CLAIMS

What is claimed is:

1. A plug and play connection system for a managed pressure drilling system comprising:

a connection hub flange disposed around an outer surface of an outer barrel of a telescopic joint, the connection hub flange comprising a plurality of pass-through ports and a plurality of connection hub flange ports;

a connection hub ring removably disposed around an outer surface of the connection hub flange, the connection hub ring comprising:

a plurality of dogs configured to removably attach the connection hub ring to the outer surface of the connection hub flange, and

a plurality of stab-in connectors disposed around an outer surface of the connection hub ring;

a ported bottom flange connected to a bottom distal end of the outer barrel of the telescopic joint, the ported bottom flange comprising a plurality of bottom flange ports; and

a plurality of conduits that connect the plurality of connection hub flange ports to the plurality of bottom flange ports,

wherein the plurality of stab-in connectors are connected to the plurality of connection hub flange ports by the plurality of pass-through ports, and

wherein the ported bottom flange is configured to connect, directly or indirectly, to an annular sealing system disposed below it as part of a marine riser.

2. The plug and play connection system of claim 1, further comprising:

a bearing ring configured to movably attach the connection hub ring to a tension ring configured to support a packer of the outer barrel of the telescopic joint.

3. The plug and play connection system of claim 1, further comprising:

a plurality of drape hoses, wherein each drape hose has a first distal end connected to a stab-in connector from the plurality of stab-in connectors and a second distal end connected to a device or system disposed on a platform of a floating rig.

4. The plug and play connection system of claim 1, wherein the plurality of bottom flange ports connect to one or more of a choke line, a kill line, a booster line, and a hydraulic line of a subsea blowout preventer disposed at or near a subsea surface of a wellbore.

5. The plug and play connection system of claim 1, wherein the plurality of bottom flange ports connect to one or more of a circulation line and a relief line.

6. The plug and play connection system of claim 1, wherein the plurality of bottom flange ports connect to one or more of a bearing umbilical, a rotating control device umbilical, an active control device umbilical, a control umbilical, a valve umbilical, or other umbilical.

7. A plug and play connection system riser joint for a managed pressure drilling system comprising:

an inner barrel comprising an inner barrel central lumen;

an outer barrel comprising an outer barrel central lumen, wherein the inner barrel is configured to reciprocate within the outer barrel and the inner barrel central lumen is in fluid communication with the outer barrel central lumen;

a packer disposed at a top distal end of the outer barrel that is configured to seal an annulus between the inner barrel and the outer barrel as the inner barrel reciprocates;

a tension ring configured to support the packer;

a connection hub flange disposed around an outer surface of the outer barrel, the connection hub flange comprising a plurality of pass-through ports and a plurality of hub flange ports;

a connection hub ring removably disposed around an outer surface of the connection hub flange, the connection hub ring comprising:

a plurality of dogs configured to removably attach the connection hub ring to the outer surface of the connection hub flange, and

a plurality of stab-in connectors disposed around an outer surface of the connection hub ring;

a bearing ring configured to movably attach the connection hub ring to the tension ring;

a ported bottom flange connected to the bottom distal end of the outer barrel, the ported bottom flange comprising a plurality of bottom flange ports; and

a plurality of conduits that connect the plurality of connection hub flange ports to the plurality of bottom flange ports,

wherein the plurality of stab-in connectors are connected to the plurality of connection hub flange ports by the plurality of pass-through ports.

8. The plug and play connection system riser joint of claim 7, further comprising:

a top flange attached to a top distal end of the inner barrel.

9. The plug and play connection system riser joint of claim 7, further comprising:

a plurality of drape hoses, wherein each drape hose has a first distal end connected to a stab-in connector from the plurality of stab-in connectors and a second distal end connected to a device or system disposed on a platform of a floating rig.

