

IRB 360 FlexPicker™

Main Applications

Assembly
Material handling
Picking
Packing

Features

- High speed flexibility
- High capacity – up to 8 kg payload
- Hygienic design for wash down applications
- Superior tracking performance
- Integrated vision software
- Integrated control of indexing belts

For nearly 15 years, ABB's IRB 360 FlexPicker has been the leader in state-of-the-art picking and packing technology. The robot has outstanding motion performance with the shortest cycle times, precision accuracy and high payloads. PickMaster software was developed for ease-of-use and simplifies the robot integration.

The IRB 360 range consists of four variants. The compact variant, IRB 360-1/800, has a 800 mm diameter work area and its small footprint saves floor space and makes it easy to fit into compact packaging machines.

The IRB 360-1/1130 (standard version) which has a working range optimized for the fastest picking applications. To extend the usefulness of this proven robot, ABB has increased the IRB 360 FlexPicker's top payload to 8kg. Optimized for both picking and packing applications, the robot is now able to pick up heavier items, handling up to 100 cycles per minute. Its average throughput capacity also is radically improved, an average of 33 percent, thanks to the IRB 360's combined speed and payload performance.



The IRB 360 is designed to work in meat and dairy applications. A stainless option with all metal parts in stainless is IP69K validated so that it can be washed down with industrial detergents and high pressure hot water. The robot is also designed with smooth and rinse-off surfaces and lubricant free joints that are resistant to most corrosives.

Setting up an application becomes easy using PickMaster software which has evolved into an invaluable help for integrators and users of IRB 360. It simplifies the vision configuration and offers the application tools needed for an efficient high speed picking application.

The reliable, market leading IRC 5 controller is also an integral part of the FlexPicker™ robot solution. The IRC 5 with TrueMove™ and QuickMove™ guaranteeing that the highest speeds together with path following facilities - allowing the robot to track fast moving conveyor belts with extreme accuracy. The IRC 5 also is available in a panel-mounted version that offers substantial space savings and easy integration into machines and production lines.

IRB 360

Specification

Robot versions	Handling capacity	Diameter	No. Axes
IRB 360-1/800	1 kg	800 mm	4
IRB 360-1/1130 *	1 kg	1130 mm	3/4
IRB 360-3/1130	3 kg	1130 mm	3/4
IRB 360-1/1600	1 kg	1600 mm	4
IRB 360-8/1130	8 kg	1130 mm	4
Supplementary load			
on upper arm	350 gram		
on lower arm	350 gram		
Integrated signal supply	12 poles 50V, 250mA		
Integrated vacuum supply	Max. 7 bar/max vacuum 0.75 bar		
* Tested by IPA, all axes			

Physical

Robot mounting	Inverted
Weight	120 kg (Standard & Wash-down) 145 kg (Stainless Wash-down)

Performance

Position repeatability	0.1 mm
Angular repeatability	
Standard & stainless axis 4	0.4°
Wash-down axis 4	1.5°

Cycle time*

Typical cycle time for Ø1130 mm standard variants

Cycle	0.1 kg	1 kg	3 kg	8 kg
25/305/25				
IRB 360-1/1130	0.30	0.36		
IRB 360-3/1130	0.40	0.40	0.52	
IRB 360-8/1130		0.38	0.42	0.60
90/400/90				
IRB 360-1/1130	0.44	0.51	0.70	0.92
IRB 360-3/1130	0.60	0.60	0.75	
IRB 360-8/1130		0.55	0.65	0.92

The cycle times in the table are measured under real conditions but cycle times may vary depending on the actual application (tool data, path radius, gripper activation etc.)

* Cycle times for IRB 360-1/800 and IRB 360-1/1600 differ in cycle time.

Please use RobotStudio or real cycle time tests to verify actual cycle time.

Conveyor tracking**

Constant conveyor	Conveyor speed
speed [mm/s]	Repeatability [mm]
200	1.0
350-750	1.5
800-1400	5.0
Start/stop conveyor [mm/s]	Repeatability [mm]
500 (start/stop in 0.2 sec)	3.5
Indexing conveyor control	Repeatability [mm]
3.5 g acceleration/deceleration	2

** The tracking performance is measured under real conditions with IRB 360-1/1130 and

PickMaster. The figures may vary depending on the actual robot max. speed and acceleration performance in relation to what the application demands.

Electrical Connections

Supply voltage	200-600 V, 60 Hz
Rated power	
Transformer rating	7.2 kVA
Power consumption at max load	
Type of Movement	IRB 360/1
Typical pick - and - place cycle with 1 kg payload	0.477 kW

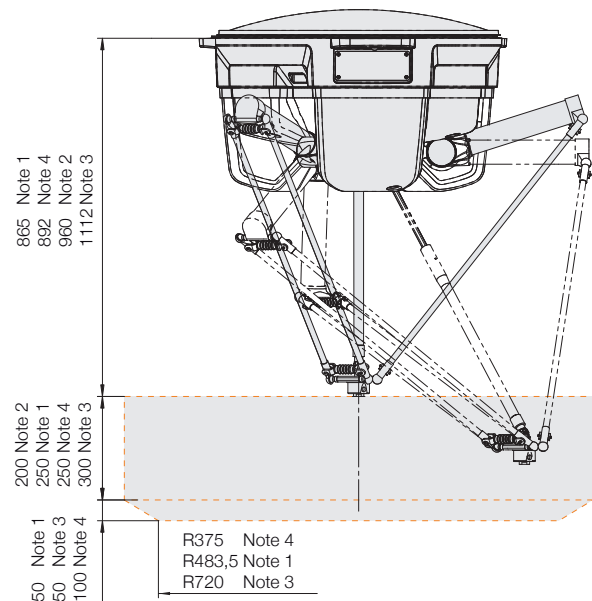
Environment

The base box and the arm system can be ordered independent of each other in standard, wash-down or stainless design. Depending on the combination the robot fulfils protection classes IP 55, IP 67 or IP 69K. If wash-down or stainless axis 4 is choosen, the robot can be washed down according to industrial standard.

Ambient temperature	
IRB 360 manipulator	±0°C to +45°C
Relative humidity	Max. 95 %
Noise level	< 70 dB(A)
Safety	Double circuits with supervision, emergency stops and safety functions, 3-position enabling device
Emission	EMC/EMI shielded
Clean Room options axis 4	Standard - Clean room 7 Wash-down- Clean room 5 (certified by IPA) Stainless - Clean Room class 5 (certified by IPA)
Option	Collision detection
Data and dimensions may be changed without notice	



Working range and physical dimensions



Note 1: IRB 360-1/1130 and IRB 360-3/1130
Note 2: IRB 360-1/800
Note 3: IRB 360-1/1600
Note 4: IRB 360-8/1130