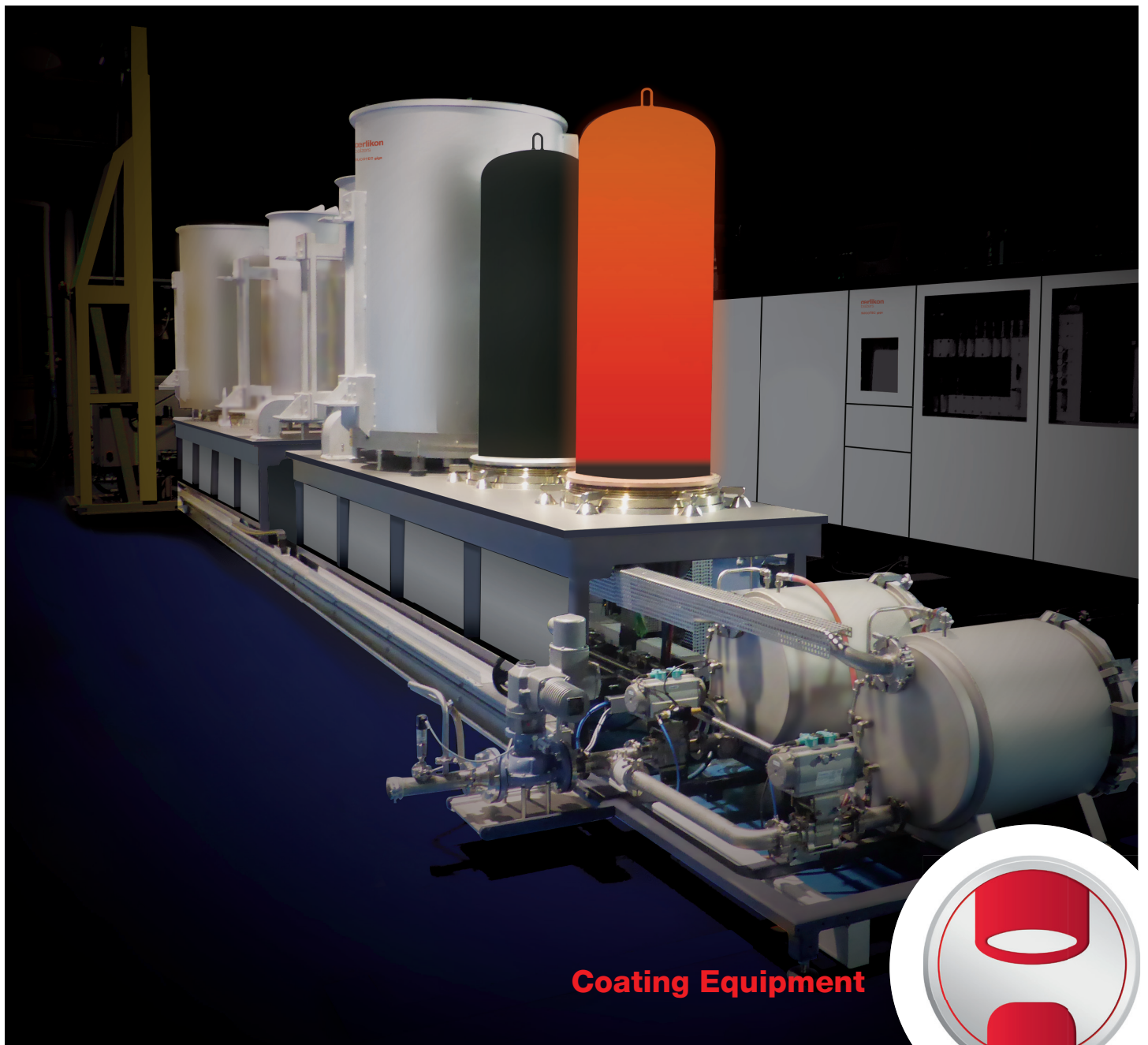


SUCOTECH

HIGH-QUALITY CVD
COATING EQUIPMENT



Coating Equipment



CVD – FOR PRODUCTION AND R&D

High-quality CVD coating equipment from Oerlikon Balzers

The SUCOTEC kila, mega and giga series are the new generation of high-quality CVD systems from Oerlikon Balzers. In use around the world, these systems have proven their outstanding performance, flexibility and reliability for nanolayers, multilayers and newly developed coatings in full production conditions.

