

AcvaMod™



UF NF RO

Membrane filtration systems for the treatment of drinking water, the production of process water and “reuse”



John Cockerill Water



Flexibility and efficiency: AcvaMod™, tailored to produce high-purity water



The use of membrane filtration for water purification as an alternative to conventional filtration allows to significantly improve treatment efficiency regardless of the quality of the raw water being treated and without adding any chemicals. This high-performance technology is used in the large-scale production of drinking water or for the production and treatment (recycling or reuse) of process water.



Greater reliability and selectivity

John Cockerill's range of membrane filtration systems, AcvaMod™ allows to produce water tailored to meet your specific quality requirements. Precise, reliable and robust, these systems pass the water to be filtered under pressure through membranes made of polymer materials. The water - called the filtrate or permeate - passes through the barrier formed by the membrane. The membranes are arranged in casings or pressure tubes and assembled in racks. The substances retained are captured on the surface of the membrane and can be removed from the module continuously or periodically.

Compared with sand filtration, the physical barrier created by the membrane considerably increases the reliability and selectivity of membrane filtration systems.

John Cockerill offers a versatile range of membrane filtration solutions, with a modular, compact design, equipped with automated control and management systems.

AcvaMod™ offers numerous benefits

Production capacity between 2 to 150 m³/h of permeate per skid

Plug & Play: comprehensive, compact systems, either skid-mounted or containerized

Cleaning in Place (CIP): automated or manual, external or embedded

AcvaSmart: automation and remote management of membrane systems for continuously streamlined operation and increased longevity

Rapid installation with little civil engineering requirements

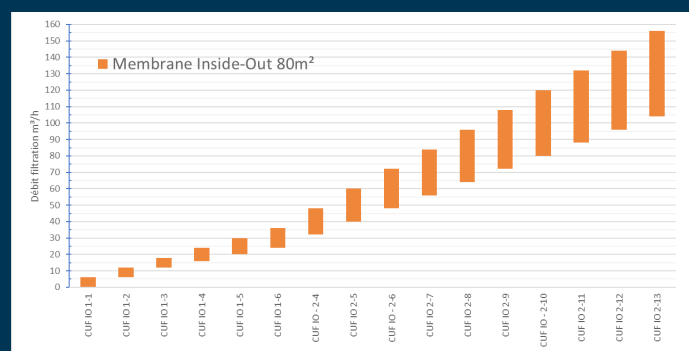
Fully modular design adaptable to treatment goals

Wide choice of exchangeable membranes for better control of replacement costs

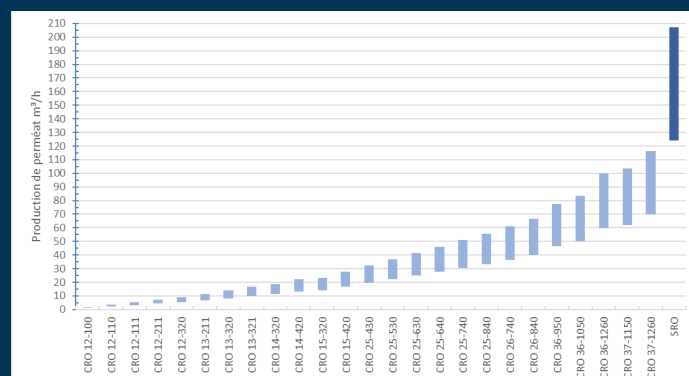
Complete process including: pre- and post-treatment as per requirements

Skids and containers manufactured in our own workshops in Europe and North America, for optimized quality and competitiveness

"Drinking water" certification



AcvaMod UF Range - Filtration capacity under standard conditions



AcvaMod RO Range - Permeate production capacity under standard conditions

For municipalities and industry

John Cockerill's AcvaMod™ systems offer its municipal and industrial clients a full range of solutions: audit, feasibility study, on-site pilot tests, sizing, manufacturing, installation, commissioning and operator services.



Drinking water production

Provision of mobile (containerized) or fixed (slab-mounted skid) units for the continuous production of drinking water. Modular nanofiltration systems are most appropriate for the production of drinking water and can be customized to efficiently adapt to both: specific flow rates and quality levels of the incoming water.

Membrane filtration can complement or replace conventional treatment plants (see our range of AcvaRena™ solutions) to eliminate microbiology and micropollutants (drug molecules, pesticides, nitrates... see our Medix® technology).



