Claims

1. A multiphase flow mixing and conveying device, characterized in that it comprises a first tank body, a second tank body, and a reversing mechanism;
the reversing mechanism drives the liquid in the first tank body and the second tank body to reciprocate, so that the first tank body and the second tank body alternately form a vacuum suction cavity and/or a compression discharge cavity , in order to realize the continuous mixed transportation of liquid, gas or gas-liquid mixture;
the reversing mechanism includes a first power mechanism and a second power mechanism, and the first power mechanism and the second power mechanism reverse the flow of liquid between the first tank body and the second tank body alternately switch operation.

2. The multiphase flow mixing and conveying device according to claim 1, wherein the first power mechanism and the second power mechanism are respectively independently connected in parallel between the first tank body and the second tank body.

3.The multiphase flow mixing and conveying device according to claim 1, characterized in that, when the first power mechanism is running, the liquid in the first tank is pumped into the second tank, and the second tank is operated, when the power mechanism operates, the liquid in the second tank is pumped into the first tank.

4.The multiphase flow mixing and transporting device according to claim 3, wherein the first power mechanism comprises a first power pump, a first pipeline, and a first control valve, and the first pipeline communicates with the first The tank body, the second tank body and the first power pump, and the first control valve is arranged on the first pipeline for conducting or closing the first pipeline.

5.The multiphase flow mixing device according to claim 4, wherein the second power mechanism comprises a second power pump, a second pipeline, and a second control valve, and the second pipeline communicates with the first The tank body, the second tank body and the second power pump, and the second control valve is arranged on the corresponding second pipeline, and is used to conduct or close the second pipeline.

6.The multiphase flow mixing device according to claim 5, wherein the first pipeline is connected, the second pipeline is closed, and the first power pump pumps the liquid located in the first tank. into said second tank; or

the first pipeline is closed, the second pipeline is connected, and the second power pump pumps the liquid in the second tank into the first tank.

7. The multiphase flow mixing and transporting device according to claim 5, wherein the first tank body is provided with a first circulating liquid inlet and a first circulating liquid outlet, and the first circulating liquid inlet is connected to the first circulating liquid inlet the height difference of the first circulating liquid outlet is greater than zero;

the second tank body is provided with a second circulating liquid inlet and a second circulating liquid outlet, and the height difference between the second circulating liquid inlet and the second circulating liquid outlet is greater than zero;

the inlet of the first pipeline is communicated with the outlet of the first circulating fluid, the outlet of the first pipeline is communicated with the inlet of the second circulating fluid;

the inlet of the second pipeline is communicated with the outlet of the second circulating fluid , the outlet of the second pipeline is communicated with the inlet of the first circulating liquid.

8. The multiphase flow mixing device according to claim 7, wherein the number of the first control valve is one, and is arranged between the first power pump and the second circulating liquid inlet;

the number of the second control valve is one, and is arranged between the second power pump and the first circulating liquid inlet.

9. The multiphase flow mixing and transporting device according to claim 5, wherein the first power pump and/or the second power pump are variable frequency pumps.

10. The multiphase flow mixing and transporting device according to claim 5, wherein the first control valve and the second control valve are pneumatic valves or electric valves.

11. The multiphase flow mixing and transporting device according to claim 1, wherein the multiphase flow mixing and transporting device further comprises a control system and a liquid level sensor; the liquid level sensor is used to collect the liquid level height in the first tank and the second tank; the control system is respectively connected in communication with the liquid level sensor and the reversing mechanism, and controls the reversing mechanism to change direction.

12. The device for mixing and transporting multiphase fluids according to any one of claims 1 to 11, wherein the first tank body and the second tank body are both provided with fluid inlets, and the multiphase fluids are mixed and transported, the device also includes an input structure including an inlet manifold to which the fluid inlets on the first tank and the second tank are connected to the inlet manifolds through inlet check valves, respectively.

13. The device for mixing and transporting multiphase fluids according to any one of claims 1 to 11, wherein the first tank body and the second tank body are both provided with fluid outlets, and the multiphase fluids are mixed and transported, the device further includes an output structure; the output structure includes an outlet manifold, and the fluid outlets on the first tank body and the second tank body are respectively connected to the outlet manifold through an outlet check valve.