Seltis

Solution For
Vacuum Freeze-drying System

CE ISO9001 CERTIFIED

Seltis

Solution For
Vacuum Freeze-drying System

Various Types capacity and
combination of Seltis
Freeze Dryer
-55°c ~-110°c /4L-24L Capacity

Construction

- Use of anticorrosion 316L grade stainless steel interior for condenser coil, condenser chamber, and high-impact coated finish outer.
- Equipped with SS drain valve.
- Inner/Outer cooling coil system for better performance.
- Silent operation with low noise level less than 50 dBA.
- Inbuilt vacuum pump protection from moisture.
- Performance guaranteed for hard condition resistant test +32°C.
- Caster wheels with stopper for easy movement.
- Backfilling valve for inerting air and gas.
- Vacuum pump pressure anti-return device.
- Pirani gauge vacuum sensor.

Cooling System

- Average evacuation time of 20–40 minutes to reach acceptable vacuum level.
- CFC & HCFC-free energy-efficient refrigeration system.
- LBP hermetic compressor with delay start function to avoid any compressor damage.
- Two-stage cascade refrigeration system.
- Audible and visual alarm system for power failure or any other irregularities relating to the operations.
- Vacuum control for setting and maintaining desired ultimate vacuum.
- Inbuilt Product sensor.
- Six-pin password protection for system safety.
- Vacuum Display in mbar, Pa torr & Temperature in F or C.
- Electromagnetic vacuum control valve.

One Touch Operation Microprocessor control

- Microprocessor touch screen control LCD displays condenser temperature, time, sample temperature, vacuum, and various other operating and set parameters with graph presentation on the control panel with USB & ethernet port for data storage & transfer.
- Manual and automatic control operations.
- Temperature measuring sensor Platinum PT-100Ω (Class A 0.15 grade).
- Vacuum break valve to prevent backflow of contaminated oil or gas.
- Temperature setting functions for auto start of vacuum pump once cold trap reaches -40°C temperature.
- Standby and run mode operation provide complete information relating to system and vacuum pump operation duration and service alert.

Optional Accessories System & others

- Chemical-resistant two-stage rotary vane vacuum pump (100–2000 LPM) with ultimate pressure (2×10^{-3} mbar) or better.
- Chemical-resistant oil-free vacuum pump (100–150 LPM).
- End-point determination option.
- Real-time monitoring.

FREEZE DRYER BENCH TOP AND FLOOR TYPE

Model	ST-5502 / ST-8502 / ST-11002	ST-5503 / ST-8503 / ST-11003	ST-8506 / ST-11006	ST-8508 / ST-11008	ST-8512 / ST-11012
Cold Trap Temperature	-55°c / -85°c / -110°c	-55°c / -85°c / -110°c	-85°c / -110°c	-85°c / -110°c	-85°c / -110°c
Condenser Volume	6L	8L	12L	16L	24L
Maximum Ice Capacity	4kg	6kg	10kg	12kg	16kg
Ice Removal Capacity / 24 hr	2kg ~ 3kg	3.5kg ~ 4.5kg	5kg ~ 6kg	7kg ~ 8kg	10kg ~ 12kg
Compressor	1HP x1/2 / 2	1HP x 1/2 / 2	1HP x 2	1HP x 2	1HP x 2
Controller	Micro Processor PLC LCD Touch Screen				
Electrical	220V 50Hz				
Defrost	Auto (Hot Gas)				
Dimension(mm)	W350xD600xH550/W530xD470xH730	W430xD640xH600/W570xD490xH730	W750xD730xH810	W775xD760xH810	W805xD790xH810
Weight (kg)	70 / 90 kg	80 / 110 kg	130 kg	160 kg	190 kg

(Design and Dimensions are subject to change without notice for further improvement)

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Solution For
Vacuum Freeze-drying System

Construction

- Use of Anticorrosion 316L Grade Stainless Steel for trap chamber, Cold trap condenser and high impact coated finish outer frame.
- CFC & HCFC free refrigeration system with low noise level.
- Specially designed air cooled condenser and aero dynamic fan.
- LBP Hermetic Compressor with delay start function to avoid any compressor damage.
- Double Auto Cascade refrigeration.
- Equipped with drain Valve system.
- Vacuum pump protection from moisture.
- Transparent Acrylic drying chamber door.
- In built Pre Freezing system eliminates the need of separate freezer and product transfer.
- System is equipped with gas inert valve.
- System has end point determination facility
- Shelf pull down time (20°c to -40°c) is ≤ 40 minutes.
- Condenser Pull down time(20°c to -45°c) is ≤ 30 minutes.

