

## Flexible Packaging Flexographic Plate Mounting Sleeve Dedicated Models



- Two 100x magnification motorised cameras connected to precision grade ball screws which are directly coupled to positional controlled electric drives to provide highly accurate mounting
- The drives are controlled through the intuitive HMI interface integrated within the Digital Vision System. Set up is easy and quickly adjustable via on screen icons allowing multiple positions to be set and stored. Plate positions can be input numerically, taught, or imported
- Mounting to 10 micron accuracy\*
- Cantilever mandrel design for fast loading and unloading of all types of sleeves used
- Manual camera operation available
- Multiple options available
- High strength frame for precision and durability
- Ergonomic design with controls positioned for efficient operation

The Industry Standard For Flexo Plate Mounting

AVAILABLE MODELS	MAXIMUM SLEEVE WIDTH	REPEAT RANGE
MW	Up to 1500 mm / 59"	280mm / 11" to 1130mm / 44"
WW	Up to 2800 mm / 110"	300mm / 12" to 1500mm / 59" (standard 1400mm / 55")

\*accuracy measured under controlled circumstances

## Options available for all models

- **Plate mounting support table - rear**  
A table, powered pneumatically to advance and retract as required, can be fitted to hold the rear half of the plate being mounted. Often used in conjunction with the plate and tape lay down roller.
- **Plate mounting support table - front and rear**  
A front and rear plate support table option is available for those customers who prefer positioning plates fully in the flat. The rear section of the table is powered pneumatically to advance and retract as required.
- **Plate and tape laydown roller**  
A pneumatic rigid roller that gives positive even pressure across the full width of the sleeve. The roller is covered with a special low density silicone that presses the plate on to the adhesive tape eliminating air bubbles and avoiding the need to hand roll the plate on to the tape.
- **Plate cutting system**  
This unit is fitted to a linear rail attached to the camera beam. The linear rail is set accurately in relation to the sleeve axis enabling the cut depth to be accurately controlled. The system is advantageous if plates have to be butt joined.
- **Bridge adaptors**  
If multiple press type/diameters are required the mounter will be configured with a base mandrel for the smallest diameter needed. Aluminium bridge adaptors that fit over the base mandrel are then supplied to allow the mounter to step up in size.
- **Bridge adaptor side wall air feed**  
A second air supply to channel air into the side wall air entry if this kind of step up adaptor is in use
- **Tape roll holder and dispensing unit**  
For holding the mounting tape roll for easy handling of plate mounting tape. (various types available).

## 2CM + (includes position control to the cameras, camera beam and mandrel drive) - Options

- **Sleeve TIR Measurement and Inspection System**  
Print sleeves, prior to plate mounting, can be quickly inspected for TIR (Total Indicated Run out) to determine if they are still within an acceptable tolerance for use. The contact sensor provides consistent results independent of the sleeve material, translucence or colour.

## 2CM (includes position control to the cameras) - Options

- **Bi-directional electric mandrel rotation**  
The mounter can be fitted with a mandrel drive system for taping up, plate laying and stripping operations. Control is via a foot pedal.
- **Position controlled camera beam and mandrel drive which**  
expands the automation of the mounter when included with the moving cameras.

## Manually Positioned Cameras Model - Options

- **Bi-directional electric mandrel rotation**  
The mounter can be fitted with a mandrel drive system for taping up, plate laying and stripping operations. Control is via a foot pedal.
- **Measuring system - Combined Camera System**  
A digital measuring system fitted on a linear rail attached to the camera beam. A target bracket is linked to the measuring head and is set to the desired position before the attached camera is then aligned to the target and locked into position. This process is repeated for each camera. +/- 0.01mm accuracy.
- **Measuring system - Per Camera System**  
A digital measuring system with a linear read head fitted on each camera. +/- 0.01mm accuracy.
- **Cameras**  
An additional pair of cameras complete with register mark illuminator system.
- **Camera stepping system**  
An alternative to additional cameras. Adjustable position stops are set for quickly moving cameras between set mount positions.
- **Camera for automatic register setting/pre-register systems**  
An additional camera to be used to position a visual pre-register reference on the sleeve.

