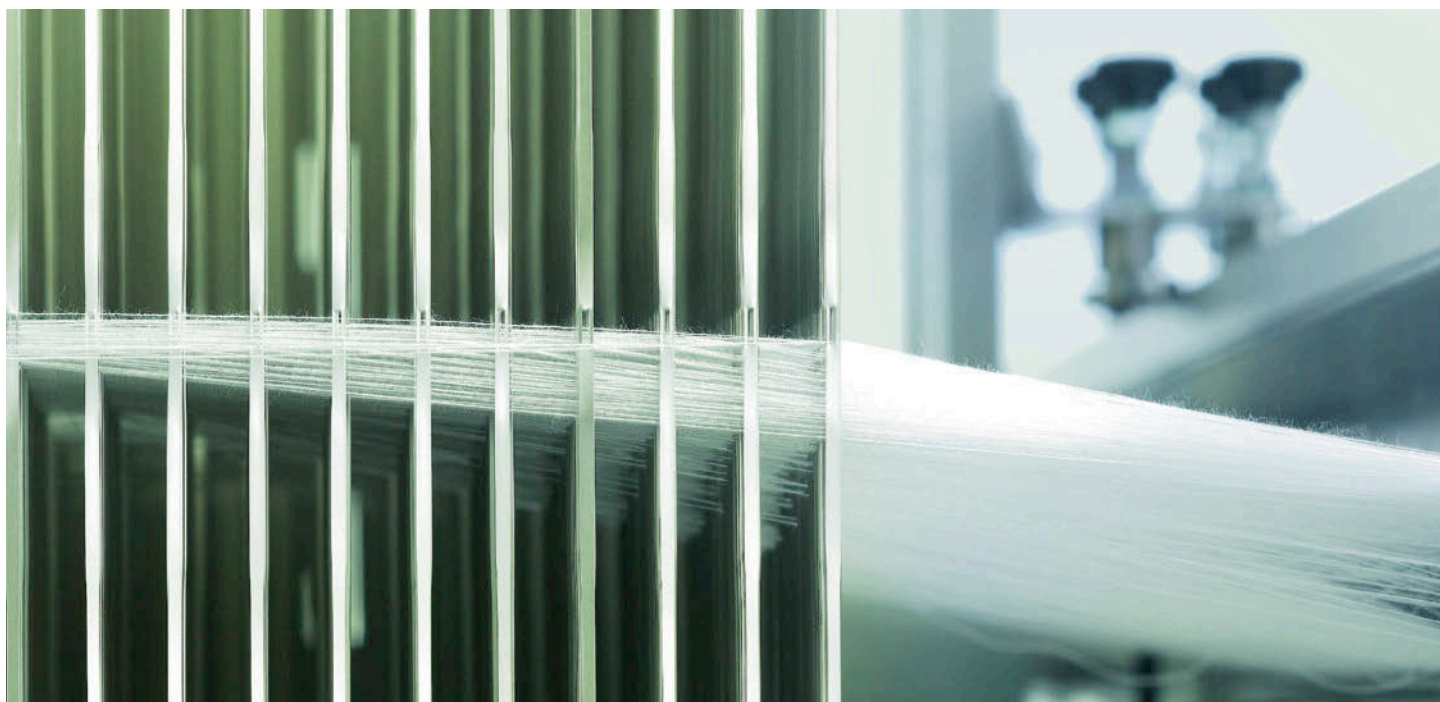


product overview

WEAVING

weaving preparation

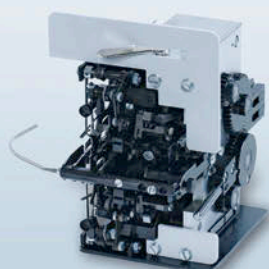


GROZ-BECKERT®

GROZ-BECKERT KnotMaster: TYING MACHINE WITH CONVINCING TECHNICAL FEATURES AND SIMPLE HANDLING



CASE:
REMOVE TWO THUMB SCREWS
AND RELEASE THE CASE – DONE!



TYING GROUP:
SIMPLY SHIFT THE LEVER
AND REMOVE – DONE!



The Groz-Beckert modular system – exemplified here by an AS/3 – never fails to impress. All components can be removed within a few minutes – the tying group within just a few seconds.

