



## AUTOMATIC FLEXO PLATE MOUNTING MACHINE SAMM 2.0



- ✓ Fastest in the world
- ✓ Robotic positioning
- ✓ Operator independent
- ✓ Unmatched accuracy
- ✓ Reduces press downtime

## SAMM 2.0

### AUTOMATIC FLEXO PLATE MOUNTING MACHINE



#### Widths

Width [mm]	≤ 1300, 1700, 2200
Width [inch]	52", 67", 87"
Max repeat [mm/inch]	1350 / 53"

#### Description

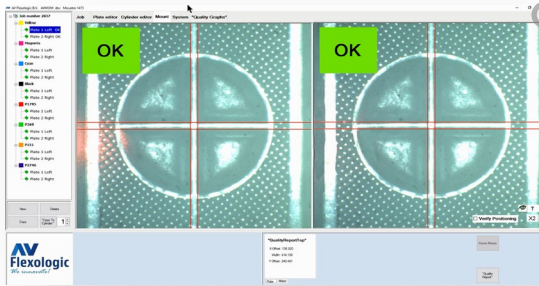
The patented **SAMM 2.0** is AV Flexologic's solution to common industry trends. Building on 15+ years of experience with automatic mounting machines using vision technology, the SAMM and FAMM are the most accurate and fastest mounting machines in the world. The Automatic SAMM 2.0 mounts flexo plates onto sleeves with unmatched accuracy, repeatability and speed.

#### Workflow

The operator only needs to preposition roughly the flexo plate with the help of the laser pointers. Then the machine takes over and positions the flexo plate using **robotics**. Additionally, with the help of motorized cameras and the patented **Image Recognition** software, the flexo plate is placed with an accuracy of **5 microns**. Following, the motorized front table automatically moves and the flexo plate is mounted onto the sleeve without **any operator interaction**. During the mounting process, the operator can focus on other preparatory tasks. The SAMM 2.0 features a staggering **30-second** mounting speed, attending to higher quality demands and reducing press downtime.

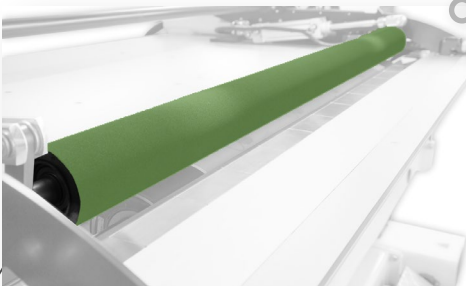


## Unique Features



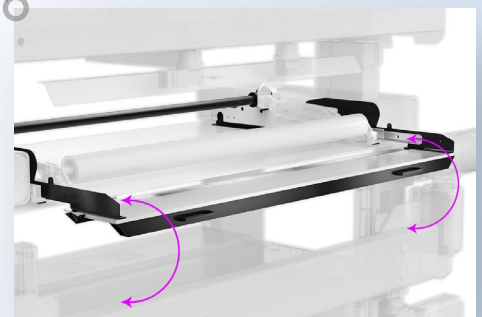
### Image Recognition (patented)

The image recognition system measures the exact positions of the mounting marks and thus how **accurately** the printing plate is fixed on the sleeve. The tolerance of the report settings determines whether a plate is judged as mounted 'OK' or 'NOT OK'.



### Pressure Roller

The pressure roller ensures even mounting, without **any air inclusions** and bubbles. The roller is used to apply the plates evenly over the carrier such as a sleeve, cylinder or Mylar. The use of the pressure roller eliminates the typical 'hand-rolling'. The feature saves time and avoids un-ergonomic working procedures.



### Motorized front table

An added advantage of the SAMM 2.0 is the motorized front table, which enables the machine to **fully automatically** mount individual printing plates without operator interaction, keeping the performance of the mounting job with an accuracy of **5 microns**. During the time the machine is mounting each plate, the operator can prepare the next plate or perform another preparatory or finishing operation.