Process water production

Production of process water by ultrafiltration and/or reverse osmosis for product formulation, cleaning requirements, heating or cooling circuits, steam or hydrogen production, etc. Process water is particularly used by the food, cosmetics, pharmaceutical, chemical and textile industries.

We offer complete treatment solutions, including post-treatments such as finishing, polishing, degassing, electrodeionisation, etc.



Reuse of wastewater

Advanced treatment of industrial and municipal wastewater for reuse is a sustainable and effective option for minimising water consumption. Our membrane separation processes reduce wastewater discharges as well as the associated costs. They are an integral part of our commitment to the environment and circular economy.

The membrane best suited for your needs

The AcvaMod™ range of solutions has been developed using high-performance standard equipment. One of the major advantages of the range is its ability to integrate membranes and equipment from a very wide range of manufacturers. This flexibility not only allows a better control of replacement costs, but also ensures that the performance of the AcvaMod™ unit is perfectly matched to the quality of the water to be treated and to be produced.

AcvaMod™ UF

Ultrafiltration uses membranes with a cut-off of 0.1 to 0.01 µm, subjected to pressures of 0.5 to 4 barg. It retains bacteria, parasites, yeast, viruses, particles and colloids. All while preserving the mineral content of the water, such as calcium, sodium and potassium.

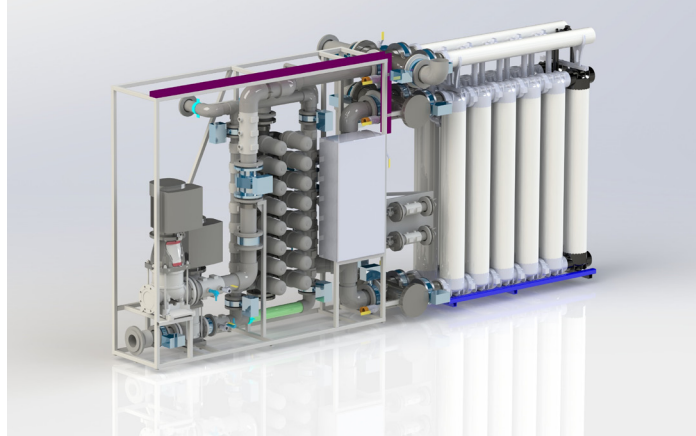
AcvaMod™ NF

Nanofiltration uses membranes with a cut-off of up to 0.001 µm. The water pressure is less than 10 barg. Compared to ultrafiltration, nanofiltration also retains certain multivalent ions, a large proportion of organic material and many micropollutants such as pesticides.

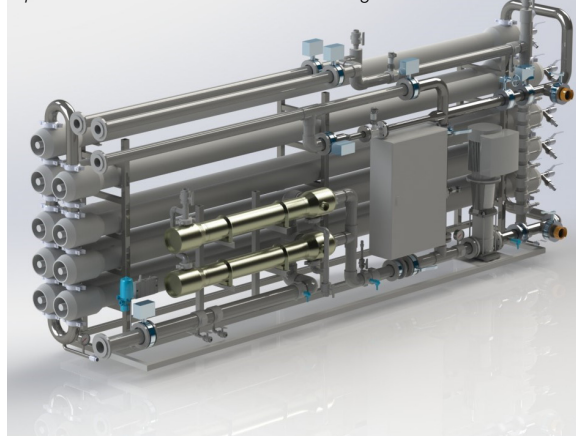
AcvaMod™ RO

Reverse osmosis uses dense membranes with a cut-off threshold of less than 0.001 µm and subjected to a pressure of up to 40 barg (beyond this, we are dealing with seawater). This technology can retain up to 99% of the contaminants in a fluid, including micropollutants, nitrates and all other salts (monovalent ions). Reverse Osmosis is, for example, used to produce ultrapure water (UPW).

AcvaMod™ UF: ultrafiltration is mainly used to separate dissolved material. Its main function is to eliminate viruses and bacteria from the water.



AcvaMod™ RO: Reverse osmosis (RO) units are used to produce demineralised water without using chemicals.





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John Cockerill's solutions cater to the ecological transition and circular economy

Firmly anchored in our experience, our solid technological know-how and our bold innovation in the treatment of water, air and waste, our **Water Business Line** offers highly performant and modular solutions for the efficient treatment of industrial and municipal wastewater, the production of process water and REUSE, as well as optimized renewable methane production.

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