

Short descriptive title for the video:

Video 1: The actuation process

Video 2: The working process of the liquid circulation system.

Video captions:

Video 1: Large actuation happens while the closed water is boiled to steam under an induced heating power (50 V). Three cycles are recorded, including the initial one.

Video 2: The working mechanism of the two phase transition electrothermal actuators based liquid circulation system. Water can be transferred from one chamber to the other while one actuator is getting smaller (voltage is cut off) and the other is getting larger (voltage is on). The water flow is one-way due to the four non-return valves. Three cycles are recorded.