



The PrecisePlace™ 1300/1400

Precise Automation, LLC

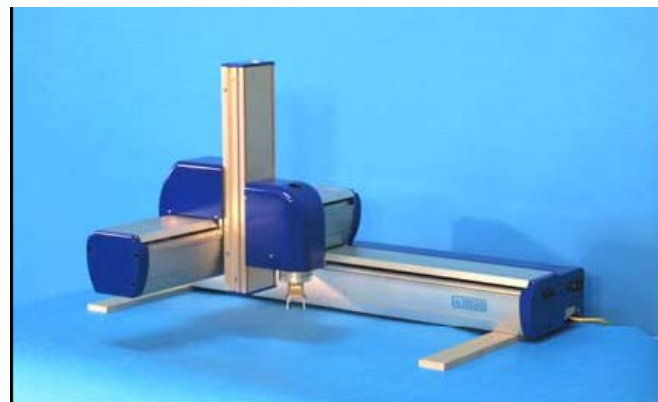
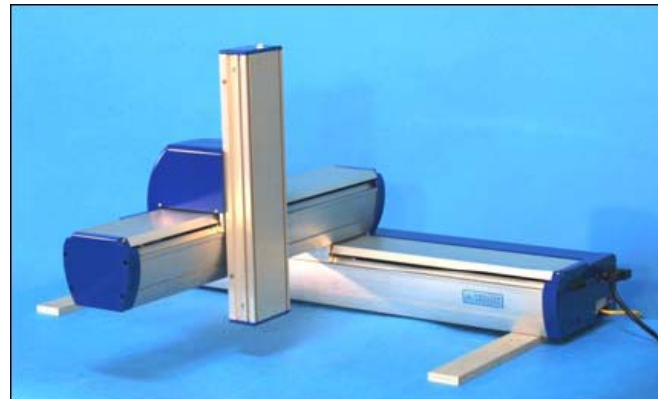
The PrecisePlace series of robots are intended for light payload material handling and assembly applications in the life sciences, medical products, semiconductor, electronics, and automotive industries. These robots incorporate the Precise Guidance 3400 Controller inside the X-axis and aluminum extrusions for the robot structure, to achieve a dramatic cost reduction compared to products with similar performance.

Features

- 3 Kg payload 1300, 2 Kg 1400
- X travel to 1000mm, Y to 400mm
- Optional vision-guidance
- Optional theta axis
- Linear Encoders for .01mm or .001mm resolution
- Brushless DC motors on all axes for quiet operation
- No belt drives for higher reliability and increased repeatability
- Motion controller, harness and pneumatics embedded in the robot

Target Industries and Applications

- Target Industries
 - Life Sciences
 - Medical Products
 - Semiconductor
 - Electronics
 - Automotive Suppliers
- Target Applications
 - Material handling
 - Machine loading
 - Sample preparation
 - Packaging and Kitting
 - Assembly
 - Inspection



Powerful Motion/Vision Controller

- On board programming language
 - Multi-tasking operating system with
 - 32 simultaneous tasks integrates I/O with motion
 - Motion features: continuous path, vision guidance, pallet coordinates, conveyor tracking, velocity and torque control, s-curve profiling, real-time path generation
 - Complete language with math functions, data structures and control structures
 - Embedded Web Server for remote diagnostics, on-line help

Specification (Preliminary)

- Axis Travel
 - X: from 500mm to 1000mm
 - Y: 200mm, 250mm, 300mm, or 400mm
 - Z: 200mm
- Repeatability with vision guidance
 - Standard: ± 0.01 mm X, Y, Z 0.01° , theta
 - High res option: ± 0.001 mm X, Y
- Repeatability w/o vision, 68-78°F
 - Standard : ± 0.05 mm X, Y, Z 0.01° , theta
 - High res option: ± 0.005 mm X, Y, Z
- Payload Nominal: 1300-3kg; 1400-2kg
 - Z force upwards continuous 40N
 - X, Y thrust 40N
- Cycle time w 1kg payload
 - 25mm by 300mm by 25mm and back
 - 1.5 second with 0.1mm settling
- Power
 - 90-132, 180-264VAC, 500 watts RMS

Extensive Communications

- Embedded Web Server with Ethernet
- PC Integration
 - .Net support and 10/100 Ethernet allow high speed integration with PC environment
 - Remote application programs can be written in any standard PC language such as Visual Basic™, Visual C++, etc.
- RS-232 for simple serial interfaces
- DeviceNet for ease of integration with automation systems
- Digital and analog I/O control
 - Basic system includes 12 digital inputs and 8 digital outputs, 2 analog inputs. I/O can be expanded through DeviceNet and additional I/O expansion modules
 - 2 high-speed position latches
 - PWM output on digital outputs for pseudo analog output
- Category 3 safety interlocks

PreciseVision Machine Vision Option

- Compensates for variations in machine and workcell due to temperature or tolerances
- Can run in PC or motion controller
- Complete set of image-processing, measurement, inspection and finder tools: convolutions, morphologic operators, projections, caliper, line and arc finders, blob finder, pixel counter, correlator, etc.
- Powerful patented Object Locator finds gray-scale patterns in any orientation and at different scales in milliseconds
- Supports flexible part feeding, vision guidance of machines
- Vision-motion integration allows flyover image capture with strobe and position latch

