

**[PS-06]**

## Direct Dissolving Method to Generate Water Containing Ionized Particles by Means of Dielectric Barrier Discharge

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New features of the generator for discharged water, which is exposed by the ionized particles have been studied. Conventional methods make use of a plasma discharger to generate ionized particles and a diffuser to dissolve them into water. However, the diffuser is no more necessary in the direct dissolving system. The direct dissolving system is featured by dielectric barrier discharge in two layer flows, water and gas. In this system, ionized particles are generated by the micro-discharge in the gas layer and dissolved into water layer, simultaneously.

The oxidation (or sterilizing) power of water discharged with the gas layer is quantitatively measured by use of the Idometric method. When 1.2 L water is pretreated by 24 g of potassium iodide (KI), the measured concentration is about 100 ppm for 15 min discharging time. Many possible applications of discharged water will be introduced.