

# Synthetic Chemistry



**EasyMax™**

The Path to Higher Productivity

**METTLER TOLEDO**

# Are You Ready for New Ideas and Concepts?

## To Meet the Challenges for the Lab of the Future

### **Productivity**

Getting new products to the market first is increasingly challenging and, consequently, decisions during chemical development have to be taken swiftly. This can only be accomplished when reliable experimental information is readily available. The use of personal synthesis workstations, like EasyMax™, has been proven to increase productivity in chemical development due to more and better information with fewer experiments.

### **Acceptance**

Implementing new concepts and technologies is one of the key drivers for success in the lab of the future. Full acceptance of these new technologies by scientists is one of the most critical factors to achieve a measurable and sustainable productivity gain. It can only be accomplished if the new technology is easy-to-use, flexible, and robust, ensuring that the chemist can focus on the chemistry rather than the equipment.

### **Sustainability**

Our commitment to high value service and applications support, and our offerings for preventive maintenance, protect your investments in our synthesis tools. Our continuous efforts in R&D will ensure that your equipment will grow with your needs for continuing gains in productivity.



## Confidence and Creativity Drives Adoption by Chemists

Dr. Marty Guinn, Chemical Development, Pfizer PharmaTherapeutics, USA

“The EasyMax™ has quickly been adopted by our scientists as the bench-scale reactor platform technology of choice, permitting them to ‘cross the chasm’.

In our experience the EasyMax™ meets all the requirements and has opened the door to the potential of automation to improve the efficiency of process development for our bench scientists. Currently, our chemists and engineers are utilizing the EasyMax™ on a daily basis for both early and late-stage process development in a variety of applications and venues.

We are actively distributing basic EasyMax™ units to individual users. We encourage them to individually upgrade the units to more advanced systems, whereby also their confidence and creativity develops. We have established walk-up EasyMax™ workstations consisting of several units linked together through iControl for ‘DoE experimentation’ for process chemists.”

# Beyond Traditional Synthesis Tools

## Set Up – Connect – Get Started

- User-friendliness** Equipment for chemical synthesis and development must be deployable to chemists without any significant training. Running an EasyMax™ is as easy as using round bottom flasks, does not stifle your creativity, and provides you with better insights into your chemistry.
- Versatility** The EasyMax™ offers the chemist a platform for reaction screening, optimization and characterization experiments. Depending on the nature of the study, the right configuration can be chosen from a wide range of accessories including dosing units, different types and sizes of reactors, stirrers, and probes.
- Reliability** With the EasyMax™ we have taken utmost care to meet the tough requirements of chemists and the harsh lab environment. The chemist needs to be able to rely on the synthesis equipment used and none of the experiments may fail or deliver false information due to equipment failure, since the time spent and the chemicals used are expensive.



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## User-Friendliness, Increased Productivity and Cost Reduction Stimulate Usage

Luc Moens, Research Fellow, Chemical Research & Process Development, Johnson & Johnson, Belgium

“METTLER TOLEDO EasyMax™ is the first controlled reactor system in an organic chemistry lab that is completely accepted by chemists and already supersedes the round bottom flasks.

The main reasons for its acceptance are:

- Very friendly user interface
- No learning curve
- Wide operational range
- Fast reactor set up
- Quality of experiments and data.

The huge values of EasyMax™ for our organization are:

- Increased productivity because we can run more experiments in a shorter time frame

- Increased productivity due to higher quality information of each single experiment
- Cost reduction because we use less reagents and solvents
- Cost reduction because the processes developed are more robust causing fewer failures later in the process chain.”

# Can You Hit the Target Again and Again?

## High Quality Data Reduce R&D Spending

### **Experiment Quality**

Experiment quality is key to reducing the overall efforts in chemical development. A large number of experiments are run frequently to identify the most comprehensive set of reaction parameters. The highly precise, semi-automated reactor system EasyMax™ can improve the performance and quality of the screening and optimization process considerably.

### **Reproducibility**

Hitting the target again and again is a matter of performance, accuracy and reproducibility. Manual operations are prone to errors and may require frequent repetition of the same experiment. EasyMax™ allows the user to drastically reduce the variation between experiments due to human intervention.

### **Future**

The personal synthesis workstation grows with the chemist's increasing experience. A range of components and peripherals, intelligent software with a common user interface and seamless integration with online analytical techniques ensure a sustainable investment into the future and the needs of the chemical development laboratory.



## Save Time and Money with State-of-the-Art Synthesis Equipment

Dr. Jerzy Budz, Novartis Pharmaceuticals, NJ

“METTLER TOLEDO EasyMax™ is a state-of-the-art synthesis tool. The ease-of-use and the friendly software interface are of great importance to me. Replacing the vessels in EasyMax™ can be done very

quickly and all parts are well designed.

Reactions can be planned ahead, formulas loaded to the software. More than 50% of effective time savings is possible this way.”

