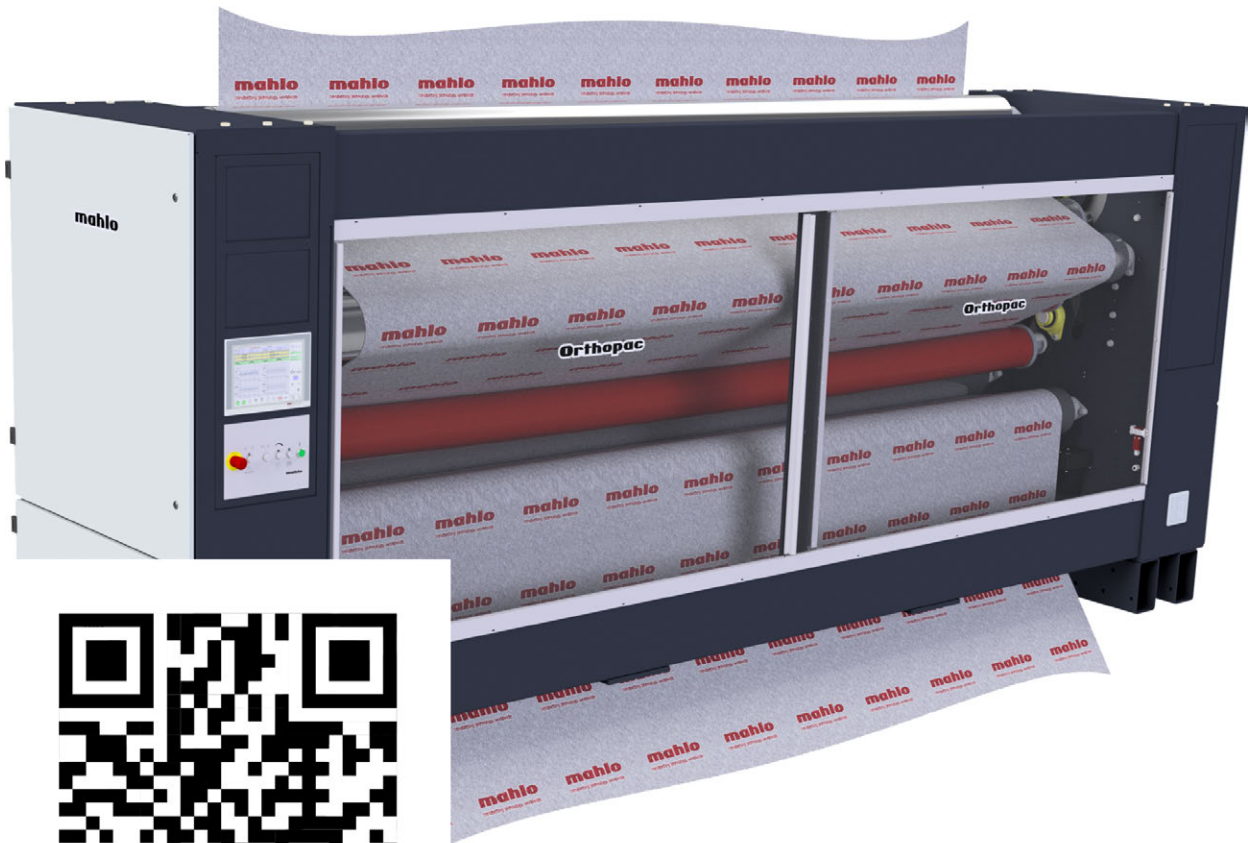


Orthopac CRVMC-15

The specialist for carpets and technical textiles



Orthopac CRVMC-15



Quality made
in Germany



TEXTILE



NONWOVEN



COATING &
CONVERTING



PAPER

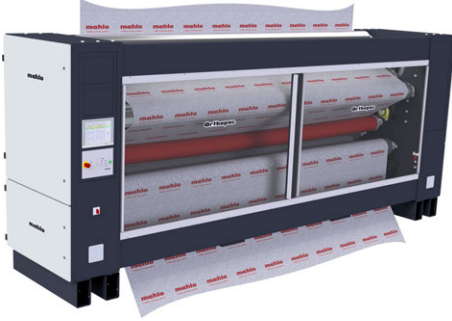


EXTRUSION

Orthopac CRVMC-15

STRAIGHTENING- AND PROCESS CONTROL SYSTEM

Orthopac CRVMC-15



The specialist for carpet, technical textiles and glass fibre

Discover the Orthopac CRVMC - your solution for the highest mechanical loads!

This machine is a real powerhouse and is used wherever extremely high fabric tensions and/or large widths are required.

