

# IRB 6710, IRB 6720, IRB 6730, IRB 6740

## 22 large, high-performance robot variants for greater choice



The next generation of large robots offer a wide range of payloads and reaches to meet different customer needs alongside significant performance and energy efficiency improvements.

### Key benefits

- 1. Greater choice:** modularity enables 22 powerful variants to meet different customer needs. Payloads from 150kg to 310kg, and reach ranging from 2.5m to 3.2m.
- 2. Energy savings:** up to 20% less energy consumption<sup>1</sup> thanks to a lean design that is up to 10% lighter<sup>2</sup>, plus OmniCore power saving.
- 3. Highest performance:** class-leading position repeatability performance of 0.03mm, with outstanding cycle time thanks to OmniCore motion control.
- 4. Designed to last:** 11 of the robot variants are equipped with a LeanID DressPack that eliminates swinging cables and supports off-line programming.

These large robots are in response to our customers' need for more choice and greater flexibility and are designed to help customers build consistency and resilience across a range of industries including automotive, Electric Vehicle, general industries, foundry, electronics, food and beverage and logistics.

### Wide range for greater choice

These large robots are all based on the same groundbreaking modular design, with standardized components across all large robot platforms, including the base, lower arm, and upper arm. All of the robots now have the same footprint, which enables faster, more convenient, and more flexible installation when changing robots in different production lines.

The IRB 6730 is specifically designed for a 270kg payload, allowing for optimized performance without requiring an oversized robot.

### Consumes up to 20% less energy

To help customers operate more sustainably, these large robots reduce energy consumption by up to 20 percent<sup>1</sup>. This was achieved by a lean design that is up to 10% lighter<sup>2</sup>, coupled with the OmniCore controller's revolutionary, energy-saving power grid feedback solution.

### Unprecedented performance thanks to OmniCore

These large robots are powered by the OmniCore controller and RobotWare, providing best-in-class motion control enabled by ABB's TrueMove for increased accuracy, QuickMove for high speed, and SafeMove for safe collaboration. The highest level of performance is achieved through numerous performance enhancements, including class-leading position repeatability of 0.03 mm, outstanding cycle time, and stiffness. These improvements increase productivity by enabling more products to be manufactured in less time.

### The ability to withstand harsh applications

Built to operate in the harshest environments — available with Foundry Plus protection.

<sup>1</sup> Compared with its predecessor, the IRB 6700 running on the IRC5 controller.

<sup>2</sup> Compared with predecessor IRB 6700

## Applications:

Ideal for a wide range of applications, including material handling, high-precision assembly, spot welding, laser welding, dispensing & gluing, and machine tending. In the automotive sector, these

robots can support battery production of varying sizes (individual cells, modules and complete packages), high-precision car body assembly, as well as spot welding and the ability to enter tight spaces inside a vehicle to install dashboards or seats.

## Specification

Robot variants	Reach (m)	Handling capacity (kg)*	Center of gravity (mm)	Wrist torque (Nm)
IRB 6710-210/2.65	2.65	210	300	989
IRB 6710-200/2.95	2.95	200	300	989
IRB 6710-175/2.65 LID	2.65	175	300	1120
IRB 6710-175/2.95 LID	2.95	175	300	1120
IRB 6720-240/2.65	2.65	240	300	1324
IRB 6720-210/2.8	2.8	210	300	1324
IRB 6720-170/3.1	3.1	170	300	1324
IRB 6720-215/2.5 LID	2.5	215	300	1413
IRB 6720-215/2.65 LID	2.65	215	300	1413
IRB 6720-200/2.8 LID	2.8	200	300	1413
IRB 6720-150/3.1 LID	3.1	150	300	1413
IRB 6730-270/2.7	2.7	270	300	1324
IRB 6730-240/2.9	2.9	240	300	1324
IRB 6730-210/3.1	3.1	210	300	1324
IRB 6730-220/2.9 LID	2.9	220	300	1413
IRB 6730-190/3.1 LID	3.1	190	300	1413
IRB 6740-310/2.8	2.8	310	300	1837
IRB 6740-260/3.0	3.0	260	300	1837
IRB 6740-240/3.2	3.2	240	300	1324
IRB 6740-270/2.8 LID	2.8	270	300	1813
IRB 6740-230/3.0 LID	3.0	230	300	1813
IRB 6740-220/3.2 LID	3.2	220	300	1413
Number of axes	6			
Protection Standard	IP67			
Option: Foundry Plus	IP67			
Mounting	Floor			
Controller	OmniCore V250XT			

