Flexologic

We innovate!

AUTOMATIC SAMM 2.0

AUTOMATIC SAMM USD

MOTORIZED MOM USD

TABLETOP

LABEL & NARROW WEB PORTFOLIO

Introduction of mounting concepts

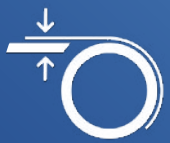
AV Flexologic offers a full range of flexo plate mounting machines, from completely manual to fully automatic. This section describes the 4 different concepts that can be identified in flexographic plate mounting machines, from entry-level to fully robotic:

Manual (TableTop)

Manual mounting is done with a basic machine. This machine is used for mounting one plate at a time and long job runs.

Motorized (MOM USD)

The motorized cameras are adjusted using the encoder. The cushioned table enables easy and air-bubble free mounting.



Automatic (SAMM USD)

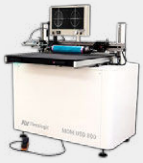
The cameras and the cylinder are motorized. The position of the plate is based on measurements coming from the image recognition system. Because of that, a higher efficiency and accuracy of the mounting process is ensured.

Fully Automatic* (SAMM 2.0)

The operator places roughly the plate on the mounting table. The machine takes over and positions the plate accurately using Image Recognition. The operator is free to perform other tasks since the table and the cylinder move automatically and mount the plate.

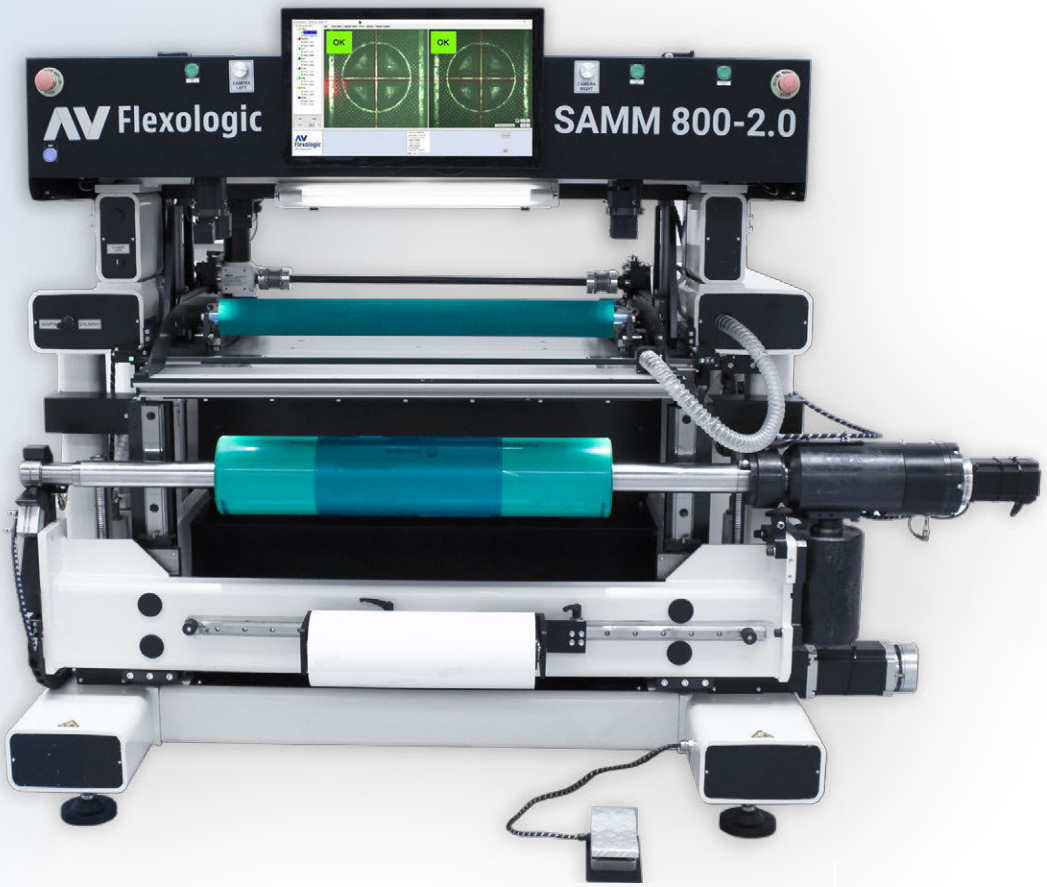
* Mounts fully automatically one plate at a time

