CLAIMS

1. An IV set comprising:

a one piece drip chamber;

a spike for fluidly coupling the drip chamber to a fluid bag;

tubing for coupling the drip chamber to a vascular access device; and

an air stop membrane directly attached to the drip chamber which maintains a fluid column below the membrane after a fluid level within the IV set reaches the membrane.

2. The IV set of claim 1 wherein the air stop membrane is a hydrophilic membrane.

3. The IV set of claim 3 wherein the air stop membrane is located in the drip chamber.

4. The IV set of claim 1, wherein the air stop membrane is adhered to a bottom surface of the drip chamber overtop a distal opening of the drip chamber.

5. The IV set of claim 3 wherein the membrane bubble point pressure is greater than 3 psi.

6. The IV set of claim 5 wherein the cross-sectional flow area is less than 2.85 cm2

7. The IV set of claim 1 wherein the trans-membrane flow is greater than 30 mL/min/cm2/bar.

8. The IV set of claim 6 wherein the trans-membrane flow is greater than 1150 mL/min/cm2/bar.

9. An IV set comprising;

a drip chamber

a spike for fluidly coupling the drip chamber to a fluid bag;

tubing for coupling the drip chamber to a vascular access device; and

an air stop membrane positioned within the spike or between the spike and the drip chamber wherein the membrane maintains a fluid column below the membrane after a fluid level within the IV set reaches the membrane.

10. The IV sect of claim 9 wherein the membrane bubble point pressure is greater than 3 psi.

11. The IV set of claim 9 wherein the membrane bubble point pressure is approximately 5 psi.

12. The IV set of claim 9 wherein the cross-sectional flow area is less than 2.85 cm2

13. The IV set of claim 9 wherein the trans-membrane flow is greater than 30 mL/min/cm2/bar.

14. An IV set comprising:

a drip chamber;

a spike for fluidly coupling the drip chamber to a fluid bag;

tubing for coupling the drip chamber to a vascular access device; and

an air stop membrane attached to the IV set which maintains a fluid column below the membrane after a fluid level within the IV set reaches the membrane;

further comprising a membrane housing, the membrane being positioned within the membrane housing.

15. The IV sect of claim 14 wherein the wherein the air stop membrane has a bubble point pressure greater than 1 psi.

16. The IV set of claim 14 wherein the cross-sectional flow area is less than 60 cm2

17. The IV set of claim 14 wherein the trans-membrane flow is greater than 30 mL/min/cm2/bar.

18. The IV set of claim 14 wherein the trans-membrane flow is approximately 2000 mL/min/cm2/bar.

19. The IV set of claim 14, wherein the membrane housing is positioned downstream and separate from the drip chamber or between the drip chamber and remote spike.