

INNOVENTA

HIGH-PERFORMANCE PVD COATING SYSTEMS



Coating Equipment



More than 35 years of know-how AND ON THE SPOT IN OVER 30 COUNTRIES

OSG Corporation

«OSG has been an Oerlikon Balzers customer for 30 years. At our facility in Shinshiro, we run one of the biggest coating centres in the world, where we even develop exclusive high-end coatings for our cutting tools. However, OSG also relies on Oerlikon Balzers' worldwide coating services: for us as a global player, the consistent quality and reproducibility of its coating solutions are a decisive strategic factor.»

Mr. Mitsuyoshi Hikosaka
Senior Executive Officer OSG CORPORATION &
President OSG COATING SERVICE Co., Ltd.

Oerlikon Balzers is a globally leading provider of wear-resistant coatings for tools used in metal and plastics processing applications. Our customers have been benefiting from this in-depth know-how in surface solutions and industrial engineering for over 35 years. Currently, Oerlikon Balzers operates more than 100 coating centres in over 30 countries throughout Europe, the Americas, and Asia, and sells coating equipment around the world.

Over 1100 coating systems for high-end coating applications are in service worldwide. Equipment engineering and assembly of the Balzers systems are headquartered in Balzers in the Principality of Liechtenstein.

PVD COATING
FOR TOOLS –
WE DEFINE THE
BENCHMARK,
AGAIN AND AGAIN.

Fratelli Vergnano Srl

«Since many years, Oerlikon Balzers is a reliable partner for our family business. Our relationship developed over the years from coating services to our insourced coating centre with the latest equipment from Balzers. This enables us to work jointly on innovations. Oerlikon Balzers not only knows about our needs and challenges in the cutting market, but also the needs of our customers. This enables us to stay at the forefront of the market, to the benefit of our company and our customers.»

Mr. Guido Vergnano
R&D Manager
Vergnano Srl



Presenting INGENIA & the INNOVENTA Family

INGENIA

Compact solution for small batch sizes and R&D

INGENIA is the ideal PVD coating equipment for frequently processed small quantities of tools per batch or for R&D. With its short turnaround times, it is perfect for running more batches per day, which assures great flexibility in terms of processes, coatings and products being run during a day. When used in combination with larger machines, this highly productive system helps smoothen production flows and is always ready to bridge capacity shortages. INGENIA is the right choice for the ramping up of new products.



INNOVENTA kila

Flexible all-rounder for ambitious expectations

INNOVENTA kila is the preferred coating system size for most production requirements and perfectly masters smaller to larger quantities. INNOVENTA kila's predecessor INNOVA has an impressive history of units sold and is synonymous with performance, reliability, and versatility. But most of all, it infuses the spirit of innovation into production technology. INNOVENTA kila meets all your expectations with compelling elegance. It's the perfect coating equipment for tools, and also for R&D.



INNOVENTA mega

For mega volumes and stunning throughput

INNOVENTA mega is simply the answer for enormous quantities of tools. The system opens up new dimensions when it comes to high volumes or bulky forming tools, combining top Oerlikon Balzers coating quality and the lowest running costs. INNOVENTA mega stands for utmost flexibility in mass production. INNOVENTA mega – and capacity shortages in cutting-edge technologies are history.



INNOVENTA giga

For gigantic volumes and gigantic throughput

INNOVENTA giga is the solution for big forming tools and stands for huge capacity and the highest productivity in mass production. With a coating height of almost 1.5 m, even the biggest forming tools, extra large and long cutting tools and components can be coated. And if it comes to giant volumes of tools, the INNOVENTA giga will definitely fulfil your demands.



Totally rounded

CONSISTENTLY ALIGNED WITH CUSTOMER NEEDS

Oerlikon Balzers leverages its decades of experience to generate maximum added value for each customer by providing the optimised coating system solution. Every equipment type is aligned with different requirements but based on the same development principles. Processes are easily transferable within the INNOVENTA platform. All INNOVENTA systems are built with the same components, which eases the serviceability and requires only a minimum stock of spare parts. This is how Oerlikon Balzers dependably increases reliability.



