



HIGH RESOLUTION TISSUE CASSETTE LASER PRINTER

High Resolution Tissue Cassette Laser Printer — ToronPath™ TC-LS

ToronPath™ TC-LS is a reliable, full-featured tissue cassette laser printer designed for anatomic pathology and histology laboratories that require permanent, high-resolution cassette identification with the proven performance of infrared laser printing technology. As the entry-level laser option in the ToronPath™ TC cassette printer pathology line, the ToronPath™ TC-LS delivers the core advantages of laser-based marking — consumable-free operation, chemical resistance, and crisp output — in a compact, standalone instrument.

Featuring a 10.1-inch full-color LCD touchscreen, dual-mode cassette collection, and broad LIS/HIS/PIS/PACS compatibility, the ToronPath™ TC-LS tissue cassette printer integrates seamlessly into modern pathology information workflows. The instrument is purpose-built for standard tissue cassette printing with high print quality and long-term durability, making it an excellent choice for laboratories seeking a cost-efficient laser cassette printer pathology solution without sacrificing essential features.

APPLICATIONS

High Resolution Tissue Cassette Laser Printer — ToronPath™ TC-LS

Applications

The ToronPath™ TC-LS tissue cassette laser printer is designed for:

- Anatomic pathology and surgical pathology departments requiring laser-quality, consumable-free cassette labeling
- Histology and histopathology laboratories at community hospitals, specialty clinics, and academic centers
- Pathology departments upgrading from thermal cassette printers to a laser cassette printer pathology workflow
- Biobanks and tissue archive centers where chemically resistant, long-term cassette identification is required
- Research and translational medicine laboratories requiring reproducible specimen identification

- Veterinary pathology practices processing standard tissue cassettes with LIS integration requirements



FEATURES

High Resolution Tissue Cassette Laser Printer — ToronPath™ TC-LS Key Features

- Infrared laser printing technology — non-contact, consumable-free operation with no ribbons, inks, or toners required
- High print resolution of 2,500 dpi enables clear reproduction of text, alphanumeric characters, symbols, barcodes, and QR codes on tissue cassette surfaces
- Chemically resistant laser imprint withstands exposure to xylene and alcohol, supporting long-term cassette archival and preservation
- Two selectable cassette collection modes: Print-in-Big-Batches for high-throughput production, and Print-after-Scanning for real-time individual specimen workflows — switchable to match laboratory demand
- Output collection capacity of ≥ 100 cassettes per cycle; loading capacity of ≥ 6 cassette slots for uninterrupted batch operation
- Integrated printing system with synchronous preview function for real-time print layout verification before committing to a run
- Built-in barcode scanner for cassette scanning and verification at the point of printing
- 10.1-inch full-color LCD touchscreen for intuitive operation, workflow management, and real-time status display
- Fully standalone integrated design with built-in computer and operating system — no external workstation or PC connection required
- Compatible with LIS, HIS, PIS, PACS, and other commonly used hospital and laboratory information management platforms
- Equipped with a tray for organized collection of printed tissue cassettes at output
- Print speed of ≤ 3 seconds per cassette to support laboratory throughput requirements

Powerful Functionality

■ Specimen Slide Printing Function

Pre-sealed specimen slides can be printed directly



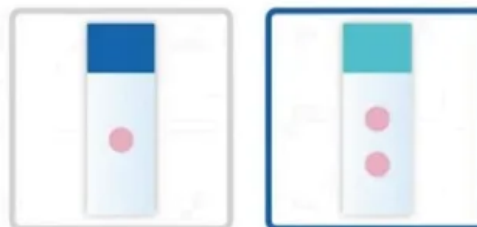
■ Reprint Function

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.

