PRODUCT CATALOG

Welcome and thanks for your interest in our company and our products!

Accurate CNC is specialized in the production of precise, reliable and affordable desktop milling and drilling systems. Our products are made exclusively in the USA and are comprised of high quality materials from the USA.

Our custom-made software, PhCNC, is one of the biggest advantages of the Accurate systems; it is specifically designed for PCB prototyping and precisely executes intricate operations. Despite the richness of its features, the PhCNC software is very intuitive, and user-friendly.

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MACHINES

In order to satisfy the specific needs and price limits of our customers, we offer big variety of 24 models of our PCB milling and drilling systems.

Below you can see comparison table of the main characteristics of all our models (table size & work envelope, automatic tool change presence, positioning system, spindle speed and number of tool holders).

Model	Table Size XY	Work envelope XYZ	Tool change	Spindle speed [rpm]	Tool holders
A737R	29x18 inch 737x457mm	23x15x1.3 inch 584x381x33 mm	Automatic	100,000	23
A736R	29x18 inch 737x457mm	23x15x1.3 inch 584x381x33 mm	Automatic	62,000	23
A637R	22x14 inch 559x356 mm	16x11x1.3 inch 406x279x33 mm	Automatic	100,000	16
A636R	22x14 inch 559x356mm	16x11x1.3 inch 406x279x33mm	Automatic	62,000	16
A537R	22x14 inch 559x356 mm	16x11x1.3 inch 406x279x33 mm	Automatic	100,000	15
A536R	22x14 inch 559x356mm	16x11x1.3 inch 406x279x33mm	Automatic	62,000	15
A437R	18x12 inch 457x304 mm	12x9x1.3 inch 304x229x33 mm	Automatic	100,000	12
A436R	18x12 inch 457x304 mm	12x9x1.3 inch 304x229x33 mm	Automatic	62,000	12
A732R	29x18 inch 737x457mm	23x16.2x1.3 inch 584x411.5x33 mm	Semi-Automatic*	100,000	N/A
A731R	29x18 inch 737x457mm	23x16.2x1.3 inch 584x411.5x33 mm	Semi-Automatic*	62,000	N/A
A632R	22x14 inch 559x356 mm	16x12.2x1.3 inch 406x310x33 mm	Semi-Automatic*	100,000	N/A
A631R	22x14 inch 559x356 mm	16x12.2x1.3 inch 406x310x33 mm	Semi-Automatic*	62,000	N/A
A532R	22x14 inch 559x356 mm	16x12.2x1.3 inch 406x310x33 mm	Semi-Automatic*	100,000	N/A
A531R	22x14 inch 559x356 mm	16x12.2x1.3 inch 406x310x33 mm	Semi-Automatic*	62,000	N/A
A432R	18x12 inch 457x304mm	12x10.2x1.3 inch 304x259x33 mm	Semi-Automatic*	100,000	N/A
A431R	18x12 inch 457x304 mm	12x10.2x1.3 inch 304x259x33 mm	Semi-Automatic*	62,000	N/A

* Manual tool change, prompted and facilitated by the software

MACHINES' CHARACTERISTICS

Accurate

We manufacture the most precise machines. Their absolute accuracy is better than 7.5 µm @ 254 mm. We measure this parameter with certified Mitutoyo glass scale. The resolution of all our models is precisely 0.1 µm (0.0039 mil).

Other superiority of our machines in terms of accuracy is our closed loop depth controlled technology, which ensures penetration depth accuracy +/- 1 µm.

Reliable

We are proud of being transparent towards our potential customers. On the website of the company is published all information needed for decision making: prices, specifications, manuals, demos, videos, etc. If you cannot find something that you are interested in, contact us and we will be happy to assist.

Our machines are manufactured in USA with high quality materials. We offer one year guarantee, included in the price and more as an option. We have practically lifetime software maintenance. The customer support is fast and efficient.

User-Friendly

Our most advanced machines are with fully automatic tool change and the most affordable models offer semi-automatic tool change (manual, prompted and facilitated by the software).

Despite of the richness of its functionalities, our software (PhCNC) is very easy to use. For example, it offers one-click switching between CAM & CNC mode; automatic detection of design rules violation & forced insulation option for the problematic areas; quick import of industry-standard gerber and excellon files in two steps and with preview; various manipulations of the imported objects or groups (Copy / Delete / Select / Deselect / Move / Rotate / Group / Ungroup) in an intuitive manner and much more. There are no unnecessary complications of the software without any added value like we find in some of our main competitors. To read more about the features of the software you can follow this link.

