

Instrument Specifications

Discover

the Keys to Synthetic Chemistry Success

	<u>Overall Dimensions</u>	<u>Weight</u>
Discover System w/ S-Class Technology	14.2"W x 16.9"D x 11.2"H (36.1 cm x 42.9 cm x 28.4 cm)	38 lbs (17.3 kg)
Explorer₄₈ System	16.3" W x 19.7"D x 28.6"H (41.4cm x 50 cm x 72.6 cm)	64 lbs (29.1 kg)
Explorer₇₂ System	16.3" W x 19.7"D x 28.6"H (41.4cm x 50 cm x 72.6 cm)	66 lbs (30 kg)
Explorer₉₆ System	16.3" W x 19.7"D x 28.6"H (41.4cm x 50 cm x 72.6 cm)	68.5 lbs (31.1 kg)
Power Output	0 - 300 Watts	
Pressure	Monitor 0 -35 Bar, Control 0 - 20 Bar	
Temperature	-80 to 300 °C control range	
Stirring	In situ electromagnetic variable speed	

Drug Discovery

Medicinal Chemistry

Traditional Organic Chemistry

Polymer Chemistry

Materials Development

Nanotechnology

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Creativity knows no bounds

Introducing the next generation of Discover®...

For 3 out of the last 4 years, Discover has been the best-selling microwave reactor worldwide, but like you, we never stop the creative process. The completely restyled and re-engineered Discover features significantly improved performance along with new capabilities.

Singular Versatility & Value

With its introduction, Discover redefined versatility for the laboratory. The re-engineered Discover once again resets the benchmark in this area and makes everything else seem so limited.

Only Discover...

- supports atmospheric *and* elevated pressure reaction conditions
- accommodates reaction scales from 0.1 to 125 mL with the industry's largest single mode cavity
- features a complete line of modular accessories that allow the reactor to easily adapt to your needs. Do your chemistry your way – from analytics, to optics, to scale-up!
- offers multiple options for reaction control including infrared and fiber-optic temperature sensors
- conserves your budget with the lowest total cost of ownership of any microwave synthesis system on the market.

Unique New Features

Integrated Camera – See the changes occurring in your reaction in situ! Discover is the first system to offer the ability to monitor your chemistry with a digital camera during the irradiation cycle. A perfect tool for documentation and publication support!

Intelligent Pressure Management – Discover is the first and only system to offer fully automated pressure management for elevated reaction conditions with the patent-pending IntelliVent™ technology. Nothing could be simpler or safer!

- Seamlessly switch between 10- and 35-mL vials without any vial adapters or system changes
- “Snap & Go” IntelliVent vial caps

Variable Speed Stirring – Discover is the only system on the market that allows you to choose the speed of agitation and to change it during the method.

More Connectivity – Discover enables you to easily monitor your reactions while freeing your time for other projects! Wireless options allow you to observe your reactions from another PC with your web browser. **Ethernet, USB & Wireless!**



Fully Automated Options

Always the leader in modularity and value-added accessories, CEM has widened the gap by introducing a family of automated systems to fit any need and any budget.

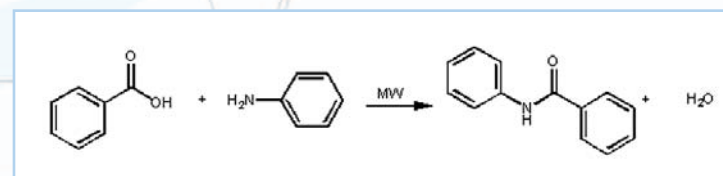
- 48-, 72-, or 96-position systems
- The industry's smallest footprint – the 96-position system has a smaller footprint than common systems with only 60-position capacity
- The entire line of automated systems seamlessly interchangeable between 10- and 35-mL vials without any vial adapters or system changes



Intelligent Vial Racks
Another industry first from CEM!
Synergy™ software recognizes vial size & location.

Unrivaled Performance

Unrivaled performance has made Discover the industry standard. Find out how far your imagination can take you with Discover's innovative technology.



R ²	Reaction Temp (°C)	Reaction Time (min)	Relative amount (acid / amine)	Yield ^a (%)
Ph	150	120	1 / 1.5	12
Ph	250	10	1 / 1	44
Ph	300	10	1 / 1	51

^a Determined by ¹H NMR
E. Gelens et al. / Tetrahedron Letters 46 (2005) 3751-3754

- Temperature conditions up to a full 300 °C for the most difficult reactions. *A full 50 °C higher than other systems!*
- Fastest heating capability on the market
- Accelerated quenching



Fully Automated Pressure Management