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

## Performance (according to ISO 9283)

	Position repeatability	Path repeatability
IRB 6710-210/2.65	0.04 mm	0.08 mm
IRB 6710-200/2.95	0.03 mm	0.09 mm
IRB 6720-240/2.65	0.04 mm	0.09 mm
IRB 6720-210/2.8	0.05 mm	0.08 mm
IRB 6720-170/3.1	0.06 mm	0.13 mm
IRB 6730-270/2.7	0.04 mm	0.10 mm
IRB 6730-240/2.9	0.04 mm	0.10 mm
IRB 6730-210/3.1	0.07 mm	0.08 mm
IRB 6740-310/2.8	0.05 mm	0.10 mm
IRB 6740-260/3.0	0.04 mm	0.15 mm
IRB 6740-240/3.2	0.06 mm	0.18 mm

## Technical information

Electrical Connections	IRB 6710	IRB 6720	IRB 6730	IRB 6740
Supply voltage	3x380 - 480 VAC +10/-15%, 50/60 Hz	3x380 - 480 VAC +10/-15%, 50/60 Hz	3x380 - 480 VAC +10/-15%, 50/60 Hz	3x380 - 480 VAC +10/-15%, 50/60 Hz
Power consumption*	2.4-2.5 kW	2.2-2.4 kW	2.7-2.9 kW	2.7-2.9 kW

\* ISO-cube at max performance depending on robot variants

Physical	
Robot base	1019 x 720 mm
Robot weight	
IRB 6710-210/2.65	1140 kg
IRB 6710-200/2.95	1150 kg
IRB 6710-175/2.65 LID	1200 kg
IRB 6710-175/2.95 LID	1210 kg
IRB 6720-240/2.65	1160 kg
IRB 6720-210/2.8	1160 kg
IRB 6720-170/3.1	1170 kg
IRB 6720-215/2.5 LID	1210 kg
IRB 6720-215/2.65 LID	1220 kg
IRB 6720-200/2.8 LID	1220 kg
IRB 6720-150/3.1 LID	1230 kg
IRB 6730-270/2.7	1260 kg
IRB 6730-240/2.9	1270 kg
IRB 6730-210/3.1	1270 kg
IRB 6730-220/2.9 LID	1340 kg
IRB 6730-190/3.1 LID	1340 kg
IRB 6740-310/2.8	1370 kg
IRB 6740-260/3.0	1380 kg
IRB 6740-240/3.2	1350 kg
IRB 6740-270/2.8 LID	1440 kg
IRB 6740-230/3.0 LID	1450 kg
IRB 6740-220/3.2 LID	1420 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	74 dB LAeqv
Safety	Complies with ISO10218-1, Cat 3, PI d and UL1740
Extended safety	SafeMove
EMC	Complies with IEC 61000-6-4
Main options	Foundry Plus

\* For controller, see values in specific data sheet

**Movement**

Working range	Axis 1*	Axis 2	Axis 3	Axis 4	Axis 5	Axis 6
IRB 6710-210/2.65 IRB 6710-200/2.95	±170°	-65°/+85°	-180 <sup>***</sup> /+70°	±300°	±130°	±360°
IRB 6710-175/2.65 LID IRB 6710-175/2.95 LID	±170°	-65°/+85°	-160°/+70°	±300°	±120°	±220°
IRB 6720-240/2.65	±170°	-65°/+85°	-180 <sup>***</sup> /+70°	±300°	±130°	±360°
IRB 6720-210/2.8 IRB 6720-170/3.1	±170°	-65°/+85°	-180 <sup>***</sup> /+72°	±300°	±130°	±360°
IRB 6720-215/2.5 LID IRB 6720-215/2.65 LID	±170°	-65°/+85°	-160°/+70°	±300°	±120°	±220°
IRB 6720-200/2.8 LID IRB 6720-150/3.1 LID	±170°	-65°/+85°	-160°/+72°	±300°	±120°	±220°
IRB 6730-270/2.7 IRB 6730-240/2.9 IRB 6730-210/3.1	±170°	-65°/+80°	-180 <sup>***</sup> /+70°	±300°	±130°	±360°
IRB 6730-220/2.9 LID IRB 6730-190/3.1 LID	±170°	-65°/+80°	-160°/+70°	±300°	±120°	±220°
IRB 6740-310/2.8 IRB 6740-260/3.0 IRB 6740-240/3.2	±170°	-65°/+85°	-180 <sup>***</sup> /+70°	±300°	±130°	±360°
IRB 6740-270/2.8 LID IRB 6740-230/3.0 LID IRB 6740-220/3.2 LID	±170°	-65°/+85°	-160°/+70°	±300°	±120°	±220°

