Robots

RB1000i
Connected Atomizer - Optimize and secure paint quality and uptime

The Connected Atomizer is the first connected, sensor-equipped, robotic paint atomizer that allows real-time smart diagnostics by providing an environmentally friendly system turnkey solution for increasing uptime and ensuring zero quality defects.

The RB1000i increases transfer efficiency by 10%\(^1\), reduces paint loss inside atomizer during color changes by 75%, and reduces compressed air consumption by 20%, in total to save customers cost.

Digitally enabled paint atomizer
The Connected Atomizer is the first connected, sensor-equipped, robotic paint atomizer allows for real-time smart diagnostics and precise paint control to optimize painting quality. This new level of digitalization supports robot users’ transition towards the factory of the future. By monitoring the condition of key atomizer components such as bell cups, air motors, and shaping air ring, as well as variables such as acceleration, pressure, vibration and temperature, the painting transfer efficiency can be boosted by up to 10%. This also eliminates the need for costly downtime for repainting or touchups.

First-in-class in terms of performance
This paint atomizer increases transfer efficiency by 10%, reduces internal atomizer waste during color changes by 75%, and reduces compressed air consumption by 20% which can collectively save millions of dollars.

The atomizer adapts the SA (shaping air) nozzle with the super pattern control function in which the range of the effective pattern width is wider than before. This function results in minimizing over spray by controlling the dual shaping airs individually and switching to the optimum pattern width for the shape of the object being painted.

Contribution to improving paint line operation rate
The atomizer also adopted both the conventional BOC function\(^2\) and the SFC function\(^3\). These functions make possible to automatically clean the inside of the bell cup and at the same time automatically clean the rim back of the bell cup and the SA nozzle surface that has the small air discharge holes. The automated production line does not require to stop temporarily in order to remove dirt adhered near the air discharge holes, which contributes to the reduction of maintenance time and to the improvement of the paint line operation rate.

Features
Cost reduction\(^4\)
- Transfer efficiency: +10%
- Color change loss inside atomizer: -75%
- Required bearing air pressure: 6 bar
- Air consumption: -20%
- Ease of maintenance
- Robust air motor with longer life time
- Modular design, common parts across different variants
- Weight: -17%
- Ex certification: Zone 1
**Technical information**

### Specifications

<table>
<thead>
<tr>
<th>RB1000i</th>
<th>Bell cup</th>
<th>ø70 (BOC), ø40 (BOC)</th>
</tr>
</thead>
</table>

**Shaping air nozzle**

- **Function**
  - Super pattern control function
  - SA nozzle face cleaning (SFC) function

**Effective spray ø70 pattern Width**

- ø70: 250~500 mm
- ø40: 60~400 mm

**High voltage**

- **Charging method**: Internal charge
- **Voltage applied**: Max. -90 kV
- **HV current**: Max. 150 μA

**Set rotation speed**

- Max. 60,000 rpm

**Weight**

- Approx. 8.8~9.0 kg

**Total air consumption ø70**

- 695~1565 Nl/min

**Paint Flow rate ø70**

- 100~1000 cc/min

**Sensor**

- Vibration sensor
- Gyroscope
- Temperature sensor

**RFID tag**

- Bell cup
- SA nozzle
- Air bearing motor

### Valve configurations

#### SSD type

- Fluid
- Catalys
- SolvBellC
- GateC

#### SAD type

- Fluid
- Catalys
- SolvBellC
- GateC

#### S2K type

- Fluid
- Catalys
- SolvBellC
- GateC

### Paint solution

<table>
<thead>
<tr>
<th>SSD type</th>
<th>SAD type</th>
<th>S2K type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile</td>
<td>Exterior</td>
<td>x</td>
</tr>
<tr>
<td>Interior</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Bumper</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Part</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>General Industry</td>
<td>Large</td>
<td>x</td>
</tr>
<tr>
<td>Small</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

### Paint type

- **Primer paint**: x | x | -
- **Base paint**: x | x | x
- **Clear paint**: x | x | x

**Solventborne**

- **1K paint**: x | x | -
- **2K paint**: x | - | x

**Waterborne** (non-electrostatic type only)

- **1K paint**: x | x | -
- **2K paint**: x | - | x

### Dimensions

![Dimensions diagram](image-url)