



TREATMENT PRODUCTS CORPORATION

Wastewater Treatment & Recovery Systems

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AQUEOUS CLEANER RECOVERY

CROSS-FLOW MICRO-FILTRATION

APPLICATIONS

- Alkaline Cleaners
- Acid Cleaners
- Electro Plating
- Steel Manufacturing
- Pressure Washing
- Oven Cleaning
- Laundries
- Engine Cleaning
- Phosphatizing Cleaners
- Detergent Solutions
- Metal Finishing
- Parts Washing
- Steam Cleaning
- Kettle Boilout
- Snack Food Wash-up
- Can Manufacturing
- Metal Forming and Rolling

BENEFITS

- **Quality Control:** Consistently lower levels of oil and grease, sediment and soils allow better cleaning... Minimizes re-cleaning, Reduces Downtime, and often permits higher throughput and/or lower wash temperatures or cleaner concentrations.
- **Reduced Cleaner Consumption:** The recovered solution contains most of the surfactant and active cleaning agents When cleaner concentrations can be reduced a significant savings is also realized by reducing makeup costs.
- **Waste Reduction:** Batch processes see a ten fold or greater extension in bath life. Continuous processes are no longer once through.
- **Disposal Cost Reduction:** Less frequent cleaner replacement lowers annual disposal volume and cost.
- **Reduction of Sampling Cost:** Sampling cost and laboratory charges can be substantially reduced or eliminated via recycling.
- **Improved Performance of existing end of pipe waste treatment systems.**
- **Payback:** Typical systems demonstrate a 6-18 month payback in terms of savings on cleaner bath makeup cost reduction, and reduction in spent cleaner treatment/disposal costs.
- Easy to Install
- Simple Operation
- Rugged Construction
- Automatic Controls
- Positive physical barrier
- Low Operating Pressure
- Consistent Filtrate Quality
- Semi -Automatic Cleaning
- 0.2 Micron Absolute Porosity

BACKGROUND

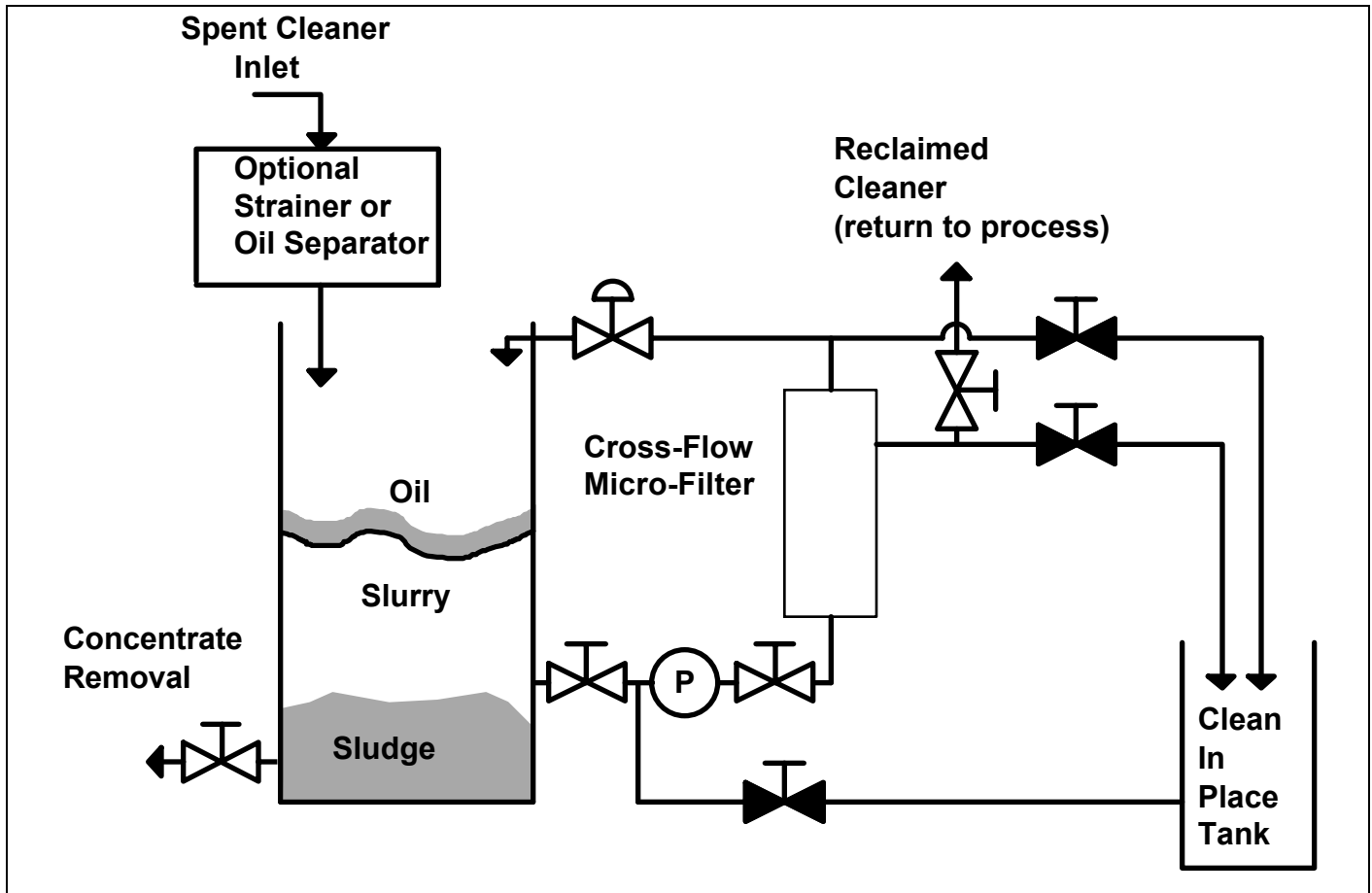
Many industries utilize aqueous cleaning compounds to remove soils, oil and grease, waxes etc. from a variety of raw materials products or machinery. As these products are used the cleaning solutions are contaminated with soils, fats, oils and grease and waxes. The spent solutions can contain high concentrations of the active ingredients that often upset plant waste pretreatment systems when they are dumped. ,

