

IRB 1200

Opening a new era in accuracy, size and speed



ABB's high-performance IRB 1200 next generation robots enhance productivity and efficiency in high-end process applications. Powered by OmniCore, they offer class-leading motion control and path accuracy, enabling precise performance even when multiple robots are operating at high speeds. With a leaner design, the new IRB 1200 enables more compact and efficient cells, opening opportunities for increased throughput and efficiency without increasing production footprint.

Benefits at a glance:

1. **Productivity:** Best-in-motion control and path accuracy repeatability of 0.011 mm, even with multiple robots, 5% faster¹.
2. **Throughput:** Class-leading 8 kg and 9 kg payload capacity enables handling of heavier loads or more objects than other competing robots.
3. **Efficiency:** Leaner, slimmer design enables more cells to be included within the same space, increasing throughput.
4. **Sustainability:** 20% lighter weight* reduces pedestal costs and reduces energy consumption.

The IRB 1200 next generation family has four high-performance variants covering payloads of 5 kg, 7 kg, 8 kg, and 9 kg. Class-leading 8 kg and 9 kg payload capacities enable the handling of heavier or additional objects, increasing throughput compared to competing robots.

¹IRB 1200 Gen 2 compared with its predecessor, the IRB 1200.

Class-leading motion control

Powered by OmniCore™, the IRB 1200 next generation robots offer class-leading motion control, even with multiple robots running simultaneously at high speeds. This superior performance, combined with enhanced stabilization and an optimized drive train, means that cycle times can be reduced by up to 5%¹.

Further performance benefits are achieved by the robot's precise path accuracy, which can be further enhanced with the optional Absolute Accuracy feature.

Enhanced efficiency

With a compact design and slim upper arm that minimizes the risk of collisions with workpieces, the IRB 1200 next generation robots offer new opportunities for smaller, more efficient production cells. Weighing 20% less than its predecessor, the new robot can also save on installation costs as it does not require a heavy-duty pedestal for mounting.

Versatility

The IRB 1200 can be controlled by four OmniCore controllers, including the E10, C30, C90XT, and V250XT, to support essential and more extensive customer requirements. For example, additional axes or drive units from OmniCore controllers can synchronize external equipment (e.g., positioners or turntables) with the robot's movements, significantly improving the overall operating efficiency and increasing productivity.

The option of up to 24 connection pins for customer power and signal (CP/CS) options allows for the integration of more grippers and sensors via internal cabling, reducing cable wear and tear, and minimizing cable interference.

The use of a larger diameter air hose ($\Phi 6 \times 2$) provides additional power for vacuum suction, allowing simultaneous handling of multiple objects, compared to other robots.

Food Grade Lubrication option

This option features food grade lubrication on all axes, wrist flanges, motor covers, and IP67 compliant against dust and liquid. NSF H1 food grade lubrication throughout is designed to meet the constraints of food and beverage applications.

Foundry Plus 2 option

The Foundry Plus 2 option enables the robot to withstand harsh environments and meets the requirements for use in metal die casting, sand casting, forging, and machining applications. The Foundry Plus 2 is IP67 compliant from base to wrist, meaning that the robot's electrical compartments are sealed against liquid and solid contaminants.

Cleanroom option

This option means that the cleanroom robot is sealed, which reduces particle contamination and prevents grease and oil leakage into production areas for products and devices such as electronics, pharma, and lab automation. The cleanroom robot is ISO 14644-1 Class 4 certified, making it ideal for manufacturing settings requiring exceptional cleanliness and minimal particle emission, all while maintaining top-notch speed and performance.

Target industries:

- Electronics,
- General industries,
- Automotive.

Target applications

1. High-speed assembly and precise movements
2. High-accuracy process applications



Specification

Robot version	Reach (m)	Payload (kg)
IRB 1200-5/0.9 Gen2	0,9	5
IRB 1200-7/0.7 Gen2	0,7	7
IRB 1200-8/0.9 Gen2	0,9	8
IRB 1200-9/0.7 Gen2	0,7	9
Number of axes	6	
Protection	Standard IP40 Option IP67 and Foundry Plus 2	
Cleanroom	Option ISO class 4	
Food Grade Lubricant	Option for 5kg and 7kg	
Mounting	Floor/Wall/Ceiling	
Controller	OmniCore E10, C30, C90XT, V250XT	
Integrated signal and power supply	Up to 24 signals (optional)	
Integrated air supply	Φ6 × 4 air on wrist (Max. 6 Bar) (optional)	
Integrated ethernet	One 1000 Base-T ethernet port (optional)	

Performance (according to ISO 9283)

	Pose repeatability, RP
IRB 1200-5/0.9 Gen2	0.015 mm
IRB 1200-7/0.7 Gen2	0.011 mm
IRB 1200-8/0.9 Gen2	0.019 mm
IRB 1200-9/0.7 Gen2	0.011 mm

Technical information

Physical

Robot base	200 × 230 mm
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Robot weight

IRB 1200-5/0.9 Gen2	44 kg
IRB 1200-7/0.7 Gen2	42 kg
IRB 1200-8/0.9 Gen2	44 kg
IRB 1200-9/0.7 Gen2	42 kg

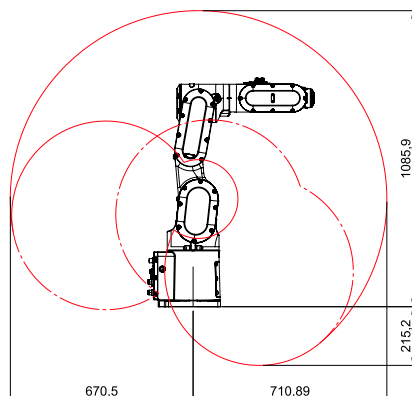
Movement – working range

Robot version	Axis 1 (rotation)	Axis 2 (rotation)	Axis 3 (rotation)	Axis 4 (rotation)	Axis 5 (rotation)	Axis 6 (rotation)
IRB 1200-5/0.9 Gen2	(-220 to +220)	(-100 to +140)	(-200 to +70)	(-230 to +230)	(-130 to +130)	(-400 to +400)
IRB 1200-7/0.7 Gen2	(-220 to +220)	(-100 to +140)	(-200 to +70)	(-230 to +230)	(-130 to +130)	(-400 to +400)
IRB 1200-8/0.9 Gen2	(-220 to +220)	(-100 to +140)	(-200 to +70)	(-230 to +230)	(-130 to +130)	(-400 to +400)
IRB 1200-9/0.7 Gen2	(-220 to +220)	(-100 to +140)	(-200 to +70)	(-230 to +230)	(-130 to +130)	(-400 to +400)

Axis max. speed

Robot version	Axis 1 (rotation)	Axis 2 (rotation)	Axis 3 (rotation)	Axis 4 (rotation)	Axis 5 (rotation)	Axis 6 (rotation)
IRB 1200-5/0.9 Gen2	360	300	360	500	470	840
IRB 1200-7/0.7 Gen2	360	300	360	500	470	840
IRB 1200-8/0.9 Gen2	360	300	360	500	470	840
IRB 1200-9/0.7 Gen2	360	300	360	500	470	840

Working range, IRB 1200-5/0.9 Gen2 and IRB 1200-8/0.9 Gen2



Working range, IRB 1200-7/0.7 Gen2 and IRB 1200-9/0.7 Gen2

