

M-420*i*A / M-421*i*A

Basic Description

The M-420*i*A series is FANUC Robotics' latest-generation, high-performance, high-speed family of industrial robots. Based on a simple and reliable design, the M-420*i*A and M-421*i*A provide sophisticated motion control and consistent performance with high productivity. The series is supported by the SYSTEM R-J3*B* intelligent robot control system.

M-420*i*A / M-421*i*A, the Solution for:

- High-speed packaging
- High-speed palletizing
- Machine loading

Features

- M-420*i*A – 4 axes of motion, 40 kg capacity.
- M-421*i*A - 2 axes of motion, 50 kg capacity. Waist and wrist rotation removed from four-axis unit.
- Repeatability of +/-0.5mm at full speed and full payload within entire work envelope.
- Large work envelope with 1855 mm horizontal reach developed around packaging applications.
- Linear motion speeds up to 4200 mm/sec.
- Dedicated pneumatic and electrical (8 digital inputs/8 digital outputs) connections at wrist to simplify users end-of-arm tooling design and integration.



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- Material handling style teach pendant with large LCD screen and ergonomic design offers intuitive control over automated process.
- Sealed bearings and brushless AC motor drives provide protection and improve reliability.

Benefits

- Features highest motion speeds in its class for maximum performance and productivity.
- Highest payload in its class helps achieve maximum throughput by handling multiple parts.
- Four-axis dexterity enables access to multiple packaging lines with one unit.
- Additional auxiliary amplifiers

available in R-J3*B* controller offer ability to control complete high-speed packaging line with robot controller.

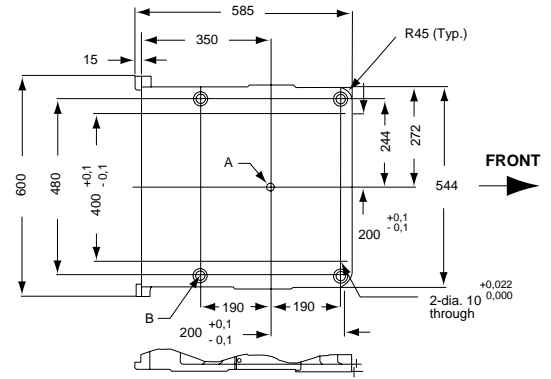
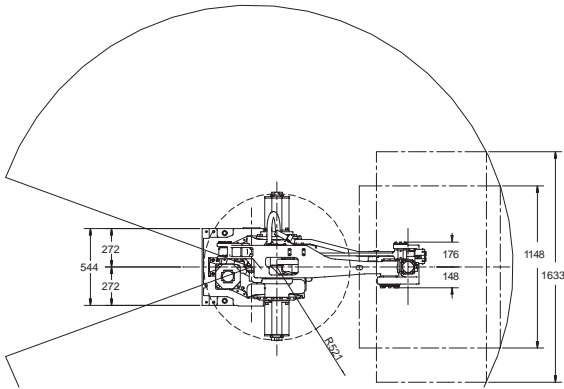
Options

- The *i*Pendant is a color, Internet-ready teach pendant for easy programming and custom user interface design.
- Various robot connection cable lengths for flexible cabinet placement and optional track rated cables.
- A cleanable unit coated with white polyurethane to meet requirements in typical secondary food packaging applications.

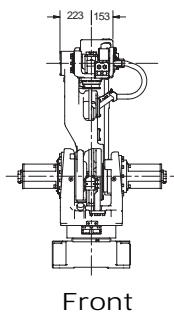
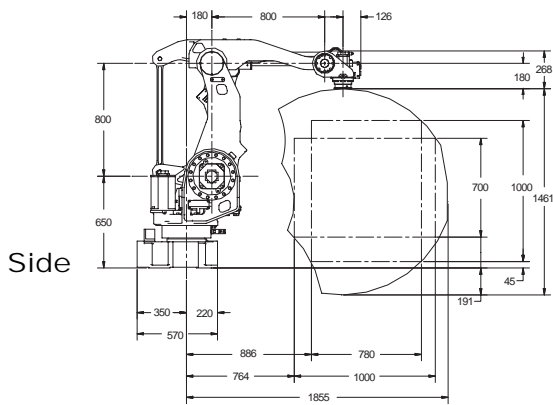
M-420iA / M-421iA Dimensions

Footprint

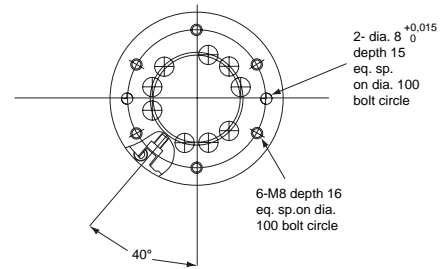
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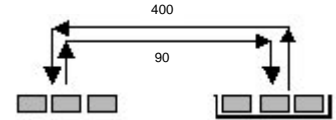
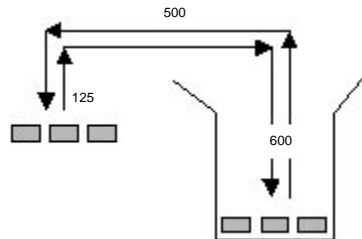
A : Joint 1 axis rotation center
 B : 4-dia. 24 through dia. 38 facing depth 4 (for robot mounting bolt)



Wrist



Fastest cycle times in its class:



50 Cycles/Minute
30kg Payload

80 Cycles/Minute
10kg Payload

M-420iA / M-421iA Specifications

Items	M-420iA	M-421iA	
Axis	4	2	
Payload - Wrist (kg)	40	50	
- J3 Arm (kg)	10	10	
Reach (mm)	1855	1855	
Repeatability (mm)	±0,5	±0,5	
Interference radius (mm)	543	-	
Motion range (degrees)	J1	320	
	J2	115	115
	J3	110	110
	J4	540	-
Motion speed (degrees/sec.)	J1	180	-
	J2	200	200
	J3	200	200
	J4	350	-
Wrist moment (kgf m)	J4	10	10
Wrist inertia (kgfcm ²)	J4	26	26
Mechanical brakes	All axes	All axes	
Mechanical weight (kg)	620	520	
Mounting method	Floor		
Installation environment			
Ambient temperature °C	0 to 45		
Humidity	Normally: 75% or less Short term(within a month):95% or less No condensation		
Vibration (m/s ²)	4,9 or less		

Note: Dimensions are shown in millimeters. Actual speeds dependent upon application and product.

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