PREPRESS | PRESS | POSTPRESS

# Speedmaster SM 52

## Speed Into the Future!

HEIDELBERG

# Contents

**Speed Into the Future!**

# Quality and versatility for discriminating users • The Heidelberg Speedmaster SM 52 sets the standard. With over 10,000 printing units installed, it is the most successful high-end press for high-quality general commercial work in the 55 x 75 cm format sector.


Proven 10,000 times – the Speedmaster SM 52 printing units.

General commercial printers today are facing ever-shorter runs coupled with ever-increasing demands on quality, shorter delivery times and a keen awareness of costs. Forward-looking technologies are needed to ensure financial success in the future. The Speedmaster SM 52 gives you the first-class technology you need to optimize quality and performance across a whole range of applications. By providing you with top quality to maximize throughput, operate cost-effectively for short runs, maximize profitability by minimizing makeready times, and ensuring reliable production through utilizing only state-of-the-art technology, the Speedmaster SM 52 gives you the means to respond quickly and flexibly to the growing, ever-changing needs of the market.

Customers' requirements differ. This is why the Speedmaster SM 52 comes in a wide range of models, allowing you to choose the perfect machine for your particular needs. It is available in various configurations ranging from one-color to six-color models.

All design features, the prepress link and the user-friendly CP2000 Center press control system have been geared to practical needs and usage over a broad spectrum.

The Speedmaster SM 52 sets the standard in its format class!

The Speedmaster SM 52 – futuristic technology for your success.

**SM 52 technology**

- The most versatile in the 35 x 50 cm format class
- Inline coating system and fully automatic sheet reversing unit (optional)
- Innovative detail solutions for greater productivity
- High performance in even the most demanding applications
- High quality, short makeready times, high efficiency
- Workflow integration based on open, future-focused standards, ensuring short throughput times

**SM 52 flexibility**

- Fast job and format changeovers
- Broad job spectrum
- Automation for Short Run Color and Print on Demand
- Ideal for digital workflows

**SM 52 productivity**

- High availability
- Stable print quality and sheet travel, even at top speeds
- Low waste, high quality and short makeready times
- High throughput thanks to automation and workflow integration

**SM 52 easy handling**

- CP2000 Center press control system
- Simple operation via Touch Screen
- Clearlyarranged menu structure
- CIP3-link to digital prepress via the PrepressInterface

# CP2000 Center – technology with you in mind •

The CP2000 Center simplifies press operation thanks to its clearly arranged menu structure. The Touch Screen can be used to control the machine's functions easily, accurately and quickly.

The CP2000 Center – high-tech technology that makes press operation so much easier, thanks to its clear structure.

High-tech does not need to be complicated. The CP2000 Center makes press control am azingly easy. The clearly arranged user interface provides the printer with continuous information on the status of the machine and job progress. The swivel-mounted Touch Screen functions as the control center for vital machine functions such as color and register, the wash-up device and changeover of the fully automatic sheet reversing unit.

Symbols, text and color coding are used to guide you through the various operations. The operating instructions can be accessed quickly and directly on the screen by means of the on-line help tool.

The Touch Screen augments the user friendliness of the press.

Settings for circumferential, lateral and diagonal registers can be performed on the delivery units of the single-color and two-color presses using CPTronic.

## Software modules

- Modular design supports functional expansion at any time.
- The CP2000 PresetLink can be used to adopt ink coverage values on-line from prepress – via the Plate Image Reader of PrepressInterface – for press presettings.
- CP2000 ManagementGate records press data such as counter status and wash-up processes. Industry specific software, customer IT or Heidelberg Data-Control can be linked up and can be used for transferring job data or retrieving press data.

## Additional modules

- The CP2000 MemoryPlus expands the job memory to accommodate several thousands of jobs.
- CP2000 OnlineAssistance can be used to transfer service data via modem from the press to the Heidelberg agency (as part of a service agreement), enabling the latter to respond faster and more effectively.

A whole range of new and helpful functions are supported. These include the Color Fast Solution which accelerates inking unit response and precise positioning of the ink fountain zones. An intelligent pre- and postdampening program, automatic monitoring of dampening solution quantities where there are large changes in the quantities of ink applied, and continuous display of the machine status all combine to ensure a considerable reduction in waste.

Data for up to 250 jobs can be stored to ensure that repeat work can be processed quickly. What is more, while one job is being printed, you can be already preparing the next.

The CP2000 Center is a standard feature of 4-, 5- and 6-color models. One- and two-color models will continue to be supplied with the tried-and-tested CPTronic control system or with CPC 1-04, if requested.

### CP2000 Center

- Clearly arranged Touch Screen user interface with integrated help function.
- New functions for faster inking unit response: Color Fast Solution
- Storage of up to 250 jobs
- Software modules for customized functional expansion
- Integration into the networked printshop – transfer of prepress data, dialog with industry-specific software and DataControl

## The feeder – No setting required

• From ultra-thin paper to lightweight card – the Speedmaster SM 52 ensures that formats and materials can be changed quickly and effortlessly. The settings for the side lay and printing stock thickness can be made at the press of a button – saving time which can be converted directly into greater productivity.


The Speedmaster SM 52's feeder runs reliably, even with the most diverse printing stocks.

## The feeder

The feeder is equipped with a suction head with combined lifting and forwarding suckers which reliably separate the sheets, even when the press is running at top speed. Specially-developed sheet separators and perfectly coordinated blowers at the front edge of the pile ensure smooth sheet travel, even with extremely difficult printing stock. Electronic eyes continuously monitor when sheets arrive at the front lays and the orientation of the sheet in travel direction. Deviations from optimum sheet travel are signaled to the operator and can be corrected immediately.

The stream length of 100 mm is useful when processing small formats. The stream feeder can be used without additional equipment down to a minimum format of 105 x 145 mm. You can also switch to single-sheet mode in order to process envelopes with difficult flaps without need for additional equipment.

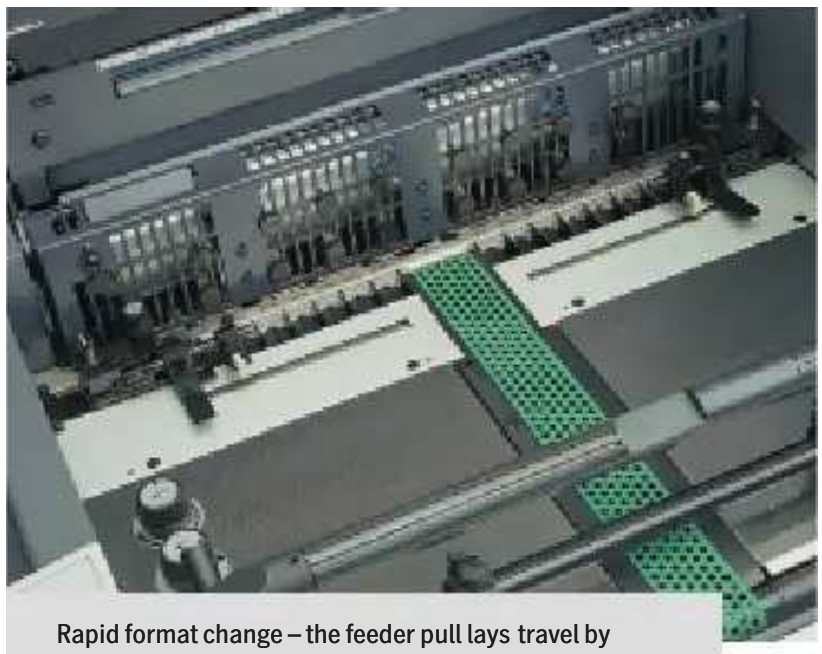
When changing printing stock, many time-intensive settings are performed automatically by means of the machine control system. Formats and materials can be changed with ease, since feeder and delivery can be changed over quickly and without need for tools. The side lays and the shaft on which the six front lays are mounted can be remotely adjusted via the control console. The process of lowering and raising the pile is motorized, making things easier for the operator to change the pile when necessary.

