

M-600

16-PAGE WEB OFFSET PRESS SYSTEMS



GOSS | INTERNATIONAL

introduction

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THE M-600 PRESS HAS EARNED A WORLDWIDE REPUTATION FOR PREMIUM PRINT QUALITY, RELIABILITY AND VERSATILITY.



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There are good reasons why the M-600™ press is the best selling 16-page web press in the world. Every day on five continents, printers rely on its capabilities to solidify their own leadership positions in publication and commercial web printing markets. Many are repeat M-600 press purchasers, confirming their confidence in proven advantages.

Proven quality and performance

Introduced in 1992, the M-600 press immediately distinguished itself with high-performance features that made it easier for printers to deliver the premium print quality that their most demanding customers required. They soon discovered this solid, heavy-duty press was also designed to provide that high print quality day in and day out with minimal maintenance and service. Today, with 2500 printing units sold, the reputation of the M-600 is proven worldwide.

Making excellence easier to achieve

From the revolutionary Autoplate™ option in 1995 to the Goss Web Center™ and multidrive technologies, the M-600 platform has been continuously enhanced. The latest presses are highly automated, easy to operate and easy to integrate within a digital workflow. They provide the productivity, low-waste and fast make ready capabilities that make web printers more competitive.

Versatility adds to the value. M-600 presses can print a wide range of products – from high-quality brochures and magazines to highly specialized items – at a virtually unlimited range of run lengths. One- and two-web systems can be configured with a choice of Goss® splicers, dryers and folders. A full range of additional options and auxiliary systems is easy to integrate. Printers can custom design a system to meet a specific requirement or one that gives them the flexibility to efficiently produce multiple product formats.

M-600 features

- Premium print quality
- Commercial and publication applications
- Up to 70,000 impressions per hour
- Extensive automation
- Fast, low-waste makereadies
- Versatility
- Proven reliability
- In-line finishing options

high-tech tools

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M-600 PRINTING UNITS HAVE PROVEN FEATURES THAT CAN MAKE EVERY PRINTER MORE SUCCESSFUL.

Robust M-600™ printing units make it easier for operators to meet the most rigorous lithographic challenges and allow them to do it at top speed, around the clock. Engineers have successfully reconciled all the mechanical and electrical components necessary for high print quality, versatility, high-speed production and the ultimate level of reliability.

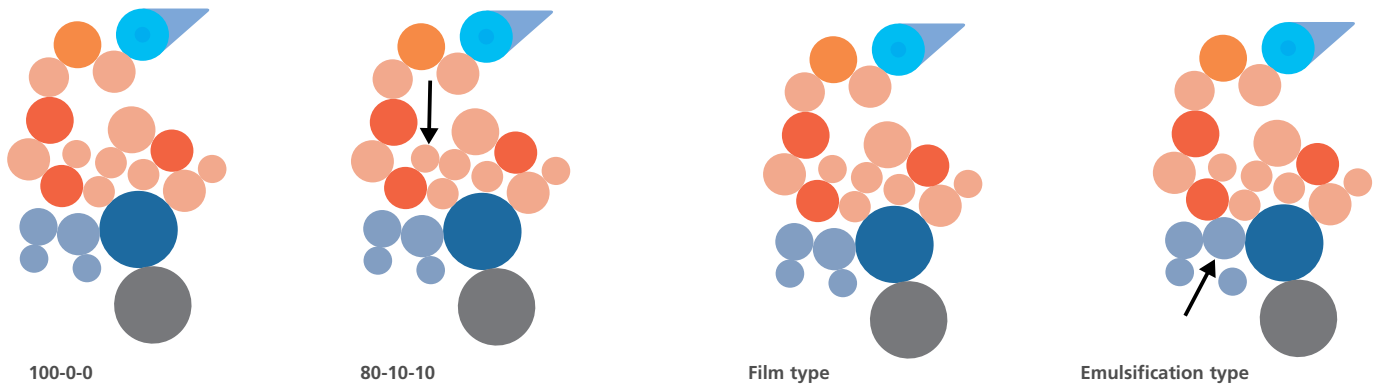
Minimal vibration

Rigid cast iron frames and an in-line cylinder stack – signature features of Goss® printing units – minimize vibration within the M-600 units. This ensures stable, high-quality printing at high speeds. Preloaded cylinder bearings add to the rigidity and durability. The in-line cylinder stack also provides optimum web wrap and easy access for roller setting and maintenance.