## Mounting Marks Specifications

The Automatic SAMM 2.0 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	Seespecs of the original target					

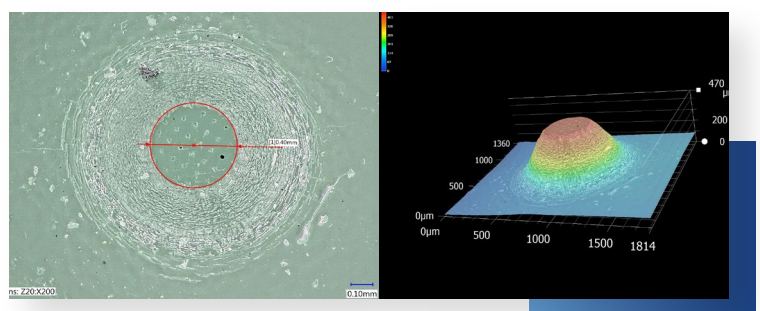
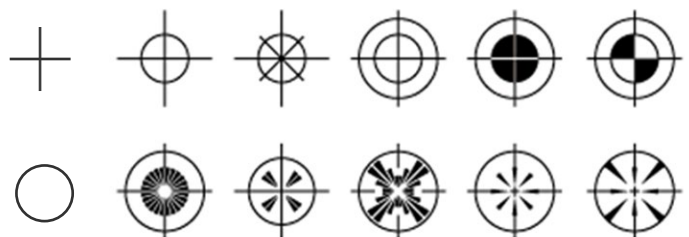
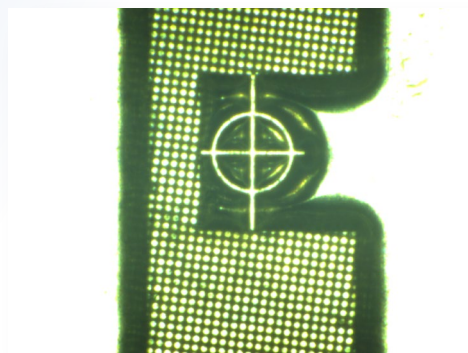
\* It is possible to mount damaged targets using the Semi-Automatic mode. The operator will have to locate the target once, after that the SAMM will mount these plates automatically. Also the quality check after mounting is available.

\*\* 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 Automatic SAMM 2.0 detects all common mounting marks and microdots within the above specifications.



## Business Case Study

A flexo printer in South America purchased a SAMM in 2014. This company is mounting between 15.000 and 17.000 sleeves per year and has 3 flexo printing presses. The chart below illustrates what the SAMM has done for this plant's workflow.



## Customers





## Testimonials

“

*"By introducing the SAMM 2.0 in our workflow we have reduced our press downtime and waste related to plate lifts and air bubbles. We also improved efficiency and increased mounting consistency to the press department. So far, the SAMM has eliminated our air bubbles and reduced plate lifts by over 75%; in turn, we have significantly reduced our press downtime caused by prepress-related issues."*

**COVERIS™**  
HIGH PERFORMANCE PACKAGING

*"Since introducing the SAMM 2.0 into our workflow, we have realized significant workflow and productivity gains such as: 1 hour of additional mounting capacity in an 8-hour shift and 300 hours of additional press time annually due to full EasyReg functionality. The SAMM 2.0 is preferred by all over the previous mounting devices, due to the improved registration and the color-to-color accuracy. The machine recognizes pin holes from existing plates, in addition to marks on new plates, while it has improved operator ergonomics and offers higher operator satisfaction."*

*So far, the calculated return on investment will be approximately 14 months, based in press and mounting productivity gains."*

”

“

*Investing money in the SAMM 2.0 1300 was a great decision! The SAMM 2.0 is a perfect combination of innovations that ensure better quality and higher productivity. Thanks to incredible precision of the SAMM the productivity in the prepress department is very high. The SAMM 2.0 mounts plates extremely fast, it takes only from 60 to 40 minutes for a 10 colors job. Besides, it's operator independent and very easy to use.*

