

SAURER.



Ready for you.

CakeFormingWinder





Saurer Twisting Solutions is continually setting new milestones in the production of glass filament machines.

We combine innovative technology with decades of experience so that you can react reliably and confidently to the demands of an ever-changing market with our machines.

Our entrepreneurial and pioneering spirit is the driving force for further developments and innovations – for your future as well!

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Features and benefits

- New technologies in the CakeFormingWinder**
- High yarn quality thanks to constant winding speed**
- High-speed traversing of the collet**
- Water-cooled control unit**
- Automatic lubrication system**
- Angular timing of the rotor**



CakeFormingWinder

With the CakeFormingWinder – a glass yarn winding machine that is new in many respects – Saurer exactly satisfies the desires and requirements of its customers, and in doing so relies on innovative technologies.

Thus the CakeFormingWinder with for instance the aid of the new rotor technology and by integration of a high-speed traversing system is able to achieve efficient production of high-quality glass packages.

The CakeFormingWinder achieves exceptionally precise winding of the glass filaments emerging parallel from the take-off nozzles with diameters between 0.014 bis 0.005mm, in a manner that is both simple and reliable. The quality of the wound glass packages permits further processing into high-quality products.

In addition to the CakeFormingWinder, Saurer offers an attractive portfolio of services to suit the requirements of customers engaged in glass fibre production. We offer a wide range of individual service solutions to ensure trouble-free and profitable operation, from project planning to the service warranty and reliable supply of original parts.



Yarn catch disc

For the continuity of the homogeneous strand pulling processes of the glass filaments, the performance of the yarn catch disc is of critical importance.

The geometries developed by Saurer for this purpose and the design of the surface ensure both extreme reliability and impressively high performance values.

Advantages:

- Hardened surfaces
- Concave profile for optimum take-up of the glass filaments
- Free cut-off device for yarn layers
- Hardened surfaces in the free cut-off device
- Visual marking of the collet



Filament pusher

The CakeFormingWinder offers a very impressive high degree of automation. In particular this ensures a continuous strand pulling process for uninterrupted operation.

As well as the strand capture discs the reliability of the filament pusher is relevant for uninterrupted production of high-quality products.

With its geometrical shape and variability in taking up the glass filaments, the filament pusher fulfils all the requirements for stable production processes.

Advantages:

- Optimum take-up of the strand guide elements
- Drive unit integrated into the system
- Sprayed water protected cylinder unit



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Flyer unit

The entry angle of the filaments in each of the spinning positions is critical for the quality level of the glass filaments to be wound on. In order to permit optimum angular settings for all production requirements and processes, the flyer unit developed by Saurer is equipped for variable axial alignment.

Advantages:

- Optimum strand running angle
- Adaptation to local conditions
- High flexibility
 - X-axis maximum adjustment range 50 mm
 - Y-axis maximum adjustment range $\pm 4^\circ$
- Integrated flyer cove

Quick-exchange flyer

The innovative concept of the Quick-exchange flyer permits extremely quick and straightforward exchange of the complete flyer unit.

Advantages:

- Quick exchange of the shaft unit
- Short standstill time
- Maintenance-friendly design
- Sprayed water protection of the shaft bearings



Auto doffing

The highly integrated automated processes include the PPO (Package Pull Off) unit. After the exchange operation governed by the process, the wound package is automatically pushed off by the PPO unit and transferred to other transport units.

In the course of both procedures ("Block Doff" and "Step Doff"), maximum process reliability and efficiency is ensured by the sensors monitoring the package transfer. Integrated cleaning systems round out the picture of a process-oriented total solution.

Advantages:

- Integrated cleaning system
- Sprayed water protection of the drive unit
- Block Doff function
- Step Doff function



Regulated water circuit

The water circuit of the winding system is regulated centrally by a control unit. This enables controlled and uninterrupted supply of water to the relevant components.

All water nozzles are individually adjustable and thus can be optimally configured for the process and product specification. To ensure the needed lubrication of the single flyers, the water nozzles bar is providing adjustable water nozzles. The same is for the area of the yarn catch disc during the spinning on process.

Advantages:

- Integrated cleaning of the PPO system
- Lubrication function for the flyer unit
- Programmable spray cycle for the yarn catch disc



Automatic lubrication system

The demanding operating conditions and an extraordinarily high requirement for system functionality and process stability demand continuous secure supply of lubricants to the operating units.

The CakeFormingWinder is equipped with an automatic lubrication system specially developed to satisfy these requirements. This is programmable and adjusts automatically to the respective docking situation. This ensures the correct supply of lubricant, which enables continuous 24-hour operation without interruptions. Lubrication intervals and lubrication quantities are flexibly configured, using the latest control technology.

