

IRB 6660 Industrial Robot

The IRB 6660 is an extremely reliable robot designed for high performance applications. The stiff design supports accuracy and short cycle times, which in the end increases productivity. It comes in three versions, two with long reach aimed at high-performance press tending operations and the the third designed for challenging applications like machining of castings.

The optimised press tending robot

The most critical robot axes have been reinforced according to typical press cycle time requirements. When combined with the parallel arm design it makes the robot stiffer, easier to control and faster.

The robot's gears have been reinforced to extend their life time and improve how they function at faster speeds. It also includes power and resolver cabling up to the upper arm house, which makes integration of an external axis easier.

The pre-machining robot

High productivity in machining applications requires a stiff and robust robot. The IRB 6660 has a parallel arm structure, and in general, a very compact and sturdy mechanical design. Its special dual bearing design and powerful gears and motors provide additional support for handling fluctuating process forces common within applications such as milling, deburring and grinding.



The robot is available with ABB's Foundry Plus 2 protection and also has dedicated cable protection to further strengthen the reliability and uptime.

RobotWare Machining Force Control

This software product provides improved process results and quality – secure controlled contact force in grinding application gives improved and consistent product quality.

Main Applications

- Press tending
- Machine tending
- Machining
- Milling
- Cutting
- Grinding
- Sawing

Specification

Variants	Reach	Payload	Armload
IRB 6660-100/3.3	3.35 m	100 kg	20 kg
IRB 6660-130/3.1	3.10 m	130 kg	20 kg
IRB 6660-205/1.9	1.93 m	205 kg	15 kg + 500 kg on frame
Number of axes:	6		
Protection	Complete robot IP 67, Optional FoundryPlus 2 and cable protection (only IRB 6660-205/1.9).		
Mounting:	Floor mounted		
IRC5 Controller variants	Single cabinet		

Performance

Positions repeatability	0.07 - 0.11 mm			
Axis movements	Working range	Axis max speed		
		100/3.3	130/3.1	205/1.9
Axis 1 Rotation	+180° to - 180°	110°/s	110°/s	130°/s
Axis 2 Arm	+ 85° to - 42°	130°/s	130°/s	130°/s
Axis 3 Arm	+120° to - 20°	123°/s	130°/s	130°/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°	240°/s	240°/s	190°/s
Axis 2-3	+160° to + 20°			

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

Electrical connections

Supply voltage	200-600 V, 50/60 Hz		
Power consumption (max load)	100/3.3	130/3.1	205/1.93
ISO-Cube	2.3 kW	3.1 kW	3.6 kW
Press tending cycle	4.7 kW	3.9 kW	

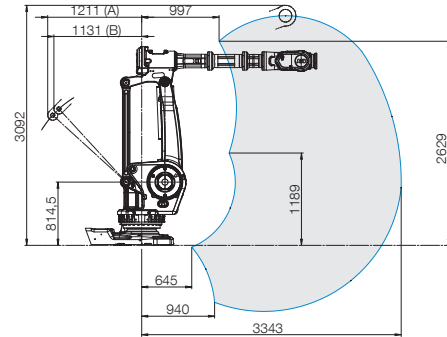
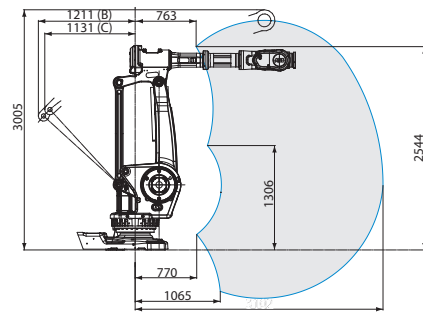
Physical

Dimensions robot base	1206 x 798 mm
Weight	100/3.3 1950 kg
	130/3.1 1910 kg
	205/1.9 1730 kg

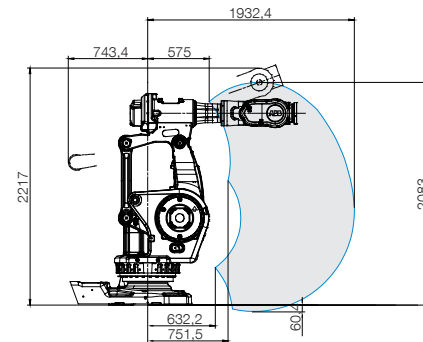
Environment

Ambient temperature for mechanical unit	
During operation	+ 5° C (41° F) -+50° C (122° F) *
During transportation and storage for short periods (max 24h)	- 25° C (13° F) -+55° C (131° F) up to +70° C (158° F)
Relative humidity	Max 95%
Noise level	Max 70-73 dB(A)
Safety	Double circuits with supervision, emergency stops and safety functions, 3-positions enable device.
Emission	EMC/EMI-shielded

*In a high-speed press tending application max ambient temperature is 40 °C. Data and dimensions may be changed without notice



IRB 6660-130/3.1 and IRB 6660-100/3.3 are optimized for press tending



IRB 6660-205/1.9 optimized for pre-machining

For more information please contact:

ABB AB Robotics

Hydrovägen 10
SE-721 36 Västerås, Sweden
Phone: +46 21 325000

www.abb.com/robotics

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