Abstract

Cleaning Apparatus, Equipment, and Method

Subject: There is provided a cleaning apparatus, equipment and method allowing an object to be cleaned without an area which is not directly exposed to an ultrasonic wave.

Solving Means: A cleaning apparatus 1 includes a cleaning tank 2, a coupling tank 3, an ultrasonic wave generation unit 6, and a modification unit 7. The cleaning tank 2 holds a cleaning liquid 4 for cleaning a substrate 10 serving as an object to be cleaned. The coupling tank 3 holds an intermediate medium 5, and the cleaning tank 2 has a portion in contact with the intermediate medium 5. The ultrasonic wave generation unit 6 is provided at the coupling tank 3, and ultrasonically vibrates the cleaning liquid 4 via the intermediate medium 5. The modification unit 7 modifies a difference in sonic velocity between the cleaning liquid 4 and the intermediate medium 5.

Fig. 1