Extra-Full

To add comfort to your work with our PCB prototyping systems, we offer various optional extras:
- ✓ Vacuum table for superior material hold and flexibility, factory installed;
- ✓ Vacuum generator which can supply the table with the necessary suction power;
- ✓ Acoustic cabinet for low level of noise, suitable for office environment;
- ✓ Debris collecting system for dust collection and lower noise;
- ✓ Silent air compressor to maintain the needed air pressure automatically;
- ✓ Ring setting and removing tool – to install and remove plastic depth rings on the tools.

More detailed information, pictures and prices of all offered optional equipment you can review using this link.

Secure & Safe

Our machines' software has functionalities, allowing protection from operator's mistakes. Some simple examples:
- ✓ In case any operation is inconsistent at given moment, the respective function is deactivated in the software;
- ✓ In case of loss of connection between the computer and the machine, the machine goes in pause mode and the machining continues upon reconnection;
- ✓ In case of attempt to take an instrument from empty toolholder or to position an instrument in a full toolholder, the software will put the machine in pause mode and will notify the user for the conflict…

The software and its drivers are digitally signed.

A737R PCB PROTOTYPING MACHINE

► Working Area: Extra Large (23x15x1.3 inch)
► Tool Change: Automatic (23 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	**A737R**
Working area (XxYxZ)	23x15x1.3 inch 584x381x33 mm
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	**23**
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) ****
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm**)
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	736x483x330 mm, 30x21.3x13 inch
Weight	56.5 Kg, 124 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A736R PCB PROTOTYPING MACHINE

► Working Area: Extra Large (23x15x1.3 inch)
► Tool Change: Automatic (23 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	**A736R**
Working area (XxYxZ)	23x15x1.3 inch 584x381x33 mm
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	**23**
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) ****
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm**)
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	736x483x330 mm, 30x21.3x13 inch
Weight	56.5 Kg, 124 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A637R PCB PROTOTYPING MACHINE

► Working Area: Large (16x11x1.3 inch)
► Tool Change: Automatic (16 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	A637R
Working area (XxYxZ)	406x279x33 mm, 16x11x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	**16**
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	610x483x330 mm, 24x19x13 inch
Weight	41 Kg, 90 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A636R PCB PROTOTYPING MACHINE

► Working Area: Large (16x11x1.3 inch)
► Tool Change: Automatic (16 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	**A636R**
Working area (XxYxZ)	406x279x33 mm, 16x11x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	**16**
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) ** **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	610x483x330 mm, 24x19x13 inch
Weight	41 Kg, 90 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A537R PCB PROTOTYPING MACHINE

► Working Area: Large (15x9x1.3 inch)
► Tool Change: Automatic (15 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with calibrated screws
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	A537R
Working area (XxYxZ)	381x229x33 mm, 15x9x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	15
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1.25 µm**, 0.00005 inch (0.05 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Calibrated screws for X/Y axes and Precise Linear Gauge on the Z axis (**1 µm**)
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with calibrated screw table (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	584x431x330 mm, 23x17x13 inch
Weight	37 Kg, 81 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A536R PCB PROTOTYPING MACHINE

► Working Area: Large (15x9x1.3 inch)
► Tool Change: Automatic (15 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with calibrated screws
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	A536R
Working area (XxYxZ)	381x229x33 mm, 15x9x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	15
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1.25 µm**, 0.00005 inch (0.05 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Calibrated screws for X/Y axes and Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with calibrated screw table (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	584x431x330 mm, 23x17x13 inch
Weight	37 Kg, 81 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A437R PCB PROTOTYPING MACHINE
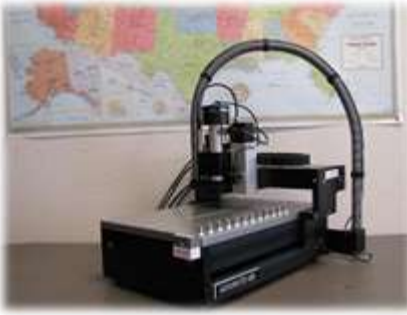

