

# Synthesis Workstations



**OptiMax™**

Productivity

Quality

Safety



**Synthesize, Optimize, Characterize**  
Products and Processes – Right on Time

**METTLER TOLEDO**

# Synthesize, Optimize, Characterize

## Products and Processes – Right on Time

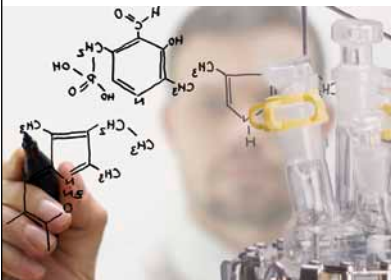
Delivering products for early application testing in the fine, specialty and bio-pharmaceutical industries can be challenging. Chemists are under time pressure to deliver products using synthetic routes that have not yet been optimized.

Scientists and engineers are required to make the right decisions faster and to increase their personal productivity. Characterizing the process while optimizing the chemistry leads to shorter development times and lower costs.

The synthesis workstations EasyMax™ and OptiMax™ provide a simple platform for product and process development, enabling scientists to meet the challenges of today's competitive global market.

### Deliver Products Quickly and Safely

#### Fast



The continuously growing time-to-market pressure in the chemical and pharmaceutical industry requires chemists to deliver products in less time than previously available.

METTLER TOLEDO's synthesis workstations are set up in minutes, operate accurately and reproducibly, and can be run unattended, safely providing better quality products faster.

#### Easy



METTLER TOLEDO's synthesis workstations EasyMax™ and OptiMax™ can easily be operated from –40 to 180 °C without the need for a cumbersome oil or ice bath or a bulky cryostat.

The workstations are small and mobile. The complete functionality is integrated in one system. The intuitive touchscreen enables changing reaction parameters at the touch of a button and eliminates the need for training.

#### Safe



Running reactions without a complete understanding of the chemistry may be risky. The workstations EasyMax™ and OptiMax™ are equipped with a safety monitoring system. It monitors the correct execution of tasks and ensures safe operation in case of an unexpected event, thus improving personal and workplace safety significantly. Unattended operation is no longer a safety concern.



The OptiMax™ synthesis workstation is a walk-up system that was developed by organic chemists to design safe, robust and profitable processes.

It is simple to use and eliminates the need for round bottom flasks, jacketed vessels and cumbersome ice baths and bulky cryostats.

## Characterize the Process while Optimizing the Chemistry

### Productivity



METTLER TOLEDO's synthesis workstations are designed to help you make better decisions faster. Experiments are set up quickly and the relevant process parameters screened reliably and swiftly. Process data and information are captured for every step of the experiment, leading to comprehensive knowledge management that supports increased productivity in chemical and process development.

### Quality



Experiment quality is key to reducing the overall efforts in chemical and process development. OptiMax™ ensures accurate, traceable and reproducible experiment execution, eliminates error-prone steps and provides critical and information-rich data. The data obtained helps to support the characterization of the process and will result in a significant reduction of the process variability.

### Scalability



Process scalability requires a comprehensive understanding of all critical process parameters to avoid failures at scale. Temperature, addition rate, retention time and kinetics are all essential factors for scale-up and must be fully investigated. An experimental configuration can be chosen from a wide range of different reactors and stirrers. Changing the configuration from one to another is fast and completely effortless.

# Synthesize, Optimize, Characterize

## Products and Processes – Right on Time

### Heating and Cooling

- Peltier technology
- No cryostat required
- Precise temperature control from –40 to 180 °C

### Ease-of-use

- Small
- Mobile
- Quick setup and exchange of reactors
- No training required

### Operation

- Touchscreen with one-click operation
- Local control
- Programmable
- Unattended 24/7 operation

### Scalability

- Single-piece glass vessels from 1 mL to 1000 mL
- Two-piece glass vessels from 50 mL to 1000 mL

### Mixing

- Powerful overhead stirrer for viscous mixtures
- Various types of stirrers

### Information

- Display of trends, data and reaction progress
- Storage of data and events, making experiment traceable
- Data export into iControl™ or MS-Excel®

### Safety

- Permanent safety monitoring
- Increased personal safety

Mixing

Scalability

Operation  
Information



Mixing

Scalability

Operation  
Information



[www.mt.com/OptiMax](http://www.mt.com/OptiMax)

For more information

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