CLAIMS

1. An apparatus, comprising:

a system, comprising:

a pneumatic interface;

an actuator; and

a receptacle;

a liquid reservoir receivable within the receptacle and having:

a body comprising a top surface, a storage chamber having an opening at the top surface, a sipper chamber having an opening at the top surface, and a fluidic sinus fluidly coupling the storage chamber and the sipper chamber;

a cover covering the opening of the storage chamber; and

a lid assembly coupled to the top surface and having a first portion covering the opening of the storage chamber and a second portion covering the opening of the sipper chamber, the top surface and the first portion defining a plenum,

the first portion comprising:

a pneumatic port fluidly coupled to the plenum;

a cantilever having a distal end; and

a compliant barrier covering the cantilever and defining a portion of the plenum; and

the second portion comprising a fluidic port fluidly coupled to the opening of the sipper chamber, and

a cartridge assembly, comprising:

a fluidic interface couplable to the fluidic port;

a well; and

a channel fluidly coupled between the fluidic interface and the well,

wherein the actuator is movable to engage the compliant barrier and move the distal end of the cantilever to pierce the cover and allow the storage chamber to be fluidly coupled to the plenum.

2. The apparatus of claim 1, wherein the engagement between the actuator and the compliant barrier does not vent the plenum to atmosphere.

3. The apparatus of claim 1, wherein the cartridge assembly comprises a flow cell.

4. The apparatus of claim 1, wherein the compliant barrier comprises an elastomer or conformable foil.

5. The apparatus of claim 1, wherein the body of the liquid reservoir comprises a port having a distal end and defining the opening and wherein the cover is coupled to the distal end of the port.

6. The apparatus of claim 1, wherein the lid assembly comprises a body comprising the cantilever and wherein the compliant barrier is coupled to the body covering the cantilever.

7. The apparatus of claim 1, wherein the distal end of the cantilever comprises a protrusion comprising at least one of an oblique cone, a polyhedron, or an edge and a tip.

8. The apparatus of claim 1, wherein the pneumatic interface comprises a bore, a coupling movably positioned within the bore, and a biasing element, the biasing element to urge the coupling into sealing engagement with the pneumatic port of the lid assembly and wherein the fluidic interface of the reagent cartridge comprises a hollow protrusion that is positionable within the fluidic port of the lid assembly to fluidly couple the liquid reservoir and the cartridge assembly.

9. The apparatus of claim 1, wherein a side of the body defines an outward-facing groove, further comprising a cover secured to the side of the body, the groove and the cover defining the sipper chamber.

10. An apparatus, comprising:

a body comprising a top surface, a storage chamber having an opening at the top surface, a sipper chamber having an opening at the top surface, and a fluidic sinus fluidly coupling the storage chamber and the sipper chamber;

a cover covering the opening of the storage chamber; and

a lid assembly coupled to the top surface and having a first portion covering the opening of the storage chamber and a second portion covering the opening of the sipper chamber, the top surface and the first portion defining a plenum,

the first portion comprising:

a pneumatic port fluidly coupled to the plenum;

a cantilever having a distal end; and

a compliant barrier covering the cantilever and defining a portion of the plenum;

the second portion comprising a fluidic port fluidly coupled to the opening of the sipper chamber,

wherein the compliant barrier and the cantilever are movable to enable the distal end of the cantilever to pierce the cover and allow the storage chamber to be fluidly coupled to the plenum.

11. The apparatus of claim 10, wherein the body comprises a second storage chamber having an opening at the top surface, a second sipper chamber having an opening at the top surface, and a second fluidic sinus fluidly coupling the second storage chamber and the second sipper chamber, wherein the body and the lid assembly comprise a manifold comprising the plenum, the opening of the storage chamber, and the opening of the second storage chamber.

12. The apparatus of claim 10, further comprising a housing in which the body is disposed, the housing having an end defining an opening, the lid assembly positioned within the housing and accessible via the opening, further comprising a housing cover coupled to the housing and retaining the body and the lid assembly within the housing.

13. The apparatus of claim 10, wherein the lid assembly comprises a body defining an opening and wherein the compliant barrier is coupled to the body and covers the opening and wherein the compliant barrier comprises an outer wall, a central portion, and a groove at least partially surrounding the central portion, the outer wall coupled to the body surrounding the aperture.

14. The apparatus of claim 13, wherein the compliant barrier comprises a U-shaped portion that couples the outer wall and the central portion, the U-shaped portion, the outer wall, and the central portion defining the groove.

15. The apparatus of claim 13, wherein the central portion comprises an outwardly tapered U-shaped wall that defines the groove.

16. The apparatus of claim 13, wherein the central portion comprises a lower surface and wherein the compliant barrier has a portion defining the groove that is vertically spaced from the lower surface and positioned closer to the cover covering the opening of the storage chamber.

17. The apparatus of claim 13, wherein the compliant barrier comprises an outer portion and a central portion that is vertically spaced from the outer portion, the outer portion coupled to the body surrounding the opening.

18. The apparatus of claim 10, wherein the lid assembly comprises a body comprising the cantilever and wherein the compliant barrier is coupled to the body covering the cantilever, wherein the cantilever comprises the distal end, a necked portion, and a proximal end, the body comprises a living hinge coupled to the proximal end of the cantilever.

19. The apparatus of claim 18, wherein the distal end has an oblong portion, wherein the cantilever has a tapered surface that extends between the necked portion and the living hinge, and wherein the distal end has a first thickness and the proximal end has a second thickness that is less than the first thickness.

20. The apparatus of claim 10, wherein the distal end of the cantilever comprises a protrusion comprising at least one of a cut-out defining a vent, an oblique cone, a polyhedron, or an edge and a tip.