Claims

1. A system for small scale production and packaging of medical fluid comprising:

a source water input;

a medical water production device configured to generate water meeting a predefined quality specification using water from the source water input;

an enclosure including a packaging compartment;

a reservoir dispenser;

a plurality of bag reservoirs disposed in the reservoir dispenser, the plurality of bag reservoirs each being pre-filled with a volume of concentrate;

at least one robotic grasper, at least one of the at least one robotic grasper configured to remove a foremost reservoir of the plurality of bag reservoirs from the dispenser the plurality of bag reservoirs advancing through the dispenser with removal of the foremost bag reservoir;

a individual reservoir filling station coupled to an output line of the medical water production device, at least one of the at least one robotic grasper configure to hold an individual bag reservoir of the plurality of bag reservoirs at the reservoir filling station;

a reservoir labeling component for applying information to the bag reservoirs; and

an output from the enclosure.

2. The system of claim 1, wherein the medical water production device includes at least one component selected from a list consisting of the following: a filtration device, a charcoal filter, an ultrafilter, an endotoxin removal filter, a reverse osmosis unit, a microfilter, a depth filter, a distillation device, a deaeration device, a UV light source, a chemical treatment device, an exchange resin, and an electrodeionization unit.

3. The system of claim 1, wherein the concentrate is a liquid concentrate.

4. The system of claim 1, wherein the concentrate is a solid concentrate.

5. The system of claim 1, wherein the concentrate is a crystalline concentrate.

6. The system of claim 1, wherein the concentrate is selected from a list consisting of saline concentrate, Ringer's solution concentrate, Hartmann's solution concentrate, sugar solution concentrate, sugar saline solution concentrate, and dialysate concentrate.

7. The system of claim 1, wherein the concentrate is contained in an interior compartment of the bag reservoir separated from the remainder of the bag reservoir by a machine interruptible seal.

8. The system of claim 1, wherein the plurality of bag reservoirs includes at least 50 bag reservoirs.

9. The system of claim 1, wherein the plurality of bag reservoirs includes at least on 100 reservoirs.

10. A system for production and packaging of medical fluid in a care giving institution comprising:

a source water input;

a medical water production device configured to generate output water conforming to a predefined standard using water from the source water input;

a water quality sensor suite including a plurality of output water quality sensors;

an enclosure including a packaging compartment;

an IV bag dispenser containing a plurality of IV bags, each of the plurality of IV bags enclosing a volume of concentrate;

at least one robotic grasper, at least one of the at least one robotic grasper configured to collect a foremost IV bag of the plurality of IV bags from the dispenser, the plurality of IV bags advancing through the dispenser with removal of the foremost IV bag;

an individual IV bag filling station coupled to an output line of the medical water production device, at least one of the at least one robotic grasper configure to hold an individual IV bag of the plurality of IV bags at the IV bag filling station;

an IV bag labeling component for applying information to the IV bags; and

an output from the enclosure.

11. The system of claim 10, wherein the medical water production device includes at least one component selected from a list consisting of the following: a filtration device, a charcoal filter, an ultrafilter, an endotoxin removal filter, a reverse osmosis unit, a microfilter, a depth filter, a distillation device, a deaeration device, a UV light source, a chemical treatment device, an exchange resin, and an electrodeionization unit.

12. The system of claim 10, wherein the concentrate is a liquid concentrate.

13. The system of claim 10, wherein the concentrate is a solid concentrate.

14. The system of claim 10, wherein the concentrate is a crystalline concentrate.

15. The system of claim 10, wherein the concentrate is selected from a list consisting of saline concentrate, Ringer's solution concentrate, Hartmann's solution concentrate, sugar solution concentrate, sugar saline solution concentrate, and dialysate concentrate.

16. The system of claim 1, wherein the concentrate is contained in an interior compartment of the IV bag separated from the remainder of the IV bag by a machine interruptible seal.

17. The system of claim 1, wherein the plurality of reservoirs includes at least 50 reservoirs.

18. The system of claim 1, wherein the plurality of reservoirs includes at least on 100 reservoirs.

19. A system for supplying medical fluid within a care giving institution comprising:

a source water input;

a medical water production device configured to generate water for injection quality water from the source water input;

a water quality sensor suite including a plurality of output water quality sensors;

an enclosure;

an IV bag magazine filled with a plurality of IV bags, each of the plurality of IV bags enclosing a volume of concentrate;

at least one robotic grasper, at least one of the at least one robotic grasper configured to collect a foremost IV bag of the plurality of IV bags from the magazine, the plurality of IV bags advancing through the magazine with removal of the foremost IV bag;

an individual IV bag filling station coupled to an output line of the medical water production device, at least one of the at least one robotic grasper configured to hold an individual IV bag of the plurality of IV bags at the IV bag filling station;

a drain coupled to a conduit, the drain displaceable from a stowed location to a receiving position, fluid from the IV bag filling station being dispensed into the drain when the drain is in the receiving position;

an IV bag labeling component for applying information to the IV bags; and

an output from the enclosure.

20. The system of claim 19, wherein the concentrate is selected from a list consisting of solid concentrate, liquid concentrate, saturated solution, lyophilized concentrate, crystalline concentrate, a concentrate ampoule, saline concentrate, Ringer's solution concentrate, Hartmann's solution concentrate, sugar solution concentrate, sugar saline solution concentrate, and dialysate concentrate.