

MEMBRANE CONCENTRATION & EVAPORATION: FROM THEORY TO PRACTICE

Learn the ins & outs of membrane concentration and falling film evaporation and catch up on the latest developments to optimize your process and save on costs.



Introduction

Powder processing often includes membrane concentration and/or evaporation steps to remove as much water as possible before (spray) drying. However, these units are complex devices and can suffer from inefficient operation or fouling. Improvements can often be achieved in reducing energy consumption, minimizing fouling and cleaning more effectively. This two-day course presents the latest developments in membrane concentration and falling film evaporation, process optimization and cost saving-strategies, including case studies, industry examples and practical demonstrations. The course covers basic theory on membrane processing and evaporation, followed by a practical workshop enabling participants to apply the theory in practice.

For whom?

The course is intended for anybody involved in concentration, including process and product developers, technologists and plant operational staff. Speakers from NIZO, academia and industry will guide you through

the topics from scientific understanding to its practical implications.

Why come to this course?

- Improve or refresh your understanding of evaporation and membrane concentration technology.
- Gain new insights into strategies to optimize your evaporator.
- Get updated on the latest scientific and technological developments for product-process optimization.
- Expand your network of scientists and industry experts in the field of evaporation and membrane concentration.

Course leaders

This course will be led by Dr. Kevin van Koerten, Expert Processing & Ben van der Deen, Business Development Manager.

Program 2023

Membrane concentrations & evaporation: from theory to practice:

Tuesday September 12	Wednesday September 13
8.30 Coffee and reception	8.30 Coffee and reception
9.00 Opening: Introduction to the course <i>Dr. Kevin van Koerten & Ben van der Deen</i>	8.55 Welcome and introduction day 2 <i>Dr. Kevin van Koerten en Ben van der Deen</i>
9.15 Membrane concentration: Theory I <i>Prof. Peter de Jong, NIZO</i>	9.00 Evaporation: Theory I <i>Dr. Kevin van Koerten</i>
10.15 Coffee/tea break	10.30 Coffee/tea break
10.45 Membrane concentration: Theory II <i>Prof. Peter de Jong, NIZO</i>	10.45 Practical case study from industry <i>Dr. Martijn Fox, Friesland Campina</i>
11.45 Membrane cleaning <i>Lars van Egmond, Ecolab</i>	11.30 Evaporation: Theory II <i>Dr. Kevin van Koerten</i>
12.30 Practical case from industry <i>Markus Kyburz</i>	12.15 Tour of pilot plant and lab facilities
13.15 Lunch	13.00 Lunch
14.15 Membrane screening from scratch to final design <i>Durita Allersma BSc, NIZO</i>	14.00 Equipment manufacturer <i>To be announced</i>
14.45 Digital design <i>Sam Wilkinson, Siemens PSE</i>	14.45 Microbial fouling <i>Dr. Marjon Wells-Bennik, NIZO</i>
15.15 Hands-on case study: Membrane concentration I <i>Dr. Kevin van Koerten, NIZO</i>	15.30 Hands-on case study: Evaporator optimization I <i>Dr. Kevin van Koerten</i>
16.15 Coffee/tea break	16.00 Coffee/tea break Practical case from the industry
16.45 Hands-on case study: Membrane concentration II <i>Dr. Kevin van Koerten, NIZO</i>	16.30 Hands-on case study: Evaporator optimization II <i>Dr. Kevin van Koerten</i>
18.15 Course diner	17.30 Wrap-up

Course Fee:

Package 1: €2000, - excl. VAT.

Package 2*: €2200,- excl. VAT, including one night hotel stay, breakfast & taxi.

Package 3*: €2395,- excl. VAT, including 2 nights hotel stay, breakfast & taxi.

Register for the course on **Spray Drying** as well and receive a **€500,- discount!**

For registration visit:

www.nizo.com/events-courses/membrane-concentration-evaporation

For more information, contact Kevin van Koerten:

T: +31 6 253 470 55

E: kevin.vankoerten@nizo.com

For registration issues, contact Jasja van Schuppen:

E: jasja.vanschuppen@nizo.com

*Hotel accommodation is based on availability. Hotel accommodation is only guaranteed after written confirmation from the hotel.