VON ARDENNE

EQUIPMENT

VACUUM WEB COATING SYSTEM

FOSA LABX

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FOSA LabX VACUUM WEB COATING SYSTEM

The FOSA LabX is a web coating system based on a modular, expandable and highly customizable platform for a wide range of substrates and applications. It is especially designed for all process and product qualification steps from the lab to production. Furthermore, it is suitable for the coating of flexible glass.

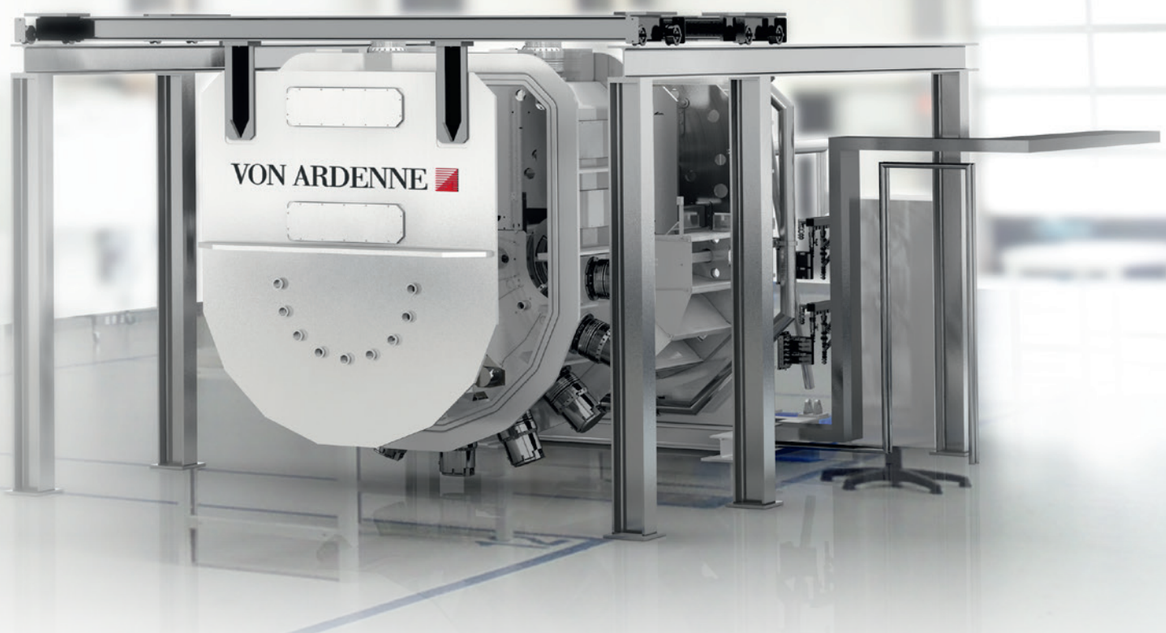
The FOSA LabX uses the same key components as our web coating systems for industrial production, however at a smaller scale. Thus, our customers can test their applications under laboratory conditions and save time when upscaling their products to mass production.

The FOSA LabX concept offers a huge variety of winding system configurations. Furthermore, the roller section of the winding system can be reconfigured to adapt to new requirements and to meet the demands of future applications.

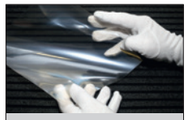
KEY FEATURES

Flexible R2R Platform for R&D and small-scale production thanks to

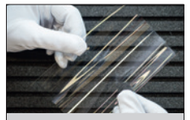
- Unique, variable process section arrangement
- Configurable winding system
- Many upgrade options
- Proven technology components for efficient transfer from lab-scale to mass production.



SUBSTRATE



POLYMER FILMS



FLEXIBLE GLASS

METAL FOILS

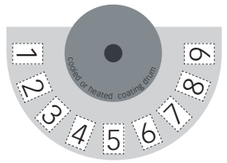
FABRICS

WEB WIDTH	THICKNESS
up to 300 mm or 600 mm	23 µm to 250 µm

PROCESS

9 PROCESS SECTIONS AVAILABLE FOR CONFIGURATION

Thanks to its unique process section arrangement, the FOSA LabX can be equipped for many applications on various substrates. You can easily reconfigure the system according to your requirements and your future business.



GAS SEPARATION

The section dedicated to actively pumped gas separation enables a reliable 1:100 separation factor between adjacent processes.