High-performance inking and dampening

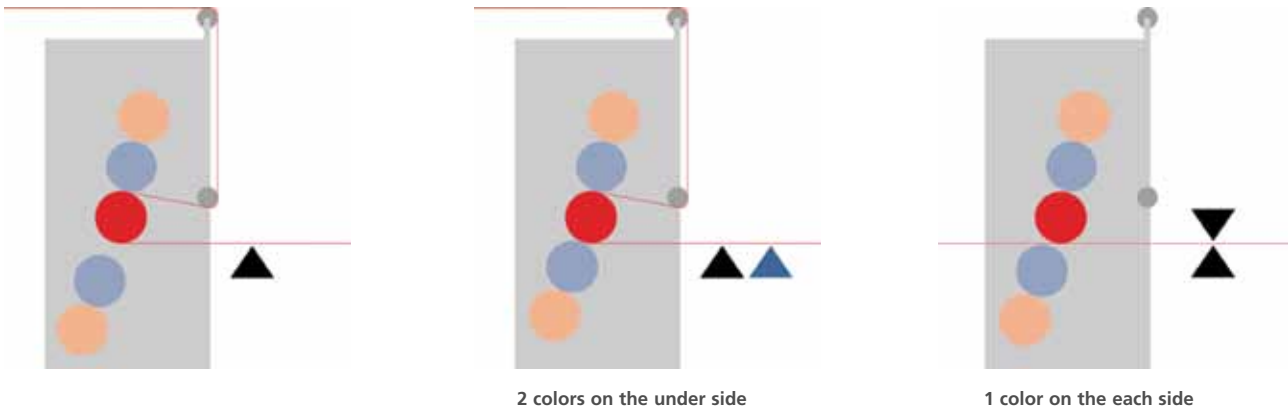
The M-600 ink train incorporates decades of experience and research into advanced offset lithography. The 15 large-diameter rollers include three temperature controlled oscillating rollers, three ink form rollers, and a temperature controlled ink fountain roller that is motorized.

Convertible inking



Convertible inking (100-0-0 or 80-10-10) and dampening (film or emulsification) provide the flexibility and precise adjustment of ink coverage to meet the most demanding lithographic challenges.

Printing options with a flying imprinter



A flexible, high-precision dampening system and individual inker and dampener silencing make it easier to exceed print quality expectations.

Convertible inking and dampening capabilities combine to provide exceptional ink coverage precision and the flexibility to meet a variety of complex lithographic challenges. Printing units also offer remote lateral register, circumferential register, and plate cylinder skewing capabilities.

Multidrive advantages

Independent a.c. motors drive all M-600 components, reducing mechanical maintenance and ensuring consistent web tension, premium print quality and easier system integration. Crews also gain the flexibility to complete makeready or maintenance work on one or more units without impacting the rest of the system.

Automatic blanket adjustment

Optional motorized blanket-to-blanket pressure adjustment helps printers who use a vast range of paper thicknesses. This allows them to optimize settings to ensure the ideal printing conditions for the highest possible print quality. Simply by entering the paper value, all printing units will be automatically adjusted to the optimized value.

Flying Imprinter

M-600 press systems can be complemented by a modular industrial tool: the flying imprinter. The imprinter is designed so that personalization work or different versions of the same product can be executed without stops. This special unit has an additional blanket cylinder which acts as a counter-pressure cylinder. A makeready motor and

an electromagnetic clutch assembly allow print changes at production speed. The change sequence of the plate/blanket cylinder is executed automatically when the programmed number of copies is reached. Goss blanket-to-blanket technology allows printing of two colors on the under side of the web, or one color on each side of the web. This module can therefore be used as an additional printing unit.



streamlined job changes

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ADVANCED MAKEREADY FEATURES SAVE TIME, REDUCE OPERATOR EFFORT AND CUT WASTE.

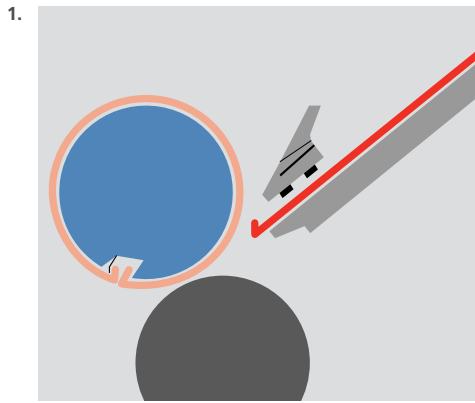


Shorter runs and multiple version changes have become the norm for many web printers. Profitability now depends as much on job changeovers as it does on the volume and quality of impressions. The M-600™ press excels in exactly this type of makeready-intensive environment. Goss International has streamlined the job changeover process with a comprehensive approach aimed at automating, simplifying or even eliminating steps. The results can even create new market opportunities, allowing web printers to compete at run lengths that were formerly the exclusive domain of sheetfed printers.

