OPERATION AND
SERVICE GUIDE
O-0515
JULY 2008

TRI-CHROME FILTRATION SYSTEMS
MULTIPLE CHAMBERS

⚠ SAFETY PRECAUTIONS BEFORE STARTING PUMP

1. Read operating instructions and instructions supplied with chemicals to be used.
2. Refer to a chemical resistance data chart for compatibility of materials to be used.
3. Note temperature and pressure limitations.
4. Personnel operating pump should always wear suitable protective clothing: face mask or goggles, apron and gloves.
5. All piping must be supported and aligned independently of the pump.
6. Always close valves to avoid hydraulic shock.
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 pump thoroughly with a neutralizing solution to prevent possible harm to personnel.
3. Verify compatibility of materials as stated in item 2 of Safety Precautions above.

PRE-START-UP

1. Review accompanying pump-motor operating instructions to assure proper start-up.
2. Secure filter chamber to base/hood assembly if not already done. Use fasteners provided.
3. Install all hoses (disconnected for shipping) and tighten hose clamps. Siphon breakers in the suction line to the pump and filter discharge to the tank should be installed as a further precautionary measure to limit and minimize the amount of liquid lost by back siphoning. An effective siphon breaker is a small hole drilled in suction & discharge lines approximately 2" to 4" below normal solution level.
4. Install cartridge filter of your choice.
5. Check that filter chamber tee handles are secure and vent valve is closed.

START-UP

1. Prime pump according to pump operating instructions and energize motor. Also refer to page 2.
2. Secure hoses so they do not move or fall out of tank.
3. Open valve vent in cover to release air from chamber. Tighten vent valve when solution level rises to top of chamber.

⚠ **CAUTION:** liquid may squirt out of vent valve.

CARTRIDGE FILTRATION CARTRIDGE FILTER CHAMBER

1. SERFILCO 10" depth cartridges have a dirt holding capacity equivalent to that of 3-1/2 sq. ft. of surface filter media of the same density. The cartridge traps the soil in the fibrous structure as the solution passes through it. Cartridges are available in a variety of porosities permitting use of coarse tubes that have greater dirt holding capacity or dense tubes to obtain optimum clarity.
2. Refer to product catalog or other miscellaneous filter media bulletins for general information and types of cartridges.

TO REPLACE SERFILCO CARTRIDGES

IMPORTANT: Filter chambers having a shell and base of identical material will have the shell permanently sealed to the base. When shell and base are different materials, a flat gasket will provide the seal when the filter assembly is compressed by the four tee handles at cover. Be sure to vent and drain chamber before opening.

1. Stop pump and loosen tee handles at cover and lift cover straight up.
2. Remove top used cartridge by lifting straight out. If several 10" cartridges are stacked, the lower cartridges may be removed by lifting the crosspost over which the cartridges are stacked. A ring at the bottom of the crosspost lifts all cartridges.
3. Replace with 10", 20" or 30" cartridges. Important: use gasket spacer between cartridges if stacked height is not sufficient for proper closure and cartridge seal, or if used cartridges have been cleaned and replaced.
4. Replace cover on shell, check engagement of cover groove, tighten tee handles.

TO USE WITH CARBON CARTRIDGES

There are several types of activated carbon cartridges, and granular carbon filled canisters which may be used alone for purification or in conjunction with the filter assembly. Refer to Technical Bulletin TF-133. Activated carbon removes organics from plating solutions; taste, odor and color from potable water and purifies industrial waste effluents.

FILTRATION TIPS

If synthetic fiber cartridge is used, flush with 5 gallons of warm (110° to 140°F) water for each 10" of cartridge length. This removes any sizing agent used in the manufacture of the cartridge. Soaking is not adequate.

REPLACEMENT PARTS

Refer to Parts List P-4400 for filter chamber. Order necessary spare parts for filter chamber and pump-motor PRIOR to their need, thereby avoiding shut-down of the filter assembly or unnecessary expediting.

REPLACEMENT CARTRIDGES

Have a quantity in stock, available for immediate use.

CARBON AND RESIN PURIFICATION CHAMBERS

Canister style see parts list P-900
Bulk Carbon style see parts list P-5000
Refer to Bulletin R-102.