Control & Alarm System

- Microprocessor Touch Screen PLC Control LCD System displays digital temperature, vacuum and various other parameters with graphs presentation on the control panel and freeze drying curve control with 32 programs and data recording which can be transfer to users PC.
- Manual & Automatic Control operations.
- Sensor Platinum PT-100Ω(Class A 0.15 grade).
- Vacuum control System.
- Average evacuation time of 20-40 minutes to reach acceptable vacuum level.
- Auto vacuum release valve to prevent back flow of contaminated oil or gas.
- Temperature Setting for auto start of vacuum pump once the cold trap reaches -40°c temperature.
- Alarm system for power failure or any other irregularities relating to the operations.
- Chemical resistant two Stage Rotary Vane Vacuum Pump(1000-1800LPM) with Ultimate pressure (2x10-3mbar) or better.
- Time to reach 100m Torr is ≤ 45 minutes.
- Vacuum control range 50 to 500 m Torr.
- Leak rate ≤ 0.0042mbar L/sec
- Vacuum rate ≤ 30mTorr/hr

PILOT SERIES PHARMA SCALE

Model	ST-8570(P)	ST-8550(P)
Cold Trap Temperature	-85°c	
Material	SS316L (Drying Chamber, Cold Trap, Shelf and Tray)	
Total Capacity	70kg	50kg
Ice Removal Capacity/24hrs.	30Ltr	21Ltr
Tray Size (mm/qty)	500x300/21nos. (customization available)	500x300/15nos. (customization available)
Shelf Space	65mm	80mm
Shelf Area	3.15m^2	2.25m^2
Shelf size mm/no.	500x900/7	500x900/5
Refrigerant	R407C,R508B	
Product Sensor	7	5
Installation Power	AC380V3PH (50Hz) 18KW	AC380V3PH (50Hz) 13.5KW
Dimension(mm)	W1220xD2210xH1870	W2025xD1195xH1720
Shelf Temperature	-50°c ~+70°c (accuracy ± 1°c)	
Condenser surface area	2.15m^2	
Heat Generated	6kw	
Deposition Rate	≥0.80L/hr	
Compressor / nos.	2 (Tecumseh 5.5 hp)	2 (Tecumseh 3.5 hp)
Controller	PLC LCD Touch Screen + 32 programs, USB Download with software	
Shelf Cooling System	Silicon Oil Type	
Final Vacuum	≤ 15mtorr	
Defrost	Auto (Hot Gas)	
Stoppering	Hydraulic (Optional)	
Certification	ISO, CE, GMP, 21CFR Part 11 Compliance	
Weight (Kg)	1800(Kg)	1300(Kg)

(Dimensions and specifications are subject to change without notice for further improvement on design)

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Vacuum Freeze-drying System

Various Types capacity and
combination of Seltis
Freeze Dryer
-56°c / 6L-10L Capacity

Construction

- Use of anticorrosion 316L grade stainless steel interior for condenser coil, condenser chamber, and high-impact coated finish outer.
- Equipped with SS drain valve.
- Inner/Outer cooling coil system for better performance.
- Silent operation with low noise level less than 50 dBA.
- Inbuilt vacuum pump protection from moisture.
- Performance guaranteed for hard condition resistant test +32°C.
- Caster wheels with stopper for easy movement.
- Backfilling valve for inerting air and gas.
- Vacuum pump pressure anti-return device.
- Pirani gauge vacuum sensor.
- Transparent Acrylic door for sample view.
- SS Condensate Pan with Drain Hose

Cooling System

- Average evacuation time of 20–40 minutes to reach acceptable vacuum level.
- CFC & HCFC-free energy-efficient refrigeration system.
- LBP hermetic compressor with delay start function to avoid any compressor damage.
- Two-stage cascade refrigeration system.
- Audible and visual alarm system for power failure or any other irregularities relating to the operations.
- Vacuum control for setting and maintaining desired ultimate vacuum.
- Inbuilt Product sensor.
- Six-pin password protection for system safety.
- Vacuum Display in mbar, Pa torr & Temperature in F or C.
- Electromagnetic vacuum control valve.

