



PAINTING



HIGH EFFICIENCY



SOLUTIONS

ROTARY BELL ATOMIZERS

Metallic paints | Water-Based paints

1 or 2 K high solid paints | 1 or 2 K solvent-based paint

SAMES introduces high efficiency painting solutions with rotary bell atomizers, corresponding to the needs of **metal, wood** and **plastic industries**.

This solutions permits following improvements:

- Paint lines productivity: better transfer efficiency of paint sprayed
- Quality of products: better finishing
- Conformity of paint installation to VOC regulations: environment care



The **finishing** experts

ROTARY BELL ATOMIZERS

WHAT IS AN ELECTROSTATIC BELL SPRAYER?

In a rotary atomizer, the paint is sent to the center of the bell cup which rotates at a high speed (from 45,000 to 60,000 rpm). The paint is atomized by the rotating force of the bell cup and not by air. Paint is atomized in extremely small particles, what provides a very high quality of finishing.

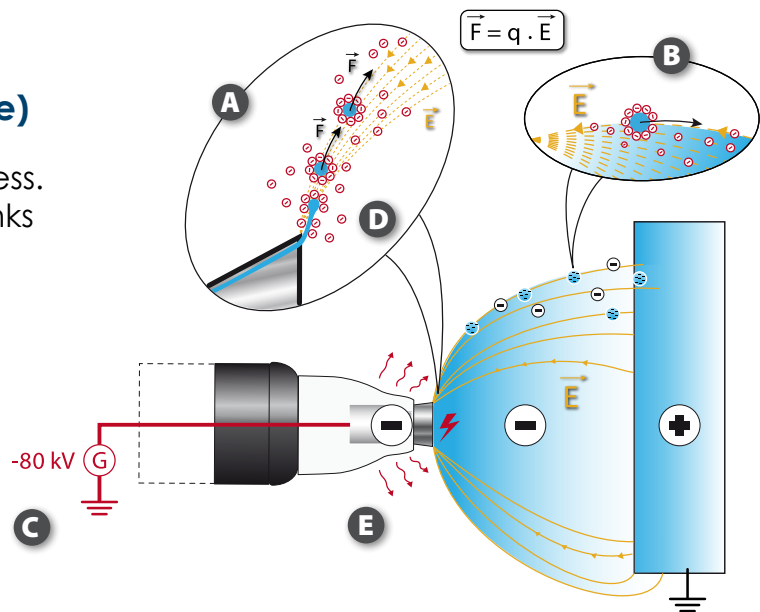
The droplets are electrostatically charged by contact on the bell cup, they are attracted by the piece to paint. A shaping air is applied by the air shrouds of the rotary atomizer to confine the paint particles towards the part to paint. Combination of these technologies results in a high transfer efficiency of the paint and in a perfect finishing.

Electrostatic charge can be done by 2 ways depending on the conductivity of the product.

1/ Internal charge (direct charge)

This is the most common and best process. The electrostatic charge is made thanks to the built-in cascade. The paint acquires its electric charge from the edge of the bell cup.

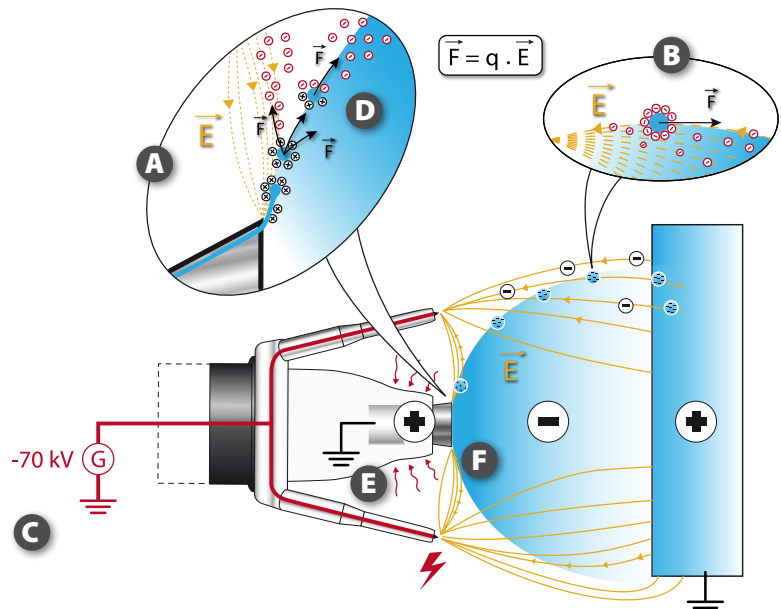
- A:** Parallel electrostatic & air flow forces
- B:** Electrostatic transport
- C:** High voltage generator
- D:** Charging leaving the cup
- E:** Shroud repulsion



2/ External charge

The paint particles are charged with ions passing close to the external electrodes through the electric field. When an ion encounters a particle, it binds to its surface and can not be detached from it.

