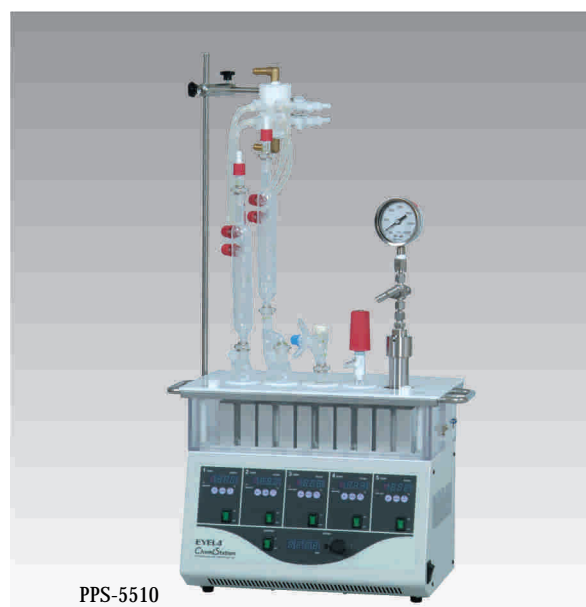


Personal Organic Synthesizer Process Station PPS-5510



PPS-5510

Process Station PPS-5510 is a parallel synthesizer that is useful for chemical reactions of the liquid phase.

5 different reactions can be implemented within the range from 0.5mL to 60mL. Various sizes and types of vessels are available depending on application.

Features

- The number of vessels can be changed and the maximum 20 test tubes can be mounted by using test tube adapters in the 5 positions.
- Five heating blocks enable to set 5 different temperatures. The range is from -10°C to 150°C (or up to 130°C for 50mL to 60mL).
- By connecting the cool water manifold to a Dimroth condenser, efficient reflux experiments can be implemented.
- Strengthened gas purge function. By using sealed tubes, Schlenk tubes, pressure resistant vessels and Dean-Stark Traps, degas, deoxidization and high-pressure can be used for creating new experiment conditions.
- Highly viscous reaction liquids can be stirred with strong magnetic stirrer.
- Various types of reaction vessels can be used to expand your possibilities of organic synthesis experimenting.

Specifications

Product name		Personal Organic Synthesizer (Process Station)	
Model		PPS-5510	
Cat. No.		212719	212718
Available No. of reaction vessels		5 positions (1-20 reactions)	
Synthesis scale		0.5mL to 60mL (Variable)	
Stirring system		Ferromagnetic stirrer	
Performance	Temperature control range	-10°C to 150°C (5x individual temperature control (50 to 60mL up to 130°C) ^{1, 2}	
	Individual temperature control	Temperature difference between neighbouring heating blocks is up to 130°C (when the set temperature is higher than 0°C)	
	Temperature control accuracy	±0.5°C	
	Stirring speed range	250-1600rpm (with 30mL of water : max. 1300rpm. with 60mL of water: max. 1100rpm)	
Functions	Temperature setting & display	Membrane key pad input, digital display	
	Stirring speed setting & display	Volume input, digital display	
	Gas substitution	Vacuum and gas injection (Executed in the vessel) ³	
	Reflux	Not applicable/Reflux adapter/Cool water manifold ²	
	Sample injection	Pipette, syringe, dripping funnel	
Specifications	Reaction process observation	Through the slit of the aluminum block	
	Safety function	Double chamber, Fuse, Tray for dipping, Independent overheat protectors (5), Empty heating protector	
	Materials of sample contacting part	Borosilicate glass (DURAN)	
Components	Size of reaction vessels	ø12 to ø35 (14types)	
	End connection for cool water	ID 9mm, silicone hose (PPS: 55LT); OD 12mm (hose port), silicone hose ø9 x 13m (PPS-55M)	
	Ambient temperature	5°C to 35°C	
	Overall dimensions (mm) & weight	465(W)*310(D)*315(H) (Top), 800H(Pole), 22kg	
	Power source	AC115V 600VA 4A 50/60Hz	AC220V 600VA 2.7A 50/60Hz
	Manifold	OD 75mm, Easy-to-set hose (For silicone hose ø5 x 8mm) ³	
	Drip-proof cover	Option	
	Reflux adapter	Option	
	Reaction vessel	Option	
	Test tube adapter	Option	
Aluminum block	PPS-55A catalogue No.212739		
Double chamber	PPS-55W catalogue No.212749		
Cooling cartridge	PPS-55LT catalogue No.212759		
Temperature & stirring control unit	PPS-55CTRL catalogue No.191769	PPS-55CTRL catalogue No.191768	

¹ 5 different temperatures can be set for each heating block.

