AG!
Asahi Glassplant Inc.

Reaction Unit

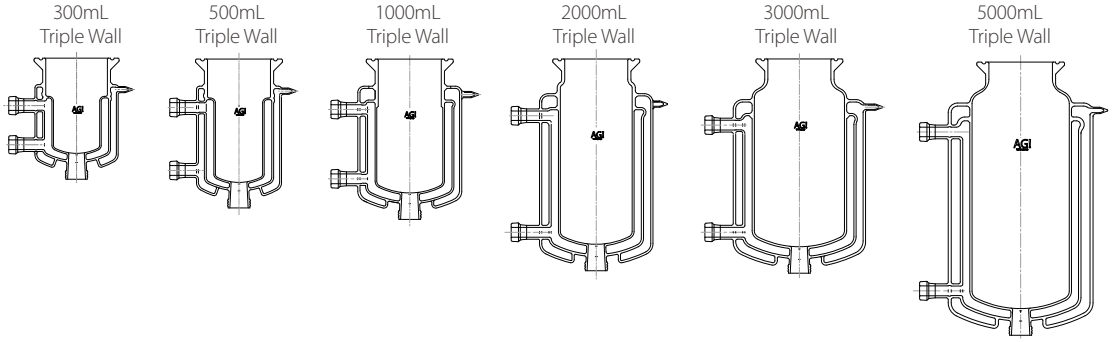
Bench-top Reactor
Pilot-plant Reactor Fully Functional Stand
Pilot-plant Reactor Stationary Stand

Asahi Glassplant Inc.

