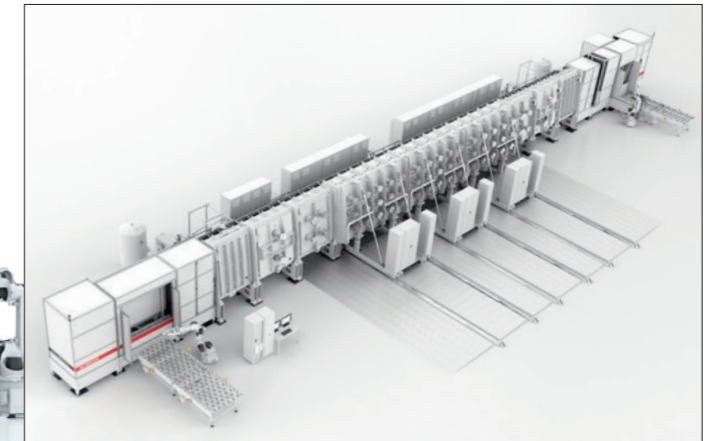
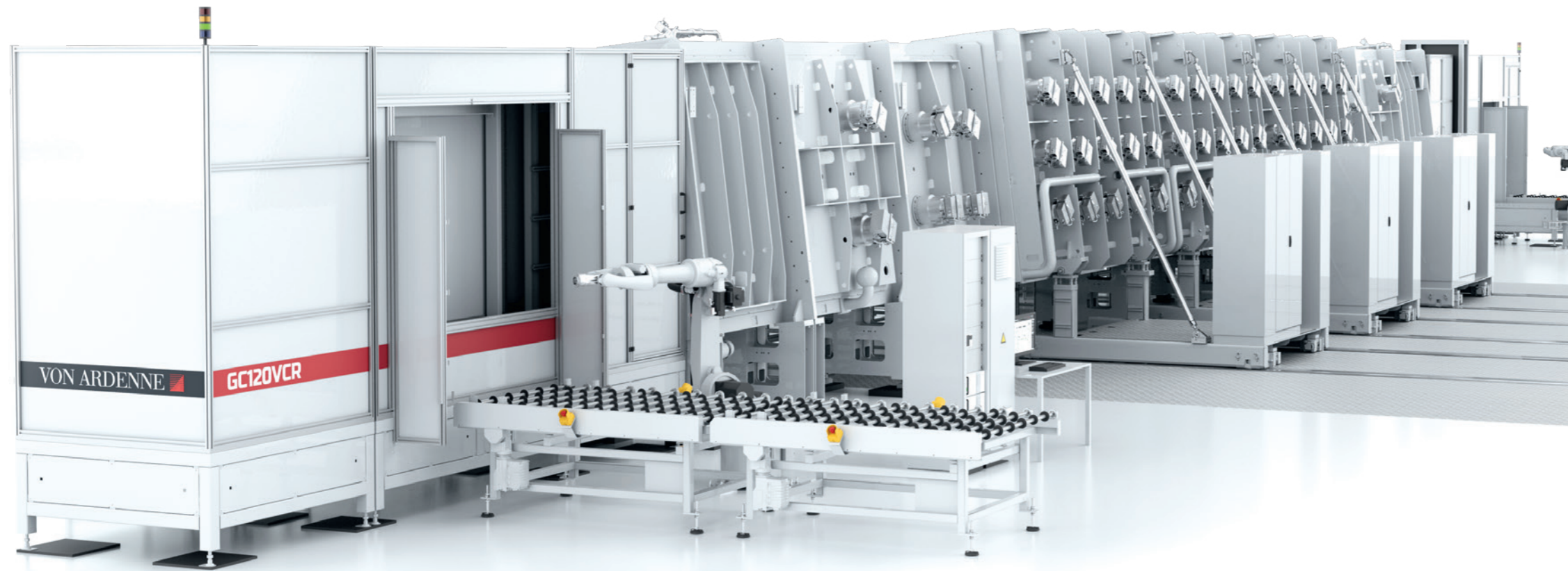


VERTICAL COATING SYSTEM

GC120VCR

GC120VCR VERTICAL COATING SYSTEM

INDUSTRY-PROVEN PRODUCTION TOOL WITH A SMALL FOOTPRINT



The **GC120VCR** is a vertical inline coating system for the deposition of metal and oxide thin-film multilayer systems on flat glass substrates or other materials.

