



aapptec

advanced automated  
peptide protein technologies

Spirit of Innovation

# Velocity -16



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Fully Automated Rapid Peptide Synthesizer



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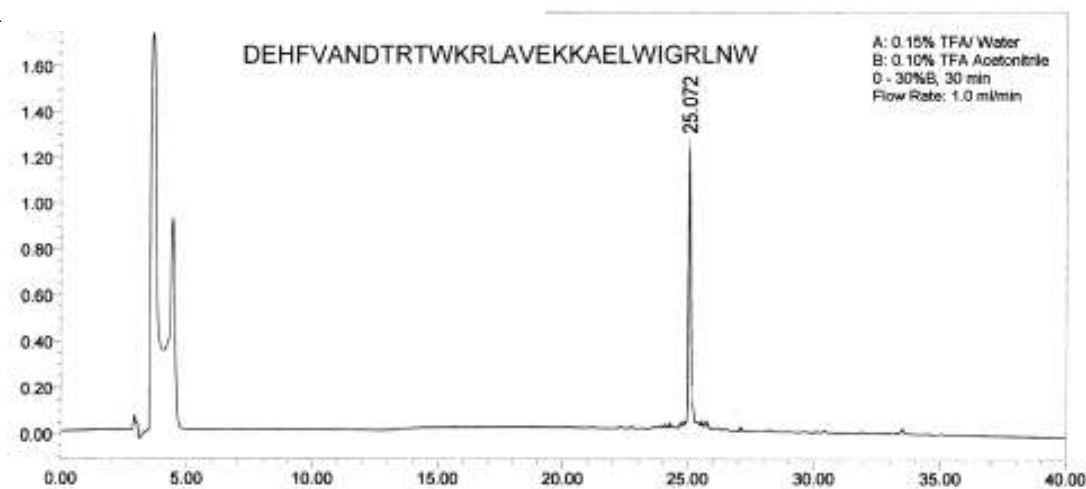
# Velocity-16

## Fully Automated Rapid Peptide Synthesizer

The Velocity-16 is the first fully automated parallel peptide synthesizer specially designed to utilize the accelerated Boc and Fmoc protocols developed by Kent and Alewood<sup>1</sup>. Peptides containing 50 amino acids can be synthesized in about a day, and up to 16 different high quality peptides can be prepared simultaneously. The unique reactor assembly features a separate, individual preactivation vessel for each reactor vessel so that amino acids can be preactivated before coupling while the N-terminal protecting group is removed from the peptide-resin. Two robotic arms quickly and precisely deliver reagents and amino acids to the reactor assembly. While one arm probe is washing, the other is dispensing reagents and amino acids.

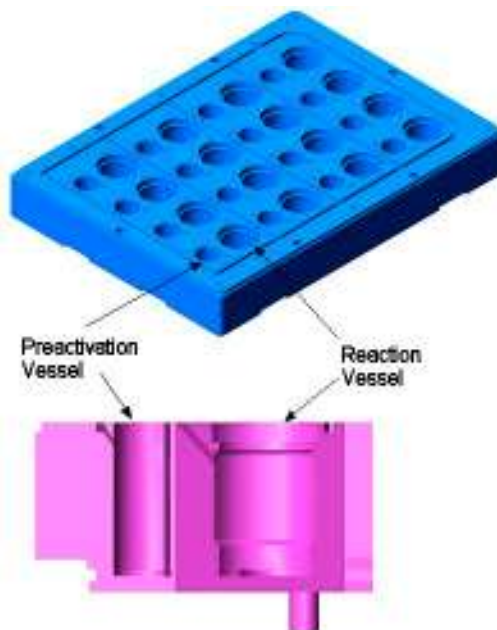


<sup>1</sup> Alewood, D.; Kent, S.B.H.; et al. *Int. J. Peptide Protein Res.*, **1992**, *40*, 180-193.



## UNIQUE REACTOR DESIGN

Each reaction vessel in the reactor assembly is coupled with a separate, dedicated vessel for pre-activating amino acids before addition to the deprotected resin in the reaction vessel. Pre-activating the amino acid allows the amino acid to be activated while the peptide-resin is being deprotected and washed, thus saving time during the coupling cycle. Pre-activation also avoids side reactions of the coupling reagents such as HATU and HBTU with the N-deprotected peptide-resin which can result in lower yields and purities due to chain terminated peptides.



## DUAL INDEPENDENT ROBOTIC ARMS

Two robotic arms work in coordination to rapidly and precisely deliver amino acids and reagents. While the probe of one arm is washing, the other arm is delivering amino acids and reagents to minimize cycle time and reduce the opportunity for undesired side reactions.

## FAST, EFFICIENT FLOW WASH

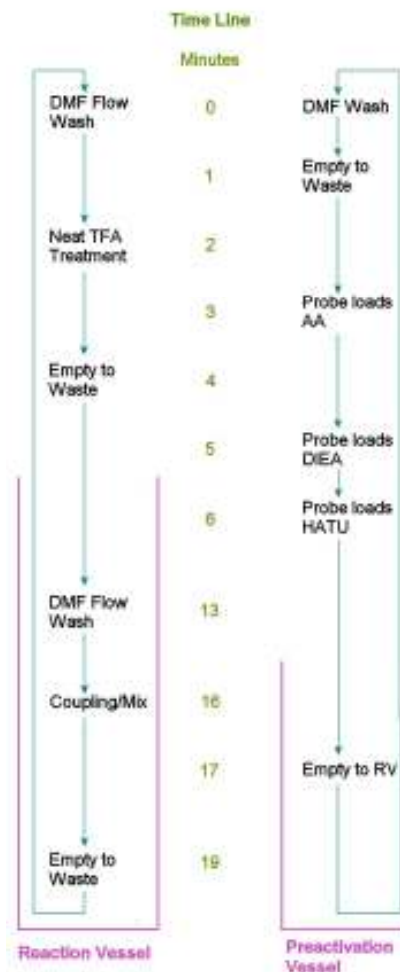
A “showerhead” unit in the top of each reaction vessel sprays solvent to wash the vessel walls and rinse the resin to the bottom of the vessel. Simultaneous bottom filtration quickly removes soluble by-products and impurities resulting in rapid, thorough washing of the resin.

## VORTEX MIXING

The mixing speed is optimized to provide efficient mixing in both the reaction vessels and the pre-activation vessels.

## SOPHISTICATED, EASY-TO-USE SOFTWARE

The Windows® based software is flexible and chemist friendly. Standard protocols such as Boc or Fmoc can be used, or custom protocols can be developed. Just click on the reactants, reagents, and cycles to be added to the synthesis matrix, and the software automatically makes all of the assignments.



## Features & Options

- 16 Independent pairs of Reaction and Preactivation Vessels
- Program-Controlled Variable Speed Vortex Mixer
- Inert Atmosphere System
- Dual Robotic Arms
- Diluter/Syringe Dispensing System with Microliter Accuracy
- Up to Twenty-four 125 mL Amino Acid Vessels
- Up to Four 800 mL Reagent Vessels
- Easy-to-Use Windows Software

## Specifications

Width	36 inches (91 cm) (without computer)
Depth	29 inches (74 cm)
Height	35 inches (89 cm)
Weight	275 pounds (125 kg) (without computer)
Computer	HP Pentium-4, Windows XP™ Professional
Monitor	HP 17" LCD Flat Screen
Printer	HP Inkjet
Warranty	On site warranty



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