

# 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 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.

### **Powered by OmniCore**

OmniCore controller offers best-in-class motion control, 20 percent energy savings, security, and scalable functions. Faster performance and enhanced flexibility enable improved productivity and ability to respond to changing market demands.

### **Main Applications**

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

## Specification

Robot version	Reach (m)	Payload (kg)	Armload (kg)
IRB 6660-100/3.3	3.35	100	20
IRB 6660-130/3.1	3.10	130	20
IRB 6660-205/1.9	1.93	205	15 + 500 on frame
Number of axes	6		
Protection	Complete robot: IP 67, Optional FoundryPlus and cable protection (only IRB 6660-205/1.9)		
Mounting	Floor		
Controller	IRC5 Single Cabinet , OmniCore V250XT, V400XT		

## Performance (according to ISO 9283)

	Position repeatability	Path repeatability
IRB 6660-100/3.3	0.10 mm	1.08 mm
IRB 6660-130/3.1	0.11 mm	0.88 mm
IRB 6660-205/1.9	0.07 mm	0.61 mm

Actual values are equal or below the given values.

## Technical information

### Electrical Connections

Supply voltage	200-600 V, 50/60 Hz
Power consumption	

	ISO Cube Max. velocity	Press tending cycle Max. velocity
IRB 6660-100/3.3	2.3 kW	4.7 kW
IRB 6660-130/3.1	3.1 kW	3.9 kW
IRB 6660-205/1.9	3.6 kW	-

### Physical

Robot base	1206 x 798 mm
Robot weight	
IRB 6660-100/3.3	1950 kg
IRB 6660-130/3.1	1910 kg
IRB 6660-205/1.9	1730 kg

### Environment

Ambient temperature for mechanical unit	
During operation	+5°C (41°F) to +50°C (122°F)*
During transportation and storage	- 25°C (13°F) to +55°C (131°F)
During short periods (max. 24 h)	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-position enable device
Emission	EMC/EMI-shielded

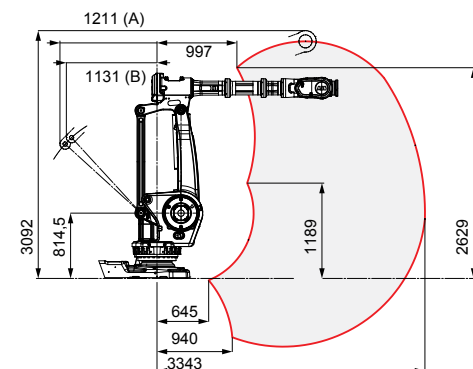
\*In a high-speed press tending application max ambient temperature is 40°C. Data and dimensions may be changed without notice.

## Movement

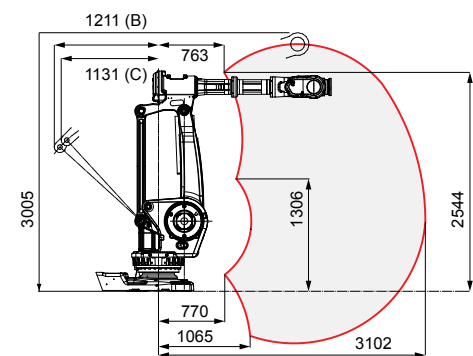
Axis movement	Working range	Axis max speed		
		-130/3.1	-100/3.3	-205/1.9
Axis 1 rotation	+180° to -180°	110°/s	110°/s	130°/s
Axis 2 arm	+85° to -42°	130°/s	130°/s	130°/s
Axis 3 arm	+120° to -20°	130°/s	123°/s	130°/s
Axis 4 wrist	+300° to -300°	150°/s	150°/s	150°/s
Axis 5 bend	+120° to -120°	120°/s	120°/s	120°/s
Axis 6 turn	+360° to -360°	240°/s	240°/s	190°/s

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

### Working range, IRB 6660-100/3.3



### Working range, IRB 6660-130/3.1



### Working range, IRB 6660-205/1.9

