

What is claimed is:

1. A pump/mixer device comprising:
 - a main inlet located at the top or upper region of the pump/mixer, the main inlet configured to be secured to or integrated into a bottom of a vessel or container;
 - an outer chamber disposed in the pump/mixer and fluidically connected to the main inlet;
 - a plurality of lower chambers disposed in the pump/mixer beneath the outer chamber and fluidically connected to the outer chamber by respective check valves interposed between the outer chamber and the plurality of lower chambers;
 - a central chamber disposed in the pump/mixer, the central chamber fluidically connected to the plurality of lower chambers with respective check valves interposed between the central chamber and the plurality of lower chambers;
 - at least one outlet fluidically connected to the central chamber via respective outlet check valve(s);
 - one or more additional inlets fluidically coupled to the central chamber via respective inlet check valve(s); and
 - a moveable diaphragm disposed in each of the plurality of lower chambers, the moveable diaphragms interfacing with a respective actuating element driven by a wobble or nutating plate operatively coupled to a motor or drive unit, wherein actuation causes each of the moveable diaphragms to move in opposing direction.
2. The pump/mixer device of claim 1, wherein the pump/mixer comprises a plurality of outlets.
3. The pump/mixer device of claim 1, wherein the pump/mixer comprises a plurality of inlets.
4. The pump/mixer device of any of claims 1-3, wherein the wobble or nutating plate is coupled to the motor or drive unit by an eccentric drive shaft.
5. The pump/mixer device of claim 1, wherein the number of moveable diaphragms comprises an odd number of diaphragms.

6. The pump/mixer device of claim 1, wherein the number of moveable diaphragms comprises an even number of diaphragms.
7. The pump/mixer device of claim 1, wherein the one or more additional inlets are removable from the pump/mixer device.
8. The pump/mixer device of claim 1, wherein the one or more outlets are removable from the pump/mixer device.
9. The pump/mixer device of claim 1, wherein the one or more additional inlets are fluidically connected to a flow passage comprising a jet structure formed therein adjacent to respective inlet check valves.
10. The pump/mixer device of claim 1, further comprising a vortex breaker that extends or projects from the inlet and includes a plurality of fins formed about the periphery thereof.
11. The pump/mixer device of claim 1, wherein the pump/mixer device is removable from the vessel or container.
12. The pump/mixer device of claim 1, comprising an upper housing containing the main inlet, a central housing containing the plurality of lower chambers and the central chamber, and a bottom housing or plate containing the moveable diaphragms and secured to the central housing.
13. A method of operating the pump/mixer device any of claims 1-12 comprising:
 - driving the motor or drive unit to actuate the wobble or nutating plate;
 - inputting a first fluid from the vessel or container into the main inlet pump/mixer;
 - inputting second or additional fluid(s) into the pump/mixer via the one or more additional inlets;
 - mixing the first fluid and the second or additional fluid(s) in the central chamber of the pump/mixer; and
 - outputting the mixed fluid via the at least one outlet.

14. The method of claim 13, wherein the second or additional fluid(s) are inputted into the pump/mixer by one or more additional pumps.

15. The method of claim 13, wherein the one or more additional inlets contain or are coupled to respective valves, and one or more of the respective valves are actuated to initiate and/or stop flow of the second or additional fluid(s) into the pump/mixer.

16. The method of claim 13, wherein the second or additional fluid(s) comprises a buffer fluid or concentrated fluid.

17. A pump device comprising:
an inlet located at the top or upper region of the pump, the inlet configured to be secured to or integrated into a bottom of a vessel or container;
an outer chamber disposed in the pump and fluidically connected to the inlet;
a plurality of lower chambers disposed in the pump beneath the outer chamber and fluidically connected to the outer chamber by respective check valves interposed between the outer chamber and the plurality of lower chambers;
a central chamber disposed in the pump, the central chamber fluidically connected to the plurality of lower chambers with respective check valves interposed between the central chamber and the plurality of lower chambers;
a plurality of outlets fluidically connected to the central chamber via respective outlet check valve(s); and
a moveable diaphragm disposed in each of the plurality of lower chambers, the moveable diaphragms interfacing with a respective actuating element driven by a wobble or nutating plate operatively coupled to a motor or drive unit, wherein actuation causes each of the moveable diaphragms to move in opposing direction.

18. The pump device of claim 17, wherein the wobble or nutating plate is coupled to the motor or drive unit by an eccentric drive shaft.

19. The pump device of claim 17, wherein the number of moveable diaphragms comprises an odd number of diaphragms.

20. The pump device of claim 17, wherein the number of moveable diaphragms comprises an even number of diaphragms.
21. The pump device of claim 17, wherein the plurality of outlets are removable from the pump device.
22. The pump device of claim 17, further comprising a vortex breaker that extends or projects from the inlet and includes a plurality of fins formed about the periphery thereof.
23. The pump device of claim 17, wherein the pump device is removable from the vessel or container.
24. The pump device of claim 17, comprising an upper housing containing the inlet, a central housing containing the plurality of lower chambers and the central chamber, and a bottom housing or plate containing the moveable diaphragms and secured to the central housing.
25. A method of operating the device any of claims 17-24 comprising:
driving the motor or drive unit to actuate the wobble or nutating plate;
inputting a fluid from the vessel or container into the pump; and
outputting the fluid from the pump via the plurality of outlets.