

# Wiped film and short path evaporation unit

## - Continuous processing of heat sensitive products -

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### Plant design

- Type: WFE<sup>1</sup> and SPE<sup>2</sup>
- Heating side: Thermal oil
- Area: 0.042 m<sup>2</sup> each
- Diameter: 0.07 m each
- Material: Borosilicate glass 3.3
- Wiper types: Comb and/or roll wipers
- Special: Periphery completely heatable

### Operating range and analytic

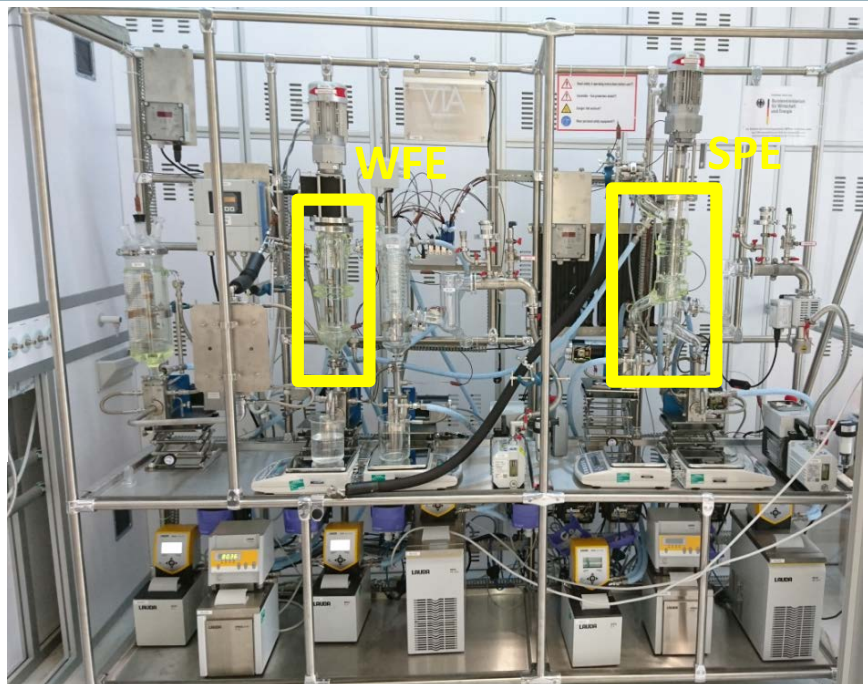
- Operating pressure 1·10<sup>-3</sup>...1000 mbar(a)
- Heating temperature up to 250 °C
- Wiper speeds up to 400 rpm
- Feed rate 200..2000 g/h
- Raman for in-situ measurements
- External plant control system for recording all measurement sensors

### Research focus

- Continuous distillation of high melting solutions at low boiling temperatures
- Separation of low and high boiling components
- Determination of yields and purities under varying operating conditions



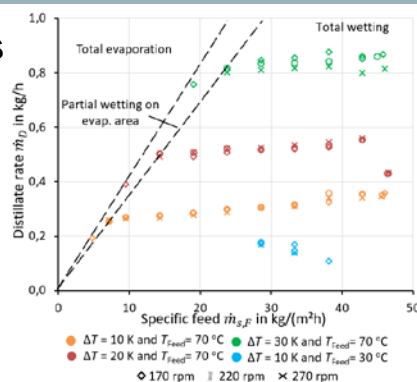
Close-up of sump outlet of SPE



Complete plant set-up

### Example of exp. results

- Determination of evaporation capacities
- Operating ranges for partly and fully wetted surfaces
- Derivation of minimum wetting rates to ensure complete wetting
- Influence of subcooled feeds and variations of wiper velocities



### Raman probe

- Touch-Raman ball probe with spectrometer prototype
- Flow cell at SPE sump outlet
- Real time process and quality monitoring
- Assessing operating point, both at WFE and SPE, is possible at the same time