SQX350 PCB Router Separator

Auto separator serial

Description

Item	Specification
Model Name	Southern Machinery SQX350
Machine Type	Full-Visual Intelligent Curve PCB Separator
Effective Cutting Area	X300*Y350mm (Dual Station)
Cutting Functions	Linear, Circular, Arc, L-curve, U-curve
Cutting Accuracy	±0.02mm
Machine Repeatability	±0.01mm
Max Movement Speed	X, Y axes: 800-1000mm/s, Z axis: 350-800mm/s
Max Travel Stroke	X: 735mm, Y: 400mm, Z: 90mm
Spindle Speed	Max 60,000rpm (adjustable)
Spindle Cooling	Air cooling
Cutting Speed	0-100mm/s (adjustable)
PCB Thickness	0.3-3.0mm
Router Bit Diameter	0.8-3.0mm
Programming Method	Full-board photography, image-based teaching
Control System	PC Precision 4-Axis Control, Windows 7/10
Power Requirements	AC220V/AC380V (50/60Hz, three-phase)
Machine Dimensions	Approx. L1200*W1050*H1700mm
Machine Weight	Approx. 800-1000kg
Dust Collector Power	2.2KW (3HP)
Safety Features	Safety light curtain, security door
Data Interface	MES/ERP connection ports, barcode scanner
Drive System	Panasonic A6/Huichuan servo, ground ball screws

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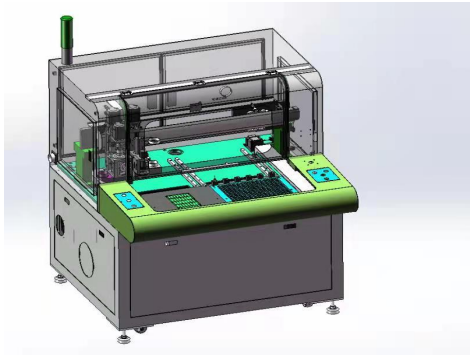
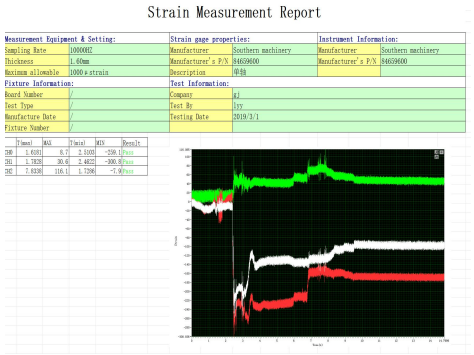
The Southern Machinery SQX350 is a definitive advancement in PCB depaneling technology, engineered to meet the stringent demands of modern Surface Mount Technology (SMT) manufacturing. It is a cutting-edge solution for the precise separation of complex PCBs, including those with intricate curved or perforated designs.

The machine's core value proposition is built on three pillars: Unmatched Production Efficiency, Superior Precision and Quality, and Intelligent Automation. Its innovative dual-station design enables a continuous, non-stop workflow, transforming the depaneling process from a potential production bottleneck into a highly efficient, high-volume operation. The full-visual programming system, powered by a high-speed camera, ensures exceptional precision and eliminates the time-consuming and error-prone manual programming methods of the past. Moreover, with its low-stress routing and advanced quality management features, the SQX350 guarantees the integrity of sensitive components, thereby enhancing the long-term reliability and yield of the final product. The machine is not merely a tool for separation; it is a strategic investment in productivity and quality, designed to seamlessly integrate into and elevate modern manufacturing ecosystems.

