CLAIMS

1. A system, comprising:

an ultrasonic flow meter, comprising:

a first ultrasonic transducer disposed about a fluid flow path; and

a pressure balancing system configured to pressure balance the first ultrasonic transducer relative to a fluid flow along the fluid flow path.

2. The system of claim 1, wherein the pressure balancing system is configured to pressure balance the first ultrasonic transducer relative to the fluid flow up to a pressure of approximately 5,000 psi.

3. The system of claim 1, wherein the pressure balancing system is configured to pressure balance the first ultrasonic transducer relative to the fluid flow up to a pressure of approximately 10,000 psi.

4. The system of claim 1, wherein the pressure balancing system comprises a piston-cylinder assembly disposed along a fluid passage between the first ultrasonic transducer and the fluid flow path.

5. The system of claim 1, wherein the pressure balancing system comprises a bellows disposed along a fluid passage between the first ultrasonic transducer and the fluid flow path.

6. The system of claim 1, wherein the pressure balancing system comprises a fluid chamber, the first ultrasonic transducer is disposed in the fluid chamber, and the pressure balancing system is configured to pressure balance the fluid chamber with the fluid flow path.

7. The system of claim 6, wherein the pressure balancing system is configured to enable fluid communication between the fluid chamber and the fluid flow path.

8. The system of claim 6, wherein the pressure balancing system is configured to block fluid communication between the fluid chamber and the fluid flow path.

9. The system of claim 6, wherein the ultrasonic flow meter comprises:

a conduit disposed about the fluid flow path; and

a housing disposed about the conduit to define the fluid chamber about the conduit, wherein the first ultrasonic transducer is coupled to the conduit in the fluid chamber, and the pressure balancing system is configured to pressure balance the fluid chamber with the fluid flow path to reduce stress on the conduit.

10. The system of claim 6, comprising a second ultrasonic transducer disposed in the fluid chamber, wherein the first and second ultrasonic transducers are configured to communicate ultrasonic sound waves between one another.

11. The system of claim 1, comprising a mineral extraction system having the ultrasonic flow meter.

12. The system of claim 11, wherein the mineral extraction system comprises a chemical-injection management system having the ultrasonic flow meter.

13. The system of claim 1, comprising an underwater system having the ultrasonic flow meter.

14. A system, comprising:

an underwater apparatus; and

an ultrasonic flow meter coupled to the underwater apparatus, wherein the ultrasonic flow meter comprises:

a conduit having a fluid flow path;

a housing disposed about the conduit to define a pressurized fluid chamber about the conduit; and

a first ultrasonic transducer disposed in the pressurized fluid chamber.

15. The system of claim 14, wherein the pressurized fluid chamber is configured to at least substantially balance fluid pressure internal and external to the conduit via the pressurized fluid chamber.

16. The system of claim 14, comprising a passage extending between the pressurized fluid chamber and the conduit, wherein the passage is configured to enable fluid communication between the pressurized fluid chamber and the conduit.

17. The system of claim 14, comprising a pressure balancing mechanism disposed along a passage between the pressurized fluid chamber and the conduit, wherein the pressure balancing mechanism is configured to block fluid communication between the pressurized fluid chamber and the conduit, and the pressure balancing mechanism is configured to balance fluid pressure internal and external to the conduit by moving an element in response to a pressure differential between the pressurized fluid chamber and the conduit.

18. The system of claim 14, comprising a second ultrasonic transducer disposed in the pressurized fluid chamber, wherein the first and second ultrasonic transducers are configured to communicate ultrasonic sound waves between one another.

19. A system, comprising:

a flow meter, comprising:

a conduit disposed about a fluid flow path;

a sensor coupled to the conduit, wherein the sensor is configured to sense a parameter indicative of a flow rate of a fluid flow along the fluid flow path; and

a fluid chamber disposed about an outer circumference of the conduit, wherein the fluid chamber is configured to at least substantially balance fluid pressure internal and external to the conduit.

20. The system of claim 19, wherein the sensor comprises an ultrasonic transducer.

21. The system of claim 19, wherein the sensor is disposed in the fluid chamber.

22. The system of claim 1, comprising a conduit having the fluid flow path, a fluid chamber disposed about an outer circumference of the conduit, and the first ultrasonic transducer is disposed in the fluid chamber.

23. The system of claim 14, wherein the conduit extends circumferentially about the fluid flow path, and the pressurized fluid chamber extends about an outer circumference of the conduit.