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Water filtration: Polymem builds production line for Kynar® hollow fiber membranes

This production line will be the first in the world to produce membranes with the brand new Kynar® nanostructured PVDF developed by Arkema. The line is designed to manufacture durable hydrophilic membranes in the form of micro-porous fibers and then assemble them into ultrafiltration modules. The plant should be operational by the end of 2016.

In 2014, Arkema and Polymem, a French SME specializing in the manufacture of filtration modules from hollow fiber membranes, joined forces to develop an ultrafiltration membrane technology with very and durable hydrophilic properties.

The effectiveness of this technology (excellent hydrophilicity and reduced fouling of the nanostructured Kynar® fibers maintained throughout their operating lifetime) has since been validated on several scales. Following the excellent results obtained, Polymem is moving to the next stage with the construction of its first industrial line for producing these membranes.

This technnology is poised to be rolled out more widely around the world. Arkema will supply its Kynar® nanostructured polymer to companies involved in the water market. It would allow them to manufacture filtration modules equiped with these durable hydrophilic hollow fiber membranes and bring this important addition to their product range.

UF membranes with long-lasting hydrophilic properties

This ultrafiltration hollow fiber membrane technology delivers the following benefits compared to conventional systems:

- Much finer filtration (from suspended matter to bacteria, to viruses, etc.).
- Excellent water quality produced regardless of feed water quality.
- Membranes with excellent and long-lasting hydrophilic properties to help speed up water circulation, resulting in higher throughput of filtered water for reduced energy consumption.
- Possibility of fully automated filtration systems.

Membrane filtration: widely used in new water treatment plants

Today, membrane filtration is being adopted by many plants for recycling municipal and industrial wastewater, for drinking water, or for pre-treatment in seawater desalination plants. The water is fed at low pressure through thousands of semi-permeable and micro-porous hollow fibers that retain suspended solids, impurities, bacteria and viruses. One of the materials that is most widely used for these membranes is PVDF, in which Arkema is the world leader.

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*A designer of materials and innovative solutions, **Arkema** shapes materials and creates new uses that accelerate customer performance. Our business portfolio spans high-performance materials, industrial specialties and coating solutions. Our globally recognized brands are ranked among the leaders in the markets we serve. Reporting annual sales of €7.5 billion in 2014, we employ approximately 19,200 people worldwide and operate in close to 50 countries. We are committed to active engagement with all our stakeholders. Our research centers in North America, France and Asia concentrate on advances in bio-sourced products, new energies, water treatment, electronics solutions, lightweight & designed materials and performance & home insulation. **www.arkema.com***

***Polymem**, a French independent SME located in the Toulouse area, established in 1997 by two engineers specializing in hollow fiber membranes for water treatment, manufactures water filtration membranes and modules for municipal, industrial and commercial markets. With over 250 installations worldwide, the company's know-how for the sector's OEMs and distributors relies on a comprehensive range of both standard and customized filtration membranes and modules in order to design reliable and cost-competitive membrane systems.*

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