

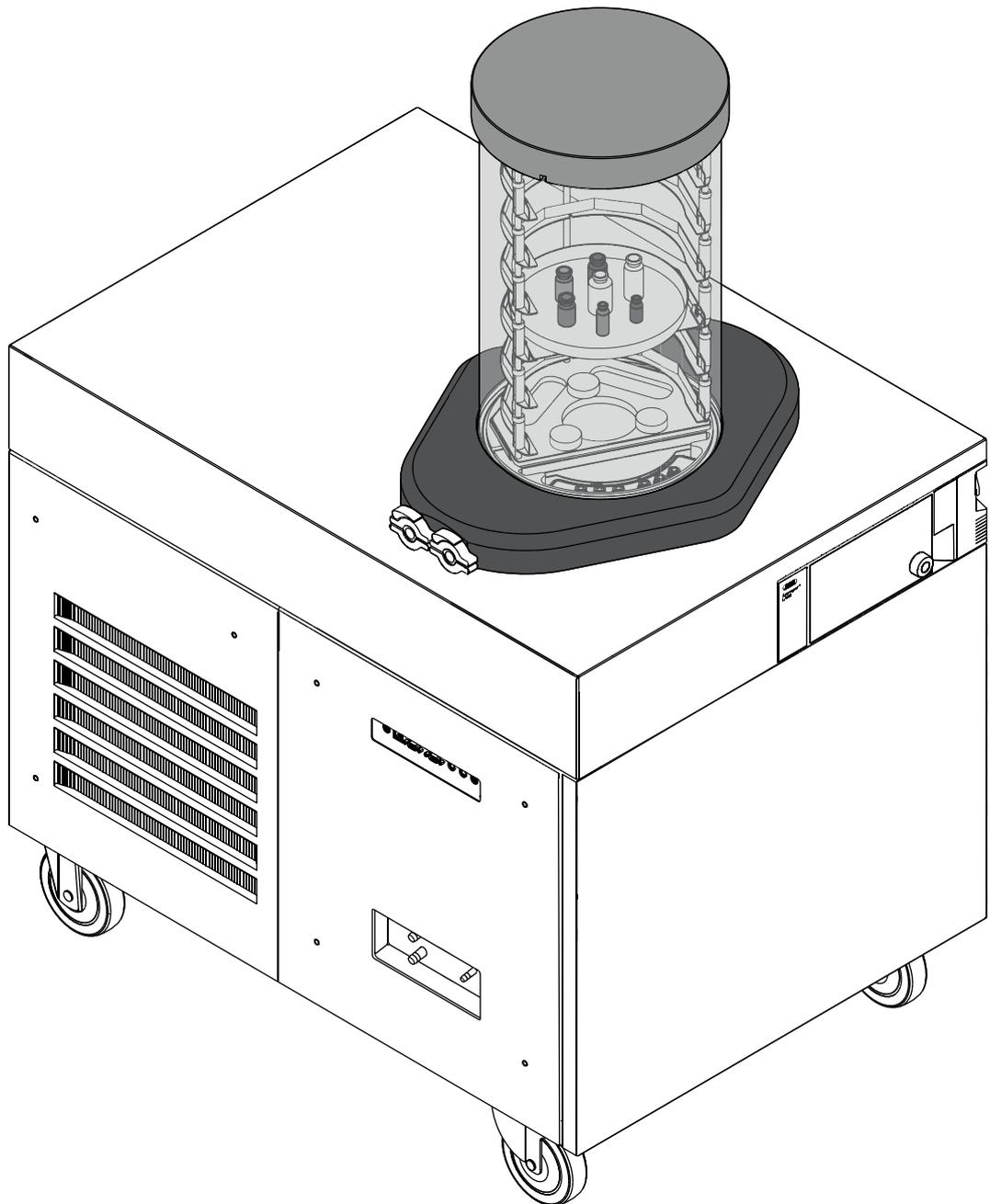


Lyovapor™ L-300

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 °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 heatable shelf	-	1
Drying chamber non-heatable shelf	1	1
Drying 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

1	1	L	3	0	0	I	N									0	0	
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Drying chamber

