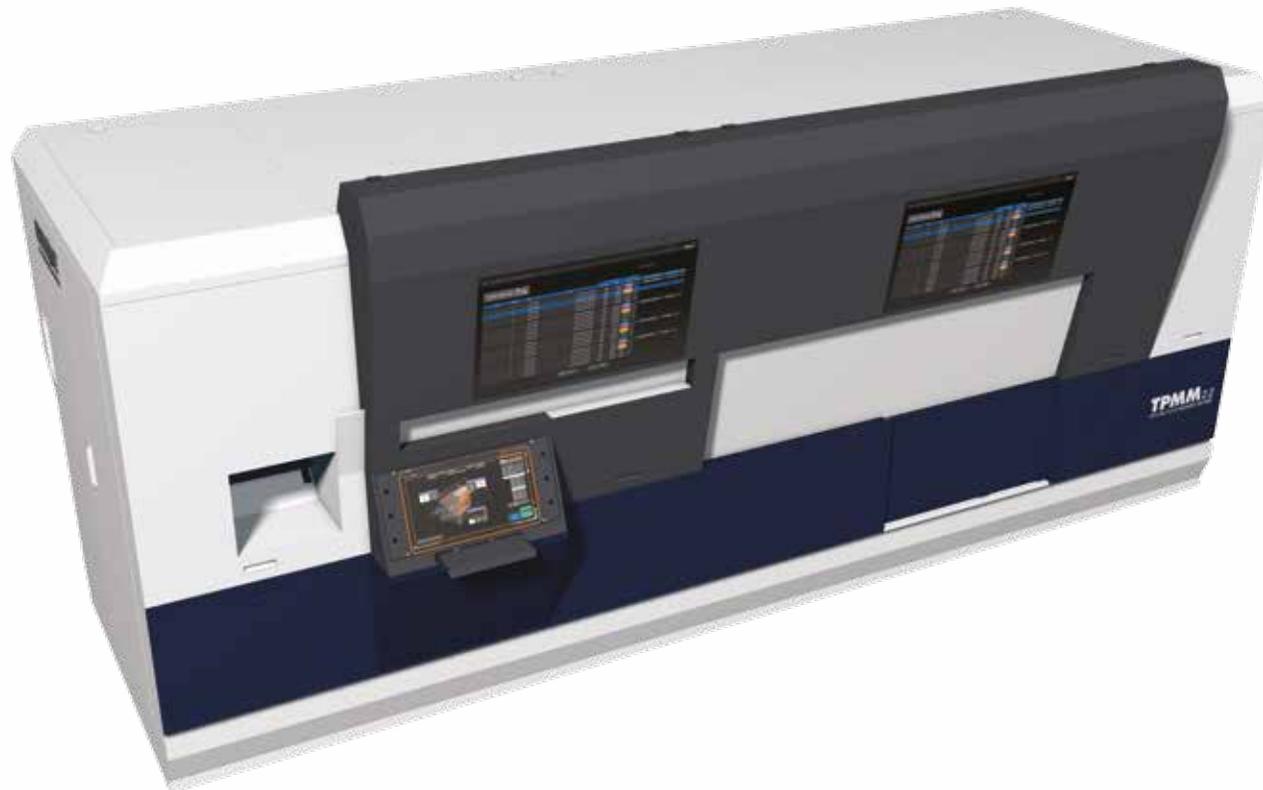


BIOSSE

TPMM

TAPE AND PLATE MOUNTING MACHINE



PRODUCT
CATALOGUE

Equipment solutions for flexography

Flexography, which is undoubtedly a major player in the printing industry, is becoming more and more a driving force, while imposing new challenges.

As a part of an on-going effort to develop cutting-edge solutions for the most advanced applications, BiesSse has designed and developed the TPMM - Tape and Plate Mounting Machine:

A cutting-edge, multi-function extremely compact machine, which is capable of greatly improving the efficiency of the pre-print process.

The TPMM is a fully automatic compact machine, which combine all those pre-press activities that normally are conducted manually and separately:

- Sleeves measurement
- Liner removal and tape cutting
- Tape mounting
- Plate mounting
- Final inspection

This most challenging objective is achieved by repeatable high-precision mounting operations, while reducing waste, in line with Lean manufacturing practices.

Precision

Efficiency

Lean manufacturing



Cutting-edge solutions

Challenging applications

Reduced Waste

Repeatability



From the most common criticalities...

In the pre-mounting stage of a typical printing process, tape and plate application is carried out by standard manual processes whose critical aspects influence the quality of the final print.