Machines are manufactured in the United Kingdom to exacting engineering standards, are offered with a full 12 month warranty and are certified to CE standards.

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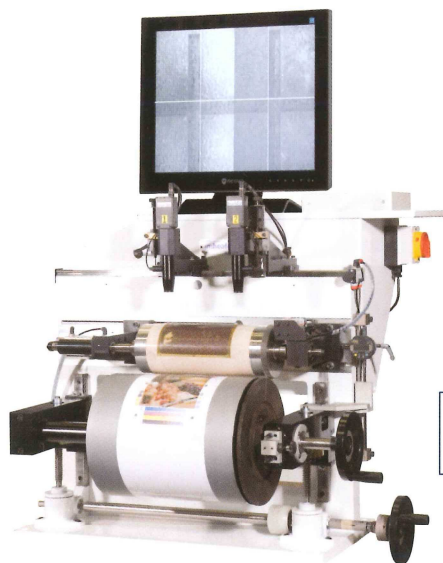
## Label and Flexible Packaging Flexographic Plate Mounting and Proofing



2CS Sleeve Dedicated,  
servo drive gearless proofing



Cylinder model,  
geared proofing



Cylinder model,  
geared proofing

- Composite proof for plate verification before production
- Plate mounting with industry leading accuracy
- Fast and simple operation
- Proven design with excellent reliability, rapid return on investment (ROI)
- Manufactured to the highest quality standards using industry leading components
- Versatile configurations

**The Industry Standard For Flexo Plate Mounting & Proofing**

	AVAILABLE MODELS	MAXIMUM SLEEVE/ CYLINDER WIDTH	REPEAT RANGE
<b>Label</b>	<b>NW Cylinder/Sleeve Geared</b>	700mm / 27.5"	155mm / 6" to 815mm / 32"
<b>Flexible Packaging</b>	<b>MW Sleeve Geared</b>	1500mm / 59"	280mm / 11" to 1130mm / 44.4"
<b>Flexible Packaging</b>	<b>WW Cylinder/Sleeve Geared</b>	1800mm / 70.9"	300mm / 11.8" to 1200mm / 47.2"
<b>Flexible Packaging</b>	<b>WW Sleeve 2CS</b>	1800mm / 70.9"	300mm / 11.8" to 1200mm / 47.2"

Other special configurations are available.

## JM Heaford design and manufacture a range of flexographic mounter proofers to suit every potential size and print form combination – sleeves only, cylinders only or cylinders and sleeves.

The mounter proofers utilise the same industry leading accurate plate mounting techniques as the Heaford mounters with the addition of an impression system allowing the production of a "paste ink" proof. The proof enables the user to check registration, plate accuracy, content and quality before the plates reach the production press thus minimising press downtime. The mounter proofer can of course be used for plate mounting only when a proof is not required. Once a plate is mounted a thin film of water based paste ink is applied to the plate using a hand roller and then the plate is brought into a registered impression position and rotated to produce a single colour print onto gloss paper. Subsequent plates are mounted and proofed in the same way to build up the composite multicolour proof.

The flagship mounter proofer is the 2CS model, 4 axis servo driven sleeve dedicated model with state of the art motion control. The semi-automatic operation provides an excellent solution to the mounting requirements of today's quick change presses. Options include a rear plate support table, plate application roller and tape unit.

The use of air shafts and aluminium step up adaptors enables sleeve dedicated mounter proofers to easily be configured for different presses.

Gearless proofing is an integral part of the 2CS model with automatic engagement and automatic impression control based on the parameters input by the operator.

A geared proofing system has been retained for the cylinder and cylinder type air mandrel mounter proofers. Experience has shown that the geared system is easier to use, faster and more accurate for this configuration.

The mounter proofers are designed to be fast and simple to operate. All mounter proofers are supplied with a PC based Vision System offering a range of target formats, digital image enlargement, video image recording and other features. Camera optical magnification is 100x.

Machines are manufactured in the United Kingdom to exacting engineering standards, are offered with a full 12 month warranty and are certified to CE standards.

