

SU10DP DESILTER

The SU10DP is a compact desilter with a discharge pump. It is designed to work downstream of a "SUPERCLEAN", "SS" desanding unit or other suitable desander in civil engineering, slurry shield tunnelling and directional drilling applications and will process flowrates of up to 200m³/hr. The unit will separate sands and medium silts from bentonite slurry having a Marsh Funnel viscosity of less than 100 seconds per U.S. Quart. The SU10DP consists of two modules that are joined together for transport to form a standard 20 foot, type 1CC freight container, complete with twistlock corners. In use, the shaker module mounts above the pump tank module so that the site footprint is 3.5m by 2.5m with a height of 5.2m. Solids discharge is from the front 3.5m face, while access to the unit, pumps and stores compartment is from the rear. No side access or clearance is required.

The shaker module houses 10 No. 5" high performance hydrocyclones, mounted above an inverter controlled VSM 300 dewatering shaker with special elliptical motion. The inverter control enables the shaker to be operated at 1500, 1800 or, in boost mode, at 1950 vibrations per minute. The combination of the elliptical motion, high liveliness pre-tensioned screens and variable frequency provides the shaker with exceptional and remarkable sticky clay and solids transporting capabilities and high fluids screening capacity. The shaker uses 4 pre-tensioned screen panels and can be fitted with screens of different mesh sizes depending on site conditions. There is a fold-down work platform for screen changing and maintenance. A tarpaulin is fitted to the front of the module to provide security and weather protection during use.

The pump tank module houses a Svedala 150x100 centrifugal pump with 45kW overhead motor used to supply pre-screened fluid to the hydrocyclones. Another Svedala 150x100 pump with a 30kW overhead motor and mechanically variable speed drive is mounted within this module and is used to discharge the cleaned fluid from the machine. Both these pump motors have star-delta starting. A lockable, walk-in store is built into the pump tank module. This holds a small compressor and the electrical control equipment for the whole machine as well as providing secure storage space.

In use, the dirty fluid is supplied to an inlet at the rear of the pump tank module and passes to the dirty fluid compartment from where it is pumped to the hydrocyclones, mounted above the linear motion dewatering screen in the shaker module. The hydrocyclone overflow falls, by gravity, into the pump tank module for recycling or passes to the clean fluid compartment for discharge by the variable speed pump. The hydrocyclone underflow is dewatered by the shaker and solids are discharged off the front of the machine. The screen underflow returns to the tank for re-treatment. The rate of solids separation can be up to 20 tonnes/hr with suitably sized solids.



TECHNICAL DATA

Transport size:	6058x2438x2591mm high. The machine can be transported as a standard container.		
Weight:	11 tonnes, complete with twistlock fasteners at standard dimensions.		
Shaker module weight:	5 tonnes.	Pump tank module weight:	6 tonnes.
Operating size:	3500x2500x5200mm high.	Operating weight:	20 tonnes (including fluid).
Power:	380-415V, 50Hz, 3-phase & earth, no neutral required.		
Generator:	Normally a 180KVA generator would be required.		
Running current:	Up to 150A.	Starting current:	344A per phase.
Hydrocyclone feed pump:	Svedala 150x100 centrifugal with 45kW motor with star-delta starting.		
Discharge pump:	Svedala 150x100 centrifugal with 30kW motor with mechanically variable speed control and star-delta starting.		
Shaker:	Inverter controlled with 2 No. 2kW motors with soft start.		
Compressor:	3 kW motor with Direct-On-Line starting.		
Lighting & small tools:	1 No. 220V, 3kW, single phase transformer.		
Other:	2 No. 32A, 3 phase auxiliary sockets.		
Fluid throughput capacity:	Up to 200m ³ /hr of fluid with a Marsh Funnel viscosity of less than 100 seconds per U.S. Quart.		
Solids removal rate:	Up to 20 tonnes/hr.		
Noise emissions:	70dB at 5m.		