► Working Area: Standard (12x9x1.3 inch)
► Tool Change: Automatic (12 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	**A437R**
Working area (XxYxZ)	304x229x33 mm, 12x9x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	**12**
Internal Resolution (X,Y,Z)	**0.1 μm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 μm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 μm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 μm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 μm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 μm**)
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	508x432x305 mm, 20x17x12 inch
Weight	33 Kg, 72 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A436R PCB PROTOTYPING MACHINE

► Working Area: Standard (12x9x1.3 inch)
► Tool Change: Automatic (12 tools)
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	A436R
Working area (XxYxZ)	304x229x33 mm, 12x9x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Tool holders	**12**
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	Pneumatic direct, 6-8 Bars (85-115 PSI)
Tool Change	Automatic
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	508x432x305 mm, 20x17x12 inch
Weight	33 Kg, 72 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A732R PCB PROTOTYPING MACHINE

► Working Area: Large (23x16.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	A732
Working area (XxYxZ)	584.2x406.4x33 mm, 23.0x16.0x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	736x483x330 mm, 30x21.3x13 inch
Weight	55 Kg, 121 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A731R PCB PROTOTYPING MACHINE

► Working Area: Large (23x16.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	**A731**
Working area (XxYxZ)	584.2x406.4x33 mm, 23.0x16.0x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) ****
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	736x483x330 mm, 30x21.3x13 inch
Weight	55 Kg, 121 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A632R PCB PROTOTYPING MACHINE

► Working Area: Large (16x12.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	A632
Working area (XxYxZ)	406x310x33 mm, 16x12.2x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 μm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 μm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 μm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 μm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 μm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 μm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	610x483x330 mm, 24x19x13 inch
Weight	40 Kg, 88 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A631R PCB PROTOTYPING MACHINE

► Working Area: Large (16x12.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

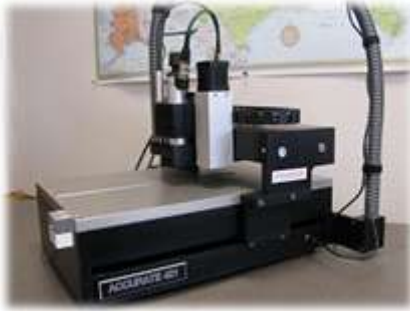| Model:	A631
Working area (XxYxZ)	406x310x33 mm, 16x12.2x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	up to **7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	610x483x330 mm, 24x19x13 inch
Weight	40 Kg, 88 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A532R PCB PROTOTYPING MACHINE

► Working Area: Large (15x10.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with calibrated screws
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	A532R
Working area (XxYxZ)	381x259x33 mm, 15x10.2x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1.25 µm**, 0.00005 inch (0.05 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Calibrated screws for X/Y axes and Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with calibrated screw table (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	584x431x330 mm, 23x17x13 inch
Weight	37 Kg, 81 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A531R PCB PROTOTYPING MACHINE

► Working Area: Large (15x10.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with calibrated screws
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	**A531R**
Working area (XxYxZ)	381x259x33 mm, 15x10.2x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1.25 µm**, 0.00005 inch (0.05 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Calibrated screws for X/Y axes and Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with calibrated screw table (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	584x431x330 mm, 23x17x13 inch
Weight	37 Kg, 81 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A432R PCB PROTOTYPING MACHINE

► Working Area: Standard (12x10.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 100,000 programmable
► Spindle Motor: 3-phase induction motor; 100K/300W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

Model:	**A432R**
Working area (XxYxZ)	304x256x33 mm, 12x10.2x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) ****
Tool penetration control	Constant Automatic Surface Tracking - <u>CAST™</u>, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 100,000 programmable
Spindle motor	3-phase induction motor; 100K/300W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	508x432x305 mm, 20x17x12 inch
Weight	32 Kg, 70 Lbs
Power Supply	100~240VAC, 50/60Hz 415W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

A431R PCB PROTOTYPING MACHINE

► Working Area: Standard (12x10.2x1.3 inch)
► Tool Change: Semi-automatic, prompted by control program
► Tool Calibration: Automatic with Precise Linear Gauge
► Depth Adjustment: Constant Automatic Surface Tracking
► Spindle Speed [rpm]: 5,000 to 62,000 programmable
► Spindle Motor: 3-phase induction motor; 62K/170W
► High precision positioning system with servo feedback
► Temperature compensation for the axes and material
► Video Camera / Microscope included

