Matthews International GmbH

SAUERESSIG®
ENGINEERING

Calender-systems
for the battery production

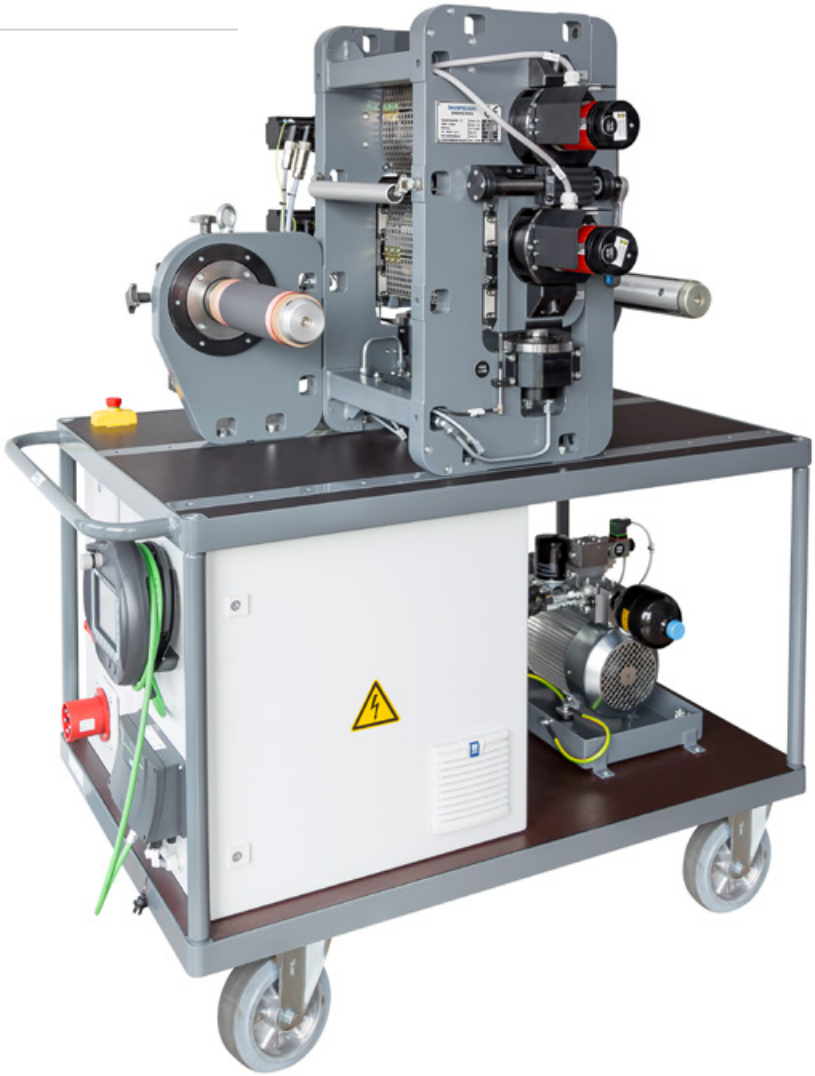
Laboratory Calender

Compressing, laminating, embossing, powder mill

Technical Data	
Web width:	up to 300 mm
Production speed:	up to 5 m/min
Roller diameter:	up to 200 mm
Gap accuracy:	±1 µm
Compression force:	up to 15 tons
Roller temperature:	+25 °C up to +150 °C

Your advantages

- Very sturdy and compact design
- Direct drive of each roller
- Inline/offline applications
- Easily operated
- Vertical/horizontal useable
- One-stop-shop



Matthews International GmbH
Gutenbergstraße 1-3 | 48691 Vreden | Germany | T: +49 2564 120
engineering@saueressig.com | saueressig.com