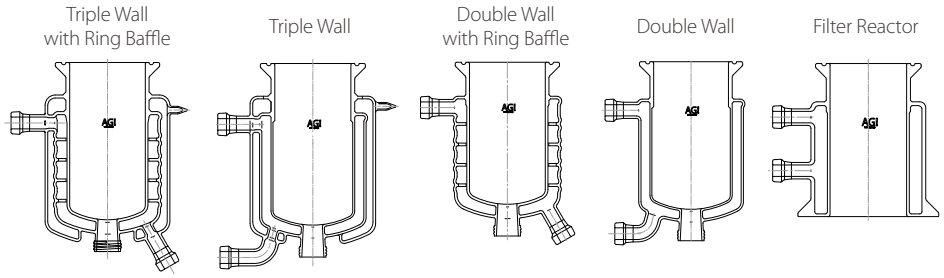
Bench-top Reactor

Interchangeable Scale-up

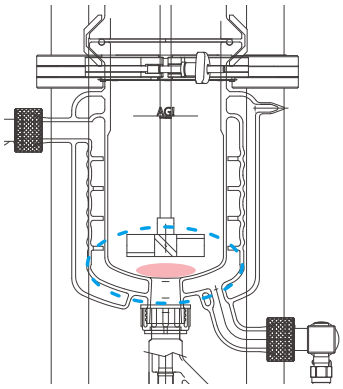
* From 300ml to 5L



Variety of Vessel Options



No Dead Space

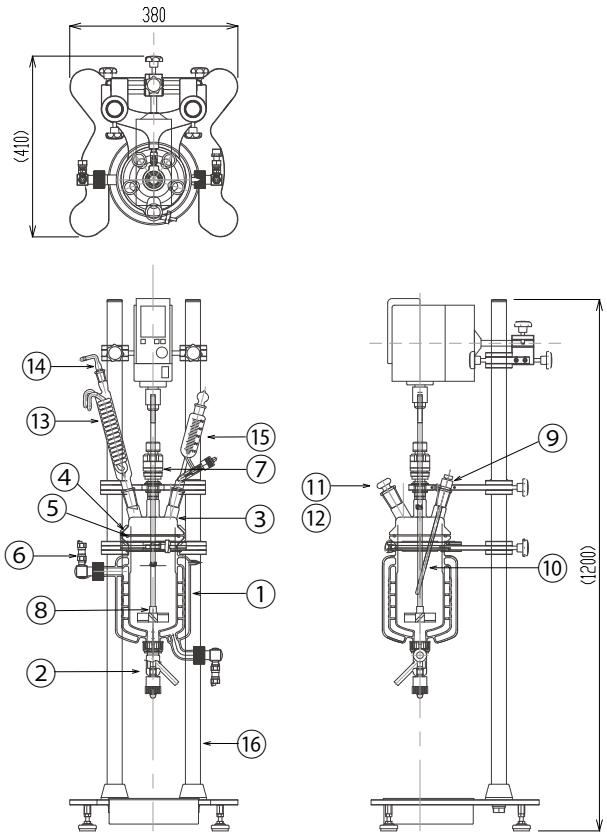


Leak-proof Flush Valve

Pressure Sensitive Spring Loaded Flush Valve
Prevents Leakage

Blue Label

Complete Package



No.	Parts
1	Vessel
2	Flush valve / PEEK shaft, SQG-29/42
3	Glass cover, DN100, 6 ports (TS24/40 x5, TS29/42 x1)
4	Quick release clamp, DN100
5	O-ring, viton, DN100
6	Metal adapter for HTF, L-type, screw coupling, M16
7	PTFE stirrer guide, glass ball bearing, TS24/40, shaft OD:10mm
8	PTFE stirrer shaft, screw propeller, shaft OD: 10mm
9	Temperature probe holder, PTFE, TS24/40, probe OD:8mm
10	Temperature sensor probe, OD:8mm, L:660mm
11	Stopper for hand hole, TS29/42
12	Stopper for additional hole, TS24/40
13	Dimroth Condenser, TS24/40, TS15/25
14	Vent adaptor, TS15/25
15	Dropping funnel with stopper, Graduated, TS24/40
16	Support structure

Time and Cost Saving

Chassis

Need to scale up? >> Change the vessel only!

Easy Installing

No special tool needed to install AG! Bench-top Reactor

A choice of popular stirrer shafts

Anchor type

Screw propeller type

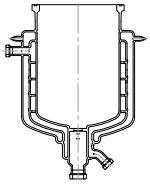
Retreat curve type

Pilot-plant Reactor Stationary Stand

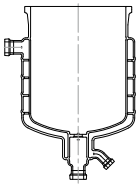
Variety of Vessel Options

* Triple Wall with Ring Baffle, Triple Wall, Double Wall with Ring Baffle, Double Wall
* From 10L to 60L (Triple Wall with Ring Baffles), 100L (Double Wall with Ring Baffles), 300L (Double Wall, Custom-made)

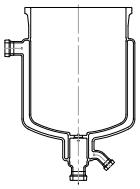
Triple Wall with Ring Baffle



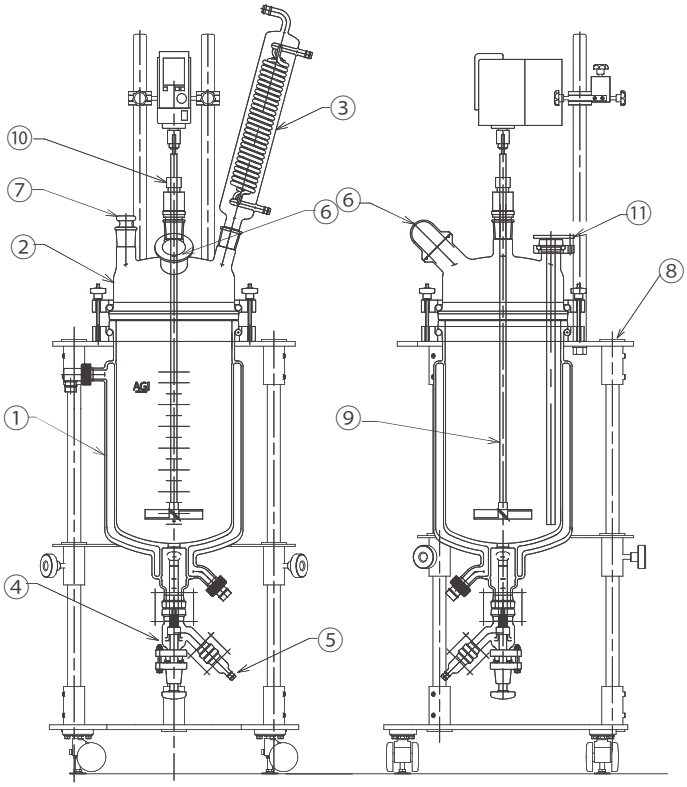
Double Wall with Ring Baffle



Double Wall



Complete Package



No.	Parts	No.	Parts
1	Vessel	7	Stopper
2	Vessel Cover	8	Support structure
3	Condenser	9	PTFE stirrer shaft, shaft OD:16mm
4	Flush valve	10	PTFE stirrer guide, glass ball bearing
5	Hose connector	11	Thermometer pocket
6	Glass cap for hand hole		