J.M. Heaford has been manufacturing and supplying video mounting and proofing systems since the company introduced microdot technology in 1992. The leading press manufacturers recommend Heaford plate mounting and proofing systems.

J. M. Heaford has an established network of worldwide agents with full technical back up, augmented by a team of experts paying regular visits to clients.



Cutting system

### OPTIONS

#### Label

- Aluminium support table
- PC Vision System
- Sleeve changing unit (for mounting and proofing sleeves on a cylinder model)

#### Flexible Packaging (dependent on model)

- Plate mounting support table
- Plate and tape lay down roller
- Bi-directional electric mandrel rotation\*
- Plate and tape cutting system
- Additional monitor for the Vision System
- Supplementary air feed systems for bridge adaptors
- Measuring systems – combined or per camera\*
- Camera stepping system (in place of multiple cameras)
- Moving cameras\*
- Sleeve TIR Measurement and Inspection System

\* These options are standard on 2CS model

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## Label and Flexible Packaging Flexographic Plate Mounting FTS Plate Mounter



- Market leading innovative design
- Reduces mounting time
- Rapid return on investment
- Proven design working globally
- Two 50x magnification colour digital inspection cameras
- Vacuum table to hold the plates in place
- Hands free, bubble free plate application
- Cylinder and sleeve versions
- Two motorised camera option available
- Vision System with industrial grade fan-less computer

The Industry Standard For Flexo Plate Mounting

AVAILABLE MODEL	FTS CYLINDER WIDTH MAXIMUM	FTS SLEEVE WIDTH MAXIMUM	REPEAT RANGE
500 FTS (Label)	460mm / 18.1"	500mm / 19.6"	155mm / 6" to 610mm / 24"
700 FTS (Label)	660mm / 25.9"	700mm / 27.5"	155mm / 6" to 610mm / 24"
900 FTS (Flexible Packaging)	860mm / 33.8"	900mm / 35.4"	155mm / 6" to 815mm / 32"

## Standard equipment supplied with each model

- Two 50x magnification colour digital inspection cameras for mounting one plate across. Each camera has a high intensity LED illuminator which generates a spot of light onto the plate to enable rapid positioning and illumination of the plate register marks
- A 21.5" screen with mouse displaying both camera images on a single screen (27" touch screen supplied for the FTS 900).
- Industrial grade fan-less computer, 2GB RAM/160GB HDD, 4 USB ports, operating temperature -20°C to 70°C at 100% CPU loading
- Quick release adaptors for different cylinder types, adaptor exchange is tool free (cylinder version only)
- Tool free adjustment of left hand cylinder support for cylinders with different widths or cantilever mandrel system for sleeves.
- Support table integral to the design
- Cushioned table surface ensures even plate application pressure onto the cylinder/sleeve, even in the smallest relief area whilst eliminating air between the plate and tape. A vacuum assist secures the plate once in position
- Laser for plate alignment (aligning the plate centre with the cylinder/sleeve centre when first positioning the plate)

## Additional options available

- **Enhanced Digital Vision System Upgrade**  
Upgrade to include additional features:
  - Measuring tool for deviation from register mark
  - Screen shots
  - Images with job information can be saved for quality control purposes
  - Target crosses/circles offset facility
  - Link to motor controls if moving cameras installed, remote support software and multi-language interface  
(standard on the FTS 900)
- **Touch screen monitor (standard on the FTS 900)**
- **Digital Measure for the Plate Alignment Laser (Centre Laser)** – A digital measure (using linear read heads) fixed to the plate alignment laser to facilitate the laser being accurately positioned following measurement of different width cylinders or sleeves
- **Pre-register system options**
  - Detent with fine adjustment
  - Laser – for scribe lines/pre-register stickers located at the plate end/ joint line
  - Laser and reflector – for scribe lines/pre-register stickers located in line with the plate centre targets
- **Sleeve exchange unit and mounting mandrel** to apply sleeves to the mounting mandrel in a safe manner before the unit is located in the plate moulder as per a normal cylinder. (cylinder version only)
- **Standard Plate & Tape Cutter** - an adjustable cutting head enabling general purpose plate joins. The cutting head can also be used for cutting tape.
- **Precision Plate Cutter** - a micrometer accurate cutting head enabling the most precise plate joins with a gap of 0.3mm. (cost effective alternative to continuous print sleeves). Two micrometer precision sliding decks allow fine adjustment on 2 axis to obtain the perfect width and depth of cut through the polymer.
- **Tape Roll Holder** - to hold the tape roll for efficient application of the double sided tape to the sleeve or cylinder.
- **Tool Tray** – A tray located on the side of the FTS for storage of tools and adaptors etc. This avoids the risk of damaging the cushioned table surface.