Detailed Specification:

|	
Model:	**A431R**
Working area (XxYxZ)	304x256x33 mm, 12x10.2x1.3 inch
Machine design	Heavy duty aluminum and stainless steel platform
Machine table	16 mm, 0.625 inch stress relieved high stability aluminum alloy
Internal Resolution (X,Y,Z)	**0.1 µm**, 0.0000039 inch (0.0039 mil) *
Positioning Repeatability (X,Y,Z)	**1 µm**, 0.000039 inch (0.039 mil)
Absolute Accuracy (X,Y)	**7.5 µm at 254 mm (10 inch) **
Tool penetration control	Constant Automatic Surface Tracking - **CAST™**, surface tracking relative to tool tip, fully programmable fully automatic. Uses a linear gauge with **1 µm**, 0.039 mil resolution.
Tool Calibration	Precise Linear Gauge on the Z axis (0.039 mil, 1 micron resolution)
Spindle speed [rpm]	5,000 to 62,000 programmable
Spindle motor	3-phase induction motor; 62K/170W
Spindle drive	**PhACdrive™** (sensorless, vector control, DSP based)
Tool collet	3.175 mm, 0.125 inch
Spindle run out	5 µm, 0.0002 inch max
Collet control	With knob on the spindle top
Tool Change	Semi-automatic, prompted by control program
Minimum drill diameter	0.2 mm (8 mil)
Minimum track size	0.1 mm (4 mil)
Minimum gap size	0.1 mm (4 mil)
Drilling speed	Up to 180 drill cycles per minute (varies with the distance between holes)
Homing system	Gold plated precision needle contacts
Max Travel speed (X,Y,Z)	Up to 150 mm/s, 5.9 inch/s
X/Y/Z positioning system	2 phase bipolar stepper motors with servo feedback, precision lead screws with Anti-backlash nuts Precise Linear Gauge on the Z axis (**1 µm)**
X/Y/Z stepper drivers	**PhSTdrive™** SMART stepper drive with servo closed loop control (DSP based), supporting temperature compensation for the screw and material **
Interface to PC	USB 2.0 with galvanic isolation (>1kV)
Spindle and vacuum start-stop	Program controlled, manual override available
Feed rate and Spindle speed	Program controlled, manual override available
Dimensions (WxDxH)	508x432x305 mm, 20x17x12 inch
Weight	32 Kg, 70 Lbs
Power Supply	100~240VAC, 50/60Hz 355W (45W stand by)
Machine control system	**PhCNC440™** 32bit high performance CNC motion controller (up to 8000 command/sec)
Machine control programs	Industry standard G & M codes ASCII, PHJ job files
Control and Edit software	PhCNC & PhCNC64, Windows based (Windows XP / Vista / 7 / 8 / 10) x86 & x64 Supporting firmware update for **PhCNC440™**, **PhACdrive™** & **PhSTdrive™** (X/Y/Z)
Imports	Gerber RS-274X files; Excellon Drill and Definition files; AutoCAD DXF 2D files; CAM350 files; PhCNC printer driver.
Camera	Fiducial / inspection video camera / microscope (USB 2.0) included.
Warranty	1 year included in the price of the machine. It is an option to buy second and third year of warranty.

OPTIONAL EQUIPMENT

In order to make the work with our PCB Prototyping machines more comfortable, we offer various optional equipment:

- ✓ Vacuum table for superior material hold and flexibility, factory installed;
- ✓ Vacuum generator which can supply the table with the necessary suction power;
- ✓ Acoustic cabinet for low level of noise, suitable for office environment;
- ✓ Debris collecting system for dust collection and lower level of noise;
- ✓ Silent air compressor to maintain the needed air pressure automatically;
- ✓ Ring setting and removing tool – to install and remove plastic depth rings on the tools.

VACUUM TABLE

We offer two models of vacuum tables – large and standard. The main difference between them is the size, which is fitted to the respective working area of the machines.