One Touch Operation Microprocessor control

- Microprocessor touch screen control LCD displays condenser temperature, time, sample temperature, vacuum, and various other operating and set parameters for pre-freezing, primary and secondary drawing with graph presentation on the control panel with USB & ethernet port for data storage & transfer.
- Manual and automatic control operations.
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- Vacuum break valve to prevent backflow of contaminated oil or gas.
- Temperature setting functions for auto start of vacuum pump once cold trap reaches -40°C temperature.
- Standby and run mode operation provide complete information relating to system and vacuum pump operation duration and service alert.

Optional Accessories System & others

- Chemical-resistant two-stage rotary vane vacuum pump (100–2000 LPM) with ultimate pressure (2×10^{-3} mbar) or better.
- Chemical-resistant oil-free vacuum pump (100–150 LPM).
- End-point determination option.
- Real-time monitoring.
- Stoppering system.

FOOD FREEZE DRYER

Model	ST-5FD	ST-10FD
Cold Trap Temperature	-56°C	-56°C
Total Capacity	8Kg	12kg
Material Processing capacity	6L (Liquid Filling 10mm)	10L (Liquid Filling 10mm)
Shelf Size/Nos.	600x225mm (5+1)	920x225mm (5+1)
Tray Size	600x225x25mm	460x220x25mm
Shelf Space	50mm	
Product Sensor	1	
Controller	Microprocessor PLC LCD Touch Screen Control with 12 recipes & USB Data Storage	
Drying Chamber	Square Type SS 316	
Door	Transparent Acrylic Door	
Compressor	Hermetic Sealed Secop	
Defrost	Hot Gas	
Power	220Volt 50Hz (2.4Kw)	220Volt 50Hz (2.8Kw)
Dimensions (L*W*H)	630x910x1040mm	1235×630×1180mm
Weight	150kg	180Kg

(Design and Dimensions are subject to change without notice for further improvement)

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Solution For
Vacuum Freeze-drying System

Freeze Dryer
-85°c /4L-12L Capacity

Construction

- Use of anticorrosion 316L grade stainless steel interior for condenser coil, condenser chamber, and high-impact coated finish outer.
- Equipped with SS drain valve.
- Inner/Outer cooling coil system for better performance.
- Silent operation with low noise level less than 50 dBA.
- Inbuilt vacuum pump protection from moisture.
- Performance guaranteed for hard condition resistant test +32°C.
- Caster wheels with stopper for easy movement.
- Backfilling valve for inerting air and gas.
- Vacuum pump pressure anti-return device.
- Pirani gauge vacuum sensor.
- Transparent Acrylic door for sample view.
- SS Condensate Pan with Drain Hose

Cooling System

- Average evacuation time of 20–40 minutes to reach acceptable vacuum level.
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Optional Accessories System & others

- Chemical-resistant two-stage rotary vane vacuum pump (100–2000 LPM) with ultimate pressure (2×10^{-3} mbar) or better.
- Chemical-resistant oil-free vacuum pump (100–150 LPM).
- End-point determination option.
- Real-time monitoring.