- 000 Without
- 010 Manifold rack 12
- 020 Manifold rack 24
- 030 Manifold rack 36
- 141 Shelves 4
- 142 Shelves 4 & manifold top 12
- 161 Shelves 6
- 162 Shelves 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 3 x 380 - 400 (50 Hz)
- 4 3 x 208 - 220 (60 Hz)

Order Code

Choose the configuration according to your needs:

Lyovapor™ L-300 Pro Modular

1	1	L	3	0	0	P	H									0	0	
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Drying chamber

- 000 Without
- 241 Heatable shelves 4
- 242 Heatable shelves 4 & manifold top 12
- 243 Heatable shelves 4 & stoppering top
- 261 Heatable shelves 6
- 262 Heatable shelves 6 & manifold top 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 With 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

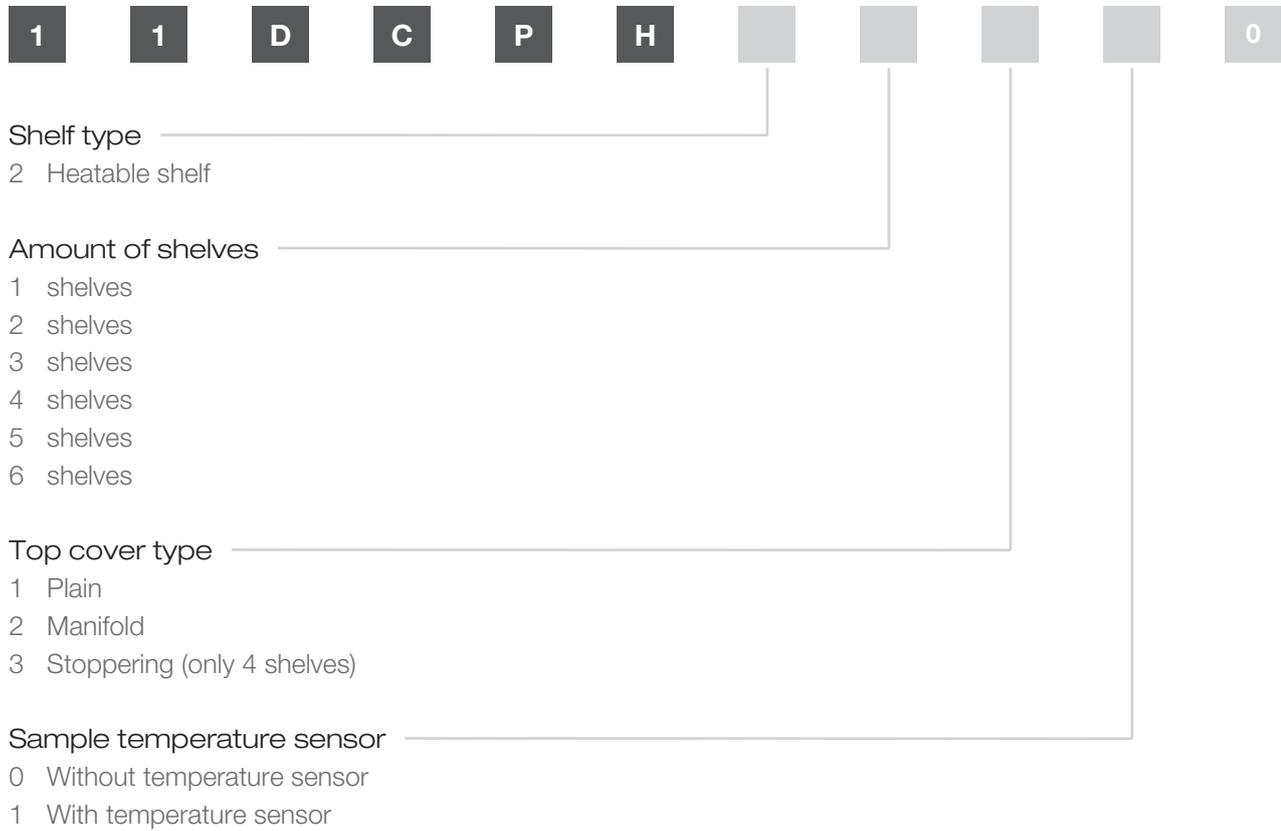
- 3 3 x 380 - 400 V (50 Hz)
- 4 3 x 208 - 220 V (60 Hz)

Order Code

Choose the configuration according to your needs:

Drying chambers with heating options

The amount of optional sample temperature sensors is determined by the ordered shelves. One sensor for each shelf.



