

Tailor-made services, for each stage of your project

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Analysis of the separation problem and evaluation of membrane technologies

- Feasibility study
- Pilot testing and industrial trials
- Pilot system sale or rental

Send us your project and we will determine together best for you: orelis@alsys-group.com

Find all Alsys membrane services on the website

www.ALSYS.com
HEADING FOR THE FUTURE



Contacts ☎:

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ALSYS

Analysis of the separation problem and evaluation of membrane technologies

PROCESS Services

Feasibility study



Alsys performs feasibility studies to:

- evaluate if a membrane separation process is applicable to your needs
- determine which type of membrane filtration technology is best suited for your needs

Objectives

- ✓ Separation, filtration, clarification, concentration, purification
- ✓ Characterization of the products to be separated (real product or simulating compound). Chemical and physical analysis
- ✓ Tests with laboratory or industrial size membranes
- ✓ Validation of membrane selectivity
- ✓ Comparison and selection of membrane and equipment
- ✓ Evaluation of permeate flow rate, impact of concentration factor
- ✓ Preliminary technical and economic evaluation of the proposed system
- ✓ Application development at laboratory scale (preliminary project studies)

Pilot testing and industrial trials



Alsys performs process pilots and industrial tests in order to:

- demonstrate the expected performances of the membrane process
- provide the technical (design,...) and economical (OPEX, CAPEX) data necessary for the system development and risk assessment

Objectives

- ✓ Validation of the filtration process and the results obtained during the feasibility tests
- ✓ Study the repeatability of the operating cycles (production, cleaning)
- ✓ Study of membrane ageing, evaluation of fouling, optimization of CIP (Cleaning In Place)
- ✓ Optimization of process parameters (velocity, pressure, cleaning frequency...)
- ✓ Development of industrial scale applications (basic and detailed preliminary project studies, FEED study...)

These studies and pilots can be carried out:

- From a few days to a few weeks
- At your site or at our sites in Salindres (France) or Boston (USA)

Our 2 test centers are equipped with:

- All qualified personnel
- The necessary equipment (20 different pilot systems, analysis tools, etc.)

Wide Variety of Membrane Technologies:

- Cross-flow or dead-end process operation
- Ceramic materials (based on oxide or silicon carbide) or polymeric
- Tubular, flat sheet, hollow fiber, or spiral
- Reverse osmosis, nanofiltration, ultrafiltration, microfiltration
- Pervaporation
- Gas separation
- Membrane contactor
- Combination of coagulation / adsorption (bentonite, powder activated carbon) / oxidation (chemical, ozone) and membranes

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PROCESS Services

MINIPILOT and POLYPILOT Pilot Test Systems

Alslys has developed a range of versatile filtration units (see data sheet) used to test ceramic or polymeric membranes:

- Portable crossflow filtration test system with Micro-Kleansep™ ceramic membranes (see data sheet).
- The MINIPILOT is designed to perform preliminary feasibility studies.
- The POLYPILOT 150 can be used for testing one module with one tubular multi-channel ceramic membrane, or one module with 2540 spiral wound membrane. This unit can be used to study the process parameters (flowrate, pressure drop, transmembrane pressure, tangential flow velocity, temperature, etc.) needed in order to design a full-scale system at optimum design conditions.
- The POLYPILOT 500 can be used for testing one module with three tubular multi-channel ceramic membranes, or two 4" spiral wound membranes. This unit can be used to acquire process design data, or used as a small production unit.



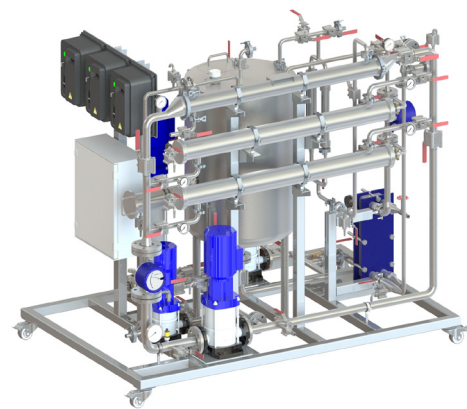
MINIPILOT

- Permeate flowrate 2 l/h max.*
- 5 l tank
- Tubular mono-channel ceramic MF, UF
- Flat-sheet polymeric MF, UF



POLYPILOT 150

- Permeate flowrate 150 l/h max.*
- 25 l tank
- Tubular multi-channel ceramic MF, UF, NF
- Spiral wound polymeric MF, UF, NF, RO



POLYPILOT 500

- Permeate flowrate 500 l/h max.*
- 200 l tank
- Tubular multi-channel ceramic MF, UF, NF
- Spiral wound polymeric MF, UF, NF, RO

(*) Depends on the type of filtered product and type of membrane. Permeate flux value: 250 LMH

Pilot rental



We rent a range of mobile pilots:

- Laboratory equipment
- Crossflow filtration test system portable
- Semi-industrial pilot with full-scale membranes
- Ceramic membrane pilot unit and polymeric membrane pilot

We can assist you in the implementation of the pilot on your site through training of your staff and technical assistance to start the tests.

Wide variety of pilots available for rental:

- Low pressure pilots: ultrafiltration, microfiltration, membrane contactors
- High pressure pilots: reverse osmosis, nanofiltration



Gas separation pilot

- Pervaporation pilot
- Gas separation pilot (not mobile)
- Pilot capacity: from 0,15 m² to 19 m² (membrane area)
- Micro-Kleansep™ portable filtration system (suitcase version)

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Related product data sheets

ALSYS - EN0308 - MINIPILOT and POLYPILOT - Data Sheet

ALSYS - US0604 - MICRO-KLEANSEP SUITCASE UNIT - Data Sheet

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