



ENGINEERING SOLUTION PARTNER

ESP Co., Ltd. Product Catalog



Energy Saving and Maximum Efficiency Can Be Achieved through ESP Co., Ltd.

Intellectual Property Rights

3 types related to the aggregation agitator / 2 types related to the sludge collector / 2 types related to the dissolved air flotation equipment / 26 types related to other water treatment machinery

ESP Co., Ltd.

Since our establishment in 1992, we have always been striving for technological innovation with the philosophy of providing safe drinking water to citizens and providing value for improved water and happier lives to future citizens as a leader in the field of water treatment machinery and measurement control. To this end, ESP develops integrated solutions for water treatment and provides water treatment technology services based on creative and innovative technologies in response to the era of advanced and eco-friendly water management services. Moving forward, ESP will become the best company in the water industry by securing excellent technology through technological innovation, not being satisfied with the present, basing efforts on manufacturing the best water treatment machinery, and implementing measurement control systems.

CEO *Youngim Kim*

주생산물

Aggregation
Agitator

Dissolved Air
Floatation
Equipment

Sludge
Collector

Chemical
Injector

Actuator

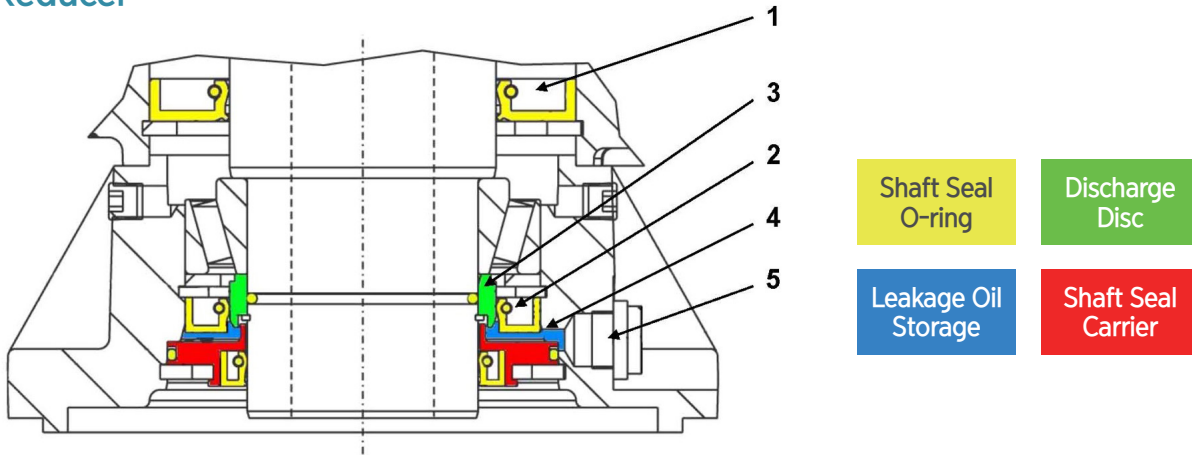


Company History

- 2002. 01 Incorporation of ESP Co., Ltd.
- 2002. 10 Registered as a software business
- 2011. 04 Acquired license for construction business specialized in information and communication construction business
- 2012. 02 Acquired license for construction business specialized in water and sewage facility construction business
- 2013. 06 Acquired ISO 9001/14001 certification
- 2015. 10 Registered as a venture business / Constructed and moved to Pocheon Factory
- 2018. 11 Dissolved Air Flotation (DAF) Equipment Technology Performance Verification by the Korea Water Resources Corporation acquired
- 2019. 01 Water Industry Excellent Equipment Supplier (SEMS) by the Korea Water Resources Corporation registered: Paddle-type aggregator
- 2019. 12 Registered in Performance Sharing System by the Korea Water Resources Corporation (Performance Sharing System Expansion Promotion HQ): Acquired private contract confirmation for hydrofoil aggregator
- 2019. 12 Water Industry Excellent Equipment Supplier (SEMS) by the Korea Water Resources Corporation registered: Sludge collector
- 2020. 11 Awarded with the grand prize in the Idea Section of Water Industry Innovation Startup Competition by the Korea Water Resources Corporation

