

- Outline
- The disc screen is a screening device consisting of circular discs on shafts overlapping alternately with those on adjacent shafts.
- The rotation of the discs and river water flows remove suspended solids (wastes) contained in influent water and have them flow downstream, therefore allowing only river water to pass through the disc screen.

Characteristics

Easy operation and management

- 1. The screen ejects suspended solids without agitating them and generates no screenings (i.e., waste) as a result.
- 2. The rotation of overlapping discs prevents wastes from entering screen spaces, and the self-cleaning automatic screen refresh function prevents the screen from getting clogged.

Simple design

- 1. No screenings means that appurtenant facilities on the ground such as conveyors and hoppers are unnecessary.
- 2. Simple configuration allows easy operation and maintenance.

Power requirements

Only a small amount of power is required and running costs are low because of the use of disc rotation and river water flows for the removal of suspended solids.



Mechanism of the disc screen



- In recent years, various kinds of waste and debris have flowed into rivers. In addition to leaves and driftwood, nonburnable garbage and bulk waste has found its way into rivers in increasing amounts.
- This hindered proper intake management because agricultural water-supply facilities (e.g., head works) experienced problems, such as the clogging of intake screens by waste and debris in river water and its entry into irrigation canals. Therefore, waste and debris removal work was implemented at intake facilities. However, this involved dangerous work due to the locations of the facilities (requiring workers to wear safety belts) and there were also other challenges such as the need to do the removal work more frequently and the difficulty in disposing of the removed waste and debris.
- Given this background, the installation of the disc screen was planned at the intake of the head works to maintain adequate intake management, avoid dangerous work and reduce operation and maintenance costs.

Effects

Maintenance of adequate intake management

- Without clogging at the intake (i.e., without fluctuations of the intake water level), intake water adjustments have become easier.
- Reduced operation and maintenance costs
 - Costs of removing and disposing of waste and debris have been reduced.

Avoidance of dangerous work

• There is little need for workers wearing safety belts to remove waste and debris manually ...

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| Fixed-type movable weir | | Length (m) | Movable section | Intake gate | (m3/s) | facilities |
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