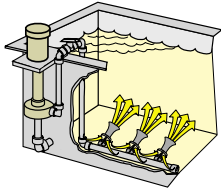
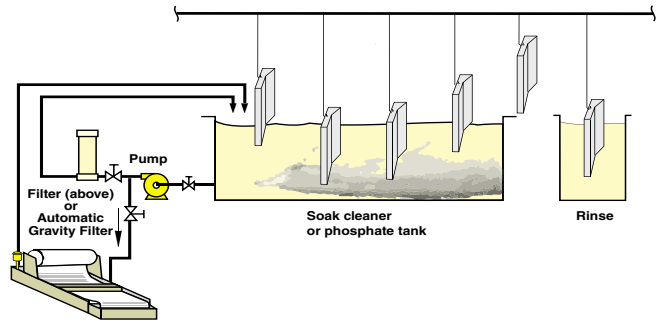


*Pretreatment cleanliness assures good finishes on your parts.
Keep them clean and oil-free . . . easily and economically
with SERFILCO engineered filtration, coalescing and carbon systems.*



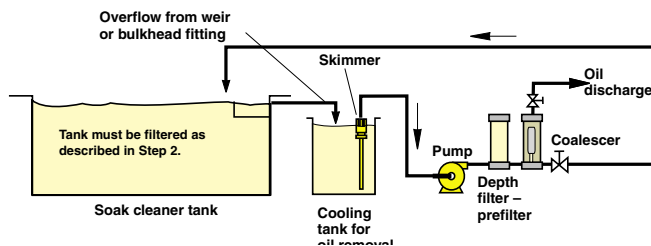
1 Use SER-DUCTOR® systems for uniform agitation

SER-DUCTOR air-less agitation combines pumps and eductors to increase solution circulation for better impingement to loosen scale from recessed cavities. This results in longer cleaner life, less disposal cost and better adhesion.



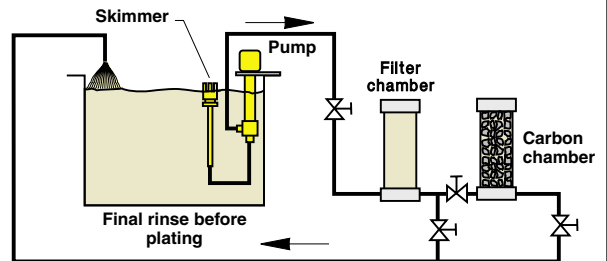
2 Filter your cleaners

Heavy sediment is removed by coarse cartridge filter or automatic gravity filter.



3 Remove oils

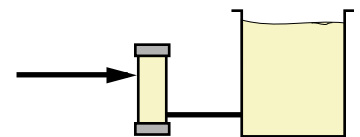
Oil is most effectively removed off line by feeding overflow weir to unheated side tank. Cooled cleaner is skimmed, prefiltered and coalesced.
(NOTE: Pump can be in-tank or out-of-tank.)



4 Filter the last rinse with carbon prior to finishing

The final rinse before painting, coating, galvanizing, anodizing or plating, whether after electroclean or acid dip, is your last chance to remove oil and particles before they reach the process tank.
(NOTE: Pump can be in-tank or out-of-tank.)

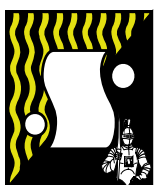
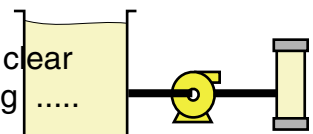
5 Trap filter for D.I. water inline for make-up



5 Filter E-Coat Solution with low shear pump (1725 RPM) and provide eductors to keep solids in suspension.



Filter ahead of R.O. recovery with separate pump to protect membranes so that clear water can be disposed or used in rinse and solids may be returned to the coating

