CLAIMS

~~WHAT IS CLAIMED IS:~~

1. A system, comprising:

a tubular member with a fluid communication port formed therethrough;

a ball valve assembly coupled to the tubular member, the ball valve assembly comprising:

a housing comprising a first fluid passage, wherein a first portion of the first fluid passage is fluidly coupled to the fluid communication port in the tubular member;

a seat disposed within the first fluid passage;

a ball with a bore formed therethrough, wherein the ball is positioned in the seat and rotatably movable between an open position allowing flow through the first fluid passage and a closed position preventing flow through the first fluid passage; and

an accumulator disposed in the housing and fluidly coupled to a second portion of the first fluid passage located on an opposite side of the seat from the first portion; and

a gasket retention assembly configured to selectively retain a gasket in engagement with the tubular member, wherein the fluid communication port extends through the tubular member to vent fluid pressure from the gasket retention assembly to the ball valve assembly, wherein the ball valve assembly is disposed at an end of the fluid communication port, wherein the gasket retention assembly comprises the fluid communication port and a plunger configured to selectively engage the gasket.

2. The system of claim 1, wherein the housing comprises at least one remote operated vehicle (ROV) stab interface fluidly coupled to the first fluid passage.

3. The system of claim 2, wherein the ROV stab interface is fluidly coupled to the first portion of the first fluid passage when the ball is in the open position.

4. The system of claim 2, wherein the ROV stab interface is fluidly coupled to the first portion of the first fluid passage when the ball is in the closed position.

5. The system of claim 1, wherein the housing further comprises a second fluid passage, wherein the ball in the closed position allows flow through the second fluid passage.

6. The system of claim 5, wherein a first portion of the second fluid passage on a third side of the seat is fluidly coupled to the first portion of the first fluid passage.

7. The system of claim 1, wherein the valve assembly further comprises a valve actuator configured to rotate the ball within the seat to transition the ball between the open and closed positions.

8. The system of claim 7, wherein the valve assembly further comprises a ball rotation assembly that facilitates smooth transition of the ball between the open and closed positions in response to rotation of the ball by the valve actuator.

~~9. The system of claim 1, wherein the tubular member comprises a gasket retention assembly configured to selectively retain a gasket in engagement with the first tubular member, wherein the fluid communication port extends through the first tubular member to vent fluid pressure from the gasket retention assembly to the ball valve assembly.~~

~~10~~9. The system of claim ~~9~~1, wherein the ball is movable between the open position allowing venting of pressure or fluid from the communication port to the accumulator and the closed position trapping pressure within the communication port.

~~11~~10. A ball valve assembly, comprising:

a housing comprising a first fluid passage;

a seat disposed within the first fluid passage;

an inlet of the first fluid passage on a first side of the seat for fluidly coupling the ball valve assembly to an external fluid communication line;

a ball with a bore formed therethrough, wherein the ball is positioned in the seat and rotatably movable between an open position allowing flow through the first fluid passage and a closed position preventing flow through the first fluid passage; ~~and~~

an accumulator disposed in the housing and fluidly coupled to the first fluid passage on a second side of the seat opposite the first side; and

a ball rotation assembly configured to facilitate rotation of the ball between the open and closed positions, wherein an end of a piston of the ball rotation assembly is configured to be held in a floating engagement with the ball.

~~12~~11. The ball valve assembly of claim ~~11~~10, wherein the housing comprises an ROV stab interface fluidly coupled to the first fluid passage on the second side of the seat.

~~13~~12. The ball valve assembly of claim ~~11~~10, wherein the housing comprises a second fluid passage, wherein the ball in the closed position allows flow through the second fluid passage.

~~14~~13. The ball valve assembly of claim ~~13~~12, wherein:

the first fluid passage comprises a first portion on the first side of the seat and a second portion on ~~a~~ the second side of the seat;

the second fluid passage comprises a first portion on a third side of the seat and a second portion on a fourth side of the seat; and

the first portion of the second fluid passage is fluidly coupled to the first portion of the first fluid passage.

~~15~~14. The ball valve assembly of claim ~~14~~13, wherein the housing comprises an ROV stab interface fluidly coupled to the second portion of the second ~~flow~~ fluid passage.

~~16~~15. The ball valve assembly of claim ~~13~~12, ~~further comprising~~wherein ~~a~~ the ball rotation assembly is disposed in the second fluid passage~~, wherein the ball rotation assembly facilitates rotation of the ball between the open and closed positions~~.

~~17~~16. The ball valve assembly of claim ~~16~~15, wherein the ball rotation assembly comprises a body and ~~a~~ the piston disposed in the body, wherein the body and the piston each comprise a bore formed therethrough, wherein the piston is axially movable relative to the housing and the second fluid passage, and wherein the piston is held in ~~a~~ the floating engagement against the ball via a biasing mechanism disposed between the housing and the piston, wherein the biasing mechanism is a spring.

~~18~~17. The ball valve assembly of claim ~~11~~10, wherein the accumulator is a nitrogen accumulator.

~~19~~18. The ball valve assembly of claim ~~11~~10, further comprising a valve actuator configured to rotate the ball within the seat to transition the ball between the open and closed positions.

~~20~~19. The ball valve assembly of claim ~~19~~18, wherein the valve actuator comprises a lever, wherein the lever extends from the housing and is operable via an ROV.

~~21~~20. A method, comprising:

receiving a pressure increase through a port in a tubular member, wherein the tubular member is coupled to a ball valve assembly, the ball valve assembly comprising:

a housing comprising a first fluid passage, wherein the first fluid passage is fluidly coupled to the port in the tubular member;

a seat disposed in the first fluid passage;

a ball with a bore formed therethrough, wherein the ball is rotatably movable between an open position allowing flow through the first fluid passage and a closed position preventing flow through the first fluid passage; and

an accumulator coupled to the first fluid passage on an opposite side of the seat from the port;

transferring the pressure increase through the first fluid passage to the accumulator;

compressing a piston of the accumulator in response to the pressure increase;

closing the ball valve assembly to trap pressure within the port; ~~and~~

moving the tubular member while the ball valve assembly is closed; and

maintaining a position of a component within the port during movement of the tubular member via the trapped pressure in the port.

~~22. The method of claim 21, further comprising maintaining a position of a component within the port during movement of the tubular member via the trapped pressure in the port.~~

~~23~~21. The method of claim ~~22~~20, wherein the component within the port is a gasket retention mechanism.

~~24~~22. The method of claim ~~22~~20, further comprising:

opening the ball valve assembly;

moving the tubular member while the ball valve assembly is open; and

allowing the component to move axially within the port during movement of the tubular member.

~~25~~23. The method of claim ~~21~~20, further comprising coupling an ROV to a stabbing interface of the ball valve assembly, and routing pressurized fluid from the ROV into the port via the ball valve assembly while the ball valve assembly is open.

~~26~~24. The method of claim ~~21~~20, further comprising coupling an ROV to a stabbing interface of the ball valve assembly, and routing pressurized fluid from the ROV into the port via the ball valve assembly while the ball valve assembly is closed.