Applied Biosystems 3730 and 3730*xl* DNA Analyzers

Introduction

Applied Biosystems 3730 & 3730*xl* DNA Analyzers were developed to meet the growing needs of institutions ranging from core and research labs in academia, government, and medicine to biotechnology, pharmaceuticals, and genome centers. These high-throughput instruments couple advances in automation and optics with proprietary Applied Biosystems reagents and software to support a diverse range of genetic analysis projects. By dramatically improving data quality, significantly reducing total cost per sample, and enabling more runs per day, 3730/3730*xl* DNA Analyzers make it quicker and easier for investigators to get meaningful results in evolving genomic applications. Whether your lab is involved in *de novo* sequencing, resequencing, microsatellite-based fragment analysis, or SNP genotyping, 3730/3730*xl* DNA Analyzers are the ideal platform for better, faster, cheaper genetic analysis.

Key Features

- Dual-side capillary illumination
- Backside-thinned CCD
- Integrated auto-sampler and sample plate stacker
- Onboard piercing station
- Internal barcode reader
- Onboard polymer for up to 100 runs
- Automated basecalling and quality value assignment
- Automated fragment analysis
- POP-7™ Performance Optimized Polymer separation matrix
- Actively temperature-controlled oven (18-70°C)
- 48-hour unattended operation*
- AnyDyeSet option

*Only for modules greater than 30 min

Key Benefits

- Highest-quality DNA sequencing data at lowest cost
  - POP-7™ Polymer separation matrix increases read length and reduces run time
  - Multiple run modules provide options for targeted length of read
  - High optical sensitivity reduces DNA and reagent consumption
  - In-capillary detection consumes 30 times less separation matrix than earlier models, which used sheath flow
  - High data pass rate and long reads reduce the number of traces required per project
  - Instrument reliability and easy maintenance reduce overhead and service costs
- Highest-quality fragment analysis
  - Flexible, easy-to-use separation matrix and array can be used for fragment analysis and sequencing

- Powerful software for automated fragment analysis and allele calling
- 5-dye chemistry increases throughput
- Compatibility with SNPlex™ Genotyping System for quick, accurate genotyping
- Maximum optical sensitivity
- In-capillary detection
- Simultaneous dual-side capillary illumination provides uniform optical detection
- High sensitivity supports a wide range of input DNA concentrations

System Components

- Capillary electrophoresis instrument
- 48- or 96-capillary array and separation matrix
- DNA sequencing reagents and consumables
- Computer workstation with flat-screen monitor for instrument control and data analysis
- Data collection software and analysis software options

Analysis Software Options

- Sequencing Analysis Software for basecalling and trouble shooting
- SeqScape® Software for reference sequence comparisons, which enable detection of sequence variants including heterozygous insertions and deletions
- GeneMapper® Software for microsatellite, SNP, AFLP, T-RFLP, and LOH analyses
- Free Sequence Scanner software enables viewing and editing of traces and quality control reporting

RUN MODULE DETAILS

Run Module	Array Length, cm	Run Time, min	KB Base-caller QV 20 LOR (Bases)	Runs/Day	3730*xl* Analyzer		3730 Analyzer	
					Samples/ Day	KB Base-caller QV20 Bases/Day	Samples/ Day	KB Base-caller QV20 Bases/Day
Extra Long Read Sequencing	50	180	900	8	768	691,200	384	345,600
Long Read Sequencing	50	120	850	12	1,152	979,200	576	489,600
Fast Sequencing	50	60	700	24	2,304	1,612,800	1,152	806,400
Standard Sequencing	36	60	700	24	2,304	1,612,800	1,152	806,400
Rapid Sequencing	36	35	550	40	3,840	2,112,000	1,920	1,056,000
TargetSeq™ Resequencing System	36	20	400*	72	6,912	2,880,000	3,456	1,440,000
Fragment Analysis	Up to 500 bp resolution with 0.15 bp sizing resolution			44	4224	84,508**	2112	42,254**

*Throughput numbers shown for 400 bp reads (long read standards-HSP69 template). Module can be customized to run 200-400 bases.
**Genotypes/day, assumes 20 genotypes/sample.

