Zinser Roving Frames and Customised Process Optimisation

Faster – because we know how
High tech, high performance, high satisfaction
Zinser roving frames and automation solutions: quick, efficient, reliable

Made for the world. Made for future. Made in Germany
The success story of the market leader is based upon the work of more than 300 designing engineers. This is a technical know how trusted by customers throughout the world. More than 100 Zinser roving frames installed every year are evidence of our success.

With its unequalled drive technology, the maximum application range, uncompromising precision, the unique doffing concept, and the largest selection of customised automation solutions, all options of textile business are open for you.

The team player for your success
Select your individual roving frame type, ideally suited and with high performance for your application.
The best start for the best yarn
Ring spinning starts with the roving frame. With precision and sophisticated technology you will obtain maximum appreciation in your process chain.

Page 06

It won’t go faster
First-class roving, quickly and reliably: With the Zinser roving frame you will increase the overall productivity of your spinning mill.

Page 08

Automatic advantage
With a Zinser automation solution right to your request and measure your spinning mill will run like clockwork.

Page 12

A question of the right decision
The first step to quality yarn starts with the right choice of the roving frame. For it is this machine that prepares the ground for subsequent production. Oerlikon Schlafhorst has made this technology perfect. Thus you have only to think once about the Zinser roving frame: when it is first installed. After that it will run, and run, and run.

Success through know how
Whoever wants to be successful should have the whole process in mind. Oerlikon Schlafhorst is your strong partner for process chain competence that seeks its peers. You will find the right contact for your topics here: no matter whether technical, technological, or cross-process topics, from the fibre via the cross-wound package through to the textile fabric.
The team player for your success
The Zinser roving frame smoothly fits in with your processes, masters any application without difficulty, and is quick in case of lot changes.

The all-rounder, individually configured for your application
No matter whether you process cotton, man-made fibres, or blends, you will always get your Zinser roving frame ideally suited for your requirements. With the selectable drafting system variants, you may process any raw material and any staple length in an ideal and highly productive way.

Select the suitable drafting system variant for your application – for maximum efficiency.
Innovation for maximum economy: Zinser 668 and Zinser 670 RoWeMat with up to 192 spindles.

It fits! The right roving frame technology for your mill
Every Zinser roving frame offers high-performance technology for smooth and economic processes:
- The most comfortable and safe machine concept
- Large EasySpin touch screen with intelligent operator guidance
- All settings are made centrally and precisely via EasySpin, no limit switches required
- Oerlikon Schlafhorst package engineering with unique 4-motor drive concept
- Quality-assuring, individually adjustable mechanical top weighing arms
- Positively driven rollers at the feeding creel for non-slip sliver feeding without faulty drafts
- Reduced maintenance expenditure thanks to the electronic concept for all important functions
- Roving breakage monitoring with photocell or optionally with optical sensors at every roving position
- Electronic monitoring and control of the roving tension over the complete bobbin build-up as an option
- Largest selection of individual automation solutions

Zinser 668: The longest roving frame in the world
With any conceivable equipment: Our model with manual doffing comprises all Zinser features that you need for safe and flexible premium roving production. Secure maximum output with up to 192 spindles.

Zinser 670 RoWeMat: even more quality and productivity with integrated doffer
With the unique, integrated automatic doffer, the Zinser 670 RoWeMat offers you the most reliable and thus most efficient doffing technology available today. The ingenious machine concept in addition secures highest roving quality. Also with up to 192 spindles.

Zinser 670 BigPac: the specialist for coarse yarns
With the bobbin size 20" x 7" for coarse yarns, the Zinser 670 BigPac opens up new productivity potentials - with double bobbin weights and extra-long winding lengths.

Characteristic of Zinser roving frames: the quickest lot change
When others are still changing, the Zinser roving frame will already produce valuable roving bobbins. Central settings via EasySpin increase the productive machine running time. EasySpin guides the operator step by step through the setting process. The clearly structured surface with illustrations, symbols, and input masks is easily understandable.

You are even quicker when using the article data archive. Lot data can be easily stored here, thus enabling quick access at any time. All data can also be secured simply and comfortably on Zinser Memory Cards and thus be transferred to any number of Zinser roving frames. Thus set-up times are reduced to a minimum.

