

# SERFILCO® CASE HISTORY

## Filtration And Agitation Improve A 100 Year Old Product

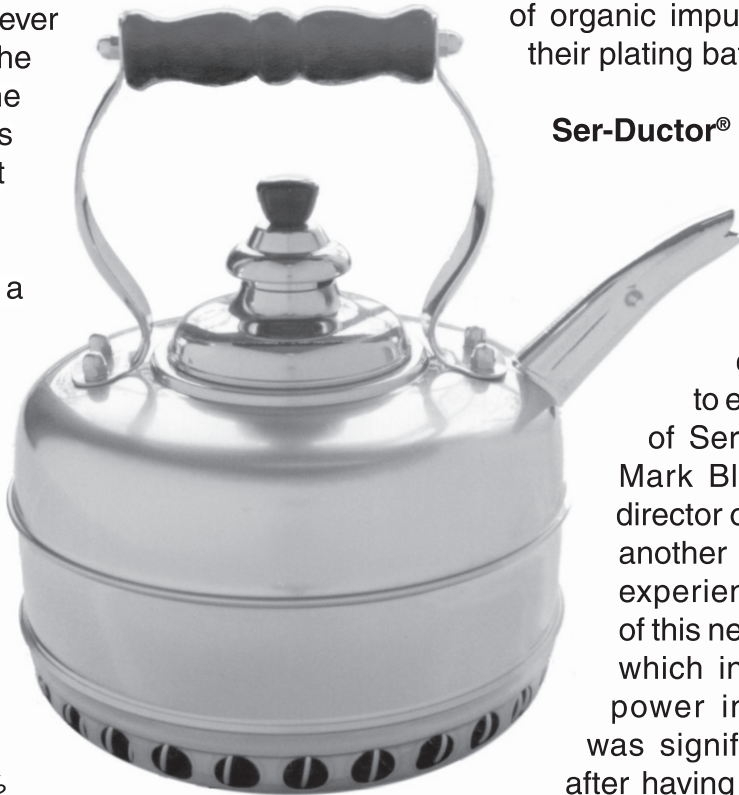
**SIMPLEX**, the original English Copper Kettle, has been manufactured for the past 100 years by Newey & Bloomer, Birmingham, England. A large proportion of the copperware was nickel plated with decorative chrome to make the kettle an attractive and desirable kitchen appliance. However, deposition of nickel on the inside of the kettle was never easily achieved, even with the use of internal anodes. The problem of internal plating is difficult to get right the first time, without rejects.

SERFILCO provided a twin-track answer to the problem—better filtration and Ser-Ductor® hydraulic agitation to replace the existing air agitation—that led to improved product quality.

**A SERFILCO Space-Saver® filter system** accomplished the first objective of better filtration with a flow rate that provides 2½ tank turnovers per hour. It is powered by a seal-less magnetic-coupled pump and ¾ HP (0.55kW) motor. The filter has 3-30" Poly-Serf® 5 micron pleated pure polypropylene cartridges which last 20 weeks before the flow rate is significantly affected. Previously the plate and paper filter required changing as often as 2-3 times per week.

### Continuous Filtration

Continuous filtration assured a smooth, bright deposit, free of surface roughness that would otherwise have been the result of inadequate particle removal. Newey & Bloomer also intermittently replaces one of the 30" filter cartridges with a Carbonex granular carbon cartridge to stay on top of the very small amount of organic impurities they have in their plating bath.



### Ser-Ductor® Air-less Agitation System

Once filtration was improved, the company decided to evaluate the benefits of Ser-Ductor® agitation. Mark Bloomer, managing director of Simplex saw how another plater was already experiencing the benefits of this new agitation method which increased throwing power into recesses. He was significantly impressed after having samples plated to his satisfaction to take the matter further.

Subsequent discussions with SERFILCO Europe technical support personnel resulted in the installation of a Ser-Ductor system which consisted of 28 - 3/8" Ser-Ductor nozzles for the 710 US gal (2700 liter) tank. The separate pump selected

*(Continued overleaf)*

to provide the necessary solution velocity at each Ser-Ductor nozzle outflow was a seal-less mag drive pump and 3 HP (2.2kW) motor. It generated an increase in total solution movement, or pumped agitation, to approximately 50 tank turnovers per hour.

### Reduced Rejects

Although seemingly trapped, the nickel solution inside the kettle now electroplates to an excellent protective coating not previously possible. Ser-Ductor agitation has allowed Simplex to reduce rejects significantly through improved throwing power and more even coverage and to achieve a faster plating rate than before. The superior quality of the internal and external finish of all of the kettles in the 12 hour daily production of over 250 kettles now gives Simplex the confidence to guarantee their consistency and uniformity.

### Additional Savings

In addition to the product quality improvements, the most significant benefit Newey & Bloomer achieved by introducing the Ser-Ductor pumped agitation system to replace their air agitation system, was the savings in electricity. Previously, the tank took up to 6 hours overnight preheating. This has been reduced to only 4 hours. Also without the cooling effect of air agitation, the tank maintains its optimum operating temperature of around 140°F (60°C) instead of reducing it to as low as 120°F (50°C) before heating up again.

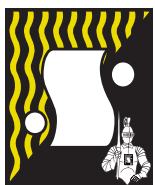
Tangible savings also include an estimated 30% reduction in brightener consumption, which is being enjoyed along with a better working environment for operators due to the virtual elimination of fumes emission.

With SERFILCO's innovative approach, Newey & Bloomer has taken a significant step forward in their manufacturing technology and improved the quality of the Simplex Copper Kettle. They have enhanced the shine and brought added sparkle to the Simplex brand image. With the success



of their plating bath, Mr. Bloomer has already scheduled Ser-Ductor agitation for their hot soak cleaners and acid etches in the early part of next year. These improvements are totally consistent with the company motto:

*"Bringing Yesteryears Traditions and Quality Alive...for Tomorrow!"*



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