Specifications supplied

All configurations are supplied ready to use.

Component	Lyovapor™ L-300
Lyovapor™ L-300 or	1
Lyovapor™ L-300 Pro	
Operation Manual	1
Technical data sheet	1
Vacuum tubing	1
O-ring 300 mm	2
Vacuum seal, ISO-KF 16	1
Vacuum seals, ISO-KF 25	2
Vacuum clamp, ISO-KF 16	1
Vacuum clamps, ISO-KF 25	2
Vacuum tubing adaptor, ISO-KF 16 to ISO-KF 25	1
Canister for defrost and waste water*	1
Level sensor*	1
Tubing*	

* Option

Technical data

Lyovapor™ L-300

Dimensions without drying attachments (W x D x H)	710 x 1000 x 900 mm	710 x 1000 x 900 mm
Weight	250 kg	250 kg
Minimum clearance on all sides	400 mm	400 mm
Power supply	3 x 380 - 400 VAC	3 x 208 - 220 VAC
Power consumption (rated)	3000 W	3500 W
Power consumption (maximum)	4500 W	6000 W
Lug	16 A	16 A
Frequency	50 Hz	60 Hz
Overvoltage category	II	II
Protection rating	IP20	IP20
Pollution degree	2	2
Condensing capacity	≥ 12 kg/24 h	≥ 12 kg/24 h
Lowest condenser temperature	-105 °C	-105 °C
Temperature divergence	± 1.0 °C	± 1.0 °C
Condenser capacity	Unlimited	Unlimited
Condenser surface area	2 x 1280 cm ²	2 x 1280 cm ²
Number of compressors	2	2
Refrigerant 1	R507 CFC-free	R507 CFC-free

Refrigerant 1 quantity	790 g	790 g
Refrigerant 2	Ethylene CFC-free	Ethylene CFC-free
Refrigerant quantity 2	98 g	80 g
Drying shelf temperature	to 60 °C	to 60 °C
Drying shelf temperature tolerance	± 1.0 °C	± 1.0 °C
Inlet water temperature	15 - 20 °C	15 - 20 °C
EMC to EN 61326	Class B	Class B
Coolant water pressure	2 - 5/6 bar	2 - 5/6 bar
Coolant connection	DN10 mm	DN10 mm
Coolant flow rate	6 L/min	6 L/min
Vacuum generation time to 0.1 mbar*	Typically ≤ 15 min	Typically ≤ 15 min
Volume-based leakage rate*	Typically ≤ 0.001 mbar x L/ sec	Typically ≤ 0.001 mbar x L/ sec
Minimum system vacuum*	Typically ≤ 30 mTorr	Typically ≤ 30 mTorr
Vacuum control range*	50 to 500 mTorr	50 to 500 mTorr
Noise emission to DIN 45635 **	Typically < 68 dB(A)	Typically < 68 dB(A)

