Claims

1. A liquid flowrate gauge for a urine flow test comprising:

a receptacle structure having a surrounding wall around a central axis, wherein an outlet port is disposed at a base side of the receptacle structure and an inflow opening disposed at a topside of the receptacle structure, the base side and the topside being two opposite sides of the receptacle structure along the central axis;

a floatable member loosely sitting within the receptacle structure in a manner so as to define at least one gap between the floatable member and the receptacle structure to maintain a flow path from the inflow opening to the outlet port,

wherein the outlet port is dimensioned to achieve a liquid flowrate through the outlet port equal to or above a threshold outlet flowrate and the floatable member is configured to be floated in a manner so as to be free from contact with the receptacle structure when a liquid level of urine accumulated in the receptacle structure is equal to or higher than a predetermined height measured along the central axis from the outlet port as the urine flows into the receptacle structure via the inflow opening and out of the receptacle structure via the outlet port, wherein the floatable member being floated by the urine accumulated in the receptacle structure serve as an indication that a rate of inflow of the urine into the receptacle structure is equal to or above the threshold outlet flowrate, wherein the threshold outlet flowrate corresponds to a minimum threshold flowrate of the urine flowing into the receptacle structure for passing or failing the urine flow test such that the floatable member being floated indicates that the rate of inflow of the urine has met the minimum threshold flowrate to pass the urine flow test.

2. The liquid flowrate gauge for the urine flow test according to claim 1, wherein the threshold outlet flowrate is within a range from 10ml/s to 15 ml/s, or is within a range from 11ml/s to 13ml/s, or is about 12 ml/s.

3. The liquid flowrate gauge for the urine flow test according to claim 1 or 2, wherein the floatable member has a shape and density to create a buoyancy force greater than a weight of the floatable member by a volume of the floatable member immersed in the urine accumulated in the receptacle structure when the liquid level of the urine is equal to or higher than the predetermined height.

4. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 3, wherein the floatable member has an inverted frustoconical shape or a spherical shape or a cylindrical shape or a hemispherical shape.

5. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 4, wherein the floatable member is of a solid structure or a hollow structure or an inflatable structure, wherein the floatable member is made of polystyrene, wood, foam material, sponge material, high density polyethylene (HDPE), low density polyethylene (LDPE), or polypropylene (PP).

6. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 5, wherein the floatable member comprises a weight member coupled to a base of the floatable member for lowering a center of gravity of the floatable member to stabilize the floatable member when floated by the urine accumulated in the receptacle structure.

7. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 6, wherein the floatable member comprises a plurality of grooves distributed around the floatable member.

8. The liquid flowrate gauge for the urine flow test according to claim 7, wherein the plurality of grooves are parallel to each other.

9. The liquid flowrate gauge for the urine flow test according to claim 7 or 8, wherein the plurality of grooves are diagonal grooves, helical grooves, or spiral grooves.

10. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 9, wherein the receptacle structure comprises a base portion at the base side of the receptacle structure, the base portion adjoining a corresponding edge of the surrounding wall of the receptacle structure, wherein the outlet port is in the base portion of the receptacle structure.

11. The liquid flowrate gauge for the urine flow test according to claim 10, wherein the base portion comprises a nozzle assembly, wherein the nozzle assembly comprises a first part comprising a ring-shaped attachment and a second part comprising a flanged insert,

wherein the flanged insert comprises an insert portion, a flanged annular plate at an end of the insert portion, and a through-hole extending through the flanged insert along a center axis of the flanged insert,

wherein the flanged insert is coupled to the ring-shaped attachment with the insert portion of the flanged insert fitted into a central cavity of the ring-shaped attachment,

wherein the through-hole of the flanged insert forms the outlet port.

12. The liquid flowrate gauge for the urine flow test according to claim 11, wherein the ring-shaped attachment comprises a raised annular wall along a perimeter thereof,

wherein the flanged insert is coupled to the ring-shaped attachment with the flanged annular plate of the flanged insert abutting the ring-shaped attachment and the raised annular wall of the ring-shaped attachment surrounding a circumferential edge of the flanged annular plate of the flanged insert.

13. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 12 further comprising an inflow guide member extending across the inflow opening.

14. The liquid flowrate gauge for the urine flow test according to claim 13, wherein the inflow guide member has a lune shape defined by two intersecting circles with a distance between the centres of the two intersecting circles greater than respective radius of the two intersecting circle, or a shape corresponding to a major segment of a circle.

15. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 14 wherein the inflow opening is defined by an edge of the surrounding wall of the receptacle structure towards the topside of the receptacle structure.

16. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 15, further comprising a backsplash screen coupled to a boundary of the inflow opening in an erected manner with respect to the inflow opening.

17. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 16, further comprising a dipstick attached to an inner surface of the surrounding wall of the receptacle structure, wherein a first end of the dipstick is directed towards the base side of the receptacle structure and a second end of the dipstick is directed towards the topside of the receptacle structure.

18. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 17, wherein the receptacle structure is foldable.

19. The liquid flowrate gauge for the urine flow test according to any one of claims 1 to 18, further comprising a sensor attached to the floatable member.

20. A kit for a liquid flowrate gauge for a urine flow test comprising:

a receptacle structure having a surrounding wall around a central axis, wherein an outlet port is disposed at a base side of the receptacle structure and an inflow opening disposed at a topside of the receptacle structure, the base side and the topside being two opposite sides of the receptacle structure along the central axis;

a floatable member capable of loosely sitting within the receptacle structure in a manner so as to define at least one gap between the floatable member and the receptacle structure to maintain a flow path from the inflow opening to the outlet port,

wherein the outlet port is dimensioned to achieve a liquid flowrate through the outlet port equal to or above a threshold outlet flowrate and the floatable member is configured to be floated in a manner so as to be free from contact with the receptacle structure when the floatable member is loosely sitting within the receptacle structure and a liquid level of urine accumulated in the receptacle structure is equal to or higher than a predetermined height measured along the central axis from the outlet port as the urine flows into the receptacle structure via the inflow opening and out of the receptacle structure via the outlet port, wherein the floatable member being floated by the urine accumulated in the receptacle structure serve as an indication that a rate of inflow of the urine into the receptacle structure is equal to or above the threshold outlet flowrate, wherein the threshold outlet flowrate corresponds to a minimum threshold flowrate of the urine flowing into the receptacle structure for passing or failing the urine flow test such

that the floatable member being floated indicates that the rate of inflow of the urine has met the minimum threshold flowrate to pass the urine flow test.