Simple
OPERATION

High degree of
AUTOMATION

Consistently high
QUALITY

Process
REPRODUCIBILITY

Fixture & target
COMPATIBILITY

Homogenous
COATING

INGENIA

Compact solution for small batch sizes

- Compact solution for small batch sizes and R&D
- Ideal as a dedicated production system for specialized coatings or launching new products
- Evaporation of up to 2 target materials per batch
- Available for nitride and oxide based coatings
- Highest coating homogeneity
- Small footprint, all components installed on a single frame

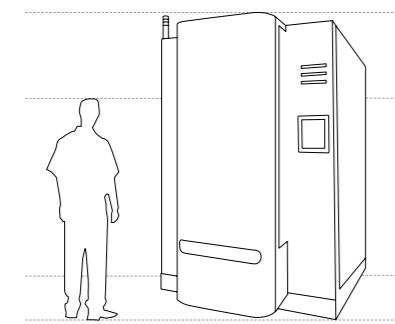


INGENIA

5–6 batches per day
Typical process times: 4–5 hours



INGENIA	
Swing diameter	360 mm
Coatable height	400 mm
Max. loading capacity	200 kg
Technology	Arc
Technology options	P3e
Magnet system	VMS
Etching	Side-Etching Technology (SET)



DIMENSIONS

Length: 3500 mm
Width: 1624 mm
Height: 2675 mm
Footprint: 5.7 sqm
Weight: 3500 kg*

* with loaded carousel

INNOVENTA kila

Flexible all-rounder for ambitious expectations

- The perfect fit in PVD coating applications
- Synonymous with flexibility & productivity
- Perfectly sized for most production requirements
- Up to 5 batches per day
- Evaporation of up to 4 target materials per batch
- Available for nitride and oxide based coatings

INNOVENTA kila as the successor of INNOVA

With 20 % more loading capacity, less maintenance effort and many new features, the INNOVENTA kila replaces the INNOVA coating system. Of course, maintenance, spare parts and service will be continued and guaranteed.

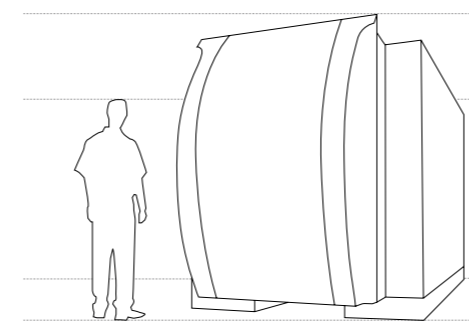


INNOVENTA kila

4–5 batches per day
Typical process times: 4–6 hours



INNOVENTA kila	
Swing diameter	703 mm
Coatable height	400 mm
Max. loading capacity	720 kg
Technology	Arc
Technology options	Sputtering, P3e
Magnet system	VMS
Etching	Side-Etching Technology (SET)



DIMENSIONS

Length: 4665 mm
Width: 2324 mm
Height: 2700 mm
Footprint: 11 sqm
Weight: 8000 kg**

** without loaded carousel

INNOVENTA mega

For mega volumes and stunning throughput

- Large and fast PVD coating equipment, uncompromising in flexibility
- Ideal for large quantities of cutting tools or huge and heavy forming tools
- Up to 3 tons loading capacity
- Evaporation of up to 4 target materials per batch
- Available for nitride based coatings
- Small footprint, all components installed on a single frame

