



HIGH-RESOLUTION INFRARED LASER SLIDE PRINTER

High-Resolution Infrared Laser Slide Printer - ToronPath™ SP-IR

ToronPath™ SP-IR is a high-performance infrared laser slide printer purpose-built for standard microscope slide identification in clinical and pathology laboratories. Utilizing advanced infrared laser printing technology, this slide printer produces permanent, high-resolution markings at 2500 dpi directly onto glass slides without any consumables.

The ToronPath™ SP-IR features a built-in barcode scanner, a 10.1-inch full-color LCD touchscreen, and a fully integrated operating system for stand-alone operation without an external computer. Its printed markings are resistant to xylene, alcohol, and decalcifying fluid, ensuring specimen label integrity throughout the full histological processing cycle. The ToronPath™ SP-IR slider laser printer is well-suited for laboratories seeking reliable, maintenance-free, and LIS/HIS/PACS-compatible slide identification in a compact footprint.

APPLICATIONS

High-Resolution Infrared Laser Slide Printer - ToronPath™ SP-IR

Applications

The ToronPath™ SP-IR is designed for use in:

- Histopathology and anatomical pathology laboratories requiring durable slide identification
- Surgical pathology departments with barcode-based specimen tracking needs
- Clinical laboratories integrating with LIS, HIS, PIS, or PACS systems
- Cytology units requiring high-resolution QR code and barcode printing on slides
- Research institutions performing long-term specimen archiving with chemically resistant labels
- Facilities requiring compact, stand-alone slide printing without external computer dependency



FEATURES

High-Resolution Infrared Laser Slide Printer - ToronPath™ SP-IR Key Features

- Infrared laser printing technology: non-contact, permanent engraving with no consumables required; no ribbons, ink, or maintenance supplies needed
- Ultra-high resolution: 2500 dpi output for exceptionally sharp characters, barcodes, QR codes, and alphanumeric identifiers
- Built-in barcode scanner: enables direct scanning of specimen barcodes for fast, accurate print job initiation
- Chemical resistance: printed markings withstand xylene, alcohol, and decalcifying fluid for complete long-term specimen preservation
- Broad slide compatibility: prints on a wide variety of paint-size slides across multiple slide colors
- Extremely fine laser spot: precision optics deliver high-resolution QR codes and detailed information clearly and consistently
- 10.1-inch full-color LCD touchscreen: large, intuitive interface for easy daily operation
- Integrated stand-alone design: built-in operating system; no external computer required
- High loading capacity: accommodates ≥ 100 slides per cycle for productive batch workflows
- Flexible output collection: small storage box (≥ 10 pcs, Print & Use mode) and large storage box ($\geq 35 / 80$ pcs, Batch Printing mode)
- High print speed: ≤ 4 seconds per slide for efficient throughput
- Clearly prints characters, letters, symbols, barcodes, and other identification information
- LIS/HIS/PIS/PACS compatible: integrates with major hospital and laboratory information systems
- Professional slide loading/output device compatible for automated workflow support
- Composite air treatment function for a cleaner, safer printing environment.

Powerful Functionality

Specimen Slide Printing Function

Pre-sealed specimen slides can be printed directly



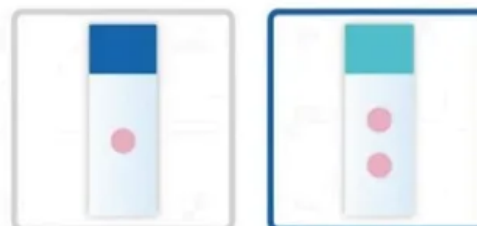
Reprint Function

If printing is unclear, slide can be printed again with reprint



Double Patients Number Printing Function

It supports two patients numbers in one slide, which meet the needs of information-based end-to-end management



Mini Thermal Printer

High-quality Printing

- Clear, high-contrast prints with 1s scan & recognition
- Supports standard & immunohistochemistry slides
- Capable of printing on various sizes of slides
- Fully compatible in printing on colored slides/tissue cassette, fully compatible



Environmentally Friendly

- Eco-friendly printing, dust & chemical odor-free
- Low noise for a comfortable working environment
- Advanced tech & materials for energy saving & emission reduction



Information Technology

■ Data Transmission

- Wi-Fi, USB, Bluetooth, Ethernet, Serial Interface, etc.

