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Our experience - your benefit

schwab Förder- und Lagertechnik has been established for more than 60 years and, with its skilled employees, has the proven experience and flexibility to satisfy the demands of customers, both large and small in this specialised trade.

schwab's ideas, engineering skills and manufacturing know-how provide products for smaller companies as well as equipment for international industries.

Try us - we look forward to your challenges.

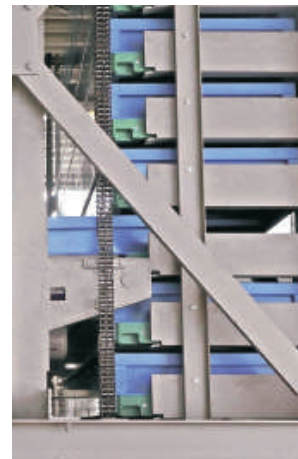


- shortest access times
- high storage capacity, minimum space requirements
- order and clarity in storage
- optimum use of space
- the material comes to you
- fatigue-free work
- more material in a small area
- easy operation
- safe and flexible
- low investment costs
- crane operation feasible



schwab TOWER

storing - feeding - commissioning



- high payload
- high storage density
- single access to the cartridges
- low moving mass
- fast access
- flexible access order
- tailored to your individual needs
- integration into the material logistics of your business
- maximum production efficiency and reliability and low maintenance

Paternoster - warehouse systems

An idea - a thousand solutions
The Extreme is normal for schwab



- flexibility
- short access times
- high storage density
- reduced traffic routes
- easy operation
- ergonomically designed
- reliable and durable
- high security
- various combinations
- movement from outside, into the warehouse
- basement loading, movement to upper levels
- paternoster outside the production hall with housing against weather influences
- buffering with manual or automatic transfer
- integration to your computer systems for material management

Tyre paternosters

Our goal is the tailored system solution
for your business



- solution of storage problems
- direct access to the desired tyre by touch of a button
- high rotation time, thus shorter waiting times for your customers
- highest standards in ergonomics, reliability and durability
- tailored to your individual needs and your space

Applications:

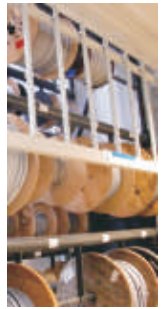
- car dealerships
- repair shops
- tyre services
- spare parts centers
- company fleets
- etc.

Cable paternosters

Centric or static storage

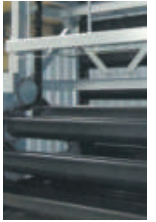


- access to individual cable drums
- cord removable from individual drums
- cable assembly directly from the device
- several operating points possible
- clear arrangement of the cable drums
- the material comes to you
- short selection time, improved efficiencies
- either central storage for rolling, commissioning and assembling or
- static storage in dynamic compartments
- on request with integrated measuring instruments



U-shaped paternoster

Small footprint - high storage capacity



- integrates unused height space
- storage and material handling
- several control and sampling points possible
- high storage density
- small footprint
- reliable and durable
- high security
- storing, buffering, transporting, weighing

L-shaped paternoster

Use height space above operating workplaces



- easy operation
- high storage density
- the material comes to you
- reliable and durable
- high security
- high capacity in a small footprint
- unused height space integrated as storage space

Coil storage with cutting machine

Clear paternoster as buffer and storage for sheet metal and fiberglass



Paternoster for coils and fibreglass

- recording of the coils with expanding mandrels
- loading from the back
- cart for easy handling of heavy expanding mandrels
- cutting in front
- cutting machine for coils and fibreglass
- scissorslike cutting to avoid chips
- for widths up to 5 m
- transport of goods
- winding help device
- measuring device

