

IRB 6730S, IRB 6750S

High-performance, space-optimized shelf robots



The IRB 6730S and IRB 6750S shelf robots come with a heightened focus on efficient modular design and energy savings of up to 20%¹, while delivering world-class performance and quality. The shelf robots optimize space as it can be mounted at a height position and have increased downward reach, bringing flexibility to the maximum. Capable of handling a superior payload capacity of up to 350 kg, the robot is ideal for material handling, die casting and welding applications.

Key benefits

- Productivity:** Achieves class-leading motion control with path accuracy down to 0.9 mm.
- High payload:** Has a superior payload capacity of up to 350 kg compared to competitor robots (up to 270 kg at similar reach).
- Energy savings:** Combined with OmniCore™, the IRB 6750S consumes 20% less energy.¹
- Uptime:** LeanID DressPack eliminates swinging cables and supports off-line programming to further enhance uptime.

Optimizing space

The IRB 6730S and IRB 6750S can be installed at heights above floor level, providing excellent full vertical and horizontal motion to increase downward reach. This optimizes space, especially for tasks that require reaching into machines (such as die casting and injection molding), crossing down from the elevated track for material handling, or moving from the second to the first floor for car body spot welding.

Unmatched productivity and quality

Powered by the OmniCore controller, the shelf robot achieves class-leading motion control with path accuracy down to 0.9 mm and position repeatability down to 0.05 mm.

Energy savings up to 20%

Helping customers operate more sustainably, the IRB 6750S combined with OmniCore consumes 20%¹ less energy. This is achieved by the robot's efficient design and the OmniCore energy re-generation technology – with the built-in power pack able to relay energy back to the grid.

Efficient modular design

The IRB 6730S and IRB 6750S are based on the same groundbreaking modular design as the wider large robot family recently launched by ABB. Due to modularity, many components like wrist, gearboxes, motors, and cable harness are shared with other modular large robots, decreasing total cost of ownership through shared spare parts and service tools.

1. IRB 6750S compared with IRB 6650S-200/3.0 running on IRC5.

All of the latest robots now have the same footprint, enabling faster, more convenient, and more flexible installation when changing robots in different production lines. Reduced total weight of up to 700 kg support leaner cell and pedestal design, as well as running it on track motions.

Target industries: general industries, foundry, construction, automotive, etc.

Target applications

- Injection moulding:** the shelf mounted robots are especially suited for large injection molding machines over 1,000 tons. The flexibility of the six-axis robot facilitates post process applications like flaming and assembly operations.
- Die casting:** the unique working envelope ensures easy access for die spraying as well as part handling.
- Material handling:** the shelf robot can cross down from the elevated track for material handling.
- Spot welding:** the IRB 6750S on the second level coupled with the floor-mounted IRB 67X0 on the first floor can work together to increase robot density for the same car body or component.

Specification

Robot version	Reach (m)	Handling capacity (kg)*	Center of gravity (mm)	Wrist torque (Nm)
IRB 6730S-270/3.1	3.1	270	300	1324
IRB 6730S-210/3.5	3.5	210	300	1324
IRB 6730S-150/4.0	4.0	150	300	914
IRB 6730S-220/3.1 LID	3.1	220	300	1413
IRB 6730S-180/3.5 LID	3.5	180	300	1413
IRB 6730S-130/4.0 LID	4.0	130	300	1046
IRB 6750S-350/3.2	3.2	350	300	1837
IRB 6750S-270/3.6	3.6	270	300	1324
IRB 6750S-215/3.9	3.9	215	300	1324
IRB 6750S-270/3.2 LID	3.2	270	300	1813
IRB 6750S-220/3.6 LID	3.6	220	300	1413
IRB 6750S-185/3.9 LID	3.9	185	300	1413
Number of axes	6			
Protection	IP67	Option: Foundry Plus		
Mounting	Floor			
Controller	OmniCore V250XT/V400XT			

* LID versions include dresspack, other versions allow 50 kg extra load on upper arm

Performance (according to ISO 9283)

Robot version	Position repeatability	Path repeatability
IRB 6730S-270/3.1	0.06 mm	0.07 mm
IRB 6730S-210/3.5	0.06 mm	0.06 mm
IRB 6730S-150/4.0	0.07 mm	0.10 mm
IRB 6750S-270/3.6	0.08 mm	0.25 mm
IRB 6750S-215/3.9	0.10 mm	0.34 mm
IRB 6750S-350/3.2	0.06 mm	0.15 mm

