

# Ideal for the evaluation of reactions in the development of drugs and advanced material

Chemi Station PPV-4030/4060 is able to perform pressurized reaction effectively.  
Effective for hydrogenation reaction, polymerization reaction, carbonylation reaction and autoclave.  
The most appropriate temperature, pressure and catalyst for various reactions can be examined.



## Hydrogenation and auto clamp can be conducted.

With its two gas injection valves for reaction and inactive gas, gas flushing can be executed individually.  
\* Both vessels and pipes are made of SUS316.  
\* Maximum available pressure of hydrogen gas is at 1MPa or lower.

## Individual pressure control

Pressure gauge and two needle valves (for pressurizing and emission) are equipped for each vessel. Each vessel can be controlled pressure individually.

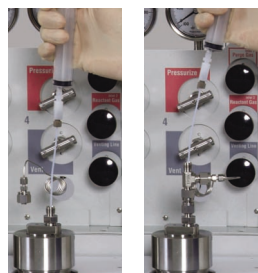
## Pressure gauge is equipped as standard.

Pressure gauge is equipped for each pressure-resistant vessel. Leak test for pressure-resistant vessel can be conducted before reaction. Pressure gauge measures the pressure of the vessel while processing reaction.

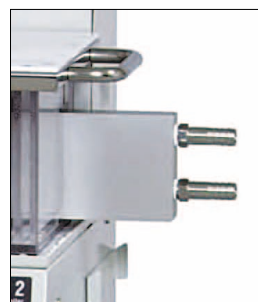
## Relief valve that controls gas pressure.

Relief valve in the gas injection inlet is capable of controlling gas pressure. Also, it prevents the introduction of excess pressure.

## Sampling



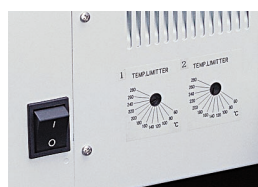
By removing the connection, the sampling can be implemented before and after conducting the reaction. Also, you can add and extract sample under inert gas flow.



## Cooling cartridge that controls excess reaction

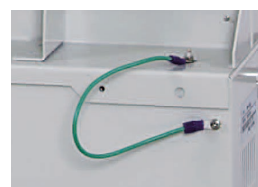
This cartridge cools down the reaction vessels quickly after completing polymerization reaction and prevents the excess reaction. Also, if excessive heat is generated by catalyst reaction, it will suppress the heat controls the fever. Cooling cartridge can be inserted from either side of the unit.

## Various safety features



Two variable over heat protectors (Temperature range: 6 to 260°C) are equipped. In case the temperature of the aluminum block exceeds the limit, the over heat protector cuts off the power supply for the heater.

## Antistatic gas pipes



All the gas pipes are made of SUS316. Each pipe is connected to earth wire, which prevents the static.

## Two sizes of pressure-resistant vessels are available. Synthesis scale: 14mL ( 30), 63mL ( 60) x 4



Pressure-resistant vessel is easy to handle. Designed pressure is 20MPa. Protective pipe for temperature sensor is equipped with  $\phi 60$  the vessel.

\* Changing the vessel for PPV-4060  
By using  $\phi 30$  aluminum sleeve and  $\phi 30$  pressure-resistant vessel (optional accessories), synthesis scale can be changed from  $\phi 60$  to  $\phi 30$ .

## Handy pressure-resistant vessel with valve



Pressure-resistant vessel with valve (optional accessory) is useful for adding and exhausting hydrogen gas before and after implementing reaction experiment while the installation space is limited.

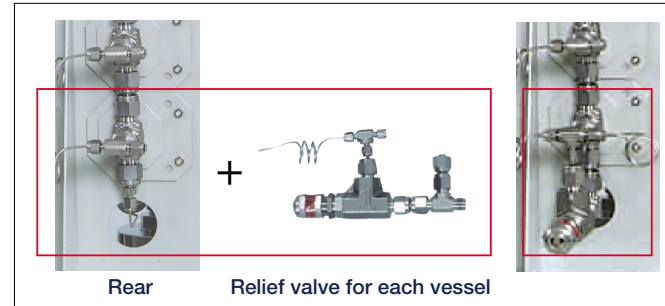
You can carry pressure-resistant vessel with valve easily. It cools down the vessel effectively after autoclave.

## Internal vessel ( Glass, PTFE )



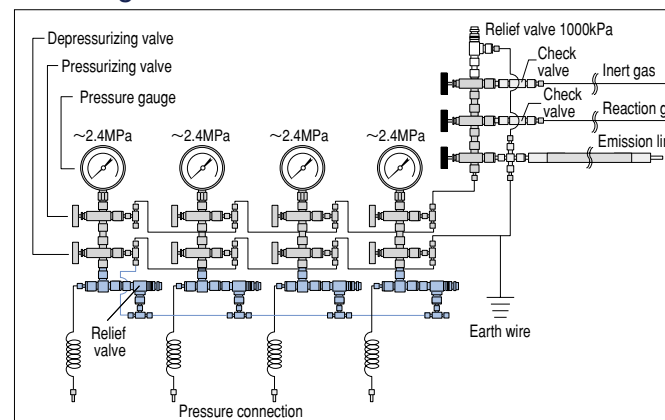
Glass vessel, which is useful for handling sample, is supplied with pressure-resistant vessel as standard. PTFE vessel, which can accommodate fluorinated acid, is also available as an optional accessory.