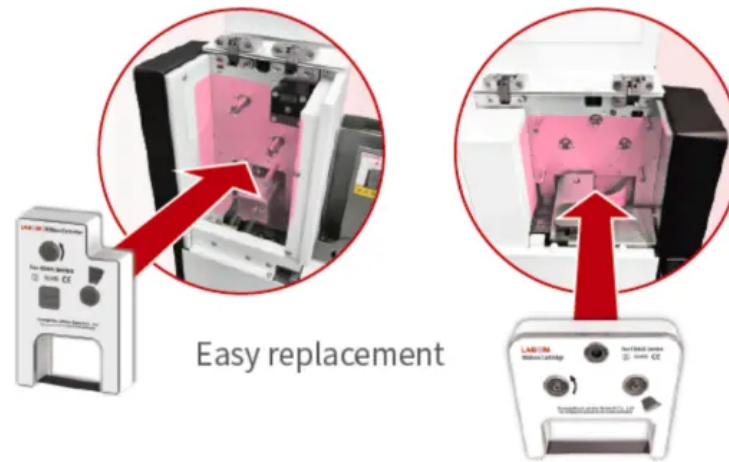
■ Diverse Information Transmission Capabilities

- 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

The ToronPath™ TC-LS utilizes infrared laser printing technology to create permanent cassette markings. A focused infrared laser beam is directed at the surface of the tissue processing cassette, where the absorbed laser energy induces a controlled thermal reaction that permanently alters the cassette surface, generating a high-contrast, indelible mark. Because the process is entirely non-contact and requires no inks, ribbons, or toners, there is no risk of consumable contamination of

cassette specimens.

At a print resolution of 2,500 dpi, the system reliably reproduces alphanumeric text, symbols, 1D barcodes, and 2D QR codes with sufficient clarity for automated scanning throughout the tissue processing and archival workflow. The integrated printing system features a synchronous preview function that allows the operator to verify the layout prior to printing, supporting both large batch runs and real-time print-after-scanning workflows. Two cassette collection modes — bulk batch collection and time-of-printing output — provide flexibility for different laboratory volumes and urgency levels. The built-in standalone computer and operating system manage the entire print workflow independently of an external PC.

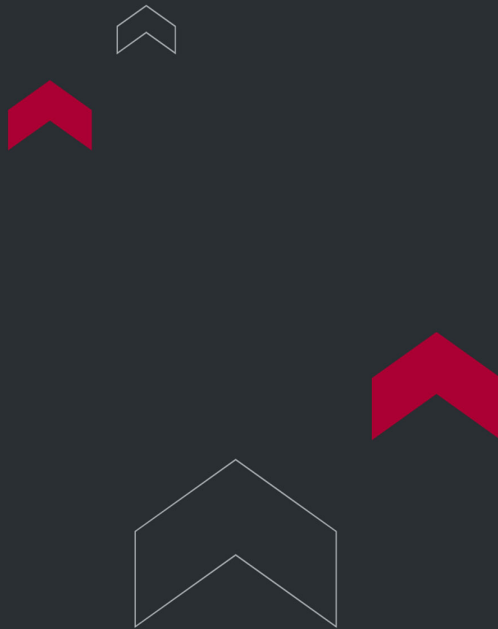
TECHNICAL SPECIFICATIONS

High Resolution Tissue Cassette Laser Printer — ToronPath™ TC-LS

Technical Specifications

Parameter	Specification
Product Name	Tissue Cassette Laser Printer — ToronPath™ TC-LS
Printing Technology	Infrared laser printing (non-contact, consumable-free)
Print Resolution	2,500 dpi
Print Speed	≤ 3 s / cassette
Loading Capacity	≥ 6 cassette slots
Output Collection Capacity	≥ 100 cassettes
Output Collection	Tray for organized cassette collection
Display	10.1-inch full-color LCD touchscreen

Parameter	Specification
Data Transmission	USB, Ethernet, Serial ports
Barcode Scanner	Built-in
Print Preview	Synchronous preview function
Printable Content	Text, letters, symbols, barcodes, QR codes, and other information
Chemical Resistance	Resistant to xylene and alcohol
System Compatibility	LIS / HIS / PIS / PACS and other hospital information systems
Operating System	Built-in (standalone, no external computer required)
Dimensions (W × D × H)	313 × 477 × 509 mm
Voltage	100-240 V AC, 50/60 Hz (international standard)



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