ROBOTICS

# IRB 460

## High speed robotic palletizer

Leading ABB's palletizing offering is the compact IRB 460 - the fastest palletizing robot in the world. The IRB 460 is perfect for end-of-line palletizing and bag palletizing applications. The 4-axis robot is the fastest of its kind and its small footprint makes it ideal for fitting into existing packing lines.

**Shorter cycle times**
The IRB 460 is the world's fastest palletizing robot, capable of significantly shortening cycle times and raising productivity for end-of line and bag palletizing. With a reach of 2.4 m and 110 kg payload capacity, this compact, four-axis robot can achieve up to 2,190 cycles/hour with a 60 kg load. That's 15 % faster than its nearest rival.

**High precision movements**
Utilizing ABB's patented motion control software, QuickMove™ and TrueMove™, the IRB 460 ensures palletizing is carried out with smooth movements and high path accurary. This means even the most sensitive products will be handled with great care without losing cycle time.

**Higher output from a smaller footprint**
The compact design of the IRB 460 allows pallets to be placed 20 % closer to the robot as compared with competitors' robots with similar speeds and payloads. This can increase productivity by up to 3 %.

**Low cost of ownership and increased productivity**
The robust and rigid design of the robot ensures high uptime and low maintenance costs and the integrated process cabling helps extend life and reduces wear.

**Faster, easier programming**
The user-friendly software, RobotStudio with Palletizing PowerPac, which runs on a regular PC, lets users who have no robot programming experience create programs and simulations and design palletizing installations. The software is used to "configure" palletizing systems rather than program them and reduces programming time by up to 80 %.

**Complete palletizing solutions**
By combining the IRB 460 high speed palletizer with the ABB FlexGripper Claw and RobotStudio with Palletizing PowerPac you get the fastest robotic bag palletizing system in the world. With all elements working together path accuracy is optimized to ensure that your products will not only be handled very fast, but also with the utmost care. With an ABB robot solution palletizing will never be a bottle neck; either now or in the future.

**Powered by OmniCore**
OmniCore controller offers best-in-class motion control, 20 percent energy savings, security, and scalable functions. Faster performance and enhanced flexibility enable improved productivity and ability to respond to changing market demands.

**Main applications**
- Palletizing
- Depalletizing
- Material handling

## Specification

| Robot version | Reach (m) | Handling capacity (kg) | Armload (kg) |
|---|---|---|---|
| IRB 460-110/2.4 | 2.4 | 110 | |
| Number of axes | | | 4 |
| Protection | | | IP67 |
| Mounting | | | Floor |
| Controller | | | IRC5 Single Cabinet, OmniCore V250XT, V400XT |
| Integrated signal supply | | | Optional |
| Integrated air supply | | | Optional |

## Performance (according to ISO 9283)

| | Position repeatability | Path repeatability |
|---|---|---|
| IRB 460 | 0.2 mm | 0.11 mm |

## Technical information

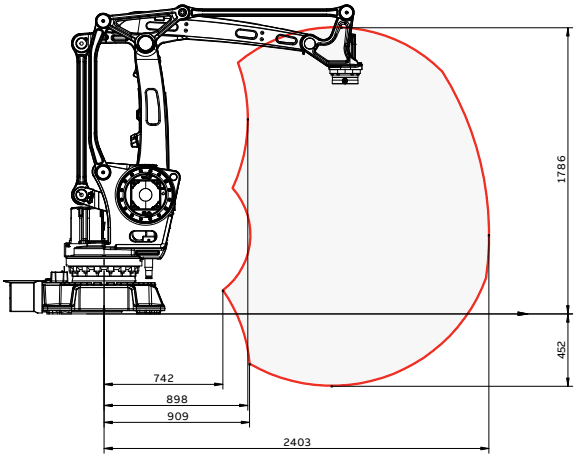
| | |
|---|---|
| **Electrical Connections** | |
| Supply voltage | 200-600 V, 50-60 Hz |
| Power consumption | ISO cube 3.67 kW |
| **Physical** | |
| Robot base | 1007 x 720 mm |
| Robot weight | 925 kg |
| **Environment** | |
| Ambient temperature for mechanical unit | |
| During operation | 0°C (32°F) to + 45°C (113°F) |
| During transportation and storage | - 25°C (- 13°F) to + 55°C (131°F) |
| During short periods (max. 24 h) | up to +70° C (158° F) |
| Relative humidity | Max. 95% |
| Noise level | < 70 dB(A) |
| 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.