- A:** Air flow forces
- B:** Electrostatic transport
- C:** High voltage generator
- D:** Charging in the air
- E:** Shroud attraction
- F:** Bell attraction



BENEFITS FOR CUSTOMER

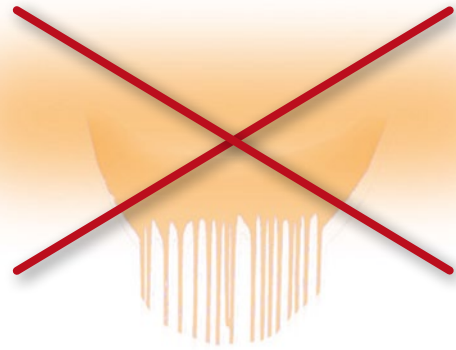
This technology, better than any other one, allows:

> **Maximum wraparound effect:**

this process gives the highest transfer efficiency of the market (from 60 to 90%).

> **Reducing the droplets' size:**

better finishing quality and no risk of dripping.



In comparison with a gun sprayer:

> **Too much air in a gun reduces performance.** In a rotary atomizer, air does not serve anymore to spray the paint but is used for the rotation of the bell cup and aims the drop toward the piece to paint: **This allows a drastic reduction of the overspray.**

> **One bell replaces several guns:**

adjusting the position and regulations of the applicator become easier.



WHICH BELL FOR WHICH MARKET?

Initially developed for the car manufacturers, the electrostatic rotary bell is suitable to almost all industry sectors: wood, plastic, glass or aluminum.

With several patents, **SAMES** offers an incomparable technology and efficiency for your automatic installation thanks to:




Hi-TE

Hi-TE spraying technology provides variable effects during spraying, ensuring great control with fast application speeds. Many benefits are associated: works faster, uses high flow rates, up to 30% reduction in product losses, improves quality of finishing, reduces overspray and reduces cleaning.

HVT

HVT: The high velocity turbine allows to work with high flows of paint (up to 600 cc/min.). It incorporates all the latest technical improvements, it allows frictionless rotation, without wear and ensures long service life for components. Maintenance is low and easy, parts are interchangeable (maintenance parts can be replaced in series without being calibrated together).



Reciprocator		Multi axis robot
PPH 308	PPH 707 EXT-ST	NANOBELL
		
Versatile sprayer. The most sold of our bell.	For Water-Based products. Can be integrated in existing installation without any changes in the paint supply.	Robotic sprayer for small and medium range robot.

Weight (without hoses and cables)	2.5 kg	7 kg	3.3 kg
Voltage	100 KV	85 KV	70 KV
Current	200 µA	500 µA	100 µA
Bell diameter	35, 50, 65 mm	65 mm	35, 50, 65 mm
High voltage unit	Internal – Built-in (SB)	External	Internal - Built-in
Guidance	Magnetic Bearing Air (PAM)	Bearing Air/Air	Magnetic Bearing Air (PAM)
Hi-TE	-	✓	✓
HVT	-	✓	-

