

**SERFILCO®**

# PILOT TESTING LIQUID / SOLID SEPARATION

BULLETIN  
F-801A  
MAR. 2008

## IS IT AN ART OR A SCIENCE?

Over the years many processes have been adopted, some in line, others set up for recirculation. Some enlist the ability to utilize “step-down” equipment to bite off a little at a time.

### QUESTIONS:

- Is the delivered result a clean, solid-free liquid or a dry cake of solids?
- Should initial cost be the deciding factor or operating cost?
- What about environmental concerns?
- Do the spent liquids or the recovered solids present a disposal problem?
- What government restrictions might apply?

Therefore we offer these and many other types of equipment for pilot testing.

### *Consider the following...*

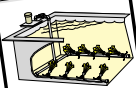
Only after a thorough understanding of the problems involved in achieving clarity and purity of a chemical solution, can selection of the proper equipment be made.

SERFILCO recognizes this objective and has attempted, over the years, to meet the various requirements relating to size of tank, solids (particle size), temperature, flow rate and materials of construction plus other factors, and yet remain as compact and functional as possible, providing convenient changing or cleaning of filter media, self-priming or easy-to-prime pumps, and elimination of leakage not only in the pump, but in all the related piping.

To accomplish this, we offer systems which are proportionate in size and economical to operate in relation to their application. Filter media, for instance, is available in different materials of construction providing for various particle retention, and available in both surface type or depth type, either of which may be operated with or without filter aid. Cleaning by manual or automatic backwashing may or may not be applicable. Activated carbon cartridges may also be used interchangeably to achieve the purification of the solution by adsorption of undesirable organic impurities. Separate purification chambers, containing granular activated carbon in canister or bulk form, are also available for use in conjunction with the various clarification equipment.

Thus, SERFILCO offers a filtration system which is adaptable to the changing conditions that applications might require, actually making it three filters in one.

SER-  
DUCTOR



PUMPS



FILTRATION



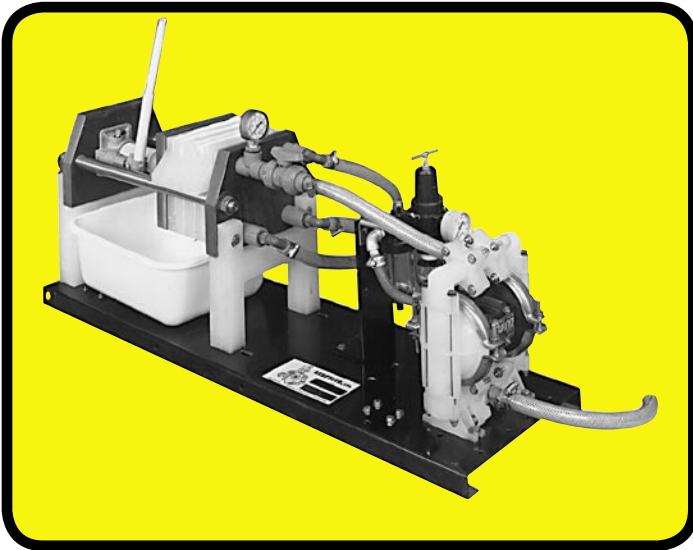
FILTER  
MEDIA



# ***EQUIPMENT FOR PILOT***

## **LAB FILTER PRESS**

Is designed for lab analysis and small batch production. This press is also very useful for testing for upscaling to full production-size semi-automatic or manually operated presses. Includes polypropylene plates, filter cloth, air diaphragm pump, pneumatic controls, pressure gauges, inlet flow control valve, hoses, manual hydraulic pump and drip pan.



***LABORATORY PRESS***

## **MANUAL GRAVITY FILTER**

A simple test of roll type media is possible by placing the unit on the top of an open drum or recirculating tank and pouring or routing the liquid to be filtered into the filter tray. When the filter fabric accumulates enough solids, as indicated by the liquid pool, pull it forward, tear/cut it off and evaluate the results. Different media, flow rate, particle retention will guide you.

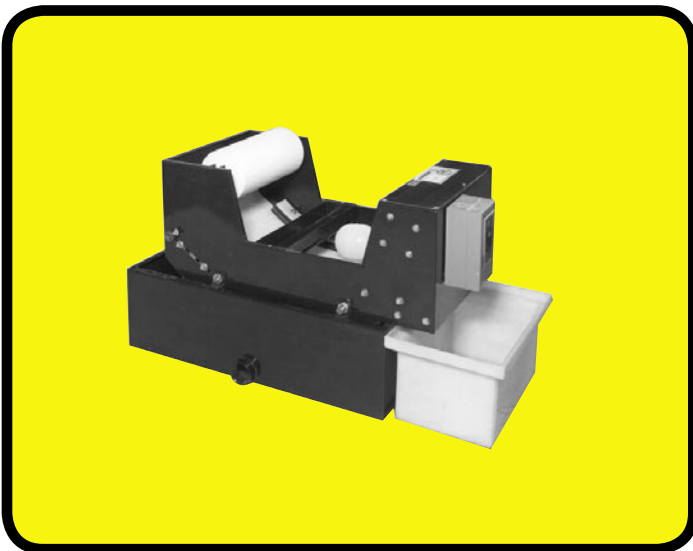


***MANUAL GRAVITY FILTER***

**WE ALSO OFFER AN AUTOMATIC DISPOSABLE FABRIC FILTRATION SYSTEM SUITABLE FOR BULKY, GRANULAR SOLIDS WHICH WILL CREATE A POROUS CAKE**

Gravity flow allows gentle accumulation and settling of solids on the filter fabric. The concave configuration of the media bed accommodates the flow rate and maximizes solids loading on the fabric. As the media gradually becomes laden with solids, the solution level will slowly rise until the float switch activates the conveyor or drive motor. Consumed fabric is advanced to the sludge box as fresh media is simultaneously indexed to sustain the solution flow.