10. The plug and play connection system riser joint of claim 7, wherein the packer comprises a plurality of seals.

11. The plug and play connection system riser joint of claim 7, wherein the ported bottom flange is configured to connect directly or indirectly to an annular sealing system of a marine riser.

12. The plug and play connection system riser joint of claim 7, wherein a top side of the connection hub ring is attached to a first side of the bearing ring and a second side of the bearing ring is attached to a bottom side of the tension ring.

13. The plug and play connection system riser joint of claim 7, wherein the connection hub ring, the plurality of drape hoses, and the plurality of conduits are preinstalled before installation of the managed pressure drilling system.

14. The plug and play connection system riser joint of claim 7, wherein the plurality of bottom flange ports connect to one or more of a choke line, a kill line, a booster line, and a hydraulic line of a subsea blowout preventer disposed at or near a subsea surface of a wellbore.

15. The plug and play connection system riser joint of claim 7, wherein the plurality of bottom flange ports connect to one or more of a circulation line and a relief line.

16. The plug and play connection system riser joint of claim 7, wherein the plurality of bottom flange ports connect to one or more of a bearing umbilical, a rotating control device umbilical, an active control device umbilical, a control umbilical, a valve umbilical, or other umbilical.

17. A method of retrofitting a managed pressure drilling system for use with a plug and play connection system comprising:

attaching a connection hub flange to an outer barrel of a telescopic joint;

attaching a ported bottom flange to a bottom portion of the telescopic joint;

connecting a plurality of hub flange ports of the connection hub flange to a plurality of bottom flange ports of the ported bottom flange with a plurality of conduits;

attaching a first side of a bearing ring to a bottom side of a tension ring;

attaching a second side of the bearing ring to a top side of a connection hub ring;

disposing the tension ring, bearing ring, and connection hub ring around the telescopic joint below a packer of the telescopic joint;

connecting a plurality of drape hoses that connect a plurality of stab-in connectors of the connection hub ring to equipment disposed on a platform of the floating drilling rig; and

actuating the plurality of stab-in connectors.

CLAIMS

What is claimed is:

1. A plug and play connection system for a managed pressure drilling system comprising:

a connection hub flange disposed around an outer surface of an outer barrel of a telescopic joint, the connection hub flange comprising a plurality of pass-through ports and a plurality of connection hub flange ports;

a connection hub ring removably disposed around an outer surface of the connection hub flange, the connection hub ring comprising:

a plurality of dogs configured to removably attach the connection hub ring to the outer surface of the connection hub flange, and

a plurality of stab-in connectors disposed around an outer surface of the connection hub ring;

a ported bottom flange connected to a bottom distal end of the outer barrel of the telescopic joint, the ported bottom flange comprising a plurality of bottom flange ports; and

a plurality of conduits that connect the plurality of connection hub flange ports to the plurality of bottom flange ports,

wherein the plurality of stab-in connectors are connected to the plurality of connection hub flange ports by the plurality of pass-through ports.

2. The plug and play connection system of claim 1, further comprising:

a bearing ring configured to movably attach the connection hub ring to a tension ring configured to support a packer of the outer barrel of the telescopic joint.

3. The plug and play connection system of claim 1, further comprising:

a plurality of drape hoses, wherein each drape hose has a first distal end connected to a stab-in connector from the plurality of stab-in connectors and a second distal end connected to a device or system disposed on a platform of a floating rig.

4. The plug and play connection system of claim 1, wherein the ported bottom flange is configured to connect, directly or indirectly, to an annular sealing system disposed below it as part of a marine riser.

5. The plug and play connection system of claim 1, wherein the plurality of bottom flange ports connect to one or more of a choke line, a kill line, a booster line, and a hydraulic line of a subsea blowout preventer disposed at or near a subsea surface of a wellbore.

6. The plug and play connection system of claim 1, wherein the plurality of bottom flange ports connect to one or more of a circulation line and a relief line.