The feeder suction head with combined lifting and forwarding suckers separates the sheets reliably, even at speeds of 15,000 sph.

Amazingly simple and fast – envelopes can be produced on the Speedmaster SM 52 with no need for additional equipment.

### The feeder

- Suction-tape feeder
- Suction head with combined lifting and forwarding suckers
- Formats and materials can be changed effortlessly
- Stream length of 100 mm
- Simple processing, even for very thin printing stock
- Sheet arrival detector
- Envelope production without need for special equipment



Rapid format change – the feeder pull lays travel by remote control to all positions between the minimum and maximum formats.

# Fully automatic sheet reversing device – uncompromising quality on both sides • The flexibility of the Speedmaster SM 52 with fully automatic sheet reversing device will increase

both your performance and profitability.

Simple and accurate conversion at the press of a button – storage drums and pincer gripper curves are moved to the precise position using pneumatic controls.

Perfect print quality on both sides in onepass productivity, made possible by the Speedmaster SM 52's fully-automatic sheet reversing device.

Heidelberg Perfecting, the sheet reversing device in the Speedmaster series, generates a finished product in a single pass. With top quality perfecting, one-pass productivity delivers up to 15,000 sheets per hour (each sheet printed both sides), thereby cutting throughput times and boosting your productivity and profits.

Since its launch, the Speedmaster SM 52 has been the only press in its format class equipped with a fully automatic sheet reversing device. The concept of being able to choose between straight printing and perfecting has already proven successful in over 1,000 printshops worldwide. The changeover process is absolutely precise and is performed fully automatically – without any manual intervention – via the control system. Specially treated impression cylinder jackets prevent ink build-up after sheet reversal when perfecting.

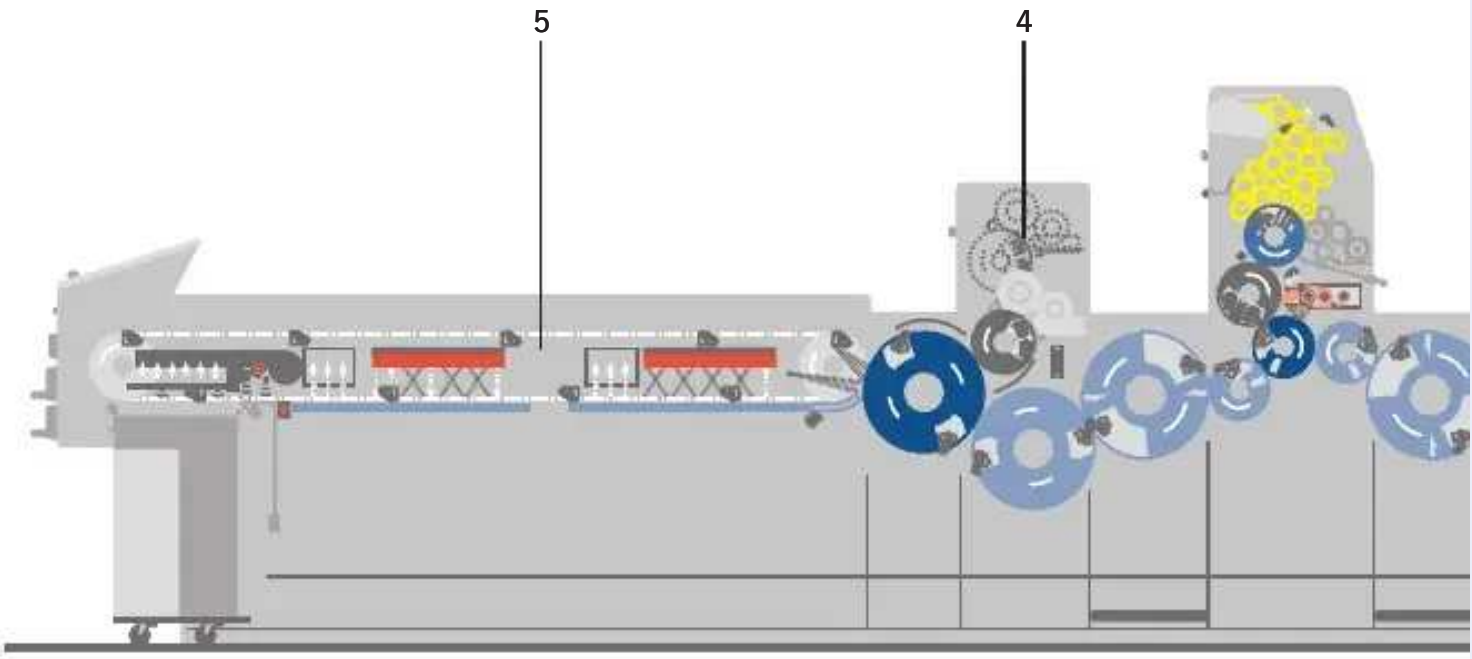
## Sheet travel

Suckers mounted on eccentric bearings tauten the rear edge of the sheet in lateral and circumferential directions before it is transferred with register accuracy by the pincer gripper of the sheet reversing cylinder. This ensures exceptional reliability with a variety of printing stock and high tolerance to size deviations. The chrome jackets for transfer drums I and III have a special surface structure which ensures that the sheets are not damaged when transported between the printing units.

Heidelberg Perfecting

- The only fully automatic sheet reversing unit in the 35 x 50 cm format class
- Sheets are tautened in both lateral and circumferential direction
- Exchangeable impression cylinder jackets

# Open-unit design for all models from single-color to six-color presses – all the advantages at a glance




1 **The feeder**

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- Suction head with combined lifting and forwarding suckers
- Formats and materials can be changed effortlessly
- Stream length of 100 mm
- Simple processing, even for very thin printing stock
- Sheet arrival detector
- Envelope production without need for special equipment

5 **The delivery**

- Two delivery options – standard or high-pile
- Standard delivery can also be supplied with numbering, perforating and imprinting unit
- High-pile delivery with DryStar 2000 Ink
- Changing formats is quick and easy since no tools are required