Specifications

Mounting machine		Widths [mm]	Widths [Inch]	Max Repeat [mm/Inch]	Sleeves or Cylinders
	TableTop	≤ 610	24”	610 / 24”	Cylinders and/or sleeves
	MOM USD	≤ 850	33.46”	850 / 33.46”	Cylinders and/or sleeves
	SAMM USD	≤ 850	33.46”	850 / 33.46”	Cylinders and/or sleeves
	SAMM 2.0	≤ 850	33.46”	850 / 33.46”	Sleeves

SAMM 2.0 800

AUTOMATIC FLEXO PLATE MOUNTING MACHINE



Widths

Width [mm]	≤ 850
Width [inch]	33.46”
Max repeat [mm/inch]	850 / 33.46”

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 **60-second** mounting speed, attending to higher quality demands and reducing press downtime.

Unique Features

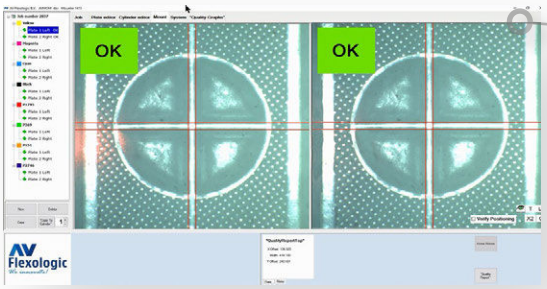
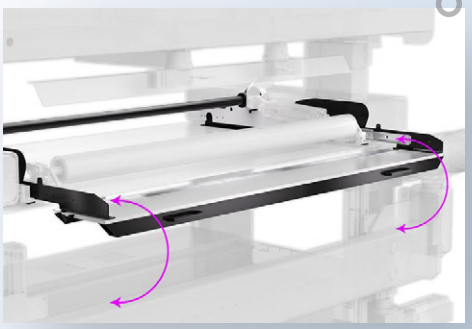


Image Recognition (patented)

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.

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SAMM USD

AUTOMATIC FLEXO PLATE MOUNTING MACHINE

Widths

Width [mm]	≤ 850
Width [inch]	33.46”
Max repeat [mm/inch]	850 / 33.46”

Description

The Automatic SAMM Upside-Down is an extremely precise, fast and easy to use flexo plate mounting machine for labels. It requires nearly no operator skills to mount with this machine since the positioning of the plate is done automatically using the patented Image Recognition software.

Workflow

After loading the sleeve/cylinder on the pneumatically operated quick-lock clamping system, the operator selects a job and the cameras move into position. Then, the operator places the flexo plate on the large mounting table using the laser pointers as position indicators.

The machine takes over and positions the plate using the patented Image Recognitoin within seconds. The cylinder automatically moves vertcally down and the operator moves the table back and forth to mount the plate. After mounting, the machine automatically checks the mounting marks and generates a PDF Quality Report that can be also stored in the database.

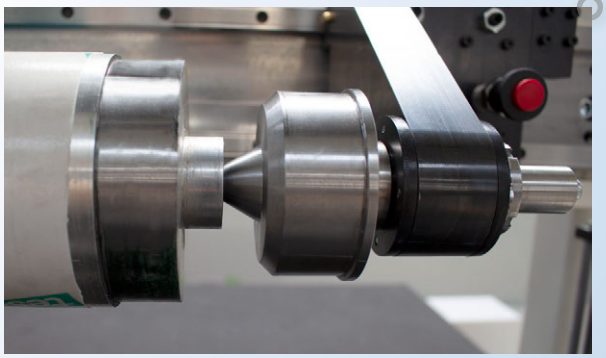
Unique Features

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'. The Image Recognition is used also for an accurate plate positioning (5 microns).

