Robot JR3000

Desktop Robot

POLY DISPENSING SYSTEMS
SYSTEMES DE DOSAGE INDUSTRIEL

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Main Features

Main features

- Increased Structural Rigidity

Faster, more precise, with greater structural rigidity for long-term, dependable use; high speed tracking function for increased stability.
We greatly shortened the after stop oscillation time for robots with a camera attached to the Z mechanism, cutting the waiting time between runs almost in half (compared with previous models).
Maximum speed 900mm/sec for model JR3300 and up; workpiece mass up to 15kg, tool mass up to 7kg.

- Built-in robot cable; a first for our desktop robots.

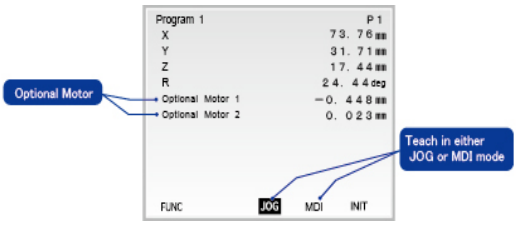
Highly effective for manufacturing facilities with height restrictions. Z-axis cable is integrated into the Y-axes housing for a more streamlined design.

- Fieldbus Compatibility

We've made the JR3000 Series Fieldbus compatible for easy inclusion in automated assembly lines and automated work stations. Set program numbers, start/stop operations, acquire position data and overwrite programs, all through the Fieldbus interface.
Multiple module types: choose among DeviceNet, Profibus and CC-Link.

- Control up to 4 axes and 2 external motors with the Auxiliary Axis Function (optional)

Teach up to 2 stepping motor or servomotor-driven «pulse string input type» external devices from the teaching pendant the same as with the robot axes. This function has many uses so you can «Set up a turntable to change the direction of the workpiece», «Set up a conveyor and control it from the robot», and more.



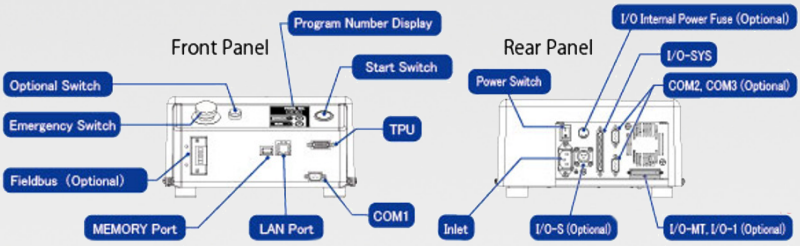
- Teaching pendant features 10 different display languages

To help personnel from a wide variety of countries operate the robot, we have 10 teaching pendant display languages built-in. You can choose: Japanese, English, French, Spanish, German, Korean, Simplified Chinese, Czech and Vietnamese.

- Original System Software

We offer specialized software for screw tightening specifications and dispensing specifications as well as highly versatile standard specification software.

Part Names and Explanations



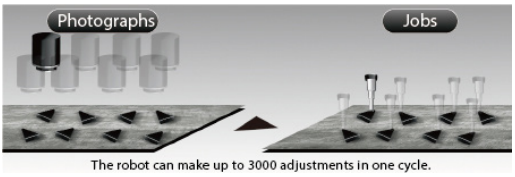
System Software

Automatic Calibration

Formerly time-consuming camera calibration (matching the camera's coordinates to the robot's coordinates) is now simplified. Just register the camera-side calibration marks and the robot calibrates automatically.

CCD Camera Adjustment Function with Counter

We've enhanced the functions for jobs done while using the camera to make position adjustments. The robot can acquire up to 3,000 position adjustments, so for workpieces lined up on a pallet, instead of repeating the process of «imaging»□»job»□»take image of next workpiece»□»do job on next workpiece», you can «take a group image»□»do job on the group», shortening your operating time.



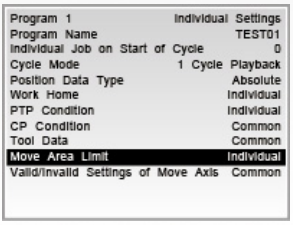
The robot can make up to 3000 adjustments in one cycle.

Simple Sequencer Function

The simple sequencer is built-in allowing the unit to easily coordinate with external devices on its own. (Maximum capacity 100 programs with 1,000 steps per program.)

Common Settings for All Programs

Settings such as «work home», «move area limit», «PTP movement conditions», etc., which are the same for all programs can now be set in common. Making these settings once for all programs helps to shorten program teaching time. Of course, you can switch these settings over to set them individually if you wish.

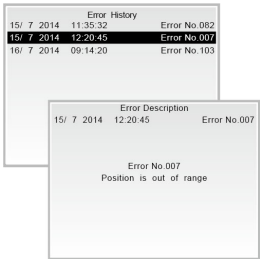


4 - axes Needle Adjuster Function

We offer devices to adjust the needletip position forboth 3 and 4 axes types (for dispensing specificatons)

Error History

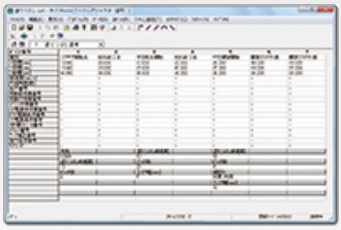
The error times and dates can appear on the display.
The robot can determine the time an error occurred, which helps in identifying the cause. The error history saves data for the most recent 1,000 errors.



