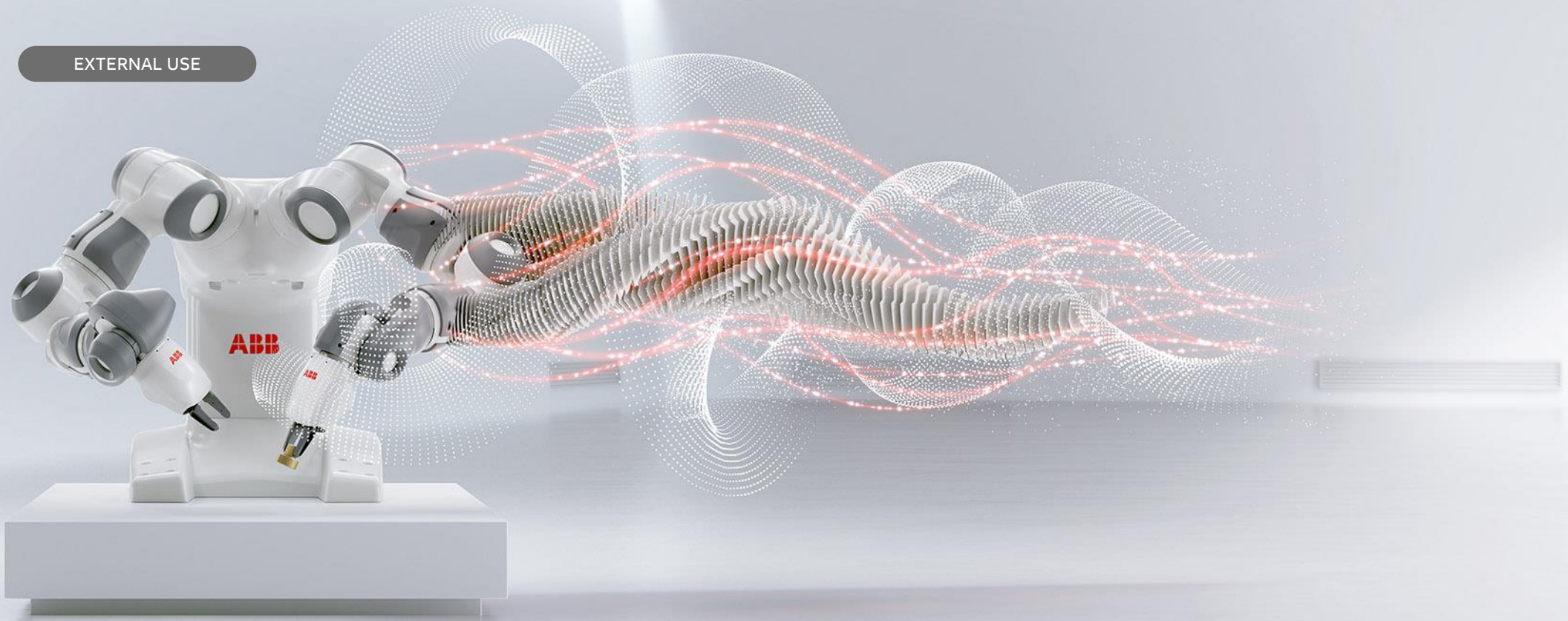
EXTERNAL USE



PRODUCT PRESENTATION, 2018

RB1000i Series Presentation

ABB Ability™ Connected Atomizer

Carrie Zou – Global Product Manager - Paint

Content

- First in class in terms of performance
- Target customer & markets
- Customer merit
- Data sheet

©ABB

First in class in terms of performance

Key features and benefits

- Modular concept – easy to maintain
- Better pattern control for higher T.E.
- Longer life time of parts
- Low contamination
- Reduced energy consumption
- Easy to maintain
- Less weight
- MTTR improvement

©ABB

First in class in terms of performance

Smart thanks to the multiple sensors

- RFID for all critical parts checked at application
  - Individual follow-up of components
  - The right part in the right condition with the right parameters for the perfect application
- Vibration sensors
  - Gyroscope
  - Temperature
- Modular embedded sensor