Self-explaining operator guidance with EasySpin touch screen: Thus lot changes are quicker.
The best start for the best yarn
Ring spinning starts with the roving frame. Obtain maximum appreciation from the sliver to the high-quality cross-wound package.

Produce perfect yarn quality for high-end fabrics
A Zinser roving frame pays right from the start. For it is equipped with all tools and technologies that protect your valuable raw material: It is designed for high quality, from the exact machine control, the leading Oerlikon Schlafhorst package engineering through to the comfortable, quality-securing operation.

For we want that you obtain maximum appreciation from the sliver via roving, cop, package through to the fabric.
Moderate breeze for more cleanliness
Small idea, large effect: The cute flyer table blowing keeps the sensible roving course free of fibre fly by means of a continuous moderate air flow. The effect: a clean roving – without raising much dust.

Constant yarn and bobbin quality through completely reproducible production data
Your customers want to rely on the agreed yarn and bobbin quality. Therefore it is possible with your Zinser roving frame to set and store all production data easily and centrally on the EasySpin touch screen. Thus you can reproduce any lot in identical quality at any time.

Furthermore, any number of lots can be stored on Zinser Memory Cards and can thus be transferred from one Zinser roving frame to another.

Precision in any corner
With a Zinser roving frame you will meet the highest requirements of your customers. The Zinser-characteristic drafting system and spinning geometry has been made perfect for several decades and proves itself in more than 3,000 Zinser roving frames installed worldwide – day by day.

The rovings of the front and rear flyer rows enter the flyer heads at exactly the same angle. Good for you: Due to the constant roving tension, you can run your machines at a higher production rate. Even better: Zinser roving frames do not know any count deviations in the roving between the front and the rear row.
It won't go faster
Zinser roving frames not only produce first-class roving. They do this even in a quicker and more reliable way than any other roving frame, thus increasing the overall productivity of your spinning mill.

Run at permanent high speeds with low roving breakage rates. Possible through precise technology with four independent drive axes, de-centralised spindles drive motors and the intelligent software control EasySpin.

The roving frame with marathon runner features
Whoever wants to be fastest on long distances and in continuous operation under hard practical conditions must bring along the right qualifications: precise and at the same time insensitive technology, well-founded know how in package engineering and an intelligent operating concept, securing the quick and correct adjustment of the machine at any time.
Zinser drive concept – for highest performance

Perfect Oerlikon Schlafhorst bobbin engineering
The "inner structure" of roving bobbins, cops, and packages is the most important economic factor in your spinning mill. Perfect bobbin and package build-up secures 100% yarn quality and guarantees smooth and highly productive processes. No wonder that the 300 heads of the Oerlikon Schlafhorst research and development team are working daily on new solutions for bobbins and packages that run even more quickly and safely.

Inherent best running behaviour in the world
Therefore, we have known the success factors for perfect bobbin engineering for decades of experience, research, and development – and have incorporated them in every Zinser roving frame:
- interactive EasySpin control system
- four independent, direct drives via section motors
- precise bobbin build-up with constant tension over the complete bobbin build-up.

Direct drives, intelligent control
Dynamically and with four independent drives, EasySpin synchronises the drafting system, the bobbin rail stroke, the spindle rotation, and the flyer rotation, perfectly adapted to the increasing bobbin diameter and the centrifugal forces involved. The sliver is still without twist and thus particularly sensible – it is essential to keep 100% of the material quality and to run at the highest possible speed without roving breakages – all at the same time.

But this still is not enough: The Zinser drive concept works without the usual gears, for the section motors directly drive the toothed belts for flyers and spindles. In this way, the Zinser roving frame saves energy, reduces the noise level in your spinning mill and is even more flexible when depositing the roving end. In case of a power failure the Zinser roving frame stops production in a controlled manner.
100 % operating safety through EasySpin

Misunderstandings between man and machine cost time and money. Which is a good reason to design installations whose operation is as simple as possible. So that even less experienced personnel can quickly and safely programme your roving frame production.

In this process, all systems are controlled via our successful touch screen system EasySpin. The clearly structured surface with illustrations, symbols, and input masks offers very comfortable operation. In addition, EasySpin supports troubleshooting and specifically indicates the solution.