CAPILLARY ARRAYS AND SEPARATION MATRIX*

Capillary separation distance, cm	Capillary dimensions	Polymer consumed/run
36	150 µm o.d./ 50 µm i.d.	Approx. 200 µL (96cap) and 110 µL (48cap)
50	150 µm o.d./ 50 µm i.d.	Approx. 250 µL (96cap) and 130 µL (48cap)

*Internally uncoated capillaries are supplied in preassembled arrays consisting of 48 or 96 capillaries. The arrays offer a 300-run warranty.

Specifications for the 3730 and 3730*xl* Analyzers

Reagents
- BigDye® Terminator v1.1 and v3.1
- SNPlex™ Genotyping System
- SNaPshot® Multiplex Kit
- ABI PRISM® Linkage Mapping Set v2.5
- GeneScan™ Size Standards

Instrument configuration
- CE instrument
- Computer and flat-panel monitor
- Installation chemistry and accessories
- Collection and analysis software

Computer specifications
- Base unit: 3.0 GHz Pentium IV processor
- Memory: 1 GB, DDR 400 MHz R
- Hard drive: 2 x 120 GB
- Operating system: Microsoft Windows 2000 Professional Edition
- Monitor: 7" flat panel
- CD/RW, DVD-ROM, combo drive
- Floppy drive

Note: The computer configuration may be periodically upgraded. Check with your local sales representative on current specifications.

Integrated plate stacker
- Houses up to 16 sample plates
- Accommodates 96-well and 384-well plates
- Accessible any time except when auto-sampler is moving

Sample volumes
- For 384-well Sample Plates: 5-30 µL
- For 96-well Sample Plates: 10-50 µL

Plate seal
- Septa
- Polypropylene heat seal (maximum post-sealing film thickness of ≤ 1 mm, 1/1000 inch)

Laser
- Argon ion, multi-line, single-mode laser (primary excitation lines: 488 and 514.5 nm)

Operating Environment
- Temperature: Ambient temperature 15°C – 30°C
- Humidity: 20% – 80% (non-condensing)
- Altitude: Not to exceed 2,000 m (~6,500 ft)

Oven temperature
- Active temperature control from 18–70°C

Power Requirements
- Main power: 200–220V or 230–240V (±10%), 50–60 Hz (±10%)
- Current maximum: Maximum of 11.2A
- Maximum power dissipation: ~1,700W

Dimensions for CE Instrument
- Width: 100 cm
- Depth: 65 cm
- Height: 90 vm
- Weight: ~186 kg

Instrument bench
- Recommend using an appropriate bench to handle instrument weight. Visit **http://www.corneroffice.com** or **http://www.steelsentry.com** for further information on AB-suggested tables.

Service and warranty
- One-year limited warranty on parts and labor
- Service installation
- Application training

Support
Worldwide applications support is offered from expert technical specialists and scientists

Worldwide Sales Offices
The vast Applied Biosystems distribution and service network is composed of highly trained support and applications personnel, and reaches 150 countries on six continents. For international office locations, please call the division headquarters or refer to our Web site at **http://www.appliedbiosystems.com**

Applera Corporation is committed to providing the world's leading technology and information for life scientists. Applera Corporation consists of the Applied Biosystems and Celera Genomics businesses.

Printed in the USA. 06/2006 Publication 106SP08-01

Applied Biosystems

Headquarters
850 Lincoln Centre Drive | Foster City, CA 94404 USA
Phone 650.638.5800 | Toll Free 800.345.5224
www.appliedbiosystems.com

International Sales
For our office locations please call the division headquarters or refer to our Web site at
www.appliedbiosystems.com/about/offices.cfm