Soma tec

The world of winding

Turret winders

The SOMATEC range

— In-line and off-line winders and unwinders

— Re-reelers and web processing machines

— Accumulators

— Finished reel and winding shaft handling

— Single winding components

What SOMATEC offers

— Support

— Technical development

— Project planning

— Design and manufacture

— Assembly and commissioning at SOMATEC and on site, worldwide

— Full automation and integration into new or existing machinery

— Modification and retrofitting of existing machinery and equipment

— After-sales service

Automatic turret winders

ATW-E | ATW-I | ATW-IG | ATW-S

ATW-E

The compact turret winder
with winding shaft support | Page 4

ATW-I

The modular turret winder
with integrated winding shaft
extraction device | Page 6

ATW-IG

The turret winder with an integrated
winding shaft extraction device for
large reel diameters | Page 10

ATW-S

The turret winder with
shaftless reel support on the
indexing system | Page 12

Options

Optional features | Page 14

Fast production and finishing speeds place huge demands on winding machinery. This is where SOMATEC turret winders excel. Their robust design, sophisticated technology and superior control systems ensure reliable processes.

SOMATEC turret winders can be used behind nonwoven production lines, in film lines and paper finishing.

The four basic designs offer a range of optional features and are adapted to meet the requirements of your machinery.

Please contact us if you would like a demo, or some advice.

ATW-E Turret winders

The ATW turret winder was primarily developed for use in paper and film production. Its modular design means it can be adapted to suit any type of production. Various handling components can be custom configured.

— Ideal for paper and film

— Compact designs in various sizes

— Diverse automatic reel change systems

— Slitters can be integrated

— Both winding directions are possible

Advantages

— Appropriate sizes with various finished reel diameters

— Perfect reel support on winding shafts or shaftless

— Stable processes thanks to automatic reel change at full production speed onto prepared or unprepared cores

— Contact roller designed for contact winding or gap winding

— Optional clean room version for the stringent demands in the food industry

— Optional external winding shaft extraction device

— Basic machine can be upgraded. Further optional, functional features can be added to the ATW-E turret winder (rider rollers, core preparation, slitting systems, reel removal options see page 14).

Technical data

Reel diameter:	600/800/1000 mm max.
Reel weight:	1,500/ 2,500/3,500 kg max.
Material width:	2,500 mm max.
Speed:	300 or 600 m/min max.

Other designs with different data are possible.

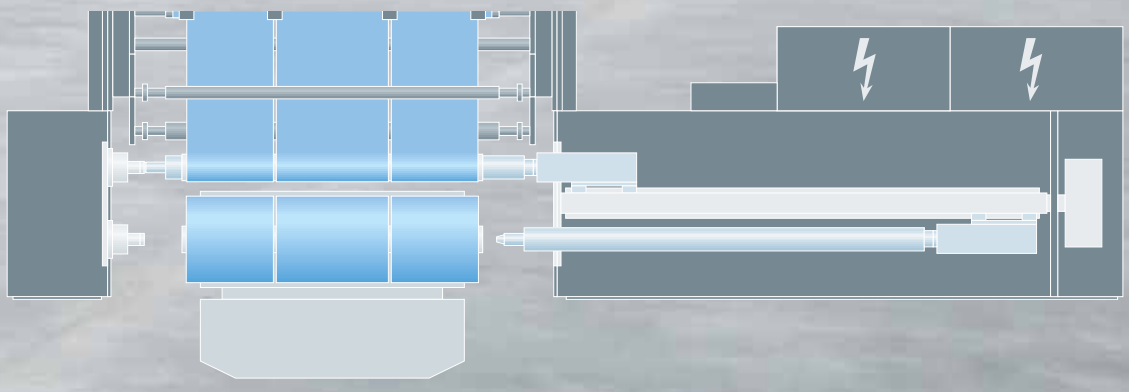
Contact roller carriage

Finished reel in removal position

ATW-E with external winding shaft extraction device


2000 kg
2000 kg

ATW-I Turret winders



ATW-I Turret winders

The ATW-I turret winder stands apart for its integrated winding shaft extraction device and has already been manufactured more than 50 times. By pulling the shaft in the removal position, extra transfer forks or external shaft extraction devices are not necessary.
This system's short cycle times also enable exceptionally economical production of short rolls.

