Desktop Robot
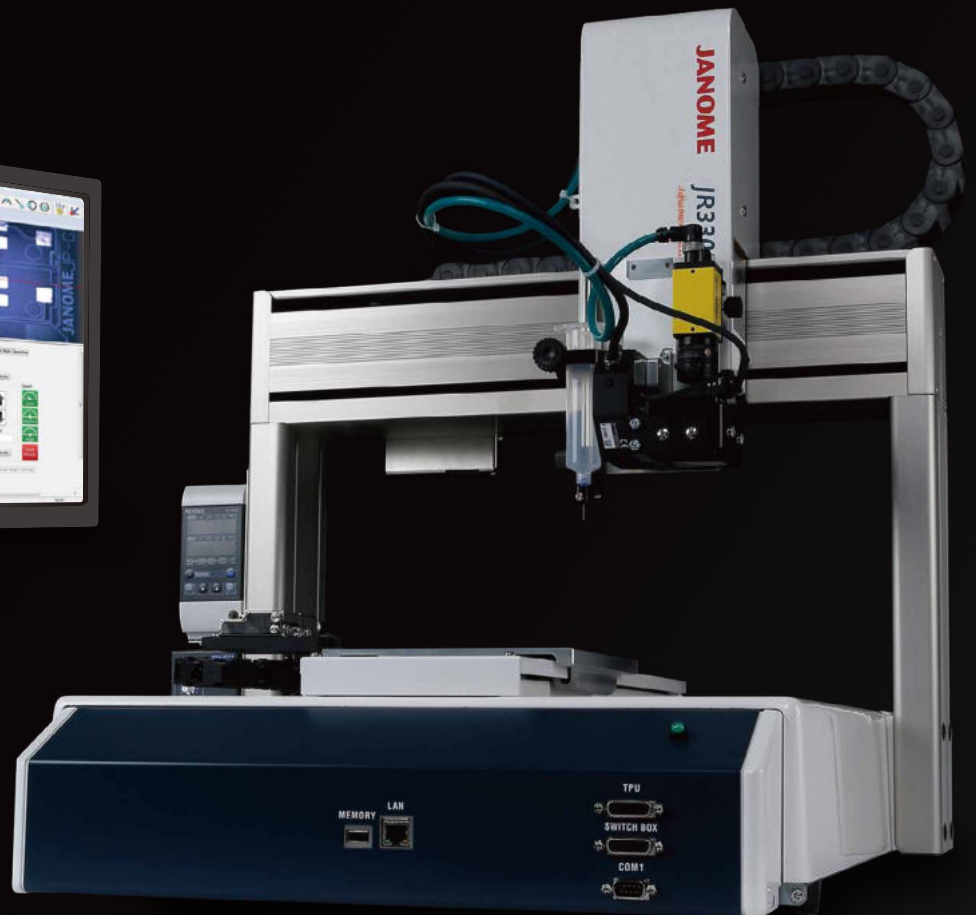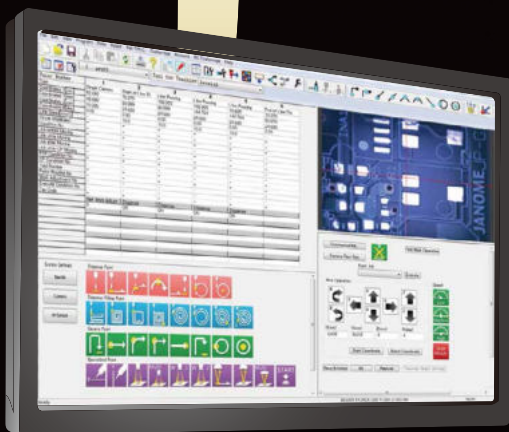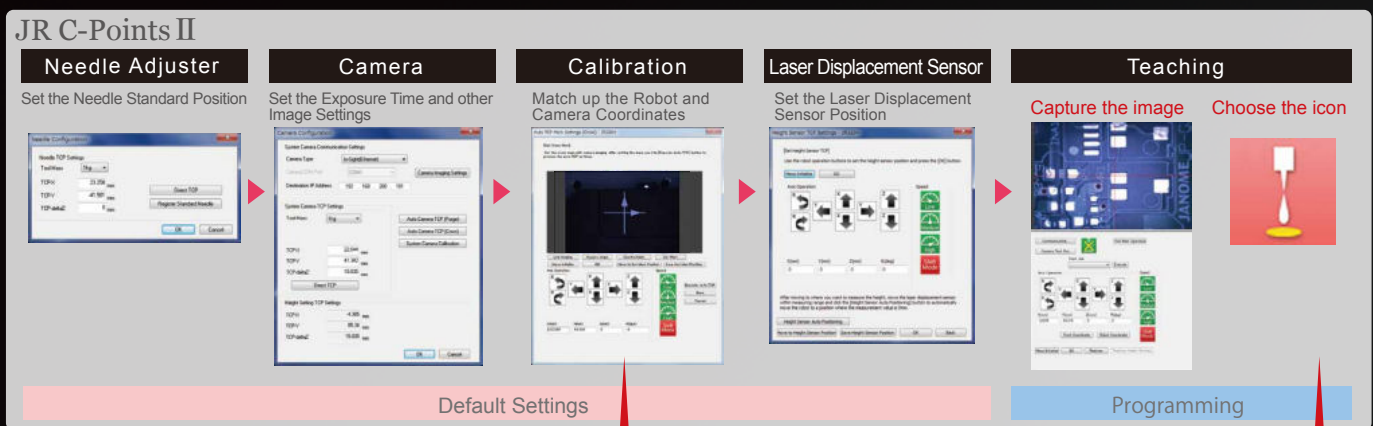# JR3OOO SERIES