Technical information

Electrical connections	
Supply voltage	380–480 VAC, 50/60 Hz
Energy consumption*	
IRB 6730S*	1.6-2.2 kW
IRB 6750S*	2.1-2.9 kW

* ISO-cube at max performance depending on robot version

Physical

Robot base	1022 × 720 mm
Robot weight	
IRB 6730S-270/3.1	1570 kg
IRB 6730S-210/3.5	1590 kg
IRB 6730S-150/4.0	1590 kg
IRB 6730S-220/3.1 LID	1640 kg
IRB 6730S-180/3.5 LID	1660 kg
IRB 6730S-130/4.0 LID	1660 kg
IRB 6750S-350/3.2	1780 kg
IRB 6750S-270/3.6	1760 kg
IRB 6750S-215/3.9	1780 kg
IRB 6750S-270/3.2 LID	1840 kg
IRB 6750S-220/3.6 LID	1830 kg
IRB 6750S-185/3.9 LID	1850 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 storage periods (max 24 hours)	up to +70°C (158°F)
Relative humidity	Max 95%

Noise level IRB 6730S	71 dB (A) _{L_{eq}}
Noise level IRB 6750S	75 dB (A) _{L_{eq}}

Safety Double circuits with supervision, emergency stops and safety functions, 3-position enable device

Extended safety SafeMove

Emission EMC/EMI-shielded

Main options Foundry Plus Dresspack

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Movement – working range

Robot version	Axis 1*	Axis 2	Axis 3**	Axis 4	Axis 5	Axis 6
IRB 6730S-270/3.1	±170°	-40°/+160°	-180°/+70°	±300°	±130°	±360°
IRB 6730S-210/3.5	±170°	-40°/+160°	-180°/+70°	±300°	±130°	±360°
IRB 6730S-150/4.0	±170°	-40°/+160°	-180°/+70°	±300°	±130°	±360°
IRB 6730S-220/3.1 LID	±170°	-40°/+160°	-160°/+70°	±300°	±120°	±220°
IRB 6730S-180/3.5 LID	±170°	-40°/+160°	-160°/+70°	±300°	±120°	±220°
IRB 6730S-130/4.0 LID	±170°	-40°/+160°	-160°/+70°	±300°	±120°	±220°
IRB 6750S-350/3.2	±170°	-40°/+160°	-180°/+70°	±300°	±130°	±360°
IRB 6750S-270/3.6	±170°	-40°/+160°	-180°/+70°	±300°	±130°	±360°
IRB 6750S-215/3.9	±170°	-40°/+160°	-180°/+70°	±300°	±130°	±360°
IRB 6750S-270/3.2 LID	±170°	-40°/+160°	-160°/+70°	±300°	±120°	±220°
IRB 6750S-220/3.6 LID	±170°	-40°/+160°	-160°/+70°	±300°	±120°	±220°
IRB 6750S-185/3.9 LID	±170°	-40°/+160°	-160°/+70°	±300°	±120°	±220°

