IRB 5710, IRB 5720

High-performance, compact large robot with invertible mounting and fast spot welding

Faster, more robust and accurate, the IRB 5710 and IRB 5720 bring higher uptime, increased productivity, and better performance in the automotive and general industries.

Key benefits

- TrueMove and QuickMove software enables best-in-class motion control and improved cycle times, and path accuracy.
- Increased speed and shorter cycle times – faster than other robots, and up to 25 percent faster than IRB 6620 and IRB 6700.
- LeanID Integrated DressPack reduces cable wear and tear, and lengthens service interval.
- Robust design with a rigid structure increases uptime.
- Multiple mounting options for flexible production layouts.
- Built to operate in harsh environments—available with Foundry Plus protection.

IRB 5710 and IRB 5720 are ideal for use in material handling, machine tending, and high precision assembly applications in the Electric Vehicle (EV), automotive, and the general industries. For Electric Vehicles, robots can handle an array of tasks, including EV battery module picking and placing, high precision assembly, spot welding, and parts handling. For general industries, the robots can be used for a wide range of tasks in spot welding, die casting, material removal, cleaning, spraying, and general high precision applications.

Main applications

- EV Battery modules picking, placing, and high precision assembly.
- Automotive tier 1 parts material handling, and machine tending, and spot welding.
- General Industry material handling, machine tending, spot welding, die casting, and general high precision applications.

Productivity

Thanks to the robot's robust mechanical design and OmniCore controller V250XT's motion control, the IRB 5710 and IRB 5720 provide improved speed and accuracy to help increase productivity. IRB 5710 is faster than competing robots and up to 25 percent faster than ABB's large-size robots (IRB 6700 and IRB 6620), enabling more products to be manufactured in less time. With the excellent position repeatability, path accuracy, and path speed, IRB 5710 and IRB 5720 are more accurate than other robots, enabling the highest levels of manufacturing quality to be achieved.

LeanID Integrated DressPack increases uptime

By integrating cabling within the body of the robot, ABB's unique LeanID Integrated DressPack reduces the problem of swinging cables that can cause wear and tear, reducing downtime and maintenance cost. LeanID makes it easier to program and simulate with predictable cable movements at RobotStudio.

Foundry protections

The robots also include superior harsh environment protection, Foundry Plus, additional sealant protection for high radiant or contact heat, ensuring higher availability, fewer breakdowns and longer equipment lifetime. The optional protection guards robots against the harshest of foundry environments.

Specification

Robot version	Reach (m)	Handling capacity (kg)*	Center of gravity (mm)	Wrist torque (Nm)
IRB 5710-110/2.3	2.3	110	300	571
IRB 5710-90/2.7	2.7	90	200	318
IRB5710-90/2.3 LID	2.3	90	300	569
IRB 5710-70/2.7 LID	2.7	70	200	340
IRB 5720-180/2.6	2.6	180	300	980
IRB 5720-125/3.0	3.0	125	300	573
IRB 5720-155/2.6 LID	2.6	155	300	994
IRB 5720-90/3.0 LID	3.0	90	300	569

Number of axes		6
Protection	IP67	Option: Foundry Plus
Mounting	Floor, tilted max 15°	Option: Inverted
Controller		OmniCore V250XT

* LID versions include dresspack, other versions allow 20kg extra load on upper arm

Performance (according to ISO 9283)

	Position repeatability	Path repeatability
IRB 5710-110/2.3	0.04 mm	0.12 mm
IRB 5710-90/2.7	0.05 mm	0.16 mm
IRB 5720-180/2.6	0.04 mm	0.10 mm
IRB 5720-125/3.0	0.05 mm	0.14 mm

Technical information

Electrical Connections	
Supply voltage	380 - 480 VAC, 50/60 Hz
Energy consumption*	
IRB 5710*	2.3-2.9 kW
IRB 5720*	2.5 kW

* ISO-cube at max performance depending on robot version

Physical		
Robot base	1023 x 724 mm	
Robot weight	Std	Inv
IRB 5710-110/2.3	830 kg	845 kg
IRB 5710-90/2.7	830 kg	840 kg
IRB 5710-90/2.3LID	890 kg	905 kg
IRB 5710-70/2.7LID	885 kg	900 kg
IRB 5720-180/2.6	990 kg	1005 kg
IRB 5720-125/3.0	985 kg	1000 kg
IRB 5720-155/2.6LID	1050 kg	1070 kg
IRB 5720-90/3.0LID	1050 kg	1060 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 hours)	up to +70°C (158°F)
Relative humidity	Max 95%
Noise level IRB 5710	70 dB
Noise level IRB 5720	75 dB
Safety	Double circuits with supervision, emergency stops and safety functions, 3-position enable device
Extended safety	SafeMove
Emission	EMC/EMI-shielded