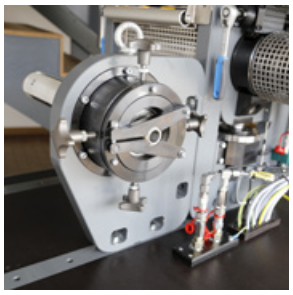
SAUERESSIG® ENGINEERING

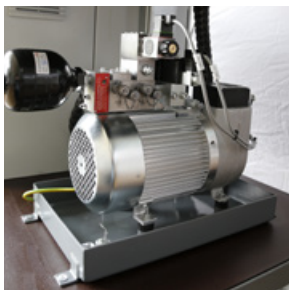
Laboratory Calender

Compressing, laminating, embossing, powder mill

Features/Options

- Manual adjustable Unwinder
- Electric driven Rewinder
- Web edge guide system
- Hydraulic gap adjustment (±1 µm)
- Mobile Touchpanel
- Gap measurement sensors
- Optional 4-Roll design-Powder mill
- Electric roll heating (+150 °C)
- Cutting units (pluggable)
- Single drive system
- Chrome or Tungsten carbide coated rolls
- Toolkit for maintenance and operating





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Battery Calender

For continuous coated electrodes

Technical Data	
Web width:	up to 1,000 mm
Production speed:	up to 80 m/min
Roller diameter:	up to 1,000 mm
Gap accuracy:	±1 µm
Compression force:	up to 300 tons
Roller temperature:	+10 °C up to +200 °C

Your advantages
Very sturdy and compact design
Direct drive of each roller
Inline/offline applications
Easy to operate
High automation level
One-stop-shop

Optional
Control engineering: electro-hydraulic
Thickness measurement (non contact)
Web cleaning device (non contact)
Preheating (IR-Field, S-Roll design)
Cutting units
Splice system
Remote maintenance
Inspection system
Marking system

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SAUERESSIG® ENGINEERING

Battery Calender

For continuous and intermittent coated electrodes

Technical Data	
Web width:	up to 1,000 mm
Production speed:	up to 80 m/min
Roller diameter:	up to 1,000 mm
Gap accuracy:	±1 µm
Compression force:	up to 200 tons
Roller temperature:	+10° C up to +200° C

Your advantages
Patented gap control system
Very sturdy and compact design
Direct drive of each roller
Inline/offline applications
Easily operated
High automation level
One-stop-shop

Optional
Control engineering: electro-hydraulic
Thickness measurement (non contact)
Web cleaning device (non contact)
Preheating (IR-Field, S-Roll design)
Cutting units
Splice system
Remote maintenance
Inspection system
Marking system

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DRY-FILM Calender

Designed for high accuracy – non stop production

Technical Data	
Web width:	up to 1,000 mm
Production speed:	up to 80 m/min
Roller diameter:	4” to 10”
Gap accuracy:	±1 µm
Compression force:	up to 150 tons
Roller temperature:	+10 °C up to +200 °C

Optional

- Control engineering: electro-hydraulic
- Thickness measurement (non contact)
- Density measurement (non contact)
- Cutting units
- Splice system
- Remote maintenance
- Inspection system
- Marking system

Your advantages

- 4-Roll-Design
- Very sturdy and compact design
- Direct drive of each roller
- Inline/offline applications
- Easily operated
- Fully automated
- Closed loop control
- One-stop-shop

