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
## Typical Application Areas

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### 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

### Technical Data

#### Weight
- Direct atomizer charging: approx. 5.3 kg
- External atomizer charging: approx. 9.3 kg

#### Air Consumption** / ***
- Shaping air 1: 50 - 600 Nl/min
- Shaping air 2: 50 - 600 Nl/min
- Shaping air 1 & 2 combined: max. 1,000 Nl/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 - Voltage $U_{\text{max}}$: 300 - 450 µA / 100 kV

### Speed**
- Usable range: 8,000 1/min - 70,000 1/min
- Tachometer: Reflector disk

### 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

### 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

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