



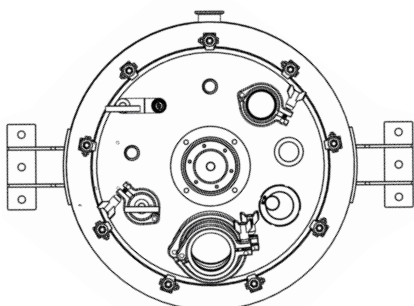
Stainless Steel Reactor for Scale Up
and Small-scale Production

SR500-B Series

- > Chemical Reaction
- > Evaporation, Precipitation, Crystallization
- > Filtration, Washing
- > Plant Extraction
- > Process Scale-up



GENERAL REACTION SYSTEM



Core Features



Scalable Platform

- > **Multi-scale Capacity:** 5L, 10L, 20L, 30L, 50L, 100L, 150L and 200L (or larger).
- > **Modular Versatility:** One apparatus enables multiple processes across R&D, pilot, and production scales.
- > **Compact & Mobile:** Space-saving stainless frame on wheels for easy repositioning.

Ready-to-Run Systems

- > **Complete Integrated Package:** Integrates the agitation motor, jacketed vessel, efficient stirrer, LED lighting, bottom discharge valve, and functional lid and reflux condenser.
- > **Plug & Play:** Fully assembled and skid-mounted for quick commissioning.
- > **Customizable options:** Tailored tank structures, control systems, automation, and safety certifications available.



Reflux Condenser



4-Blade Pitched Impeller

Advanced Engineering

- > **Corrosion-Resistant Materials:** SUS304, PTFE, FFKM, and PPL for demanding chemistry.
- > **Uniform Heating:** Baffled thermal jacket ensures precise and consistent temperature control.
- > **Enhanced Mechanical Sealing:** Reliable performance for long-term operation.

Quality Assurance

- > **Turnkey Solution:** From design to delivery, we handle everything.
- > **Certified & Compliant:** CE certified; additional standards upon request.
- > **Built to Last:** Rugged design suitable for laboratory and industrial environments.

Explore the Details



Vacuum and Temperature Display



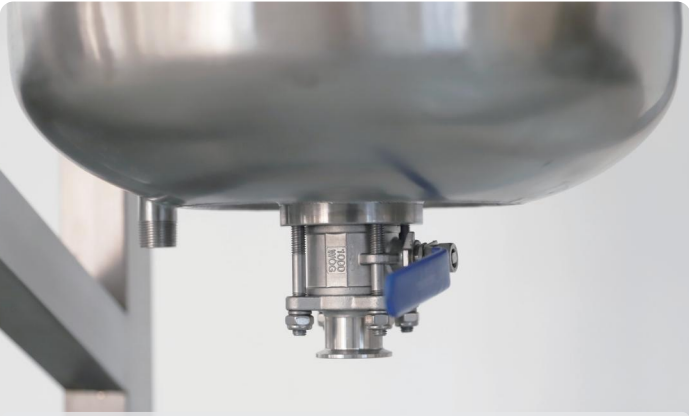
LED Lighting



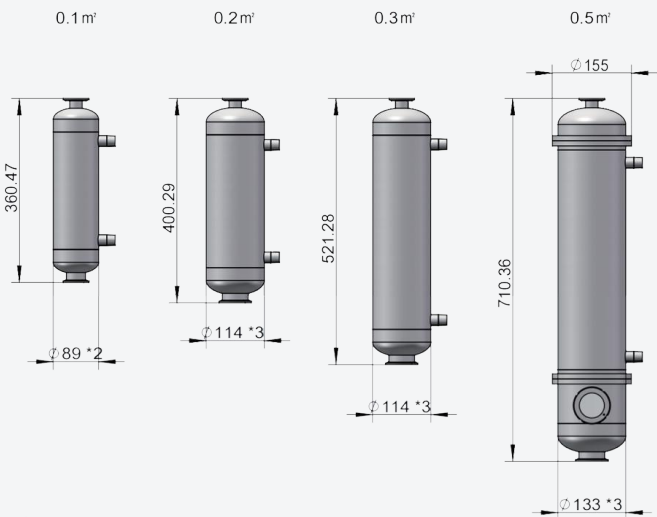
Agitation Control



Lid with Functional Ports



Discharge Valve



Reflux Condenser Drawings [mm]

Upgrades



Side Observation Window



Insulation Layer



Surface Treatment: Mirror Polishing, Electrolysis, Passivation, etc.