The most modern Software CoatControl offers fully automatic process control, including intelligent subroutines to manage batch processing in any situation. It can multiply recipe blocks, run step sequences several hundred times for multilayers and back up recipes and status in a separate database. Customers can access PLC (Programmable Logic Controller) codes to

troubleshoot hardware and software, and a safety PLC (according to EN ISO 13849-1:2008) monitors all production-relevant valves and sensors to ensure the safety of the coating system.

Oerlikon Balzers supplies recipes for all SUCOTEC coating equipment that meet the demands of leading tool producers for cemented carbides, steel and other substrates. The superior quality of Oerlikon Balzers' coating systems and our outstanding commitment to our customers cover everything from adaptation to specific customer requirements in the early system development phase to our first-class after-sales service.

OERLIKON BALZERS' SUCOTEC EQUIPMENT

Welcome to the next level of CVD coating!

Accurate process parameters in SUCOTEC CVD systems enable high-performance coatings. Oerlikon Balzers has engineered coating equipment for more than 70 years and is represented in many countries worldwide, including an excellent service and support network.

The former Sucotec AG has supplied market-leading CVD coating equipment and has many years of experience in building these systems. The following features and benefits make a SUCOTEC CVD coating system the right long-term choice:



Dr. Manfred Biedermann (left), Head of Business Line Equipment, Oerlikon Balzers, and Werner Bürgin (right), CEO Sucotec AG

Sucotec is
now part of
oerlikon
balzers

Sucotec joined the Oerlikon Balzers family

The acquisition of Swiss-based Sucotec AG in early 2018 by Oerlikon Balzers, a leading global provider of high-tech surface solutions, has not only further enlarged the company's unique product and service portfolio; it also secures the future of an advanced CVD coating system technology that gives customers the perfect surface solution for specific applications. Sucotec's coating systems will in future be based on Oerlikon Balzers' renowned R&D and engineering expertise, and will together continuously accelerate the development of CVD coating systems and offer a first-class global after-sales service.



EASY
Operation

Excellent
EXPERTISE

COST-EFFICIENT
Production

Outstanding
QUALITY

GLOBAL
After Sales



With a 20% bigger chamber, SUCOTEC CVD systems can coat more tools in less time



Increased productivity



An expandable, modular system enables a high degree of customisation



Cost-effective and flexible for future demands



Easy to maintain



Low maintenance costs and more uptime



Homogeneous coating distribution over entire height



Consistently high quality of coatings – batch by batch



Redundant monitoring of each process step



Safety you can rely on

You profit from a proven benchmark product backed by Oerlikon Balzers' first-class global customer service and support.

THE OERLIKON BALZERS SUCOTEC CVD EQUIPMENT FOR THE TOOLING INDUSTRY

Sizes for all needs

SUCOTEC mega



SUCOTEC giga



Capacity: example of C12 inserts (12.7 mm inserts, 10 mm bores, 25 mm outer rings)

Standard Equipment

The coating process in all SUCOTEC CVD systems is carried out at pressures of 40mbar to 800mbar abs. and temperatures in the range of 700 °C up to 1030 °C. All specified components are industrially proofed and match with highest expectations.

All heated tubings and valves are insulated with prefabricated materials for best efficiency, avoiding of skin irritation and saving a lot of time for mounting.

