IRB 1600ID

Industrial robot

MAIN APPLICATION
Arc welding

Dedicated arc welding robot

In IRB 1600ID (Integrated Dressing), all cables and hoses are routed inside the upper arm, making the robot perfectly suitable for arc welding. The dress pack carries all the media necessary for arc welding, including power, welding wire, shielding gas and pressurized air.

Improving lifetime prediction

Faulty process cabling is a common cause of unpredicted line stops. With the IRB 1600ID, stops can be reduced to a minimum. Because the cables are routed inside the upper arm, their motion is predicted given a certain cycle. And when the motion is predicted, so is the lifetime.

Increased accessability

Integrated dressing makes the robot's outer dimensions smaller. This extends the robot system's real working range, a crucial factor when welding on fixtures with a complex geometry. It also eliminates the risk of damaging the dress pack in case of collision with the fixture.

Simplifying robot programming

There is always a blind spot when programming a converntional robot. Because of the external routing and unpredictable motion of the dress pack, programmers have to use their imagination to ensure the dress pack won't hit anything during operation.

Prolonging cable service life

Having the dress pack routed inside the robot's upper arm gives less swing of the dress pack and the lifetime of all cables and housings is increased.

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TECHNICAL DATA, IRB 1600ID INDUSTRIAL ROBOT

SPECIFICATION

Robot versions	Reach	Handling Capacity
IRB 1600ID-4/1.5	1.5 m	4 kg
Number of axes	6	
Protection	IP40	
Mounting	Floor, and inverted	

PERFORMANCE

Positions repeatability	0.02 mm		
Path repeatability	0.48 mm		
Axis movements	Working range	Axis max speed	
Axis 1 Rotation	+180° to-180°	Axis 1	180°/s
Axis 2 Arm	+150° to -90°	Axis 2	180°/s
Axis 3 Arm	+79° to -238°	Axis 3	180°/s
Axis 4 Wrist	+155° to -155°	Axis 4	320°/s
Axis 5 Bend	+135° to -90°	Axis 5	380°/s
Axis 6 Turn	+200° to -200°	Axis 6	460°/s

Axis 4 and 6 together max. +300° to –300°

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

ELECTRICAL CONNECTIONS

Supply voltage	200-600V, 50/60 Hz
Power consumption	ISO-Cube at max speed 0.57 kW

PHYSICAL

Dimensions robot base	484 x 648 mm Height: 1392 mm
Weight	250 kg

ENVIRONMENT

Ambient temperature for mechanical unit	
During operation	+5°C (41°F) to +45°C (113°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	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

WORKING RANGE