Robotics

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 the material handling and machine tending industries 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 and are cost effective due to commonality of parts. Both variants are available with Foundry Plus and clean room. 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.

The IRB 1200 excels in situations that require a compact package without sacrificing working range or functionality. Short throw distances between operations make for faster cycle times in as small a cell as possible, meaning you can do more with less. The IRB 1200—better by design and best in class.

New design
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.

Easy to integrate
With four air ducts, 10 customer signals and Ethernet, the IRB 1200 is built with ease-of-integration in mind. For instance, both electrical and air connections can be made to the robot via side ports or an underline option, and the Ethernet port makes it easy to integrate with other equipment. These connections are routed internally on the robot from very close to the wrist flange all the way to the foot, thus enhancing the compactness of the package.

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, meaning that the robot's electrical compartments are sealed against liquid and solid contaminants.

Features and benefits

- 15% smaller cells that have 10% shorter cycle times
- IP 40 protection as standard; IP67 and Foundry Plus 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	payload	armload
IRB 1200-7/0.7	703mm	7kg	0.3kg
IRB 1200-5/0.9	901mm	5kg	0.3kg

Features

Integrated signal supply	10 signals on wrist
Integrated air supply	4 air on wrist(5 bar)
Integrated ethernet	one 100/10 Base-TX ethernet port
Position repeatability IRB 1200-7/0.7	0.02 mm
Position repeatability IRB 1200-5/0.9	0.025 mm
Robot mounting	Any angle
Degree of protection	IP40/IP67/Foundry Plus/Clean Room
Controllers	IRC5 compact / IRC5 single cabinet

Movement

	IRB 1200-7/0.7		IRB 1200-5/0.9	
Axis movement	**Working range**	**Maximum speed**	**Working range**	**Maximum speed**
Axis 1 Rotation	+170° to -170°	288°/s	+170° to -170°	288 °/s
Axis 2 Arm	+135° to -100°	240°/s	+130° to -100°	240 °/s
Axis 3 Arm	+70° to -200°	300°/s	+70° to -200°	300 °/s
Axis 4 wrist	+270° to -270°	400°/s	+270° to -270°	400 °/s
Axis 5 Bend	+130° to -130°	405°/s	+130° to -130°	405 °/s
Axis 6 Turn	+360° to -360°	600°/s	+360° to -360°	600 °/s

Performance	IRB 1200-7/0.7	IRB 1200-5/0.9
1 kg picking cycle		
25* 300 * 25 mm	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

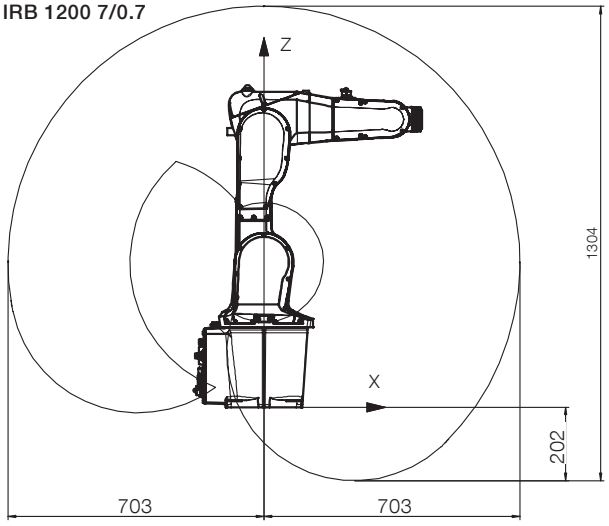
Electrical connections

Supply voltage	200-600 V, 50-60 HZ	
Transformer rating	4.5 KVA	4.5 KVA
Power consumption	0.39 KW	0.38 KW