Material: 316L, 2205



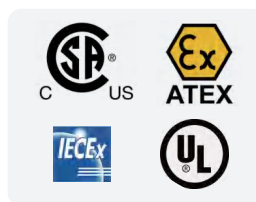
Weighing Module [Mettler Toledo]



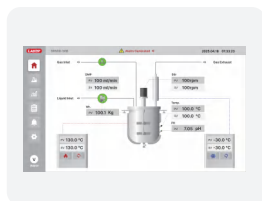
Liquid Level Detection



Online Detection and Control



Certification (CSA/ATEX/IECEx/UL)



PLC + Color Touch Screen Control System



Pneumatic Motor



Bursting Disc



Magnetic Drive



Tank Cover Lifting

Customized Cases

50L Jacketed Reactor with Evaporation, Filtration and Liquid Collection Tank



Jacketed Reactor with Ribbon Spiral Belt Impeller



50L Reactor with Larger Condenser and Collection Tank



30L Reactor with Customized Lid Layout, Liquid Detection and Sight Glass



50L Reactor with Filtration & Collection for Recrystallization



10L Reactor with Customizable OD:H Ratios & Interchangeable Vessels



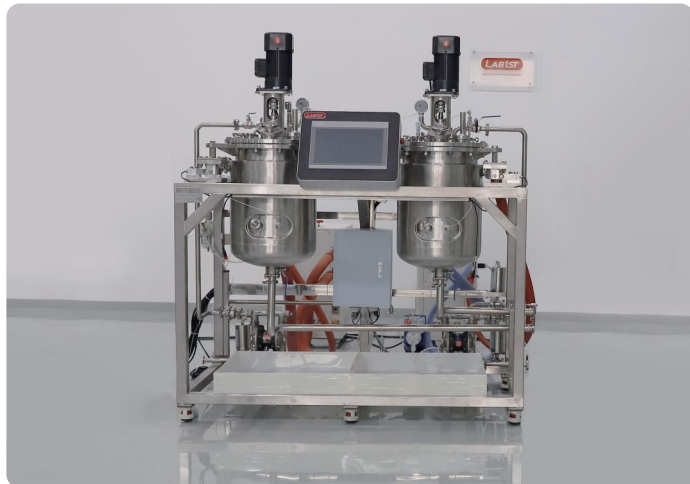
10L Reactor with Pneumatic Lifting and Weighing System



50L Reactor with Integrated CIP, Filtration, for Recrystallization Processes, including Post-crystallization Solid-liquid Separation and Collection.



50L Jacketed Reactor - High Temperature with Integrated Vessel Weighing system, Inline Monitoring Electrodes, and PLC control



