# LeXBot **Flex**

## Fully-automated NGS Workstation

Introduction

LeXBot Flex Fully-automated NGS Workstation, independently developed by LexigenBio, is designed for automated library preparation in gene sequencing. It supports a wide range of automated operations, including sample dispensing, nucleic acid extraction, DNA normalization, nucleic acid purification, quantitative loading, and sample mixing, library preparation, and hybrid capture, significantly improving laboratory efficiency. The workstation features four independent pipetting channels and seamlessly integrates a plate-gripping module, thermal cycler (brand optional), temperature control module, heating and oscillating module, purification module, fluorometer module, UV lamp set, and HEPA filtration system. With 20 built-in SBS standard plate positions, this workstation achieves a maximum throughput of up to 32 library preparations or 16 hybrid captures per run.

UV lamp
3D mobile robot
Plate gripper
Four independent pipetting channels
Power on/off button

HEPA filter
Integrated terminal
Vertical sliding door
Emergency device
Status light bar
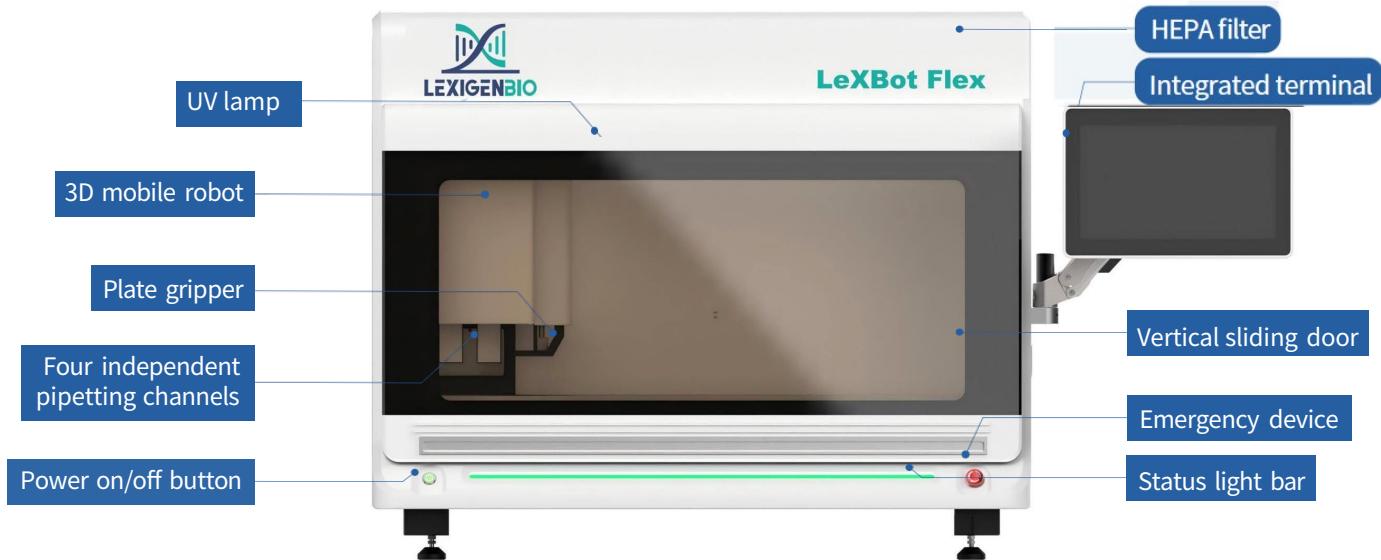
Application
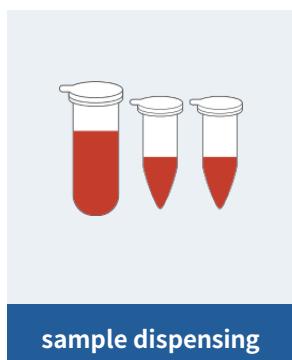
sample dispensing