## Movement

| Axis movement | Working range | Axis max speed |
|---|---|---|
| Axis 1 rotation | +165° to -165° | 145°/s |
| Axis 2 arm | +85° to -40° | 110°/s |
| Axis 3 arm | +120° to -20° | 120°/s |
| Axis 6 turn | +300° to -300° | 400°/s |

## Working range

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# IRB 660

## Taking palletizing to new heights


Thanks to its state-of-the-art 4-axes design, customers can look forward to a speedy machine that combines a 3.15 meter reach with a 250 kg payload, making it ideal for palletizing bags, boxes, crates, bottles and more. In fact, ABB is set to reinforce its position as the sole global supplier of complete robot-based packaging line automation.

**Pushing the working envelope**
The IRB 660 is a dedicated palletizer that blends speed, reach and payload like no other robot on the market. This is an exceptionally fast 4-axis machine that combines a 3.15 meter reach with a 250 kg payload, making it ideal for palletizing bags, boxes, crates, bottles and more.

The IRB 660 is considerably faster than its predecessor. Its optimized motor power and motion performance ensure significantly shorter cycle times than competing products. The new palletizer comes in a high-speed version capable of handling 180 kg payloads at full speed, and as a 250 kg version for high throughput.

The robot's impressive reach means it can service up to four in-feed conveyors, two pallet stacks, one slip-sheet stack and four palletizing out-feeding lines. In fact, the IRB 660 has the versatility, reach and handling capacity to meet the demands of just about any palletizing applications.

The IRB 660 is easy to come to grips with. ABB's multi-functional controllers and comprehensive packaging line software, PickMaster, house all the key functions for quick, easy programming and intuitive operation on the shop floor. Furthermore, the robot's rugged design and IP 67 tightness make for steady performance in even the toughest environments. As well as ensuring those extra lengthy service intervals.

**Powered by OmniCore**
OmniCore controller offers best-in-class motion control, 20 percent energy savings, security, and scalable functions. Faster performance and enhanced flexibility enable improved productivity and ability to respond to changing market demands.

**Main applications**
- Material handling
- Palletizing

## Specification

| Robot version | Reach (m) | Handling capacity (kg) | Cycles per hour |
|---|---|---|---|
| IRB 660-180/3.15 | 3.15 | 180 | 1570 |
| IRB 660-250/3.15 | 3.15 | 250 | 1360 |
| Number of axes | 4 | | |
| Protection | IP 67 | | |
| Mounting | Floor | | |
| Controller | IRC5 Single Cabinet, OmniCore V250XT, V400XT | | |

## Performance (according to ISO 9283)

| | Position repeatability | Path repeatability |
|---|---|---|
| IRB 660-180/3.15 | 0.05 mm | 0.23 mm |
| IRB 660-250/3.15 | 0.05 mm | 0.17 mm |

## Technical information

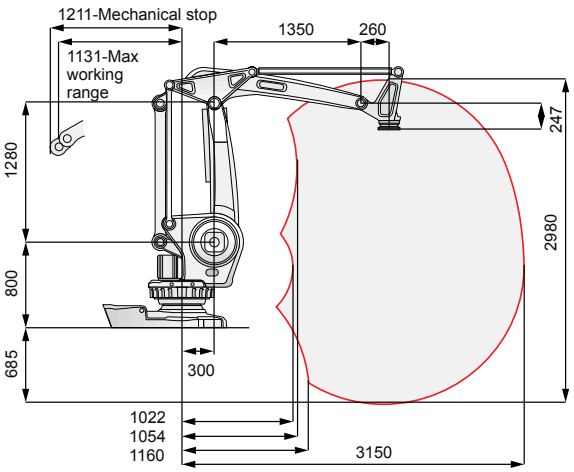
| | |
|---|---|
| **Electrical Connections** | |
| Supply voltage | 200-600 V, 50/60 Hz |
| Power consumption | ISO cube 2.7 kW, Normal movements 3.2 kW |
| **Physical** | |
| Robot base | 1136 x 850 mm |
| Robot weight | 1650 kg |
| **Environment** | |
| Ambient temperature for mechanical unit | |
| During operation | +0 °C (32 °F) to +50 °C (122 °F) |
| During transportation and storage | -25 °C (-13 °F) to +55 °C (131 °F) |
| During short periods (max. 24 h) | +70 °C (158 °F) |
| Relative humidity | Max. 95% |
| Noise level | Max. 73 dB (A) |
| Safety | Double circuits with supervisions, emergency stops and safety functions. 3-position enable device |
| Emission | EMC/EMI shielded |