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Laminator

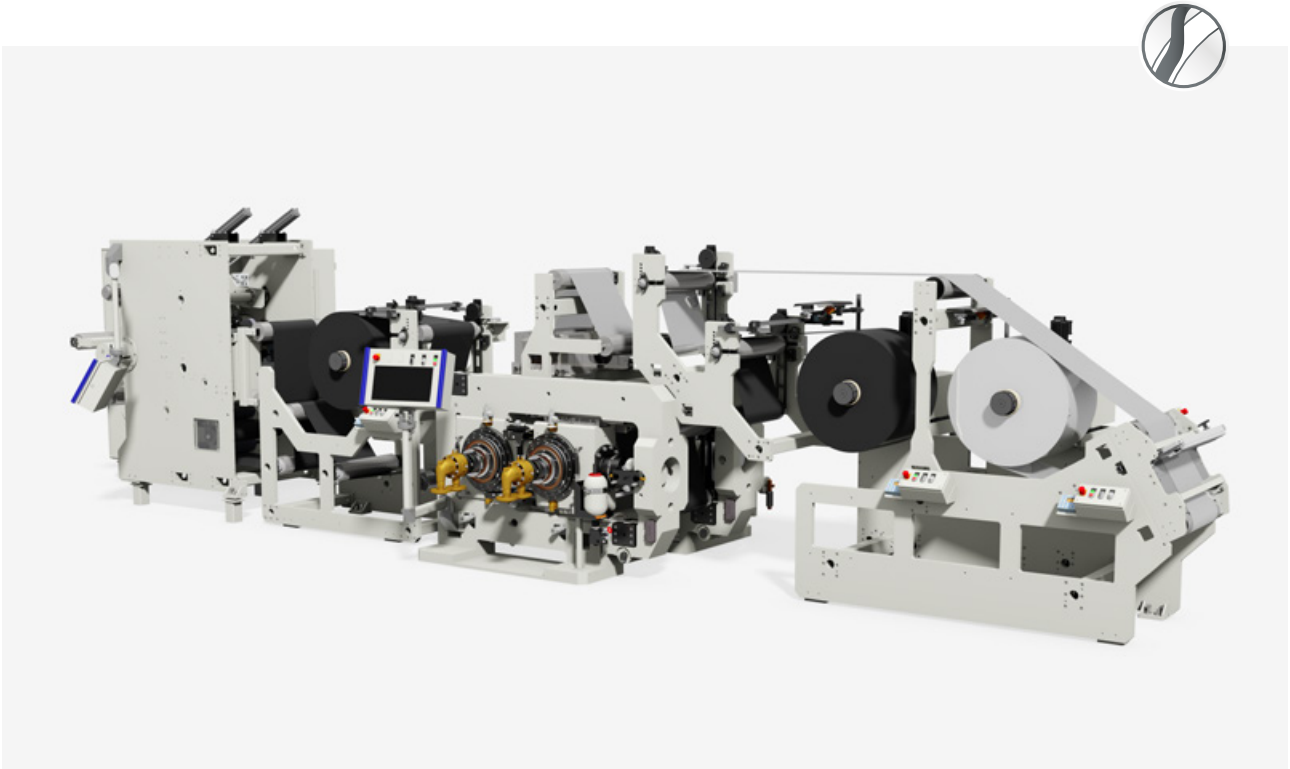
Technical Data	
Web width:	up to 1,000 mm
Production speed:	up to 80 m/min
Roller diameter:	up to 800 mm
Gap accuracy:	±1 µm
Compression force:	up to 150 tons
Roller temperature:	+10 °C up to +200 °C

Optional

- Control engineering: electro-hydraulic
- Thickness measurement (non contact)
- Web cleaning device (non contact)
- Preheating (IR-Field, S-Roll design)
- Cutting units
- Splice system
- Remote maintenance
- Inspection system
- Marking system

Your advantages

- Very sturdy and compact design
- Direct drive of each roller
- Inline/offline applications
- Easily operated
- Fully automated
- Closed loop control
- One-stop-shop



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SAUERESSIG® ENGINEERING

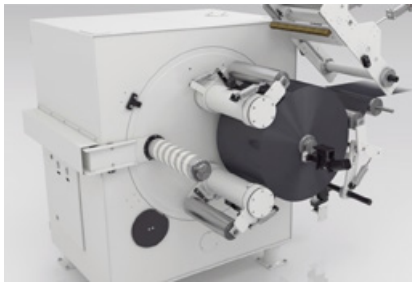
Winding Technology

Turret Winder

- Flying splice at full speed
- Shaftless or expanding shaft – 3”/6”
- Material width up to 1,500 mm
- Material weight up to 2,500 kg
- Material diameter up to 1,500 mm
- Optional fully automated reel handling