Large Vacuum Table
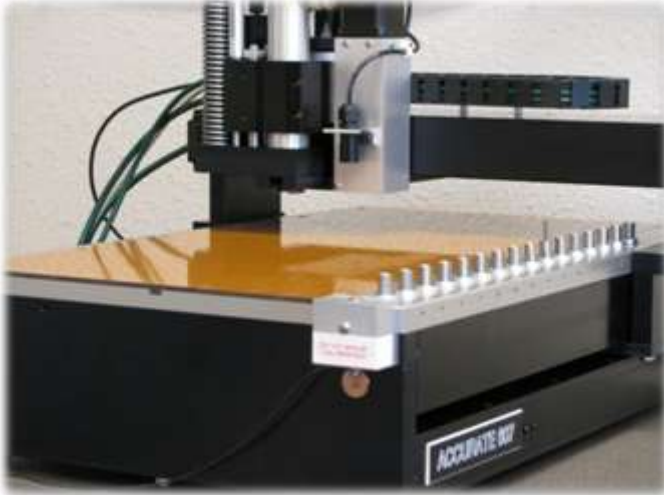
► Offered For All A6xx Models
► Covering All The Working Area
► Factory Installed Option
► Superior Material Hold

Large vacuum table option is offered for all A6xx models. It is factory installed option. It offers superior material hold and the ability to machine extremely thin and flexible substrates.
Note that the systems equipped with this option can be used as classic tables, without vacuum hold and vacuum generator.

Standard Vacuum Table
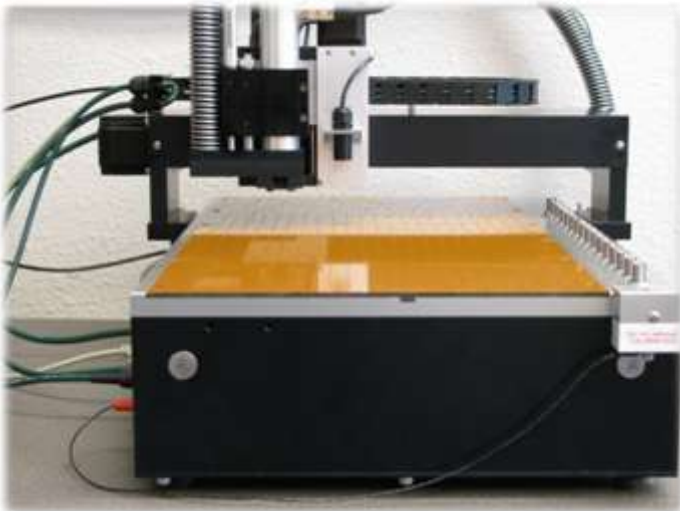
► Offered For All A4xx Models
► Covering All The Working Area
► Factory Installed Option
► Superior Material Hold

Standard vacuum table option is offered for all A4xx models. It is factory installed option. It offers superior material hold and the ability to machine extremely thin and flexible substrates.
Note that the systems equipped with this option can be used as classic tables, without vacuum hold and vacuum generator.

You can contact us for the best fitted vacuum generator and backing material.

VACUUM GENERATOR

► Suction Power @ 35 CFM (990 liters/min) air flow

► Equipped With an AC Inverter Drive

► Included Compatible Hose And Fitting

This unit is a vacuum generator that supplies our vacuum holding tables with the necessary suction power. It is based on a heavy duty, two stage Vortex turbine that generates up to 100 inches (254 cm) of water column, suction power @ 35 CFM (990 liters/min) air flow.

It is also equipped with an AC inverter drive that allows vacuum adjustment during the operation. Compatible hose and fitting to connect this unit to the table is included.

VACUUM SYSTEM

We offer two models of vacuum systems - professional and economy. The main difference between them is that the professional system has adjustable speed (with 3-phase inverter drive) and can work with 120/240V and 50/60Hz.

Professional Vacuum System MAXVAC-A

► Controllable by the Machine
► Airflow: 112 CFM (53L/s)
► Vacuum as standalone vacuum generator for vacuum table: 60 inH2O (150mBar)
► Vacuum when used for both dust collection and vacuum table: 46 inH2O (115mBar)
► Filter: 3um
► Noise Level: 52 dB
► Power: 750W
► Voltage: 115VAC/60Hz (6A) or 230VAC/50Hz (3A)
► Weight: 44 lbs (19.5kg)
► Shipping Weight: 52 LBS (23.6kg)
► Dimensions (LWH): 12.5"x12.5"x24" (318mm x 318mm x 610mm)

This vacuum (debris collecting system and/or vacuum generator for vacuum table) has long service life and low noise. Easy to change, economical disposable paper primary filter. Retains 3 micron and larger particles. Permanent cloth secondary filter for retention of finer dust particles, insuring long motor life.