2 **Heidelberg Perfecting**

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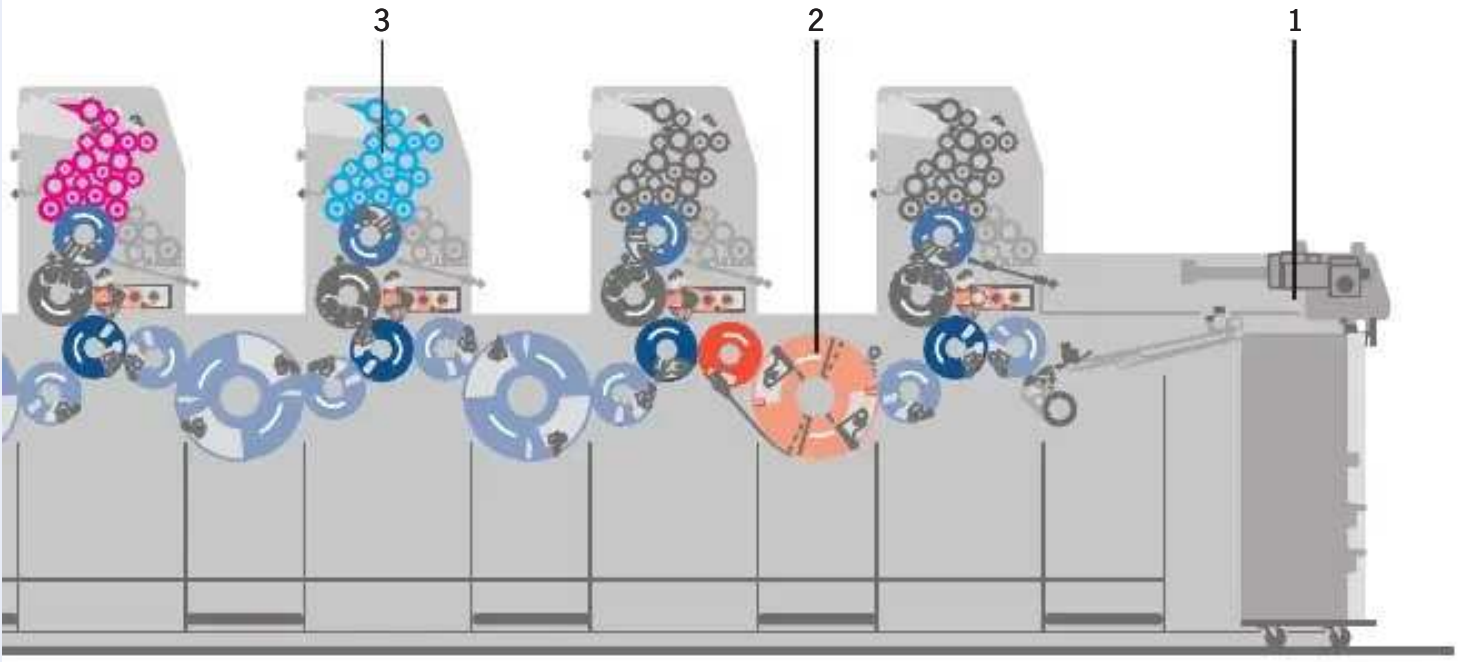


3 **The printing unit**

- Robust construction
- Integrated automation and remote control concept by means of the press control system
- Alcolor continuous-film dampening system
- Inking unit temperature control
- Automatic inking unit wash-up device
- Automatic blanket and impression cylinder wash-up device

4 **Inline coating system**

- Heidelberg dual-roller system applies coating directly
- The CP2000 Center makes operation easy
- Double-sized transfer drums and impression cylinders ensure safe sheet travel
- Coating unit can be raised to optimize access and ensure safe sheet travel when printing without coating
- Extended high-pile delivery with Heidelberg DryStar 2000 Combination for optimum drying
- Circumferential, lateral and diagonal registers can be adjusted using the CP2000 Center

## Machine configurations

| | Speedmaster SM 52 | | | | |
|---|---|---|---|---|---|
| **Configuration** | **52-1** | **52-2** | **52-4** | **52-5** | **52-6** |
| **Press control system** | | | | | |
| CPTronic | • | • | | | |
| CPC 1-04 remote ink and register control | | • | | | |
| CP2000 Center | | | • | • | • |
| QualityControl | | | • | • | • |
| ImageControl | | | • | • | • |
| QualityProof | | | • | • | • |
| Plate Image Reader | | | • | • | • |
| PrepressInterface | | | • | • | • |
| **Feeder** | | | | | |
| Remote-control pull lays | • | • | • | • | • |
| **Powder spray device** | | | | | |
| Mediprint T-Tech | • | • | • | • | • |
| Grafix Alphatronic 200 | | • | • | • | • |
| **Printing unit** | | | | | |
| Heidelberg AutoPlate with register system | • | • | • | • | • |
| Program-controlled blanket and impression cylinder wash-up device | • | • | • | • | • |
| Inking unit temperature control | • | • | • | • | • |
| Fully automatic sheet reversing device | | • | • | • | • |
| **Delivery** | | | | | |
| Standard delivery with device for perforation, numbering, imprinting | • | • | • | • | • |
| High-pile delivery, Heidelberg DryStar 2000 Ink IR dryer | | | • | • | • |
| Coating system with extended high-pile delivery and Heidelberg DryStar 2000 Combination | | | • | • | |

• available

## Technical data

| **Printing stock** | |
|---|---|
| Thickness | From thin paper to 0.4 mm |
| **Formats** | |
| Min. sheet size | 105 x 145 mm |
| Max. sheet size | 370 x 520 mm |
| **Pile height, feeder** | |
| | 840 mm |
| **Production speed** | |
| Maximum | 15,000 sph |
| **Pile height, delivery** | |
| Standard delivery | 460 mm |
| High-pile delivery | 620 mm |

| **Speedmaster SM 52 coating system** | |
|---|---|
| Maximum coating area | 360 x 520 mm |
| Start of printing | 34 mm |
| **Remote register adjustments/coating system** | |
| Circumferential register | +3.73 / – 1.77 mm |
| Lateral register | +/– 3.95 mm |
| Diagonal register | +/– 1 mm |

# The printing unit – your guarantee of Heidelberg quality • The future-focused technology and sturdy construction of the individual printing units of the Speedmaster SM 52 guarantee

excellent print results well into the future and thereby ensure that the press retains its value.

The open-unit design from single-color to six-color presses ensures universal printing conditions throughout.

Brilliant print quality thanks to optimized ink flow.

Alcolor continuous-film dampening system: The fine dampening film increases brilliance and shortens drying time.

## The printing unit

The printing units of the Heidelberg Speedmaster series represent computer-optimized precision down to the very smallest detail. Sturdy side frames and helical gearing ensure that the printing units operate quietly and smoothly. The open-unit design guarantees the same printing conditions throughout, with absolute precision from one printing unit to the next.

The printing units of the Heidelberg Speedmaster SM 52 are highly automated. They are equipped with automatic wash-up devices for the blanket, impression cylinder and inking unit. This ensures enormous savings in time and wash-up solution. Plates can be changed in less than one minute per printing unit thanks to AutoPlate. AutoPlate clamps plates easily, with register accuracy and without need for tools. The combined plate clamping device can be used for both aluminium and plastic plates. The circumferential, lateral and diagonal registers are controlled remotely via the press control system.

## Inking units and dampening system

The inking unit of the Speedmaster SM 52 boasts optimized ink flow and a generous storage capacity, with performance in reserve to give you consistently top quality.

On single- and two-color presses, the operator controls inking via mechanical ink fountains equipped with laser-slit ink knives. Four-, five- and six-color presses are equipped as standard with the CP2000 Center remote inking and register control system. The core element of the CP2000 Center is the CP ink fountain for precisely reproducible ink zone adjustment.