* With Pfeiffer Duo vacuum pump / without samples

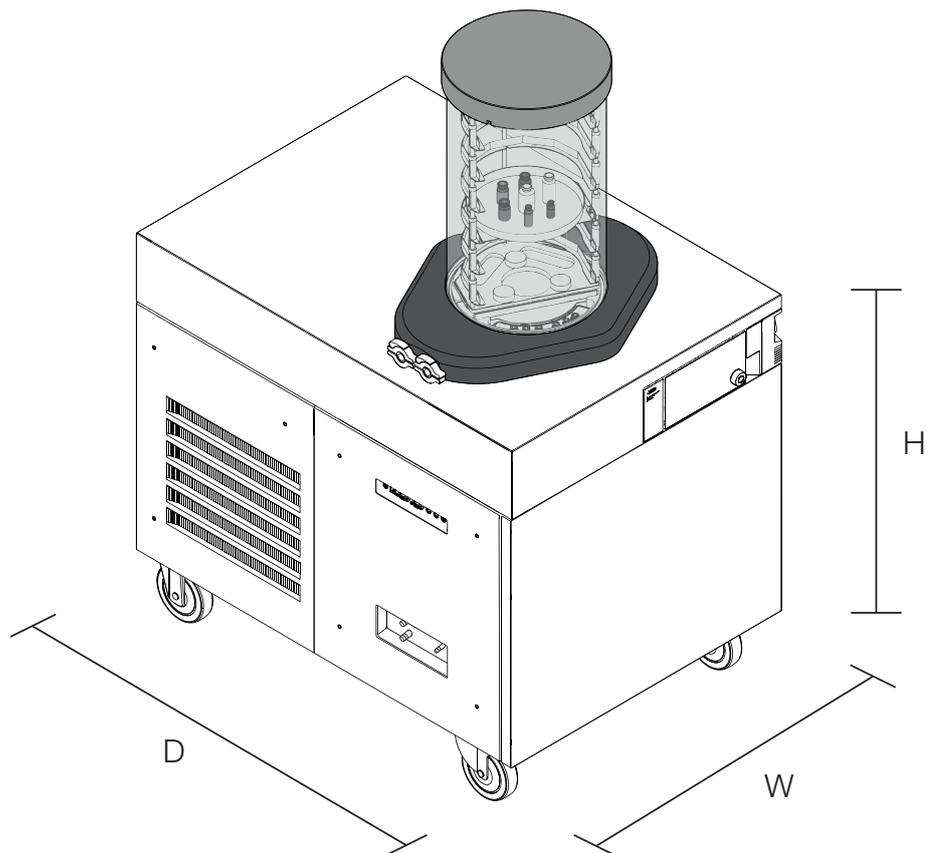
** Without vacuum pump

Ambient conditions

The Lyovapor™ may only be used in indoor areas.

Max. altitude above sea level	2000 m
Ambient temperature	15 - 30 °C (25 °C) No maximum performance above 25 °C
Maximum relative humidity	80% for temperatures up to 30 °C
Storage temperature	max. 45 °C

Installation requirements



W = 710 mm + 400 mm Clearance

D = 1000 mm + 400 mm Clearance

H = 900 mm + 400 mm Clearance (up to 2000 mm depending on configuration)

Power supply

Power supply	3 x 380 - 400 VAC	3 x 208 - 220 VAC
Power consumption (rated)	3000 W	3500 W
Lug	16 A	16 A
Frequency	50 Hz	60 Hz
Electricity network	Three-phase star with earthed neutral (3P+N+PE)	Three-phase delta (3P+PE)

Defrost water supply



NOTE

Do not connect to the domestic water connection.

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

Lyovapor™ L-300 50 Hz Plug

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

Lyovapor™ L-300 60 Hz Plug

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

Plain Instrument

Plain Instrument	Order no.
Lyovapor™ L-300, 50 Hz	11L300IN0005000003
Lyovapor™ L-300, 60 Hz	11L300IN0005000004
Lyovapor™ L-300 Pro, 50 Hz	11L300PH0005000003
Lyovapor™ L-300 Pro, 60 Hz	11L300PH0005000004
Upgrade Kit	11065847
To upgrade the L-300 to L-300 Pro. Contains user interface Pro, adapter and electricity for heat-able shelf connections	

Drying chamber bundles

Drying rack manifold	Order no.
Drying rack manifold 12 with 12 manifold valves and baseplate	11DCIN01000
Drying rack manifold 24 with 24 manifold valves and baseplate	11DCIN02000
Drying rack manifold 36 with 36 manifold valves and baseplate	11DCIN03000

Drying chamber non-heatable shelves

Drying chamber non-heatable shelves	Order no.
Drying chamber 4 shelves with top cover, support ring and 4 non-heatable shelves	11DCIN14100
Drying chamber manifold, 4 shelves with top cover manifold, support ring, 4 non-heatable shelves and 12 manifold valves	11DCIN14200
Drying chamber 6 shelves with top cover, support ring and 6 non-heatable shelves	11DCIN16100

