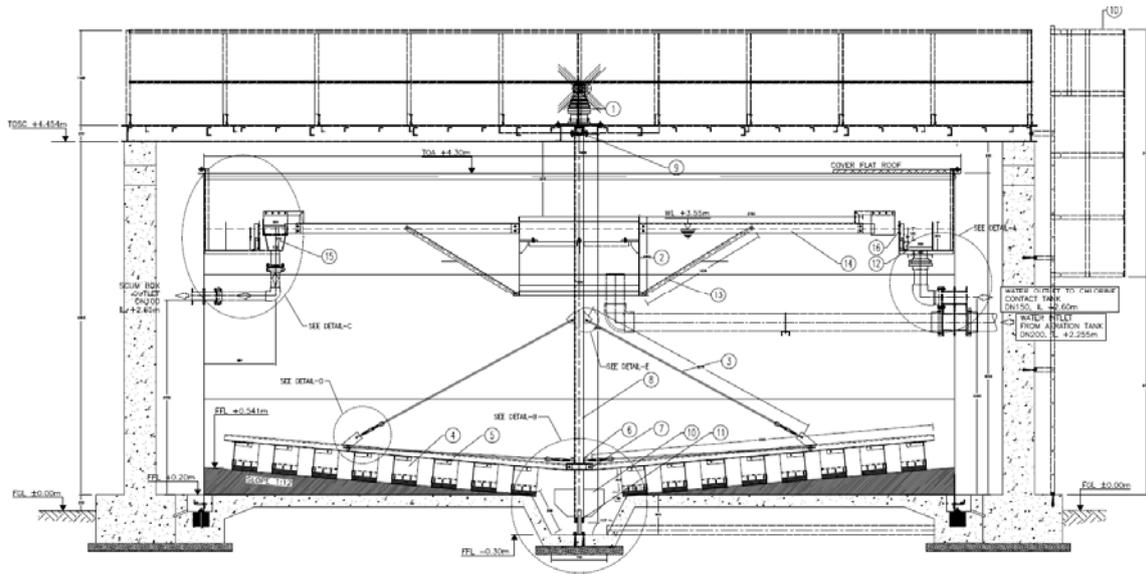


Central drive sludge scraper installation guide



1. Scope of supply:

Each complete set of scrapers includes

1. Bridge (Buyer built.)
2. Drive unit
3. reflection tube
4. tensioning device
5. scraper
6. Lower string
7. short arm
8. heavy axle
9. axle flange connect
10. small scraper
11. Bottom bearing
12. Weir
13. slag arm support
14. slag arm
15. slag collector
16. Baffle plates
17. Screw and spare.

Drive unit(connect with the heavy axle flange)



reflection tube(connect to the heavy axle)



tensioning device(combine the long arm, short arm and heavy axle)



Scraper (screw with the lower string)



Lower string(connect to heavy axle)



short arm(connect to heavy axle)



heavy axle/ axle flange connect/ small scraper



Bottom bearing

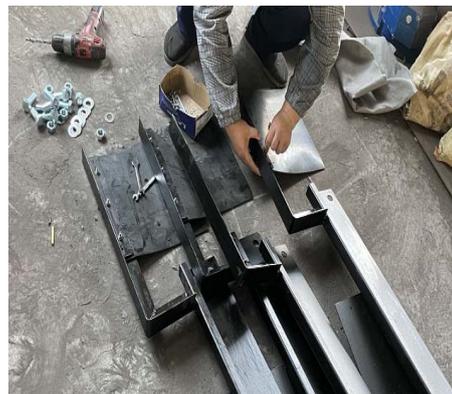
It's a 200mm pipe, ling PO inside, bottom is a square plate.

Fix it on the bottom of the concrete tank, and fix the heavy axle in it.

Weir (fix on the weir support)



slag arm support/ slag arm(connect the reflection tube)



slag collector(connect with the slag pipe)



Baffle plates(connect the weir support, connect with screws)



Spare



2. Main technical parameters

Quantity: 2 sets, diameter: 9.46 meters, see attached picture for details.

3. Equipment performance and structure description

(1) Working principle

The water to be treated enters from the reflection tube, enters the sedimentation tank through the reflection tube, and then diffuses and settles around, and the clean water flows out from the overflow weir at the edge of the pool. Driven by the drive device, the scraper arm rotates around the central axis, and the scraper on the scraper arm pushes the sludge deposited on the bottom of the pool from the outside to the inside to the central mud collecting pit, and then the collected sludge is discharged through the central mud discharge pipe. At the same time, the scum in the pool is collected by the scum scraper and discharged out of the pool through the slag discharge bucket.

(2) The entire equipment runs smoothly and normally, without shock, vibration and abnormal noise, and can run continuously for 24 hours.

