ملحق رقم 3 - المواصفات الفنية

LOT 1

I. T-100 Thermal Cycler II. Gene Pulser XCELL Total Instrument III. Myra Automated Handling System
I. T100-Thermal Cycler
A reliable personal thermal cycler that delivers exceptional performance for years with robust design.
The instrument should have an intuitive built-in touch-screen user interface with a user-friendly built-in software to make running PCR easy.
The instrument features Thermal gradient technology to allow optimizing the reaction (annealing temperature) quickly in a single run.
The instrument should be Peltier based, 96-well and can hold 0.2 ml tubes, 0.2 ml tube strips, or 1 x 96-well plate
The instrument should be an open system, which can hold plastics from any brand.
The instrument should be quiet with no noise during runs
A small footprint with no more than dimensions (W x D x H): 30 x50 x 25 cm and a maximum weight of 10 Kg
The below minim general specifications are needed:
Temperature range: 4–100°C
Temperature accuracy: ±0.5°C of programmed target
Temperature uniformity: ±0.5°C well-to-well within 30 sec of arrival at target temperature
Input power: 100–240 VAC, 50–60 Hz; 700 W maximum
Display: 5.7" VGA color touch screen
Gradient accuracy: ±0.5°C of programmed temperature
Gradient Row uniformity: ±0.5°C well-to-well (within row) within 30 sec
Gradient range: 30–100°C
Gradient Temperature differential range: 1–25°C
8 different temperatures in the same run
12 samples at each temperature
Two Year Warranty

II. Gene Pulser XCELL Total Instrument

Modular laboratory electroporation system for universal application across eukaryotic (mammalian, plant), prokaryotic (bacteria, fungi), and suspension cell types.

System to be composed of main pulse generator unit, capacitance extender (CE) module for large-capacitance control, pulse controller (PC) module for resistance modulation, and shockpod cuvette chamber with safety interlock

Needed Pulse & Electrical Specifications

- Voltage: 10–3,000 V (adjustable)
- Waveform: Exponential decay & square pulse
- Capacitance (CE Module): 25–3,275 µF in 25 µF increments
- Resistance (PC Module): 50–1,000 Ω in 50 Ω increments (& infinity)
- Sample Resistance: ≥20 Ω (10–2,500 V); ≥600 Ω (2,500–3,000 V)
- Square-Wave Timings: 10–500 V: 0.05–10 ms; 500–3,000 V: 0.05–5 ms; multiple pulses

Control & User Features

- Program Modes: Manual, preset (bacterial, fungal, mammalian), optimization, user-defined protocols
- Memory: Stores up to 100 previous experiments with delivered voltage/time data
- Interface: Graphic display with keypad interface and waveform preview.
- Safety Circuitry: Should feature PulseTrac and arc protection ensure safe pulse delivery and automatic capacitor discharge.
- One-handed cuvette chamber handling with lid interlock preventing pulse with open lid.
- Two Year Warranty

III. Myra Automated Handling System

Benchtop automated liquid handling Robot pipettor with a weight that doesn't exceed 15kg

Applications should include: Automates pipetting, mixing, Real Time and digital PCR setup, NGS Library Preps, normalization pooling, MIC testing, Maldi TOF prep, bead cleanup, cherry-picking and dilutions across diverse lab workflows

Features needed:

- Flexible 5/6 deck positions
- Onboard camera for easy and fast user calibration
- Interchangeable Pipette Heads that should be pre-calibrated with retained calibration data and no recalibration upon exchange
- Pipette Volume Range of 1-50 µL; single and multi-dispense modes
- Precision: 5% at 1ul 1% 5-50ul
- Should include contamination controls (enclosed tip disposal, HEPA air filtration + UV cleaning by LED for long life)
- Liquid-Sensing: Pressure-based detection for reliable aspirate/dispense monitoring

- **Positioning Control**: Closed-loop motion (100 µm resolution), optical encoder feedback
- **User Interface**: Intuitive touchscreen or PC-driven UI for protocol setup
- **Scripting**: Python-based custom protocols available for advanced users
- Software with unlimited licenses

LOT 2

I. Tape Station 4150 Automated electrophoresis System
I. Tape Station 4150 Automated Electrophoresis System
• Automated electrophoresis platform designed for DNA/RNA quality control in NGS, microarray, qPCR, biobank, etc. workflows • Handles 1–16 samples per run (via two 8-tube strips), with results in 1–2 min per sample or under 20 min total • Fully compatible with DNA/RNA ScreenTape assays • Minimal sample use: Requires only 1–2 µL • Consumables should be ready-to-use ScreenTape technology enables low hands-on time, no carryover, constant cost per sample • High reproducibility with tight accuracy & precision • Two Year Warranty
Analytical Performance Needed *DNA (Genomic)* • **Sizing range**: 200 bp to > 60 kb • **Quantification**: 10–100 ng/µL (accurate within ±20%, CV ≤15%) • **Sensitivity**: Detects as low as 0.5 ng/µL (S/N >3) • **Integrity Metric (DIN)**: Uses DIN algorithm for sample quality; reliable across 5–300 ng/µL with SD <0.2 *RNA* • **Sizing range**: 100–6,000 nt • **Quantification**: 100 pg/µL to 500 ng/µL • **Integrity Metric**: RINe (RNA Integrity Number equivalent) **Physical & Electrical Specs** • **Dimensions**: 254 × 510 × 417 mm (W × D × H; approx. 10 × 20 × 16.4 in) • **Weight**: ~17.8 kg (39.2 lb) **Power**: 100–240 VAC, 50–60 Hz, approx. 50 VA consumption