*We are very happy with purchasing two SAMM's 2.0 – the machines are extremely accurate and helping us to achieve a great print performance."*

**anagram**



**SDR  
PACK**  
vestiamo il tuo prodotto

# Flexo Wide-Web Product Summary

Specifications	Sleeve-mounter	MOM DD+ S	MOM DD+ PRO	SAMM 2.0	FAMM 2.0
Max Width (mm)	≤ 1300	1500	1300, 1700, 2200	1300, 1700, 2200	1500, 1700, 2500
Max Width (inch)	52"	59"	52", 67", 87"	52", 67", 87"	59", 67", 98"
Max Repeat (mm/inch)	1350 / 53"	1350/ 53"	1350 / 53"	1350 / 53"	1350 / 53"

Features & Options	Sleeve-mounter	MOM DD+ S	MOM DD+ Pro	SAMM 2.0	FAMM 2.0
HD Ethernet Cameras	✓	✓	✓	✓	✓
Air mandrel	✓	✓	✓	✓	✓
Windows 10 mounting software	✓	✓	✓	✓	✓
Overlay	✓	✓	✓	✓	✓
Digital Zoom capability		✓	✓	✓	✓
40" HD Monitor		✓	✓	✓	✓
Laser pointers		✓	✓	✓	✓
Quality Report		✓	✓	✓	✓
Motorized cameras		✓	✓	✓	✓
Synchronized front table movement		✓	✓	✓	✓
Digital Calibration System		✓	✓	✓	✓
Motorized rotation of cylinder	0	✓	✓	✓	✓
Pressure roller		0	✓	✓	✓
Vertical Movement of Cylinder			✓	✓	✓
Fixed distance from lens to plate			✓	✓	✓
Image Recognition Software			0	✓	✓
Quality check w/ image recognition			0	✓	✓
Vacuum table				✓	✓
DOAL Lights				✓	✓
Robotic positioning				✓	✓
Automatic repeat detection				✓	✓
Automatic mandrel rotation				✓	✓
Automatic pressure roller				✓	✓
Motorized table movement				✓	✓
Robotic manipulator					✓
Conveyor belt					✓
Fully Automatic					✓
Critical Spare Parts Package	0	0	0	0	0
Tape holder on precision rail		0	0	0	
Barcode Scanner		0	0	0	0
Automatic Easyreg detection		0	0	0	0
Shaft Coupling for cylinders			0	0	
Tape applicator			0	0	
TIR Sleeve measurement			0	0	0
Cutting knife for tape*			0	0	
Sleeve Tracking System**			0	0	0

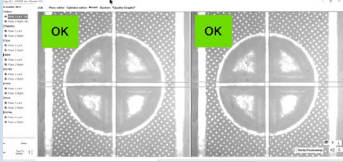
✓ = Included    0 = Optional  
 \*only in combination with tape applicator    \*\*only in combination with TIR

## Features Overview



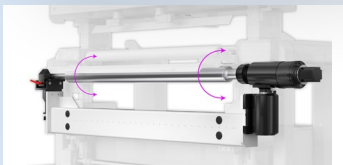
### Robotic positioning

Driven by the AV Flexologic software, the robotic table positions the mounting plate with high accuracy, each and every time. After positioning the vertically moving cylinder automatically comes up.



### Quality check with image recognition

The image recognition system measures the exact positions of the mounting marks and thus how accurately the printing plate is fixed on the sleeve. The tolerance of the report settings determines whether a plate is judged as mounted 'OK' or 'NOT OK'.



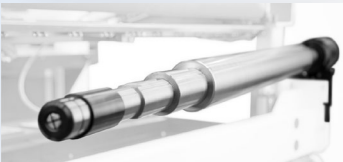
### Motorized rotation cylinder

The chromed cylinder is driven by a high quality electric motor which is joined to a high-precision, zero backlash gear reducer called a 'harmonic drive'. This ensures maximum possible precision in the rotational (Y) direction of the mounting process. Starting or recalling a job and moving to the right mounting position for each plate is done within seconds.