Full visual programming system



Dual-station design



Low-strain Measurement

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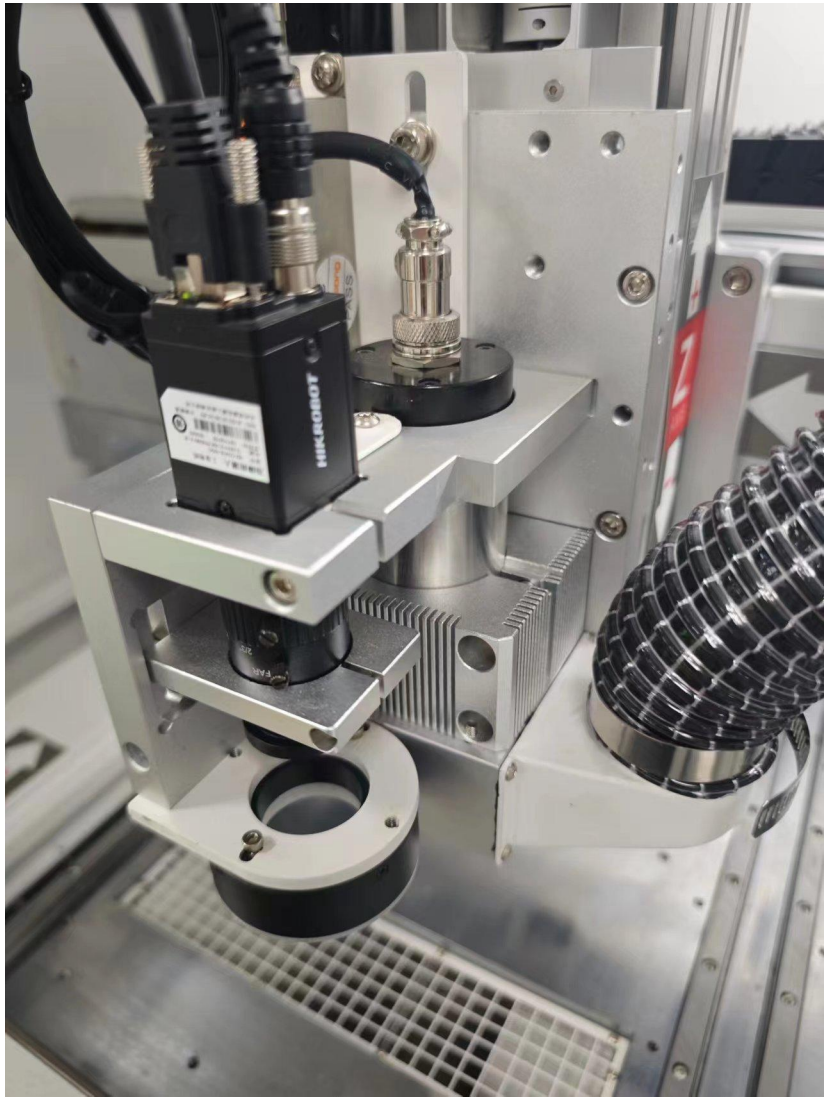
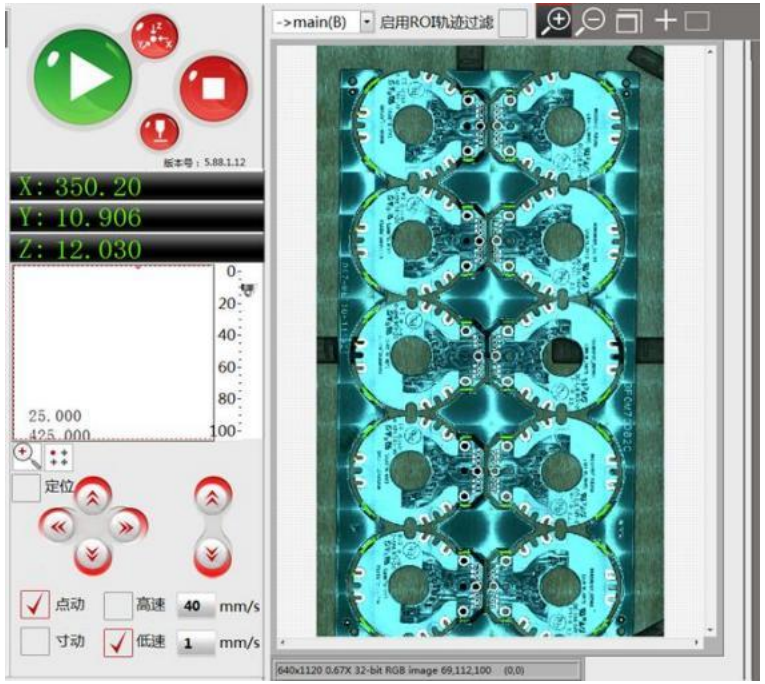


The Full-Visual Programming System

At the heart of the SQX350's intelligence is its advanced full-visual programming system. The system utilizes a (Hikvision high-speed camera) to capture a panoramic, high-resolution image of the entire PCB panel.