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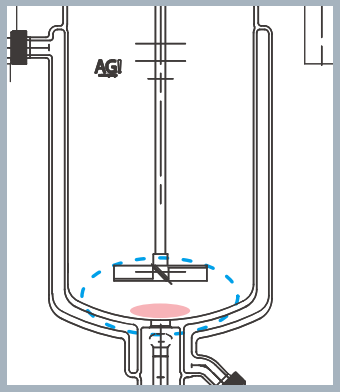
High Quality and Uniquely Engineered Design

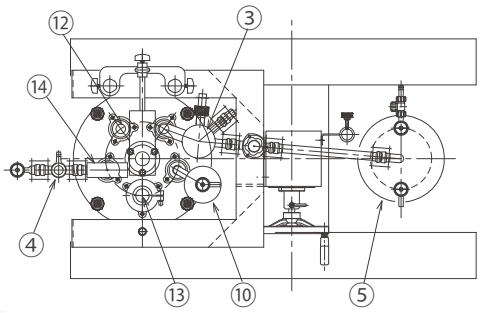
No Dead Space

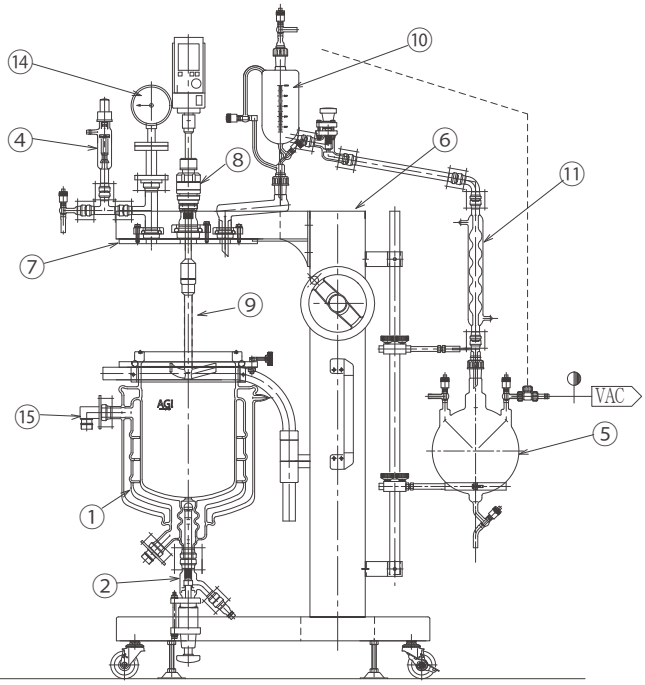


Pilot-plant Reactor Fully Functional Stand

AG! Asahi Glassplant Inc.

Complete Package





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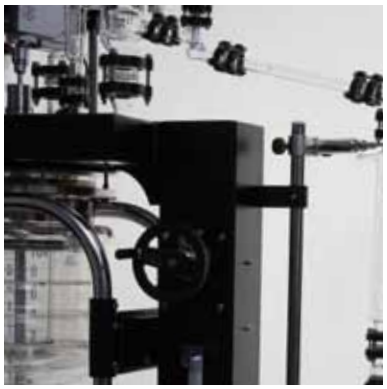
No.	Parts	No.	Parts
1	Vessel	9	PTFE stirrer shaft, shaft OD:16mm
2	Flush valve	10	Dropping funnel
3	Condenser with reflux	11	Sub cooler
4	Safety valve	12	Thermometer pocket
5	Receiver	13	Hand hole
6	Structure base	14	Diaphragm type pressure gauge
7	Flat cover	15	HTF hose adapter
8	PTFE stirrer guide, glass ball bearing		

Integrated Built-in Hand Lift



Leak-proof Flush Valve

Industrial Design Inlet/Outlet

AG! Only Technique: Glass Ring Baffles

Uniquely engineered for accurate temperature control

Our glass ring baffles distribute heat transfer fluid evenly throughout the jacket, promoting precise temperature control and allowing temperature control units to operate at maximum efficiency with fast heating / cooling response.
Only AG! offers this advanced design for all our glass reactors.

Less time and more productivity

Faster and more uniform temperature control will lead to improved productivity with shorter process time and higher yield per batch, accelerating the progress and reducing the costs in many aspects of your research.

Fastest and Best Temperature Control with Integrated Glass Ring Baffles

AG! Vessel with Ring Baffles

Heat Transfer Fluid In — Heat Transfer Fluid Out

AG! Glass Ring Baffles prevent 'Short-path' of Heat Transfer Fluid.