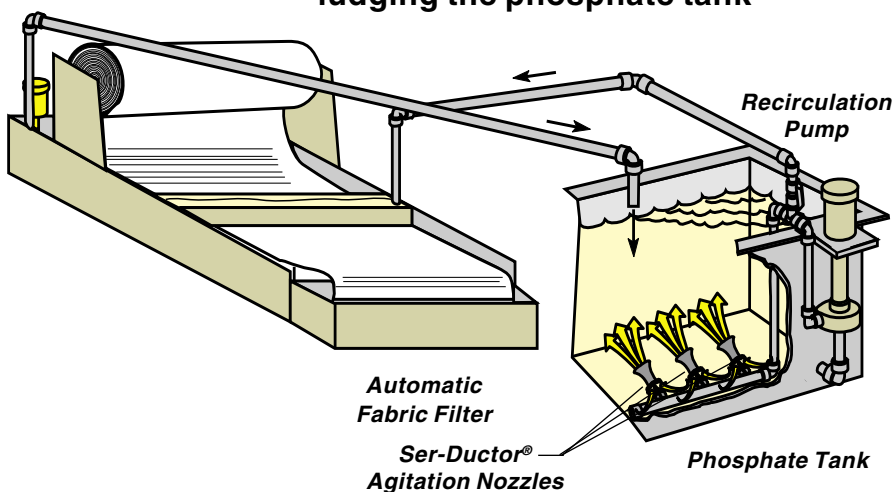


DESCRIPTION

Phosphating is the surface treatment of bare steel to produce a clean, rust resistant surface, ideally suited for further surface coating with paint or other materials.

Phosphating solutions contain either zinc, iron or manganese phosphate and phosphoric acid with suitable accelerators. During the process, the clean steel parts are immersed in (or sprayed with) the metal phosphate-phosphoric acid bath, iron is dissolved at the surface and a phosphate coating, which is a protective coating as well as a base for further coating, is formed.

Installation schematic of Automatic Fabric Filter desludging the phosphate tank



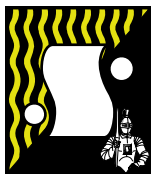
PROBLEM

The operation of these baths requires good chemical control and even application of solution. Chlorate accelerated baths have a high sludging tendency while nitrate accelerated baths have a medium low sludging tendency. The sludge generated will not harm the phosphate process as such, but is detrimental to the operation since it tends to foul heat exchangers by inhibiting heat transfer, as well as plugging circulating pumps and strainers, spray nozzles, etc. Thus, the sludge accumulation results in poor coating quality and lost production because frequent maintenance is required. It must be removed.

SOLUTION

The solution to the problem of sludge accumulation is simple to achieve. First, an air-less agitation system installed on the phosphate solution reservoir can be used to provide sufficient solution movement to keep the sludge in suspension. The SERFILCO Ser-Ductor air-less agitation system uses a recirculating pump

to move the phosphate solution through a series of eductor nozzles which increase solution flow five-fold. Next, an automatic disposable fabric "gravity" filtration system can be used to continuously remove the sludge from solution. The automatic indexing of the media provides "unattended" operation, reducing or eliminating downtime for maintenance and cleaning, and facilitating chemical control of the bath. Zinc phosphate baths require acid resistant materials such as 316 stainless steel. They generate more sludge than the iron phosphate baths which can be handled with carbon steel and cast iron. Two or more tank turnovers per day using medium porosity media (25 - 40 micron) have proved effective. Either in-tank or out-of-tank pumps may be used to transfer the sludge-laden solutions to the filter and the Ser-Ductor system. Filtrate is returned to the phosphating tank by gravity or by a sump pump in the clean reservoir of the filter.




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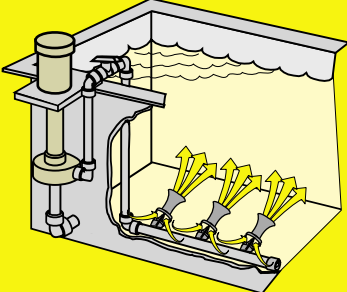
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These SERFILCO products can help you achieve your quality goals!

Agitation without contamination
Eductors




multiply pump agitation 5 times to impinge recesses Ser-Ductor®

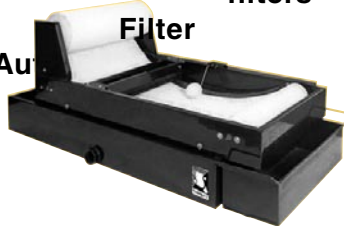


systems to agitate plating solutions the "clean" way

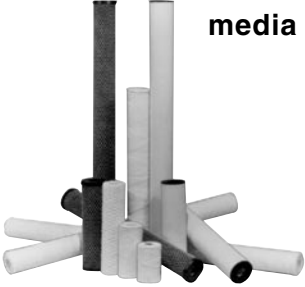
Filtration to remove particles and organics
Pressure



filters and carbon chambers



gravity filters



media

Remove oils from cleaners




Skimmers to pick up surface scum




Coalescers to separate oily substances from cleaners


Corrosion-resistant pumps



Metering for dosing



Drum for dispensing Horizontal for out-of-tank recirculation



Vertical for in-tank recirculation

