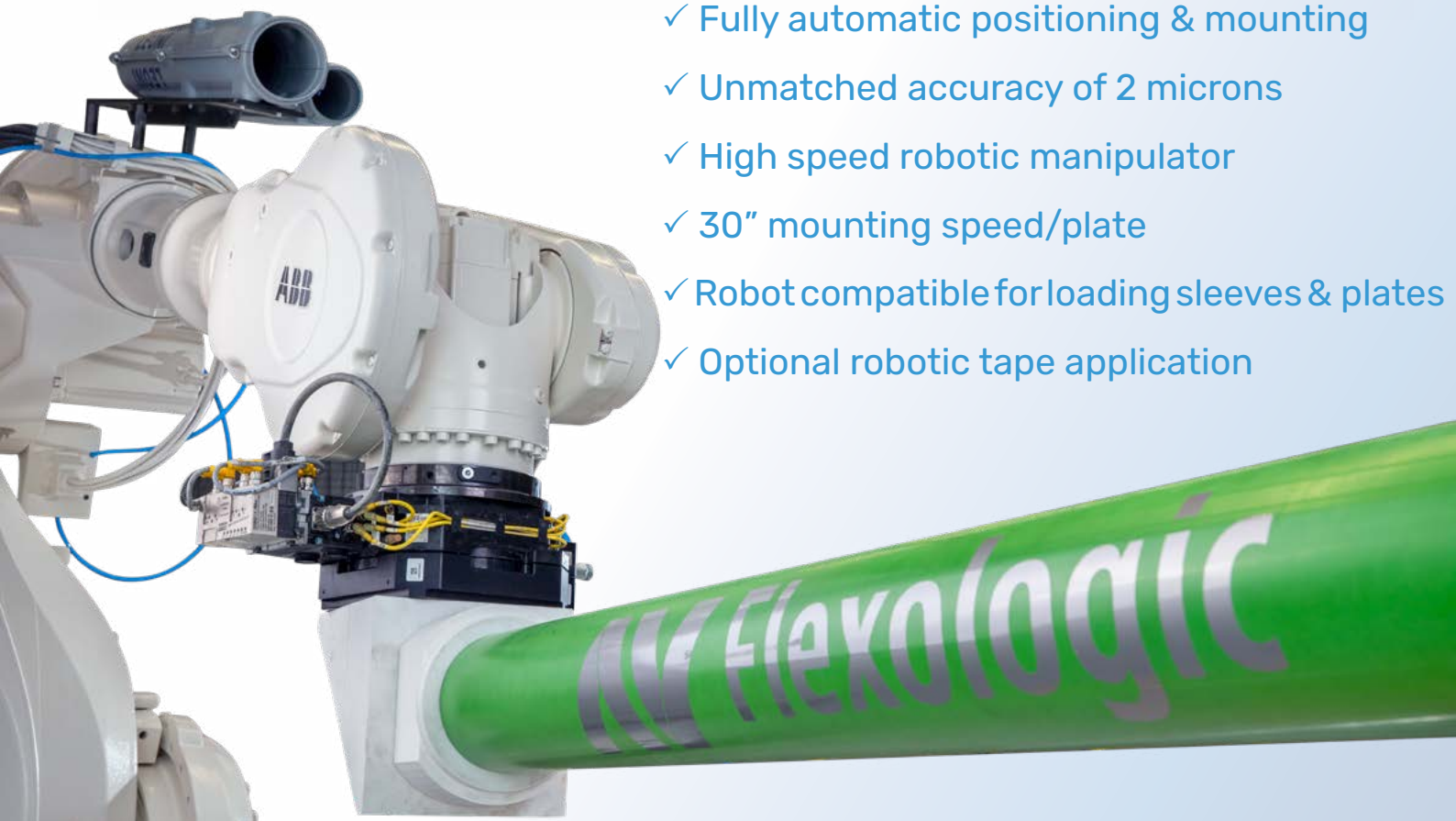
Flexologic

We innovate!

