PENGUIN

PUMPS AND FILTERING SYSTEMS

SERIES 6CT/8CT/12CT CARBON TREATMENT CHAMBERS

MODELS	MATERIALS
6CT	A - CPVC
8CT	D - PVC
12CT	

INTRODUCTION

Penguin carbon treatment chambers are designed to handle a large range of chemicals without difficulty. Completely constructed of CPVC and viton elastomers where in contact with the solution being carbon treated, there is no fragile lucite or glass. There are no springs, no crushed tubes, and no metal to liquid contact. Because of the unique design with the long-sleeved flanges attached to the chamber shell, these chambers can be utilized as filter chambers as well as carbon treaters.

INSTALLATION

PLUMBING

Model 6CT/8CT/12CT filter chambers must be mounted vertically on the base legs with the inlet port on the bottom. Do not mount in solution. The inlet and outlet ports are 6CT - 1" FPT, 8CT/12CT 1½" FPT. They can accept hose connections or standard pipe fittings if rigid piping is desired. If purchased as a separate unit or a complete system, 6CT/8CT/12CT carbon treatment chambers can be mounted singularly or base-mounted with pump on the floor. Polypropylene based-mounted filter systems include piping, valves, hose fittings, clamps, and pressure gauge and guard. Model 2-6CT/2-8CT/2-12CT carbon treatment chambers are piped in parallel and valved.

OPERATION

CARBON TREATING

Each 6CT/8CT/12CT carbon treating chamber is equipped with a CPVC/PVC flow plate, a polypropylene mesh carbon bag, and short filter rods with an initial set of 3 micron filter tubes. Following are filter tube lengths and carbon capacities.

SERIES		No. of Tubes	Length of Tube (w/carbon bag)	Capacity (lbs of carbon)	Length of Tube (filtration only)
6CT —	6CT-6	3	6"	5	20"
	6CT-9	3	10"	10	30"
8CT —	8CT-10	5	6"	9	20"
	8CT-15	5	10"	18	30"
12CT —	12CT-24	12	6"	25	20"
	12CT-36	12	10"	50	30"

For carbon treatment, place the flow plate, feet down, into the bottom of the chamber. Install filled carbon bag on the flow plate. The short tube rods should be screwed into the head and the filter tubes installed with the tube nuts. The short filter tubes are supplied to collect any granular carbon escaping, if the carbon bag is not sealed securely, as well as collecting all foreign particles and trapped solids. The frequency of granular carbon and filter tube replacement varies based on type of solution, if continuous operation, and organic contamination. Carbon treating is a slow process with flows 30-50% that of filtration.

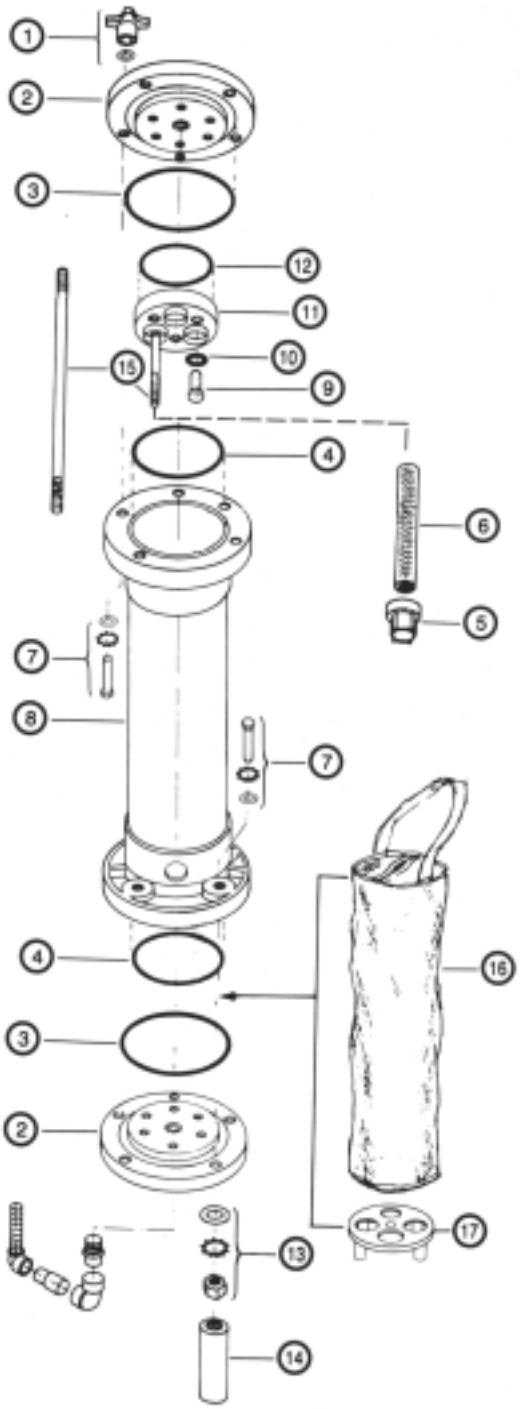
FILTRATION ONLY

For filtration only, remove the carbon bag and flow plate. Replace the short tubes, short tube rods, and tube nuts with the longer tube rods and corresponding filter tubes utilizing the same tube nuts. Filter tubes in various micron porosities can be purchased from the factory's large stock.