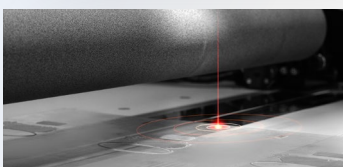
### HD Ethernet cameras

Using the latest technology in high-speed Ethernet cameras on all of the mounting equipment, AV Flexologic ensures crisp and sharp ultra-high-resolution images, enabling an efficient and accurate mounting process.



### Custom made Air Cylinder

All sleeve-dedicated AV Flexologic mounting equipment is equipped with a high-precision chromed mounting mandrel. The cylinders are produced in Germany by a specialist company under the strictest tolerances. The cylinder is custom-made to fit press requirements.



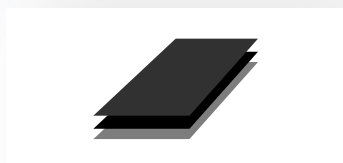
### Laser pointers

Laser pointers are mounted next to the cameras to indicate where the field of view of the cameras is. The mounting marks can be easily positioned in a fraction of time, instead of having to search for the mounting marks in the camera image each time.



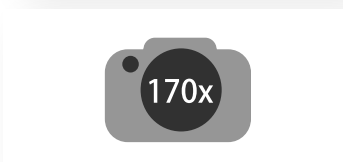
### DOAL lights

The image recognition system includes special DOAL lights with a half-transparent mirror which provide the best recognition conditions for automatic mounting. The light comes from the side and is reflected down in the same direction the camera is looking. When the light hits the plate surface it reflects straight back up into the lens.



### Overlay

Once the first plate is in the right position, the overlay module enables the operator to take snapshots of the mounting marks, which are then shown semi-transparently when mounting the other plates.

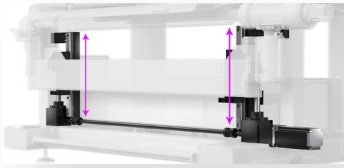


### Digital zoom capability

Combining HD cameras with HD flatscreen monitors enables mounting equipment to zoom digitally up to 170x.



## Features Overview



### Vertical movement of cylinder

The cylinder moves vertically on high-precision linear guides. Advantages are that by moving the cylinder towards the plate, the plate is not disturbed in the final stage of the mounting process, meaning the 'fixation' accuracy of the plate to the sleeve is very high. Also, fixed distance from lens to plate means that there is no need to focus the lenses, ensuring the highest accuracy and user-friendliness.



### Windows 10 mounting software

Striving for the latest up to date technology, the SAMM 2.0 is equipped with Windows 10, which is fully compatible with our software.



### Quality report

After each plate is mounted, the MOM, SAMM and FAMM mounting machines have the ability to automatically check the tolerance of mounted plates using image recognition. A pdf quality report is generated on-the-fly with ability to check top and bottom.



### Fixed distances from the lens to plate

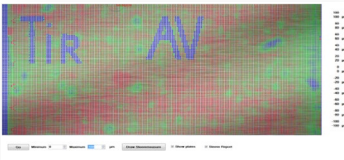
The table is in a fixed height, so the cylinder moves up vertically when the plate is in position to fix the plate to the sleeve's adhesive layer (tape or twinlock). One of the advantages is that a fixed working height ensures best operator ergonomics.

## Options Overview



### Automatic easyreg detection

Using our patented image recognition system, a visual mark on the edge of a sleeve such as the W&H Easyreg strip can be automatically 'set to zero' on the MOM, SAMM and FAMM mounting machines by simply pushing a button. The camera automatically homes in on the Easyreg mark and also automatically 'sets zero' in X and Y direction with 0.001mm (1µm) accuracy.