This system is totally automatic and responds to wide variations in flow rate and solids concentration. Pump the contaminated solution to the diffuser tray which distributes flow across the full width of the filter bed. Particle separation starts immediately via gravity flow through the media to the clean reservoir below the conveyor frame. Filtered solution can then gravity drain to waste or be returned to the process via a pump.



***AUTOMATIC DISPOSABLE MEDIA FILTER***

# TESTING — RENTAL\*



**'G' SERIES  
EXCEL**



**CARTRIDGE/  
BAG SYSTEM**



**'L' SERIES EXCEL**



## EXCEL FILTRATION SYSTEMS

Filtration is accomplished by a floating bed of ground polyethylene creating a dense filter media for retention of submicron particles, assuring a high degree of clarity. The flow pattern produces a depth of media of filtering area and results in high solids holding capacity, assuring a long filtration cycle.

The 'G' Series 'Excel' Filtration System automatically enters the backwash mode on a differential pressure signal. The filter media is scrubbed clean and free of all solids which exit the chamber through barrier screens that retain the filter media. The system automatically returns to the filtration mode with the floating media bed surrounding the discharge retention screen. All modes are pre-programmed for time duration and flow rate to achieve optimum performance of each. Feed water and backwash tanks are required and are available independent of the filtration system.

## CARTRIDGE / BAG SYSTEMS

CARTRIDGE / BAG SYSTEMS provide high solids loading capabilities for applications requiring recirculating filtration of a process reservoir. Applications include the removal of particles from glass and plastic in bottle washing operations and the removal of fiber, grit and metallic particles from water used in deburring and scrubbing equipment. The first stage employs a primary filter tank containing 8 gravity flow filter bags. Stage two consists of a trap filter chamber to polish water to reuse or discharge.

## PILOT STRAINER

To qualify the purchase of an Automatic Self-Cleaning Strainer, R.P. ADAMS offers skid mounted rental systems. This enables compatibility trials to assess the effectiveness of the strainer. Each system is fully functional and equipped with (flow and frequency) instrumentation for data collection. A choice of media is available to meet your separation requirements.

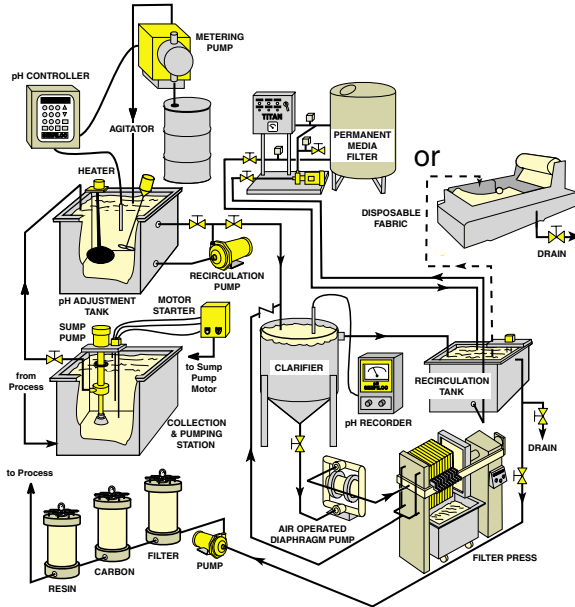
\* With credit toward purchase



# SERFILCO<sup>®</sup>, LTD.

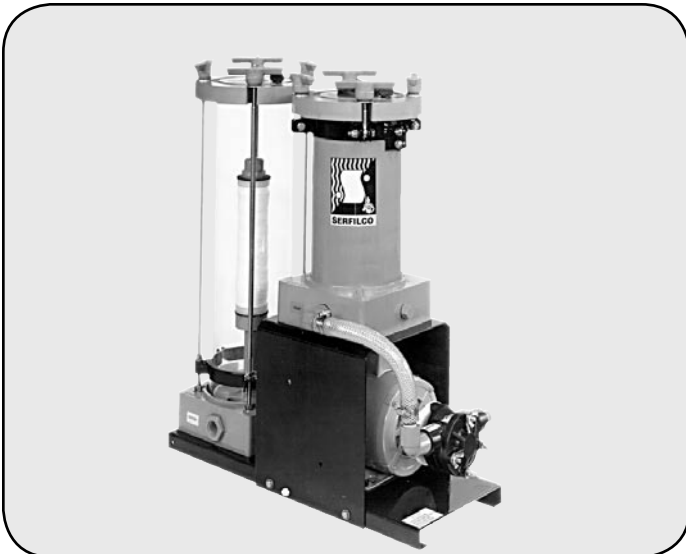
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*Request Catalog 'Z' for complete specifications*

## EQUIPMENT FOR PILOT TESTING — RENTAL



**COALESCING SYSTEM**

Coalescing Systems are compact, economical, and simple to operate. Remove oils from rinse waters, cleaning solutions, plating solutions or waste effluents. Separate water or tramp oil from hydraulic fluids and machining coolants.



**PILOT MULTIMEDIA**

The use of sand or other similar media provide the ability to meet the desired clarity... testing may determine the solids holding capacity, prior to reversing the flow to clean the media. The ability to purge the solids from the media is the most important part of the test, as well as flow to pressure drop for sizing