

Product Overview

Reaction Unit

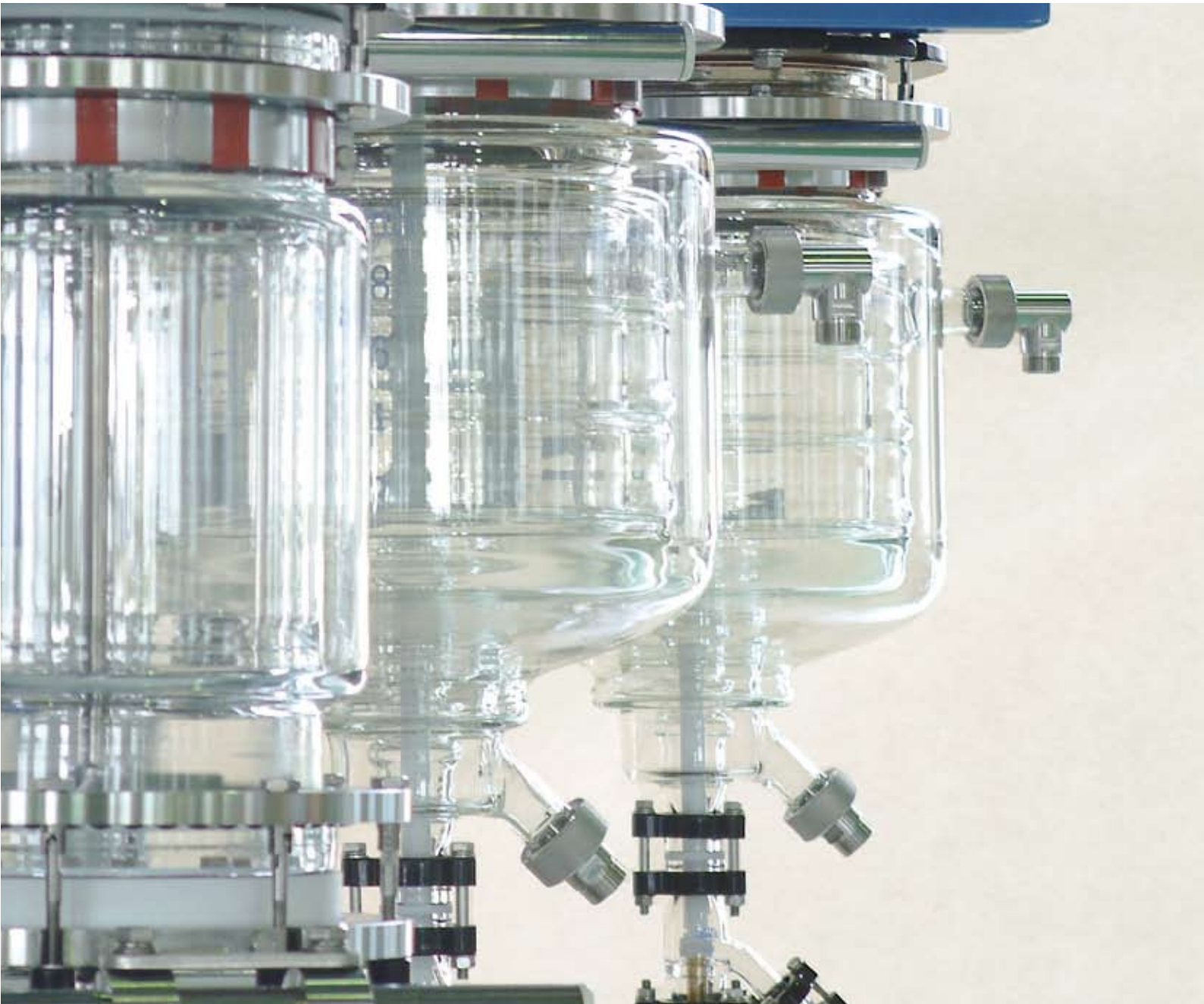
Filter Reactor

Pressure Reactor

Thin Film Evaporator

Molecular distillation System

Rotary Evaporator



ASAHI Seisakusho Inc.
<http://www.theglassplant.com>

Thin Film Evaporator



Precision bore glass tube : $\pm 30\mu\text{m}$

High Evaporation Efficiency

Grease less valve and joint

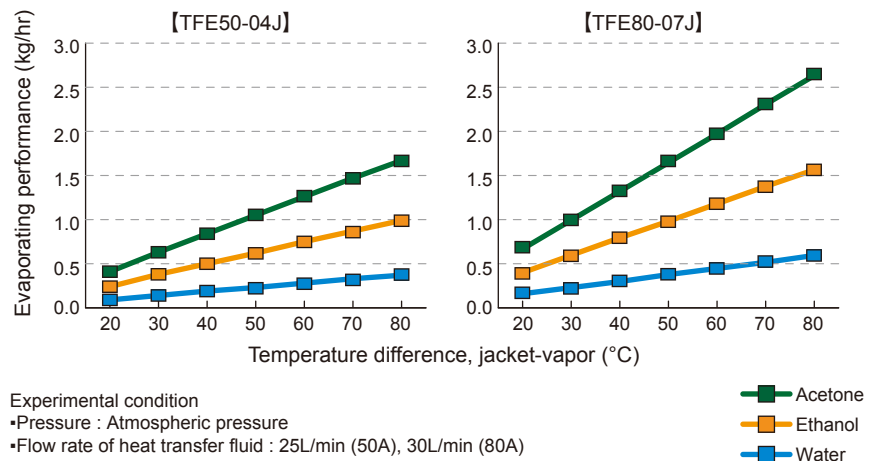


The system can be easily connected to the existing overhead stirrer and thermostat.

Model	Evaporation Surface Area	Max. Temperature	Max. Rotation Speed
TFE80-07J	80A/0.075m ²	230°C (Jacket)	600rpm
TFE50-04J	50A/0.045m ²		

- The parts that come into contact with fluid are made of borosilicate glass 3.3, PTFE, and SS316.
- Sealing : Magnetic coupling
- The system does not include overhead stirrer thermostat and vacuum pump.
- Please contact us for customized system.

Evaporation Performance



The figure for operating pressure and temperature is a guideline. Depending on actual working conditions, permissible pressure and temperature shall be modified.

Fully corrosion resistant model also available.

Evaporation Surface Area max DN450 (1.5m²)



Jacketed Evaporator with ring baffles also available.



Molecular Distillation System

- Short residence time
- No (minimum) thermal decomposition
- Minimum pressure drop due to closely positioned internal condenser
- High vacuum distillation
- Suited for highly viscous or heat sensitive material



Model	Evaporation Surface Area	Max. Temperature	Max. Rotation Speed
MD80-07J	80A/0.075m ²	230°C (Jacket)	600rpm
MD50-04J	50A/0.045m ²		

- The parts that come into contact with fluid are made of borosilicate glass 3.3, PTFE, and SS316.
- Sealing : Magnetic coupling
- The system does not include overhead stirrer thermostat and vacuum pump.
- Please contact us for customized system.

Filter Reactor



• The system does not include overhead stirrer and thermostat.



Reactor Capacity: 5, 10liter
 Reactor Type: Double Walled
 Operating pressure:
 full vacuum to 0.04MPa(+0.4bar)
 Operating temperature:
 -90°C to 230 °C (ΔT : 110°C)

Reaction + Filtration || Filter Reactor



Easy Operation



Pressure Reactor



Max. operating pressure: 1.2MPa (12 bar)
 Max. operating temperature: 200 degree C
 The process can be monitored visually at all times.
 Double walled reactor as well as triple walled reactors are available.