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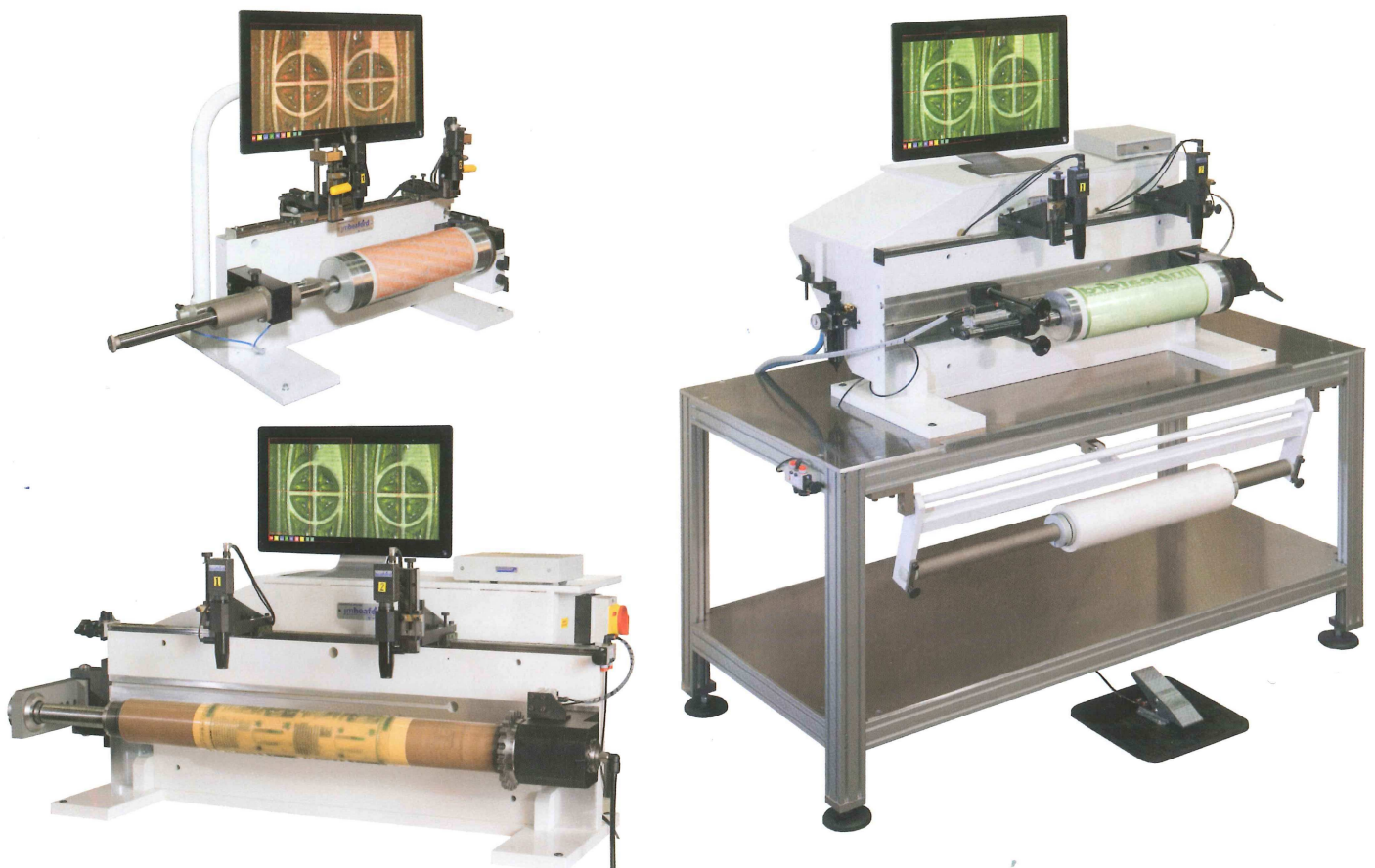
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## Label and Flexible Packaging Flexographic Plate Mounting EES / ELS / XLS / SXLS Plate Mounters



