

DAF MANUAL



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2023.2.20

I . The principle of DAF

Introduce air into the water to generate fine air bubbles, so that the fine suspended matter in the water adheres to the air bubbles, floats to the water surface together with the air bubbles, and forms scum, so as to remove suspended matter and chroma in the water, and at the same time reduce COD and BOD and other pollutants to improve water quality.

The smaller the diameter of the bubbles, the more the number, the better the effect of DAF; the inorganic salts in the water will accelerate the bursting and merging of bubbles, reducing the effect of DAF; adding coagulant PAC or Polymer will promote the coagulation of suspended matter, making it adhere to the air bubbles and float up; flotation agent can be added to convert the surface of the hydrophilic particles into a hydrophobic substance and adhere to the air bubbles, floating up with the air bubbles to form scum, which is scraped by the scum scraper to the sludge tank; the lower layer of clear water drain through the drain. After treatment, part of the clean water is returned to be used by the dissolved air system, and the other part is discharged.

II . Preparation and inspection before operation

2.1 Check whether the water inlet pump, pressure pump, stirring reducer are normal or not, whether the steering of the motor is consistent, whether the oil level is normal, etc. At the same time, check the slag scraper, run it , and check whether the transmission part is

normal; if the oil level is insufficient, add enough; whether the scraper is flexible; whether the running speed is normal; whether the wires are installed normally;



It is equipped to add flocculants PAC and Polymer to the dosing box, and the proportion of the prepared agent is 5% for PAC and 0.001% for Polymer.

2.2. Check the performance of each valve and whether the pressure gauge is normal or not.

Start the air water valve and control the pressure of the air water tank at about 0.4MPa.

(If a large number of microbubbles appear in the water in the air

flotation machine and the water turns milky white, it can be determined that the dissolved air system is normal; you can also take a sample from the faucet at the sampling port to see that the water turns milky white)

2.3. Check the air water releaser to make it intact and smooth.

III. Operating Instructions

3.1. Running steps

1) Prepare PAC and polymer. Prepare the chemical unit, start the mixing system, and stir for 30 minutes.

2) Start the pressure pump and adjust the outlet of the air water tank valve to ensure that the pressure is around 0.3-0.4MPa.

3) Turn on the water inlet pump of the DAF, then turn on the dosing unit, and add the amount of chemical to the sewage (PAC is 40mg/L, Polymer is about 0.004mg/L.

(Work in the dissolved air system for 5-8 minutes, and then turn on the sewage pump after the dissolved air system works normally)

4) According to the change of effluent water quality, adjust the dosing amount and water inflow to ensure the effluent water quality.

5) According to the generation of scum, start the scum scraper to scrape scum.

6) After starting up, check the DAF water inlet and drainage system to achieve the balance of water in and out, and ensure the normal operation of the air flotation.



IV. Shutdown steps

- 1) Turn off the slag scraper.
- 2) Turn off the DAF inlet pump and the pump meter.
- 3) Turn off the pressure pump, turn off the air valve in air water tank.

V. Management during operation

1. Check the water level and pressure of the air water tank frequently, and control and adjust it at any time.

2. Regularly observe and analyze the air flotation effect, check and adjust the water intake, coagulant, flocculant and dosage. And make the dissolution of the chemical in time, and prepare the chemical material.
3. Always observe the scum, water level and release effect on the surface of the air flotation pool.
4. Always pay attention to the operation sound of the water pump and air compressor, the vibration of the fuselage, the sealing of the valve parts, the temperature of the motor, and the inspection of the lubricating oil level. In case of abnormality, it should be dealt with or shut down for maintenance.
5. Make records of machine operation, water inflow and outflow, water quality, dosage of chemicals, water level of dissolved air tank, pressure, slag scraping operation, etc. according to regulations.

Remark

Regular sludge discharge: The sludge accumulated at the bottom of DAF should be cleaned regularly, otherwise it will affect the treatment effect.

