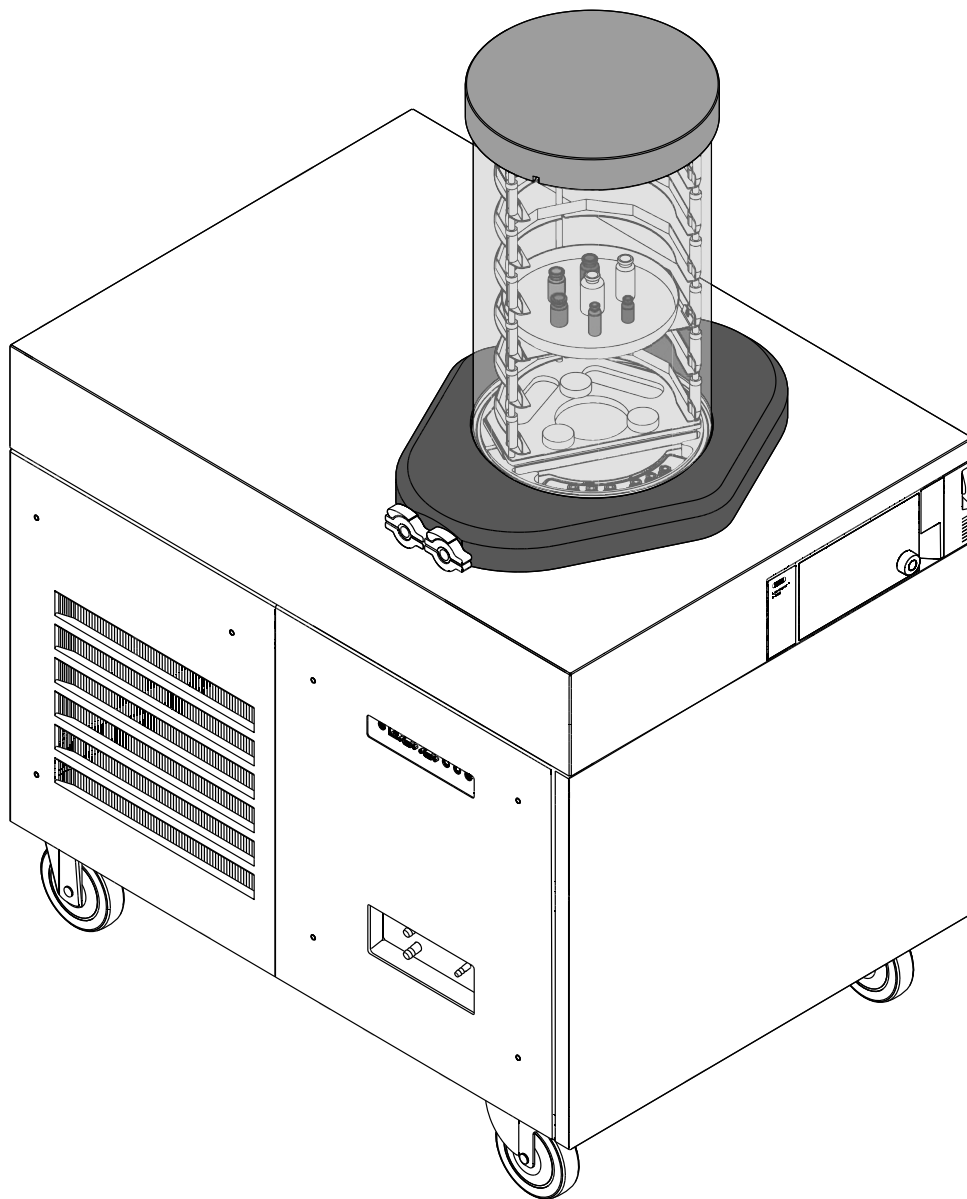




Lyovapor™ L-300

Technical data sheet

With Infinite-Technology the Lyovapor™ L-300 offers continuous sublimation for the first time with two alternate working and automatically hygienically cleaned condensers at $-105\text{ }^{\circ}\text{C}$. In addition, Infinite-Control allows entire process control of all relevant parameters, also via mobile device.