- Proven design with excellent reliability
- Models for cylinders or sleeves
- Two 50x magnification colour digital inspection cameras
- Illuminators for easy location of the registration marks
- Versatile configurations
- Can be used for both flexo and letterpress plates
- Tool less operation
- Industrial grade fan-less computer

The Industry Standard For Flexo Plate Mounting

AVAILABLE MODEL	CYLINDER FACE WIDTH MAXIMUM	SLEEVE WIDTH MAXIMUM	REPEAT RANGE
EES	415mm / 16"	N/A	155mm/6" to 648mm/25.5"
ELS	715mm / 28"	740mm / 29"	155mm/6" to 648mm/25.5"
XLS	880mm / 34"	880mm / 34"	280mm/11" to 815mm/32"
SXLS	N/A	880mm / 34"	280mm/11" to 914mm/36"

## Standard equipment supplied with each model

- Two 50x magnification colour digital inspection cameras for mounting one plate across. Each camera has a high intensity LED illuminator which generates a spot of light onto the sleeve/cylinder to enable rapid positioning of the plate and illumination of the plate register marks
- Industrial grade fan-less computer, 2GB RAM/160GB HDD, 4 USB ports, operating temperature -20°C to 70°C at 100% CPU loading
- A 21.5" screen with mouse displaying both camera images on a single screen
- Quick release adaptors for different cylinder types, adaptor exchange is tool free (cylinder version only).
- Tool free adjustment of left hand cylinder support for cylinders with different widths or cantilever mandrel system for sleeves.
- Pneumatic detenting system to prevent sleeve rotation during mounting (option on the EES).
- Fast change mechanism for focal adjustment.
- Cantilever mandrel system for standard press type, left hand sleeve loading (sleeve versions only).

## Additional options available

- **Enhanced Digital Vision System**  
Upgrade to include additional features - measuring tool for deviation from register mark; screen shots - images with job information can be saved for quality control purposes; target crosses/circles offset facility.
- **Touch screen monitor**  
Upgrade to a 21.5" touch screen monitor.
- **Mounting mandrel and exchange unit** to apply sleeves to the mounting mandrel in a safe manner before the unit is located in the plate mounter as per a normal cylinder. (cylinder versions only).
- **Heavy duty aluminium support table.**
- **Pneumatic tape dispensing unit**  
(requires heavy duty support table)
- **V-type tape pay off box**  
The machine is bolted to the box to ensure alignment. Need to consider a lower than normal support table.
- **Plate cutting** unit adjustable angle and blade height to make exact joins of flexo plates.
- **Precision Plate Cutter**  
A micrometer accurate cutting head enabling the most precise plate joins with a gap of 0.3mm (cost effective alternative to continuous print sleeves). Two micrometer precision sliding decks allow fine adjustment on 2 axis to obtain the perfect width and depth of cut through the polymer.
- **Bridge adaptors**  
If multiple press type/diameters are required the mounter will be configured with a base mandrel for the smallest diameter needed. Aluminium bridge adaptors that fit over the base mandrel are then supplied to allow the mounter to step up in size (sleeve versions only).
- **Camera stepping system**  
Adjustable position stops are set for quickly moving cameras between set mount positions.
- **Measuring system - Per Camera System** - A digital measuring system with a linear read head fitted on each camera +/- 0.01mm accuracy.

