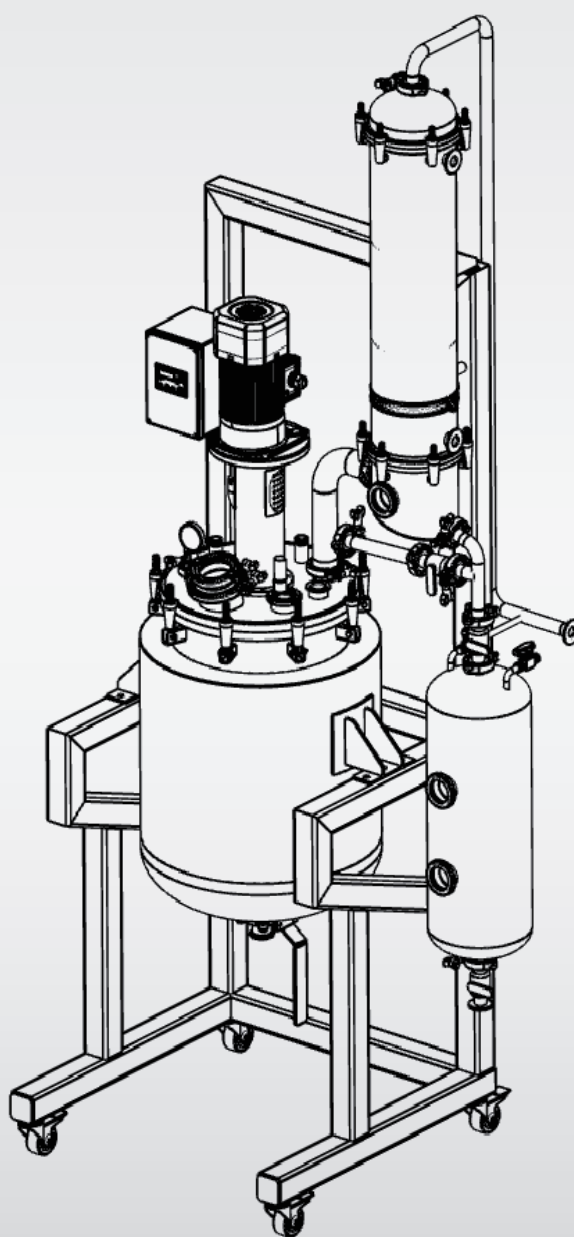
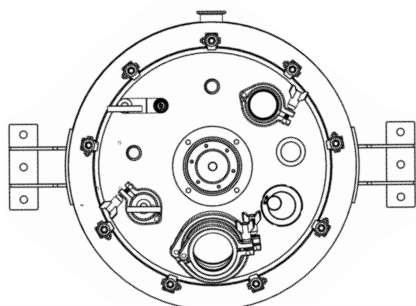




Stainless Steel Reactor for Scale Up
and Small-scale Production

SR500 Series

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



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.

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.



Controller



4-Blade Pitched Impeller

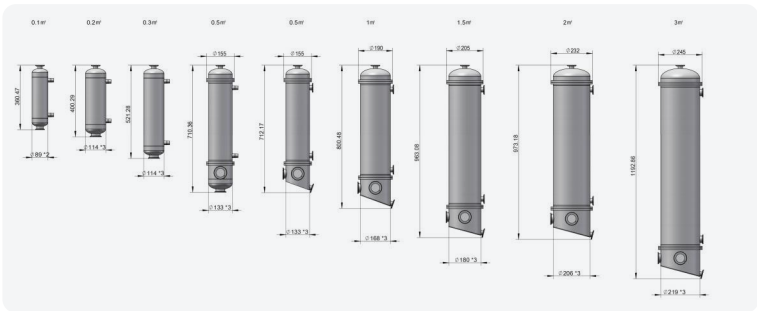
Flexible Configuration

- > **Plug & Play:** Fully assembled and skid-mounted for quick commissioning.
- > **Modular Upgrades:** Optional condenser, solvent collection tank, keg, and filter modules.
- > **Customizable Systems:** Tailored tank structures, control systems, automation, and safety certifications available.

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.

Optional Modules



Condenser

Type	Shell and Tube Condenser
Heat Transfer Area [m ²]	0.1 / 0.2 / 0.3 / 0.5 / 1 / 1.5 / 2 / 3
Material	SUS304



Solvent Collection Tank

Type	Single-wall Collection Tank
Material	SUS304, Borosilicate Glass, PTFE
Total Volume [L]	3 / 5 / 10 / 15 / 20 / 30 / 50 / 100 / 150
Sight Glass	2 pc



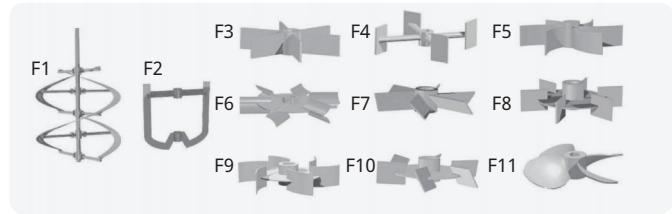
Collection Keg

Type	Single-wall Beer Keg
Material	SUS304
Total Volume [L]	20 / 30 / 50 / 60 / 120
Design Pressure	-0.1Mpa~0.6Mpa [-1bar~6bar]



