



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

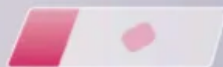
High-Resolution Infrared Laser Slide Printer - ToronPath™ SP-IR Key Features

- 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.

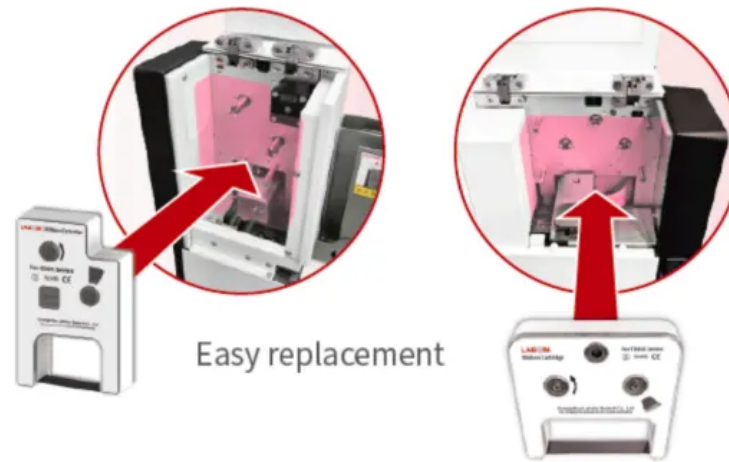
■ Diverse Information Transmission Capabilities

- 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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