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Claims

1. A method of dislodging accumulated particles on at least one surface of a filter
within a tank of liquid comprising the step of
 - 5 a) introducing a gas into the tank, such that the liquid is agitated by the gas to
create an upward helical, or spiralling movement of the liquid, consequently
abrading the particles on the surface, and dislodging said particles.
2. A method of dislodging accumulated particles on at least one surface within a tank
10 of liquid as claimed in claim 1 wherein the particles are accumulated on the surface
of a filter.
3. A method of dislodging accumulated particles on at least one surface within a tank
of liquid as claimed in claim 2 wherein the filter is a capillary filter.
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4. A method of dislodging accumulated particles on at least one surface within a tank
of liquid as claimed in claim 3 further comprising the step of
 - b) backflushing liquid from inside the capillary filter and across the membrane
of the capillary filter, such that residue on the capillary filter is dislodged; and
20 c) expelling liquid from the tank through an opening in the tank.
5. A method of claim 4 wherein steps a), b) and c) are concurrently executed.
6. A method as claimed in any one of claims 2 to 5 wherein the gas causes the liquid to
25 whirl around the filter.



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7. A method as claimed in claim 6 wherein the liquid spirals upwardly in the tank to be expelled in step c).
- 5 8. A method as claimed in any one of the preceding claims, wherein the introducing the gas step comprises the step of pulsating the gas.
9. A method as claimed in claim 8, wherein the pulsating step comprises cycling the gas ON and OFF.
- 10 10. A method as claimed in claim 9, wherein timing of each cycle within the cycling step is in the range of 0.5 to 2.0 for ON and 2 to 5 seconds for OFF.
11. A filter apparatus comprising
- 15 a tank for containing a liquid;
- a gas introduction assembly for introducing a gas into the tank so as to agitate and create an upward helical, or spiralling movement of the liquid in the tank;
- whereby
- 20 the agitated liquid abrades particles accumulated on the filter in the tank for dislodging said particles.
12. A filter apparatus as claimed in claim 11 wherein the tank houses a filter; and the at least one surface is a surface of the filter.

13. A filter apparatus as claimed in claim 12 wherein the filter is a capillary filter.

14. A filter apparatus as claimed in any one of claims 11 to 13 wherein the gas introduction means is a rod in the tank.

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15. A filter apparatus as claimed in any one of claim 14 wherein the rod is erected in the axial centre of the tank.

16. A filter apparatus as claimed in claim 14 wherein the rod has one or more
10 perforations for passing the gas into the tank; the perforations being on half of the length of the rod.

17. A filter apparatus as claimed in claim 14 wherein the half of the rod is nearer the bottom of the tank than the other half of the rod.

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18. A filter apparatus as claimed in any one of claims 11 to 17 further comprising
a backflushing means for introducing a backflushing liquid into the tank;
whereby
particles accumulated on the at least one surface in the tank is further
20 dislodged.

19. A filter apparatus as claimed in any one of claims 11 to 18 wherein
the backflushing liquid is introduced from the inside of the capillary filter,
through a membrane wall of the capillary filter and into the tank.

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20. A filter apparatus as claimed in any one of claims 11 to 19 capable of introducing the gas at the same time as introducing the backflushing liquid.
21. A filter apparatus as claimed in any one of claims 11 to 20, wherein the gas
- 5 assembly means is adapted to introduce the gas in a pulsating manner.