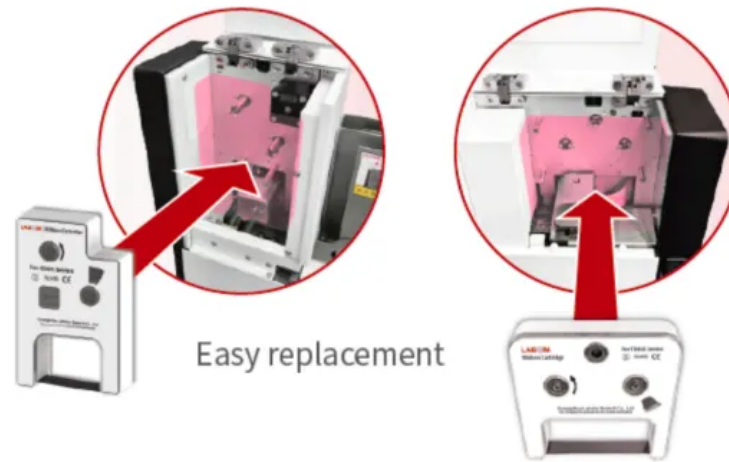
■ Diverse Information Transmission Capabilities

- Supports transmission protocols such as LIS/HIS/PIS/PACS
- Supports custom proprietary protocols



3-Second Ribbon Replacement

- Modular ribbon cartridge design
- 3-second rapid ribbon replacement



Smart & Small

- Width $\leq 110\text{mm}$

— Intelligent —



①

Printer Owns Built-in Scanning Module

Scanning module
controlky software



②

Innovative LED Strip Design

- Green** Normal operating status
- Yellow** Consumable is low supply (glass slide, carbon ribbon, etc.)
- Red** Warning

THEORY & METHOD

Theory and Method

ToronPath™ SP-IR employs infrared laser printing technology to permanently engrave identification content onto standard glass microscope slides. A precisely focused infrared laser beam with an extremely small spot size interacts with the slide's coating surface, creating high-resolution marks at 2500 dpi. This non-contact process requires no ribbons, ink, or consumables of any kind — only the slide itself.

The laser beam enables the printing of extremely fine characters, letters, symbols, barcodes, and high-resolution QR codes with exceptional clarity. Printed markings are chemically inert and resistant to xylene, alcohol, and decalcifying fluid, preserving slide identification integrity throughout staining, clearing, and long-term archiving. The integrated operating system and built-in barcode scanner allow operators to manage print jobs autonomously, with full compatibility with professional slide loading and output devices.

TECHNICAL SPECIFICATIONS

High-Resolution Infrared Laser Slide Printer - ToronPath™ SP-IR Technical Specifications

Printing Technology	Infrared Laser Printing
Printing Resolution	2500 dpi
Print Speed	≤ 4 seconds per slide
Loading Capacity	≥ 100 slides
Output Capacity - Small Storage Box (Print & Use)	≥ 10 pcs
Output Capacity - Large Storage Box (Batch Printing)	≥ 35 / 80 pcs
Data Transmission	USB, Ethernet, Serial Ports
Display	10.1-inch Full-Color LCD Touchscreen
Barcode Scanner	Built-in Barcode Scanner
Operating System	Built-in (stand-alone, no external computer required)
System Compatibility	LIS / HIS / PIS / PACS

Printable Content	Characters, Letters, Symbols, Barcodes, QR Codes
Chemical Resistance	Xylene, Alcohol, Decalcifying Fluid
Consumables	None (non-contact laser technology)
Air Treatment	Composite Air Treatment Function
Dimensions (W × D × H)	200 mm × 437 mm × 445 mm



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