



Anton Paar

Highly Sophisticated Microwave-assisted Parallel Synthesis

::: Big Deal in Organic Synthesis



Combinatorial Chemistry Beyond Belief

Method development and optimization by combinatorial matters employing smallest sample quantities have proven critical for multimode microwave instrumentation.

Special rotor types for the Anton Paar microwave synthesis platform Synthos 3000 allow sophisticated reaction screening and effective parallel optimization featuring common microwave-mediated conditions.



The perfect match

Up to now, combinatorial chemistry and microwave-assisted parallel synthesis did not fit together. Homogeneity problems and applicative restrictions limit the use of common well plate systems in a microwave environment.

Thorough investigations and exceptional design have led to a family of rotors for use with Synthos 3000 which perfectly match the requirements for microwave-assisted parallel synthesis in combinatorial manner.

This equipment is especially relevant for all fields of applications related to the drug development process and all other industrial and academic research areas dealing predominantly with small sample quantities.

One for all

The philosophical question whether going for a small instrument for method development or a large one for preparative scale no longer needs to be discussed. Synthos 3000 serves it all – it's only switching rotors, not switching instruments.

Guess what!

Silicon carbide, employed in Rotor 4x48MC Well Plate and Rotor 4x24MG5, opens extraordinary avenues for method development. Being an excellent microwave absorber, SiC allows the use of any kind of solvent for microwave synthesis. In fact, virtually microwave transparent compounds such as toluene or dioxane can be heated rapidly.

Even rather difficult solvents can be applied in a single run. The SiC takes care of uniform heating at any position within the corresponding well plate. Regardless of the physical properties, all mixtures are processed at the same temperature.

Take home your advantage

- ▶ Rapid and uniform heating
- ▶ Utmost temperature homogeneity
- ▶ New dimensions in method optimization
- ▶ Significant time reduction of the entire drug development process
- ▶ Extending the scope of microwave synthesis

What a Family!

Serving your needs in drug discovery

From smallest quantities in Rotor 4x48MC Well Plate to gram amounts of valuable compounds in Rotor 4x24MG5 or Rotor 64MG5 – the initial steps of the drug development process are served convincingly with this recent offspring of the Synthos 3000 rotor family, dedicated to small-scale parallel synthesis.

Find the best-suited member according to your individual requirements.

Want more?

Heading for the next stage? Ask for the family's big brother – Rotor 48MF50 for multigram parallel library generation or batch-wise product synthesis with ease.

Get the big one!

Parallel scale-up to the molar range – go for Rotor 16MF100! Direct scalability of your optimized methods leads to as much as 250 g product in a single run. Plenty stuff for comprehensive analysis and testings.

At eye level

Identical operation limits for all rotors simplify the scale-up workflow. Procedures developed in the combinatorial stage work just as effectively in the higher levels.

What you get is what you want

- ▶ Reaction screening
- ▶ Parallel method optimization
- ▶ Hit-to-lead generation
- ▶ Derivatizations
- ▶ Building block synthesis
- ▶ Scaffold decoration
- ▶ Parallel library generation
- ▶ Preparation of nanoparticles
- ▶ Protein hydrolysis

Synthos 3000 Parallel Synthesis Rotors ...

... your valued partners in student education, drug discovery, nanotechnology, biomedical science and many many more.

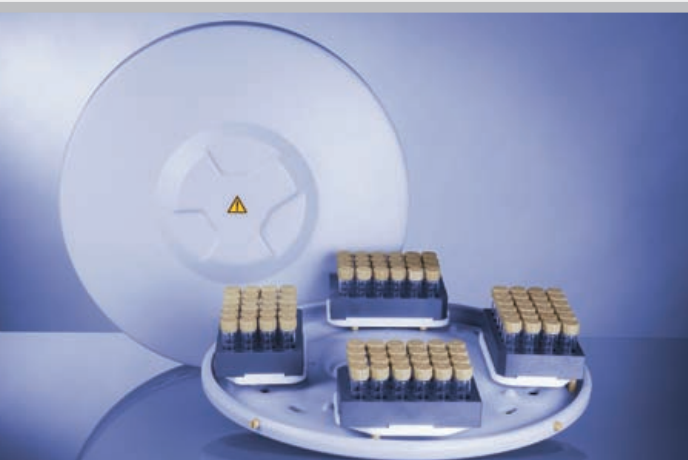
The basic Synthos 3000 instruments hosts all different rotor types. Once the system is installed in your lab, future upgrading is possible at any time.