* Option ±220°

** -160°/+70 for MH3 option

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Axis max. speed

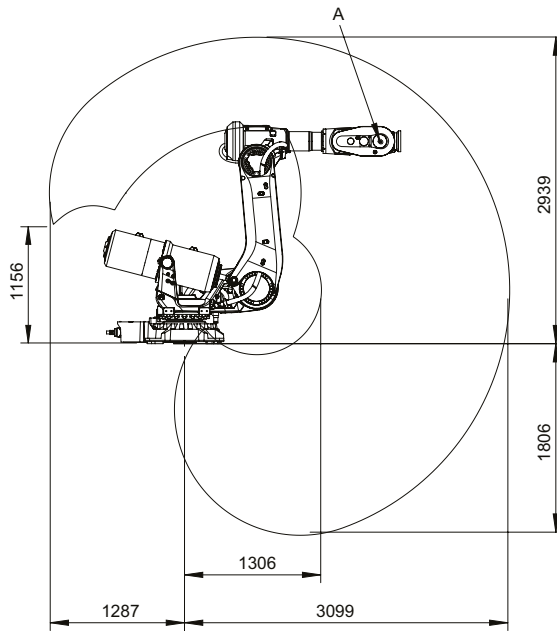
Robot version	Axis 1	Axis 2	Axis 3	Axis 4	Axis 5	Axis 6
IRB 6730S-270/3.1	100 °/s	90 °/s	90 °/s	170 °/s	120 °/s	190 °/s
IRB 6730S-210/3.5	100 °/s	90 °/s	90 °/s	170°/s	120°/s	190°/s
IRB 6730S-150/4.0	100 °/s	90 °/s	90 °/s	200 °/s	150 °/s	210 °/s
IRB 6730S-220/3.1 LID	100 °/s	90 °/s	90 °/s	170 °/s	120 °/s	190°/s
IRB 6730S-180/3.5 LID	100 °/s	90 °/s	90 °/s	170°/s	120°/s	190°/s
IRB 6730S-130/4.0 LID	100 °/s	90 °/s	90 °/s	200 °/s	150 °/s	210 °/s
IRB 6750S-350/3.2	90°/s	72°/s	80°/s	140°/s	110°/s	180°/s
IRB 6750S-270/3.6	90°/s	72°/s	80°/s	170°/s	120°/s	190°/s
IRB 6750S-215/3.9	90°/s	72°/s	80°/s	170°/s	120°/s	190°/s
IRB 6750S-270/3.2 LID	90°/s	72°/s	80°/s	140°/s	110°/s	180°/s
IRB 6750S-220/3.6 LID	90°/s	72°/s	80°/s	170°/s	120°/s	190°/s
IRB 6750S-185/3.9 LID	90°/s	72°/s	80°/s	170°/s	120°/s	190°/s

More information about the data specification is found in the Product Specification IRB 6730S or IRB 6750S
 Data and dimensions may be changed without notice.