### TIR Sleeve Measurement

Our patented im The TIR Measurement System analyses the quality of the printing sleeve or cylinder by measuring the "3D landscape" of the surface. By using the TIR system, press downtime due to out-of-spec and damaged sleeves is prevented. Better control over the printing process is gained, while the need to adjust the pressure of a sleeve during the set-up of the press is reduced.



### Tape holder on precision rail

A tape holder can optionally be added to MOM and SAMM machines on precision linear guides. The linear guides make sure the tape roll is completely parallel to the sleeve when applying tape and assist the operator to easily move the tape along the side of the sleeve.

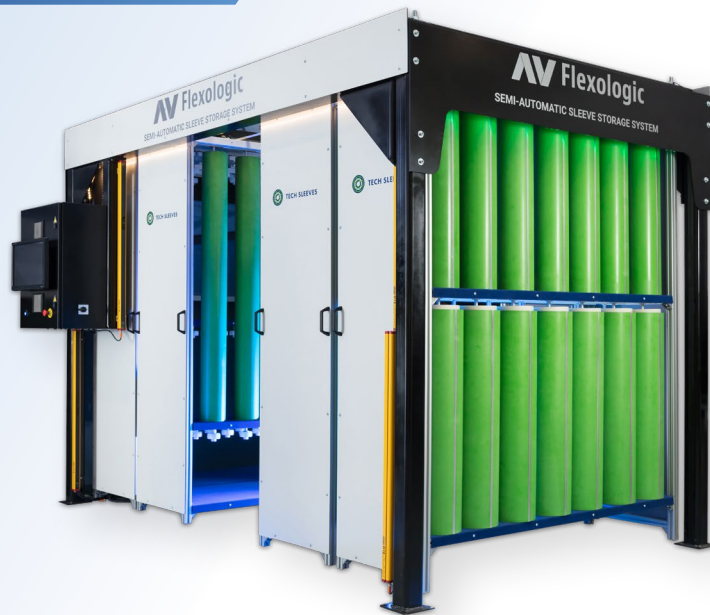


### Barcode scanner

A barcode scanner can be optionally added to the MOM, SAMM or FAMM for automatic loading of the jobs. The jobs are then usually made offline in prepress to optimize the machine Operation Equipment Effectiveness (OEE).

## Supporting Equipment

### Sleeve Storage System

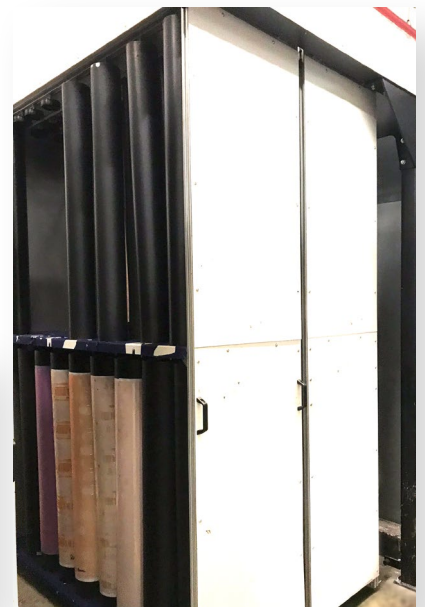
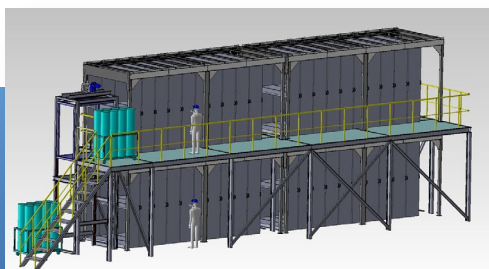


### Description

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 with an accuracy of 5 microns. 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.

