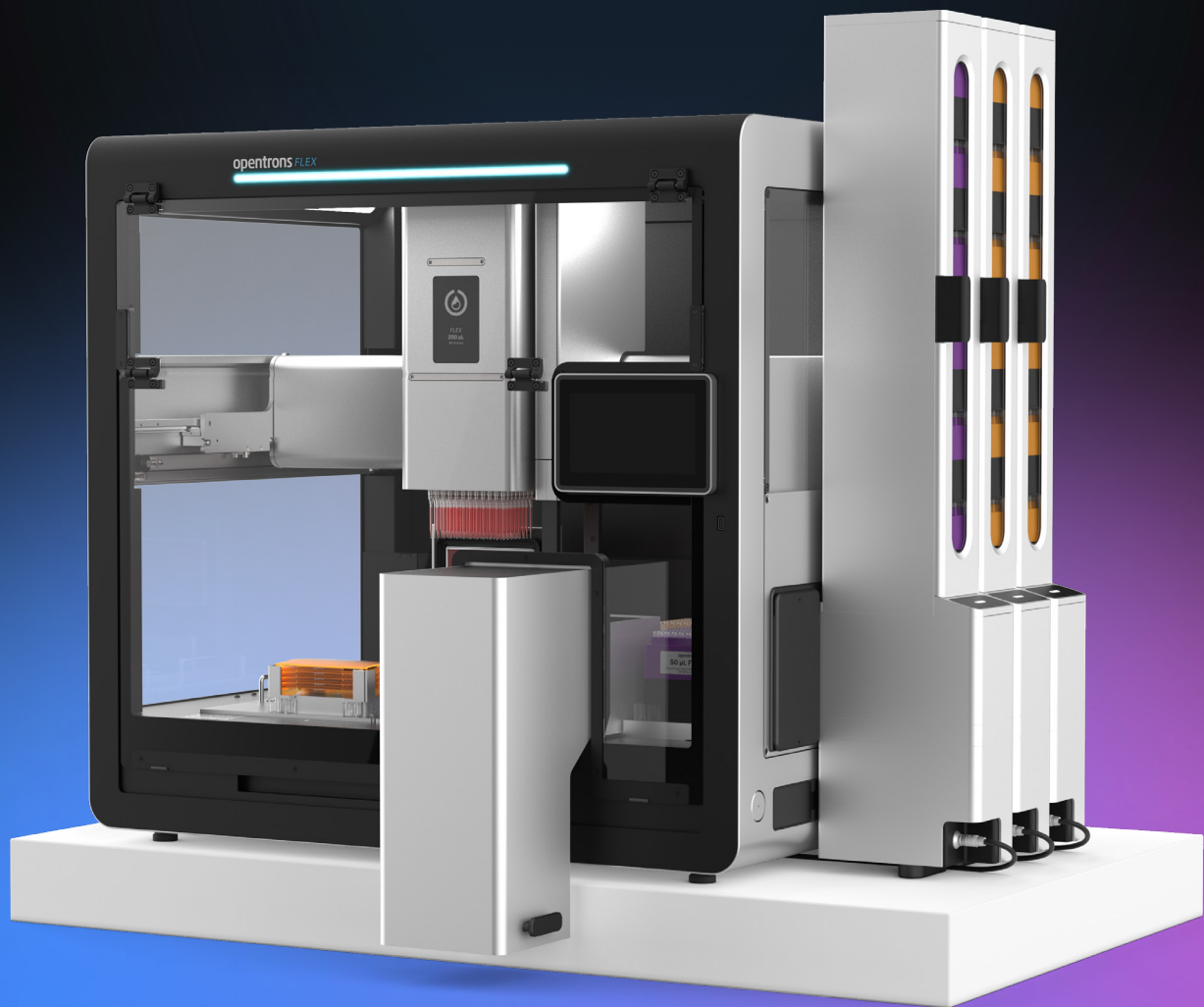




Opentrons Flex® High-Throughput NGS Workstation

Seamless end-to-end automation of library preparation, enabling full walkaway processing for up to 96 samples



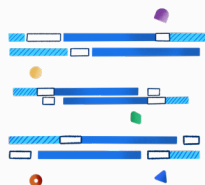
How will you Flex it?

