and the third for rejecting defective sheets. The belt guide to all sheet stackers is designed in such a way that code readers can be installed which record the sheet number and thus enable a seamless track & trace.

- **M1** Sheet feeder with original MABEG suction head ClassicFeed
- **M2** Alignment table
- **M3** Touch screen operation panel
- **M4** Transmitting light unit **(TLI)**
- **M5** MABEG precision application table **(T)**
- **M6** Second MABEG precision application table for reverse side applications **(R)**
- **M7** Additional transfer table **(L)**
- **M8** Two diverter gates (ejection of faulty sheets)
- **M9** Transfer table
- **M10** Two sheet stackers for rejected sheets (stack height: 1.100 mm including palette) **(3S)**
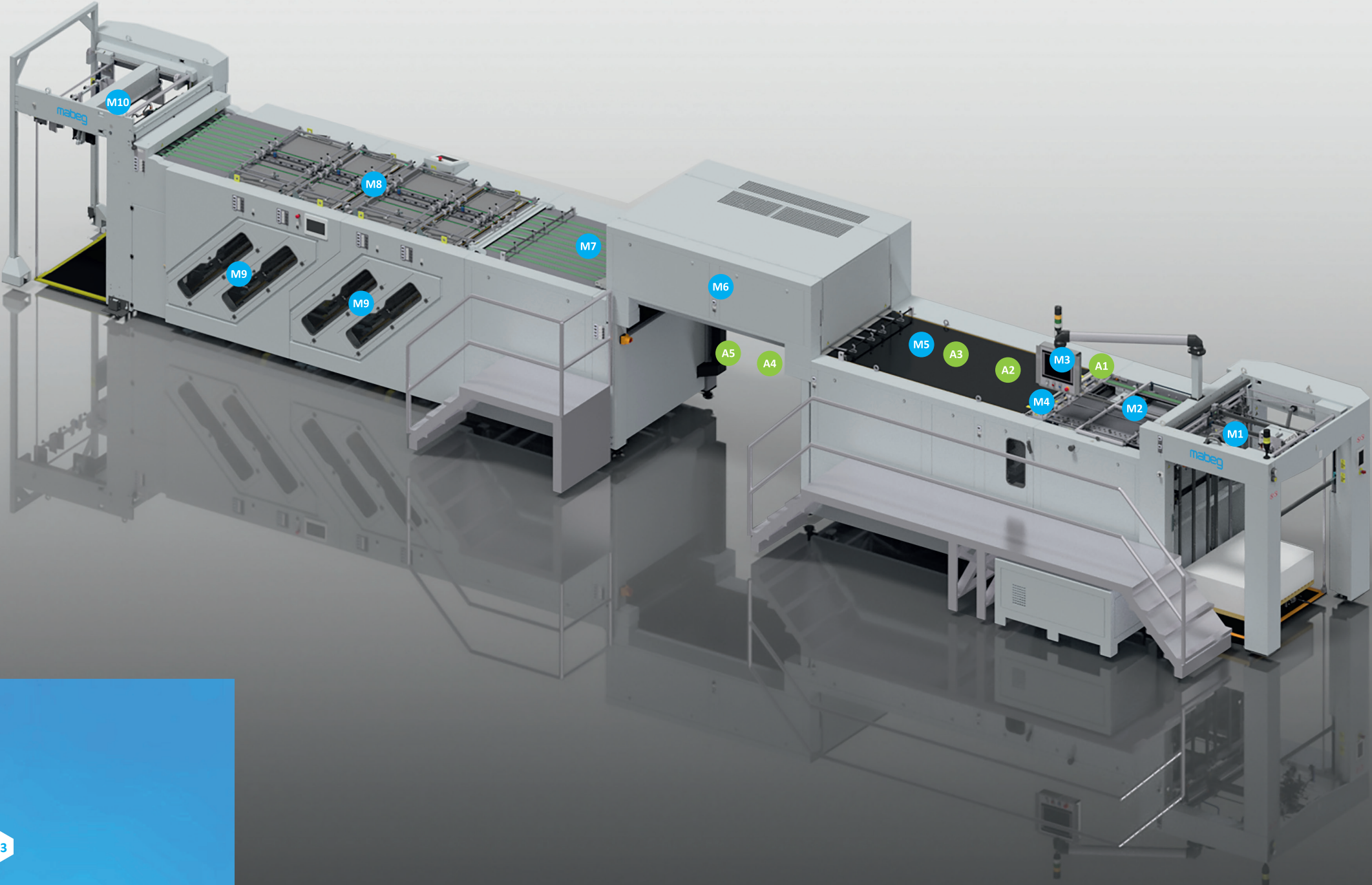- **M11** Sheet stacker for accepted sheets (stack height: 1.500 mm including palette)

Application (example):
- **A1** Transmitted light inspection (e.g. water mark)
- **A2** Inkjet from above (apply codes)
- **A3** Inspection by camera systems from above
- **A4** Inkjet from below (apply codes)
- **A5** Inspection by camera systems from below

MABEG MSP 106 - TLI - T24R24 - L15 - 4C1S - 1700

Application example #4: Banknote with different sorting criteria

Base: MSP 106 - TLI - T24R24 - L15 - 4C1S - 1700

Double cassette modules can be used for sorting according to different criteria. This allows (bad) sheets to be sorted and ejected according to different characteristics.
Due to the modularity, different numbers of double cassette modules can be used.
Up to 8 cassettes can be designed as standard.

Like the sheet stackers, the cassette modules are equipped with sheet profiling and sheet brakes, making them ideal for high sorting speeds.

Of course, the line can also be equipped with a second sheet stacker to enable optional non-stop operation.

M1 — Sheet feeder with original MABEG suction head ClassicFeed
M2 — Alignment table
M3 — Touch screen operation panel
M4 — Transmitting light unit **(TLI)**
M5 — MABEG precision application table **(T)**
M6 — Second MABEG precision application table for reverse side applications **(R)**
M7 — Transfer table
M8 — Highly dynamic diverter gates
M9 — Double cassette modules **(4C)**
M10 — Sheet stacker for accepted sheets (stack height: 1.500 mm including palette) **(1S)**

Applications (example):
A1 — Transmitted light inspection (e.g. water mark)
A2 — Inkjet from above (apply codes)
A3 — Inspection by camera systems from above
A4 — Inkjet from below (apply codes)
A5 — Inspection by camera systems from below

MABEG MSP 106 - FO106 - TLI - T24R24 - L15 - 2S - 1700
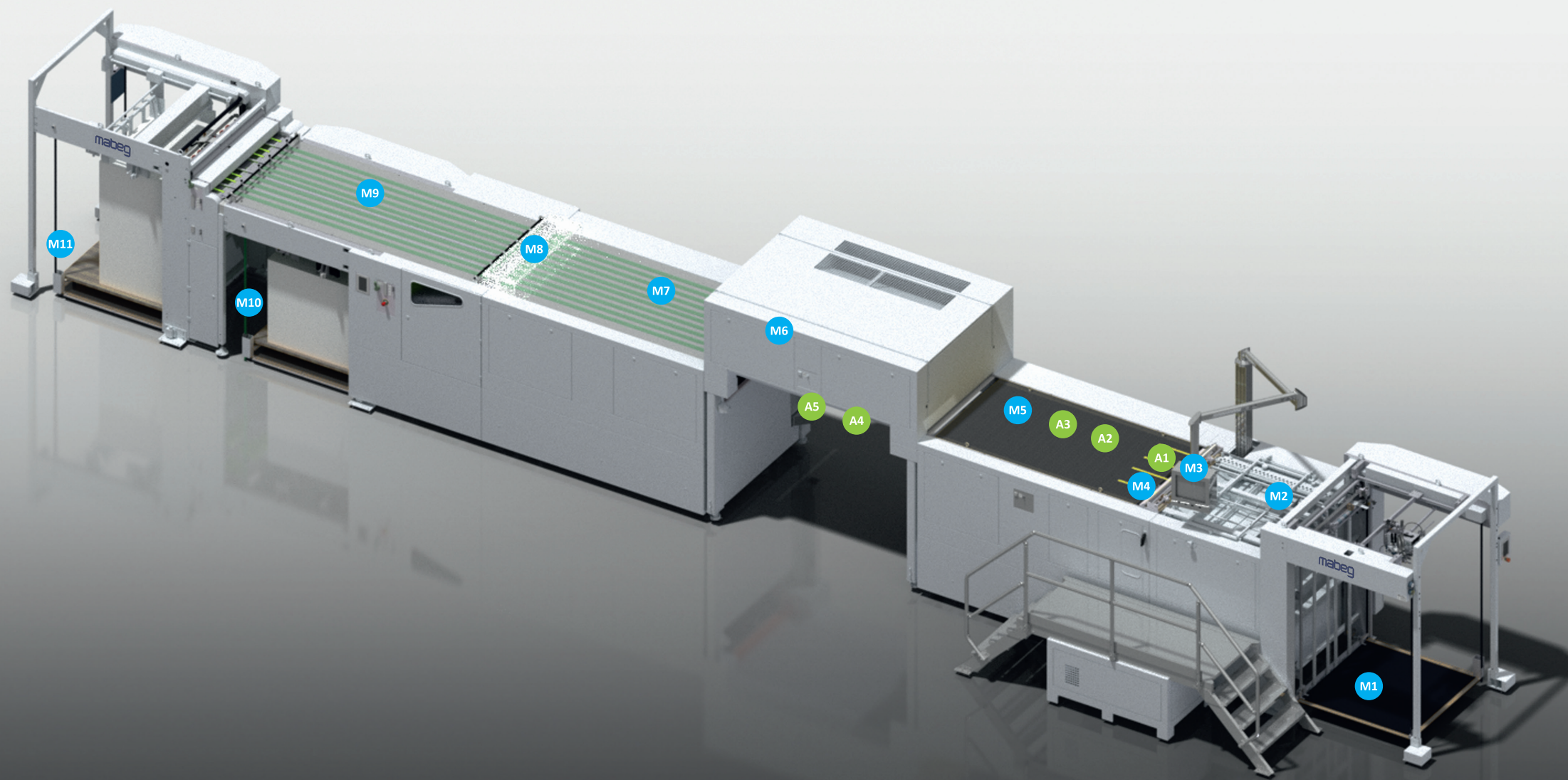
Application example #5: Sorting line for paper mills

Base: MSP 106 - FO120 - T24R24 - L25- 2S - 1700

This MSP 106 was specially designed for resorting in paper mills. The MSP 106 allows the inspection of turned corners and watermarks in the so-called transmitted light module TLI. The top and bottom sides of the sheet are then inspected in a single pass without sheet reversal. Depending on the camera systems installed, security features can also be inspected in the UV or IR wavelength range.

An additional transfer table is integrated after the overhead table. This increases the distance between the last camera and the sheet diverter, to allow the inspection system sufficient time to analyse the sheet.

