

SURFACE COATING MACHINES



Comprehensive Service around the Application

No matter if you need to coat plastics, metal or glass, the best solution for you, must consider the complete process chain. Each individual process from pre-treatment, to coating and

drying must be incorporated properly. In the Sprimag Applications Center we test various methods for each process step to find the best solution.

DEVELOPMENT / CUSTOMER TRIALS
IN OUR APPLICATIONS CENTER

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DETERMINING THE APPLICATION
TECHNOLOGY



03



CONSULTING / TASK

01



SERVICE AND
SPARE PARTS SUPPLY

03



INSTALLATION AND
COMMISSIONING

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TRAINING



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05



DEVELOPING MACHINE DESIGN

- Automatic parts handling
- Pre-treatment
- Coating
- Drying
- Disposal



Sprimag **Applications Center:** Optimal Consultation, Testing and Development

Sprimag is one of the few suppliers able to not only design and manufacture coating machines but also develop the appropriate application technology. Beginning with spray guns, diaphragm pumps, fluid pressure regulators through complete paint supply systems including mixing unit, we provide everything from a single source. In the applications center new technologies are developed and existing technologies

optimized. When required we perform practical, production orientated test runs with metal, glass or plastic parts. These testing projects can include parts coated with solvent based, UV cure or water based paints. The extensive testing possible in the Sprimag Applications Center allows us to provide a production simulated solution which is perfectly aligned with your process.



Sprimag Application Technology

- Spray guns (minimized over-spray, for particularly accurate coating)
- Paint supplies (2K-/3K-mixing units)
- Fluid pressure regulator, diaphragm pumps, paint change units, etc.
- More details are available in our brochure "Application Technology"!

Cutting Edge Equipment with a Robot Coating Device

Sprimag supplies a wide range of state of the art coating machines which fulfill your every requirement. The core of our applications center is a large scale modular coating unit, and the ability to combine various pre-treatment and drying methods to simulate most any production process.



Test + Development

Coating Trials

Trial coating tests are conducted to demonstrate the ability meet any special requirements of our customers. Through this process our customers see firsthand the results they should expect from their system. These trials take place under industry simulated conditions in the Sprimag Applications Center.

Development of Application Systems

From complete paint supply with Sprimag own pump and pressure regulators, to various spray guns, we constantly test and develop our application technology.

Paint Trials

Sprimag is continuously working with paint suppliers to improve coating processes. Sprimag is your first contact for application expertise.



Coating Agents

- » Solvent based paint
- » Water based paint
- » UV-paint
- » Enamel
- » Rubber-to-Metal-Bonding
- » Anti friction coating
- » Stop-off-paint
- » Powder paint





Optimal Results Start with Ideal Pre-treatment

For optimal coating results parts being coated must be free of contamination and have their surface pre-treated. Sprimag offers a full range of cleaning and surface treatment options to ensure complete

adhesion and corrosion protection. Pre-treatment is provided from Sprimag in as environmentally friendly methods as possible using water based systems, free of solvent emissions.





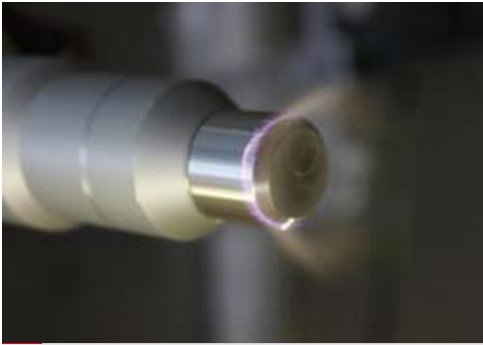
Ionization

- Removing dust particles by neutralizing the surface
- One or more ionization bars
- Static or moving systems
- Optimized supply of fresh air and exhaust air



Flaming

- Improved adhesion by activation of the surface by gas flame
- Burner stationary or movable
- Automatic ignition and monitoring of flame
- Gas flow meter control available optionally



Plasma

- Selective surface activation for better paint adhesion
- High process speed
- Inexpensive, environmentally friendly pretreatment
- Robotic controlled integration in the production line
- Can also be used for temperature-sensitive parts

