

ROBOTICS

IRB 5500-22 FlexPainter

A new way of exterior painting



The IRB 5500 FlexPainter takes painting closer to perfection by integrating the paint application equipment. Combined with its large work area and high acceleration and painting speed, the result is the most efficient and flexible paint robot solution for basically any application.

Paint savings

Our compact and light-weight paint application components enable us to put vital paint regulation equipment, like the pumps, as close as 15 cm from the wrist. This reduces paint and solvent waste during color change significantly.

We have integrated the process equipment in the IRB 5500 FlexPainter in addition to the fully integrated process control (hardware and software). The IRC5P is controlling both the paint process and the robot motion so you can enjoy substantial savings.

Powered by IPS

The “push-out” function integrated in the IPS system is one specific feature that enables a reduction of paint even further. The basic architecture of IPS is built on combining process control and motion control as one, this simplified the system set up and enables for real savings and process perfection.

Modular paint components

To integrate the process into the IRB 5500 FlexPainter,

ABB has developed a series of light-weight, compact and modular paint application components. This includes color change valves, 2K mixers, air- and paint regulators and pumps. All components are designed for maximum flow.

Built for painting

Standard solutions accommodate color change valves for up to 32* colors with circulation, integrated in the process arm of the robot. Also two pumps, driven by integrated servo motors, 64 pilot valves, atomizer control with dual shape air and closed loop regulation, closed loop regulation of bell speed and high voltage control – all fully integrated. Solutions for both solvent- and water-borne paint are available.

Less atomizers, higher flow

ABB's high flow RB1000 atomizer family is specifically designed for the high acceleration and speed of the IRB 5500 FlexPainter. This unique combination significantly reduces the number of robots needed in a spray booth and provides superior performance and high finish quality.

Paint robot control system

IRC5P is a modern control system, specifically designed for the paint shop. With the IPS (Integrated Process System), the userfriendly Ex certified FlexPaint Pendant and RobView 5 it is a combination of standardized functions for the paint installation and to fit specific needs. This package includes standard applications for defining User screens, Program editing and Version control, and many more. RobView 5 can also be a component in a larger Cell control HMI, like ABB FlexUI or other.

Specification

Handling capacity (wrist)	13 kg
Number of axes	6
Protection	IP67 (wrist IP54)
Mounting	Floor, wall, tilted, inverted

Physical

Robot footprint	500 x 680 mm
Robot weight	600 kg
Controller dimensions	1450 x 725 x 710 mm
Controller weight	180 kg

Electrical connections

Main voltage	200-600 V, 3 phase, 50-60 Hz
Electrical safety	Meets international standards

Performance

Axis number	Velocity
Axis 1, 2, 3	100°/s
Axis 4 - wrist rotation	465°/s
Axis 5 - wrist bend	350°/s
Axis 6 - wrist flange rotation	535°/s

Wrist work envelope	±140°
Static repeatability	0.15 mm

Interface

Backup	USB connection & ethernet
I/O boards	Analog, digital, relay, 120VAC, encoder and process I/O boards
Fieldbus support	Interbus-S, ProfiBus, Profinet, CC Link, DeviceNet and Ethernet IP
Network	Ethernet FTP/NFS

PC tools

RobView 5	Paint cell supervision & operation
ShopFloor editor	Offline path & process tuning using 3D graphics
RobotStudio® Paint	Full 3D simulation & programming of the paint cell

Paint performance example

Color loss example using 26 colors with a 6 cc pump. The measurements are "real life" including the atomizer. The IPS "push-out" function is used.

Paint loss	< 15 cc
Color change time	8 seconds

Working range

