Automatic Desktop Screw Locking Machine for Toys & Electronics WPM-4220-2Z

Model No. WPM-4220-2Z



SPECIFICATIONS

Model Number	WPM-4220-2Z
Locking Screw Range	X200×Y1/420/Y2/420×Z135mm
Locking Screw Time	1-1.5 sec/pc
Repetitive Accuracy	±0.03mm
Program Record Model	15 sets, each set 99 points
Feeding Model	Vacuum Suction
Control System	SCM and Touch Screen
Motor System	Precision Closed Loop Stepper Motor
Input Power Supply	220V 50Hz/60Hz
Working Air Supply	0.4-0.6MPa
Working Temperature	5-40°C
Working Humidity	20-90%

The WPM-4220-2Z is a desktop automatic screw locking machine with a 200 mm X stroke, 420 mm Y1/Y2 strokes and a 135 mm Z stroke, driving one screw per cycle in 1 to 1.5 seconds. It is used on toys, small appliances and electronic assemblies where screws are small and positions repeat.

Driving small screws by hand into plastic bosses cross-threads them: the screw starts at an angle, the thread cuts a second path, and the boss splits. On the WPM-4220-2Z the screw is held by vacuum at the bit tip, so it stays square to the hole until the thread engages, and the Z stroke is set in the program rather than by the operator's hand. Repeatability is +/-0.03 mm, which keeps the driver over the same boss across a production run without re-teaching.

The WPM-SL5331 is the larger gantry unit with two fixtures and a central hopper, and the JW-FD02 is the hand-held version at up to 70 screws per minute. The WPM-4220-2Z sits between them: a single-head desktop machine with 15 stored programs of 99 points each, touch-screen entry and SCM control, for product families that change over regularly and need a program per model.

Key Features

1. 1 to 1.5 seconds per screw, with pick-up, transfer and drive carried out in a single cycle.

2. Repeatability of +/-0.03 mm from a precision closed-loop stepper motor on all axes.

3. Vacuum suction holds the screw at the bit tip until the thread engages, so small screws start square to the hole.

4. Program memory stores 15 sets of 99 points, recalled from the touch screen when the product model changes.

5. The 200 mm (X) by 420 mm (Y1/Y2) by 135 mm (Z) envelope covers a full toy or appliance housing in one program.

6. SCM and touch-screen control on a 220 V 50/60 Hz supply and 0.4-0.6 MPa shop air, rated for 5-40 degrees C and 20-90% RH.

Technical Specifications

Parameter	Specification
Model	WPM-4220-2Z
Machine type	Desktop automatic screw locking machine
Locking screw range	X 200 x Y1 420 / Y2 420 x Z 135 mm
Locking screw time	1-1.5 sec/pc
Repetitive accuracy	+/-0.03 mm
Program record	15 sets, 99 points per set
Feeding mode	Vacuum suction
Control system	SCM and touch screen
Motor system	Precision closed-loop stepper motor
Input power supply	220 V 50 Hz/60 Hz
Working air supply	0.4-0.6 MPa
Working temperature / humidity	5-40 degrees C / 20-90%

Applications

— Toy assembly: battery covers, wheel brackets and motor mounts driven into ABS and PP housings.

— Small appliances: internal brackets and board standoffs fixed in kettles, fans and kitchen machines.

— Consumer electronics: speaker boxes, power strips and remote-control housings assembled with small screws.

— Electrical accessories: terminal and cover screws driven in switches, sockets and adapters.

— Lot production of sub-assemblies where one stored program per model is recalled at changeover.


Start
Pause
Reset
Retype
Buzzer
Switch


Start
启动
Re Type
重启
Buzzer
静音器
Reste
复位
Pause
暂停
Start
启动
Scrom
急停
Switch
开关









FAQ

What are the primary applications for the WPM-4220-2Z Automatic Desktop Screw Locking Machine?

The WPM-4220-2Z is engineered for precision assembly in small to medium-scale production. Its primary applications include the automated screw fastening of toys, consumer electronics, small appliances, and other compact products where consistent, high-quality screw locking is critical. It is ideal for industries seeking to automate manual processes to improve efficiency and product consistency.

How does the vacuum suction screw feeder work, and what are its benefits?

The machine utilizes a vacuum suction system to pick up individual screws from the feeder bowl and present them precisely to the driver bit. This method prevents jamming and minimizes screw damage compared to traditional rail systems. The key benefits include reliable feeding of small or non-magnetic screws, reduced maintenance, and consistent operation, which is essential for maintaining the advertised ±0.03mm positioning accuracy.

What is the operational speed and accuracy of this desktop screw machine?

The WPM-4220-2Z operates at a high speed of 1 to 1.5 seconds per screw cycle, significantly boosting assembly throughput. It achieves a exceptional positioning accuracy of ±0.03mm, ensuring every screw is driven precisely and consistently. This combination of speed and precision reduces assembly errors and is perfect for high-quality manufacturing in toy and electronics assembly automation.

Is this machine suitable for integrating into a larger industrial automation line?

Yes, absolutely. While presented as a compact desktop unit, the WPM-4220-2Z is designed as industrial automation equipment. It can be seamlessly integrated into existing production lines or workstations. For specific integration requirements, we recommend inquiring with our technical team for tailored industrial automation solutions to ensure optimal connectivity and workflow efficiency.

What are the main advantages of automating screw driving with this electric screw driving machine?

Automating with the WPM-4220-2Z offers multiple key advantages: It drastically increases production speed and consistency while eliminating operator fatigue and variability. The precision screw machine ensures perfect torque and depth control every time, reducing product defects and rework. This leads to lower labor costs, higher output quality, and a rapid return on investment for businesses in competitive manufacturing sectors.