Adjustment Package for Dispensing

The same software for all your settings!

We combined the camera, laser displacement sensor, and needle adjuster for precision dispensing on fine workpieces with the highly rigid, high precision JR3000 Series to create a comprehensive machine vision system package. What's more, our dedicated software, "JR C-Points II" is even more user-friendly. Now anyone can do perform precision robot teaching using the camera images.

Easy settings from start to finish with our specialized software

JR C-Points II

Needle Adjuster	Camera	Calibration	Laser Displacement Sensor	Teaching
Set the Needle Standard Position	Set the Exposure Time and other Image Settings	Match up the Robot and Camera Coordinates	Set the Laser Displacement Sensor Position	Capture the image / Choose the icon

Default Settings — Programming

Auto Calibration

Capture the purged dispensing agent and the camera calibrates automatically. (Line up the needle position with the cross to capture with the camera.)

Easy Teaching

Teaching is done in JOG mode. Use the camera images to move to the location and then choose the icon for the operation you want.

Ex.) Point Dispensing

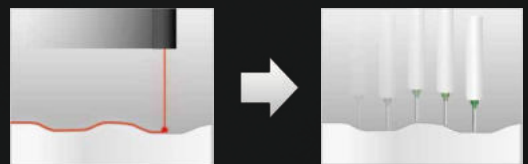## Adjustment functions for high precision dispensing

1 Camera Adjustment

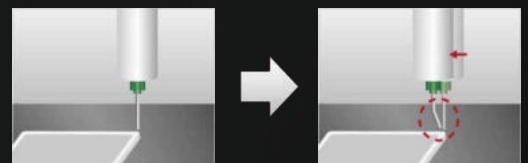The robot dispenses while making adjustments on displaced workpieces.

2 Continuous Height Adjustment

The laser displacement sensor continuously measures the workpiece height.

3 Needle Adjustment

If the needle tip position is displaced after nozzle replacement, the robot automatically detects the current needle position and makes adjustments.

- *Janome Dynamic Adjustment Package Dispensing Robot* -

Dedicated interface for dispensing with a camera "JR C-Points II"

The "Programming Area", "Camera Imaging Area", "Basic Operations Area" and "Robot Operations Area" are all integrated on one screen for a clear, convenient interface.

Programming Area

Displays programming data point by point. Choose and edit the point values directly.