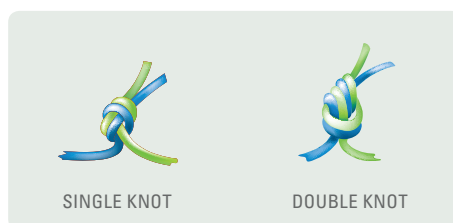
Modular system

With its unique modular system, Groz-Beckert sets standard terms of ease of servicing and maintenance. Just about every component can be easily and quickly accessed for inspection or exchange. Subsequent regroup is just as quick and easy. All gear wheels, cams and cam discs are pinned securely and the entire synchronization of the machine is fixed by means of two indexing bolts.

Simple handling and maintenance

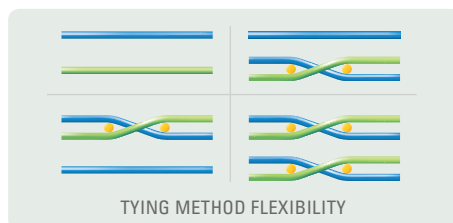
In spite of the multitude of performance characteristics offered, operation is extremely easy. All functions and control keys are logically structured. Even semi-skilled operators are quickly familiar with the machine's functions. Maintenance is particularly easy: The removable tying group permits daily cleaning with compressed air.

Maintenance and lubrication are carried out direct with the aid of the supplied cleaning containers.



SINGLE KNOT

DOUBLE KNOT



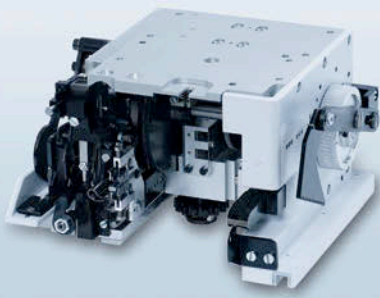
TYING METHOD FLEXIBILITY

Single and double knots, 4 tying methods

The Groz-Beckert tying range includes machines for single and double knots, as well as one model with switchover function. Because of its special shape, the double knot is the preferred knot type in fibreglass weaving mills. Groz-Beckert tying machines are also capable of mastering all four tying methods. Either singly by means of the quick-change tying assemblies or in combination.

Yarn break detector

Behind this development is an extensive control unit for correct knot formation. Regardless of the reason for a knot not being formed, the yarn break detector reliably recognizes this and stops the machine immediately, making an important contribution to the achievement of faultless tied warps. Optionally available for most models.



HOUSING
EASY TO ACCESS ONCE THE DRIVE
HAS BEEN REMOVED.



DRIVE:
SIMPLY RELEASE SCREWS
AND REMOVE – DONE!



CRANKCASE.
RELEASE TWO SCREWS
AND REMOVE – DONE!



Automatic repetition unit

This unit ensures that clumped and clogged threads can be separated cleanly by the selection elements. The required number of repetitions at the current and minimum speed can be preselected using the unit.

Thread clip

As the thread clips are separately clamped, varying thickness in the threads of the top and bottom sheets do not affect tying quality. Thickness variations in a single warp are compensated by a controlled thread clip which is supplied as a standard feature of all models.

Benefits of Groz-Beckert tying machines in brief

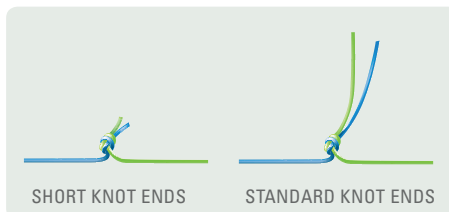
- Operator-friendly and service-friendly modular system
- Compact design
- Innovative technology
- Short knot ends are possible
- All four tying methods
- Single and double knots
- Up to 600 knots per minute
- Maximum weight of 14 kg

KnotControl

KnotControl is the high-performance and user-friendly computer control system that makes sure the operator has all the application and control functions under control.