The FO format option allows sheet sizes of up to 1,060 x 1,200 mm (w x l) to be processed.

M1 Sheet feeder with original MABEG suction head ClassicFeed

M2 Alignment table

M3 Touch screen operation panel

M4 Transmitting light unit **(TLI)**

M5 MABEG precision application table **(T)**

M6 Second MABEG precision application table for reverse side applications **(R)**

M7 Additional transfer table **(L)**

M8 Diverter gate (ejection of faulty sheets)

M9 Transfer table

M10 Sheet stacker for rejected sheets (stack height: 1.100 mm including palette) **(2S)**

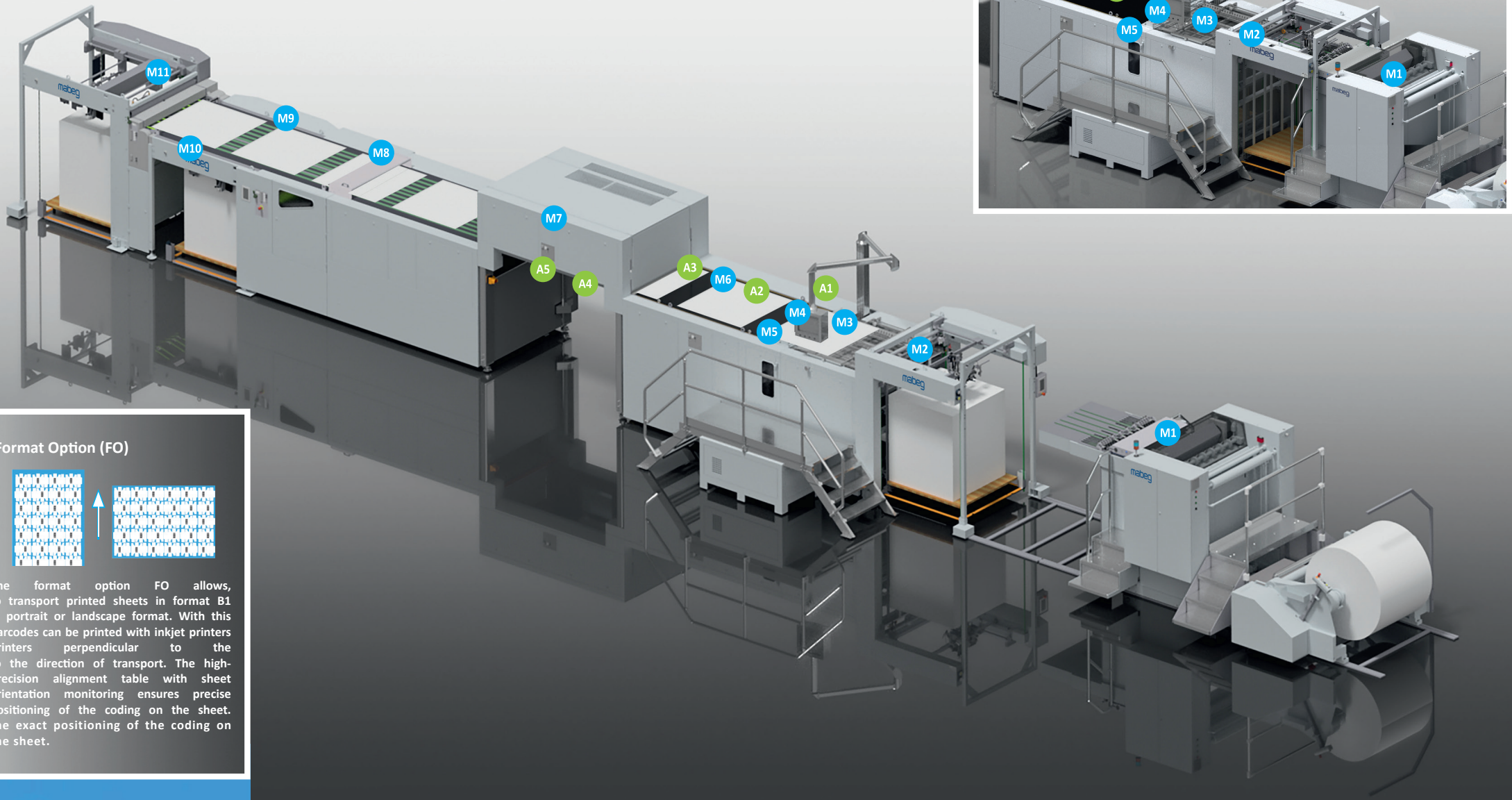**M11** Sheet stacker for accepted sheets (stack height: 1.500 mm including palette)
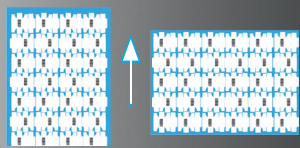
Applications (example):

A1 Transmitted light inspection (e.g. water mark)

A2 Inkjet from above (apply codes)

A3 Inspection by camera systems from above

A4 Inkjet from below (apply codes)

A5 Inspection by camera systems from below

MABEG MSP RS 106 - FO106 - T24R24 - L25 - 2S - 1700

Format Option (FO)

The format option FO allows, to transport printed sheets in format B1 in portrait or landscape format. With this barcodes can be printed with inkjet printers printers perpendicular to the to the direction of transport. The high-precision alignment table with sheet orientation monitoring ensures precise positioning of the coding on the sheet. the exact positioning of the coding on the sheet.

Application example #6: Sorting line for paper mills with ReelSheeter RS

Base: MSP 106 - FO106 - T24R24 - L25 - 2S - 1700

Another configuration option for the MSP 106 is to combine it with the MABEG RS 106 ReelSheeter to create a unique combination
of a proven reel sheeter with a sheet transport system specially developed for high-resolution inspection.

The ReelSheeter can be moved out of the sheet feeder on a rail system embedded in the floor.
The line can then be used to inspect sheetfed products.
A typical changeover from processing reel stock to sheet stock takes about 6 - 10 minutes.
This means that the entire line is characterised not only by the simplest adjustability and best accessibility, but also by the highest flexibility.

The ReelSheeter can be optionally equipped with a camera-based register cutting system.
This allows sheets to be cut in register not only according to optical crop marks but also according to watermarks.

M1 ReelSheeter RS 106 with register cut option

M2 Sheet feeder with original MABEG suction head ClassicFeed

M3 Alignment table

M4 Touch screen operation panel

M5 Transmitting light unit **(TLI)**

M6 MABEG precision application table **(T)**

M7 Second MABEG precision application table for reverse side applications **(R)**

M8 Diverter gate (ejection of faulty sheets)

M9 Transfer table

M10 Sheet stacker for rejected sheets (stack height: 1.100 mm including palette) **(2S)**

M11 Sheet stacker for accepted sheets (stack height: 1.500 mm including palette)

Applications (example):

A1 Transmitted light inspection (e.g. water mark)

A2 Inkjet from above (apply codes)

A3 Inspection by camera-systems from above

A4 Inkjet from below (apply codes)

A5 Inspection by camera-systems from below

Scalable space for your unit

The MSP series for OEM applications

You have a high-tech application with its own sheet transport, but the sheet feeder and the sheet stacker are missing?

The MABEG MSP series is also the industry-standard series solution for OEM applications, e.g. for new industrial digital presses. The OEM customer can concentrate fully on his innovative printing technology and the development of the printing module, while the proven and established MSP series takes over the sheet transport. The customer's own module - shown in green - can be based on a MABEG precision table or include a sheet transport developed by the customer. In the case of a customised sheet transport system, the MSP series takes care of precise sheet separation and infeed, sheet alignment and sheet stacking, with sorting if required. The open and flexible interfaces mean that only a small amount of integration work is required.

Another advantage of this concept is the globally recognised brand name MABEG, which stands for reliability and robustness.
This can facilitate the market introduction of new systems in a conservative industry and accelerate acceptance by end customers.

Shown on the left is an example based on an MSP 54

M1   Sheet feeder with original MABEG suction head ClassicFeed

M2   Alignment table

M3   MABEG precision application table **(T)**

M4   Double diverter gate into two cassettes **(2C)**

M5   Transfer table

M6   Sheet stacker for accepted sheets **(1S)**

Scalable space for your unit
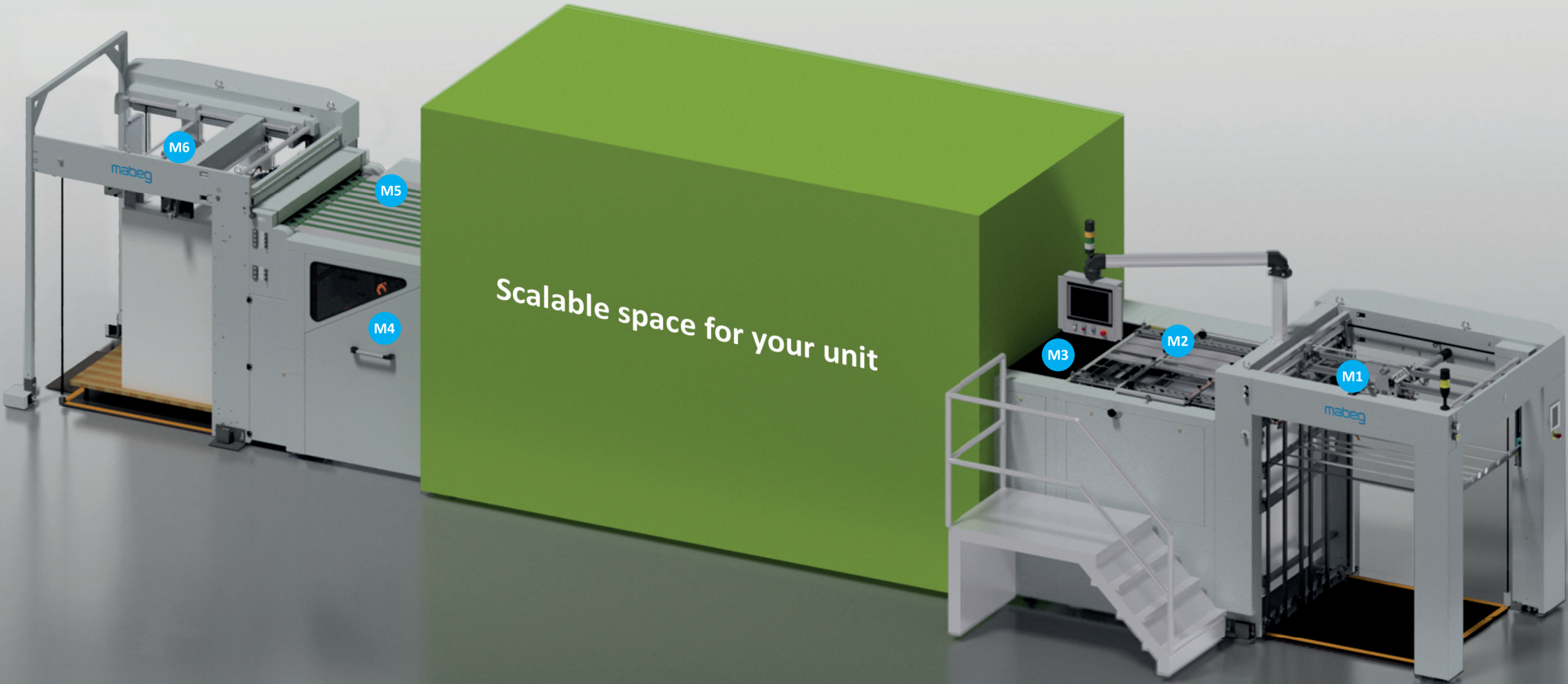
The MSP series for OEM applications

Lines for the integration of customer-specific modules

Of course, the entire modularity of the MSP lines is available: sheet feeders are available in various automation levels and, if necessary, with Non-stop equipment.
The sheets can be deposited in several stackers or cassette modules so that direct sorting by job can be carried out.
The integration of a ReelSheeter is also possible. This allows reel stock to be processed on the sheetfed press, thus delivering a sheet stack that can be further processed in a single process step.

