Claims

1. A device for adjusting a media pressure relative to an ambient pressure, which is defined by a depth-dependent seawater pressure when using the device, wherein the seawater pressure is applied to a compensator device (35), which permits a reversible change in length or elongation, wherein at least two compensator elements (41) of the compensator device (35) are provided in series in the direction of the change in length or elongation, wherein at least one frontal sealing wall (29) of a pressure transmission device (17) is exposed to seawater, wherein the pressure transmission device (17) has a double piston assembly (19), one piston (27) thereof being adjacent to a seawater chamber (33) and the other piston (21) to a media chamber (11), and wherein the double piston assembly (19) is guided in an axially movable manner in a supporting housing (5), **characterized in that** an inner wall (23) of the supporting housing (5) forms a running surface (25) for the pistons (21, 27).

2. The device according to claim 1, characterized in that the respective compensator elements (41) are at least partially resilient or otherwise elastically formed and that the compensator elements undergo the change in length or elongation in one direction from an initial position by means of seawater pressure, and can be returned to this initial position upon removal of the seawater pressure in a reverse movement.

3. The device according to claim 1 or claim 2, characterized in that the compensator device (35) is formed from a bellows (39) and that the compensator elements (41) are formed from individual bellows folds arranged in sequence, at least in part forming the wall (43) of the bellows (39).

4. The device according to claim 3, characterized in that in individual cases, at least one frontal sealing wall (29) of the bellows (39) is exposed to seawater, and this sealing wall (29) is preferably set back in the direction of the pressure transmission device (17) with respect to an entry point (31) of the seawater.

5. The device according to one of the preceding claims, characterized in that the compensator device (35) and/or the pressure transmission device (17) form at least one media-tight seal between a seawater chamber (33) exposed to seawater pressure and the media chamber (11) having media pressure within the supporting housing (5).

6. The device according to one of the preceding claims, characterized in that in a chain of action and preferably viewed in the longitudinal direction (LR) of the supporting housing (5), the pressure transmission device (17) and then the media chamber (11) are connected to the compensator device (35).

7. The device according to one of the preceding claims, characterized in that between the double pistons (21, 27) at least one additional second media chamber (45) holding a high-pressure medium is arranged.

8. The device according to claim 7, characterized in that the second media chamber (45) having the high-pressure medium is permanently connected to a pressure reservoir (47) and that the pressure reservoir (47) preferably concentrically envelops the supporting housing (5).

9. The device according to claim 7 or claim 8, characterized in that at least one additional, third media chamber (51) holding a low-pressure medium, preferably a vacuum, is disposed between the double pistons (21, 27) and that the second media chamber (45) and the third media chamber (51) are bordered by a piston partition wall (53), in which a piston rod (57) at the respective end of which a piston (21, 27) of the double piston assembly (19) is mounted, is guided in a longitudinally displaceable manner.

10. The device according to claim 9, characterized in that the bellows (39), the pistons (21, 27) and the piston partition wall (53) have a respective maximum outer diameter (A) which is equal and corresponds to the uniform inner wall diameter (I) of the supporting housing (5).

11. The device according to one of the preceding claims, characterized in that at least the piston (27) of the double piston assembly (19), which is adjacent to the seawater chamber (33), is sealed with respect to the inner wall (23) of the supporting housing (5) by means of a sealing device (61).