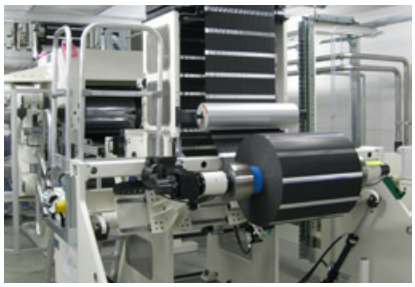
Turret Winder Cantilever

- Flying splice at full speed
- Air expanding shaft – 3”/6”
- Material width up to 1,000 mm
- Material weight up to 1,000 kg
- Material diameter up to 1,000 mm
- Optional fully automated reel handling



Shaftless Winder

- Shaftless 3”/6”
- Material width up to 1,500 mm
- Material weight up to 2,500 kg
- Material diameter up to 1,500 mm
- Optional fully automated reel handling
- Optional reel lifting device (loading/unloading)
- Optional splice table



Center Winder

- Air expanding shaft – 3”/6”
- Material width up to 2,500 mm
- Material weight up to 2,500 kg
- Material diameter up to 1,500 mm
- Optional splice table

Applicable for all Winder

- Unwinder/Rewinder
- Clockwise/anticlockwise winding direction
- Speed up to 500 m/min
- Integrated edge control system
- Integrated edge trim unit with suction nozzle
- Integrated tension control system
- Optional remote control

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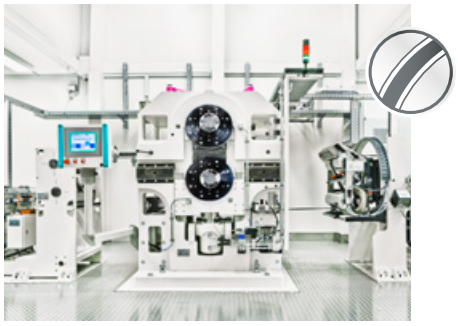
SAUERESSIG® ENGINEERING

Energy Storage

Turn-key solutions for the battery and capacitor industry

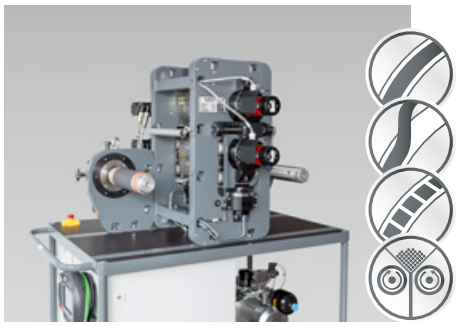
Calender Line for LI-ION-Batteries
Designed for continuous coated electrodes
Accuracy of ± 1 µm
Loads up to 300 tons
For electrode width up to 1,000 mm
Speed up to 80 m/min
Integrated thickness measurement
Suited for dry rooms



Calender Line for LI-ION-Batteries
Designed for intermittent coated electrodes
Automated, patented gap control system
Accuracy of ± 1 µm
Loads up to 200 tons
For electrode width up to 1,000 mm
Speed up to 80 m/min
Integrated thickness measurement
Suited for dry rooms

Calender Line for DRY-BLEND Films
Designed for dry-blend films
Automated gap control system
Accuracy of ± 1 µm
Loads up to 150 tons
For electrode width up to 1,000 mm
Speed up to 80 m/min
Integrated thickness measurement
Suited for dry rooms

Energy Storage in Laboratory Scale
Multifunctional laboratory calendersystem
Compressing/embossing/laminating/dry-film
Horizontal/vertical usable
Gap accuracy: ±1 µm
Gap force: 15 tons
Roller width: 300 mm
Calender speed: 5 m/min
Roll temperature: up to +150 °C (electrical system)
Multi-roll design available
Moveable with a trolley



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saueressig.com

JFM

서울시 구로구 디지털로 26길 123, 1601~4호
T: 02-598-6112
jfm@jfm.co.kr
www.jfm.com