

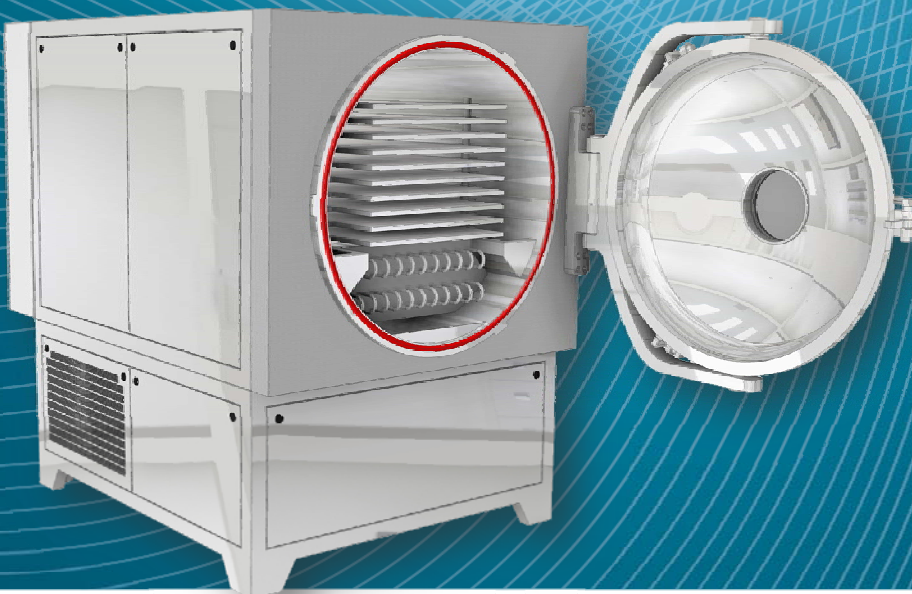
LIOSMART 100

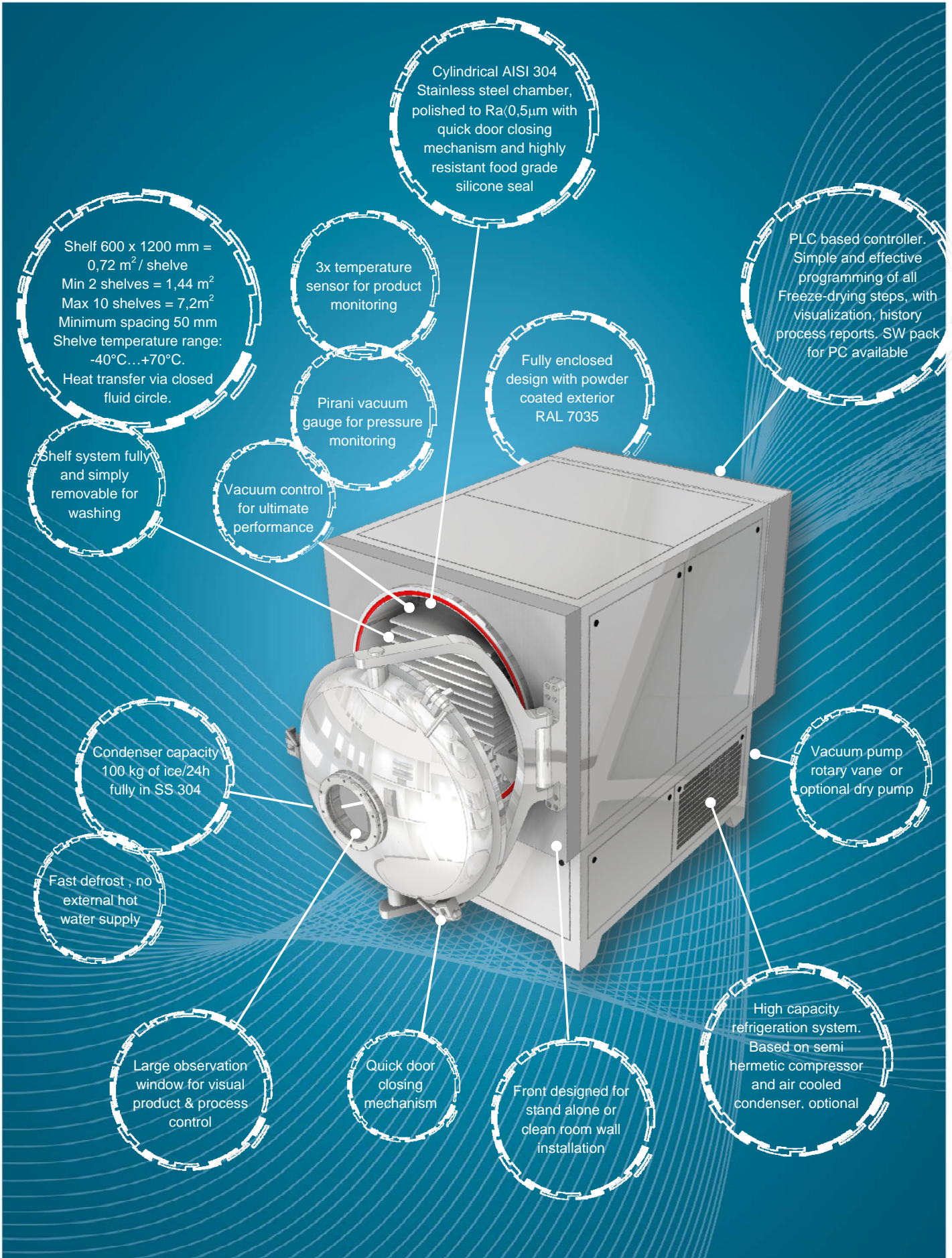
Condenser capacity 100 kg of ice / 24h

Shelf surface from 1,44 m² to 7,2 m²

Refined solution for rapid and repeatable freeze drying of:

- Dairy products
(milk, starter cultures, yogurts, probiotics, ice-cream,...)
- Vegetables & fruits
(Strawberry, Figs, Beans,...)
- Fish & meat
- Floral
- Research





Design:

In all points of product and process design our main goal is to deliver ultimate tool for reliable,repeatable, rapid and risk free Freezedrying. Acheiving above mentioned with state of the art design & manufacture technology, brand name components, smart and innovative answers to process & product requirements.

Chamber:

Cylindrical shape of the main chamber delivers number of benifits. Such us economical, weight reduction ,enough space to install high capacity shelves and condenser coils all in a very compact and prooven design.Chamber door hinged in a way to ensure full accesability for loading and unloading with smart quick locking handels. Also quipped with observation window for visual product monitoring through full process.Main chamber seal made of high resistance profile food grade silicone seal.

Shelf:

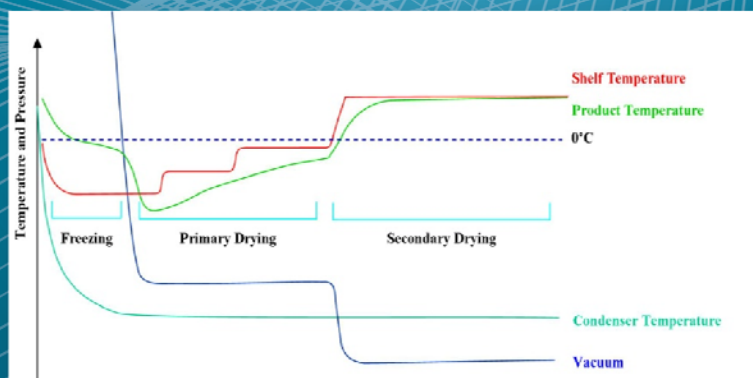
Highest attention on superb shelve surface flatness and temperature uniformity, this 2 parameters ensuring rapid and homegenous freezedrying thru the entire shelve surface.Temperature uniformity across each and all shelves in delivered with closed loop thermal fluid easily covering temperatures from -40°C...+70°C.Shelve system is modular allowing assembly of minimum 2 but even up to 10 shelves. At max capacity still giving 50 mm of distance between shelves for ergonomic loading and unloading.Shelve system as also designed for quick and simple removal from the chamber. This way cleaing between product replacement becomes stressless and fast operation.