Handy and practical:
manual doffing with the Zinser 668

Form follows function – the Zinser roving frame is prepared for top performance through safe, time-saving operation in any detail. For example with manual doffing: On the one hand the bobbin rail is lowered down to the ideal lowermost position, on the other hand bobbin guidance is executed by a central spindle in the flyer. Thus the bobbins are easily accessible when the bobbin rail is lowered – your staff can take the bobbins even from the rear row without any problem or damage.

At the same time, roving separation, lowering the bobbin rails to doffing position, piecing the rovings and starting production are executed fully automatically.

Quick start with the “Teach” function

Who starts production more quickly will produce more. Therefore, the formerly common, time-consuming teaching of the Zinser roving frame via limit or proximity switches in no longer required.

The basic settings of the roving frame are approached and adopted by the software. All other control positions are determined by the software on the basis of the specified basic positions. All necessary parameters at the roving frame are set with EasySpin prior to starting – so production can begin immediately.
Zinser 670 RoWeMat and Zinser 670 BigPac: the automatic doffer is built-in instead of built-on

Accessible, safe, time-saving: The built-in automatic doffer is integrated in the machine in such an intelligent manner that it does not interfere with production. At the same time all components are easily accessible before and after the doffing process. Storing the full bobbins and empty tubes also takes place in the roving frame. The result: short doffing times, higher efficiency.

Production start without waiting times

Doffing and re-starting are executed automatically. And this completely without personnel. In this process, the roving bobbins are stored in the machine, while production can continue without any delay.

In contrast to other designs, the centred position of flyer and spindle is always fixed in the Zinser roving frame, it is not moved during doffing. For a good reason: Once specified quality parameters are safely kept.

Practical and flexible: bobbin removal

Full bobbins can be taken out at any time between two doffings. In an ergonomically optimal working height the roving bobbins are put into the carriage or directly into the roving bobbin transport system. This saves operating expenditure and makes your personnel more flexible.
Thus your spinning mill runs like clockwork
What doesn’t fit will be made fitting.
Choose your automation solution to your request and measure

Largest choice, most individual planning – this is spinning mill automation with Oerlikon Schlafhorst
Every spinning mill is unique, and every spinning mill has its own way to success. We support you with customised automation solutions for your processes.

From the economic solution with manual transport of the trolley trains through to the fully automated spinning mill with all finesses such as CimTrack 3/4 – no requirement is too small or too big for us. Contact us, we will be pleased to configure the best-fitting solution for you.
Automation as you like it. Different floor levels and building heights can be bridged without any problem.

The contactless and exactly aimed transport of the sensible roving bobbins secures your yarn quality.

Manual transport of roving bobbins with carriages not only is work-intensive, but the roving may also be accidentally damaged by the operating staff. For the outer roving layer is very sensible, particularly as the roving only has a protective twist. Damage in the roving is transmitted through the entire process chain and affects the quality of your yarn.

It is also known that roving bobbin carriages may even be forgotten or mixed up in the mill. A mistake that might not be noticed until in the finished fabric - with severe consequences. In contrast, a transport system automatically transports any roving bobbin to the right position.

Your benefits
- Roving bobbins are not touched, the bobbin surface is not damaged
- No intermediate storage which might result in damage, soiling, or ageing of the roving
- No confusions
- Clearly structured material flow, speeding-up processes
- Equalising of work processes and smoothing of production peaks

Open bottom, closed top: In this way, the self-cleaning Zinser rail system is optimally protected against fibre fly. Possible fibre fly at storage tracks, switches or trolley trains outside the spinning machines can drop easily down.

Simple production control
The entire installation is centrally controlled. And is simple to operate due to the high visualisation. All production processes can be followed comfortably on the screen. Thus production processes are transparent – changes become child’s play.

We advise you – please contact us!
**Options for your individual solution for your roving bobbin transport system**

**Bobbin removal**
- Manual removal

**Roving bobbin transport system**
- FixFlow manually operated

**Creel automation**
- CimTrack 1

**Tube cleaning**
- Manual tube cleaning
- Automatic tube cleaner, stand-alone version

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**FixFlow - the system for constant production programmes and few lot changes**

FixFlow functions according to the closed loop principle and is thus particularly suited for constant production programmes: always circling around all ring spinning machines, with full bobbins and empty tubes.

