

## CLARIFICATION OF WATER SOLUBLE AND OIL BASED COOLANTS THROUGH PRESSURE FILTRATION

In a variety of industrial processes, there are extremely fine particles generated that may affect tooling wear and product quality. These particles are often difficult to remove through gravity and vacuum filtration due to the dense filter media required to remove the particle.

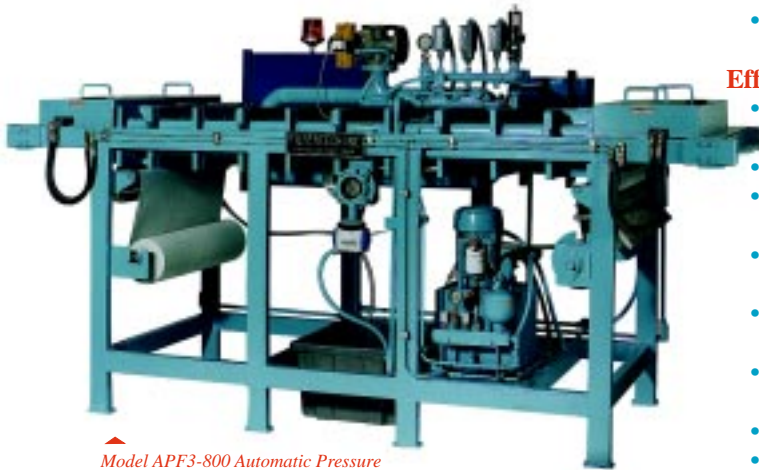
The Filtertech Automatic Pressure Filter model APF is designed specifically for this type of application by creating an extremely large pressure differential across the filter media.



Model APF3-800 Automatic Pressure Filter with hydraulically operated chamber doors.

## TYPICAL APPLICATIONS

- Alkaline Cleaning • Honing
- Electroplating • Phosphating
- Galvanizing • Wire Drawing
- Machining and Grinding



Model APF3-800 Automatic Pressure Filter rear view.

## EQUIPMENT FEATURES

### Solid Construction

- Heavy gauge reinforced steel or stainless steel filter chamber construction.
- Pneumatic or hydraulically operated doors for tight chamber seal.
- Tubular steel frame construction.
- All components are industrial grade.

### Efficient Design and Operation

- Automatic media rewriter with sludge separator and drive motor.
- Compact design minimizes floor space requirements.
- PLC operated control panel for fully automatic operation.
- Manual bypass for use when compressed air is not available.
- Drip pans and collection reservoir to minimize solution loss.
- Automatic bypass valve for quick draining of the filter chamber.
- Optional body feed system for precoating applications.
- Optional wash station for use with permanent media models.