Triple Walled Type



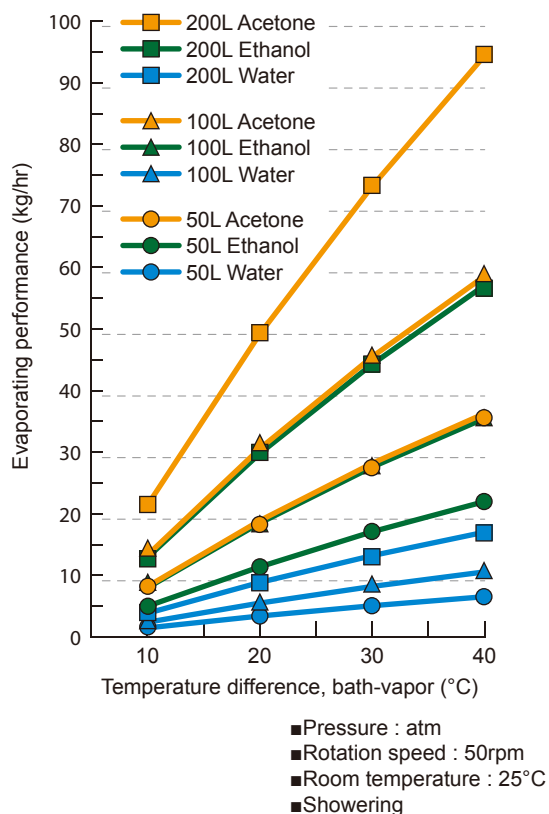
Double Walled Type

Model	Capacity	Type	Drain valve	Ring Baffles
ASGA-"Capacity"-D	500ml	Double Walled	—	—
-D-F			●	—
-DV			—	●
-DV-F	1,000ml		●	●
ASGA-"Capacity"-T	1,500ml	Triple Walled	—	—
-T-F			●	—
-TV			—	●
-TV-F			●	●

- The parts that come into contact with fluid are made of borosilicate glass 3.3, PTFE, and SS316 and perfluor.
- Support Structure [Poly-carbonate sliding window, epoxy-coating]
- The system does not include overhead stirrer and thermostat.

Rotary Evaporator

Evaporation Performance

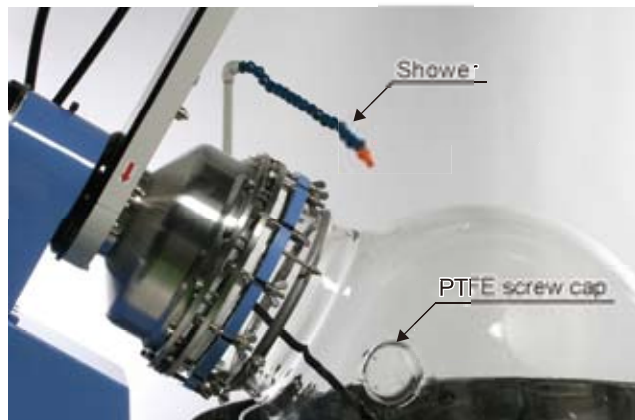
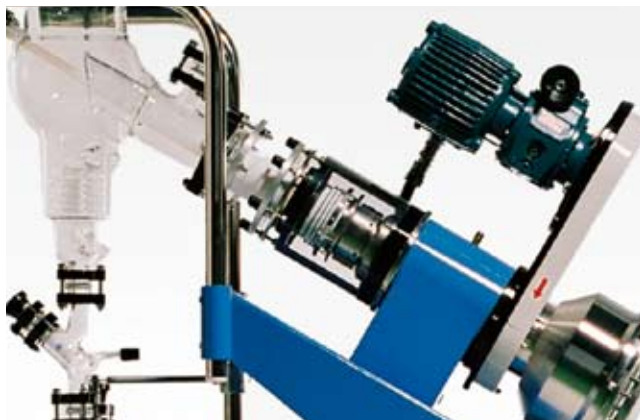


50, 100, and 200liter Rotary Evaporators



Asahi Seisakusho's unique mechanical seal takes advantage of the different thermal expansion coefficients of its materials to create a durable and long-lasting seal that actually tightens with use.

Shower and Rotation flask with Sampling hole. (PTFE screw cap)
*optional



[LEFT]
PTFE centering adaptors that not only prevent flask breakage, but also ensure that the flask will always be mounted within 0.25mm of center, no matter who installs it.

[RIGHT]
Patented flask handling carts that make it possible for a single operator to mount and remove 50, 100, and even 200-liter flasks.



Reaction Unit

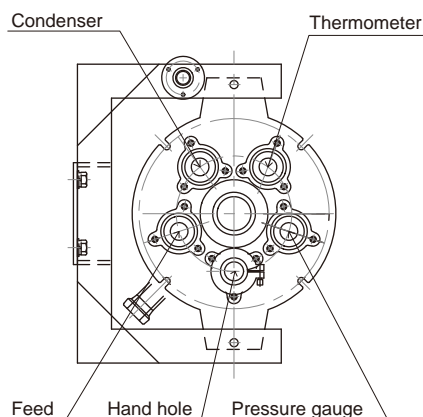


Reaction Unit with hand lift

Reaction Unit with hand lift:

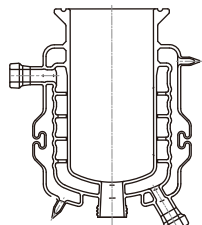
Reactor Volume: 6, 10liter
 Reactor Type: Double Walled and Triple Walled
 Operating pressure: full vacuum to 0.04MPa(+0.4bar)
 Operating temperature: -90°C to 230 °C
 ΔT : 60°C (Triple Walled), 110°C (Double Walled)

- The system does not include overhead stirrer and thermostat.
- Please contact us for customized system.

