



LABCO

The compact line for laboratory, development and production.

Effective product development and production tests. Designed for research and development.

The universal and flexible LABCO coating and laminating line complements the KROENERT line portfolio. The LABCO can be used for roll-to-roll processing with narrow web widths of up to 500 mm. Its variable equipment makes it ideal for laboratories, research and development. The line layout is compact and can easily adapted to the concepts of production systems based on the RECO.

Designed for product development and production tests, the LABCO's solid construction has also proved its worth as a production system for small batch sizes and special products.

From release films, adhesive tapes and labels to composite materials, printed electronics, fuel cells, organic photovoltaics and lithium-ion batteries, the areas of application are diverse.

The LABCO is available for testing at the KROENERT Technology Center.

Technical Data:

- **Working widths:** up to 500 mm
- **Production speeds:** 1 m/min to 200 m/min
- **Ø Coating rollers:** 200 mm, bearing
- mounted on both sides
- **Ø Sleeve impression roller:** 200 mm
- **Ø Roller:** up to 600 mm

Substrates:

- **Paper:** 20 - 200 g/m²
- **Aluminium, copper:** 8 - 30 µm
- **PE, PP, PET, PA:** 15 - 100 µm
- **Non-woven, woven:** 10 - 100 g/m²

Application examples:

- Printed electronics
- Electrode layers for batteries
- Separator diaphragms
- Photovoltaics
- Fuel cells
- Composite materials
- Technical textiles (e.g. filters)
- Pharmaceutical and medical products
- Flexible packaging
- Adhesive tapes and labels
- Release liner



Application processes

Precision and efficiency in the coating process.

The variety of applications and production tasks requires a wide range of application processes. LABCO's universal application unit makes it possible to change processes quickly and easily.

Application media

The right choice of the application system ensures exact and reproducible coatings. The results can be transferred to production systems of the same design. It is irrelevant whether aqueous or solvent-based media are processed.

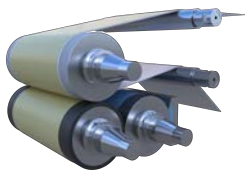
Possible application methods:

- Gravure rollers
- Smooth rolling
- Doctor blade systems
- Slit dies

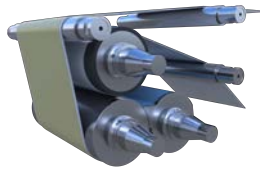
Application media:

- Nano and functional coatings
- Dispersions and emulsions
- 100 % systems for chemical, thermal and UV radiation crosslinking
- Coatings and primers
- Pressure-sensitive adhesives
- Hotmelts

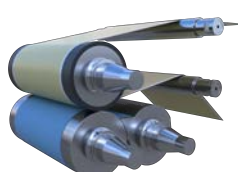
Application processes



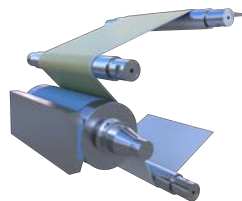
Flexo printing



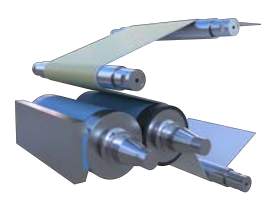
Comma direct



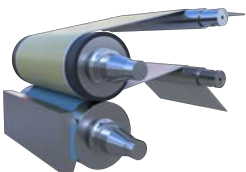
Comma indirect



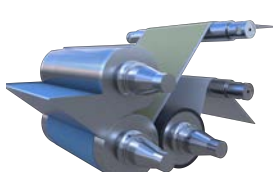
Kiss Coat direct



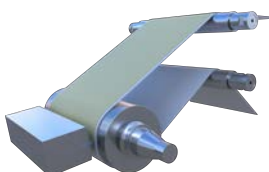
Kiss Coat indirect



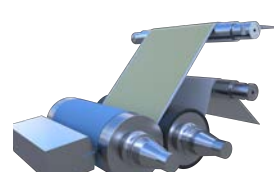
Forward coating/reverse coating



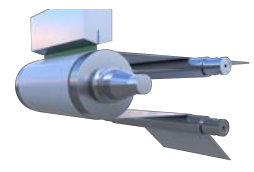
Coating table/comma



Direct nozzle



Nozzle indirect



Nozzle bead mode

Basic version of the LABCO

Innovative design and smart functionality.

