Claims

1. A dome cover assembly having a flange (2) having a through-opening (24) and a cover (1) for closing the through-opening (24),
wherein the cover (1) is rotatably mounted around an axis (6) in relation to the flange (2), so that in a first rotational position, the cover (1) is positioned above the through-opening (24), and in a second rotational position, the cover is positioned so that the through-opening (24) is free,
characterized in that at least one first element of the elements cover (1) and flange (2) has at least one reach-around element (3), in particular an anchor, in particular a clamp, which is designed, in the first rotational position, to enclose at least partially the respective other element of cover (1) and flange (2), on which the at least one reach-around element (3) is not arranged, on the side facing away from the first element, and in that the other element of cover (1) and flange (2) has a recess (7) on the side facing away from the first element in the direction of the first element, wherein the reach-around element (3) and the recess (7) are designed and arranged in such a way that, in the first rotational position, in a first, distant position of cover (1) and flange (2), a projection (20) of the reach-around element (3) engages behind and/or into the recess (7) and in that in the first rotational position, in a second, closer position of cover (1) and flange (2), the reach-around element (3) does not engage behind the recess (7) in this closer position ,
wherein the recess is at least partially not extending up to the margin of the other element and/or the axis, the other element, and the reach-around element are designed and arranged in such a way that the reach-around element passes over at least a section of the recess during the rotation from the first into the second rotational position, wherein before the passing over, a greater distance is given between the side of the other element facing away from the first element and the projection than after.

2. The dome cover assembly as claimed in claim 1, wherein the engaging behind prevents the rotation around the axis (6) out of the first rotational position and/or into the second rotational position.

3. The dome cover assembly as claimed in any one of the preceding claims, characterized in that the other element of cover (1) and flange (2) has a indentation (22), which is in particular spit-shaped, wherein the spit opens in particular in one direction, wherein this direction is in a plane parallel to the plane in which the through-opening (24) is

arranged, and/or the opening is arranged in such a way that the reach-around element (3) is moved through the opening into the indentation (22) during the rotation of the cover in relation to the flange from the second into the first rotational position, and/or the opening has an opening angle of less than 180°.

4. The dome cover assembly as claimed in any one of the preceding claims, characterized in that the reach-around element (3) has a longitudinal extension and/or a longitudinal section, wherein a projection (20), in particular a head, for at least partially reaching around the spit-shaped indentation (22) and/or for engaging in the recess (7) on the other element, is arranged on a section, which is in particular at the end, of the longitudinal extension and/or the longitudinal section, wherein the projection (20) has a width, in particular measured perpendicularly to the longitudinal extension and/or to the longitudinal section of the reach-around element (3), which is wider than the width of the reach-around element (3) over 25%, in particular 50%, of its longitudinal extension and/or its longitudinal section.

5. The dome cover assembly as claimed in any one of the preceding claims, characterized in that at least one section (23) and/or at least one section of the edge (23), in particular two sections and/or two sections of the edge, in particular at least one border section (23) and/or at least one section (23) located toward the indentation and/or the opening of the indentation, of the recess (7) not extending up to the margin is passed over by the reach-around element (3), in particular its head (20), during the rotation from the first rotational into the second rotational position of the cover (1) in relation to the flange (2), wherein the at least one section (23) in particular has a length and/or a circular arc section length of at least 1 cm, in particular at least 5 cm, and/or at least 10%, in particular at least 25%, of the width and/or a circular arc section of at least 10°, in particular at least 20°.

6. The dome cover assembly as claimed in any one of the preceding claims, wherein the rotatable mounting, in addition to the rotation, also enables the movement between first, distant and second, closer position and/or the movement between first, distant and second, closer position is a movement at least partially along the axis (6) of the rotation between first and second rotational position and/or the rotatable mounting, in particular a movement along the axis (6) and a movement by tilting the cover (1) or flange (2) in relation to the axis.

7. The dome cover assembly as claimed in any one of the preceding claims, wherein the distance between first, distant and second, closer position is 700 mm to 800 mm and/or the rotation between first and second rotational position is a rotation by 90° to 100° and/or in the first, distant position, there is a distance of 5 mm to 15 mm between flange (2) and cover (1) and/or in the second, closer position, the distance between flange (2) and cover (1) is 5 mm to 7 mm, and/or in that the recess (7) has a height in the range of 1 mm to 3 mm and/or wherein the reach-around element (3) has a corresponding recess and/or projection, in particular in the range of 4 mm to 6 mm, and/or the recess extends from the flange (2) and/or cover (1) and/or the reach-around element (3) extends in parallel to the rotational axis of the rotatable mounting and/or to the axis of the rotation (6) between first and second rotational position and/or wherein the through-opening (24) has a size of DN400 to DN800 and/or a diameter of 380 mm to 780 mm.