This unit is controlled directly by the Accurate family of machines and does not require the "automatic vacuum starter" option. For this unit you can choose between parameters 115VAC/60Hz (6A) and 230VAC/50Hz (3A).

Comes with roller cart, 4 disposable paper dust bags, 6 ft vacuum hose with adapters & plugs to use as dust collector, vacuum table, or both.

Professional Vacuum System MAXVAC-M

► Manual Control
► Airflow: 112 CFM (53L/s)
► Vacuum as standalone vacuum generator for vacuum table: 60 inH2O (150mBar)
► Vacuum when used for both dust collection and vacuum table: 46 inH2O (115mBar)
► Filter: 3um
► Noise Level: 52 dB
► Power: 750W
► Voltage: 115VAC/60Hz (6A) or 230VAC/50Hz (3A)
► Weight: 44 lbs (19.5kg)
► Shipping Weight: 52 LBS (23.6kg)
► Dimensions (LWH): 12.5"x12.5"x24" (318mm x 318mm x 610mm)

This vacuum (debris collecting system and/or vacuum generator for vacuum table) has long service life and low noise. Easy to change, economical disposable paper primary filter. Retains 3 micron and larger particles. Permanent cloth secondary filter for retention of finer dust particles, insuring long motor life.

This unit is not controlled directly by the Accurate family of machines and require the "automatic vacuum starter" option. For this unit you can choose between parameters 115VAC/60Hz (6A) and 230VAC/50Hz (3A).

Comes with roller cart, 4 disposable paper dust bags, 6 ft vacuum hose with adapters & plugs to use as dust collector, vacuum table, or both.

VIDEO CAMERA / MICROSCOPE

► Allows Usage of Fiducial Registration

► Increases Accuracy

► Allows Usage of V Tools Depth Calibration Procedure

The video camera/microscope is the most versatile option offered as an addition to your system. It allows you to use fiducial registration, accurately reposition your work piece after removal for out-of-machine operations and precisely match the top and bottom of your design. It is significantly more accurate than the pins registration system. This option also allows you to use the V tools depth calibration procedure included in PhCNC Pro software. If it is ordered with the machine it comes fully calibrated and ready for use. If you like to add it to your system later you have to follow the instructions for calibration described in the manual.

A mounted camera/microscope is shown below:

ACOUSTIC CABINET

We offer two models of acoustic cabinets. The only difference between them is their size. The large one can be used with our machines from class A56x and A6xx and the standard one can be used with our machines from class A36x and A4xx.

Large Acoustic Cabinet

► 28x28x27 inch, 711x711x686 mm
► Convenient for Usage with Our Machines (A56x/A60x)
► Decrease the Noise

When using this acoustic cabinet, the level of noise is low enough to run the machine in an office environment. It is manufactured using aluminum profiles and polycarbonate windows. All windows have polyurethane gaskets.

Dimensions (WxDxH): 28x28x27 inch, 711x711x686 mm

Standard Acoustic Cabinet

► 24x24x24 inch, 610x610x610 mm
► Convenient for Usage with Our Machines (A36x/A40x)
► Decrease the Noise

When using this acoustic cabinet, the level of noise is low enough to run the machine in an office environment. It is manufactured using aluminum profiles and polycarbonate windows. All windows have polyurethane gaskets.

Dimensions (WxDxH): 24x24x24 inch, 610x610x610 mm

AUTOMATIC VACUUM STARTER

► For Standard Vacuums

► 100 to 240V AC

► Maximum continuous load - 12 Amps

The automatic vacuum starter is designed to be used with small commercially available vacuums. It is activated by the low power signal coming from the Accurate family of cnc machines and starts/stops the vacuum unit. It is designed to use 100 to 240V AC and maximum continuous load of 12 Amps.