Process data acquisition

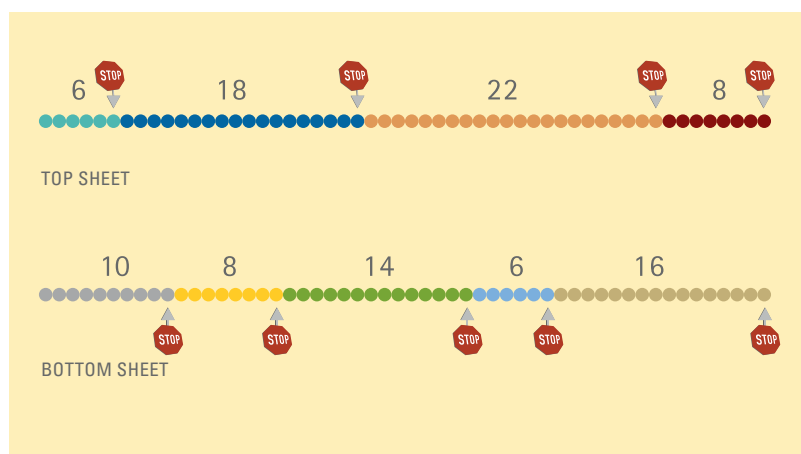
- Double thread top and bottom
- Repetitions
- Average tying speed
- Yarn breaks
- Correctly tied knots



GROZ-BECKERT KnotMaster: MODEL OVERVIEW

Designation	AS/3	TS/3	XS/3Q
Material	Natural and synthetic fibre yarns, monofilament and multifilament yarns, textured yarns, stretch yarns, steel wires	Natural and synthetic fibre yarns, monofilament and multifilament yarns, textured yarns, stretch yarns, steel wires, PP and PE tapes	Natural and synthetic fibre yarns, monofilament and multifilament yarns, fancy yarns, (bouclé, fancy twisted yarn, chenille yarn)
Tying range	Nm 1250 - Nm 2 7 den - 4500 den 8 dtex - 5000 dtex	Nm 1250 - Nm 2 7 den - 4500 den 8 dtex - 5000 dtex	Nm 200 - Nm 0,5 45 den - 18000 den 50 dtex - 20000 dtex
Single knots	●	●	●
Double knots	–	–	–
Automatic repetition unit	●	●	●
Tying methods	4	4 optional	4
Doubles detector (with lease)	●	●	●
Doubles detector (without lease)	○	–	–
Yarn break detector	●	●	●
KnotControl	●	●	●
Knot counter	●	●	●

● as standard ○ optional



Repeat control programming example

By simply entering the number of repeats in the top and bottom sheets, KnotControl calculates all the control stops and executes them.

Computer control: KnotControl

- Dialogue-guided operator guidance via icons
- 2000 programmable repeats
- Comprehensive process data acquisition
- USB interface to PC
- Diagnosis program
- Needle and selector disc table

Diagnosis program

KnotControl also comes with an intelligent self-diagnosis program – for optimum warp change efficiency.

RS/3	RSD/3	ZS/3	TS/3 Tape Master
Natural and synthetic fibre yarns, monofilament and multifilament yarns, stretch yarns, steel wires	Natural and synthetic fibre yarns, monofilament and multifilament yarns, stretch yarns, steel wires	Natural and synthetic fibre yarns, monofilament and multifilament yarns, Kevlar fibres, glass fibres, carbon fibres	Natural and synthetic fibre yarns, monofilament and multifilament yarns, especially for 3 - 7 mm tapes and for extremely low-sley warps
Nm 450 - Nm 5 20 den - 1800 den 22 dtex - 2000 dtex	Nm 250 - Nm 3,5 36 den - 2600 den 40 dtex - 2900 dtex	Nm 70 - Nm 0,7 130 den - 13000 den 145 dtex - 14000 dtex	Nm 130 - Nm 2 70 den - 4500 den 76 dtex - 5000 dtex
-	•	-	•
•	•	•	-
•	•	•	•
4 optional	3 optional	4 optional	2 (lease/clip optional)
•	•	•	-
-	-	-	-
•	•	•	-
•	•	•	•
•	•	•	•

Double end control

Warps with lease are additionally checked for lease faults. If a double thread is detected, the machine stops immediately and indicates the thread layer where the defect was found. This control function is guaranteed to work perfectly even with elastic materials.

When working with sized warps without lease, the standard machine AS/3 optionally offers an electronic double end control.



