

S4-1-H CENTRIFUGE

The S4-1-H Centrifuge is a very large high-speed decanting centrifuge made with high strength carbon steel parts and ceramic protection on the tips of the scroll. The centrifuge has a 900mm diameter bowl, running on two main bearings with pumped oil lubrication. The centrifuge is carried on a base frame fitted with anti-vibration rubber pads. The machine is equipped with an inverter controlled electric variable speed drive for the bowl and an independent variable speed hydraulic ROTODIFF drive for the twin start scroll, enabling the centrifuge to be used for many applications ranging from de-sanding of drilling fluids through silt removal to waste fluid clean-up using forced de-watering of flocculated solids.

The S4-1-H consists of two modules, each 6058x2438x2591mm high being the size of a standard 20 foot, type 1CC freight container, complete with twistlock corners. In operation one module, the centrifuge module, mounts directly on top of the other module, the pump tank module, so that the complete machine requires a working footprint of 6.1m x 2.5m and stands 5.2m high. The S4-1-H is normally fed by external variable speed peristaltic pump units, with one or more pumps such as our PP100, working in parallel. The rate of mud or fluid feed to the centrifuge is controlled by altering the speed of the feed pump(s).

The centrifuge module has a heavy duty hollow section frame into which are mounted the S4-1-G decanting centrifuge, 75kW electric motor for the bowl drive and a solids discharge conveyor which can be swung to discharge on either side of the module at 2.5m above ground level. Normally the separated solids from the conveyor would discharge on to the ground for removal by back-hoe or front-end loader or would discharge into a skip, positioned adjacent to the pump tank module or alternatively the solids could feed onto a separate conveyor system.

The pump tank module has a variable speed Svedala 100x75 discharge pump with 4" outlet pipework. This pump is used to discharge the cleaned centrate from the plant. The pump tank module contains a lockable walk-in stores compartment which houses the main electrical controls, switchgear, single-phase transformer for lights and small tools, air-blast cooling units and the 55kW electro-hydraulic power pack for the scroll drive and a small hydraulic pack for the conveyor.

TECHNICAL DATA:

- Centrifuge module:** Dimensions: 6058x2438x2591mm high.
Weight: 16 tonnes.
Power: 75 kW.
- Pump tank module:** Dimensions: 6058x2438x2591mm high.
Weight: 9 tonnes empty.
Power: 104 kW plus 75 kW supplied to centrifuge module.
- Process capacity:** Up to 60m³/hr of ideal fluids but typically up to 50m³/hr of drilling fluids with silts or 40m³/hr with flocculated solids or 30m³/hr with clay contaminated fluids.
- Solids removal rate:** Up to 15 tonnes/hr of easily separated solids but typically up to 12 tonnes/hr of silts or 10 tonnes/hr of flocculated solids.
- G force:** Up to 720 'G'.
- Power requirements:** The unit requires a 415V, 3-phase and earth, 50Hz electrical supply, no neutral is required. Starting current for the unit is 580A, full load current is 300A per phase. A 300KVA generator would normally be required to run the S4-1-H Centrifuge.
- Solids discharge:** At either side of the unit by conveyor discharging at 1.4m from the 6m face of the pump tank.
- Fluids discharge:** From pump tank module for onward transfer by integral 22kW centrifugal discharge pump with 4" outlet or through pipework controlled by valves.

