

IRB 1200

A compact, flexible, fast and functional small industrial robot



Have you ever wanted to make your machines 15% smaller and 10% faster? ABB's IRB 1200 allows you to do exactly that. Specifically, it addresses the needs of material handling and machine tending applications for flexibility, ease of use, compactness and short cycle times while still maintaining large working envelopes.

As a family of robots, the IRB 1200 comes in two variants which can handle a wide range of applications. Both variants are available with Food Grade Lubrication, SafeMove2, Foundry Plus 2 and Clean Room option. The 700 mm reach variant can carry a payload of up to 7 kg, while the longer reach 900 mm variant can carry up to 5 kg of payload.

Food Grade Lubrication

This Food Grade Lubrication (NSF H1) option includes Clean Room ISO Class 3 and IP 67 protection rating which ensure uncompromising safety and hygiene for food and beverage applications. The Clean Room ISO 3 design eliminates the potential for contamination of the food handling area. This option provides smooth surfaces and special paint for easier cleaning.

SafeMove2

The IRB 1200 SafeMove2 becomes the smallest ABB robot to feature the advanced safety-certified monitoring and control software solution which allows robots and operators to work more closely together by restricting robot motion to precisely what is needed for a specific application.

The IRB 1200's functional form factor is a feature which is not merely a cosmetic enhancement. Its smooth surfaces make it easy to keep clean and maintain in environments such as CNC machine tending and material handling in the food industry. This theme of efficient design is one which can be found across the entire spectrum of IRB 1200 features and results in features that allow for 15% smaller cells with 10% shorter cycle times.

Compact

The IRB 1200 has no offset in axis two—an innovation that results in a longer stroke than other small robots, meaning it can be placed very close to the work piece and still be functional.

One particular benefit of this long stroke is that it allows for a much more compact installation when the robot is mounted on the ceiling inside a small cell, such as in electronics machining or polishing applications.

The robot's large useable working area contained in a small package leads to shorter cycles and more compact machines.

Durable

Both IRB 1200 variants can be mounted at any angle and come with IP 40 protection as standard. The IRB 1200 is also available with Foundry Plus 2, ABB's optional protection system which allows it to withstand harsh environments. The IRB 1200 Foundry Plus 2 is IP66/67 compliant from base to wrist. The foundry robot is designed for heavy duty metal casting and automotive applications.

Features and benefits

- 15% smaller cells that have 10% shorter cycle times
- Food Grade Lubrication is available option
- SafeMove2 is available option
- IP40 protection as standard; Clean Room, IP67 and Foundry Plus 2 protection are also available options
- 4 air ducts, 10 customer signals and Ethernet routed internally from wrist flange to foot
- Two variants with 700 mm reach/7 kg payload and 900 mm reach/5 kg payload
- Mountable at any angle
- Large useable working area in a compact footprint

Specification

Robot version	Reach (mm)	Payload (kg)	Armload (kg)
IRB 1200-7/0.7	703	7	0.3
IRB 1200-5/0.9	901	5	0.3
Protection	IP40/IP67/Foundry Plus 2/Clean Room		
Mounting	Any angle		
Controllers	IRC5 compact/IRC5 single cabinet		
Integrated signal and power supply	10 Signals on wrist		
Integrated air supply	4 air on wrist (5 Bar)		
Integrated ethernet	One 100/10 Base-TX ethernet port		

