

SUMMARY

[0005] In at least one aspect, there is provided a connection assembly for connecting components of a wellsite. The wellsite has a wellbore extending into a subsurface formation. The connection assembly includes a female connector having an end operatively connectable to a first of the components and a cavity extending therein; a removable wear insert positionable in the cavity and connected to an inner diameter of the female connector; a floating cartridge positionable in the cavity of the female connector and laterally movable therein, the floating cartridge axially restricted between the wear insert and the female connector and a male connector operatively connectable to a second of the components. The male connector is receivable in the cavity of the female connector and operatively connectable into the floating cartridge opposite the wear insert such that the male connector and the female connector are movably positionable relative to each other by the floating cartridge whereby a misalignment between the wellsite components is tolerated.

[0006] The female connector may include a housing having a bore therethrough in communication with the first of the components. The housing may include an upper housing and a lower housing having an interface therebetween. The floating cartridge is positionable in one of the upper and lower housings. The male connector has a bore therethrough in fluid communication with the second of the components. The female connector has a bore therethrough in fluid communication with the first of the components and the bore of the male connector.

[0007] The connection assembly may also include a wear insert positionable in the female connector. The wear insert has a bore therethrough in fluid communication with the bore of the female connector and the bore of the male connector. The wear insert is positioned between the upper housing and the floating cartridge. The floating cartridge has an outer diameter smaller than an inner diameter of the lower housing. The male connector has an outer diameter positionable adjacent an inner diameter of the floating cartridge. Opposite ends of the floating cartridge are positionable in the cavity of the female connector and against an inner wall of the female connector to restrict axial movement thereof. An end of the floating cartridge is positionable against a wear insert in the female connector to restrict axial movement thereof. The connection assembly may also include at least one seal. One of the female connector or an

end of the male connector is fixed, and another of the female connector and an end of the male connector is movable.

[0008] In another aspect, there is provided a wellsite system for connecting components of a wellsite, the wellsite having a wellbore extending into a subsurface formation. The wellsite system includes a first wellsite component, a second wellsite component, and a connection assembly. The connection assembly includes a female connector having an end operatively connectable to the first of the wellsite component and a cavity extending therein; a removable wear insert positionable in the cavity and connected to an inner diameter of the female connector; a floating cartridge positionable in the cavity of the female connector and laterally movable therein, the floating cartridge axially restricted between the wear insert and the female connector and a male connector operatively connectable to the second wellsite component. The male connector is receivable in the cavity of the female connector and operatively connectable into the floating cartridge opposite the wear insert such that the male connector and the female connector are movably positionable relative to each other by the floating cartridge whereby a misalignment between the wellsite components is tolerated. The wellsite components include choke and kill lines, a low marine riser pump, a blowout preventer, a riser and combinations thereof.

[0009] In yet another aspect, there is provided a method of connecting components of a wellsite, the wellsite having a wellbore extending into a subsurface formation. The method involves providing a connection assembly comprising a female connector having an end operatively connectable to a first of the components and a cavity extending therein, a removable wear insert positionable in the cavity and connected to an inner diameter of the female connector, a floating cartridge positioned in the cavity of the female connector and laterally movable therein, the floating cartridge axially restricted between the wear insert and the female connector and a male connector operatively connectable to a second of the components, the male connector receivable in the cavity of the female connector and operatively connectable into the floating cartridge opposite the wear insert, operatively connecting the end of the female connector to the first of the components and the male connector to the second of the components, operatively connecting an end of the male connector to the floating cartridge in the female connector, and movably positioning the male connector and the female connector relative to each other by movement of the floating cartridge whereby a misalignment between the wellsite components is tolerated.

