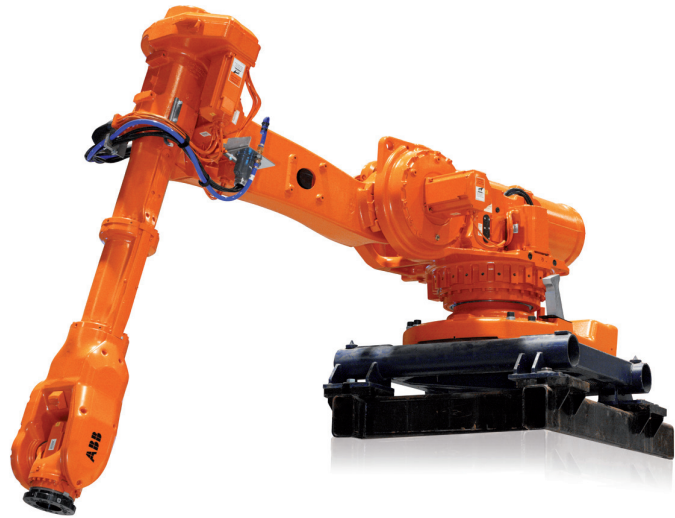


IRB 6650S Industrial Robot

Main Applications

Machine Tending
Material Handling
Spot Welding



The IRB 6650 Shelf robot offers a unique working envelope. The IRB 6650S is capable of a full vertical and horizontal stroke motion, as well as an increased reach forward and down. This combination offers new possibilities to robot functions in numerous application areas.

Press Tending

The IRB 6650S can with improved accuracy and speed handle extremely large sheets, such as complete car body sides. The increased working area of the robot makes it possible to retract the robot from the press even with large grippers and parts. High acceleration power is combined with a unique stroke horizontally as well as vertically. This unique combination will shorten cycle times considerably and thereby increase production capacity. The working area below the robot offers an excellent opportunity for fast tool changing of grippers.

Die Casting

The unique working envelope ensures easy access for die spraying as well as part handling. The process cabling is protected within the robot arm system, thus improving the lifetime of the process cabling.

Injection Moulding

The IRB 6650S is especially suited for large injection moulding machines over 1,000 tons. The flexibility of the six axis robot facilitates post process applications like flaming, sprue cutting, tape dispensing and assembly operations.

Material Handling

Owing to its longer reach forward and down, when put on an elevated track it can supervise twice as many inlet conveyors with different part sizes as a traditional ceiling mounted or wall mounted track with a 5- or 6-axes robot. When compared with an inverted track and a 5 axes robot, the length of the track for the IRB 6650S can be kept much shorter and thereby simplifying installation and reducing total costs.

SpotWelding

The IRB 6650S offers the possibility to improve robot density in framing stations; the key is to place the robots at different levels. The standard IRB 6640 robot can be mounted at floor level and the IRB 6650S be placed at about 1.5-2m above floor level. By this the standard robots perform spot welding operations at the lower part of the car body and the IRB 6650S of the upper part of the car body. Thus making efficient use of space in the framing cell.

IRB 6650S

Specification

Robot versions IRB	Reach	Handling capacity	Center of gravity	Wrist torque Axes 4+5	Nm Axis 6
6650S-90/3.9	3.9 m	90 kg	360 mm	495	438
6650S-125/3.5	3.5 m	125 kg	360 mm	1037	526
6650S-200/3.0	3.0 m	200 kg	365 mm	1264	625

Extra load can be mounted on all variants.

50 kg on upper arm and 500 kg on frame of axis 1.

Number of axes:	6
Protection:	Complete robot IP 67
Mounting:	Shelf mounted
IRC5 Controller variants:	Single cabinet, Dual cabinet

Performance

Position repeatability:	0.13–0.14 mm			
Path repeatability:	0.70–0.90 mm			
Axis movements	Working range	Max speed 6650S-90	Max speed 6650S-125	Max speed 6650S-200
Axis 1 Rotation	+180° to -180°	100°/s	110°/s	100°/s
Axis 2 Arm	+160° to -40°	90°/s	90°/s	90°/s
Axis 3 Arm	+70° to -180°	90°/s	90°/s	90°/s
Axis 4 Wrist	+300° to -300°	150°/s	150°/s	150°/s
Axis 5 Bend	+120° to -120°	120°/s	120°/s	120°/s
Axis 6 Turn	+360° to -360°	235°/s	235°/s	190°/s

A supervision function prevents overheating in applications with intense and frequent movements.

Electrical connections

Supply voltage	200-600 V, 50/60 Hz
Power consumption: ISO-Cube	2.4 kW

Physical

Dimensions robot base	1136 x 864 mm	
Weight	IRB 6650S-90	2275 kg
	IRB 6650S-125	2250 kg
	IRB 6650S-200	2250 kg

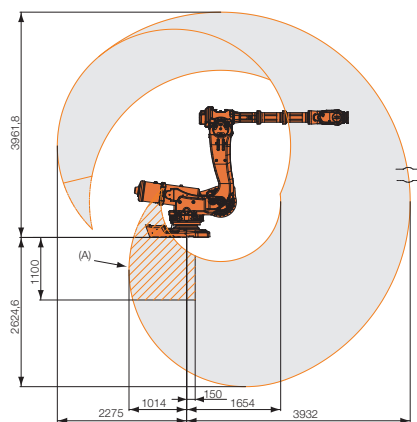
Environment

Ambient temperature for mechanical unit	
During operation:	+5 °C (41 °F) to +52 °C (122 °F)
During transportation and storage:	-25 °C (13 °F) to +55 °C (131 °F)
For short periods (max 24 h)	Up to +70 °C (158 °F)
Relative humidity	Max. 95 %
Noise level	Max. 73 dB (A)
Safety	Double circuits with supervision, emergency stops and safety functions, 3-position enable device.
Emission	EMC/EMI-shielded
Options	Foundry Plus 2

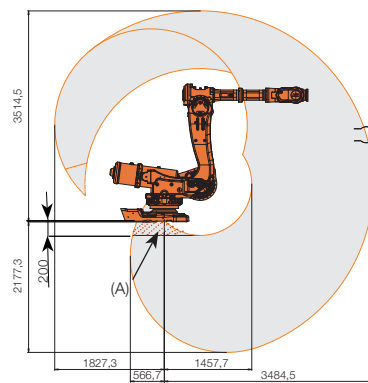
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Working range

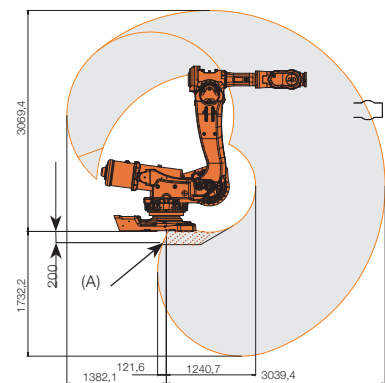
IRB6650S-90/3.9



IRB6650S-125/3.5



IRB6650S-200/3.0



(A) = Marked area under the robot base not available.