Coatings

Typical coatings which can be deposited with the basic configuration: TiN, TiC, TiCN, MT-TiCN, TiCNO, a/k Al₂O₃

Gases: Ar, H₂, N₂, HCl, CH₄, H₂S, CO₂, CO > up to 25 Mass Flow Controller possible

Liquids: TiCl₄, CH₃CN > 2 Coriolis

Solids: AlCl₃ > 1 Metal Chlorinator

Graphite parts

- Standard rotating gas distribution
- Trays with 10mm holes and 25mm rings, or tailored to customer needs
- Preheating chamber

Software "CoatControl"

- State-of-the-art safety PLC and access secure
- Fully automated and easy to handle
- Trend recording of all components used (pressures, temperatures, gas flows, valve position)
- Calculation of the quantities of gases, liquids and solids used in the recipe
- Batch oriented data acquisition

Options

The extensibility of all SUCOTEC systems allows additional gases and precursors which means they are well prepared for future developments and trends.

In general, the SUCOTEC systems are not limited to the following options.

Coatings

Nano columnar TiCN, TiSiN, TiSiCN

Needed options

> Ar, C₂H₆, C₂H₄, SiCl₄

TiAlN and TiAlCN (fcc or mixed fcc/h with high Al content), TiAlCNO

> NH₃, Ar, N₂
> Special gas inlet, gas heating and gas distribution

HfN, ZrN, ZrCN, ZrBCN, ZrO₂, HfZrN, TaC, TaN

> Metal chlorinator for temperatures <450°C

Cr₂O₃, CrCx, V_{ox}

> Inner metal chlorinator for temperatures in the range of 700 - 1000 °C

TiCN, TiB₂

> BCl₃, Ar

Graphite parts

- Special rotating gas distribution
- Static gas distribution
- Different tray geometries and ring heights, tailored to customer needs
- Different gas preheating systems

Software "CoatControl"

- Integration of customer safety devices into the SUCOTEC system
- MFM (Mass Flow Meter)

Auxiliary equipment

- Low-maintenance **process neutralisation system** with 2 containers and automatic switch-over
- High-safety **service neutralisation system**
- State of the art semi-automatic **cold trap cleaning system**
- Automated **reactor brushing centre** for optimal inside cleaning to reduce peeling of particles
- Integrated traversing hoist
- Various vacuum pumping systems for extended parameter windows



Graphite parts



Cold trap system



Reactor brushing center

Software

Access secure and most modern software "CoatControl"

- The control system "CoatControl" offers remarkable capability for further development
- Fully automated
- Possibility to multiply recipe blocks
- Run step sequences of many 100 times for multi layers
- Easy handling
- Recipes and status stored in separate data base

+ Fully automated & user friendly

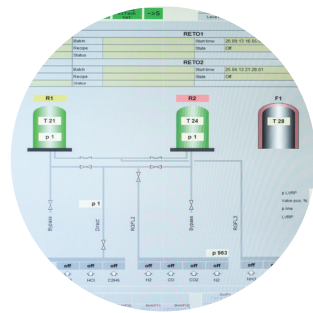
+ Plenty of possibilities for further developments