The optional inking unit temperature control maintains stable conditions and constant inking during multishift operation and optimizes the conditions for standardized printing. The inking unit temperature control is a must for waterless offset printing, IPA-free and IPA-reduced printing and all UV applications.

All models in the Speedmaster SM 52 series are equipped with the tried-and-tested Heidelberg Alcolor continuous-film dampening system. The dampening system is connected to the inking unit via an intermediate roller which can be switched on/off as desired and is an important feature of the Alcolor dampening system. The inking units has a generous storage capacity, a fact which ensures optimum color consistency, high process reliability and outstanding print quality. The Alcolor dampening system is speed-compensated. The thin, evenly-spread dampening film minimizes dot gain, makes images more vibrant and enhances print quality.

reproducible ink zone adjustment.



Plates can be changed in less than a minute – thanks to Heidelberg AutoPlate.

The automatic inking roller wash-up device supports both standard and freely-configurable wash-up programs.

On single- and two-color presses, the operator controls inking by means of laser-slit knife-type ink fountains.

Four-, five- and six-color presses are equipped as standard with the CP2000 Center remote inking and register control system.

## The printing unit

- Robust construction
- Integrated automation and remote control concept by means of the press control system
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## Inline coating and drying – for enhanced quality and fast finishing

• The coating system with integrated dryer combination in the extended high-pile delivery adds reliability to the production process, optimizes cost-efficiency and reinforces customer loyalty by enabling you to offer additional services.

The coating unit, which can be raised by up to 250 mm, ensures safe sheet travel and optimum accessibility.



Ground-breaking technology for the eye, too – the compact coating unit has been integrated into the press, allowing easy access.

Techology of the first order – the extended high-pile delivery with integrated DryStar 2000 Combination dryer.

register adjustment is performed via the double-sized transfer drum of the coating unit.

If necessary, the coating unit can be raised 250 mm in order to ensure smooth sheet travel when printing without coating. The excellent accessibility of the cylinder area greatly reduces makeready times.

The Heidelberg DryStar 2000 Combination dryer, integrated in the extended high-pile delivery, ensures consistent drying, even at high print speeds. The system consists of two dryers based on a toolless slide-in unit concept. The sheet guide plates under the dryers are water-cooled. All dryer assemblies are integrated into the high-pile delivery in order to save space. If required, the Speedmaster SM 52 can also be prepared for use of UV ink and UV coating.

Maximum cost-efficiency and flexibility in this format class is made possible by highquality coating of entire areas (including cut-outs where required), printing and coating in a single pass, and extremely short makeready times.

The coating system of the Speedmaster SM 52 enhances the quality of print products in the 35 x 50 cm format sector. The coating unit featuring the proven Heidelberg dual-roller system guarantees that the coating is applied evenly over the entire sheet. The ease with which the coating can be applied and the ability to clamp the plate with complete register accuracy means that even the most demanding spot coating operations are possible. The speed of the pan roller, the contact pressure exerted by the metering roller on the coating blanket cylinder and the adjustment of the printing pressure can all be controlled easily using the CP2000 Center. Circumferential, lateral and diagonal registers can also be adjusted using the register control facility on the CP2000 Center. While circumferential and lateral register adjustment is

### Inline coating system

- Heidelberg dual-roller system applies coating directly
- The CP2000 Center makes operation easy
- Double-sized transfer drums and impression cylinders ensure safe sheet travel
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- Extended high-pile delivery with Heidelberg DryStar 2000 Combination for optimum drying
- Circumferential, lateral and diagonal registers can be adjusted using the CP2000 Center

performed on the coating blanket cylinder, diagonal



# The delivery options – Changeover is possible without tools and piles can be changed quickly • The various delivery options of the Speedmaster SM 52 guarantee high performance.

Standard delivery can also be supplied with numbering, perforating and imprinting unit on request.

## The delivery

The delivery can handle frequent changes of formats and materials quickly and without need for tools. Swing-away sheet decurlers, sheet brakes and blower tubes ensure perfect sheet travel with precise delivery. The blast air can be finely metered over the entire delivery area. Individually tensioned grippers mounted on the gripper bars of the delivery system convey the sheets smoothly and reliably, even at high speeds.

Where order focal points are clearly defined, customized machine configurations will repay investments very quickly. The Speedmaster SM 52 is therefore available with two different delivery options – the standard deliv-

ery and high-pile delivery.



All assemblies are integrated under the high-pile delivery in order to save space.

The standard delivery is compact and can be supplied with a numbering and perforating device and with an imprinting unit.

The high production speed which the Speedmaster SM 52 achieves is a particularly attractive feature for many users with long runs of small format work. The high-pile delivery offers distinct productivity benefits for such applications when used on four-, five- and six-color models. It cuts the frequency of pile changes by a good third, compared with the standard delivery. The high-pile delivery is even more efficient in non-stop operation. Whenever a second pass is needed or whenever you want to proceed quickly to the finishing stages, Heidelberg's IR drying system with DryStar 2000 Ink lets you complete your jobs quickly. The operator controls the dryer from the central control console at the delivery.

The temperature on the surface of the sheet is measured using a non-contact sensor and the drying rate is matched automatically. A water-cooled sheet-guide plate protects the delivery from overheating.

**The delivery**

- Two delivery options – standard or high-pile
- Standard delivery can also be supplied with numbering, perforating and imprinting unit
- High-pile delivery with DryStar 2000 Ink
- Changing formats is quick and easy since no tools are required

# Taking all the benefits together gives cost-effectiveness that counts • The Speedmaster SM 52 can be customized to your specific needs and the future needs of the market, giving you a machine today designed for the world of tomorrow.

Thousands of customers world-wide have recognized that the Heidelberg Speedmaster SM 52 is the most successful 35 x 50 cm press of all time.

The ultra-modern technology combined with Heidelberg's high quality standards are winning new friends the world over. Available in a wide range of models, the Speedmaster SM 52 can be customized to your individual needs in terms of throughput and printing type.