NEXT GENERATION FULLY AUTOMATIC FLEXO PLATE MOUNTING MACHINE

FAMM 3.0

- ✓ Fully automatic positioning & mounting
- ✓ Unmatched accuracy of 2 microns
- ✓ High speed robotic manipulator
- ✓ 30" mounting speed/plate
- ✓ Robot compatible for loading sleeves & plates
- ✓ Optional robotic tape application



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NEXT GENERATION
FULLY AUTOMATIC
FLEXO PLATE MOUNTER
FAMM 3.0

Widths

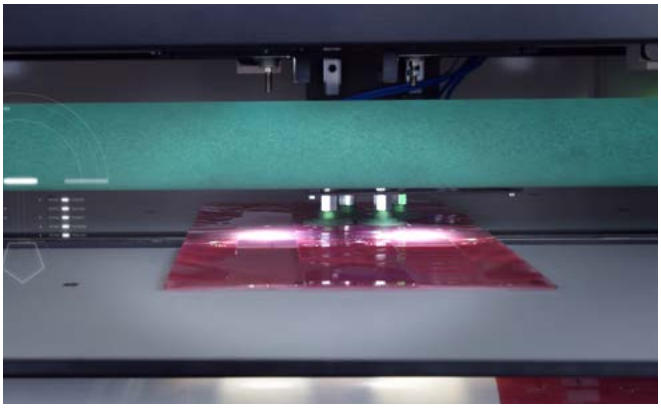
Width [mm]	≤ 1500, 1700, 2500
Width [inch]	59", 67", 98"
Max repeat [mm/inch]	1350 / 53"

The FAMM 3.0 is the next generation fully automatic mounter that continues to change the dynamics in mounting departments, a change that first started in 2005 with the ground-breaking technology of the original FAMM.

This machine is the most advanced automatic mounting solution that provides incomparable **speed, repeatability and accuracy**. It has been developed for our customers who demand the highest standards and aim in an optimized and highly efficient pre-press workflow, that allows an enormous **increase** in their **capacity** and a **higher overall print quality with fast changeovers.**

The patented FAMM 3.0 is the ideal solution for **short and frequent job runs**. This machine has been completely redesigned during the past 2 years and it is equipped with an updated software which allows more synchronous movements. This intelligent system controls the interactive cameras that read the digital positions of the mounting marks using the patented Image Recognition and a robotic manipulator that picks-up the plates and positions them with an **extreme accuracy down to 2µm.**

FAMM 3.0 Upgraded Features



Robotic manipulator

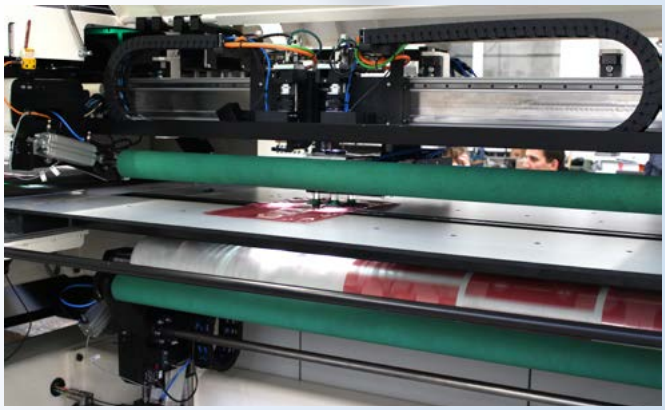
The pick-up unit is completely re-designed and it is used to transfer the plate from the conveyor belt to the mounting position. Using robotics the flexo plate is automatically positioned with an accuracy of **2 microns**

Linear motors

The Ultra HD cameras move automatically into position using the linear motors which are able to accelerate with **10ms/2**.

Conveyor back-light

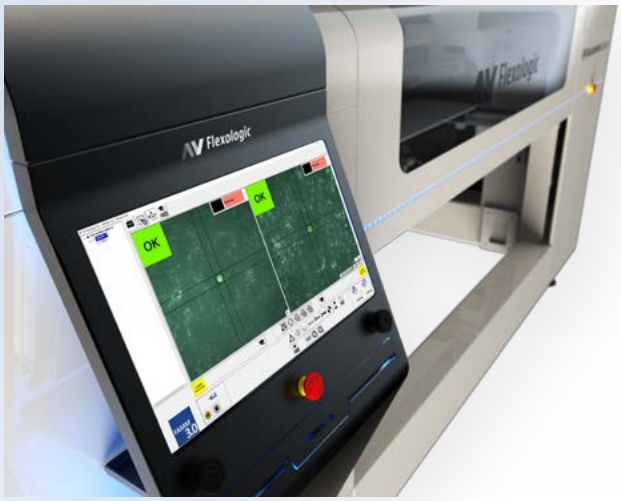
The new split conveyor belt is able to identify the plate from the bottom and to read **QR codes.** The conveyor back light and laser line allows plates to be aligned easier.