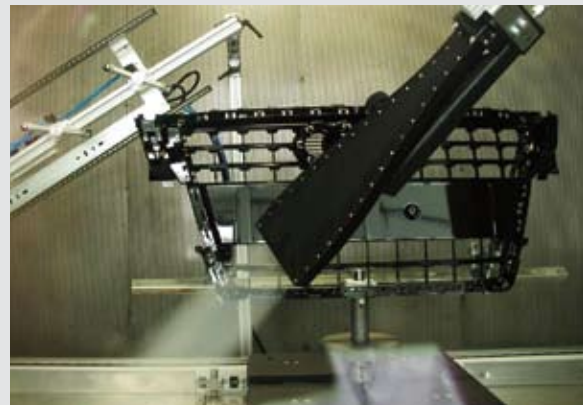
Power Wash

- Cleaning of the surface by spray nozzles
- Water based cleaning systems
- Chemical and physical cleaning effect
- Drying of parts necessary



CO₂-Snow Blasting

- Cleaning of surfaces by dry ice
- Improvement of paint adhesion
- Homogeneous cleaning result
- Suitable for sensitive and fine structured surface
- Solvent and residue free
- Requires minimal space
- Drying of the parts not required





Precise Coating of Rotating Symmetrical Parts

The Sprimag spindle based machine designs are ideal for coating rotating symmetrical parts, like brake discs, wheels, husks or bottles. Other spindle system applications are rubber-to-metal-bonding or UV cure paints. A variety of different parts can be excellently

coated with Sprimag spindle based machines. A few examples are cell phone housings, door knobs, emblems, side skirts or screws. Spindle based systems are modular machine designs with the flexibility to adjust the process to fit the requirements.



Sprimag Chain-type Coating Machine

- Ideal for large part quantities or long process times
- Flexible, compact layout and design
- Chain-on-edge and spindle version for light parts; transport chain and trolleys for heavy parts
- Various spindle pitches available, depending on the size of the parts
- Servo technology for fast, reliable and exact positioning
- Dry or wet over spray extraction
- Continuous or indexing operation
- Operator selectable single, double or multi index operation modes possible



Sprimag Round Table Machine

- Ideal for small quantities of parts or short process times
- Solid, rugged machine with small footprint
- Variable number of 'active' spindles – selectable within the control system
- Servo technology for fast, reliable and exact positioning
- Operator selectable single, double or multi index operation modes possible
- Dry or wet exhaust
- Designed to handle heavy parts





Precise Coating for **Parts** with **Flat** Geometry

For coating flat or low profile parts with Sprimag you are at the right place. The Sprimag Flat Bed Coating Machine is outstanding for large quantities of automotive interior parts, covers, control buttons, keyboards (laser paint, day and night design), cell phone housings, door knobs or larger parts like solar panels.

A Flat Bed Coating Machine is an excellent choice especially for plastic parts requiring very high quality results along with high throughput. For small quantities and precise coating the Sprimag Three-axis Coating Machine offers a flexible and compact system to apply multiple paint layers with close tolerances.