This feature eliminates the need for the operator to manually move the X, Y, and Z axes to "teach" the cutting path, a laborious process that has long been a source of inefficiency and potential error.



(real-time cutting data and images), making it easy to monitor and fine-tune the process. The ability for (unattended remote control and debugging) is a key advantage, positioning the SQX350 as an ideal solution for a future-ready, fully automated smart factory.

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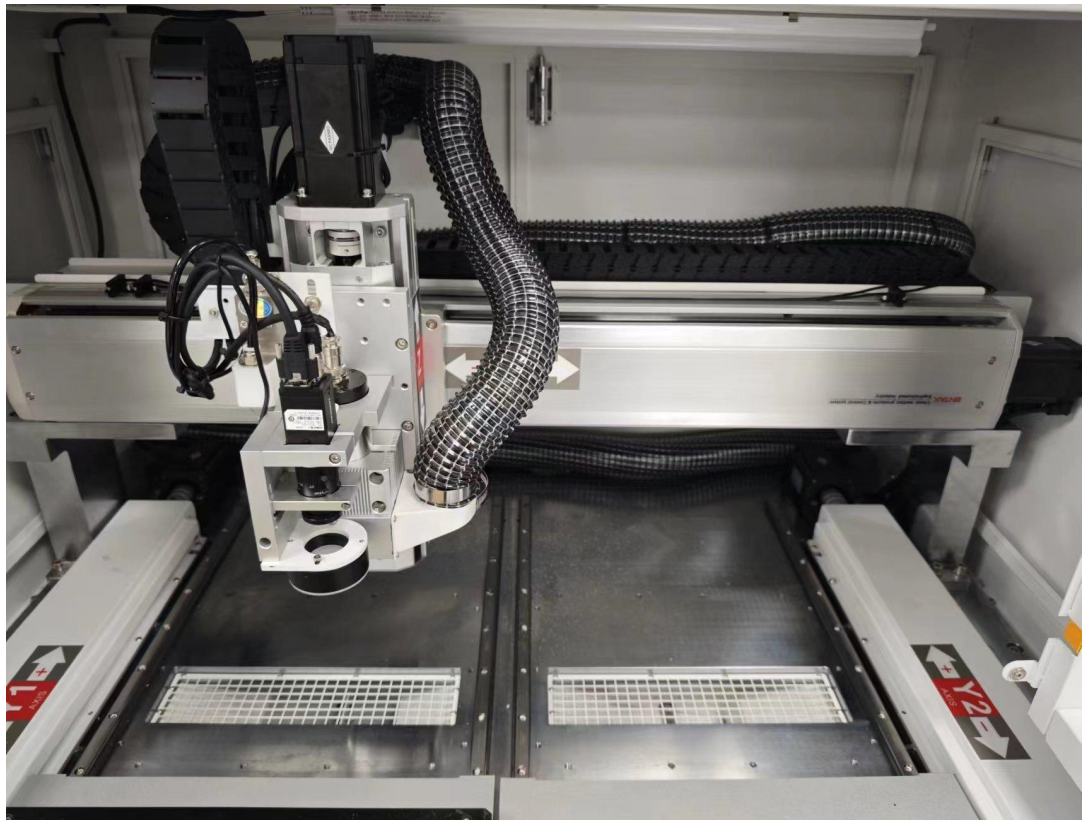


Precision and Component Integrity

The SQX350 is a testament to precision engineering, where every component is selected to ensure accuracy, durability, and a low-stress cutting process. The machine is designed to maintain mechanical stress levels in the 100~200με range, a critical factor for preventing long-term failures related to solder joint cracking or component damage.