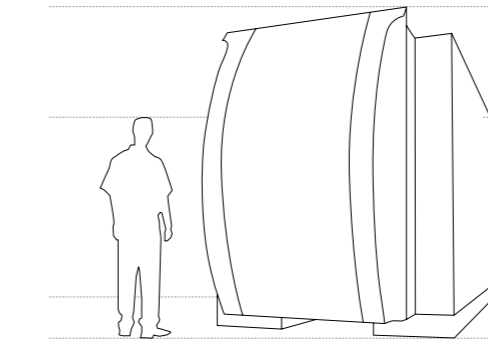


INNOVENTA mega

4–5 batches per day
Typical process times: 4–6 hours



INNOVENTA mega	
Swing diameter	703 mm
Coatable height	900 mm
Max. loading capacity	3000 kg
Technology	Arc
Technology options	Sputtering
Magnet system	VMS
Etching	Side-Etching Technology (SET)



DIMENSIONS

Length: 4700 mm
Width: 2300 mm
Height: 2900 mm
Footprint: 11 sqm
Weight: 8500 kg**

** without loaded carousel

INNOVENTA giga

For very large substrates and gigantic volumes

- Perfect for very big forming tools
- Highest productivity in mass production with giant amount of tools
- Evaporation of up to 4 target materials per batch
- Available for nitride based coatings
- Highest coating homogeneity
- All components installed on a single frame

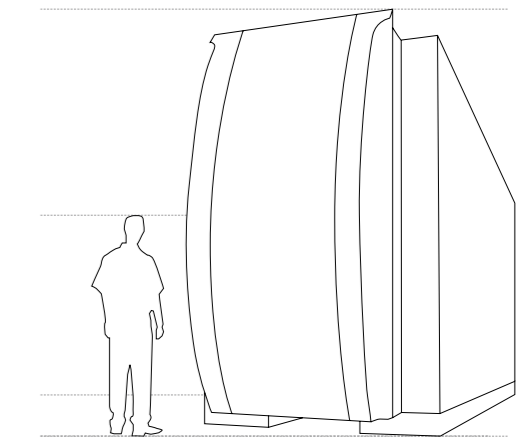


INNOVENTA giga

4–5 batches per day
Typical process times: 5–6 hours



INNOVENTA giga	
Swing diameter	703 mm
Coatable height	1480 mm
Max. loading capacity	3000 kg
Technology	Arc
Magnet system	VMS
Etching	Side-Etching Technology (SET)



DIMENSIONS

Length: 5703 mm
Width: 2348 mm
Height: 3499 mm
Footprint: 13.5 sqm
Weight: 12000 kg**

** without loaded carousel

Benchmark in Technology

Versatile Magnet Systems

Striving for excellence in magnet systems means achieving the most homogeneous coating structure, increasing target utilisation and boosting productivity. Oerlikon Balzers' proprietary Versatile Magnet System (VMS) complies with the requirements of modern arc technology. VMS is the only magnet system on the market with an infinitely variable magnetic field and compensation target depletion. It covers a wide spectrum of applications.

Heating and Etching Technology

A decisive factor for achieving excellent adhesion is outstanding heating and etching technology. Our Side Etching Technology (SET) allows the customisation of a wide range of parameters to obtain the required, tool-specific surface condition. The result: outstanding coating adhesion and a perceptibly positive impact on tool performance, service life and reproducibility.

Switchable Advanced Plasma Optimizer

The Switchable Advanced Plasma Optimizer (APO) offers unique plasma adjustment options. Systematically leveraging the Advanced Plasma Optimizer provides access to countless possibilities for customising coating designs and product differentiation in the marketplace.

Self-adjusting Trigger

No manual adjustments are necessary anymore with our new self-adjusting Trigger Finger. This reduces the effort required for maintenance and batch preparation significantly.

ALL OUR COATING SYSTEMS FEATURE:

- Extensive range of BALINIT® coatings to cover all requirements in tool coating
- Shortest batch times, maximum output, excellent flexibility
- Outstanding coating homogeneity from batch to batch
- Target compatibility
- Full compatibility with all Balzers fixtures
- Advanced recipe editor to create your own coating
- Graphical user interface with multi-language capability
- Optional hardware solutions
- Fast installation in a matter of days

Applications



Cutting tools



Metal forming tools



Aluminium die casting tools



Precision components



Plastics processing tools



Creating your own coatings

We offer joint development work to create your own coating for your specific application and differentiate your products from the competition.

