Monorail underwater mud scraper

Purpose and introduction:

HDG Monorail underwater mud scraper is applicable to the mud scraping of rectangular sedimentation tank in large water supply plant or sewage treatment plant. The underwater mud scraper scrapes the sludge at the bottom of horizontal sedimentation tank from the water outlet area to the water inlet area, and finally scrapes the sludge to the sludge sump in the water inlet area for centralized discharge, instead of the traditional siphon mud extractor with suction while walking.

Composition structure:

The mud scraper is mainly composed of traction ring chain, mud scraper trolley mechanism, sprocket and sprocket frame, pool bottom track and fixing device, drive guide sprocket, overload protection device, cable chain tensioning device, forward and reverse control device, driving device protection cover, electrical control cabinet, central deceleration drive device, limit device, etc.

The main components of monorail underwater mud scraper are: transmission components, mud scraper trolley components, track components, guide wheel groups at both ends, tensioning device and electric control components.

a. Transmission components

The transmission mail is decelerated by the motor + or speed machine, driven by the super shear pin and the ring energy wheel group to drive the ring chain, change the direction of the motor, and realize the requirements of round-trip operation. All the mechanisms are protected by the protective device.

The mud scraper adopts circular channel transmission, with good connection, large traction force, high efficiency, cloud shaped transmission structure, accurate transmission ratio and no great tension. The overload shear ring sprocket group is responsible for the mechanical protection of the equipment.

b. Mud scraper trolley components

The mud scraping trolley component is composed of trolley frame, trolley shaft wheel, backup wheel, mud scraping plate and turnover device. The two ends of the trolley are provided with annular chain connection lugs, which are connected with the annular chain of the transmission component to form a closed transmission chain. Under the influence of the round-trip operation of the transmission component, the mud scraping trolley component performs (mud scraping) return (reset) operation and turnover action on the track.

The mud scraper consists of two pairs of mud scraper components, which are respectively

sleeved and fixed at the two ends of the output shaft of the turnover device of the mud scraper car. The lower end of the scraper and the end close to the tank wall are equipped with rubber plates to maintain a relatively small gap or local slight soft contact between the scraper and the tank bottom and tank wall.

When scraping mud, the mud scraper runs in a vertical attitude and rotates backward 45° to a horizontal attitude when returning.

c. Track components

The track component is composed of track support, adjustment walking track and chain walking track, which is installed on the center line of the tank bottom to provide a flat, reliable and durable running track for the mud scraper. The two ends of the track are equipped with an annular chain drive steering device.

d. Guide wheel set components

The guide wheel assembly is composed of a mounting bracket, a flat guide wheel, a collision block and a travel switch. It is installed on the top of the pool bottom to provide the mud scraper with ring chain drive direction change and travel switch protection.

e. Tensioning device

The tensioning device is composed of a mounting bracket, a flat guide wheel and a counterweight block, which are installed on the wall at the bottom of the reducer to provide tensioning protection for the annular chain of the mud scraper and prevent the chain from loosening.

Dimension table of monorail mud scraper:

Model	HDG-6	HDG-8	HDG-10	HDG-12
Pool width (m)	6	8	10	12
Pool depth (m)	4-7 （According to user requirements）			
Pool length (m)	（According to user requirements）			
Driving power	0.37-0.75		0.55-1.1	