\* Option ±220°

\*\* -160° with DressPack base -axis 3

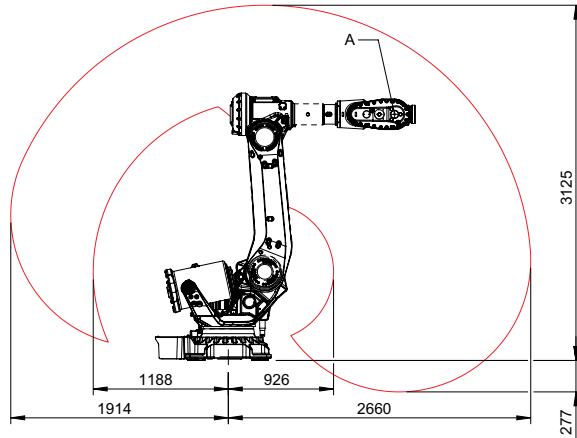
**Axis max speed**

	Axis 1	Axis 2	Axis 3	Axis 4	Axis 5	Axis 6
IRB 6710-210/2.65	110°/s	110°/s	110°/s	200°/s	150°/s	210°/s
IRB 6710-200/2.95	110°/s	100°/s	90°/s	200°/s	150°/s	210°/s
IRB 6710-175/2.65 LID	110°/s	110°/s	110°/s	200°/s	150°/s	210°/s
IRB 6710-175/2.95 LID	110°/s	100°/s	90°/s	200°/s	150°/s	210°/s
IRB 6720-240/2.65	110°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6720-210/2.8	110°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6720-170/3.1	110°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6720-215/2.5 LID	110°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6720-215/2.65 LID	110°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6720-200/2.8 LID	110°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6720-150/3.1 LID	110°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6730-270/2.7	100°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6730-240/2.9	100°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6730-210/3.1	100°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6730-220/2.9 LID	100°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6730-190/3.1 LID	100°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6740-310/2.8	100°/s	90°/s	90°/s	140°/s	110°/s	180°/s
IRB 6740-260/3.0	100°/s	90°/s	90°/s	140°/s	110°/s	180°/s
IRB 6740-240/3.2	100°/s	90°/s	90°/s	170°/s	120°/s	190°/s
IRB 6740-270/2.8 LID	100°/s	90°/s	90°/s	140°/s	110°/s	180°/s
IRB 6740-230/3.0 LID	100°/s	90°/s	90°/s	140°/s	110°/s	180°/s
IRB 6740-220/3.2 LID	100°/s	90°/s	90°/s	170°/s	120°/s	190°/s

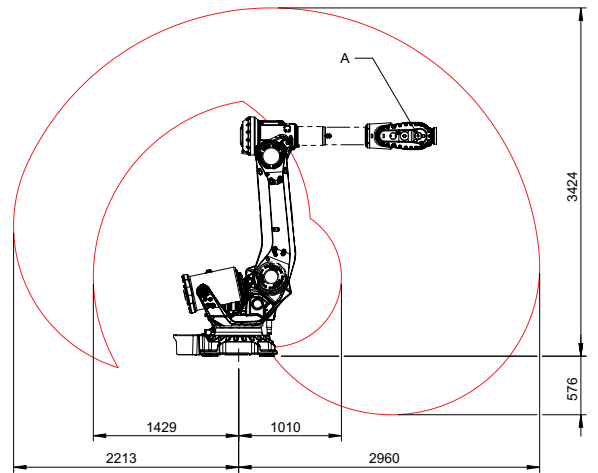
More information about the data specification is found in each of the Product Specifications (IRB 6710, IRB 6720, IRB 6730 and IRB 6740)