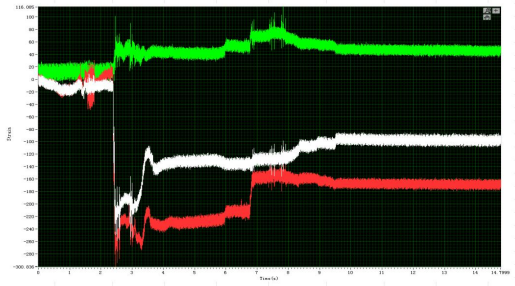
This level of performance is made possible by its robust motion control system. The machine's axes are driven by high-quality (Panasonic A6 servo) and (Huichuan servo) motors, which are complemented by (ground-grade ball screws). This combination of high-end components ensures a high movement speed of

800mm/s to 1000mm/s while maintaining a high degree of precision and repeatability. The spindle, a domestic industry leader, can reach speeds of 60000rpm (60000rpm/min) and is equipped with an air cooling system to prevent thermal issues and ensure consistent performance.

Strain Measurement Report

Measurement Equipment & Setting:		Strain gage properties:		Instrument Information:	
Sampling Rate	10000HZ	Manufacturer	Southern machinery	Manufacturer	Southern machinery
Thickness	1.60mm	Manufacturer's P/N	84659600	Manufacturer's P/N	84659600
Maximum allowable	1000 μ strain	Description	单轴		
Fixture Information:		**Test Information:**			
Board Number	/	Company	gj		
Test Type	/	Test By	lyy		
Manufacture Date	/	Testing Date	2019/3/1		
Fixture Number	/				

	T(max)	MAX	T(min)	MIN	Result
CH0	1.6181	8.7	2.5103	-259.1	Pass
CH1	1.7828	30.6	2.4622	-300.8	Pass
CH2	7.8338	116.1	1.7286	-7.9	Pass



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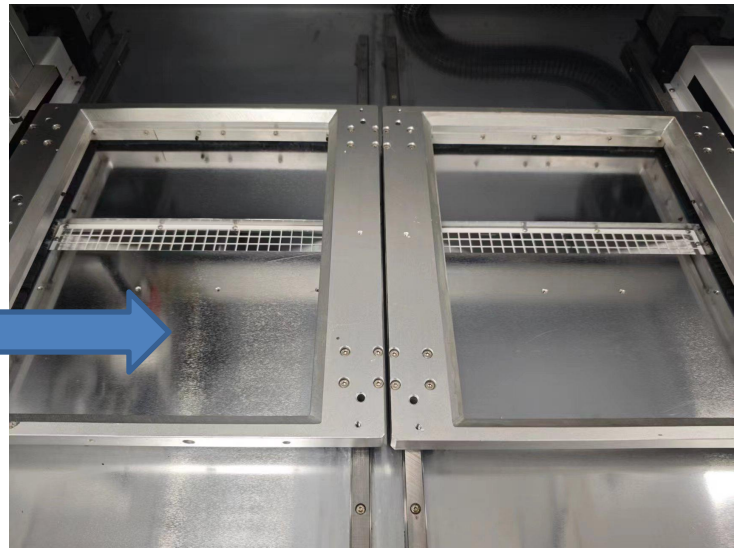
Precision and Component Integrity

In high-speed routing, dust and static electricity are two of the most significant environmental factors that can compromise product quality. The SQX350 is equipped with a robust solution to these issues. The machine features a powerful

lower dust collection



3P (3HP high-power vertical dust collector) and offers flexible (upper and lower dust collection) modes, allowing for optimized dust extraction based on the specific cutting task. To combat the risk of static damage to sensitive components, the machine incorporates a (static eliminator) that uses (high-frequency ion nozzles).

This system constantly neutralizes the static electricity generated by the high-speed spindle, preventing the accumulation of charges that could damage components or attract dust.

SOUTHERN MACHINERY

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