Technical Specification Document for Youmi Nail Salon Self-service Printing Vending Machine

1. Product Overview

The Youmi Nail Art Self-Service Printer Vending Machine (Model: Nail Art Printer Vending Machine) is an intelligent unmanned device integrating wearable nail art self-service sales and AI-powered nail art printing. Operating without manual supervision, it supports 24/7 self-service operations and enables rapid DIY nail art creation in just 30 seconds. Compatible with global scenarios, it features core advantages such as remote management, multilingual switching, and multi-payment integration, balancing practicality and convenience. Ideal for public spaces including shopping malls, universities, hotels, and communities, it caters to both personal DIY nail art needs and low-cost entrepreneurship or store value-added requirements.

This product complies with EU standards and relevant national industry regulations, possesses complete export qualifications, and utilizes high-quality components to ensure long-term stable operation of the equipment. Additionally, it provides comprehensive after-sales service support to facilitate efficient user operations.

2. Citation Standards

The technical specifications of this product strictly comply with the following national standards and industry regulations to ensure product quality, safety, and performance meet the required standards:

- GB/T 1.1—2020 Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents
- GB/T 191 Packaging, Storage and Transportation Diagram Marking
- GB4706.1 Safety of household and similar electrical appliances Part 1: General requirements
- GB4706.72 Safety of household and similar electrical appliances-Special requirements for commercial vending machines
- GB/T 5296.2 Instructions for Use of Consumer Products Part 2: Household and Similar Electrical Appliances
- GB/T 13306 Labeling

- GB/T 13384 General Technical Requirements for Packaging of Mechanical and Electrical Products
- GB/T28493—2012 Performance Test Method for Automatic Vending Machines of Bottled, Canned and Other Encapsulated Beverages
- GB/T26572 Limitation Requirements for Restricted Substances in Electronic and Electrical Products

3. Core technical parameters

3.1 Basic Parameters

Parameter name	parameter values	remarks
product model	Nail Art Printer Vending Machine	Youmi Standard Model
product size	2060×2080×820mm	Some custom options are adjustable, while standard options have fixed sizes.
Product weight	400KG	Weight excluding nail plates and consumables
rated voltage	AC 100/240V，50/60Hz	Global voltage compatibility with support for multiple plug standards (US, EU, UK, etc.)
power rating	500W	Lower standby power consumption for energy efficiency
Java runtime environment Java	Temperature range: 4°C to 36°C, relative humidity ≤ 85%, air flow rate ≤0.25 m/s	Avoid direct sunlight exposure, water accumulation, and environments with strong electromagnetic interference.
Storage and Transportation Environment	Temperature: -40°C to 55° C, relative humidity ≤93%	The drop height of transport packaging complies with industry standards

	(at 40°C, non-condensed state), atmospheric pressure: 86–106 kPa	
levels of protection	IP54	Dustproof and splash-resistant, adaptable to complex environments in public spaces
noise grade	Standby ≤50dB(A), operating ≤60dB(A)	Complies with commercial equipment noise standards and does not affect the surrounding environment
Daily power consumption	≤5kW·h/24h	Measured values under full load standby condition

3.2 Sales System Parameters

Parameter name	parameter values	remarks
platelet volume	1000 to 1200 sets	The cargo lane configuration can be adjusted as needed, with a maximum expansion capacity of 1,500 pairs.
Channel configuration	7 layers × 8 slots, with 15–20 sets of apical plates per slot	The cargo channel features adjustable height and width to accommodate different sizes of deck plates.
Channel type	chain cargo path	Operates smoothly with minimal cargo jamming, featuring a self-locking structure to prevent detachment.
Shipments accuracy rate	≥99%	Multiple tests have confirmed that the device is equipped with a buffer mechanism to prevent nail

		plate detachment and damage.
mode of payment	Coins, banknotes, card payments, NFC, and QR code scanning (WeChat Pay, Alipay, and major overseas payment methods)	Supports coin change and digital receipts, with global payment compatibility
Pickup port design	Ergonomic design with anti-pinch features	Convenient and secure pickup
inventory control	Automatic inventory monitoring and stockout alerts	Supports remote inventory viewing for timely restocking

3.3 Printing System Parameters

Parameter name	parameter values	remarks
print technique	AI-powered smart painting and printing	High-definition inkjet printing with high color accuracy and resistance to fading
print out rate	8–30 seconds per armor plate	Single nail polish application takes as little as 8 seconds, with the entire manicure completed within 30 seconds.
Print Precision	300dpi	The pattern is fine and clear with smooth edges.
Type A recognition	AI-powered automatic recognition with precise alignment	Compatible with all standard influenza A vaccines, featuring automatic calibration without manual adjustment
Pattern Library	Built-in extensive templates with mobile image upload customization	Remote pattern library updates to meet personalized DIY needs