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## Flexible Packaging Flexographic Plate Mounting 2CS Sleeve Dedicated



- Cantilever mandrel designed for fast and efficient loading and unloading of all types of sleeve
- Two automatically positioned cameras driven by twin ultra precise, linear servo motor drives
- Servo rotation drive to the mandrel for plate positioning and taping operations
- Servo driven camera beam for fast repositioning on repeat change
- Intuitive and versatile operating interface for fast mounting
- Ergonomic machine design with controls in the centre of the machine for efficient operator use
- Job data storage (camera and mandrel positions)
- Flash ground steel frame for stability and accuracy
- Industry leading components used for accuracy and reliability
- Proven design with a range of options available

**The Industry Standard For Flexo Plate Mounting**

A market leading plate mounter has to meet several objectives; high level of repeatable accuracy; reliability; ease of use and speed, each one met by the 2CS mounter.

#### STANDARD MACHINE SPECIFICATION

<b>Maximum Sleeve Width</b>	up to 1800mm / 70.1"
<b>Minimum Repeat Size</b>	300mm / 11.8"
<b>Maximum Repeat Size</b>	1400mm / 55.1"

Special wider sleeve width machine sizes and configurations are available on request. Proofing versions are also available.

#### SPECIFICATION

Strength of construction, accuracy of machining and design/component selection feature heavily in achieving the first two objectives. Ease of use and speed are achieved through intelligent design of the machine layout and control system. The 2CS from J. M. Heaford meets all of these objectives without compromise. The machine has twin moving cameras powered by linear servo drive motors and an ultra-precise measuring system with repeatable accuracy of  $\pm 1$  micron. Fixed focal length cameras are key to the industry leading accuracy of Heaford mounters. The servo driven camera beam is automatically set to the fixed focal length dependant on sleeve repeat.

The sleeve mandrel is fixed rigidly in the high strength deflection resistant frame and supported at the sleeve loading end by an open cup support which is raised and lowered pneumatically as required for sleeve loading and unloading. All combinations of mandrels, bridge adaptors, sleeves and airfeed options can be supplied to enable the 2CS to mount for multiple presses.

The Vision System on the machine is PC-based and offers a range of selectable target formats, digital image enlargement, video image recording and other features. Camera optical magnification of 100 or 150 can be chosen. If the optional plate and tape lay down roller is specified, chosen magnification is limited to 100x. The machine uses a single 17" touch screen for both camera image (split screen) and control functions. A second camera image monitor can be supplied if required. An internet modem for remote support is standard on the 2CS.

A combination of plate support tables and lay down roller options allow the operator to apply the plate to the taped sleeves without having to apply the contact pressure by hand. Mandrel rotation is via foot pedal and a second foot pedal controls the rear table.

For customers applying tape and sleeve plates, there are a range of options, with or without integral pressure roller. These can also be supplied on a standalone sleeve dedicated tape and plate work station to increase the work flow through the mounter. A plate and tape cutting system is also available as an option on this machine.

Machines are manufactured in the United Kingdom to exacting engineering standards, are offered with a full 12 month warranty and are certified to CE standards.

J. M. Heaford has been manufacturing and supplying video mounting and proofing systems since the company introduced microdot technology in 1992. Many of the leading press manufacturers recommend Heaford plate mounting systems.

J. M. Heaford has an established network of worldwide agents with full technical back up, augmented by a team of experts paying regular visits to clients.



Rear Plate Support Table



Lay Down Roller

#### OPTIONS

- Front and rear or rear only plate mounting support table (retracts pneumatically if not required)
- Plate and tape lay down roller, pneumatically actuated and full width
- Plate and tape cutting system
- Plate mounting tape application unit options
- Sleeve TIR Measurement & Inspection System
- Supplementary air feed systems for bridge adaptors
- Modular proofing system which can be added at the front of the mounter
- Additional monitor for the Vision System

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## Automated Plate Mounter Flexible Packaging Sleeve Dedicated

**AutoMounter –  
Mount a plate with  
the press of a single  
button, no further  
operator intervention**



The configuration of the AutoMounter takes a radical and innovative approach to the conventional with the mandrel mounted above the cameras and printing plate manipulators. This provides the operator with unparalleled access to the sleeve to complete all preparatory and post mounting operations whilst maintaining a modest machine footprint.