Data and dimensions may be changed without notice

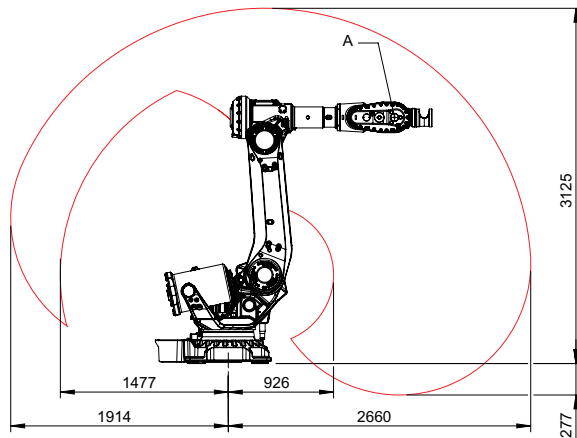
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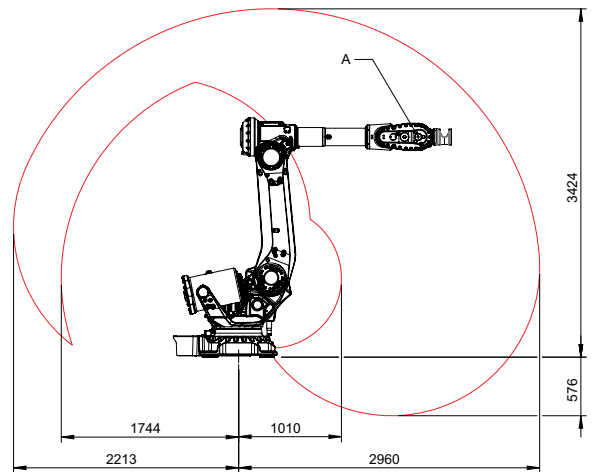
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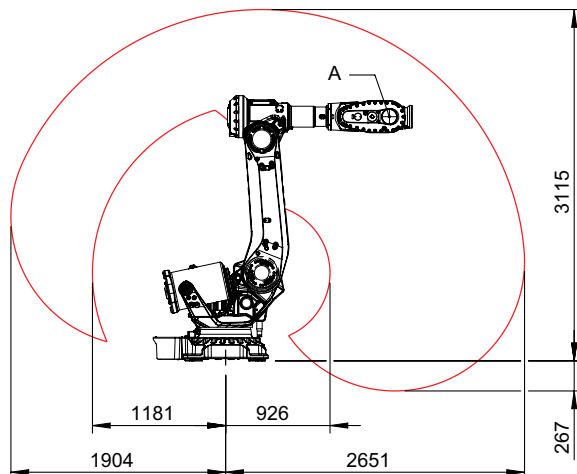
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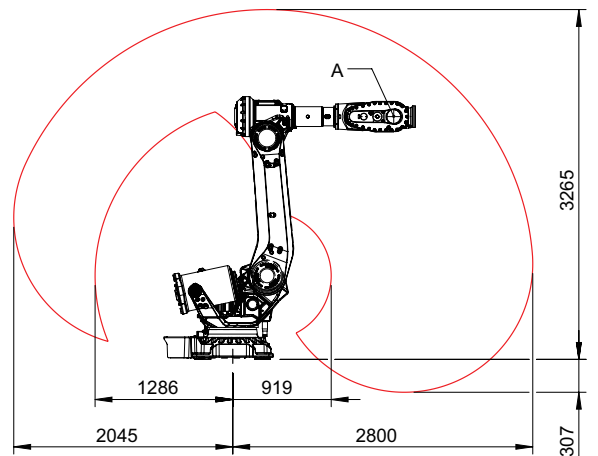
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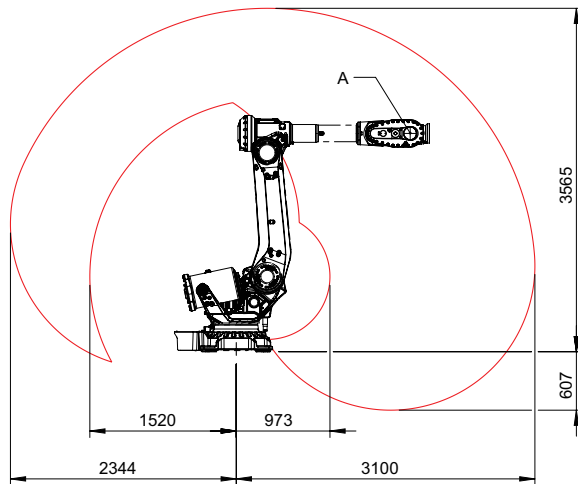