©ABB

New technology

Sensor and RFID

- **IoT (Internet of Things) - the first function in the coating industry**
  - RFID (Radio Frequency ID) equipped
  - Vibration and gyroscope sensors equipped

- **Air motor shaft lock function**

First in class in terms of performance

Improvement on performance

- **RFID**
  - **Bell cup**
  - **SA nozzle**
  - **Air motor**
- Vibration, gyro sensor
- Air motor shaft lock

©ABB

Differentiated value proposition

ABB Ability™

Improvement on performance

- RFID
  - Bell cup
  - SA nozzle
  - Air motor
- **Vibration, gyro sensor**
- Air motor shaft lock

©ABB

Target customer& markets

Paint solution and paint type

		RB1000i		
		SSD	SAD	S2K
Paint solution				
Automobile	Exteria	✓	✓	✓
	Interior	✓	✓	✓
	Bumper	✓	✓	✓
	Part	✓	✓	✓
General	Large	✓	✓	✓
industry	Small	✓	✓	✓
Paint type				
Primer paint		✓	✓	✓
Base paint		✓	✓	-
Clear paint		✓	✓	✓
Solventborne	1K	✓	✓	-
	2K	✓	-	✓
Waterborne*	1K	✓	✓	-
	2K	✓	-	✓

*Applicable to non-electrostatic type only

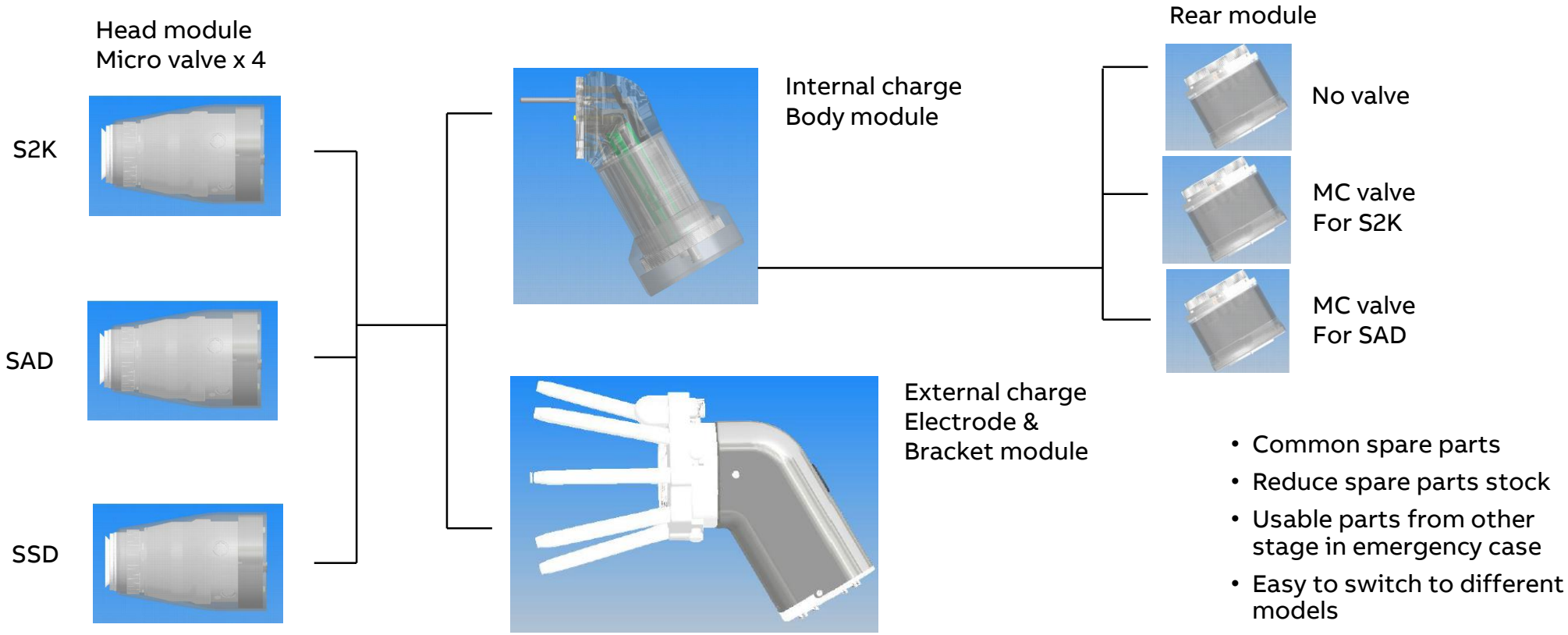
RB1000i

Multiple sensors

©ABB

Customer merit

Modular design concept



- Common spare parts
- Reduce spare parts stock
- Usable parts from other stage in emergency case
- Easy to switch to different models

Customer Merit

Improved conventional atomizer performance + IoT function

Atomizer

- Modular concept, common spare parts
- Light weight 8.7kg
- BOC (Bell Outside Cleaning)
- SFC (SA nozzle Face Cleaning)
- Super pattern control
- 6 bar air pressure motor
- Paint waste 6.7cc inside atomizer
- Bell cleaning 25cc / 1.5sec
- Built-in FO cable
- 1-step Bell cup removal
- Robust and long life Air Motor
- Quick valve replacement
- Zone 1 certification

ABB Ability

- Identification of parts number
- Before production;
- Confirmation of right bell cup, air motor, SA at right place;
- Genuine parts identification;
- Parts Life Management;
- Predictive maintenance;
- Smart diagnostic;

