

ORTHOMAX RFMB-15

Fusion of pin wheel and roller straightening system



ORTHOMAX RFMB-15



Quality made
in Germany



TEXTILE



NONWOVEN



COATING &
CONVERTING



PAPER



EXTRUSION

ORTHOMAX RFMB-15

Fusion of pin wheel and roller straightening system

Removing all types of distortions



Patented Mahlo Technologies

The best of two worlds



Customer benefits

- ✓ *Reliable, quick distortion correction*
- ✓ *Effective also with asymmetric distortions*
- ✓ *Increased productivity*

Asymmetrical distortions (wavy, S-shaped, etc.) in textiles have always represented a huge challenge in the textile industry. Distortion always means that the perpendicular structure of warp and weft threads is distorted resembling something like a parallelogram, trapezoid or other shapes.

The solution

To restore the warp and weft threads to their original state, a defined lateral tension is generated in the Orthomax RFMB using freewheeling pin wheels inclined toward each other. This cross-tension stretches the warp threads. Skew and bow distortions and even wavy or S-shaped distortions are straightened. The residual distortions are eliminated with the subsequent roller straightening system.

Inclined positioning of the wheels is carried out pneumatically, which ensures a constant straightening effect. A counter-force – generated by a spring – compensates friction losses and tolerances and causes a uniform, symmetrical wheel alignment (patented). The optimized design considerably reduces the maintenance effort.



Product highlights

- ✓ *Fusion of pin wheel and roller straightening system*
- ✓ *Lateral tension infinitely variable*
- ✓ *Adjustable unclipping device*
- ✓ *Bypass function*
- ✓ *Intelligent drive*
- ✓ *Comprehensive software with touchscreen control*
- ✓ *Pinning position adjustable during operation with software*

The Orthomax RFMB utilises the benefits of two straightening technologies. The pin straightening wheel does completely without detection. It therefore straightens even distortions that are not detectable.

Contrary to a classical pin straightening machine the downstream roller straightening machine removes residual distortions. In addition, the straightening results are logged. The data is used for further processing or also certification of the product quality.

Special features



The “Coffee break” function preserves the product during standstill.

The fusion of pin wheel and roller straightening technology perfectly combines the advantages of both technologies and provides amazing straightening results.

Infinitely adjustable unclipping roller (patented): Minimises residual bow and edge distortions and preserves web edges.

Intelligent drive station: Through a special tension control for smallest web tension the drive activates or deactivates automatically (e.g. in case of blockages). A **bypass function is available at the push of a button for products that cannot be straightened with the pin wheel.**

Intelligent wheel following: Product loss is nearly prevented entirely. The control immediately compensates product offset, poor seams, fringes and dents on the edges.

Width jump function: New wider webs do not need to be pulled in separately when changing products. Sew the new product to the old one, pull in, done! No more downtime!

Break function: This feature reduces the lateral tension to a pre-selected level when the line is stopped, e.g. during breaks or when working on other machines in the line. Preserves the product!

Advantages of the new device generation



Diagnostic functions precisely analyse the condition of the device.

Large straightening capacity: Through a higher pinning point the spreading utilises almost the entire diameter of the straightening wheel. This ensures a high straightening effect.

Fast control: New control and drive technology, optimised kinematic and gear ratio and lower product content let the new control work much more agile. Even less product therefore lies outside the tolerance range.

Pile fabrics design: Thanks to the intelligent construction even pile fabrics can be run with the normal device version.

Automatic wheel cleaning (option): Automatic cleaning of the pin wheels can now be started as software function. Manual operation is no longer required .

Extended diagnostics: The software features significantly expanded diagnostic functions. Past alarms can be analysed in the alarm history. Remote maintenance is possible via a remote function.

Reference images

Typical applications

REFERENCE IMAGES

Typical applications

Use in everyday industrial routines

Installation at Ermenegildo Zegna
S.P.A., Italy

Zegna Wollmühle, founded in 1910, is the backbone of the company and known for their fine textiles.

All photos by courtesy of Lanficio Ermenegildo Zegna & fili SPA



The fusion of pin wheel and roller straightening device perfectly combines both technologies and provides amazing straightening results.



The Orthomax removes web distortions before the stenter.

Typical applications



Installation at Stamperia Olonia, Italy

The Italian textile print shop Stamperia Olonia was founded in 1969. Since the 90's it is an established factor in the international decoration and home textile sector.

All photos with courtesy of *Stamperia Olonia SRL*



Mahlo combination system with Orthomax RFMB and Optipac VMC process control on a stenter in the finishing area.



The patented adjustable unclipping roller stands out among the pin wheels. It minimises residual bow and edge distortions when unclipping the web.