Important makeready features

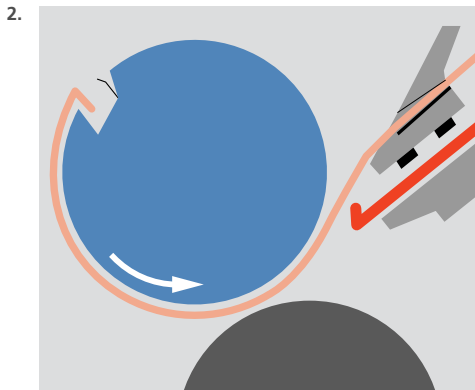
- **Open-architecture Prepress Interface**
- **Automated color presetting**
- **Automated folder presetting**
- **Automatic or semi-automatic plate changing**
- **Omni Makeready™ module**
- **Closed-loop controls**

Autoplate, proven on the M-600 press since 1995, allows a single operator to change any number of plates in less than two minutes.

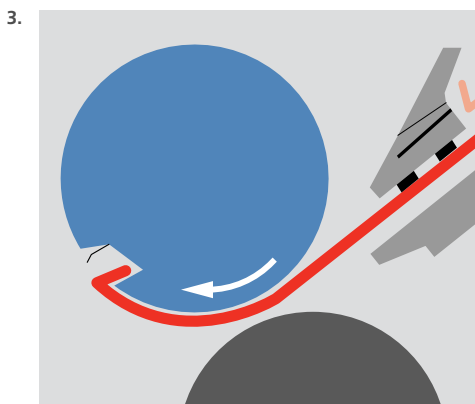


Autoplate technology

The patented and proven Autoplate™ system on the M-600 was introduced in 1995. Today hundreds of presses utilize the technology, even for plates close to three meters - 2860 mm (112 inches) - wide. While the press is running or idle, plates for the next job are placed into cassettes on the printing units. At the end of the run, the operator simply pushes a button to initiate the plate changing sequence. Old plates are automatically rotated off the cylinders and replaced by the new ones. All the plates, or any combination of plates, can be changed simultaneously in 90 seconds. Plate changing times and operator effort are significantly reduced. Registration is also more precise, and operators are freed to complete other makeready tasks.



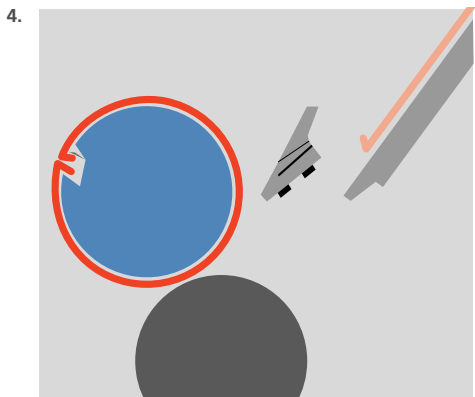
Even on Goss® presses equipped with semi-automatic plate changing, the operation is fast and efficient. After removing the old plates, operators simply hang the lead edge of the new plates and push a button. Cylinder positioning, lead-edge lockup and tail tuck are automatic.



Automatic or semi-automatic plate changes can be completed with the web still in the press.

The Autoplate Sequence

1. Cassette moves into place.
2. Old plate is rotated off the cylinder.
3. Lead edge of new plate is inserted, and plate is loaded.
4. Automatic lockup and withdrawal of cassette.



Non Stop Edition Change

Printers are often required to make multiple form changes in the same job - whether a single plate change, two or more plates, or the entire press. Exploiting the advantages of Goss Autoplate, the M-600 will automatically decelerate while finishing the first signature, change the necessary plates and re-start printing the following form. Managed by the press operator, this automated sequence will optimize multiple version changes and keep production time and waste under control. Optional Non Stop Edition Change requires the press to be equipped with the Autoplate option.



model selection

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CHOOSE EXACTLY THE RIGHT M-600 PRESS MODEL AND CONFIGURATION TO MEET ANY COMMERCIAL OR PUBLICATION PRINTING REQUIREMENTS.

Within the Goss® M-600™ platform, printers have the flexibility to choose the model and performance features that exactly match their specific requirements.

Speed, folding capabilities and the level of automation distinguish the A, C, C Plus and D models, while a common, high-quality printing unit design ensures consistent print quality. Each model also features multidrive technology and offers the full range of M-600 options, including Autoplate™ and

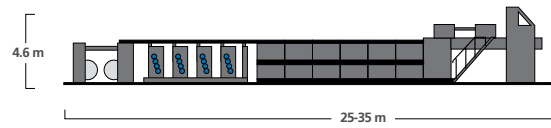
Ecocool® components and the Goss Web Center™ presetting, waste-reduction and reporting functions. The versatility also extends to auxiliary options like sheeters, gluers, perforators, plow folders and more from multiple vendors.