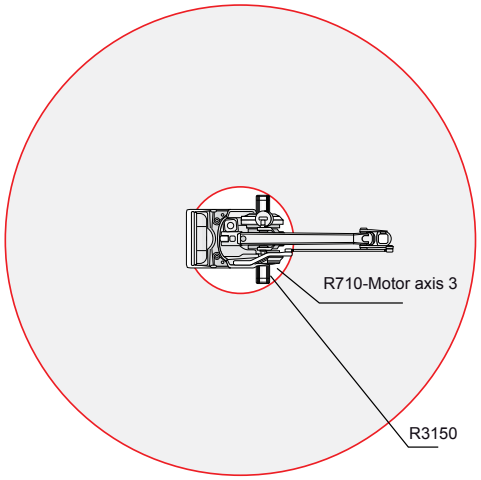
Data and dimensions may be changed without notice.

## Movement

| Axis movement | Working range | Max. velocity -180/3.15 | Max. velocity -250/3.15 |
|---|---|---|---|
| Axis 1 rotation | +180° to -180° Option: +220° to -220° | 130°/s | 95°/s |
| Axis 2 arm | +85° to -42° | 130°/s | 95°/s |
| Axis 3 arm | +120° to -20° | 130°/s | 95°/s |
| Axis 6 turn | Default: +300° to -300° Max. rev: +150 to -150 | 300°/s | 240°/s |

## Working range

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# IRB 760
## Industrial Robot

The 4-axis robot can move and rotate large and heavy products at high speeds, and with the utmost care. Its compact design makes it ideal for fitting into existing lines.

**Shorter cycle times**
The IRB 760 is the fastest robot of its kind and is capable of significantly shortening cycle times and raising productivity for full-layer palletizing and press tending. This four-axis robot has a reach of 3.2 meters and a 450 kilograms payload capacity, enabling it to lift heavy objects and full pallet layers. With its high torque wrist and long reach it can achieve 880 cycles per hour at full load (400 mm, 2000 mm, 400 mm cycle).

**IRB 760PT press tending robot**
Aimed at press automation applications in the automotive industry, the IRB 760PT is a flexible press tending robot offering 25 per cent faster cycle times compared to other robot-based press automation solutions. Its 3.18 meter reach, coupled with a linear seventh axis or with the Twin Xbar system avoids the need to reorient parts between consecutive stamping operations, helping users to optimize available space and save costs.

**High precision movements**
Utilizing ABB's patented motion control software, QuickMove™ and TrueMove™, the IRB 760 family ensures palletizing and press tending is carried out with smooth movements and high path accuracy. This means even the most sensitive products will be handled with great care without losing cycle time.

**Low cost of ownership and increased productivity**
The robot's robust and rigid design – manufactured to automotive industry standards – ensures high uptime and low maintenance costs. The IRB 760 family also features integrated process cabling which helps extend life and reduces wear.

Offline programming is the best way to maximize return on investment for robot systems. ABB's simulation and offline programming software, RobotStudio, allows robot programming to be done on a PC in the office without shutting down production. RobotStudio provides the tools to increase the profitability of your robot system by letting you perform tasks such as training, programming, and optimization without disturbing production.

**Powered by OmniCore**
OmniCore controller offers best-in-class motion control, 20 percent energy savings, security, and scalable functions. Faster performance and enhanced flexibility enable improved productivity and ability to respond to changing market demands.