Overview of Lyovapor™ L-300 Solutions

	L-300 Continuous	L-300 Pro Modular
Lyovapor™ L-300	1	1
Vacuum sensor	1	1
Integrated vacuum control	1	1
Vacuum pump Duo 11	*	*
Drying chamber heateble shelf	–	1
Drying chamber unheateble shelf	1	1
Drying chamber rack manifold	1	1
User interface	1	Pro
Additional external vacuum sensors	–	*
Lyovapor™ Software	–	*
BUCHI Monitor App	1	1

* Optional, according to order code

Order code

Choose the configuration according to your needs:

Lyovapor™ L-300 Continuous



Drying Chamber

- 000 Without
- 010 Manifold rack 12
- 020 Manifold rack 24
- 030 Manifold rack 36
- 141 Tray 4
- 142 Tray 4 & manifold top 12
- 161 Tray 6
- 162 Tray 6 & manifold top 12

Pressure Control

- 5 Internal vacuum control

Sample temperature Sensor

- 0 Without sensor

Software

- 0 Without software

Vacuum Pump

- 0 Without vacuum pump
- 2 Vacuum pump "Pfeiffer Duo 11"

Voltage/Frequency

- 3 360 – 400 V (50 Hz)
- 4 208 – 220 V (60 Hz)

Order code

Choose the configuration according to your needs:

Lyovapor™ L-300 Pro Modular



Drying Chamber

- 000 Without
- 241 Heated shelves 4
- 242 Heated shelves 4 & manifold 12
- 243 Heated shelves 4 & stoppering
- 261 Heated shelves 6
- 262 Heated shelves 6 & manifold 12

Pressure Control

- 5 Internal vacuum control (IVC)
- 6 IVC + DC Capacitive vacuum sensor
- 7 IVC + DC Pirani vacuum sensor
- 8 IVC + DC Capacitive and Pirani vacuum sensor

Sample temperature sensor

- 0 Without sensor
- 1 Sensor (quantity according to shelf amount)

Software

- 0 Without software
- 1 Software

Vacuum Pump

- 0 Without vacuum pump
- 2 Vacuum pump "Pfeiffer Duo 11"

Voltage/Frequency

- 3 360 – 400 V (50 Hz)
- 4 208 – 220 V (60 Hz)

Scope of delivery of Lyovapor™ L-300

All configurations are delivered ready to use and are complete of:

Components	Lyovapor™ L-300
Lyovapor™ L-300	1
Power cable	1
Vacuum hose	1
Vacuum sealing ISO-KF 16	1
Vacuum clamp ISO-KF 16	1
Vacuum sealing ISO-KF 25	2
Vacuum clamp ISO-KF 25	2
O-Ring Ø 300 mm	2
Vacuum flange adapter	1
Operation Manual	1
Technical Data Sheet	1