Second pressure roller

The top pressure roller mounts half of the plate, then the mandrel lowers down so that the second pressure roller can mount the rest of the plate. During this time, the pick-up unit has already placed the next plate for mounting, optimizing the mounting time with **synchronous movements.**

FAMM 3.0 Features



Accuracy of 2 microns

The FAMM 3.0 uses the patented **Image Recognition** software that measures the exact position of the mounting marks. The robotic manipulator uses these measurements to position the flexo plate with an unmatched accuracy of 2 microns.

Updated software

The updated software allows more synchronous movements and it features a more intuitive user interface.

Automatic mandrel rotation

When the printing plate is positioned accurately and within the chosen tolerance, the cylinder moves up and the pressure roller fixates the plate. The cylinder rotates automatically and the plate is mounted within seconds. When the plate is mounted, the cylinder moves vertically down allowing a fully automatic operation.

Status LEDs

Depending on the status of the mounting process, the LED lights indicate whether an action needs to be taken.

Default | Operating | Advisory | Error

Quality reporting after mounting

After the mounting process the FAMM automatically checks the tolerance of mounted plates using Image Recognition. The tolerance of the report settings determines whether a plate is judged as mounted 'OK' or 'NOT OK'. A pdf quality report is generated on-the-fly with ability to check top and bottom. The report includes all the measurements from the Image Recognition system.

Automatic lock of mandrel

The updated software allows more synchronous movements and it features a more intuitive user interface.

Performance Comparison

	FAMM (XP)	FAMM 2.0	FAMM 3.0
Sleeve change	45 seconds	25 seconds	10 seconds
Mounting time/plate	±120 seconds	±60 seconds	30 seconds
"Average" maximum capacity*	±150 sleeves/day	±400 sleeves/day	±700 sleeves/day
Positioning accuracy**	>15µm	>5µm	>2µm

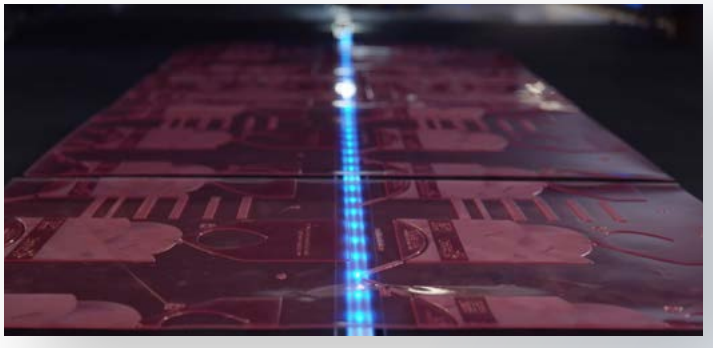
* Based on 2 plates per sleeve including quality check. Time per sleeve depends on plates per sleeve.

** Positioning accuracy can be set by the customer and affects mounting time

FAMM 3.0 Unique Options

Automatic Easyreg detection

Another feature which uses image recognition is the automatic zero-setting feature for detecting a visual mark on the edge of the sleeve. The machine automatically scans the edge of the sleeve to look for the visual mark. Once this mark is recognized, the sleeve is centered and set to zero on this visual mark, to which the plates are mounted. The printing press picks up this mark (such as the W&H Easyreg mark) and the registration of the decks is done automatically. It is also possible to detect the precise location of a magnet in the edge of the sleeve for printing presses such as BOBST, SOMA and Allstein.



Automatic plate ID verification

The FAMM 3.0 is equipped with a split conveyor belt that allows the plate ID verification using QR codes.

Automatic repeat detection

With this feature the machine automatically detects the repeat size of the sleeve.

Mounting Marks Specifications

The Fully Automatic FAMM 3.0 uses the patented Image Recognition to identify the mounting marks and based on them, position the flexo plate accurately.