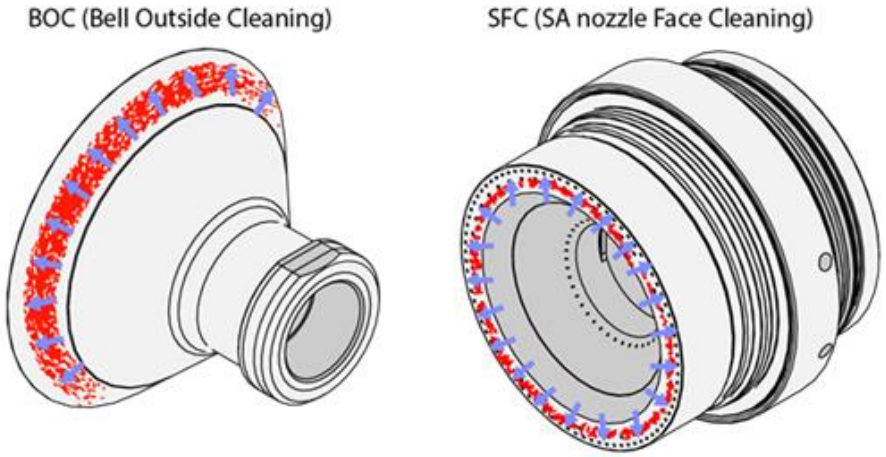
©ABB

Customer Merit

BOC - Bell Outside Cleaning & SFC - SA nozzle Face Cleaning

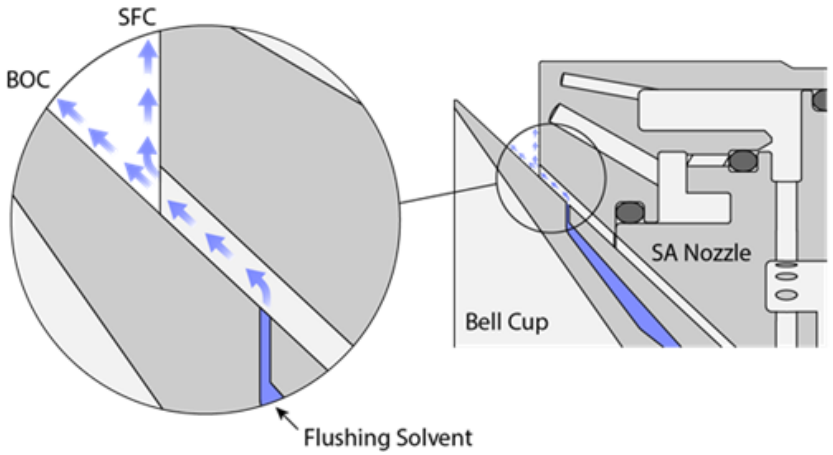
Items

- BOC & SFC



Merit

- Keep clean, keep good quality
- Less maintenance cycle



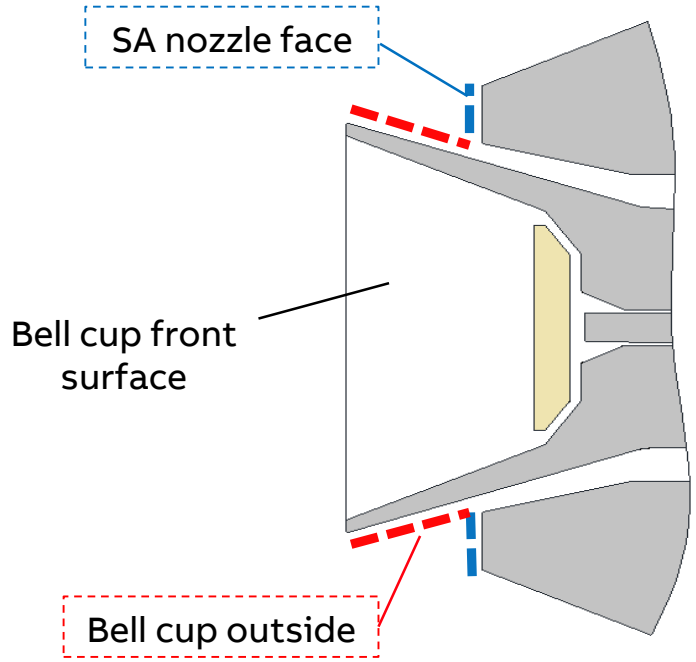
©ABB

Customer Merit