#### 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

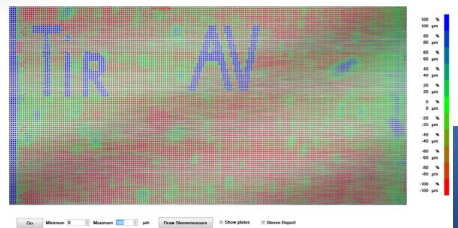
Allows better control over the printing process

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

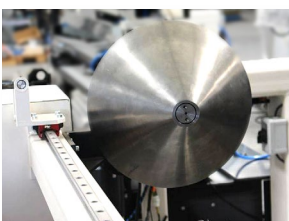
Rigid steel construction

Plug-and-play

#### Options

Pneumatic cones for applying tape

Cutting knife





### Tape Applicator/Demounter



### Description

The **TAD** (Tape Applicator/Demounter) offers safe, fast and consistent tape application, while it can also be used as a Demounter to safely demount flexo plates and tape from sleeves, without damaging them.

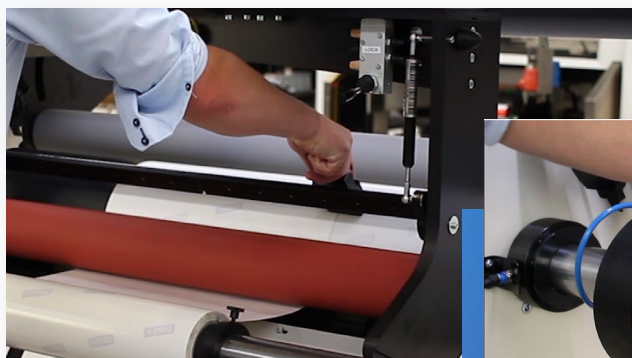
### Features

Light and sturdy tape roller

Cutting knife with an adjustable depth to prevent sleeve damage while cutting tape

Motorized rubber roller, which distributes the force equally over the entire width of the sleeve

Teflon knife for detaching the plate from the sleeve easily and without damaging the plate



### Advantages

Perfectly aligned tape without air bubbles

Minimal tape waste

Easy to use and minimal force required

Rigid steel construction

Prevents plate and sleeve damage

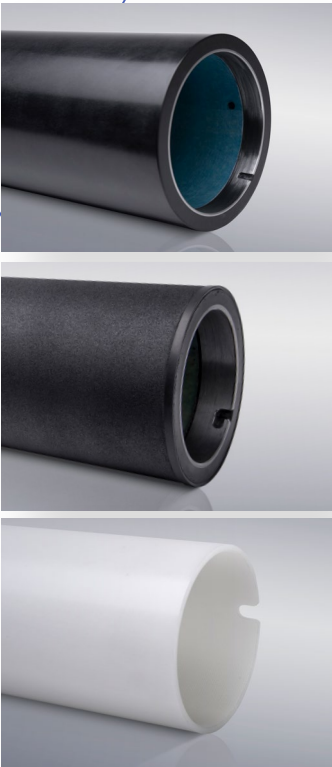


**TECH SLEEVES**  
THE FUTURE IS NOW

SAMM 2.0 - AV FLEXOLOGIC

Sleeves & Bridges

# WORLDWIDE CUSTOMIZED FLEXO SLEEVE SOLUTIONS

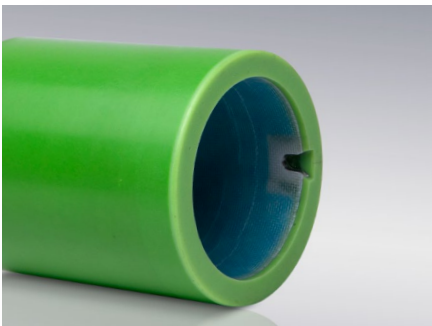


**Tech Sleeves®** manufactures composite printing sleeves and bridges (adapters) for the global flexographic industry. By using the highest quality of materials, durability, consistency and dimensional stability is guaranteed. The core of the sleeves and bridges are built using 2-component vinyl-ester 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.

