

IRB 5310 Compact CBS II

Fully integrated robotic solution



Product description and solution

A mainstay of the automotive industry for exterior car body painting and the application of base coats, ABB first introduced its robotics Cartridge Bell Paint System in 1998.

Made from cast and machined aluminum, the company's latest innovation, the Compact CBS II, is the only fully-integrated robotic solution for internal charge water-borne painting. The lighter, faster and more efficient design is more closely integrated with the system's components and reduces color exchange time by as much as 50 percent when compared with other solutions.

Customer benefits

The global standard for internal charge water-borne applications, the Compact CBS II is a cost effective and environmentally friendly solution.

ABB has upgraded its Cartridge Bell Paint system to include servo motors that run train circuit for precise angular positioning and process control. The Compact CBS II also has been outfitted with two DCUs for precession filling and dosing of paint material from the paint cartridge. These new drives are designed to easily integrate into existing installations while eliminating the need for flow meter.

Product features and benefits

- DCL (Delivery control liquid) volume accurately measured during filling cycle. Inclusion of two delivery control units (DCUs) eliminates the need for a flow meter for more accurate filling and less paint loss.
- Designed to fill the actual cartridge with controlled speeds and pressures to prevent unwanted effects on the water-borne material.
- Once filled, the cartridge exchange is done in less than 10 sec.
- Made from cast and machined aluminium and protected with stainless steel sheet metal for cleanability.

Sales and Service support

- Optimized ABB CBS process solution; cleaning, filling and dozing
- New drive solution, new control electronics, improved overall motion control
- Simplify installation and commissioning
- Optimized for IRB 5500 robot with RB1000-WSC atomizer

IRB 5310 Compact CBS II

General Specifications CBS

Number of axes	4: CBS axis 1, axis 2 and 2 e.a. DCUs
Weight	300 kg
Dimensions*	See below
Ex-approved	Explosion protected Exi/Exp for installation in hazardous area Zone 1 & Zone 21 (Europe) and Division I, Class I & II.
Airborne noise level	< 72 dB (A) Leq (acc. to Machinery directive MD 2006/42/EC) (The sound pressure level outside the working space)
Ingress protection degree	IP67
Ambient temperature	0°C - +40°C (Recommended max. ambient temp, <30°C)
Relative humidity	Max. 95% Non-condensing. (Complete robot during transportation, storing and operation)

Power Consumption CBS

During a typical continuous paint process	500W
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CBS Robot axes

Axis 1	Gripper arm up / down motion
Axis 2	Gripper arm horizontal rotation
DCU1	Piston up/down movement
DCU2	Piston up/down movement

Robot axes definitions

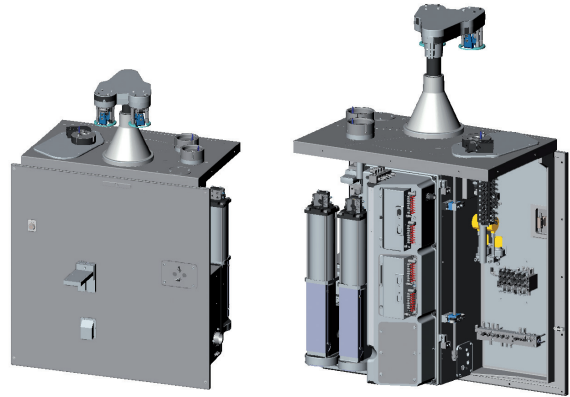
A complete robot system can contain a maximum of 12 axes. The table shows the axes definitions for a complete robot system.

Axis 1-6	Paint robot
Axis 7	Trolley
Axis 8	CBS axis 2, horizontal rotation of gripper arm
Axis 9	CBS axis 1, elevation of gripper arm
Axis 10	DCU 1, piston up/down movement
Axis 11	DCU 2, piston up/down movement
Axis 12	Conveyor

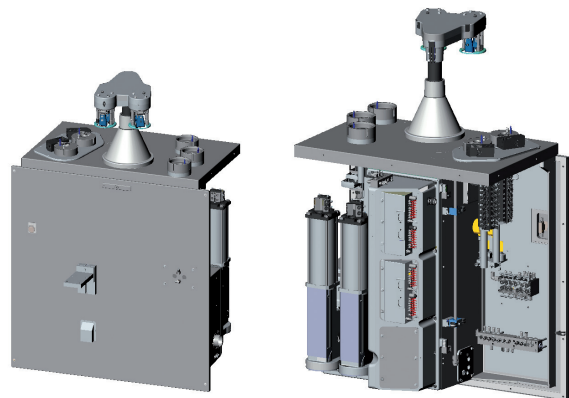
Configurations

The IRB 5310 Compact CBS II robot is available as an Ex version in following configurations:

1 e.a. integrated filling station, 1 e.a. color changer, 2 e.a. parking stations



2 e.a. integrated filling stations, 2 e.a. color changers, 3 e.a. parking stations



Apart from these items, the robots are identical.

Dimensions*