## SPECIFICATIONS

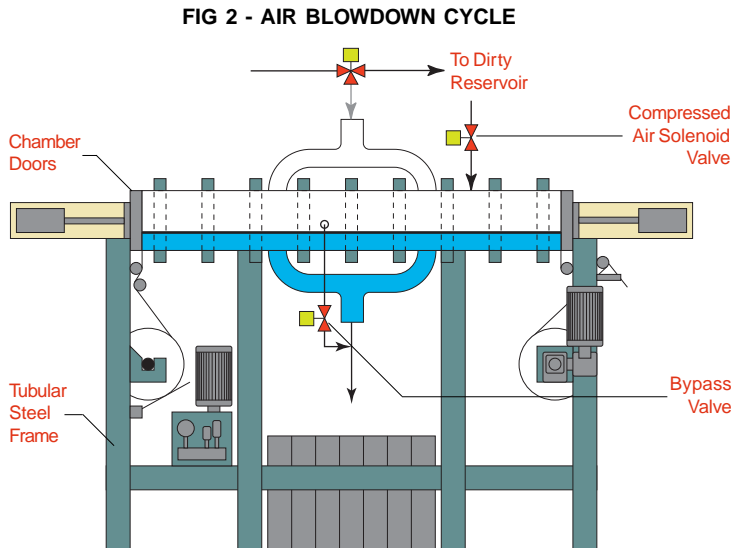
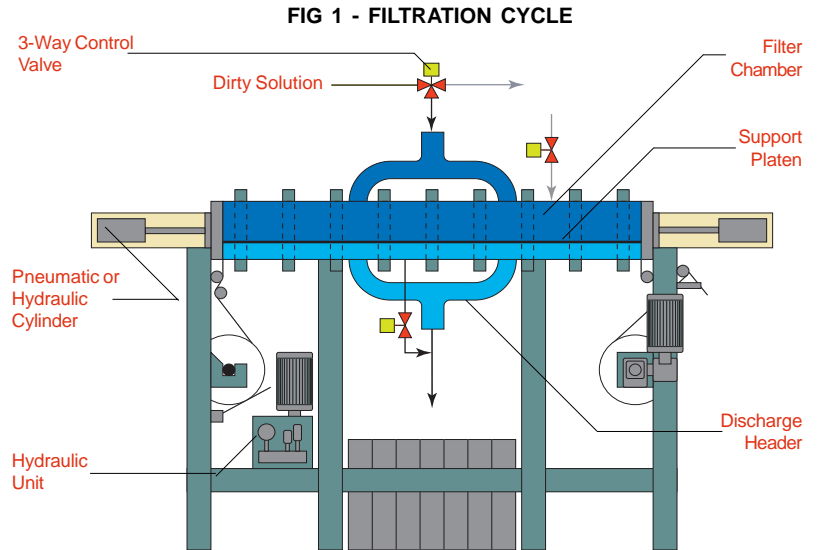
Model†	Dimensions			Est. Wt. lbs.	Model†	Dimensions			Est. Wt. lbs.
	Length	Width	Height			Length	Width	Height	
APF2-240	7'-0"	3'-6"	6'-0"	3,500	APF3-600	9'-0"	4'-6"	6'-0"	5,500
APF2-400	9'-0"	3'-6"	6'-0"	4,500	APF3-800	11'-0"	4'-6"	6'-0"	6,000
APF2-520	11'-0"	3'-6"	6'-0"	5,000	APF3-1000	13'-0"	4'-6"	6'-0"	7,000
APF2-640	13'-0"	3'-6"	6'-0"	5,500	APF3-1240	15'-0"	4'-6"	6'-0"	8,000
APF2-800	15'-0"	3'-6"	6'-0"	6,000	APF4-1520	13'-0"	6'-0"	6'-0"	8,500
APF3-400	7'-0"	4'-6"	6'-0"	4,500	APF4-1840	15'-0"	6'-0"	6'-0"	9,500

† Other filter sizes are available on a custom basis.

Specifications subject to change without notice.

## MODE OF OPERATION

The model APF Automatic Pressure Filter is fed with dirty solution by an optional feed pump from the dirty sump or reservoir tank. An automatic three way valve is used to control the flow of solution to the inlet manifold of the filter, which only lets solution into the filter chamber during the filtration cycle (fig. 1). Inside the filter chamber a perforated platen supports the filter media which removes the solids and allows only clean liquid to pass through. The clean solution then exits through the discharge manifold to a clean reservoir for reuse. The filter chamber is sealed at both ends by either a pneumatic or hydraulically operated set of doors to prevent dirty liquid from exiting out the ends of the chamber.



As the solids build up on the surface of the media, a filter cake is formed. This cake helps to further improve clarity through depth filtration in which the cake acts as the filtering media removing even smaller particulates. Over time the filtrate rate decreases causing the pressure inside the chamber to increase.

When sufficient pressure has been generated, the air blowdown cycle is initiated and the feed to the filter is diverted by the automatic three way valve back to the dirty reservoir tank (fig. 2). The remaining liquid in the filter is evacuated by pressurizing the chamber with compressed air and forcing the liquid through the filter media.

After the liquid has been removed from the filter chamber, the indexing cycling is initiated and the chamber doors which are pneumatic or hydraulically operated are opened (fig. 3). The automatic media rewinder then advances the dirty filter media out of the chamber where the filter cake is separated and discharged into a collection hopper while the spent media is rewound for disposal. On permanent media models, the filter media is passed through a cleaning station before being rewound for reuse. Once the entire length of spent media has been advanced out of the filter chamber, the doors are then closed and solution flow to the filter is resumed.