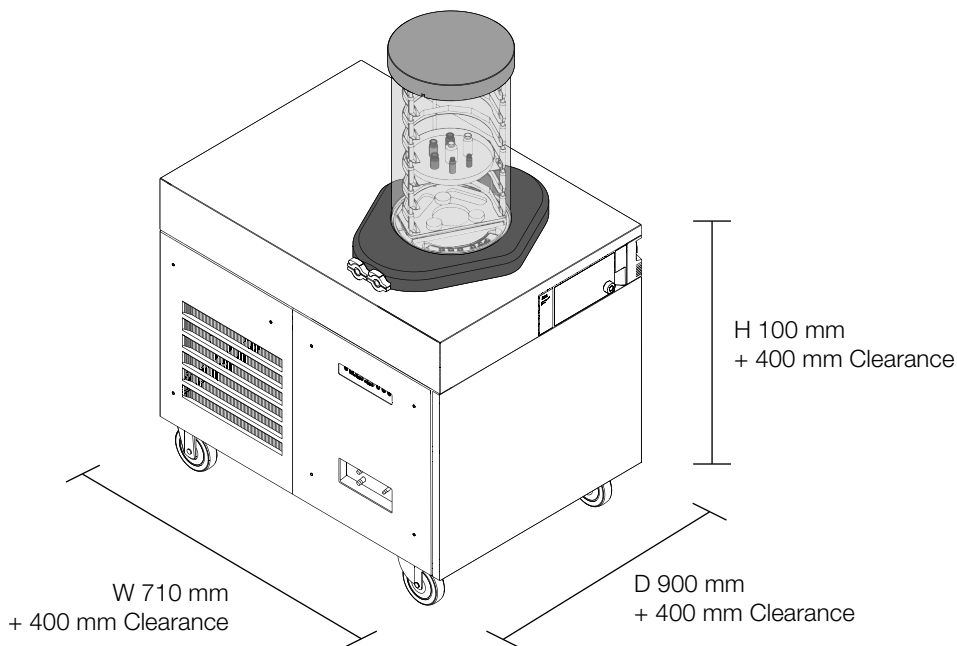
Technical data

Dimensions (W × H × D)	710 × 1000 × 900 mm	
Weight	250 kg	
Minimum clearance on all sides	400 mm	
Connection voltage	380 – 400 VAC	208 – 220 VAC
Power consumption	3500 VA	2500 VA
Fuse	16 A	
Frequency	50 Hz	60 Hz
Environmental condition	For indoor use only	
– Temperature	15 – 30 °C (25 °C)	
– Altitude	Up to 2000 m	
– Humidity	Maximum relative humidity 80 % for temperatures up to 30 °C	
Overvoltage category	II	
Degree of protection	IP21	
Pollution degree	2	
Condenser power	≥ 12 kg / 24h	
Lowest condenser temperature	-105 °C	
Temperature uniformity	± 1.0 °C	
Maximum condenser capacity	infinite	
Condenser surface area	2 × 1280 cm ²	
Number of compressors	2	
System refrigerant 1	R507 CFC free	
Amount of refrigerant 1	790 g	
System refrigerant 2	Ethylene CFC free	
Amount of refrigerant 2	98 g	
Vacuum time to 0.1 mbar*	Typ. ≤ 15 min	
Volume-based leak rate*	Typ. ≤ 0.001 mbar × L / sec	
Lowest system vacuum*	Typ. ≤ 30 mTorr	
Vacuum level control range*	50 to 500 mTorr	
Shelf heating range	Up to 60 °C	
Shelf temperature control tolerance	± 1.0 °C	
Noise level according to DIN45635	typ. < 68 dB(A)**	
EMC according to EN61326 : 2013	Class B	
Water inlet temperature	10 – 25 °C	
Water pressure	2 – 5/6 bar	
Hose connection for water cooling	DN10 mm	

* Vacuum pump “Pfeiffer Duo 11”

** Without vacuum pump

Installation requirements



Power supply

Connection voltage	380 – 400 VAC	208 – 220 VAC
Power consumption	3500 VA	2500 VA
Fuse	16 A	
Frequency	50 Hz	60 Hz

Electricity network

Both connectors are CEE industrial plugs (three phase star with earthed neutral) according to BS EN.60309-2/ BS4343:1992. Suggested installation: Circuit breaker 16A with trigger characteristic B or C and residual-current circuit breaker (RCCB) (also known as ground fault circuit interrupter (CFCI)) with a trigger current of 30 mA.

Lyovapor™ L-300 50 Hz

Load capacity	16 A / 400 VAC
Poles	5
Time setting	6 h
Color	red

Lyovapor™ L-300 60 Hz

Load capacity	16 A / 230 VAC
Poles	4
Time setting	9 h
Color	blue

Pump requirements

Connecting voltage	180 – 265 V
End pressure with gas ballast	3×10^{-3} hPa
End pressure without gas ballast	3×10^{-3} hPa
Absorption capacity 50 Hz	9 m ³ /h
Absorption capacity 60 Hz	10.5 m ³ /h
Maximum power consumption	550 W

