

IRB 6620LX Industrial robot on linear axis

ABB's IRB 6620LX has the combined advantages of both linear axis and articulated robots, resulting in a 6-axis robot with a 150-kg capacity, large scalable work envelope and the inherent flexibility of ABB's articulated robots. It is designed with high performance and reliability in mind resulting in high productivity and utilization.

Optimized working range for various applications

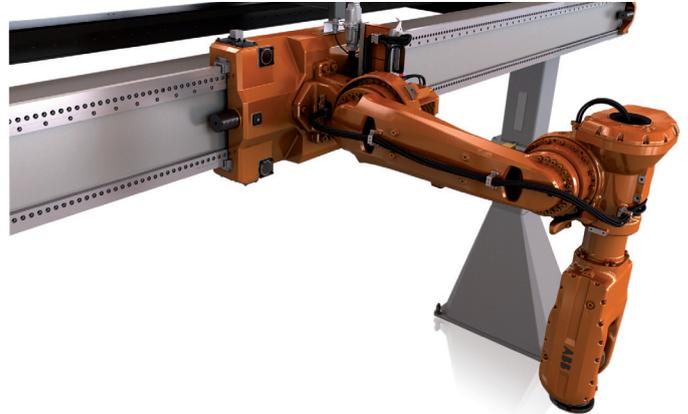
The IRB 6620LX is targeted at various machine tending and material handling applications, including the tending of machine tools, injection moulding and die casting machines. Handling tasks can be solved easier, more flexible and cost-effective compared with customized linear handling systems. In addition, the IRB 6620LX is well suited for applications such as power train assembly, heavy arc welding, grinding, and gluing. The overhead mounted robot also opens up for new, cost-effective opportunities beyond the existing use of industrial robots.

The inherent flexibility

The IRB 6620LX combines the advantages of a linear gantry and articulated robot to perfection. The overhead mounted robot facilitates production flexibility by providing a large scalable work envelope with limited floor space requirements. It is a cost effective and flexible solution that can serve several machines or stations without compromising on performance. This inherent flexibility enables quick and easy changeovers for improved uptime. The IRB 6620LX's workspace can be tailored for different applications by adapting the length of the linear axis up to 33 m and the height up to 4 m. The robot arm can be mounted either by side or inverted to ensure optimized working range. It is flexible automation at its very best!

Productivity and utilization

The scalable workspace of IRB 6620LX makes it possible to operate several stations within a robot cell or alternatively several cells with only one robot. Enabling the robot to perform value-added processing tasks in addition to "basic" material handling also helps increase robot utilization. As a result, productivity and utilization are improved at the same time as investment is reduced.



High performance and reliability

ABB's new IRB 6620LX is built on standard, well-proven components to secure the highest possible performance and unrivalled reliability. The unparalleled speed and acceleration on the linear axis secures the shortest possible cycle time at highest possible accuracy, even at large distances and with a full payload. The high performance comes as a result of sophisticated mechanical engineering and ABB's state-of-the-art motion control technology, TrueMove™ and QuickMove™.

The IRB 6620LX's 5-axis robot arm is available in ABB's well-known Foundry Plus 2 protection which includes IP67. The linear axis has IP66 protection as standard.

Improved accessibility and personal safety

In machine tending applications the IRB 6620LX offers better handling possibilities compared to conventional solutions as it can access machines either from the top or the side. In addition, overhead rail mounted robots provide open access in front of machines for maintenance work, handling of short batches and quick changeovers, etc. As a result, personal safety is improved, as the robot is not present when operating the machine manually.

Reduced investment and maintenance cost

One IRB 6620LX can replace numerous complex material handling systems, which enable savings in investment and maintenance costs. Further more, the inherent flexibility of the IRB 6620LX facilitates for quick and easy changeovers, helping to reduce maintenance and changeover costs. The IRB 6620LX can be readily fitted or adapted to existing factory layouts by designing and positioning the supporting legs as appropriate for the application. This implies that costs for investment and installation as well as capital cost can be reduced further ensuring a quick return on investment.

