

IRB 6400

Industrial Robot

MAIN APPLICATIONS

- Spot welding
- Press tending
- Material handling
- Machine tending
- Palletizing
- Assembly



High performance industrial robot

The 6-axis IRB 6400 manipulator and S4Cplus robot controller provide short and precise cycle times, rapid change-overs and consistently high process precision. IRB 6400 accounts for one third of the 90,000 ABB robot installations.

The family of 6400 robots consists of different arm variants and payload categories which are controlled by the advanced dynamic model based control function, QuickMove™, always ensuring the highest acceleration, path accuracy and speed over the entire working envelope.

Adaptability

IRB 6400 is designed to be compact with a small interference radius to ensure flexible installations in

areas with high density of production equipment. The process media, which is integrated through the robot base is easily exchanged and changing from a 2.5 to 3 meter overarm takes less than 30 minutes. The robot can be calibrated one axis at a time to ensure a quick return to full production.

Reliability and safety

IRB 6400 features robust all-steel construction with high material strength. The arms are mechanically balanced and equipped with double bearings. Advanced motion control and collision detection option greatly reduce the risk of tool and workpiece damage, making this a highly reliable and safe robot.



IRB 6400

Industrial Robot

TECHNICAL DATA, IRB 6400 INDUSTRIAL ROBOT

SPECIFICATION

Robot versions	Reach to 5 th axis	Handling capacity	Remarks
IRB 6400R/3.0-100	3.0 m	100 kg	
6400R/2.5-120	2.5 m	120 kg	
6400R/2.5-150	2.5 m	150 kg	
6400R/2.8-150	2.8 m	150 kg	
6400R/2.5-200	2.5 m	200 kg	
6400R/2.8-200	2.8 m	200 kg	
6400S/2.9-120	2.9 m	120 kg	Shelf
6400PE	2.25 m	5000 N	Poke welding

All IRB 6400R-versions have Foundry Plus protection.
For details, see under Environment.

Supplementary load	
3.0-100, 2.8-200, 2.5-120, 2.5-150, 2.5-200 and 2.8-150 Others	50+320 kg 35+320 kg

Number of axes	
Robot manipulator	6
External devices	6

Integrated signal supply	
	10 poles 50 V DC 2 poles 250 V AC 2 CAN-Buses

Integrated air supply Max. 10 bar

PERFORMANCE

Position repeatability	
2.5-120 and 2.5-150	0.1 mm
Others	0.15 mm

Path repeatability at 1 m/s (based on ISO path)	
2.5-120 and 2.5-150	1.0 mm
Others	1.5 mm

Max. TCP velocity on ISO-plane >2-3 m/s

Max. TCP acceleration on ISO-plane >10 m/s²

Axis working range	Axis	Shelf	PE	Others
Positioning	1 Rotation	360°	360°	360°
	2 Arm	130°	140°	155°
	3 Arm	108°	133°	138°
Reorientation	4 Wrist	600°	400°	600°
	5 Bend	240°	240°	240°
	6 Turn	600°	600°	600°

Axis maximum speed, °/s	2.5-120	2.5-150	2.8-200	PE	Shelf
	3.0-100	2.5-200			
Axis 2.8-150					
Positioning	1 Rotation	110	100	90	70
	2 Arm	100	90	70	70
	3 Arm	100	90	70	70
Reorientation	4 Wrist	210	120	110	210
	5 Bend	150	120	110	150
	6 Turn	210	190	110	210

Max. force, PE 5000 N

ELECTRICAL CONNECTIONS

Supply voltage	200-600 V, 50/60 Hz
Rated power, supply transformer	7.2 - 7.8 kVA

PHYSICAL

Dimensions manipulator base	
IRB 6400R	1070 x 1050 mm
IRB 6400S	1044 x 922 mm
IRB 6400PE	1044 x 922 mm

Weight manipulator	
6400PE	1600 kg
Others	2060 - 2390 kg

ENVIRONMENT

Ambient temperature	5 - 50°C
Manipulator	

Relative humidity Max. 95%

Degree of protection	
Foundry plus (all IRB 6400R versions)	IP 67 and washable
Foundry (IRB 6400S)	Wrist IP 67, the rest IP 55

Noise level Max. 70 dB (A)

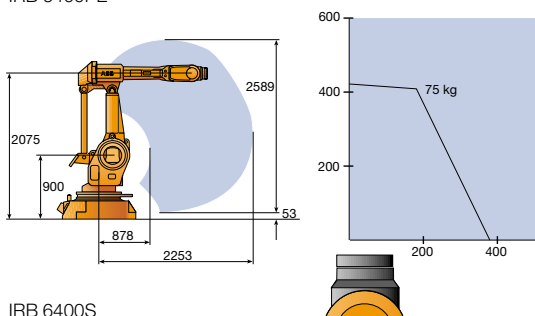
Safety Double circuits with supervision, emergency stops and safety functions, 3-position enable device

Emmission EMC/EMI-shielded

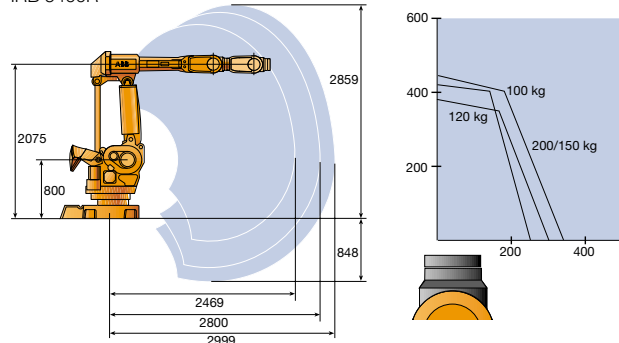
Data and dimensions may be changed without notice.

WORKING RANGE AND LOAD DIAGRAM

IRB 6400PE



IRB 6400R



IRB 6400S