The example on the left shows an MSP 106 for a max. sheet size of 1060 x 1060 mm with a simple ejector, e.g.
in the event that an inline sheet detection is used in the printing module.

The MSP 106 can be supplied for sheet sizes of 1060 x 760 mm, 1060 x 830 mm, 1060 x 1060 mm, 1060 x 1200 mm; 1060 x 1450 mm.

M1 Sheet feeder with original MABEG suction head ClassicFeed
M2 Alignment table
M3 MABEG precision application table **(T)**
M4 Wastebox for rejected sheets **(1B)**
M5 Transfer table
M6 Sheet stacker for accepted sheets **(1S)**
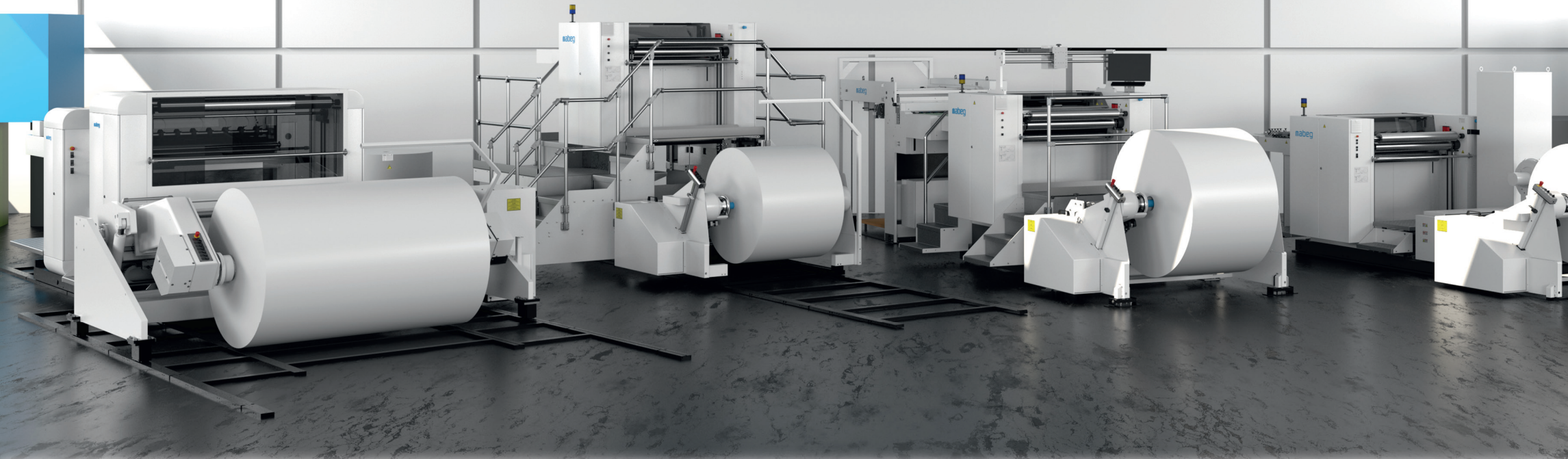
MABEG RS ReelSheeter

Product overview

Inline ReelSheeter for printing presses
MABEG RS ReelSheeter (cross cutters) enable the use of usually much more cost-effective and easier-to-process reel stock on sheetfed presses.
They have become indispensable in the processing of foils and label material as well as in lightweight printing.

Every day, more than 350 MABEG ReelSheeter prove their worth as workhorses in the tough day-to-day production environment on presses from all manufacturers. Today, the RS ReelSheeter family includes in-line Reel Sheeter in formats 3B, 6 and 7.

Inline ReelSheeter with register cut
The medium-format ReelSheeter can be equipped with register cut RC and allow an exact cut according to the print mark,
pattern or watermark. The most common applications are machines that process pre-printed reels, such as die-cutters
and (banknote) printing presses.

Stand-alone ReelSheeter with and without register cut
The MABEG RS 106X -1S is a stand-alone ReelSheeter with integrated sheet stacker, which is characterised by its compactness and simple operation.
The RS 106X - 1S can be equipped with a camera-based register cutter, making it ideal for paper mills and banknote printers
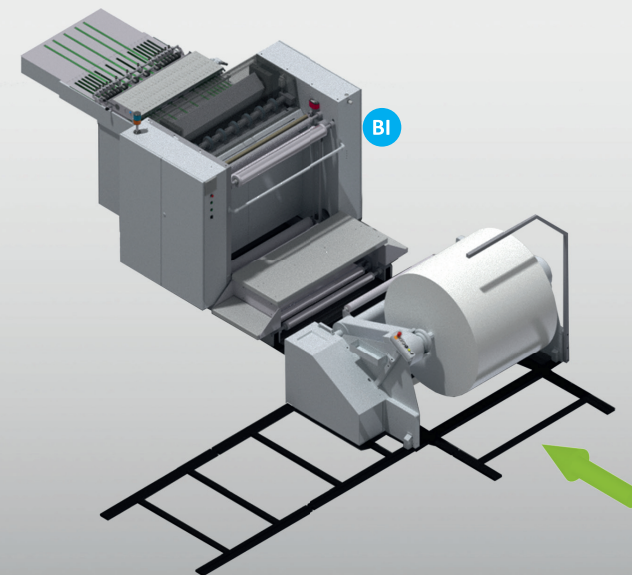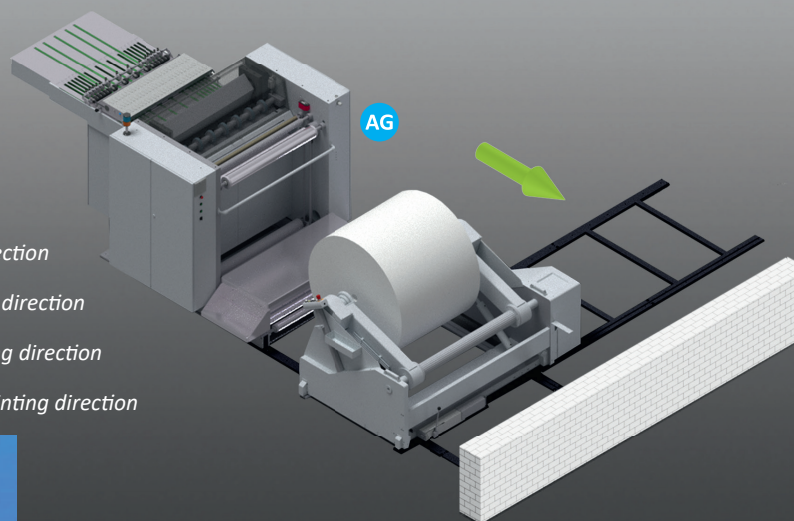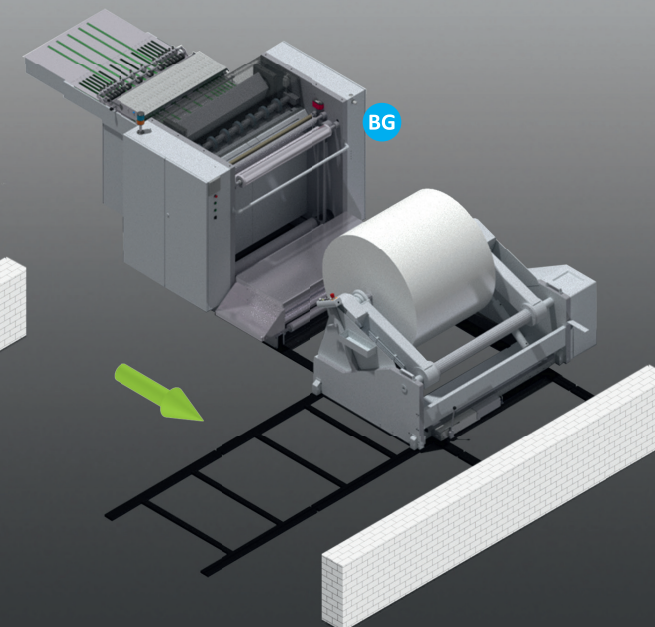who need to cut by watermark or cut mark.

More than 350
MABEG reel sheeters
are in use
worldwide
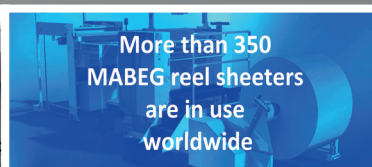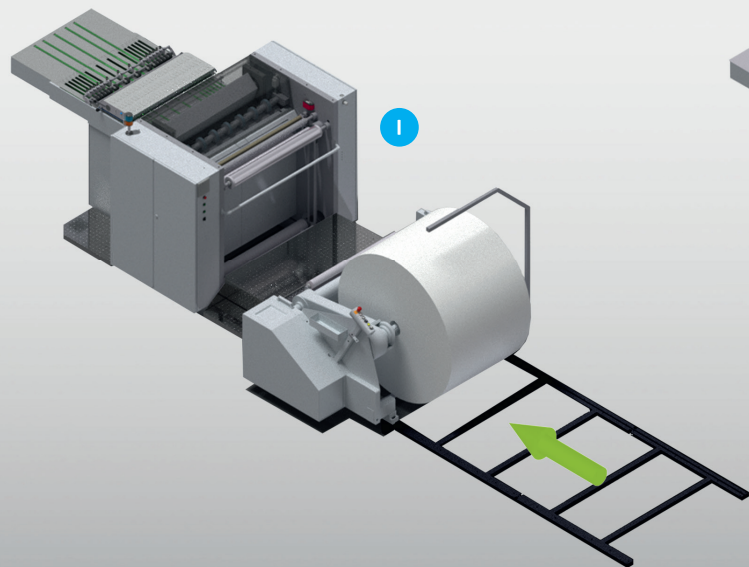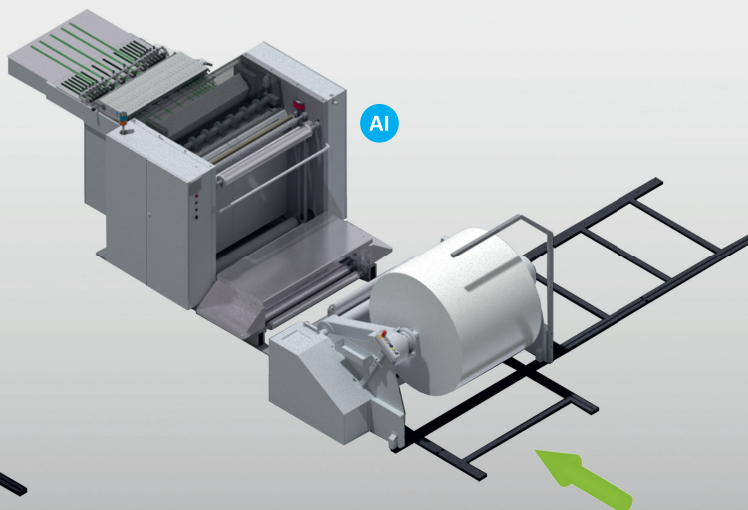
I   Reel loading in printing direction (Inline)

