

SOLIDSMASTER® 220DP DESANDER

The SM220DP is a compact high performance desander for use as a primary mud cleaner for civil engineering, slurry shield and directional drilling applications. It will process flow rates of up to 220m³/hr and will separate coarse and medium sized sands from the mud. The SM220DP consists of two modules, the pump tank module and the shaker module. The pump tank module, which is 3458mm long by 2438mm wide and 2591mm high, weighs 7 tonnes and houses the hydrocyclone feed pump, a mechanically variable speed centrifugal pump for the discharge of the cleaned mud and a lockable stores compartment with electrical controls, complete with 15m long power cable. The shaker module is 2600mm long by 2438mm wide by 2591mm high, it weighs 6 tonnes and houses 3 No. 10" long bodied hydrocyclones mounted over a shaker, which is fitted with a primary screen used to screen all of the fluid and a secondary screen used to de-water the underflow from the hydrocyclones. The two pieces fit together for transport to form a 20 foot container sized load complete with twistlocks. The overall size for transport is 6058x2438x2591mm high. The weight of the whole unit is 13 tonnes. For operation the two units are separated and the shaker/hydrocyclone module is placed on top of the pump tank unit. The working footprint is 3.5x2.5x5.2m high. Solids discharge is on the 3.5m front face. Access to the two pumps, the electrical connections and to the stores compartment is from the rear of the machine.



The dirty mud, which is supplied to the machine, passes through a riser pipe to the horizontal lower deck of the shaker, which is equipped with heavy duty 6mm aperture wedgewire screens. After primary screening the mud falls into the pump tank below from where it is pumped by a 45kW centrifugal pump to the hydrocyclone inlets. The underflow from the hydrocyclones is discharged on to the inclined top deck of the shaker for dewatering. This deck uses long life small aperture wedgewire screens. The hydrocyclone overflow flows into the pump tank where some is recycled and some is passed to the clean mud discharge pump for transfer to the next stage of mud treatment or for reuse.

The SM220DP is fitted with a folding platform allowing access to the front of the shaker, safety rails and tarpaulin for weather protection. It is complete with all necessary electrical controls with star-delta starting for the motors for the hydrocyclone feed pump and for the 30kW discharge pump. A small secure stores compartment is built in to the pump tank module. A 15m long main electrical supply cable is fitted to the unit. The unit requires an electric supply of 415V, 3-phase, 50Hz capable of sustaining a running current of 140A.

TECHNICAL DATA

Shaker module:

Size: 2600x2438x2591mm high, with twistlock castings **Weight:** 5 tonnes
Shaker: 2 No. shaker motors of 4.5kW each, D-O-L starting

Pump tank module:

Size: 3458x2438x2591mm high, with twistlock castings **Weight:** 6 tonnes

Hydrocyclone feed pump: 1 No. Metso Svedala HM150 centrifugal with 45kW motor

Clean mud discharge pump: 1 No. Metso Svedala MM200 centrifugal with 30kW 6-pole motor & mechanically variable speed drive

Transport size: 6058x2438x2591mm high, with twistlock castings **Transport weight:** 13 tonnes

The machine can be transported as one standard type 1CC container.

Operating size: 3500x2500x5200mm high **Operating weight:** 22 tonnes wet

Power: 380-415V, 50Hz, 3-phase and earth no neutral is required

Running current: 140A **Starting current:** 330A

Generator: Normally a 150KVA generator with a minimum of 100mA earth leakage protection is required

Lighting & small tools: 1 No. 220V, 3kW, single-phase transformer for lighting and small tools

Other: 3 No. 32A, 3-phase sockets

Fluid throughput capacity: up to 220m³/hr of mud having a Marsh Funnel viscosity of <100 seconds per U.S. Quart

Solids removal rate: up to 25 tonnes/hr of coarse to medium sand

Noise emissions: 72dB at 5m