What is claimed is:

1. A system for producing and packaging medical fluid proximate a point of use comprising:

a source input;

at least one treatment apparatus for producing water conforming to a predefined standard from fluid received from the source input;

a mixing circuit in communication with an output of the at least one ~~water~~ treatment apparatus and including a source of concentrate, the mixing circuit having at least one flow controller configured to adjust flow of fluid through the mixing circuit so as to generate a fluid of a predefined composition;

~~an enclosure having a packaging compartment;~~

a reservoir feeder ~~in the enclosure and~~ having a supply of reservoirs to be filled, the reservoir feeder configured to feed reservoirs of the supply of reservoirs through the reservoir feeder to an output of the reservoir feeder;

a fluid dispensing station ~~in the enclosure, the fluid dispensing station~~ coupled to the mixing circuit and including a reservoir ~~capacity~~dimension sensing assembly configured to output a data signal indicative of a fill capacity of a reservoir to be filled which is in place at the fluid dispensing station;

a ~~reservoir~~ closure station ~~in the enclosure~~; and

a reservoir labeler assembly ~~in the enclosure; and~~

~~a repository having a plurality of reservoir holders configured to retain filled reservoirs in the enclosure~~.

2. The system of claim 1, wherein the at least one ~~purification~~treatment apparatus comprises a water distillation device and at least one of a reverse osmosis unit, a plurality of charcoal filters, and an ultrafilter.

3. The system of claim 1, wherein the ~~concentrate~~ source of concentrate is a reservoir of solid concentrate having an inlet in fluid communication with the output of the at least one ~~water~~ treatment apparatus and a fluid concentrate outlet.

4. The system of claim 1, wherein the system further comprises an enclosure which includes a chamber with ~~a set of~~at least one glove~~d~~ interface ~~ports~~ and the reservoir feeder extends from the chamber to ~~the~~ a packaging compartment of the enclosure.

5. The system of claim 1, wherein the source input is configured to couple to a drinking water supply.

6. The system of claim 1, wherein the predefined standard is a pharmacopeia standard.

7. The system of claim 1, wherein the closure station comprises a ram and a stopper dispenser, the closure station further comprising a stopper guide and a portion configured to receive ~~a port of~~ a reservoir port.

8. The system of claim 1, wherein the system further comprises a pyrogen tester.

9. The system of claim 1, wherein the system further comprises a robotic assembly including a gripper.

10. The system of claim 9, wherein the system further comprises a control system configured to displace at least a portion of the robotic assembly and actuate the gripper to collect a reservoir from the supply of reservoirs ~~in the reservoir feeder~~, displace the reservoir to the fluid dispensing station, determine ~~a~~ the fill capacity of the reservoir via the data from the reservoir ~~capacity~~dimension sensing assembly, command filling of the reservoir with a volume of fluid no greater than the fill capacity of the reservoir, displace the reservoir to the closure station, and command closure of the reservoir.

11. The system of claim 1, wherein the reservoir ~~volume~~dimension sensing assembly comprises a set of reservoir characteristic sensors and the system further comprises a control system configured to analyze the data received from the reservoir dimension sensing assembly

characteristic sensors and is configured to determine a the fill capacity of a reservoir in place at the fluid dispensing station.

12. The system of claim 11, wherein the control system is configured to govern operation of the at least one flow controller to deliver a volume of a concentrated fluid containing concentrate from the source of concentrate to the reservoir in place at the fluid dispensing station and a subsequent volume of water conforming to the predefined standard to the reservoir in place at the fluid dispensing station to achieve a fill volume within the reservoir selected based on the fill capacity of the reservoir.

13. The system of claim 1, wherein the system further comprises a sensor suite including a total organic carbon sensor, a bioburden sensor, a particulate monitor, a plurality of ultrapure water conductivity sensors, and a concentrate conductivity sensor.

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

a source water input;

a water treatment assembly including a water distillation device, the water treatment assembly configured to generate water meeting a predefined quality specification using water received via the source water input;

a mixing circuit in fluid communication with coupled to an output of the water treatment assembly and including a source of concentrate, the mixing circuit having at least one flow controller configured to adjust the flow of fluid through the mixing circuit so as to generate a fluid of a predefined composition;

an enclosure including a packaging compartment;

a reservoir dispenser at least partially in the packaging compartment and configured to accept a plurality of reservoirs;

a filling station in the packaging compartment including an outlet in fluid communication with the mixing circuit and having an unfilled reservoir physical characteristic sensor assembly configured to output data indicative of a type of reservoir in place at the filling station; and

a filled reservoir repository in the enclosure having a plurality of reservoir holders; and

a reservoir labeler ~~in the packaging compartment~~.

15. The system of claim 14, wherein the water treatment assembly further comprises at least one of a reverse osmosis unit, a ~~plurality~~set of charcoal filters ~~filtration units~~, an electrodeionization unit, and an ultrafilter.

