

CLAIMS

1. A system for beverage preservation and dispensation comprising
a seal for attachment to a beverage container, the seal having a first channel
5 and a second channel to receive a first conduit and a second conduit respectively;
a first pump configured to direct air through the first conduit;
a first filter module arranged in fluid contact or communication with the air to
be passed through the first conduit into the beverage container; the first filter module
disposed between the first pump and the seal such that the air passing through the
10 first conduit into the beverage container is filtered;
and the second conduit arranged to urge beverage toward a dispensing
mechanism for dispensation when the beverage in the beverage container is subject
to a super-atmospheric pressure.
- 15 2. The system of claim 1, wherein the system further comprises a second pump
and a third conduit, the seal comprises a third channel for receiving the third conduit,
wherein the third conduit is arranged in fluid communication with the first filter
module, and the second pump is configured to extract air from the beverage
container and redirect the extracted air to the first conduit via the first filter module.
- 20 3. The system of claim 1 or 2, further comprises a second filter module arranged in
series with the first filter module.
4. The system of claim 3, wherein the first filter module comprises an oxygen
25 absorption filter, and the second filter module comprises an active carbon filter.
5. The system of any one of the preceding claims, further comprises a ultra-violet
sterilization module arranged to direct ultra-violet radiation to the first filter module,
the second filter module, and the first conduit.
- 30 6. The system of any one of the preceding claims, further comprises at least one
one-way valve to prevent backflow of air back to the first pump or the second pump.

7. The system of claim 1, wherein the first pump is the only pump in the system, and the system comprises a third conduit, the seal comprises a third channel for receiving the third conduit, wherein the third conduit is connected to a one-way valve for extraction of air from the beverage container via the first pump and the first pump
5 is configured to redirect the extracted air to the first conduit.

8. The system of 4, wherein at least one of the first filter module and the second filter module is integrated with the seal.

10 9. An apparatus for beverage preservation and dispensation comprising a housing unit for housing a first pump, a first filter module and a dispensing mechanism,

wherein the first pump is configured to pass air through a first conduit, the first filter module is arranged in fluid contact with air to be passed through a
15 beverage container; the filter module disposed between the first pump and a seal such that the air passing through the first conduit into the beverage container is filtered; and a second conduit is arranged to urge beverage towards the dispensing mechanism when the beverage container is in a super-atmospheric pressure; and

20 a seal for attachment to a beverage container, the seal having a first channel and a second channel to receive the first conduit and the second conduit respectively.

10. The apparatus of claim 9, wherein the housing unit further houses a second filter module, the second filter module arranged in series with the first filter module.

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11. The apparatus of claim 9 or 10, wherein the housing unit further houses a second pump and a third conduit, the seal comprises a third channel for receiving the third conduit, wherein the third conduit is arranged in fluid communication with the first filter module, and the second air pump is configured to extract air from the
30 beverage container and redirect the extracted air to the first conduit via the first filter module.

12. The apparatus of any one of claims 9 to 11, wherein the housing unit further houses an ultra-violet sterilization module arranged to direct ultra-violet radiation to the first filter module, the second filter module, and the first conduit.
- 5 13. A system for beverage preservation and dispensation comprising
a seal for attachment to a beverage container;
a first conduit arranged to remove air from the beverage container
corresponding to a preservation state;
a second conduit arranged to extract beverage from the beverage container
10 corresponding to a dispensation state;
a pump assembly connected to the first conduit and the second conduit;
wherein the pump assembly is configured to produce a sub-atmospheric pressure
within the beverage container at the preservation state and the dispensation state.
- 15 14. The system of claim 13, wherein the beverage container is a bottle and the seal
forms at least part of a bottle cap.
15. The system of claim 14, wherein the bottle cap includes a first channel shaped
and dimensioned to receive the first conduit, and a second channel shaped and
20 dimensioned to receive the second conduit.
16. The system of claim 15, wherein the bottle cap comprises at least one non-return
valve positioned around at least one of the first channel and second channel to
prevent passage of air into the bottle.
- 25 17. The system of any one of claims 14 to 16, wherein the bottle cap includes a
compartment shaped and dimensioned to receive an oxygen absorbent.
18. The system of any one of claims 14 to 17, wherein the bottle cap is formed from
30 silicone.
19. The system of any one of claims 13 to 18, further comprises a temperature
regulated chamber for receiving the beverage container.