IRB 6620LX

Specification

Machine tending, material handling, powertrain assembly, heavy arc welding, grinding

Specification

Variants	Reach	Payload	Armload
IRB 6620LX	1.9 m	150 kg	50 kg
Number of axes	6		
Manipulator mounting	Inverted, Side		
Number of robot arms	1 - 2		

Note: Please contact ABB for two robot arms configurations on a single linear axis

Protection	Description	Class
Standard	Axis 1 (linear axis)	IP66 (connectors IP67)
Standard	Axis 2-6 (articulated manipulator)	IP54
Foundry Plus 2	Axis 2-6 (articulated manipulator)	IP67
IRC5 Controller variants:	Single cabinet, Dual Cabinet	

Physical

Linear axis length	1.8 to 33 m	400 mm increments
Linear axis height	2.5 to 4.0 m	100 mm increments
Manipulator weight	610 kg	5-axis manipulator only

Performance

Position repeatability (RP):	0,05 mm*	(Complete system)
Axis movements	Working range	Axis max speed
Axis 1	1.8 to 33 m	Travel speed 3.3 m/s
Axis 2 Arm	+125° to -125°	90°/s
Axis 3 Arm	+70° to -180°	90°/s
Axis 4 Wrist	+300° to -300°	150°/s
Axis 5 Bend	+130° to -130°	120°/s
Axis 6 Turn	+300° to -300°	190°/s

* Tested according to ISO 9283, see ISO testing conditions in Product Specification

Electrical connections

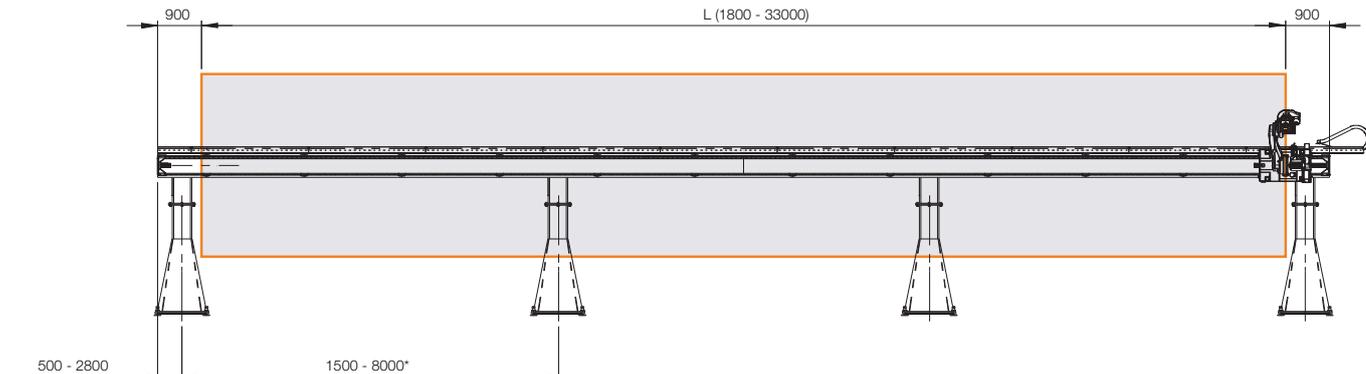
Supply voltage	200-600 V, 50-60 Hz
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Environment

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)
For short periods (max 24h)	up to + 70°C (158°F)
Relative humidity	Max. 95% at constant temperature
Safety	Double circuits with supervisions, emergency stops and safety functions, 3-position enable device
Emission	EMC/EMI-shielded

Data and dimensions may be changed without notice

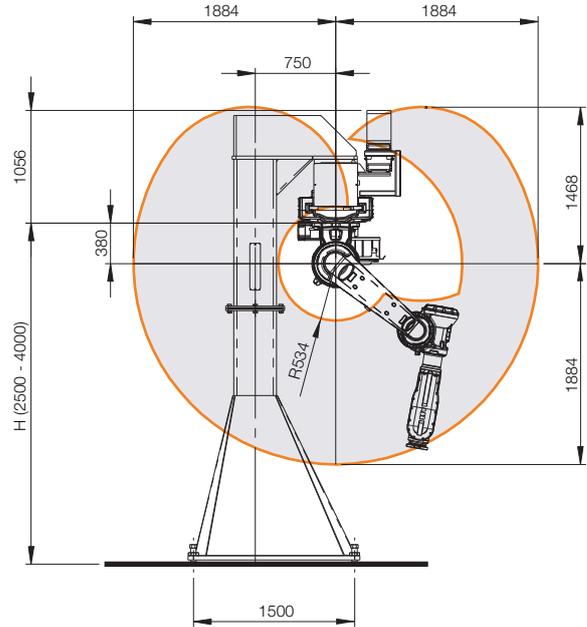
IRB 6620LX Linear axis structure



* = Up to 12000 mm is possible, but performance may be affected

Working range at wrist center & load diagram

IRB 6620LX Inverted



IRB 6620LX Side

