

SOLIDSMASTER® 500PSDP DESANDER



The SOLIDSMASTER® 500PSDP is a high performance desander that consists of two 20 foot container sized modules; the lower pump tank module and the upper shaker/hydrocyclone module. The machine is designed for cleaning drilling muds used for slurry shield tunnelling, directional drilling, diaphragm walling and bentonite piling. The plant is suitable for treating bentonite based muds having a Marsh Funnel viscosity of up to 100 seconds per U.S. Quart. It will treat muds having sand contents up to 25% by volume. The throughput capacity of the unit is up to 500m³/hr with low viscosity muds, but is reduced as the mud sand content and viscosity increase.

The machine will clean to better than 100µm with low viscosity feed muds having less than 15% solids content. Increases in feed mud viscosity and solids content coarsen the separation point. The SOLIDSMASTER® 500PSDP is equipped with a very powerful big stroke, heavy duty, long-bed linear motion shaker fitted with small aperture slotted screens. The machine is particularly suitable for the treatment of Thanet Sand or other fine or single sized sands. The unit is equipped with 1 No. 660mm coarse desanding hydrocyclone and 18 No. high performance, long bodied 5" desilting hydrocyclones.

Each module of the SOLIDSMASTER® 500PSDP is built to the dimensions of a type 1CC 20 foot freight container, 6058x2438x2591mm high, and is complete with twistlock corner castings. The two modules will fit on to a standard 40' artic trailer, or can be shipped as containers for seafreight.

The upper module houses the shaker which has twin 7.5kW motors with inverter speed control and soft start. The screening and dewatering is carried out by 1.8m wide by 4.8m long beds fitted with stainless steel wedgewire screens with 0.5mm apertures. The 5" hydrocyclones are mounted, in two banks, one on either side of the 660mm hydrocyclone and above the rear part of the shaker. All of the hydrocyclones discharge their underflows directly on to the screen for dewatering. The solids are discharged off the 2.4 metre end of the unit.

The pump tank module houses 2 No. Metso MM200 centrifugal hydrocyclone feed pumps each powered through V-belts by a 45kW electric motor with soft starting and an inverter controlled Metso MM200 clean mud discharge pump, powered by a 55kW electric motor. The main electrical panels and a secure stores unit are built into the pump tank module and there is also space within the tank for the transport of pipes, hoses and pump fittings.

The SOLIDSMASTER® 500PSDP is normally used downstream of a primary screen such as an SD1000. Mud is fed to the inlet of the 660mm hydrocyclone by the discharge pump of the primary screen. The 660mm hydrocyclone underflow falls onto the inclined deck for dewatering, the fluid passing through the screen falls into the pump tank below where it mixes with the 660mm hydrocyclone overflow for pumping to the 5" hydrocyclone inlets by the MM200 pumps. The underflow from the 5" hydrocyclones also falls onto the inclined deck for dewatering and the fluid passing through the screen falls into the pump tank below for recycling. Separated solids discharge off the front of the shaker. The 5" hydrocyclone overflow passes to the pump tank where some is recycled and some passes to the MM200 discharge pump for onward transfer. The rate of solids removal from the SOLIDSMASTER® 500PSDP is governed by the characteristics of the dirty mud but can be up to 120 tonnes/hour.

TECHNICAL DATA

Shaker module:	Transport size:	6058x2438x2591mm high, with twistlock castings plus hydrocyclone
	Weight:	12 tonnes.
	Hydrocyclones:	18 No. 5" long bodied high performance desilting hydrocyclones.
	Shaker:	1.8 x 4.8m bed driven by 2 No. inverter controlled 7.5kW motors.
Pump tank module:	Transport size:	6058x2438x2591mm high, with twistlock castings
	Weight:	12 tonnes.
	Hydrocyclone feed pumps:	2 No. Metso MM200 centrifugal with 45kW motors.
	Clean mud discharge pump:	1 No. inverter controlled Metso MM200 with 55kW motor.
Transport:	The machine can be transported as two standard type 1CC containers.	
Operating size:	6.8 x 3.6 x 7.2m high.	
Operating weight:	30 tonnes.	
Power:	380-415V, 50Hz or 60Hz, 3-phase & earth no neutral. Total power required is 160kW.	
Running current:	210A per phase.	
Starting current:	429A per phase.	
Fluid throughput:	up to 500m ³ /hr of mud having a Marsh Funnel viscosity of up to 100 seconds per U.S. Quart.	
Solids removal rate:	up to 120 tonnes/hr depending on the characteristics of the dirty mud.	
Noise emissions:	82dB at 5m	

Specification subject to change without notice. E&OE.