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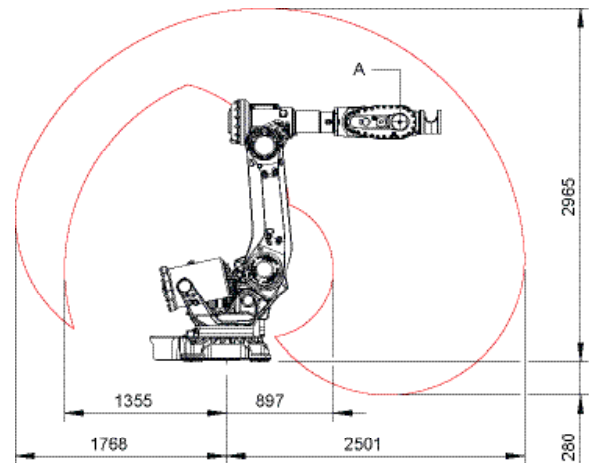
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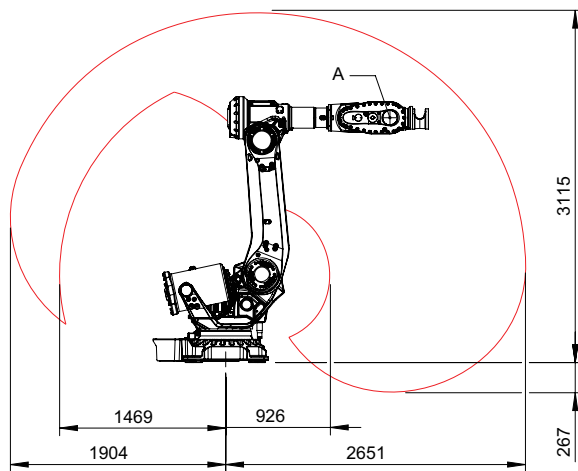
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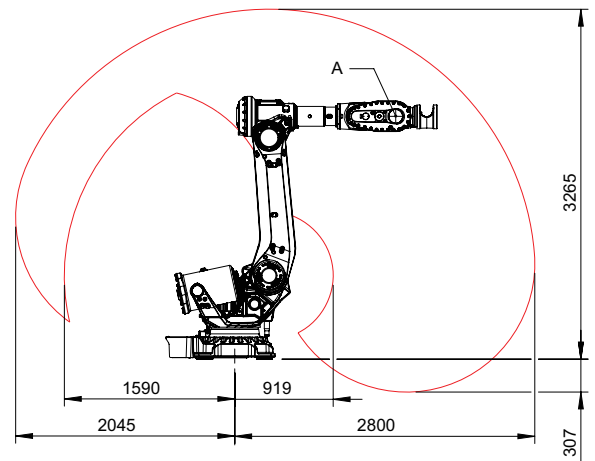
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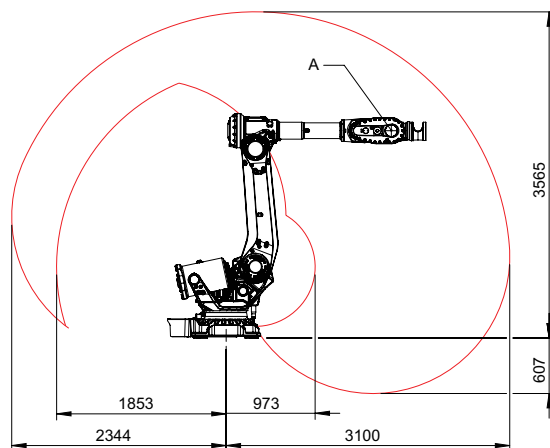
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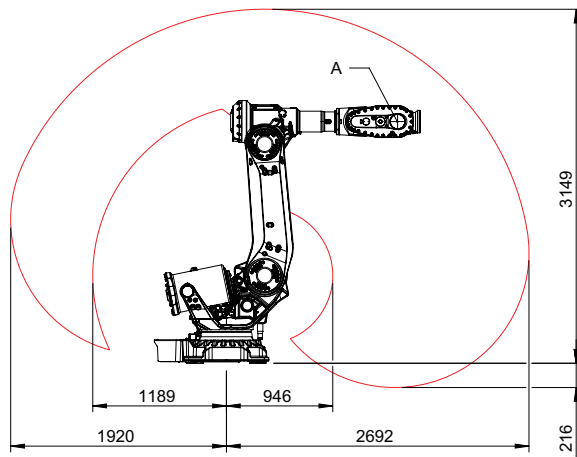
