

Organic synthesis reaction

For developing medicine, new material, catalyst, and functional substances

For examination of reaction condition of Combi-chem Solid phase · Liquid phase synthesis

Personal Organic Synthesizer

Model CCS-600 · 1200 (For room temp.: R type, For temp. control: V type) PAT.P



It makes solid phase parallel synthesis of low molecule compound efficiently and automatic collection of synthesized products. It is suitable for examination of synthesis condition and optimization of lead compound.

· **Independent flow path with no cross-contamination**

Because each reaction tube is independent flow path, it prevents the cross-contamination from synthesis to collection. Since dead volume of each piping and connecting joint is designed to be minimum, the remaining of solution is only little.

· **Silent and efficient vortex mixing.**

Rapid shaking makes the uniform dispersion / mixture of resin and reagent. It promotes efficient reaction.

· **Independent filtration and collection convenient for examination of condition.**

· **Easy operation by visual panel**

Waste of reagent, solvent, washing after reaction and independent collection of synthesized products are easily done by visual panel correspond to the reaction tubes.

· **Liquid phase synthesis using scavenger resin is possible.**

· **Gas replacement and addition of washing solution for resin is possible. (Optional)**

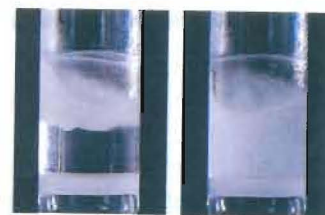
Suitable for synthesis under inert atmosphere. It makes the frequent addition of washing solution for resin be automatic.

· **Check the mixing condition of resin and reagent from the observation window. (Model V)**

· **Liquid contact part are consist of**

Teflon resin which is resistant to hard organic synthesis reaction.

· **ON-OFF of Diaphragm vacuum pump is possible by panel key operation.**



Before shaking

450rpm

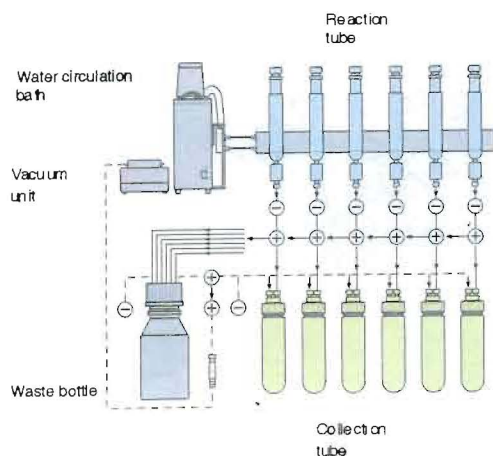
Operation panel

3 kinds of action mode
WASTE
COLLECT
REPLACE GAS

Digital setting · display
Shaking (rpm)
OFF timer (h:min)
Operation accumulation time (h:min)



Flow sheet



· Specifications

Description

	Personal Organic Synthesizer			
Model	CCS-600R	CCS-600V	CCS-1200R	CCS-1200V
Temp. range	Room temp.	-40~90°C *1	Room temp.	-40~90°C *1
Shaking speed	200~600rpm (Vortex stirring method)			
Shaking setting	Membrane key input · Digital display (0~600rpm)			
Shaking time	Membrane key input · Digital display (00:01~99:59h:min)			
Shaking accumulation time	Digital display (00:00~99:59h:min)			
Collection of waste	Independent (Select reaction tube), Vacuum filtration *2			
Collection of products	Independent (Select reaction tube), Vacuum filtration *2			
Gas replacement	Optional (by Model RG-600 · 1200)			
Resin cleaning	Optional (by Model W-600 / 1200)			
Reaction tube	6 pcs x 20ml		12 pcs x 20ml	
Material	PYREX (Glass sintering filter attached, Pore size: 20~30µm)			
Collection tube	6 pcs x 60ml		12 pcs x 60ml	
Waste bottle	1 pc x 1L		2 pcs x 1L	
Material of liquid contact part	Teflon, Dyflon, Glass, PPS, FFKM			
Overall dimensions (mm)	410Wx480Dx355H		410Wx480Dx405H	
Net weight (approx.)	19kg	20kg	23kg	24kg
Power source	1.5A (1.9A), 150VA (190VA) / AC100V, 50/60Hz *3			

*1. Depends on the ability of water circulation bath.

*2. Waste is done from the filter at the bottom of reaction tube by suction power of vacuum unit. Use a diaphragm pump or an aspirator of which displacement is better than 0.67~13.3kPa (5~100Torr).

*3. Figures in () is when using optional gas replacement unit.

Reaction tube rack (Optional)

For CCS-600	R-600	V-600
For CCS-1200	R-1200	V-1200



Personal organic synthesizer (Solid phase) supports combinatorial Chemistry

Heating / Cooling • Mixing • Filtration • Cleaning • Gas replacement

System for reduced pressure operation



System outline

Filtration of solution in the reaction tube (such as excess reagent, reaction solvent, and washing solution) as well as collection of final object synthesized product are done in order in the process of combi-chem solid phase synthesis reaction. It is the system makes all these actions by suction operation of diaphragm vacuum pump.

- | | |
|--|-----------|
| 1. Manual Personal Organic Synthesizer | CCS-150M |
| 2. Water Circulation Bath | UA-100CS |
| 3. Diaphragm Vacuum Pump | N86K.T.18 |
| 4. Gas replacement • Washing unit | RGW-150M |
| 5. Inert gas controller | IGR-030 |

System for pressure operation



System outline

Filtration of solution in the reaction tube (such as excess reagent, reaction solvent, and washing solution) as well as collection of final object synthesized product are done in order in the process of combi-chem solid phase synthesis reaction. It is the system makes all these actions by pressure operation (below 0.3kg/cm²) of inert gas like Ar or N₂.

- | | |
|--|----------|
| 1. Manual Personal Organic Synthesizer | CCS-150M |
| 2. Water circulation bath | UA-100CS |
| 3. Gas replacement • Washing unit | RGW-150M |
| 4. Inert gas controller | IGR-030 |

* Gas cylinder is not included.

• Optional accessories

Gas replacement • Washing unit PAT.P Model RGW-150M

It enables the reaction under inert atmosphere by connecting to gas source. Addition of washing solution to resin is done frequently during reaction. It enables this action done in one time by gas pressure. Also regarding the addition method of reagent in the middle of reaction, the method suitable for the experiment condition is selectable.

- Gas replacement can be selected from 2 kinds of flow speed mode.
- Simultaneous addition of washing solution by gas pressure.
- Realized the 2 kinds of reagent injection method by unique cap structure.
- Teflon system resin resistant to organic solvent is adapted for liquid contact part in flow path.

* Refer to the page of optional accessories for more detail.