BOC - Bell Outside Cleaning & SFC - SA nozzle Face Cleaning

- Clean the following 3 parts simultaneously
  - Bell cup front surface
  - Bell cup outside (BOC; Bell Outside Cleaning)
  - SA nozzle face (SFC; SA nozzle Face Cleaning)

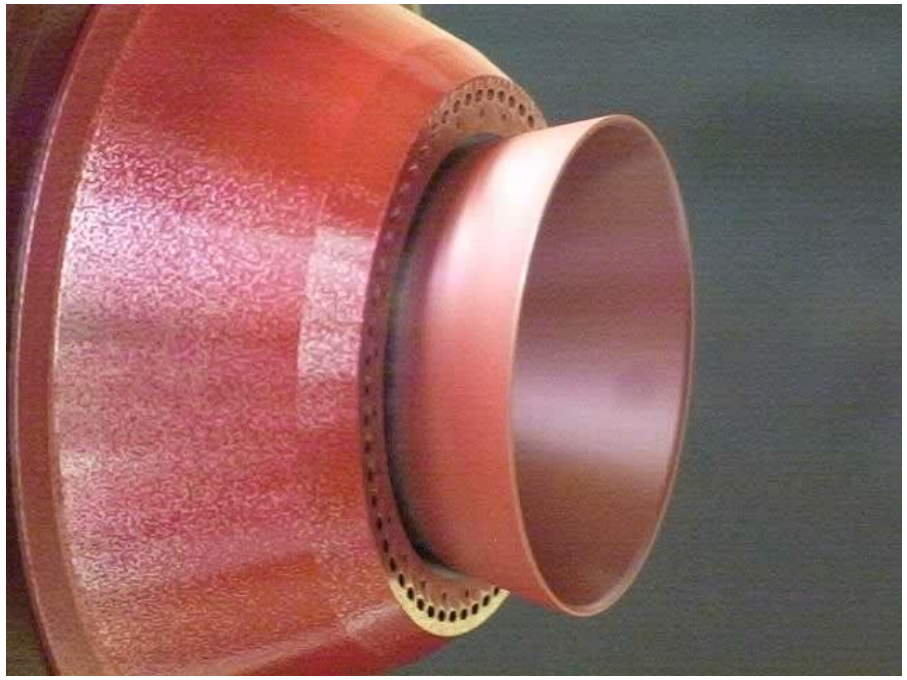
- Contaminate the bell cup intentionally and demonstrate the cleaning