Wheeled paternoster

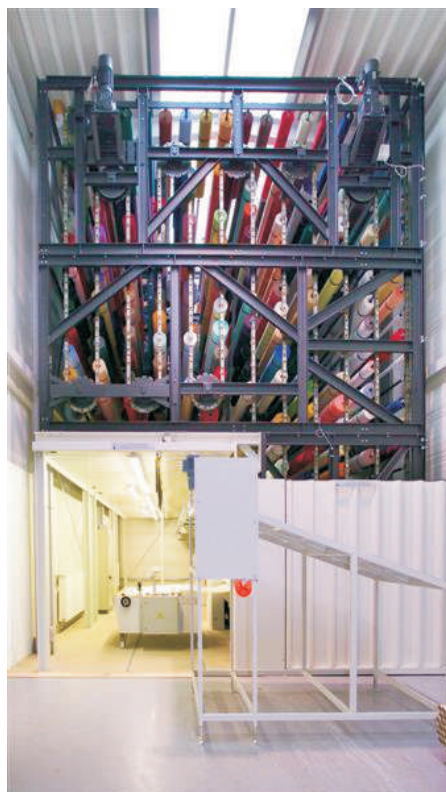
Resilient and mobile



- flexible
- high storage density
- easy operation
- the material comes to you
- reliable and durable
- high security
- anytime where you need it
- can be moved aside when not needed

Loop-paternoster

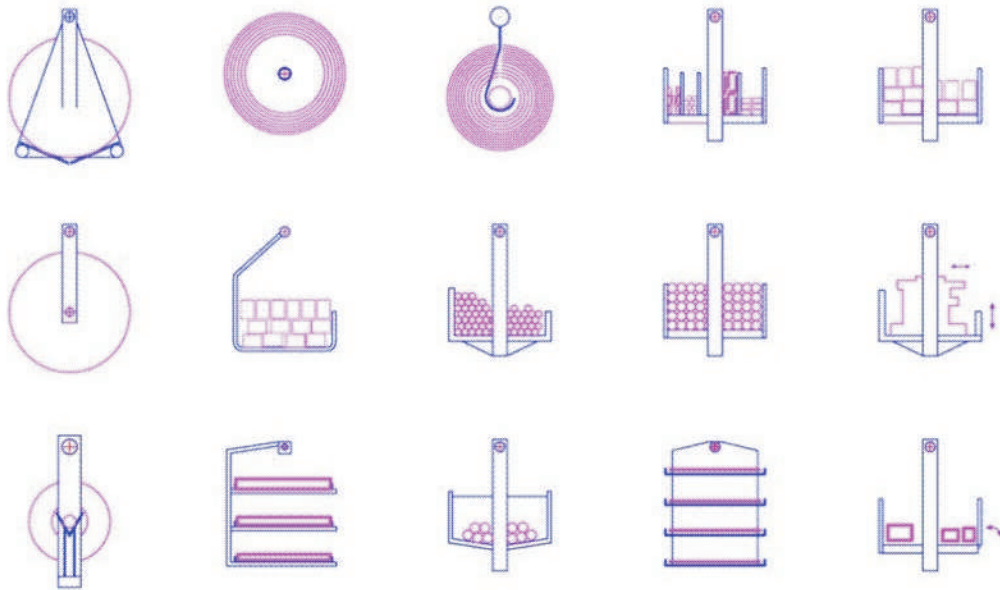
Low traffic area - high storage capacity



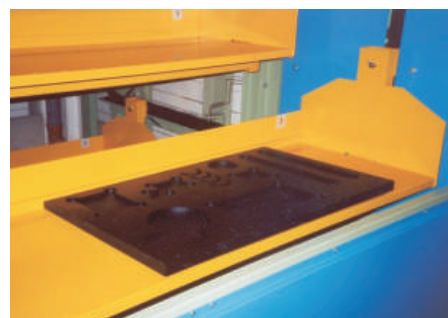
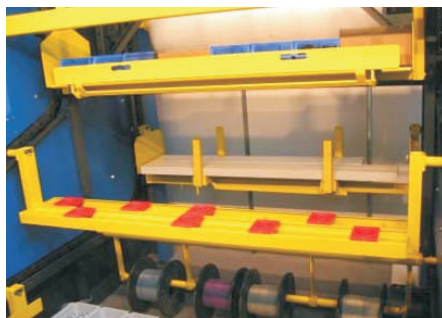
- virtually unlimited storage capacity
- high storage density
- easy operation
- the material comes to you
- reliable and durable
- high security
- high capacity in a small footprint
- unused height space can be fully integrated into storage space

Possible cradle designs with paternosters

Rolled goods need other storage facilities than small goods or long items - therefore we offer a variety of cradle types.