Advantages:

- Automatic supply of lubricant
 - Rotor
 - Rotor traversing drive
 - Recirculating ball drives
- Low maintenance requirements
- Long working life



Angular timing of the rotor

In a world first for production of glass filaments, in the CakeFormingWinder Saurer uses a highly innovative technology for the angular timing of the rotor.

This technology permits selection of the optimum position of the rotor in relation to the glass filaments emerging from the nozzle. The growth of the package diameter is thus continuously tracked by the rotor. By this means the yarn path in the flyer shaft geometry is optimised during the winding process.

Advantages:

- Optimum strand running angle
- High yarn quality
- Continuous adaptation to the package diameter



High-speed traversing mechanism of the collet

The traversing mechanism of the collet operates at the high speed of 50 mm/s, thereby enabling an optimum yarn path.

Especially for fine yarn production, the traverse of 285 mm ensures continuously optimised positioning of the bushing position.

The high-speed traversing mechanism and the angular timing of the rotor are technologies used to ensure a high degree of optimisation of the processes and product in the CakeFormingWinder.

Advantages:

- Optimum strand position
- Optimised angular geometry to the bushing position
- High product quality of the filaments



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User-friendly and maintenance-friendly

Quickly accessible sub-assemblies

As a compact unit the CakeFormingWinder presents an extremely user-friendly overall solution also in respect of maintenance work.

The system includes a high degree of integrated automation of maintenance operations.

In addition all sub-assemblies are easily accessible to operating personnel and maintenance personnel.

Advantages:

- Pivoting control cabinet
- Automatic lubrication unit
- Easy accessibility to maintenance assemblies

Operating unit

The Winder Operator Box (WOB) interface allows control of all CakeFormingWinder processes relevant to production.

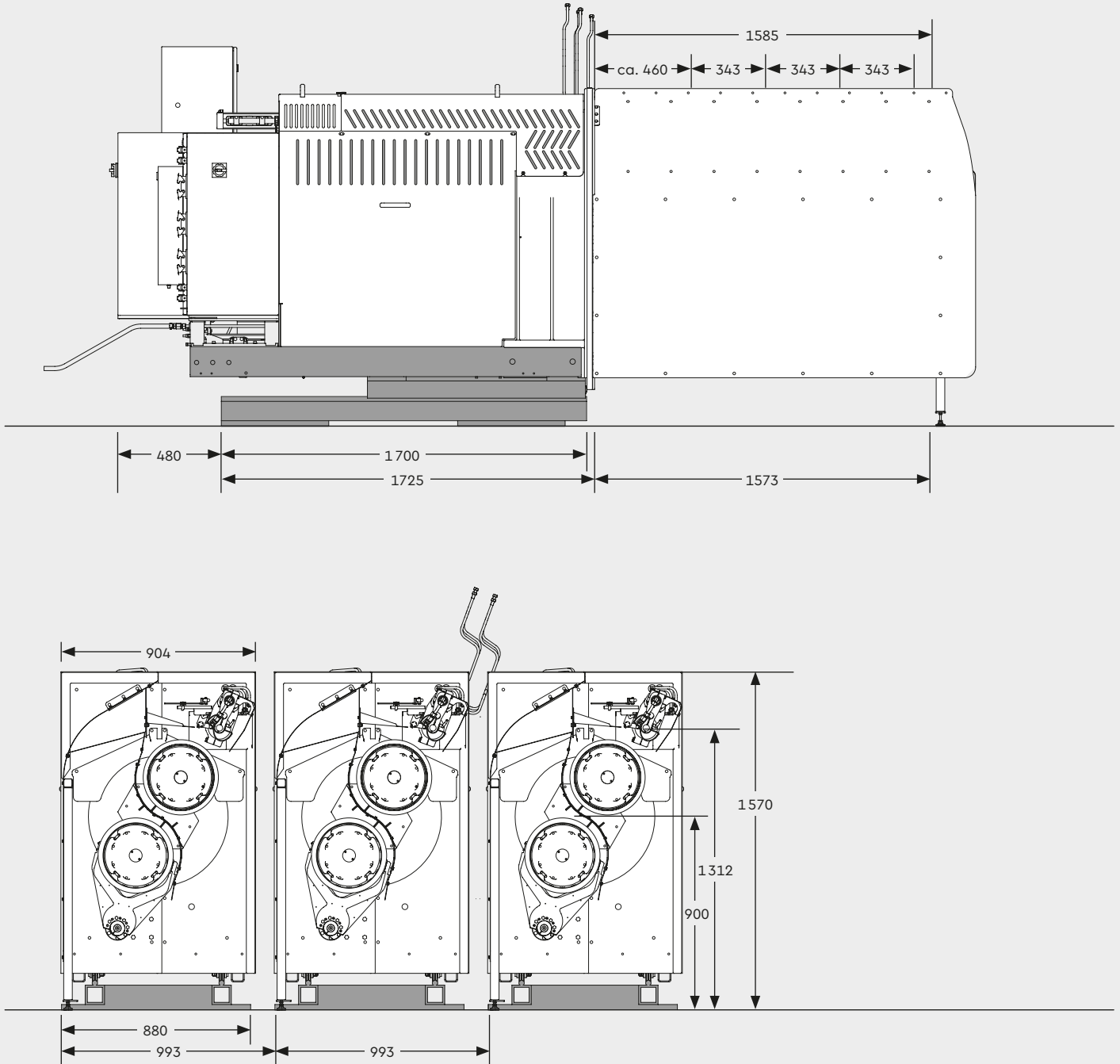
The spatial arrangement on the textile side ensures short distances and supports the operator during operation.