Type of target	Compatible mode	Plate type	Target top size**		Free space around target		Top of target
			Minimal	Advised	Shape	Size	
Positive dot	Blob	Processed	0.4mm	0.5-0.6mm	Circle	1mm	Flat no image
		Thermal	0.45mm	0.5-0.6mm			
	Correlation	Processed	0.4mm	0.5-0.6mm	Square		
		Thermal	0.45mm	0.5-0.6mm			
Negative dot	Blob	Processed	0.6mm	0.6-1mm	Circle		
	Correlation	Processed	0.6mm	0.6-1mm	Square		
Positive non-dot shapes	Correlation	Processed	2mm	2-4mm	Square		
		Thermal	2mm	2-4mm	Square		
W&H register mark	Easyreg®	-	-	-	-	-	-
Damaged targets*	Semi Auto	See specs of the original target					

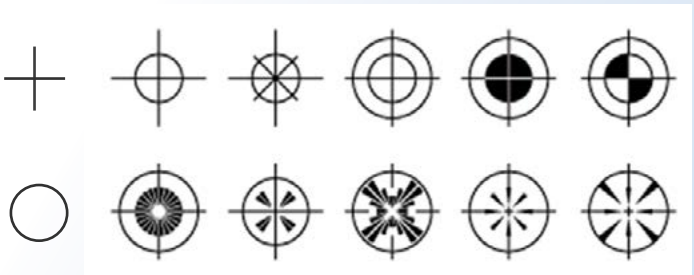
* It is possible to mount damaged targets using the Semi-Automatic mode. The operator will have to locate the target once, after that the FAMM will mount these plates automatically. Also the quality check after mounting is available.

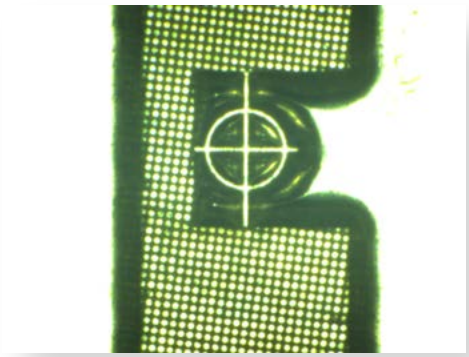
** Microdots with a smaller diameter than 0.4mm can become unstable and can deteriorate following printing

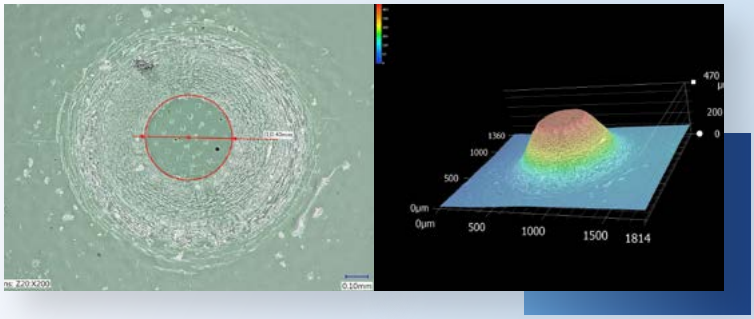
***When possible, it is recommended to avoid screening such as pixel+ on the mounting mark for optimal recognition. When using a laser to apply the screening, the screening can be avoided using object-based selective screening in the prepress software.

Mounting marks types

The FAMM 3.0 detects all common mounting marks and microdots within the above specifications.







Workflow 4.0 with Fully Automatic Tape Application & Mounting

Using cutting-edge technology, we created Workflow 4.0 which guarantees the best efficiency in the pre-press department enabling consistent, fast and high-quality printing. AV Flexologic produces the equipment needed during every step of the process.

1. The workflow starts with retrieving the **Tech Sleeves** from a Semi-Automatic vertical Sleeve Storage System, which provides the optimal storage and protection for sleeves. All transport during the process is done easily and safely with a **Tech Cart®.**

2. The operator places the Tech Cart inside the **ROBOTAMM** area and selects a job from the control console. Then, the sleeves for the selected job will be taped and mounted fully automatically. When the process is over the sleeves on the Tech Cart are ready for printing.

3. The previous steps ensure that the well-maintained printing sleeves are mounted accurately and no press-downtime will be caused because of mismounted sleeves. AV Flexologic provides also solutions like the **EasyReg** mark, which homes the sleeves in the zero position and it is ready to be used in the printing press. With these settings, the set-up is reduced significantly.

4. After the expected high-quality printing is achieved, the tape and plates can be demounted on a TAD or **Demounter** efficiently and effortlessly, while taking maximum care to prevent damaging of the plates.

5. A complete **3D landscape** of printing sleeves can be measured in the **TIR measurement system** that helps building up a record with exact sleeve conditions of each sleeve in stock and predict the necessary pressure for each sleeve needed in the press to get a good print quality and reduce the need to adjust the pressure of a sleeve during set up of the press.