⚠ SAFETY PRECAUTIONS

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. Personnel should always wear suitable protective clothing: mask or goggles, apron and gloves.
5. All piping must be supported and aligned independently of the chamber.
6. Always close valves slowly to avoid hydraulic shock.
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 thoroughly with a neutralizing solution to prevent possible harm to personnel.
3. Verify compatibility of materials as stated in item 2 above.

DESCRIPTION

Activated carbon purification and resin chambers are a simple, low cost and effective method of removing organic impurities from plating baths and other chemical solutions. To prolong the life of the carbon or resin, a filter chamber should be used ahead of the carbon chamber to remove the bulk of the solid impurities before they reach the carbon or resin.

The quality of solution purification using granular activated carbon or resin is dependent upon several factors such as: Type of solution, temperature, degree of impurities in solution, type of carbon, depth of carbon bed and solution contact time (flow rate). Controllable factors are flow rate and type of carbon. A longer contact time between solution and carbon requires a lower flow rate. System performance should be established to determine optimum adsorbency versus flow rate relationship.

PRE-START-UP

Carbon or resin chambers are shipped without carbon unless otherwise specified. Carbon and resin should be in the canisters or shells before the filtration system is started.

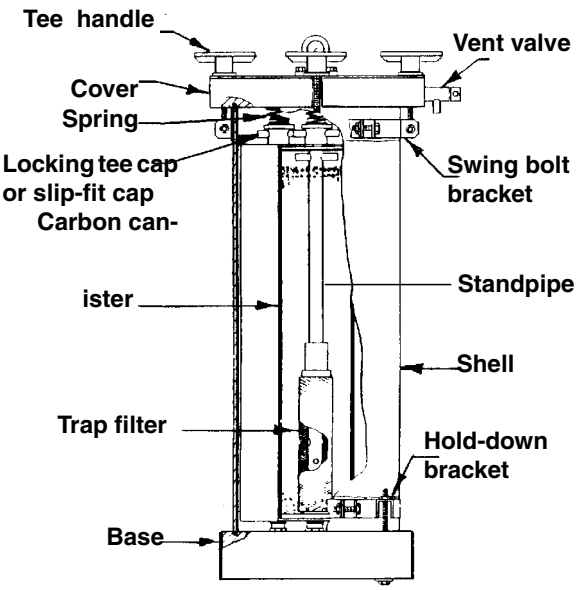
CARBON CANISTER

MODEL	FLOW U.S. GPM	TRAP FILTER	CARBON CAPACITY		PRICE CODE NOS	
			NO. CANS.	LBS.	CPVC	PVC
CL1(528P)CCS 1-G3	1 - 5	(1) SF 03U10U	1	7	78-1427C	78-1427
CL3(528P)CCSIO 1½-G3A	3 - 15	(3) SF-03U10U	3	21	78-1913C	78-1913P
CL3(548P)CCSIO 1½-G3A	10 - 25	(3) SF-03U20U	3	36	78-1915C	78-1915P

IMPORTANT

Maxi-Carb carbon cartridges SFC-528PE and SFC-548PE are interchangeable with 528C and 548C refillable carbon canisters respectively.

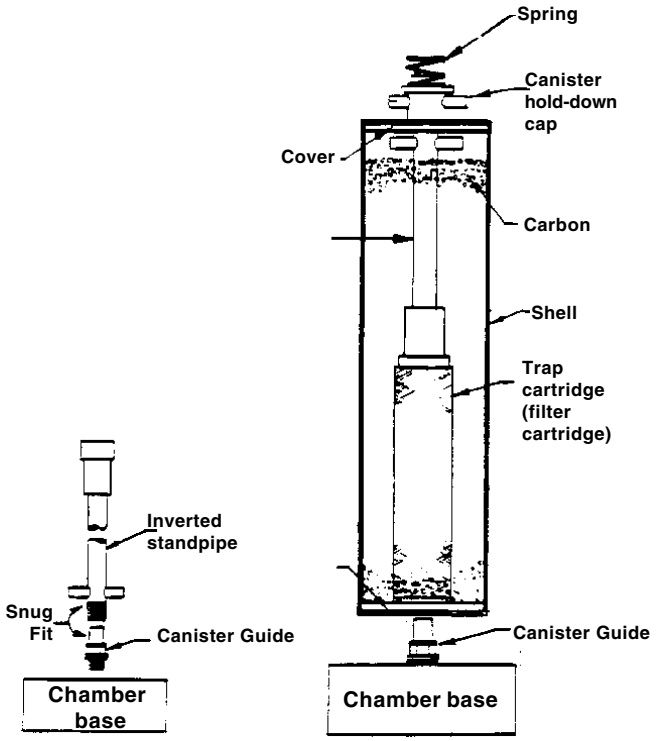
Refer to Product Bulletin M-305 or consult Application Engineering Department.