8. The dome cover assembly as claimed in any one of the preceding claims, wherein a plurality of auxiliary clamps (4, 5) are provided, which are each connected to the cover (1) or the flange (2), in particular 2 to 5 connected to the cover and 2 to 5 connected to the flange and/or extending around at least 30% of the external circumference of the cover or flange, which are designed, in the first rotational position, to enclose at least partially the respective other element of cover (1) and flange (2), on which the respective auxiliary clamp (4, 5) is not arranged, on the side facing away from the element of cover and flange on which the respective auxiliary clamp (4, 5) is arranged.

9. The dome cover assembly as claimed in any one of the preceding claims, wherein flange (2) and/or cover (1) are fixed having a radial play between 0.02 and 0.08 mm, in particular between 0.03 and 0.7 mm, and/or having a play in the longitudinal direction of the axis (6) between 0.1 and 0.5 mm, in particular between 0.15 and 0.35 mm, on the axis (6), and/or axis (6), flange (2), and/or cover (1) are designed in such a way that they enable a tilt of flange (2) and/or cover in relation to the axis (6) having a value in the range of 0.5° to 1°.

10. The dome cover assembly as claimed in any one of the preceding claims, wherein at least one element of flange (2) and cover (1) has a hollow seal (12), which is in particular circumferential and/or inflatable, arranged toward the other element, wherein the hollow seal (12) in particular has a cavity for the application of gas and/or fluid, and the dome cover assembly in particular has means for introducing gas and/or fluid into the cavity, in particular a feedthrough through flange and/or cover.

11. The dome cover assembly as claimed in any one of the preceding claims, wherein flange (2) and/or cover (1) are formed from EN AW-5086, AW-5083, and/or AW-6082, in particular corrosion adapted and/or made of an alloy containing, in addition to aluminum and possibly others, and
    - Cr: 0.05-0.25 mass-percent,
    - Cu: maximum 0.15 mass-percent,
    - Fe: maximum 0.50 mass-percent, in particular 0.4-0.5 mass-percent,
    - Mg: 3.5-5 mass-percent,
    - Mn: 0.2-1 mass-percent,
    - Si: maximum 0.60 mass-percent,
    - Ti: maximum 0.2 mass-percent, and
    - Zn: maximum 0.3 mass-percent

    and/or flange (2) and/or cover (1) are cast.

12. The dome cover assembly as claimed in any one of the preceding claims, wherein it is designed not to extend into a tank or vessel, the dome opening of which it closes, and/or the cover (1) is designed pressure-tight and/or pressure-resistant, so as not to impair unloading of a tank or vessel, which it closes, through another opening by means of pressurizing the tank or vessel.

13. A tank or vessel, having a dome opening and a dome cover assembly arranged on the dome opening as claimed in any one of the preceding claims, wherein the dome opening and the through-opening (24) at least partially align and/or form a joint continuous opening, and wherein the dome cover assembly is designed and arranged to completely close the dome opening in the first rotational position.

14. The tank or vessel as claimed in the preceding claim, wherein the dome cover assembly does not extend into the tank or vessel and/or wherein the tank or vessel has means for pressurizing the tank or vessel and/or for applying and venting gas and/or fluid to or from the cavity of the hollow seal.

15. The tank or vessel as claimed in any one of the preceding claims 13 to 14, designed for unloading by pressurizing the tank or vessel.

16. A tank or vessel vehicle having a tank or vessel as claimed in any one of preceding claims 13 to 15.

17. The tank or vessel vehicle as claimed in the preceding claim, having a device for pressurizing the tank or vessel and/or a device for applying and venting gas and/or fluid to or from the cavity of the hollow seal.

18. A method for preventing the opening of a dome cover of a tank or vessel, wherein by means of at least one reach-around element (3), in particular an anchor, in particular a clamp, and a recess (7), the opening and/or a rotation for opening is prevented by the reach-around element (3) engaging behind the recess (7) in a first, distant position of cover and tank, wherein the recess is at least partially not extending up to the margin of the other element and/or the reach-around element passes over at least a section of the recess during the rotation for opening and/or during opening, wherein before the passing over, a greater distance is given between the side of the other element facing away from the first element and the projection than after, and wherein in a second, closer position of dome cover (1) and tank, the reach-around element (3) does not engage behind the recess (7) in this adjacent position.