- Automatic positioning of cameras
- Automatic positioning of the plate
- Automatic mounting of the plate to the sleeve
- One button operation to position and mount each plate
- Positioning accuracy of 5 micron
- 50 x magnification monochrome HD cameras
- Latest servo drive technology
- Rapid ROI
- International patent pending

**The Industry Standard For Flexo Plate Mounting**

AVAILABLE MODELS	MAXIMUM SLEEVE WIDTH	REPEAT RANGE
AutoMounter	Up to 1800mm (71")	300mm (12") -1400mm (55")

## Mounter Operation

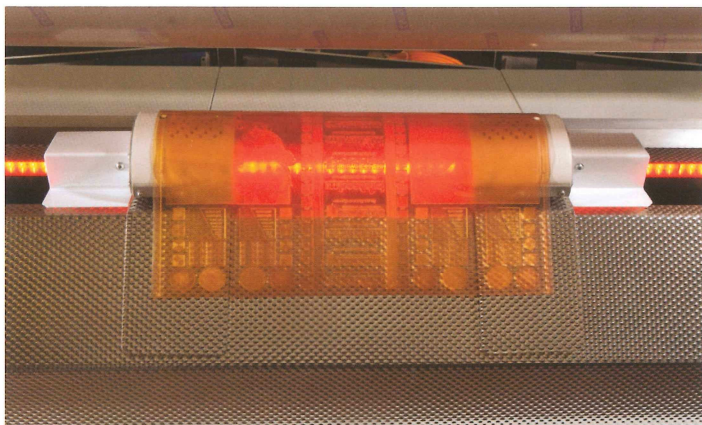
Effortless and efficient in operation with an easy to use multi-lingual graphic interface the AutoMounter can be used both in manual and auto-positioning modes. Set up is straightforward either by co-ordinate import, manual programming or by teaching.

Once set the camera/manipulator units rapidly position ready for the printing plate. Laid inverted, the printing plate is simply draped over the patented curved manipulators so the target is visible in the illuminated circles. This innovation negates the need for complicated front and rear table systems.

From here the AutoMounter takes over requiring no further interaction from the operator. Accurate positioning of the printing plate using dual axis, independent, closed loop control adjusting for print repeat, plate thickness and tape thickness during the fully automatic plate application by the integrated lay down roller. Once mounted the operator can check the accuracy by use of the CheckMount Facility.

The user friendly Vision System allows ease of operation with the ability to store and recall over 10,000 jobs.

The AutoMounter can also be operated remotely via the use of a tablet.



## Options available

### • Sleeve TIR Measurement and Inspection System

Print sleeves prior to plate mounting can be quickly inspected for TIR (Total Indicated Runout) to determine if they are still within an acceptable tolerance for use. The system utilises a high precision contact sensor in conjunction with the servo axis on the camera support to provide micron accurate measurements with repeatability within 4 microns. The contact sensor provides consistent results independent of the sleeve material, translucence or colour.

### • Sleeve Laser Inspection System

The system scans the sleeve in widths from 40mm to 100mm and generates a contour map of the sleeve's surface enabling the identification of high and low spots, cutting damage etc.. An axial plot view is also available that indicates TIR for any given band along the sleeve length. The system can be tailored to suit the customers' needs, from a quick pass of several bands to a full in-depth surface scan.

### • Cutting system

This unit is fitted to a linear rail attached to the rear of the machine. The linear rail is set accurately in relation to the sleeve axis enabling the cut depth to be controlled very closely. The system is advantageous if plates have to be butt joined.

### • Vertical tape roll holder

A tape roll holder fixed to the side frame of the mounter. This enables the quick application of mounting tape when applied lengthways/axially on sleeves.

### • Bridge adaptor

If multiple press type diameters are required the mounter will be configured with a base mandrel for the smallest diameter needed. Aluminium bridge adaptors that fit over the base mandrel are then supplied to allow the mounter to step up in size.

### • Bridge adaptor side wall air feed

A second air supply to channel air into the side wall air entry if this kind of step up adaptor is in use.