

EcoBell3

HIGH-SPEED ROTARY ATOMIZER

Function

EcoBell3 – the new atomizer generation for electrostatic application of paints, delivers better performance with less complexity.

The **EcoBell3** family represents the ideal synthesis between high performance and process flexibility, and lowest complexity. The **EcoBell3** for direct charging is used to apply solvent-based paints. When applying water-based paints, **EcoBell3** offers for continuous painting with external charging without complex and expensive ground isolation. This atomizer technology is suitable for interior painting (**EcoBell3 Ci**) and exterior painting (**EcoBell3 E**). The **EcoBell3 Cx** is available for painting bumpers and for combined zones with interior and exterior painting.

Highlights

- » Refined technology combined with maximum performance
- » Continuous painting of water-based paint without complex and expensive ground isolation, such as canister technology, docking systems, pig-based systems or ground isolation using dosing cylinders
- » Compact atomizer for best accessibility to all paint surfaces
- » High flexibility spray jet: wide jet for large surfaces, narrow spray jet for detail surfaces
- » Interior and exterior painting in one zone without changing the atomizer. Reduced plant length and number of robots.
- » Future-proof: suitable for flexible production concepts, e.g. the "box concept", where only two robots are needed to completely paint a vehicle
- » High flexibility by integrating two main needles with two separate paint feed lines up to the paint nozzle. Different paint systems can be combined in one atomizer.
- » Perfect integration into the painting robot
- » Benchmark for short color change times
- » Paint stop valve for minimum paint loss during color changes
- » **EcoBell Cleaner D2**: quick cleaning cycles with minimum flushing agent consumption
- » Integrated 2K technology with diaphragm valves

» *EcoBell3 Ci for interior painting*



» *EcoBell3 Cx for bumper painting and for combined zones with interior and exterior painting*



» *EcoBell3 E for exterior painting*









» *EcoBell3 with direct charging*



» *EcoBell Cleaner D2 – atomizer cleaning*



TECHNICAL DATA

TYPICAL APPLICATION AREAS	HIGH SPEED ROTARY ATOMIZER	
	EXTERNAL CHARGING	DIRECT CHARGING
EXTERIOR PAINTING	 EcoBell3 E	 EcoBell3
INTERIOR PAINTING	 EcoBell3 Ci	 EcoBell3 Hi
MIXED-USE ZONES: Interior and exterior painting	 EcoBell3 Cx	 EcoBell3 Hx
Plastic-part painting		

EcoBell3 Hi and EcoBell3 Hx possible without high voltage

Paint material

Water-based paint 1K, water-based paint 2K
Solvent-based paint 1K, solvent-based paint 2K
Multi-component paints

Operating modes

Exterior painting with high voltage
Interior painting with and without high voltage
Metallic painting with and without high voltage
Plastic painting with and without high voltage

Characteristics

Operation with 6 bar compressed air system**
Twin main needle*
Dual shaping air system*
Optimized bell disk flushing (interior and exterior flushing)
Compact paint control valves
Paint stop valve
Main needle mixer

Transfer efficiency over 95% possible**

* Option

** Dependent on workpiece, paint material and/or flow rate, speed, operating mode, quality standard

*** Values dependent on the bell disk/shaping air ring system used

Weight	
Direct atomizer charging	approx. 5.3 kg
External atomizer charging	approx. 9.3 kg
Air consumption** / ***	
Shaping air 1	50 - 600 NI/min
Shaping air 2	50 - 600 NI/min
Shaping air 1 & 2 combined	max. 1,000 NI/min
Paint flow rate**	
EcoBell3	50 ml/min up to > 1,000 ml/min
Turbine performance with water	> 2,200 ml/min
Specific paint data: Painting distance***	
With high voltage	150 - 300 mm
Without high voltage	< 200 mm
Painting speed	max. 1.2 m/s
High voltage	
Direct charging: stable voltage	max. 100 kV
External charging: stable current	300 - 450 μ A
-Voltage U_{max}	100 kV
Speed**	
Usable range	8,000 1/min - 70,000 1/min
Tachometer	Reflector disk

Typical application parameters

Metallic base coat, second application	
Paint flow rate	50 - 300 ml/min
Lackiergeschwindigkeit	0.3 - 0.7 m/s
High voltage	with and without HV
Speed	30,000 - 70,000 1/min
Bumper application	
Paint flow rate	50 - 600 ml/min
Painting speed	0.4 - 0.8 m/s
High voltage	with and without HV
Speed	8,000 - 60,000 U/min
Clear coat application (exterior painting)	
Paint flow rate	450 - 700 ml/min
Painting speed	0.3 - 0.8 m/s
High voltage	70 - 85 kV
Speed	30,000 - 60,000 1/min