

Process Station System Examples

The synthesis system that can do the different liquid phase application research promptly and efficiently.

Features

- Condensed polymerization while removing water.
- Reliable full condensation of vapors from the reaction solvent and efficient refluxing.
- Reaction temperature monitoring.
- Total removal of oxygen by freeze degassing.
- Water-free/oxygen-free reactions.
- 20 positions parallel screening and reaction condition study are possible.
- Enables catalytic reaction.
- Teflon made easy to use 2 way cock.
- After synthesis, condensation can be done promptly.
- Small overhead stirrers.

01 Personal Organic Synthesizer

Enabling condensation polymerization while removing water.

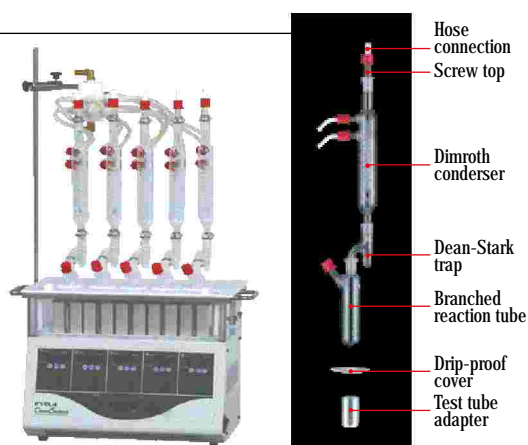
Dean-Stark, Condensation polymerization

- It is suitable for the condensation polymerization reaction.
- In condensation polymerization reactions, where a small molecule like water is generated, it is necessary to continuously remove the small molecules like water in order to proceed the reactions to the direction of polymerization.
- Heating while removing water is possible by the use of Dean-Stark trap. Under reduced pressure, small quantity of water removal is possible.

Main function

- Removing surplus water from azeotropes, Heating of the sample. Cooling and reflux by condenser, Gas purging, Stirring and depressurization Sampling.

System cord	SYS13050
Synthesis Scale	7mL, 12.5L, 30mL
	60mL*5 pcs
Temp. control range	-10°C to 150°C
	up till 130°C: 50-60mL



02 Personal organic Synthesizer

Reliable full condensation of vapors from the reaction solvent, and efficient refluxing.

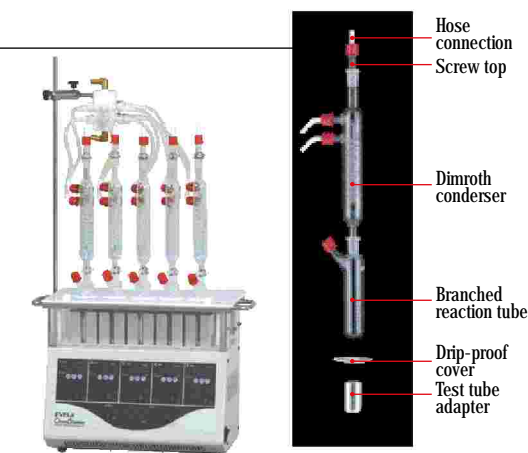
Dimroth, Polymerization, Green chemistry

- Suitable for heat reaction study above the boiling point.
- Strong reflux experiments are made possible by using efficient Dimroth condenser.
- Reflux by water realizes polymerization experiments and green chemistry.

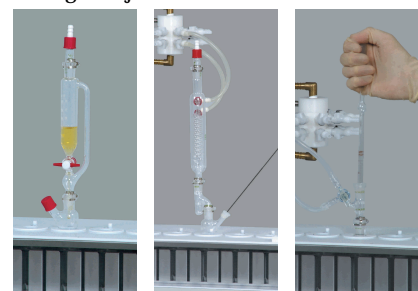
Main function

- Heating the sample, Cooling, Reflux, Stirring, Gas purging depressurization, Sampling.

System cord	SYS13051
Synthesis Scale	7mL, 12.5L, 30mL
	60mL*5 pieces
Temp. control range	-10°C to 150°C
	up till 130°C: 50-60mL



Reagent injection



Sampling or injection by dripping funnel can be done by using a reactive container with branch and three-way cock under inert condition.

Teflon shutter



Teflon made shutter to protect aluminum block from dew.

Safety features



Even if a test tube breaks by any unexpected cause and the solvent spills, the dew receive tray made of Teflon protects the device. Double chamber protects the aluminum block from dew and also prevents dispersion when the tube is damaged.

