

Ion PGM Dx System

Empowering development of molecular diagnostic tests with next-generation sequencing



The Ion PGM™ Dx System* brings the power of next-generation sequencing (NGS) into your molecular diagnostics laboratory. This reliable combined-function NGS platform offers key workflow advantages designed for regulated laboratory environments and enables *in vitro* diagnostic applications in addition to an assay development mode for clinical research applications.

System benefits

- A complete NGS instrument system developed under design control and in accordance with ISO 13485 requirements for targeted sequencing of human genomic DNA (gDNA) derived from peripheral whole blood, and DNA and RNA extracted from formalin-fixed, paraffin-embedded (FFPE) samples. Includes the following: Ion PGM™ Dx Sequencer, Ion OneTouch™ Dx Instrument, Ion OneTouch™ ES Dx Instrument, Ion PGM™ Dx Chip Minifuge, and Ion Torrent™ T430 Server with Ion PGM™ Dx Software Pack.

Data analysis solutions included with the Ion PGM Dx Software Pack

- Torrent Suite™ Dx Software is for *In Vitro* Diagnostic Use, and processes signals, calls bases, aligns sequences, and performs basic variant calling as the primary analysis software for the Ion PGM Dx Sequencer
- Torrent Suite™ Assay Development Software** offers greater system utility for clinical research

Ion PGM Dx System performance specifications

Ion 318 Dx Chip	
Output†	600 Mb–1 Gb (200-base)
Reads	4–5.5 million
Run time	4.4 hr (200-base)



Ion PGM Dx Sequencer	
Operating environment (for indoor use only)	Temperature: 59–86°F (15–30°C)
	Relative humidity: 10–90%, noncondensing
	Altitude: <6,500 ft (0–2,000 m)
Storage	Temperature: –22 to 86°F (–30 to 60°C) Humidity: 20–80%, noncondensing
Clearances	12 in. (30.5 cm) in rear 4 in. (10 cm) for left and right sides each 4 in. (10 cm) from front edge of the bench to the sequencer bezel 36 in. (90 cm) aisle in front of the bench for operator access 8 in. (20 cm) from front edge of the bench to conical tubes
Gas supply	Connection: 0.25 in. push-to-connect fitting Pressure: 25–45 psi Composition: nitrogen (grade 4.5, 99.995% or better)
Other connections	Ethernet: 1 GigE USB: 2x USB 2.0
Power	Voltage: 100 V (min) to 240 V (max) Current: 9 A (max) Frequency: 50/60 Hz Power draw: 200–300 W
Dimensions (approx.)	Width: 24 in./61 cm Depth: 20 in./51 cm Height: 21 in./53 cm
Weight	85 lb/39 kg (crated for shipment) 65 lb/30 kg (freestanding)

* For *In Vitro* Diagnostic Use. Available in the US and other selected countries globally. Please inquire with your sales representative for local availability.

** Torrent Suite Assay Development Software is for Research Use Only. Not for use in diagnostic procedures. Users developing assays are advised to use Analyte Specific Reagents.

† Output is dependent on read length and application.

	Ion OneTouch Dx Instrument	Ion OneTouch ES Dx Instrument	Ion OneTouch Dx Chip Minifuge
Operating environment (for indoor use only)	Temperature: 59–86°F (15–30°C) Relative humidity: 10–90%, noncondensing Altitude: <6,500 feet (0–2,000 m)	Temperature: 59–86°F (15–30°C) Relative humidity: 10–90%, noncondensing Altitude: <6,500 feet (0–2,000 m)	Temperature: 59–86°F (15–30°C) Relative humidity: 10–90%, noncondensing Altitude: <6,500 feet (0–2,000 m)
Storage	Temperature: -22 to 86°F (-30 to 60°C) Humidity: 20–80%, noncondensing	Temperature: -22 to 86°F (-30 to 60°C) Humidity: 20–80%, noncondensing	Temperature: -22 to 86°F (-30 to 60°C) Humidity: 20–80%, noncondensing
Other connections	Ethernet: One 100 Mb/s USB: 1x USB 2.0	NA	NA
Power	Voltage: 100 V (min.) to 240 V (max.) Current: 5.5 A (max.) Frequency: 50/60 Hz Power draw: <650 W	Voltage: 100 V (min.) to 120 V (max.) or 220 V (min.) to 240 V (max.) Current: 0.5 A (max.) Frequency: 50/60 Hz Power draw: <30 W	Voltage: 100 V (min.) to 120 V (max.) or 220 V (min.) to 240 V (max.) Current: 130 mA (max., 120 V model) 65 mA (max., 230 V model) Frequency: 50/60 Hz Power draw: <16 W
Dimensions (approx.)	Width: 16 in./41 cm Height: 13 in./33 cm Depth: 18 in./46 cm	Width: 11.5 in./29 cm Height: 9.5 in./24 cm Depth: 16 in./41 cm	Width: 6 in./15 cm Height: 4 in./10 cm Depth: 6 in./15 cm
Weight (approx.)	40 lb/18 kg	11 lb/5 kg	2 lb/0.9 kg

Ion Torrent T430 Server specifications

Product configuration	A single freestanding tower computer is included with the purchase of the Ion PGM Dx System. Includes Ion PGM Dx Software Pack v5.0 or later with all necessary software components to deliver signal processing, base calling, read alignment, and variant calling.		
Processor	Dual processor 2 x E5-2660 v3	Memory: 128 GB RAM	Storage: 24 TB
Operating system	Ubuntu™ 14.04	Data formats: Industry-standard FASTQ, BAM, and VCF format outputs	
Power	Voltage: 100 V (min.) to 240 V (max.) Current: 6.7 A (max.)	Frequency: 50/60 Hz Power draw: 1,100 W	
Dimensions (approx.)	Width: 12 in./30.5 cm Height: 17.5 in./44.4 cm Depth: 22 in./55.9 cm		
Weight (approx.)	66.5 lb/30.16 kg		

Ordering information

Product	Cat. No.	Product	Cat. No.
Ion PGM Dx Instrument System	A25511	Ion PGM Dx Instrument System consumables	A25512
Includes the components below:		Includes the components below:	
<ul style="list-style-type: none"> • Ion PGM Dx Sequencer • Ion OneTouch Dx Instrument • Ion OneTouch ES Dx Instrument • Ion PGM Dx Chip Minifuge • Ion Torrent Server with Ion PGM Dx Software Pack 5.6 or later (includes Torrent Suite Dx Software and Torrent Suite Assay Development Software*) • Ion PGM Dx System Installation & Training Kit • DynaMag Dx Kit – Tube & Plate 		<ul style="list-style-type: none"> • Ion PGM Dx Library Kit • Ion OneTouch Dx Template Kit • Ion PGM Dx Sequencing Kit • Ion 318 Dx Chip Kit 	

Find out more about the Ion PGM Dx System at
thermofisher.com/pgm-dx

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