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.

Main Applications
- Press tending
- Machine tending
- Machining
- Milling
- Cutting
- Grinding
- Sawing
Position repeatability

- IRB 6660-100/3.3: 0.10 mm
- IRB 6660-130/3.1: 0.15 mm
- IRB 6660-205/1.9: 0.10 mm

Actual values are equal or below the given values.

Performance (according to ISO 9283)

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

Movement
Axis movement: Working range, Axis max speed
- Axis 1 rotation: +180° to -180°: 110°/s / 100°/s / 205°/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.