From short runs to long runs, and across publication, commercial, book, insert and direct mail applications, it is easy to choose the right Goss M-600 model and to customize it for optimal performance and value.

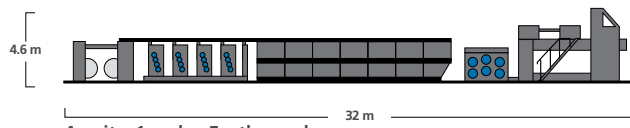
MODEL	M-600 A	M-600 C	M-600 C PLUS	M-600 D
Speed	48,000 iph	55,000 iph	61,000 iph	70,000 iph
Cylinder configuration	16 pages (2x4)	16 pages (2x4)	16 pages (2x4)	16 pages (2x4)
Combination folder	JF-48	JF-55	JF-55 Plus	JF-70
Pinless former folder	PFF	PFF	PFF	PFF
Goss splicers	Zero speed CS or SH	Zero speed CS or SH	Zero speed CS or SH	Zero speed CS or FD™ paster
Goss dryers	Ecoweb™, Ecotherm® or Ecocool	Ecocool or Ecoset	Ecocool or Ecoset	Ecocool or Ecoset

configuration options

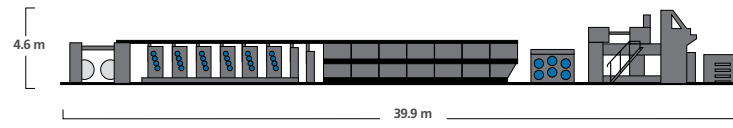
WEB PRINTERS THROUGHOUT THE WORLD HAVE INSTALLED M-600 PRESS SYSTEMS IN A WIDE RANGE OF CONFIGURATIONS.



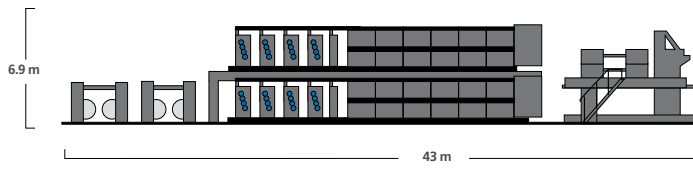
4 units, 1 web, Ecocool dryer



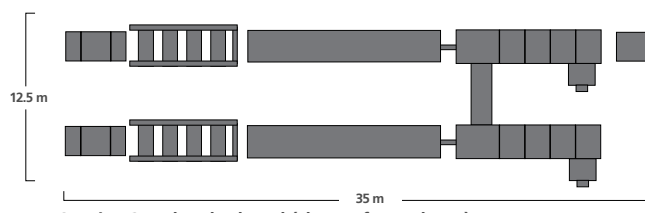
4 units, 1 webs, Ecotherm dryer



6 units, 1 web, coating and perforating units, Ecotherm dryer, sheeter



8 units, 2 webs, Ecocool dryer, stacked



8 units, 2 webs, duplexed (shown from above)

control & workflow

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OMNICON AND GOSS WEB CENTER TECHNOLOGY TAKE THE CONCEPT OF PRESS CONTROL TO A NEW COMPREHENSIVE STANDARD.

The CIP4/JDF-compliant Goss Web Center™ system delivers all the advanced features web printers need to automate processes, maximize efficiency and integrate press systems within a comprehensive digital workflow. The modular system is built on a Windows® operating system and includes the software, the hardware and the connectivity for complete, customized control. An open architecture also makes it easy to link prepress, production, auxiliary and management components from Goss and other suppliers.

Omnicon

Omnicon™ press controls form the foundation of the Goss Web Center. From large touchscreens, operators can retrieve digital files, monitor presets and production data, and initiate automated sequences. They can also remotely control ink, water, and every other motorized function throughout the press and folder – all with speed, precision and ease.

Omnicon controls accommodate all leading closed loop systems and include built-in learning algorithms to continuously increase preset accuracy. Distributed processing simplifies installation and operation, and a connection creates a link with service personnel for continuous remote monitoring and troubleshooting.

Omni Makeready

Omni Makeready™ hardware and software functions create a specialized communication link with closed-loop controls for color, register and cutoff. Unique software algorithms also calculate and automatically adjust target density, ink film thickness and other job change functions. Data travels automatically and precisely to the press for faster start ups and reduced waste.

Goss Prepress Interface

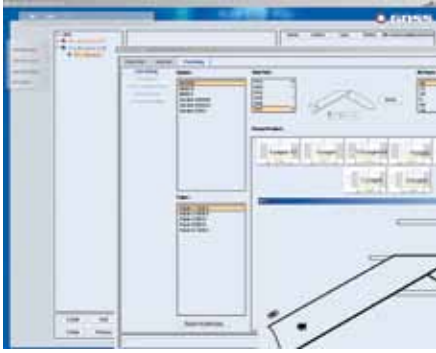
The Goss Prepress Interface accepts CIP3 or CIP4/JDF data from digital prepress systems, converts area coverage values for individual ink zones, and sends the calculations directly to the Omnicon console for automated presetting of ink keys. One common Prepress Interface can serve multiple presses within a single location.