Cushioned vacuum table

The SAMM Upside-Down is equipped with a large and sturdy mounting table which is very easy to handle. This table enables a bubble-free mounting operation as it doesn't allow any air to pass between the plate and the cylinder. This vacuum table fixates the plate using the patented Recognition and ensures accurate positioning. Locking and unlocking the table is easy and it is done automatically when the plate is placed accurately.



Cone System

The pneumatic clamping system works with 2 (or more) cones which are customized to your needs

MOM USD

MOTORIZED MOUNTING MACHINE

Widths

Width [mm]	≤ 850
Width [inch]	33.46”
Max repeat [mm/inch]	850 / 33.46”

Description

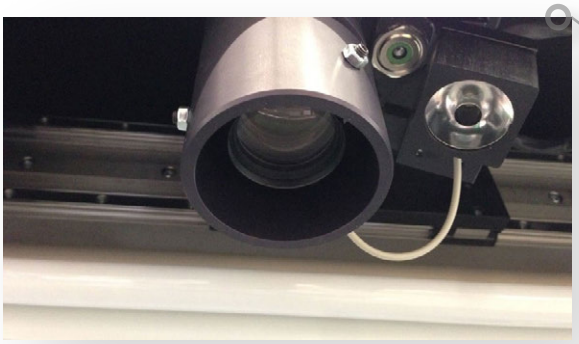
The MOM USD is an ergonomic motorized mounting machine for labels. It is equipped with all the AV Flexologic standard features and ensures good quality results.

Workflow

After loading the sleeve/cylinder on the pneumatically operated quick-lock clamping system, the operator selects a job and then adjusts the cameras using the encoders. Then, the operator places the flexo plate on the large mounting table using the laser pointers as position indicators. The plate is positioned manually with the help of HD cameras located underneath the mounting table.

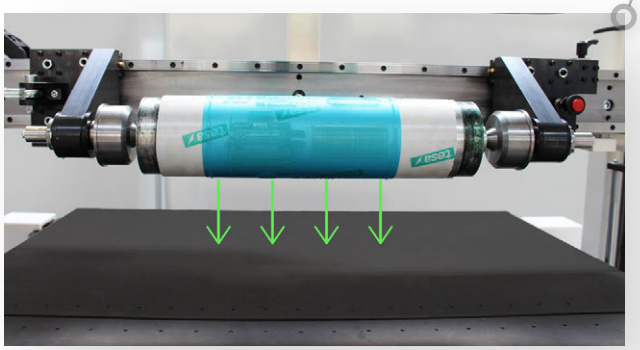
The sleeve/cylinder moves vertically down with just pressing a button in the large touchscreen. By moving the cushioned table back and forth, the plate is mounted on the cylinder without any air bubbles. The operator can now unlock the sleeve/cylinder using the foot pedal and proceed with the next one.