Features and Technical Specifications

Rotor 4x48MC Well Plate

- ▶ Silicon carbide microtiter plate with common 6x8 matrix
- ▶ All-aluminum sealing mechanism
- ▶ Individual well sealing with PFA foil
- ▶ 4 units for up to 192 parallel reactions applicable
- ▶ Low-absorbing solvents effectively applicable
- ▶ Different solvents applicable within one run



Rotor 4x24MG5

- ▶ ANSI format SiC plate with standard 6x4 matrix
- ▶ Disposable Wheaton® glass vials
- ▶ Lip-type PTFE seal
- ▶ Up to 96 parallel gram scale reactions applicable
- ▶ Low-absorbing solvents effectively applicable
- ▶ Different solvents applicable within one run

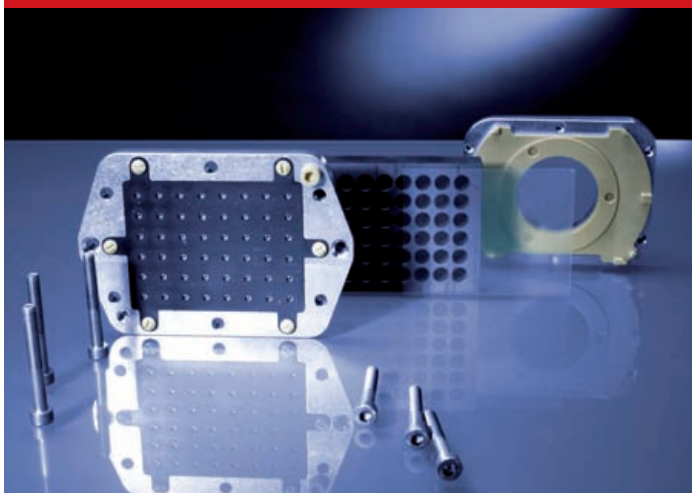
Rotor 64MG5

- ▶ Disposable Wheaton® glass vials
- ▶ Lip-type PTFE seal
- ▶ 64 parallel gram scale reactions in 16 groups of 4 vials
- ▶ Smart solution to get started with parallel library generation



	Rotor 4x48MC Well Plate	Rotor 4x24MG5	Rotor 64MG5
Reaction container	Silicon carbide microtiter plate	Glass vial in SiC plate	Glass vial
Reaction volume	0.1 - 0.3 mL	0.3 - 3.0 mL	0.3 - 3.0 mL
Max. temperature	200 °C	200 °C	200 °C
Max. pressure	20 bar	20 bar	20 bar
Opening pressure	55 bar	33 bar	33 bar

Needful Things for Your Convenience



Unique Sealable Microtiter Plates

Silicon carbide plates with all-aluminum sealing system for reaction screening at enhanced microwave conditions.

Silicon Carbide Well Plates

...for utmost temperature homogeneity in microwave-assisted parallel synthesis.

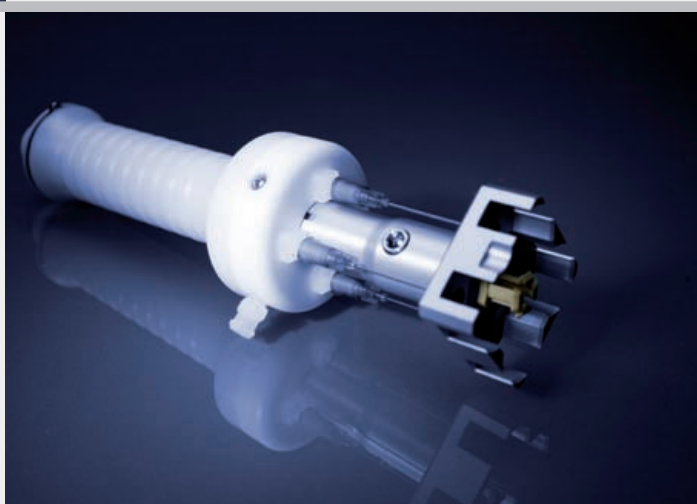


Disposable Glass Vials

Standard glassware equipped with specific screw cap and lip-type seal for elevated sealed-vessel conditions.

Combined Vial Handling/Venting Tool

Four reaction vials can be simultaneously transferred and vented with a flick of the wrist. Applicable with Rotor 64MG5 and Rotor 4x24MG5.





Fotos: Croce & Wir



Anton Paar

Anton Paar[®] GmbH
Anton-Paar-Str. 20
A-8054 Graz
Austria - Europe
Tel: +43 (0)316 257-0
Fax: +43 (0)316 257-257
E-mail: info@anton-paar.com
Web: www.anton-paar.com

Instruments for:

Density & concentration
measurement

Rheometry & viscometry

Sample preparation

Microwave synthesis

Colloid science

X-ray structure analysis

Refractometry

Polarimetry

High-precision temperature
measurement

Specifications
subject to change
without notice.

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