Streaks

Appearance of streaks, caused by uneven manual pressure made on the tape



Air bubbles

Inevitable formation of air bubbles between the sleeve and the tape, and between the plate and the tape



Sleeve damage

Possible sleeve surface damage during tape cutting operations



Plate lifting

Plate lifting, caused by uneven manual pressure made on the plate edges



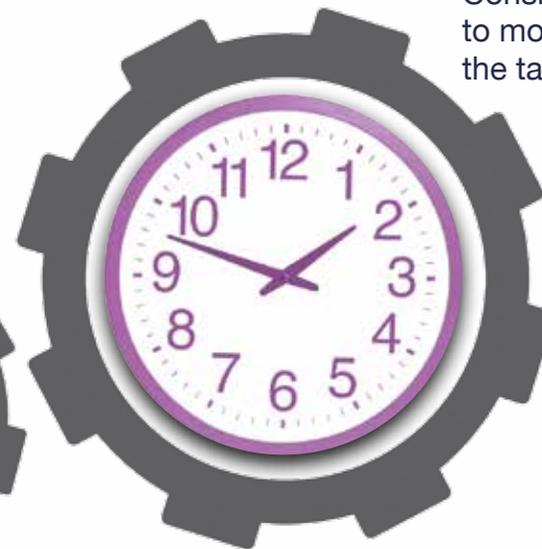
Physical strain of the operator

Operators' physical strain, because of the calibrated pressure they have to make repeatedly



Mounting process time

Considerable time required to mount manually both the tape and the plate



Space and distances involved

Large space involved by standard equipment and storage areas, and several connecting routes covered by the operators during the sleeve mounting process



Number of operators involved

Several operators involved in manual mounting operations

...to the Tape and Plate Mounting Machine

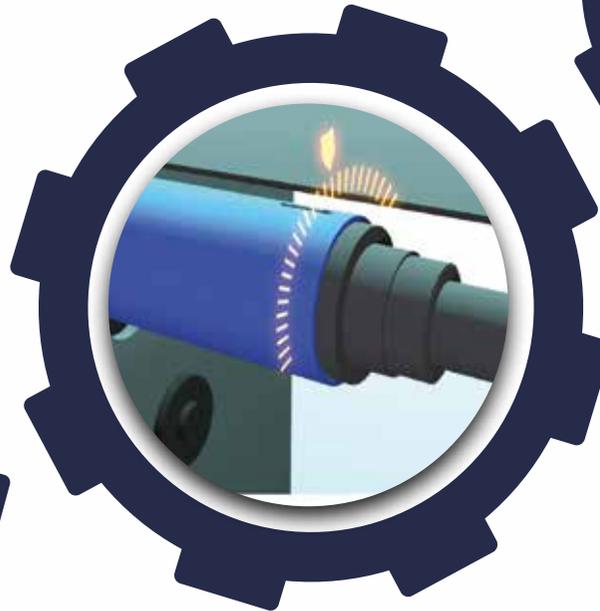
The TPMM is able to reduce to four times the cycle time necessary to provide a complete tape mounting, reduce the number of operators from 4 to 1 while keeping the same number of mounted sleeves, improve mounting precision, ensure process repeatability, and eliminate air bubbles and streaks.

With the TPMM, the BiesSse team has developed a system able to mount 50 sleeves complete with double-sided adhesive tape and plates in one single shift.