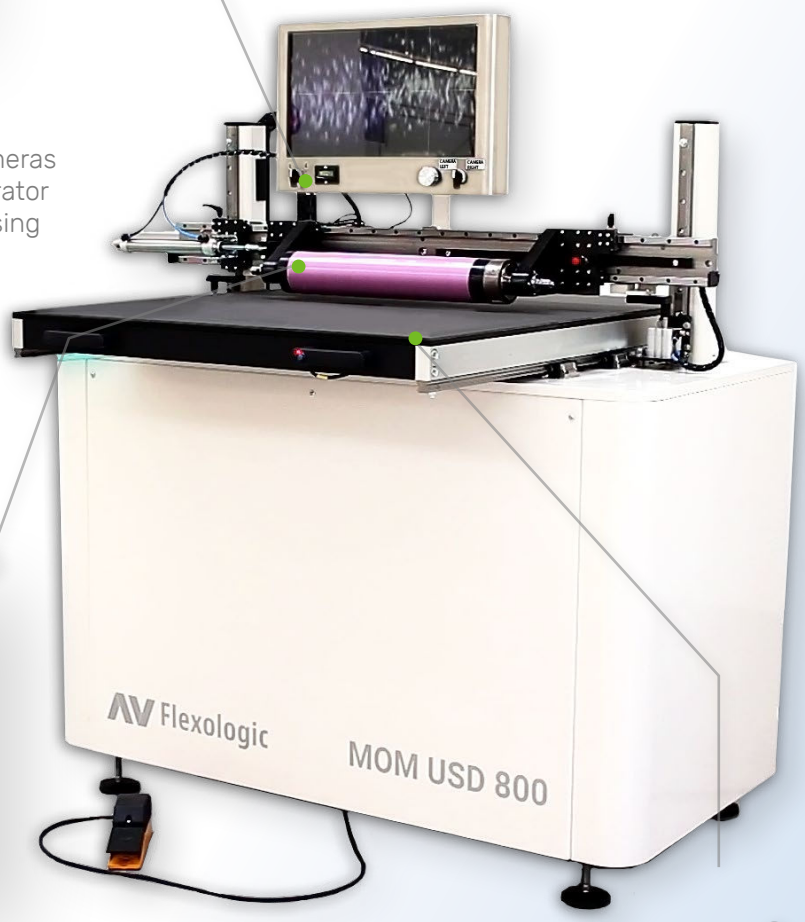
Unique Features



Motorized cameras with encoders

The MOM USD is equipped with motorized cameras located underneath the cushioned table. The operator moves the cameras into the mounting position using encoders.





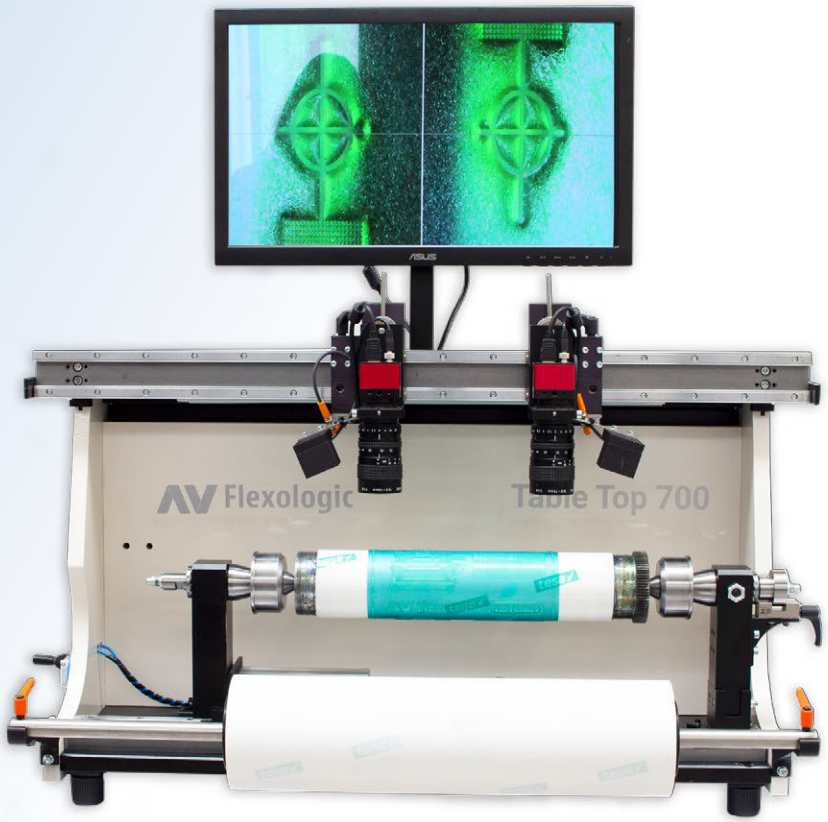
Vertically moving cylinder

After the plate is positioned manually, the cylinder/sleeve moves down vertically towards the fixed-height mounting table. This ensures a **fixed distance from the lens to the plate**, eliminating the need to focus the camera lenses. Avoiding focusing the lenses also means avoiding the parallax effect common to most plate mounting machines on the market since when changing the focus distance the 'focal point' also varies which distorts the calibration of the cameras.