BENCH TOP AND FLOOR TYPE PILOT SERIES LABORATORY SCALE

Model	ST-8504PL	ST-8506PL	ST-8508PL	ST-8512PL
Cold Trap Temperature	-85°c	-85°c	-85°c	-85°c
Total Capacity	4L	6L	8L	12L
Ice Removal Capacity/24hrs.	2Kg	4Kg	5Kg	8Kg
Tray Size (mm/qty)	300 X 400 /1 nos.	250 X 300/2 nos.	300 X 400/2 nos.	300 X 400/3 nos.
Shelf Space	50mm to 160mm			
Shelf Temperature	-55°c ~ + 60°c (accuracy ± 1°c)			
Compressor	1/3 HP x2	1/3 HP x2	1HP x2	1HP x2
Controller	Microprocessor 7" PLC LCD Touch Screen + 30 Programs, 20 Segments & USB			
Pre-freezing Temperature	-75°c			
SS Manifold	Inbuilt 4-6 Port for flask Attachment			
Heater	900 watt			
Shelf Cooling System	Silicon Oil Type			
Electrical	AC220V1ph(50Hz)			
Defrost	Auto Defrost / Hot Gas			
Stoppering	Pneumatic Stoppering System			
Dimension(mm)	W815xD650xH1200mm	W900xD655xH1210mm	W900xD675xH1230mm	W950xD875xH1230mm
Vials Capacity 2ml (16mm)	400	600	1400	1600
Vials Capacity 5ml (18mm)	220	450	1000	1200

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Accessories

8-24 Port SS Drying Chamber

Acrylic Drying Chamber with Tray (200mm Diameter)

8-24 Port Acrylic Drying Chamber with Manifold and complete SS valve flask attachment

8-24 Port Drying Chamber Manifold & Stoppering System with SS valve flask attachment

4-48 Port SS Manifold

24 /52/104 Port Ampoule Adapter

Tube holder

4branch glass adaptor

Chemical trap

Oil mist trap (small/large)

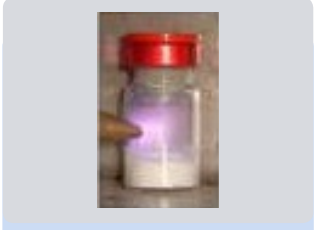
Adaptor & Cap with filter for Round and Wide Mouth Flask (50ml ~ 3000ml)

Vacuum valve / Vacuum grease

Vacuum Pump Oil

Chemical Resistant two stage rotary vane vacuum pump (100-2000LPM) with ultimate pressure (2X10^-3) or better

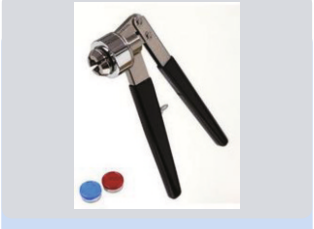
Temperature Monitor



Vacuum Tester Device

Pump Table

Ampoule Bottle Sealing Torch



Capping Device

Hepa Filter

Mfr. by:

SELECT REFRIGERATION

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Seltis

TWO STAGE ROTARY VANE VACUUM PUMP

SL-SERIES

CE ISO9001 CERTIFIED

TWO STAGE ROTARY VANE VACUUM PUMP

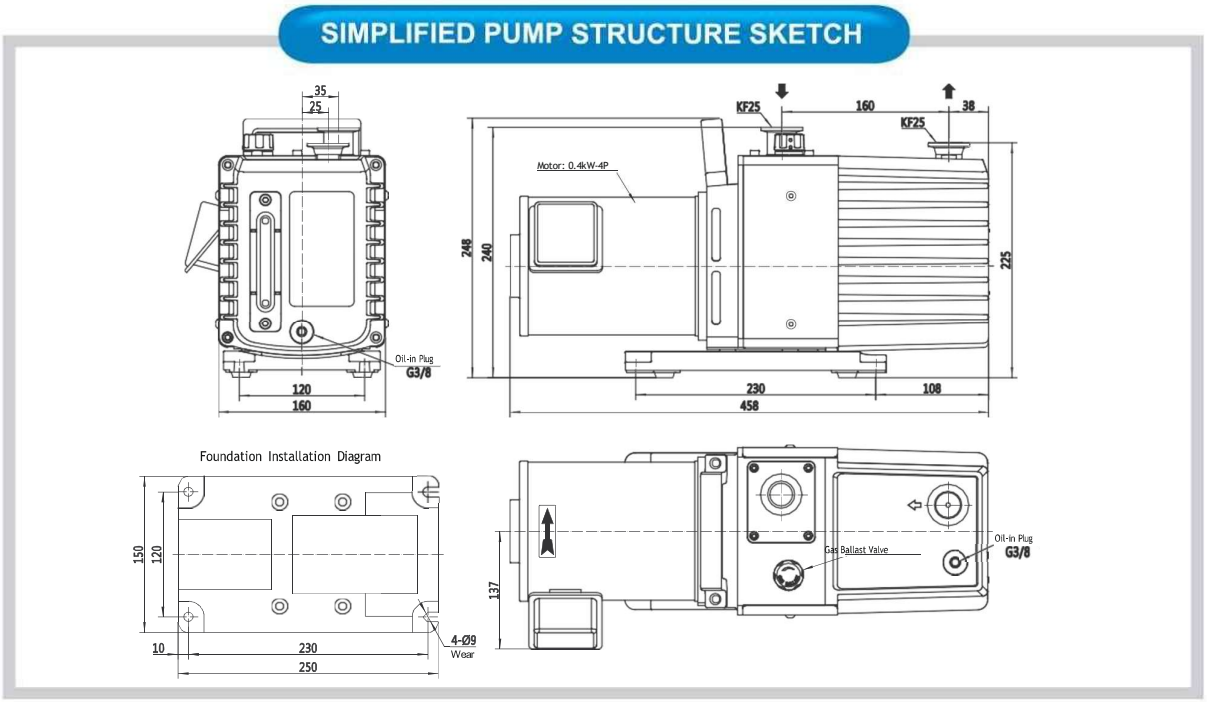
SL-SERIES

SL Series is a two-stage, oil-sealed Chemical resistant Hybrid vacuum pump. It is a new concept based on a conventional design to meet customers' needs.

Construction: It consists of a pump housing, oil casing, motor housing, pump base, and pump module. It is equipped with an oil anti-suckback valve and a gas ballast to protect the pump and vacuum system.

Operating Principle

The pump and motor are connected by a flexible coupling. As the rotor rotates, two vanes fitted in the rotor slots move outward under centrifugal force and maintain contact with the cylinder's inner surface. As the vanes pass the inlet passage, gas is drawn into and trapped between them. The trapped gas is compressed as the rotor turns toward the exhaust valve and is eventually discharged through the valve. Vacuum oil is supplied to the moving parts to provide lubrication and an effective seal.



TWO STAGE ROTARY VANE VACUUM PUMP

SL-SERIES

SPECIFICATIONS

Pump model no.		SL6R	SL8R	SL10R	SL12R
Pumping Speed	ℓ/min	100	200	300	500
	m^3/h	66	132	198	396
	CFM	3.5	7.1	9.2	21.2
Motor Speed (rpm)		1,500			
Ultimate pressure		2×10^{-3} mbar			
Power Input Options		220VAC/380VAC 3Φ 50Hz			
		Customer's Request (Voltage, Frequency and Phase)			
Full Load Power(kW)		0.4(0.5 HP)	0.4(0.5 HP)	0.75(1 HP)	1.5(2 HP)
Inlet and Outlet Options		NW25		NW40	
		+ Hose Nipple (Φ12, Φ16, Φ26 OD for NW25 / Φ36 OD for NW40)			
		+ PT Nipple (NW25)			
Noise Level		48 db			
Oil Capacity (cc)		500	600	1,500	2,700
Overall Dimension (mm)	W	150	150	170	206
	L	392	423	484	609
	H	250	250	287	318
Weight (kg)		19	21	29	51.5
Ambient Temp.		7~40°C / 45~104°F			

(Design and Dimensions are subject to change without notice for further improvement)

Applications

- Chemical Resistance Hybrid Vacuum pump
- Laboratory, Science experiment, Analyzer and Laser system
- Semiconductor equipment, Sputtering equipment and vacuum evaporation
- Backing pumps for the electronic microscope
- Vacuum dryer and Freeze dryer

Mfr. by:
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