² When conducting temperature control or reflux at room temperature or lower, the unit needs to be connected to a low temperature water circulator.

³ Manifold (PPS-55M) is useful when executing gas flushing in block.

⁴ PPS-5510 without manifold can also be supplied.

*Synthesis scale can be changed



By using test tube adapters, it is possible to change the size and number of reaction vessels. Synthesis reactions within the scale from 0.5mL to 60mL can be implemented. Up to 20 reaction tubes can be placed in the system.

*Removable reflux adapter



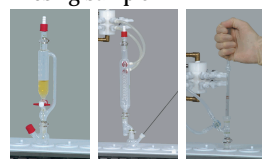
Since the reflux adapter which touches the cooled reflux block, cools down the top of reaction tubes, the reaction solvent vapor can be refluxed sufficiently.

*Teflon shutter



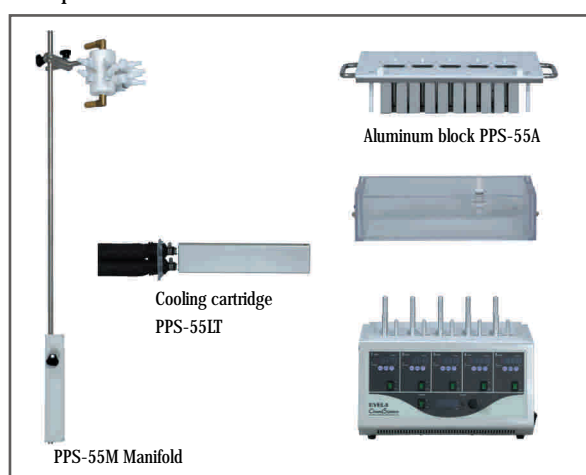
Prevents dew in aluminum block

*Dosing sample



A branched reaction vessel and 3-way cock make it possible to inject reagent in inactive condition or let it drip through a dosing funnel, ideal for heat generating solvents.

*Components



Personal Organic Synthesizer Process Station PPV-4030 • 4060



PPV-4030•4060

Process Station PPV-4030/4060 is able to perform pressurized reaction efficiently. It enables to carry out evaluation for hydrogenation, carbonylation and autoclave for pharmaceuticals, agricultural intermediates, polymers and fine chemicals.

Features

- Two built-in individual temperature controllers (from room temperature to 200°C). Four synthesis reactors can be controlled at two different temperatures.
- The designed maximum operation pressure is up to 20MPa, but only the flammable gas to <1MPa.
- Individual pressure control. Pressure gauge and two needle valves (for pressurizing and relief) are equipped for each of four reaction vessels. The pressure of each vessel can be controlled and measured individually.
- By removing the connection, sampling can be done before and after conducting the reaction. Also, it is possible to add and extract sample under inert gas flow.
- Excess reaction is controlled by the cooling cartridge. This cartridge cools down the reaction vessels quickly after completing a polymerization reaction and prevents excess reaction. Also, if excessive heat is generated by a catalyst reactions, etc., it can suppress the heat. The cooling cartridge can be inserted from each side of the unit.
- By using a rare earth magnetic stirrer, highly viscous sample can be mixed well.

