



Cyclone grit chamber desander

Structure and working principle

a. Working principle of cyclone grit chamber

There are two types of cyclone grit chamber: flat bottom circular tank and cone bottom circular tank. There is a sand storage bucket in the center of the tank bottom, and a desander is set in the tank. The desander is composed of driving device, mixer, sand suction system, etc., and forms a complete set of desander treatment equipment together with subsequent sand water separators. After passing through a flat and straight inlet channel, the inlet turbulence of sand containing wastewater is minimized, The end of the inlet channel is a slope that can produce wall attachment effect, which can make part of the sand settled in the channel enter the grit chamber along the slope. A baffle plate (only installed in a small pool) is set at the inlet to bend the water



flowing out of the plate down to the bottom plate of the selected area. The axial-flow mixer brings the water flow to the center of the tank and then upward to form a vortex water flow. The heavier sand particles fall into the sand collection area at an annular orifice near the center of the tank. The sand entering the sand bucket can be sucked by air or discharged by pump, while the lighter organic matter separates the organic matter from the sand particles due to the shear effect of the mixer on water, Finally, it is led to the outlet channel with the axial flow body.

b. Working principle of axial flow mixer

The rotation of the axial-flow mixer helps to guide the sand before entering the sand storage bucket and wash the sand for many times. The rotating blade can improve the flow state of water. The leading edge of the mixer blade is made into a large and round shape (the mixer diameter can be designed and manufactured according to the size of the tank), which can prevent floc distribution and winding of fibrous substances in the water.



Uses and intermediates:

HXCS cyclone grit chamber desander uses hydrocyclone to separate mud and sand from organic matter to achieve the purpose of desanding. It is widely used in pre-treatment processes in urban hotels, factories, mines, enterprises and institutions and urban large, medium and small water treatment projects.

Main technical parameters:

Model	Treated water V (m ³ /d)	Agitator		Pool diameter (m)	Pool depth (m)	Sand bucket diameter (mm)	Sand bucket depth (mm)
		power (KW)	speed (r/min)				
HXCS-1.83	4000	0.55- 1.5	13-20	1.83	1.12	0.91	1.52
HXCS-2.13	10000			2.13	1.12	0.91	1.52
HXCS-2.43	15000			2.43	1.22	0.91	1.52
HXCS-3.05	27000			3.05	1.45	1.5	1.7
HXCS-3.65	45000			3.65	1.79	1.5	1.7
HXCS-4.87	75000			4.87	1.79	1.5	2.1
HXCS-5.48	110000			5.48	1.98	1.5	2.1
HXCS-5.80	150000			5.80	1.98	1.5	2.1
HXCS-6.10	190000			6.10	2.13	1.5	2.4