CARBON CANISTER

CARBON AND RESIN CANISTER

1. Remove chamber top cover by loosening the tee handles and lifting cover straight up. Remove the canisters from the chamber by grasping the locking tee cap and pulling straight up. Models available after October, 1985 have a slip-fit cap and cover which is removed with compression spring. Lift canister by grasping shell or lift by tee handle below canister cover.
2. Lift tee cap at top of canister and cover can be removed. Note trap filter. Fill each carbon canister with approximately 7 pounds of activated granular carbon in Models (528P) or 12 pounds in Model (548P). Fill each resin canister with the factory recommended quantity of resin. Tap sides of shell gently so that carbon or resin will settle. Replace canister cover.
3. Lower canister into shell and insert hole in center pipe over pipe adapter in base. There is an 'O'-ring seal that will prevent by-passing of solution. Replace canister cover and cap.
4. Replace spring on top of canister. Place cover on shell and tighten tee handles.



SERVICE - CARBON AND RESIN CANISTERS-

To order carbon, see page 3.

1. Shut off inlet valve to carbon or resin chamber. Remove plug at "drain", open vent and allow solution to drain from chamber.
2. Remove chamber cover. Remove spring and canister cover. Models available after October, 1985 will have a slip-fit cap which is removed with the compression spring.
3. Remove spring and canister tee cap. Lift cover off. Lift canister by shell or tee handle.
4. Place the canister on a table or suitable support where carbon or resin can be conveniently dumped. Dump carbon or resin into a container for disposal.
   NOTE: Resin should not be regenerated in tri-chrome system. Off-line regeneration is recommended.
5. If filter cartridge has to be replaced, remove standpipe by turning tee handle. Reach into canister and remove filter cartridge. Insert new filter cartridge and screw on standpipe until filter cartridge is firmly held. Do not overtighten.
6. Fill canister with approximately 7 lbs. of activated granular carbon in Models (528P) or 12 lbs. in Model (548P). Fill each resin canister with the factory recommended quantity of resin. Tap shell gently to settle carbon.
7. Lower canister into chamber and center over canister guide. There is an 'O'- ring seal to prevent solution bypass.
8. Replace canister cover cap and spring. Replace chamber cover. Tighten tee handles. Close drain and vent.
9. If canister guide requires replacing, use standpipe assembly by sliding open end over adapter and turning.

SPECIFIC ION RESIN

Specific ion resins have the capacity to remove specific types of metals from waste streams in the presence of other ions that would normally exhaust the resin. This ability allows the treatment of much larger volumes than with ordinary non-specific resins. Consult the Sales Department for specific details.

	TYPE	PART NO. *
Heavy metals removal - copper, nickel, chrome, zinc, lead as cations at pH's above 5.	S930	1307

* Price per cubic foot.
Consult Sales Department for quantity pricing and special packaging.
To order .5 cu. ft. bag - add .5B to Part No.
To order .9 cu. ft. bag - add .9B to Part No.

