

CLAIMS

1. A system, comprising:
 - a mineral extraction component;
 - a conduit fitting coupled to the mineral extraction component;
 - a floating seal insert disposed in the conduit fitting, wherein the floating seal insert comprises a feature configured to tune a fluid dynamic characteristic along a liquid flow path through the conduit fitting and the floating seal insert.
2. The system of claim 1, wherein the feature comprises a restricted liquid passage tuned to a shockwave specific to the mineral extraction component.
3. The system of claim 1, comprising a plurality of floating seal inserts selectively insertable into the conduit fitting, wherein each floating seal insert is configured to dampen a different shockwave, control flow rates, and create or limit turbulence.
4. The system of claim 1, wherein the floating seal insert comprises a plurality of liquid passages.
5. The system of claim 1, wherein the floating seal insert comprises a restricted liquid passage having a diameter that varies from an upstream side to a downstream side of the floating seal insert.
6. The system of claim 1, comprising a floating seal interface between the floating seal insert and an internal liquid passage of the conduit fitting, wherein the floating seal insert is configured to move along an axial range of movement while maintaining the floating seal interface.
7. The system of claim 6, wherein the floating seal interface comprises a first annular seal disposed in a first annular groove in the floating seal insert, and a

second annular seal disposed in a second annular groove in the floating seal insert.

8. The system of claim 1, wherein the mineral extraction component comprises a blowout preventer (BOP).

9. A system, comprising:
a conduit fitting, comprising
an internal fluid passage;
a first coupling configured to couple the internal fluid passage to a first fluid passage; and
a second coupling configured to couple the internal fluid passage to a second fluid passage; and
an insert disposed removably in the internal fluid passage, wherein the insert is configured to tune a fluid dynamic characteristic.

10. The system of claim 9, comprising a first seal between the internal fluid passage and the insert, wherein the first seal is configured to maintain a first sealed interface between the internal fluid passage and the insert over a range of movement of the insert.

11. The system of claim 10, wherein the insert comprises the first seal disposed in a first annular groove in the insert.

12. The system of claim 11, wherein the insert comprises a second seal disposed in a second annular groove in the insert, wherein the second seal is axially offset from the first seal.

13. The system of claim 9, wherein the insert comprises a restricted fluid passage configured to enable fluid flow and dampen shockwaves.

14. The system of claim 13, wherein the restricted fluid passage is tuned to characteristics of the shockwaves including frequency and amplitude.
15. The system of claim 9, comprising a plurality of inserts mutually exclusively insertable into the internal fluid passage, wherein each insert has a differently sized fluid passage tuned to different shockwaves.
16. The system of claim 9, wherein the insert comprises a plurality of fluid passages.
17. The system of claim 9, wherein the insert comprises a restricted fluid passage having a diameter that varies from an upstream side to a downstream side of the insert.
18. The system of claim 9, comprising a mineral extraction component having the conduit fitting.
19. A system, comprising:
 - a floating seal insert configured to fit into an internal liquid passage of a conduit fitting, wherein the floating seal insert comprises a floating seal interface having at least one annular seal, the floating seal insert is configured to move along an axial range of movement while maintaining the floating seal interface with the internal liquid passage of the conduit fitting, the floating seal insert comprises a feature configured to dampen a liquid shockwave, and the feature comprises a restricted liquid passage having a diameter smaller than the internal liquid passage and tuned to the liquid shockwave.
20. The system of claim 19, comprising a plurality of floating seal inserts selectively insertable into the conduit fitting, wherein each floating seal insert comprises a differently sized restricted liquid passage configured to dampen a different shockwave.

1. A system, comprising:

a conduit fitting having a first internal fluid passage extending to a first mounting interface;

a floating seal insert comprising a first portion disposed in the first internal fluid passage and a second portion protruding from the conduit fitting beyond the first mounting interface, wherein the floating seal insert comprises a second internal fluid passage, the floating seal insert comprises a first seal disposed along the first portion between the floating seal insert and the conduit fitting, the floating seal insert comprises a second seal disposed along the second portion, the floating seal insert has an axial range of movement along the first internal fluid passage and across the first mounting interface, and the first and second seals are configured to seal opposite sides of the first mounting interface.

2. The system of claim 1, wherein the second internal fluid passage is tuned to a shockwave for damping the shockwave.

3. The system of claim 1, comprising a plurality of floating seal inserts selectively insertable into the first internal fluid passage of the conduit fitting, wherein each floating seal insert is configured to dampen a different shockwave, control flow rates, and create or limit turbulence.

4. The system of claim 1, wherein the second internal fluid passage in the floating seal insert comprises a plurality of liquid passages.

5. The system of claim 1, wherein the second internal fluid passage in the floating seal insert comprises a restricted liquid passage having a diameter that varies from an upstream side to a downstream side of the floating seal insert.

6. The system of claim 1, wherein the second internal fluid passage in the floating seal insert comprises a converging conical passage, a diverging conical passage, or a combination thereof.

7. The system of claim 1, wherein the first seal comprises a first annular seal disposed in a first annular groove in the first portion of the floating seal insert, the second seal comprises a second annular seal disposed in a second annular groove in the second portion of the floating seal insert, and the first and second annular seals are disposed on opposite sides of the mounting interface.

8. The system of claim 1, comprising a component coupled to the conduit fitting at the mounting interface, wherein the component comprises a third internal fluid passage, the second portion of the floating seal insert having the second seal is disposed in the third internal fluid passage, and the axial range of movement of the floating seal insert extends across the first mounting interface into both the first and third internal fluid passages.

9. The system of claim 8, wherein the second internal fluid passage is tuned to a shockwave specific to the component, and the second internal fluid passage is configured to damp the shockwave.

10. The system of claim 9, wherein the component comprises a blowout preventer (BOP).

11. The system of claim 2, wherein the second internal fluid passage is tuned to characteristics of the shockwave including frequency and amplitude.

12. A method, comprising:

controlling flow through a conduit fitting via a floating seal insert, wherein the conduit fitting has a first internal fluid passage extending to a first mounting interface, the floating seal insert comprises a first portion disposed in the first internal fluid passage and a second portion protruding from the conduit fitting beyond the first mounting interface, the floating seal insert comprises a second internal fluid passage, the floating seal insert comprises a first seal disposed along the first portion between the floating seal insert and the conduit fitting, the floating seal insert comprises a second seal disposed along the

second portion, the floating seal insert has an axial range of movement along the first internal fluid passage and across the first mounting interface, and the first and second seals are configured to seal opposite sides of the first mounting interface.

13. The method of claim 12, comprising damping a shockwave via the second internal fluid passage, wherein the second internal fluid passage is tuned to the shockwave.

14. A system, comprising:

- a first component having a first fluid passage extending to a first mounting interface;

- a floating seal insert comprises a first portion disposed in the first fluid passage and a second portion protruding from the first component beyond the first mounting interface, wherein the floating seal insert comprises a first seal disposed along the first portion between the floating seal insert and the first component, the floating seal insert comprises a second seal disposed along the second portion, and the floating seal insert has an axial range of movement along the first fluid passage and across the first mounting interface.

15. The system of claim 14, comprising a second component having a second fluid passage extending to a second mounting interface, wherein the first and second components couple together at the first and second mounting interfaces, and the second seal is disposed along the second portion between the floating seal insert and the second component.