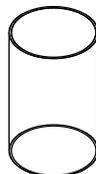
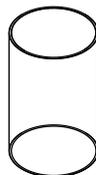
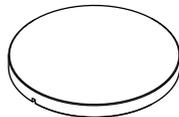
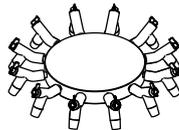
Drying chamber non-heatable shelves**Order no.**

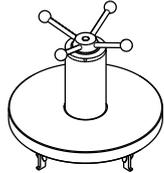
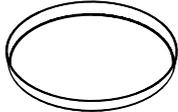
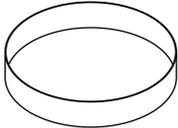
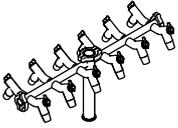
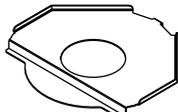
Drying chamber manifold, 6 shelves with top cover manifold, support ring, 6 non-heatable shelves and 12 manifold valves	11DCIN16200
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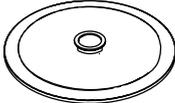
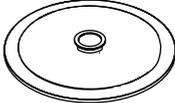
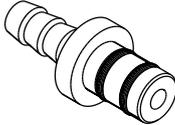
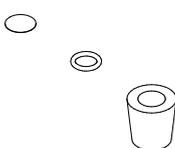
Drying chamber heatable shelves**Order no.**

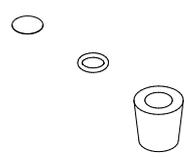
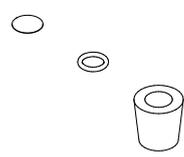
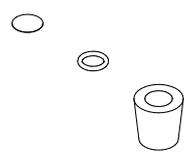
Drying chamber 4 heatable shelves with top cover, 4 heatable shelves and 4 sample temperature sensors	11DCPH24110
Drying chamber manifold, 4 heatable shelves with top cover manifold, 4 heatable shelves, 12 manifold valves and 4 sample temperature sensors	11DCPH24210
Drying chamber stoppering, 4 heatable shelves with top cover stoppering, 4 heatable shelves and 4 sample temperature sensors	11DCPH24310
Drying chamber manifold, 6 heatable shelves with top cover manifold, 6 heatable shelves, 12 manifold valves and 6 sample temperature sensors	11DCPH26210
Drying chamber 6 heatable shelves with top cover, 6 heatable shelves and 6 sample temperature sensors	11DCPH26110

Spare parts and accessories**Top-mount drying rack accessories**

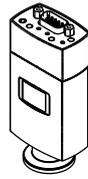
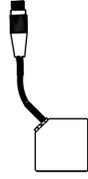
	Order no.	Image
Drying chamber tube, PMMA, for 4 shelves L 368 mm, Ø 300 mm	11063278	
Drying chamber tube, PMMA, for 6 shelves L 480 mm, Ø 300 mm	11065093	
Top cover, PMMA, Ø 300 mm, H 50 mm	11062912	
Top cover manifold, PMMA, with 12 valves Ø 300 mm, W 546 mm, H 127 mm	11065595	

	Order no.	Image
<p>Top cover stoppering only for rack for 4 heatable shelves Ø 300 mm, H 330 mm, W 320 mm</p>	11064314	
<p>Rack for 4 heatable shelves H 356 mm, Ø 265 mm , shelf distance 30-75 mm</p>	11065102	
<p>Rack for 6 heatable shelves H 468 mm, Ø 265 mm, shelf distance 30-75 mm</p>	11065103	
<p>Heatable shelf, aluminum coated, with connection cable Ø 219.5 mm, surface area 376 cm²</p>	11064095	
<p>Sample tray, stainless steel Ø 220 mm, H 18.5 mm</p>	11061439	
<p>Ferrule, Ø 218 mm, H 40 mm</p>	11065816	
<p>Drying rack manifold, stainless steel, with 12 valves H 340 mm, W 777 mm</p>	11063664	
<p>Drip pan, for manifold</p>	11065720	
<p>Support for rack, stainless steel H 4 mm</p>	11063789	