20. The system of claim 19, wherein the temperature regulated chamber comprises a double-vacuum wall with at least one sliding door.
21. The system of claims 19 or 20, wherein the temperature regulated chamber
5 includes a thermoelectric cooler assembly.
22. The system of claim 21, wherein the thermoelectric cooler assembly includes a plurality of Peltier cooling plates.
- 10 23. The system of any one of claims 13 to 22, further comprises a ultraviolet generator arranged to produce an ultraviolet radiation for removing microbes from at least one of the following: the first conduit, the second conduit, the pump assembly.
- 15 24. The system of any one of claims 13 to 23, wherein the pump assembly comprises a motor operatively connected to a syringe.
25. The system of claim 24, wherein the syringe forms part of a dispensing mechanism as temporary storage of beverage before dispensation.
- 20 26. An apparatus for preservation and dispensation of beverage comprising
a first portion housing a preservation and dispensation assembly therein;
a chamber shaped and dimensioned to receive at least one beverage container;
25 a second portion housing a temperature regulation assembly;
wherein the preservation and dispensation assembly comprises a seal shaped and dimensioned to be attached to the at least one beverage container, the preservation and dispensation assembly configured to produce a sub-atmospheric pressure within the beverage container corresponding to a preservation state and a dispensation
30 state.
27. The apparatus of claim 26, wherein the first portion, chamber, and second portion are shaped and dimensioned to form a compact apparatus.

28. The apparatus of claim 26 or 27, further comprises at least one temperature sensor and at least one pressure sensor.
29. The apparatus of any one of claims 26 to 28, wherein the temperature regulation
5 assembly comprises a thermoelectric cooler assembly.
30. The apparatus of claim 29, wherein the thermoelectric cooler assembly comprises a two layered Peltier cooler.
- 10 31. The apparatus of any one of claims 26 to 30, wherein the seal forms at least part of a bottle cap.
32. The apparatus of claim 31, wherein the bottle cap includes a first channel shaped and dimensioned to receive the first conduit, and a second channel
15 shaped and dimensioned to receive the second conduit.
33. The apparatus of claim 32, wherein the bottle cap comprises at least one non-return valve positioned around at least one of the first channel and second channel to prevent passage of air into the bottle.
- 20 34. The apparatus of any one of claims 31 to 33, wherein the bottle cap includes a compartment shaped and dimensioned to receive an oxygen absorbent.
35. The apparatus of any one of claims 26 to 29, the chamber comprises a sliding
25 door mechanism, wherein the sliding door mechanism comprises a double wall.
36. A method for dispensing and preserving beverage comprising the steps of: -
a. providing a first conduit arranged to introduce filtered air into a beverage container corresponding to a preservation state;
30 b. providing a second conduit arranged to urge beverage from the beverage container to a dispensing mechanism corresponding to a dispensation state;
c. providing a pump assembly connected to the first conduit and the second conduit;

wherein the pump assembly is configured to produce an super-atmospheric pressure within the beverage container at the preservation state and the dispensation state.

37. A method for dispensing and preserving beverage comprising the steps of: -

- 5 a. providing a first conduit arranged to remove air from a beverage container corresponding to a preservation state;
- b. providing a second conduit arranged to extract beverage from the beverage container corresponding to a dispensation state;
- c. providing a pump assembly connected to the first conduit and the second
- 10 conduit;

wherein the pump assembly is configured to produce an sub-atmospheric pressure within the beverage container at the preservation state and the dispensation state.