AI   Unwinder parking position on the drive side, reel loading in printing direction

BI   Unwinder parking position on the operator side, reel loading in printing direction

AG   Unwinder parking position on the drive side, reel loading against printing direction

**BG**   Unwinder parking position on the operator side, reel loading against printing direction

Inline ReelSheeter RS 106 configuration

Perfectly adaptable to transport paths and local conditions

The MABEG ReelSheeter is installed on a recessed rail frame on which the unwind and cutting unit can be moved.

As standard, we offer the 5 set-up variants shown in the diagram. This means that the RS 106 can be ideally adapted to the space available and the logistics in the print shop. If required, special variants can also be supplied so that the RS 106 can be optimally positioned even in tight spaces. This is particularly useful for retrofitting existing presses where there is only limited space in front of the sheet feeder.

The arrow marks the loading position for unwinding. If the reels are loaded in the direction of printing, the unwind is loaded in its working position. If the reel is loaded against the print direction, the unwinder is moved to the lateral parking position for loading.
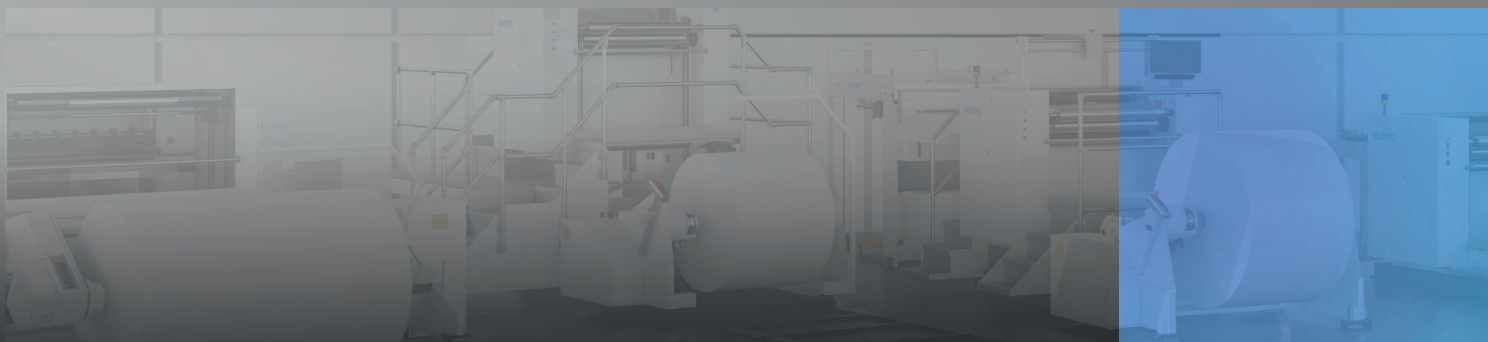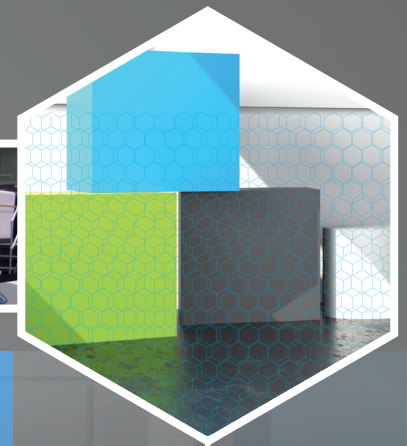
ReelSheeter for large format

Material cost advantages and smooth running for the large format

The MABEG ReelSheeter family also includes large-format models. Here we offer the RS 145 and RS 165 for print formats 6 and 7.

In principle, the large-format ReelSheeter are constructed in the same way as the RS 106. The set-up variant in the large format is basically in-line, because the weight of the reel makes it impossible to move the unwinder sideways.

The models RS 145 and RS 165 are offered with a shaftless unwinder. Adapters for different core diameters are available here.

	RS 145	RS 165
Min. Sheet size (width x length)	800 mm x 670 mm	800 mm x 670 mm
Max. Sheet size (width x length)	1.450 mm x 1.060 mm	1.640 mm x 1.205 mm
Max. speed mechanical *	18.000 sheets/hour	18.000 sheets/hour
Unwinder	shaftless unwinder 6" **	shaftless unwinder 6" **
Application range (paper & cardboard)	70 g/m² to 250 g/m² bei 0,07 mm to 0,3 mm **	70 g/m² to 250 g/m² bei 0,07 mm to 0,3 mm **

* The stated values depend on material, format, grammage, climatic conditions and ambient conditions.

** On request after technical clarification

Subject to technical changes!

MABEG Stand-Alone ReelSheeter

The compact ReelSheeter with optional register cut

Optionally, the unwinder can be equipped with a register cutting system. There are two variants to choose from:

- The register cutting system is equipped with a typical cutting mark sensor and the cut is made according to a defined cutting mark.
- The register cutting system is equipped with a high-resolution camera system that works with transmitted light.

This allows the ReelSheeter to cut according to cut marks in transmitted light or directly according to watermarks.
This is ideal for processing security paper with watermarks and banknote paper.

In conjunction with the MSP 106 sheet inspection and sorting line, a unique combination can be created:
Precise cross-section, optionally in register, double-sided high-resolution inspection with transmitted light inspection and coding with track & trace systems.

Brief description Stand-Alone ReelSheeter RS 106X - RC - 1S	
Web width:	min. 500 mm - max. 1060 mm
Cut-off length:	min. 450 mm - max. 780 mm
	optional max. 1.060 mm
Material:	Paper and paperboard 60 g/m² - 250 g/m² *
Reel diameter:	max. 1.500 mm
Stack weight:	max. 1.500 g/m²
Stack height:	max. 1.500 mm
Speed:	max. 12.000 sheets/h or 200 m (max. mechanical performance)

The specified values depend on the material, format, grammage, climatic conditions and ambient conditions.

*Other materials project-specific after technical clarification.

Subject to technical changes!

MABEG Systems GmbH
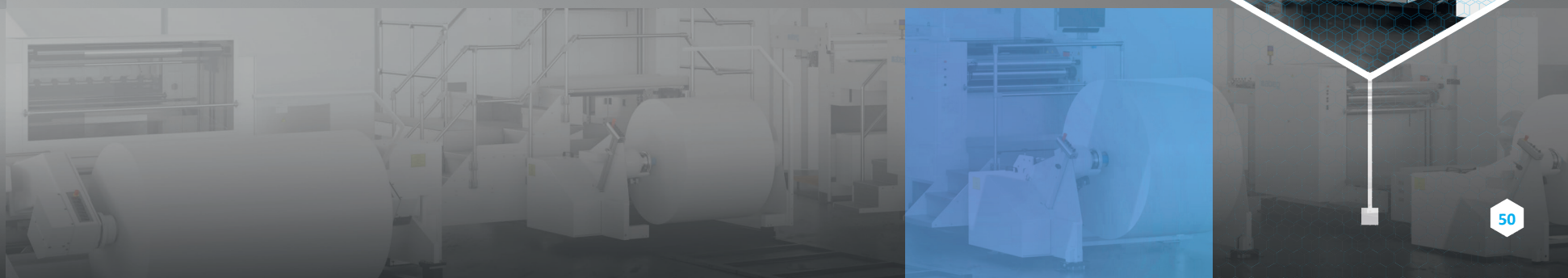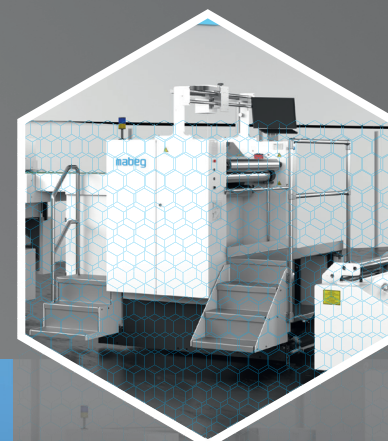
MABEG Sheet stacker MST

For delivery stacks with clean edges

At MABEG, we understand that it is not only important what comes out at the end of the printing process, but also how it comes out - and this is where the MABEG sheet stackers come in, with their perfect post-production delivery.

Accurately stacked sheets and perfect pallets save time and therefore hard cash. Without the need for restacking, they can be provided directly to the next processing step, e.g. to a converting or cutting machine.

In this highly practical solution, the stacks are set down on Euro pallets or single-use pallets that are positioned on a support plate that is automatically lowered. This plate is lowered continuously down to a safety height of approx. 120 mm while the sheets are stacked. Further lowering can then be performed via manual controls. The finished stack can then be accessed from three sides and taken away with e.g. a pallet truck.

As your specialist for sheet handling, MABEG supplies sheet stackers in proven high quality and with innovative functions. It goes without saying that we are happy to implement individual adaptations to suit customer-specific requirements, e.g. in relation to the stacking height, infeed height or control system.

Robust
Powerful
Adaptable

MABEG Systems GmbH

MABEG Sheet stacker MST 3

Fast format setting by EFA system

The MST 3 sheet stacker is the most widely used sheet stacker from MABEG. Not only does it offer outstandingly robust performance and complete ease of adjustment thanks to the EFA system, but it also impresses with perfect stacking quality even at speeds of more than 200 m/min.

The EFA system (Easy Fast Adjustment) is the central pneumatic locking device for all size-related adjustments on the sheet stacker. It allows the sheet stops to be repositioned directly at the required size without lengthy winding of crank handles.