Movement

Working range	IRB 5710-110/2.3 IRB 5710-90/2.7	IRB 5710-90/2.3LID IRB 5710-70/2.7LID
Axis 1*	±170°	±170°
Axis 2	-75°/+145°	-75°/+145°
Axis 3	-180°/+70°	-160°/+70°
Axis 4	±300°	±300°
Axis 5	±130°	±120°
Axis 6	±360°	±200°
Working range	**IRB 5720-180/2.6 IRB 5720-125/3.0**	**IRB 5720-155/2.6LID IRB 5720-90/3.0LID**
Axis 1*	±170°	±170°
Axis 2	-75°/+145°	-75°/+145°
Axis 3	-180°/+70°	-160°/+70°
Axis 4	±300°	±300°
Axis 5	±130°	±120°
Axis 6	±360°	±200°

* Option ±220° working range is the same for inverted variant.

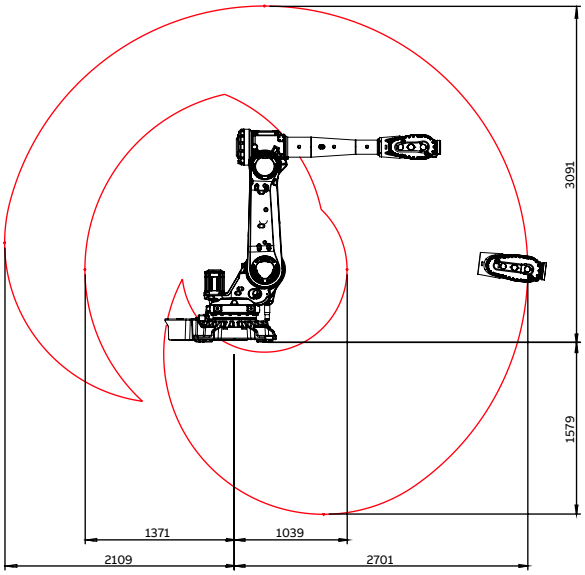
Axis max speed

	Axis 1	Axis 2	Axis 3	Axis 4	Axis 5	Axis 6
IRB 5710-110/2.3	140°/s	125°/s	140°/s	250°/s	200°/s	250°/s
IRB 5710-90/2.7	140°/s	125°/s	140°/s	300°/s	250°/s	360°/s
IRB 5710-90/2.3LID	140°/s	125°/s	140°/s	250°/s	200°/s	250°/s
IRB 5710-70/2.7LID	140°/s	125°/s	140°/s	300°/s	250°/s	360°/s
IRB 5720-180/2.6	110°/s	90°/s	110°/s	200°/s	150°/s	210°/s
IRB 5720-125/3.0	110°/s	90°/s	110°/s	250°/s	200°/s	250°/s
IRB 5720-155/2.6LID	110°/s	90°/s	110°/s	200°/s	150°/s	210°/s
IRB 5720-90/3.0LID	110°/s	90°/s	110°/s	250°/s	200°/s	250°/s

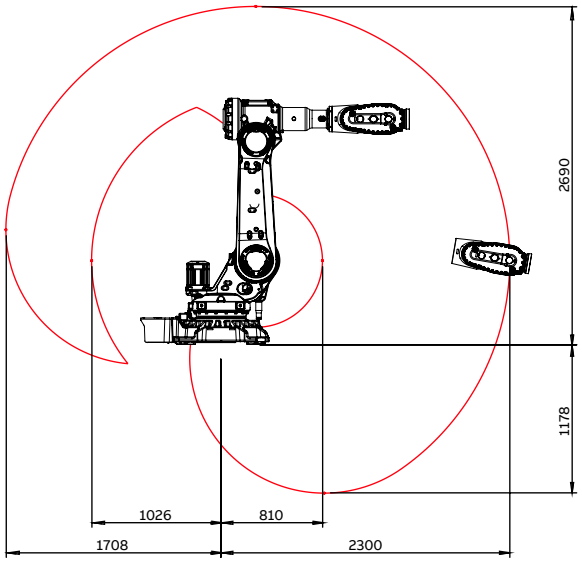
More information about the data specification is found in the Product Specification
Data and dimensions may be changed without notice

Maximizing robot lifetime
ABB provides customers with an advanced toolbox suite designed to maximize robot lifespan, minimizing downtime and enhancing productivity.
Find out more: https://to.abb/G5pwyDKhA