Unlock the full potential of high-throughput NGS automation

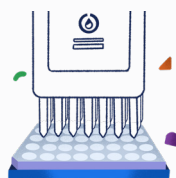
On long lab days, wouldn't it be nice to have a second pair of hands?
What if you could delegate repetitive pipetting tasks to a robot and focus on other things?
With Flex High-Throughput NGS Workstation, you can easily automate workflows like these:



Targeted sequencing



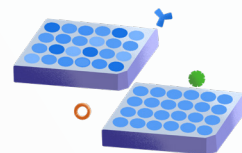
Whole genome sequencing



Single cell sequencing



Bead clean-ups



Pooling and normalization

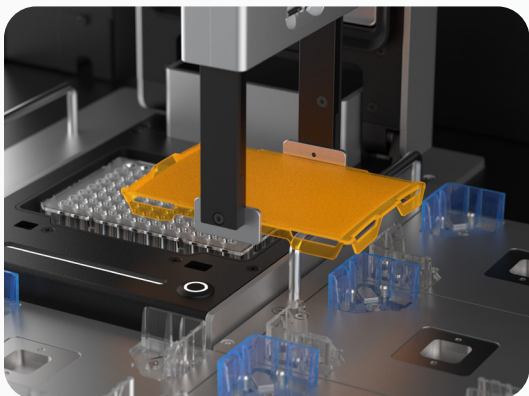


Flex Stacker

Modular tip and plate storage and delivery system that allows you to 5x your throughput without 5x'ing your deck space.

Flex 96-Channel Pipette

Flex 96-Channel Pipette supports pipetting complete plates, as well as single- and partial-tip pickup.



Automated on-deck thermocycling and plate sealing

Our Opentrons Thermocycler and auto-sealing lids support multiple rounds of on-deck PCR.

The Opentrons Flex High-Throughput Workstation in Action!

To demonstrate the effectiveness of the Opentrons Flex High-Throughput NGS Workstation, we successfully automated two popular DNA library prep chemistries, that use mechanical shearing and enzymatic fragmentation respectively, at 96-sample throughput.

Key Findings

The Opentrons Flex High-Throughput NGS Workstation supports walkaway automation of popular DNA library preparation kits, resulting in high-yielding, consistent libraries.

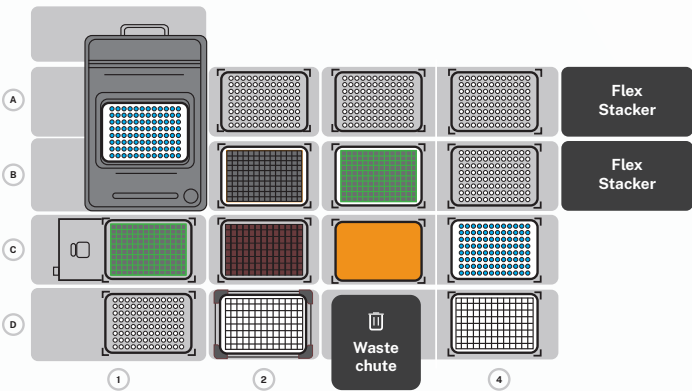


Figure 1. Deck layout for automating library preparation for 96 samples using IDT xGEN MC¹ and Twist EF 2.0² kits on the Opentrons Flex High-Throughput NGS Workstation

Row A: (A1) On Deck Thermocycler Module with Sample Plate, (A2-A3) Tip Racks. (A4) Flex Stacker Module with Tip Racks

Row B: (B2) Waste Reservoir, (B3) Reagent Plate 2, (B4) Flex Stacker Module with Tip Racks

Row C: (C1) Temperature Module with Reagent Plate 1, (C2) Reagent Reservoir, (C3) Plate Lids, (C4) Deck Extension with Final Sample Plate

Row D: (D1) Tip Rack, (D2) Cleanup Plate 1, (D3) Waste Chute Extension, (D4) Deck Extension with Cleanup Plate 2

Table 1. Sequencing Results depicting the GC Content, Percent Passing Filter, Quality >30 and Percent Mapped for Lambda Samples prepared with IDT xGen MC and Human Genomic Samples prepared with Twist EF 2.0, on a 2 x 150 MiSeq Run.

IDT xGen MC			Twist EF 2.0	
	Lambda	CV	Human Genomic	CV
GC content	49.21%	2.27%	41.85%	0.12%
% PF	98.55%	0.47%	99.40%	0.00%
Q30	94.44%	0.56%	94.74%	0.12%
% Mapped	98.73%	1.02%	100.00%	0.00%

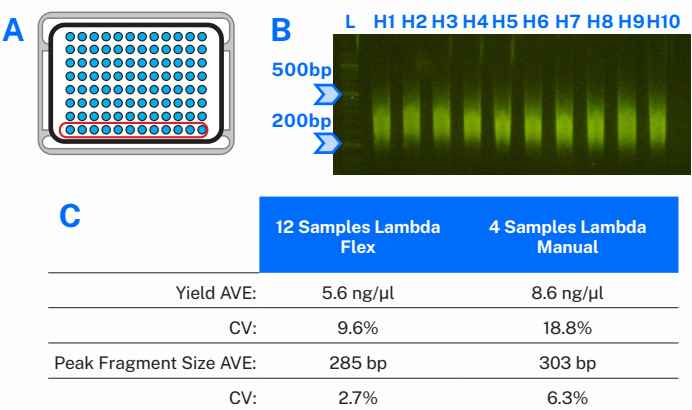


Figure 2. IDT xGen MC Library Preparation (A) Sample Plate Layout, (B) Library Fragment Sizes, 2% E-Gel, E-Gel Sizing DNA Ladder, (C) Library Yield, Flex and Manual Comparison.

