**Equipment Name: Life Technologies Ion Personal Genome Machine (PGM) System**

Before purchasing equipment, verify that the following requirements are, or can be, met:

| Requirement: | Requirement Met? | Comments |
| --- | --- | --- |
| Electrical; instrument requirements  Ion PGM Sequencer:  Voltage: 110/120 VAC (220/240 VAC)  Current: 9 A (max)  Frequency: 50/60 Hz  Ion Torrent Server:  Voltage: 110/120 VAC (220/240 VAC)  Current: 11 A (max)  Frequency: 50/60 Hz  Ion OneTouch 2:  Voltage: 110/120 VAC (220/240 VAC)  Current: 5.5 A (max)  Frequency: 50/60 Hz  Ion OneTouch ES:  Voltage: 110/120 VAC (220/240 VAC)  Current: 375 mA (160 mA) (max)  Frequency: 50/60 Hz  Ion Chef System:  Voltage: 100-240 VAC  Current: 14 A (max)  Frequency: 50/60 Hz | Yes  No |  |
| Electrical; additional requirements  Receptacle: 2-prong with ground pin  Main AC line voltage tolerances must be up to +/- 10% of nominal voltage  If supplied power cords are not suitable for installation, ensure all power cords used are:   * Max 10 ft. length * Grounding type * Capable with the power supply receptacles used to connect to main power * UL compliant | Yes  No |  |
| Wattage  Ion PGM Sequencer: 200-300 Watts  Ion Torrent Server: 1100 Watts  Ion Chef System: 1350 Watts | Yes  No |  |
| Power Protection  Adequate to provide protection  (e.g. UPS) | Yes  No |  |
| Water  Access to 18 Megohm laboratory grade water | Yes  No |  |
| Gas  Nitrogen gas cylinder located within 10 ft. of the instrument and chained to a wall/bench:  Yes  No  ONE of the following required:  A pressurized house line  Size 1-A nitrogen gas cylinder that holds approximately 7.2m3 of gas when full  ALL of the following required:  2-gauge regulator with a Compressed Gas Association (CGA) 580-cylinder adaptor on the inlet side and a Swagelok (or equivalent) end-fitting that accepts 0.25in (6.35mm) outer diameter tubing  The secondary gauge must allow regulation between 25-45psi via CGA 580-cylinder adaptor with a needle type shut-off valve on the exit side  The needle valves should have a Swagelok (or equivalent) end-fittings ready for connection to a 0.25in (6.35mm) outer diameter tubing  Pre-purified nitrogen of 99.998% (grade 4.8) or greater purity | Yes  No |  |
| Waste  Plastic consumables   * Refer to local regulations for diposal   Chemical waste   * Refer to SDS for checmical waste disposal instructions | Yes  No |  |
| Ventilation  Ion OneTouch2 Instrument:20in(50 cm)  Ion PGM Sequencer: 4in(10 cm)  Minimum airflow: 6-10 air changes/hour | Yes  No |  |
| Operating Temperature Range  15-30˚C  Ion Chef Sytem: 20-25˚C, less than 2˚C fluctuation over a two-hour period    Note: Verify with facilities that the temperature range is maintained 24 hours a day, 7 days a week; monitor prior to instrument arrival. | Yes  No |  |
| Operating Humidity Range  10%-90%, relative humidity  Ion Chef System: 40%-60%, non-condensing | Yes  No |  |
| Elevation  Between sea level and 2,000 meters (6,500 feet) above sea level | Yes  No |  |
| Vibration Specifications  Dedicated and sturdy lab bench  No equipment that causes vibrations such as freezers, shaker, vortexer, centrifuge, heavy fans, shearing instruments, etc. on same bench or in contact with bench  Note: Equipment is sensitive to vibrations. | Yes  No |  |
| Network Connections  Ion Torrent Server is directly connected to the Ion PGM Sequencer via standard Category 6 Ethernet cable  Room must have at least one active network jack  A dynamic or static IP address must be reserved for the Ion Torrent Server  The Ion Torrent Server must have outbound internet access and be behind an appropriately configured firewall in order to receive full technical support   * Software updates are retrieved by access through HTTP/port-80 * Timely support is retrieved by access through HTTPS/port-443 and SSH/port-22   If applicable, the Ion Chef System must be connected to the Torrent Server either using a category 6 Ethernet cable or indirectly via LAN network that has been configured to permit HTTP-443, SSH-22, and FTP-20/21 traffic. | Yes  No | If No, explain: |