Built-in PC with screen



Second screen

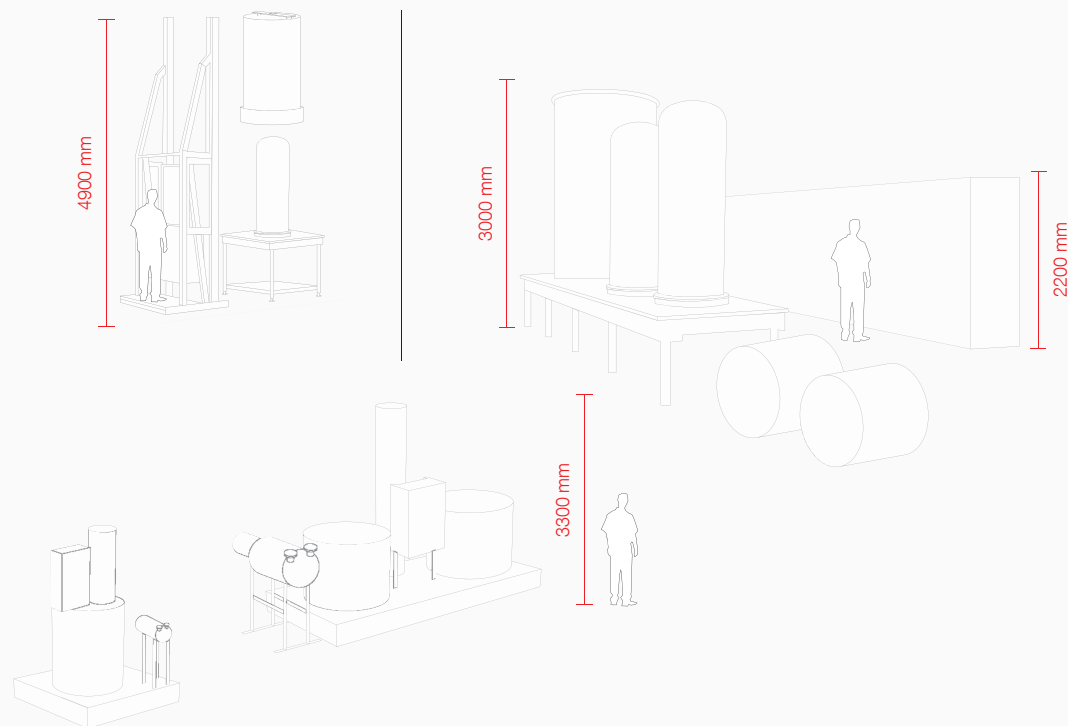


Visualisation

Dimensions

Example for installation of SUCOTEC giga

Footprint approx. 96 sqm
with process neutralisation system and service neutralisation system



PARTNERSHIP & SERVICES

After Sales

- Technical support and advice via telephone, the service hotline and e-mail
- Remote diagnostics and control for even faster troubleshooting
- Professional on-site support for installations, upgrades, repairs and maintenance tasks
- Engineer dispatch within 24 hours
- Service agreements
- New and second hand parts, as well as consumables
- Upgrades, including the latest technologies and coatings
- Standard and customer-specific graphite parts

Creating your individual portfolio

We offer joint developments to create your individual coating for your specific application. Make your products stand out from the competition.

Our After Sales bases are located in Europe, America and Asia. From these locations, we provide you with services and products. Our service and application engineers worldwide help you keep your equipment up and running. Furthermore our parts warehouses located in Germany, the USA, Japan and China are committed to maintaining the productivity of your equipment.



Consistently
Convincing
Quality

Our global After Sales team is committed to providing consistent, expert support around the world.

BENEFIT FROM OUR GLOBAL EQUIPMENT SALES AND AFTER SALES ORGANISATION



Headquarters

Oerlikon Balzers Coating AG
Balzers Technology & Service Centre
Iramali 18
9496 Balzers
Liechtenstein
T: +423 388 7500
F: +423 388 5419
E: info.balzers@oerlikon.com
www.oerlikon.com/balzers

Germany

Oerlikon Balzers Coating Germany GmbH
Am Böttcherberg 30–38
51427 Bergisch Gladbach
Germany
T: +49 2204 299-192
F: +49 2204 299-266
E: info.balzers.de@oerlikon.com

India

Oerlikon Balzers Coating India Pvt. Ltd.
EL-22, J Block, M.I.D.C., Bhosari
411026 Pune, Maharashtra
India
T: +91 20 306 16 000
F: +91 20 271 21 571
E: info.balzers.in@oerlikon.com

USA

Oerlikon Balzers Coating USA Inc.
6000 North Bailey Avenue
Suite 3
Amherst, NY 14226
USA
T: +1 716 799 06 25
F: +1 716 639 39 38
E: info.balzers.us@oerlikon.com

China

Oerlikon Balzers Coating (Suzhou) Co., Ltd
No.9 Chang Yang Street
Suzhou Industry Park
Jiangsu Province Suzhou 215024
China
T: +86 512 68835172
F: +86 512 68835327
E: info.balzers.cn@oerlikon.com

Japan

Oerlikon Nihon Balzers Coating
Co., Ltd.
7-2-2 Shinomiya, Hiratsuka-City
Kanagawa Pref. 254-0014
Japan
T: +81 463 54 83 02
F: +81 463 54 22 19
E: info.balzers.jp@oerlikon.com