Omni Presetting

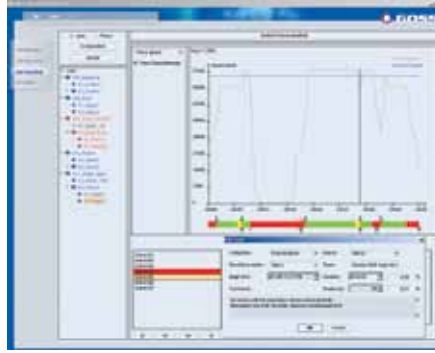
A powerful addition to the Prepress Interface, this module makes it fast and easy to preset the press system and to manage the job queue.

The Presetting function adjusts paper lead, motorized folder functions and some auxiliaries. Operators can initiate automatic presets based on standard job formats and stored data or they can easily create new parameters.

The Job Planning function imports additional data from MIS systems, automating job creation, planning and sequencing on one press or across multiple presses for maximum efficiency.



Omni Presetting



Omni Reporting

OMNICON

GOSS PREPRESS
INTERFACE

OMNI
PRESETTING

OMNI
REPORTING

MATERIAL
MANAGEMENT

OMNI LINK
IN-OUT

Material Management

The Goss Material Management System completes the picture, automatically tracking, allocating and reporting the supply of consumables and other materials in real time for optimal inventory utilization.

Omni Reporting and Omni Link

Omni Reporting™ reports press status – in real time and on a cumulative basis. Data ranging from speed, job duration, consumable consumption and waste, to events like splices, web breaks and blanket washes can be accessed on site or remotely. Omni Link™ communicates this performance data directly to a management information network, creating an efficient link between production and management functions such as estimating, billing, job planning and purchasing.



full integration

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INTEGRATED SYSTEMS DELIVER MAXIMUM PRODUCTIVITY, AND GOSS SPLICERS AND DRYERS COMPLEMENT ANY M-600 PRESS.

Choosing a single supplier gives printers the added advantages of complete mechanical integration, seamless controls, coordinated purchase and installation processes and a 24-hour on-line link for service and monitoring.

Splicing options

Goss International offers two highly automated splicers for M-600™ systems. Contiweb™ SH models have a shaft and can be equipped with integrated infeeds. The Contiweb CS splicer holds the paper reels on expandable chucks. It has an integrated infeed and can match the 70,000 impressions per hour speed of the fastest M-600 presses. Printers choosing either model can count on extreme reliability that keeps downtime and waste levels low and productivity high. Successful splice rates in excess of 99.7 percent, and variations in web tension of less than one percent are routine.

User friendly central and localized controls make the Contiweb SH and CS splicers easy to operate. Roll loading and splicing at any roll diameter is automated, with operator involvement limited to applying a linear

adhesive tape. Goss® splicers can also be enhanced with the integrated WebData paper information system.

Zero-speed reliability

Splicing time with the Contiweb SH and CS splicers is always one second, regardless of press speed, paper quality and weight, or splice preparation. Splice overlap is minimal, and there is no tail to interrupt production. Zero-speed technology also minimizes the risk of a web break during emergency stops. Even at maximum roll diameter and web speed, the festoon allows gradual deceleration of the running roll.

Industry-leading dryers

Goss dryer models enhance print quality while lowering operating costs. The Ecotherm® pioneered integrated pollution control in 1990, while the Ecoweb™ is designed for use with central pollution control systems.

The Ecocool® is the first dryer to fully integrate the chill roll section as well as other important functions. Positioning the chill rollers immediately after the dryer

prevents condensate from occurring on the rollers. Significantly reducing the diameter of the individual chill rollers further improves print quality, turning the web at sharper angles and creating tighter contact.

Goss International has also integrated silicone application and optional remoistening capabilities within the Ecocool dryer, uniquely positioning these functions to optimize print quality. Additional features to improve uptime and simplify operation include integrated web guiding, tension measurement and web break detection.

The Ecoset™ dryer represents an evolution in efficiency and environmental considerations. Building on the energy savings achieved by Ecocool technology, the Ecoset dryer delivers a further leap in the reduction of gas and electrical consumption. An optimized set of burners, a reduced volume of fresh air intake and better insulation are just some of the key features that make Ecoset the most advanced drying process in offset printing today.