nucleic acid extraction
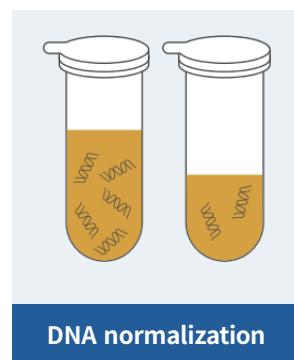
DNA normalization
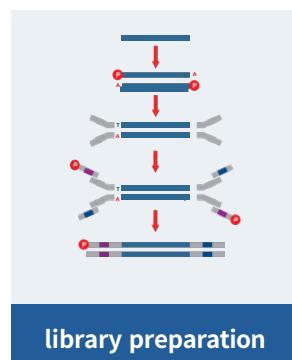
library preparation
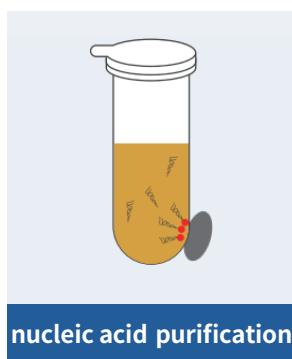
nucleic acid purification
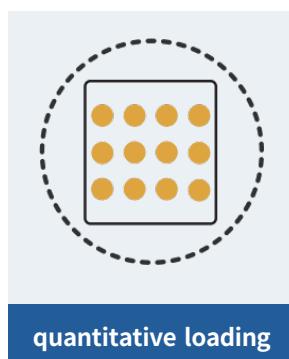
quantitative loading
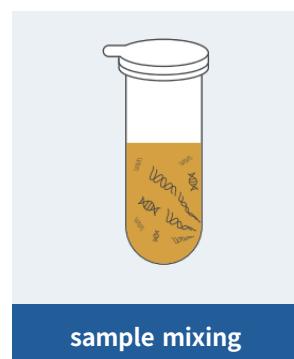
sample mixing
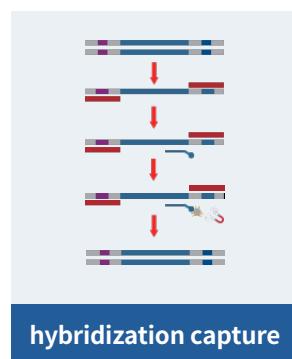
**hybridization capture**

Feature
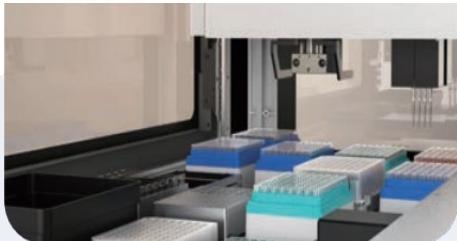
Flexible Integration

· 20 standard SBS built-in plate positions, allowing modules to be freely configured to meet diverse experimental needs.
· Seamless integration of multifunctional components, including thermal cycler, temperature control, heating and oscillation, purification, and fluorometer modules.
· A 3D robotic arm with a plate gripper intelligently handles various consumables, ensuring complete deck coverage.

Fully-automated NGS Workstation

versatile Application

· Four independent pipetting channels with liquid level detection and intelligent tracking for precise liquid handling.
· Each channel supports variable spacing, volume, and height pipetting to accommodate diverse requirements.
· Flexibly supports 1-32 library preparations and 1-16 hybridization captures, meeting varying throughput demands.
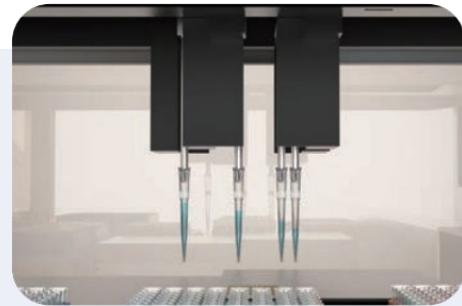
Fully-automated NGS Workstation

Secure and Reliable

· Bright, multi-color status indicator lights provide real-time updates on operational status, minimizing downtime caused by hardware or software errors.
· Equipped with an emergency pause button for one-touch emergency stops, ensuring human-machine safety.
· Standard HEPA filtration system and UV lamp maintain a continuously clean operating environment.