Aggregator and Agitator

Reducer



Features

- WATT (Austria) reducer of drywell structure used
- Reducer: Helical gear + drywell reducer
- Motor: High-efficiency premium motor IE3
- Triple seal structure to block the source of oil leakage
- Shaft tightening shrink disc
- 3 independent sealing points
- Stored in the leakage storage when the final leakage occurs
- Leakage detection device



Energy-saving Aggregation Agitator - BLDC Motor Mounted

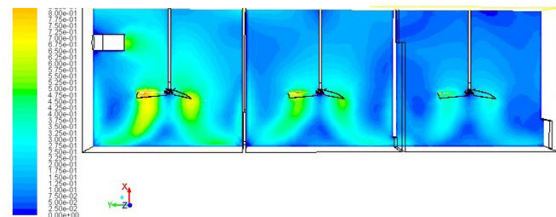
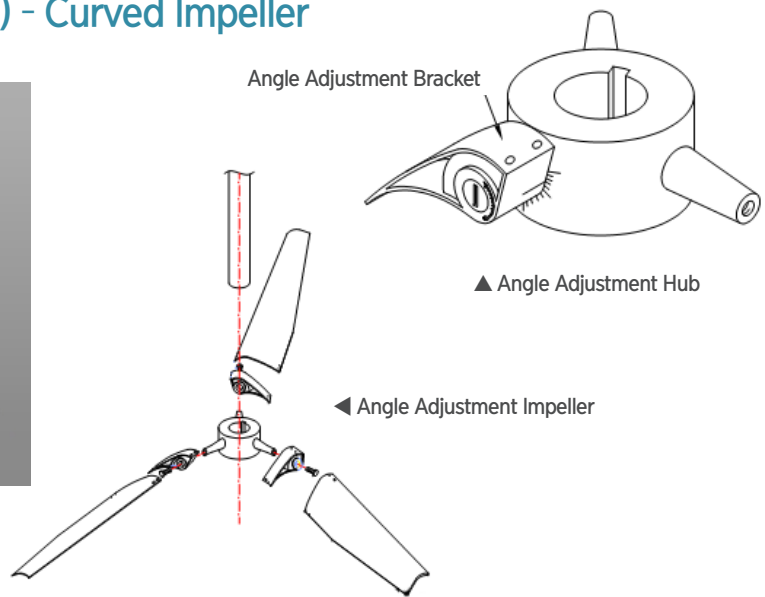
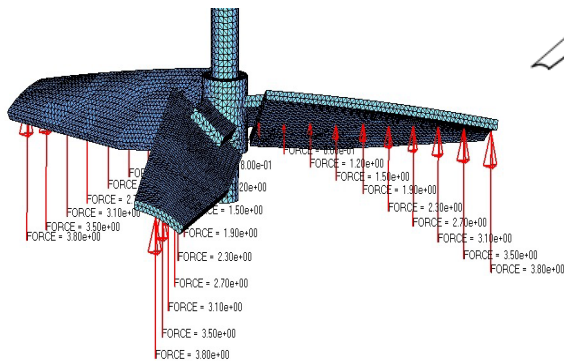
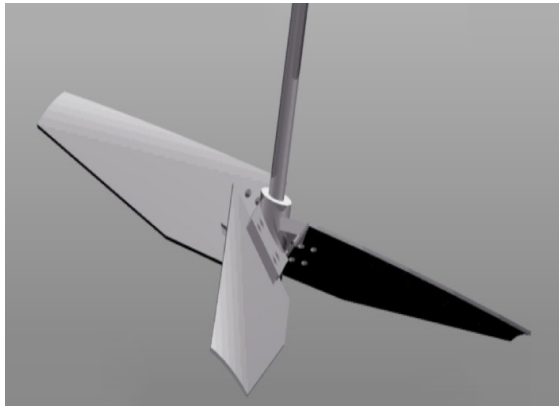


Features

- High torque at low speeds and high power efficiency
- Energy-saving with greater than 90% efficiency of the BLDC motor
- Intelligent self-operation method operates in an optimal state and protects/stabilizes on its own in the case of mechanical problems
- Detachable motor controller, integrated implementation remote control
- Controllable (the world's best)
- Less than 50dB noise
- 10-year free warranty for the motor

Aggregator and Agitator

Aggregation Agitator (Hydrofoil) - Curved Impeller



Outline

- The curved impeller structure is processed to be curved in such a way that the angle of attack of the wing decreases at the same rate from the inside to the outside, and the pitch angle is configured to decrease from the root of the impeller to the end so that coarse flocs can be formed.
- Optimal operational efficiency is achieved by adjusting the angle of the impeller.