Sprimag Flat Bed Coating Machine

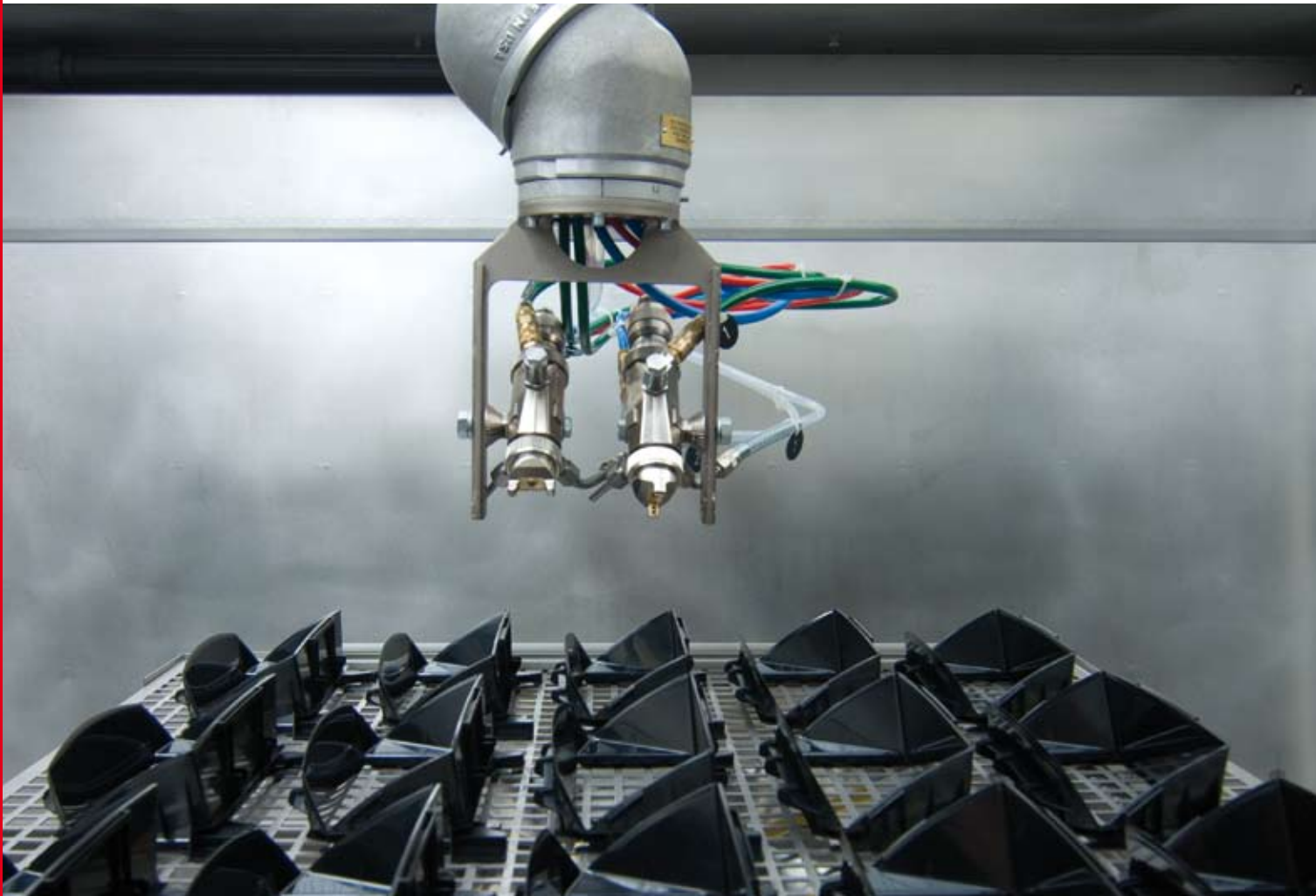
- High productivity, especially on large area applications
- Depending on the application various conveying technologies may be used
- High temperature stability provided by horizontal airflow curing ovens
- Step-less variation of conveying and axis speeds
- Over-spray extraction, wet or dry
- Easy to operate, equipped with touch-screen and graphical operator interface
- Spray guns can be easily exchanged, quick release system available
- Part loading and unloading at the same position



Sprimag Three-Axis Coating Machine

- High quality coating of flat parts
- Modular system, single unit application or integrated machine
- Pallet size normally 800 x 800 mm
- Coatings may be water or solvent-based
- Over spray extraction, wet or dry available
- Flexible operation by a computer controlled integrated control system
- Easy to use, equipped with touch-screen and graphical operator interface





Precise Coating of Rugged Parts

Sprimag Robot Coating Machines are ideal for medium quantity part runs, which require high quality coating. Products typically processed include 3-D plastic parts or other parts with complex geometries such as automotive accessories, automotive interior parts, cell phone housings or front panels for electronic

equipment. Easy set-up and simple programming provide virtually unlimited flexibility. No direct operator to robot programming is required when using any of the included part recipes. Use of a servo driven shuttle axis equipped with a double pallet carrier results in fast pallet changeover and efficient cycle times.





Sprimag Robot Coating Cell

- High quality coating of complex parts or 3D shapes
- Standalone unit or integrated system
- Pallet size normally 800 x 800 mm
- Coating materials may be water or solvent based
- Overspray extraction, wet or dry
- Flexible production by computer integrated control
- Easy to use with touch-screen and graphical user interface





Options for Overspray Extraction and Minimizing Disposal

Reducing waste begins with efficient coating techniques. Sprimag designs highly effective application processes into every machine. Efficiency is further increased by incorporating Sprimag low

pressure (HVLP) spray guns. For a possible clean disposal of waste overspray Sprimag offers various solutions. For this purpose please come in contact with our specialists.