Print consumables	Environmental-friendly nail polish ink	Non-toxic, odorless, waterproof, and wear-resistant, compliant with safety standards, and harmless to humans
additional function	Uvendd Light Disinfection Technology	Automatically disinfect after printing to ensure hygiene during use

3.4 Control System Parameters

Parameter name	parameter values	remarks
operating system	Independent Intelligent Operating System	Runs smoothly without lag and supports SDK integration
display screen	27-inch touchscreen	High-definition display with easy operation, allowing free zooming to view nail art details
Network support	Wireless networks, 4G LTE, Bluetooth, 5G, Ethernet	Network is stable and supports offline emergency operation
linguistic support	Multilingual switching (Chinese, English, Japanese, Korean, and more than ten other languages)	Adapt to different regions worldwide and switch languages remotely
telemanagement	Supports remote monitoring, reconciliation, parameter adjustment, and software updates on mobile devices and computers	Integrated inventory management software, POS system, and cloud management capabilities
failure warning	Automatic alarm for equipment failure, consumable shortage, and inventory deficit	Send alarm notifications in real time to the administrator's phone for prompt handling

4. Hardware configuration requirements

4.1 Aircraft Body Material

The body is constructed from premium cold-rolled steel plates with electrostatic spray coating, featuring a smooth, glossy finish and uniform coloration free from flow marks, pitting, or scratches. Transparent sections utilize high-transparency tempered glass that exhibits no visible scratches, pressure resistance, and impact resistance to effectively prevent damage. Plastic components boast flat surfaces free from cracks or bubbles, with consistent coloration compliant with environmental standards. All externally accessible surfaces are smooth and seamless, devoid of sharp edges or burrs, ensuring safe handling.

4.2 Core Components

- Main control board: Industrial-grade main control chip with stable operation, fast response speed, support for multitasking, and capable of withstanding prolonged continuous operation.
- Printer Core: Specialized for nail printing, featuring wear-resistant durability, high printing precision, and a service life of ≥500,000 prints.
- Cargo passage motor: A silent motor with stable operation, low noise level, and long service life, effectively preventing cargo jamming and leakage issues.
- Payment module: Integrated multi-protocol payment chip supporting global mainstream payment methods with ≤1-second response time and secure encryption to ensure transaction safety.
- Sensor: Equipped with built-in infrared sensor and pressure sensor for accurate identification of influenza A virus, inventory monitoring, and equipment operational status, ensuring normal equipment operation.
- Deaerator: Equipped with an automatic deaerator to prevent condensation on glass surfaces and ensure clear display.

4.3 Safety Configuration

- Electrical Safety: Complies with GB4706.1 and GB4706.72 standards, featuring overload protection, short-circuit protection, and leakage current protection functions to prevent safety issues caused by electrical faults.
- Anti-theft protection: Equipped with anti-theft and external tamper-proof structural features to effectively prevent equipment damage and cargo loss.
- Environmental Safety: The materials used in the equipment comply with the requirements of GB/T26572, with toxic and harmful substance limits meeting the standards. Materials in contact with the metal sheet exhibit no odor or contamination and adhere to hygiene standards.

5. Software Functional Requirements

5.1 Basic Operational Functions

- Fully automated operation: Users can independently complete the entire process of nail plate selection, payment, pattern choice, and nail art printing without manual assistance. The operational steps are simple and intuitive, allowing beginners to quickly get started.
- Pattern customization: Supports built-in template selection and mobile image upload for customization. You can zoom, rotate, and adjust colors to meet personalized needs.
- Multi-language switching: Supports seamless switching between over a dozen languages for users across different countries and regions.
- Payment Management: Supports multiple payment methods, view payment records and statements, and offers refund functionality (for special cases).

5.2 Remote Management Function

- Device Monitoring: View device status remotely (power on/off, fault conditions, print counts, sales volume) and track real-time device dynamics.
- Inventory Management: View inventory levels across all cargo channels remotely, set inventory alerts, and receive timely replenishment reminders. Supports inventory data export for operational analysis.
- Parameter adjustment: Remote adjustment of device parameters (print speed, volume, payment method, language settings, etc.) without on-site operation.
- Software Update: Supports remote online updates for system software and pattern library without device disassembly, offering convenient and efficient operation.
- Data Statistics: Automatically collect sales data, print data, and revenue data, and generate reports to help users analyze operational performance and optimize strategies.

