



# SERIES 'FRP' FILTER CHAMBER

OPERATION AND  
SERVICE GUIDE  
O-855A  
FEB. 1997

MODEL	PRICE CODE NO.
FRP 240S-2	77-9968
FRP 320S-2	77-9969

Refer to Bulletin C-108  
and Parts List P-7080.

## SAFETY PRECAUTIONS BEFORE STARTING FILTER

1. Read operating instructions and instructions supplied with chemicals to be used.
2. Refer to Chemical Resistance Data Chart for compatibility of materials in filter with solution to be used. Filter chamber is FRP. Standard gasket is EPDM, optional gasket Viton.
3. Note pressure/temperature limitations.
4. Personnel operating filter should always wear suitable protective clothing: face mask or goggles, apron and gloves.
5. All piping must be supported and aligned independently of the filter.
6. Always close valves slowly to avoid hydraulic shock (water hammer).
7. Ensure that all fittings and connections are properly tightened.

## BEFORE CHANGING APPLICATION OR PERFORMING MAINTENANCE

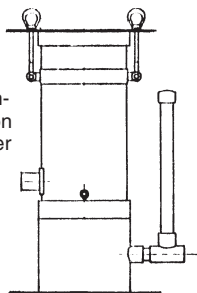
1. Wear protective clothing as described in Item 4 above.
2. Flush filter thoroughly with a neutralizing solution to prevent possible harm to personnel.
3. Verify compatibility of materials as stated in Item 2 above.

## CHAMBER INSTALLATION

1. Filter chamber is free standing and stable when inlet and outlet piping is completed.
2. Inlet and discharge piping should be 2". Smaller pipe size for low flow rates is acceptable when consideration for system pressure loss is included. Use larger pipe size for maximum flow rate.
3. Install valve on inlet and outlet of chamber to facilitate cartridge replacement. Always close valves slowly to avoid water hammer.
4. Install a 2" diameter air cushion column on discharge side to reach top of chamber. This will prevent water hammer which can cause pressure and fracture piping or the filter chamber (Figure 1).
5. Pressure gauge and vent valve assembly (optional).
6. Drain connection 1/2" NPT can be valved.
7. Tighten swing bolts to prevent leakage during operation of filter.

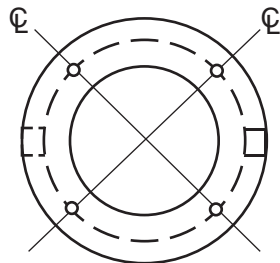
## A. CARTRIDGE INSTALLATION: GENERAL

1. Close inlet and outlet valves.
2. Open vent and open drain.
3. While solution is draining, loosen tee handles at cover and



Install 2" diameter air cushion column on filter discharge.

Figure 1



1/2" diameter holes on 13" d.b.c., 4 places

drop swing bolts.

4. Remove cover by lifting straight up.
5. Remove top seat plate and "O" rings to replace filter cartridges. Refer to subsequent instructions for installation of various types of cartridges.
6. Replace cover, tighten tee handles and close drain.

7. Open inlet valve, then open outlet valve.
8. As solution enters filter, air will escape from vent. When solution appears at vent, close vent.
9. Depending upon flow rate, cartridge style and other factors, it may be necessary to partially close outlet valve to force liquid to remain in chamber and displace air through vent. When chamber has been purged of all air, open outlet valve and close vent.

## B. CARTRIDGE INSTALLATION

### EIGHT MULTI-LENGTH DEPTH OR CARBON CARTRIDGES

1. Place cartridges (30" or 40" long) over the cartridge guides at bottom of filter.
2. Install seat plate and spring assembly on top of cartridges.
3. Refer to Step 6, **Cartridge Installation: General**, for closing chamber and start-up.

## C. CARTRIDGE INSTALLATION

### 10" LENGTH DEPTH, CARBON AND PLEATED

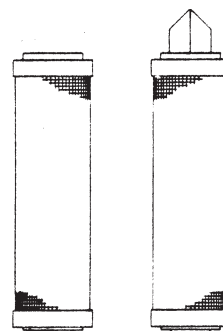
### CARTRIDGES OR COMBINATIONS OF 10", 20" & 30"

1. For stacking 10" cartridges into 3 and 4 deck high chamber, optional cross post will be needed.
2. Place cross post set into cartridge guides.
3. Install 10" cartridges, or combination of 10", 20" and 30" length, over cross posts and over center post column. Place gasket spacers between each cartridge for proper seal.
4. Refer to Step 6, **Cartridge Installation: General**, for procedure on closing chamber and start-up.

## D. CARTRIDGE INSTALLATION

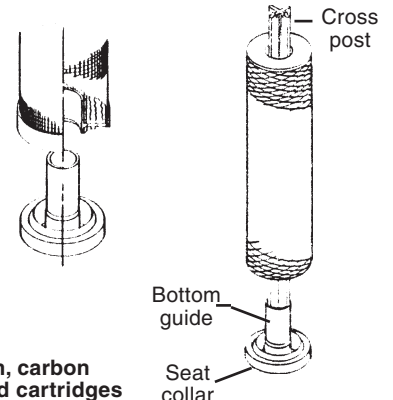
### EIGHT SINGLE 120 "O" RING STYLE WITH TOP END CLOSED

1. Place cartridges (30" or 40" length) over cartridge guide and firmly press downward until bottom of cartridge is firmly on seat collar. The single internal "O" ring will seal on the outside diameter of the cartridge guide. Moistening the "O" ring will facilitate proper seating of the cartridge.
2. The "O" ring seal is designed for absolute sealing and by-pass free filtration. However, under some circumstances when filter outlet valve is closed or throttled, the cartridge can receive a hydraulic shock which could upset the seal. Under these conditions we recommend a top seat spacer assembly.
3. Refer to Step 6, **Cartridge Installation: General**, for procedure on closing chamber and start-up.



120 "O" ring style  
cartridges

Depth, carbon  
& pleated cartridges



Bottom  
guide  
Seat  
collar



**CAUTION: Do not use air or gas as the operating or testing medium.**

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