Claims

1. A removal system (1) for a container designed for receiving a fluid, with an extraction head (4) and a dip tube (5) that is fastened thereto, wherein by means of the extraction head (4) fluid is removed through the dip tube (5) from the container (3) or fluid is fed into the container (3), characterized in that the extraction head (4) is fastened to the dip tube (5) by a displacement movement, and/or that a target position of the dip tube (5) at the extraction head (4) is monitored by an optical sensor (12).

2. The removal system (1) according to claim 1, characterized in that the optical sensor (12) is a light barrier.

3. The removal system (1) according to claim 2, characterized in that the optical sensor (12) is a fork light barrier.

4. The removal system (1) according to any one of claims 1 to 3, characterized in that due to the displacement movement of the extraction head (4) relative to the displacement tube (5) a positioning element is moved, wherein the position of the positioning element is monitored by the optical sensor (12).

5. The removal system (1) according to claim 4, characterized in that the optical sensor (12) generates a binary switching signal, the switching states of which indicate whether the positioning element is located in a detection range of the optical sensor (12) or not.

6. The removal system (1) according to claim 5, characterized in that the positioning element only projects into the detection range of the optical sensor (12) when the extraction head (4) is located in a region of the target position at the dip tube (5).

7. The removal system (1) according to any one of claims 4 to 6, characterized in that a displacement movement of the positioning element is effected by the displacement movement of the extraction head (4) relative to the dip tube (5).

8. The removal system (1) according to any one of claims 4 to 7, characterized in that the positioning element is designed in the form of a pin (21), which is displaceably located in a borehole (20) of the extraction head (4).

9. The removal system (1) according to claim 8, characterized in that the pin (21) in a starting position projects beyond a lower edge of the extraction head (4) and is outside the detection range of the optical sensor (12), and that by contact with the dip tube (5), the pin (21) is displaceable into an end position, in which an upper end of the pin (21) lies in the detection range of the optical sensor (12).

10. The removal system (1) according to any one of claims 8 or 9, characterized in that a housing segment (15a) of the extraction head (4) is in the shape of a hollow cylinder, whereby a connection segment (18) of the extraction head (4) projects beyond an open bottom side of the housing element (15a), the connection segment (18) being designed for connecting the dip tube (5).

11. The removal system (1) according to claim 10, characterized in that the dip tube (5) is pushed onto the connection segment (18).

12. The removal system (1) according to any one of claims 10 or 11, characterized in that the lower edge of the housing segment (15a) forms a stop (16) for the dip tube (5), wherein the pin (21) in its starting position projects beyond a lower edge of the housing segment (15a).

13. The removal system (1) according to claim 12, characterized in that with the dip tube (5) abutting the stop (16), the pin (21) is pushed into the borehole (20) and lies in the end position.

14. The removal system (1) according to any one of claims 12 or 13, characterized in that the dip tube (5) abutting the stop (16) is secured in place by a form-locked or force-locked connection with the connection segment (18).

15. The removal system (1) according to any one of claims 1 to 4, characterized in that the extraction head (4) is connected to the dip tube (5) by means of a robot.