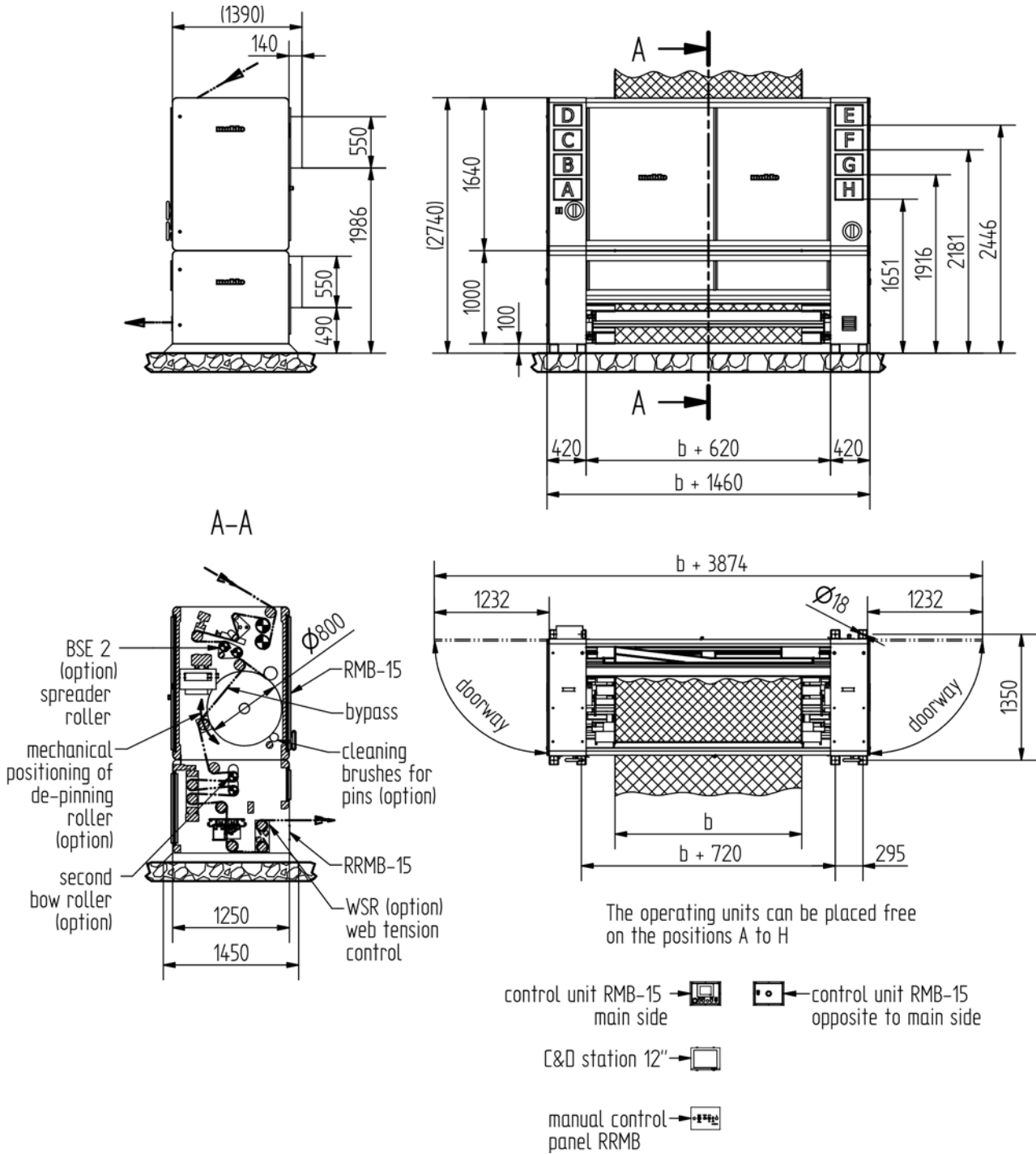
TECHNICAL DATA

Specification	Value
Straightener	2 pin wheels 1 roller straightening device with 2 skew and bow rollers each, optional: 1 skew and bow roller each (for wet product: Teflon-coated guide rollers)
Product guidance	Needle strips on straightening wheels
Drive mechanism traversing movement	Asynchronous motor
Drive mechanism straightening wheel swivel movement	Pneumatic cylinder

Specification		Value	Unit
Nominal product width		1000 - 3200	mm
Product speed, maximum	Standard	8 - 80	m/min
	Options	3 - 40 12 - 120	
Lateral tension		0 - 1500	N
Length tension, maximum (drive station)		1000	N
Pin wheels: Theoretically max. possible straightening effect (at full utilization of the nominal product width)		450 ¹	mm
Straightening rollers: Theoretically max. possible straightening effect (at full utilization of the nominal product width)	Bow rollers	220 ¹	mm
	Skew rollers	680 ¹	
Diameter straightening wheel		800	mm
Weight (approx.)		3400 ¹	kg
Power supply		3 x 400 ± 10%	VAC
Line frequency		50	Hz
Power consumption, maximum		6.3	kVA
Working pressure		6	bar
Compressed air consumption		40	rpm
Temperature range		5 - 45	°C

¹) Example: Nominal product width 2000 mm

Dimensions



Orthomax RFMB (91-019459)

Monitoring and control systems, automation:

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