PROCESS OPERATION

Micro-Filtration involves filtration of approximately 0.2 micron and larger particles from liquids. Because of this small size capability, it is possible to actually break the emulsion which binds oil in water and effect a very highly efficient separation of the two phases. The process also conveniently removes free floating oil, mill scale, soils, and other very fine solids.

In operation feed material from the cleaning process is metered into the recirculation tank. A high rate of concentrate is continuously recirculated through the filter, with filtrate at essentially the feed rate passing through the elements perpendicular to the recycle flow. The high recirculation flow serves to effectively clean the filter surface and gives rise to the term cross-flow. Purified filtrate containing the bulk of the cleaner is returned to the cleaning process for reuse. Virtually all of the oil is now suspended only and floats to the top of the recycle tank for periodic removal. Heavier than water solids fall to the bottom of the recirculation tank for periodic removal using a sludge pump. Since the Micro-Filter also agglomerates fine particles, these solids can be optionally denatured in a bag filter or filter press for further recovery and disposal efficiency.

For most aqueous cleaner recovery applications the cross-flow micro-filter will require chemical cleaning once every three to four days of twenty four hour operation. Typically the filter is cleaned with highly concentrated solutions of the fresh cleaning compound being recovered and requires approximately 20 minutes. In most applications it is necessary to periodically perform a cleaning cycle with a stronger cleaning agent such as dilute acid or caustic to remove materials that the normal cleaning does not. :



Schematic Representation of Typical Cross-Flow Micro-Filtration Aqueous Cleaner Recovery System

GENERAL SPECIFICATIONS

MODEL	TYPICAL FLOW GPD	PUMP TYPE	UNIT DIMENSIONS Inches			SHIPPING WEIGHT Pounds
			Length	Width	Height	
CFMF-AC-05-CC	90 - 360	electric	36	24	72	725
CFMF-AC-1-CC		electric	36	24	105	
CFMF-AC-1-LC	180 - 720	electric	52	40	110	750
CFMF-AC-2-CC		electric	36	24	105	
CFMF-AC-2-LC	360 - 1,440	electric	52	40	110	900
CFMF-AC-4	720 - 2,880	air	132	24	78	2,100
CFMF-AC-8	1440 - 5,760	air	192	24	78	2,200
CFMF-AC-8E	1440 - 5,760	electric	192	24	78	2,200
CFMF-AC-16	2,880 - 11,520	electric	192	24	78	2,500
CFMF-AC-24	4,320 - 17,280	electric	210	36	90	2,900
CFMF-AC-32	5,760 - 23,040	electric	210	36	90	3,200

MATERIALS OF CONSTRUCTION: Units are fabricated completely of corrosion resistant materials. The cross-flow micro-filter module and tubular membrane are of polypropylene construction. Piping is schedule 80 CPVC. The structural steel skid is coated with epoxy phenolic paint. The controls are housed in a NEMA-4X fiberglass enclosure.

For further information contact.

Represented By:



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