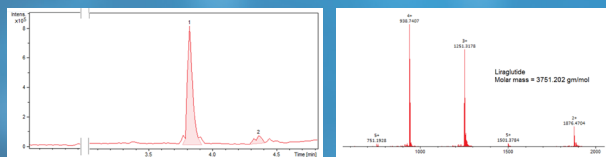
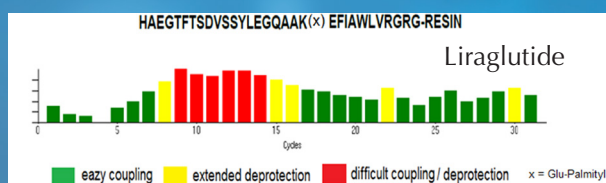


# FOCUS SERIES™

## Unsurpassed Quality for Peptide Synthesis



Focus XC™ 4RV



- SMART™ Software
- Highest Crude Purity
- Minimum Solvent Usage
- Fast Synthesis
- Parallel Synthesis of up to 6 Peptides or Other Targets
- Standard or Custom Designed Protocols
- Easy-To-Operate
- 0.01-5 mmol Scale per Reactor
- 5.0-50 mmol Production
- Optional Heating/Cooling Synthesis
- UV Monitoring



aapptec

Visit: [www.aapptec.com](http://www.aapptec.com)

Contact: [sales@aapptec.com](mailto:sales@aapptec.com)

AAPPTec is well known for its innovation and leadership in automated peptide synthesizers. Since 1983, AAPPTec technology has been an industry leader around the world with:

- Research peptide synthesizers
- The 1<sup>st</sup> mini-pilot scale synthesizer.
- The 1<sup>st</sup> parallel multiple peptide synthesizer.
- The 1<sup>st</sup> split-and-combine combinatorial library synthesizer.
- The 1<sup>st</sup> synthesizer with heating, cooling and sonication.
- The 1<sup>st</sup> Robotic Peptide Synthesizer.
- The 1<sup>st</sup> predictive software to automatically determine the best protocol for coupling and de-protection

The Focus XC™ is one of the newest additions to AAPPTec's line of synthesizers. The Focus XC™ was designed based on our Endeavor 90 Peptide Synthesizer: a synthesizer that has, since 1989, demonstrated proven quality, reliability, and flexibility in chemistry research and production worldwide. AAPPTec has taken suggestions and ideas from Endeavor 90 users and paired them with our own expertise to make major additions to the instrument – such additions have led to what we now market as the Focus XC™ with SMART™ Software. This system scientifically calculates and determines the lowest quantity of solvent(s) required to wash your peptide-resin properly and obtain the highest purity of your crude peptides. Whether a novice or expert chemist, the easy-to-use predictive software provides the best protocol automatically for peptide synthesis. The Focus XC™ has received astounding reviews since its introduction.



Focus XC™ 2RV

**EASY-TO-USE SMART™ SOFTWARE**

The Focus Series™ SMART™ software reduces research time and costs by eliminating the need for trial and error synthetic peptide experiments. AAPPTec’s software analyzes the sequence, and provides the prediction. Even if you have never synthesized peptides, the easy-to-use predictive software provides the best protocol automatically for peptide synthesis. It also gives the expert chemist flexibility to write any type of protocol for their peptide synthesis. On-screen instructions direct users through every step of the synthesis process with point-and-click commands making operation simple. The flexibility and versatility of the software makes the Focus Series the ultimate in peptide synthesizers.



Sequence as it appears in FOCUS SERIES™ SMART™ software

## **FOCUS XC™ (2, 4, 6)** **(RESEARCH INSTRUMENTS)**

The Focus XC™ is an easy to use, fully automated, solid phase peptide synthesizer. It is capable of simultaneous and parallel peptide synthesis. The powerful combination of utilizing 1–6 reactors (or optionally more lines), 24 amino acid vials, 6–7 solvent/reagent lines, a scale range of 0.01 to 5.00 mmol per reactor, and versatile user-friendly software give the Focus XC™ unique abilities and provide novice and expert chemists with virtually unlimited synthesis options. The Focus XC™ also comes with UV monitoring and heating options. An innovative design allows the Focus XC™ to be placed in small spaces and does not require a fume hood. The Focus XC™ is specially designed for Fmoc and t-Boc chemistries, but has the capability to be used the reactor and instrument configuration and resin substitution. The Focus XC™ instruments are ideal for any research laboratory where efficiency, reliability, and high quality peptide products are important. They are invaluable tools for discovery research, synthetic methods, process development and even production for phase 1 and phase 2 clinical trials.