Sheet sizes (w x l):

Minimum sheet size:
(all versions):   300 x 300 mm

Maximum sheet size:
Standard version: 1,060 x 760 mm
with size option FO83:   1.060 x 830 mm
with size option FO106:   1.060 x 1.060 mm
with size option FO120   1,060 x 1,200 mm
with size option FO145   1,060 x 1,450 mm (format 6)

Further features:

- Precise stack formation thanks to individually controllable and adjustable lateral stops
- Mark-free delivery even at high speeds thanks to sheet brake
- Adjustable sheet profiling device for perfect delivery even of thin substrates at high speeds
- Series connection of several sheet stackers
  - For sorting
  - For NONSTOP operation
- Touch-screen operation
- Large grammage range
- Tap inserter (optional)
- Discharging system (optional)
- Stack can be removed from three sides

MABEG Sheet stacker MST 2

Robust - Powerful - Adaptable

The MABEG MST 2 sheet stacker is the "little brother" of the MST 3. Stack formation, stack quality and the operating concept are all identical to the MST 3.

Sheet sizes

- **(w x l) :** from 225 x 180 mm to 540 x 740 mm

Further features:

- Accurate stack formation thanks to individually controllable and adjustable lateral sheet joggers
- Touch screen operation
- EFA system for quick size adjustment
- Tab inserter (optional)
- Discharging system (optional)
- Stack can be removed from three sides

High-performance sheet feeder MSF

High precision at maximum speed

The reliable functioning of a sheet feeder in daily practice is essentially guaranteed by the reliable control of the process, i.e. sheet separation and sheet transport, and by the powerful and robust electrics and mechanics.

MABEG has been the technology leader in both fields for more than 75 years.
More than 120,000 MABEG sheet feeders worldwide substantiate this statement.

Every MABEG sheet feeder is an individual solution for the specific requirements of our customers. By means of a questionnaire, we determine the exact requirements profile and design the sheet feeder individually according to the customer's requirements.

Freely selectable drive concept and complete automation; Depending on customer requirements

MABEG Components at a glance:

■ ClassicFeed suction heads
   From MSH1 to MSH8
   From 4,000 to 18,000 sheets/hour

■ NewTec suction heads exclusivily for our mechanical engineering customers
   Electronically controlled drop-down times
   50 % reduction in energy consumption
   Extremely smooth running
   Elimination of the pressure vaccum pump

■ Side lays and sidelay bridges
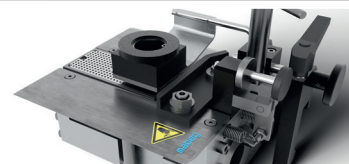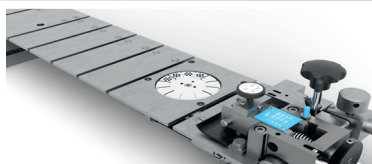
Components

Components

For more than 75 years, MABEG suction heads and sidelays have led the way
when it comes to versatility and reliability in harsh industrial environments.

MABEG suction heads and sidelays are not only used in our own sheet feeders,
but also offered to mechanical engineering companies for integration into their own machines.

It is naturally also possible to purchase MABEG suction heads and sidelays as spare parts
for print shops through our service department.
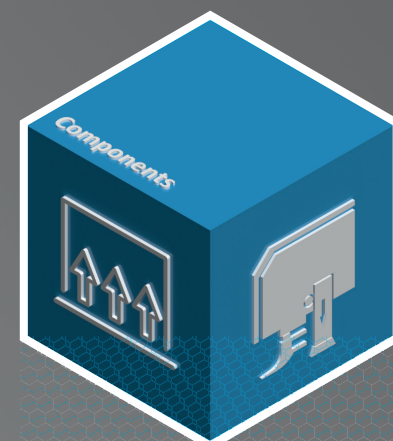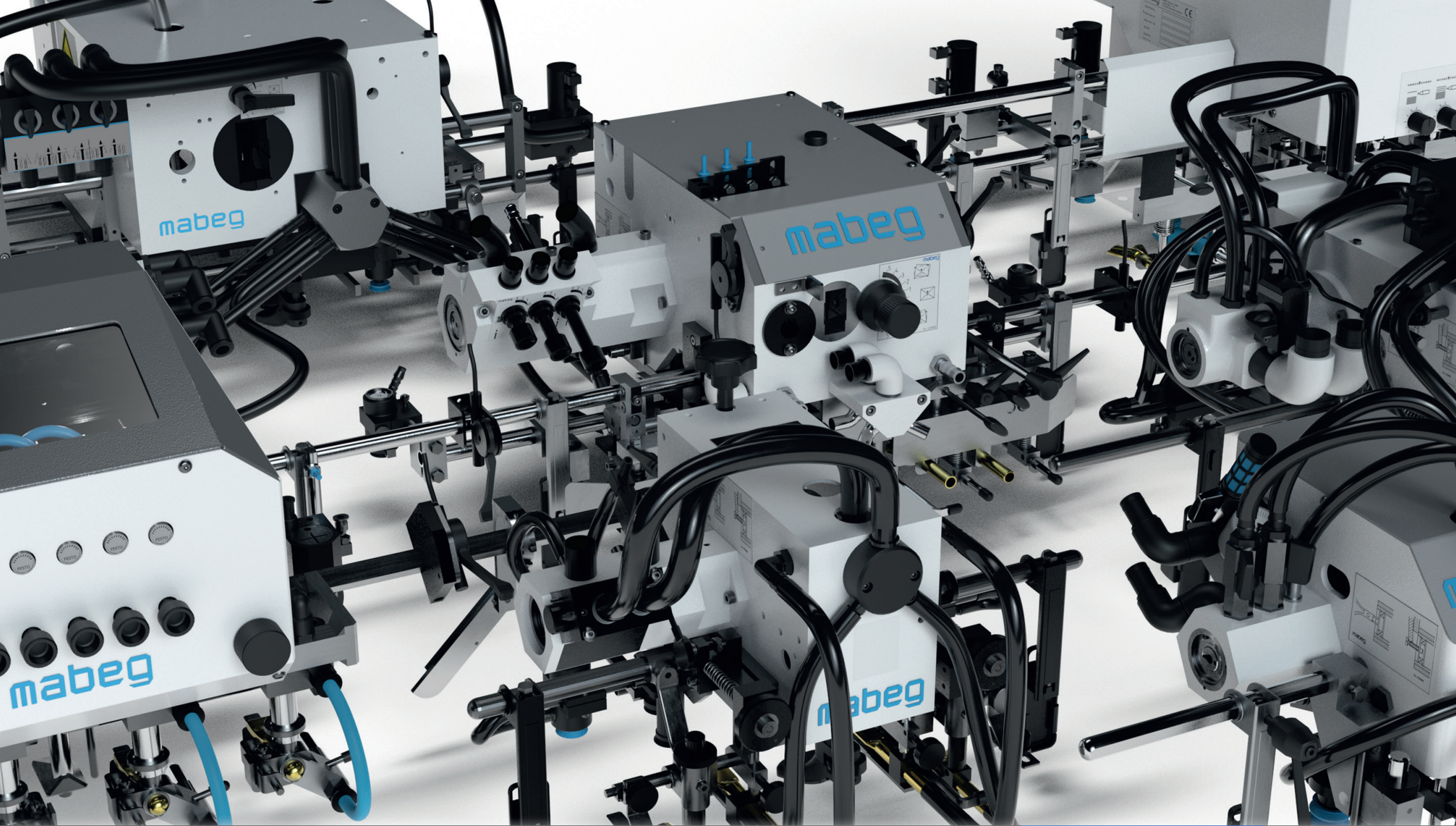
MABEG Suction heads MSH

Quality - Reliability - Productivity - THE MABEG TRADITIONAL PRODUCT

With over 75 years of experience, MABEG is your ideal partner when it comes to sheet feeders.

The dependability of a sheet feeder is essentially down to the reliable separation of the sheets by the suction head.

MABEG suction heads are available for all formats and performance classes, and can be integrated into your own sheet feeder or used to replace suction heads that have started to show their age.

There are two suction head technologies to choose from:

- MABEG ClassicFeed
- MABEG NewTec
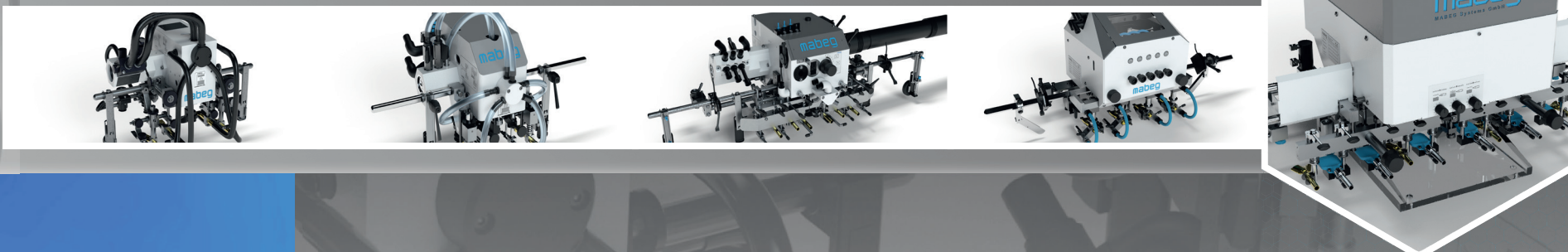
NewTec

Consistent progress through the use of state-of-the-art automation technology.

MABEG NewTec suction heads (sheet separators) represent a logical step into the future made possible by the use of cutting-edge automation technology. Based on the KAjector technology developed by Kasprich (patent pending), this new generation of suction heads combines the twin benefits of enhanced performance and reduced energy consumption.

The MABEG NewTec family of suction heads eliminates the need for air control valve assemblies and air control. Air hoses are therefore also superfluous. The suction and blowing air required for each process step is generated inside the suction head itself using specially designed and controlled ejector nozzles (KAjectors).

These direct vacuum systems are controlled individually with the aid of an intelligent micro-controller, thus ensuring that energy is only consumed when suction and blowing air is actually needed. The integrated control software places almost no restrictions whatsoever on the flexibility with which switching cycles can be configured, thus enabling activation times to be fine-tuned to specific processes and machine speeds. This results in highly smooth operation and perfect sheet arrival throughout the entire speed range.

The aforementioned benefits not only make MABEG NewTec suction heads 50 % more energy-efficient and substantially less susceptible to wear than classic suction heads, but also open horizons for further performance enhancement and process optimisation.

Highlights:

- Freely programmable timing
- Extremely smooth running
- Low energy consumption
- No heat generated
- Significant reduction in noise levels
- 18,000 sheets/hour and more

ClassicFeed

The proven suction head technology for tough everyday industrial use

The MABEG ClassicFeed suction head is individually configured to your precise specifications. Adjustable parameters range from speed, sheet format and paper weight to technologically important details such as suction nozzle travel distance and lifting height.

Customers have a choice of two drive technologies:

- Direct drive
- Cardan drive shaft from a central sheet feeder drive

Low pressure is generated by a pressure-vacuum pump or with the aid of an ejector.

