

BULLETIN 451

SETHCO "CARBOLATOR" CARBON TREATMENT SYSTEMS

FOR CARBON TREATMENT OF
CORROSIVE SOLUTIONS

CECO Mefiag

A Division of CECO Environmental



5 WAY
PURIFICATION
IN
ONE
COMPACT
UNIT

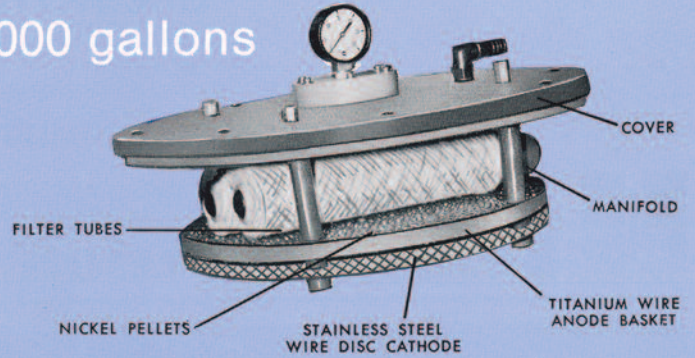
- CARBON TREATMENT
- ELECTROLYTIC DUMMYING (PURIFICATION)
- DEPTH FILTRATION
- PRECIOUS METAL ION EXCHANGE
- BASE METAL ION EXCHANGE

For All Nickel Baths, Acid Copper, Tin Lead, Alkaline Cyanide, etc.

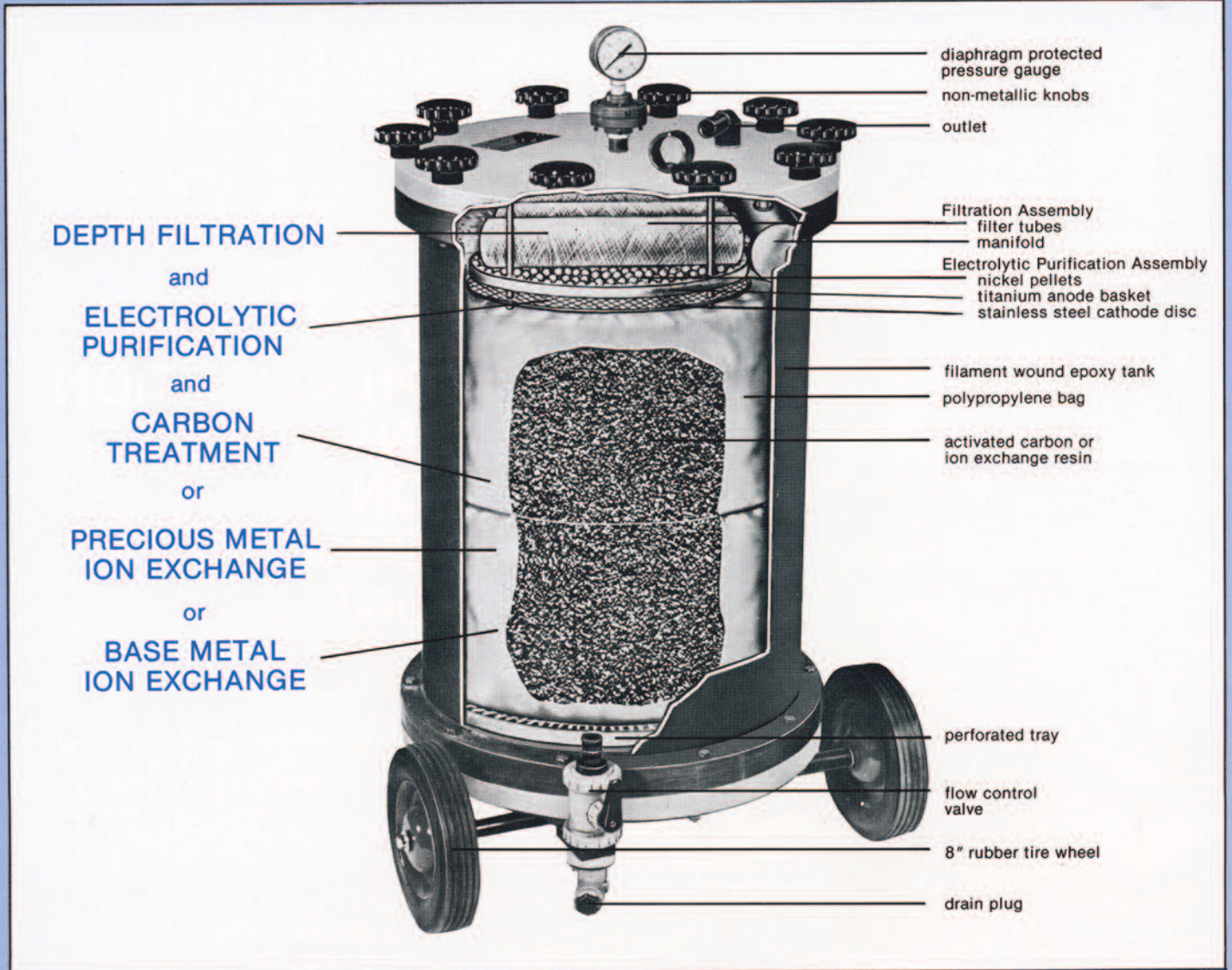
CARBOLATOR 35B

for carbon treatment of up to 3000 gallons

- removes organic impurities
- filters out solid particles
- removes base metal impurities
- recovers precious metal ions
- for all nickel baths, acid copper, tin lead, alkaline cyanides, etc
- avoids costly down time required for batch carbon treatment