Several cradle models can be combined within a paternoster to get a variety of items stored on one machine.



Carpet paternoster

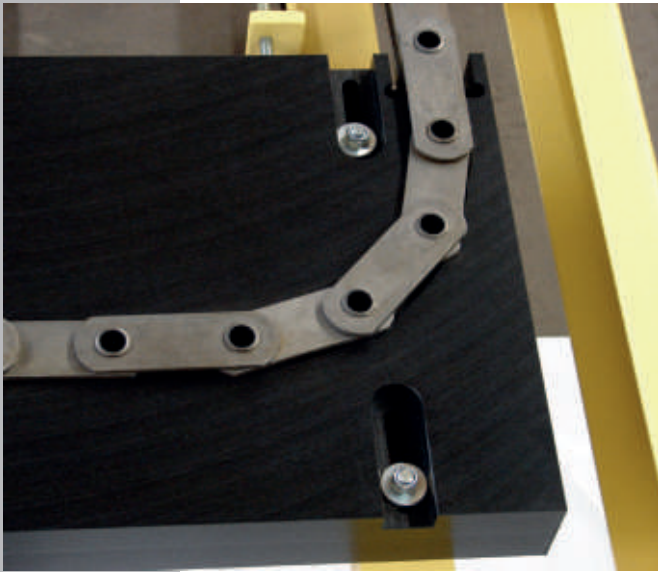
The conveyor system for efficient storage and attractive presentation of carpets and other rolled goods, such as pond liner or artificial turf



- width of fabric: 2.000/3.000/4.000/5.000 mm + Special sizes
- height: 2750-8950 mm
- width: fabric width + 600 mm
- depth empty: 1,260 mm
- roll diameter empty: 650 mm
- chain security: at least 7-fold
- chain breaking load: 11 tons
- deflection at the top: Steel chain wheels with maintenance free sealed ball bearings
- deflection below: SIKU® from schwab - patented chain transmission for the highest safety standards. Intervention in the chain in the operating area is impossible.

Safety chain deflection

Safety through protection



Innovation from schwab

Utility model protected (DBGM)

The safety chain deflection **SIKU**[®] provides permanent, dependable protection against tampering, injuries and the falling out of rolls of material goods in paternosters.

Technical description:

Conventional paternosters require one or more sprockets in the lower machine area for chain deflection. These sprockets present a source of danger, as squeezing and cutting points still develop between the chain and sprocket in spite of being covered.

Instead of sprockets, the **SIKU**[®] utilises a continuous guide enclosure made of steel within which the chain is inevitably deflected. Sprockets and along with them squeezing and cutting points are eliminated. This prevents the risk of being caught in the chain. In the user operating area the chain is guided from top to bottom by a protective grating; this offers additional protection against the falling out of rolls.

Application:

SIKU[®] chain deflection is used in all schwab paternosters models TPL, SPL, CPL as standard equipment. Retrofitting of earlier models is also possible.

Special features:

- Optimum, permanent protection against injury and contamination, as the chain is completely enclosed.
- Entirely maintenance-free
- Retrofitting for all schwab paternosters
- Economically priced.
- TÜV (German technical QC authority) tested.



Equipment

Sales aids for carpet paternosters

Little Helpers - big effect



- Trolley:
Perfect for loading and unloading and on-site transport of rolls.



- Straps:
Fast and reliable backup and closing of the rolls, even for composite film rolls.