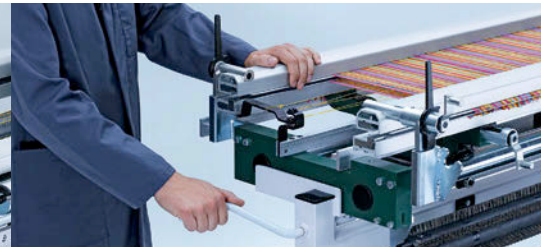
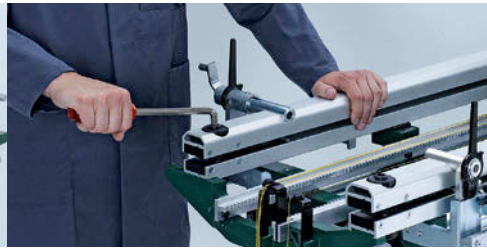
Model example: Model AS/3

GROZ-BECKERT TYING FRAMES WITH CLAMP RAIL TENSION SYSTEM

Groz-Beckert tying frames – intelligent design

Groz-Beckert tying frames are characterized by wide-ranging application possibilities and are suitable for all Groz-Beckert tying machines and all weaving machines. Due to the sturdy construction of the frames, and the CAD-optimized stability and ergonomic design of the clamp rails, they are available in widths ranging from 70 cm to 560 cm. Adjustable spacers and a horizontally adjustable frame top section ensure optimum flexibility.





CLAMPING SYSTEM FOR ALL WARP QUALITIES:

FLEXIBLE HEIGHT ADJUSTMENT:

A DEFINED END POINT ENSURES OPTIMUM CLAMPING WITHOUT THE NEED FOR A TORQUE WRENCH.

A CENTRAL HEIGHT ADJUSTMENT SIMPLIFIES THE ADAPTATION OF TYING FRAME TO WEAVING MACHINE.



Clamp rail tension system

The clamping system offers a host of advantages in practical operation. As the clamping points for the top and bottom sheet are not next to each other but one above the other, the frame is far more slender than in other systems, making access to the warp in the weaving machine

much easier for the operator. The clamping principle using an aluminium tension rail can be steplessly adjusted to the yarn count and so ensures reliable clamping of all warp qualities. Another benefit of the system is the lower risk of yarn breaks when working with sensitive yarns.

Equipment features and scope of supply for both clamping systems

Tying frame equipment features

- Central height adjustment
- Horizontally adjustable (optionally)
- Frame top section can be swivelled and removed (optionally)
- Hinged footboard
- Integrated tape measure
- Caster wheels with brakes
- Holder to accommodate accessories
- Brush rollers in different bristle qualities in line with requirements
- Auxiliary frame for carpet weaving machines (optionally)

Delivery scope of machine and frame

- Trolley with machine case
- Detachable cable drum with 25 m cable
- Selection of tools and spares
- 16 selector needles or discs
- 2 containers for maintenance
- Detailed printed manual

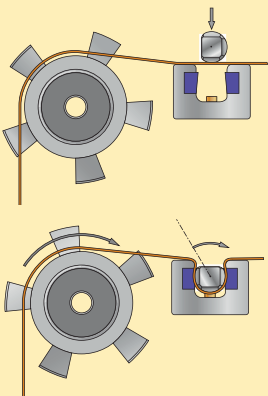
GROZ-BECKERT TYING FRAMES WITH CLAMPING ROD TENSION SYSTEM



Clamping rod tension system

- Easy and quick clamping and removal of both warps by clips that are arranged one behind the other
- Consistent clamping possible for all widths up to 560 cm with any material