PRE-TREATMENT - GLOW DISCHARGE DEVICE, LION®

Pre-treatment components, such as a glow discharge device or a LION ® linear ion source can be integrated to improve the coating or coating parameters, e.g. adhesion.

YOUR SPECIAL COMPONENT - PECVD, THERMAL EVAPORATION , ...

The patent pending FOSA LabX flexible process section is open for the integration of specific customer coating components, e.g. PECVD or thermal evaporation.

VACUUM

- Dry vacuum system
- Various configurations for optimized use, either in R&D or production, e.g. low pump-down time vs. optimized cost

ADVANCED SPUTTER PROCESS TECHNOLOGY

DAS - Dual Anode Sputtering, Supports long-term stable DC sputtering for reduced heat load on sensitive substrates

Industry-proven reactive sputter control system using impedance control, PEM or advanced modes

RSM - ROTATABLE SINGLE MAGNETRON

Our proven rotatable magnetron technology enables highest target utilization and best process stability. The single tube cathode is also available with VON ARDENNE DAS (Dual Anode Sputtering) technology.

RDM - ROTATABLE DUAL MAGNETRON

A dual rotatable setup can be used for AC or bipolar power sputtering using two sections.

SSM - STANDARD SINGLE MAGNETRON

Reliable, standard single planar magnetrons are suited for a wide range of possible target materials for IR&D and pilot production purposes.

PUMP-DOWN TIMES

WINDING CHAMBER	PROCESS COMPARTMENT	ULTIMATE BASE PRESSURE
< 1 x 10^{-3} mbar ↓ approx. 30 min	< 3 x 10^{-5} mbar ↓ approx. 60 min	8 x 10^{-7} mbar

QUALITY CONTROL

- Optical transmission and reflection measurement (wavelength range on request), 3 measurement traces (max. 5)
- Eddy current sheet resistance, measuring range on request, 3 measurement traces (max. 5)
- RGA connector at each process compartment
- State-of-the-art process database for process data and retrospective trend analysis

FACILITY & MAINTENANCE

- Superior accessibility for maintenance
- Overhead crane included (optionally)
- Footprint (excluding periphery):

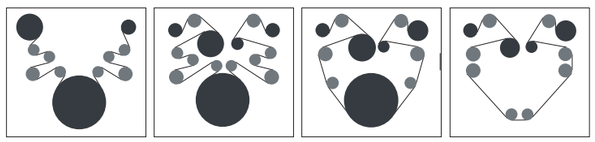
FOSA LabX 300:	Length: 7 m	Width: 4.5 m	Height: 3 m
FOSA LabX 600:	Length: 8 m	Width: 4.5 m	Height: 3 m

MODULAR WINDING SYSTEM

The FOSA LabX enables several configurations of the winding system. Thus, it can be upgraded for different substrates and applications.

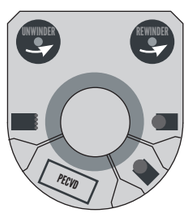
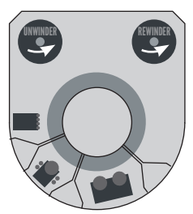
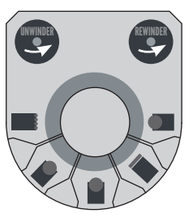
OUTER ROLL DIAMETER	WINDING & COATING DIRECTION	SPEED RANGE
400 mm	⇄	0.2 m/min to 20 m/min Accuracy: ± 0.5 %*