- Optimal Heat Transfer
- Balanced and Efficient Reaction

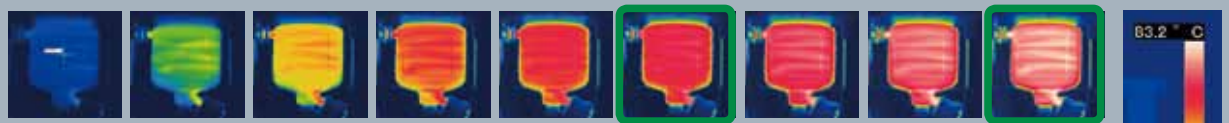
Ordinary Jacketed Vessel

- Poor Heat Transfer

Surface Temperature: **approx. +69 °C**

Surface Temperature: **more than +80 °C**

AG! Vessel with Ring Baffles



Start 3min. 6min. 9min. 12min. 15min. 18min. 21min. 24min.

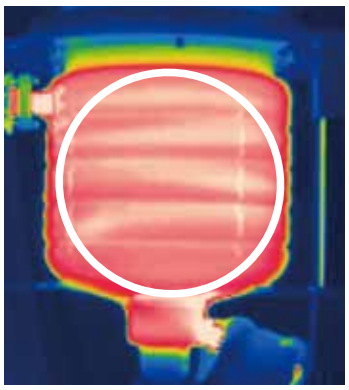
Ordinary Jacketed Vessel

Surface Temperature: **approx. +69 °C**

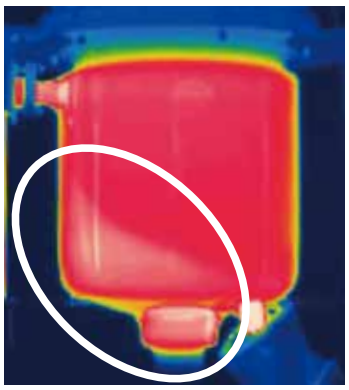
Even Heating / Cooling

AG! Glass Ring Baffles prevent 'Short-path' of HTF

- Optimizes the Heat Transfer to the Internal Vessel
- Uniform and Efficient Temperature Stability



even thermal distribution (HTF)
<AG! Vessel with Ring Baffle>



localized heating
<Standard Jacketed Vessel>

Time to Temperature Study

Case Study 1

Comparison:

AG! Double Wall Ring Baffle 1L Reactor

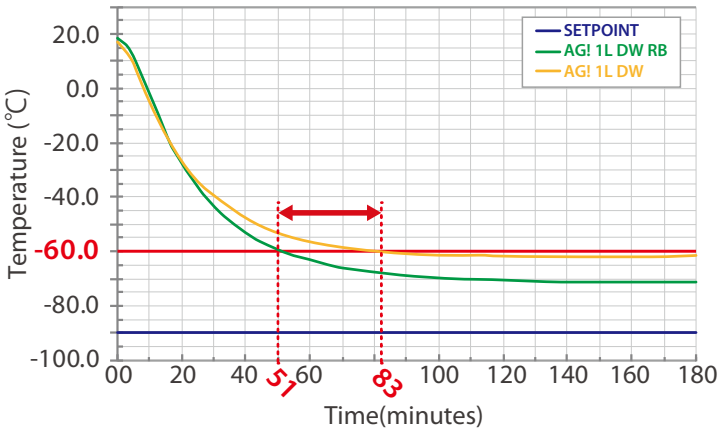
vs.

AG! Double Wall 1L Reactor

*LAUDA RP890C <Silicone Oil>

30 minutes of Time Saving

Note. Double Wall Ring Baffle 1L Reactor: 51.4min. vs. Double Wall 1L Reactor: 83.1min.



Case Study 2

Comparison:

AG! Triple Wall Ring Baffle 60L Reactor

vs.

Competitor Standard Double Wall; Jacketed 50L Reactor

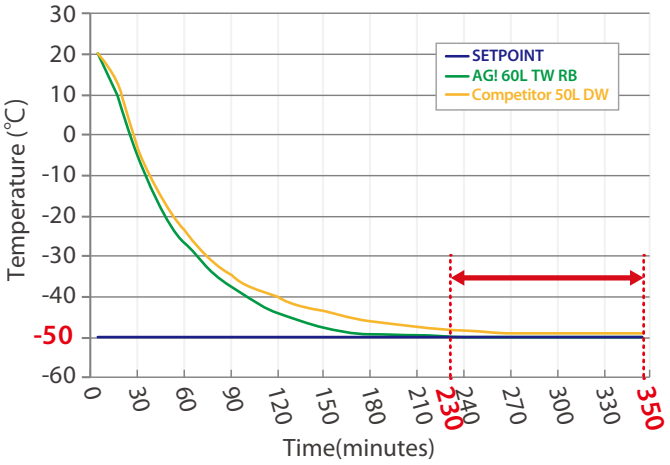
*HUBER Unistat 510w <Silicone Oil>

120 minutes of Time Saving

Note. AG! : 230min. vs. Other : 350min. (-49°C)

AG! Advantage:

Competitor reactor did not achieve the targeted temperature(-50°C); 10L difference in reactor volumes



Case Study 3

Comparison:

AG! Triple Wall Ring Baffle 20L Reactor

vs.