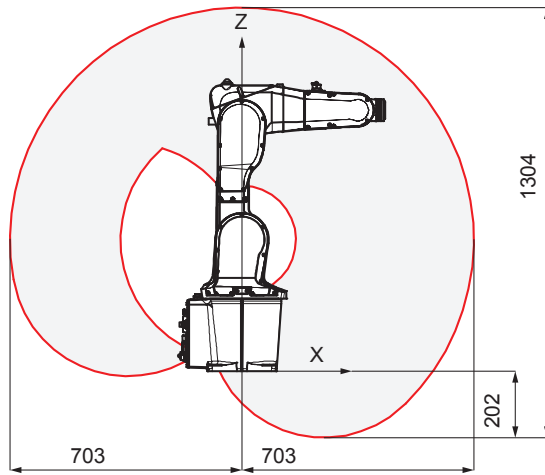
Technical information

Performance	IRB 1200-7/0.7	IRB 1200-5/0.9
1 kg picking cycle		
25* 300 * 25mm	0.42s	0.42s
Max TCP Velocity	7.3 m/s	8.9 m/s
Max TCP Acceleration	35 m/s*s	36 m/s*s
Acceleration time 0-1m/s	0.06s	0.06s
Position repeatability RP (mm)	0.02 mm	0.025 mm
Electrical connections	IRB 1200-7/0.7	IRB 1200-5/0.9
Supply voltage	200-600 V, 50-60 Hz	
Transformer rating	4.5 KVA	4.5 KVA
Power consumption	0.39 kW	0.38 kW
Physical	IRB 1200-7/0.7	IRB 1200-5/0.9
Dimensions robot base	210 * 210mm	
Weight	52 kg	54 kg

Movement, IRB 1200-7/0.7

Axis movement	Working range	Axis max speed
Axis 1 rotation	+170° to -170°	288°/s
Axis 2 arm	+135° to -100°	240°/s
Axis 3 arm	+70° to -200°	300°/s
Axis 4 wrist	+270° to -270°	400°/s
Axis 5 bend	+130° to -130°	405°/s
Axis 6 turn	+400° to -400°	600°/s

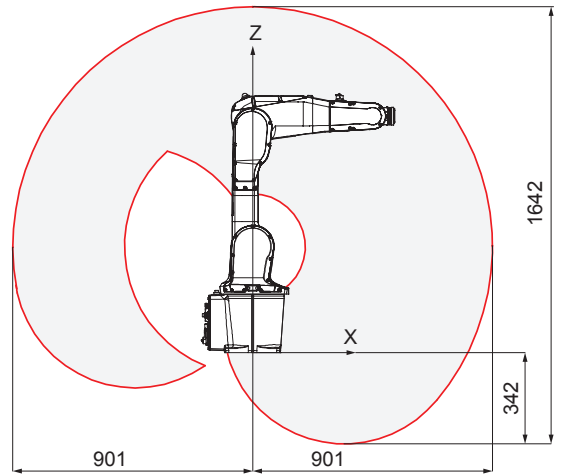
IRB 1200 7/0.7, working range



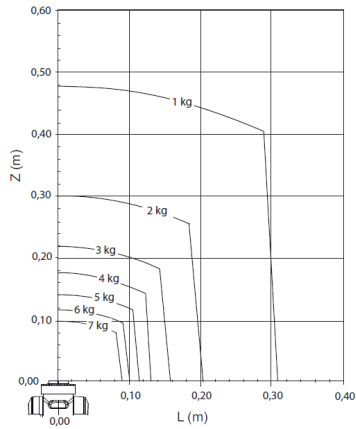
Movement, IRB 1200-5/0.9

Axis movement	Working range	Axis max speed
Axis 1 rotation	+170° to -170°	288°/s
Axis 2 arm	+130° to -100°	240°/s
Axis 3 arm	+70° to -200°	300°/s
Axis 4 wrist	+270° to -270°	400°/s
Axis 5 bend	+130° to -130°	405°/s
Axis 6 turn	+400° to -400°	600°/s

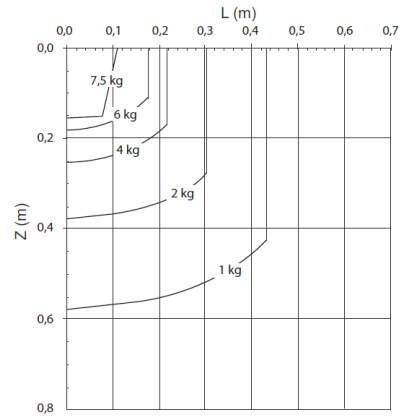
IRB 1200 5/0.9, working range



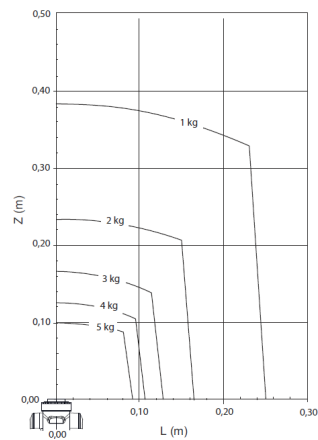
IRB 1200 7/0.7 Payload



IRB 1200 7/0.7 Payload, wrist down



IRB 1200 5/0.9 Payload



IRB 1200 5/0.9 Payload, wrist down