The entire workflow ends by safely storing the sleeves back to the **customized** Sleeve Storage System, and the process can be followed all over again. The **Sleeve Storage System** is the solution for common problems such as sleeve swelling, distortion, and damaged edges.

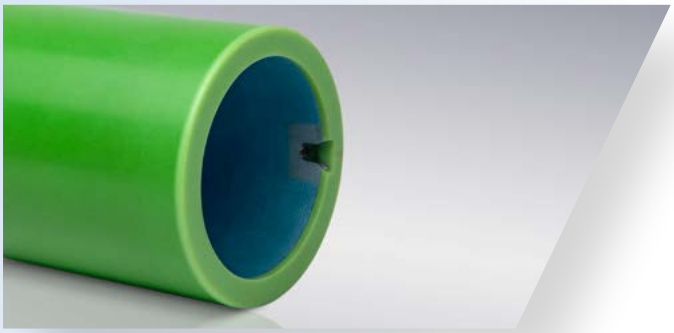
TECH SLEEVES
THE FUTURE IS NOW

Worldwide Customized Flexo Sleeve Solutions

Tech Sleeves® manufactures composite printing sleeves and bridges (adapters) for the global flexographic industry. By using the highest quality of materials, durability, consistency and dimensional stability is guaranteed. The core of the sleeves and bridges are built using 2-component vinyl-ester epoxy resin combined with Spherecore and Dyneema®. This leads to an ultra-high strength composite core that guarantees form stability and ensures resistance to bouncing. **Tech Sleeves®** and **Tech Bridges®** are qualified for high printing speed of up to 800m/min, or 2,624 ft/min.

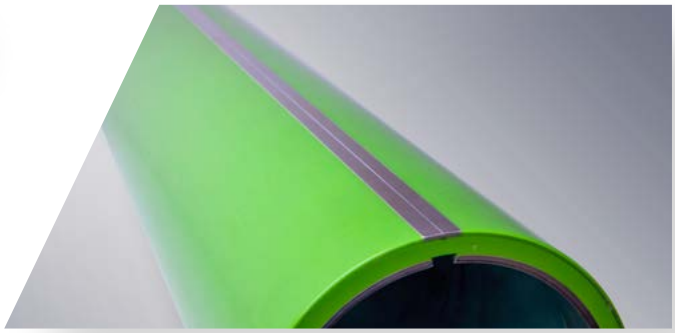
In addition to these high quality materials, Tech Sleeves® also offers additional features like **sealed ends**, the **full inner metal ring**, the **metal cutting line** and an **outer metal ring** to increase the sleeve and bridge lifetime. RFID chips and magnets can be added to both sleeves and bridges on request.

Unique Options



Rubber edges with metal insert

Rubber edges are used to decrease wear and tear of the sleeve and therefore increase its durability, This unique option ensures the longevity of the sleeves.

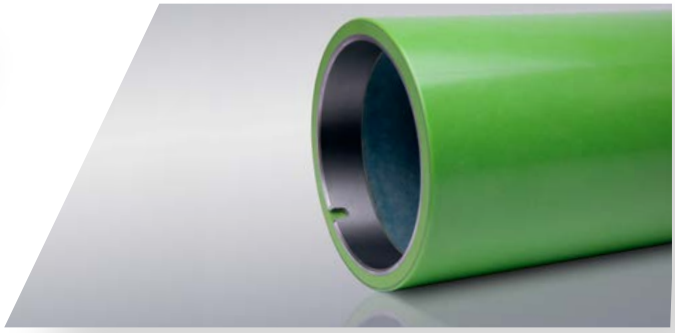


Metal cutting line

Helps the operator with cutting. Prevents damage to the sleeve using a metal plate of 0.5 mm thickness.
Finishing with diamond grinder for smooth sleeve surface

Smart Sleeve

The Smart Sleeve includes a RFID chip and magnet to store identification numbers and repeat sizes to simplify the identification process.



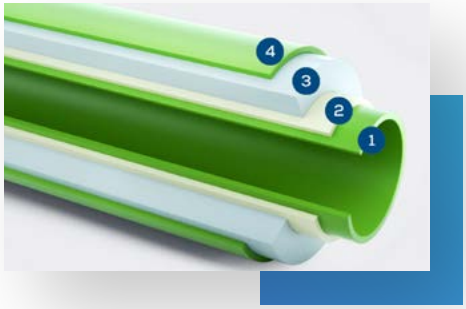
Full inner metal ring

The full inner metal ring provides a strong and durable slot solution, but it also saves cost on buying new printing sleeves.