Cushioned table

The MOM Upside-Down is equipped with a cushioned table like the Automatic SAMM USD. This sturdy table provides bubble-free mounting and high quality results. Locking and unlocking the table is easy and it is done automatically after the plate is positioned.

TableTop



Widths

Width [mm]	≤ 610
Width [inch]	24”
Max repeat [mm/inch]	610/24”

Description

The TableTop is an entry level flexo plate mounting machine for labels. The TableTop is suitable for cylinders and/or sleeves, as it can be equipped with brackets or cones to support cylinders or an air shaft for sleeves.

Workflow

The operator places and locks the cylinder/sleeve using the clamping system or loads the sleeve on the shaft. An optional tape holder can be added to the TableTop for applying tape onto the cylinder/sleeve. When the sleeve is prepared, the HD color cameras are easily calibrated from the beam. The plate is positioned and mounted manually by the operator.

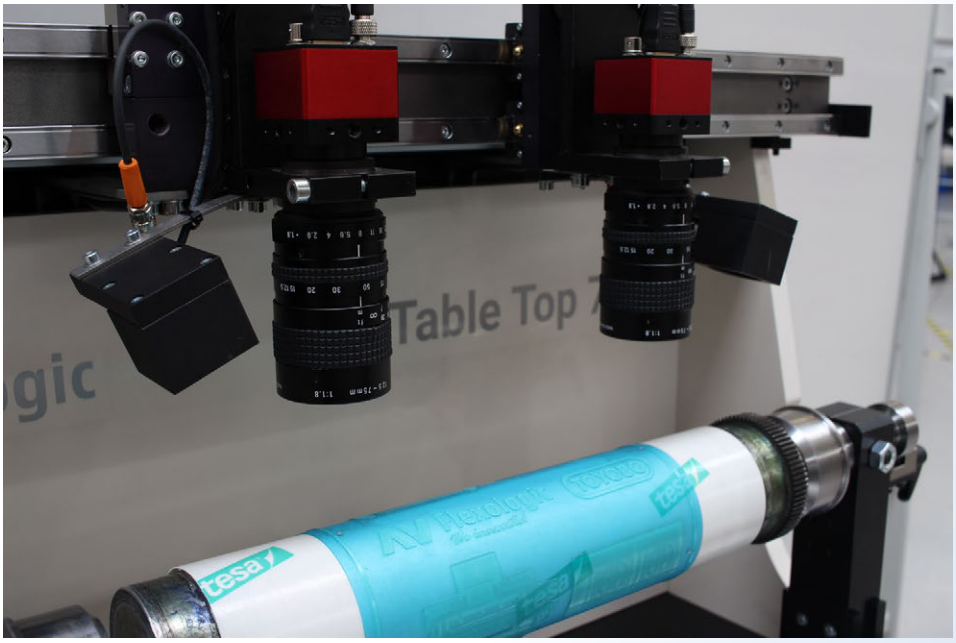
Specifications

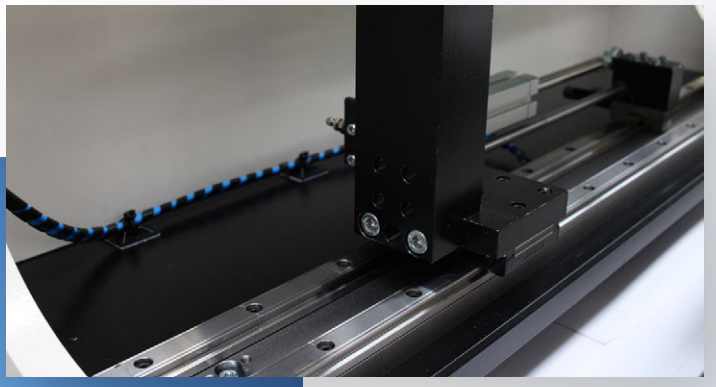
There are 3 versions of the TableTop:

1) TableTop Standard: The standard version is suitable for cylinders. The TableTop can be equipped with brackets or cones to support cylinders. There are cylinder support clips, which lock the cylinder in position whilst mounting.