Dry Spray Station with Baffle Plate Filter

- Self cleaning labyrinth filters
- Easy removal of dry overspray from the outside
- Low waste rates
- No shutdown times by exchanging the filter elements
- Option: Downstream fine particles filter system
- Significant reduction of changing cycles of the filter elements

Dry Spray Station with Punch Hole Filter

- High absorption of overspray
- Easily replaced



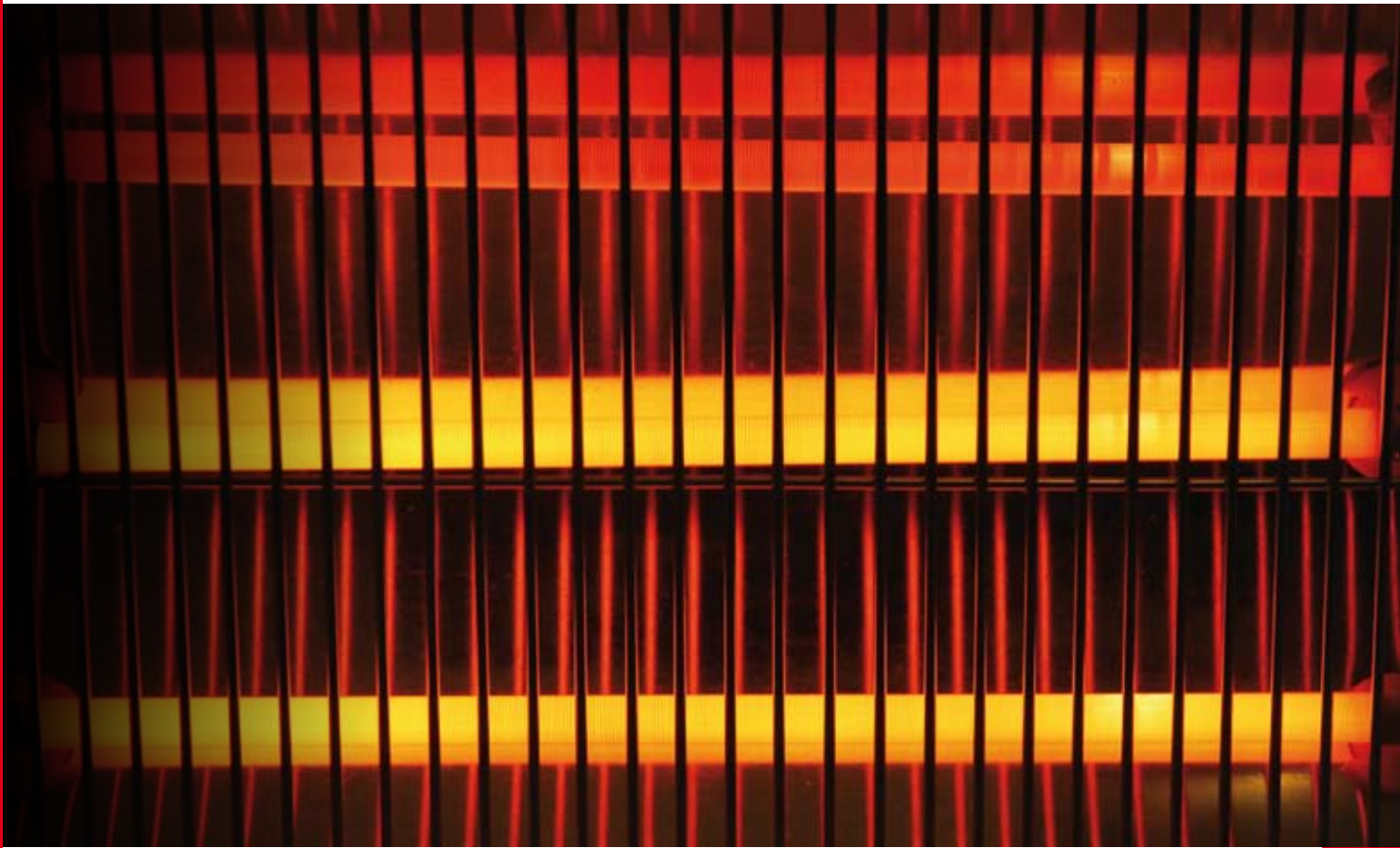
Dry Spray Station with Filter Mats

- Easily replaceable filter inserts
- Solid construction



Wet Spray Station (with integrated / external sludge remover)

- For units with high paint usage
- For high quality operations and decorative paint coating
- Optimal linkage of the paint dust from the exhaust air
- Sludge remover inside drainage basket
- Stainless steel construction



Efficient **Drying** and **Cooling** with **Gentle** Treatment

The method chosen to dry parts can considerably influence energy requirements and solvent emissions. Project requirements always include environmentally

friendly and cost efficient systems while at the same time reducing process time. Sprimag continuously develops alternative yet economical solution.