- Cutting machine:
Robust HOOGS round knife machine. Easy handling, high power, long life expectancy.



- Carpet pins:
For closing of rolls of carpet. The dangerous vertical standing in unused condition is prevented by the security head.



- Register board:
Overview in warehouse and sales logistics.



- Cutting edge:
Available in 2, 4 and 5 meter in length.



LDS

Length measurement and data transfer system for vanadium and carpets in cutting and sale



- access control/machine operation only for selected personell, as a start-up is possible only after entering the PIN code
- automatic operator guidance in the handling of the measuring system
- user identification via pin code
- loss detection
- anti-theft-device
- individual performance of the sales staff.
- exact measurement of required length, cut and charge of the desired product is obtained thus reducing wastage.
- constant overview of the existing inventory of the remaining roles.
- machine-readable proof of payment for quick and easy billing at checkout.
- permanent inventory data by centimeter-accurate debiting the actual lengths / quantities.
- approved, calibrateable system.

Cutting machine TSM S50

Manual cross cutting machine with dial gauge and winding devise



- width of fabric: 2.000 / 3.000 / 4.000 / 5.000 mm + special sizes
- width: 610 mm over fabric width
- height/depth: 1.000 / 1.050 mm
- goods velocity of circulation: 10 m/min forward and backward
- Design: TSM S 50 wraps rolls up to $\varnothing 450$ mm
- Cutting: Stationary, freely movable or on rails
- Measuring: Electrical HOOGS round knife machine
- Measuring: Mechanical dial gauge

Cutting machine TSM S100

Automatic cross cutting machine

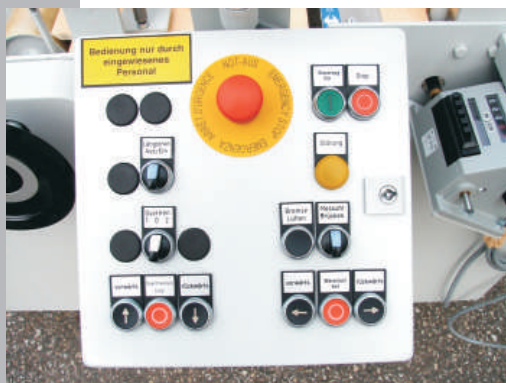
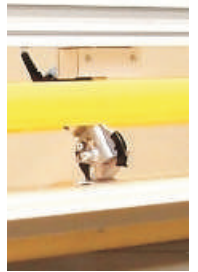


Here the cut is performed automatically in contrast to the TSM S50.

- width of fabric: 2.000 / 3.000 / 4.000 / 5.000 mm + special sizes
- width: 610 mm over fabric width
- height/depth: 1.000 / 1.050 mm
- goods velocity of circulation: 15 m/min forward and backward
- Design: TSM S 100 wraps rolls up to $\varnothing 450$ mm
- Cross-cutting: Stationary, freely movable or on rails
- Measuring: QS1-cutter
- Measuring: Mechanical dial gauge and / or electrical gauge and S7 controller.

