

# IRB 140 Industrial Robot

## Main Applications

Arc welding  
Assembly  
Cleaning/Spraying  
Machine tending  
Material handling  
Packing  
Deburring



### Small, Powerful and Fast

Compact, powerful IRB 140 industrial robot.

Six axis multipurpose robot that handles payload of 6 kg, with long reach (810 mm). The IRB 140 can be floor mounted, inverted or on the wall in any angle. Available as Standard, FoundryPlus, Clean Room and Wash versions, all mechanical arms completely IP67 protected, making IRB 140 easy to integrate in and suitable for a variety of applications. Uniquely extended radius of working area due to bend-back mechanism of upper arm, axis 1 rotation of 360 degrees even as wall mounted.

The compact, robust design with integrated cabling adds to overall flexibility. The Collision Detection option with full path retraction makes robot reliable and safe.

Using IRB 140T, cycle-times are considerably reduced where axis 1 and 2 predominantly are used.

Reductions between 15-20 % are possible using pure axis 1 and 2 movements. This faster versions is well suited for packing applications and guided operations together with PickMaster.

IRB Foundry Plus and Wash versions are suitable for operating in extreme foundry environments and other harsh environments with high requirements on corrosion resistance and tightness. In addition to the IP67 protection, excellent surface treatment makes the robot high pressure steam washable. The white-finish Clean Room version meets Clean Room class 10 regulations, making it especially suited for environments with stringent cleanliness standards.

# IRB 140

## Specification

Robot versions	Handling capacity	Reach of 5th axis	Remarks
IRB 140/IRB 140T	6 kg	810 mm	
IRB 140F/IRB 140TF	6 kg	810 mm	Foundry Plus Protection
IRB 140CR/			
IRB 140TCR	6 kg	810 mm	Clean Room
IRB 140W/			
IRB 140TW	6 kg	810 mm	Wash Protection
Supplementary load (on upper arm alt. wrist)			
on upper arm		1 kg	
on wrist		0.5 kg	
Number of axes			
Robot manipulator		6	
External devices		6	
Integrated signal supply		12 signals on upper arm	
Integrated air supply		Max. 8 bar on upper arm	

## Performance

Position repeatability 0.03 mm (average result from ISO test)

Axis movement	Axis	Working range
	1, C Rotation	360°
	2, B Arm	200°
	3, A Arm	280°
	4, D Wrist	Unlimited (400° default)
	5, E Bend	240°
	6, P Turn	Unlimited (800° default)

Max. TCP velocity 2.5 m/s

Max. TCP acceleration 20 m/s<sup>2</sup>

Acceleration time 0-1 m/s 0.15 sec

## Velocity

Axis no.	IRB 140	IRB 140T
1	200°/s	250°/s
2	200°/s	250°/s
3	260°/s	260°/s
4	360°/s	360°/s
5	360°/s	360°/s
6	450°/s	450°/s

## Cycle time

5 kg Picking side	IRB 140	IRB 140T
cycle 25 x 300 x 25 mm	0,85s	0,77s

## Electrical Connections

Supply voltage	200–600 V, 50/60 Hz
Rated power	
Transformer rating	4.5 kVA
Power consumption typically	0,4 kW

## Physical

Robot mounting	Any angle
Dimensions	
Robot base	400 x 450 mm
Robot controller H x W x D	950 x 800 x 620 mm

## Weight

Robot manipulator	98 kg
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## Environment

Ambient temperature for	
Robot manipulator	5 – 45°C
Relative humidity	Max. 95%

## Degree of protection,

Manipulator	IP67
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## Options

Foundry  
Wash (High pressure steam washable)  
Clean Room, class 6  
(certified by IPA)



## Noise level

Max. 70 dB (A)

## Safety

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

## Emission

EMC/EMI-shielded

Data and dimensions may be changed without notice

## Working range

