Application Examples

The JR3000 is a versatile robot usable for a variety of manufacturing processes, including dispensing, screw-tightening, soldering, PC board depaneling, pick-and-place, testing and more. Use the I/O-MT function to control up to 2 external motors and/or a camera system to take advantage of the position correction function and further broaden the robot's usefulness. Here are some examples of applications where the JR3000 can work for you.

Dispensing Robot

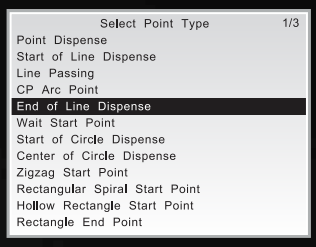
Easy

Using our dedicated dispening application software, all you need to do is select the positions where you want the needle tip to go and dispense.

Convenient

The JR3000 is the ideal dispensing robot, fully equipped with helpful functions such as a fill-in dispensing function and a fragment prevention function as well as needle adjustment functions for 3 and 4 Axes types. Add an optional "Purging Switch", which runs the dispenser for as long as you press it.

Fill-in Dispensing Function



Dispensing Software Point Type Selection Screen

4 Axes Needle Adjuster

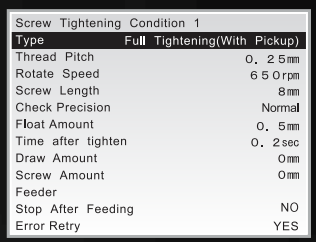
Screw-tightening Robot

Easy

Using our dedicated screw tightening application software, after setting screw tightening conditions such as screw length, pitch and the number of driver rotations all you need to do to teach the robot is set the tightening positions.

Convenient

In addition to full tightening, the robot can also tighten loosely and loosen screws. Includes functions to detect screw stop and screw float errors. Other convenient functions include a program suspension function when the screw feeder becomes empty.
(The screwdriver must also be adapted when loosening screws.)



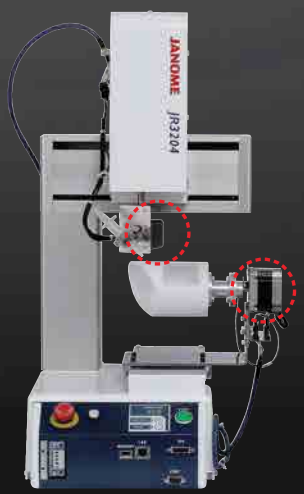
Screw-tightening Conditions Screen

Tightens screws as small as M1.0.

Sample Uses for the I/O-MT

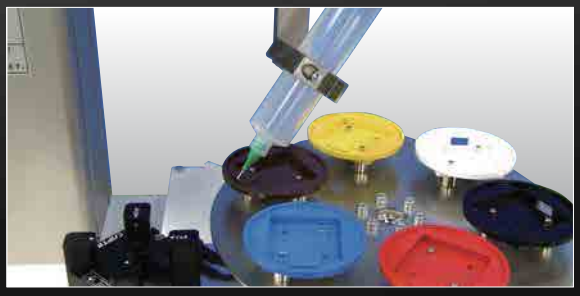
4 Axes Dispensing Robot Used as a 6 Axis Unit

Axes are added to allow for changes to the dispenser syringe and workpiece angles. Here the robot dispenses along the edge of a hole cut through a tube-shaped piece.



Dispensing on a Turntable

A 4 axes dispensing robot dispenses on multiple workpieces set on a rotating turntable.