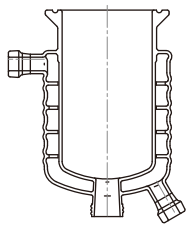


Stirrer shaft can be easily mount and remove from main unit.

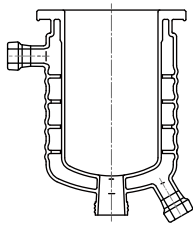
Type of Vessel



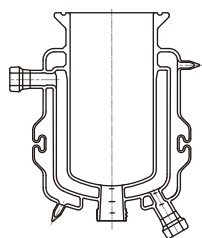
Triple Walled Reactor with Ring Baffles



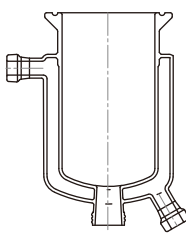
Double Walled Reactor with Ring Baffles



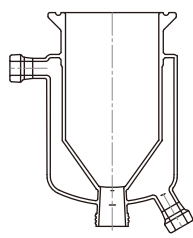
Fully Jacketed Reactor with Ring Baffles



Triple Walled Reactor



Double Walled Reactor



Double Walled Reactor Conical



Trigonal structure model



Support stand model

Heat transfer area

Capacity	300cc	500cc	1liter	2liter	3liter	6liter	10liter	(m ²)
Triple Walled	0.02	0.03	0.05	0.08	0.10	0.16	0.20	
Double Walled	0.02	0.03	0.05	0.08	0.10	0.16	0.20	
Fully Jacketed	0.03	0.04	0.06	0.09	0.12	—	—	

Triple walled reactors are suited for operations in the range of -90°C to 230 °C, however due to thermal stress prevention, the temperature difference (ΔT) should not exceed 60°C.

[LEFT]

Trigonal structure model:

Reactor Volume: 300cc ~ 3liter
 Operating pressure: full vacuum to 0.04MPa(+0.4bar)

[RIGHT]

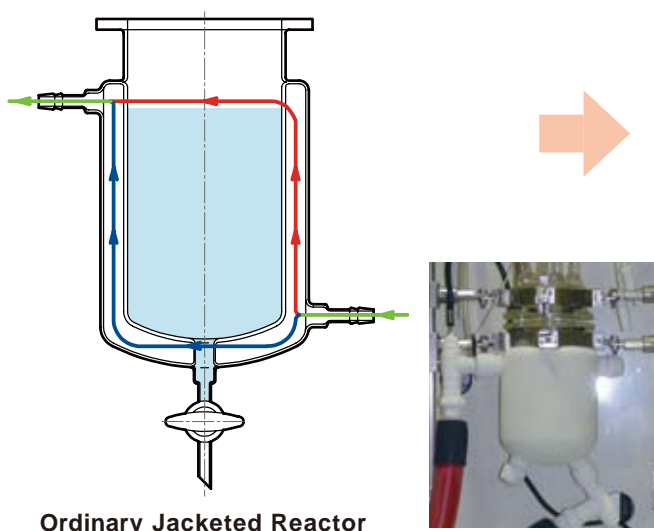
Support stand model:

Reactor Volume: 300cc ~ 6liter
 Operating Pressure: full vacuum to 0.04MPa(+0.4bar)