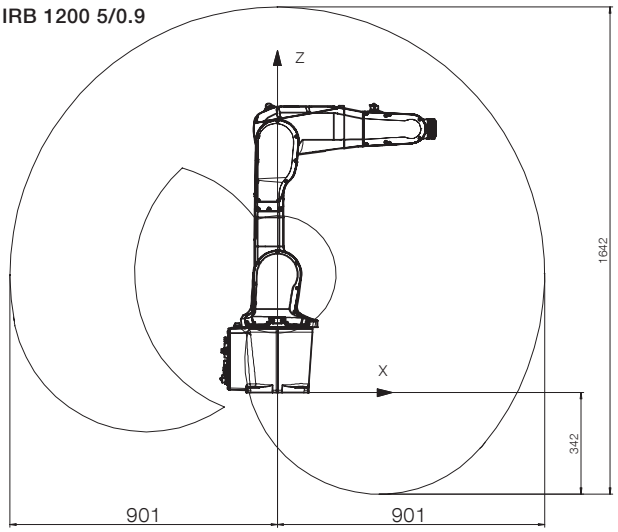
Physical

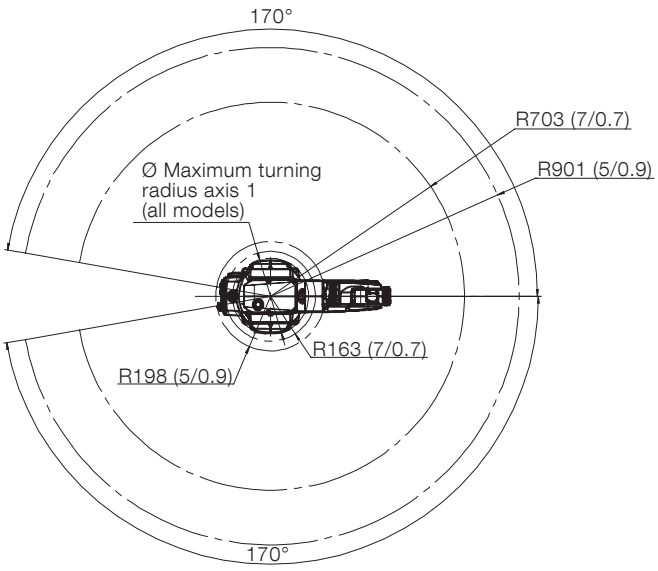
Dimension base	210mm*210 mm	210mm*210 mm
Weight	52 KG	54 KG

