CLAIMS

1. A method of cooling an abatement apparatus for abatement of an effluent stream from a semiconductor processing tool, the method comprising:

providing at least one modular cooling assembly having a cooling capacity;

determining a cooling requirement of an abatement apparatus; and

incorporating into said abatement apparatus a number of said modular cooling assemblies whose cumulative cooling capacity at least matches said cooling requirement of said abatement apparatus.

2. The method of claim 1, wherein said incorporating comprises incorporating said number of said modular cooling assemblies whose cumulative cooling capacity exceeds said cooling requirement of said abatement apparatus, wherein said incorporating comprises incorporating a plurality of said modular cooling assemblies.

3. The method of claim any preceding claim, wherein said providing comprises providing each modular cooling assembly with at least one pump to recirculate coolant within said abatement apparatus to cool said abatement apparatus.

4. The method of claim any preceding claim, wherein said providing comprises providing each modular cooling assembly with a first pump configured to convey said coolant from a drain tank downstream of an abatement chamber within a first tower of said abatement apparatus to cool said abatement apparatus.

5. The method of claim any preceding claim, wherein said providing comprises providing each modular cooling assembly with a separator to separate particulates within said coolant to provide a particulate stream and a coolant stream to cool said abatement apparatus, preferably wherein said providing

comprises configuring said separator to convey said particulate stream to said drain tank.

6. The method of claim any preceding claim, wherein said providing comprises providing each modular cooling assembly with a heat exchanger to cool incoming coolant and provide outgoing coolant to cool said abatement, preferably wherein said providing comprises configuring said first pump, said separator and said heat exchanger in series to provide said outgoing coolant to cool said abatement apparatus, more preferably wherein said providing comprises providing each modular cooling assembly with a second pump located downstream of said first pump, said separator and said heat exchanger to provide said outgoing coolant to cool said abatement apparatus.

7. The method of any one of claims 4 to 6, wherein said providing comprises providing each modular cooling assembly with a quench sprayer located downstream of said abatement chamber and conveying said outgoing coolant to said quench sprayer to cool said first tower of said abatement apparatus.

8. The method of any preceding claim, wherein said providing comprises providing each modular cooling assembly with a sieve feed conduit located upstream of a sieve within a second tower of said abatement apparatus and conveying said outgoing coolant to said sieve feed conduit to cool said second tower of said abatement apparatus, preferably wherein said providing comprises conveying said outgoing coolant in a greater quantity to said quench sprayer than to said sieve feed conduit, more preferably wherein said providing comprises providing each modular cooling assembly with a further pump assembly configured to receive said coolant from a sump tank within said second tower of said abatement apparatus to cool said abatement apparatus.

9. The method of any one of claims 4 to 8, wherein said providing comprises configuring said further pump assembly to convey said coolant to a first weir of said first tower to cool said abatement apparatus

10. The method of any one of claims 8 to 9, wherein said providing comprises configuring said further pump assembly to convey said coolant to a second weir of said second tower to cool said abatement apparatus, preferably wherein said providing comprises conveying said coolant in a greater quantity to said second weir than to said first weir.

11. The method of any one of claims 8 to 10, wherein said further pump assembly comprises third and fourth pumps arranged in parallel.

12. The method of any one of claims 3 to 11, wherein each pump of said modular cooling assembly is identical.

13. The method of any one of claims 8 to 12, comprising providing said sieve with an overflow configured to convey excess head of coolant from said sieve to said sump tank.

14. The method of any one of claims 8 to 13, comprising providing said abatement apparatus with an effluent stream conduit fluidly coupling an above-coolant region of said drain tank with an above-coolant region of said sump tank, preferably comprising providing said abatement apparatus with a coolant balance conduit fluidly coupling a coolant region of said drain tank with a coolant region of said sump tank.

15. The method of any one of claims 8 to 14, wherein said providing comprises conveying said coolant in a greater quantity to said second tower than said first tower to provide a net flow of coolant through said coolant balance conduit from said second tower to said first tower.

16. An abatement apparatus for abatement of an effluent stream from a semiconductor processing tool, the abatement apparatus having a cooling requirement and comprising:

a number of modular cooling assemblies whose cumulative cooling capacity at least matches said cooling requirement of said abatement apparatus.