The LABCO is delivered as fully pre-assembled as possible, installed and commissioned.

The basic version can be expanded with numerous options, including pre-treatment stations and web cleaning devices as well as laminating unwinding and laminating stations for wet and dry laminating.

Basic configuration:

- Unwinder and rewinder in user-friendly cantilever design
- Regulated brakes or winding drives
- Adjustable separation of traction forces between unwind and coating station
- Coating station with variable coating technology
- Precision adjustments for the coating rollers and slot dies
- High-performance dryer in 2 m sectional design
- All dryer nozzles with quick-release fasteners for the Insert of different nozzles
- Good accessibility
- Cooling the material web before rewinding
- Compact and solid design with control cabinet for the drives at the rear/external control cabinet arrangement is possible
- Individual motor drive with Sinamics drives
- PLC machine control and PC-supported control system and visualisation system
- Touch panel monitor for status display and presetting of machine parameters

Coating units

Maximum flexibility for the coating processes.

Adapted to the coating requirements, different technologies available.

The LABCO can be equipped with a wide range of functions, including coating of longitudinal strips and cross strips through intermittent operation, inline operation of several stations and double-side coating. In addition, Meyer doctor blade dosing, rotary screen printing and coating stations for impregnation can be easily integrated into the LABCO.

Dryers

Compact, flexible, powerful.

Depending on the application, Contec, switchover or impact jet nozzles can be installed in the LABCO. In addition, the integration of IR and UV radiators are possible. Gas, thermal oil, steam or electric are available as heating media. The system is controlled via a central operating unit.

For quality assurance, measuring technology can be used to determine layer thickness (wet/dry), basis weight and surface inspection. The implementation of clean room conditions in accordance with GMP and FDA standards can also be realised.

Technical Data:

- **Ø Sleeve:** 3" or 6"
- **Coating weight:** 0.5 - 2,000 g/m²
- **Viscosity range:** 50 - 200,000 mPas (20 °C)
- **Ø Guide rollers:** 80 mm, cantilever bearings
- **Circulated air:** max. 28 m/s, frequency-controlled up to 2,700 m³/h per section
- **Dimensions:** 1.5 x 2.7 m (W x H)*
- **PLC:** Siemens TIA Portal
- **Drives:** Sinamics individual drives
- **Noise emission:** max. 80 dB(A) in accordance with EN 13023
- **Version (mech. and electrics):** according to EC Machinery Directive and EN 60 204

* The machine length depends on the respective dryer length

✓ Latest technology

✓ Customised design

✓ High flexibility



Line examples



Composites

Coating of highly viscous resin films with an application weight of 8 - 500 g/m².



Pressure-sensitive adhesives

Processing of hotmelts, including radiation crosslinking, as well as waterbased pressure-sensitive and pressure-sensitive adhesives laminating adhesives.



Organic photovoltaics

Coating and drying of several functional layers in one or more operations.



Printed Electronics

Register-accurate processing of polymer films and printing of multiple radiolayers in one or several work steps.



Service

In order to optimise the efficiency of a KROENERT line in the long term, the KROENERT specialists are also available as a competent partner after commissioning.

Our service areas:

- Spare-and-wear-parts
- Retrofit
- Service operation
- Maintenance & inspection
- Remote Service
- Training
- Process optimisation
- Service contracts
- Repairs
- Documentation



Technology Center

The solution for every coating requirement is developed together with customers and suppliers in the KROENERT Technology Center – on the RECO, one of the most versatile pilot lines on the market, or on a laboratory scale on the LABCO. Individual combinations of modules make it possible to process different coating raw materials and substrates and gain important insights for the optimisation of existing products or the development of new products.

Development and testing possibilities:

- Over 60 different coating processes
- Speeds between 0.1 m/min and 1,610 m/min
- Working widths between 150 mm and 1,300 mm
- Collection of quality-relevant data inline and offline in an optimally equipped laboratory
- Team of experts with a wide range of industry experience
- Virtual test support