Optimised automatic tape application



Sleeve loading pressure according to the diameter



Automatic sleeve measurement

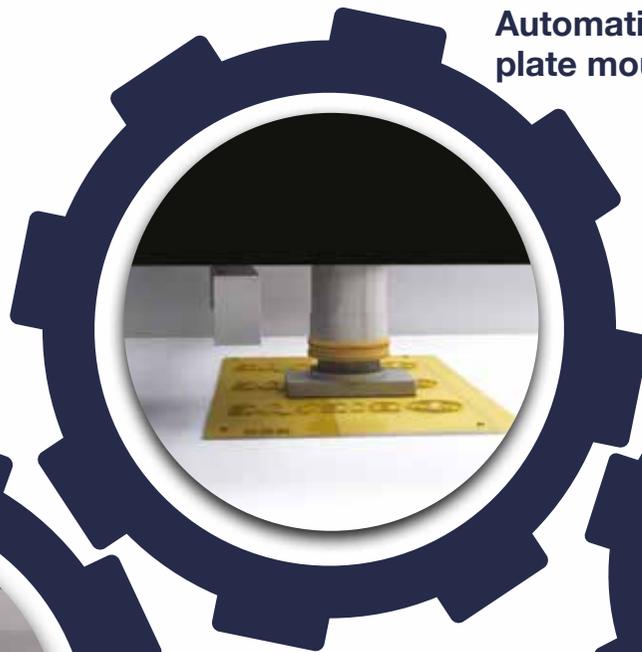


Automatic stripping of the liner

**Automatic
tape cutting**



**Automatic
plate mounting**



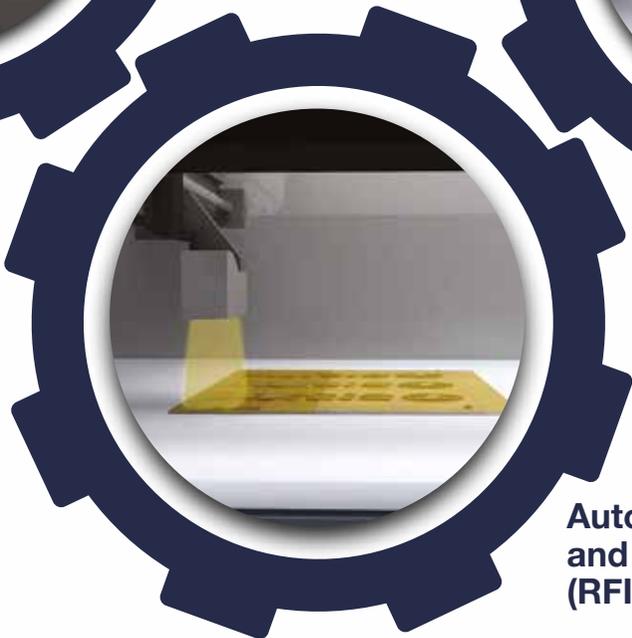
Repeatability



**Incorporated PRT
(Pressure Roller Trolley)**

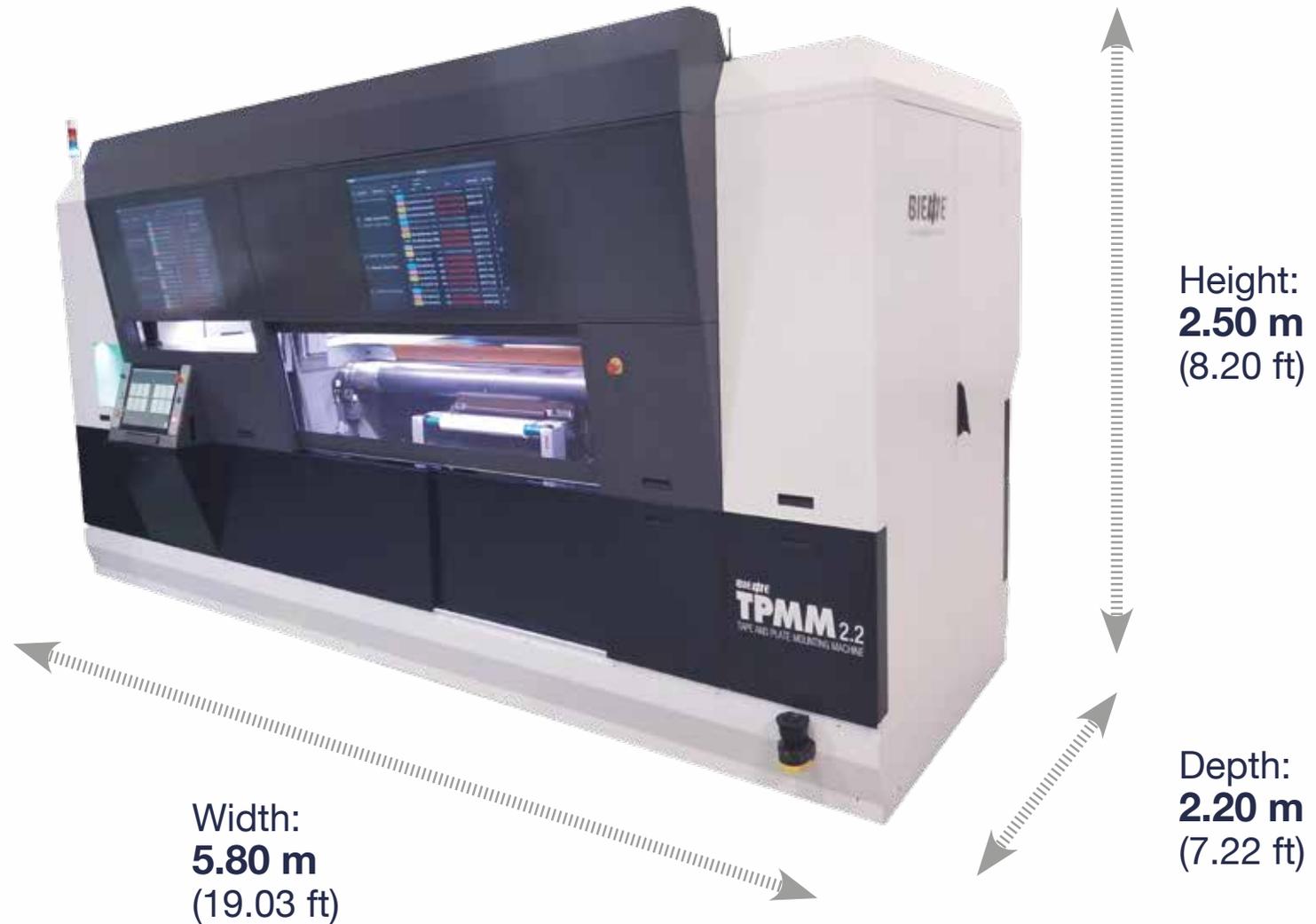


**Automatic de-codification
and plate check
(RFID, QR Code, Barcode)**



Innovation for on-going improvement

The **granite-based design** of the TPMM ensures excellent process accuracy and repeatability, avoiding thermal expansion.



Total weight:
16,000 kg
(35,274 lb)

Width:
5.80 m
(19.03 ft)

Height:
2.50 m
(8.20 ft)

Depth:
2.20 m
(7.22 ft)

Performance

Plate mounting precision	Max tolerance for plate mounting markers positions	$\pm \mu\text{m } 100$
Tape mounting precision	Max tolerance for tape mounting between tapes strips and plate edges	$\pm \mu\text{m } 200$
Sleeves mounted per shift	No. of sleeves, each one mounted with tape and 5 plates during an 8-hour shift	75

Data refer to plates and sleeves within the shown tolerance

Features (by way of example and not exhaustive)

Plate	No. of plates that can be loaded on the sliding trays	16
	Thickness	Min mm 1.14 - Max mm 2.84
	Size	Min mm 180x220 - Max mm 1,000x800
	Max size of plates that can be loaded on the trays	mm 400 x 600
	Identifiable markers	Cross marker; QR Code; Microdot
	Markers positioning tolerance	+/- $\mu\text{m } 20$
Tape	Thickness	Min mm 0.40 - Max mm 0.61
	Rolls length	Max m 100
	Core diameter	\varnothing mm 76
	Width	Min mm 220 - Max mm 550
	Tape thickness tolerance	+/- $\mu\text{m } 40$
Sleeves	Max sleeve width	mm 1,660
	Min sleeve internal diameter	mm 105.15
	Sleeve repeat	Min mm 490 - Max mm 1,200
	Max diameter tolerance	Max +/- $\mu\text{m } 20$

The TPMM is fully customizable and therefore other sizes can be handled by the machine, upon request.

A result of tight integration



Tight integration among the know-how of the three BiesSse Divisions (Tape, Equipment, Software) has made it possible to design and develop a unique compact machine capable of substantially improving the pre-press process, in line with Lean manufacturing practices.

By using the TPMM you will eliminate:

- Air bubbles
- Plate lifting