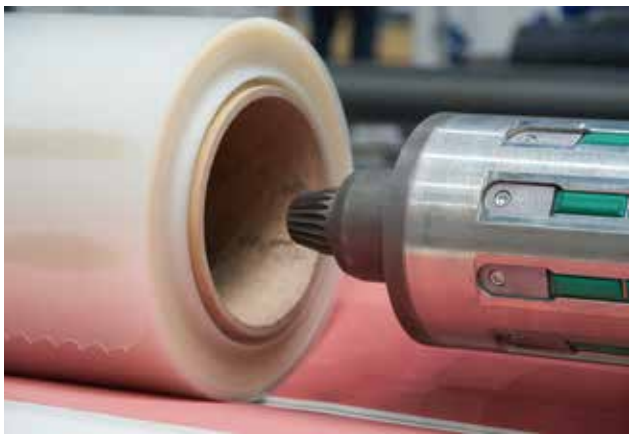
— Ideal for film and fibreglass fleeces

— Compact designs in various sizes

— Integrated winding shaft extraction device

— Both winding directions are possible

Integrated winding shaft extraction device



Slitting knife

Rider rollers

Advantages

— Labour-saving removal of the finished reels just like with a shaftless winder

— Cores can be added directly on the winder

— Economical winding of reels with small diameters thanks to short cycle times and fast reel changes

— Easy wiring because the control cabinet is directly on the machine (option)

— Contact roller designed for contact winding or gap winding

— Basic machine can be upgraded. Further optional, functional features can be added to the ATW-I turret winder (rider rollers, core preparation, slitting systems, reel removal options see page 14).

Technical data

Reel diameter:	600/800/1000 mm max.
Reel weight:	1,500/2,500/3,500 kg max.
Material width:	2,500 mm max.
Speed:	300 or 600 m/min max.

Other designs with different data are possible.

ATW-IG Turret winders

The ATW-IG turret winder was custom developed for winding large reel diameters. It combines the benefits of the integrated winding shaft extraction device with those of a powerful large-reel winder.
By pulling the shaft in the removal position, extra transfer forks or external shaft extraction devices are not necessary.

— Primarily used for nonwovens like
  polyester fibre fleece or fibreglass fleece

— Integrated winding shaft extraction device

— Winding diameters of up to 2,400 mm are possible

— Both winding directions are possible

Advantages

— Large winding diameters make winding efficient

— Stable processes thanks to automatic reel change at full production speed onto prepared or unprepared cores

— Labour-saving removal of the finished reels just like with a shaftless winder

— Winding tension and contact pressure can each be preselected with a characteristic curve Superior winding tension is possible

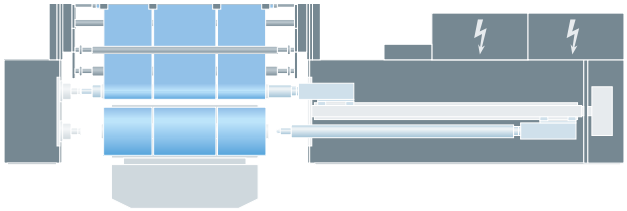
— Basic machine can be upgraded. Further optional, functional features can be added to the ATW-IG turret winder (rider rollers, core preparation, slitting systems, reel removal options, reel support roller see page 14).

Technical data

Reel diameter:	2,400 mm max.
Reel weight:	2,500 kg max.
Material width:	4,000 mm max.
Speed:	300 m/min max.

Other designs with different data are possible.

Diagram of the winding shaft extraction device



Inlet with integrated pendulum roller and slitting system

2,400 mm reel in a removal position

Automatic slitting system with shear cuts and integrated suction

ATW-S Turret winders

The ATW-S turret winder's shaftless reel support with spindle slide ensures superb flexibility in terms of the width. The spindle slide fitted onto the indexing system uses pins to engage with the core. This allows reels with different working widths to be picked up and wound easily.

