IRB 5500-27 is a new variant of the innovative IRB 5500 robot family. Featuring integrated 7-axes that enable a wider working range and flexible installation positioning, IRB 5500-27 is capable of supporting both interior and exterior automotive painting, as well as other paint applications.

Design for universal backup in moving line and enhanced solution in stop & go line, IRB 5500-27 offers the increased flexibility and reach to accommodate diverse automotive body sizes, which can potentially reduce the number of robots required on a paint line. This increased flexibility combined with the ability to adjust the robot’s installation position reduces cycle times.

Moreover, the integration of ABB’s dynamic model for controlling all axes reduces overall energy consumption, increases accuracy, and ensures fully synchronized and balanced robot motion.

**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.

**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. Please note that more is available on special request.

**Paint robot control system**
IRC5P is a modern control system, specifically designed for the paint shop. With the IPS (Integrated Process System), the user friendly 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 components in a larger Cell control HMI, like ABB FlexUI or other.
Technical information

Electrical Connections
- Mains voltage: 200 - 600VAC, 3-phase, 50/60 Hz
- Energy consumption: According to international standards

Physical
- Dimensions:
  - Robot footprint: 750 x 650 mm
  - Robot controller: 1450 x 725 x 710 mm
- Weight:
  - Robot unit: 1180 kg
  - Robot controller: 180 kg

Environment
- Ambient temperature:
  - Robot unit: 0 °C to +40 °C*
  - Robot controller: +48 °C maximum
- Relative humidity: 95 % maximum
*Recommended max ambient temp <30°

PC Tools
- RobView 5: Paint cell supervision and operation (included)
- Painting PowerPac: Off-line and on-line path- and process tuning using 3D graphics
- RobotStudio® Paint: Full 3D simulation and programming of the paint cell

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

Performance (according to ISO 9283)
- Static repeatability (mm):
  - IRB 5500-27: 0.15
- Wrist work envelope: ±140°

Specification
- Number of axes: 7
- Payload on wrist: 13 kg
- Protection: IP66 (wrist IP54)
- Ex approval: Explosion protected Ex i/Ex p/ Ex c for installation in hazardous area Zone 1 & Zone 21 (Europe) and Division I, Class I & II.

Controller: IRC5P Paint
Mounting: Wall, floor, inverted

Movement

Axis movement | Working range | Axis max speed |
--- | --- | --- |
Axis 1 | See work envelope drawings | 100°/s |
Axis 2 | See work envelope drawings | 100°/s |
Axis 3 | See work envelope drawings | 100°/s |
Axis 4 rotation | +/-720° | 465°/s |
Axis 5 bend | +/-720° | 350°/s |
Axis 6 turn | +/-460° | 535°/s |
Axis 7 | +/-135° | 70°/s |
Wrist working envelope | +/-140° | |

Working range

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB. Copyright © 2019 ABB All rights reserved