The bobbin transfer stations of the roving frames feed the transport system with full bobbins. At the ring spinning machine your operating staff exchanges empty tubes for full bobbins and pieces up the roving.

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**FlexFlow - the system for flexible production programmes with frequent lot changes**

Mini trains coming exactly on the dot: Bobbins and empty tubes are transported on trolley trains exactly where they are required. This is done fully automatically via a central control. In this process, the transfer station loads the full bobbins into the empty trolley trains which then drive to the right ring spinning machine or into a storage section.

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14 Zinser roving frames and automation solutions
Only from Oerlikon Schlafhorst: Creel automation complete with CimTrack 4

Forth time is a charm. At least with CimTrack 4. For here all rows of the ring spinning machine creel are designed as transport rails where trolley trains can drive. Three rows are involved in spinning, the forth serves for storage purposes. If one row runs out of material, the next one automatically takes over.

Your operating staff only pieces up the roving ends to the waiting full bobbins. Simply by pressing a button at the ring spinning machine, the trolley train with the empty tubes is sent back and a new, full trolley train is requested. The empty trolley train now enters the cleaning station. After cleaning, it waits in the storage section to be filled again. The control centre sends a new full trolley train to the ring spinning machine.

Minimum work expenditure
Through larger bobbins and automation solutions

Automatic tube cleaning increases your productivity
Automatic tube cleaning not only is quicker, but also saves personnel and cleans more thoroughly. Here you may choose between the cleaner as a "stand-alone" module integrated in the transport system or the tube cleaner integrated into the roving frame. This execution allows an individual assignment of different raw materials to the respective roving frame. Roving remnants can be re-used, as they are "unmixed" and opened.

Minimum work expenditure
Through larger bobbins and automation solutions

Work expenditure at ring spinning machine and roving frame
With reference to Nm 10 with roving Nm 0.6

Automatically more productivity and lower costs
A bobbin transport system saves a lot of handling and thus personnel costs. Compared to manual transport, personnel costs can be reduced by up to 35 % e. g. for coarse yarns with creel automation systems CimTrack 3 or CimTrack 4. Through a clearly structured material flow with less handling, shorter distances, safer handling, and better accessibility to the machines.

Zinser roving frames and automation solutions 15
Technical data
Zinser 668

<table>
<thead>
<tr>
<th>Number of spindles</th>
<th>Machine length (L)</th>
<th>Can diameter</th>
<th>Machine width (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>8,158</td>
<td>18&quot; (450 mm)</td>
<td>4,210</td>
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<tr>
<td>60</td>
<td>9,718</td>
<td>20&quot; (500 mm)</td>
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<td>72</td>
<td>11,278</td>
<td>24&quot; (600 mm)</td>
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<td>144</td>
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<tr>
<td>168</td>
<td>23,758</td>
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<tr>
<td>192*</td>
<td>26,878</td>
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</table>

Can diameter:
- 18" (450 mm)
- 20" (500 mm)
- 24" (600 mm)

Machine data

Application range
Staple fibres up to 63 mm

Raw materials
Cotton, viscose rayon, manmade fibres and their blends

Number of spindles
48, 60, 72, 84, 96, 108, 120, 132, 144, 168, 192*

Flyer sizes (depending on configuration)
- 400 mm x 150 mm (16" x 6")
- 400 mm x 175 mm (16" x 7")
* 192 spindles: 16" x 6"

Flyer speed
max. 1,500 rpm (depending on configuration)

Gauge
260 mm

Count range
2,222 tex – 200 tex
(Nm 0.5 – Nm 5.0)
(Ne 0.3 – Ne 3.0)

Twist range
10 – 100 twists per meter
(0.25 – 2.54 tpi)

Draft range
3.0 – 15.8 fold
(depending on configuration)

Drafting system
3-roller/double apron drafting system or
4-roller/double apron drafting system

Options
TensionControl
FilaGuard
RingPilot

Restrictions
For numbers of spindles ≥ 168:
applicable for cotton only
Technical data
Zinser 670 RoWeMat

<table>
<thead>
<tr>
<th>Number of spindles</th>
<th>Machine length (L) (L1)*</th>
<th>Can diameter</th>
<th>Machine width (B)</th>
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<tr>
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<td>21,335 mm</td>
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<td>168</td>
<td>23,905 mm</td>
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<td>192*</td>
<td>27,495 mm</td>
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*(L1) = manual bobbin removal
(L2) = with RoWeLift

Machine data

Application range
Staple fibres up to 63 mm

Raw materials
Cotton, viscose rayon, manmade fibres and their blends.

