CLAIMS

1. An apparatus to supply a plurality of process fluids for processing a substrate in a semiconductor processing chamber, comprising:

a fluid supply network being defined between a crossover valve and a tuning supply valve and a plurality of process fluid supply valves;

a tuning fluid supply being connected to the fluid supply network through the tuning supply valve;

a plurality of process fluids being connected to the fluid supply network through the plurality of process fluid supply valves; ~~and~~

a process chamber having a substrate support, the process chamber further having an edge fluid supply and a center fluid supply, the edge fluid supply connected to the fluid supply network through an edge enable valve and the center supply connected to the fluid supply network through a center enable valve~~;~~, wherein the crossover valve, edge enable valve, and center enable valve allow one of tuning fluid or process fluids to flow to one of the edge fluid supply or the center fluid supply; and

a pumpout pump connected to the edge supply and the center supply through a respective edge pump valve and a center pump valve, wherein the pumpout pump evacuates fluid within the fluid supply network.

~~2. An apparatus as described in claim 1, further comprising:~~

~~a pumpout pump connected to the edge supply and the center supply through a respective edge pump valve and a center pump valve, wherein the pumpout pump evacuates fluid within the fluid supply network.~~

2. An apparatus to supply a plurality of process fluids for processing a substrate in a semiconductor processing chamber, comprising:

a fluid supply network being defined between a crossover valve and a tuning supply valve and a plurality of process fluid supply valves;

a tuning fluid supply being connected to the fluid supply network through the tuning supply valve;

a plurality of process fluids being connected to the fluid supply network through the plurality of process fluid supply valves;

a process chamber having a substrate support, the process chamber further having an edge fluid supply and a center fluid supply, the edge fluid supply connected to the fluid supply network through an edge enable valve and the center supply connected to the fluid supply network through a center enable valve, wherein the crossover valve, edge enable valve, and center enable valve allow one of tuning fluid or process fluids to flow to one of the edge fluid supply or the center fluid supply; and

~~3. An apparatus as described in claim 1, further comprising:~~

a purge pump connected to the fluid supply network through respective edge purge valve and center purge valve, wherein the purge pump evacuates fluid within the fluid supply network.

43. An apparatus as described in claim 1, wherein when the crossover valve is closed the tuning fluid is directed to the center supply and the process fluid is directed to the edge fluid supply.

~~5~~4. A supply network to control fluid flow to a process chamber, comprising:

a tuning fluid supply being coupled to an input supply network through a tuning supply valve;

a process fluid supply being coupled to the input supply network through a process supply valve; and

a crossover network having a crossover valve, the crossover network coupled between the input supply network and a process chamber having an edge supply and a center supply, the edge supply coupled to the crossover network through an edge supply valve and the center supply coupled to the crossover network through a center fluid supply valve;

wherein the crossover valve defines whether the tuning fluid or the process fluid is supplied to one of the edge supply or the center supply.

~~6. A supply network as described in claim 5,~~ wherein when the crossover valve is closed the tuning fluid is directed to the center supply and the process fluid is directed to the edge supply.

~~7~~5. A supply network as described in claim ~~5~~ 4, wherein the process fluid supply is defined to support a plurality of process fluids.

6. A supply network as described in claim 4, wherein the tuning fluid supply includes a filter being positioned proximate to the process chamber.

7. A supply network as described in claim 4, wherein the process fluid supply includes a filter being positioned proximate to the process chamber.

8. A supply network ~~as described in claim 5~~ to control fluid flow to a process chamber, ~~further including~~ comprising:

a tuning fluid supply being coupled to an input supply network through a tuning supply valve;

a process fluid supply being coupled to the input supply network through a process supply valve;

a crossover network having a crossover valve, the crossover network coupled between the input supply network and a process chamber having an edge supply and a center supply, the edge supply coupled to the crossover network through an edge supply valve and the center supply coupled to the crossover network through a center fluid supply valve, wherein the crossover valve defines whether the tuning fluid or the process fluid is supplied to one of the edge supply or the center supply; and

an input purge system being defined between the input supply network and the crossover network.

9. A supply network as described in claim 8, wherein the input purge system is defined to purge one or both of the tuning fluid and the process fluid.

10. A supply network ~~as described in claim 5~~ to control fluid flow to a process chamber, ~~further including~~ comprising:

a tuning fluid supply being coupled to an input supply network through a tuning supply valve;

a process fluid supply being coupled to the input supply network through a process supply valve;

a crossover network having a crossover valve, the crossover network coupled between the input supply network and a process chamber having an edge supply and a

center supply, the edge supply coupled to the crossover network through an edge supply valve and the center supply coupled to the crossover network through a center fluid supply valve, wherein the crossover valve defines whether the tuning fluid or the process fluid is supplied to one of the edge supply or the center supply; and

a supply purge being defined between the crossover network and the process chamber.

11. A supply network as described in claim 10, wherein the supply purge is defined to purge one or both of the tuning fluid and the process fluid.

~~12. A supply network as described in claim 5, wherein the tuning fluid supply includes a filter being positioned proximate to the process chamber.~~

~~13. A supply network as described in claim 5, wherein the process fluid supply includes a filter being positioned proximate to the process chamber.~~

~~14. A method to provide flexible application of a tuning fluid and a process fluid to a substrate, comprising:~~

~~(a) enabling flow of the tuning fluid to a center supply through a first supply network, the first supply network coupled to a cross-flow network that includes a closed crossflow valve;~~

~~(b) enabling flow of the process fluid to an edge supply through a second supply network, the second supply network coupled to the cross-flow network, the process fluid flowing to the edge supply;~~

~~(c) disabling flow of the tuning fluid and the process fluid; and~~

~~(d) enabling flow of one of the tuning fluid or the process fluid, wherein a open cross-flow valve routes the one of the tuning fluid or the process fluid to one of the center supply or the edge supply.~~

~~15. A method as described in claim 14, further comprising the operation of purging at least one of the first supply network, the second supply network, the cross-flow network, the center supply and the edge supply through a purge network connected between the cross-flow network and the center supply and edge supply, the purging being performed between operations (c) and (d).~~

~~16. A method as described in claim 15, wherein purging includes the introduction of a purging fluid.~~

~~17. A method as described in claim 16, wherein the purging fluid is the same as the tuning fluid.~~

~~18. A method as described in claim 16, wherein the purging fluid is different than the tuning fluid.~~