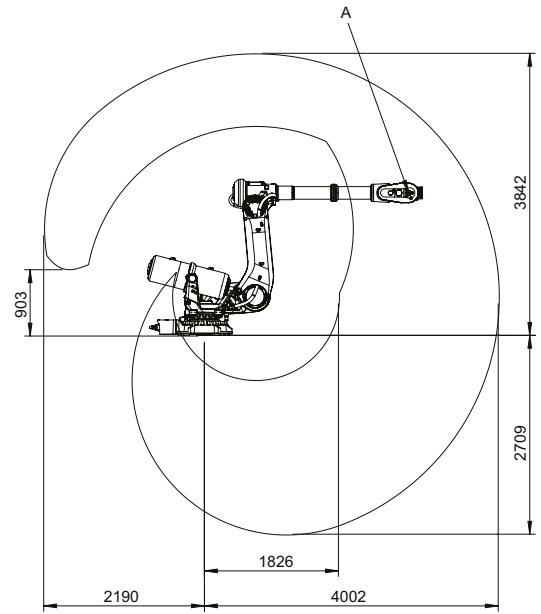
Maximizing robot lifetime

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

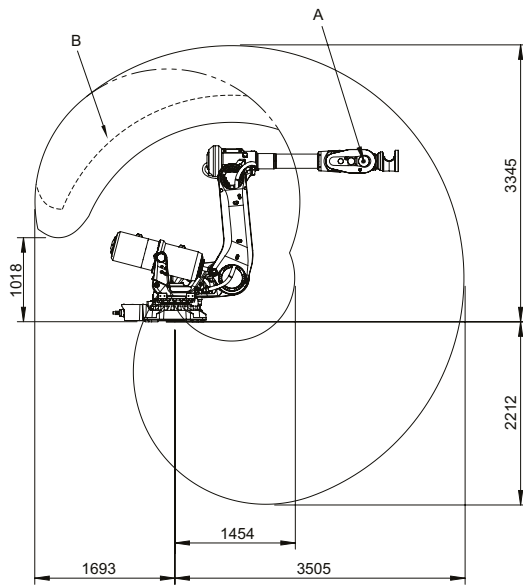
Working range IRB 6730S-270/3.1



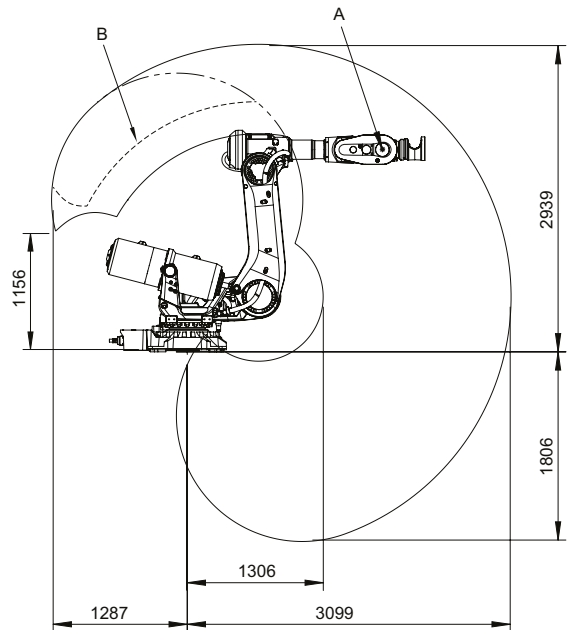
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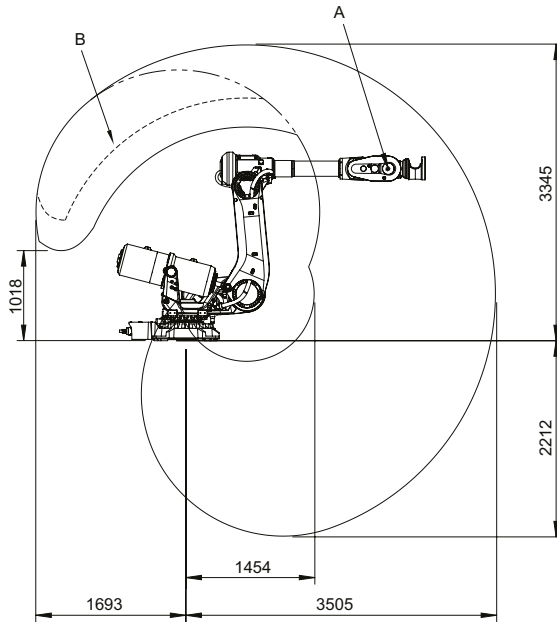
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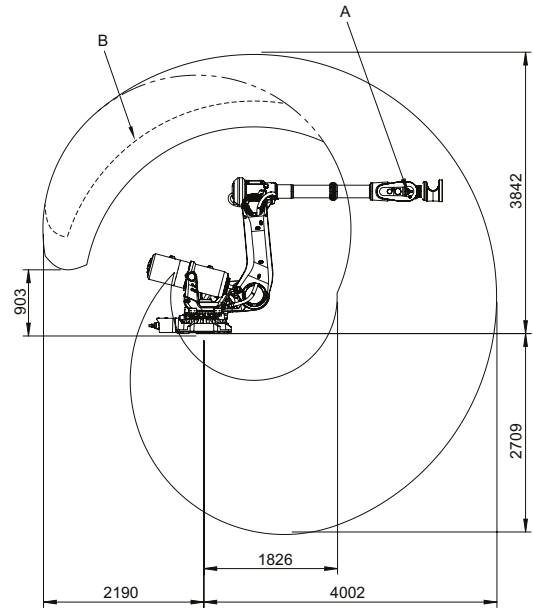
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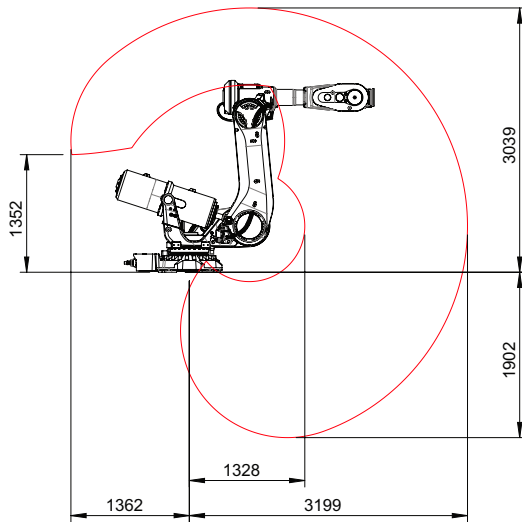
