

IRB 920T

Fastest SCARA robot for high precision assembly



IRB 920T SCARA robot offers class leading speed and repeatability for electronics manufacturing applications.

Designed to meet the requirements of the electronics industry, the IRB 920T provides the highest levels of speed, accuracy and repeatability for a range of assembly, picking and handling tasks.

With its class-leading speed and compact design, the IRB 920T can be installed in a variety of locations to enable fast and cost-effective handling of loads up to 6kg, from single components through to assembled products.

Key Benefits

- **Class-leading speed:** Fourteen percent faster than its predecessor, the IRB 910SC, and with a cycle time of 0.29 seconds, the IRB 920T outperforms other SCARA robots in its class, reducing cycle times and enabling more products to be produced per hour.
- **Excellent repeatability:** The IRB 920T's excellent repeatability enables it to achieve the highest levels of manufacturing quality with minimal or zero wastage.
- **Lightweight design:** Weighing just 24kg, the IRB 920T is 10 percent lighter than other SCARA robots in its class, eliminating the need for extra materials to support the robot, reducing cell design costs. Routing all cables internally to remove cable interference also enables a compact footprint, minimizing installation space requirements.

- **Increased connections:** Option of up to 20 I/O (Input/Output) connectors allows the use of more sophisticated grippers and end effectors for more complex applications.
*compared to IRB 910SC
- **Rich configurations:** A choice of 450, 550 and 650mm reach options meet the requirements for a range of different operations. An extended stroke of 300mm supports applications requiring additional vertical reach.
- **Larger diameter air hose:** The use of a larger diameter air hose provides additional power for vacuum suction, making it possible to handle multiple objects simultaneously.

Main applications

- Assembly
- Picking/Placing
- Material Handling

Specification

Robot version	IRB 920T-6/0.45	IRB 920T-6/0.55	IRB 920T-6/0.65
Reach (m)	0.45	0.55	0.65
Payload (kg)	6	6	6
Number of axes	4		
Protection	Standard IP30 ¹		
Mounting	Floor		
Controller	OmniCore		
Integrated signal and power supply	Up to 20 signals ²		
Integrated air supply	4 air on outer arm (Max. 6 Bar) ²		
Integrated ethernet	One 1000 Base-T ethernet port ²		

¹ Ballscrew area: IP20

² Optional

Performance (according to ISO 9283)

	IRB 920T-6/0.45	IRB 920T-6/0.55	IRB 920T-6/0.65
Pose repeatability, RP	0.01mm	0.02mm	0.02mm
Path repeatability, RT	0.03mm	0.03mm	0.03mm
Pose stabilization time within 0.1mm of the position, PSt	0.17s	0.17s	0.16s

Performance

	IRB 920T-6/0.45	IRB 920T-6/0.55	IRB 920T-6/0.65
1 kg picking cycle 25 x 300 x 25 mm	0.30s	0.29s	0.30s

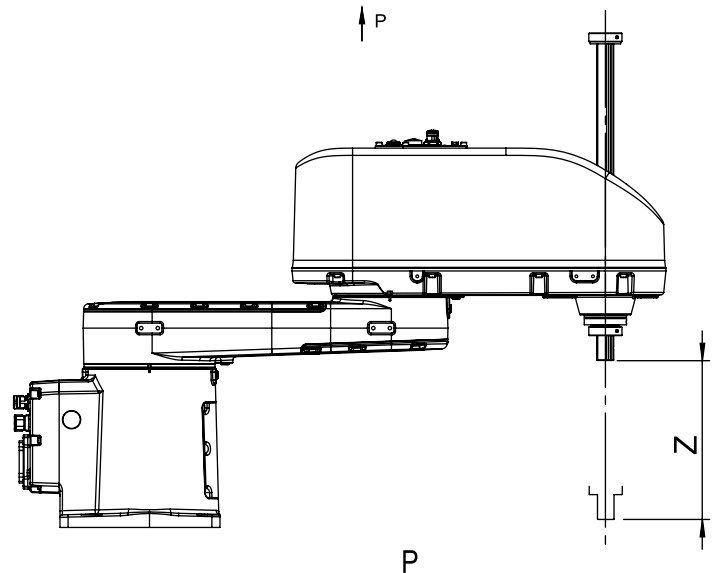
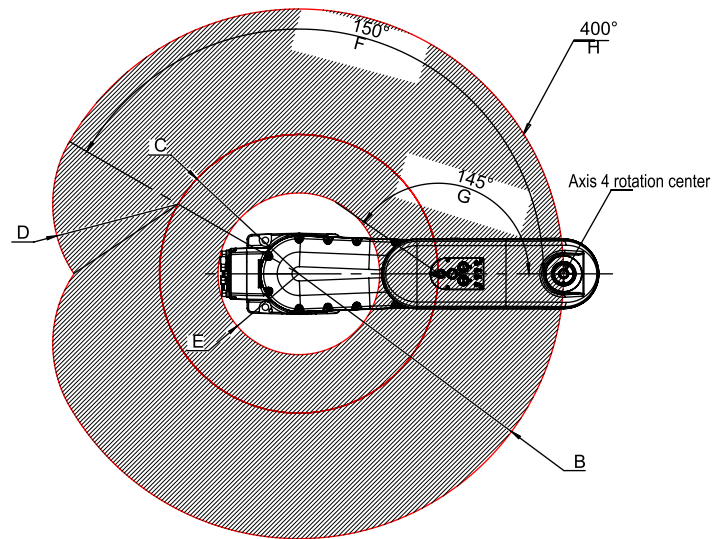
Physical

	IRB 920T-6/0.45	IRB 920T-6/0.55	IRB 920T-6/0.65
Robot Base	170x193mm	170x193mm	170x193mm
Robot weight	22 kg	23 kg	24 kg

IRB920T

	0.45_0.18	0.45_0.3	0.55_0.18	0.55_0.3	0.65_0.18	0.65_0.3
Z (Axis 3)	180mm	300mm	180mm	300mm	180mm	300mm
B	450mm	450mm	550mm	550mm	650mm	650mm
C	190mm	190mm	290mm	290mm	390mm	390mm
D	260mm	260mm	260mm	260mm	260mm	260mm
E	150.9mm	150.9mm	167.8mm	167.8mm	231.5mm	231.5mm

IRB 920T, working range



Movement

Working range	IRB 920T-6/0.45	IRB 920T-6/0.55	IRB 920T-6/0.65
Axis 1 (rotation)	+150° to -150°	+150° to -150°	+150° to -150°
Axis 2 (rotation)	+145° to -145°	+145° to -145°	+145° to -145°
Axis 3 (Z)	-180mm to 0mm; -300mm to 0mm;	-180mm to 0mm; -300mm to 0mm;	-180mm to 0mm; -300mm to 0mm;
Axis 4 (rotation)	+400° to -400°	+400° to -400°	+400° to -400°
Axis max. speed	IRB 920T-6/0.45	IRB 920T-6/0.55	IRB 920T-6/0.65
Axis 1 (rotation)	396°/s	396°/s	396°/s
Axis 2 (rotation)	780°/s	780°/s	780°/s
Axis 3 (Z)	1.2m/s	1.2m/s	1.2m/s
Axis 4 (rotation)	2500°/s	2500°/s	2500°/s