- Streaks
- Physical strain of the operator

The use of the TPMM improves:

- Mounting precision
- Repeatability
- Traceability
- Process measurement

Other advantages of using the TPMM:

- Less space and distances involved
- Only one operator needed
- No sleeve damage
- Reduced mounting time

Your challenges, our mission

The BiesSse group, which has been operating on the global market for **over 40 years**, specializes in the production and conversion of highly performing technical adhesive tapes.

The experience acquired during the years, the advanced proprietary know-how, combined with its on-going commitment in research and development, have enabled the BiesSse group to be active on various markets through **two distinctive companies** operating in close synergy, i.e.:

- **BiesSse Tape Solutions S.p.A.**, for the company's core business
- **BiesSse Equipment Solutions S.r.l.**, for the design and production of industrial equipment and related software.

BiesSse's mission is to develop **integrated solutions** by anticipating the more and more demanding future market requirements, and to innovate the most challenging industrial processes by supporting customers in their search for the most suitable solutions that complying with their requirements.

The company's Adhesive Tapes manufacturing unit (over 11,000 sq.m.) and the Equipment manufacturing unit (over 2,000 sq.m.) are equipped with modern and advanced installations, in line with Lean practices.

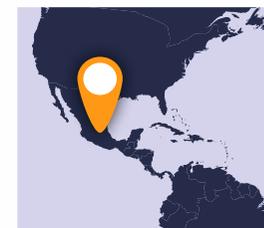
The BiesSse group, with Headquarters in Sedriano, Milan (Italy), operates worldwide through its subsidiaries in Austria, China and Mexico, availing itself of a professional and strongly committed local workforce. The **direct presence on the ground** makes it possible to quickly and efficiently respond to customers' demands and to ensure on-going assistance and support.



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Process innovation through:

Tape solutions

Highly performing technical adhesive tapes
for the most challenging industrial applications

Equipment solutions

Cutting-edge proprietary equipment
for adhesive tapes applications

Software solutions

Multiplatform, user-friendly software
supporting industrial automation



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