Low energy, high quality

Ecoset, Ecocool, Ecotherm and Ecoweb dryers use evaporated solvents to partially fuel the burners. Unique technology controls and regulates the use of available solvents to maximize efficiency. In dryers with integrated afterburners, this active solvent concentration control can reduce energy consumption by up to 30 percent when compared with a conventional dryer.

A combination of low circulation air temperatures and high air volume also ensures that printed products exhibit higher gloss and less fiber lifting. The patented crossjet airbar system allows the web to float smoothly through the dryers, adding lateral stability and decreasing the risk of web breaks.



ECOCOOL AND ECOSSET DRYER FEATURES AND BENEFITS

Integrated drying and chilling	Integration of all functions between press and folder in one concept Innovative design offers enhanced print quality Eliminates of solvent condensate Eliminates of ink picking Reduces floor space
Nine small-diameter rollers	Tighter web contact Temporarily suppress fluting Eliminate solvent condensate Enhance heat transfer No requirement for chill roll cleaning device
Spiral grooved rollers	Channel away air, no boundary layer
Concave rollers	Tighter web contact, no taping of rollers
First roller: web guide and web break detector	Enhances web control No web shift in the dryer
One driven roller (fourth roller) A.C. drive	Consistent tension control Minimizes web breaks
Upstream silicone applicators	Eliminate ink picking No additional silicon necessary
Integrated remoistening*	Improves postpress handling Enhances product quality Stand-alone auxiliary system(s) unnecessary
Integrated closed-loop color*	Optimal measurement location
Fresh air through chill section	No solvent vapors in press room

*Optional

folding options

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VERSATILE, AUTOMATED AND EASY-TO-USE FOLDERS CAN MAKE PRINTERS MORE COMPETITIVE.

Several folding options allow printers to customize each M-600™ system. With a robust 1:3:3:3 cylinder ratio and a double quarter folder, the JF-70 delivers 15 standard product formats at up to 70,000 impressions per hour. The JF-48, JF-55 and JF-55 Plus run at 48,000, 55,000 and 61,000 impressions per hour respectively, feature single quarter folders and can produce 18 products.

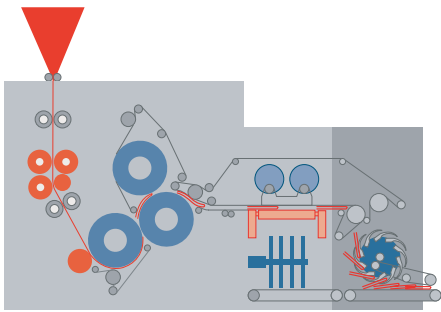
In addition, the JF-65 SQF (Single Quarterfold Folder) offers enhanced control of signatures at higher speeds, with one rotary quarter fold only, capable of delivering one single stream of tabloid and magazine products.

The JF-55 Double Aisle model is another alternative which perfectly complements the range. In addition to standard 16-page magazine and 8-page tabloid formats, this pin double aisle combination folder is also capable of producing two eight-page magazine formats or two four-page tabloid format closed-head products from one single web, performing at high speed. or two four-page tagloid format closed-head products from one single web, performing at high speed.

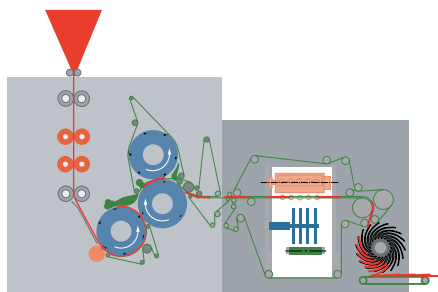
All M-600 folders have patented vacuum slow-down systems for precise signature handling. Ergonomically designed web leads include motorized roller top formers, a slitting module with edge trimming and a set of turner bars.

4/8 Page Module

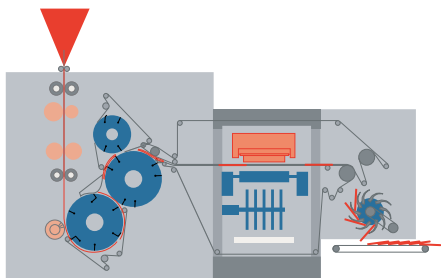
The 4/8 Page Module can be easily integrated with any M-600 folder to deliver four- or eight-page magazine signatures that are open on three sides, with or without a lap. The module features a simple, solid design and the proven pinless technology used in Sunday™ Press folders for more than a decade. After signatures are cut, a delivery belt section accelerates them so they are guided separately to the fan pockets. A stripping mechanism then ensures perfect consistency in the signature stream.