Operation of the temperature controller

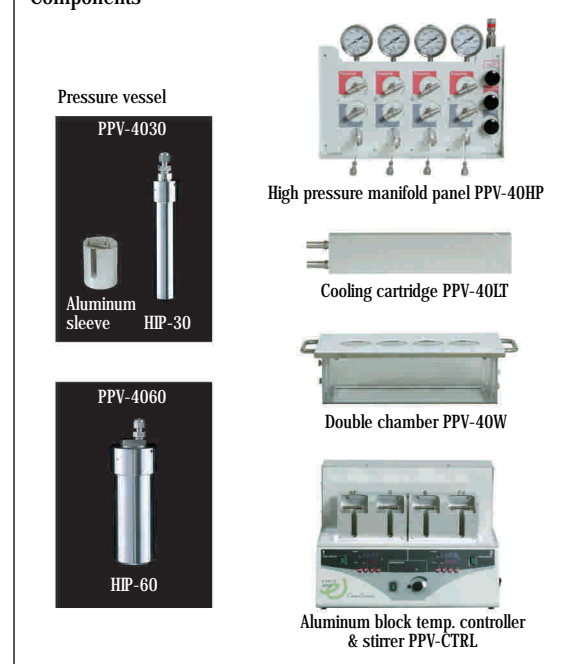


The temperature can be set ranging from room temperature to 200°C. Two different temperatures can be set for each block.

Specifications

Product name		Personal Organic Synthesizer (Process Station)		
Model		PPV-4030	PPV-4060	
Cat. No.		225638	225628	
Available number of reaction vessels		1 to 4 pcs		
Synthesis scale		ø30:40mL (Volume: 42mL)	ø60:63mL (Volume: 190mL)	
Stirring system		Ferromagnetic stirrer		
Performance	Temperature control range	From room temperature to 200°C (2*Each two vessels can be controlled)*4		
	Stirring speed range	Approx. 250 to 1300rpm (30mL of water up to 1300rpm, 60mL of water up to 1100rpm)		
	Designed temperature of pressure-resistant vessel	Max. operation temperature 255°C		
	Temperature setting & display	Membrane pad key input, digital display		
Functions	Stirring speed setting & display	Volume input, digital display		
	Pressure display	Bourdon tube pressure gauge is built in for each vessel (2400kPa E.S. accuracy ±1.0% E.S., 6000kPa E.S. (option))		
	Gas substitution	Needle valves (2 lines for gas introduction, 1 for exhaust)		
	Gas pressure regulation	For each vessel the pressure is regulated independently (Pressure can be precisely regulated by needle valve).		
	Method of adding and taking out sample/reagent	Before and after the reaction, the sample can be taken out after removing the pressure-connector; also reagent can be added under inert gas flowing		
	Temperature measuring	* Protective pipe for temperature sensor		
	Safety features	Relief functions: Relief valve is working under high pressure side pressure can be regulated (0.34Mpa to 2.41Mpa) relief valve for each vessel (optional accessory)		
		*2 Function for preventing back-flow of gas: a check valve is attached to injecting each gas into inlet with electrification prevention variable overheat protector (2). double chamber, tray for receiving dew fuse		
	Standard	End connection of cool water	External diameter: 12mm (hose end) for silicon hose (ø9*13mm)	
		Materials of sample contacting parts	Pressure-proof vessel, pressure gauge, valve, pipes: SUS316, "o"ring, perfluro Glass vessel, Teflon vessel, Seal for relief valve-fluorocarbon	
Components	Ambient temperature	5°C to 35°C		
	Overall dimensions (mm)	420(W)*390(D)*600(H)(chamber)	420(W)*390(D)*600(H)(chamber)	
	Weight	33kg	39kg	
	Power source / Input power	13A, 1300VA • AC220V 50/60Hz		
	High pressure manifold	PPV-40HP, Catalogue No.218540		
	Pressure-proof vessel	HIP-30, Catalogue No.218290	HIP-60, Catalogue No.218310	
	Aluminum chamber (test tube adapter)	Catalogue No.206420		
	Double chamber	PPV-40W Catalogue No.218590		
	Cooling cartridge	PPV-40LT Catalogue No.218600		
	Aluminium block with Temperature controller and stirring	PPV-CTRL Catalogue No.225648		

Components



*1. Notice: Do not use oxygen gas. The parts may be ageing rapidly

*2. Applicable law Labour Safety Regulation (PV-0.004)

*3. Electric parts can be converted into air purge (nitrogen purge) or pressurizing model. Please contact your dealer.

*4. When controlling temperature from room temperature, a hose is required to connect to tap water or low temperature circulator.