Claims

1. An intravenous delivery system comprising:

a drip unit comprising:

an exterior wall shaped to at least partially define a drip chamber that receives a liquid from a liquid source, the exterior wall comprising a seat;

an anti-run-dry membrane comprising a plurality of pores that are permeable to the liquid, wherein the anti-run-dry membrane is formed of a hydrophilic material configured to resist passage of air through the pores; and

a secondary exterior wall that cooperates with the exterior wall to define the drip chamber, wherein the secondary exterior wall includes an outer ring and an inner ring spaced apart from the outer ring to thereby form a recess between the outer and inner rings;

wherein the seat of the exterior wall inserts into the recess of the secondary exterior wall to secure the exterior wall to the secondary exterior wall, and wherein a periphery of the anti-run-dry membrane extends into the recess and is secured between the seat and the inner ring.

2. The intravenous delivery system of claim 1, wherein the periphery of the anti-run-dry membrane is also secured between the seat and the outer ring

3. The intravenous delivery system of claim 1, further comprising: tubing comprising a first end connectable to the drip unit and a second end; and
an intravenous access unit connectable to the second end of the tubing to deliver the liquid intravenously to a patient.

4. The intravenous delivery system of claim 1, wherein the periphery of the anti-run- dry membrane extends around the seat to an exterior surface of the exterior wall.

5. The intravenous delivery system of claim 1, wherein an inner diameter of the seat is smaller than an outer diameter of the inner ring.

6. The intravenous delivery system of claim 1, wherein an outer diameter of the seat is larger than an inner diameter of the outer ring.

7. The intravenous delivery system of claim 6, wherein the periphery of the anti-run-dry membrane extends around the seat to an exterior surface of the exterior wall.

8. The intravenous delivery system of claim 1, wherein one or more of an inner diameter or an outer diameter of the seat is tapered.

9. The intravenous delivery system of claim 1, wherein one or more of an outer diameter of the inner ring or an inner diameter of the outer ring is tapered.

10. The intravenous delivery system of claim 1, wherein the periphery of the anti-run- dry membrane includes a portion of increased thickness relative to an interior of the anti-run-dry membrane.

11. The intravenous delivery system of claim 10, wherein the portion of increased thickness aligns with and inserts into the recess.

12. The intravenous delivery system of claim 1, wherein a width of the seat is greater than a width of the recess.

13. The intravenous delivery system of claim 12, wherein the width of one or both of the seat or recess is tapered.

14. An intravenous delivery system comprising:

a drip unit comprising:

an exterior wall shaped to at least partially define a drip chamber that receives a liquid from a liquid source, the exterior wall comprising a seat;

a secondary exterior wall that cooperates with the exterior wall to define the drip chamber, wherein the secondary exterior wall includes an outer ring and an inner

ring spaced apart from the outer ring to thereby form a recess between the outer and inner rings, the ring being configured to receive the seat to thereby secure the exterior wall to the secondary exterior wall; and

an anti-run-dry membrane comprising a plurality of pores that are permeable to the liquid, wherein the anti-run-dry membrane is formed of a hydrophilic material configured to resist passage of air through the pores, the anti-run-dry membrane being positioned between the exterior wall and the secondary exterior wall, wherein a periphery of the anti-run-dry membrane is secured within the recess.

15. The intravenous delivery system of claim 14, wherein the periphery of the anti-run-dry membrane is secured between the seat and the inner ring.

16. The intravenous delivery system of claim 15, wherein the periphery of the anti-run-dry membrane is secured between the seat and the outer ring.

17. The intravenous delivery system of claim 16, wherein an outer edge of the anti-run-dry membrane extends from the recess.

18. An intravenous delivery system comprising:

a drip unit comprising:

an exterior wall shaped to at least partially define a drip chamber that receives a liquid from a liquid source, the exterior wall comprising a seat;

a secondary exterior wall that cooperates with the exterior wall to define the drip chamber, wherein the secondary exterior wall includes an outer ring and an inner ring spaced apart from the outer ring to thereby form a recess between the outer and inner rings, the ring being configured to receive the seat to thereby secure the exterior wall to the secondary exterior wall; and

an anti-run-dry membrane comprising a plurality of pores that are permeable to the liquid, wherein the anti-run-dry membrane is formed of a hydrophilic material configured to resist passage of air through the pores, the anti-run-dry membrane being positioned between the exterior wall and the secondary exterior wall, the anti-run-dry

membrane including a first attachment surface and a second attachment surface opposite the first attachment surface, the first attachment surface abutting the seat and the second attachment surface abutting the recess when the exterior wall is secured to the secondary exterior wall to thereby secure the anti-run-dry membrane between the exterior wall and the secondary exterior wall.

19. The intravenous delivery system of claim 18, wherein a thickness of the anti-run-dry membrane is increased between the first and second attachment surfaces relative to an interior of the anti-run-dry membrane.

20. The intravenous delivery system of claim 18, wherein the second attachment surface abuts the inner and outer ring