(3) Description of each component of the equipment

Working bridge

a. The working bridge is made of carbon steel anti-corrosion rectangular square tubes welded together to form a truss structure. It spans the central transmission device and the pool without obvious inclination. The access road on the working bridge is paved with walkway boards, handrails and escalators. The width is about 1000mm.

b. The width of the working bridge is about 1100 mm, which is connected with the pre-embedded parts on the top of the pool. The maintenance platform and walkway slab are laid with steel grating, and the handrail is made of carbon steel ball-jointed railing with a height of 1200 mm. Steel grating and ball joint railings are produced by professional factories.

c. The live load of the working bridge is designed to be 500 kg, the live load of the maintenance platform is designed to be 400 kg/m², and the maximum deflection of the working bridge is less than L/750.

d. Ensure safety, practicality and beauty, and be in harmony with the overall structure and equipment.

Drive

a. The drive device is composed of motor, reducer, worm gear reducer, external meshing pinion, slewing bearing (main gear), slewing support table and other components. It is mounted on the center column stand and bears the rotational loads of the entire mechanism. .

b. The external meshing main gear is cast from alloy steel, and the pinion is made of heat-treated alloy steel. The slewing gear support table is welded by structural steel to ensure good rigidity. The design of the slewing bearing ensures that the ball can be replaced without moving the bearing raceway. The minimum surface hardness of the bearing raceway supported by it is 58~60Rc , The main gear and pinion are lubricated with grease.

c. The mechanical drive device has sufficient strength to meet the torque required for mud scraping, and all parts of the mechanical drive device have sufficient strength.

d. The design of the inner gear of the reduction box conforms to the ISO standard or equivalent standard, and has overload protection, and the linear speed of the outer edge of the fouling plate is about 2.0m/min.

e. The central driving frame adopts a truss structure, the lower part is connected with the scraping arm frame, and the upper part is connected with the driving device rotating frame by bolts.

f. Drive motor: The motor adopts outdoor type, the protection grade is IP55, the voltage is 380V, and the frequency is 50Hz.

Reflection tube

In order to avoid the short circuit caused by the high radial flow velocity during central water distribution and affect the sedimentation effect, a reflection tube is provided outside the central water inlet column tube to change the flow direction of the water.

Center bracket and transmission vertical frame

The center drive vertical frame is welded by carbon steel, and is one of the important parts of the center drive mud scraper to transmit torque. , and scrape with sliding bearings for radial support, the central vertical frame transmits a large torque, and the safety factor is not less than 2.5.

Scraper Arms and Scrapers

a. The scraper arm is welded with carbon steel, and the structure is a rectangular truss with variable section. The scraper arm bears the resistance of the scraper when collecting mud and the dead weight of the scraper arm and the scraper. It not only bears the moment generated by the mud collecting resistance in the horizontal direction, but also bears the bending moment caused by the dead weight of the scraper arm in the vertical direction.

b. In order to facilitate the arrangement and installation of the scraper and the force balance, two scraper arms are arranged in a symmetrical form, and the bottom chord of the scraper arm is parallel to the bottom slope of the pool.

Scum scraping system

In order to remove the scum on the liquid surface of the sedimentation tank, a slag skimming mechanism is set up, which is welded with carbon steel.

a. The scum skimming system includes scum scraper, scum bucket, etc. The scum scraper rotates synchronously with the underwater mud scraping truss to collect and transport the scum into the scum bucket. The scum hopper discharges slag smoothly, and there is no scum accumulation phenomenon.

B. A hinged scraper is installed on the outside of the skimming device to ensure that the scraper and the scum baffle are in proper positions when scraping the scum into the scum bucket, and keep it well with the scum sloping plate touch.

4. Equipment anticorrosion

(1) The surface anti-rust treatment of all carbon steel parts is in accordance with GB8923-88 of "Steel Surface Corrosion Grade and Derusting Grade before Coating", and the surface quality reaches Sa2 $\frac{1}{2}$ grade standard.

(2) The raw material purchase and manufacturing inspection of the equipment shall be carried out in accordance with GB, JB, Q/ZB and other standards.

(3) For the anti-corrosion treatment of the equipment, except for carbon steel, other materials should be sandblasted and derusted first, and after reaching the Sa2 $\frac{1}{2}$ level requirements specified in the GB8923 standard, first apply two coats of H06 epoxy zinc-rich primer, and then apply One coat of epoxy micaceous iron anti-rust intermediate paint, followed by two coats of H52-68 epoxy anti-corrosion top coat. The weld of the weldment is smooth and smooth, without cracks, pores, slag inclusions, incomplete penetration, lack of fusion and other defects.

(4) The damaged part of the coating during transportation and installation shall be repainted in strict accordance with the requirements of the coating process, and its quality shall not be lower than that of the original coating.

5. Maintenance

The equipment should be filled with lubricating oil suitable for the operating environment.

Every 6 month.