PC Software «JR C-PointsII» (optional)

Our original interactive programming software, «JR C-Points II» lets you create, edit and save your teaching and customizing data on your PC. Cut and paste point data in the manner of spreadsheet software, set points by numerical input, and create and edit point job commands without difficulty. Also with the «Point Graphic Editing Function», create and edit path data as a graphic drawing for even more convenient program teaching. Convert and use JR2000N Series «JR C-Points» teaching data as JR3000 Series data.

Point Graphic Editing Function

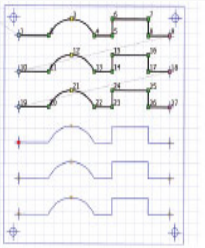


- Based on imported background image data (jpg), DXF or Gerber data, draw points, straight lines, circles and arcs. With the automatic approach, precisely determine even difficult positions on your PC.
- Sorting by Specified Direction Function

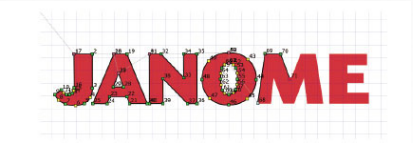
When using programs with multiple paths, shorten the cycle time with a function that realigns the paths based upon the order of the starting points.

- Automatic Arc Drawing Function

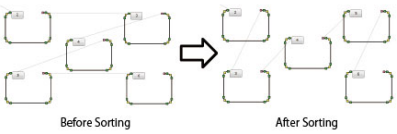
Circle editing is even easier with a function to set the R-axis by the angle of the radius.



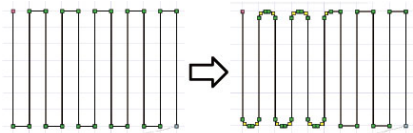
Precise point setting using coordinate data



Point setting by going along the lines of a background image



Pointorder Sorting Function (shorter tact times)



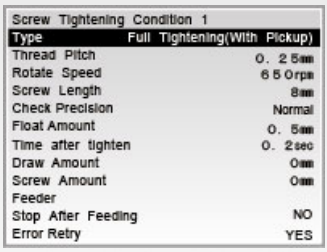
Corner Angle Rounding Function

Software Applications

Dedicated software for screw tightening and dispensing jobs.

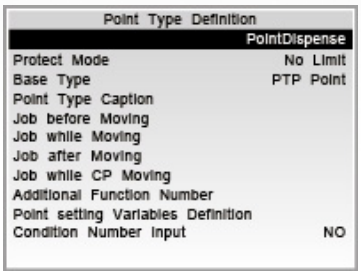
Screw Tightening Specifications

Creating screw tightening job programs is easy: just set the job positions for screw tightening parameters such as screw pitch, length, and the driver rpm.



- Not just full screw tightening, but teaching screw loosening and partial (loose) screw tightening is also easy.
  (Loosening operations need to coordination from the screwdriver side.)
- Screw Tightening Error Detection Function
  Specialized screw tightening software features helpful functions including «Screw Stop Detection», «Screw Float Detection» as well as a function to stop the robot when the screw feeder is empty.

Dispensing Specifications



Creating dispensing programs is easy: just set the job positions for dispensing parameters such as point dispensing or line dispensing.

- Fill-in Dispensing Function

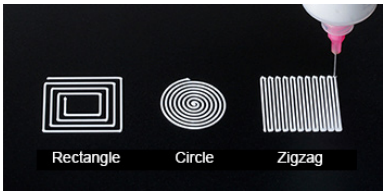
Convenient fill-in dispensing functions which allow you to dispense like drawing a picture using only 2 points for a rectangle and 3 points for a circle.

- Purging Function

Have the robot purge on a repeating cycle when holding at the work home position. Also, purge the dispensing liquid whenever you want using the optional «Purge Switch».

- Fragmented Dispensing Prevention Function

Set a waiting time to prevent fragmented dispensing at the beginning and spraying at the end of dispensing runs.



