



MERMAID INTANK FILTRATION SYSTEMS

OPERATION AND
SERVICE GUIDE
O-20D
OCT. 1992

Refer to Parts List P-2500.

MODEL	PRICE CODE NO.	MODEL	PRICE CODE NO.
SAUL4½P SPPV	AL1.4AS	SCL4½P SPPV	CL1.4AS
SAUL6½P SPPV	AL2.1AS	SCL6½P SPPV	CL2.1AS
SAUL10½P SPPV	AL1AS	SCL10½P SPPV	CL1AS
SAUL20½P SPPV	AL2AS	SCL20½P SPPV	CL2AS
SAUL30½P SPPV	AL3AS1	SCL30½P SPPV	CL3AS

IMPORTANT:

Maximum solution operating temperature is 160°F. Do not install pump assembly in bath in excess of this temperature. Do not operate motor out of solution. At least 2/3 of motor must be submerged. Motor has built-in thermal overload and will stop motor if temperature of motor is excessive. Overload will automatically reset when temperature decreases. Starter has overload heaters installed and will shut off motor in the event of a motor overload. Handle pump with care and do not drop it as alignment may be affected.

CHECK SPECIFIC GRAVITY:

Pump impeller is designed to provide maximum flow and pressure for water type liquids. Liquids of high specific gravity cannot be pumped (usually indicated by initial pumping and then complete cut-off) unless the overall length of the impeller is reduced. Impellers may be trimmed by sanding or filing, taking care to remove equal amounts at each end of impeller. Remove a maximum of 1/16" and check its performance in the pump before additional material is removed.

SAFETY PRECAUTIONS BEFORE STARTING

1. Read operating instructions and instructions supplied with chemicals to be used.
2. Refer to Chemical Resistance Data Chart for compatibility of materials with solution to be used.
3. Note temperature and pressure limitations.
4. Operating personnel should always wear suitable protective clothing: face mask or goggles, apron and gloves.

CAUTION:

System must be installed only in conjunction with a ground fault circuit interrupter (GFCI) and tested in accordance with GFCI manufacturer instructions.

INSTALLATION:

The Mermaid may be installed in any one of the following positions. Choose the one most suitable to your tank outlet.

1. Support mounting bracket from tank flange.
2. Stand or lay down assembly in corner of tank and mount starter bracket.
3. Pump and motor may be separated from the filter chamber for individual mounting.
 - a. If assembly is to be used intact, attach mounting bracket of filter chamber to tank flange.
 - b. If assembly is separated, place pump and motor in bottom of tank and install filter chamber and starter.

Refer to Serfilco Product Catalog for general information, types and prices of Serfilco Filter Cartridges, Carbon or Sleeves or other miscellaneous filter media.

PRESTART-UP

1. Install filter cartridges.
2. Check that filter chamber plastic knobs are secure and vent plug is closed.

START-UP

1. Energize motor.
2. Open air vent in cove to release air from chamber. Tighten vent plug when solution level rises to top of chamber. **CAUTION:** Shield spray to avoid injury.

TO REPLACE SERFILCO FILTER CARTRIDGES

1. De-energize motor chamber before opening.
2. Remove old cartridge and replace with new.
3. Follow Start-Up procedure.

BEFORE CHANGING APPLICATION OR PERFORMING MAINTENANCE

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

PUMP SERVICE:

1. Disconnect and lock out power to the pump motor.
2. Remove from tank and drain liquid from the pump and adjacent hose or pipe.
3. Remove four mounting feet and pump cover.
4. Impeller can be removed by pulling straight out with fingers.
5. Inspect impeller magnet for wear. Replace when wear makes pump operate noisily or inefficiently.
6. Inspect pump body for signs of excessive wear. If replacement is required, return pump to factory for service.
7. Replace impeller magnet in pump cavity with TFE washer behind impeller magnet.
8. Inspect 'O'-ring and replace when necessary.
9. Replace cover and tighten mounting feet until snug. The cover 'O'-ring seal is designed to keep the pump chamber pressure tight with only a firm pressure at the feet. Check 'O'-ring for proper positioning. The Mermaid pump motor assembly requires no maintenance when operated at the recommended temperatures.
10. Small chips or items that have fallen to the bottom of the tank may find their way into the pump body and the hose to the filter chamber. If pump flow rate appears to be restricted or plugged, stop motor and inspect pump chamber and impeller assembly.

OPERATING TIPS:

1. If pump remains idle, flush with water or neutral solution to avoid crystallization.
2. If pump is used on electroless plating solution, a metallic film may deposit on the internal surfaces. This reduces clearance, can affect pump performance and cause premature wear of pump body or impeller assembly. Periodically check and remove metal build-up by immersing parts in, or pumping a "stripping" agent. Be sure to check compatibility with pump and 'O'-ring material.

3. Place in stock, a spare 'O'-ring and impeller assembly to avoid shutdown for lack of a replacement part. A body and motor could also be held in stock, depending upon the necessity of uninterrupted operation of the pump and system.
4. Solution containing ferrous fines can cause accelerated pump wear due to their magnetic attraction to the impeller magnet.

FILTRATION TIPS

1. DEPTH CARTRIDGE PRE-TREATMENT

Most* synthetic fiber cartridges (polypropylene, modacrylic, etc.) contain a sizing agent which is applied to the raw fiber during winding. The presence of this coating may have an adverse effect to the plating bath and its metal deposition.

1. Flush with 5 gallons of warm (110° to 140°) water, for each 10" of cartridge length.
2. Soaking is not sufficient. *Serfilco Polyspun, Polysurf, and Purefybe cartridges are free of all anti-static agents and therefore recommended. Refer to Product Catalog or Bulletin M-109-1 for available densities and lengths.

2. REPLACEMENT PARTS

Order necessary spare parts for filter chamber and pump-motor prior to their need, thereby avoiding shutdown of the filter assembly or unnecessary expediting.

3. REPLACEMENT CARTRIDGES

Have a quantity in stock, available for immediate use.

WARNING: Do not service with motor energized. Open cover vent and drain. Do not, at any time, remove or loosen cover before draining.



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