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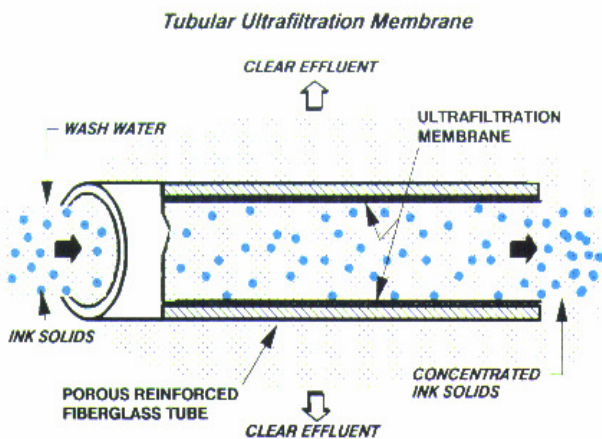
Treating Flexographic ink Wash water by Ultrafiltration

Cleaning Flexiographic presses, drums & mixing containers etc produces wash water, which can contain unacceptable levels of printing ink. In the past, this wash water was discharged direct to sewer. However recent government effluent guidelines restrict at ever escalating costs or totally prohibit this practice, due to the high colour, BOD, COD, and metal content of the wash water.

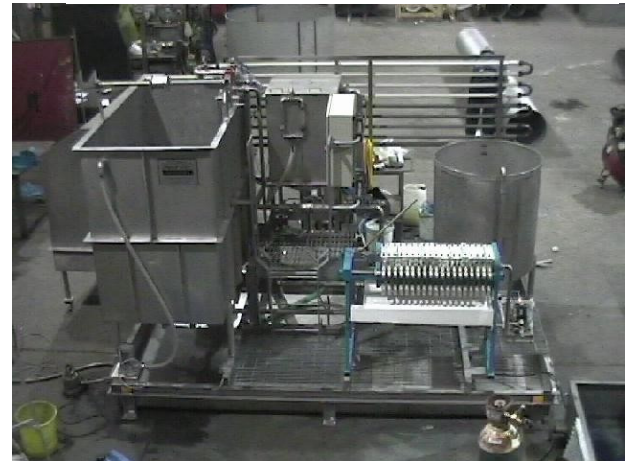
Unlike chemical treatment and evaporation, Ultrafiltration can recover and concentrate these diluted inks for re use. The remaining water can be re used as wash-up water.

PREP-TEC UF systems offer the following benefits:

- The backup of a leading US membrane manufacturer.
- All systems are designed and manufactured in house.
- Wastewater volume reduced by up to 96%.
- Clean recycled water can be re used for wash up.
- Low operation and payback costs.
- Simple to operate and maintain.
- No steam or compressed air required.
- No Chemical additives or diatomaceous earth.
- System operation can be fully automated.



RECYCLE & CONSERVE



What is Ultrafiltration?

Ultra filtration is a low pressure-driven mechanical process for separating and concentrating suspended solids, colloids and high molecular weight materials in solution.

Ultrafiltration membranes are tubular filters, which deflect ink, starch and some pigments while allowing water to pass through. The unique design uses the wash water to flow over the membrane surface at a precise flow rate and pressure, which keeps the surface clean from debris build up. (**Unlike conventional filters which dead end and clog up**) This process is referred to as "cross flow" the concentrated inks are referred to as "concentrate" while the clarified water produced for wash-up water recycle is referred to as "permeate"

PREP-TEC Ultra filtration systems work on any water based effluents or wash-up waters. The waste effluent is pumped through the tubular membranes, and is progressively concentrated until almost all the original water has been removed (see schematic). Upon completion of a batch the membrane tubes are cleaned in position using the same process pump with a simple soap solution and unique sponge ball insertion feature then returned back into service. The membrane tubes are rugged and durable & designed to withstand the rigors of an industrial environment, with proper care they can be used hundreds of times without maintenance or repair.

The concentrate can then be stored for re use as black ink / tankered away or goes through a further process where it is mixed with a water based flocculent and passed through a filter press resulting in a dry cake for disposal into your factory waste bin or skip for land fill.

All PREP-TEC systems are built in house to ISO 9002 standards and carry European CE markings. Systems up to 12m³ per day are supplied skid mounted like the 2m³ per day system shown above and can be operational within 1 day after delivery to site.