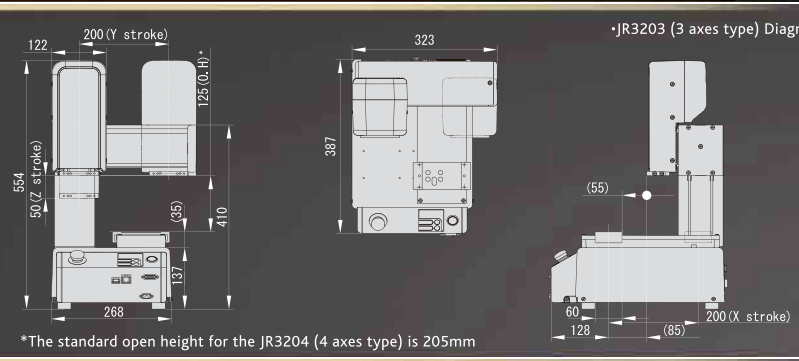


External Dimensions

JR3200

JR3203N-AC　　JR3204E-BC

•JR3203 (3 axes type) Diagram

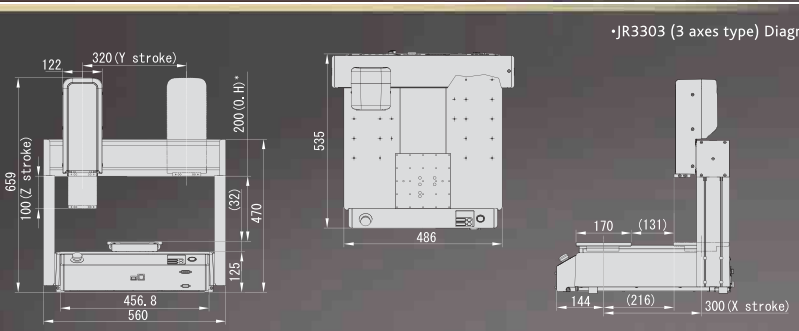


*The standard open height for the JR3204 (4 axes type) is 205mm

JR3300

JR3303N-AC　　JR3304N-BC

•JR3303 (3 axes type) Diagram

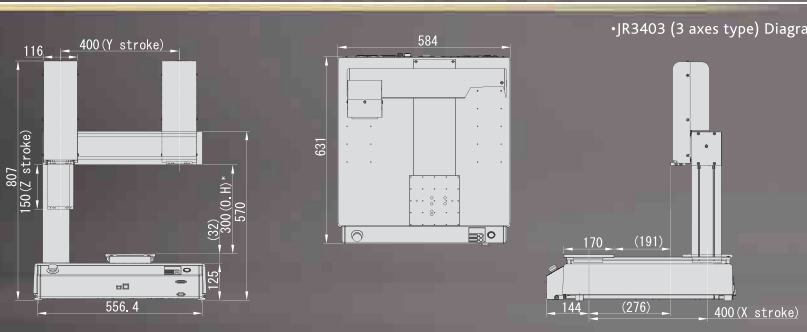


*The standard open height for the JR3304 (4 axes type) is 350mm

JR3400

JR3403N-AC　　JR3404E-AC Double Column Type

•JR3403 (3 axes type) Diagram

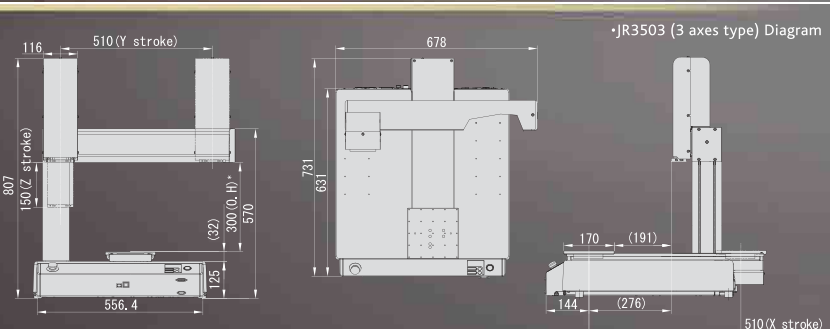


*The standard open height for the JR3404 (4 axes type) is 350mm

JR3500

JR3503N-AC　　JR3504N-AC

•JR3503 (3 axes type) Diagram

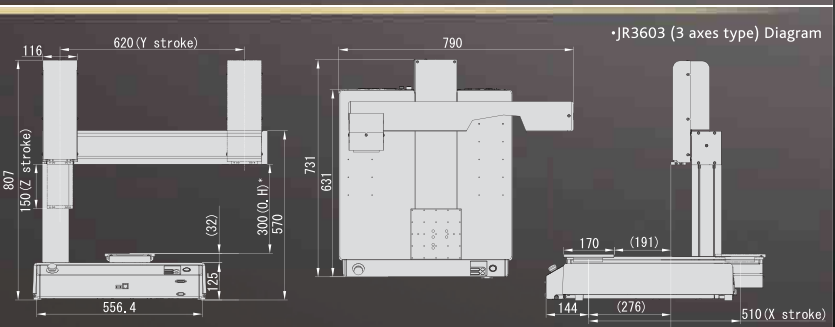


*The standard open height for the JR3504 (4 axes type) is 350mm

JR3600

JR3603N-AC　　JR3604N-AC

•JR3603 (3 axes type) Diagram



*The standard open height for the JR3604 (4 axes type) is 350mm

You can download more details and dimensions for models not depicted here via our website : http://www.janomeie.com/

