

IRB 360 FlexPicker®

Greater flexibility in a compact footprint



ABB's IRB 360 FlexPicker® has been the leader in state-of-the-art high speed robotic picking and packing technology. Compared to conventional hard automation, the IRB 360 offers much greater flexibility in a compact footprint while maintaining accuracy and high payloads.

ABB's IRB 360 family of robots, more commonly known as the FlexPicker, are capable of the fastest picking applications and have been optimized for packing applications. The robot has outstanding motion performance with the shortest cycle times, precision accuracy, and high payloads.

The IRB 360 family includes variants with payloads of 1 kg, 3 kg, 6 kg, and 8 kg and reaches of 1130 mm and 1600 mm—meaning there is an IRB 360 for almost every need.

Featuring outstanding motion control, short cycle times, and precision accuracy, an IRB 360 can operate at very high speeds in anything from narrow to wide spaces with very tight tolerances. Every FlexPicker also benefits from a re-engineered tool flange which can accommodate larger grippers, allowing for efficient handling of flow wrapped products at high speeds from an indexing belt.

Food handling applications

A stainless option for food handling applications is IP69K validated so that it can be washed down with industrial detergents and high pressure hot water. This variant is also designed with smooth and easy to rinse-off surfaces and lubricant free joints that are resistant to most corrosives.

Software and controls

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

The reliable, market leading IRC 5 controller is also an integral part of the FlexPicker robot family. The IRC 5 with TrueMove™ and QuickMove™ guarantees high speeds and path following facilities which allows these robots 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.

Features

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

Specifications			
Robot version	Handling capacity	Diameter	No. Axes
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 360-6/1600	6 kg	1600 mm	4
IRB 360-8/1130	8 kg	1130 mm	4
Supplementary load	on upper arm		350 g
	on lower arm		350 g
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 times					
	0.1 kg	1 kg	3 kg	6 kg	8 kg
25/305/25 (mm)					
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
IRB 360-1/1600	0.35	0.40			
IRB 360-6/1600		0.43	0.48	0.60	
90/400/90 (mm)					
IRB 360-1/1130	0.44	0.51			
IRB 360-3/1130	0.60	0.60	0.75		
IRB 360-8/1130		0.55	0.65		0.92
IRB 360-1/1600	0.50	0.54			
IRB 360-6/1600		0.57	0.63	0.80	

** The cycle times are measured under real conditions, but may vary depending on the actual application. Please use RobotStudio or real cycle tests to verify actual cycle time.

Electrical connections		
Supply voltage	200-600 V, 60 Hz	
Transformer rating	7.2 kVA	
Power consumption	type of movement	IRB 360/1
	typical pick & place cycle (1 kg)	0.477 kW

Conveyor tracking		
	speed (mm/s)	repeatability
Constant conveyor	200	1.0 mm
	350-750	1.5 mm
	800-1400	5.0 mm
Start/stop conveyor	500 (start/stop in 0.2 sec)	3.5 mm
Indexing conveyor control	3.5 g acceleration/ deceleration	2.0 mm

**The tracking is measured under real conditions with IRB 360-1/1130 & PickMaster. The figures may vary depending on the actual robot max. speed & acceleration in relation to the application demands.

Environment		
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 & safety functions, 3 position enabling device	
Emission	EMC/EMI shielded	
Clean room options axis 4	Standard	Clean room 7
	Wash down	Clean room 5*
	Stainless	Clean room 5*
	Option	Collision detection

* Certified by IPA

** Data and dimensions may be changed without notice

Working range