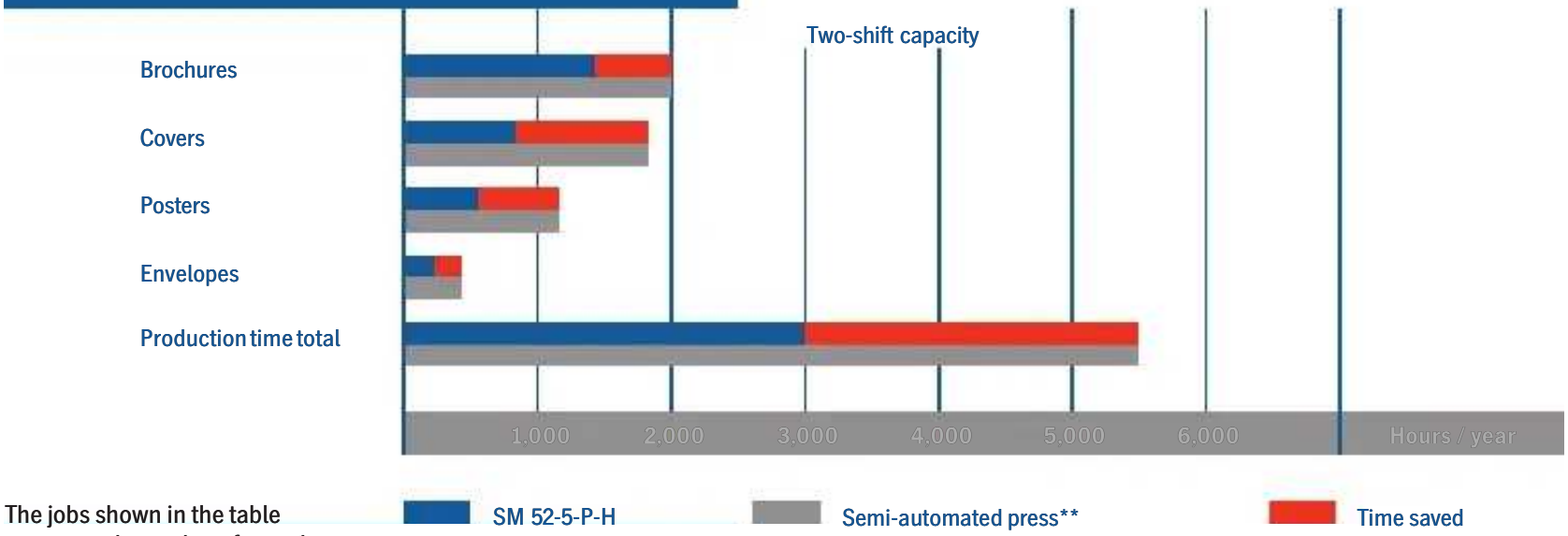
The high level of automation makes operation easy and makes light work of operating complex, state-of-the-art technology. But automation is not everything. The Speedmaster SM 52 can offer you consistently high print quality coupled with optimum utilization levels every day of the week, year in, year out.

The flexibility of the Speedmaster SM 52 makes it ideal for a broad order spectrum. Short makeready times, fast throughput times, low waiting times, inline coating and drying for fast finishing – this is all time that you can save by "just-in-time" delivery, to satisfied and loyal customers, increasing your productivity, cost- effectiveness and, ultimately, your success.

The added flexibility you gain for small formats allows you to respond effectively to ever-shorter runs, frequent job changes and increased use of spot colors. All of this is made possible by the Speedmaster's high level of automation.

Automation gives you the edge – in the shape of AutoPlate, fully-automatic sheet reversing device, inking roller wash-up device and inline coating.

## Throughput time per job*

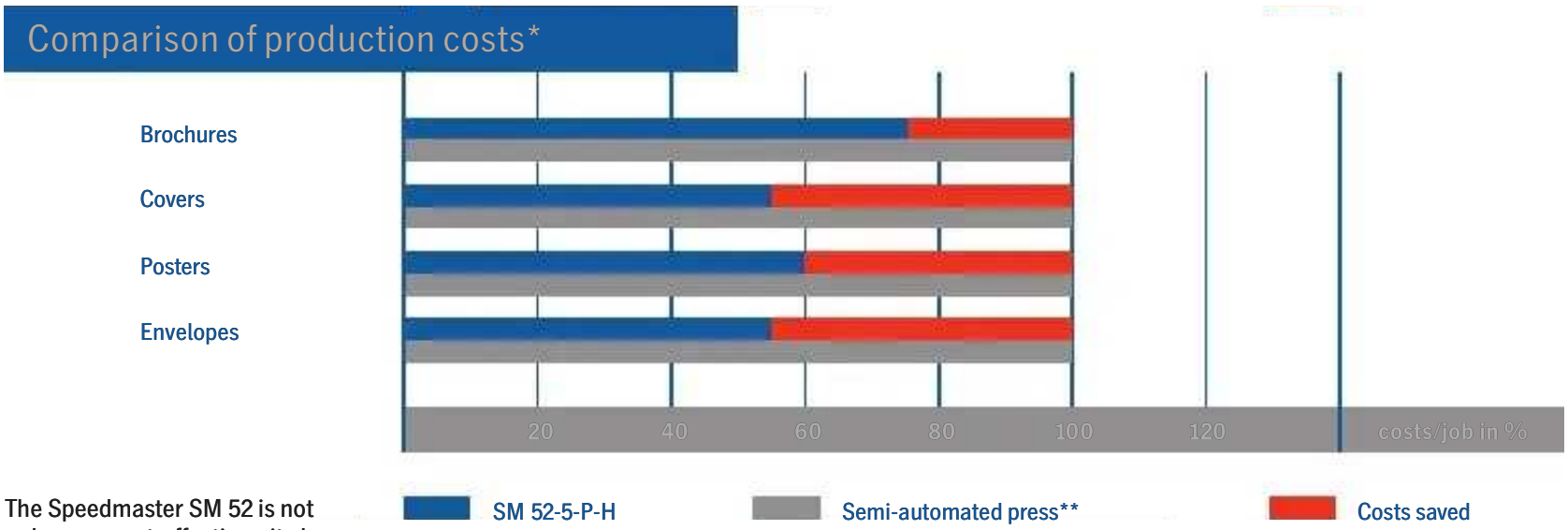



The jobs shown in the table represent the work performed on a fully automated press such as the Speedmaster SM 52 in a single year using two-shift operation. Almost two years of two-shift operation are required, however, if the press is only semi-automated.

*Assuming an identical number of jobs
**Press with the same format and number of printing units, but without format presetting, AutoPlate, wash-up device, sheet reversing unit or dryer.

| Data compared | Brochures | Covers | Posters | Envelopes |
|---|---|---|---|---|
| Colors | 5/5 | 4/1 | 5/0 | 5/0 |
| Run | 10,000 | 5,000 | 2,000 | 2,000 |
| Number of jobs | 405 | 629 | 703 | 191 |
| Job mix | 45 % | 25 % | 20 % | 10 % |

## Comparison of production costs*




The Speedmaster SM 52 is not only more cost-effective – it also virtually halves job production times when taken over the entire year.

* Assuming the same utilization level and the same capaci ty load over two shifts.
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# Heidelberg – Solutions for the Entire Printing and Publishing Business • Our commitment is to being the best partner to the graphic arts industry, offering forward-looking solutions. World-wide – Heidelberg is where your needs are met.