16. The system of claim 14, wherein the water treatment assembly further comprises a sensor suite including a total organic carbon sensor, a bioburden sensor, a particulate monitor, and a plurality of ultrapure water conductivity sensors.

17. The system of claim 14, wherein the ~~concentrate~~ source of concentrate is a reservoir of crystalline concentrate having an inlet and a fluid concentrate outlet.

18. The system of claim 14, wherein the source water input is connected to a municipal water supply.

19. The system of claim 14, wherein the system further comprises an enclosure with an antechamber ~~further comprises an antechamber, the antechamber~~ and a packaging compartment ~~are~~ separated by a partition including at least one door from the antechamber to the packaging compartment.

20. The system of claim 14, wherein the system further comprises a robotic arm including a gripper.

21. The system of claim 20, wherein the system further comprises a control system configured to actuate the robotic arm and actuate the gripper to collect a reservoir of the plurality of reservoirs ~~from the reservoir dispenser~~, displace the reservoir to the filling station, command filling of the reservoir, displace the reservoir to the reservoir labeler, and the control system is configured to orchestrate application of a label to the reservoir via commands to the labeler and robotic arm.

22. The system of claim 14, wherein the unfilled reservoir physical characteristic sensor assembly~~filling station further~~ comprises a set of reservoir characteristic sensors and the system further comprises a control system configured to analyze the data received from the unfilled reservoir physical characteristic sensor assembly and~~sensors, the control system further~~ configured to determine a capacity of a reservoir in place at the filling station based ~~at least in part~~ on the data ~~from the reservoir characteristic sensors~~.

23. The system of claim 22, wherein the control system is configured to govern operation the at least one flow controller~~of flow controllers of the mixing circuit~~ based on the capacity ~~of the reservoir~~.

24. A system for producing and packaging fluid ~~for local consumption~~ comprising:

a source water input;

a water treatment assembly including a plurality of water production devices;

a mixing circuit coupled to a product output of the water treatment assembly and ~~including~~ a source of concentrate, the mixing circuit having at least one flow controller configured to generate a fluid of a predefined composition;

~~an enclosure including at least a first portion and a packaging compartment;~~

a reservoir feed assembly ~~extending from the first portion to the packaging compartment, the reservoir feed assembly~~ configured to accept a reservoir magazine;

a fluid dispensing station ~~in the packaging compartment, the fluid dispensing station~~ receiving the fluid of the predefined composition from the mixing circuit;

a set of reservoir physical parameter sensors configured to output data indicative of a potential fill capacity of a reservoir; and

a reservoir labeler in the packaging compartment.~~; and~~

~~a plurality of filled reservoir holders configured to retain filled reservoirs.~~

25. The system of claim 24, wherein the water production devices include at least ~~an~~ one endotoxin removal filter, a water distillation device, and a set of redundant charcoal filters.

26. The system of claim 24, wherein the source of concentrate is a reservoir of a crystalline salt concentrate.

27. The system of claim 24, wherein the system further comprises a sensor suite including a total organic carbon sensor, a bioburden sensor, a particulate monitor, a plurality of ultrapure water conductivity sensors, and a concentrate conductivity sensor.

28. The system of claim 24, wherein the system further comprises an enclosure having a first portion ~~of the enclosure~~ and packaging compartment which are demarcated by a partition including at least one door between the first portion and the packaging compartment.

29. The system of claim 24, wherein the system further comprises a robotic arm including a gripper.

30. The system of claim 24, wherein the system further comprises a robotic manipulator and a control system configured to govern actuation of the robotic manipulator to collect a reservoir from the reservoir feed assembly, displace the reservoir to the fluid dispensing station, determine ~~a~~ the potential fill capacity of the reservoir via the data from ~~a~~ the set of reservoir physical parameter sensors~~capacity sensing assembly~~, command filling of the reservoir with a volume of fluid no greater than the potential fill capacity~~ of the reservoir~~, displace the reservoir to a stoppering station, and orchestrate stoppering of the reservoir.

31. The system of claim 30, wherein the ~~reservoir volume sensing assembly comprises a~~ set of reservoir~~ characteristic~~ physical parameter sensors comprises ~~and the control system is configured to govern operation of~~ at least one reservoir width sensor and at least one reservoir length sensor~~flow controller based on a capacity of the reservoir determined based on the data from the reservoir characteristic sensors~~.

32. The system of claim 31, wherein the control system is configured to govern operation of the at least one flow controller to, via the ~~filling~~ fluid dispensing station, deliver a volume of a concentrated fluid to the reservoir and a subsequent volume of product ~~purified~~ water ~~to~~ from

the water treatment assembly~~reservoir~~ to achieve a fill volume selected based at least in part on the potential fill ~~a~~ capacity ~~of the reservoir determined based on the data from the reservoir characteristic sensors~~.

33. The system of claim 24, wherein at least one of the water production devices includes a distillation device configured to generate product water in a disinfection temperature range and a reservoir filling temperature range.