RING SET & REMOVE TOOL
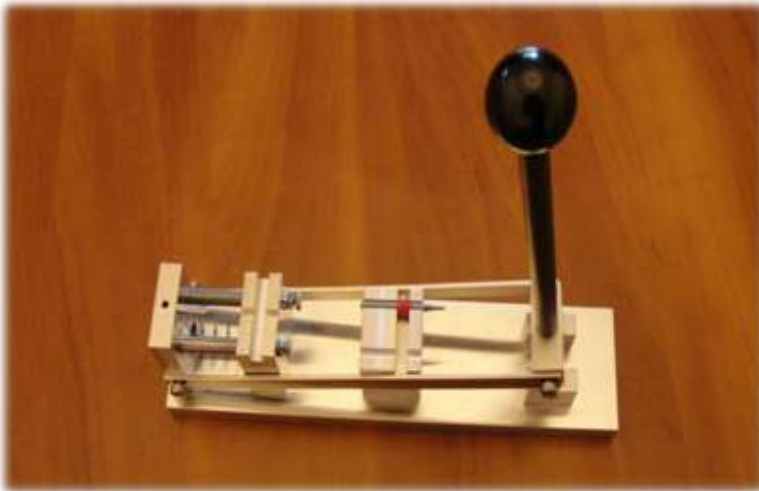
► Usable With Our Machines (A4xx and A6xx)

► 1.50 And 1.42 Inches Overall Length

This tool is designed to install and remove plastic depth rings on all tools that are used with our A4xx and A6xx systems. Most of the tools suppliers offer rings on the tools if customer needs them, but if this is not offered by your supplier you definitely will need this tool. It sets and removes the plastic depth rings on both tool lengths used in the industry, 1.50 and 1.42 inches overall length.

SILENT AIR COMPRESSOR

► Extremely Silent

► Very Long Service Life

► Models: 110-120V AC 60 Hz
And 220-240V AC 50Hz

This compressor is extremely silent and it is the best choice if you have to place your source of compressed air in the office. It has just 43 dB A noise at 1 meter from the unit.

Practically you will not be able to hear it in normal office environment. It is also designed to have very long service life. It maintains the needed air pressure for our ATC models automatically.

Available in 110-120VAC 60Hz and 220-240VAC 50Hz models.

PHCNC SOFTWARE
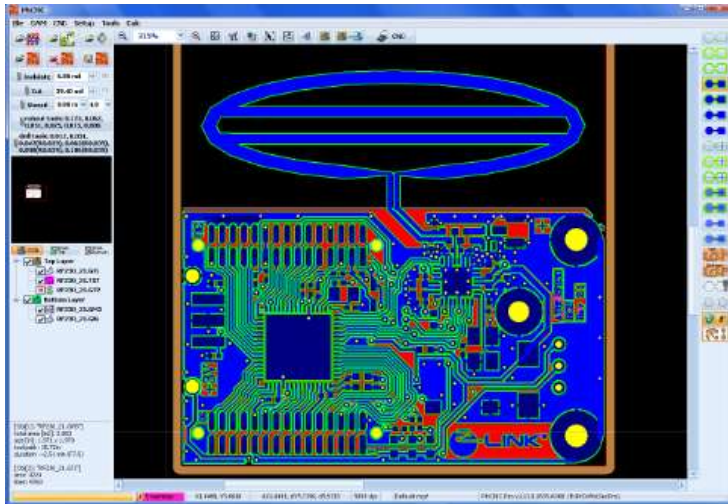
► Most Advanced PCB Prototyping Software
► Stability and Lifetime Support
► Easy To Use, Intuitive and WYSIWYG
► Secure - Protecting from Operator's Mistakes
► Accurate – Temperature Compensation for the Material And The Machine
► Fast – Multitreaded Calculations for High Speed
► Numerous Manipulations of Objects or Groups
► Safe – Digitally Signed Software & Drivers

The brand name of the software, specifically designed to work with Accurate CNC machines is PhCNC. Its main functionalities are listed and described below:

- Import of industry-standard gerber and excellon files, generated by any electronic design CAD/CAM;
- Various manipulations of the imported objects or groups (Copy/ Delete/ Select/ Deselect/ Move/ Rotate/ Group/ Ungroup);
- Automatic detection of design rules violation & forced insulation option for the problematic areas;
- Breakout tabs, Vector text, Holes and pads insertion;
- One-click switching between CAM & CNC mode;
- Programs for insulation of pads and tracks, copper rubout, drilling, cutout and stencil;
- Maximum utilization of the machine's camera - Fiducial Registration for project positioning and matching of top and bottom layers;
- Maximum utilization of the machine's camera - Quality control and inspection as on the picture below;
- Batch program execution (Top & Bottom layer);
- "Peck" mode solution for all high aspect ratio machining (up to 10 mm depth);
- "Machining window" for machining of a pre-selected area of the project;
- Processing and execution of larger than the machine table projects (up to 60 inches along the X axis);
- Firmware updates for every machine's controller (PhCNC360™, PhACdrive™, PhSTdrive™);
- Available in 32 Bit (x86) and 64 Bit (x64) versions
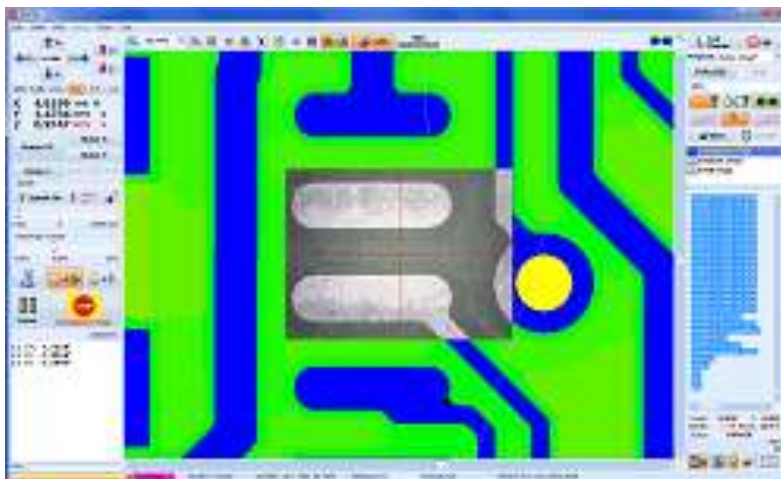
ORDERING INFO

This page contains typical information needed for placing an order. For any additional information contact us!

Lead time

Lead time depend of the configuration selected. It vary from immediate shipment to the maximum of 5 weeks. Typical lead times are 2 - 3 weeks. In most cases we are able to determine lead time more accurately at the moment of order placement, having in mind current production load.

Shipping

Typically we are using FedEx Freight for local shipments (US, Canada and Mexico) and UPS "Supply chain solutions" for international air freight shipments. Shipping costs are paid by the customer and are included in the invoice.

Any customer that prefer to use its own shipping account with carrier available to us in US has completely free shipping. Packaging and handling are free.

Payments

All shipments outside US jurisdiction are on prepaid terms. Normally we need at least 20% down payment in order to include the selected system in our production schedule. If the desired configuration is already in stock, we will need the entire payment before shipment. Typical practice of our international customers is to pay the order completely to avoid the second transaction banks charges. All local duties and taxes during the import process are paid by the customer. Customers in US are eligible for open accounts with "net 30" term. We need to have good trade profile in the transactions with the current vendors for last 24 months. After receiving this information we will be able to grant this option. Typically we offer this option to all educational institutions based in US, well known US based companies and US government.

Warranty

All systems and their components have 1 year warranty. We also offer second and third year coverage. Please contact **Accurate CNC, Inc**. if you need an extended warranty.

Technical Support

Formally we offer free technical support and free software updates during the first year after system purchase. Practically we never have charged our customers for technical support despite of the purchase date.

Sales Quotes

We strictly follow our published sales prices and any changes will be announced 30 days in advance. All specifications for each model are now available in printable (.PDF) format. This prompt us, that the information included in the quotes (we use to use), completely overlaps the information on our web site. Lately we start generate a "pro-forma invoices" as a quotation document. This form gives the customer firm pricing in the next 30 days and serves as a quote. Pro-forma invoices are NOT a financial document that can be used for company/individual balances and are not accepted as a tax returns document. At the time of shipping we will issue a commercial invoice as a formal document of purchase and payment.

In order to generate pro-forma invoice we will need your shipping and billing address.

Documents

In addition to the traditional documents needed for shipping and invoicing, we offer documents related to import process. As an example, a "**NAFTA certificate of origin**", "**CE compliance certificate**", etc. Please contact us for other documents needed for import. If we are legally able to issue them we will do so.

CONTACT INFORMATION

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USA

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(260) 489-7600

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