Competitor Standard Double Wall; Jacketed 10L Reactor

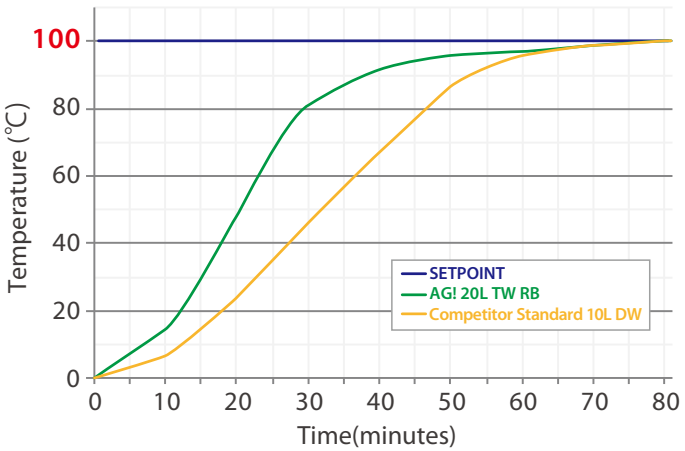
*JULABO PRESTO A40 <Silicone Oil>

Same Time but... 10L

Note. AG!: 75min. vs. Competitor: 75min.

AG! Advantage:

75 min. time to temp; 10L difference in reactor volumes



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Bench-top Reactor

- Vessel Capacity :
  300, 500, 1000, 2000, 3000, 5000 mL
- Vessel type :
  Double Wall; Jacketed, Triple Wall
- Operating Pressure :
  -1 bar G (Full Vacuum) to
  +0.5 bar G (+0.05 Mpa) [Triple Wall]
  -1 bar G (Full Vacuum) to
  +1 bar G (+0.1 Mpa) [Double Wall]
- Operating Temperature :
  -90 °C to +230 °C
- ΔT : 110 °C (Double Wall),
  60°C (Triple Wall)

* This system does not include overhead stirrer circulator and chiller.
* Please contact us for customized system.

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Pilot-plant Reactor

Fully Functional Stand

- Vessel Capacity : 10, 20, 30 L
- Vessel type :
  Double Wall; Jacketed, Triple Wall
- Operating Pressure :
  -1 bar G (Full Vacuum) to
  +0.5 bar G (+0.05 Mpa) [Triple Wall]
  -1 bar G (Full Vacuum) to
  +1 bar G (+0.1 Mpa) [Double Wall]
- Operating Temperature :
  -90 °C to +230 °C
- ΔT : 110 °C (Double Wall),
  60°C (Triple Wall)

* This system does not include overhead stirrer circulator and chiller.
* Please contact us for customized system.

Blue Label

Pilot-plant Reactor

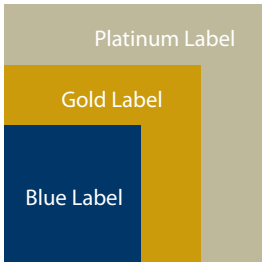
Stationary Stand

- Vessel Capacity :
  10, 20, 30, 50, 100 L (Double Wall)
  10, 20, 30, 60 L (Triple Wall)
- Vessel type : Double Wall; Jacketed, Triple Wall
- Operating Pressure :
  -1 bar G (Full Vacuum) to
  +0.5 bar G (+0.05 Mpa) [Triple Wall]
  -1 bar G (Full Vacuum) to
  +1 bar G (+0.1 Mpa) [Double Wall]
- Operating Temperature :
  -90 °C to +230 °C
- ΔT : 110 °C (Double Wall),
  60°C (Triple Wall)

* This system does not include overhead stirrer circulator and chiller.
* Please contact us for customized system.

Customized Configurations Available!

Together we can work to find the perfect solution to suit your application requirements.



Platinum Label Custom Chemical Engineering Solutions

Gold Label Flexible Customized Solutions for All Standard Products

Blue Label Standard Complete Package: Plug & Play

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Made in Japan