5.3 Fault Diagnosis Function

The device is equipped with automatic fault diagnosis functionality, capable of identifying common issues such as printing failures, payment failures, lane failures, and network failures. It displays fault causes and simple troubleshooting methods on the screen, while simultaneously pushing fault information to the administrator's mobile device for rapid troubleshooting and maintenance, thereby reducing downtime.

6. Test Method

6.1 General Inspection

Visual inspection, tactile examination, and conventional measurement methods were employed to verify whether the equipment appearance, coatings, electroplated parts, plastic

components, and glass met the requirements; to check the firmness of fasteners for looseness or missing parts; and to assess the normal operation of all components without abnormal noises.

6.2 Performance Testing

- Daily power consumption test: Under full load conditions, the equipment shall be tested according to Method 6.2 of GB/T28493—2012 to ensure daily power consumption ≤ 5kW·h/24h.
- Noise testing: The equipment shall be tested under full load standby and operating conditions according to Method 6.5 of GB/T28493—2012 to ensure compliance with noise standards.
- Shipment accuracy test: Under normal operating conditions, conduct 100 shipments using multiple payment methods to calculate the shipment accuracy rate, ensuring a minimum of 99%.
- Printing accuracy test: Print standard patterns and visually inspect pattern clarity and edge smoothness to ensure compliance with the 1200dpi accuracy requirement.
- Anti-fall-off test: The cargo pallet is normally pulled to the bottom of the aisle, tilted downward at a 45° angle, and uniformly loaded with 100 kg mass. The anti-fall-off structure is inspected for deformation, and the pallet is checked to ensure it does not fall off.

6.3 Safety Trials

Conduct electrical safety tests in accordance with the relevant methods specified in GB4706.1 and GB4706.72 to verify the proper functioning of overload protection, short-circuit protection, and leakage current protection. Perform visual inspection to confirm that the anti-hand pinch design of the cargo access port and the anti-theft protective structure meet the required specifications.

7. Marking, Packaging, Transportation and Storage

7.1 Markings

Durability labels shall be prominently displayed on equipment in compliance with GB 4706.1, GB 4706.72, and GB/T 13306 standards. The labels must specify the following details: product name, model, climate environment type, lead sheet size range, rated voltage, rated frequency, rated power, daily power consumption, manufacturing date, factory serial number, manufacturer name, protection rating, and applicable standards.

7.2 Packaging

The packaging shall be made of materials compliant with GB/T 13384 requirements, and the

packaging storage and transportation diagrams shall conform to GB/T 191 standards. The packaging must be robust to effectively prevent equipment from collision or damage during transportation. The package shall include product manuals, certificates of conformity, warranty cards, installation diagrams, and commonly used spare parts.

7.3 Transportation

During transportation, avoid severe vibrations, collisions, rain exposure, and direct sunlight exposure; inversion is strictly prohibited. Transport vehicles must be clean and dry, meeting equipment transportation requirements. The drop height of transport packaging shall comply with industry standards to ensure equipment integrity.

7.4 Storage

The equipment shall be stored in a dry, well-ventilated, cool warehouse free from corrosive gases and strong electromagnetic interference, and kept away from fire sources and water sources. During storage, it should be placed on a flat surface to avoid tilting or compression. For long-term storage, regular inspections of the equipment's condition should be conducted, along with moisture-proof and dust-proof measures. Power operation should be performed every 3 months to ensure stable equipment performance.

8. Quality Assurance and After-sales Service

8.1 Quality Assurance

All components of the equipment are accompanied by manufacturer's quality certification documents and are manufactured strictly in accordance with approved drawings and technical specifications through prescribed procedures. Products undergo rigorous inspection prior to shipment to ensure compliance with this technical specification and relevant standards. Non-conforming products are strictly prohibited from leaving the factory.

8.2 After-sales Service

- Warranty Period: The product comes with 1-year free warranty service and lifetime repair coverage. Non-human-induced damage to components will be replaced free of charge during the warranty period.
- Technical Support: Provides online remote guidance and video technical support to promptly address user operation inquiries and troubleshooting issues.
- Maintenance Services: Supports on-site maintenance and repair. Upon receiving a fault notification, professional maintenance personnel are promptly dispatched for handling. Sufficient commonly used spare parts are available for rapid allocation.
- Software Services: Free software updates and pattern library updates are provided to continuously optimize device functionality.

9. Supplementary Provisions

1. This technical specification shall take effect from the date of issuance. Any modifications shall be made only upon mutual agreement between both parties and documented in a written amendment.

2. For matters not covered in this technical specification, compliance shall be made with relevant national standards and industry regulations.

3. The final interpretation rights of this technical specification shall belong to the equipment manufacturer.

4. The product can be customized according to user requirements, with technical specifications for customized models to be negotiated separately.