### **Theory 5**

Sascha Pfeiffer, Pharmbiocon GmbH PDA EU Freeze – Drying In Practice

24 – 28 October 2022 Martin Christ Osterode am Harz, Germany







With almost 15 years of experience Pharmbiocon GmbH in Bad Endbach is a reliable partner of the pharmaceutical and medical devices industry.

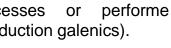
The company can draw from its resource pool of technical engineers (biotechnology, pharmatechnology, life science technology, process engineering and mechanical engineering) and natural scientists (biologists, chemists).

Main business areas are project leads, engineering, management and consulting services for international projects, planning and surveillance of technical transfer projectes in fill / finish facilities, GMP quality assurance as well as engineering of complex processes.

Furthermore, Pharmbiocon GmbH can be contracted as a general planer. The benefit for the customer will be the pooling of the ordering process with a single person of contact on site, combined with high fexibility and a reduced risk of down time.

In addition, we offer a fully equiped bio safety level II laboratory to our costumers. A pilot plant lyophilisation facility can be use here to develop or optimize your processes or performe failure mode analyses (production galenics).









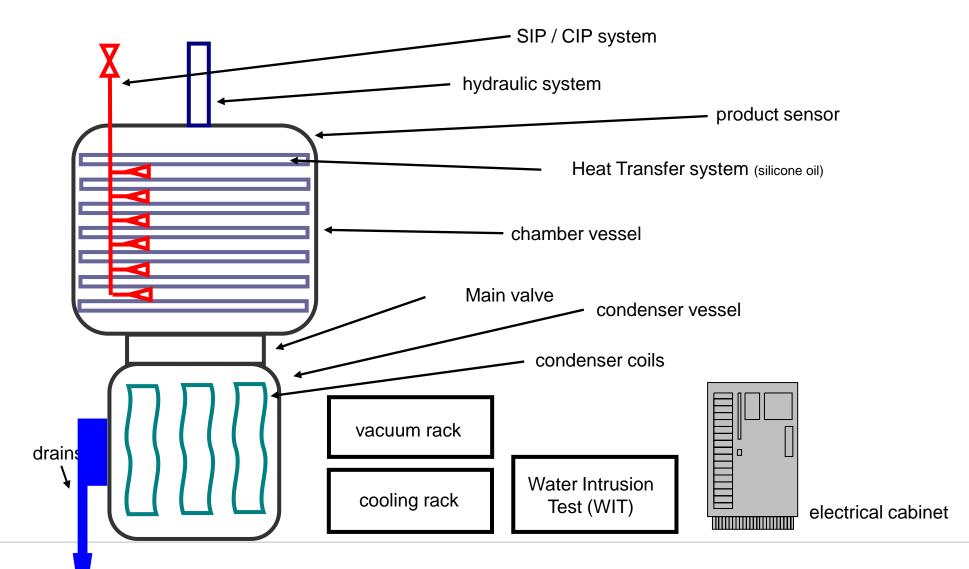
### Theory 5:

Construction of freeze dryers

- construction of freeze dryers
- systems of freeze dryers
- different types of freeze dryers
- existing lines of freeze dryers
- parameters of freeze dryers

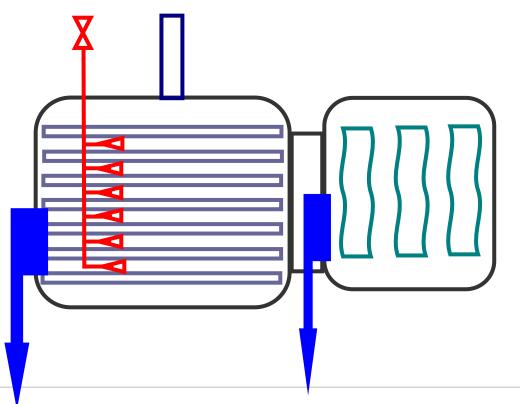












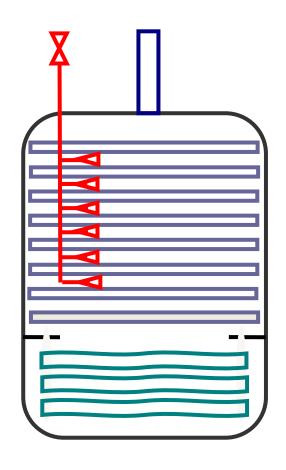
## Side mounting of ice condenser:

installation on one level

 potential risks for are the Radiation effects of the condenser to the vials which stand nearby the Main Valve





