CEM

MARS 6™ Synthesis

Parallel & Scale-Up Microwave Synthesizer


Home
ONE TOUCH METHODS
CLASSIC METHODS
4:26 PM
ONE TOUCH TECHNOLOGY
MARS6 Synthesis
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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.

Conventional Heating

18

hours

VS

Microwave Heating

1.75

hours

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

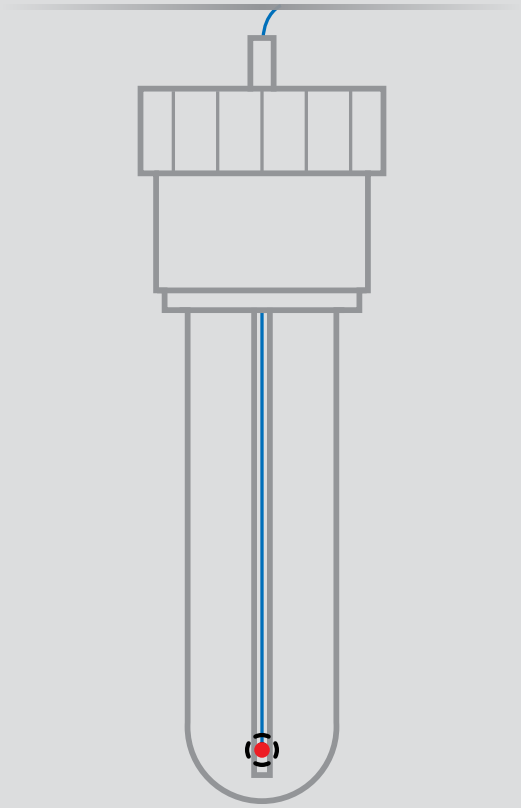
Touch Screen
7-inch glass capacitance, high definition display provides onboard control for method programming and on-demand training videos.

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

Intuitive Software

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.



Precision

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.

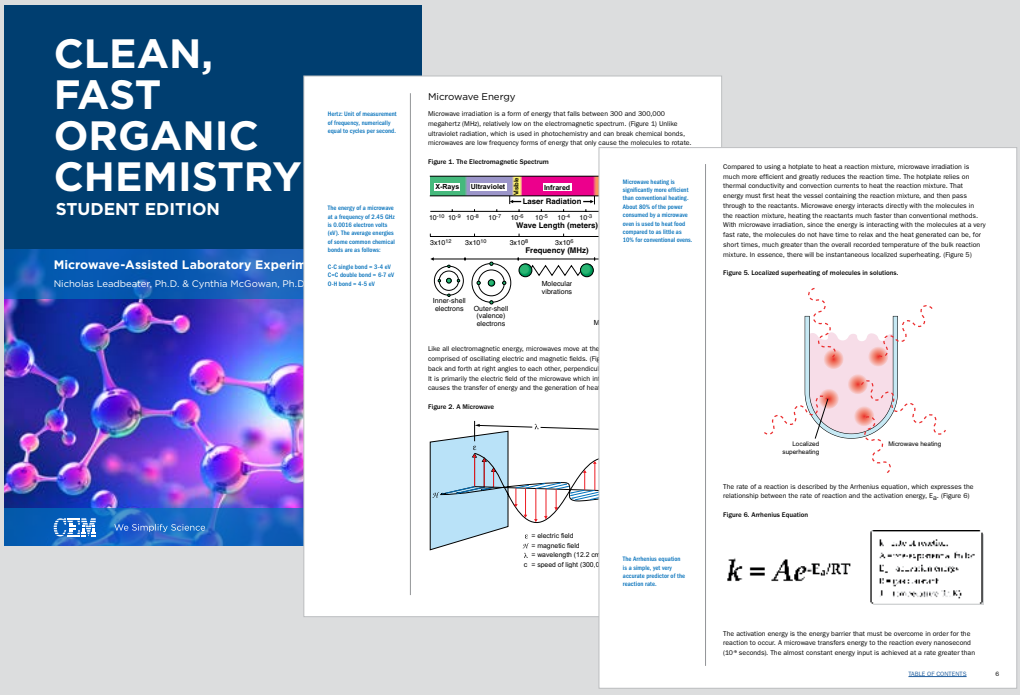

Create Method
Stage
Ramp
Hold
Temp
Power
15:00
10:00
180
600
2
15:00
10:00
180
600
3
10:00
190
580
Edit Stage Parameters
2:08 PM

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

	EasyPrep™ Plus & EasyPrep™	Open Vessel	MARS XPress Plus
Minimum Ramp Time	• 5 minute (EasyPrep™ Plus) • 20 minute (EasyPrep™)	5 minute	5 minute
Maximum Number of Vessels	12	1	16
Maximum Working Volume (per vessel)	75 mL	70% of Flask Volume	75 mL
Minimum Working Volume (per vessel)	20 mL	100 mL	20 mL
Maximum Control Temperature	300 °C	Reflux	210 °C
Temperature Control Type	Fiber Optic Probe or Fiber Optic Probe and IR (DuoTemp™)	Fiber Optic Probe	Fiber Optic Probe
Vessel	Teflon® TFM 1700	Standard Round Bottom	Teflon®
Thermowell	• Sapphire (EasyPrep Plus) • Teflon® TFM (EasyPrep)	Glass or PFA	Sapphire
Ideal Chemistry	**• Inorganic and material research (EasyPrep Plus)** **• Zeolite synthesis, other alkaline chemistry (EasyPrep)**	**Organic and inorganic teaching laboratories, and large scale chemistry**	**Organic and inorganic teaching laboratories**



Student Lab Manual
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2/24