Product supply *

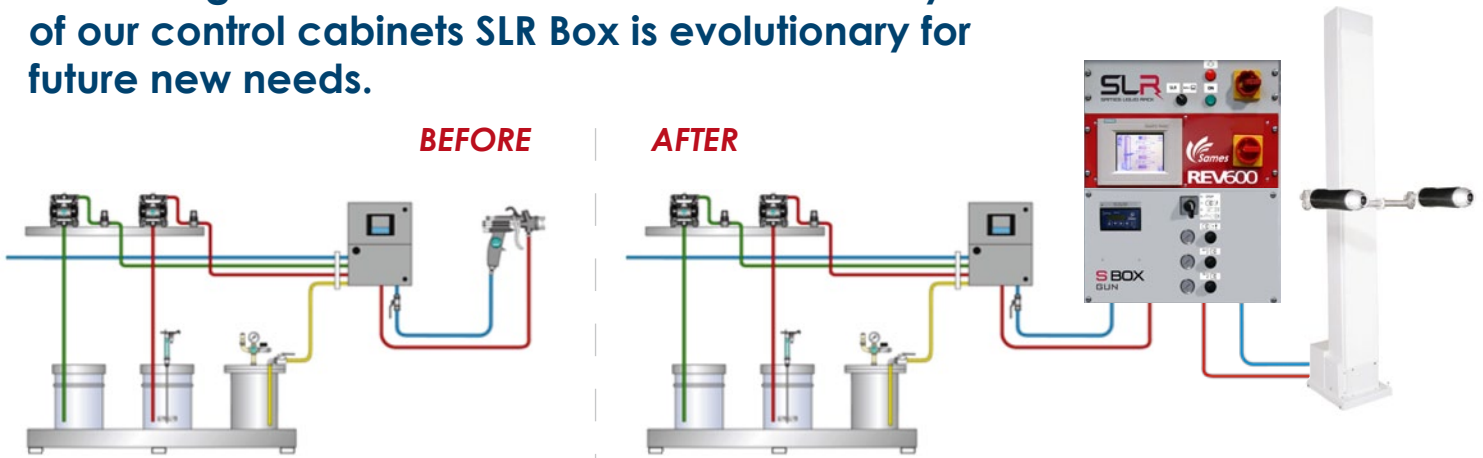
* Depends on technical product file

Viscosity (CF4)	15 sec. at 50 sec.	20 sec. at 45 sec.	15 to 50 sec.
Temperature Maxi	40°C, 104 °F	40°C, 104 °F	40°C, 104 °F
Flow	30 to 600 cc/mn	100 to 700 cc/mn	30 to 750 cc/mn

Metallic Paint	Special coil version	✓	Special coil version
Water-Based Paint	Version with external high voltage unit	✓	Version with external high voltage unit

WHAT DO I HAVE TO CHANGE IN MY INSTALLATION?

SAMES proposes “Plug-and-Spray” packages according to customers’ needs. The modular system of our control cabinets SLR Box is evolutionary for future new needs.



Example of standard kits available

	Base support	Qty sprayers	Control unit SLR	Ref. #
Possible PPH308 configurations				910009204
				910009205
				910009209
				910009210
- bellcup EC65 - Solvent Paint with high resistivity ($\geq 6m\Omega/cm$)			910009211	

Peripheral options for SLR cabinet

Item to pilot	Pictures	Corresponding SLR module	Description of function
Color Change unit «Moduclean»		PFS module control	Manage the automatized color change, rinsing and filling circuit operations close to the sprayers
Gear pump		GPC module control	Guarantee a precise and regular paint flow. Allows quick flow changes during the process
PPH308/ PPH707 EXT/ Nanobell	-	Ref# 910009591	Paint regulator kit for solvent paint
PPH308/ PPH707 EXT/ Nanobell	-	Ref# 900006957	Mano regulator kit for improved precision
SLR Cabinet	-	Ref# 900006958	SLR panel air cooling system and IP65 upgrade

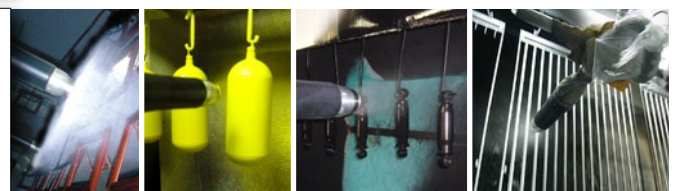
EXAMPLE OF INSTALLATION

Type	Characteristics	Markets
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 Fixed base	<ul style="list-style-type: none"> Small-sized parts on flat or vertical line Line speed from 1 to 6 m/mn 	<ul style="list-style-type: none"> Wood: Footboards de lit Metal: rims, wheels, heating resistance Glass: perfume bottles, spirits Plastic: lipsticks
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 2 axis robot	<ul style="list-style-type: none"> Line speed from 1 to 6 m/mn Object on satellites with simple geometry 	<ul style="list-style-type: none"> Wood: picture frames, rod of curtain Metal: shock absorbers, metallic bottles, plate bread oven, aluminum profile
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 6 axis robot	<ul style="list-style-type: none"> Line speed up to 5 m/mn For complex parts Need to have the gestural and precision of the human hand 	<ul style="list-style-type: none"> Wood: picture frames, chair Metal: bicycle frame, release agent Plastic: frame TV
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The *finishing* experts

INNOVATION FOR THE PLANET



Thanks to our 60 years of know-how, our customers achieve the best quality in the coating industry by saving paint, increasing their productivity, protecting environment.

Product performance, reliability and ergonomics are constantly being improved in the spirit of innovation which has made the name of SAMES famous.

INNOVATION FOR ALL PROTECTION



For more information about us:

www.sames.com

Find your
local contact
by flashcode:



Your SAMES expert partner:



SAMES Technologies

B.P. 86 - 13 Ch. de Malacher - Inovallée

38243 Meylan Cedex - FRANCE

Tel: +33 (0)4 76 41 60 60 - Fax: +33 (0)4 76 41 60 90