Specification

Model	SR500-5B	SR500-10B	SR500-20B	SR500-30B	SR500-50B	SR500-100B	SR500-150B	SR500-200B
Process Design								
Installation Dimension [mm]	400×1500×365	460×1650×400	510×1680×440	570×1800×530	710×1980×630	820×2260×680	900×2500×850	950×2760×900
[W×H×D] ["]	15.7×59.1×14.4	18.1×65.0×15.7	20.1×66.1×17.3	22.4×70.9×20.9	28.0×78.0×24.8	32.3×89.0×26.8	35.4×98.4×33.5	37.4×108.7×35.4
Installation Weight	45 kg 99 lb	65 kg 143 lb	75 kg 165 lb	110 kg 243 lb	161 kg 355 lb	198 kg 437 lb	285 kg 628 lb	385 kg 849 lb
Material Design	SUS304, High Borosilicate Glass, FFKM, PTFE							
Design/Working Pressure	-0.1Mpa~0.6Mpa [-1bar~6bar] / -0.1Mpa~0.5Mpa [-1bar~5bar]							
Design/Working Temperature	-20~250 ℃ / -20~220 ℃							
Agitation	Variable Frequency Speed Control, 20~500rpm [<50L], 20~550rpm [≥50L]							
Environmental Requirements	Ambient Temp: 5~40℃, Humidity: ≤85%							
Communication	RS485 [Modbus RTU]							
Power Supply	AC200-240V, 1Phase, 50-60HZ; AC108-120V, 1Phase, 60HZ							
Mechanical Design								
Inner Shell Thickness [mm]	3	4	4	5	5	6	6	6
Jacket Thickness [mm]	3	3	3	3	3	4	4	4
Lid Type	Flat Flange					Flat Flange + Elliptical Head		
Bottom Type	Elliptical Head							
Support Type	Frame Support							
Inner/Outer Surface Finish	Brushed							
Vessel Type	Single Jacket Vessel							
Diameter/Height Ratio	1.40	1.47	1.48	1.32	1.39	1.19	1.31	1.34
Total Volume [L]	6.6	13.0	24.8	37.7	61.5	118.3	172.6	229.6
Max Operating Volume [L]	5.4	10.5	20.4	31.0	50.9	101.2	149.9	200.3
Min Operating Volume [L]	0.63	1.18	2.35	3.79	5.96	13.42	18.19	23.99
Heating Area [m²]	0.20	0.32	0.50	0.65	0.91	1.45	1.87	2.27
Jacket Volume [L]	2.94	6.52	9.53	12.43	16.98	25.71	34.08	41.40
Lid								
Lid Ports	≤5L: 1x Agitator Port, 1x Solid Feed & Sight Glass 1, 1x Vent, 1x Liquid Feed, 1x Thermowell, 1x Vacuum Gauge & Safety Valve, 1x Gas Inlet 10~50L: 1x Agitator Port, 1x Solid Feed & Sight Glass 1, 1x Sight Glass 2 & Illumination, 1x Vent, 1x Liquid Feed, 1x Thermowell, 1x Vacuum Gauge & Safety Valve, 1x Gas Inlet ≥100L: Includes all configurations of the 10~50L model, plus 1x Vent, 1x Sight Glass 3 and 1x Sight Glass 4							
Solid Feed & Sight Glass 1	1.5"TC	2.5"TC & 1.5"TC	2.5"TC & 2"TC	3"TC & 2"TC	3.5"TC & 3"TC			
Liquid Feed	1×G1/2" Male		1×G3/4" Male					
Gas Inlet	1×G1/2" Male		1×G3/4" Male					
Vent	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×2.0"TC	2×2.0"TC	2×2.0"TC	2×2.0"TC
Light & Sight Glass 2	N/A	ID38mm	ID50mm	ID50mm	ID50mm	ID50mm	ID50mm	ID50mm
Vacuum Gauge & Safety Valve	1×G1/2" Male							
Thermowell	1×1.0"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC
Spare Port	1×1.0"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC
Sight Glass 3 & 4	N/A	N/A	N/A	N/A	N/A	2×3.0"TC	2×3.0"TC	2×3.0"TC
Vessel Side								
Jacket Fluid Outlet	1×G1/2"Male	1×G1/2"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male
Vessel Bottom								
Jacket Fluid Outlet	1×G1/2"Male	1×G1/2"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male	1×G3/4"Male
Discharge Outlet	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×1.5"TC	1×2.0"TC	1×2.0"TC	1×2.0"TC
Agitation								
Impeller Type	4-Blade Pitched Impeller							
Number of Impellers	1	1	2	2	2	3	3	3
Motor Type	AC Motor + Gear Reducer							
Motor Power [W]	120	120	120	200	370	370	750	750
Agitation Speed [rpm]	20-500	20-500	20-500	20-500	20-550	20-550	20-550	20-550
Control Method	Manual Control, Variable Frequency Speed Regulation							
Reflux Condenser								
Heat Exchange Area [m²]	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.5
Optional Collection Tank	3L x 1	3L x 1	3L x 1	3L x 1	5L x 1	10L x 1	10L x 1	15L x 1

Scalable Solutions for Pilot & Production

Stainless Steel Reactor System [Up to 20m³]

For industrial-scale production requirements, we engineer and manufacture heavy-duty stainless steel reactor systems with capacities up to 20m³. These robust systems are designed for demanding applications in both pilot plants and full-scale manufacturing.

Built to the same exacting standards as our laboratory-scale reactors, these industrial models incorporate high-performance features such as premium corrosion-resistant alloys, modular components for flexible functionality, and highly efficient temperature control systems.

We provide on-site installation and commissioning services to ensure a seamless and reliable scale-up process from R&D to production. Backed by our comprehensive custom engineering support, we work with you to tailor a system to your specific technical and capacity requirements. Contact us to discuss your project and receive a customized solution.



Related Equipment



Cooling Circulator

- DL series: -20/-30/-40°C ~ RT
- DLH series: -120/-80/-40/-30/-20°C ~ RT



Heating Circulator

- UC series: RT ~ 200/300°C



Heating Cooling Circulator

- HR-F series: -25°C ~ 200°C
- HRV series: -100°C ~ 100°C, -80°C ~ 200°C, -40°C ~ 200°C, -40°C ~ 250°C



Vacuum Pump

- Water aspirator vacuum pump
- PTFE diaphragm vacuum pump
- Industrial water-jet vacuum pump system
- Screw pump