CLAIMS

What is claimed is:

1. A connection assembly for connecting components of a wellsite, the wellsite having a wellbore extending into a subsurface formation, the connection assembly comprising:
 - a female connector having an end operatively connectable to a first of the components and a cavity extending therein;
 - a removable wear insert positionable in the cavity and connected to an inner diameter of the female connector;
 - a floating cartridge positionable in the cavity of the female connector and laterally movable therein, the floating cartridge axially restricted between the wear insert and the female connector; and
 - a male connector operatively connectable to a second of the components, the male connector receivable in the cavity of the female connector and operatively connectable into the floating cartridge opposite the wear insert such that the male connector and the female connector are movably positionable relative to each other by the floating cartridge whereby a misalignment between the wellsite components is tolerated.
2. The connection assembly of Claim 1, wherein the female connector comprises a housing having a bore therethrough in communication with the first of the components.
3. The connection assembly of Claim 2, wherein the housing comprises an upper housing and a lower housing having an interface therebetween.
4. The connection assembly of Claim 3, wherein the floating cartridge is positionable in one of the upper and lower housings.
5. The connection assembly of Claim 1, wherein the male connector has a bore therethrough in fluid communication with the second of the components.
6. The connection assembly of Claim 5, wherein the female connector has a bore therethrough in fluid communication with the first of the components and the bore of the male connector.
7. The connection assembly of Claim 1, wherein the wear insert has a bore therethrough in fluid communication with the bore of the female connector and the bore of the male connector.
8. The connection assembly of Claim 1, wherein the floating cartridge has an outer diameter smaller than an inner diameter of a lower housing.

9. The connection assembly of Claim 1, wherein the male connector has an outer diameter positionable adjacent an inner diameter of the floating cartridge.
10. The connection assembly of Claim 1, wherein opposite ends of the floating cartridge are positionable in the cavity of the female connector and against an inner wall of the female connector to restrict axial movement thereof.
11. The connection assembly of Claim 10, wherein an end of the floating cartridge is positionable against the wear insert in the female connector to restrict axial movement thereof.
12. The connection assembly of Claim 1, further comprising at least one seal.
13. The connection assembly of Claim 1, wherein the female connector and an end of the male connector is fixed or movable.
14. A wellsite system for connecting components of a wellsite, the wellsite having a wellbore extending into a subsurface formation, the wellsite system comprising:
 - a first wellsite component;
 - a second wellsite component; and
 - a connection assembly, comprising:
 - a female connector having an end operatively connectable to the first wellsite component and a cavity extending therein;
 - a removable wear insert positionable in the cavity and connected to an inner diameter of the female connector;
 - a floating cartridge positionable in the cavity of the female connector and laterally movable therein, the floating cartridge axially restricted between the wear insert and the female connector; and
 - a male connector operatively connectable to the second wellsite component, the male connector receivable in the cavity of the female connector and operatively connectable into the floating cartridge opposite the wear insert such that the male connector and the female connector are movably positionable relative to each other by the floating cartridge whereby a misalignment between the wellsite components is tolerated.
15. The wellsite system of Claim 14 wherein the wellsite components comprise choke and kill lines, a low marine riser pump, a blowout preventer, a riser and combinations thereof.

16. A method of connecting components of a wellsite, the wellsite having a wellbore extending into a subsurface formation, the method comprising:

providing a connection assembly comprising:

a female connector having an end operatively connectable to a first of the components and a cavity extending therein;

a removable wear insert positionable in the cavity and connected to an inner diameter of the female connector;

a floating cartridge positioned in the cavity of the female connector and laterally movable therein, the floating cartridge axially restricted between the wear insert and the female connector; and

a male connector operatively connectable to a second of the components, the male connector receivable in the cavity of the female connector and operatively connectable into the floating cartridge opposite the wear insert;

operatively connecting the end of the female connector to the first of the components and the male connector to the second of the components;

operatively connecting an end of the male connector to the floating cartridge in the female connector; and

movably positioning the male connector and the female connector relative to each other by movement of the floating cartridge whereby a misalignment between the wellsite components is tolerated.

17. The method of Claim 16, further comprising providing at least one seal about one of the female connector, the male connector, the floating cartridge and combinations thereof.