



# BULK CARBON PURIFICATION CHAMBER

MODELS	PRICE CODE NUMBERS	MODELS	PRICE CODE NUMBERS
PCL10CR- $\frac{3}{4}$	78-1631	CL10CR- $\frac{3}{4}$	78-1631C
PCL20CR- $\frac{3}{4}$	78-1632	CL20CR- $\frac{3}{4}$	78-1632C
PCL30CR- $\frac{3}{4}$	78-1633	CL30CR- $\frac{3}{4}$	78-1633C

Refer to Bulletin  
R-102 and Parts  
List P-1750.

## ! SAFETY PRECAUTIONS

1. Read operating instructions and instructions supplied with chemicals to be used.
2. Refer to a chemical resistance data chart for compatibility of materials in chamber with solution to be used.
3. Note temperature and pressure limitations.  
25 PSI @ 170°F for Model PCL  
30 PSI @ 200°F for Model CL
4. Personnel using equipment should always wear suitable protective clothing: face 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 pump thoroughly with a neutralizing solution to prevent possible harm to personnel.
3. Verify compatibility of materials as stated in item 2 above.

MODEL	FLOW RATE GPM	CARBON CONTENT (LB.)	CARBON CONTENT (CU. IN.)	PRICE CODE NO.
PCL10CR- $\frac{3}{4}$	1½-5	1.2	70	78-1631
PCL20CR- $\frac{3}{4}$	1½-5	2.5	140	78-1632
PCL30CR- $\frac{3}{4}$	1½-5	3.8	210	78-1633
CL30CR- $\frac{3}{4}$	1½-5	1.2	70	78-1631C
CL30CR- $\frac{3}{4}$	1½-5	2.5	140	78-1632C
CL30CR- $\frac{3}{4}$	1½-5	3.8	210	78-1633C

## DESCRIPTION

Chamber has non-metallic solution contact and is constructed of the following materials:

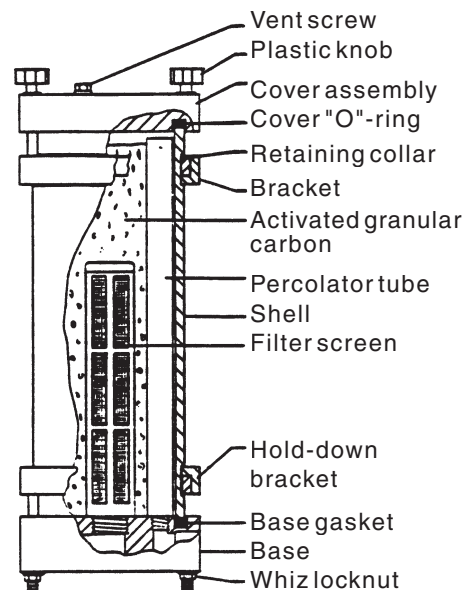
PCL-CPVC base and cover. Clear PVC shell & ethylene propylene "O" ring and gasket.

CL -CPVC base, cover and shell with ethylene propylene "O" ring and gasket.

Bases have  $\frac{3}{4}$ " NPT inlet and outlet.

The quality of solution purification using granular activated carbon is dependent upon several factors such as:

Type of solution, temperature and 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 adsorbancy vs. flow rate relationship.



## PRE-START-UP

It is recommended that a filter chamber be installed ahead of the carbon chamber to remove suspended solids that could decrease the life of the carbon. Carbon chambers are shipped without carbon. Carbon should be in the chambers before the filtration system is started.

1. Note trap screens in bottom of chamber, which are removable for cleaning when necessary.
2. Carbon chamber is designed for use with Serfilco granular activated carbon. Remove cover and pour in carbon to within 3 inches of the top of the chamber. This level will allow for carbon expansion and space for solution dispersion under the cover.
3. Replace cover, tighten plastic knobs. Complete all inlet and outlet connections.
4. Securely seal excess carbon in plastic bag to prevent its drying out and becoming ineffective. Properly identify and store.

5. 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.

### START-UP

1. Flush carbon with volume of water or process solution until discharge runs clear. Sample outlet to verify quality of discharge. Bleed air from chamber by loosening vent screw on cover.
  2. Figure A - Open valves between carbon chamber and filter chamber. Adjust outlet Valve A on filtration system until the desired flow is obtained from the carbon chamber.
- Figure B - Modulate three-way Valve C to have all, proportion or none of solution flowing through carbon.

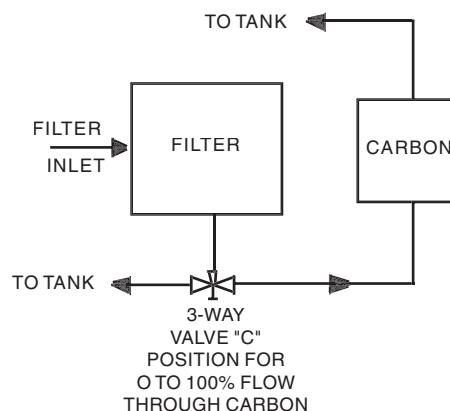
### SERVICE (TO REPLACE CARBON)

1. Shut-off filter system and close valve to carbon chamber.
2. Drain all solution from carbon chamber.
3. Remove cover from carbon chamber. Tip carbon chamber on side, or invert to dump carbon from chamber. Flush out remaining granules with hose. Return carbon system to upright position.
4. To replace trap screen, remove wing nuts from hold-down bracket, lift shell assembly, unthread screen.
5. Clean edge of shell and bottom gasket before securely replacing shell to base.
6. Refill with carbon, replace cover, refer to Start-up Step 1.

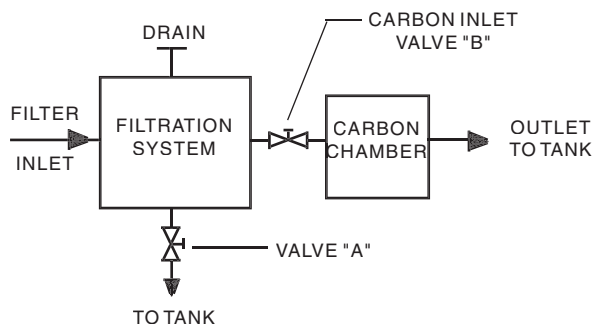
### PURIFICATION TIPS

1. BY-PASS PURIFICATION: Carbon chamber is installed on filter discharge with control valve on chamber inlet. Flow through carbon is adjusted to approximately 1-½ to 5 GPM. Continuous recirculation by this method should eliminate or significantly postpone batch treatment with powdered carbon.
2. FULL FLOW PURIFICATION: Valve "A" is closed and valve "B" is opened to provide suitable flow. A low flow rate will provide optimum adsorbancy during transfer.
3. A regular analysis of carbon chamber discharge will establish ideal flow rate and disclose when carbon replacement is necessary.
4. A pressure gauge on carbon chamber inlet will permit valve adjustment for repeatedly obtaining identical flow rate.
5. Replacement carbon should be ordered and placed in stock for immediate availability.

**FIGURE B**



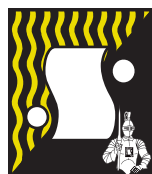
**FIGURE A**



### GRANULAR, ACTIVATED CARBON

10# bags or 50# drums only

	Lbs.	Price Code No.
8 x 30 Mesh 99.5% sulfur-free (Standard)	10	99-0992
	50	99-0995
12 x 30 Mesh Sulfur-free (Acid washed)	10	99-0993
	50	99-0996



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