

System And Method For Separating Air From Air-liquid Mixture

Application Number: 202111009994

Inventors: Dr.Parmod Kumar, Rahul Kumar Mondal

ABSTRACT

A system (100) and method (200) for separating air from air-liquid mixture are provided. The present system (100) for separating air from the air-liquid mixture may include at least one reservoir (110), at least one vacuum pump (130), a first valve (150), a second valve (170), a sensor (120). Further, the first valve (150) and the second valve (170) may be capable of automatically switch to open and close position with respect to the liquid level detected by the sensor (120) at least one reservoir (110). The close and open position of the first valve (150) and the second valve (170) may determine the extraction of air from the air-liquid mixture and the atmosphere. FIG. 1

KEY APPLICATION AREAS

- 1.Industrial liquid handling and pumping systems.
- 2.Power plants and process industries.
- 3.Water supply and fluid distribution systems.
- 4.HVAC and chilled water circulation.
- 5.Smart fluid management and automation.
- 6.Cavitation prevention in liquid transport systems.

POTENTIAL USE

- 1.Automatic removal of entrained air from air-liquid mixtures to improve liquid flow rate.
- 2.Cavitation prevention in pumps and liquid-supplying equipment, improving operational reliability and lifespan.
- 3.Degassing of water and industrial process fluids using a reservoir, wire-mesh separator, vacuum pump, and sensor-controlled valves.
- 4.Smart automated air separation systems with microcontroller-based monitoring and valve control for continuous operation.

5.Integration into industrial fluid circulation systems such as cooling loops, boiler feed systems, and process pipelines to maintain efficient fluid transport.