2) TableTop Disc: It can support both sleeves and cylinders. It is provided with 2 cones that clamp the sleeve in the right position. The operator controls the pneumatic clamping system with a foot pedal. The cones are made according to customer specifications and can also be equipped with a central pin for locking cylinders as well as sleeves.

3) TableTop Air Cylinder: The TableTop Air Cylinder is made for sleeves and is equipped with an airshaft for mounting plates onto sleeves. A bracket on the right hand side can be opened to conveniently change the sleeves.





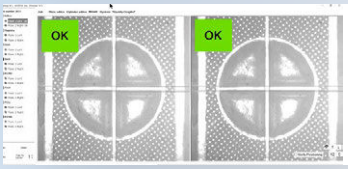
Options

- Mounting table
- Cutting knife
- Tape holder on precision rail

Features Overview

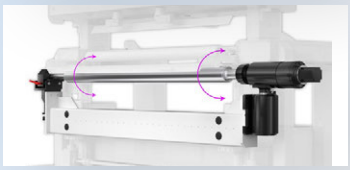
Robotic positioning

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'.

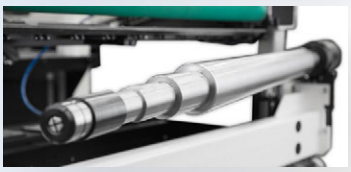


Motorized rotation cylinder

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.

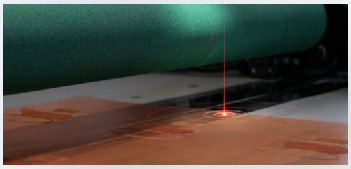
HD Ethernet cameras

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.

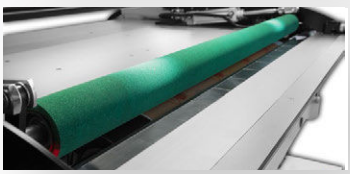


Laser pointers

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.

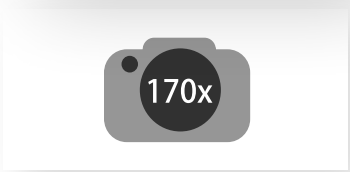
Cushioned table

The SAMM and MOM USD are equipped with a large and sturdy mounting table which is very easy to handle. This table enables a bubble-free mounting operation as it doesn't allow any air to pass between the plate and the cylinder. Locking and unlocking the table is easy and it is done automatically when the plate is placed accurately.



Pressure roller

The pressure roller has become a standard feature in AV Flexologic flexo plate mounting machines over recent years. 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.



Digital zoom capability

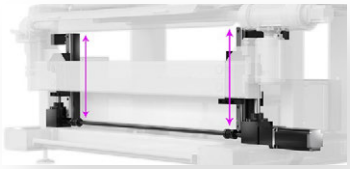
Combining HD cameras with HD flatscreen monitors enables mounting equipment to zoom digitally up to 170x.

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.

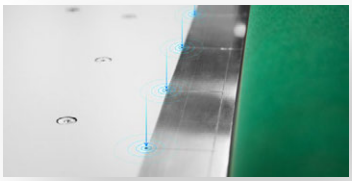


Vertical movement of cylinder

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.

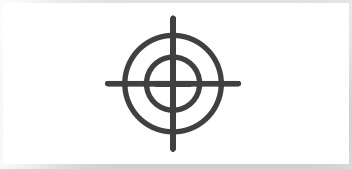
Fixed distances from the lens to plate

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.



Vacuum table

To ensure highly accurate positioning, the vacuum system fixates the plate to the robotic table before positioning.

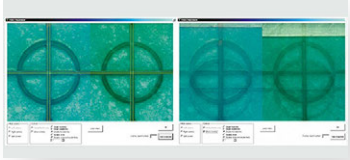


Digital calibration system

Digital Y-calibration of the camera beam: the camera images are used in a calibration procedure to create a lookup table and digitally 'straighten' any deviations in the camera beam, down to 10 µm over the entire width of the camera beam / sleeve. For every x-position of the camera the y-deviation is recalled, the image is automatically digitally adjusted, ensuring 100x more accurate mounting. Additionally, the measured Y-deviation is stored in a lookup table.

