PRODUCT RECOVERY AND PURIFICATION
The equipment overview below gives an idea of the variety of modular operation units we have available to perform your purification and product recovery processes. However, this list is not complete. If you are looking for specific equipment not listed below, do not hesitate to contact us.

Equipment overview:

**Centrifugation**
- High speed disc stack separator, 100-750 kg/h
- Screw decanter centrifuge, 100-750 kg/h
- Basket centrifuge, 10 kg
- Inverted filter centrifuge, up to 50 kg of product per cycle

**Filtration**
- Dead-end filtration such as plate and frame filters
- Filter presses
- Cross-flow membrane filtration units for Micro, Ultra & Nanofiltration
- Different membrane types: spiral wound, hollow fiber, ceramic with variable cut-offs

**Ion exchange and adsorption**
Packed column units for ion exchange, adsorption or activated carbon treatment
- 3 x 30 l unit
- 4 x 800 l unit

**Crystallization**
- Various reactors from 50 l to 4 m³ for cooling crystallization and evaporation crystallization
- Crystallization line up to 1000 t/y equipped with crystallizer 4 m³, inverted basket centrifuge, crystal dryer
- Continuous cooling crystallization unit 50 l

**Evaporation**
- Continuous evaporation units from liter to ton scale
- Falling film three-effect evaporator up to 5t/h water evaporation
- Wiped film evaporator, 50-150 kg/h water evaporation
- Glass wiped film evaporator, 1-5 kg/h water evaporation
- Spinning cone evaporator, up to 50 kg/h water evaporation
- Batch evaporation reactors for both water and solvent based distillation

**Extraction**
- 1900 l filter dryer for solvent extraction and solids drying
- Glass lined reactors, 500 to 5400 l for solid-liquid and liquid-liquid extractions
- Continuous water-based extraction unit 5 x 1000 l

**Chromatography**
- GRACE small scale preparative chromatography unit
- Columns up to 500 l for batch chromatography

**Drying**
- Continuous sludge dryer, 5 kg/h
- Vacuum tray dryer, 2400 l
- Conical vacuum dryer for water and solvent based applications, 980 l
- Filter dryer, 1900 l
- Drying oven, 2000 l
- Access to freeze- and spray drying facilities

**Various**
- Multipurpose process tanks up to 8000 l
- Storage and process buffer tanks up to 50 m³
- Homogenizer, cell disruptor 5-10 l/h

**What we can offer:**
- Development, scale-up and demonstration experience for product recovery and purification
- A broad range of processing equipment for water and solvent based applications
- ...