Number of spindles
48, 60, 72, 84, 96, 108, 120, 132, 144, 168, 192**

Flyer size (depending on configuration)
400 mm x 150 mm (16" x 6")
400 mm x 175 mm (16" x 7")
192 spindles: 16" x 6"

Flyer speed
Max. 1,500 rpm (depending on configuration)

Gauge
260 mm

Count range
2,222 tex–200 tex
(Nm 0.5–Nm 5.0)
(Ne 0.3–Ne 3.0)

Twist range
10–100 twists per meter
(0.25–2.54 tpi)

Draft range
3.0–15.8 fold
(depending on configuration)

Drafting system
3-roller/double apron drafting system or
4-roller/double apron drafting system

Options
Tension Control, RoWeLift, RoWeClean, RoWeStore, RingPilot

Restrictions
For numbers of spindles >168:
applicable for cotton only
Technical data
Zinser 670 BigPac

<table>
<thead>
<tr>
<th>Number of spindles</th>
<th>Machine length (L) (L1)</th>
<th>Machine length (L) (L2)</th>
<th>Can diameter</th>
<th>Machine width (B)</th>
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* (L1) = manual bobbin removal
  (L2) = with RoWeLift

Machine data

Range of application
Staple fibres up to 45 mm

Raw materials qualities
Cotton, viscose rayon, manmade fibres and their blends

Number of spindles
48, 60, 72, 84, 96, 108, 120, 144

Flyer sizes
500 mm x 175 mm (20° x 7°)

Flyer speed
max. 1,000 rpm

Gauge
260 mm

Count range
2,000 tex-833 tex
(Nm 0.5-Nm 1.2)
(Ne 0.3-Ne 0.7)

Twist range
10–100 twists per meter
(0.25–2.54 tpi)

Draft range
3.0–15.8 fold

Drafting system
3-roller/double apron drafting system or
4-roller/double apron drafting system

Options
TensionControl
FlyGuard
RoWeLift
RoWeClean
RoWeStore
RingPilot

Certikon Schäffhorst’s quality management system complies with the requirements of EN ISO 9001.

Appendix to this brochure
Research and development will never come to a halt. This may mean that some statements about Zinser products may be rendered obsolete by technical progress. The illustrations are selected for informative perspectives only. They may contain extras which are not standard.
It won’t go bigger
Only from Oerlikon Schlafhorst: The productivity turbo for coarse yarns – up to 100 % higher bobbin weights with the roving frame Zinser 670 BigPac

Just pack more on the bobbin
The Zinser 670 BigPac exceeds the limits of usual bobbin sizes and opens up new productivity potentials – with double bobbin weights and extra-long winding lengths.

Fewer changes, more productivity
The thick BigPac bobbins, up to 4 kg in weight, in the size of 20” x 7” considerably reduce your handling expenditure, productivity rises through fewer bobbin changes – at the roving frame as well as at the ring spinning machine.

Be secure with even less handling:
The roving bobbin transport system for the BigPac
Obtain even more productivity with an automated roving bobbin transport system, which guarantees highest quality and process reliability, particularly when handling the high-weight BigPac bobbins. The most important saving effect is reached with the fully automated solution. Here, the working expenditure for doffing, bobbin transport, and bobbin change at the roving frame and the ring spinning machine is reduced by nearly 80 %.

Up to 100 % higher bobbin weights
at Zinser 670 BigPac

For coarse yarns, the thick BigPac bobbin increases the productivity at the roving frame and at the ring spinning machine.
Каталог был представлен на выставке «Инлегмаш – 2008»

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2008 год