40'' HD Monitor

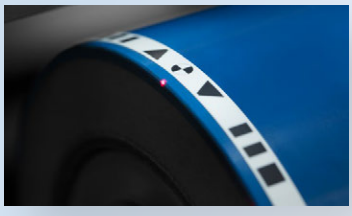
To be able to optimally view the mounting marks during the mounting process, the MOM and SAMM machines have a large-format HD Mounting monitor mounted on top of the machine. In combination with the HD Ethernet cameras. The magnified images are viewed with a high level of detail, making the machine more accurate and user-friendly.



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.

Options Overview

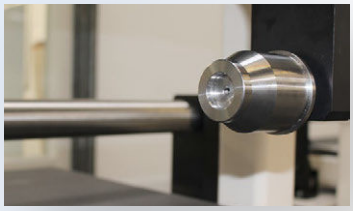


Automatic easyreg detection

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.

Tape holder

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.

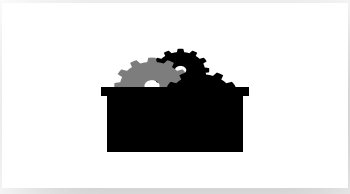


Extra set of cones

An extra set of cones for cylinders can be made. Every set of cones is custom designed according to customer needs.

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).



Critical spare parts package

It is recommended to opt for a critical spare parts package, which is available for all equipment. AV Flexologic has spare parts warehouses in Western Europe: Alphen aan den Rijn, The Netherlands (HQ), North America: New Hudson, Michigan, USA and Eastern Europe: Cluj-Napoca, Romania.

Narrow-Web Product Summary

Specifications	TableTop	MOM USD	SAMM USD	SAMM 2.0
Max Width (mm)	≤ 610	850	850	850
Max Width (inch)	24"	33.46"	33.46"	33.46
Max Repeat (mm/inch)	610/ 24"	850/ 33.46"	850 / 33.46"	850 / 33.46"

Features & Options	TABLETOP	MOM USD	SAMM USD	SAMM 2.0
Camera encoders	✓	✓	✓	✓
Sturdy frame	✓	✓	✓	✓
laser pointers		✓	✓	✓
Vertically moving cylinder		✓	✓	✓
Fixed distance from lens to plate		✓	✓	✓
Touchscreen			✓	✓
Windows 10			✓	✓
Overlay System (patented)			✓	✓
Motorized cameras		✓	✓	✓
Image Recognition			✓	✓
Quality check using Image Rec			✓	✓
Robotic positioning			✓	✓
Vacuum table			✓	✓
Digital calibration system			✓	✓
Digital zoom capability			✓	✓
Quality report				✓
Synchronized front table movement				✓
DOAL Lights				✓
Automatic repeat detection				✓
Automatic mandrel rotation				✓
Automatic pressure roller				✓
Motorized rotation cylinder				✓
Air mandrel				✓
Cone system	✓	✓	✓	
Cushioned table		✓	✓	
Extra set of cones	O	O	O	
Critical Spare Parts Package	O	O	O	O
Tape holder	O	O	O	O
Barcode Scanner				O
Automatic Easyreg detection				O

✓ = Included **O** *= Optional*
***only in combination with TIR*

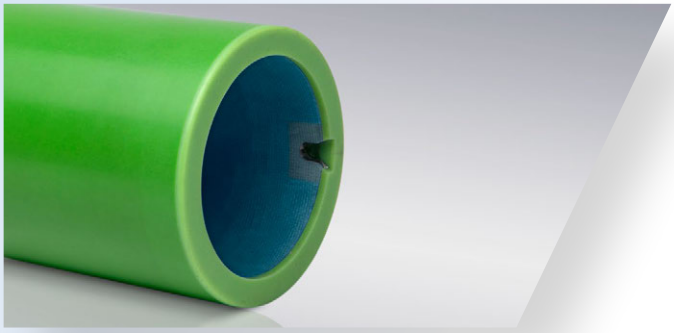
TECH SLEEVES
THE FUTURE IS NOW

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.