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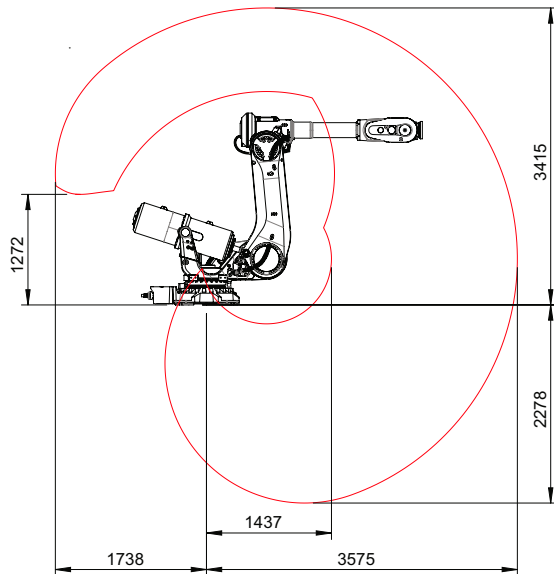
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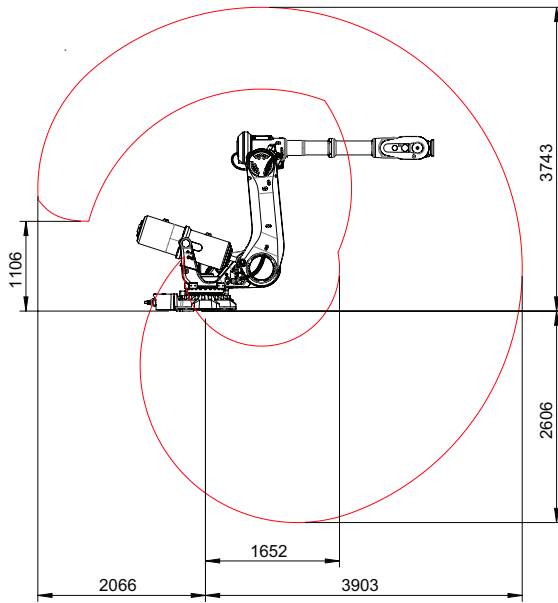
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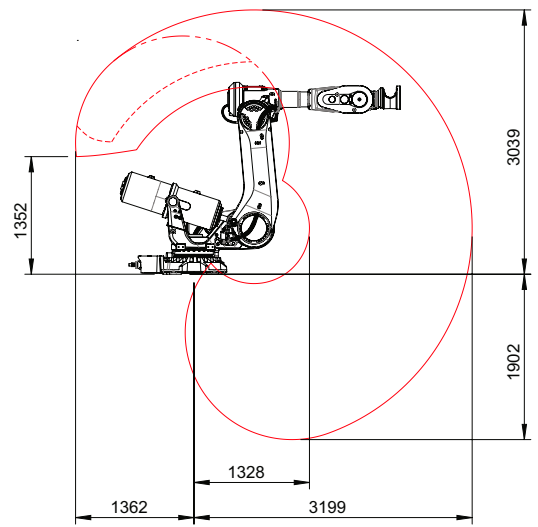
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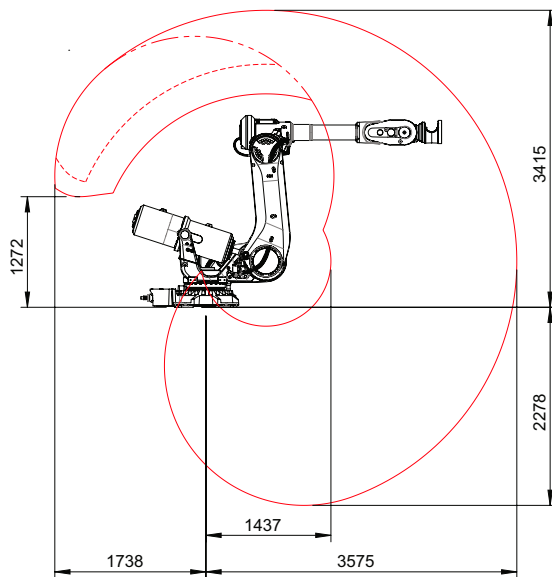
Working range IRB 6750S-215/3.9



Working range IRB 6750S-270/3.2 LID



Working range IRB 6750S-220/3.6 LID



Working range 6750S-185/3.9 LID