Clamping rod tension system





DETAIL VIEW: CLAMPED WARP



OPTIONAL FOOTBOARD

GROZ-BECKERT WarpMaster: FULLY AUTOMATIC DRAWING-IN MACHINE

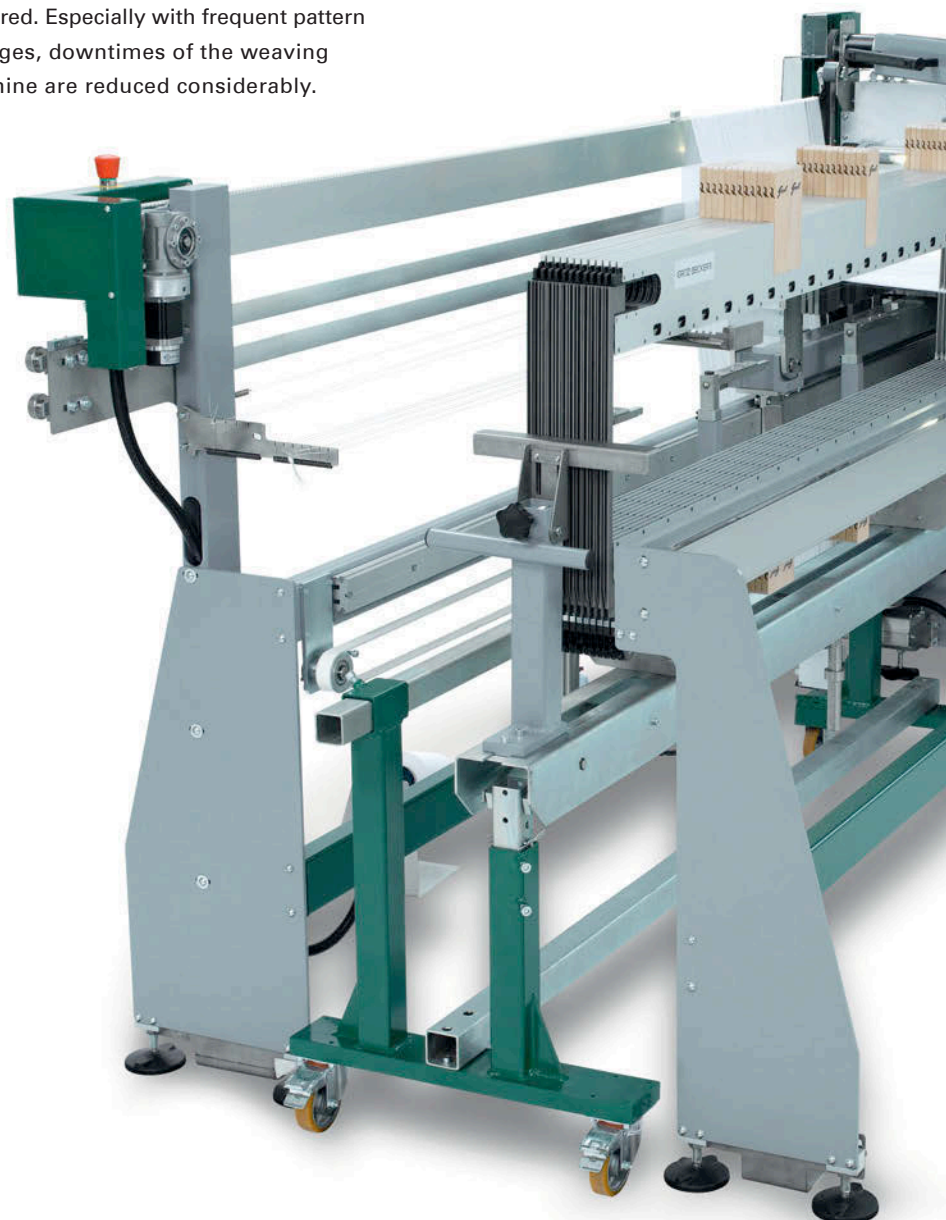
The WarpMaster is a fully automated drawing-in machine with microprocessor control based on high-performance step motors, electromagnets and sensors.

- Optimum motor performance due to control of both movement and quality
- Constant magnet function monitoring
- The precision of all drawing-in processes is monitored by sensors
- Completely computer-controlled system with touchscreen monitor, with context-sensitive command display
- Computer-controlled machine start-up following a stop. The monitor indicates steps to be performed using still shots or video
- Remote analysis by modem for real-time customer service

Auxiliary machines:

- Heald sorting machine SortMaster
- Cleaning systems
- **KnotPointPlus:**
KnotPointPlus is an easy-to-operate stationary knotting station. KnotPointPlus allows to knot the drawn-in warp sheets from the WarpMaster to a warp beam, independent of the weaving machine. Assisted by the integrated brush roller, the knots are reliably and smoothly pulled through the harness. With the

KnotPointPlus the knotting process at the weaving machine is no longer required. Especially with frequent pattern changes, downtimes of the weaving machine are reduced considerably.





Control unit

Computer controlled using touchscreen. Operating system: Windows XP® embedded. Automatic fault analysis. Picture or video-prompted instructions.



Step motors

19 motors per machine, frequently of the same type. Quality control using own software.



Yarn presentation

Drawing-in possible for warps with a density of up to 160 warp ends/cm or a reed density of up to 500 dents/10 cm. Length of drawn-in yarn: 2500 mm. A cotton twist is used as a drawing-in yarn.



Trolley

Accommodates the reed, healds, drop wires and heald frames during drawing-in and transport.



KNITTING , WEAVING , FELTING , TUFTING , SEWING

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