Drying chamber bundles

Drying chamber manifold	Order number
Drying rack manifold 12, complete with 12 manifold valves and baseplate, for L-200 and L-300	11DCIN01000
Drying rack manifold 24, complete with 24 manifold valves and baseplate, for L-200 and L-300	11DCIN02000
Drying rack manifold 36, complete with 36 manifold valves and baseplate, for L-200 and L-300	11DCIN03000

Drying chamber nonheatable shelves	Order number
Drying chamber 4 shelves, complete with top cover and 4 shelves	11DCIN14100
Drying chamber manifold, 4 shelves, complete with top cover manifold, 4 shelves and 12 manifold valves	11DCIN14200
Drying chamber 6 shelves, complete with top cover and 6 shelves	11DCIN16100
Drying chamber manifold, 6 shelves, complete with top cover manifold, 6 shelves and 12 manifold valves	11DCIN16200

Drying chamber heatable shelves	Order number
Drying chamber 4 heatable shelves, complete with top cover, 4 heatable shelves and 4 sample temperature sensors	11DCPH24110
Drying chamber manifold, 4 heatable shelves, comp. with top cover manifold, 4 heatable shelves, 12 manifold valves and 4 sample temperature sensors	11DCPH24210
Drying chamber stoppering, 4 heat. shelves, comp. with top cover stoppering, 4 heatable shelves and 4 sample temperature sensors	11DCPH24310
Drying chamber 6 heatable shelves, complete with top cover, 6 heatable shelves and 6 sample temperature sensors	11DCPH26110
Drying chamber manifold, 6 heatable shelves, comp. with top cover manifold, 6 heatable shelves, 12 manifold valves and 6 sample temperature sensors	11DCPH26210
Drying chamber stoppering, 6 heat. shelves, comp. with top cover stoppering, 6 heatable shelves and 6 sample temperature sensors	11DCPH26310

Accessories

Drying chambers	Order number
Drying chamber tube, PMMA, L 350 mm, D 300 mm	11063278
Drying chamber tube, PMMA, L 480 mm, D 300 mm	11065093
Top cover, PMMA, D 300 mm	11062912
Top cover manifold, PMMA, with 12 valves, D 300 mm	11065595
Top cover stoppering, complete, D 300 mm	11064314
Rack, for 4 shelves, complete	11065102
Rack, for 6 shelves, complete	11065103
Support for rack, stainless steal	11063789
Nonheatable Shelf, stainless steel	11065115
Heatable shelf, aluminum coated, with connection cable	11064095
Sample tray, stainless steal, D 220 mm	11061439
Drying rack manifold, stainless steal, with 12 valves	11063664
Baseplate, stainless steel, for manifold rack	11064953
Baseplate, PMMA, for manifold rack	11065733
Manifold valve, comp, natural ruber, with SJ 29/32	11062300

Sensors	Order number
Sample temperature sensor PT1000	11064031
Pirani pressure sensor	11062229
Capacitive pressure sensor	11062230
Cable for pressure sensor Pirani 11062229	11064728
Cable for pressure sensor capacitive 11062230	11064729
Level sensor capacitive, for water tank	11065245

Vacuum	Order number
Vacuum clamp KF 16	11064939
Vacuum clamp KF 25	11063662
Vacuum clamp, stainless steal, KF 40	11063663
Vacuum flange adapter, stainless steel, KF 16 to KF 25	11064870

Electronics	Order number
User interface L-300	11063580
User interface L-300 Pro	11063581
SD-Card 1 GB	11064730
Lyovapor™ software DVD	11065667
Connection cable, for vaccum pump	11064934

Spare parts

	Order number
O-Ring, Silicone, 94.61x6.99	11062420
O-Ring, Silicone, 161.3x5.33	11062421
O-Ring, Silicone, 278.44x6.99	11063461
Sealing, FKM, KF 16, center ring	11063455
Sealing, FKM, KF 25, center ring	11063457
Sealing, FKM, KF 25, outer ring	11063458
Vacuum hose, PVC, with steal spiral, KF 25, L 1000 mm	11063485
Hose nozzle, PP, DN 10, for water cooling connection	11064004
Blind flange, stainless steel, KF 16	11064902
Blind flange, stainless steal, KF 25	11063660