— Ideal for paper processing and finishing, for films and composite materials

— Winding diameters of up to 1,500 mm and material widths of up to 3,000 mm possible

— Exceptionally flexible product widths

— Both winding directions are possible

Advantages

— Shaftless reel support from 101.6 mm (4") inner core diameter

— Efficient winding due to diameters of up to 1,500 mm and heavy reel weights of up to 5,000 kg

— Labour-saving removal of the finished reels

— Stable processes thanks to automatic reel change at full production speed onto prepared or unprepared cores

— Automatic reel change in both directions because of two reel change systems

— Huge flexibility in winding a diverse range of materials thanks to selectable characteristic curves for the winding tension and contact pressure

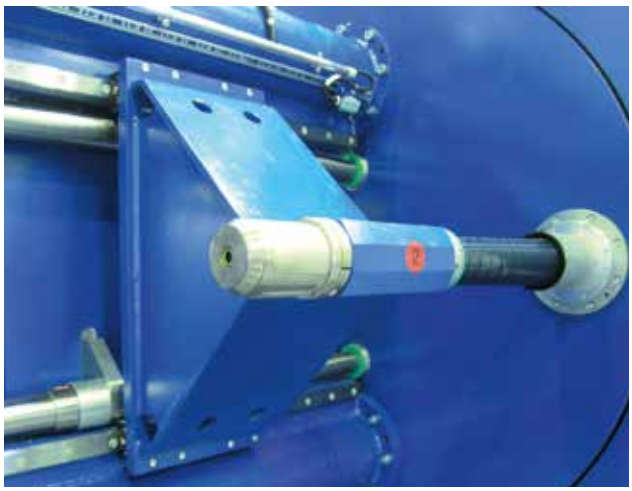
— Basic machine can be upgraded. Further optional, functional features can be added to the ATW-S turret winder (edge trimming, rider rollers, core preparation, slitting systems, reel removal options see page 12).

Technical data

Reel diameter:	1,500 mm max.
Reel weight:	5,000 kg max.
Material width:	3,000 mm max.
Speed:	600 m/min max.

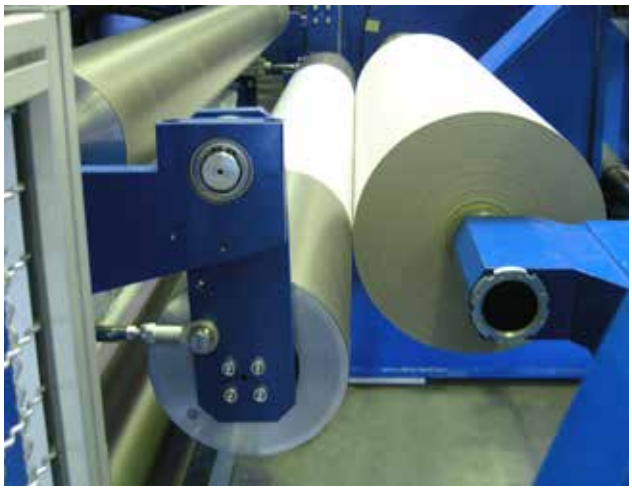
Other designs with different data are possible.

Shaftless reel support



Roll removal with lift table

Contact roller layout



Options

Our basic machines are designed to handle the production environment concerned.

What's more, our optional features mean further potential for new machines and retrofits:

— **Higher productivity**
— **Automation saves costs**
— **More flexible machinery**

Automatically adjustable upper and lower knives

EPOS automatic knife-positioning system

Shorter set-up times with the EPOS automatic knife-positioning system.

— Low preparation costs for each new job thanks to fully automatic adjustment of the upper and lower knives

— For shear and crush-cut systems

— Can be retrofitted to existing machinery

— Easy maintenance due to digital wear management

— An interface to ERP systems

— Recipes can be created and managed

Slitters for blade cuts

Slitters and components

Oscillating blade mounts

Greater productivity due to edge and multi-web slitting

— In-line slitting means no expensive slitter-rewinders

— Blade-, shear- or crush-cut possible depending on the material

— Particularly neat cutting due to increased web tension with second S-shaped roller take-off device for tensile force separation

— Very flexible due to precision-adjustable cutting position (pneumatic or mechanical)

— Clear display of the knife position on a scale

— Knives are adjusted manually or fully automatically via the EPOS automatic positioning system

Special features of blade cuts:

— The second knife allows cutting to continue during knife changes

— Little wear and tear due to motorised, oscillating blade mounts (the whole blade is used)

Special features of multi-web slitting:

— Friction winding device means identical reel diameters despite different material thicknesses