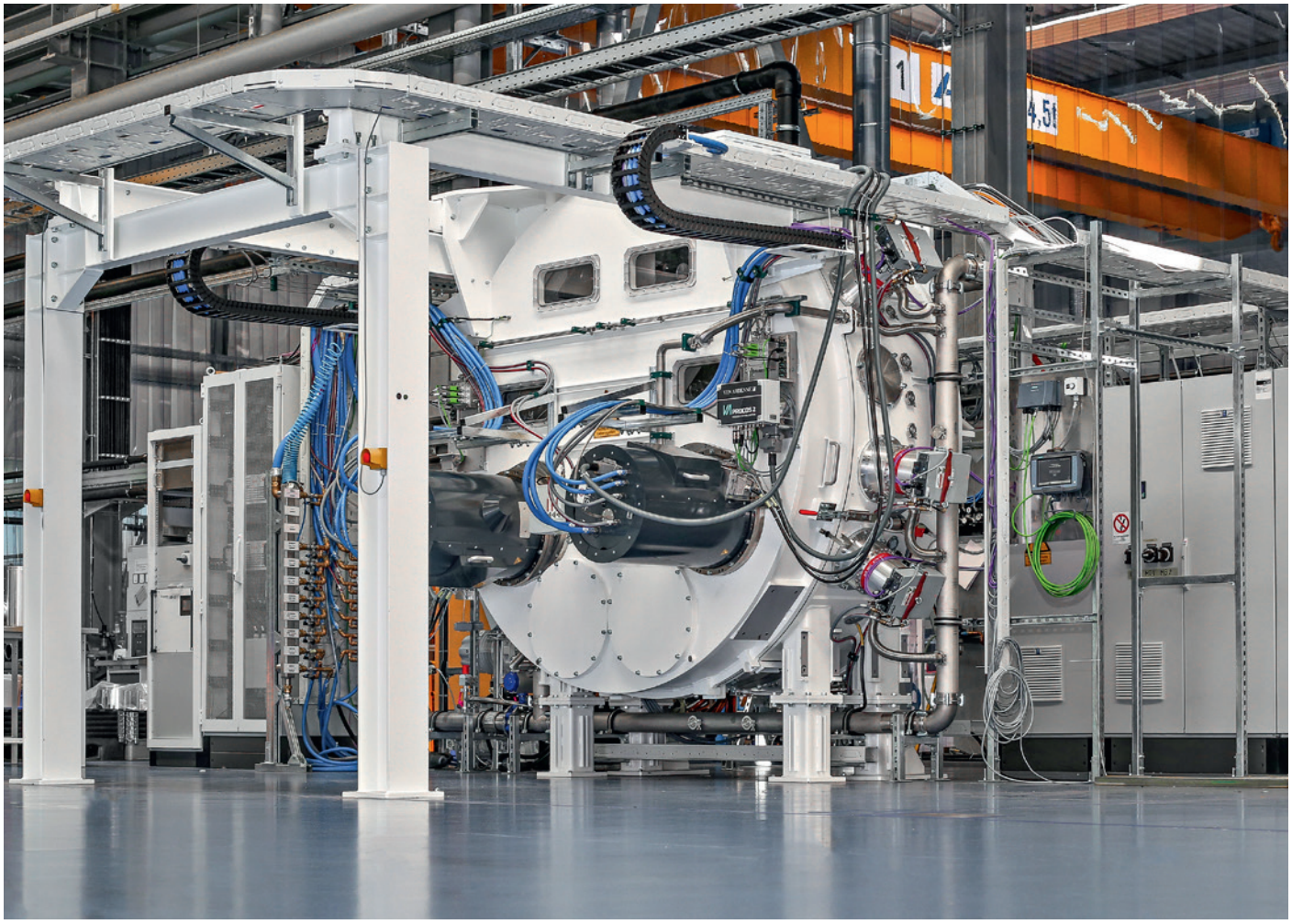
*1:100



BASIC | BASIC & INTERLEAF | NO FRONT TOUCH & INTERLEAF | FREE-SPAN DEPOSITION, NO FRONT TOUCH & INTERLEAF FOR FLEXIBLE GLASS

CONFIGURATION EXAMPLES

			
Substrate	PET, 300 mm	PET, 600 mm	PET, 600 mm
Key components	pre-treatment, PECVD linear electrode, 2 x RSM	pre-treatment, 1 x RSM with DAS, 1 x RDM	pre-treatment, 3 x RSM, 1 x SSM
Winding	basic with tension measurement	no front touch	basic



FOSA LabX 330 Glass

PRODUCT TOPICS | PRODUCT INDEX | COMPONENTS

www.vonardenne.biz

WHO WE ARE & WHAT WE DO

VON ARDENNE develops and manufactures industrial equipment for vacuum coatings on materials such as glass, wafers, metal strip and polymer films. These coatings give the surfaces new functional properties and can be between one nanometer and a few micrometers thin, depending on the application.

Our customers use these materials to make high-quality products such as architectural glass, displays for smartphones and touchscreens, solar modules and heat protection window film for automotive glass.

We supply our customers with technologically sophisticated vacuum coating systems, extensive expertise and global service. The key components are developed and manufactured by VON ARDENNE itself.

Systems and components made by VON ARDENNE make a valuable contribution to protecting the environment. They are vital for manufacturing products which help to use less energy or to generate energy from renewable resources.

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