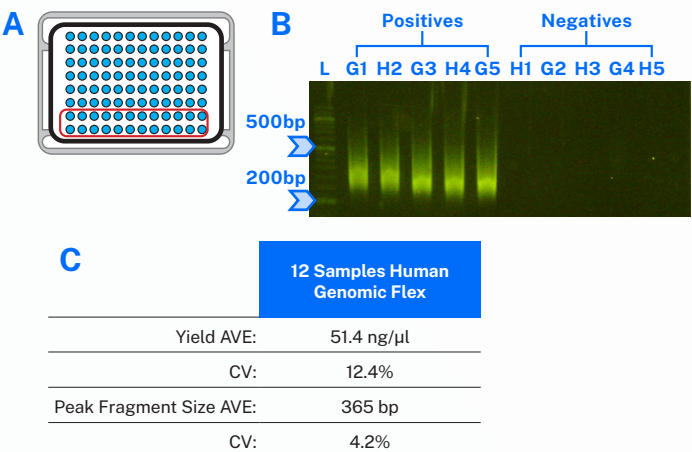


Figure 3. Twist Library Preparation Enzymatic Fragmentation Kit 2.0 (A) Sample Plate Layout, Row G and H Tested in a Checkerboard pattern, (B) Library Fragment Sizes, Library Fragment Sizes 2% E-Gel, E-Gel Sizing DNA Ladder, representative Positive and Negative Samples, (C) Library Yield, Positive and Negative Control Comparison.

What's in the Flex High-Throughput NGS workstation?

Product	Quantity
Opentrons Flex Robot	1
Opentrons Flex Gripper GEN1	1
Opentrons Flex 96-Channel Pipette (5-1000 µl)	1
Opentrons Flex Magnetic Block GEN1	1
Temperature Module GEN2 with Opentrons Flex Caddy and Calibration Adapter	1
Thermocycler GEN2 with Opentrons Flex Caddy and Calibration Adapter	1
Opentrons Flex Waste Chute GEN2	1
Opentrons Flex 96-Channel Tip Rack Adapter (2 count)	2
Opentrons Flex Deck Expansion Set (4 count)	1
Opentrons Flex Stacker	2
Opentrons Flex Filter Tips, 20 Racks, 50 µL (1,920 tips)	1
Opentrons Flex Filter Tips, 20 Racks, 200 µL (1,920 tips)	1
Opentrons Flex Filter Tips, 20 Refills, 50 µL (1,920 tips)	1
Opentrons Flex Filter Tips, 20 Refills, 200 µL (1,920 tips)	1
Opentrons Tough 0.2 mL 96-Well PCR Plate, Full Skirt (25 count)	1
Opentrons Tough Auto-Sealing PCR Lids (20 count)	1
Opentrons Flex Deck Riser	1
NEST® 12-Well Reservoirs, 15 mL (50 count)	1
NEST 1-Well Reservoirs, 290 mL (50 count)	1
NEST 2 mL 96-Well Deep Well Plate, V Bottom (50 count)	1
NEST 2.0 mL Microcentrifuge Tube (500 count)	1
4-in-1 Tube Rack Set	1

Get hands-on support, services and training with our Flex Service offerings.

- **12-Month Factory Warranty**
Included with all robot purchases
- **Opentrons Care**
Remote service contract with 1, 2 or 3 year options
- **Opentrons Care Plus**
On-site service contract with 1, 2 or 3 year options
- **Installation**
Robot unboxing and setup
- **Onsite or Remote Custom Protocol Development**
Consult your sales rep

Need more information?

- For general sales information, email info@opentrons.com
- For services and installation, email support@opentrons.com
- Want to speak to a sales rep? Mon – Fri, **Global: +1 (646) 212-3703**
UK/EU: +44 758 861 1072



Customize your Flex High-Throughput NGS Workstation to fit your workflow by adding on the following at 10% savings.

- Opentrons Heater-Shaker GEN1 with Flex Caddy
- Additional Opentrons Flex Stackers
- Opentrons Flex HEPA/UV Module

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