### Symphony X® Peptide Synthesizer

Ultra PurePep™ Pathway "inside": The proprietary ultra PurePep Pathway is enhanced with a dedicated microfluidic matrix valve block pathway for each reaction vessel resulting in pure peptides.

- **Maximum Throughput and Production**
- **Fast, Efficient Couplings**
- **High Quality Crude Peptides**
- **Extremely Flexible**
- **Automated Cleavage**

#### 8 Solvent Positions
- Maximize flexibility
- 20 L solvent container (other sizes available upon request)
- Automated cleaning routines
- No calibration needed for viscosity
- Sensor driven constant volume deliveries

#### 12 Independent Reaction Vessel Pairs
- Up to 24 RVs with in situ activation
- Optional IR heating and/or UV monitoring in RV position 1
- Up to 12 RVs with pre-activation
- Adjustable nitrogen mixing
- Independent operation
- Top-down washing

#### IR Heating
- Oscillation mixing ensures no hot spots
- Test the same protocol with and without heat
- Optimize process variables
- Precise temperature control

### 28 and 12 Additional Amino Acid Positions
- 10, 120 and 400 mL sizes available
- Pre-packed amino acid bottles available
- Single-Shot™ deliveries
- Precise optical sensor delivery measurements
- Automated cleaning routines

### Real Time UV Monitoring
- Monitors reaction in vessel and not the waste stream
- Extends deprotection time when needed
- Synthesize the right peptide the first time
- Increases yield and purity
- Reduces solvent consumption
**High Quality Performance**

**High Crude Purity Peptides**

Top row reaction vessels may be used as pre-activation chambers for bottom row reaction vessels.

**In Situ**

In situ activation can be accomplished by delivering amino acid to the reaction vessel first, followed by activator.

**Pre-Activation**

Twenty-four 42-mers in 14 hours:
- Deprotection Time: 2 min
- Coupling time: 5 min
- Total Synthesis Time, 24 Peptides: 14 hours

Twenty-four 68-mers in 25 hours:
- Deprotection Time: 4 min
- Coupling time: 5 min
- Total Synthesis Time, 24 Peptides: 25 hours
Innovative Features

**Ultra PurePep Pathway**

This proprietary matrix valve block system was specifically designed to minimize dead volumes, eliminating cross contamination and delivering peptides with high crude purity.

**Automated Cleavage**

- Customizable cleavage programs
- TFA resistant vessels
- Automated cleaning post cleavage
- 50 mL collection tube capacity
- Adjustable start times

**Software Features**

- Select sequence(s) and assign a program for each cycle
- Monitor progress of all reactions
- Customizable amino acid and solvent tables
- Good Laboratory Practice data recording, diagnostics and error reporting
- Flexible restart options for interrupted syntheses

**Single-Shot**

All positions can be used in Single-Shot mode. 12 positions may only be used as Single-Shots. Add expensive special reagents to any reactor without priming or wasting a drop. Save money with no manual interruption required.

**Safe-Response Feature**

Keep your reactions safe during unexpected interruptions:

- Drain active reaction vessels if needed
- Wash resin with solvent of your choice
- Prevent side reactions and undesired by products
High Quality Chemicals, Amino Acids & Accessories

Maximize Your Performance

Reliable Chemistries:
- Amino Acids, resins, activators, solvents and more:
  - Guaranteed weight, purity and quantity
  - All of our chemicals are 100% QC tested
  - 100% fully synthetic amino acids
  - Available in custom pack sizes

Total Solution Delivering Uncompromising Purity:
- Instrument Performance
  - Symphony X peptide synthesizers are optimized using our high quality chemistries
  - Minimize down time caused by clogging resulting from impure and unstable reagents
- Better Synthesis Results
  - Synthesize your peptide right the first time
  - Consistent quality reduces synthesis variability
  - Better yield and purity with high quality reagents
- Rapid and Reliable Setup
  - Start syntheses quickly with convenient, affordable, pre-weighed chemicals

Strengthen Your Symphony X

- Symphony X Start-Up Kits
  - Out-of-the-box peptide synthesis reagents
  - 24 Plastic reaction vessels for simultaneous use
  - Pre-packed amino acids for test peptides
- Symphony X Pre-Packed Bottles
  - Ready-to-use amino acid bottles measured and QC tested
  - Sizes available in 5 mmol, 10 mmol and 20 mmol quantities
- Bulk Packaging
  - 25 gram, 100 gram, kilogram and custom lots available
  - Pseudoproline dipeptides available in bulk quantities
  - Deprotect and base solutions, pre-mixed and ready to run
  - TFA for cleaving and premium wash solvents available in various quantities

Customize Your Symphony X

- We supply reaction vessels and amino acid bottles to provide added functionality and flexibility

Visit www.gyrosproteintechnologies.com and our webshop for all your peptide synthesis needs - amino acids, resins, coupling agents, solvents and more.
Symphony X Specifications

Number of reaction vessels 24 (12 with pre-activation)
Synthesis scale range 0.005* mmol - 24 mmol (up to ~2 g of resin per RV)
*minimum deliveries 1 mL or 0.5 mL with Single-Shot
Reaction vessel volume Plastic, disposable - 10 mL, 45 mL sizes
Borosilicate glass - 10 mL, 40 mL
Number of solvent positions/sizes 1 primary solvent, 20 L capacity. Other sizes available
7 user-defined solvent positions, 0.5 L - 4 L capacities. Other sizes available
Number of amino acid positions Up to 40 amino acid positions
10 mL, 120 mL and 400 mL bottles

Chemistries supported Fmoc, t-Boc, organic, peptoid, combinatorial, branched, PNA
Activation DIC/HOBt, DIC/OxymaPure, HBTU, HATU, HCTU, TBTU, PyBOP and others
Throughput User defined
Fluid measurement technique Fixed loop measurement with optical sensors
Fluid transfer method Positive pressure with nitrogen
Agitation method Nitrogen bubbling and/or oscillation mixing can be adjustable and programmable
Optional heating method Induction heating with IR pyrometer temperature sensing
Cleavage Automatic, programmable (for Fmoc chemistry only)
Waste container (2) 20 L D.O.T rated containers with over-flow sensor in cap
Control interface Proprietary Symphony X control software
Internal CPU and touchscreen monitor included
Reporting Real-time log file updated for every instrument function, print to external file, pull up on screen or printer
Power 115 V/60 Hz or 230 V/50 Hz
Dimensions 45”W, 29”D, 66”H (114 cm W, 74 cm D, 168 cm H)
Weight 550 lbs. (250 kg)
Warranty One year, parts and labor
Optional Infrared (IR) Heating
UV monitoring

Ordering Information

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Description</th>
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<tbody>
<tr>
<td>SYMX-110</td>
<td>Symphony X Peptide Synthesizer, 115 V</td>
</tr>
<tr>
<td>SYMX-230</td>
<td>Symphony X Peptide Synthesizer, 230 V</td>
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For more information: peptides@gyrosproteintech.com
www.gyrosproteintechologies.com

Office:
4675 South Coach Drive
Tucson, AZ 85714, U.S.A.
Phone: 520-629-9626
Toll Free: 800-477-6834

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