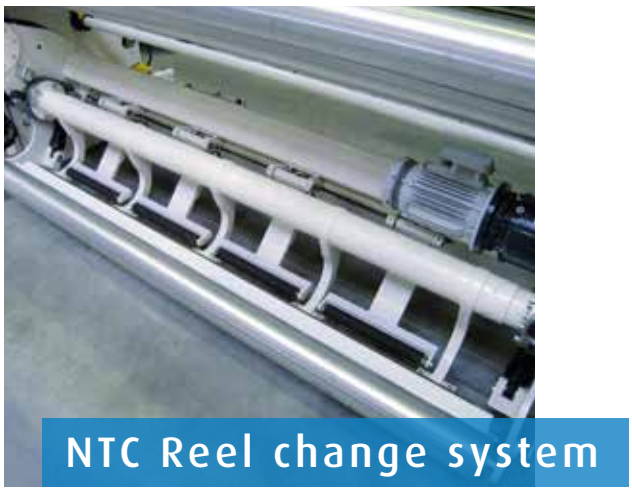
Friction winding for multi-web slitting

Automatic reel change system handling means improved set-up and cycle times

During continuous in-line production, reel changes present the biggest challenges. SOMATEC's reel change systems guarantee reliable processes.

These systems allow fully automatic reel change and with controlled web tension throughout the whole process. The two NTC and TAC systems are geared to cope with the demands of multiple types of material.

Idle NTC reel change system



NTC Automatic reel change system

— Ideal for winding hard and semi-hard film

— Fully automatic reel change

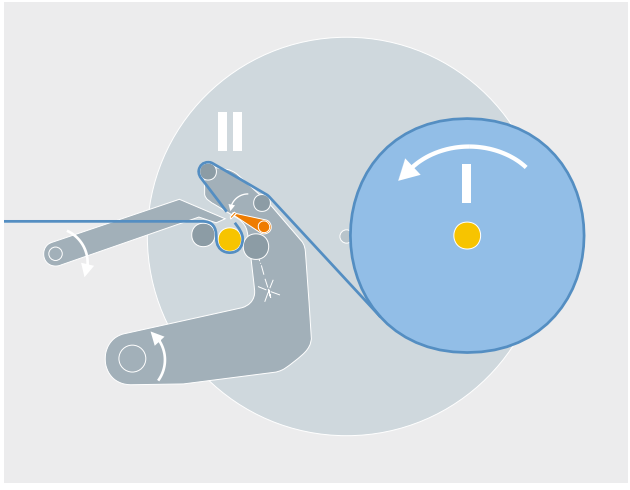
— Winding speed of up to 300 m/min

— Requires no prepared winding cores. The sheet of film is wound around the new core before it's cut.

— If two NTC systems are used, both winding directions are possible

— Neat winding from the outset without any web foldback

NTC system right after cutting.
Winder 1: Winding is finishing
Winder 2: Winding is starting



The TAC knife and brush

TAC Reel change system

TAC Automatic reel change system

— Ideal for winding soft film

— Fully automatic reel change

— Winding speed of up to 600 m/min

— Winding is easy and reliable due to strips of adhesive tape on the core (only one strip of adhesive tape is necessary for 3" cores and where the winding speed is 150 m/min max.)

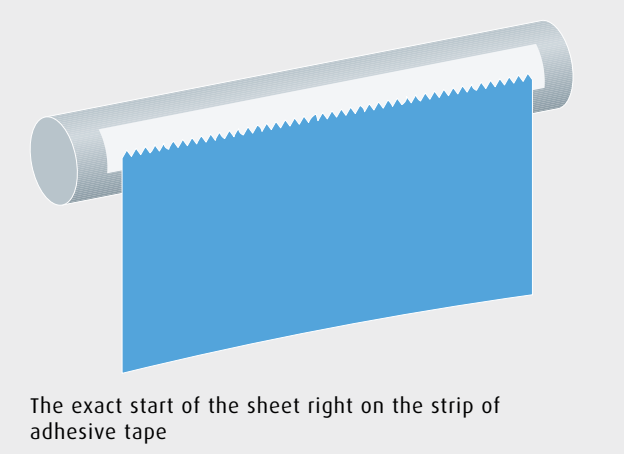
— No material stress during the reel change due to controlled tension throughout