Tech Sleeve Versions	Tech®	Tech® Pro	Tech® Pro+
Zero line axial	•	•	•
Rubber Sealed edges both sides		•	•
Inner metal ring incl. registration slot			•

Tech Sleeve®

Layers cross-section



1

Innermost Core

- Flexible and expandable innermost core. (1 mm)
- Contains Dyneema® that offers maximum strength with minimum weight.
- Dyneema® doesn't fray and is up to 40% stronger than aramid fibers such as Kevlar®.
- Prevents slipping of the sleeve on the mandrel.
- Extremely durable and resistant to moisture, UV light and chemicals.

2

Foam Layer

- Compressible Foam Layer. (1 mm)
- The compressible Foam Layer has high rebound resilience and is up to 50% compressible without bulging.
- Reduces bouncing and enables the sleeve to have a perfect fit on the mandrel.
- Resistant to permanent deformation, good abrasion resistance from aging, weathering and cleaning solvents used for polymer plate cleaning.

3

Techcore

- Stitched, Bonded and Compressed Techcore material in various thicknesses.
- Contains a filament fiber base which is volumized by fiberglass infused with Epoxy Vinyl-Ester-Resin.
- Light weight with extreme high flexural strength and form stability.
- Ultra-high-strength composite core reduces bouncing at high speed.

4

Outer surface layer

- The Outer Surface Layer contains Epoxy Vinyl-ester-resin reinforced with technical filaments and polyester fleece. (2 mm.)
- High chemical and temperature resistance with excellent tape mount and demount properties.

Tech Bridge®

Description

Tech Bridge® has an ultra high strength composite core complemented by a fiber-reinforced outer shell, which makes it suitable for high speed printing. It is available with a separate air connection or as air-through. Miller valves are standard for Separate Air Tech Bridges® that have a minimum wall thickness of more than 25mm. This high quality Hard Coated Bridge Sleeve is suitable for all plate sleeves.

Features & Options

- ✓ Sealed edges
- ✓ Full inner metal ring
- ✓ Outer metal ring incl. pin
- ✓ Miller valves
- ✓ Air Through or Separate Air
- ✓ Conductive by use of carbon

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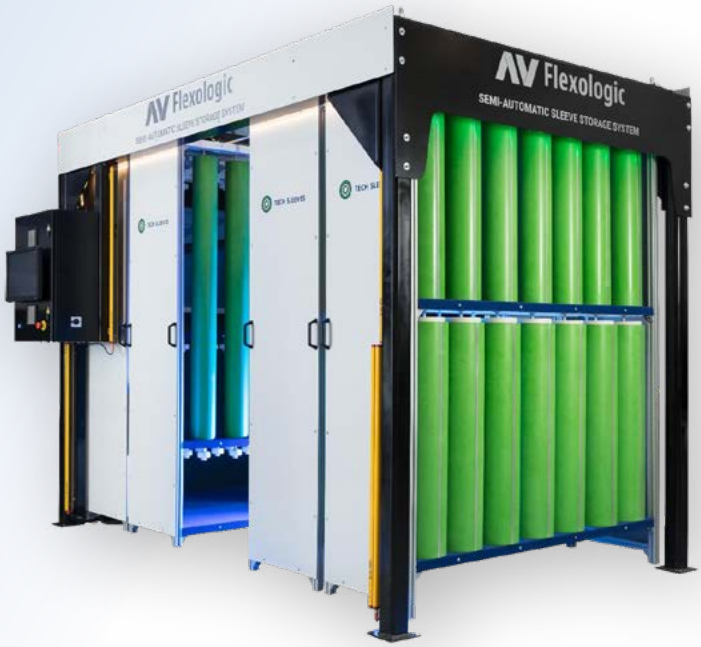
Supporting Equipment

Sleeve Storage System

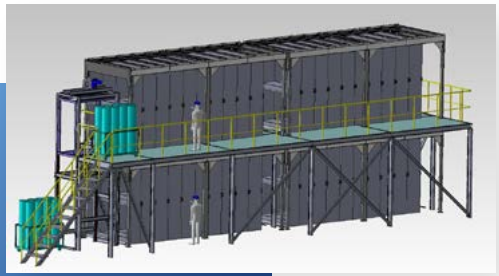


Description

This customized **Sleeve Storage** system allows easy access, storage and retrieval of sleeves with an optional Semi-automatic feature. The Semi-Automatic feature entails that the horizontal movement of the racks is motorized by use of electric motors. This feature allows the user to input a repeat number or job on a touchscreen interface, through which the racks automatically "open" to the specific rack where the sleeves are stored.

