CLAIMS

1. A connector assembly for connecting a hose to a tubular element, the connector assembly comprising a tubular housing which encloses a main passage extending generally parallel to a longitudinal axis of the tubular housing and which is provided with a side passage extending through the tubular housing from the exterior of the tubular housing into the main passage, the side passage further extending through a connector tube which is mounted on the exterior of the tubular housing, the connector assembly further being provided with a hose connector adapted to be secured to an end of the hose and to engage with the connector tube for connecting the hose to the tubular element, the hose connector comprising a pipe portion which is adapted to mate with the connector tube so that the interior of the hose is connected to the side passage, wherein the connector assembly is further provided with a latch which is operable to urge the connector tube and the pipe portion into engagement and to prevent separation of the connector tube and the pipe portion when the two are mated to connect the interior of the hose with the side passage,

and wherein the latch is movable between an open position in which the connector tube and the pipe portion may be separated, and a closed position in which it prevents separation of the connector tube and the pipe portion, and configured such that, on movement of the latch from the closed position to the open position, the latch pushes the connector tube and the pipe portion apart.

2. The connector assembly according to claim 1 wherein the latch is hydraulically operated.

3. The connector assembly according to claim 1 or 2 wherein the pipe portion is adapted to be placed over the connector tube so that the connector tube extends into the pipe portion when the two parts mate to connect the interior of the hose with the side passage.

~~4. The connector assembly according to claim 3 wherein the pipe portion is provided with a radially outwardly extending flange at its free end, and the latch is provided with a lowermost catch and an uppermost catch and is configured such that when the latch is in the closed position the uppermost catch bears down on the flange thus preventing the pipe portion of being lifted off the connector tube, and as the latch is moved to the open position, the lowermost catch pushes the flange up to commence lifting the pipe portion off the connector tube.~~

~~5. The connector assembly according to any one of claims 1 to 4 wherein the tubular housing is adapted to be secured to a drilling riser.~~

~~6. The connector assembly according to any preceding claim wherein the latch is pivotally mounted relative to the connector tube.~~

~~7. The connector assembly according to any preceding claim wherein the latch includes a pair of generally parallel arms, each having an aperture therethrough.~~

~~8. The connector assembly according to claim 7 wherein the latch is secured to a piston by means of a pin or bolt which extends through the aperture in the first arm, through a corresponding aperture in the free end of the piston and through the aperture in the second arm, so that the latch part may pivot relative to the piston about the pin/bolt.~~

~~9. The connector assembly according to claim 8 wherein the piston is mounted in a cylinder which extends generally parallel to a longitudinal axis of the connector tube in such a way that limited pivoting movement of the piston and cylinder towards and away from the connector tube is permitted.~~

~~10. The connector assembly according to claim 4 or any one of claims 5 to 9 where dependent on claim 4, wherein the latch also includes a guide pin which extends generally perpendicular to the two catches.~~

~~11. The connector assembly according to claim 8 or claim 9, or claim 10 where dependent on claim 8, further comprising a guide plate mounted on the~~

~~connector tube, the guide plate including a guide slot into which an end of the pin/bolt extends.~~

~~12. The connector assembly according to claims 10 and 11 wherein the guide plate further includes a generally L-shaped guide recess which is located in the face of the guide plate adjacent the latch part, the guide pin extending into the guide recess so that the edges of the recess confine the guide pin to movement within the guide recess only.~~

~~13. The connector assembly according to claims 10 and 11, or claim 12, wherein the connector assembly includes two guide plates, and the latch part includes two guide pins each of which extends generally perpendicular to the catches in opposite directions, the latch part being mounted between the guide plates such that the each end of the pin/bolt extends into the guide slot of one of the guide plates, and each guide pin extends into an L-shaped recess of one of the guide plates.~~

~~14. A drilling riser and hose assembly, the hose being connected to the drilling riser using a connector or connector assembly according to any preceding claim.~~

~~15. A drilling riser and hose assembly according to claim 14 wherein the tubular element is part of a flow spool mounted on the riser.~~

1. A connector assembly for connecting a hose to a tubular element, the connector assembly comprising:

a tubular housing comprising a main passage which extends substantially parallel to a longitudinal axis of the tubular housing and which is enclosed in the tubular housing, and a side passage which extends through the tubular housing from an exterior of the tubular housing to the main passage so as to form a continuous passage together therewith, the side passage further extending through a connector tube which is mounted on the exterior of the tubular housing;

a hose connector configured to be secured to an end of the hose and to engage with the connector tube for connecting the hose to the tubular element, the

hose connector comprising a pipe portion which is configured to mate with the connector tube so that an interior of the hose is connected to the side passage; and

a latch operable to urge the connector tube and the pipe portion into engagement and to prevent a separation of the connector tube and the pipe portion when the connector tube and the pipe portion are mated to connect the interior of the hose with the side passage,

wherein the latch is movable between an open position in which the connector tube and pipe portion are separable, and a closed position in which the latch prevents the separation of the connector tube and pipe portion, the latch being configured so that, on a movement of the latch from the closed position to the open position, the latch pushes the connector tube and pipe portion apart.

