

High Speed Rotating Atomizer *EcoBell2* for Internal Charging

Function **A New Benchmark for Painting Performance**
EcoBell2 is suitable for the electrostatic application of all paint materials. The high-speed rotation atomizer *EcoBell2* has been developed especially for higher painting capacities in regard to painting and cycle times with the new generation of robots, new painting processes with higher paint outflow rates as well as painting speeds are the result of these new developments. The charging of the paint material sprayed at the bell cup edge by centrifugal energy takes place via direct connection of a high voltage to the paint material (internal charge).



*Production
employment
exterior painting*

Highlights **High Paint Flow Capability, High Quality**
Uniform atomizing of any solvent or water borne paint material even with flow rates up to 700 ml/min gives dramatically increased painting performance while maintaining the excellent finish quality known from the original *EcoBell* atomizer.



*Production
employment
interior painting*

Reduced Cycle Time
Designed for robotic applications with painting speeds > 600 mm/s to minimize cycle time or number of robots/applicators required. A Machine version is also available.

Combined Process Capability
Exterior and interior painting can be done in the same zone, by the same equipment, offering new possibilities for high efficiency and flexible paint line design. It is also suited for plastic part painting.

Direct Charge for Waterborne Paint
Fully integrated voltage block systems allow direct charge application of waterborne materials for maximum transfer efficiency.

Painting without High Voltage Possible
Approx. 20 % increased transfer efficiency compared to air spray guns.

Superior Color Change Performance
6–8 seconds color change even with direct charge voltage block capability. Low paint and purge losses during color change, regardless of process type.

Dynamic Paint Metering
Very accurate, repeatable and low shear positive paint metering, state of the art technologies for any solvent borne and waterborne system.



*Spray jet for
exterior painting
200–600 mm*

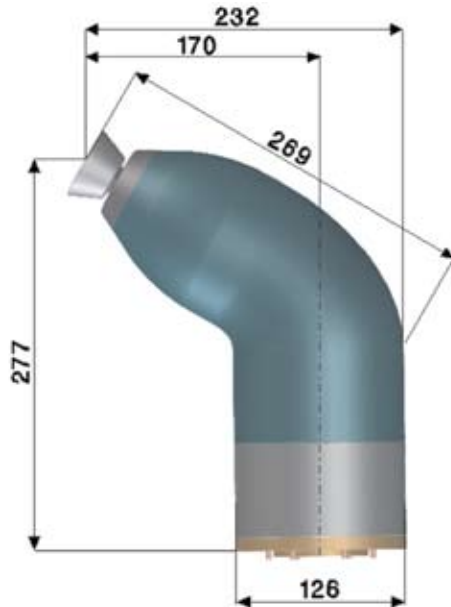


*Spray jet for
interior painting
50–200 mm*

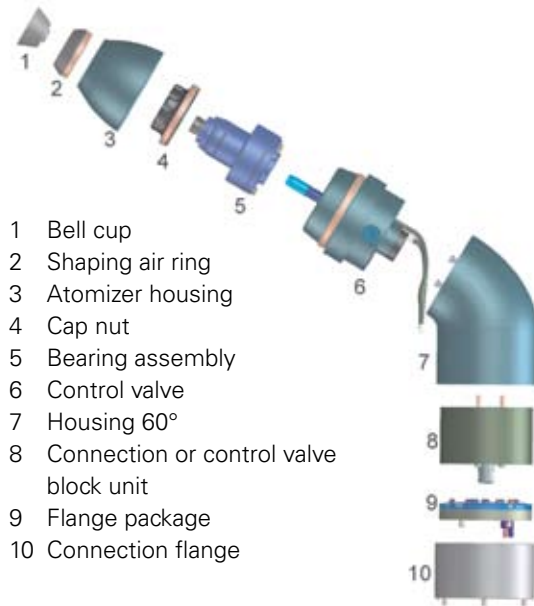


Technical data

Dimensions



Structure



- 1 Bell cup
- 2 Shaping air ring
- 3 Atomizer housing
- 4 Cap nut
- 5 Bearing assembly
- 6 Control valve
- 7 Housing 60°
- 8 Connection or control valve block unit
- 9 Flange package
- 10 Connection flange

Applicable Paint Material

Water borne 1K, water borne 2K
Solvent borne 1K, solvent borne 2K

Modes of Operation

Exterior painting with high voltage (HV)
Interior painting with or without high voltage
Metallic painting with or without high voltage
Plastic part painting

Total Weight

Internal charge 1K	4,1 kg
Internal charge 2K	4,4 kg
Internal charge PD (integrated pigging station)	4,7 kg

Consumption of Pressure Air**

Turbine air***	200–650 NI/min
Bearing air	approx. 50 NI/min
Shaping air****	50–700 NI/min
Typical range for shaping air	
With HV exterior painting	50–300 NI/min
Without HV interior painting	> 500 NI/min

Paint Flow Rate**

EcoBell2	max. 700 ml/min
EcoBell2 M	max. 350 ml/min
Typical operating range**	
EcoBell2	80–350 ml/min
EcoBell2 M	50–250 ml/min

Specific Painting Data

Paint Distance (constant in the range of)	
Internal charge	220 ± 20 mm
Without high voltage	< 200 mm
Paint speed	max. 1,2 m/s
Typical paint speed	0,2–0,6 m/s

High Voltage

Internal charge: U_{const}	max. 100 kV
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Rotation Speed**

Usable speed range	15 000 min ⁻¹ –70 000 min ⁻¹
Operating range	
EcoBell2	20 000 min ⁻¹ –55 000 min ⁻¹
EcoBell2 M	50 000 min ⁻¹ –70 000 min ⁻¹
Tachometer generator	reflector disk

Features

Optimized purging of the bell cup (internal and exterior)
Bell cup exchange without tools
Paint tube centering
Dual shaping air system*
Main needle feedback via fibre-optical waveguide*

Transfer Efficiency** more than 95 % possible

* option,
** depends on paint material,
*** depends on paint flow rate and bell speed,
**** depends on operation mode