

IRB 5500 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.

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.

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.

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.

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 components in a larger Cell control HMI, like ABB FlexUI or other.



01



02



03

01 IRB 5500-22 process robot/elevated mounted

02 IRB 5500-22 process robot/floor mounted

03 IRB 5500-23 process robot on clean-wall rail

Specification

Number of axes	6
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.
Mounting	Wall, floor, tilted, inverted, clean-wall rail

Technical information

Electrical Connections

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

Physical

Dimensions	
Robot footprint	500 x 680 mm
Robot controller	1450 x 725 x 710 mm
Weight	
Robot unit	600 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°

Technical information

PC Tools

RobView 5	Paint cell supervision and operation (included)
ShopFloor Editor	Off-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, 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

	Static repeatability (mm)	Wrist work envelope
	0.15	±140°

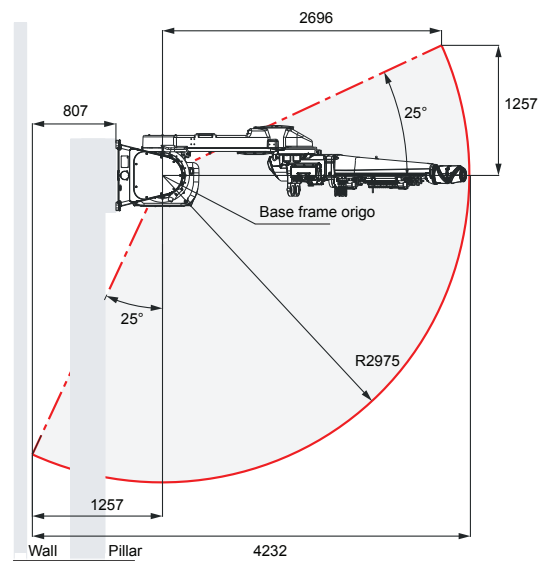
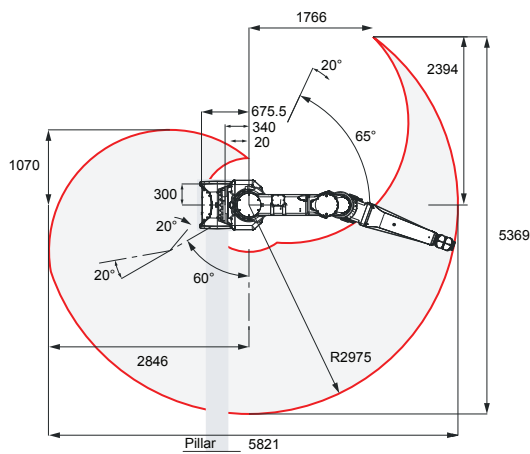
Specification

	IRB 5500-22	IRB 5500-22 Floor mounted	IRB 5500-23 Clean wall rail
Robot foot-print (mm)	500 x 680	581 x 718	500 x 680
Weight robot unit (kg)	600	610	600
Weight trolley (kg)	N/A	N/A	330
Rail system	N/A	N/A	Rail is available in steps of 0.5 m from 2-15 m for 1 robot on rail and 4-8 m for 2 robots on rail as standard. Longer rail can be delivered on request.
Cable chain wide (mm)	N/A	N/A	400
Accuracy (mm)	0.15	0.15	Robot: 0.15 (on TCPO) Trolley: 0,3 Velocity rail axis: 1,4 m/sec

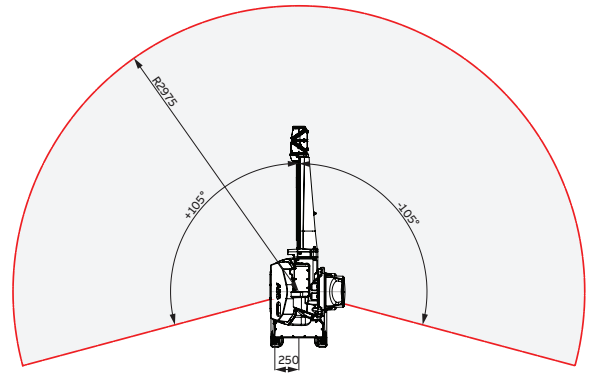
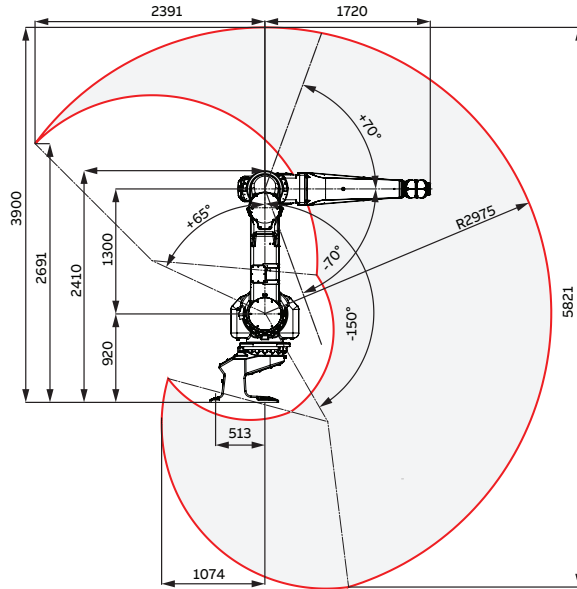
IRB 5500 FlexPainter

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 wrist	See work envelope drawings	465°/s
Axis 5 bend	See work envelope drawings	350°/s
Axis 6 rotation	See work envelope drawings	535°/s

IRB 5500 FlexPainter, working range



IRB 5500-22 Floor mounted working range



IRB 5500-23 Clean wall rail working range

