Instrument Specifications

Overall Dimensions:	14.5"W x 17.2"D x 8.7"H (36.2 cm x 43.7 cm x 22.1 cm)
Weight:	30 lbs
Electrical Requirements:	90 - 264 VAC 50/60 Hz, 10 Amp @120 VAC, 5 Amps @ 220 VAC
Magnetron Frequency:	2450 MHz
Power Output:	300 Watts
Pressure:	Monitor 0 - 35 Bar, Control 0 - 20 Bar
Temperature:	-90° to 300° C control range
Stirring:	In-situ magnetic variable speed
Microwave applicator:	Circular, single-mode self-tuning
Ethernet Port:	10 based T, 10 MB/sec
Serial Port:	(2) RS-232, 9 pin IBM PC compatible
Patents:	US Patents 6648659, 6666223, 6744024, 5459302, 6607920 B2 with others pending

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Discover®

Focused™ Microwave Synthesis

Discover the complete solution to all of your synthesis needs!

CEM

Accelerating the Transformation of Concept to Cure

Discover®

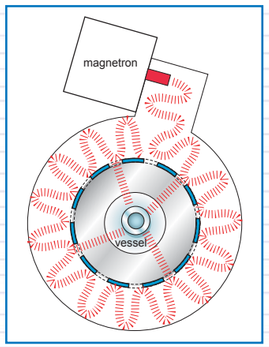
Focused™ Microwave Synthesis

Discover more than just microwave synthesis.

Discover what's new in microwave synthesis instrumentation. More importantly, Discover how this family of Focused™ Microwave instruments can improve your research!

CEM combined all of the flexibility of traditional synthesis methods with the speed of microwave-enhanced chemistry to give you the ultimate tool for creativity in the laboratory, the Discover® line of Focused Microwave Systems. These systems are compact and easy-to-use, yet powerful enough to drive the most difficult reactions to completion in minutes. At its heart, Discover is engineered for modularity, a design that CEM first innovated for microwave synthesis over three years ago that allows chemists infinitely more versatility from a single instrument than any other system available. If imitation is the sincerest form of flattery, Discover's design has garnered many admirers!

The Discover's Focused technology is the most effective design for applying microwave energy to a sample and the only single-mode design that features a "self-tuning" capability that never requires any tuning by the operator. It delivers true continuous power to the sample to ensure reproducible reaction conditions and results, regardless of volume, geometry, or changes in physical properties. The unique, circular, single-mode cavity "focuses" the microwaves onto the reactants, ensuring the sample is always in a homogenous, highly dense microwave field. The result: faster reactions with increased yields, improved selectivity, and superior reproducibility. Optimizing your reactions more quickly and in fewer steps gives you more time to use your creativity to explore the available chemical diversity.



Discover flexibility.

With the largest single-mode cavity available, Discover can process an array of reactions from drug discovery to laboratory scale-up. Discover is the **only** microwave synthesis system that gives you the choice of using pressurized vials or traditional open vessel glassware.

- **Perform atmospheric (up to 70-mL working volume) & pressurized (up to 50-mL working volume) reactions**
- **Use a wide range of vessels, as well as standard condensers, addition funnels, & stirring options**
- **Refluxing capability**
- **CEM reaction tubes are pressure-rated to 500 psi and use septa that tolerate multiple piercing for reagent addition or sample withdrawal, as well as a "snap-on" design that does not require any tools or adaptors to install of remove**

Discover greater control.

The Discover System utilizes a variety of onboard systems to provide optimum control over reaction conditions. Pressure and temperature feedback systems, simultaneous reaction quenching and stirring capabilities are available and enhance Discover's formidable array of built-in controls, providing configurable flexibility to fit any application need. Reproducing reaction conditions is now easier and quicker than ever before!

- **IntelliVent™ patent-pending pressure measurement system allows reactions up to 300 psi**
  IntelliVent is the only pressure system on the market that insures operator safety by offering an automated overpressure venting capability – Vials that exceed 300 psi (20 bar) are automatically and safely vented in a controlled manner before the operator can access the experiment.
- **Safety mechanisms and interlocks that exceed US and international certification requirements**
- **Patented IR temperature measurement system**
- **Optional fiber optic temperature measurement system**
- **PowerMAX™ patented simultaneous cooling technology for enhanced yields**
- **Reaction quenching**
- **Improved magnetic stirring capabilities!**

This extraordinary system is now available in two configurations: the Discover LabMate™ offers a complete microwave synthesis solution with most options as standard features; the Discover BenchMate™ is a robust system with all of the most popular features and is easily upgradeable as the needs of your laboratory change. Both systems contain CEM's patented Focused technology and give you the versatility to increase your laboratory's capabilities by adding any of our optional modules and accessories.

	Discover LabMate		Discover BenchMate	
	Standard	Optional	Standard	Optional
Temperature Feedback Control	X		X	
Atmospheric pressure applications	X			X
Elevated pressure applications	X		X	
Pressure management	X		X	
Pressure feedback control	X			X
Reaction stirring	X		X	
Reaction quenching	X		X	
PowerMAX™ enhanced microwave process	X			X
Keypad programming	X		X	
Windows™-based PC programming	X			X
Removable cavity liner for easy cleaning	X		X	
Removable microwave door for easy cavity access with no tools	X		X	
Designed for environment in hood	X		X	
Wireless Communication Compatible	X			X
Upgrade to automation		X		X
Upgrade to flow reactor for scale up		X		X
Upgrade to online analytics for reaction monitoring		X		X
Upgrade to sub-ambient temperature accessory		X		X
Upgrade to fluidics for peptide synthesis		X		X

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