Sludge thickner

Installation Manual

KHN WATER TREATMENT EQUIPMENT CO.,LTD.

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Ⅰ. The basic working principle of the sludge thickner:

The sludge containing flocculants flows into the central diversion pipe of the thickening tank through the pipeline, and the sludge flows slowly to the periphery in a uniform and auxiliary manner, and the suspended solid particles settle by their own weight or flocculation during the roaming. Initially, due to the low concentration, the particles basically settle freely, with a faster settling speed, and then sink into the concentration zone, with a slower settling speed. Finally, it sinks to the bottom of a sedimentary zone, which is also a compression zone with a high

concentration, and water is continuously precipitated from the gaps of the settled particles. When the scraper rotates continuously, the sediment is pushed to the center of the tank bottom step by step along the conical slope of the bottom of the tank, and finally discharged from the mud discharge port there. When the scraper pushes the sediment, it is also a compression process of the scraper to the sediment, which also greatly promotes the strengthening of the water separation effect. The upper part of the sludge thickner is clear water, which is discharged from the overflow weir at the side of the pool, thus constituting the whole working process of the thickening tank.

Ⅱ. Process Description

The process flow is: sludge ----- flocculant mixing ----- sludge thickner ----- supernatant water is returned to the regulating tank / sludge is discharged

Since the sludge in this process is the sludge of the DAF, it already contains flocculant, so no chemical dosing

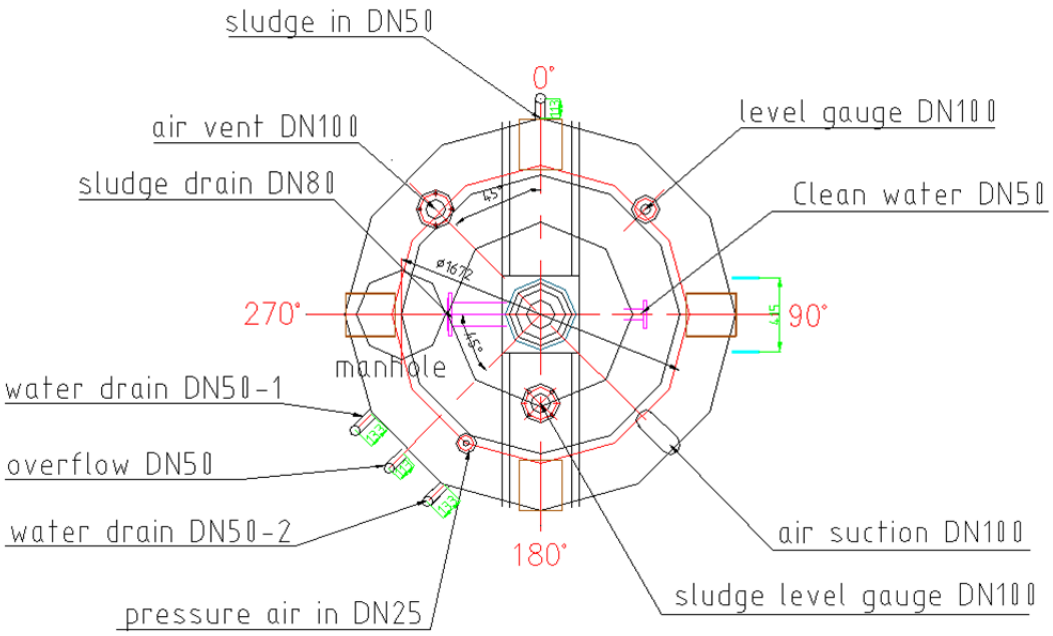
Ⅲ. Installation instructions

3.1. The equipment is an integral equipment, the main equipment has been assembled at the factory, and it only needs to be hoisted in place and connected with external pipes and cables at the site.

3.2. The equipment location in place: use a crane and use a hook to lift it.

Adjust the direction of the equipment according to the direction of the installation pipeline.

Refer to the drawings, as follows:



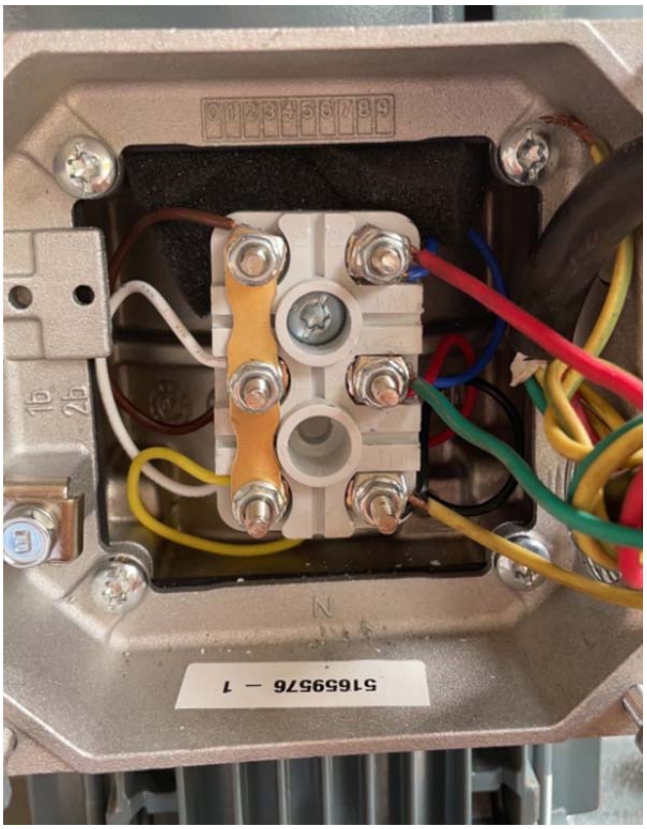
3.3. Equipment Take over:

Install the following figure to connect the equipment

3.4. Cable connection:

Reducer wire connection

According to the picture below



3.5. Instrument connection (provided by the design institute)

Ⅳ. Control instructions (provided by the design institute)

4.1. Control logic: (reference):

a. Sludge in: the sludge pump transports the sludge to the thickening tank, and stops after reaching the high liquid level (level switch 1)

, the system starts.

b. Precipitation: Turn on the concentration reducer for half an hour. (The running time of the reducer is adjustable)

Precipitate for 2 hours.

c. Drainage: settle for 2 hours, get the sludge level signal, and open the drain valve 1# or 2# according to the liquid level

d. Sludge discharge: After settling for 2 hours, get the sludge level signal. The sludge liquid level is higher than the sludge

discharge valve 2, open the sludge discharge valve to discharge the sludge

e. Aeration: Turn on the aeration after each drainage, 5min.

f. Exhaust: Exhaust with exhaust fan, normally open, air volume ≥ 76m³/hr.

Air source: exhaust vent and air pipe.

g. Sampling: If necessary, manually take a sample to check the sludge content of the supernatant.

h. Cleaning: Open the cleaning valve to clean the equipment if necessary.

4.2 Automatic control operation (provided by the Design Institute)

4.3 Manual control (provided by the Design Institute)

Ⅴ. Operation and maintenance instructions

5.1. For the maintenance of the reducer, refer to the manual, listen to the sound of the reducer and the motor when starting up, if there is no noise, it is normal.

Key: Change lubricating oil every three months

5.2. Instrument maintenance (provided by the Design Institute)