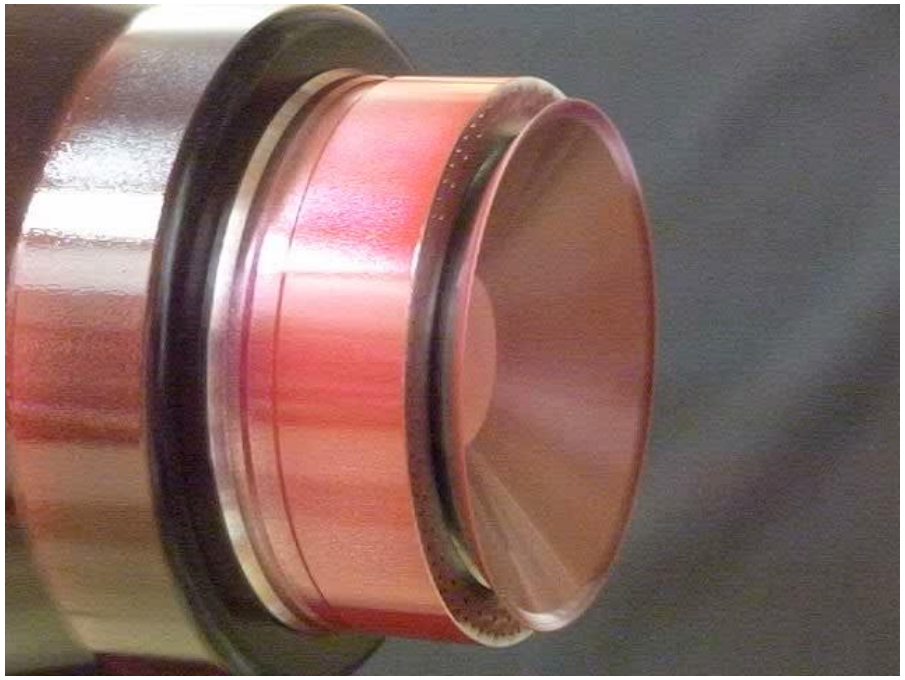


©ABB

Customer Merit

BOC - Bell Outside Cleaning & SFC - SA nozzle Face Cleaning





Cleaning conditions: Flushing solvent flow rate: 1000 cc/min, Flushing time: 1.0 sec, Usage: approx. 17 cc

Customer Merit

Merit

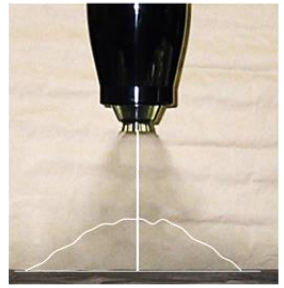
- Less over spray, less paint waste
- Reduce paint usage
- Less booth cleaning
- Less contamination

- Spray both interior & exterior car body available by D40mm

Items

Super Pattern Control: Large pattern

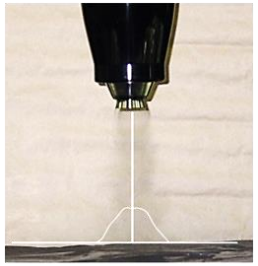
- 40mm Bell cup
  - Effective pattern size: 400 mm
- 70mm Bell cup
  - Effective pattern size: 500 mm



Items

Super Pattern Control: Small pattern

- 40mm Bell cup
  - Effective pattern size: 60 mm
- 70mm Bell cup
  - Effective pattern size: 250 mm