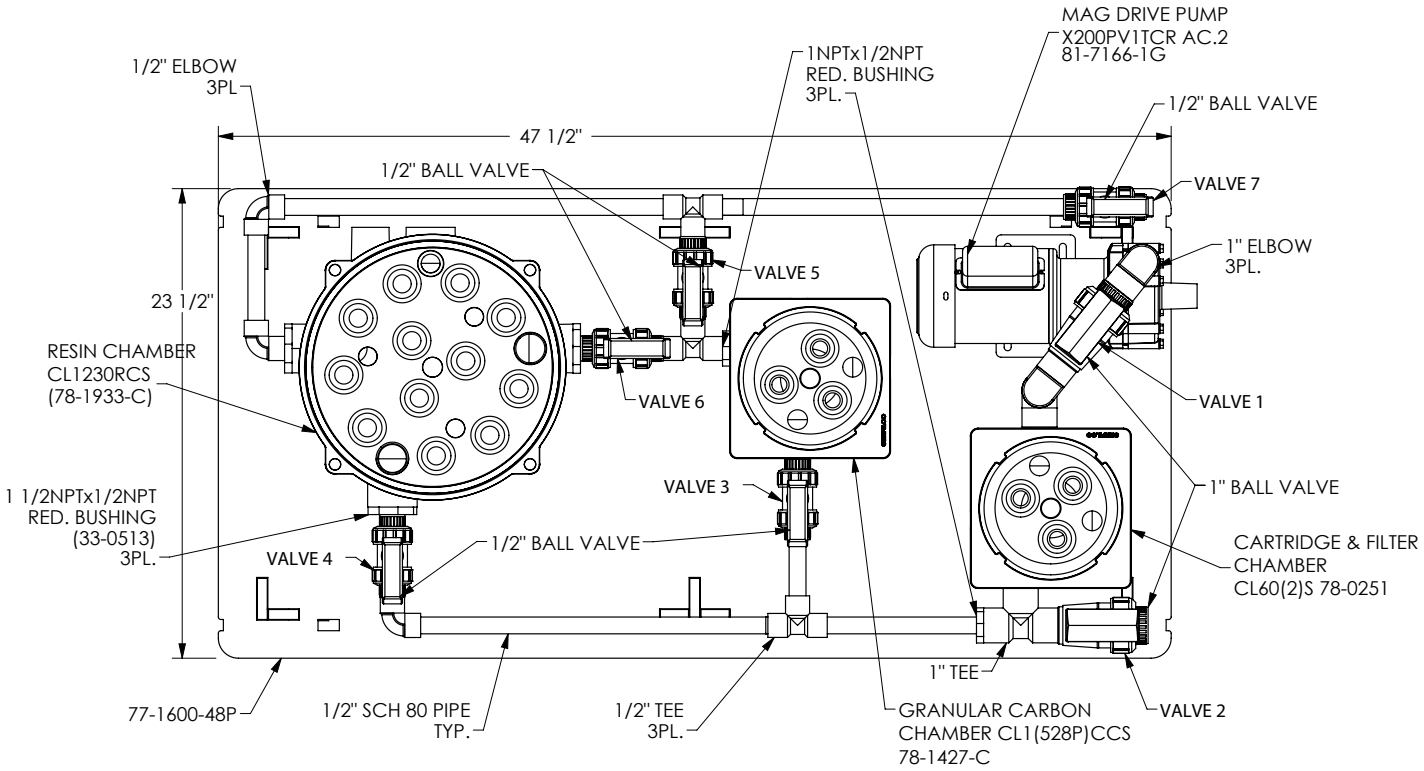
GRANULAR, ACTIVATED CARBON

10# bags or 50# drums only

	LBS.	PRICE CODE NO.
12 x 30 Mesh 99.5% sulfur-free (Standard)	10 50	99-0994 99-0997

NOTE:

Be sure that all of the solution has been completely drained out of the chamber and canister before trying to remove the canisters. This can be accomplished by removing the drain plug in the base. This will only drain the canisters. A valve on the inlet side of the chamber must be opened to drain the chamber. If there is no drain valve provided, the hose connection must be disconnected in order to drain the chamber. Failure to drain both the canisters and chamber will result in loss of solution. Lift canister to rest on "guide" and solution will exit at drain port.



VALVE POSITIONS

CARTRIDGE ONLY

PUMP	VALVE 1	VALVE 2	VALVE 3	VALVE 4	VALVE 5	VALVE 6	VALVE 7
On	Open	Open	Closed	Closed	Closed	Closed	Closed

CARTRIDGE FILTRATION + CARBON ONLY

PUMP	VALVE 1	VALVE 2	VALVE 3	VALVE 4	VALVE 5	VALVE 6	VALVE 7
On	Open	Closed	Open	Closed	Open	Closed	Open

CARTRIDGE FILTRATION + RESIN ONLY

PUMP	VALVE 1	VALVE 2	VALVE 3	VALVE4	VALVE 5	VALVE 6	VALVE 7
On	Open	Closed	Closed	Open	Closed	Closed	Open

CARTRIDGE FILTRATION + CARBON + RESIN

PUMP	VALVE 1	VALVE 2	VALVE 3	VALVE 4	VALVE 5	VALVE 6	VALVE 7
On	Open	Closed	Open	Closed	Closed	Open	Open

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