



MARS 6™ Synthesis

Parallel & Scale-Up Microwave Synthesizer





Conventional Heating

18
hours

VS

Microwave Heating

1.75
hours

Parallel synthesis made easy.

The MARS™ 6 Synthesis is a multi-mode microwave system that provides parallel reaction processing, under uniform conditions. The ability to run multiple reaction vessels simultaneously is advantageous for large laboratories, as it only takes 30 minutes to complete a set of 36 vessels. With the ability to accommodate multiple pressurized vessels, or up to a 5 L open flask, the MARS 6 Synthesis offers both high throughput for larger labs and flexibility to run batch syntheses.



Construction

Steel Cavity

Solid steel cavity construction, using industry leading 316 stainless steel for durability.

Spring Mounted Door

A heavy-duty spring mounted door that will automatically relieve any pressure from a vessel event.

Software

Compliant Software

Software is 21 CFR Part 11 compliant for electronic records and signatures.

Data Storage

The 8 GB of storage provides more than enough data storage for the lifetime of the system.

Safety Protocols

Temperature Control

The MARS 6 Synthesis automatically limits the temperature to a safe range and adjusts as needed.

Reactiguard™

The Reactiguard cavity sensing device automatically turns off the system if a vessel event occurs.

Ease of Use

Touch Screen

7-inch glass capacitance, high definition display provides onboard control for method programming and on-demand training videos.

Flexible Vessel Configuration

Perform a variety of reactions at a wide range of scales using specialized vessel sets.



Intuitive Software Control

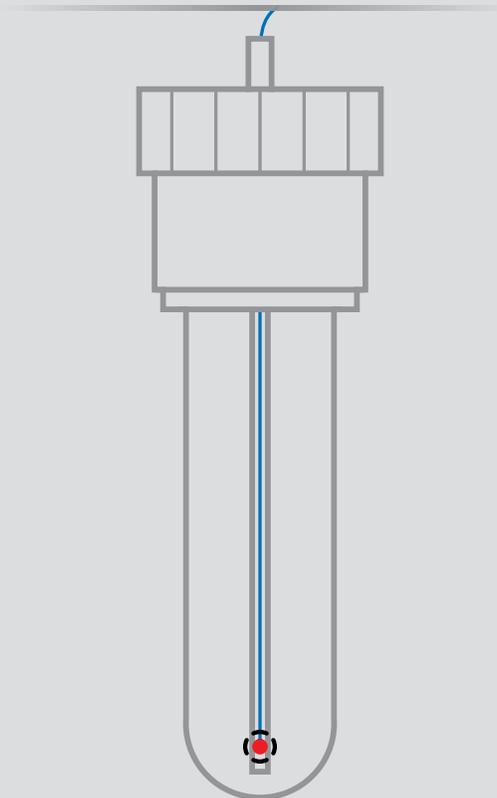
Simple, fast reaction programming.

Designed to make microwave synthesis virtually effortless, the intuitive MARS 6 Synthesis software features guided method programming for user-defined control. During the run, temperature, pressure, and power graphs are displayed in real-time on the built-in touchscreen. Training videos can be accessed directly from the touchscreen to educate new users on proper vessel assembly, system operation, and maintenance. Reactions, run data and methods can be recalled easily and exported onto a USB drive or printed from the built-in printer option.

Accuracy

The most accurate temperature control available.

Fiber-optic temperature control provides the most precise temperature measurement available, by directly measuring the temperature inside the reaction vessel. Electromagnetic stirring helps to ensure maximum agitation for your reaction mixture. Adjust the speed to guarantee your sample mixes each and every time no matter the reaction.





One instrument, many possibilities.

The MARS 6 Synthesis microwave provides educators and researchers with a safe and simple to use tool for parallel reaction processing under uniform, reproducible conditions. Perform reactions safely at higher temperatures with shorter reaction times, leaving more time for teaching and less time waiting in the lab! The flexible vessel sets can accommodate a wide range of academic class sizes and reaction scales for virtually any syntheses.

