What is claimed is:

1. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module;

a clamp surrounding the fluid lens module;

a frame enclosing the clamp; and

an actuator connected to an end of the clamp,

wherein the actuator is accessible from outside the frame,

wherein the actuator is configured such that movement of the actuator relative to the frame causes the clamp to compress, and

wherein the clamp is configured to adjust the optical power of the fluid lens module when the clamp is compressed.

2. The actuator assembly of claim 1, further comprising:

a membrane disposed within the fluid lens module;

wherein the clamp is configured to adjust the optical power of the fluid lens module by deforming the membrane.

3. The actuator assembly of claim 1, wherein the clamp comprises:

a first end;

a second end; and

a gap between the first and second ends configured to allow for relative movement between the first end and the second end.

4. The actuator assembly of claim 1, wherein the clamp includes a hinge connecting the first end and the second end.

5. The actuator assembly of claim 4, wherein the hinge is configured to provide a restorative force with respect to relative movement between the first end and the second end.

6. The actuator assembly of claim 1, wherein the membrane is configured to deform between a first predetermined configuration corresponding to a first predetermined optical power and a second predetermined configuration corresponding to a second predetermined optical power.

7. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a temple piece having a hollow center fluidly connected to the adjustable fluid lens;

fluid located within the hollow center;

a magnetic slider slidably attached to the temple piece; and

a magnetic element slidably disposed within the hollow center and magnetically coupled with the magnetic slider;

wherein the magnetic element is configured such that movement of the magnetic element relative to the temple piece changes the optical power of the fluid-filled lens by increasing or decreasing an amount of fluid in the adjustable fluid-filled lens.

8. The actuator assembly of claim 7, wherein the magnetic element is configured such that movement of the magnetic element in a first direction pushes the fluid into the fluid-filled lens and movement of the magnetic element in a second direction pulls the fluid from the fluid-filled lens.

9. The actuator assembly of claim 7, wherein the magnetic element is a ferrofluid.

10. The actuator assembly of claim 7, wherein the magnetic element is configured to create a fluid seal between the magnetic element and the temple piece.

11. The actuator assembly of claim 7, wherein the temple piece is configured to fully enclose and seal the hollow center.

12. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module;

a temple piece having a hollow center fluidly connected to the fluid lens module;

an actuator rotatably attached to the temple piece;

a base disposed in the hollow center and coupled to the actuator;

a cable including a first end connected to the base; and

a plunger slidably disposed within the hollow center and connected to a second end of the cable;

wherein the actuator is configured such that rotation of the actuator in a first direction relative to the temple piece causes the cable to wrap around the base and pull the plunger in a first direction, and

wherein the fluid lens module is configured such that movement of the plunger changes the optical power of the fluid lens module.

13. The actuator assembly of claim 12, further comprising:
a spring disposed within the temple piece and attached to the plunger,

wherein the actuator is configured such that rotation of the actuator in a second direction relative to the temple piece causes the cable to unwrap from around the base, and

wherein the spring is configured to restore the plunger to a predetermined position as the cable is unwrapped from around the base.

14. The actuator assembly of claim 12, wherein the actuator is configured to be magnetically coupled to the base.

15. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module;

a housing including a hollow center fluidly connected to the fluid lens module;

an actuator rotatably attached to the housing; and

a plunger located within the hollow center and magnetically coupled to the actuator,

wherein the plunger includes a threaded outer surface configured to engage with a threaded inner surface of the housing to allow for axial movement within the housing,

wherein the actuator is configured such that rotation of the actuator relative to the housing causes the plunger to rotate relative to the housing via magnetic force to advance in an axial direction within the housing, and

wherein the fluid lens module is configured such that movement of the plunger changes the optical power of the fluid lens module.

16. The actuator assembly of claim 15, further comprising:

a deformable reservoir fluidly connected to the fluid lens module,

wherein the fluid lens module is configured such that movement of the plunger deforms the reservoir to change the optical power of the fluid lens module.

17. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module;

a temple piece including a hollow center having a bend therein;

a reservoir disposed within the hollow center and fluidly connected to the fluid lens module; and

a flexible pusher disposed within the hollow center,

wherein the flexible pusher is configured to flex at the bend to compress the reservoir, and

wherein the reservoir is configured such that compression of the reservoir changes the optical power of the fluid-filled lens.

18. The actuator assembly of claim 17, wherein the bend is configured to contour a distal portion of the temple piece around a portion of a user's ear.

19. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a temple piece including a hollow center;

a reservoir located within the hollow center; and

a wheel rotatably attached to the temple piece,

wherein an axial face of the wheel includes protrusions configured to deform the reservoir as the wheel is rotated relative to the temple piece, and

wherein the reservoir is configured such that deformation of the reservoir changes the optical power of the fluid-filled lens.