7. The plug and play connection system of claim 1, wherein the plurality of bottom flange ports connect to one or more of a bearing umbilical, a rotating control device umbilical, an active control device umbilical, a control umbilical, a valve umbilical, or other umbilical.

8. A plug and play connection system riser joint for a managed pressure drilling system comprising:

an inner barrel comprising an inner barrel central lumen;

an outer barrel comprising an outer barrel central lumen, wherein the inner barrel is configured to reciprocate within the outer barrel and the inner barrel central lumen is in fluid communication with the outer barrel central lumen;

a packer disposed at a top distal end of the outer barrel that is configured to seal an annulus between the inner barrel and the outer barrel as the inner barrel reciprocates;

a tension ring configured to support the packer;

a connection hub flange disposed around an outer surface of the outer barrel, the connection hub flange comprising a plurality of pass-through ports and a plurality of hub flange ports;

a connection hub ring removably disposed around an outer surface of the connection hub flange, the connection hub ring comprising:

a plurality of dogs configured to removably attach the connection hub ring to the outer surface of the connection hub flange, and

a plurality of stab-in connectors disposed around an outer surface of the connection hub ring;

a bearing ring configured to movably attach the connection hub ring to the tension ring;

a ported bottom flange connected to the bottom distal end of the outer barrel, the ported bottom flange comprising a plurality of bottom flange ports; and

a plurality of conduits that connect the plurality of connection hub flange ports to the plurality of bottom flange ports,

wherein the plurality of stab-in connectors are connected to the plurality of connection hub flange ports by the plurality of pass-through ports.

9. The plug and play connection system riser joint of claim 8, further comprising:

a top flange attached to a top distal end of the inner barrel.

10. The plug and play connection system riser joint of claim 8, further comprising:

a plurality of drape hoses, wherein each drape hose has a first distal end connected to a stab-in connector from the plurality of stab-in connectors and a second distal end connected to a device or system disposed on a platform of a floating rig.

11. The plug and play connection system riser joint of claim 8, wherein the packer comprises a plurality of seals.

12. The plug and play connection system riser joint of claim 8, wherein the ported bottom flange is configured to connect directly or indirectly to an annular sealing system of a marine riser.

13. The plug and play connection system riser joint of claim 8, wherein a top side of the connection hub ring is attached to a first side of the bearing ring and a second side of the bearing ring is attached to a bottom side of the tension ring.

14. The plug and play connection system riser joint of claim 8, wherein the connection hub ring, the plurality of drape hoses, and the plurality of conduits are preinstalled before installation of the managed pressure drilling system.

15. The plug and play connection system riser joint of claim 8, wherein the plurality of bottom flange ports connect to one or more of a choke line, a kill line, a booster line, and a hydraulic line of a subsea blowout preventer disposed at or near a subsea surface of a wellbore.

16. The plug and play connection system riser joint of claim 8, wherein the plurality of bottom flange ports connect to one or more of a circulation line and a relief line.

17. The plug and play connection system riser joint of claim 8, wherein the plurality of bottom flange ports connect to one or more of a bearing umbilical, a rotating control device umbilical, an active control device umbilical, a control umbilical, a valve umbilical, or other umbilical.

18. A method of retrofitting a managed pressure drilling system for use with a plug and play connection system comprising:

attaching a connection hub flange to an outer barrel of a telescopic joint;

attaching a ported bottom flange to a bottom portion of the telescopic joint;

connecting a plurality of hub flange ports of the connection hub flange to a plurality of bottom flange ports of the ported bottom flange with a plurality of conduits;

attaching a first side of a bearing ring to a bottom side of a tension ring;

attaching a second side of the bearing ring to a top side of a connection hub ring;

disposing the tension ring, bearing ring, and connection hub ring around the telescopic joint below a packer of the telescopic joint;

~~connecting a plurality of drape hoses that connect a plurality of stab-in connectors of the connection hub ring to equipment disposed on a platform of the floating drilling rig; and~~

~~actuating the plurality of stab-in connectors.~~