

## IRB 6640 / IRB 6640ID

### A strong robot for numerous applications

The IRB 6640 / IRB 6640ID is available in different arm lengths and matching handling capacities. It is based on proven components from earlier generations, to ensure ease of maintenance and exchangeability as well as high up time.



Upper arm extenders and different wrist modules allow customization to each process. As the robot can bend fully backwards, the working range is greatly extended allowing it to fit well into dense production lines. Typical application areas are material handling, machine tending and spot welding.

The robot is also available with different options such as Foundry Plus 2, Foundry Prime 2 for different working environments.

IRB 6640ID with Internal Dressing (ID) has its process cables routed inside the upper arm. The cables follow the robot arm's every motion instead of swinging in irregular patterns.

#### Higher payload

The maximum payload is 235 kg, which makes it suitable for a variety of heavy material handling applications. The robot also follows the tradition of having outstanding inertia capabilities, which makes it possible to handle heavy and wide parts. ABB robots are also known for their collision resistance.

The IRB 6640ID's 200 kg payload capacity meets the requirements from the heaviest spot welding applications.

#### Easy maintenance

Simplified fork lift pockets and more space in the robot foot make the robot easier to maintain.

#### Increased path performance

The IRB 6640 is compatible with second generation TrueMove™ and QuickMove™. The software allows for more accurate motion in shorter programming times for improved processes. The software also monitors internal robot loads which reduces the risk of overload and increases the robot's life cycle.

#### Passive safety features

Passive safety features include load identification, movable mechanical stops, Electronic Positions Switches (EPS) and a stiff steel structure.

#### IRB 6640ID – Internal Dressing in the upper arm

The IRB 6640 with Lean ID has its process cabling for spot welding routed inside the upper arm. This provides more motion control as well as other benefits, like predictable dress pack lifetime, longer dress pack lifetime and less spare part cost; a more compact robot when dressed and also a reliable simulation of dress pack motion.

#### Main Applications

- Material handling
- Machine tending
- Spot welding

## Specification

| Robot versions | Reach (m) | Handling capacity (kg) | Center of gravity (mm) | Wrist torque (Nm) |
|----------------|-----------|------------------------|------------------------|-------------------|
| 6640-180*      | 2.55      | 280                    | 300                    | 961               |
| 6640-235*      | 2.55      | 235                    | 300                    | 1324              |
| 6640-205*      | 2.75      | 205                    | 300                    | 1264              |
| 6640-485*      | 2.80      | 185                    | 300                    | 1206              |
| 6640-130       | 3.20      | 130                    | 300                    | 1037              |
| 6640ID-200     | 2.55      | 200                    | 300                    | 1262              |
| 6640ID-170     | 2.75      | 170                    | 300                    | 1190              |

\* Available as Lean ID option.

Extra loads can be mounted on all variants

50 kg on upper arm (except ID) and 250 kg on frame of axis 1.

|                          |                              |
|--------------------------|------------------------------|
| Number of axes           | 6                            |
| Protection               | Complete robot IP 67         |
| Mounting                 | Floor mounted                |
| IRC5 Controller variants | Single cabinet, Dual cabinet |

## Performance

|                              |      |
|------------------------------|------|
| Positions repeatability (mm) | 0.07 |
| Path repeatability (mm)      | 0.7  |

| Axis movements  | Working range 6640 | Working range 6640ID | Axis max speed 6640 |
|-----------------|--------------------|----------------------|---------------------|
| Axis 1 Rotation | +170° to -170°     | +170° to -170°       | 100 to -110°/s      |
| Axis 2 Arm      | +85° to -65°       | +85° to -65°         | 90°/s               |
| Axis 3 Arm      | +70° to -180°      | +70° to -180°        | 90°/s               |
| Axis 4 Wrist    | +300° to -300°     | +300° to -300°       | 170 to -190°/s      |
| Axis 5 Bend     | +120° to -120°     | +100° to -100°       | 120 to -140°/s      |
| Axis 6 Turn     | +360° to -360°     | +300° to -300°       | 190 to -235°/s      |

For IRB 6640ID axis 4 and 6 together max +300° to -300°.

A supervision function prevents overheating in applications with intensive and frequent movements.

## Environment

|                                                               |                                                                                                  |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Ambient temperature for mechanical unit                       |                                                                                                  |
| During operation                                              | +5°C (41°F) -+50°C (122°F)*                                                                      |
| During transportation and storage for short periods (max 24h) | -25°C (13°F) -+55°C (131°F)*<br>Up to +70°C (158°F)                                              |
| Relative humidity                                             | Max 95 %                                                                                         |
| Noise level                                                   | Max 71 dB (A)                                                                                    |
| Safety                                                        | Double circuits with supervision, emergency stops and safety functions, 3-position enable device |
| Emission                                                      | EMC/EMI-shielded                                                                                 |
| Options                                                       | Foundry Plus 2<br>Foundry Prime 2                                                                |

\*In a high-speed press tending application, max ambient temperature is 40°C

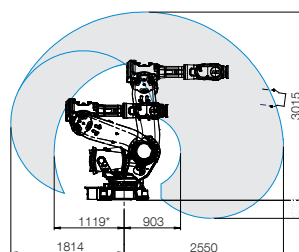
## Electrical Connections

|                        |                      |
|------------------------|----------------------|
| Supply voltage (Hz)    | 2000-600 V, 50/60 Hz |
| Power consumption (kW) | ISO-Cube 2.7 kW      |

## Physical

|                            |             |
|----------------------------|-------------|
| Dimensions robot base (mm) | 1107 x 720  |
| Weight (kg)                | 1310 - 1405 |

## Working range

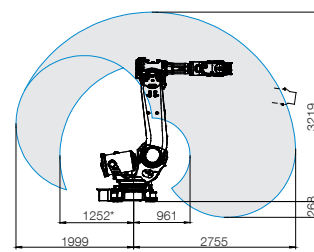


\* 1549 for 6640ID

IRB 6640-180/2.55 (IPA certified)

IRB 6640-235/2.55

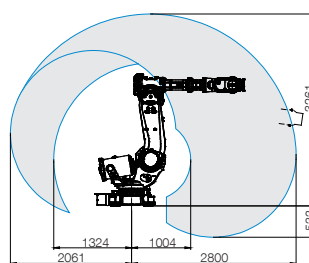
IRB 6640ID-200/2.55



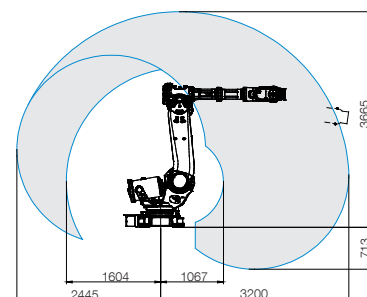
\* 1682 for 6640ID

IRB 6640-205/2.75

IRB 6640ID-170/2.75



IRB 6640-185/2.8



IRB 6640-130/3.2

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