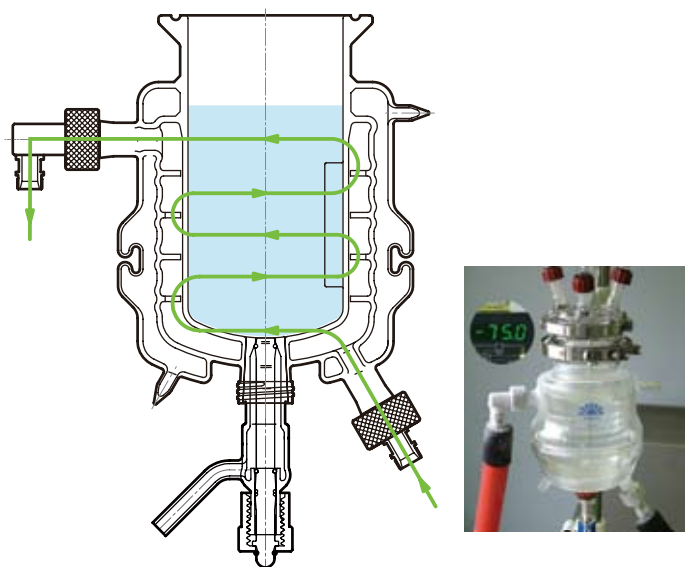
Effect of Ring Baffles

Asahi triple walled reactors are fitted with a vacuum jacket and glass ring baffles. The vacuum jacket virtually eliminates all heat losses to the atmosphere allowing the process to be monitored without frost formation on the jacket for operations below the freezing point. The jacket is extended over the service nozzle.

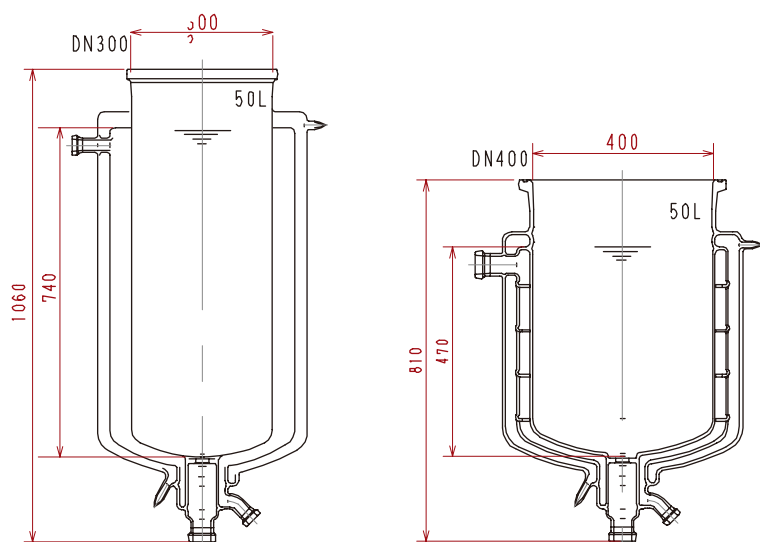
The glass ring baffles force the heat transfer fluid to circulate evenly throughout the jacket and to promote turbulent flow for efficient heat transfer. ASAHI believes that jacket temperature must be precisely controlled in order to control the process temperature. Only ASAHI offers this advanced design.



Ordinary Jacketed Reactor



Asahi Triple Walled Reactor



50L Triple Wall by others (DN300)

Asahi 50L Triple Walled (DN400)

Easy Scale Up

All triple walled reactors are designed to keep the Height (H) / ID (W) ratio within 1 to 1.5 for structural security, performance and easy scale up.

	Asahi 50L Triple walled	Others
ID:Height	1:1.2	1:2.5
Glass Ring Baffles	with Ring Baffles	without Ring Baffles
Jacket Volume	Minimum	Large

Minimum Dead Space

All reactors are designed without dead space to ensure complete drainage. They are equipped with flush valves spring loaded to ensure a leak free seal over the entire temperature range at all times. The design complies with GMP standards.



300cc~6liter



6liter~

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E-mail info@theglassplant.com
 Establishment : **April 1950**



With over 50 years experience in the production of specialized glassware and processing equipment, Asahi Seisakusho takes pride in understanding the needs and concerns of the chemical processing professionals and researchers who rely on its products.

Asahi's products form the backbone of the chemical processing industry, but they are far from standard: even the most familiar-looking system has been optimized to achieve the highest possible levels of performance, safety, ease of use and maintenance.

This is innovation born from the wish lists of users, made possible by the expertise of master craftsmen.

The Glass Plant.com

ISO9001:2000 ISO14001:2004

Design and manufacture of equipment made of borosilicate glass and quartz glass (for use in laboratories), glass plant equipment, semiconductors, optical fibers, amongst others.



<http://www.theglassplant.com/>