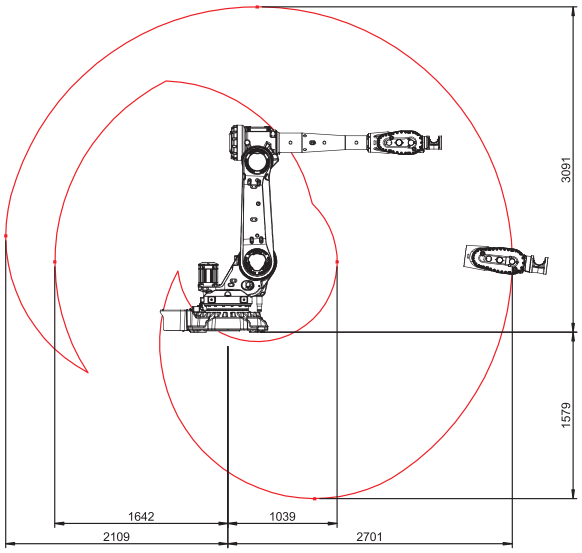
Working range IRB 5710-90/2.7



Working range IRB 5710-110/2.3



Working range IRB 5710-70/2.7 LID



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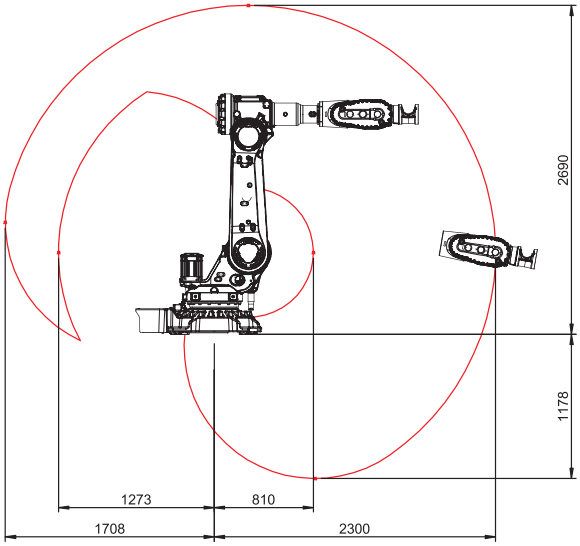
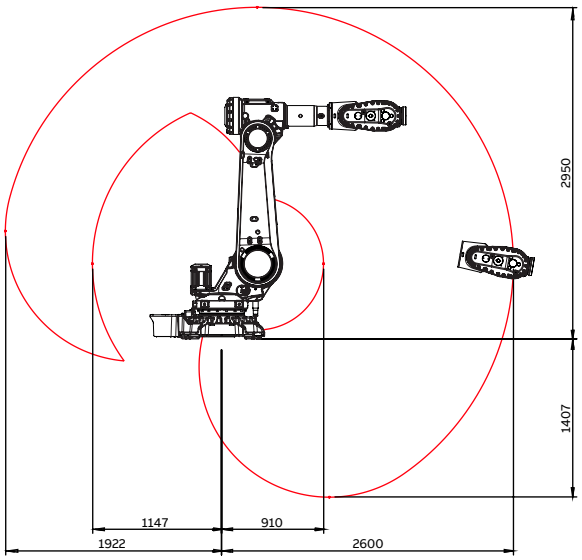


Working range IRB 5720-180/2.6



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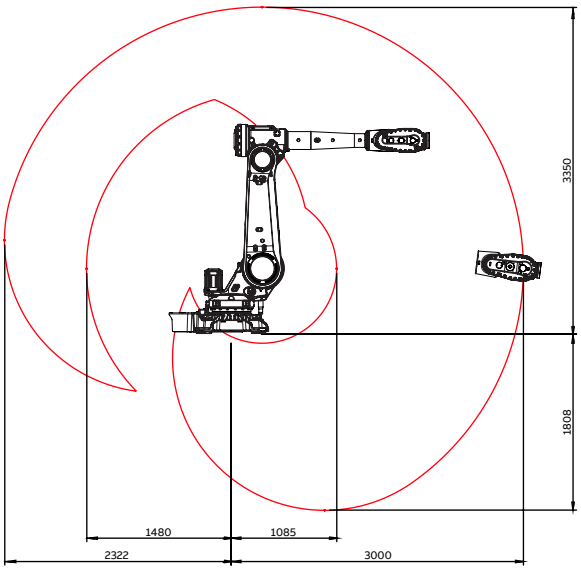

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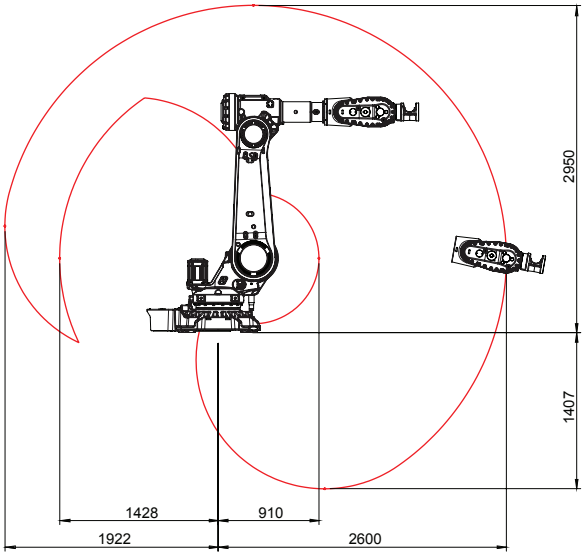

Working range IRB 5720-90/3.0 LID