LOT 3

I. MiSeq i100 Plus NGS System
I. MiSeq i100 Plus NGS System
MiSeq i100 Plus NGS System with starter kit and 2y SVC
Simple and fast workflow, ready to use reagents
Fluidics integrated in the cartridge, no need for washes
Patterned flow-cell technology that minimizes overclustering
5, 25, 50 and 100M reads flow cells, read lengths up to 600 cycles and output up to 30 GB
Room temperature stable reagents and consumables
Automated onboard denaturation and cluster generation
Formamide-free reagents for safe handling and easy disposal
Should have the option to sequence the indexes first to assess even sample loading at run start
On-instrument secondary analysis and option for cloud based advanced analysis
2 year full warranty, sequencing reagents to be replaced in case of failure of instrument

Lot 4

I. Ultrapure Water **II. Fume Hood Cabinet** **III. Cabinet for Organic Solvents** **IV. ELISA Reader (Without Incubator)**
I. Ultrapure Water
Ultrapure water system should provide water quality ASTM Type I 18.2 MΩ/cm, or 0.055 µS/cm
Should be supplied with fully automatic control unit with monitoring of all functions on a 7“ touch panel display
System must have a valve chamber with dead space free flushing
Should have a flexible dispenser arm, plastic housing, both sides easy to open
Should be provided with an integrated osmosis for tab water connection
TOC values should be <5 ppb reading 999-1ppb,
Measurement method should be Real-time differential measurement
Bacteria should be <99,9%
Endotoxins values must be EU/ml 0.001
RNAse : 1pg/ml, DNAse : 4pg/ml, protease: 0.20ug/ml
UV lamp : 185 + 254nm
Temperature should be Automatically compensated at 25°C or system can work without temperature compensation
Flow rate should be 1-2 ltr/min
Volume dosing should be 0,01-99,99Ltr., accuracy +/-1,2% calibratable
System should have a height adjustable dispenser arm 0-400mm freely adjustable
System should be supplied with ultrapure water cartridges QTY 2
System should be supplied with a final filter qty1 x end filter
Cartridge change Information on display
System to be supplied with a UV lamp
Circulation should be Interval
System should be able to be directly connected to your tap water supply, allowing it to produce both Type I (ultrapure water) and Type II (pure water)
System should be equipped with a preheated UV lamp, significantly reducing energy consumption
System should be supplied with an INTEGRATED TOC MONITORING
System should feature a customizable volume dispensing from 1 mL to 50,000 mL with precise calibration.
System must feature a Pre-set programmable options for easy access.

II. Fume Hood Cabinet
Fume Hood Should comply with the international standards, such as ASHRAE 110-2016 and EN-14175
Fume Hood dimensions should be approximately 1500x850x2365 mm.
Should include: • Exterior made of phenolic resin with a steel epoxy-polyester painted structure. One piece sash. • Interior in phenolic resin with high chemical resistance. • Epoxy resin worktop with raised edge and cupsink. • Four electrical outlets, water tap and nitrogen with remote access. • Basic operating system (ON/OFF switch) • System should feature the below: • Safety sash lock system • Various fittings & Valves • Exhaust collar (DN 250) • ELB (IP 54) • Built in under bench cabinet • Socket & Valve Scaffold support (STS stand) • LED Lamp • Combination sash • Raised edge worksurface Touch pad monitor • Fume hood is Supplied with the digital control monitor
III. Cabinet for Organic Solvents
Storage cabinet should comply with the international standards for solvent storage
Fire resistance, corrosion resistance, and adjustable shelving
Size: between 700 and 900 Liters
Reinforced doors, leak-proof construction, and locking mechanisms to prevent spills and unauthorized access
Should feature exhaust system and filtration to manage fumes
IV. ELISA Reader (Without Incubator)
Proven performance and reliable day-to-day results through patented optical design and in-built self-diagnostics A broad wavelength range of 340-850 nm for a wide variety of research and routine applications such as ELISA
Immunoassays, protein quantification, endotoxin, cytotoxicity and proliferation assays, enzyme assays and growth curves
The system should be equipped with an eight-position filter wheel with three standard filters, 405 nm, 450 nm and 620 nm, preinstalled A set of additional easy-to-install filters: 492 nm, 570 nm, 595 nm, 750 nm

Fast and accurate measurement of both 96- (7 seconds fast mode /13 seconds normal mode) and 384-well plates for various throughput requirements
Ease of use through the large color screen and a variety of language versions Visual and logical SkanIt software for comprehensive instrument control and data handling
Verification plate available for instrument performance verification Robot compatibility for high-throughput environments
Multiple languages choose between English, German, French, Spanish, Italian, Portuguese, Russian, Chinese, and Japanese (touchscreen models)