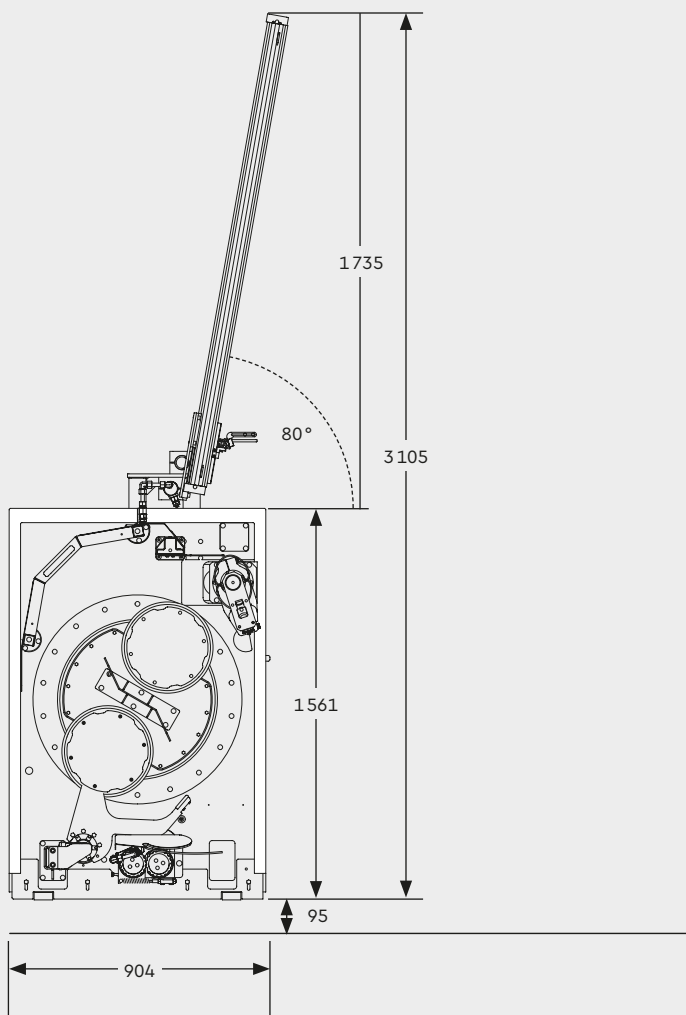
The WOB incorporated within the central control system displays amongst the current operation status and permits precise and direct influence on the process parameters.

Advantages:

- Quick operation
- Display of the operation status
- Display of pending exchange

Technical and textile data





Technical data for the CakeFormingWinder

Machine length	mm	3 590
Machine width	mm	904
Machine height	mm	1 570
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Titre range	tex	2.5 – 204
Take-up speed	rpm	800 – 5 300
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Collet length	mm	1 280
Acceleration of the collet	s/rpm	26/4 200
Collet diameter	mm	300 (+/- 2)
Collet traverse	mm	285
Maximum linear speed of the collet	mm/s	52
Number of strips of the collet		18
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Flyer speed	rpm	2 000
Horizontal variability of the flyer	mm	50
Setting angle variability of the flyer	°	4
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Packages per shank		4 (greater number on request)
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Max. package diameter	mm	360

General note:

Research and development do not stand still. This can mean that one or another statement about our products is superseded by technical progress. The illustrations have been selected according to informative aspects. They can also contain optional additional equipment that is not included in the standard scope of delivery. Our technical details in the offer and order confirmation are decisive for the binding machine design.

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