Cutting machine TSM S100 L

Automatic cross-cutting and longitudinal separation

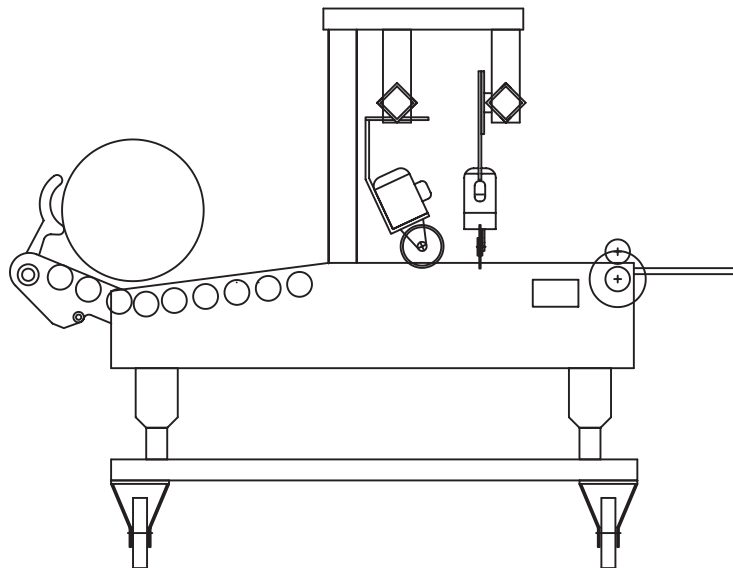


The TSM S 100 L is equipped with an automatic cross-cutter and longitudinal separator.

- width of fabric: 2.000 / 3.000 / 4.000 / 5.000 mm + special sizes
- width: 610 mm over fabric width
- height/depth: 1.000 / 1.050 mm
- goods velocity of circulation: 15 m/min forward and backward
- Design: TSM S 100 L wraps rolls up to Ø450 mm
- Longitudinal: Stationary, freely movable or on rails
- Cross cutting: Electrical HOOGS round knife machine
- Measuring: QS1-cutter
- Measuring: Mechanical dial gauge and / or electrical gauge and S7 controller.
- Operation: Clear control panel

Cutting machine TSM S200

Cross-sectional and longitudinal, winding of larger roles



The TSM 200 is equipped with an automatic cross-sectional and longitudinal. This machine is particularly suitable for winding large rolls. An automatic helo facilitates the work additionally.

- width of fabric: 2.000 / 3.000 / 4.000 / 5.000 mm + special sizes
- width: 610 mm over fabric width
- height/depth: 1.000 / 1.050 mm
- goods velocity of circulation: 20 m/min forward and backward
- Design: TSM S 200 wraps rolls up to $\varnothing 500$ mm
- Longitudinal: Stationary, freely movable or on rails
- Cross-sectioning: Electrical HOOGS round knife machine
- Measuring: S80-cutter
- Operation: Electronic indicator, electronic engine control
- Operation: Clear control panel

Additional features for cutting machines

Modules for efficient, easier work



Foil dispenser for rapid and easy packing of rolls

Compensator with edge control, to unpack, handle, back-wrap, pile outside or inside



Supply table to store and buffer the rolls for continuous work with the cutting machines



Magazine for cardboard cores

Body to unpack, unwind, back wrap



Return path, leads the rolls away from the supply table and cutting machine

Table-conveyor

storing - hoisting - handling



- Storage and work table
- high storage density
- easy operation
- Goods can be rolled out directly on the working table and be edited using integrated tools
- reliable and durable
- high security
- depending on the fabric width the size can be customized

Vertical-conveyor

Connecting of two halls at different levelling



- individual
- fast
- flexible
- operated from the forklift
- rising and lowering at different levels
- high load capacity
- optical signaling device
- high speed doors
- integrating into conveyor systems possible
- Design in- and outdoor

Industrial commissioning system

The modular system to power industry



Possible modules of the system:



Control panel for input of all size data and control parameters for assembly and packaging



Supply table

driven return path



Compensator



Unwinding unit



cross separator



Control surface with rotating unit



Lengthwise cutter



Magazine for cardboard cores

Industrial commissioning system

The modular system to power industry



Film magazine



Packaging unit



Lifting unit



Return path



Distribution weighings

Roll-out rack

Space-saving solution for long goods



Data of the model shown here:

• height:	ca. 5.045 mm
• depth:	2.650 mm
• length:	7.800 mm
• compartment height:	600 mm
• shelf depth:	1.050 mm
• Load for each shelf:	max. 3.500 kg
• Floors plus roof storage:	2 x 5
• total payload:	38.500 kg
• footprint:	ca. 21 qm

- individual
- clear storing
- bilateral removal
- ease of use
- roof rack
- space-saving