Advantages

- Aggregation / agitation efficiency is increased and dead zone occurrence is suppressed
- Coarse flocs are formed through even distribution of flow velocity
- Pumping power heightens toward the end of the impeller as the downward flow is uniform
- Excellent power-saving effects

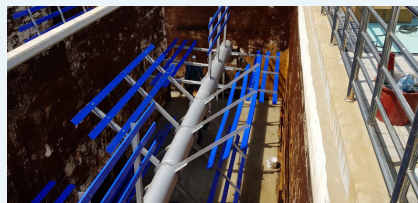
Cost Reduction Performance Sharing System by Korea Water Resources Corporation completed
Cost reduction through process improvement of the impeller and operating part of the hydrofoil aggregator

Aggregation Agitator - Sludge Collector

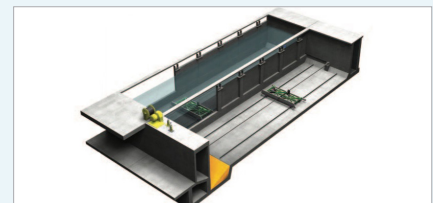
Water Industry Equipment Supplier (SEMS) by Korea Water Resources Corporation registered
WTP20-3 sludge collector (submersible bogie type)
Water Industry Equipment Supplier (SEMS) by Korea Water Resources Corporation registered
WTP19-2 paddle-type aggregator



Vertical Paddle Aggregator



Horizontal Paddle Aggregator



Submersible Bogie Sludge Collector

- Vertical paddle-type aggregator among devices that form flocs of the raw water flowing through the chemical injector and the mixing device in the raw water aggregation process
- Paddle material: PE

- Horizontal paddle-type aggregator among devices that form flocs of the raw water flowing through the chemical injector and the mixing device in the raw water aggregation process
- Paddle material: PE

- A device that collects sludge in the sludge hopper with a scraper on the submersible bogie in the rectangular settling basin

DAF (Dissolved Air Flotation) Equipment

DAF(Dissolved Air Flotation)

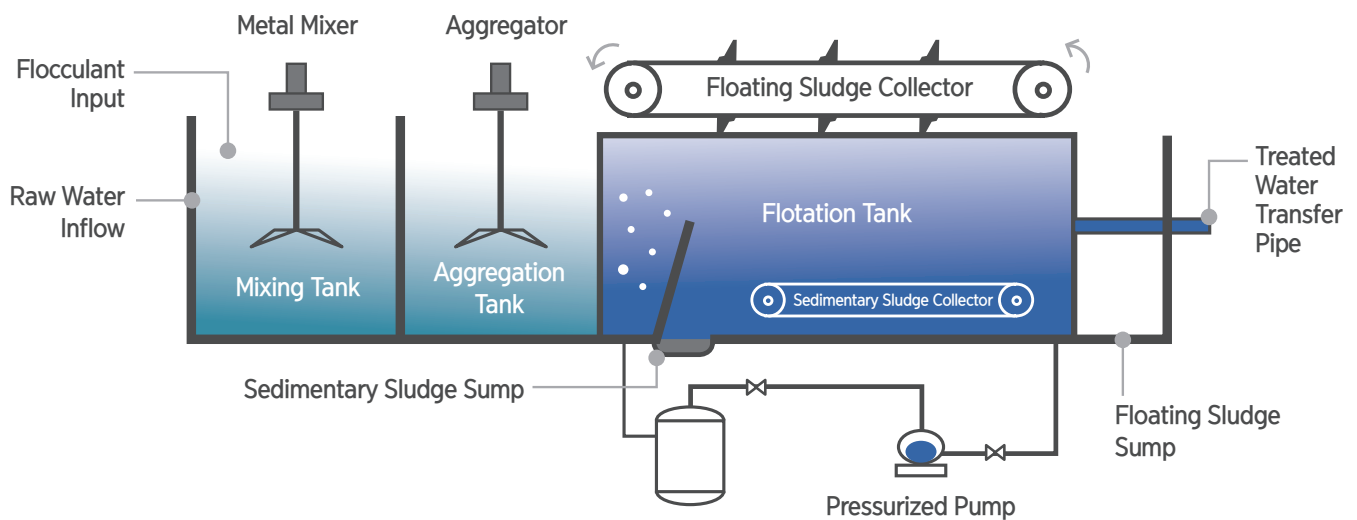
Technology Performance Verification by Korea Water Resources Corporation
No. 2019-03 dissolved air flotation (DAF) equipment for backwash effluent
treatment of pressurized membrane filtration facilities

