

# Ion S5 and Ion S5 XL Systems



Targeted sequencing has never been simpler

Simple, scalable, and rapid workflow for panels, microbes, exomes, and transcriptomes

		Ion S5™ System				Ion S5™ XL System			
		Ion 510™ Chip†	Ion 520™ Chip	Ion 530™ Chip	Ion 540™ Chip	Ion 510™ Chip†	Ion 520™ Chip	Ion 530™ Chip	Ion 540™ Chip
Reads		2–3 million	4–6 million	15–20 million	60–80 million	2–3 million	4–6 million	15–20 million	60–80 million
Output*	200 bp	0.3–0.5 Gb	0.6–1 Gb	3–4 Gb	10–15 Gb	0.3–0.5 Gb	0.6–1 Gb	3–4 Gb	10–15 Gb
	400 bp	0.6–1 Gb	1.2–2 Gb	6–8 Gb	—	0.6–1 Gb	1.2–2 Gb	6–8 Gb	—
Run time	200 bp	2.5 hr	2.5 hr	2.5 hr	2.5 hr	2.5 hr	2.5 hr	2.5 hr	2.5 hr
	400 bp	4 hr	4 hr	4 hr	—	4 hr	4 hr	4 hr	—
Analysis time**	200 bp	2 hr	5 hr	8 hr	16.5 hr	0.5 hr	1 hr	2.5 hr	5 hr
	400 bp	6.5 hr	8 hr	17.5 hr	—	0.5 hr	2 hr	4 hr	—

Long-read sequencing for research applications such as human leukocyte antigen (HLA) typing or metagenomic analysis

		Ion S5 System				Ion S5 XL System			
		Ion 510 Chip††	Ion 520 Chip	Ion 530 Chip	Ion 540 Chip††	Ion 510 Chip††	Ion 520 Chip	Ion 530 Chip	Ion 540 Chip††
Reads		—	3–4 million	9–12 million	—	—	3–4 million	9–12 million	—
Output*	600 bp	—	0.5–1.5 Gb	1.5–4.5 Gb	—	—	0.5–1.5 Gb	1.5–4.5 Gb	—
Run time	600 bp	—	4 hr	4 hr	—	—	4 hr	4 hr	—
Analysis time**	600 bp	—	8 hr	17 hr	—	—	2.5 hr	4.5 hr	—

\* Expected output with >99% aligned/measured accuracy. Output dependent on read length and application.

\*\* Analysis time to aligned BAM files.

† Ion 510 Chip is only compatible with the Ion Chef™ System workflow for template preparation. The Ion 510 Chip is not enabled for the Ion OneTouch™ 2 System template preparation workflow.

†† 600 bp sequencing is not enabled for Ion 510 Chip and Ion 540 Chip.

## Target selection solutions

Ion AmpliSeq™ technology

## Library solutions

Ion AmpliSeq™ Library Kit  
Ion Xpress™ Plus Fragment Library Kit

Ion Total RNA-Seq Kit v2  
Ion Library Equalizer™ Kit

384 barcodes supported by Torrent Suite™ Software

## Data analysis solutions

Torrent Suite Software for primary data analysis

Ion Reporter™ Software for secondary data analysis, annotation, filtering, and reporting

## Ion S5 System specifications

<b>Working environment</b>	Temperature: 20–30°C (68–86°F) Humidity: 40–60%, noncondensing Altitude: Up to 2,000 m (6500 ft.) above sea level Thermal output at typical power draw of 1,200 W: 4,094 BTU/hr	Instrument clearances: Top = 30.5 cm (12.0 in.) Front = 30.5 cm (12.0 in.) Left = 10.0 cm (4.0 in.) Right = 30.5 cm (12.0 in.) Back = 30.5 cm (12.0 in.)	
<b>Other connections</b>	Ethernet: 1 GigE USB: 2 x USB 2.0 RJ45-type connector	Electric receptacle required: 2-prong with ground pin	
<b>Power</b>	Voltage: 100–240 V (max) Current: 14.5 A (max)	Frequency: 50/60 Hz Power draw: 1,350 W (max)	
<b>Dimensions</b>	Width: 54.2 cm (21.4 in.)	Depth: 80.6 cm (31.8 in.)	Height: 50.9 cm (20.0 in.)
<b>Weight</b>	Crated for shipment: 90.7 kg (200 lb) Free-standing: 63.5 kg (140 lb)		

## Ion S5 XL System Torrent Server specifications

<b>Product configuration</b>	A single, free-standing tower computer appliance included with the purchase of the Ion S5 XL System. Includes Torrent Suite Software with all necessary software components to deliver signal processing, base calling, read alignment, and variant calling.		
<b>Processor</b>	E5-2680 v3 or better		
<b>Memory</b>	128 GB minimum		
<b>GPU processor</b>	NVIDIA™ K40		
<b>Storage (approx.)</b>	28 TB usable		
<b>Operating system</b>	Ubuntu™ system		
<b>Dimensions (approx.)</b>	Width: 21.6 cm (8.5 in.)	Depth: 56.6 cm (22.3 in.)	Height: 56.6 cm (22.3 in.)
<b>Weight (approx.)</b>	45 kg (100 lb)		
<b>Power</b>	Voltage: 100–240 V (max) Current: 6.7 A (max)	Frequency: 50/60 Hz Power draw: 1,100 W	
<b>Data format</b>	Industry-standard FASTQ, SFF, BAM, and VCF format outputs		

## Ordering information

Product	Cat. No.
Ion S5 System	A27212
Ion S5 XL System	A27214
Enrichment automation options	
Ion Chef System	4484177
Ion OneTouch 2 System	4474779

Find out more at [thermofisher.com/ions5](http://thermofisher.com/ions5)