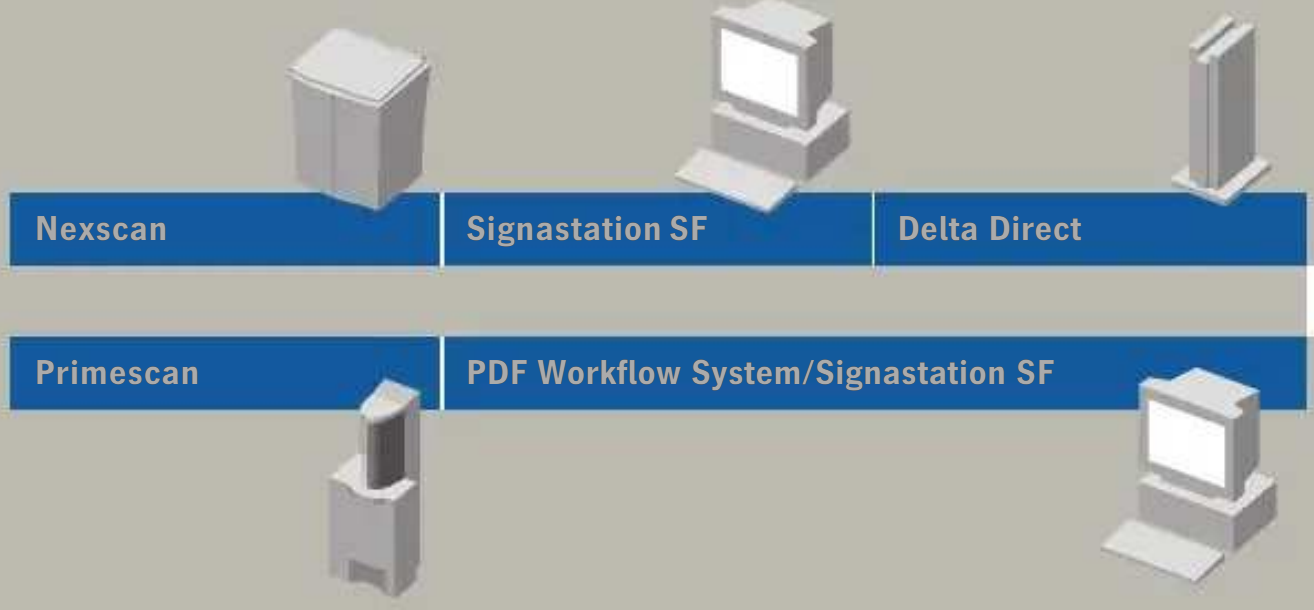
Our focus: the customer. Heidelberg provides custom-designed printing solutions for large and small companies.



# Modular Solutions from Heidelberg

Production routines are growing more complex and demanding. No two jobs are alike anymore. Customers are demanding better quality and more value. These are the reasons Heidelberg is committed to a modular solutions concept: from prepress to finishing, and from individual products to complex workflows.

The goal is to deliver solutions tailored to each customer's unique challenges and markets. Solutions are the concept, and customer focus is the guiding principle.




**Prepress**
Using the Digital Asset Management and the workflow solution Jetbase, you can incorporate customers, agencies and other parties into the digital production workflow via the Internet or wide area network. You can also organize your production and archiving data efficiently.

With the Heidelberg PDF Workflow System, you can organize your prepress operations based on PDF. The PDF Workflow System takes over and automates tasks such as file optimization, trapping and imposition, ensuring optimum productivity with maximum flexibility. Last-minute changes are handled without any problems.

**Press**
In the prepress, press and post-press chain, the Speedmaster SM 52 represents the cornerstone of the digital workflow.
The CP2000 Center is the open interface to prepress. Using the PresetLink software module, it allows on-line transfer of color preset data from the Prepress-Interface. The route to integrated production is therefore made much smoother. The spectrophotometric measuring systems ImageControl and QualityControl enable a waste-saving control circuit.

Duosetter

Computer to plate

Speedmaster SM 52

Polar 78

Stahlfolder Ti 40

**Postpress**
The computer-controlled finishing machines from Heidelberg use open CIP3 interfaces. This means that data generated at the imposition stage can be used for presettings. Makeready times are thus reduced and productivity is increased.

Borders are dissolving. And that is why the Heidelberg Group has evolved into a global player for modern print solutions. But also within the world of printing, borders are rapidly vanishing. The previously separate realms of prepress, press and postpress are increasingly merging within the scope of integrated solutions. Heidelberg has played a central role in driving this dynamic process.

And our goal is still to play a leading part in shaping the future of the graphic arts industry.

Customer focus is our policy. No matter whether we are dealing with family-run operations or large corporations – our modular components offer them tailored solutions ranging from individual products to entire workflows. Heidelberg covers every stage of the print process chain with products and services that define the future of the graphic arts. Our customers can count on having a competent, reliable partner ready to support them in all areas – 365 days a year, from 250 sales and service centers world-wide.

By establishing the Print Media Academy, we have created an international center for innovation, communication and training that not only covers classical training of printers and mechanics, but also blazes new trails by offering an advanced course for print managers.

By establishing the Print Media Academy, Heidelberg is providing the global graphic arts community with a unique center for sharing knowledge.

Heidelberg provides complete solutions covering the entire printflow, from prepress to press across postpress.

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Printing: Heidelberg Speedmaster
Fonts: Heidelberg Gothic, Heidelberg Antiqua

## Family-owned world market leader

Founded in 1906 as “Adolf Mohr, Maschinenfabrik” in Hofheim, POLAR Mohr has developed from a regional supplier to the world’s number one for high-speed cutters and automation in the postpress sector.

As the market and technology leader, POLAR continues to set new standards for innovative and reliable solutions.

Smart networking and efficient automation solutions, combined with the highest possible ergonomics, are the focus of POLAR’s technological innovations today.



## Product portfolio at a glance

For over 70 years POLAR has been producing industrial cutting machines. The range of products includes components and systems, which cover all postpress processes: Loading, transferring, jogging, cutting, die-cutting, unloading, finishing, banding, networking and automating.

- **Connectivity**
- **Digital**
- **Commercial**
- **Automation**
- **Label**

# Zero waste. Zero make-ready time. Completely automated.
## Compucut®

With Compucut®, it has been possible to create cutting programs outside the high-speed cutter for over 30 years. The software has been continuously developed during this time period. Today it is a crucial part of the infrastructure in the networked smart print shop.

Compucut® uses prepress data (CIP 3/4) to create cutting programs automatically and transfers these either directly to networking-capable cutting machines or to the external cutting program administration (ESPV). Every cutting machine integrated into the network can access the cutting programs stored in the external cutting program administration. An optional barcode scanner makes it possible to automatically load the assigned cutting program.

Cutting with Compucut® is much easier. The cutting programs process can be displayed with a process visualization. The real image representation on the cutting machine display ensures that the operators always know which cut has to be made next. This means that even new or inexperienced employees can perform cutting jobs.

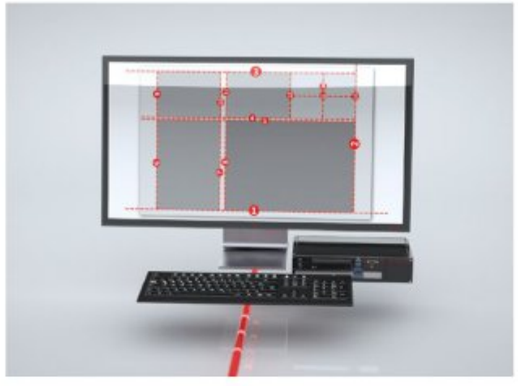
The clear operator guidance rules out expensive errors and reduces waste. Since Compucut® makes manual programming on the high-speed cutter redundant, the set-up time is eliminated.

**The right version for every need:**

**Compucut® GO**
runs directly on a USB stick and is not installed on the PC. It is possible to process homogeneous shapes and gang runs.

**Compucut® CONTROL**
offers the full range of functions with real image display and the possibility to manually modify the sheet.

**Compucut® AUTO-CONTROL**
can, in addition to CONTROL, create cutting programs c ompletely autonomously, i.e. without any manual intervention. The software automatically creates the optimal cut sequence with the fewest turns and cuts.



Learn more.