The cam discs used for process timing perform a key role. Specially developed by us in-house, the discs are only approved for full-scale production further to intensive simulation, calculation and long-term testing on our test setup. The same also applies to other core components such as the air controll valve. In addition to their precisely machined geometries, the materials and surface finishes selected for all our components are key factors in their longevity and reliability. MABEG suction heads: Made in Germany, never matched!

Their flexibility and efficiency make our tried and tested MABEG ClassicFeed suction heads the ideal choice for demanding tasks in harsh industrial environments.
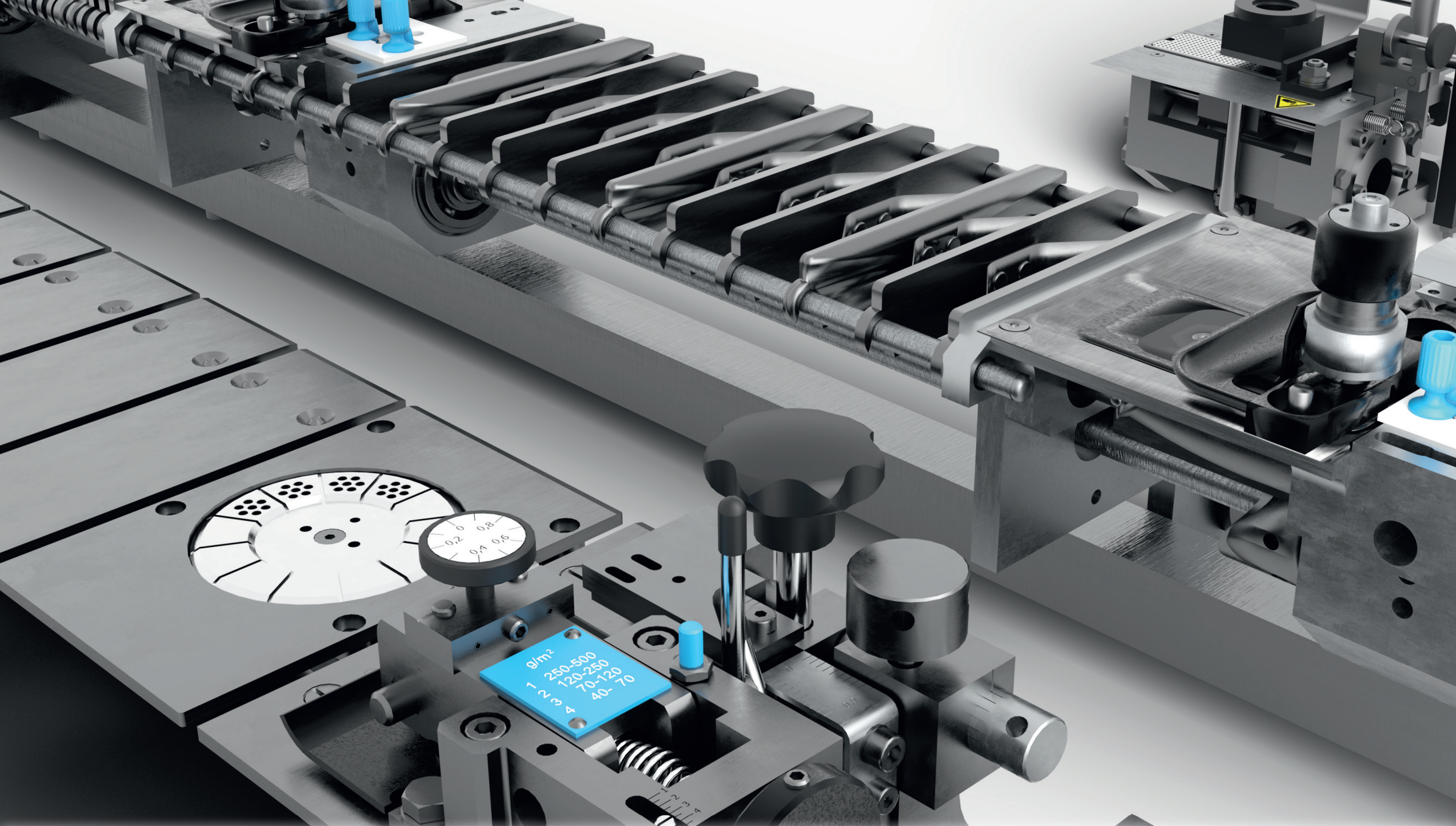
Highlights:

- Extremely wide range of potential substrates, including paper, cardboard, sheet metal, other materials
- The utmost in precision and longevity thanks to advanced engineering
- Up to 18,000 sheets/hour (depending on model)
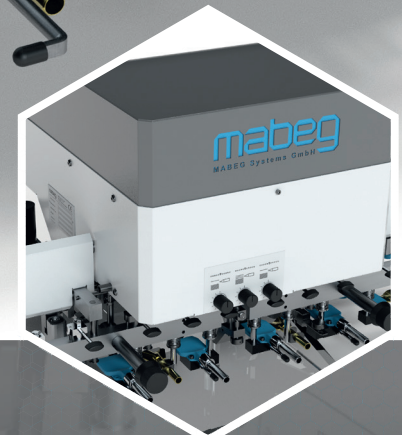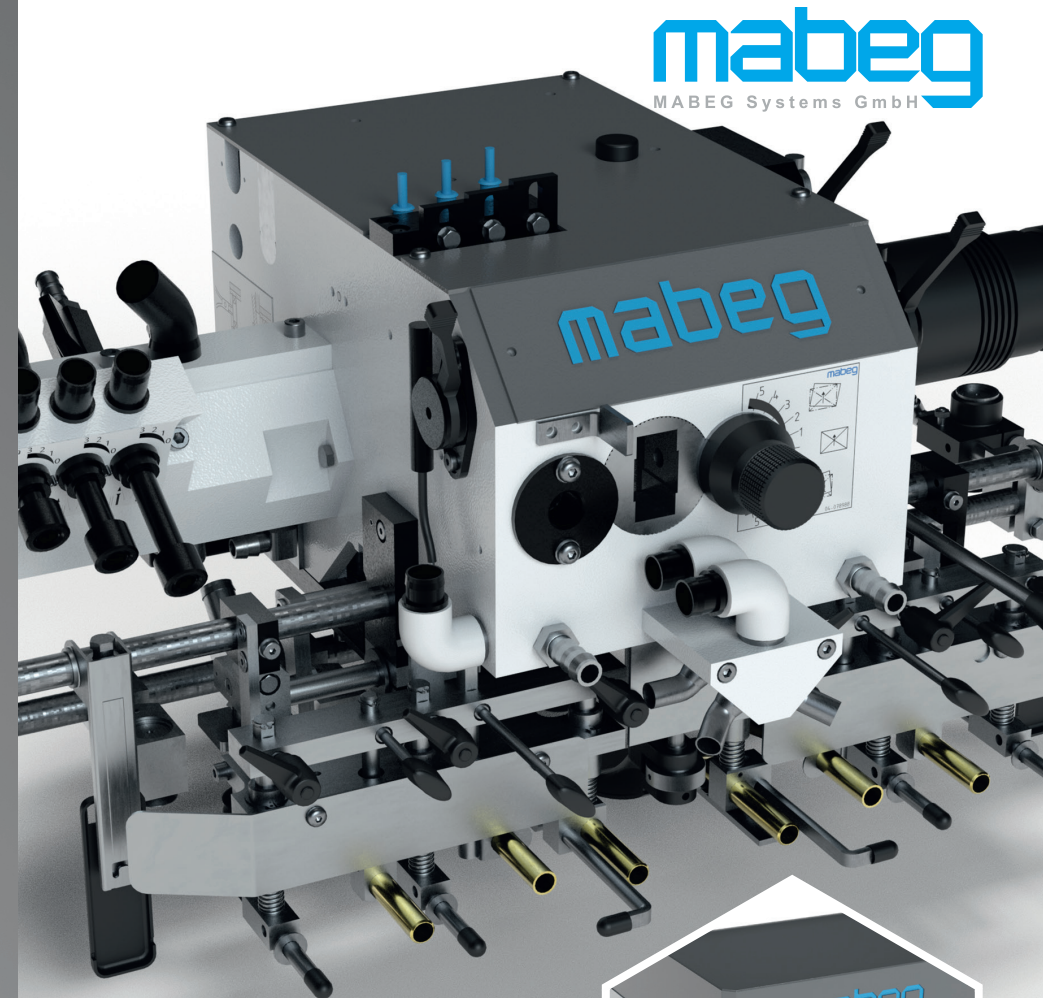
Lateral sheet alignment

## Technology kits for precise lateral sheet alignment

MABEG offers a variety of tried-and-tested technologies for precise lateral sheet alignment. They can be packaged for integration into our customers' own machine concepts, retrofitted to existing machines, or used as spare parts.

We select components that match both the application in question and the customer's specific requirements. It would be our pleasure to provide you with a tailored solution to your design challenge.

Our solutions are based on the use of 3 core technologies:

- Sidelays and sidelay bridges
- Pneumatic rotary discs
- Alignment tables
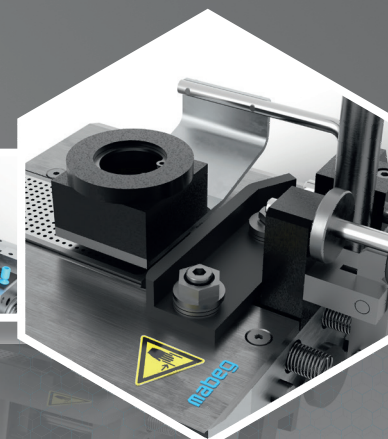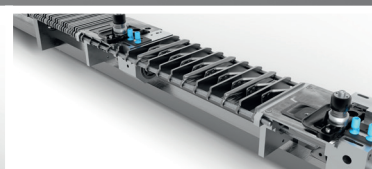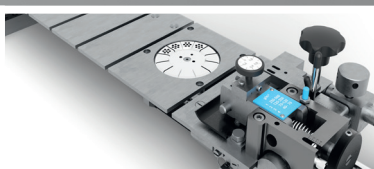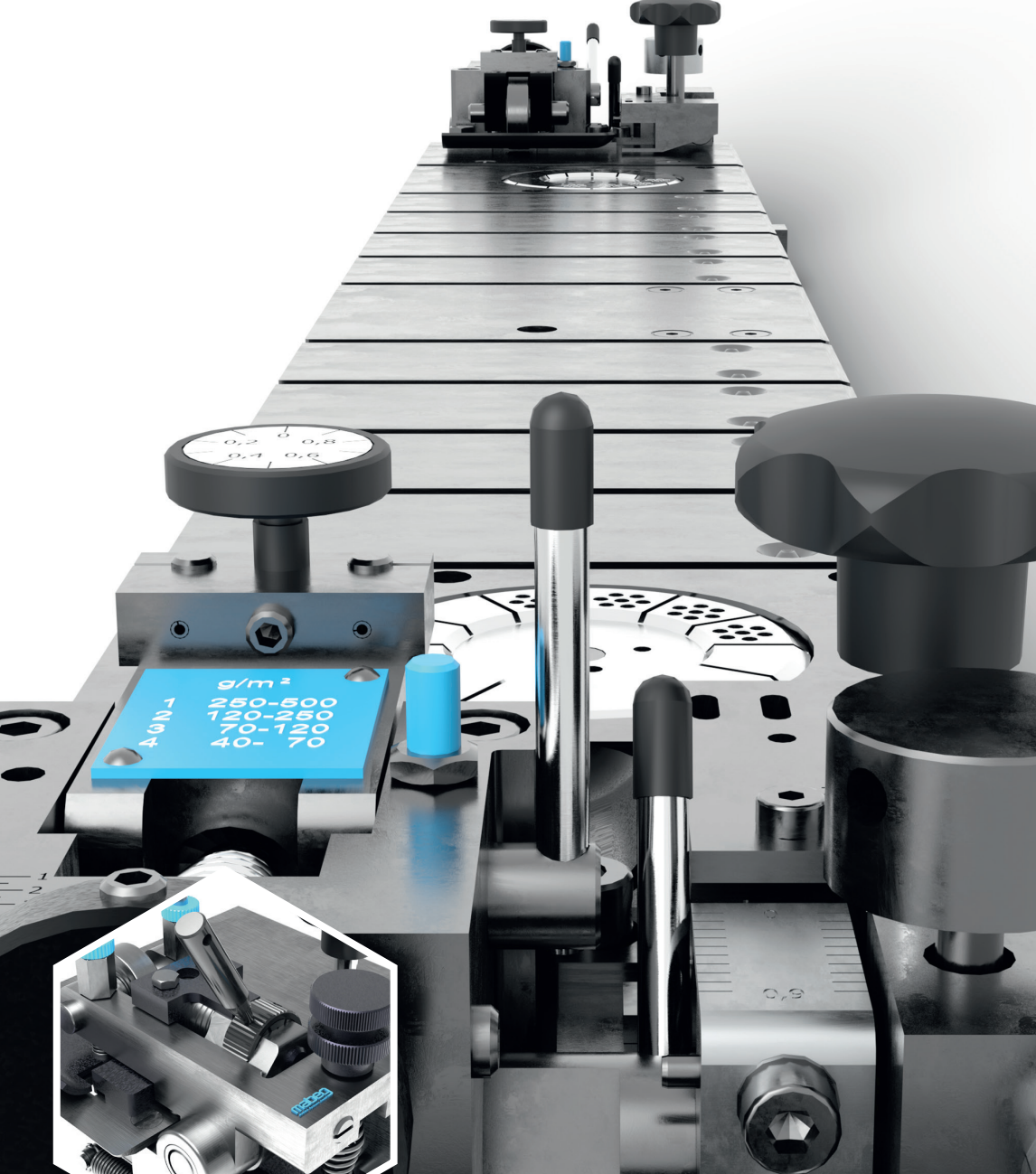
Sidelays and sidelay bridges

Range of application includes paper, cardboard up to special materials

Sheets are aligned at sidelays during a brief pause in sheet transport immediately before the sheet runs into the machine.

In addition to single pull lays, we also configure entire sidelay bridges for sheet alignment at left or right sidelays. The sidelays can be positioned to match the sheet width using servo motors. Pneumatic rotary plates can be used to support sheet alignment when processing sensitive print materials.

Potential substrates include paper, cardboard and a range of special materials. Please feel free to contact us for further details.

g/m²
1   250-500
2   120-250
3   70-120
4   40- 70

Pneumatic rotary discs

Precision also at sensitive materials

Pneumatically driven rotary discs can be used to support sidelays in sidelay bridges and align sheets during sheet transport.

Sidelay bridges make it possible to position 2 rotary discs as far apart as possible. The plates rotate in such a way as to tauten the print material between them, thereby ensuring that the sheet runs smoothly. Sheet tautening is a particularly useful means of ensuring correct sheet arrival when working with thin paper.

The arrangement of one or more pneumatic rotary discs in series or across the width of the sheet facilitates the alignment of individual sheets during sheet transport.
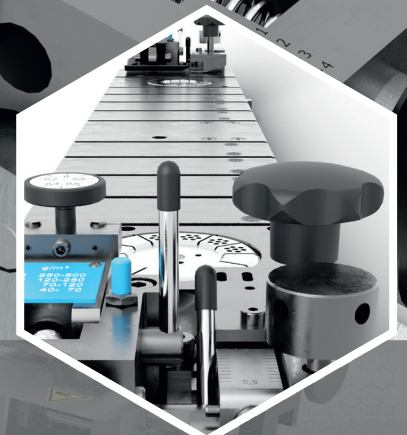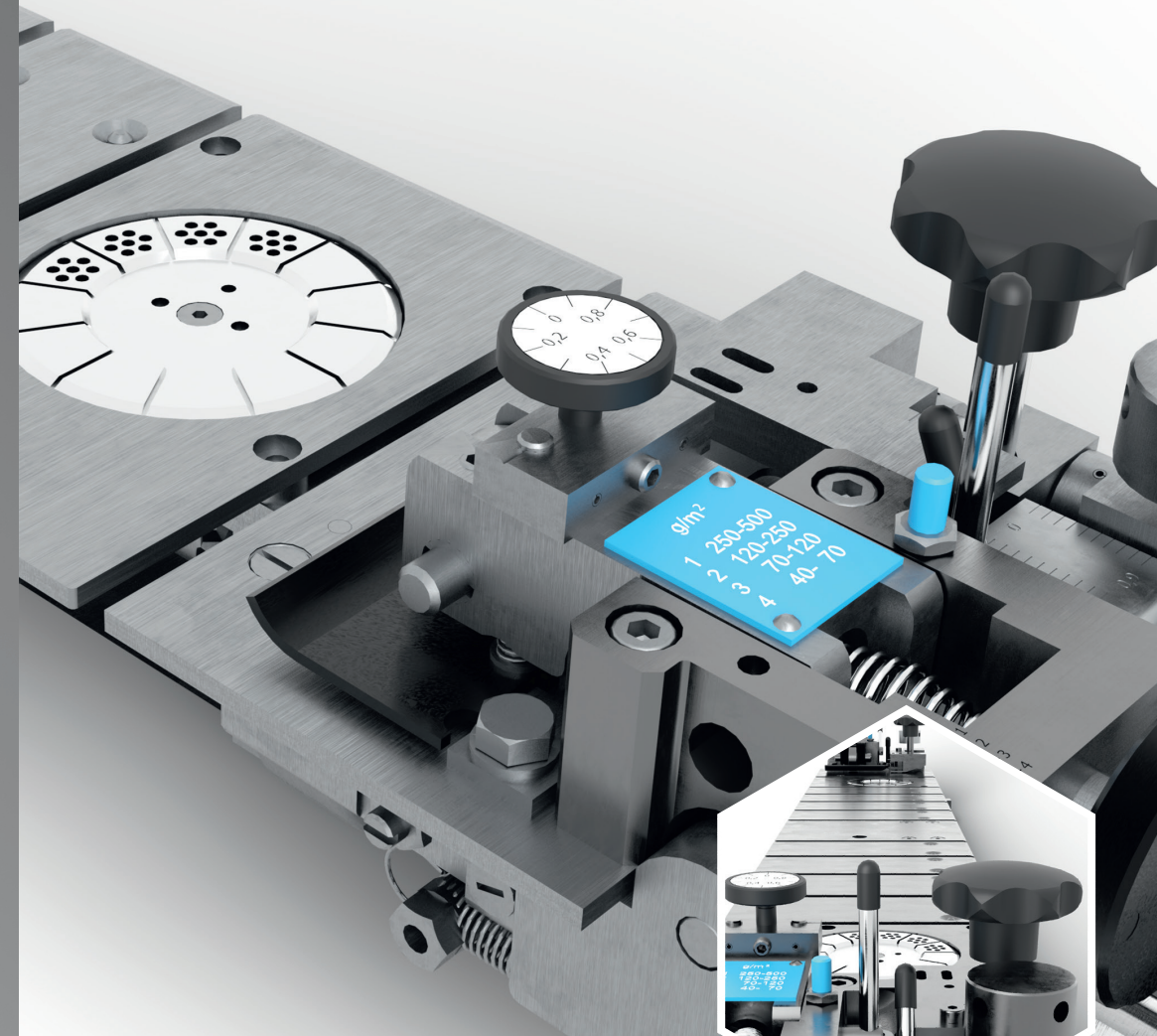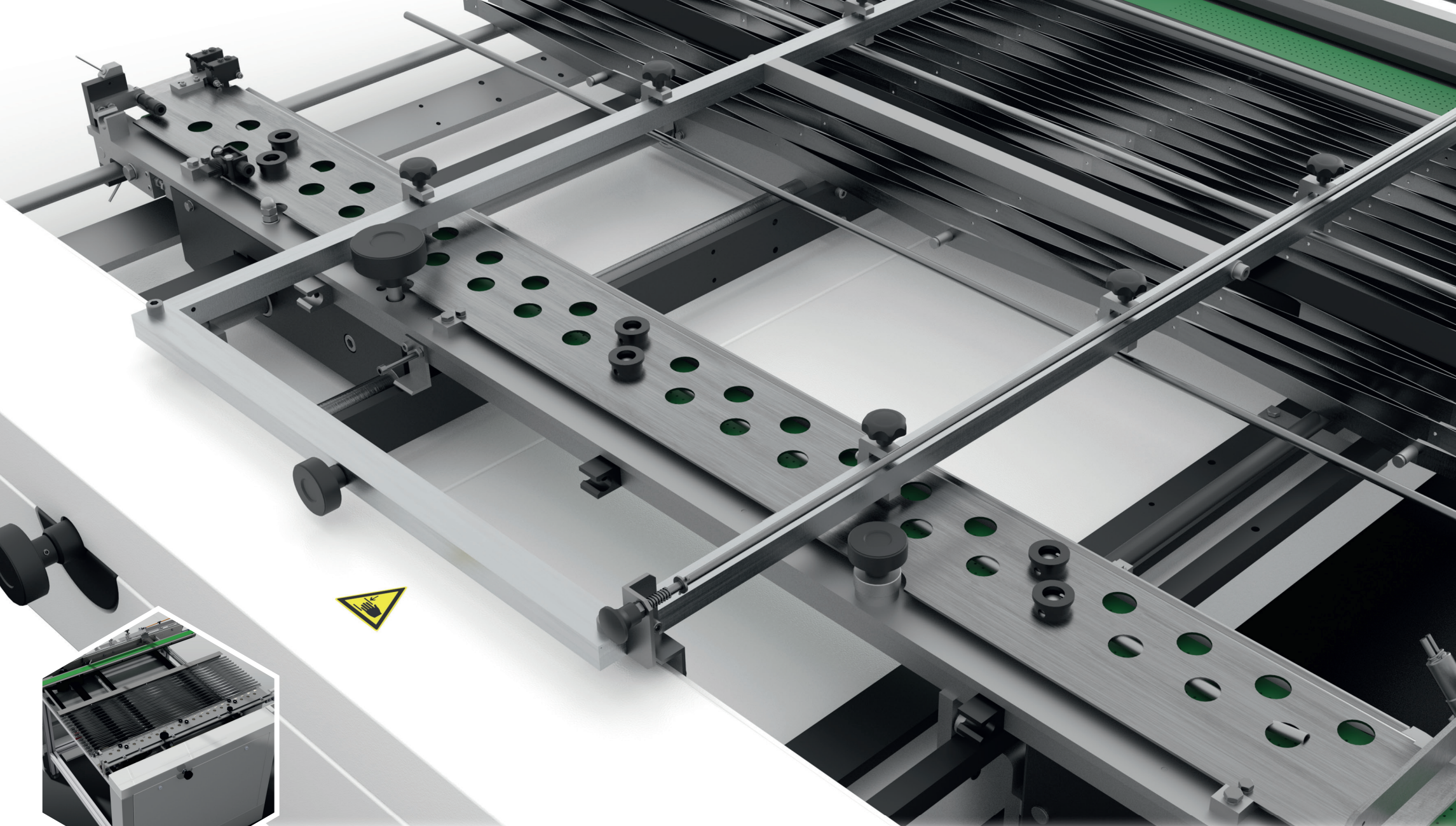
Alignment table