Basic Operation Icons

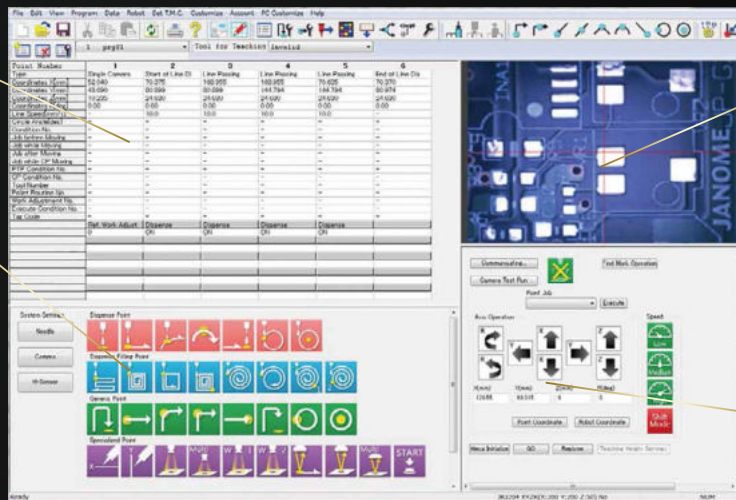Program just by choosing the icons you want!

Point Dispense | Start of Line Dispense

Single Camera Shoot Point | Z Sensor Line Dispense Start

Camera Imaging Area

Use magnified camera images to designate precise positions. With "JR C-Points II" making camera settings is easy.

Click on the camera image, and the robot recenters on the position you clicked and moves accordingly.

Robot Operations Area

Make JOG movements while watching the camera image.

All this high quality in one package

Robot

JR3000 SERIES

A highly rigid desktop robot designed for precision dispensing. Do jobs faster and with greater precision, with dependably high repeatability over the long term.

Camera

In-Sight Micro — COGNEX

All the functions you need for an industrial machine vision system packed into an ultra-compact casing for top class performance.
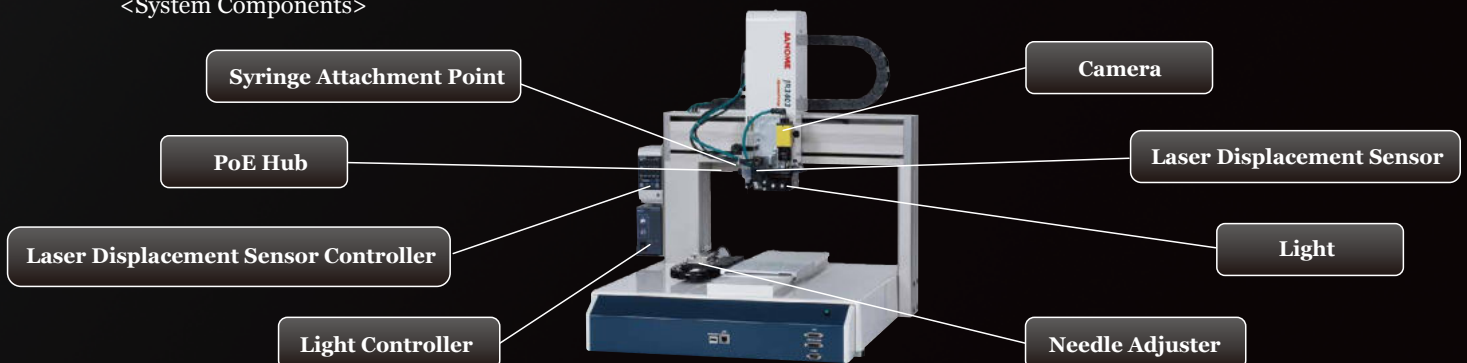Resolution (Pixels): 640 x 480

Laser Displacement Sensor

LK-G3000A — KEYENCE

"Stable Measurement" achieved through high-speed sampling.
Measuring Range: 30±5mm
Spot Diameter: Φ30μm
Repeatability: 0.5μm

Needle Adjuster

3 Axes Type	4 Axes Type
Repeatability: ±0.05mm Needle Displacement Margin: ±5mm Compatible Needles (PR-1): Φ0.35~2.50mm (PR-2): Φ0.20~1.00mm	Repeatability: ±0.15mm Needle Displacement Margin: ±5mm Compatible Needles: Φ0.20~2.50mm

<System Components>

- Syringe Attachment Point
- PoE Hub
- Laser Displacement Sensor Controller
- Light Controller
- Camera
- Laser Displacement Sensor
- Light
- Needle Adjuster