## **FOCUS Xi™** **(PERSONAL SYNTHESIZER)**

The Focus Xi™ is perfect for teaching laboratories or research laboratories with modest peptide needs. It is an affordable, dependable, single-reactor peptide synthesizer that can prepare up to 300 peptides a year. It is very flexible, with options including additional reactors, solvent/reagent lines, amino acid containers, heating/sonication modules and UV detection.

## **FOCUS XCi™** **(PRODUCTION SYNTHESIZER)**

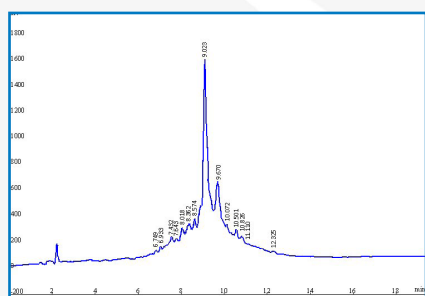
The Focus XCi™ is a fully-automated production scale synthesizer small enough to fit on a standard bench top. This instrument is capable of preparing hundreds of grams of peptide in a single synthesis. The Focus XCi™ is the perfect instrument for preparing peptides for cGMP and up to 100 grams of peptide production. The Focus XCi™ scale range is 5.0 to 50.00 mmol. Options include additional solvent/reagent lines, 8 additional amino acid containers, heating and cooling reactors, and UV detection.

## **FOCUS XC™** **(PNA/DNA)**

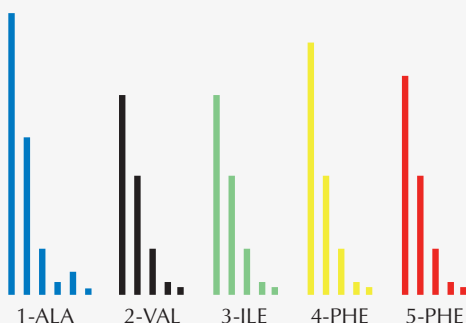
The Focus XC™ is designed to meet the demands of continued medical research advancements. The Focus XC™ can reliably deliver volumes as low as 200 µL to support pNA, DNA and RNA synthesis. It can also be used for traditional solid phase peptide chemistry to produce small numbers of high-quality peptides in small quantities.



**FOCUS Xi™**

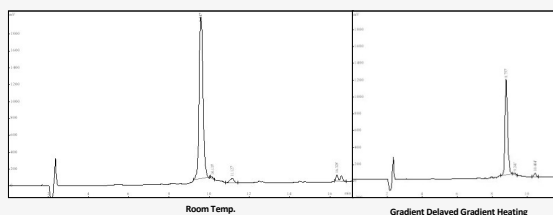


Crude Peptide



Real-Time Feedback of the UV Monitoring System

ABRF 1992 Test Peptide  
GVRGDKGNPGWPGAPY-NH2



### UV MONITORING OPTION

The UV monitoring option identifies difficult deprotection positions in real-time and makes predefined adjustments to the synthesis protocols to optimize deprotection efficiency. This process minimizes deletion peptides that form when deprotection reactions are slow and the intermediate peptide resin is not fully de-protected before couplings. No more failed syntheses due to unexpected slow deprotections.

### AMINO ACID/REAGENT CONTAINERS

The Focus Series™ are equipped with 16 or 24 amino acid/reagent containers in 20, 40, 90, or 250ml. Each amino acid container can be assigned to a single residue in the peptide sequence or used as stock amino acid reservoirs and accessed multiple times for multiple couplings for one or all peptides. The Focus Instrument has amino acid capacity to prepare six 80 amino acid peptides without interruption.

The Focus Series™ software allows the user to assign specific amino acids or reagents to each amino acid container as needed for the synthesis. The flexibility of the Focus Series allows for unattended completion of an entire synthesis, regardless of the scale or peptide length.

The Focus Series™ can utilize either powder or pre-dissolved amino acids. The amino acid solution can be preactivated within the amino acid vial or a portion of the stock solution can be transferred to the measuring vessel for preactivation. All liquids are transferred under positive nitrogen pressure from a solvent or reagent container maintaining a completely inert atmosphere maintained by nitrogen or argon.