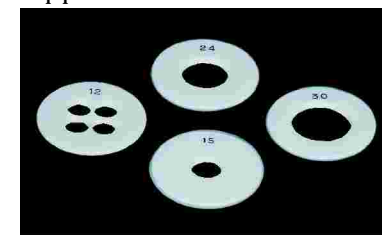
Parts for Personal Organic Synthesizers

*PPS-5510, CCX-3200 Parts

*Drip proof cover

Part name	Type	Catalog. No
Drip proof cover (ø12*4 positions)	*	217610
Drip proof cover (ø13)	*	217620
Drip proof cover (ø13*3 positions)	*	217630
Drip proof cover (ø15)	*	217640
Drip proof cover (ø15*3 positions)	*	217650
Drip proof cover (ø16)	*	217660
Drip proof cover (ø16.5)	*	217670
Drip proof cover (ø18)	*	217680
Drip proof cover (ø20)	*	217690
Drip proof cover (ø21)	*	217700
Drip proof cover (ø24)	*	217710
Drip proof cover (ø25)	*	217720
Drip proof cover (ø30)	*	217730
Drip proof cover (ø34)	*	217740
Drip proof cover (ø35)	*	217750

Drip proof cover

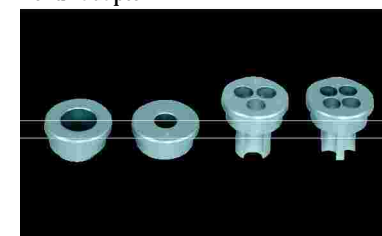


Cover to prevent dew in the aluminum block necessary when using the cooling cartridge.

*Reflux adapter

Part name	Type	Catalog. No
Reflux adapter (ø12*4 positions)	*	217320
Reflux adapter (ø13)	*	217330
Reflux adapter (ø13*3 positions)	*	217340
Reflux adapter (ø15)	*	217350
Reflux adapter (ø15*3 positions)	*	217360
Reflux adapter (ø16)	*	217370
Reflux adapter (ø16.5)	*	217380
Reflux adapter (ø18)	*	217390
Reflux adapter (ø20)	*	217400
Reflux adapter (ø21)	*	217410
Reflux adapter (ø24)	*	217420
Reflux adapter (ø25)	*	217430

Reflux adapter

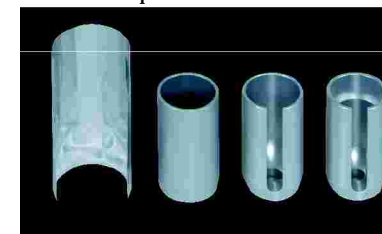


Since the reflux adapter cools down the top of the reaction tubes, the reaction solvent vapor can be refluxed effectively.

*Test tube adapter

Part name	Type	Catalog. No
Test tube adapter (ø12 4 positions)	*	217080
Test tube adapter (ø13)	*	212810
Test tube adapter (ø13*3 positions)	*	217090
Test tube adapter (ø15)	*	212820
Test tube adapter (ø15*3 positions)	*	217100
Test tube adapter (ø16)	*	212830
Test tube adapter (ø16.5)	*	212840
Test tube adapter (ø18)	*	212850
Test tube adapter (ø20)	*	212860
Test tube adapter (ø21)	*	212870
Test tube adapter (ø24)	*	212880
Test tube adapter (ø25)	*	212890
Test tube adapter (ø30)	*	212900
Test tube adapter (ø30) for pressure resistant vessel	*	218550
Test tube adapter (ø34) for PPS-5510 only	*	217110

Test tube adapter



By using a test tube adapter, the size and number of reaction vessels can be changed, to one, three or four per position. The system can be made fit for up to 20 reaction tubes.

*Septa

Part name	Type	Catalog. No
① Suba seal (silicone rubber, for GL14, 10pcs)	*	212700
② Septum (natural rubber, for ø14, 10pcs)	*	218420
③ septum (silicone rubber, for ø14, 10pcs)	*	218410
septum (natural rubber, for ø15, 10pcs)	*	218430
septum (silicone rubber, for ø15, 10pcs)	*	195710

*Stirring bars

Part name	Type	Catalog. No
④ PTFE Magnetic stirring bar (disk shape D9*6H) used for D12.10pcs	*	182100
⑤ PTFE Magnetic stirring bar (cross shape D10*5H) used for D13-D18.10pcs	*	191840
⑥ PTFE Magnetic stirring bar (football shape D6*15L) used for D24.5pcs	*	200280
⑦ PTFE Magnetic stirring bar (football shape D10*20L) used for D0 and 34.5pcs	*	200290
⑧ PTFE Magnetic stirring bar (football shape D10*25L) used for D34.5pcs	*	200300
⑨ Powerful magnetic stirring bar (oval shape) D24-D30.1pce	*	213110
⑩ Powerful magnetic stirring (for viscous liquids), use for D24-D30.1pce	*	213120
⑪ Glass stirring bar (Thin cylinder shape, D5*12L) for high temp, used for D18-30.4pcs	*	218330
⑫ Glass stirring bar (Thin cylinder shape, D9.5*12.7L) for high temp, used for D18-30.1pcs	*	218340

Septem, Stirrig bar