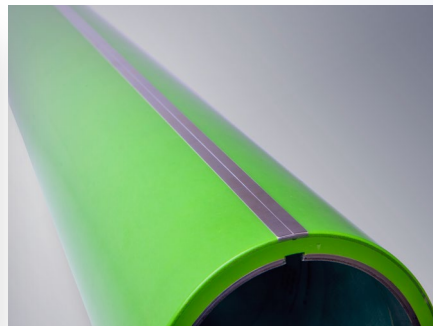
Tech Sleeve Versions	Tech®	Tech® Pro	Tech® Pro+
Zero line axial	•	•	•
Sealed edges both sides		•	•
Inner metal ring incl. registration slot			•

## Unique Options



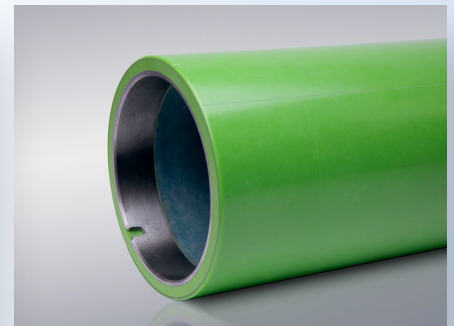
### Rubber edges with metal insert

Tech Sleeve with sealed edges covered with rubber. This unique option protects the sleeves from getting damaged and ensures their longevity.



### 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



### Inner metal ring

Inner metal ring including registration slot and reinforced with 4 extra fixing holes. It prevents slot damage.



**TECH SLEEVES**  
THE FUTURE IS NOW

## 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

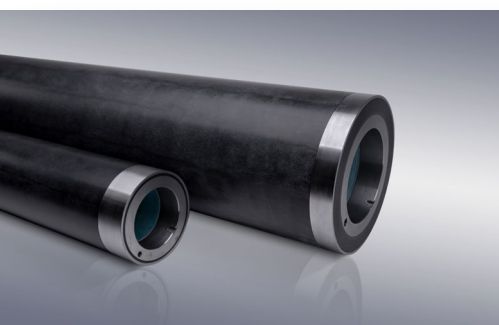
- Stitched, Bonded and Compressed Techcore material in various thicknesses.
- Contains a filament fiber base which is volumized by fiberglass infused with Epoxy Vinyl-Ester-Resin.
- Light weight with extreme high flexural strength and form stability.
- Ultra-high-strength composite core reduces bouncing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

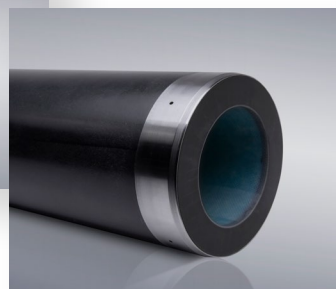
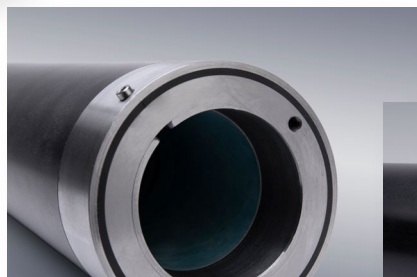


### Description

**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





# Global Support



24/7 assistance ☎ +31 (0) 172 503 621

## Anytime, anywhere!

AV Flexologic provides worldwide customer support through a certified network of partners, engineers and warehouses located in multiple locations worldwide.

Also, since January 2017, customers holding a maintenance contract can have an exclusive 24/7 telephone support contact.

## How it works?

- 1) Create an account at AV Flexologic's support system :  
<https://support.flexologic.com/>
- 2) Create an online ticket and send us pictures and/or videos, together with a description of the exact problem presented by the machine

You can also send all your questions or report a problem by sending an email to [support@flexologic.nl](mailto:support@flexologic.nl). Our experienced service engineers will help you with any problem you may face.



## AUTOMATIC PRE-PRESS & MOUNTING EQUIPMENT



## Contact us!

### Visitor address



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Netherlands



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### Post address



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the Netherlands