

Water Technologies

SILVERBACK®
Aqueous Cleaner
Recycle System

SIEMENS



SILVERBACK® Aqueous Cleaner Recycle System



INTRODUCTION

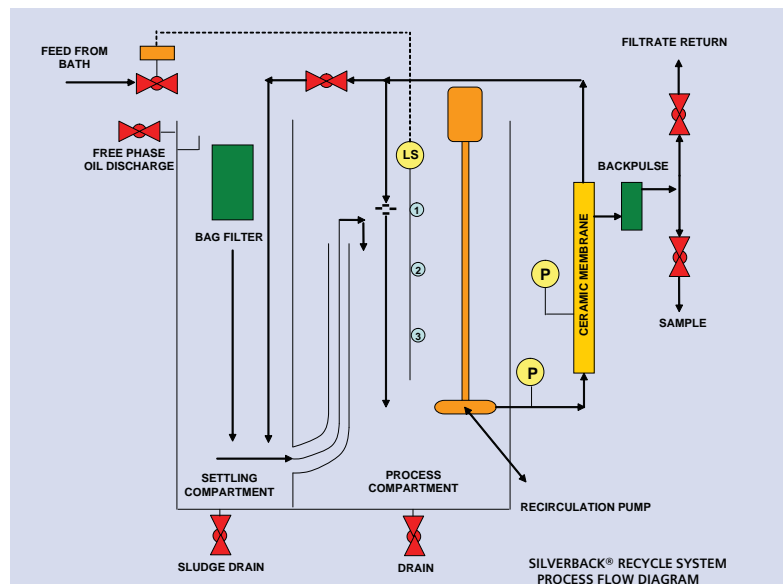
The SILVERBACK® Aqueous Cleaner Recycle System uses advanced ceramic membrane microfiltration/ultrafiltration technology to purify contaminated cleaning baths. This extends the useful life of the cleaner and reduces waste disposal and handling charges associated with frequent dumping of the baths.

Siemens has patented the use of ceramic membrane filtration to recover and reuse water based cleaners (U.S. Patent 5,205,937). The SILVERBACK® system maintains a consistent bath quality and is designed for high temperature, high caustic environments typically found in aqueous cleaning operations.

PROCESS DESCRIPTION

Contaminated cleaner is pumped from the customer's cleaning bath to the SILVERBACK® system. The feed valve, which is controlled by a level sensor, maintains a proper level in the process compartment. Contaminated cleaner is then directed through a bag filter to remove coarse particulates and into a settling compartment where free oils and sludge are removed.

Fluid from the middle of the settling compartment flows into a process compartment where contaminants are concentrated. Process fluid is pumped at high recirculation rates through the channels of the ceramic membrane where contaminants are separated from the cleaner. Purified cleaner (filtrate) flows radially through the ceramic filter, collects in the filter housing and flows back to the customer's cleaning bath. A high pressure, automatic backpulse device periodically dislodges solids and oil from the membrane surface to minimize fouling and maintain a high filtration rate throughout the operation of the system.





SILVERBACK® Model 300 System

FEATURES

- Ceramic membranes with pore sizes ranging from 0.02 to 0.8 micron (dependent on application)
- Stainless steel construction
- Automatic operation with backpulse
- Compact, rugged system
- Minimal maintenance

BENEFITS

- Withstands fluid temperatures up to 220°F (104°C)
- Extends cleaning bath life
- Membrane life expectancy of 10+ years
- Resistant to acids, caustic and solvents
- Minimizes liquid and solid wastes
- Maintains consistent high quality cleaner
- Reduces chemical makeup costs
- Easy to operate and clean
- Typical payback of 1-2 years

The SILVERBACK® recycle system can be used in a number of microfiltration and ultrafiltration applications including:

- Aqueous cleaner bath recycle
- Recovery of semi-aqueous cleaners from rinsewaters
- Oil/water separation
- Coolant waste minimization
- Coolant recycle

SIEMENS CERAMIC MEMBRANES

Installed in more than 500 systems worldwide, the ceramic element is composed of 99.96% pure alpha alumina and withstands a pH from 0-14 and temperatures up to 400°F (204°C). With chemical cleaning, ceramic membranes have been in service for 10+ years without needing replacement.

SERVICES

Siemens performs bench scale testing in its laboratories to determine the optimal pore size and oil removal efficiency of the ceramic membrane for your specific cleaning bath. On-site testing is available with a SILVERBACK® rental unit to best evaluate an application. Leasing and flexible financing programs to purchase systems also are available.

SILVERBACK® SYSTEM SIZING			
MODEL	FLOW RATE*	DIMENSIONS (W x D x H)	MOTOR
150	150 gpd (0.6 m ³ /d)	3'-9" x 3'-0" x 5'-5" (1.1m x 0.9m x 1.6m)	3 hp
300	300 gpd (1.1 m ³ /d)	3'-9" x 3'-0" x 8'-7" (1.1m x 0.9m x 2.7m)	3 hp
900	900 gpd (3.4 m ³ /d)	4'-10" x 3'-0" x 6'-9" (1.5m x 0.9m x 2.1m)	7.5 hp
1800	1800 gpd (6.8 m ³ /d)	4'-10" x 3'-0" x 9'-7" (1.5m x 0.9m x 2.9m)	7.5 hp
2600	2600 gpd (9.8 m ³ /d)	8'-0" x 3'-3" x 10'-3" (2.4m x 1.0m x 3.1m)	15 hp

For further information
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