As a leading developer and manufacturer of vacuum coating equipment for large-area applications, VON ARDENNE has incorporated its broad knowledge and expertise in PVD technologies into the **GC120VCR** platform. The reliability of this system is well proven in the industry.

APPLICATIONS

- TCO (ITO, others)
- Metal (mesh) coating
- Anti-reflective coating
- Scratch-resistant coatings
- Mirror coatings
- Easy-to-clean oleophobic coatings
- Other type of coatings and combinations

HIGHLIGHTS

- Modular process zone design for flexible usage
- VAprocos process control system for long-term stable reactive sputtering
- Thickness uniformity for typical optical layers < 2 % of average
- Gas separation between processes 1:20 or 1:100, upon request
- Several vertical orientations available (-7° to +7° inclination)

METROLOGY & QUALITY CONTROL OPTIONS

- **In-situ and ex-situ optical measurement:** offers tailored solutions for continuous optical coating control
- **Closed loop process control system VA PROCESSMASTER:** optional controls package that allows highly automated process tuning of the tool that eliminates the need of highly complex operator action and input
- **Recording of process data:** our PROCESSDB SQL data base records the process data of coating systems 24/7 allowing for detailed data analysis and correlations.
- **Anti-static particle removing system** upon request
- **Particle/defect inspection system** upon request

SMALL FOOTPRINT

The **GC120VCR** does not need much floor space and requires fewer maintenance intervals due to its vertical design.

HIGH YIELD AT LOW DEFECT RATE

It is also thanks to the vertical orientation that low film defect rates can be achieved during production campaigns. In-situ and Ex-situ optical measurement equipment can be integrated in order to measure film properties in a continuous manner.

GOOD MAINTAINABILITY

The optimized machine design enables easy access to the magnetron environment for target exchange and maintenance. Due to its vertical door opening concept, no overhead crane is required to maintain the system.

TECHNICAL DATA

Subject to change without notice due to technical improvement.

TARGET

Materials metals, ceramics
Utilization planar > 30 %, rotatable > 80 %

SUBSTRATE

Material glass
Dimensions (W x L), max. 1280 mm x 1650 mm (others on request)
Thickness 0.5 mm to 4 mm (others on request)
Pre-treatment linear ion source or plasma glow discharge

DEPOSITION SYSTEM

Deposition type DC, pulsed DC, AC or bipolar
Magnetron type planar, single or dual rotatable
Sputter arrangement vertical
Substrate temperature range RT / 200 °C / 400 °C
Substrate potential floating
Number of independent process gases up to 4 (Ar, O₂, N₂, X)

TRANSPORT

Type of transport inline, carrier-based
Orientation of substrate -7 °/ 0°/+7° vertical, LEL, SEL
Transport speed ≤ 3.5 m/min
Tact time 30 s

CLEANING OF MAGNETRON CHAMBERS

Cleaning principle mechanical exchange of shields
Cleaning cycle 7 to 35 days, depending on configuration

UTILITIES & SUPPLY

Automated substrate loading and unloading on request
Carrier storage racks on request
Phase 3 phases
Voltage 230 V, 400 V, 480 V
Frequency 50 Hz to 60 Hz
Power consumption depending on configuration
Cooling system separate cooling circuit with heat exchanger
Cooling supply primary cooling water supply by customer
Venting medium ambient air, compressed dry air or N₂
Process gases central supply by customer or local by gas cabinet

SYSTEM CONTROL & SOFTWARE

Computer hardware PLC products by Siemens or Rockwell
User interface HMI products by Siemens or Rockwell
MES link according to specifications

SYSTEM DIMENSIONS

Total system size (L x W x H) customized x 15 m x 3.7 m
Total system weight depending on configuration



GC120V



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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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