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.

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)

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

User-friendly concept
The design and configuration of the system and its control elements ensure high productivity and trouble-free 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

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

<table>
<thead>
<tr>
<th>Coating material</th>
<th>BALINIT® C</th>
<th>BALINIT® C STAR</th>
<th>BALINIT® DLC</th>
<th>BALINIT® DLC STAR</th>
<th>BALINIT® CNI</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-C:H:W (WC/C) CrN + a-C:H:W</td>
<td>1,000 / 1,500</td>
<td>1,000 / 1,500</td>
<td>&gt; 2,000</td>
<td>&gt; 2,000</td>
<td>1,750</td>
</tr>
<tr>
<td>Typical microhardness (HV 0.05)*</td>
<td>0.1 - 0.2</td>
<td>0.1 - 0.2</td>
<td>0.1 - 0.2</td>
<td>0.1 - 0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Typical coating thicknesses (µm)</td>
<td>1 - 4</td>
<td>3 - 6</td>
<td>0.5 - 3</td>
<td>2 - 4</td>
<td>1 - 4</td>
</tr>
<tr>
<td>Maximum service temperature (°C)*</td>
<td>300</td>
<td>300</td>
<td>350</td>
<td>350</td>
<td>700</td>
</tr>
<tr>
<td>Coating colour</td>
<td>anthracite</td>
<td>anthracite</td>
<td>black</td>
<td>black</td>
<td>silver-grey</td>
</tr>
</tbody>
</table>

* depending on application and test conditions

Locations of Oerlikon Balzers

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