

SOLIDSMASTER® 400DP DESANDER



The SOLIDSMASTER® 400DP 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 use in civil engineering applications such as mud cleaning for directional drilling, slurry treatment for tunnelling, soil washing for land reclamation and bentonite cleaning for piling and diaphragm walling. The SM400DP is capable of treating bentonite based muds the having a Marsh Funnel viscosity of up to 100 seconds per U.S. Quart. It will treat fluids with a sand content of up to 25% by volume. The throughput capacity of the unit is up to 420m³/hr with low viscosity fluids, but is reduced as the sand content and viscosity increase.

The machine can clean to better than 63µm 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® 400DP is equipped with a 1.8m wide by 4.8m long, heavy duty, linear motion shaker. The machine is particularly suitable for the treatment of Thanet Sand or other fine or single sized sands.

Each module of the SOLIDSMASTER® 400DP 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 star delta starting. Contaminated fluid is fed to the unit by means of a primary feed pipe mounted over the 480mm wide by 4.8m long centre deck of the shaker which is dressed with 2.5mm aperture heavy duty, wedge wire, slotted screens. Coarse solids separated at this stage are discharged off the front of the shaker. Fluid containing particles which pass the primary screen falls into the pump tank module below, from where it is pumped by 2 No. Metso HM150 centrifugal pumps each with 45kW electric motor, to two banks of 8 No. 5" high performance hydrocyclones. Each bank of hydrocyclones discharges its underflow on to a 650mm wide by 4.8m long dewatering bed fitted with 0.5mm aperture stainless steel wedgewire screens. Dewatered solids separated at this stage are discharged off the front of the shaker. Fluid containing particles which pass the dewatering screen falls into the pump tank module below for recycling. The hydrocyclone overflows discharge via pipework into the pump tank module below where some is recycled and some passes to the clean mud compartment for discharge by a variable speed Metso MM200 discharge pump powered by a 45kW electric motor, for onward transfer. 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® 400DP can be used on its own, downstream of a primary screen such as an SD600 or a DD800 or upstream of desilters such as SU8DP, SU10DP or SU72DP. The rate of solids removal from the SOLIDSMASTER® 400DP is governed by the characteristics of the dirty mud but can be up to 100 tonnes/hour.

TECHNICAL DATA

Shaker module:	Transport size:	6058x2438x2591mm high, with twistlock castings
	Weight:	11 tonnes.
	Hydrocyclones:	16 No. 5" high performance hydrocyclones.
	Shaker:	1.8 x 4.8m bed driven by 2 No. 7.5kW motors.
Pump tank module:	Transport size:	6058x2438x2591mm high, with twistlock castings
	Weight:	11 tonnes.
	Hydrocyclone feed pumps:	2 No. Metso HM150 centrifugal with 45kW motors.
	Clean mud discharge pump:	1 No. variable speed Metso MM200 with 45kW motor.
Transport:	The machine can be transported as two standard type 1CC containers.	
Operating size:	6058x3000x6500mm high.	
Operating weight:	38 tonnes.	
Power:	380-415V, 50Hz or 60Hz, 3-phase & earth no neutral. Total power required is 150kW. Normally a 180KVA generator would be suitable.	
Running current:	Up to 280A per phase.	
Starting current:	Up to 475A per phase.	
Fluid throughput:	Up to 400m ³ /hr.	
Solids removal rate:	Up to 100 tonnes/hr depending on the characteristics of the dirty mud.	
Noise emissions:	82dB at 5m	