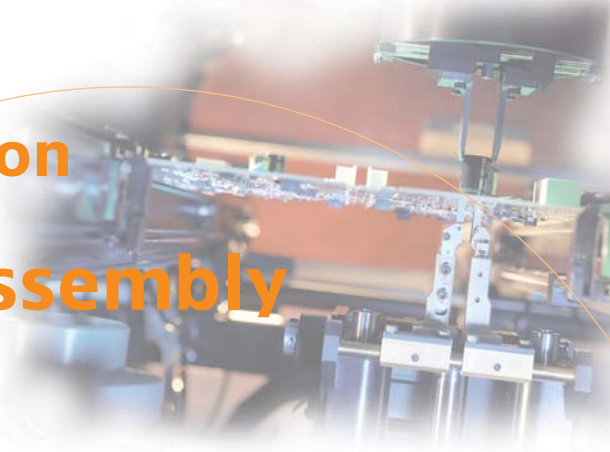


Flexible automation for electronic assembly



The Polaris Servo-Gripper Assembly Cell can streamline your manufacturing process by automating reflow odd form assembly, wave solder odd form assembly, or final product assembly. Specialized capabilities include through hole insertion and surface mount component placement with controlled placement force. You can efficiently assemble virtually any nonstandard device including connectors, transformers, shielding, and more. The flexibility, optimal utilization levels, and user-friendly design of Polaris Servo-Gripper deliver superior quality products at a higher throughput than manual assembly - all improving your productivity.

Machine Performance

Placement Rate	1800 cph (2 sec/placement) without vision inspection 1400 cph (2.5 sec/placement) with vision inspection
Placement Force	9.5kg (21 lbs) maximum
Accuracy	±127µm @ ±5 sigma (C _p ≥1.67) (X, Y Axis) ±0.20° @ ±5 sigma (C _p ≥1.67) (θ-Axis) C _{pk} ≥1.33 (X, Y, θ-Axis)
Feeder Slots	(32) 8mm slots (28 reachable with Servo-Gripper)
Transfer Time	< 2 sec

4-Axis Cartesian Gantry*

X and Y Axes

X-Axis Travel	800mm (31.5")
Y-Axis Travel	550mm (21.7")
Repeatability	±0.01mm (±0.0004")
Velocity	1200mm/sec (47.2")
Acceleration	1g (386.4"/sec ²)

Z-Axis

Maximum Stroke	152mm (6")
Repeatability	±0.01mm (±0.0004")

Theta Axis

Rotation	±319°
Repeatability	±0.03°
Maximum Payload	5.5kg (12.1 lbs)

*Specifications apply to the base positioning system without head or end-effector tooling.

Component Range*

	Servo-Gripper		Servo-Gripper using Vacuum Spindle		
	Minimum	Maximum	Minimum	Maximum	
Length	-	127mm (5")	Length	1mm (0.04")	127mm (5")
Width	-	38.1mm (1.5")	Width	1mm (0.04")	38.1mm (1.5")
Thickness	1.5mm (0.06")	50.8mm (2")	Thickness	0.51mm (0.02")	50.8mm (2")
Weight	-	450g (1 lb)	Weight	-	35g (0.077 lb)

*Polaris can handle other size components. Consult with your Universal sales representative.

PCB Dimensions

	Minimum	Maximum
Length	50.8mm (2")	508mm (20")
Width	63.5mm (2.5")	457.2mm (18")
Thickness	0.8mm (0.03")	5.08mm (0.2")
Height	-	6kg (13.2 lbs)
Topside Board Clearance	-	50.8mm (2")
Bottomside Board Clearance	-	15.7mm (0.62")

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MC-3641A 01/04

A  COMPANY

Options

Clinch Options	X, Y programmable, dual wipe Passive clinch plate
Insertion Head Options	Servo gripper head with vacuum spindle
Feeder Plates	Standard GSM Platform-style interface Economy interface for non-Universal feeders
Camera Options	Upward looking for component centering and squaring/tolerance checking Downward looking for hole or fiducial registration
Feeder Options	
Tube Feeders	Single tube Multi-tube - three sizes conforming to various input size ranges Edge stack - resides external to the machine
Tape Feeders	All standard surface mount type feeders Radial tape Axial tape
Bowl Feeders	Custom per application
Matrix tray	Standard platform High-volume stack tray feeder (single part or random access) Stack tray feeders residing in Polaris (single part)
Custom Feeders	Standard feeder interface allows easy integration of non-Universal feed systems

Software

Microsoft® Windows NT®
Graphical User Interface

Service Requirements

Electrical	208 or 230 VAC configured at factory, nominal ± 10%
Pneumatic	169.9 liters/minute @ 6.21 bar (6cfm @ 90psi)

Machine Dimensions

Length	Depth	Height	Weight
1200mm (47.25")	1854mm (73")	2007mm (79")	1270kg (2800 lbs)