Electrolytic Dummieing Cover



CARBOLATOR CONSTRUCTION

The portable, filament wound, reinforced epoxy tank offers a new concept in the manufacture of solution handling equipment. It is corrosion resistant inside and out. Light weight and compact, the tank is filament-reinforced epoxy which provides the strength of stainless steel with the economy of cast iron. It defies most acids and alkalis at high temperatures and pressures and is leakproof and trouble-free. It resists erosion and impact. The Sethco Carbulator gives high performance at low cost.

CARBOLATOR CAPACITY

For carbon treating, the Carbulator 35B is recommended for tanks up to 3,000 gallons.

5 WAY PURIFICATION IN ONE COMPACT UNIT

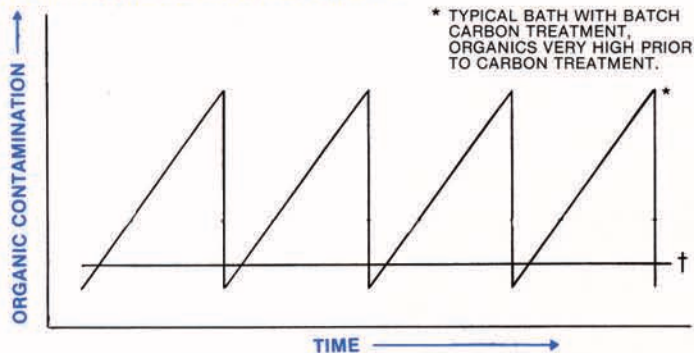
The multi-purpose Carbolator performs all necessary plating shop purification functions. Ruggedly constructed of filament-reinforced epoxy, the tank defies corrosive chemicals and withstands exposure to intense impact or acid splashing. The removal of organic impurities by carbon treatment, removal of base metal impurities by electrolytic purification or ion exchange, and filtration can all be carried out at the same time. Precious metal recovery by ion exchange is a separate operation.

CARBON TREATMENT

CARBON TREATMENT removes organic impurities from all acid and alkaline solutions by means of a highly selective and porous bed of Mefiag granular activated carbon. This carbon takes out both dissolved and solid contaminants, but leaves in brighteners. The carbon may also be used to remove dye contaminants from nickel acetate sealing solutions and crack detection liquids.

CARBON TREATING is fast and positive. Your solution is pumped continuously and powerfully through a dense bed of activated carbon granules. This highly selective carbon quickly reaches its saturation point in adsorbing brighteners, yet continues to have excellent adsorption for organic impurities. Where required, taste, color, or odors can be removed. The disposable carbon is contained in permanent polypropylene bags which are easily handled and are resistant to acids and alkalis. Activated carbon replacement is economical and fast; no slurries, no waste of time. The flexible Sethco CARBOLATOR permits use of varying amounts of activated carbon depending on contaminant content in solution. The pumps are selected to allow maximum contact time of the solution with the carbon bed, to allow optimum adsorption.

CONTINUOUS CARBON TREATMENT



† CONTINUOUS TREATMENT OR FREQUENT TREATMENT WITH CARBOLATOR REMOVES ORGANICS BEFORE REJECTS OCCUR. SMOOTHS OUT YOUR PRODUCTION CYCLE, NO DELAYING RUSH JOBS FOR BATCH TREATMENT.

DEPTH FILTRATION

DEPTH FILTRATION is accomplished at the same time as carbon treatment. The solution is automatically filtered through inexpensive polypropylene depth filter tubes securely fitted to a manifold. All foreign particles and contaminating solids are trapped, and clean, clear solution recirculates back to the tank. Replacement of Carbolator filter tubes, when required, is quick and simple.

The Carbolator 35B provides 10½ sq. ft.

For filtering, the Carbolator 35B is rated 300-450 GPH.

For Filter Tube prices as well as complete specifications, request Bulletin 901 and 902.

ELECTROLYTIC PURIFICATION (DUMMYING)

Impurities such as copper, lead, iron and zinc may be introduced by make-up chemicals or dissolved out of the work as it is immersed into a nickel plating tank. These dissolved impurities markedly affect the appearance, corrosion resistance and buffing quality of the deposited nickel.