Main Features

3 AXES SPECIFICATIONS

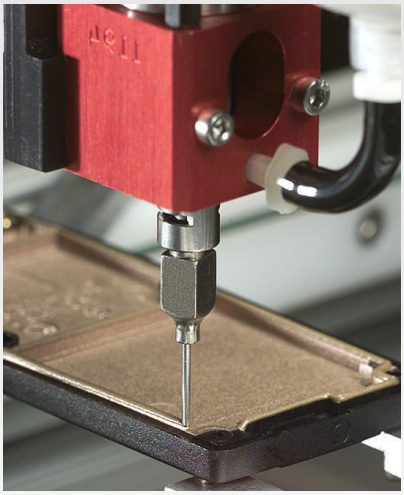
Model		JR3203	JR3303	JR3403	JR3503	JR3603
Operating Range	X・Y Axis (mm)	200×200	300×320	400×400	510×510	510×620
	Z Axis (mm)	50	100	150		
Maximum Portable Load	Workpiece (kg)	7	15			
	Tool (kg)	3.5	7			
Maximum Speed*1 <PTP Movement> ( )=setting range	X・Y Axis (mm/sec)	700 (7~700)	900 (8~900)			
	Z Axis (mm/sec)	250 (2.5~250)	400 (3.2~400)			
Maximum Speed*1 <CP Movement> ( )=setting range	X・Y・Z Combined Speed (mm/sec)	600 (0.1~600)	850 (0.1~850)			
Repeatability*2	X Axis (mm)	±0.006	±0.007		±0.008	±0.008
	Y Axis (mm)					±0.01
	Z Axis (mm)					±0.008
External Dimensions*3	W×D×H (mm) (excluding cables and protrusions)	323×387×554	560×535×659	584×631×807	678×731×807	790×731×807
Main Unit Weight (kg)*3		20	35	42	44	45

4 AXES SPECIFICATIONS

Model		JR3204	JR3304	JR3404	JR3504	JR3604
Operating Range	X・Y Axis (mm)	200×200	300×320	400×400	510×510	510×620
	Z Axis (mm)	50	100	150		
	R Axis (°)	±360				
Maximum Portable Load	Workpiece (kg)	7	15			
	Tool (kg)	3.5	7			
Maximum Speed*1 <PTP Movement> ( )=setting range	X・Y Axis (mm/sec)	700 (7~700)	900 (8~900)			
	Z Axis (mm/sec)	250 (2.5~250)	400 (3.2~400)			
	R Axis (°/sec)	600 (6~600)	900 (8~900)			
Maximum Speed*1 <CP Movement> ( )=setting range	X・Y・Z Combined Speed (mm/sec)	600 (0.1~600)	850 (0.1~850)			
Acceptable Moment of Inertia (kg・cm^2)		65	90			
Repeatability*2	X・Y Axis (mm)	±0.01				
	Z Axis (mm)	±0.01				
	R Axis (°)	±0.008				
External Dimensions*3	W×D×H (mm) (excluding cables and protrusions)	323×387×676	560×535×844	584×631×894	678×731×894	790×731×894
Main Unit Weight (kg)*3		22	38	46	47	48

COMMON SPECIFICATIONS

Drive Method		5 phase pulse motor drive (encoder added as an option)
Control Method		PTP (Point to Point) control, CP (Continuous Path) control
Interpolation		3-dimensional linear and arc interpolation
Position Error Detection Function		Initialization sensor detects any position discrepancies that come at the start and end of operation runs. Optional encoder for detecting mid-run step out errors.
Teaching Method		Remote teaching (JOG)/ Manual Data Input (MDI)
Teaching System		• Direct teaching using the optional teaching pendant • Off-line teaching with "JR C-Points Ⅱ" software from a PC
Teaching Pendant Display	Measurement Units	mm/inch
	Languages	Switch back and forth among these languages: Japanese・English・German・Italian・Spanish・French・Korean・Simplified Chinese・Czech・Vietnamese.
Program Capacity		999 programs
Data Capacity		Up to 32,000 Points*4
Simple PLC Function		Up to 1,000 steps
External Input/Output	I/O-SYS*5*9	16 Inputs, 16 Outputs
	I/O-1*5*8*9 (optional)	8 Inputs, 8 Outputs (including 4 relay outputs)
	I/O-S*6	For connection to interlocking devices such as area sensors, etc.
	I/O-MT*8 (optional)	for auxiliary axes (pulse string input type*12) control; control up to 2 axes
	Fieldbus (optional)	CC-Link, DeviceNet, PROFIBUS
	COM1	RS-232C for external device control, COM commands
	COM2、COM3 (optional)	RS-232C for external device control
	MEMORY	For USB memory connection • Read out and save teaching and customizing data • Upgrade system software • Update model settings data
	LAN*7	For PC connection via the Ethernet • Robot control via control commands • Connection to (optional) PC software "JR C-Points Ⅱ" (Send and receive teaching and customizing data, upgrade system software)
	TPU	Dedicated teaching pendant connector (optional)
	SWITCHBOX*6	Dedicated switchbox connector
I/O Built-in Power Supply		24V Rated 2.1A
Power Source*10		AC90～132V/AC180～250V (Single Phase) 50/60Hz
Power Consumption		200W
Operating Enviroment	Temperature	0～40℃
	Relative Humidity	20～90% (Without condensation)
	Elevation	up to 1,000m
Optional Switch *11		Used as a purge switch with the Dispensing Specifications



PDS S.A.S is a french company that commercializes a wide range of dosage equipments, proven and effective.

Distributed in over 20 countries around the world, these equipements provide tailored solutions to many users in order to improve technically their manufacturing and reduce their productions costs.

Our collaborators and sales engineers all have a strong technical competences. They are able to answer your questions and offer you, after analysis, the right solution for your particular need.

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