The Focus Series™ use interchangeable reactors in sizes ranging from 5mL to 5L allowing for variable synthesis scales depending on the instrument's configuration. The reactors are made of glass for clear observation of the synthesis and easy access to the resin for manual additions or sampling. A durable glass frit ensures that the resin remains intact and in the reactor.

## MIXING

The Focus Series™ utilize variable speed wrist-action mixing, nitrogen bubbling, or a combination of both.

## EFFICIENT RESIN WASHING

The unique design of the reaction vessel allows the resin to be washed from the top of the reactor, through the resin, and then to the waste. The shower head spray feature efficiently and completely washes the sides of the reactors from the neck down, ensuring the resin remains in the bottom of the reactor so each bead makes uniform contact with the wash solvent. As an added feature, the user can also choose to wash the resin by delivering solvent to the bottom of the reactor.

## SOLVENT/REAGENT BOTTLES

Configurations of solvent, reagent and amino acids vary throughout the Focus Series models. The user has the option of customizing the configuration they desire.

## HEATING OPTION

The Focus Series™ has a heating option that allows the reaction vessel to be heated during reactions; the heating module applies heat only during the steps specified by the user, thus eliminating unnecessary heating that can damage heat sensitive sequences or sequence positions.

Moderate heating during coupling has proven to be very beneficial for the synthesis of some peptides. Recently, conventional heating was shown to be as effective as microwaves in peptide synthesis, if not much better.<sup>1</sup>

<sup>1</sup> Bacsa B, Horváti K, Bősze S, Andrae F, Kappe CO J. Org. Chem. 2008, 73, 1532-42

**SPECIFICATIONS****Focus XC™ (2,4,6)**

- 2, 4, or 6 Reactors
- Optional Reactor Sizes: 25, 50, 100, 200, 300 or 500mL
- 6 Solvent/Reagent Lines — Additional lines of solvents and reagents are available as options
- 24 Amino Acid (or other monomer) containers (optional volume - 10mL, 40mL, 90mL or 250mL)
- Measuring and Preactivation Vessel (optional volume - 15, 45, 90, or 250 mL)
- Mixing by Nitrogen bubbling, reactor shaking or both
- Optional UV Monitoring, Heating and Cooling Synthesis
- Additional lines of solvents and reagents are available as options

**Focus Xi™**

- 1 Reactor (Optional Sizes: 5, 10, 25, 50, 100, 200, 300 or 500mL)
- 5 Solvent/Reagent Lines (optional variable lines and bottle sizes)
- 16 Amino Acid (or other monomer) containers (optional volume - 10mL, 40mL, 90mL or 250mL)
- Optional: Up to 24 Amino Acid (or other monomer) containers
- Mixing by Nitrogen bubbling, mechanical mixing, or both (option)
- Optional UV Monitoring, Heating and Cooling.

**Focus XCi™**

- 1 Reactor
- Optional Reactor Sizes: 500mL, 1L, 2L, 3L, or 5L
- 6 Solvent/Reagent Lines
- 2 Amino Acid (or other monomer) containers (optional volume - 10mL, 40mL, 90mL or 250mL)
- Optional: Up to 20 Amino Acid (or other monomer) containers
- Two separated measuring vessels for deprotection and coupling steps
- Mixing by Nitrogen bubbling, reactor shaking or both
- Optional UV Monitoring, Heating and Cooling

**DIMENSIONS**

Width: 26.5"(67.3cm)

Depth: 23"(58.4cm)

Height: 25"(63.5cm)

**RELIABILITY**

The Focus Series™ is a highly reliable system since 1988 which utilizes proven technology. With simple preventive maintenance, your Focus Instrument will provide reliable and continuous service for many years.

**TECHNICAL SUPPORT**

All of AAPPTec's instruments are backed by our unparalleled expertise in peptide chemistry. An experienced and qualified team of technical support personnel, engineers, and application chemists is dedicated to answering all of your questions related to peptide chemistry, instrument operations, or instrument applications.

**For more information, contact AAPPTec today:**

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# FOCUS SERIES™ of INSTRUMENTS

Spirit of Innovation™

SMART™ Software  
Proven Quality

Flexible  
Reliable



Over 35 years experience in  
providing all of your peptide  
synthesis needs.



aappTEC

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Contact: [sales@aapptec.com](mailto:sales@aapptec.com)

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