CONNECTIVITY

## Polar Data Access – PDA

**Interface for connecting POLAR high-speed cutters to MIS/BDA systems**

PDA is a non-proprietary interface that collects current operating data from a POLAR PRO High-Speed Cutter in a highly automated manner and transmits it to Postpress Data Ready or to an existing MIS system in the printing/bookbinding company.


A defined set of operational data is written to an XML or CSV file at cyclic time intervals and the file is then sent to the user's server. These files are then stored in defined storage locations. The MIS system can access these files and read out the data records.

The files with the job-related data are transferred from the cutting machines (FTP clients) to the user system (FTP server) using the File Transfer Protocol (FTP over SSL, FTPS).

### Customer Benefits

- More efficient capacity planning
- Production optimisation through uncovering further potential savings
- Cost reductions through less searching efforts and more efficient staff usage
- No duplicate production data acquisitions
- No additional hardware needed outside the machine
- Compatible with Postpress Data Ready and (most) MIS systems

## IntelliKnife

**Manages production processes transparently using the smart cutting tool**

The intelligent knife ensures full transparency during the cutting process. The precise cutting data evaluation promises a multitude of optimisations. All of the conceivable knife data is stored on an integrated RFID chip, i.e. its quality, cutting angle or the number of grinding processes. This information is read by an RFID reader. The networked cutting machine sends the collected knife data as well as malfunctions, setting-up and running times to the secure IntelliKnife cloud where the data is collected and processed. A clearly arranged web-based user interface enables the reports to be viewed and analysed. This modern interface ensures that IntelliKnife can be integrated into in-house MIS systems.

An external hand-held scanner enables definite identification of blades outside the blade box to be made – without you having to open it.


### Functions

- Storage of all knife data (quality, grinding angle, number of grinding processes, etc.) in the cloud
- Browser-based manual collection of operating data such as malfunction, set-up and maintenance times
- Logging of all knife movements
- Secure machine-cloud data connection via the IntelliKnife-Box
- Retrieval of all operating data and status messages via the IntelliKnife web interface

## DIGITAL

### 3-Side Trimmer
### BC 330

**Automatic processing of saddle-stitched and adhesive-bound products**

The robust and networkable POLAR BC 330 three-side trimmer allows automatic trimming of adhesive-bound or saddle-stitched products, such as books. A gripper moves the product to the respective cutting position and cuts it hydraulically. No conversion is necessary to process different formats from DIN A6 to A4.

### Cutting machine
### Model D ECO
(56, 66, 80)

**Programmable entry-level model for easy and precise cutting**

ECO model cutting machines offer extensive programming possibilities with 198 available memory locations. The cutting programs are created either manually or menu-driven via a format program. To optimize the cutting quality, the pre-clamping time of the hydraulic machine is adjustable according to the material.

### Cutting machine
### Modell D PLUS
(56, 66, 80)

**Networkable cutting machine with 18.5“ touchscreen display incl. process visualization**

Recurring cutting sequences can be stored on one of the 1,988 available memory locations and adjusted. With the help of process visualization, material handling is displayed graphically, minimizing the risk of errors during cutting. The hydraulic cutting machines of the PLUS model are integrable into the digital workflow with Compucut®.

## COMMERCIAL

### High-speed cutter
### Model N PLUS
(78*, 92, 115, 137, 155, 176)

**All-round model with 18.5“ touch-screen display**

The allrounder is suitable for all typical cutting jobs. The machine is operated via an 18.5“ touch screen. A graphic automatic programming system ensures mostly automated processes. Many additional features increase productivity. High-speed cutters of the PLUS model are integrable into the digital workflow with Compucut®.

*N 78 also available in ECO version

### High-speed cutter
### Model N PRO
(78, 92, 115, 137, 155, 176)

**Top of the range model with 21.5“ touch screen incl. process visualization & real image display**

The programmable high-end model is suitable for demanding cutting jobs. Parameters are programmable for specific jobs. PRO high-speed cutters feature a cut correction, a distortion compensation, and an extended range of options. Operation is done via a capacitive 21.5" touch screen display with a real image display. The Autotrim option (available for 115-176) automatically removes waste and thus provides up to 40% higher productivity. PRO model high-speed cutters are integrable into the digital workflow with Compucut®.

## CuttingSystem CS 120

**System for mainly unprinted materials in half and medium format**

***Consisting of: POLAR Lift for loading, high-speed cutter, Lift for unloading***
The stack lift allows the loading of the high-speed cutter at an ergonomically favorable working height. A stack lift is also used to unload the cut products. The unloading is carried out semi-automatically; the process is started manually and stopped by the light barrier. A CS 120 enables an output increase of up to 20% compared to a high-speed cutter without peripherals and, at the same time, improves the ergonomics.

## CuttingSystem CS 160

**System for mainly printed materials in half and medium format**

***Consisting of: POLAR Lift for loading, automatic jogger, high-speed cutter, lift for unloading.***
The stack lift moves the material to an ergonomically favorable working height to load the automatic jogger. The jogging process aligns the material to be cut precisely to the edge and prepares it for cutting. Unloading with the lift is carried out semi-auto- matically; the process is started manually and stopped by a light barrier. A CS 160 enables a performance increase of up to 60% compared to a high-speed cutter without peripherals and, at the same time, improves the ergonomics.

COMMERCIAL

## CuttingSystem CS 200

**System for mainly printed materials in medium and large format**

***Consisting of: POLAR Lift for loading, automatic jogger, high-speed cutter, unloading Transomat.***
The loading lift allows the transportation of the material to an ergonomically favorable working height to load the automatic jogger. The jogging will arrange the cutting material precisely aligned with accurate edges. After cutting, the Transomat unloader places the finished reams automatically onto a pallet. While the Transomat unloads automatically, the next cutting layer can be prepared simultaneously, increasing the performance up to 100%.

## CuttingSystem CS 300

**System for mainly unprinted materials in medium and large format**

***Consisting of: POLAR high-speed cutter, loading Transomat, unloading Transomat***
The Transomat automatically transports the cutting material from the stack onto the Transomat pallet and brings it into posi-tion. After cutting, the unloading Transomat automatically places the finished layers on a pallet. During the automatic unloading process, the new cutting layer can already be transported onto the rear table, which increases the output by up to 200%.

## EasyLoad

**Semi-automatic, ergonomic preparation of cutting layers**

The machine for semi-automated preparation of material reduces the physical strain in the loading process. A gripper system lifts the material and transports it to the jogger. The entire process and also the quality of the reams are under the full control of the operator. The system offers a high degree of flexibility due to the option of left and right-hand installation.

## Buffer systems

**Systems for continuous workflow**

POLAR buffer devices in all variants ensure continuous workflow. The POLAR Air Board Lift is used for the temporary storage of material. The POLAR Piling-Board Shelf compensates for different cycle times during cutting. The POLAR Pressing Station forms compact reams by pressing out air. The productivity of the high-speed cutter increases by up to 20% when using buffer system.

## Pile Turner

**For fast and automatic turning of stacks**

POLAR pile turners are available for half, medium and large formats. The pile is inserted into the platform and turned around the horizontal axis. The gentle handling of the material prevents damage while improving ergonomics at the same time. POLAR Pile Turners offer much more: Airing, alignment, and vibration features.
When dealing with label paper, ventilation before printing avoids press stoppage and infeed of double sheets.