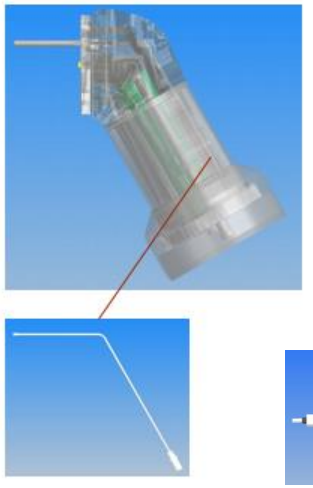


©ABB

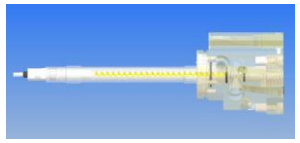
Customer Merit

Items

- Built-in FO cable & Mixer



FO cable



Mixer

Merit

- Less damage risk of Fiber cable by solvent
- Easy rotation adjustment

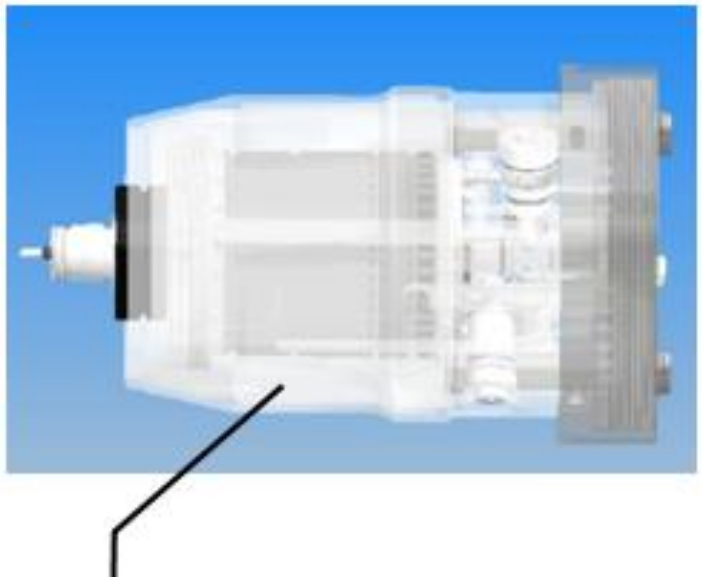
- Less paint stuck risk, shorter mixing area
- Less cleaning time and flushing solvent consumption
- Easy replace mixer