Thanks to its reinforced components, the Orthopac CRVMC is perfect for processing very heavy and wide carpets, technical textiles and other stiff and robust textile materials.

The highlight of the Orthopac CRVMC is the revolutionary roller positioning drive. It ensures that the fabric lies evenly on the rollers across the entire width, despite its rigidity, and is therefore precisely straightened.

The intelligent control of the roller enveloping adapts flexibly to the desired straightening effect. The straightening rollers are not enveloped unnecessarily in the case of webs without skew or bow distortion, but are set so that they do not touch the web.

This weft straightener is the ideal choice for companies that process heavyduty and robust textile materials and expect maximum precision and quality. With the Orthopac CRVMC, you can count on reliability and innovation!



Customer benefits

- ✓ Maintaining tight distortion tolerances
- ✓ Avoiding complaints
- ✓ Improved customer relationship
- ✓ High repeatability
- ✓ Short amortisation times
- ✓ Documentation of residual distortion



Product highlights

- ✓ Innovative roller positioning drive
- ✓ Reinforced construction; large roller diameters
- ✓ Suitable for high fabric tensions up to 3 kN
- ✓ Working widths up to 5400 mm possible
- ✓ User-friendly, easily accessible design
- ✓ Optimised fabric content

Orthopac CRVMC–15

New concept Orthopac CRVMC



The Orthopac CRVMC was specially developed for straightening very densely woven carpets, rugs and technical textiles. These materials require high tension forces that push other types of straightening systems to their limits. The Orthopac CRVMC therefore relies on extremely reinforced components such as side parts, guide rollers, skew and bow rollers.

The arrangement of the straightening rollers (skew and bow) was newly developed for this special application. The result: an innovative straightening concept. The unique positioning drive ensures that the rollers always remain in contact with the fabric across the full fabric width during the straightening process. Conventional straightening systems act primarily on the centre of the fabric. The Orthopac CRVMC is different: here, the force is distributed evenly across the entire width during the straightening process.

Since its introduction, the Orthopac CRVMC has become the industry standard in the carpet sector. It is used wherever carpet webs - whether woven or tufted - need to be straightened precisely. Even at the end of a coating line, it is ideal for fine straightening carpets that have already been coated.

Due to their construction and material composition, many technical textiles must not form creases during straightening. This applies in particular to glass fibre fabrics with a low to medium fabric weight. The new straightening roller arrangement makes it possible to position the bow straightening rollers in such a way that they do not touch the passing fabric web.

If bow distortions need to be corrected, the bow rollers can be aligned so that the fabric web always touches the spreading side. This means that both forward and back bows can be straightened without creases.



The Orthopac CRVMC stands up to the tough everyday industrial demands.

The latest generation of the tried-and-tested Orthopac CRVMC combines all the proven functions of its predecessors and offers numerous additional features.

Advanced technology

- Integration of the new state-of-the-art, optimised controller, perfectly matched to the special speed requirements of the applications

Intuitive operation

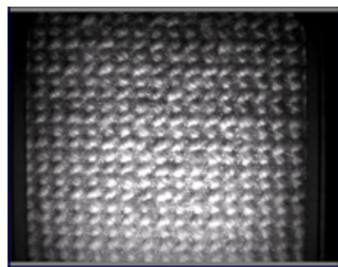
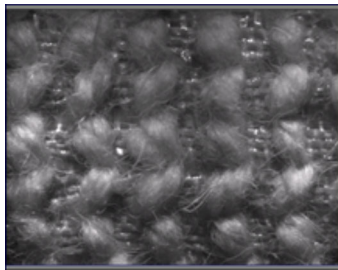
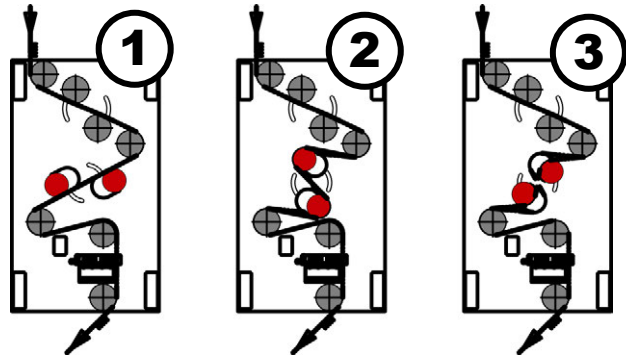
- Display and operating station and control panel seamlessly integrated into the side panels
- Various installation heights available

Customised solutions

- Configurable with one or two continuously spreading bow rollers (ideal for glass and carbon fibre applications)
- Optional perforated sliding doors for effective heat regulation

Application Carpet

If a skew is detected on the carpet, the two skew rollers are deflected accordingly by the controller and the path lengths of the fabric in the straightener are adjusted so that the skew is corrected as it passes through the straightener. The fabric leaves the machine without distortion.