Main Specifications

3 Axes Specifications

Item \ Model*1		3 Axes (Synchronous Control)				
		JR3203	JR3303	JR3403	JR3503	JR3603
Operating Range	X & Y Axes	200×200mm	300×320mm	400×400mm	510×510mm	510×620mm
	Z Axis	50mm	100mm	150mm	150mm	150mm
Maximum Portable Load	X Axis (Workpiece)	7kg	15kg	15kg	15kg	15kg
	Y Axis (Tool)	3.5kg	7kg	7kg	7kg	7kg
Maximum Speed (PTP Drive)*2 [ ]=Settable Speed Range	X & Y Axes	700mm/sec [7~700mm/sec]	900mm/sec [9~900mm/sec]	900mm/sec [9~900mm/sec]	900mm/sec [9~900mm/sec]	900mm/sec [9~900mm/sec]
	Z Axis	250mm/sec [2.5~250mm/sec]	400mm/sec [4~400mm/sec]	400mm/sec [4~400mm/sec]	400mm/sec [4~400mm/sec]	400mm/sec [4~400mm/sec]
Maximum Speed(CP Drive)*2 [ ]=Settable Speed Range	X, Y, Z Combined	600mm/sec [0.1~600mm/sec]	850mm/sec [0.1~850mm/sec]	850mm/sec [0.1~850mm/sec]	850mm/sec [0.1~850mm/sec]	850mm/sec [0.1~850mm/sec]
Repeatability*3	X & Y Axes	±0.006mm	±0.007mm	±0.007mm	±0.008mm	X:±0.008mm Y:±0.01mm
	Z Axis	±0.006mm	±0.007mm	±0.007mm	±0.008mm	±0.008mm
External Dimensions W×D×H (Excluding Protrusions)*4		323×387×554mm	560×535×659mm	584×631×807mm	678×731×807mm	790×731×807mm
Robot Weight*4		20kg	35kg	42kg	44kg	45kg

4 Axes Specifications

Item \ Model*1		4 Axes (Synchronous Control)				
		JR3204	JR3304	JR3404	JR3504	JR3604
Operating Range	X & Y Axes	200×200mm	300×320mm	400×400mm	510×510mm	510×620mm
	Z Axis	50mm	100mm	150mm	150mm	150mm
	R Axis	±360°	±360°	±360°	±360°	±360°
Maximum Portable Load	X Axis (Workpiece)	7kg	15kg	15kg	15kg	15kg
	Y Axis (Tool)	3.5kg	7kg	7kg	7kg	7kg
Maximum Speed(PTP Drive)*2 [ ]=Settable Speed Range	X & Y Axes	700mm/sec [7~700mm/sec]	900mm/sec [9~900mm/sec]	900mm/sec [9~900mm/sec]	900mm/sec [9~900mm/sec]	900mm/sec [9~900mm/sec]
	Z Axis	250mm/sec [2.5~250mm/sec]	400mm/sec [4~400mm/sec]	400mm/sec [4~400mm/sec]	400mm/sec [4~400mm/sec]	400mm/sec [4~400mm/sec]
	R Axis	600°/sec [6~600°/sec]	900°/sec [9~900°/sec]	900°/sec [9~900°/sec]	900°/sec [9~900°/sec]	900°/sec [9~900°/sec]
Maximum Speed(CP Drive)*2 [ ]=Settable Speed Range	X, Y, Z Combined	600mm/sec [0.1~600mm/sec]	850mm/sec [0.1~850mm/sec]	850mm/sec [0.1~850mm/sec]	850mm/sec [0.1~850mm/sec]	850mm/sec [0.1~850mm/sec]
R Axis Acceptable Moment of Inertia		65kg·cm^2	90kg·cm^2	90kg·cm^2	90kg·cm^2	90kg·cm^2
Repeatability*3	X & Y Axes	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
	Z Axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
	R Axis	±0.008°	±0.008°	±0.008°	±0.008°	±0.008°
External Dimensions W×D×H (Excluding Protrusions)*4		323×387×676mm	560×535×844mm	584×631×894mm	678×731×894mm	790×731×894mm
Robot Weight*4		22kg	38kg	46kg	47kg	48kg

<Notes>

*1 2 Axes Specifications also available. Please contact us.