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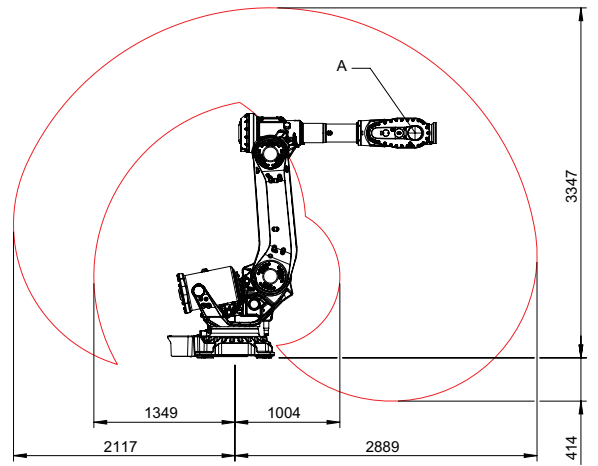
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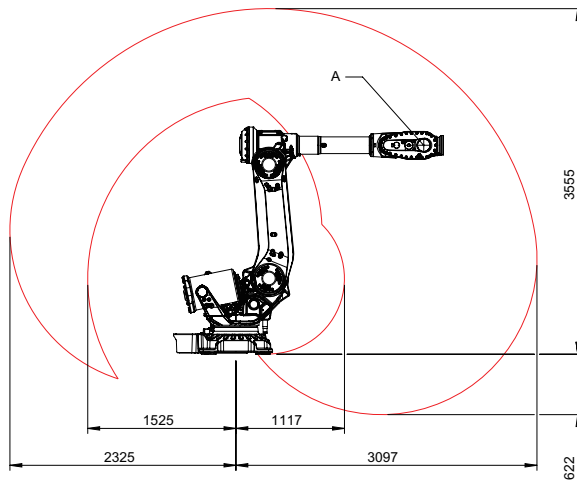
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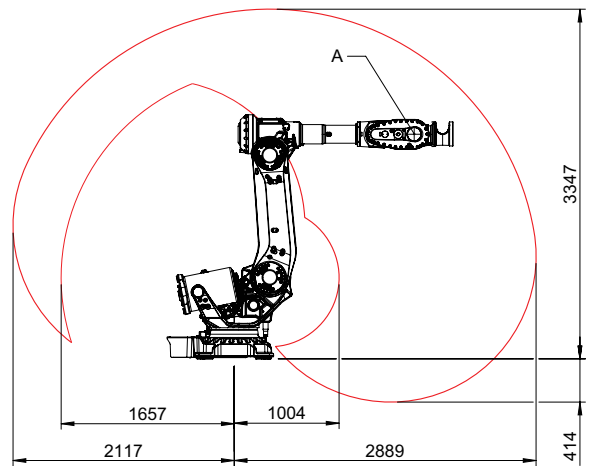
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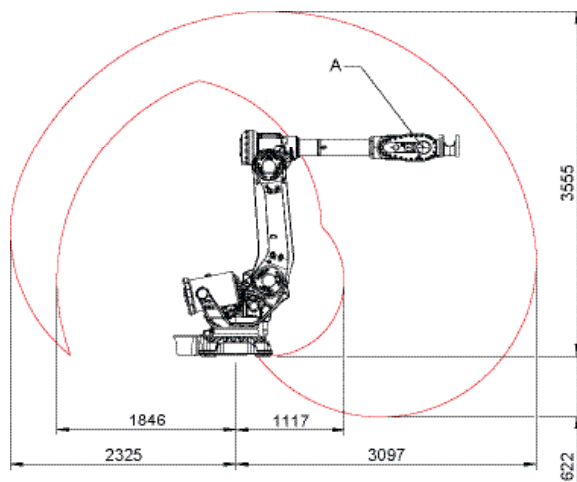
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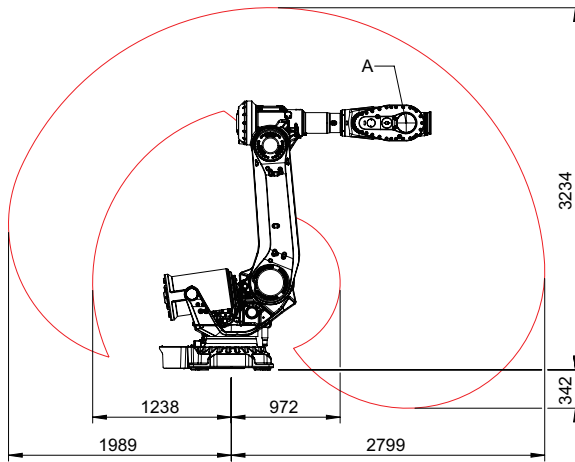
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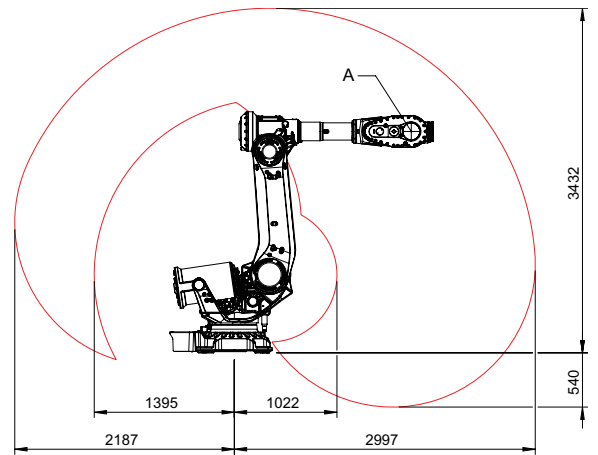