Carpet structure

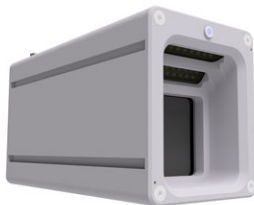
① **Neutral position:** The carpet enters the straightener without distortion. The scanner recognises that there is no distortion. The two skew straightening rollers and the two bow straightening rollers are in the neutral position.
⇒ The fabric is slightly tangent to both the skew and bow rollers across the entire width.

② **Edge forwards:** The carpet enters the straightener with a back bow. The back bow is detected by the scanning system. The intelligent AI controller positions the bow rollers appropriately and swivels them in. The web in the centre runs a shorter path through the straightener.
⇒ The back bow is straightened and the fabric leaves the machine without distortion.

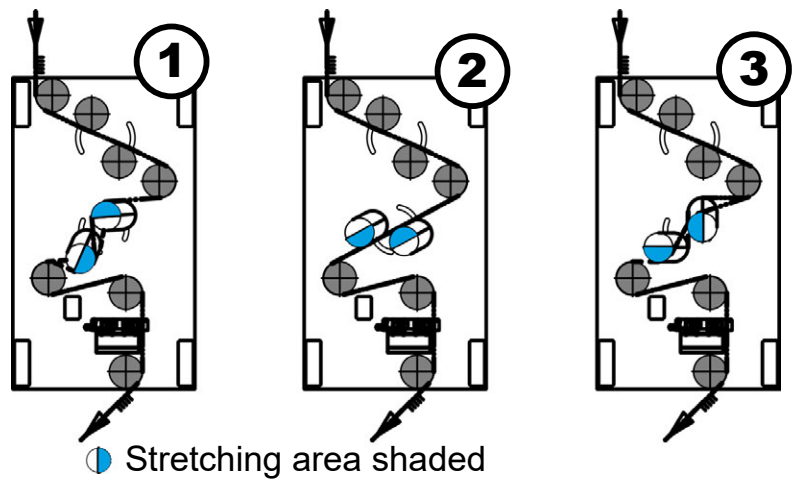
③ **Centre forwards:** The carpet enters the straightener with a forward bow. The forward bow is detected by the scanner. The intelligent AI controller positions the bow rollers appropriately and swivels them in. The fabric at the edges travels a shorter path through the straightener.
⇒ The forward bow is straightened and the fabric leaves the machine without distortion.

Scanning system

Sensors from the CTK series are used for both tufted and woven carpets. Due to their mostly coarse yarn qualities, carpets have a very low weft or tufting row density. It was therefore necessary to develop a special scanning system for carpet applications.



Application Glass fibre & Technical textiles



- ① Edge forward
- ② Neutral position
- ③ Centre forward

In the case of glass fibre fabrics and many other technical textiles, creases and particularly longitudinal creases must be avoided due to the nature of the material. This is not possible with normal processes. With conventional straightening machines, the bow rollers are always wrapped around 180°. This results in creases.

The ability to position the bow rollers differently in the Orthopac CRVMC means that the wrapping angles can be customised. The bow rollers only ever touch the fabric on the side with a spreading effect.



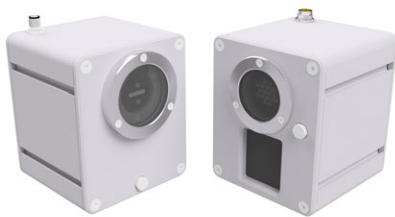
Function bow roller

Scanning system

Mahlo offers a portfolio of different, highly developed sensors for the Orthopac CRVMC.

The user is advised individually and can choose the distortion detection system that is best suited to their product mix from a wide range, depending on the type and quality of goods:

- Sensor for pattern detection
- Hybridscanning
- Imaging scanning
- Optoelectronic scanning



Straightening- and Process control system

Technical data

Technical data

Specification	Value	
Straightener	Skew rollers, Number	2
	Bow rollers, Number	2
Drive mechanism, Adjustment of the straightening rollers	Control via frequency inverter, optimised kinematics without play	
Scanning system	Scanner bridge with 4 – 8 scanners, Type CTK Options: scanners <ul style="list-style-type: none"> ■ Type TK, CK, Hybrid, PCS ■ Manually or motorised adjustable 	
Control and display station	12.1" TFT Touchscreen	