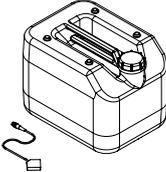
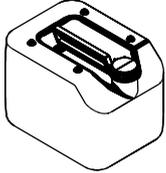
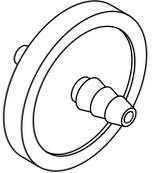
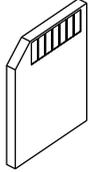
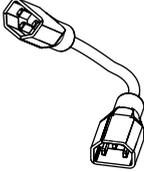
	Order no.	Image
Baseplate, stainless steel, for manifold rack	11064953	
Baseplate, PMMA, for manifold rack	11065733	
Suction nipple For manifold application to create vacuum in sample flasks	11065819	
Ampoule adapter for manifold with 19 ampoule connections and cap adapter	11065725	
Flask beaker for manifold 100 mL with cap adapter and integrated filter	11066140	
Flask beaker for manifold 200 mL with cap adapter and integrated filter	11066141	
Flask beaker for manifold 600 mL with cap adapter and integrated filter	11066142	
Flask beaker for manifold 1200 mL with cap adapter and integrated filter	11066143	
Manifold flask adapter set with 12 adapters, incl. filter paper	11066144	

	Order no.	Image
Manifold flask adapter set with 6 adapters, incl. filter paper	11067334	
Manifold flask adapter set, US joint size with 12 adapters, incl. filter paper	11066171	
Manifold flask adapter set, US joint size with 12 adapters, incl. filter paper	11067333	

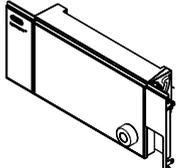
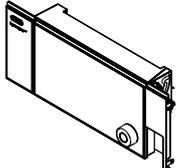
Accessories

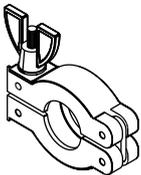
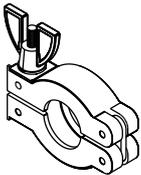
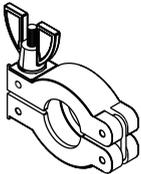
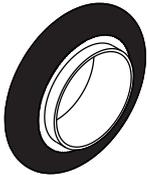
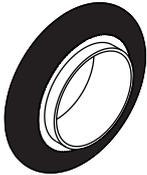
	Order no.	Image
Pirani pressure sensor Inficon PSG 550	11062229	
Capacitive pressure sensor Inficon CDG 020 D	11062230	
PT1000 sample temperature sensor	11064031	
Level sensor capacitive, for water canister	11065245	

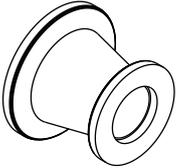
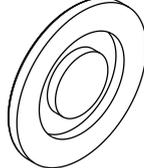
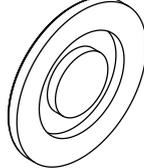
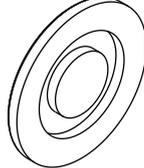
Further accessories

	Order no.	Image
Set for defrost and waste water incl. canisters, level sensors, tubing	11067317	
Canister 20 L, for waste and defrosting water	11066068	
Air filter	11057925	
SD-Card 1 GB	11064730	
Lyovapor™ software DVD	11065667	
Connection cable, for vacuum pump	11064934	

Spare parts

	Order no.	Image
User interface	11063580	
User interface Pro	11063581	

	Order no.	Image
O-Ring Ø 300 mm	11065367	
O-Ring Ø 430 mm	11065343	
Vacuum hose, KF 25, L 1000 mm	11066031	
Vacuum clamp KF 16	11064939	
Vacuum clamp KF 25	11063662	
Vacuum clamp, KF 40	11063663	
Vacuum seal KF 16	11063455	
Vacuum seal KF 25	11063457	
Vacuum seal KF 40	11063659	

	Order no.	Image
O-Ring, Silicone, 94.61 x 6.99 mm	11062420	
O-Ring, Silicone, 161.3 x 5.33 mm	11062421	
Vacuum flange adapter, stainless steel, KF 16 to KF 25	11064870	
Blind flange KF 16	11064902	
Blind flange KF 25	11063660	
Blind flange KF 40	11063661	

Consumables

	Order no.
Vacuum oil 1 L	11065664