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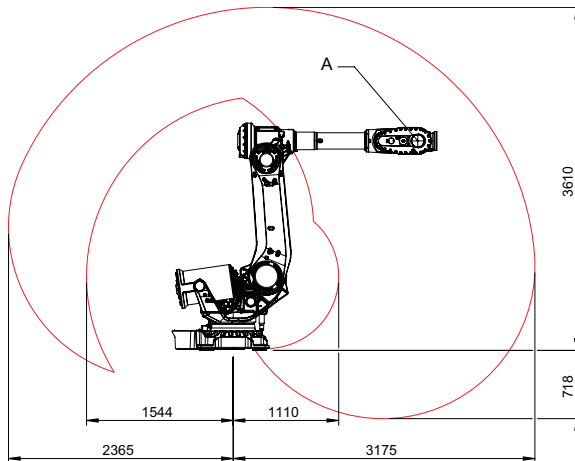
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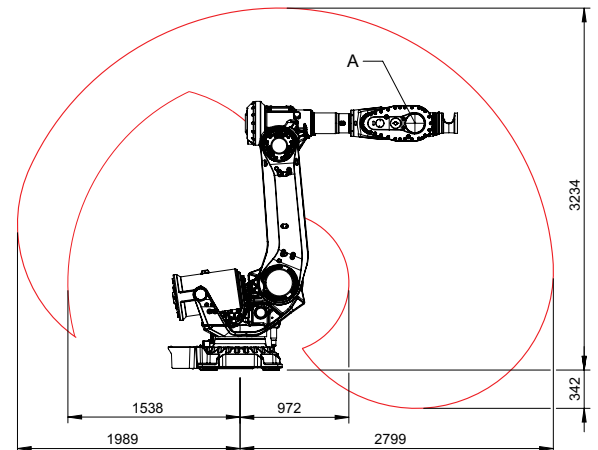
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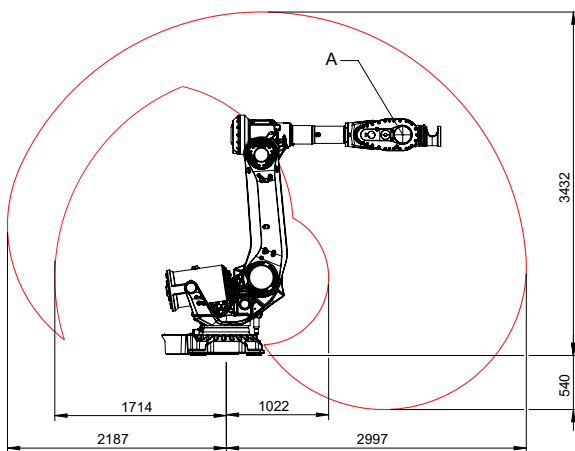
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**Working range IRB 6740-270/2.8 LID**



**Working range IRB 6740-230/3.0 LID**



**Working range IRB 6740-220/3.2 LID**