Dynamic Operating Deck

thermal cycler · heating and oscillating module · deep well plate carrier · temperature control module · PCR plate carrier · fluorometer module

standard SBS board position · movable magnetic stand · liftable magnetic stand · composite plate carrier · reagent reservoir rack · waste tip reservoir
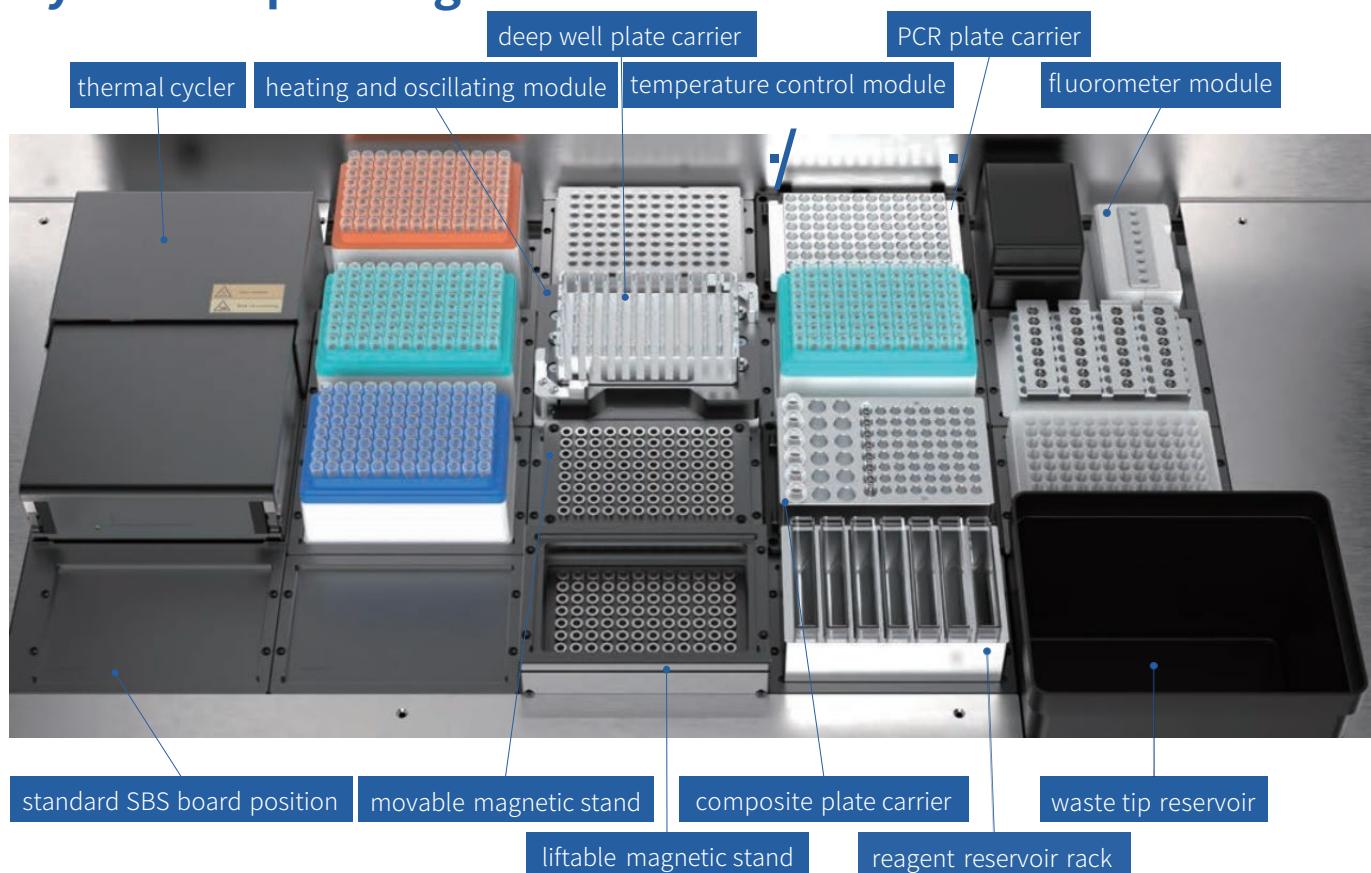
Functional Component

Temperature Control Module

- Consists of 2 temperature control modules.
- Temperature control range 4°C to 75°C.
- Temperature accuracy ≤±1.0°C.
- Temperature uniformity ≤1.0°C.
- Temperature fluctuation ≤±0.5°C.