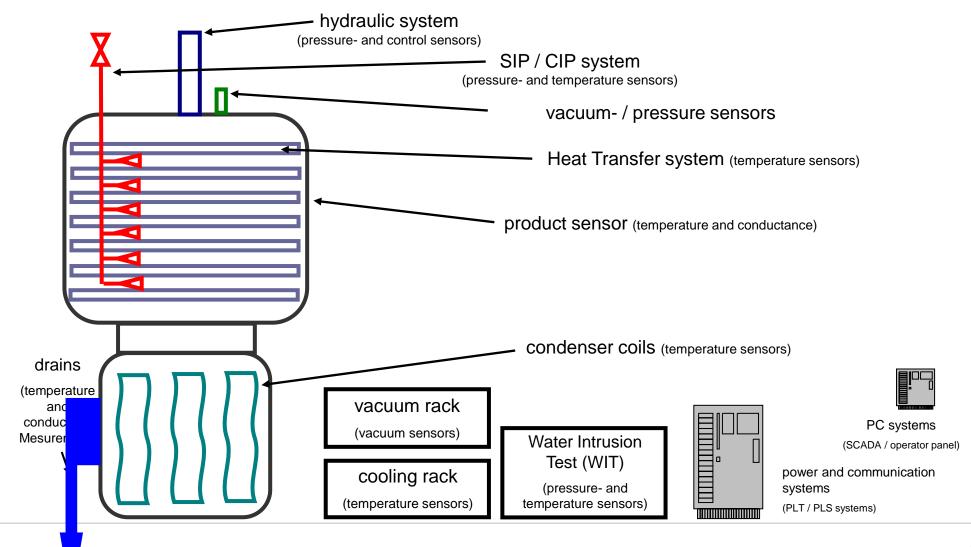


# Compact design / one-chamber design:

- installation on one level
- compact design
- The Main Valve ist mounted on the Shelf Stack





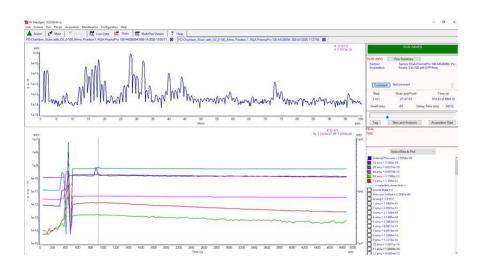






Special
Sensor
Mass spectrometer Sensors for silicone oil detection mounted in the Main Valve

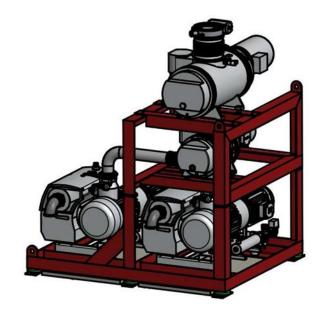


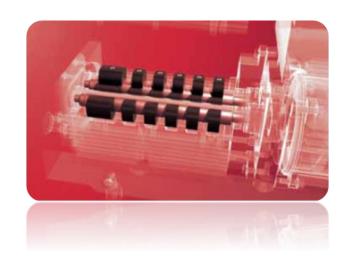






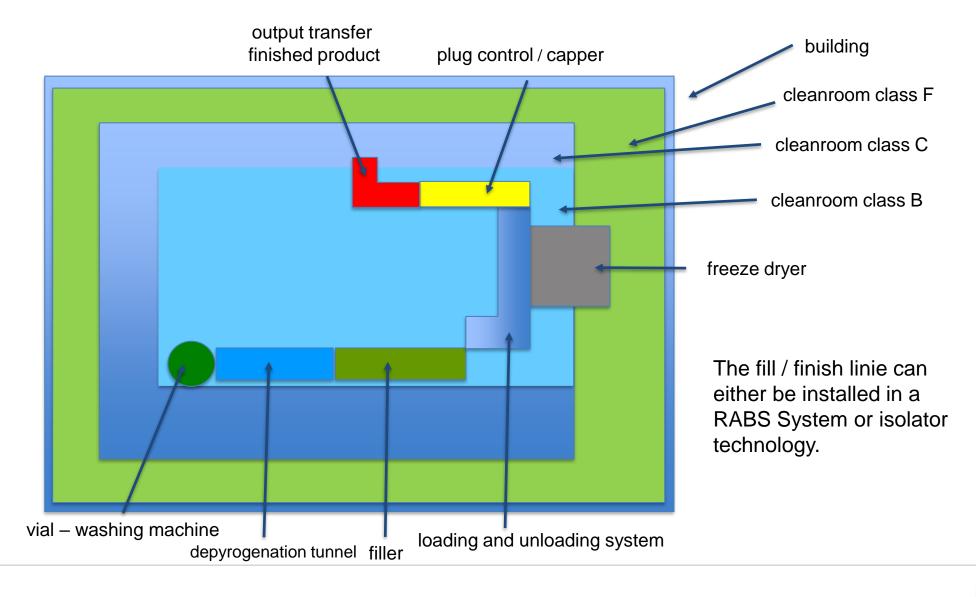
### vacuum pump units





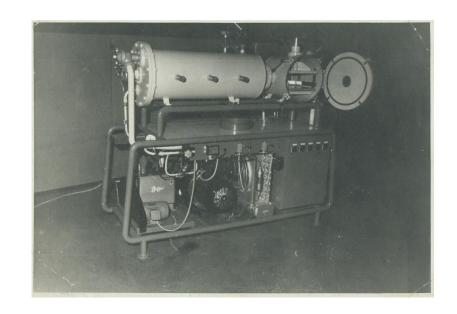


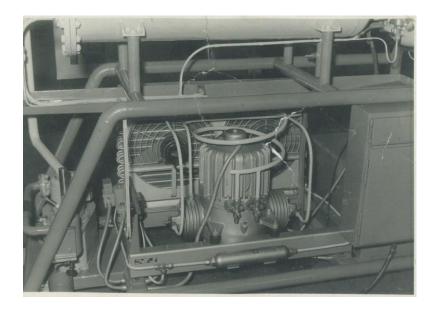


















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