Sethco's optional built-in Electrolytic Dummying System plates out these impurities as they are introduced. Dummying may be carried out either separately or simultaneously, while carbon treating or filtering.

The stainless steel screen cathode gives the maximum number of areas of high and low current density for the deposit of dissolved impurities. Fresh solution is continuously being pumped through the cathode screen, thus constantly exposing impure solution to the electrolytic purification process.

The perforated titanium anode basket contains nickel pellets, which is positioned horizontally above the cathode and separated by insulating plastic spacers. Large anode areas result from this arrangement, with no restriction to the flow of liquid.

The surface area of the stainless steel mesh cathode is approximately 1.0 sq. ft. for the 35B Carbolator. Since dummying is accomplished at low current densities, an external current of 5 Amps is all that is necessary to remove all lead, iron, copper and zinc impurities.

ION EXCHANGE

PRECIOUS METALS ARE RECOVERED EASILY FROM RINSE TANKS and at the same time produce deionized water. This is accomplished by substituting Mefiag's type MP Precious Metal Ion Exchange Resin in any quantity for the granular activated carbon. This ion exchange resin extracts gold, palladium, platinum, rhodium, silver and all positive and negative charged ions from the rinse water, producing water of such purity that spotting is virtually eliminated from plating surfaces.

The CARBOLATOR pays for itself in large dollar returns from reclaimed precious metals and in the improved plating quality, as a result of the exceptional rinse water purity. There is no additional charge for this feature except for the MP resin used.

BASE METAL IMPURITIES from nickel plating solutions, such as copper, lead, iron and zinc are removed by the use of Mefiag's MB base metal ion exchange resin. This resin may be used in any desired quantity in place of the granular carbon in the polypropylene bag of the Carbolator. This resin may be regenerated chemically if desired. Mefiag's MB base metal ion exchange resin is an alternative method to Electrolytic Purification. For Nickel Sulfamate Electroforming solutions, a combination of Carbon and Resin remove both organic and metallic contaminants.

SETHCO CARBOLATOR 35B

For Plating Tanks to 3000 Gallons

300-450 GPH Recommended Flow Rate, for maximum adsorption

CHAMBERS

TANK - 18 gallon fiber reinforced epoxy, flanged both ends. Leakproof polyester cover with O-ring seal, diaphragm protected pressure gauge and 10 corrosion resistant closure knobs. Working pressure to 50 psi. Higher pressure units available. Dimension: 16-1/2" dia. x 33" high.

PURIFIER - Two permanent polypropylene bags each holding up to 25 lbs. of replaceable activated granular carbon. Flexible: less carbon may be used. Also ion-exchange resin may be substituted. 50 lbs. of granular carbon are supplied with each unit.

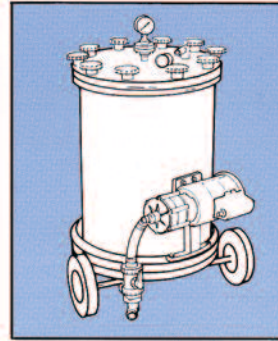
FILTER - Fitted manifold with three No. 35A Mefiag depth filter tubes.

WHEELS - Two 8" rubber wheels and one 3" revolving caster for easy portability.

HOSE - 20 feet, 3/4" ID.

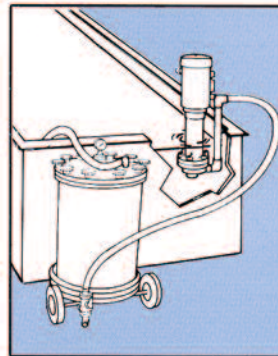


PUMPS AND MOTORS



Magnetic Drive Pump

The Model PM-510 has lifetime coated ceramic magnet. Develops 12 GPM open pump and 14 psi maximum pressure. This pump cannot leak or aerate because it has no seal. Polypropylene construction offers high strength. It can't corrode or contaminate. Resists impact. The 1/3 HP, 115 volt 60 Hz single phase motor is totally enclosed and fan cooled with a waterproof switch and grounding cord. The motor is circuit breaker protected. 50 Hz TEFC motors are available.



Vertical Pump

Model ZDX-1/2 CPVC, Bearing free. Self-priming, leakproof, maintenance-free with no metal contact. Open pumping 44 GPM maximum pressure 9.5 psi. Motor is 1/4 HP/115V/60Hz/1 pH/TEFC, with waterproof switch and grounding cord; protected by circuit breaker. 50 Hz and 3 phase motors are available.

See Bulletin 452 for additional products featuring Carbon Treatment and Filtration.

WARRANTY: One year warranty against defective parts and workmanship. See Form TC-01 for full warranty details. Always be specific about your application in order that proper materials may be furnished. Let Mefiag or an authorized distributor know: liquids being handled, gallons, temperatures and pH.

The standard warranty does not apply when equipment is used contrary to factory recommendations.

Since the policy of Mefiag is one of continual improvement, we reserve the right to change design or materials at any time, without giving notice or creating any obligation to previous or future customers.

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