| External Data Storage  Yes  No  Note: to request SciComp storage:   * Go to [http://info.biotech.cdc.gov/](http://info.biotech.cdc.gov/" \o "WEBSite: Office of Advanced Molecular Detection (OAMD)  Scientific Computing and Bioinformatics Support (SCBS)) * Click on “Support” * Click on “Sequencer Storage Request” * Complete form and submit | Yes  No | If Yes, specify (e.g. SciComp):  If No, explain: |
| Door/Elevator/Access Point Clearance  Maximum Crated Dimensions and Weight   * Height: 28.3 in * Depth (front to back): 34.0 in * Width (side to side): 34.0 in * Weight: 295   Dimensions of Crated System Components  *(Height x Depth x Width, Weight)*   * Ion PGM Sequencer:   26.5 x 26.0 x 29.5 in, 95 lbs.   * Ion Torrent Server:   28.3 x 27.8 x 13.5 in, 66 lbs.   * Ion OneTouch 2:   18.0 x 18.0 x 21.0 in, 44 lbs.   * Ion OneTouch ES Instrument:   14.5 x 14.5 x 17.5 in, 13 lbs.   * Ion Chef System:   28.0 x 34.0 x 34.0 in, 295 lbs. | Yes  No |  |
| Operating Clearance; instrument dimensions  Dimensions of System Components  *(Height x Depth x Width, Weight)*   * Ion PGM Sequencer:   21x20x24 in, 65 lbs   * Ion Torrent Server:   22.3x21.2x8.5 in, 55 lbs   * Ion OneTouch 2:   12x16x14 in, 37.5 lbs   * Ion OneTouch ES:   9.5x16x11 in, 12 lbs   * Ion Chef System:   22.1(33 open)x27.6x28.1 in, 150 lbs | Yes  No |  |
| Operating Clearance; individual clearance requirements  Ion PGM Sequencer:   * Back Clearance: 4 in * Side Clearance: 4 in (left) 8 in (right) * Top Clearance: 12 in * Front Clearance: 12 in from front edge of bench to sequencer bezel, 8 in from bench to conical tubes, 36 in of aisle space   Ion Torrent Server:   * Back Clearance: 24 in * Side Clearance: 2 in (each side) * Top Clearance: 2 in * Front Clearance: 12 in   Ion OneTouch 2:   * Back Clearance: 4 in * Side Clearance: 4 in (each side) * Top Clearance: 12 in * Front Clearance: 12 in   Ion OneTouch ES:   * Back Clearance: 12 in * Side Clearance: 12 in (each side) * Top Clearance: 12 in * Front Clearance: 12 in   Ion Chef System:   * Back: 4 in * Side: 4 in (each side) * Top: 14 in * Front: 6.7 in | Yes  No |  |
| Location Conducive to Lab Workflow  All Ion System components are located in the post-PCR room or area; sequencer and server (and Chef, if applicable) are ideally on a separate bench from all other equipment, including the OneTouch2 system | Yes  No |  |
| Documentation  Training Documents  Equipment Maintenance Documents  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Yes  No |  |
| Ancillary equipment required  Access to, or acquisition of, the following:  Automated Liquid Handler (optional)  Thermocycler  Instrument for sizing, quantitation, and quality check of DNA (e.g. Bioanalyzer, Qubit)  Instrument for shearing DNA (e.g. Covaris) (optional depending on library prep method)  Benchtop centrifuge, plate centrifuge  Other: ­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Yes  No |  |
| Other Requirement(s):  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  N/A | Yes  No |  |

**\*References:** Ion PGM System Site Preparation Guide Publication # MAN0007516 Rev. A0 2017, Ion Chef System Site Preparation Guide MAN0007956)

**Completed By (signature): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Approved By (signature): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**