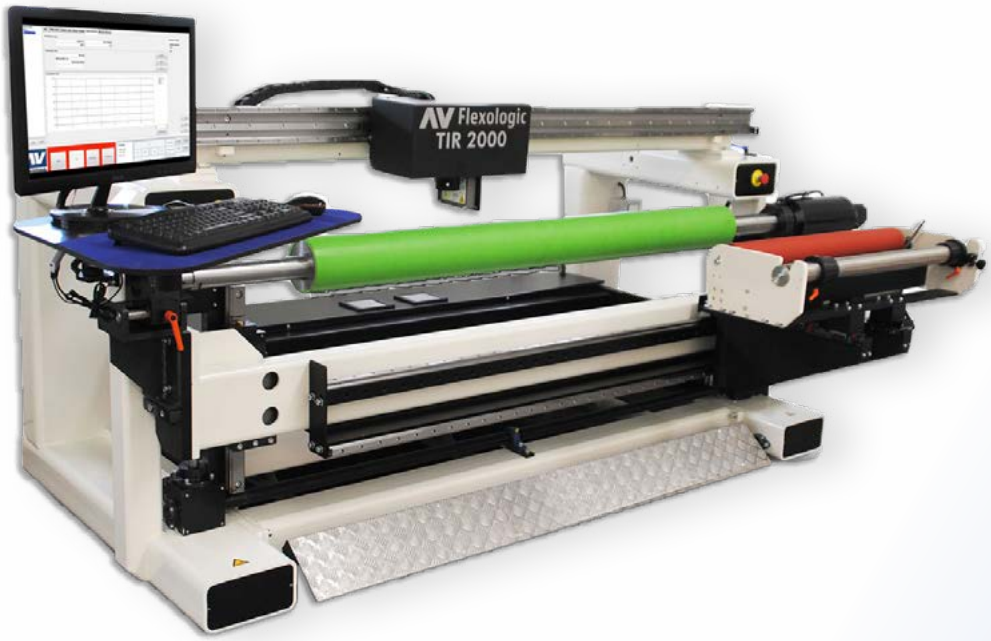
Advantage of Semi-automatic Sleeve Storage

- ✓ Easy and fast retrieval of sleeves
- ✓ No manual labor required to move sleeve racks
- ✓ Possibility to connect to ERP system for further automation
- ✓ Automatic security system
- ✓ Fully customized project



Supporting Equipment

TIR Measurement System



Description

The **TIR** measurement system is the winner of the International print & innovation award 2015. It analyses the quality of the printing sleeve or cylinder by measuring the '3D landscape' of the surface. This information gives a thorough insight on the condition of the printing sleeve or the cylinder. With that, the TIR builds up a record of the exact condition of each printing sleeve or cylinder in stock. Subsequently the printing sleeves can be placed in the press with the right pre-settings.

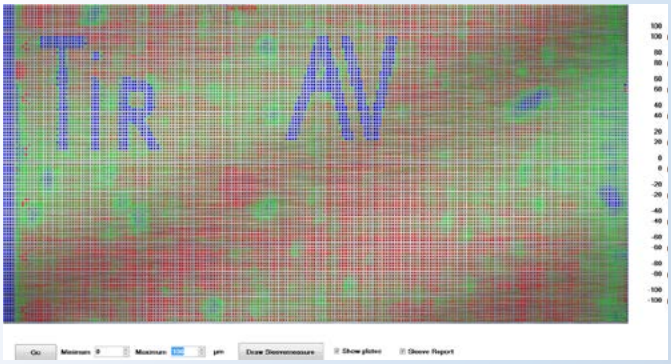
The ability to check the exact condition of each sleeve is essential for high-speed production with minimum pressure settings on the press. Worn out or damaged sleeves are easily detected, which prevents bad quality sleeve related downtime in the printing presses. It also helps to create an inventory of sleeves that are fit for use.