Benefits of Oerlikon Balzers

- Reduce wear and friction
- Improve production reliability
- Strengthen oxidation- and scratch resistance
- Increase surface hardness
- Help reducing energy, fuel and lubrication consumption



Total Coating Solutions

Oerlikon Balzers not only masters coatings but also sees itself as a "Surface Engineer" that understands coating as a contiguous, coherent process. Apart from the coating, the system engineering and the coating technology, the pre- and post-treatment of tools also play an important role.

It takes an overall perspective to achieve an ideal result and to maximise the performance of tools with high-end coatings. Oerlikon Balzers is the solution provider that offers advanced technologies for every single process step. Rely on us for counsel, planning, and implementation support.



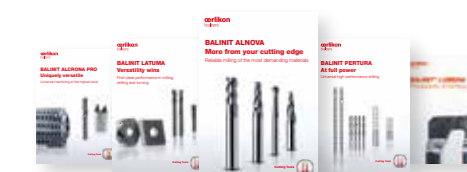
1. Cleaning

Clean surfaces are essential for coating adhesion. For this reason, Oerlikon Balzers invests a great deal of effort in surface preparation for PVD and offers multi-stage ultrasonic cleaning lines using aqueous alkaline baths with no environmentally damaging additives.



2. Pre-treatment

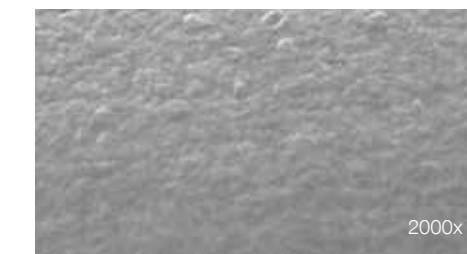
If additional surface preparation is required, Oerlikon Balzers offers the appropriate technologies. Microblasting removes porous surface layers and edge preparation delivers extra performance and superb tool stability.



3. Coating

BALINIT® Coating Portfolio

Coating with BALINIT® provides you with high-performance tools that are always ready to meet the increasing demands of modern manufacturing. A broad range of coating technologies is available for almost unlimited cutting, forming, punching, metal die casting or plastics processing applications. Working in close collaboration with our customers throughout the world, our specialists are continuously opening up new applications. Customised coatings are available on request.



4. Post-treatment

Numerous methods are applied to give tools the finishing touches. Over the years, Oerlikon Balzers has gained the extensive experience needed to suggest the best possible solution and equipment to meet your needs.



5. Quality inspection

The success of a coating also hinges directly on the condition and quality of the tool. Visual and mechanical methods are employed to assess the coating compatibility of incoming items and to determine coating quality. The deployment of our technologies in a wide range of industries allows us to provide optimal consultancy regarding appropriate quality assurance resources.

Partnership & Services

After Sales

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

Backup Services

Capacity shortages? The Oerlikon Balzers worldwide coating centres network supports you with the fulfilment of production orders using automated and standardised production procedures that guarantee the same high and reproducible quality throughout the world.

Creating your Individual Portfolio

We offer joint development work to create your own coating for your specific application and differentiate your products from the competition.

Global Equipment Sales and After Sales organization



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 increasing the availability of your equipment.

Consistently
Convincing
Quality

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





Up and running!

With our worldwide After Sales organisation, we provide you with services and products for every aspect of your coating equipment.

Global Equipment Sales and After Sales locations:

Headquarters

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

USA

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

Japan

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

Germany

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

China

Oerlikon Balzers Coating (Suzhou) Co., Ltd
No.9 Chang Yang Street
Suzhou Industry Park
Jiangsu Province Suzhou 215024
T +86 512 6883 5172
F +86 512 6883 5327
info.balzers.cn@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
info.balzers.in@oerlikon.com

Our worldwide coating centre network addresses are listed at:

www.oerlikon.com/balzers

oerlikon
balzers