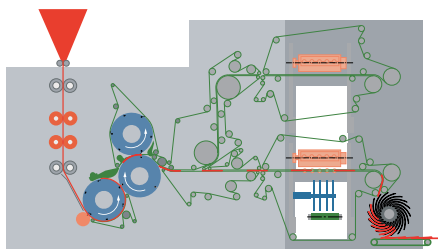
JF-48



JF-65 SQF



JF-55








JF-70

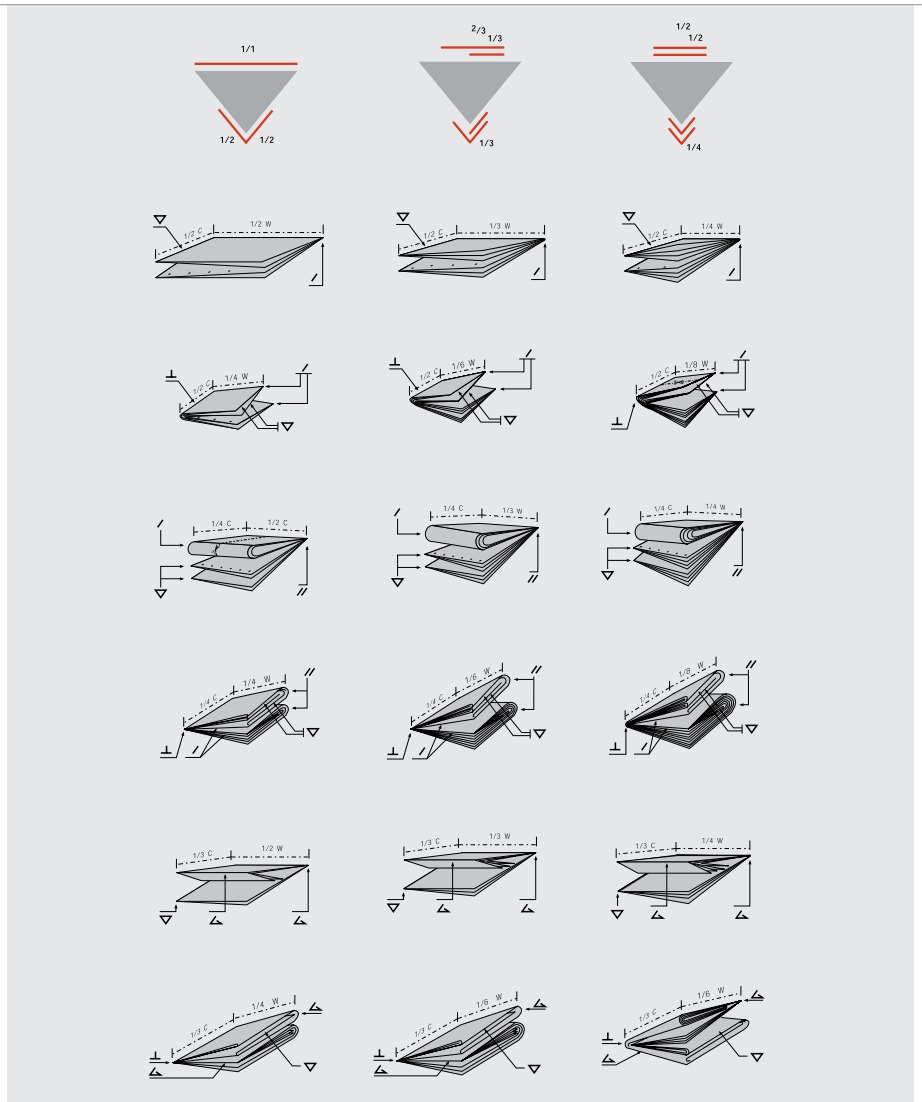


M-600 FOLDER	JF-70	JF-65 SQF	JF-55 PLUS	JF-55	JF-48
Max. speed	70,000 iph	65,000 iph	61,000 iph	55,000 iph	48,000 iph
Cylinder ratio	1:3:3:3	1:3:3:3	1:3:3:2	1:3:3:2	1:2:2:2
Quarter folder	double	single	single	single	single

folding flexibility

THE VERSATILE M-600 FOLDERS MAKE IT EASY TO PRODUCE A WIDE RANGE OF PRODUCT FORMATS.

-  Former fold
-  First parallel fold
-  Second parallel fold
-  Quarter fold
-  Delta fold



press customization

CREATE A SYSTEM FOR SPECIFIC COMMERCIAL OR PUBLICATION PRINTING NEEDS – OR ONE DESIGNED FOR MAXIMUM VERSATILITY.

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One- and two-web M-600™ presses can be configured with an impressive choice of optional features to meet specific requirements or deliver the most extensive flexibility.

