

A new filtration device to solve various water issues with a high cleaning capacity at low cost

## CLEARINO



Naniwakousakusho Co., Ltd. (NWK) has developed a new filtration device, Clearino. Clearino has been developed to solve drinking water problems in developing countries. It can be also used for many purposes such as industrial wastewater treatment, ballast water treatment, water treatment in food factories. This compact device has three functions, cyclone separation, 1-micron filter, and flocculant. They can be customized for various water issues, and that is why Clearino can filter numerous types of sewage, which has been impossible with a single device, at inexpensive cost.

### 3 Key Points of Clearino

#### 1) Outstanding cyclone separation removing 99.9% of sludge



cyclone separation, improved with our original technology, removes 99.9% of sludge just by spiraling flow<sup>1</sup>. This remarkably reduces clogging of the filter. Moreover, it is possible to use only the main unit, cyclone separator that removes sludge from industrial wastewater without a filter. Therefore, Three Zeroes is possible: zero running cost, zero industrial waste, and zero maintenance.

※<sup>1</sup> The numerical value varies depend on the sludge size and usage conditions.

#### 2) Non-woven filter (Filtering precision: higher than 1-micron)



The new non-woven filter advanced for drinking water demonstrates overwhelming filtration performance of 99% capture efficiency from the initial use. It has excellent durability from organic solvents to inorganic chemicals, and it can be worked for food applications as well as chemical industries such as solvent-based paints and inks.

#### 3) Flocculant independently developed to clean contaminated water



The new flocculant developed independently is made from food additives, which is harmless to the human body, and precipitates metals, organics, etc. at high speed. It can be applied to waste fluid such as bentonite slurry in construction, drainage and drinking water<sup>2</sup>. After flocculation, sewage is filtered by “Clearino” for drinking water.

\* <sup>2</sup> <Experimental data of metal / organic removal rates>

- Arsenic (96.5%)    ○ Fluorine (98.3%)    ○ Iron (99.9%)    ○ Manganese (94.4%)
- Calcium (85.6%)    ○ Phosphorus (100%)    ○ Copper 98.9%    ○ n-Hexane (98.3%)

#### « Company Profile & Inquiry Information »

【Establish】 December, 1924

【Services】 Designing and manufacturing devices and machinery

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