

## S4-1-H CENTRIFUGE

The S4-1-H mobile centrifuge is built with quality, high strength components and features ceramic protection of the scroll tips. It is well-equipped for use in the most demanding of roles on modern day construction sites, and can be used to maintain and prolong the life of support fluid when operated in de-silt mode, or to destroy waste fluid when used in flocculation mode. The versatility and solids handling capacity of the S4-1-H make it suitable for any application with fine solid dispersal in the support fluid which cannot be removed by normal desanding plant operations, including but not limited to HDD, tunnelling, diaphragm walling and soil washing. The centrifuge and its standard flocculation plant can be transported on 2 No. 40ft trucks.



### TECHNICAL DATA

<b>Maximum fluid throughput capacity:</b>	Up to 70m <sup>3</sup> /hr of ideal low density fluids in de-silt mode, but typically up to 40m <sup>3</sup> /hr of drilling fluids with silts or with low density flocculated solids. High density fluids are fed to the centrifuge at lower rates, typically up to 15 m <sup>3</sup> /hr for fluids of 1.25g/cm <sup>3</sup> density.
<b>Maximum solids removal rate:</b>	Up to 6 tonnes/hr of ideal, easily separated solids but typically up to 5 tonnes/hr of silts or flocculated solids.
<b>Rotating assembly:</b>	Bowl: 0.9m diameter 2.7m long with hard faced discharge ports and internal wear strips. Main bearings are oil lubricated and cooled by a monitored oil conditioning and delivery system. Scroll: Twin start, 300mm pitch, ceramic tipped scroll driven by a heavy duty hydraulic Rotodiff motor. Scroll bearings are manually grease lubricated as part of the scheduled maintenance programme.
<b>'G' force:</b>	Variable, up to 720 at 1200rpm.
<b>Centrifuge feed:</b>	Typically, the S4-1-G centrifuge is fed dirty fluid directly into the centrifuge module by a high capacity LM100 positive displacement peristaltic pump which is powered and controlled from the centrifuge control system. Flocculant dosing and Electrolyte dosing peristaltic pumps can also be powered and controlled from the centrifuge control system, simplifying centrifuge operation.
<b>Solids discharge:</b>	After separation, the solids phase is discharged by gravity from the underside of the centrifuge module which cantilevers over the power house module. Solids can be discharged directly into a skip, or directly into a banded muck pit.
<b>Fluid discharge:</b>	After separation, the fluid phase (centrate) is discharged by gravity into the discharge tank inside the power house module. The automatic centrifugal discharge pump can then be used to transfer the cleaned fluid from the centrifuge.
<b>Transport size:</b>	2 No. units each 6058x2438x2591mm (1CC container size), complete with ISO corner castings.
<b>Weight (dry):</b>	Power house module at 10 tonnes, Centrifuge module at 16 tonnes.
<b>Operating weight (wet):</b>	Up to 40 tonnes (stand-alone i.e. not including pumps or flocculant system).
<b>Operating size:</b>	8208mm (L) x 2550mm (W) x 5200mm (H) stand alone, or typically approx. 11000mm (L) x 5000 (W) x 5200mm (H) with an adjacent flocculant mixing plant and pumps.
<b>Access to centrifuge module:</b>	Via internal staircase.
<b>Control:</b>	PLC control system with HMI operator interface for ease of operation, located inside the secure power house control room.
<b>Power:</b>	190kW installed power (with all feed and dosing pumps) running at 380-415V, 50Hz, 3 phase and earth (no neutral required).
<b>Estimated running current:</b>	110A per phase.
<b>Estimated starting current:</b>	123A per phase.
<b>Main drive (Bowl) motor:</b>	75kW electric motor with inverter control.
<b>Scroll drive:</b>	112D Hydraulic Rotodiff giving a maximum torque of 19,660 Nm to the twin start scroll, driven by a 270Bar 55kW hydraulic power pack with proportional control.
<b>Feed pump:</b>	Typically, LM100 peristaltic pump with 22kW inverter controlled motor with power fed from the centrifuge.
<b>Flocculant dosing pump:</b>	Typically, PP68 peristaltic pump with 11kW inverter controlled motor with control and power from the centrifuge.
<b>Electrolyte dosing pump:</b>	Typically an externally powered PP68 (11kW) or PP55 (7.5kW) inverter controlled peristaltic pump with control from the centrifuge.
<b>Discharge pump:</b>	Metso HM100 centrifugal, with overhead mounted, inverter controlled, 22kW motor.
<b>Noise emission:</b>	74 dB at 5m.