## Relief valve for each vessel



Relief valve can be attached to the pressure-resistant vessel if required. It releases inner pressure at the setting value when catalyst reaction proceeds excessively or controlling upper pressure limit of autoclave. It controls the pressure at the setting value automatically.

## Attaching 4 relief valves for each vessel



## Monitoring the reaction temperature. Chemi Thermo monitoring unit



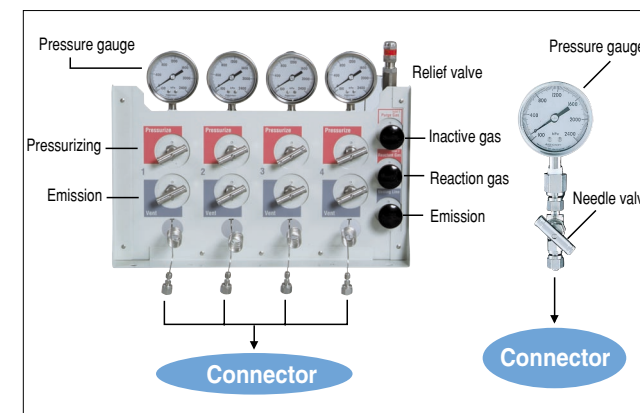
Available only for PPV-4060. By connecting soft thermo (temperature interface), the temperatures of sample liquids contained in four vessels can be monitored while implementing the reaction and save the record as a file.

- Chemical thermo couple (6 pieces) Catalog No.194160
- Soft thermo E830 Catalog No.194150

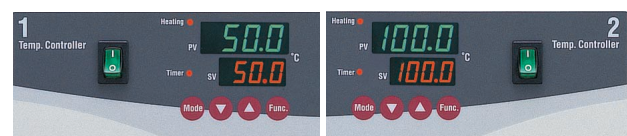
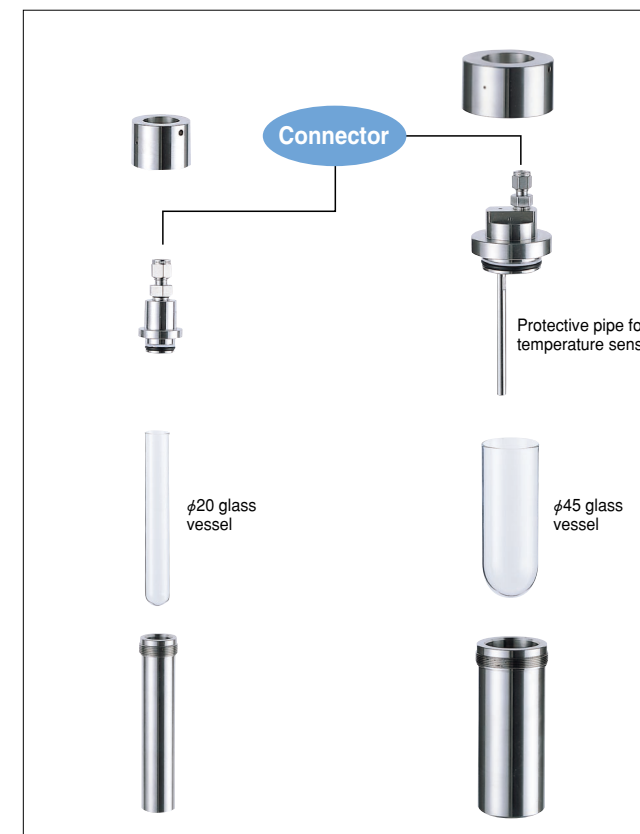
## Operating condition (E830)

OS: Windows 95 / Windows 98 / Windows Me / Windows XP  
PC: DOS / V and NEC PC-9821  
RS-232C port is required (USB is also available).  
CPU: Pentium 90MHz or higher Memory: More than 16MB (32MB is recommended).  
Hard disk: More than 20MB, Screen size: 800X600 dots or more  
\* In some cases the instrument may not work even though the operating condition is appropriate. Since testing soft thermo device is available, please check the connections and operations before using the actual instrument.

## High pressure gas introduction



## Pressure-resistant vessel



## Two individual temperature controllers

Any reaction experiments can be implemented from room temperature to 200°C. Two vessels can be set for each controller. Two synthesis reactions can be implemented at two different temperature.

## Ferromagnetic stirrer

By using ferromagnetic stirrer even, high-viscid sample can be well mixed.