



# SEPARATION OF MICROPLASTICS FROM WATER STREAMS USING MEMBRANE TECHNOLOGY

**Microplastic pollution has become a serious concern and has been detected in almost every water source and waste stream globally.**

The use of plastic microbeads in cosmetics and personal care products has already been banned in the UK and many other countries. However microplastic pollution is still being generated and the waste plastics already in the environment are aging and self-abrading, creating widespread microplastic contamination. As a result, most water sources now contain background but rising levels of microplastic contamination, which can ultimately feed back into the human food chain.

Crossflow membrane technology, renowned for its success in the removal of bacteria, pesticides, suspended solids and colour from wastewater, is now a practical solution in the fight against the microplastic pollution found in most wastewater streams.

Crossflow membrane technology works as a physical barrier against microplastics where the particulates cannot pass through the membrane on the basis of particle size, allowing only crystal clear commercially sterile, particle free water to be discharged. All the microplastic particulates and other separated impurities are safely retained in a low volume controllable form ready for further treatment.



**Axiom Process specialises** in crossflow membrane technology and is working with companies wishing to evaluate the benefits of membrane filtration as a treatment for wastewater and separation of microplastics. Our expertise is in the design, build and commissioning of customised membrane filtration systems that provide a simple, compact and efficient solution for separating out contaminants and recovering clean, reusable water without the addition of chemicals.

We maintain a comprehensive range of mobile membrane filtration pilot plants and support equipment, including prefiltration, heating and mixing skids as well as in-house laboratory services that are available for manufacturers wishing to evaluate their particular process from a wide range of membrane filtration options.

**Axiom Process is one of the UK's leading process system manufacturers specialising in the design and build of crossflow membrane filtration systems utilising microfiltration, ultrafiltration, nanofiltration and reverse osmosis technologies.**

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