Drying by Circulated Air

- Very consistent curing temperature due to innovative air guidance methods
- Low energy consumption through optimum insulation
- Temperature ranges from ambient up to 250 °C
- Special version up to 350 °C
- Media: Gas, warm water, electricity



Drying by Induction

- Quick, clean and economical
- Very exact control of time and temperature
- Linear or profile inductors available to match part shape
- Very high temperature achieved in a short time
- Requires minimal space



Drying with UV

- For paint systems to be cured by Ultra Violet radiation
- Full curing in a matter of seconds
- Number of lamps depending on output, paint, geometry
- Spectra of emission adjusted to type of paint
- Safety stand by circuit, lockable systems

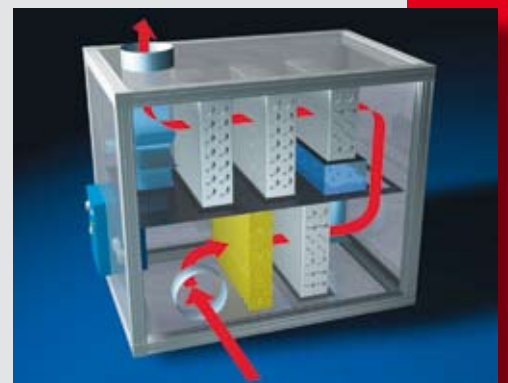


Drying with Infrared

- Brings heat directly where required
- Ambient air is not heated which saves energy
- Gas or electrically heated
- For preheating, forced evaporation, drying
- NIR® (Near-InfraRed)

Refrigerated Drying

- Careful, quick process for water based paints
- Refrigerated drying with dry, cold air
- Dust free conditions due to closed air circuit
- Reduced energy needs due to low temperatures
- No cooling zone after drying necessary



Cooling Zone

- Rapid cooling down of the parts after drying
- Cooling air intake from the outside or recirculated air system with heat exchanger





Air for New Challenges

Air quality requirements are becoming more and more stringent for building interiors and exhaust air systems. With the goal of meeting all limit values we also create designs which save cost. An essential component of these designs is energy recovery. Heat recovery is imperative in the exhaust air, process air

and make up air systems. Sprimag provides solutions for all of these requirements as well as providing clean room technology. Again Sprimag proves we are a single source for all process requirements. These solutions include:



Supply Air Unit

- Supply of process air to system
- Optionally: Cooling / Dehumidification / Humidifying / Heating / Filtering
- Using heat recovery techniques



Exhaust Air Treatment

- Reduce VOC levels in the exhaust air
- Regenerative Thermal Combustion (RTO) with high efficient heat exchanger
- Thermal Combustion (TO) with heat recovery for air supply and heating of the dryer.

Clean Room Technology

- Optimize coating results and limit rejects
- Parts are processed with conditioned air throughout the machine
- Integrated access air lock with air showers



Service: From Commissioning to Spare Parts

Sprimag provides service at a level equal to the first class design and manufacturing provided for every coating system. Our services can begin with complete project coordination for all projects large or small. We also provide commissioning, extensive training, onsite

extended support, onsite or remote maintenance etc. After many years of operation Sprimag will be available for advice, upgrades to your machine and to supply spare parts.



The Sprimag spare parts brochure provides further detail.



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Sprimag Support Services

- Spare parts
- Process start-up support
- Process support
- Training and consulting
- Maintenance and inspection
- Remote maintenance
- Modification and modernization

Sprimag – painting and application techniques of a hand

Since 1925 Sprimag designs and manufactures automated paint finishing systems for functional and decorative coating of mass-produced parts or for the internal coating of tubes, cans and beverage bottles. Already in 1906, Sprimag founder Otto Heinrich registered the patent for the first spray gun. Even today, Sprimag still develops own spray guns, which perfectly meet the requirements demanded by today's machine technology.

In our in-house Applications Centre we can test different methods in each sub-process, so that we can finally choose from a variety of options the best overall combination. Our customers benefit from decades of experience in process design, equipment manufacturing and in customer support – as well as the extensive application know-how that we have available with engineers and technicians in house.



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