

A large, abstract red graphic on the left side of the page, consisting of several overlapping, slanted rectangular shapes that create a sense of depth and movement.

AT A GLANCE

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

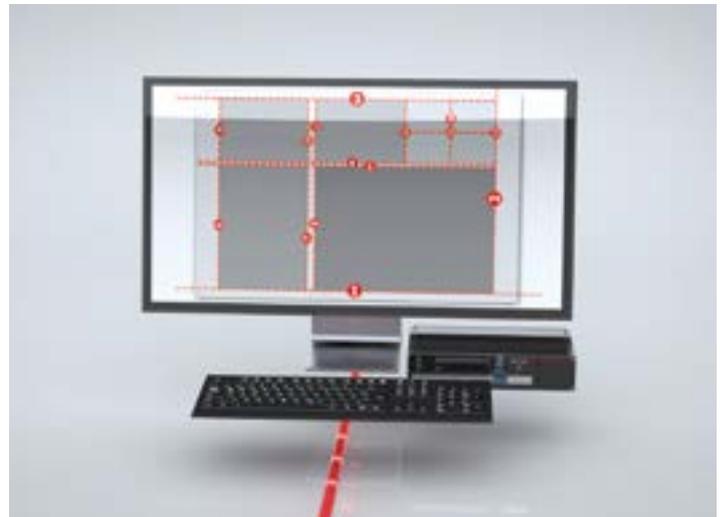
runs directly on a USB stick and is not installed on the PC. It is possible to process homogeneous shapes and gang runs.

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 completely autonomously, i.e. without any manual intervention. The software automatically creates the optimal cut sequence with the fewest turns and cuts.



[Learn more.](#)



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®.





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 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-automatically; 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.



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 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 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 position. 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.





CuttingSystem PACE 200

Automated system for mainly printed materials in medium and large format

Consisting of: POLAR high-speed cutter AT, lift for loading, automatic jogger, Transomat unloader, gripper transport system

The loading lift elevates the material to an optimum working height. An operator transports the material into the automatic jogger. The Autotrans gripper system collects the material and transfers it to the rear table of the high-speed cutter. Autoturn turning grippers automate material movements on the rear table. The cutting process itself and waste removal via Autotrim are also carried out completely automated. Undivided reams are processable without any manual intervention. After cutting, the Transomat unloader automatically places the finished products on a pallet while the next ream can be prepared simultaneously.



CuttingSystem PACE 300

Automated system for mainly unprinted materials in medium and large format

Consisting of: POLAR high-speed cutter AT, loading Transomat, unloading Transomat, gripper transport system

The loading Transomat automatically pulls the material from the stack onto the Transomat pallet. The Autotrans gripper system then transports the material to the rear table of the high-speed cutter. Material movements on the rear table are automated by the Autoturn turning gripper. With the help of Autotrim, the automatic cutting waste removal system, undivided reams can be processed without manual intervention. After cutting, the unloading Transomat automatically places the finished layers on a pallet. Simultaneously, the next ream is transferred to the rear table.



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.





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-11 PLUS

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

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

Due to the preparation of die-cutting frames outside the machine – OptiChange – job changes can be performed within 10-15 minutes. At the start of the workflow, the Autocut 25 processes pre-cut material into individual label stacks and transports them via a feeding system to the die-cutter. What sets the DC-11 PLUS apart is its ability to process two stacks simultaneously. After die-cutting, the bundles are automatically pushed to the BD single-head bander and bundled. The ultrasonic welding unit in the bundler does not require any preheating, is always ready for use and protects the material.



Benchmarking

	DC-M	DC-11	DC-11plus
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



Stand-alone die-cutter DCC-M

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

In addition to its high flexibility, simple operation, and punching accuracy, the DCC-M stand-alone die-cutter is particularly suitable for processing compressible plastic materials, such as OPP films for in-mould applications. Thanks to OptiChange (punching frame preparation outside the machine), job changes can be carried out within 10-15 minutes. With the semi-automatic DCC-M, the pre-cut material is first manually placed in the feeding chute. Two gripper fingers safely transport the inserted label stack into the punching area. The stack is pressed and fixed on all four sides. After die-cutting using the counterpressure principle, the stacks are transported to the delivery via a shuttle.



LabelSystem DCC-11

Highly automated counterpressure inline production of die-cut labels

Consisting of: POLAR Autocut 25 automatic cutter, system die-cutter DCC

The automated LabelSystem DCC-11 works with counterpressure technology and is particularly suitable for die-cut labels made of compressible plastic materials. The stack's alignment on all four sides combined with the pressing of the stack before the actual die-cutting process guarantees the highest accuracy. OptiChange (die-cutting frame preparation outside the machine) enables job changes in only 15 minutes. In the beginning, the pre-cut material is first processed into label stacks on the Autocut 25 and then transported to the DCC system die-cutter via a feeding device. After punching, the label packs are automatically pushed into the banding unit, where they are banded one by one (log banding is optional). The banding unit can be adjusted during automatic operation. It does not require any preheating due to the ultrasonic welding unit installed in it, which also ensures that there is no unpleasant smell while protecting the material.



Benchmarking

	DCC-M	DCC-11
Number of helpers operators	2 2	1 1
Bundles / 60 minutes	360 ¹	600 ²

¹ depending on material, label size

² depending on material, label size, pre-cutting, strip changes



Connectivity

Smart networking concepts for intelligent workflows. Compucut creates cutting programs fully automatically based on pre-press data, thus reducing the set-up time to zero.



Digital

POLAR cutting machines for digital printing are networkable, programmable, and are driven hydraulically.



Commercial

POLAR high-speed cutters & performance-enhancing CuttingSystems are the technological answers in postpress to increased requirements due to ever more efficient printing machines. Highest quality – 24/7.



Automation

PACE – short for POLAR Automation for Cutting Efficiency – automates the cutting process with gripper systems. PACE systems are integrated into the digital workflow and a substantial part of the Smart Print Shop.



Label

POLAR LabelSystems are ideally suited for the industrial production of labels due to their high degree of automation. POLAR offers efficient solutions for the processing of die-cut and square-cut labels.



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CUTTING DOWN COMPLEXITY