

IRB 1600 Industrial Robot

Main Applications

Arc welding
Assembly
Die casting
Injection moulding
Machine tending
Material handling
Packaging

The All-round Winning Athlete

The IRB 1600 is a fast and strong bending backwards robot – the answer to important market demands. Designed to be cost optimal, the IRB 1600 is as masterful in arc welding as in die casting, machine tending, material handling, injection moulding, assembly and packaging. Being a flexible all-rounder, the IRB 1600 is nonetheless a keen specialist with competitive edge in each application.

The built in second generation of TrueMove™

and QuickMove™ substantially improves the path accuracy and cycle time of the IRB 1600. This software also supervises internal robot loads, which means reduced risk of overload and longer robot lifetime.

Strong – Maximized utilization

Payload options are 6 or 8 kg (up to 12 kg with “wrist down”). This makes the IRB 1600 the strongest robot in its class, offering maximized utilization.



Robust – Harsh production environment

IP 67 classed, and “Foundry Plus” optional, the IRB 1600 is resistant against harsh production environments.

Flexible integration and production

Bending backwards concept and different mounting options (wall, floor, inverted or tilted mounting) make the IRB 1600 a versatile robot, ready to meet the highest demands on flexible integration and production.

When wall mounted the IRB 1600-8 gets a substantially improved working range for axis 1 with +/- 60°.

For arc welding you have the option of IRB 1600ID with integrated arc welding hose package. For details, please go to separate data sheet.

Smart – High production efficiency

Building compact and efficient cells, up to four robots can be independently operated from the same controller.

IRB 1600

Specification

Robot versions IRB	Handling capacity	Reach
IRB 1600-6/1.2	6 kg	1.2 m
IRB 1600-6/1.45	6 kg	1.45 m
IRB 1600-8/1.2	8.5 kg	1.2 m
IRB 1600 -8/1.45	8.5 kg	1.45 m
Number of axes	6	
Protection	IP 54 (standard, Clean Room) IP 67 FoundryPlus	
Mounting	floor, wall, inverted, tilted	



Integrated signal supply	23 signals + 10 power (optional)
Integrated air supply	max. 8 bar on upper arm (optional)
IRC5 Controller variants	Single cabinet, Dual cabinet, Panel mounted

Performance

Position repeatability	0.05 mm	
Speed axis *)	8 kg	6 kg
1	180°/s	150°/s
2	180°/s	160°/s
3	200°/s	170°/s
4	400°/s	320°/s
5	400°/s	400°/s
6	460°/s	460°/s

*) Max velocity is reduced at single phase power supply, e.g. Compact controller. Please, see Product specification for further details.

Range of movement

	1.2 m reach	1.45 m reach
Axis 1*	+180° to -180°	+180° to -180°
Axis 2	+136° to -63°	+150° to -90°
Axis 3	+55° to -235°	+65° to -245°
Axis 4	+200° to -200° Default +190 revolutions to -190 revolutions Max**	+200° to -200° Default +190° revolutions to -190 revolutions Max**
Axis 5	+115° to -115°	+115° to -115°
Axis 6	+400° to -400° Default +288 revolutions to -288 revolutions Max**	+400° to -400° Default +288 revolutions to -288 revolutions Max**

* +/- 60° wall mounted IRB 1600-8

+/- 20° wall mounted IRB 1600-6

+/- 45° tilted robot, up to 30°

** The default working range for axis 4 and axis 6 can be extended by changing parameter values in the software

Electrical connections

Supply voltage	200 – 600 V, 50/60 Hz
Power consumption	ISO-Cube at max speed 0.58 kW
Rated power	supply transformer 4 kVA/7.8 KVA with external axis

Physical

Dimensions	
Total height	1.45 m = 1294,5; 1.2 m = 1069,5
Robot base	484 x 648
Weight	
IRB 1600-X/1.2 m	250 kg
IRB 1600-X/1.45 m	250 kg

Environment

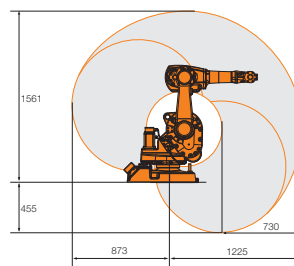
Temperature	+5 to +45°
Relative humidity	max. 95 %
Noise level	max. 70 dB (A)
Options	Foundry Plus Clean Room, class 5 (certified by IPA)



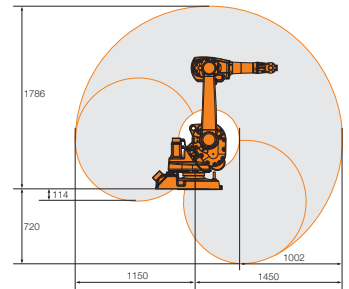
Data and dimensions may be changed without notice

Working range

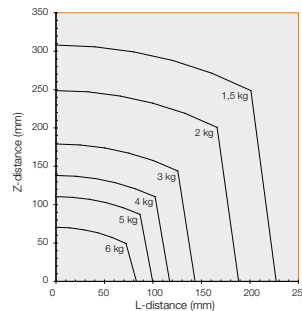
IRB 1600/1.2 m



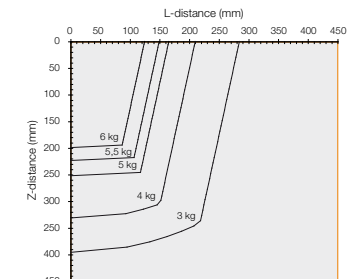
IRB 1600/1.45 m



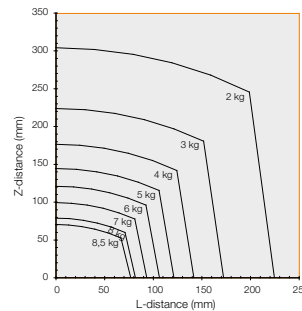
IRB 1600-6/xx Armload 15 kg



IRB 1600-6/xx with Vertical Wrist



IRB 1600-8,5/xx Armload 15 kg



IRB 1600-8,5/xx with Vertical Wrist