Condenser:

High capacity condenser with maximum load of 100 kg of ice in 24 hours is more than suficiant. Refrigeration system designed to maintain the condenser temperature down to -50°C.However it is also importat to deliver quick melt down/defrost. Here our system delivers hybrid defrost via reversable cooling/heating loop while using hot reverse condensate flow.Giving most energy efficient and quick resaults without need of external hot water supply.

Control:

PLC based control system offering user friendly and understandable programing of all parameters for each freezedrying step. Open storage for 10 different product cycles. Large display also showing full system visualization with all measured values, history trends of all measured values, self diagnostic and PC comunicatin ability.



LIOSMART 100	
Exterior dimensions	1400 x 1800 x 1900 mm (WxDxH)
Chamber dimensions	Ø1000 x 1100 mm
Shelf dimension	600 x 1200 mm
Number of shelves	Min 2 Max 10
Total shelf area	1,44m ² @ 2 shelves 7,2 m ² @ 10 shelves
Shelf spacing	50mm @ 10 shelves
Shelf temperature range	-40°C....+70°C
Shelf cooling down rate	+20 to -20 less than 60 min
Condenser capacity	100 kg ice / 24 h
Condenser temperature	-50°C
Chamber,shelf,condenser material	AISI 304 Ra < 05µm
Vacuum	Capacity 80 m3 / h Rotary vane or dry pump
Power supply	3 x 400 V 50 Hz, 15 kW

Options:

- Selectable number of shelf
- Variety of tray options
- Variety of vacuum pump options
- Stand alone or clean room wall installation