Dispensing with Camera Specifications

Item \ Model [1]		JR3303	JR3403	JR3304	JR3404
Number of Axes		3 Axes (Synchronous Control)		4 Axes (Synchronous Control)	
Operating Range	X & Y Axes	300×320mm	400×400mm	300×320mm	400×400mm
	Z Axis	100mm	150mm	100mm	150mm
	R Axis	-		±360°	
Maximum Portable Load	X Axis (Workpiece)	14kg			
	Y Axis (Tool)	5kg			
Maximum Speed (PTP Drive) [2]	X Axis	900mm/sec			
	Y Axis	800mm/sec			
	Z Axis	400mm/sec			
	R Axis	-		900°/sec	
Maximum Speed (CP Drive) [2]	X, Y, Z Combined	850mm/sec			
Acceptable Moment of Inertia		-		$90kg \cdot cm^2$	
Repeatability (Robot) [3]	X & Y Axes	±0.007mm		±0.01mm	
	Z Axis	±0.007mm		±0.01mm	
	R Axis	-		±0.008°	
External Dimensions (Excluding Protrusions)		W628×D608×H657mm	W651×D668×H715mm	W628×D608×H769mm	W651×D668×H844mm
Open Height		200mm	208mm	275mm	300mm
Robot Weight		42kg	51kg	44kg	55kg
Drive Method		5 Phase Pulse Motor			
Control Method		PTP(Point to Point) Control, CP(Continuous Path) Control			
Interpolation		3-dimensional linear and arc interpolation			
Teaching Method		Simple and versatile teaching using our original software			
Teaching Pattern		Online teaching from your PC using our dedicated software			
Screen Display Options	Measurement Unit	mm, inch			
	Languages	English, Japanese, Simplified Chinese, Traditional Chinese			
Program Capacity		999 Programs			
Database Capacity [4]		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 [5]	16 Inputs/ 16 Outputs			
	I/O-1 [5]	8 Inputs/ 8 Outputs (including 4 relay outputs)			
	I/O-MT	Controls up to 2 external motors (Optional)			
	I/O-S	Interlock connector for an area sensor, etc. (Optional)			
	Fieldbus	CC-Link / DeviceNet / PROFIBUS / PROFINET / CANopen / EtherNet/IP (Optional)			
	COM [5]	RS232C 3ch (for external devices, COM commands)			
	MEMORY	USB memory connector (save and readout teaching and customizing data, back up system software)			
	LAN	For PoE Industrial Hub connection			
Camera Dispensing Specifications Attachments [6]	Camera	In-Sight Micro Series SM1100-11 (manufactured by COGNEX)			
	CCTV Lens	SV-1614V (manufactured by VS Technology)			
	Closeup Ring	SV-EXR (7 piece Closeup Ring Set: 0.5mm,1mm,2mm,5mm,10mm,20mm,40mm) (manufactured by VS Technology)			
	Lighting	Light（Coaxial Type): LFV3-35SW（White) (LFV3-35RD（Red）also available), Controller: PD2-3024 (manufactured by CCS)			
	Laser Displacement Sensor	Sensor: LK-G30A (small spot type), Controller: LK-G3000VA (All-in-one) (manufactured by KEYENCE)			
	Needle Adjuster	3 Axes: NADS(PR-1) also NADE(PR-2), 4 Axes: OGLW2-40T-2PS6			
	PoE Industrial Hub	CPS-24V-POE4 (Manufactured by COGNEX)			
Power Source		AC100～120V/ AC200～240V ±10% (single phase)			
Power Consumption		280W			
Operating Enviroment	Temperature	0～40℃			
	Relative Humidity	35～85% (non condensing)			
	Elevation	up to 1,000m			

<Notes>

*1 For Dispensing with Camera Specifications, all robots are double column types.
*2 Maximum speed can vary depending upon conditions.
*3 Repeatability was measured at a constant temperature and does not represent a guarantee of absolute precision.
*4 Point data memory capacity reduces as additional function data settings/point job data/sequencer data are added, due to the shared data storage area.
*5 Values are for robot with peripheral devices attached.
*6 We ask that customers please prepare the PC (and connecting cable) and dispenser at their end.

<Standard Accessories>
· Power Cord · Switchbox (also available with optional switch or mode changing switch)
· Operation Manual (CD-ROM) · PC Software JR C-Points Ⅱ（Windows® 7, Windows® 8.1, Windows® 10 compatible)

<Options>
· Teaching Pendant (for use with the robot) · I/O-1 Cable · I/O-MT Cable

• 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.

[Switchbox]

Standard Type

With Mode Changing Switch(optional)

With Optional Switch(optional)