©ABB

Customer Merit

Items

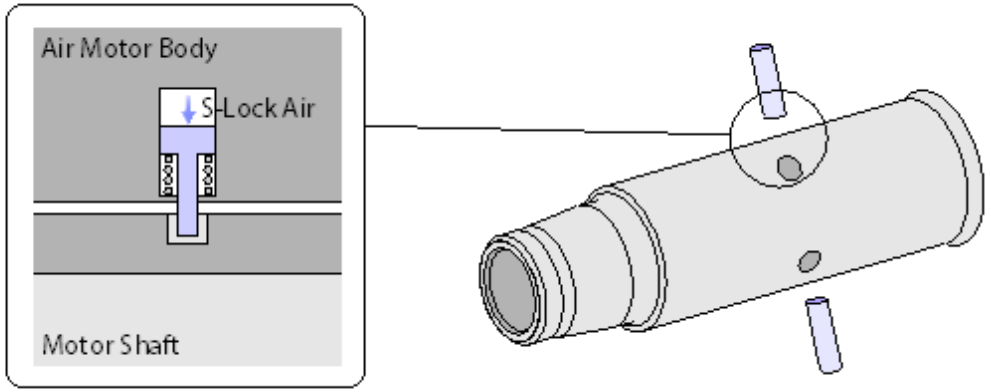
– 1-step Bell cup removal



Shaft Locking Cylinder

Merit

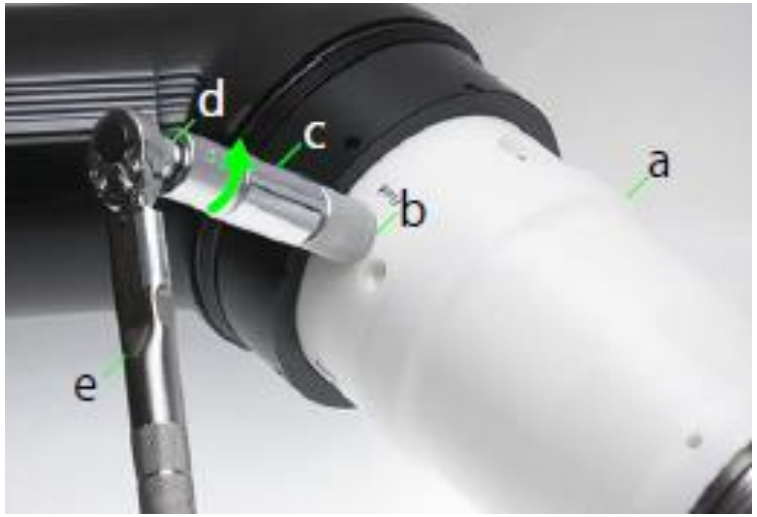
– Quick removal bell cup (1 min.)
– No tool required to remove bell cup
– Safety by interlock, no risk touch rotated bell cup



Customer Merit

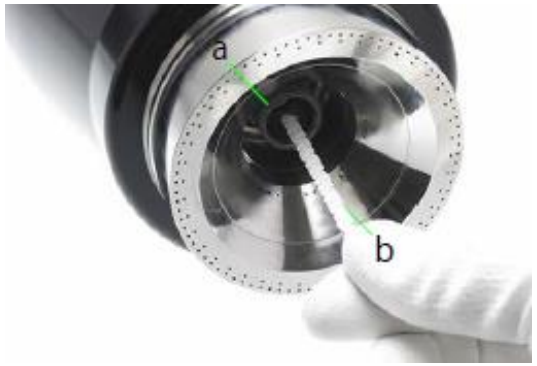
Items

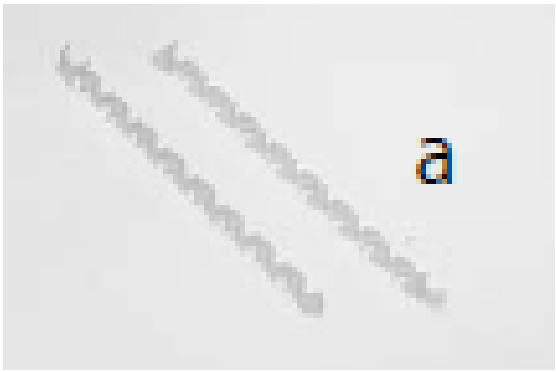
- Quick valve & Mixer replacement



Merit

- 2 minutes valve replacement
- Mixer replace without disassemble air motor
- Quick recovery
- Easy maintenance