MAINTENANCE

ASSEMBLY 6CT/8CT/12CT

1) Screw the 10/10/18 1/2-13 x 3" hex head bolts with large washers into both shell flanges where the metal inserts are exposed. Tighten the bolts using a 3/4" wrench. Do not overtighten.
2) Press two (2) of the #4 O-rings evenly into the groove of the bottom flanges. Press the #12 O-ring into the groove of the #11 manifold. The manifold is undersized and must be stretched while pressing into the groove. Moistening this O-ring with water will ease this operation.
3) Place 3/5/3 #10 O-rings underneath the 3/4" manifold bolt. Align the timing mark on the manifold with the timing mark on the top flange. Remember that the knife edges of the manifold must face downwards. Tighten the manifold via the 3/5/3 plastic bolts using a 15/16" wrench. Do not overtighten.
4) Align the timing mark on the side of the bottom flange with timing mark on the shell flange. Be sure the 1"/1½"/1½" threaded side hole is at the bottom. This is plugged unless a pressure gauge and guard is utilized. Tighten the bottom flange onto the shell diagonally tightening the 5/5/9 large flat washers, lock washers, and nuts using a 3/4" wrench. The chamber legs have a recessed cavity on one side. Screw the 5/5/9 chamber legs with the cavity over the 5/5/9 nuts, hand tightening only. Do not use any tools to tighten these legs.
5) Press the second #3 O-ring into the groove on the head with the manifold. Position the chamber with the remaining 5/5/9 bolts at the top. Place the head over the bolts. Tighten the head down by hand using the 5/5/9 #1 washers and knobs. Alignment of the timing marks is not necessary.



6CT/8CT/12CT CARBON TREATMENT CHAMBER SPARE PARTS LIST

Item	Description	Part Number 6CT	8CT	12CT	Quantity Required 6CT	8CT	12CT
1	Knob & Washer	C-600-01	C-600-01	C-600-01	5	5	9
2A	Head/Flange	C-600-02A	C-800-02A	C-120-02A	1	1	1
3E	Head O-ring—EPR	C-600-03E	C-800-03E	C-120-03E	2	2	2
3V	Head O-ring—Viton	C-600-03V	C-800-03V	C-120-03V	2	2	2
4E	Shell O-ring—EPR	C-600-04E	C-800-04E	C-120-04E	2	2	2
4V	Shell O-ring—Viton	C-600-04V	C-800-04V	C-120-04V	2	2	2
5A	Tube Nut—CPVC	C-400-04A	C-400-04A	C-400-04A	3	5	12
6-6	Filter Tube—6"	**	**	**	3	5	12
6-1	Filter Tube—10"	**	**	**	3	5	12
6-2	Filter Tube—20"	**	**	**	3	5	12
6-3	Filter Tube—30"	**	**	**	3	5	12
7	Flange Bolt & Washer Ass'y	C-600-07	C-800-07	C-600-07	10	10	18
8A-2	Shell—CPVC 20"	C-600-08A-2	C-800-08A-2	C-120-08A-2	1	1	1
8A-3	Shell—CPVC 30"	C-600-08A-3	C-800-08A-3	C-120-08A-3	1	1	1
9	Manifold Bolt	C-600-09	C-800-09	C-600-09	3	5	3
10E	Manifold Bolt O-ring—EPR	C-600-10E	C-800-10E	C-600-10E	3	5	3
10V	Manifold Bolt O-ring—Viton	C-600-10V	C-800-10V	C-600-10V	3	5	3
11A	Manifold	C-600-11A	C-800-11A	C-120-11A	1	1	1
12E	Manifold Chamber O-ring—EPR	C-600-12E	C-800-12E	C-120-12E	1	1	1
12V	Manifold Chamber O-ring—Viton	C-600-12V	C-800-12V	C-120-12V	1	1	1
13	Nut, Lock Washer & Washer Ass'y	C-600-13	C-600-13	C-600-13	5	5	9
14	Chamber Leg	C-600-14	C-600-14	C-600-14	5	5	9
15A-6	Tube Rod—CPVC 6" (6CT-6/8CT-10/12CT-24)	CT-600-03A-6	CT-600-03A-6	CT-600-03A-6	3	5	12
15A-1	Tube Rod—CPVC 10" (6CT-9/8CT-15/12CT-36)	C-400-03A-1	C-400-03A-1	C-400-03A-1	3	5	12
15A-2	Tube Rod—CPVC 20" (6CT-6/8CT-10/12CT-24)	C-400-03A-2	C-400-03A-2	C-400-03A-2	3	5	12
15A-3	Tube Rod—CPVC 30" (6CT-9/8CT-15/12CT-36)	C-600-03A-3	C-600-03A-3	C-600-03A-3	3	5	12
16B-2	Carbon Bag—20" (6CT-6/8CT-10/12CT-24)	CT-600-16B-2	CT-800-16B-2	CT-120-10B-2	1	1	1
16B-3	Carbon Bag—30" (6CT-9/8CT-15/12CT-36)	CT-600-16B-3	CT-800-16B-3	CT-120-10B-3	1	1	1
17A	Flow Plate—CPVC	CT-600-17A	CT-800-17A	CT-120-11A	1	1	1

** Consult Factory

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