— No contact between the core that's been prepared with adhesive and the sheet of material before cross cutting. Therefore, the material isn't damaged

— Exact winding from the outset without any web foldback

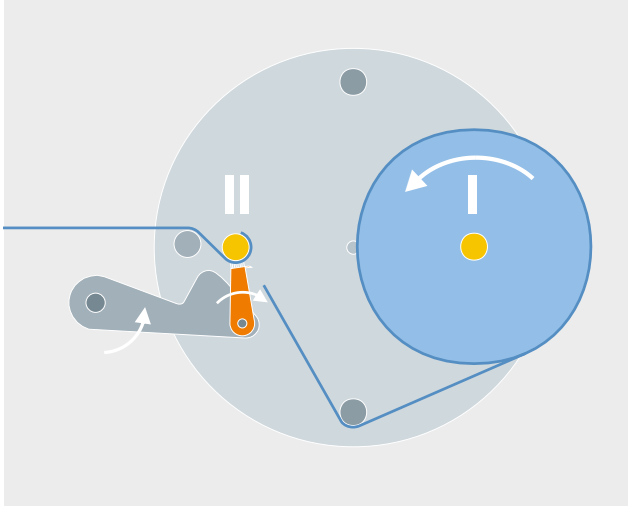
— If two TAC systems are used, both winding directions are possible

Core preparation with just one strip of adhesive tape (up to 150 m/min on 3" cores, up to 300 m/min on 6" cores)



The exact start of the sheet right on the strip of adhesive tape

TAC system right after cutting
Winder 1: Winding is finishing
Winder 2: Winding is starting



Rider roller on the active winding stations

Driven rider rollers

Prevent air bubbles reliably with driven rider rollers.

— Rubberised, driven rider rollers for better winding

— The rider roller on the active winding station rests on the roll of film to prevent air bubbles

— Exceptional winding results from the first to the last layer without any material loss

Fully automatic unloading cart

Motorised cable drum

Reel handling with unloading cart

Efficient finished reel handling with a fully automatic unloading cart.

— Automatic cart positioning via a cam switch

— A hydraulic trough-shaped plate on a lift trolley takes the reel from the winder

— Optional tilt function and table for short rolls

— The reel can be tipped out of the trough-shaped plate at a specified transfer point

— The cart can travel longer distances (up to 50 m) thanks to a motorised cable drum

Low bending set

Chuck for a steel winding shaft

Reinforced winding devices

Reinforced winding shafts for larger reel diameters during multi-web slitting (low bending set). Extra set for normal spindle mounts. Reinforced spindles and special 3"- winding shafts with hardened surfaces.

— Enables much heavier reel weights on thin 3" cores because winding shaft deflection is minimal

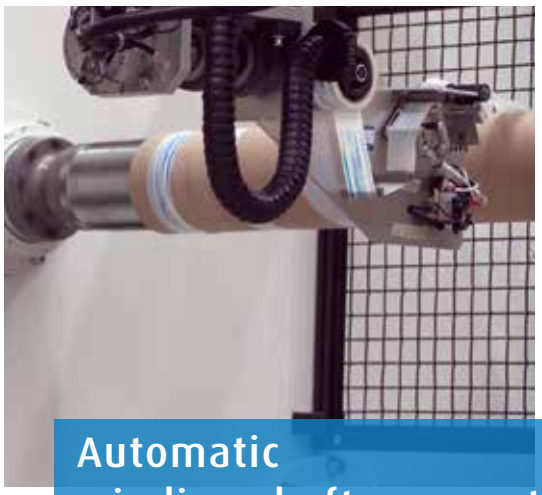
— An advantage, particularly during multi-web slitting, due to more running metres per reel

— Optimised for winding 3 sheets

Chucks for 4" steel winding shafts

— To convert the spindles from card-board-core to steel winding shaft mounts for in-house processing

The adhesive tape being applied to the winding shaft



Automatic winding shaft preparation

Shorter cycle times due to automatic winding shaft preparation.

— Time is saved during each reel change

— Very reliable processes due to consistently high-quality preparation

— Safer because personnel need to spend less time in hazardous areas

— Various belt types and adhesives possible

— Recipes can be created and managed

— Can be connected to an automatic slitting system

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