

CLAIMS

1. A gas lift valve (10) for use in a hydrocarbon well, comprising:
 - an elongated valve housing (12) comprising an inlet port (14) for receiving a fluid from an annulus of a hydrocarbon well, and an outlet port (15) for delivering the fluid to a production tubing of the hydrocarbon well, and an elongated, internal valve body (28), which is movable along a longitudinal, central axis (A) of the valve housing (12) between a first end position and a second end position, in which first end position a sealing surface (16) of the valve body (28) is in sealing contact with a valve seat surface (25) of the valve housing (12) prohibiting the fluid to flow from the inlet port (14) to the outlet port (15), and in which second end position the sealing surface (16) is separated from the valve seat surface (25) allowing the fluid to flow from the inlet port (14) to the outlet port (15), wherein the valve body (28) comprises:
 - a downstream end section (11), on the outer, annular surface of which the sealing surface (16) is located,
 - a blind bore (24) which forms a central, axial channel in the valve body (28), which blind bore (24) runs from an upstream, central orifice (38) of the valve body (28) and terminates at the end section (11), which orifice (38) is in fluid communication with the inlet port (14), and
 - a plurality of generally radial through bores (30) which extend into the axial channel (24) at the end section (11) and form fluid openings in the valve body (28), which fluid openings (30) open upstream of the sealing surface (16) and is in fluid communication with the outlet port (15) only when the gas lift valve (10) is in the open position,**characterised in that** the outlet port (15) is positioned at a terminal end (20) of the valve housing (12).
2. The gas lift valve (10) according to claim 1, **characterised in that** the outlet port (15) is positioned in an outlet plane (B) which is orthogonal to the central axis (A).
3. The gas lift valve (10) according to any one of the preceding claims, **characterised in that** the central axis (A) runs through the outlet port (15).
4. The gas lift valve (10) according to claim 3, **characterised in that** the outlet port (15) is circular and co-axial with the longitudinal, central axis (A).

5. The gas lift valve (10) according to any one of the preceding claims,
characterised in that the gas lift valve (10) comprises a spring element (36) biasing the valve body (28) towards the closed position.
- 5 6. The gas lift valve (10) according to any one of the preceding claims,
characterised in that the outlet port (15) has a vertically highest point (P) for a chosen gas lift valve inclination angle β , where β is the angle between a vertical line (V) and the longitudinal axis (A) of the gas lift valve (10), and the gas lift valve (10) is provided with a distance (L), measured along the longitudinal axis (A), between said valve body (28) in its position nearest the outlet port (15) and
10 a plane through said point (P) orthogonal to the longitudinal axis (A), such that the entire valve body (28) is above a horizontal plane (33) passing through said vertically highest point (P) of the outlet port (15).
- 15 7. The gas lift valve according to claim 6, **characterised in that** the angle β preferably is within a range of 0° - 75° , more preferably within a range of 20° - 70° , and most preferably within a range of 25° - 60° .
8. The gas lift valve according to any one of the preceding claims, **characterised in that** the valve housing (12) comprises a nose element (18) having a conical section (19) with an end portion (20), wherein the outlet port (15) is arranged in the end portion (20).
- 20 9. A method of injecting an injection fluid into a well fluid of a production tubing of a hydrocarbon well using a valve according to any one of the preceding claims, comprising the step of injecting the injection fluid into the well fluid without allowing the well fluid to come into contact with the valve body (28).
- 25 10. The method according to claim 9, comprising arranging the valve such that the outlet port (15) has a vertically highest point (P) for a chosen gas lift valve inclination angle β , where β is the angle between a vertical line (V) and the longitudinal axis (A) of the gas lift valve (10), and the gas lift valve (10) is provided with a distance (L), measured along the longitudinal axis (A), between said valve body (28) in its position nearest the outlet port (15) and a plane
30 through said point (P) orthogonal to the longitudinal axis (A), such that the entire valve body (28) is above a horizontal plane (33) passing through said vertically highest point (P) of the outlet port (15).
11. The method according to claim 10, wherein the angle β is within a range of 0° - 75° .
- 35 12. The method according to claim 10, wherein the angle β is within a range of 20° - 70° .

13. The method according to claim 10, wherein the angle β is within a range of 25°-60°.
 14. The method according to claim 9, wherein the position of the outlet port (15) allows the gas lift valve (10) to operate with the central axis (A) at an angle up to 70 degrees from the vertical without allowing fluid in the production tubing to come into contact with the valve body (28).
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