Specially for the field of security printing: with sensor packages are available for sheet monitoring

Another way of aligning sheets during sheet travel is to use alignment tables. A diagonal suction belt transports each individual sheet to a side stop bar where the sheet is then aligned.

Specially developed sensor packages are available for sheet monitoring applications in the field of security printing. In addition to standard double sheet detection, alignment accuracy can also be monitored and used to trigger further actions. Another option enables the monitoring of indented sheets that cannot be detected using double sheet detection techniques.

The following alignment table models are available:

- Left side of sheet run direction
- Right side of sheet run direction
- Switchable models for both left and right side of sheet run direction
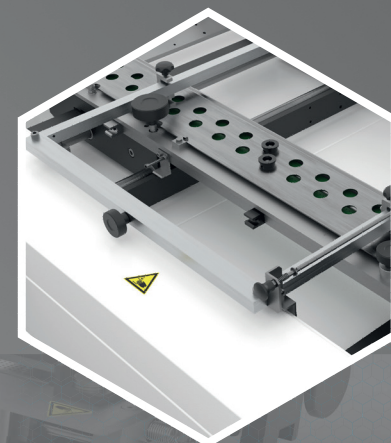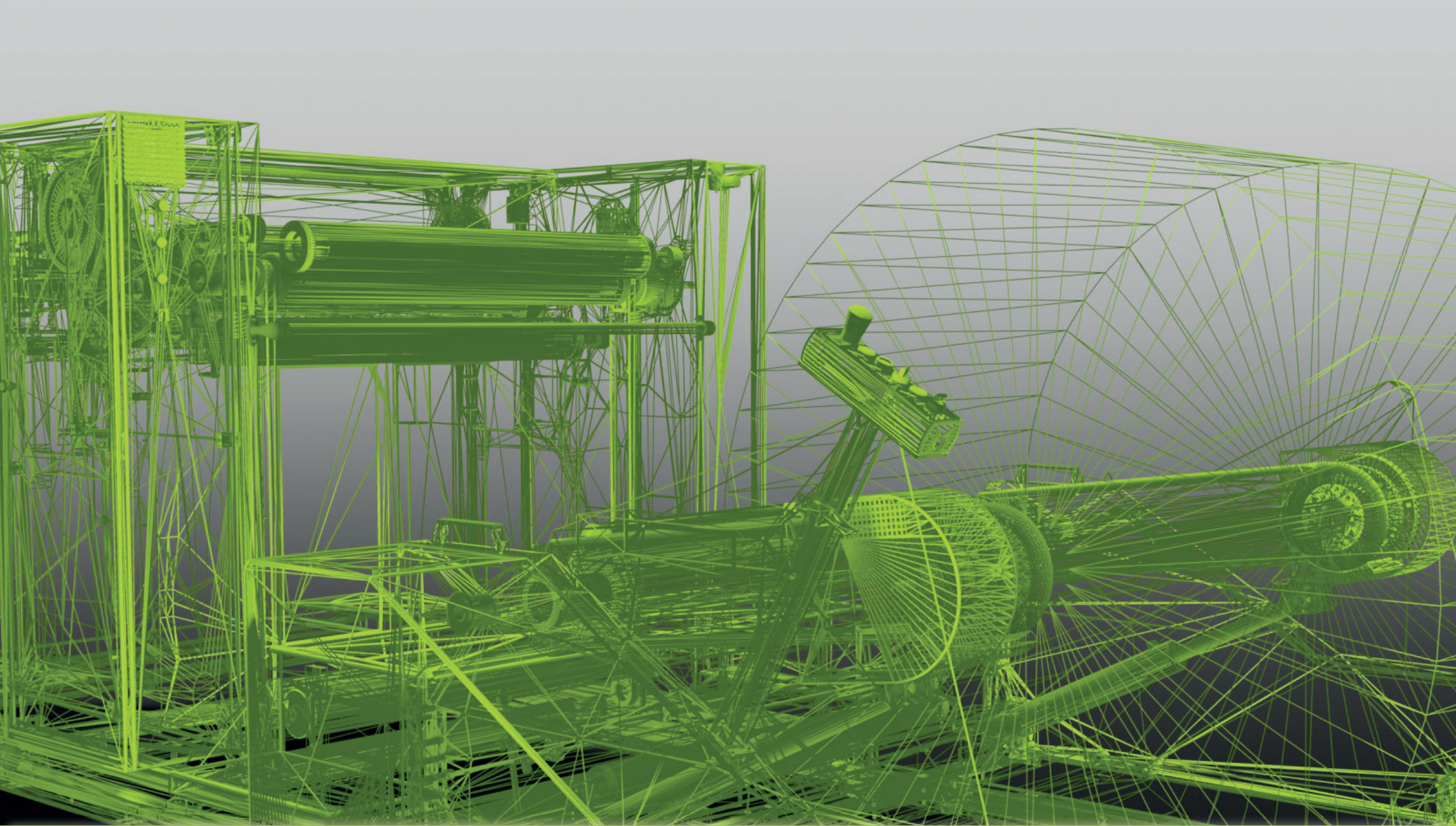
Service

Worldwide - For all MABEG products

With its worldwide sales and service partners, MABEG offers a market presence for all your needs.
Even the most reliable products need to have parts or assemblies replaced from time to time.
Then it's a matter of quickly procuring the right part.

To ensure that nothing goes wrong when ordering spare parts for your MABEG product, please
always state the machine number and the machine type.

The quickest way for your order to reach us is to use the following request.
If you have any questions, you can contact our service team at **service@mabeg.net** or
the telephone numbers **+49 6105 203-115** and **+49 6105 203-116**.

Spare Parts

- Our 1,000 m² warehouse stocks all common spare and wear parts

- Worldwide delivery of spare and wear parts for Mabeg products

- Fast shipping with our preferred courier services; certified by the German Federal Aviation Office
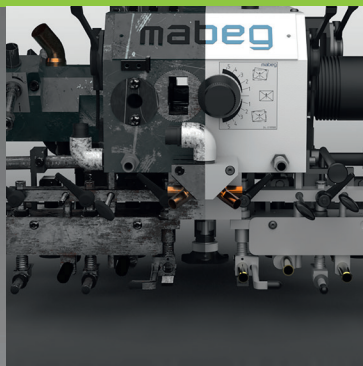
We would be pleased to provide you with a free quotation / Please contact us!

mabeg

MABEG Systems GmbH

Retrofitting/Reconditioning

- Possibility to replace components such as side lays, suction heads, etc. or their overhaul in our factory

- Upgrades to increase the productivity of your product

- Overhaul or rebuild of your sheet feeder or ReelSheeter by our qualified qualified employees in our factory

We would be pleased to provide you with a free quotation / Please contact us!

Installation & Maintenance

- Regular inspections and maintenance according to factory checklists, the active and planned replacement of wear parts by our qualified staff at your premises

- New installations, recommissioning after relocation and conversions of Mabeg products on your premises by our qualified staff

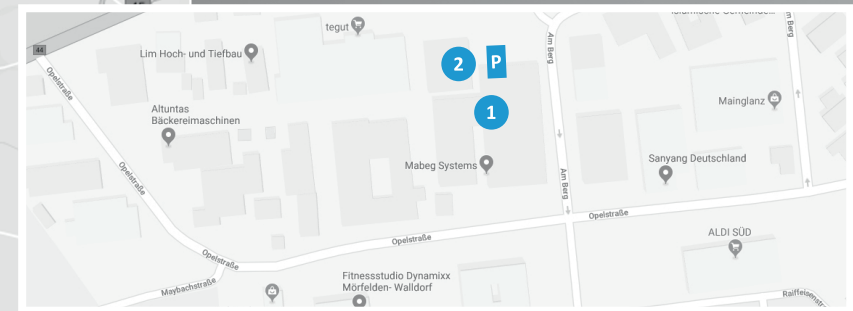We would be happy to work out a concept for you together / Contact us!

Remote Support

Our service offers you telephone support and remote service (an eWon router must be installed for this), in order to support you in troubleshooting as quickly as possible.

We would be happy to provide you with a free quotation for the retrofitting of a corresponding router, if the technical possibilities are given / Contact us!

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mabeg
MABEG Systems GmbH

**Industriegebiet Süd
Ortsteil Mörfelden**

Mabeg Systems GmbH

How to find us

Our company location Mörfelden-Walldorf / Germany (industrial area South / district Mörfelden)
is located near Frankfurt am Main in the immediate vicinity of Frankfurt International Airport.
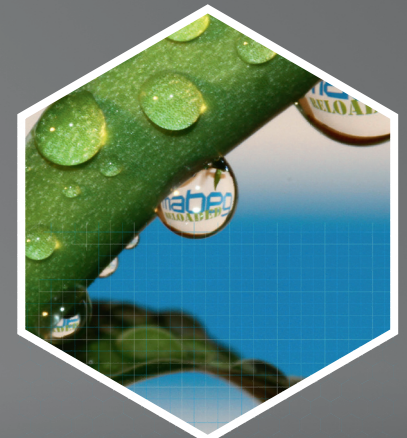
You will reach us

- via the A5, exit Langen / Mörfelden
- via the A67 from the north, exit Rüsselsheim Ost
- via the A67 from the south, exit Groß Gerau

Finances
Management
Construction
Human Resources
Sales

Purchasing
Assembly
Service
Incoming goods

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