Outline

- When air is dissolved in water at high pressure and injected into raw water, supersaturated air is formed into microbubbles as the pressure is reduced.
- It attaches to floating substances in water, rises to the water's surface, and separates solid and liquid to remove floating substances.

Features

- Very short processing time due to high surface load.
- Compact installation area for high economic efficiency.
- Effective in removing low specific gravity particles and algae that shorten filtration duration.
- Chemical consumption is less than that of aggregation and sedimentation and operational costs are reduced due to the ideal duration of the filtration process.
- Removed solid materials are easy to treat as they have excellent dehydration properties.



Patent Registration



▲ Compact-type Scum Removal Device

- No. 10-1964828 DAF Water Treatment System
- No. 10-1964830 DAF Water Treatment System
- No. 10-1964832 DAF Water Treatment System
- No. 10-1999743 Pressurized Floating Tank Scum Removal Device

- Sludge collector installed to remove sedimentary sludge from the bottom of the floating tank
- Power transmission of sedimentary sludge collector by the permanent magnet
- Venturi-neck spray nozzle of pressurized water improves the diffusion of ultra-fine bubbles
- Baffle installed to maximize the residence time of pressurized water
- Bubble removal mesh net installed to improve dehydration of floating sludge

Chemical Injection Equipment

Liquid Chemical Injector

Outline

- Chemical injector that automatically and precisely injects liquid chemicals, such as flocculant, caustic soda, polymer, sulfuric acid, and hypochlorite, etc.
- Chemical injector for aggregation of raw water and pH adjustment

Features

- Consists of a chemical flow meter + quantitative tube pump (or control valve)
- Real-time detection of liquid leakage by mounting a float leak detection + film type leak detection that detects liquid leakage
- Safety of the liquid chemical injector secured by accurately measuring the pressure before and after
- Flow range of 1:25,00 for the accuracy of liquid chemicals
- Made of non-metallic SKID to prevent corrosion and discoloration
- Presenting the futuristic chemical injector with an integrated injector (SKID + tank + control system)



Powder Chemical Injector

Outline

- Activated carbon injection device to remove odor from raw water
- Slacked lime injector for pH adjustment of raw water

Features

- Consists of storage hopper + screw feeder + automatic solution tank
- Screw feeder with 0.5% precision
- Consists of a storage hopper + solution tank + injection device
- Precision control using a hose pump and a control valve
- Automatic batching system
- Automatic concentration control function



Pump Diffuser Mixer

Outline

- Mixed water and chemicals are propelled into the deflector plate, using the injection pressure, to be mixed instantly
- Consists of instant blender main body, mixed water pump, strainer, differential pressure meter, and flow meter

Features

- No mixing tank required
- Flocculant is not precipitated as mixed water and chemical lines are separated
- Instant rapid mixing is available (1 to 2 seconds)
- Operated with high mixing strength (value G) and the mixing strength is adjustable
- Applicable to high turbidity raw water
- Able to be manufactured to meet all piping standards





Actuator *Please refer to the attached catalog



Oil Chamber

We promise to become the best water industry company.
Energy Saving and Maximum Efficiency Can Be Achieved through ESP Co., Ltd.



ADDRESS 27-4, Jeonggeum-ro 473beon-gil, Gasan-myeon, Pocheon-si, Gyeonggi-do

TEL 031.595.8091~2 HOMEPAGE www.espc.co.kr

FAX 031.595.8093 E-MAIL espc0908@hanmail.net

Copyright © 2015 E.S.P Corporation Co., Ltd. ALL RIGHTS RESERVED.