



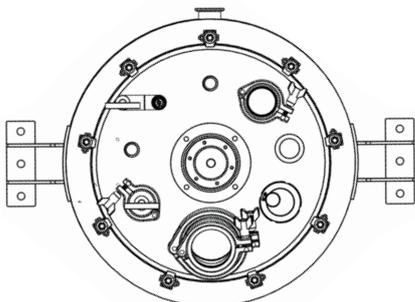
Stainless Steel Reactor for Scale Up
and Small-scale Production

SR500-EVP Series

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



SOVENT RECOVERY 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, larger condenser with collection tank, etc.
- > **Plug & Play:** Fully assembled and skid-mounted for quick commissioning.
- > **Customizable options:** Tailored tank structures, control systems, automation, and safety certifications available.



Shell and Tube 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

💡 For evaporation reactors below 50L, an integrated collection bottle with sight glass is equipped.

Units of 50L and above are configured with a single-layer keg, which can be upgraded to a stainless steel collection tank with casters.

Integrated Single-layer tank with sight glass

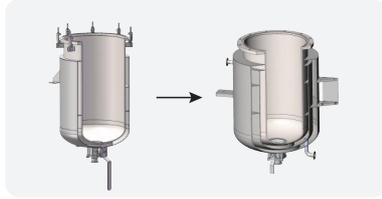
Single-layer Beer Keg

Stainless Steel Tank with casters

Upgrades



Side Observation Window



Insulation Layer



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



Material: 316L, 2205



Weighing Module [Mettler Toledo]



Liquid Level Detection



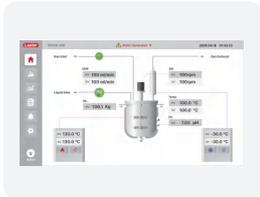
Online Detection and Control



Certification (CSA/ATEX/IECEx/UL)



Tank Cover Lifting



PLC + Color Touch Screen Control System



Pneumatic Motor



Bursting Disc



Magnetic Drive

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



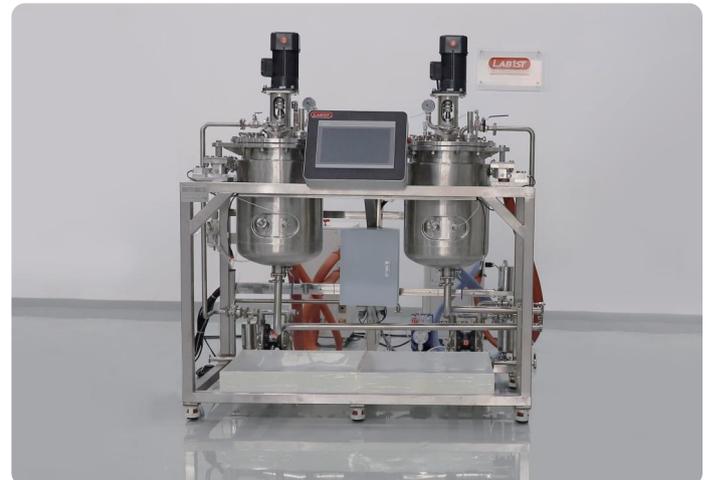
10L Reactor with Pneumatic Lifting and Weighing System



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 | SR500-5EVP | SR500-10EV | SR500-20EVP | SR500-30EVP | SR500-50EVP | SR500-100EVP | SR500-150EVP | SR500-200EVP |
|--------------------------------|---|----------------|-----------------|-----------------|---------------------|-------------------------------|-----------------|------------------|
| Process Design | | | | | | | | |
| Installation Dimension [mm] | 514×1650×365 | 570×1800×400 | 670×1850×440 | 730×2010×530 | 885×2310×635 | 1215×2400×680 | 1300×2660×850 | 1350×2950×900 |
| [W×H×D] ["] | 20.2×65.0×14.4 | 22.4×70.9×15.7 | 26.4×72.8×17.3 | 28.7×79.1×20.9 | 34.8×90.9×25.0 | 47.8×94.5×26.8 | 51.2×104.7×33.5 | 53.1×116.1×35.4 |
| Installation Weight | 50 kg 110 lb | 85 kg 187 lb | 100 kg 220 lb | 140 kg 309 lb | 175 kg 386 lb | 260 kg 573 lb | 350 kg 772 lb | 455 kg 1003 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" & 1.5"TC | 2.5" & 2"TC | 3" & 2"TC | 3.5" & 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 | | | | | | | |
| Solvent Recovery Module | | | | | | | | |
| Condenser Type | Shell and Tube Condenser | | | | | | | |
| Heat Exchange Area [m²] | 0.3 | 0.5 | 1 | 1 | 1.5 | 2 | 3 | 3 |
| Collection Tank Type | Single-layer Liquid Collection Tank with Sight Glass | | | | Beer Collection Keg | | | |
| Collection Tank Capacity | 3L x 1 | 5L x 1 | 10L x 1 | 15L x 1 | 20L x 1 | 60L x 1 | 60L x 1 | 120L 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