ROBOTICS

IRP K

Industrial Robot Positioner by OmniCore

The ABB positioners are optimized to be used for manipulating of work pieces in arc welding, thermal cutting and other applications. All axes can be fully coordinated with the robot when programming as well as during operation.

IRP K
This positioner features a twin station solution where the robot works on one side and the operator loads and unloads on the other side. The workpiece is rotating around one axis during operation and all axes are reoriented at station changes. A screen is fitted between the two stations, which protects the operator from the arc.

The positioner IRP K, which comes in six variants, is designed to handle workpieces including fixture of a weight up to 1000 kg.

The modular design, few and heavy-duty moving parts as well as minimal maintenance demands make the positioner service friendly.

Dynamically adaptive software plus high-speed drives result in fast changeovers and high productivity.

General positioner features
All ABB positioners offer users a complete and efficient solution. They are of a robust design to ensure excellent stability and are well protected for operation in harsh production environments.

The positioners are easy to use with clear, simple instructions for programming. The control equipment is located in the robot controller and uses the same drive system and software as the robots.

All positioners can be connected to OmniCore V250 XT or V400 XT controllers equipped with additional drive units.

ABB's positioners are designed to be highly functional yet compact to make maximum use of available floor space. Standardized dimensions for all rotating plates greatly simplify the exchange of fixtures.

Dynamic modelling allows rapid acceleration, fast movements and re-orientation so that cycle times are kept to a minimum. The dynamic model automatically compensates for the effects of gravity, inertia and friction to provide fast and accurate movements (QuickMove™) following of the programmed path (TrueMove™).

The Load ID-function is used to calculate the center of gravity and the inertia of the workpiece and of the fixture.

To meet requirements from our users the positioners can be supplied, or retrofitted, with a comprehensive range of pneumatic swivels (1 and 2 channels) and slip-rings (10 power signals and ProfiBus).

ABB positioner systems can be supplied with all necessary safety equipment.

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Specification

Variants	Handling capacity (kg)	Max load diff. sides 1 and 2 (kg)	Max continuous torque (Nm)	Max bending moment (Nm)	Index time (s)	Weld to weld time (s)	Repetitive accuracy (r=500)	Max rotation speed (°/s)
IRP K-300 /1000	300	180	350	600	3.1-3.4	5.2-5.5	+/-0.05	180
IRP K-300/1200	300	180	350	600	3.2-3.5	5.3-5.6	+/-0.05	180
IRP K-600/1200	600	400	650	3300	3.1-3.4	5.2-5.6	+/-0.05	150
IRP K-600/1400	600	400	650	3300	3.2-3.5	5.2-5.6	+/-0.05	150
IRP K-1000/1200*	1000	350	900	5000	3.3-3.7	5.5-5.9	+/-0.05	150
IRP K-1000 /1400*	1000	350	900	5000	3.3-3.7	5.5-5.9	+/-0.05	150

Maximum handling capacity decreases when the length between the rotary unit and the support collar (dimension A below) is greater than 2000mm.

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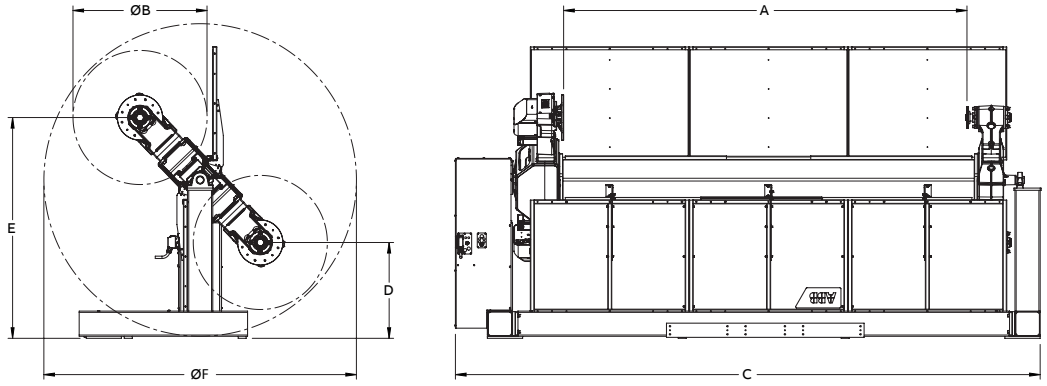
Measurements

Variants	A	øB	C	D	E	øF
K-300/1000	1600	1000	2977	950	1310	2240
	2000	1000	3377	950	1310	2240
	2500	1000	3877	950	1310	2240
	3150	1000	4527	950	1310	2240
	3500	1000	4877	950	1310	2240
	4000	1000	5377	950	1310	2240
K-300/1200	1600	1200	2977	950	1710	2640
	2000	1200	3377	950	1710	2640
	2500	1200	3877	950	1710	2640
	3150	1200	4527	950	1710	2640
	3500	1200	4877	950	1710	2640
	4000	1200	5377	950	1710	2640
K-600/1200 & K-1000/1200	1600	1200	3409	950	1790	2720
	2000	1200	3809	950	1790	2720
	2500	1200	4309	950	1790	2720
	3150	1200	4959	950	1790	2720
	3500	1200	5309	950	1790	2720
	4000	1200	5809	950	1790	2720
K-600/1400 & K-1000/1400	1600	1400	3409	950	2190	3120
	2000	1400	3809	950	2190	3120
	2500	1400	4309	950	2190	3120
	3150	1400	4959	950	2190	3120
	3500	1400	5309	950	2190	3120
	4000	1400	5809	950	2190	3120

For complementary information, please see the product specification. ABB reserves the right to change data without notice.

Dimension drawings



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