

Small Scale Oligonucleotide Synthesizer

Product Number: Oligo-12E

Application

1. DNA/RNA Synthesis
2. Primer Synthesis for Whole Genome
3. Synthesis of Modified Primers, including FAM, HEX, CY3, CY5, etc.

Hardware Configuration

1. Burkert liquid solenoid valves, with high accuracy up to 1 μ L.
2. Closed-loop stepper motors are used to drive the rotation with accuracy up to 0.01 degree.
3. ARM controlled electronic control unit. Fully isolated, stable and reliable.

Operating Conditions

1. Power supply: AC 220V
2. Power: 350W (including computer)
3. Operating temperature: 15~25 $^{\circ}$ C
4. Relative humidity: within 20%
5. Required gas: Nitrogen (N₂), Argon (Ar), Helium (He)

Technical Specifications

1. 12 columns can be synthesized at one time
2. Synthesis scale per column: 10nmol-3 μ mol
3. 4 common base types, 7 modified monomer positions, 6 reagent positions, expandable modification positions.
4. Single synthesis cycle time: 5-8 minutes
5. Dimensions: 533 \times 550 \times 560(mm)

Features

1. Automatical synthesis and merge of bases, without manual configuration.
2. Synthesis type: DNA and RNA
3. Software memory function to allow synthesis recovery in the event of power loss
4. Low air pressure warning
5. Lifetime free upgrade of software
6. Custom hardware and software acceptable



For Research Use Only



Main configuration and technical parameters

Throughput	12
Synthetic Product Type	DNA/RNA
Synthesis Mode	Single column synthesis method
Synthesis cycle	Synthesize 12 primers of 20 bp within 3 hours
Cycle Time	5-8 minutes per cycle
Daily maximum number of synthesized products	60 products
Synthesis Yield Range	10nmol -3umol
Coupling Efficiency	99.9%
Maximum product length	90bp
Product Support Method	Solid phase synthesis column
Base/Reagent Delivery	Rapid single-shot delivery
Base/Reagent Actuation	Pressurized inert gas drive
Reagent Drainage	Rapid pressurized inert gas purge; no external pump required
Base bottle position	11
Modify base bottle position	7
Reagent bottle position	≥7
Reagent Bottle Sizes	Compatible with 250mL/450mL/4L bottles
Degenerate Base Synthesis	Automated degenerate base synthesis; no manual reagent preparation required
Number of valves	18
System Requirements	Windows 7 or later
Data Import	Automated synthesis sequence import via Excel
Reagent Compatibility	Universal reagents
Required Gas	Nitrogen or argon
Power Failure Protection	Resume synthesis after power outage or abnormal shutdown
Software Functions	Add steps or modify synthesis protocols after multiple base additions
Instrument upgrade	Hardware and software upgradable