Printers can opt for Autoplate™ technology and the integrated Goss® splicer, dryer, folder and Goss Web Center™ modules that perfectly match their needs. The long list of Goss auxiliaries includes an advanced web break detection system to prevent downtime and cylinder damage, automated web guiding to reduce makeready time and operator involvement, and integrated blanket washing.

Open systems

The M-600 press is also specifically designed, mechanically and electronically, to incorporate components such as closed-loop control and auxiliary systems from all leading suppliers. Many printers, especially those specializing in in-line finishing choose to equip M-600 presses with imprinters, coating and perforating units and sheeters. Goss International even goes a step further, forging in-depth relationships with these third-party suppliers to ensure full integration across purchasing, installation, service and production. Regardless of

the specific components, independent a.c. motors and open architecture Goss Web Center modules make it easy to tie everything into a cohesive, efficient system.

Hybrid Printing

Print personalization is one of the key methods today of ensuring the right message goes to the right person. Goss M-600 presses can be combined with inkjet units to support and expand the applications for this technique. After the dryer, a vast range of combinations are possible: single or multiple heads, one or two sides with IR or hot air dryers are just a few of the possibilities.

As a 'total system provider', Goss will take the lead in managing the full integration of all equipment into a complete press solution.

M-600 options*

- **Autoplate or semi-automatic plate changing**
- **Imprinter or Non Stop Edition Change**
- **Perforating and Coating units**
- **Blanket washers (brush or cloth)**
- **Ink levelers**
- **Web catcher**
- **Closed-loop color and register controls**
- **Central chilling systems**
- **Ecose™, Ecocool®, Ecotherm® or Ecoweb™ dryers**
- **JF-48, JF-55, JF-55 Plus, JF-55 double aisle, JF-65 SQF and JF-70 folders**
- **4/8 page folder module**
- **Sheeter and In-line finishing**

* Partial list. Please consult with Goss International representative for more information.

innovation & execution

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GOSS INTERNATIONAL DELIVERS UNIQUE OPPORTUNITIES FOR PRINTERS AND PUBLISHERS TO ADVANCE THE PRINT MEDIUM TO NEW LEVELS OF IMPACT AND VALUE.

Worldwide development and support resources are anchored by world-class manufacturing sites throughout the United States, Europe and Asia, enabling Goss® web offset press and print finishing systems to set the standards for innovation, productivity and value.



Goss International's industry leadership position is built on intensive collaboration with customers and a proven ability to innovate and execute, making web offset a more effective way to communicate. In-depth process knowledge and expansive R&D efforts continue to deliver differentiating breakthroughs like gapless Sunday™ press, Autoplate™, Flexible Printing System™, Automatic Transfer™, DigiRail™ and Ecocool® technologies as well as advanced workflow and finishing systems.

Lifetime Support

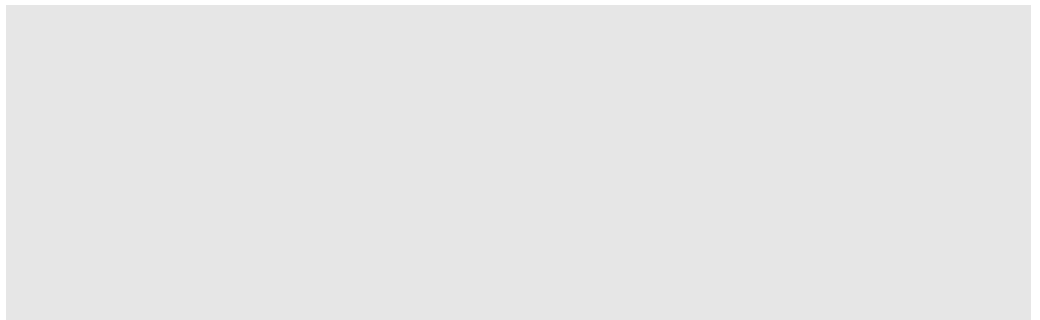
The Goss Lifetime Support™ program extends this level of innovation and execution throughout the life of every Goss system. Fast access and specialized experience define comprehensive parts, service, training, audit and rebuild capabilities. The direct link between development of new technology and ongoing support of existing products also drives a steady stream of valuable, market-driven enhancements.

Goss International Advantages

- **Innovative technology**
- **Collaborative project management**
- **Expansive product options**
- **Integrated press, finishing and auxiliary systems**
- **World-class manufacturing**
- **Lifetime Support services**
- **Global resources and perspective**
- **Expertise and experience**



GOSS | INTERNATIONAL



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Operating speeds for optimum production will vary with paper quality, size of product, number of webs and operator skill. To display product features, some safety devices may be omitted or shown out of position in photographs or illustrations. Specifications and dimensions are subject to change without prior notice. Photos of product packaging depicted in this brochure were not printed on Goss press equipment and are for illustration purposes only.

GS M600 0514

