

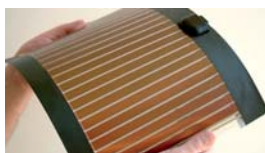


LabCo

Possible applications



Printed Electronics



Flexible Photovoltaics



Lithium batteries



Composites



Blister Packagings



Membranes

The compact machine for **LABORATORY, RESEARCH AND PRODUCTION**

LabCo

For more than 110 years we have been leaders in the construction of customized coating and laminating machines for web widths of up to 3.300 mm.

The universal and extremely versatile LabCo series complements our product portfolio. All materials can be coated in a roll to roll process up to a web width of 500 mm.

The LabCo meets upscaling benchmarks and is ideally suited to laboratory, research and development as well as pilot production operations.

Possible applications

The LabCo's modular design allows a wide variety of applications, including:

- Printed Electronics
- Electrode coating for batteries
- Separator membranes
- Photovoltaic cells
- Fuel cells
- Composites
- Technical textiles (e. g. filters)
- Pharmaceuticals and medicine products
- Flexible packaging
- Adhesive tapes and labels



Coating Processes

Different coating processes are needed for the variety of applications. The LabCo's universal coating station makes simple and quick changes in coating processes readily achievable. A selection of coating processes with the following features is available:

- Gravure rollers
- Smooth rollers
- Comma bars
- Slot dies

Coating media

The production of exact and repeatable coatings can be achieved with all systems. The results can be applied,

without restriction, to production lines. At the same time, it is immaterial whether the medium being processed is aqueous or solvent based. Amongst others, it can be used for e. g.:

- Nano and functional coatings
- Slurries
- 100 % systems for chemical, thermal and radiation cross-linking
- Lacquers and primers
- Pressure-sensitive adhesives
- Hotmelts

Coating with gravure rollers



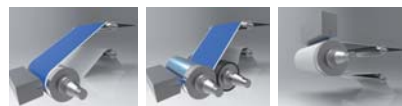
Forward/reverse mode Forward/reverse mode Flexo printing

Coating with comma bar

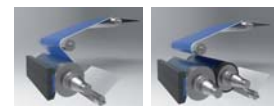


Direct Reverse indirect Reverse indirect

Coating with slot die



Slot die direct mode Slot die indirect mode Bead mode



Kiss Coat direct Kiss Coat indirect

Features of the LabCo in the basic version comprise

- Unwinders and rewinders in user-friendly cantilever design
- Controlled brakes/winder drives
- Adjustable tension control between unwinder and coating station
- Coating station with individualized roller settings
- Repeatable precision adjustments for coating rollers and slot dies
- High-performance dryer in 2 m sectional design
- All dryer nozzles with quick-release fasteners for installation and removal of different nozzle types
- Good accessibility
- Cooling of web before rewinding
- Compact, solid design with self-contained drive unit at the rear
- Individual Sinamics drives
- SPS machine control and PC supported control and visualization system
- Touch panel screen to display status and machine parameter pre-settings

The machine is delivered completely pre-assembled as well as installed and commissioned.

LabCo Options

A variety of optional add-ons can enhance the basic LabCo configuration:

- Pre-treatment stations and web cleaning systems
- Laminate unwinding and laminating station (Wet/Dry laminating)
- Coating station:
 - Pattern coating for stripe and intermittent operation
 - Inline operation of several stations
 - Double sided coatings
 - Meyer bar metering
 - Rotary screen printing
 - Impregnation
- Dryer:
 - Variable nozzle configuration (Contec, shutter, impingement nozzles)
 - Integration of IR- and UV-radiators
 - Heating systems (alternatively electric, gas, steam, thermal oil heating etc.)
- Machine control with integrated recipe management
- Complete fresh and exhaust air installation
- Integration of measuring gauges, for instance for coating thickness (dry/wet), coating weight and surface inspection
- Clean room complying with GMP and FDA requirements

Technical data

Web width	100 - 500 mm
Speed	0,1 - 100 m/min

Substrates

Papers	20 - 200 g/m ²
Aluminum, Copper	8 - 30 µm
PE, PP, PET, PA etc.	15 - 100 µm
Fleece, fabrics, non-woven	10 - 100 g/m ²
Roll diameter	up to 400 mm
Core diameter	3", alternatively 6"
Coating weights	0,5 - 2.000 g/m ²
Viscosity range	50 - 200.000 mPas
	(20 °C, 100 [1/sec])
Ø Coating rollers	200 mm, mounted on both sides
Ø Guide rollers	80 mm, cantilever mounted
Circulating air	max. 28 m/sec, frequency controlled up to 2.700 m ³ /h per section
Machine dimensions	1,5 x 2,5 m (w x h)*
SPS Siemens	S 7 - 315
Drives	Sinamics individual drives
Sound pressure	max. 80 dB(A), EN 13023
Specifications (mech. and elec.)	acc. to EC Directive and EN 60 204

* Machine length depends on the length of the dryer