20. The actuator assembly of claim 19, wherein the wheel is located at a distal end of the temple piece.

21. The actuator assembly of claim 19, further comprising:

a compression disk located between the reservoir and the wheel,

wherein the wheel is configured such that when the wheel is rotated, the protrusions push the compression disk against the reservoir to deform the reservoir.

22. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module;

a temple piece having a hollow center;

a reservoir fluidly connected to the fluid lens module; and

a pusher slidably disposed within the hollow center,

wherein the pusher is configured to move in an axial direction relative to the temple piece to deform the reservoir and adjust the optical power of the fluid lens module, and

wherein the reservoir is configured to envelop the pusher as the pusher is moved against the reservoir.

23. The actuator assembly of claim 22, wherein the hollow portion of the temple piece and the pusher are substantially cylindrical.

24. The actuator assembly of claim 22, wherein the pusher is affixed to a portion of the reservoir and configured such that the portion of the reservoir affixed to the pusher will move with the pusher when the pusher is moved away from the reservoir.

25. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module;

a temple piece having a hollow center;

a reservoir fluidly connected to the fluid lens module;

an inflatable balloon adjacent to the reservoir;

a pump connected to the balloon and configured to allow inflation of the balloon; and

a pressure relief valve connected to the balloon and configured to allow deflation of the balloon;

wherein the balloon is configured such that inflation or deflation of the balloon deforms the reservoir, and

wherein the reservoir is configured such that deformation of the reservoir changes the optical power of the fluid lens.

26. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module;

a temple piece having a hollow center;

a reservoir disposed in the hollow center and fluidly connected to the fluid lens module;

a duckbill valve disposed in the hollow center and configured to allow for the introduction of air to deform the reservoir; and

a pressure release valve connected to the hollow center and configured to allow for the removal of pressurized air in the hollow center to deform the reservoir,

wherein the reservoir is configured such that deformation of the reservoir changes the optical power of the fluid lens.

27. An adjustable fluid-filled lens comprising:

a fluid chamber;

a frame surrounding the fluid chamber; and

a septum disposed within the frame and fluidly connected to the fluid chamber,

wherein the septum is configured to be pierceable by a needle and automatically and fluidly seal the fluid chamber after withdrawal of the needle.

28. The adjustable fluid-filled lens of claim 27, further comprising:
a second septum located on the opposite end of the frame from the first septum.

29. The adjustable fluid-filled lens of claim 27, wherein the septum is flush with an outside surface of the frame.

30. An adjustable fluid lens module comprising:

a fluid chamber containing fluid; and

a thermal element configured to heat the fluid,

wherein when the fluid is heated, the fluid expands and deforms the shape of the fluid chamber to change the optical power of the fluid lens module.

31. The fluid lens module of claim 30, further comprising

a rigid lens; and

a membrane connected to the rigid lens to form the fluid chamber,

wherein the thermal element is disposed on the membrane.

32. The fluid lens module of claim 31, wherein the thermal element is a wire arranged in a lattice shape over the membrane.

33. The fluid lens module of claim 32, wherein the wire is configured to be heated by passing an electrical current therethrough.

34. The fluid lens module of claim 31, wherein the membrane is configured to retain its shape after being heated.

What is claimed is:

1. An actuator assembly for an adjustable fluid-filled lens, the actuator assembly comprising:

a fluid lens module having a membrane disposed within the fluid lens module;

a clamp surrounding the fluid lens module;

wherein the clamp has a flexible portion;

wherein the membrane is attached to the clamp;

a frame enclosing the clamp; and

an actuator connected to an end of the clamp,

wherein the actuator is accessible from outside the frame,

wherein the actuator is configured such that movement of the actuator relative to the frame causes the clamp to compress at the flexible portion of the clamp, and

wherein the clamp is configured to adjust the optical power of the fluid lens module when the clamp is compressed by deforming the membrane.

2. The actuator assembly of claim 1, wherein the clamp comprises:

a first end;

a second end; and

a gap between the first and second ends configured to allow for relative movement between the first end and the second end.

3. The actuator assembly of claim 1, wherein the clamp includes a hinge connecting the first end and the second end.

4. The actuator assembly of claim 3, wherein the hinge is configured to provide a restorative force with respect to relative movement between the first end and the second end.

5. The actuator assembly of claim 1, wherein the membrane is configured to deform between a first predetermined configuration corresponding to a first predetermined optical power and a second predetermined configuration corresponding to a second predetermined optical power.