COMMERCIAL

## AirGo Jog

**Fastest jogging system for autonomous and edge-precision cutting material preparation**

With the POLAR AirGo Jog, edge-precise material preparation is fully automatic. The cutting ream is picked up by the Transomat Loader and transported by a gripper into the Jogger. In the Jogger, the cutting layer is fanned out with a high volume of air so that the sheets are aligned with edge precision. Finally, the air is removed at high pressure. The finished jogged cutting layer is pulled by the operator over the front table or optionally by a gripper system onto the rear table of the High-Speed Cutter.

AirGoJog is fitted with a new future-proof industrial control system that enables data exchanging and integration into the workflow as well as the use of a remote service function.

Learn more.

## Customized automation solutions

**Automated transport and cutting solutions for all kinds of requirements**

POLAR offers individual automation solutions in addition to the PACE systems established in the market. POLAR works together with customers to design and realize tailor-made systems. Depending on the particular requirements, POLAR high-speed cutters, peripheral equipment, buffer devices, gripper transport systems, appropriate software, and robot solutions are used in such systems.

AUTOMATION

## DC-12 RAPID

**Die-cutting system for highly automated, unmanned inline production of bundled cut and die-cut labels**

***Consisting of: Automatic cutter POLAR 137 Autotrim-M, POLAR DC-12 PLUS, packing robot***
A fully automatic, operator-free process has been developed through synergies between POLAR and DIENST, the packaging specialist: from the sheet to the tray. RAPID stands for **R**obotics for **A**utonomous **P**rocessing of **I**ndustrial **D**ie-cut labels.

The counted and pre-jogged reams are being taken from an automatic Air-Board Lift onto the rear table of Automatic Cutter POLAR 137 Autotrim-M that cuts them into strips. They are then conveyed to the loading table of the AC Autocut 25 where they are being cut according to label size, either single strips or two strips at once into label stacks. The punching stamp pushes the stack through the System Die-Cutter DC (puncture principle) where the stack is given its intended shape. The label stacks are automatically pushed to the Single-Station Bander BD where they are banded. A robot packs them in cartons or trays, ready for dispatch.

**Learn more.**

## LabelSystem SC -20

**Ideal for getting started in the industrial production of square-cut labels**

***Consisting of: Automatic cutter POLAR 137 Autotrim M, multi-station bander POLAR BM-105***

In the LabelSystem SC-20, the POLAR Autotrim M automatic cutter is crucial for the economical production of square-cut labels. In the automatic cutter, strips are first to cut manually. Autotrim M then processes the strips into labels - fully automatically. A push-out device transports the label stacks into the multi-station bander for automatic banding. The LabelSystem SC-20 offers the highest cutting accuracy and is flexible in use thanks to simple and fast changeover.

## LabelSystem SC-21

**Highly efficient inline production of square-cut labels**

***Consisting of: Automatic cutter POLAR Autocut 115, Multi-station bander POLAR BM-105***

The core component in the LabelSystem SC-21, which is designed for the inline production of square-cut labels, is the Autocut 115. First, pre-cut strips are manually loaded onto a loading table, positioned, and pushed onto the rear table of the Autocut 115. Here the strips are aligned laterally and from the front. The Autocut 115 does the cutting work alone and entirely automatically. After cutting, the labels are transported into the multi-station bander. The bundled packages can be removed manually for packing. The LabelSystem SC-21 achieves a high level of productivity due to the parallel production steps.

## LabelSystem SC-25

**Trendsetter in the industrial production of square-cut labels of the smallest formats**

***Consisting of: Automatic cutter POLAR Autocut 25, BSduo two-up bander***

The LabelSystem SC-25 unleashes its full potential, especially in the highly productive processing of the smallest square-cut label formats. In the beginning, pre-cut strips are placed on the Autocut rear table, where they are automatically aligned. The Autocut 25 cuts two strips simultaneously. A swivel unit transports the strips to the BSduo two-up bander, where they are pushed through the banding material and are correctly welded. The BSduo can be equipped with a measuring station that measures the formats and automatically ejects packages that are not true to size. The banded products are transferred to the material delivery unit with special guide elements that ensure careful transport.

**Benchmarking (bundles / 60 minutes)**

| | SC-20[3] | SC-21[4] | SC-25[4] |
|---|---|---|---|
| Number of helpers \| operators | 1\|1 | 1\|1 | 1\|1 |
| 24 labels / sheets (4 × 6 \| Abfallschnitte) | 314 | 890 | - |
| 96 labels / sheets (8 × 12 \| waste cuts) | 712 | 2,044 | 1,053 |
| 192 Nutzen / Sheets (12 × 16 \| no waste cuts) | 1,296 | 3,185 | 1,560 |

[1] depending on stack height | [2] depending on material, label size
[3] including pre-cutting | [4] excluding pre-cutting



## Stand-alone die-cutter DC-M

**Stand-alone die-cutter for small to medium runs**

The compact DC-M stand-alone die-cutter is a semi-automatic solution with the highest precision in the processing of die-cut labels. A high-speed cutter cuts the material to label stacks, which are fed into an insertion chute. The DC-M takes over automatically from here. A pusher guides the material in front of the punch, which pushes it through the cutting die. In this way, the label is given its predetermined shape. The end products are fed to the packaging table via an output chute in the exact position required. The DC-M stand-alone die-cutter offers maximum flexibility, simple operation, and a wide range of formats.

## LabelSystem DC-11

**Automated inline production of die-cut labels**

***Consisting of: POLAR Autocut 25 automatic cutter, DC system die-cutter, BD single-head bander***

Individually designed labels transport the product and brand message directly to the consumer. Die-cut labels have their own geometric shapes. At the start of the workflow, pre-cut material is processed by the Autocut 25 into individual label packages and transported by a feeding system to the die-cutter. After die-cutting, the bundles are automatically pushed to the BD single-head bander and bundled. The ultrasonic welding unit in the bander does not require preheating, is permanently ready for use, and protects the material. The preparation of punching frames outside the machine – OptiChange – allows job changes in only 10-15 minutes.

## LabelSystem DC-12 PLUS

**Highly productive system for automated inline production of die-cut and cut labels**

***Consisting of: POLAR Autocut 25 PLUS automatic cutter, DC PLUS system die-cutter, BD PLUS single-head bander***

The POLAR Autocut 25 takes over the pre-cut labelling material and cuts two strips at a time into individual label stacks. The two stacks are separated via the automatic feeder and fed individually in front of the die-cutting punch.

After die-cutting, the bundles are automatically pushed to the BD single-head bander and bundled. The ultrasonic welding unit in the bander requires no preheating, is always ready for use and it protects the material. A new, future-proof industrial control system enables remote maintenance and diagnostics as well as integration into the digital workflow. OptiChange (die-cutting frame preparation outside the machine) enables job changes to be completed in just 15 minutes.

**Benchmarking**

| | DC-M | DC-11 | DC-12plus |
|---|---|---|---|
| Number of helpers \| operators | 1\|1 | 1\|1 | 1\|1 |
| Bundles / 60 minutes | 480[2] | 960[3] | 1,440[3] |

[1] depending on stack height | [2] depending on material, label size
[3] including pre-cutting

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CUTTING DOWN COMPLEXITY