Advantages

- Reduction in press downtime due to worn out printing sleeves which end up in the flexographic printing press
- Quick and easy usage
- Rigid steel construction
- Prevent press downtime
- Identify out-of-spec. sleeves
- Allows better control over the printing process
- Stores the measurement report

Options

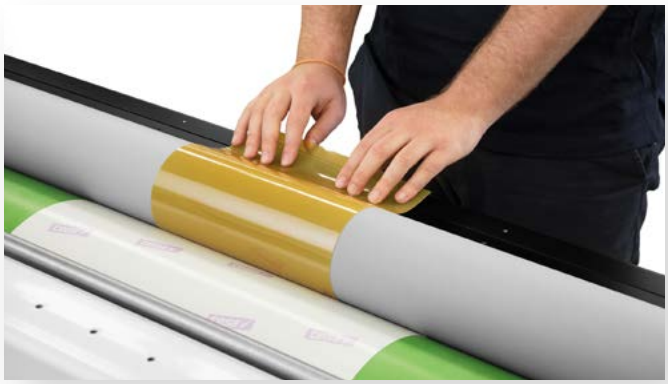
- Tape applicator for applying double-sided adhesive mounting tape
- Cutting knife with an adjustable depth to prevent sleeve damage while cutting tape



Demounter

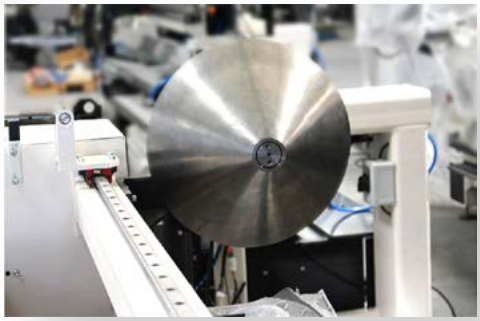
Description

The **Demounter** is a machine designed to prevent damaging the printing plates. The Demounter efficiently removes the flexographic printing plates and mounting tape from sleeves, without any damage. Along with saving plates, the machine will also save time and allow the operator to focus on other activities in the prepress department. A motor driven silicon roller generates friction to pull the printing plates and mounting tape off the printing sleeve or cylinder. The roller divides equal force along the entire width of the printing plate, as opposed to the edges, which protects the printing plates from any damage.



Advantages

- Reduces costs due to damaged printing plates allowing a quick return on investment
- Saves time in prepress department
- Easy to use and minimal force required
- Rigid steel construction
- Plug-and-play



Options

- Pneumatic cones for applying tape
- Cutting knife

Global Support Network

24/7 assistance +31 (0) 172 503 621

Do you need urgent support? Call us at any time!

Our team is consisted of 24 exprienced engineers who can help you with any problem you might face. We provide support in: English, German, Spanish, French, Italian, Dutch, Romanian, Arabic and Thai.

AV Flexologic Care

We are happy to introduce the new AV Flexologic Care Packages that provides you support even after the warranty expires.

Package 1

- 24/7 Support
- Remote Support
- 1 Visit per year
- Software updates
- 15% Discount on spare parts
- Warranty extension on parts & labour*

Package 2

- 24/7 Support
- Remote Support
- 1 Visit per year
- Software updates
- 15% Discount on spare parts
- Warranty extension on parts & labour*

Package 3

- 24/7 Support
- Remote Support
- 1 Visit per year
- Software updates
- 15% Discount on spare parts
- Warranty extension on parts & labour*

Request your own AVF Care package at av@flexologic.nl or call us at +31 (0) 172 503 621

You can contact us easily in many ways:

Call us at **+31 (0) 172 503 621** or **+1-800-467-1746** for USA

We create an account for you at our Support Portal in Freshdesk. You can always raise a ticket when you log into your account.

Send an email to **support@flexologic.nl**

By sending your email, a ticket is automatically created in our system and we will support you in a short time

Visit our website at **www.flexologic.nl/support** and fill in the contact form.

By sending the form, a ticket is automatically created in our system and we will support you in a short time

What happens next?

Once we receive your ticket or email, we will support you in the following ways:

Ticket received!
Our service team will contact you soon

A. Remote support via telephone

No Solution?

B. Remote assistance via TeamViewer

C. We will send an engineer to repair your machine

freshdesk

Do you want to easily find information about your machine?

Our support portal is designed to provide you instant help. By logging in to Freshdesk, you will be able to find information about your machine and answers to frequently asked questions

For additional information about Support & Service, visit our website: www.flexologic.nl/support

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