*2 Maximum speed can vary depending upon conditions. The robot cannot reach maximum speed when bearing the maximum portable load.

*3 Repeatability was measured at a constant temperature and does not represent a guarantee of absolute precision.

*4 The external dimensions and robot weight differ for JR3400 Double Column Specifications. Please contact us for details.

JR3000 Series Common Specifications

Item		Specification Content
Drive Method		5 Phase Pulse Motor (optional encoder attachment)
Control Method		PTP(Point to Point) Control, CP(Continuous Path) Control
Interpolation		3-dimensional linear and arc interpolation
Teaching Method		Remote Teaching (JOG) / Manual Data Input (MDI)
Teaching System		Simple and versatile teaching using our original software •Easy: Point-based teaching (position and type) for all axis movement; direct movement by setting point strings. Dedicated point types for each application makes teaching specialized movements simple. •Versatile: Control tools and make workpiece operation settings by setting point jobs and various parameters.
Teaching Pattern		•Direct teaching using the optional teaching pendant •Offline teaching from a PC using our optional PC software "JR C-Points II" . Compatible with CAD graphics (DXF, Gerber, JPEG)
Screen Display Options	Measurement Unit	mm, inch
	Languages	Japanese, English, French, Spanish, Italian, German, Korean, Simplified Chinese, Czech, Vietnamese
Program Capacity		999 Programs
Database Capacity*1		Up to 32,000 points
Simple PLC Functions		Up to 100 programs, with up to 1,000 steps/program
External Input/Output	I/O-SYS	16 Inputs/ 16 Outputs
	I/O-1*2	8 Inputs/ 8 Outputs (including 4 relay outputs) (Optional)
	I/O-MT*2	Controls up to 2 external motors (Optional)
	I/O-S	Interlock connector for an area sensor, etc. (Optional)
	Fieldbus	CC-Link/ DeviceNet/ PROFIBUS (Optional)
	COM1	RS232C (for external devices, COM commands)
	COM2・COM3	RS232C (for external devices) (Optional)
	MEMORY	USB memory connector (save and readout teaching and customizing data, back up system software)
	LAN*3	Ethernet connector for PC (connect to JR C-Points II PC software, operate the robot using control commands)
Power Source		AC90~125V / AC180~240V (single phase)
Power Consumption		200W
Operating Environment	Temperature	0~40℃
	Relative Humidity	20~90% (non condensing)
	Elevation	up to 1,000m

<Notes>

*1 Point data memory capacity reduces as additional function data settings/point job data/sequencer data are added, due to the shared data storage area.

*2 For the JR3200 series, choose only one optional add-on: I/O-1 or I/O-MT.

*3 Ethernet connection is 10BASE-T/100BASE-TX.

<Standard Accessories>

•Operation Manual (CD-ROM)
•Power Cord
•Switchbox (included as standard equipment for robots with B type specification operation panels)

<Options>

•Teaching Pendant (Standard/with Emergency Stop Switch)
•PC Software JR C-Points Ⅱ (Windows®7/Windows®8 compatible) Switch among Japanese, English, German and Simplified Chinese display screens.
•Internal I/O Power Supply (DC24V Rating 2.1A for I/O-SYS and I/O-1)
•Optional Switch (Option with A Type Operation panel specs.)
•Needle Adjuster
•I/O-SYS Connector
•I/O-SYS Cable
•I/O-1 Cable
•I/O-MT Connector
•I/O-MT Cord (0.5m, 1m, 3m, 5m)

[Switchbox]

Standard Type

With Mode Changing Switch(optional)

With Optional Switch

• Before using your robot, read the operation manual and be sure to use the robot correctly.
• Specifications may change without notice to improve product quality.
• If you have any questions, please contact us at the telephone number listed below, or visit our website.

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