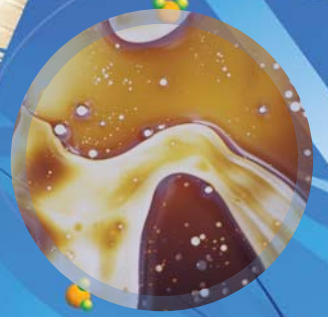




Pall Corporation



Pall Clarisep™
Separation Systems for
Industrial Oily Water

Filtration. Separation. Solution.™

Pall Clarisep™ Separation Systems

Introduction

Pall Clarisep crossflow filtration systems remove tramp oil, suspended solids and bacteria from water-based fluids to maintain the fluid in optimum condition for extended service life.

These systems can also be used to process oily wastewater, minimizing the volumes that have to be disposed of off-site.

Clarisep Systems

Clarisep crossflow systems are fully automated, user friendly and simple to operate with minimal supervision.

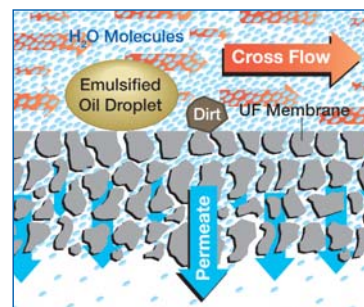
All operations are controlled by a programmable logic controller (PLC) incorporating a display that provides clear and concise instructions and information throughout all stages of the fluid separation cleaning cycle.



Principles of Crossflow Filtration

Unlike traditional filtration that has the flow stream perpendicular to a fibrous filter medium, Pall® crossflow systems direct the flow of fluid across the surface of a porous membrane. The sweeping action of the flow across the membrane surface prevents contaminants from building up on the membrane material. Emulsified oil and grease, bacteria, fungi and suspended solids are larger than the membrane pores and are, therefore, held back. Since the molecules of water and compounds in solution are smaller than the membrane pores, they will preferentially pass through the membrane producing a clean permeate solution.

All Clarisep systems automatically regenerate the membranes in-situ for extended life.



Clarisep Membrane

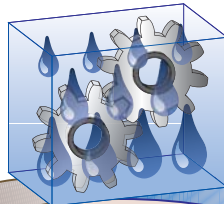


Pall Schumasiv™ hexagonal channel membranes

Application Example - Wash Fluids

Wash fluids are often changed prematurely due to the presence of tramp oils (oils carried over from previous machining operations). As the concentration of these contaminants increases, residue can be left on components leaving the wash system. Clarisep crossflow systems remove these contaminants from the wash fluid, resulting in cleaner parts and longer wash fluid service life.

Wash Fluid
Wash fluid circulates through the Clarisep membranes where it is separated into two streams.



Permeate
Clean fluid permeates through the membrane and is recycled to the working system.



Concentrate
Tramp oil, solids, and bacteria are concentrated for disposal. In some cases (fluid dependant) the concentrate can be re-blended as machine tool coolant.



Benefits

- Control over oil concentration in the system
- Maximized fluid life
- Reduced maintenance, disposal, refill, and reheat costs
- Cleaner, oil-free components

Application Example - Oily Wastewater

Regulations governing the disposal of waste fluids are becoming increasingly more comprehensive. Many disposal practices that were once permissible are now considered unacceptable or require additional special disposal treatment at considerable cost.

Many industrial manufacturing sites dispose of large volumes of oily wastewater by tankering off-site by an approved contractor. As much as 98 % of this volume is water. Clarisep crossflow systems can separate water from oil/water emulsions such as used machine tool coolant. This water can then be recycled for re-use on-site or disposed of down the drain (subject to local regulations) thereby drastically reducing disposal costs.



WATER

CONCENTRATED WASTE

Benefits

- Reduced disposal costs
- Enhanced environmental protection

Pall Clarisep™ Separation Systems

Pall Engineered Solutions

Our sales engineers will work with you to develop a total solution to your fluid treatment problem. Contact Pall for assistance in selecting the Clarisep separation system that is right for your application.

Pall provides continuous product support through its unique Scientific and Laboratory Services (SLS) Department and Technical Support Group (TSG). Pall scientists and laboratory staff are ready to provide support - from initial testing through system start-up to selection from a choice of application specific technologies and beyond. We are committed to continually advancing our technology and services through measurable improvement to achieve absolute performance. Pall is dedicated to bringing our customers the scientific means of finding reliable cost-effective solutions.

Other Systems

In addition to the standard, self-contained crossflow filtration systems described within, Pall designs and manufactures large scale systems for central waste treatment applications and incoming water. Contact Pall for assistance with these larger applications.



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