Tohoku Univ. Technology

Liquid Lifting & Power Generation System

A New Energy Circulation Model that Enhances the Value of Hydropower

Interested in new power generation and water circulation? Explore and test with us.

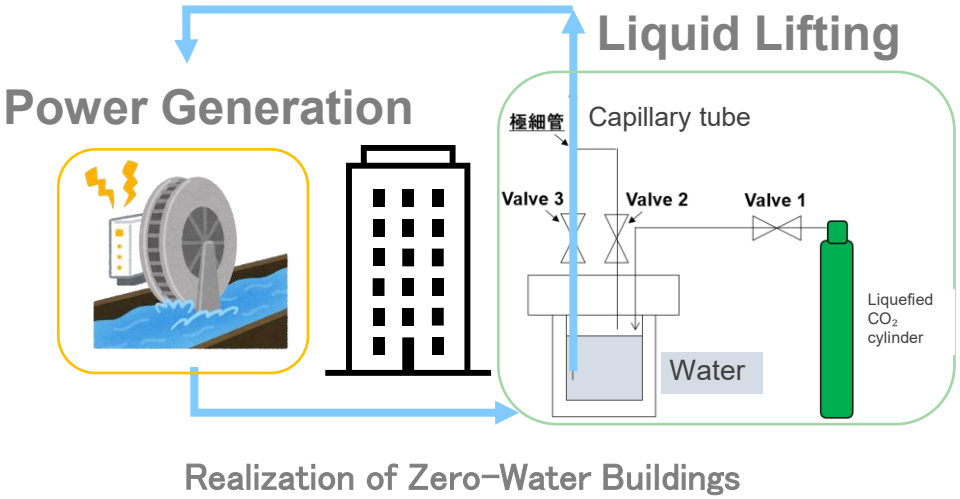
Overview

In factories, buildings, hospitals, commercial facilities, and water treatment plants, water is typically pumped to elevated storage tanks, which results in high electricity consumption. To address this issue, the proposed invention introduces a liquid lifting and power generation system that uses high-pressure fluid to increase the internal pressure of a storage chamber, enabling liquid to be transported to higher elevations without conventional pumps.

💡 Key Features of the Invention

- Significant reduction in power consumption compared to conventional pumping systems
- Superior safety and ease of handling compared to methods that use flammable gases

Concept Illustration



Realization of Zero-Water Buildings

In combination with hydropower, the system enables energy recovery and circular water use, creating a new energy cycle.

Product Application

- ☐ Pump-less water circulation and micro-hydropower systems
- ☐ Liquid lifting and power generation processes using waste CO_2
- ☐ Zero-Water / Zero-Energy Buildings (ZWB / ZEB)
- ☐ Integrated disaster-prevention and power generation systems for rivers and reservoirs

IP Data

IP No. : JP2025-155895
Inventor : Masaki Ota
Admin No. : T25-055

Contact

Tohoku Techno Arch Co., Ltd.
Please visit CONTACT here