Filter

Type	Vacuum Filtration & Positive Pressure Filtration
Material	SUS304, Borosilicate Glass, PTFE
Design Pressure	-0.1Mpa~0.4Mpa [-1bar~4bar]
Design/Working Temperature	-80~250°C / -80~220°C
Sintered Mesh Pore Size [μm]	100
Filtration Volume [L]	10 / 20 / 50
Filter Area [m ²]	0.06 / 0.1 / 0.16



Impeller

Impeller Type	Ribbon spiral belt impeller, anchor impeller, radial flow type impeller, axial flow paddles, triple-blade propeller, etc.
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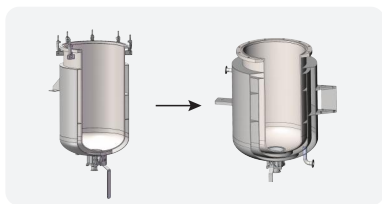
Spray Ball

Quantity	2
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Upgrades



Side Observation Window



Insulation Layer



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



Material: 316L, 2205



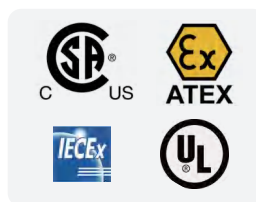
Weighing Module [Mettler Toledo]



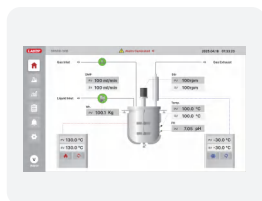
Liquid Level Detection



Online Detection and Control



Certification (CSA/ATEX/IECEx/UL)



PLC + Color Touch Screen Control System



Pneumatic Motor



Bursting Disc



Magnetic Drive



Tank Cover Lifting

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



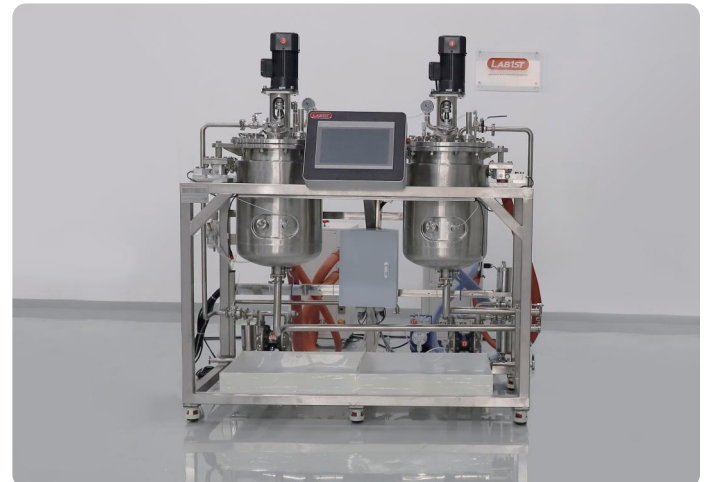
10L Reactor with Pneumatic Lifting and Weighing System



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



Model	SR500-5L	SR500-10L	SR500-20L	SR500-30L	SR500-50L	SR500-100L	SR500-150L	SR500-200L
Process Design								
Installation Dimension [mm]	350×1200×365	406×1380×400	460×1420×440	520×1600×530	640×1800×630	770×1950×680	850×2000×850	900×2200×900
[W×H×D] ["]	13.8×47.2×14.4	16.0×54.4×15.8	18.1×55.9×17.3	20.5×63.0×20.9	25.2×70.9×24.8	30.3×76.8×26.8	33.5×78.5×33.5	35.5×86.6×35.5
Installation Weight	40 kg 88 lb	60 kg 132 lb	73 kg 161 lb	101Kg 223lb	132Kg 291lb	187Kg 413lb	265 kg 584 lb	362 kg 798 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 C / -20~220 C							
Agitation	Variable Frequency Speed Control, 20~500rpm [<50L], 20~550rpm [≥50L]							
Environmental Requirements	Ambient Temp: 5~40°C, 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								
Impeller Type	4-Blade Pitched Impeller							
Number of Impellers	1	1	2	2	2	3	3	3
Motor								
Motor Type	AC Motor + Gear Reducer							
Motor Power [W]	120W	120W	120W	200W	370W	370W	750W	750W
Built-in Gearbox Ratio	1 : 3	1 : 3	1 : 3	1 : 3	1 : 3	1 : 3	1 : 3	1 : 3
Starting Torque [N·m]	6.24	6.24	6.24	9	17.7	17.7	35.7	35.7
Rated Torque [N·m]	2.22	2.22	2.22	3.75	8.1	8.1	16.2	16.2
Control								
Control Method	Manual Control, Variable Frequency Speed Regulation							

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