**Main applications**
- Full layer palletizing
- Palletizing
- Depalletizing
- Material handling
- Press tending

## Specification

| Robot version | Reach (m) | Handling capacity (kg) |
|---|---|---|
| IRB 760 | 3.18 | 450 |
| IRB 760PT | 3.18 | 450 |
| Number of axes | 4 | |
| Protection | IP67 | |
| Mounting | Floor mounted | |
| Controller | IRC5 Single cabinet, IRC5 Dual cabinet, OmniCore V400XT | |
| Integrated power signal supply | Optional | |
| Integrated air supply | Optional | |

## Performance (according to ISO 9283)

| | Position repeatability RP (mm) | Path repeatability RT (mm) |
|---|---|---|
| IRB 760 | 0.05 | 0.80 |

## Cycles per hour

| | Load (kg) | Cycles per hour |
|---|---|---|
| IRB 760 | 60 | 450 |

## Technical information

| | |
|---|---|
| **Electrical Connections** | |
| Supply voltage | 200-600 V, 50-60 Hz |
| Power consumption | ISO cube 2.75 kW |
| **Physical** | |
| Dimensions robot base | 1140 x 800 mm |
| Robot weight | 2310 kg |
| **Environment** | |
| Ambient temperature for mechanical unit | |
| During operation | +- 0°C (32°F) to + 50°C (122°F) |
| During transportation and storage | -25° C (-13° F) to +55° C (131° F) |
| For short periods (max 24 h) | up to +70° C (158° F) |
| Relative humidity | Max. 95% |
| Noise level | < 70 dB (A) |
| Safety | Double circuits with supervisions, emergency stops and safety functions. 3-position enable device |
| Emission | EMC/EMI shielded |

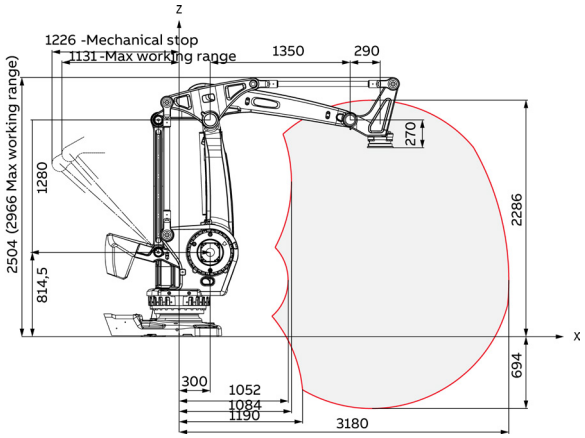
Data and dimensions may be changed without notice.

## IRB 760

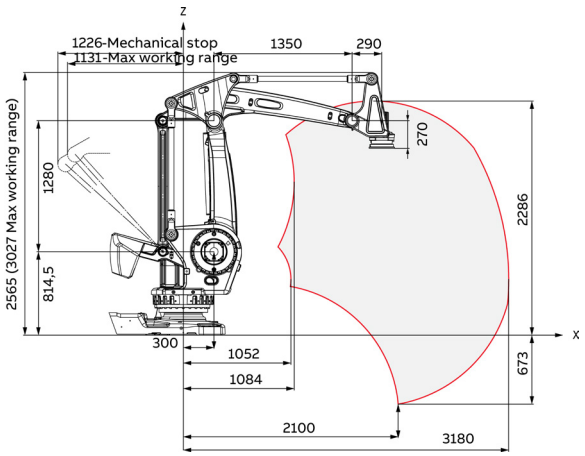
| Axis movement | Working range | Axis max speed |
|---|---|---|
| Axis 1 | +180° to -180° | 85°/s |
| Axis 2 | +85° to - 42° | 85°/s |
| Axis 3 | +120° to - 20° | 85°/s |
| Axis 4* | +300° to - 300° | 160°/s |

* +67 rev. to - 67 rev. max

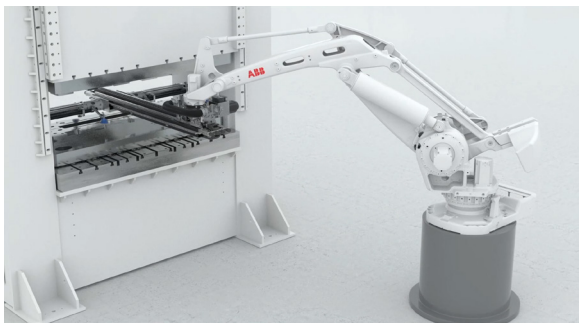
### IRB 760, working range




### IRB 760PT, working range




### IRB 760PT, In press automation applications



The IRB 760FX is a combination of an IRB 760PT and a Linear 7th axis.

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