Synthesis and Screening

# Streamline Solids Processing

## with Parallel Filtration

### Solution Phase Synthesis

Parallel organic synthesis in solution phase is a widely used technique. Application areas include drug discovery, development, petrochemicals and fine specialty chemicals. The MiniBlock® enables the use of solid supported reagents and scavenger resins to augment traditional synthesis protocols - facilitating synthesis of high quality compounds in less time.

### Solid Phase Synthesis

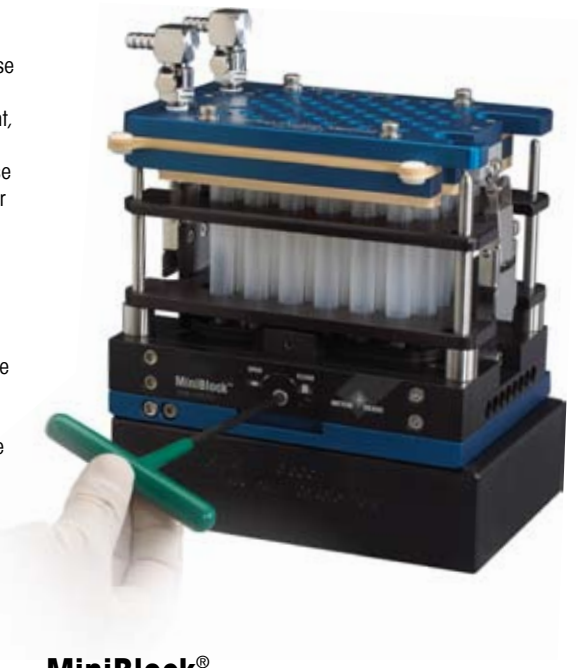
Solid phase synthesis is a technique where molecules are temporarily bound to an insoluble support in order to streamline the synthesis process. Advantages include easy removal of excess reactants and by-products via washing and filtration. MiniBlock® streamlines resin washing, product cleavage, and product collection with a simple turn of the valve key.

### Peptide Synthesis

Quickly synthesize multiple peptides in parallel easily and rapidly on an affordable and efficient platform. Wash resins and perform coupling steps while the MiniBlock® remains on the shaker. Rapidly collect your products during the cleavage step using microtiter plate format racks and simple vacuum assisted filtration.

### Parallel Purification

MiniBlock® is ideal for post-synthesis clean-up using Solid Phase Extraction (SPE) and techniques involving scavenger resins. Applications include removal of excess reagents and reactants, scavenging of metals and removal of catalysts. Products are transferred to a second MiniBlock® containing pre-packed cartidges.



### MiniBlock®

The MiniBlock® is an easy to use reaction block designed for parallel synthesis and screening. Applications include synthesis of small organic molecules, synthesis of peptides, optimization of critical process parameters and screening for optimal reaction conditions.

The unique valve body design of the MiniBlock® enables processes where filtration is critical, including solid phase organic synthesis, use of scavenger resins with solution phase synthesis and parallel purification via Solid Phase Extraction (SPE).

METTLER TOLEDO

Technical Data

# Streamline Solids Processing with Parallel Filtration

MiniBlock® is widely used by chemists working in the Bio-Pharma and Chemical Industries. Today, more chemists choose MiniBlock® to increase productivity than any other similar tool. Designed by chemists and engineers at Bristol-Myers Squibb Company, the MiniBlock® has been further developed to address a broad range of chemistry methodologies.

**Modular and Flexible**
MiniBlock® is available in a wide variety of configurations enabling reaction arrays from 6 to 96 reactions with working volumes of 0.5mL to 40mL. MiniBlock® is heated and cooled using common laboratory recirculators. Temperature ranges are achieved between -20°C and 120°C. MiniBlock® allows reactions to be run under inert conditions utilizing the Inert Atmosphere Manifold. MiniBlock® components are compatible with the MiniBlock® XT and XT-S product line.

**Excellent Mixing - Microplate Compatibility**
MiniBlock® provides excellent mixing using orbital shaking and can handle resin loading from 100mg up to 1g. Temperature uniformity between the different reactors is < 1°C. MiniBlock® can achieve temperature stability, on average, in as little as ten minutes. Using a Microtiter footprint for collection racks enables the MiniBlock® to be compatible with a wide range of racks and containers.

MiniBlock® racks conform to microtiter plate standards, providing flexibility for collection, compatibility with dry down devices and better use of space. The unique valve body design of the MiniBlock® allows the opening and closing of all vessels at the same time. MiniBlock® reactors and supporting parts are also available in sets and packages - to better match your application and budget.

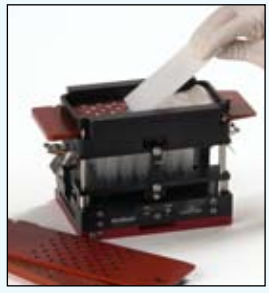
**MiniBlock® Product Family Summary**

| Function/Specification | MiniBlock® | MiniBlock® XT |
|---|---|---|
| Solution Phase Synthesis | ✓ | ✓ |
| Solid Phase Synthesis | ✓ | N/A |
| SPE | ✓ | N/A |
| Scavenger Resins | ✓ | ✓ |
| Number of Reactors | 6, 12, 24, 48, 96 | 6, 12, 24, 48 |
| Working Volume | 2-3mL, 5-7mL, 10-12mL, 25-30mL | 2-3mL, 7-10mL, 20-25mL, 40-50mL |
| Heating | 80°C (polypropylene) 120°C (glass) | 160°C |
| Cooling | -20°C (via recirculator - not included) | -78°C (Ice Bath) -20°C (via recirculatior - not included |
| Inerting Capability | ✓ | ✓ |
| Reflux Capability | N/A | ✓ |
| Mixing | Orbital Shaking | Stir Plate/Orbital Shaking |

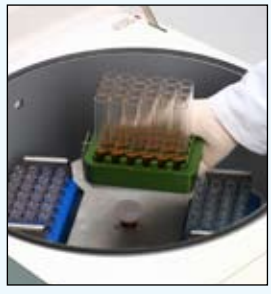
## MiniBlock® Accessories

**Efficient Orbital Shaking**
MiniBlock® shaking stations allow controlled agitation of reactions using vigorous vortex mixing. Built-in washing capability permits rapid addition and removal of solvents for resin washing steps. Heating and cooling is enabled via a recirculator manifold.

**Inert Conditions**
The Inert atmosphere manifold enables reactions to be run under inert conditions. Manifolds are available in 6, 12, 24, and 48 positions. Manifolds are also used to evaporate solvents in combination with heating and gas delivery.



**Resin Dispensing**
Resin loading is made simple with the MiniBlock® Resin dispenser. Pre-determined amounts of resins and powders are delivered to all the desired reaction positions in seconds, saving time and reducing errors.



**Parallel Evaporatioin**
Microtiter plate design enables compatibility with commercially available parallel evaporation systems and eliminates the need for reformatting.

SERVICE
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For more information