

CLAIMS

1. An apparatus comprising:
 - a system, comprising:
 - a pneumatic interface; and
 - a receptacle;
 - a liquid reservoir receivable within the receptacle and having:
 - a body comprising a storage chamber, a pneumatic port fluidly couplable to the storage chamber, and a fluidic port fluidly coupled to the storage chamber and
 - a cartridge assembly, comprising:
 - a fluidic interface couplable to the fluidic port;
 - a well;
 - a channel fluidly coupled between the fluidic interface and the well; and
 - an outlet port fluidly coupled to the well; and
 - a flow cell assembly, comprising:
 - a body carrying a flow cell inlet gasket, a flow cell outlet gasket, and an outlet gasket, the body comprising a fluidic aperture;
 - a first laminate coupled to the body and forming a first fluidic channel between the flow cell outlet gasket and the fluidic aperture;
 - a second laminate coupled to the body and forming a second fluidic channel between the fluidic aperture and the outlet gasket; and
 - a flow cell supported by the body and comprising a channel comprising a flow cell inlet and a flow cell outlet, the flow cell inlet fluidly coupled to the flow cell inlet gasket and the flow cell outlet fluidly coupled to the flow cell outlet gasket,
- wherein the outlet port is fluidly coupled to the flow cell inlet gasket.
2. The apparatus of claim 1, wherein the flow cell assembly is coupled to the cartridge assembly by a coupling, wherein the coupling comprises a snap fit connection.
3. The apparatus of claim 1, wherein the cartridge assembly comprises a pair of locating posts and the body of the flow cell assembly comprises a pair of locating holes that register with the corresponding locating posts.
4. An apparatus, comprising:
 - a cartridge assembly, comprising:
 - a fluidic interface;
 - a well;

a channel fluidly coupled between the fluidic interface and the well; and
an outlet port fluidly coupled to the well; and
a flow cell assembly, comprising:
a body carrying a flow cell inlet gasket, a flow cell outlet gasket, and an outlet gasket, the body comprising a fluidic aperture;
a first laminate coupled to the body and forming a first fluidic channel between the flow cell outlet gasket and the fluidic aperture;
a second laminate coupled to the body and forming a second fluidic channel between the fluidic aperture and the outlet gasket; and
a flow cell supported by the body and comprising a channel comprising a flow cell inlet and a flow cell outlet, the flow cell inlet fluidly coupled to the flow cell inlet gasket and the flow cell outlet fluidly coupled to the flow cell outlet gasket,
wherein the outlet port is fluidly coupled to the flow cell inlet gasket.

5. The apparatus of claim 4, wherein the flow cell assembly comprises a second flow cell supported by the body.

6. The apparatus of claim 5, wherein the flow cell and the second flow cell are fluidly coupled in series.

7. The apparatus of claim 5, wherein the flow cell outlet of the flow cell is fluidly coupled to the flow cell outlet gasket via the second flow cell.

8. An apparatus, comprising:
a flow cell assembly, comprising:
a body carrying a flow cell inlet gasket, a flow cell outlet gasket, and an outlet gasket, the body comprising a fluidic aperture;
a first laminate coupled to the body and forming a first fluidic channel between the flow cell outlet gasket and the fluidic aperture;
a second laminate coupled to the body and forming a second fluidic channel between the fluidic aperture and the outlet gasket; and
a flow cell supported by the body and comprising a channel comprising a flow cell inlet and a flow cell outlet, the flow cell inlet fluidly coupled to the flow cell inlet gasket and the flow cell outlet fluidly coupled to the flow cell outlet gasket.

9. The apparatus of claim 8, wherein the flow cell assembly comprises a second flow cell supported by the body.

10. The apparatus of claim 9, wherein the flow cell and the second flow cell are fluidly coupled in series.
11. The apparatus of claim 9, wherein the body carries a second flow cell inlet gasket and a second flow cell outlet gasket, the second flow cell comprising a channel comprising a flow cell inlet and a flow cell outlet, the flow cell inlet of the second flow cell fluidly coupled to the second flow cell inlet gasket and the flow cell outlet of the second flow cell fluidly coupled to the second flow cell outlet gasket, wherein the second laminate forms the second fluidic channel between the second flow cell outlet gasket and the outlet gasket.
12. The apparatus of claim 1, wherein the cartridge assembly comprises a pump coupled to at least one of the outlet gasket of the flow cell assembly or between the well and the flow cell assembly.
13. The apparatus of claim 12, wherein the pump comprises a syringe pump, further comprising dried reagent contained within the well and wherein the syringe pump is used to flow rehydrated dried reagent from the well to the flow cell.
14. The apparatus of claim 1, wherein the body comprises a first groove and a second groove, the first laminate covering the first groove to form the first fluidic channel and the second laminate covering the second groove to form the second fluidic channel.
15. The apparatus of claim 4, wherein the body of the flow cell assembly and the flow cell are coupled by a coupling, wherein the coupling comprises a first snap-fit cantilever and a second snap-fit cantilever, the first snap-fit cantilever positioned on a first side of the flow cell and the second snap-fit cantilever positioned on a second side of the flow cell, wherein the first snap-fit cantilever biases the flow cell in the x-direction and the second snap-fit cantilever biases the flow cell in the y-direction.
16. The apparatus of claim 4, wherein the coupling comprises a pair of hold downs comprising a lip to be positioned overtop of the flow cell.
17. The apparatus of claim 8, wherein the body comprises locating posts and the second laminate comprises locating holes that receive the corresponding locating posts.

18. The apparatus of claim 8, wherein the body defines a window to allow visual access of the flow cell.

19. The apparatus of claim 8, wherein the body comprise locating posts and the first laminate comprises locating holes that receive the corresponding locating posts.

20. The apparatus of claim 8, wherein the body comprises a plurality of first pads and a plurality of second pads, the first pads opposing the second pads, wherein the flow cell rests on the first pads.