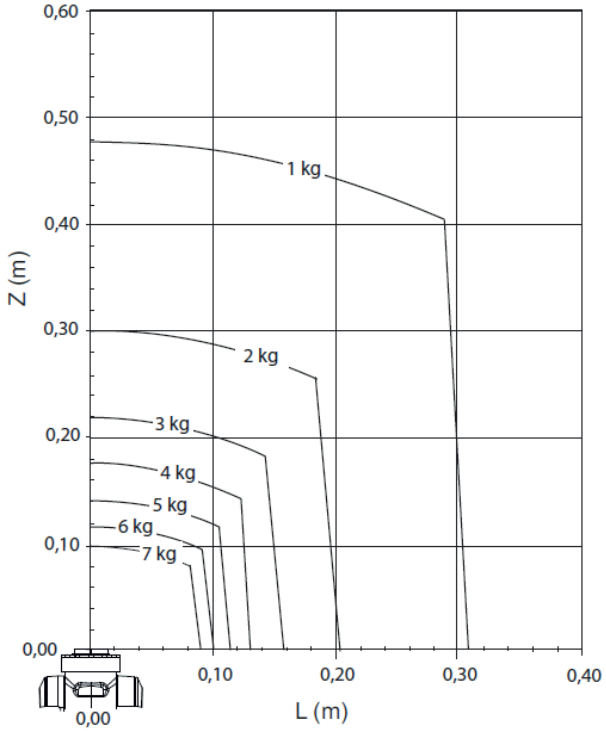
IRB 1200 7/0.7



IRB 1200 5/0.9







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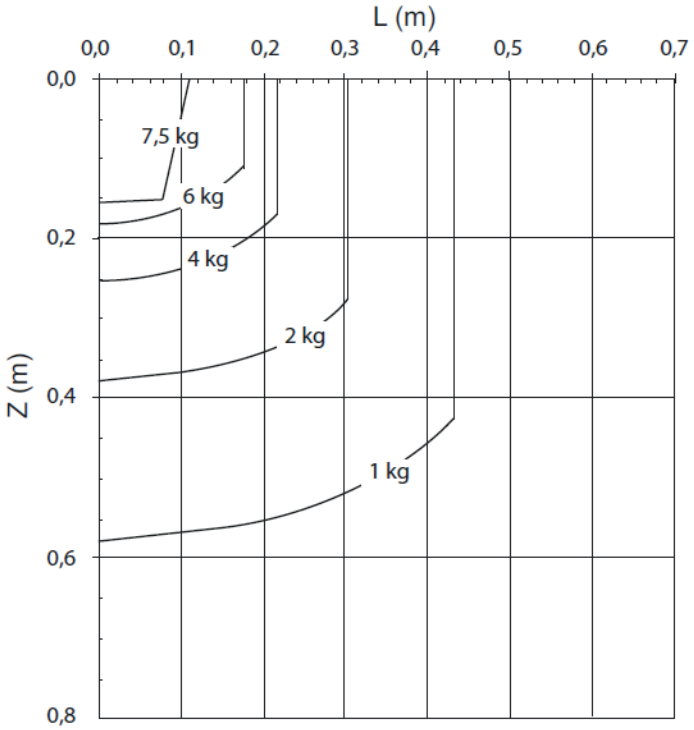
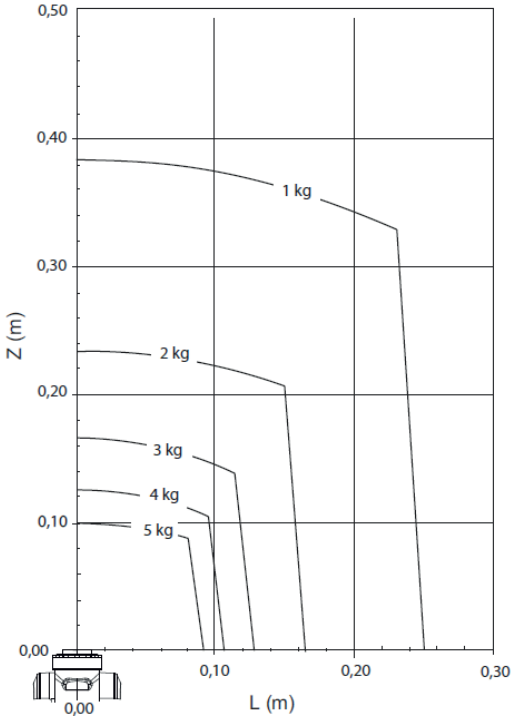


IRB 1200 7/0.7 Payload, wrist down



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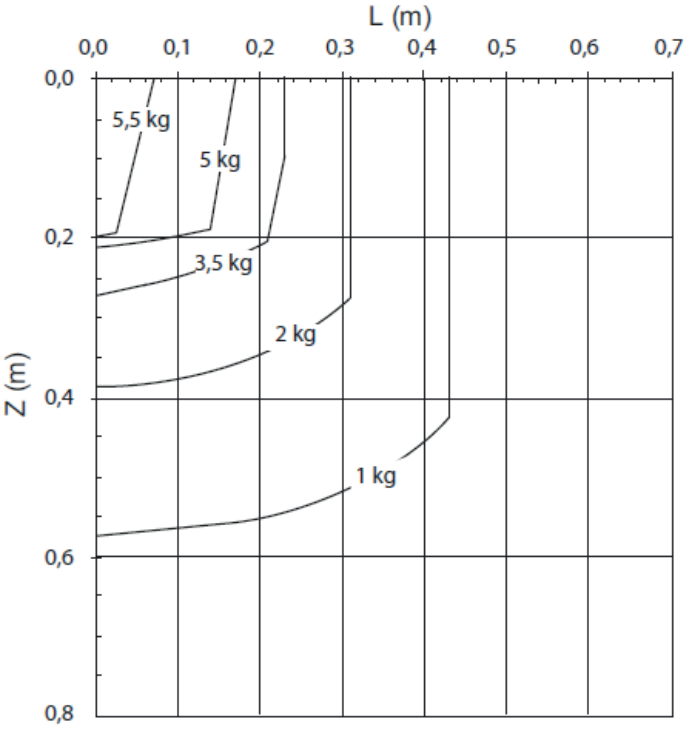

IRB 1200 5/0.9 Payload, wrist down

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