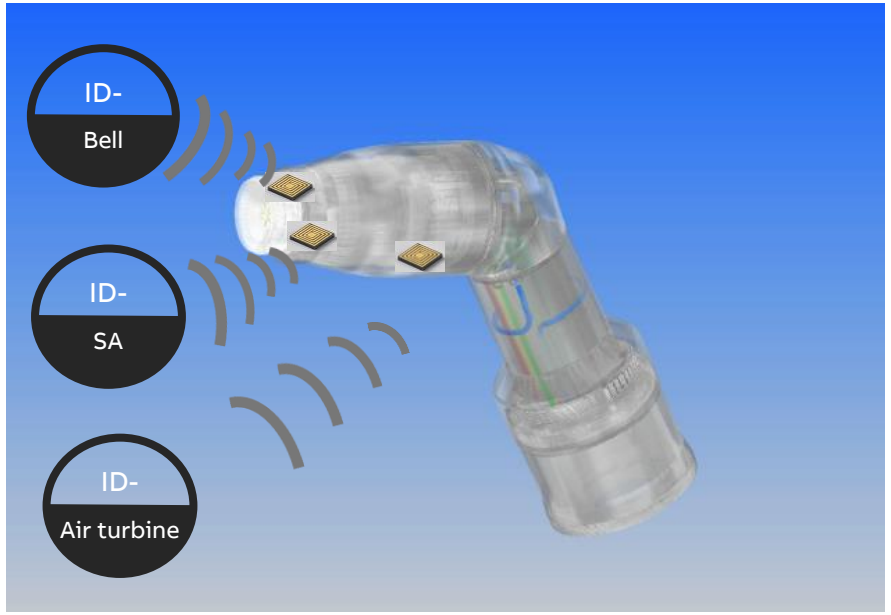


©ABB

Customer Merit

Items

- IoT
  - RFID (Radio Frequency Identification)



Merit

- Easy; parts management
- Alarm; incorrect parts assembly

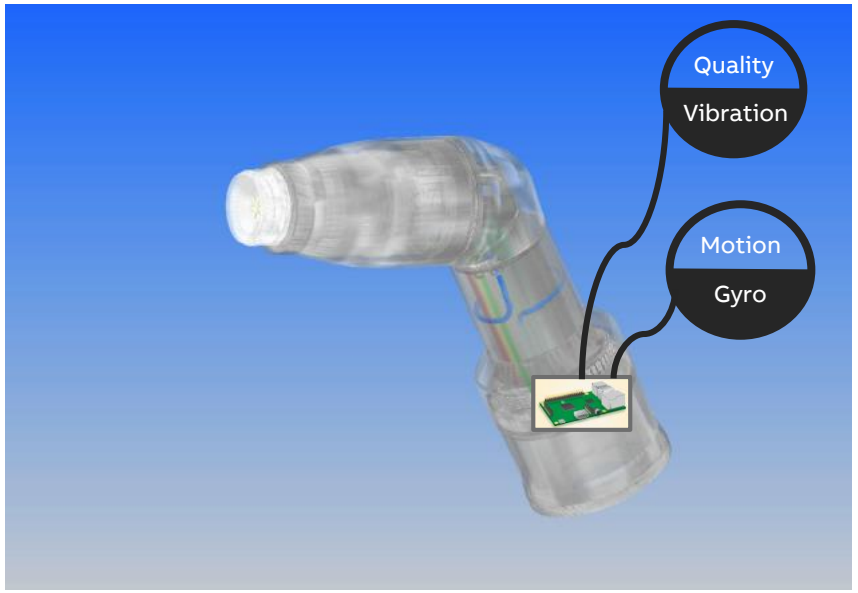
- RFID Parts
  - Bell cup
  - SA nozzle
  - Air turbine

©ABB

Customer Merit

Items

- IoT
  - Sensor (option)



Merit

- Gyro
- Vibration

- Detect; unbalance of bell cup
- Detect; damaged air motor
- Detect; gyro speed (considering air motor damage)

Data Sheet

Specification

Bell cup			ϕ70(BOC), ϕ40(BOC)
Shaping air nozzle	Function		Super pattern control function
			SA nozzle face cleaning (SFC) function
	Effective spray pattern width	ϕ70	250~500mm
		ϕ40	60~400mm
High voltage	Charging type		Internal charge
	Voltage applied		Max. -90 kV
	HV current		Max. 150 μA
Rotation speed	Set rotation speed		Max. 60,000 rpm
Weight *01			Approx. 8.8~9.0 kg
Total air consumption *02		ϕ70	695~1565 Nl/min
Flow rate *03*04	Paint	ϕ70	100~1000 cc/min
Sensor *05			Vibration sensor
			Gyroscope
			Temperature sensor
RFID tag *06			Bell cup
			SA nozzle
			Air bearing motor

*01 The weight differs depending on the specification
*02 These are the values when the flow rate is 400 cc/min. For other conditions or details, please contact ABB.
*03 The maximum flow rate differs depending on paint viscosity or built-in paint tube
*04 These are general values and do not necessarily guarantee quality.
*05 The sensor is optional
*06 A reader of the RFID tags is optional

©ABB

RB1000i – connected atomizer for ABB Ability

Will help you secure high paint quality and uptime

©ABB

ABB