oerlikon
balzers

RS 90

The high-volume coating solution

Automated processes for high-volume coatings

Systems and processes developed by Oerlikon Balzers represent the industry benchmark in coating applications for precision components.

With the RS 90, mass-production parts - as is typical in the automotive industry, can be cost-effectively coated in fully automated processes.

The coatings produced in plasma-assisted processes (PVD/PACVD) excel in terms of quality and performance.

High productivity

The concept of the system, combined with optimised coating technology and system performance, fulfils all requirements of cost-efficient production and low cost of ownership:

- high throughput
- short coating cycles
- minimal consumption of resources
- seamless on-site upgrades to new system technologies and coating processes

RS 90 - automated and integrated

The fully automated processes of the RS 90 minimise operator interventions and ensure consistently high quality and productivity:

- high process reliability (unattended operation)
- high system availability
- automatic loading and unloading of fixtures (optional)
- peripheral equipment for pre- and post-processing and quality assurance (partially automated)
- comprehensive documentation of coating processes and full accessibility of process data
- traceable order processing (compatible with bar codes for production logistics)

User-friendly concept

The design and configuration of the system and its control elements ensure high productivity and troublefree operation right from the first batch:

- user-friendly overall system concept
- short batch-to-batch times
- intuitive and easy-to-operate controls
- fully automated coating processes
- high flexibility due to fast target and process switching
- modular source design depending on customer requests

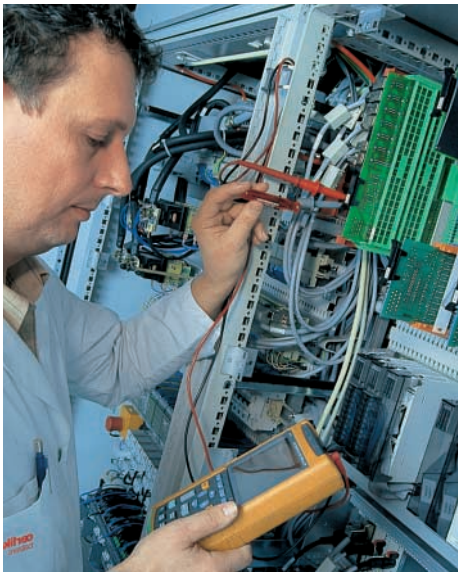
The RS 90, explicitly designed for high-volume coating, sets new standards in productivity and cost-effectiveness.

Reliable partnership from the very beginning

Simple maintenance

Within a defined scope, servicing procedures can be carried out via remote diagnostics and remote control. Moreover, the design of the RS 90 makes it possible to effortlessly perform on-site service and maintenance interventions:

- the system can be opened from both sides
- all system components are easily accessible
- all key instruments are clustered at a service point on the rear of the system
- the folding mechanism of the system's rear panel enables easy access even under restricted space conditions



Quality assured

The optimised match of system design and coating process results in highly adherent coatings that can be reproduced to defined quality specifications at any time:

- uniform distribution of coating thickness across the entire coating height
- triple rotation of substrates results in homogeneous coating structures
- the low-voltage arc enables fast, uniform heating and etching, the prerequisites for superb coating adhesion

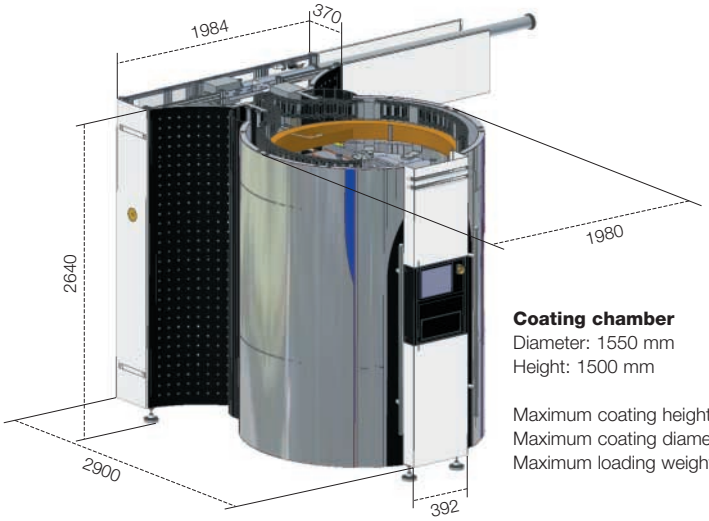
The RS 90 is equipped with 8 targets that can be individually covered. This provides high flexibility in coating composition. It also allows users to integrate new coatings and to modify or develop their own coatings.

Reliable customer support

At Oerlikon Balzers, customer support has just one aim - to keep your systems up and running:

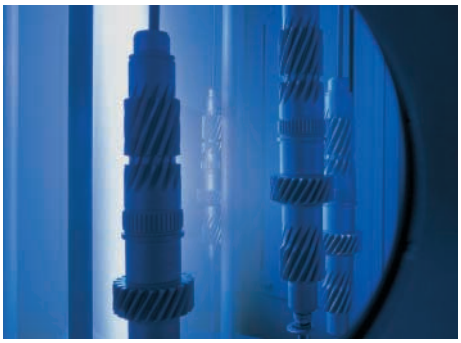
- Practical training of your operating personnel with ongoing follow-ups
- Remote diagnostics and on-line support
- Service technicians available within 24 hours
- Prompt availability of spare parts from service centres in Europe, Asia, and America
- Service and maintenance modules tailored to your company's needs

Coating with guaranteed success



Coating chamber
Diameter: 1550 mm
Height: 1500 mm

Maximum coating height: 900 mm
Maximum coating diameter: 1290 mm
Maximum loading weight: 1500 kg



Triple rotation of substrates results in homogeneous coating structures and excellent coating adhesion.

Coatings by Oerlikon Balzers: truly fulfilling mass-production requirements

High-performance coatings by Balzers reduce friction losses to a minimum and prevent premature failure due to wear or scuffing. They open the path to new solutions in the design of precision components:

- higher performance
- smaller dimensions and lower weight
- longer service life
- greater reliability
- the high-precision coatings are applied as a last working step, the coated components are ready for use without the need for any additional finishing work

Additionally, relying on Oerlikon Balzers gives you a unique advantage: The availability of international coating services can help you clear production bottlenecks without any compromise in coating quality.

Benefit from the know-how of the market leader and you will be always that crucial step ahead.

Customised coatings developed by Oerlikon Balzers

	BALINIT® C	BALINIT® C STAR	BALINIT® DLC	BALINIT® DLC STAR	BALINIT® CNI
Coating material	a-C:H:W (WC/C)	CrN + a-C:H:W	a-C:H	CrN + a-C:H	CrN
Typical microhardness (HV 0.05)*	1,000 / 1,500	1,000 / 1,500	> 2,000	> 2,000	1,750
Coefficient of friction against steel (dry)*	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.5
Typical coating thicknesses (µm)	1 - 4	3 - 5	0.5 - 3	2 - 4	1 - 4
Maximum service temperature (°C)*	300	300	350	350	700
Coating colour	anthracite	anthracite	black	black	silver-grey

* depending on application and test conditions

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