

CLAIMS

1. An apparatus, comprising:
an abatement chamber of an abatement apparatus which treats an effluent
5 stream from a semiconductor processing tool to provide a combusted effluent stream
having effluent particles; and
a first atomiser located downstream of the abatement chamber, said first
atomiser being configured to produce droplets having a droplet size based on a particle
size of said effluent particles to be removed from said combusted effluent stream.
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2. The apparatus of claim 1, comprising a second atomizer located downstream of
the first atomizer.
3. The apparatus of claim 2, wherein at least one of said first atomiser and said
15 second atomiser is configured to produce droplets which have a droplet size distribution
based on a particle size distribution of said effluent particles to be removed from said
combusted effluent stream.
4. The apparatus of claims 2 or 3, wherein at least one of said first atomiser and
20 said second atomiser is configured to produce droplets have said droplet size distribution
which overlaps said particle size distribution of said combustion particles to be removed
from said combusted effluent stream.
5. The apparatus of any one of claims 2 to 4, wherein at least one of said first
25 atomiser and said second atomiser is configured to produce droplets which have said
droplet size distribution which matches said particle size distribution of said combustion
particles to be removed from said combusted effluent stream.
6. The apparatus of any one of claims 2 to 5, wherein at least one of said first
30 atomiser and said second atomiser is configured to produce droplets which have a
droplet size which is up to 200 times and preferably up to 20 times said particle size of
said effluent particles to be removed from said combusted effluent stream.
7. The apparatus of any one of claims 2 to 6, wherein at least one of said first
35 atomiser and said second atomiser is configured to produce droplets within said droplet

size distribution having a size which matches particles within said particle size distribution of said combustion particles to be removed from said combusted effluent stream.

5 8. The apparatus of any one of claims 2 to 7, wherein at least one of said first atomiser and said second atomiser comprises a plurality of nozzles configured to produce said droplets.

9. The apparatus of claim 8, wherein said plurality of nozzles are configured to
10 produce said droplets with a differing droplet size distribution from each nozzle.

10. The apparatus of claim 8 or 9, wherein said plurality of nozzles are arranged in series with a source of said atomising liquid and a source of said atomising gas to produce said droplets with a differing droplet size distribution from each nozzle.

15 11. The apparatus of any one of claims 8 to 10, wherein said plurality of nozzles are located to produce droplets with different sizes at different locations in said effluent stream.

20 12. The apparatus of any one of claims 8 to 11, wherein said nozzles are orientated to produce said droplets travelling in a direction which opposes a direction of flow of said combusted effluent stream.

13. An apparatus, comprising:
25 an abatement chamber of an abatement apparatus which treats an effluent stream from a semiconductor processing tool to provide a combusted effluent stream having combustion particles;
 a first atomiser located downstream of the abatement chamber, said first atomiser being configured to produce droplets to entrain at least some of said
30 combustion particles; and
 a second atomiser located downstream of said first atomiser, said second atomiser being configured to produce droplets to entrain at least some of said combustion particles.

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14. A method, comprising:
receiving a combusted effluent stream having combustion particles from an
abatement chamber of an abatement apparatus which treats an effluent stream from a
semiconductor processing tool; and
- 5 removing combustion particles from said combusted effluent stream using a first
atomiser located downstream of the abatement chamber configured to produce droplets
having a droplet size based on a particle size of said combustion particles to be removed
from said combusted effluent stream.
- 10 15. A method, comprising:
receiving a combusted effluent stream having combustion particles from an
abatement chamber of an abatement apparatus which treats an effluent stream from a
semiconductor processing tool; and
- 15 removing combustion particles from said combusted effluent stream using a first
atomiser located downstream of the abatement chamber configured to produce droplets
to entrain at least some of said combustion particles and a second atomiser located
downstream of said first atomiser, said second atomiser being configured to produce
droplets to entrain at least some of said combustion particles.
- 20 16. A method, comprising:
determining a particle size of combustion particles to be removed from a
combusted effluent stream from an abatement chamber of an abatement apparatus
which treats an effluent stream from a semiconductor processing tool; and
- 25 configuring a first atomiser located downstream of said abatement chamber to
produce droplets having a droplet size based on a particle size of said combustion
particles to be removed from said combusted effluent stream.