2. The connector assembly as recited in claim 1, wherein the latch is hydraulically operated.

3. The connector assembly as recited in claim 1, wherein the pipe portion is adapted to be placed over the connector tube so that the connector tube extends into the pipe portion when the two parts mate to connect the interior of the hose with the side passage.

4. The connector assembly as recited in claim 3, wherein

the pipe portion is provided with a radially outwardly extending flange at its free end, and

the latch is provided with a lowermost catch and an uppermost catch and is configured so that when the latch is in the closed position, an uppermost catch bears down on the flange to prevent the pipe portion being lifted off the connector tube, and as the latch is moved to the open position, a lowermost catch pushes the flange up to commence lifting the pipe portion off the connector tube.

5. The connector assembly as recited in claim 1, wherein the tubular housing is configured to be secured to a drilling riser.

6. The connector assembly as recited in claim 1, wherein the latch is pivotally mounted relative to the connector tube.

7. The connector assembly as recited in claim 1, wherein the latch includes a first arm and a second arm which are configured to be substantially parallel, each of the first arm and the second arm comprising an aperture therethrough.

8. The connector assembly as recited in claim 7, wherein the latch is secured to a piston by a pin or a bolt which extends through the aperture in the first arm, through a corresponding aperture in a free end of the piston, and through the aperture in the second arm, so that the latch can pivot relative to the piston about the pin or about the bolt.

9. The connector assembly as recited in claim 8, wherein the piston is mounted in a cylinder which extends substantially parallel to a longitudinal axis of the connector tube so that a limited pivoting movement of the piston and the cylinder towards and away from the connector tube is permitted.

10. The connector assembly as recited in claim 4, wherein the latch further includes a guide pin which extends substantially perpendicular to the two catches.

11. The connector assembly as recited in claim 8, further comprising a guide plate mounted on the connector tube, the guide plate including a guide slot into which an end of the pin or the bolt extends.

12. The connector assembly as recited in claim 10, wherein the guide plate further includes a substantially L-shaped guide recess which is located in the face of the guide plate adjacent the latch, the guide pin extending into the guide recess so that the edges of the recess confine the guide pin to a movement only within the guide recess.

13. The connector assembly as recited in claim 10, wherein the connector assembly includes two guide plates, and the latch includes two guide pins each of which extends substantially perpendicular to the catches in opposite directions, the latch being mounted between the guide plates so that the each end of the pin or the

bolt extends into the guide slot of one of the guide plates, and each guide pin extends into a substantially L-shaped guide recess of one of the guide plates.

14. A connector assembly for connecting a hose to a tubular element, the connector assembly comprising:

a tubular housing comprising a main passage which extends substantially parallel to a longitudinal axis of the tubular housing and which is enclosed in the tubular housing, and a side passage which extends through the tubular housing from an exterior of the tubular housing to the main passage so as to form a continuous passage together therewith, the side passage further extending through a connector tube which is mounted on the exterior of the tubular housing; and

a hose connector adapted to be secured to an end of the hose and to engage with the connector tube for connecting the hose to the tubular element, the hose connector comprising a pipe portion which is adapted to mate with the connector tube so that the interior of the hose is connected to the side passage, wherein,

the connector tube and pipe portion of the hose connector are both circular in a transverse cross-section and are both provided with a plurality of teeth which are configured to be engaged to assist in retaining the connector tube and pipe portion in a desired angular orientation relative to one another,

one of the connector tube and the pipe portion is adapted to extend into the other of the pipe portion or connector tube when the two parts mate to connect the interior of the hose with the side passage, and

the one of the connector tube or pipe portion which is located outside the other when the two mate to connect the interior of the hose with the side passage is provided with a radially outwardly extending flange at its free end, the teeth being provided in a surface of the flange, the surface in which the teeth are provided being configured to extend so as to be substantially perpendicular to a longitudinal axis of the connector tube.

15. The connector assembly as recited in claim 14, wherein the pipe portion is adapted to be placed over the connector tube so that the connector tube extends into the pipe portion when the two parts mate to connect the interior of the hose with the side passage.

16. The connector assembly as recited in claim 14, wherein the assembly is further provided with a latch which is operable to urge the teeth of the connector tube and pipe portion into engagement and to prevent separation of the connector tube and pipe portion when the two are mated to connect the interior of the hose with the side passage.

17. The connector assembly as recited in claim 16 wherein the latch is hydraulically operated.

18. The connector assembly as recited in claim 16, wherein the latch is movable between an open position in which the connector tube and pipe portion are separable, and a closed position in which the latch prevents separation of the connector tube and pipe portion, and configured such that, on movement of the latch from the closed position to the open position, the latch pushes the connector tube and pipe portion apart.

19. The connector assembly as recited in claim 16, wherein the tubular housing is adapted to be secured to a drilling riser.