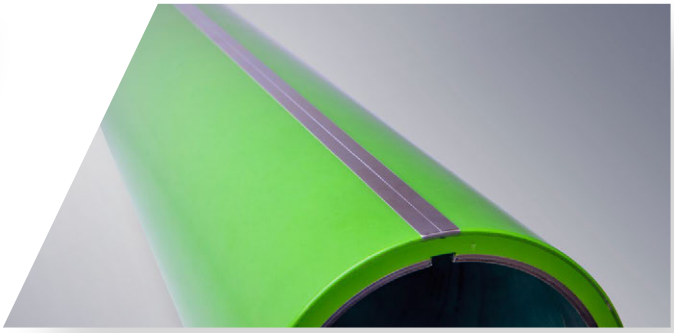
In addition to these high quality materials, Tech Sleeves® also offers additional features like **sealed ends**, the **full inner metal ring**, the **metal cutting line** and an **outer metal ring** to increase the sleeve and bridge lifetime. RFID chips and magnets can be added to both sleeves and bridges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

Unique Options



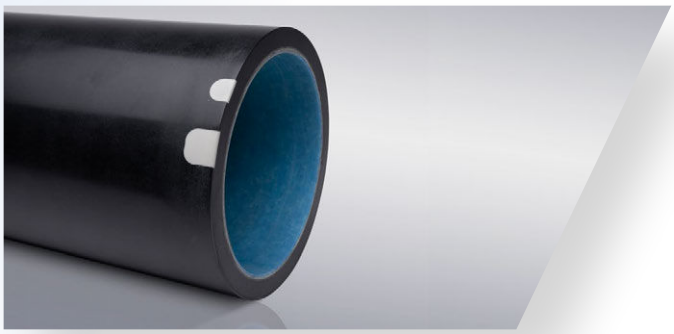
Rubber edges with metal insert

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.



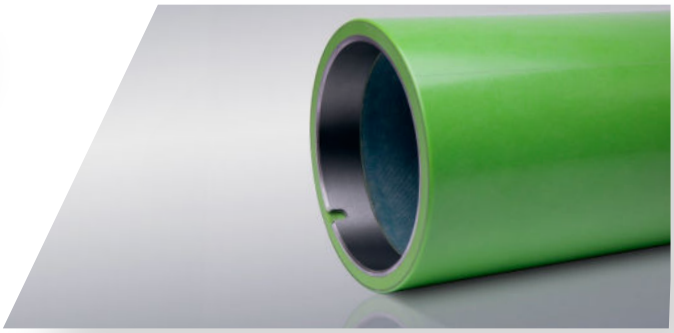
Metal cutting line

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

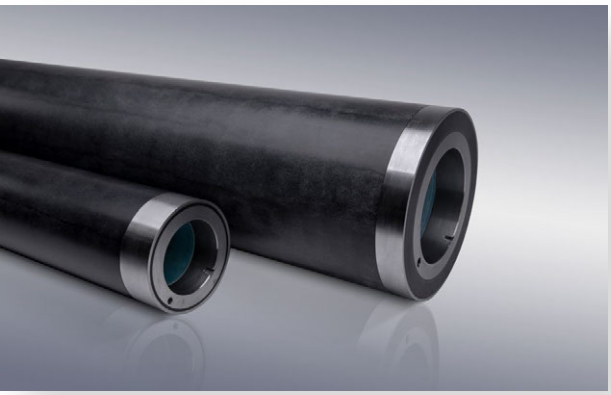
- Stitched, Bonded and Compressed Techcore material in various thicknesses.
- Contains a filament fiber base which is volumized by fiberglass infused with Epoxy Vinyl-Ester-Resin.
- Light weight with extreme high flexural strength and form stability.
- Ultra-high-strength composite core reduces bouncing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

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.

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- 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

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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