Center driven tubular mud suction machine

Purpose and introduction:

HXD type center drive single (double) pipe sludge suction machine is mainly used for sludge removal of peripheral inlet and peripheral outlet secondary sedimentation tank in sewage treatment activated sludge process. It is a new product successfully developed by our company in recent years on the basis of absorbing advanced technology at home and abroad. It has the advantages of low energy consumption, convenient operation and management, improved mechanical performance and structure, stable long-term operation and uniform sludge suction, Good sludge suction effect and high sludge discharge concentration.

Characteristic:

a. The design of variable section, variable flow and variable head is adopted for the surrounding water inlet tank to ensure the uniformity of water inlet around the water inlet tank.
b. The sludge suction pipe is conical, and the sludge suction hole is designed with variable aperture and variable hole spacing. Compared with other sludge discharge equipment, the sludge suction pipe can be collected evenly in proportion at the bottom of the whole tank to obtain a higher amount of sludge extraction, so that the whole tank surface can be fully utilized, so as to ensure accurate and rapid absorption of the deposited sludge at one time, high sludge suction concentration and save the backflow power of sludge.
c. The central transmission adopts a new structure, with a mud suction pipe on one side and a mud scraper or double pipe suction pipe on one side. It has light structure, uniform mud discharge, smart operation and low power consumption.
d. The capital investment of secondary sedimentation tank and the operation cost of sludge suction machine and return sludge pump are saved, and the sludge suction and discharge operation is simplified.
e. Overload alarm, overload shutdown, overcurrent protection and other multiple protection measures are installed to ensure the safe operation of the mud suction machine.

Structure and working principle:

The central transmission single (double) pipe mud suction machine is mainly composed of central transmission device, central vertical frame, mud suction pipe, slag scraping plate, truss, scum scraping and collecting device, working bridge, water retaining skirt, scum bucket, etc. When the sludge mixture enters the water inlet tank, it evenly enters the tank through the water distribution hole pipe at the bottom of the tank. Under the action of the water retaining skirt, the water flows slowly and evenly from the bottom of the surrounding tank to the center of the tank in the state of density flow. At the same time, the sludge begins to settle at the bottom of the

tank under the action of gravity to form a high concentration primary sludge layer, The separated clarifier flows to the lower part and returns to the surrounding outlet tanks and is discharged out of the tank through the outlet pipe. Under the action of liquid level difference, the activated sludge on the surface of the tank bottom is collected and discharged out of the tank through the orifice on one side of the sludge suction pipe. The heavy emotional sludge is scraped to the sludge pit in the center of the tank by the scraper plate and discharged out of the tank through the sludge discharge pipe. The scum on the tank surface is skimmed into the scum bucket through the scraper device Discharge outside the tank.

The sludge suction machine is installed on the central column of the sedimentation tank. The driving device drives the slag scraper. The truss and the pipe of the sludge suction machine rotate slowly along the bottom of the tank. Under the action of hydrostatic pressure, the sludge evenly enters the specially designed sludge discharge hole on the sludge suction pipe, so that the sludge at the whole bottom of the tank is evenly discharged out of the tank through the sludge discharge pipe and sludge discharge valve, The sludge discharge is controlled by the opening of the sleeve valve in the sludge well.

Specifications and main technical parameters:

<table>
<tr><th>Model</th><th>Middle of pool diameter (mm)</th><th>Peripheral linearity (m/min)</th><th>Motor power （KW）</th><th>Pool depth H(m)</th><th>Water depth H1(m)</th></tr>
<tr><td>HXD-20</td><td>20</td><td rowspan="3">2.0</td><td rowspan="3">0.55</td><td rowspan="2">4.0</td><td rowspan="2">3.5</td></tr>
<tr><td>HXD-25</td><td>25</td></tr>
<tr><td>HXD-30</td><td>30</td><td rowspan="2">4.5</td><td rowspan="2">4.0</td></tr>
<tr><td>HXD-36</td><td>36</td><td rowspan="2">2.4</td><td rowspan="4">0.75</td></tr>
<tr><td>HXD-40</td><td>40</td><td rowspan="3">5.0</td><td rowspan="3">4.5</td></tr>
<tr><td>HXD-42</td><td>42</td><td rowspan="2">2.6</td></tr>
<tr><td>HXD-45</td><td>45</td></tr>
<tr><td>HXD-50</td><td>50</td><td rowspan="3">3.0</td><td rowspan="3">1.1</td><td rowspan="3">5.5</td><td rowspan="3">5.0</td></tr>
<tr><td>HXD-55</td><td>55</td></tr>
<tr><td>HXD-60</td><td>60</td></tr>
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