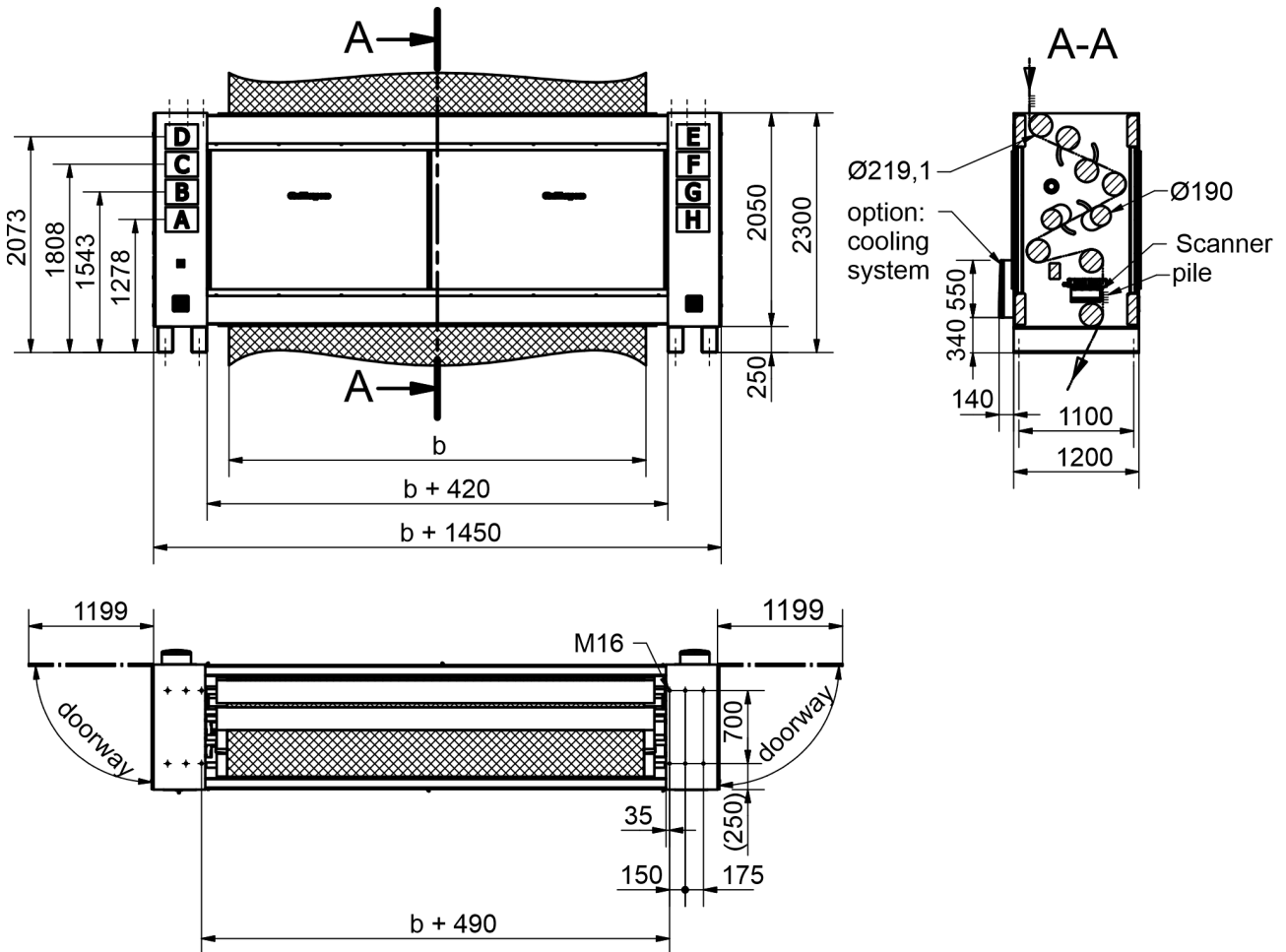
Specification	Value	Unit
Nominal product width	1400 - 5400	mm
Product speed, maximum	100	m/min
Theoretically max. possible straightening effect (at full utilization of the nominal product width)	Skew rollers	~ 600 ¹
	Bow rollers, (Edged forwards)	~ 300 ¹
Length tension, maximum	3000	N
Power supply	3 x 400 ± 10 % ²	V AC
Line frequency	50 / 60	Hz
Power consumption, maximum	6,3	kVA
Temperature range	without Cooling	5 - 45
	with Cooling	5 - 55

¹) Example: Nominal product width 5200 mm

²) Special voltages available

Technical data

Dimensions



Dimensioned drawing Orthopac CRVMC (91-020577-03)

Further questions?



I would be happy to answer them for you!
Contact me now and get your obligation-free offer.

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Monitoring and control systems, automation

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