Heating and Oscillating Module

- Temperature control range: (room temperature +5°C) to 99°C.
- Temperature accuracy ≤±2.0°C.
- Temperature uniformity ≤1.5°C.
- Temperature fluctuation ≤±0.5°C.
- Oscillating speed adjustable from 200 rpm to 2000 rpm.
- Oscillating speed accuracy ≤±25 rpm.

Thermal Cycler

- Brand optional.
- Temperature control range: 4°C to 99°C.
- Heated lid temperature range: 30°C to 110°C.
- Average heating rate ≥3.0°C/sec.
- Average cooling rate ≥1.5°C/sec.
- Temperature accuracy ≤±0.5°C.
- Temperature uniformity ≤1.0°C.
- Temperature fluctuation ≤±0.2°C.

Purification Module

- Includes one liftable 96-well deep-well plate ring magnetic stand and one movable 96-well PCR plate ring magnetic stand.
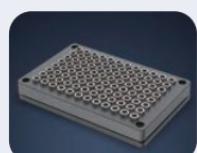
Fluorometer Module

- Simultaneous concentration measurement for up to 8 samples in one movement, with a maximum of 32 samples per run.
- Capable of performing automatic normalization and pooling operations.
- Fast: accurate concentration measurement within 3-5 sec.
- Ultra-low input requirement: only 1-20 µL per sample.

PCR Plate Carrier

Composite Plate Carrier

Reagent Reservoir Rack

**Deep Well Plate Carrier**

Four Independent Pipetting Channels

- Supports variable spacing, volume, and height for pipetting.
- Equipped with liquid-level detection, enabling intelligent liquid-level tracking and segmented Z-axis descent (movement, detection, aspiration).
- Pipetting range:1 µL-1000 µL.
- Performance specifications:

1 µL - CV < 8%, accuracy < ±10%.

200 µL - CV < 1%, accuracy < ±2%.

1000 µL - CV <1%, accuracy < ±1%.

Consumables

1000 µL filtered tip box
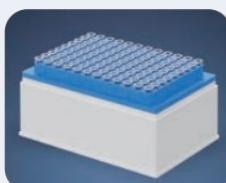
200 µL filtered tip box
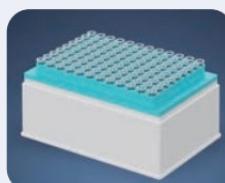
50 µL filtered tip box

1.3 mL U-bottom deep well plate

fully skirted 96-well PCR plate

25 mL reagent reservoir

0.5 mL/2 mL cryogenic tube

0.2 mL thin-wall PCR 8-strip tube
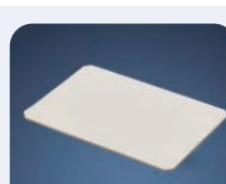
PCR plate sealing pad

fluorometer 8-trip tube

Specification

Host parameters	Size	1160 mm (length) × 815 mm (width) × 970 mm (height)	weight		180 KG
	Maximum output power	1700 VA			
power requirements	Voltage	AC 100-240 V	Frequency		50/60 Hz
0perating environment	Temperature range	10℃~30℃	Relative humidity		20%~80%, non-condensing
	Barometric pressure range	86 kPa ~ 106 kPa			
Robot arm	Repeated positioning	±0.1 mm			

Ordering Information

catalog	product	Scale
LX_LeXBotFlex	LeXBot Flex Fully-automated NGS Workstation	RU0

Statement

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