- Teaching Laboratories
- Organic Synthesis
- Inorganic Chemistry
- Nanomaterial Production
- Polymer Synthesis
- Scale-Up Production
- Acid Digestion for Metals Analysis
- Solvent Extraction



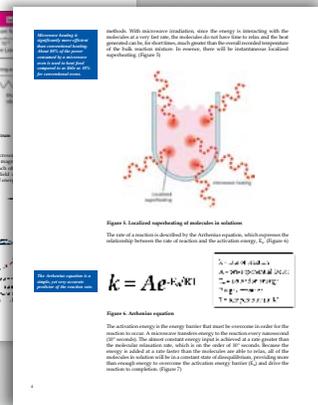
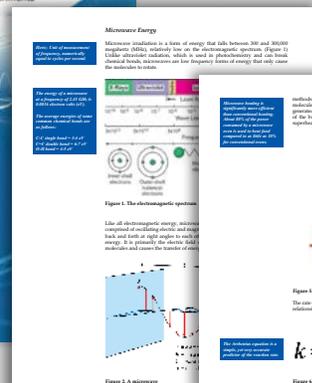
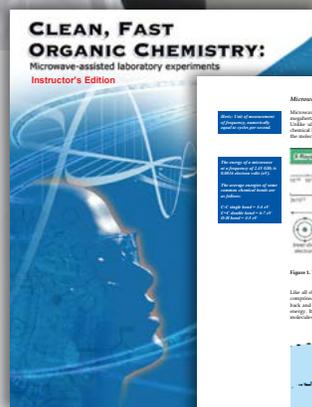
	GlassChem	EasyPrep™ Plus & EasyPrep™	Open Vessel
Minimum Ramp Time	5 minute	• 5 minute (EasyPrep™ Plus) • 20 minute (EasyPrep™)	5 minute
Maximum Number of Vessels	24 or 36	12	1
Maximum Working Volume (per vessel)	14 mL	75 mL	70% of Flask Volume
Minimum Working Volume (per vessel)	3 mL	20 mL	100 mL
Maximum Control Temperature	180° C	300° C	Reflux
Maximum Operating Pressure	200 psi	800 psi	N/A
Temperature Control Type	Fiber Optic Probe	Fiber Optic Probe or Fiber Optic Probe and IR (DuoTemp™)	Fiber Optic Probe
Vessel	Pyrex	Teflon® TFM 1700	Standard Round Bottom
Thermowell	Sapphire	• Sapphire (EasyPrep Plus) • Teflon® TFM (EasyPrep)	Glass or PFA
Ideal Chemistry	Organic and inorganic teaching laboratories	• Inorganic and material research (EasyPrep Plus) • Zeolite synthesis, other alkaline chemistry (EasyPrep)	Organic and inorganic teaching laboratories, and large scale chemistry



Clean, Fast Organic Chemistry: Microwave-Assisted Laboratory Experiment

The first undergraduate laboratory manual for teaching microwave-assisted organic synthesis. Co-authors Nicholas E. Leadbeater, of the University of Connecticut, and Cynthia B. McGowan, of Merrimack College, have incorporated microwave synthesis techniques into their own teaching curriculum and developed a series of experiments specifically for college classes. All experiments are designed for use with CEM instruments.

Download for free at cem.com/academics





We Simplify Science

cem.com



Over 50,000 systems sold worldwide



CEM has been an ISO-certified facility since 1994



All systems serviced & supported by experts with an average of 15 years of experience



CEM invests 11% of annual revenue into R&D, the result... 11 R&D 100 awards



IQ/OQ/PQ Validation by certified CEM Technicians

**United States
(Headquarters)**

800-726-3331
704-821-7015
Fax: 704-821-7894
info@cem.com

France

33 (01) 69 35 57 80
Fax: 33 (01) 60 19 64 91
info.fr@cem.com

**Germany, Austria,
Switzerland**

(49) 2842-9644-0
Fax: (49) 2842-9644-11
info@cem.de

Ireland

+353 (0) 1 885 1752
Fax: +353 (0) 1 885 1601
info.ireland@cem.com

Italy

(39) 35-896224
Fax: (39) 35-891661
info.srl@cem.com

Japan

+81-3-5793-8542
Fax: +81-3-5793-8543
info@cemjapan.co.jp

United Kingdom

(44) 1280-822873
Fax: (44) 1280-822873
info.uk@cem.com