# Another Successful Year

## An ROI Summary from Janssen Pharmaceutica

### **Company**

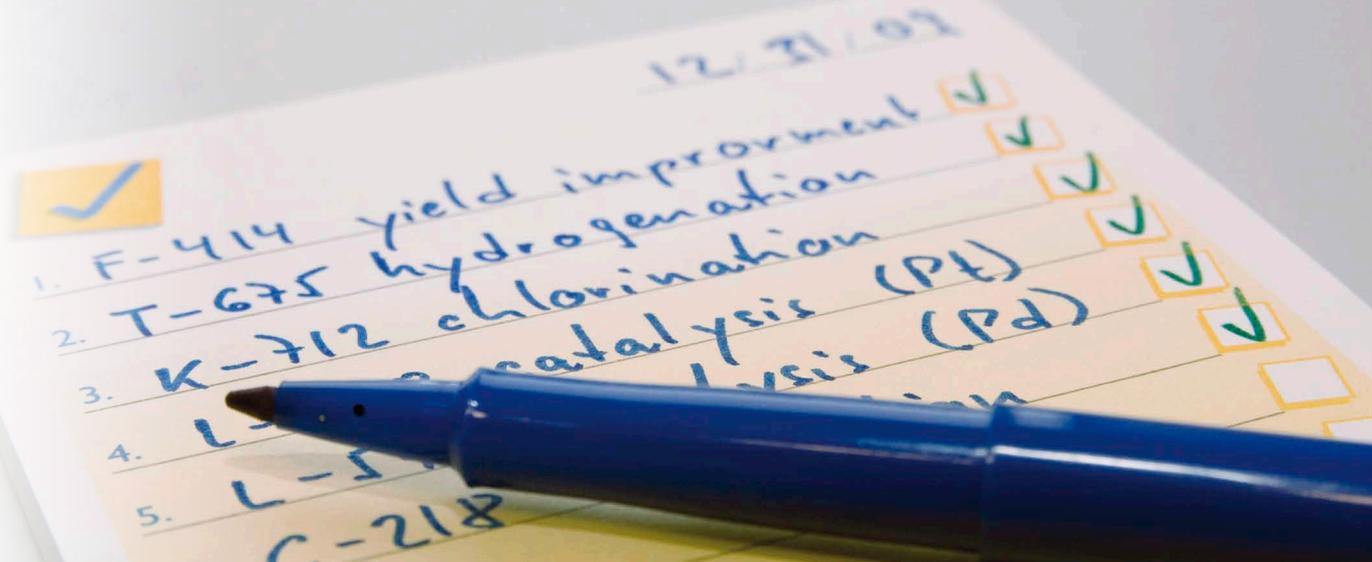
Janssen Pharmaceutica Belgium is part of Johnson & Johnson, the world's largest healthcare company. Thanks to its extensive engagement in innovative science, and investment in highly educated people and advanced research equipment, Janssen Pharmaceutica enjoys an international reputation for pharmaceutical innovation and quality.

### **Facts**

Janssen started to invest in the EasyMax™ synthesis workstation as early as 2008. Since then, the EasyMax™ has been successfully used in their laboratories, and has largely replaced the traditional round bottom flask. It has now become one of their standard synthesis tools and can barely be excluded anymore from the chemical development labs.

### **Arguments**

Over a period of more than one year several EasyMax™ units were thoroughly evaluated by a group of chemists in chemical development. The extensive evaluation has proven to substantially increase productivity in chemical synthesis. The experiments performed in the EasyMax™ provided accurate, reproducible and high quality information that allowed scientists to develop more robust processes while reducing the reagent and solvent consumption considerably.



## Janssen Pharmaceutica's Return-On-Investment Using the EasyMax™

Luc Moens, Research Fellow, Chemical Research & Process Development, Johnson & Johnson, Belgium

"Using the EasyMax™:

- We reduced the number of the experiments.
- We saved time that could be spent for other work.
- We increased the productivity in chemical development.
- We increased the quality of the experiments and the resulting information.
- We reduced the consumption of reagents and solvents."

For more details and to learn what the value and the ROI of EasyMax™ is for your lab, visit

► [www.mt.com/ROIforEasyMax](http://www.mt.com/ROIforEasyMax)

# Fast, Reliable, and State-of-the-Art EasyMax™ – The Chemists Love It



**The Right Size for the Job**  
Working volumes from  
1 mL to 150 mL with mag-  
netic stirring or dedicated  
half-moon impellers.

**EasyMax™ is the only  
lab reactor**

- Without a cryostat
- Small footprint
- Mobile
- User-friendly



Contact your local METTLER TOLEDO EasyMax™ specialist to request a **FREE TRIAL** of EasyMax™ in your lab.

# EasyMax™ – The New Generation of Reactor System for the Synthesis Lab Developed by Organic Chemists for Organic Chemists

Simple operation and control at all times thanks to:

- Simple touchpad for local control and data display
- A new and powerful thermostat principle that requires no cryostat
- A wide temperature range covered by the integrated and heating/cooling system
- A wide range of accessories that are specifically designed to suit the needs of the organic chemist
- Excellent data logging capabilities that make experiments traceable and reproducible.

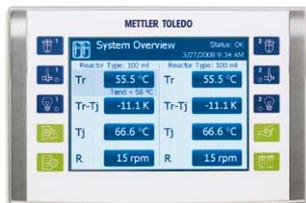


## Precise Additions

Automatic additions of precious reagents with the SP-50 dosing unit.

## Window to Your Chemistry

Observe the changes of your reaction mixture.



## Everything Under Control

Easy operation and clear display of measured data.

## Specifications

Heating/cooling	Solid state thermostat, -40 °C to 180 °C
Temperature mode	Jacket control, reaction mixture control, distillation (constant or ramp)
Reactors	One-piece or two-piece reactors 10, 25, 50 and 100 mL
Stirring type	Magnetic or overhead – half-moon, anchor or pitch-blade turbine of HC-22
Dosing	Dosing Unit SP-50 Syringes – 1, 10, 25, and 50 mL
Touchpad	Experiment control Display of trends and data Supported languages – English, German, French, Spanish, simplified Chinese, Japanese
Data handling	Logging of all measured data Transfer to PC with USB 2.0 memory stick
Housing	33.6 x 35.4 x 25 cm (13.2" x 13.9" x 10.0") Metal painted with PTFE-coated cover plate

# EasyMax™

## The Path to Higher Productivity

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For more information