ELGIN
SEPARATION SOLUTIONS

ESS-1450HD2™

HIGH SPEED DECANTER CENTRIFUGE

Whether you are working toward maximizing product recovery or looking to get the most out of your "zero-discharge" closed-loop system, Elgin's field proven solids control and dewatering centrifuges are a perfect choice. With over 550 centrifuges delivered worldwide, Elgin's ESS-1450HD2 is a field proven solution.

Mining • Power • Water Intake • Oil & Gas • Dredging
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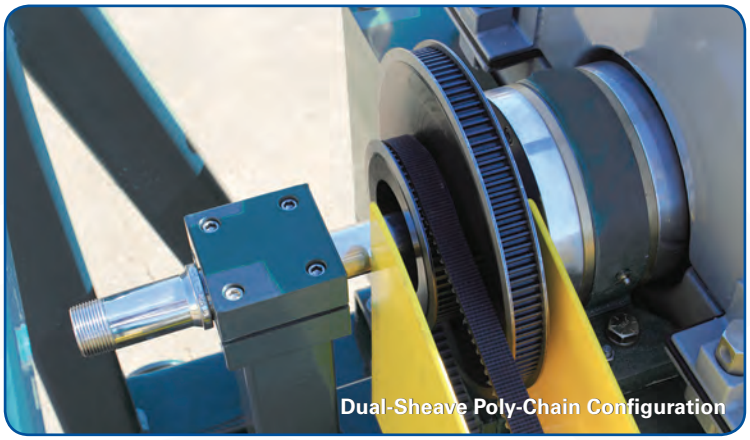
Power and Performance

Elgin's ESS-1450HD2 is fitted with a NEMA premium, continuous duty, energy-efficient, poly-chain driven, 50 hp main drive. The 50 hp main drive can operate the centrifuge up to a maximum rotational speed of 3,250 rpm, thus, generating more than 2,100 G's of force. By using an adjustable motor mount, motor and belt maintenance is made easy by the adjustment of two jack screws. No additional motor mounts, brackets, or tensioning devices are required.

By utilizing a carbon fiber poly-chain, no belt retensioning is required after installation is complete. The carbon fiber tensile cords are length-stable and can withstand shock loads that frequently lead to belt failure. More importantly, Elgin's carbon fiber poly-chain will not require quarterly replacement, saving thousands in annual maintenance expenses. By eliminating the potential for slippage, the use of a poly-chain actually reduces energy consumed. Elgin's ESS-1450HD2 centrifuge can be fitted with either a 52:1 or a 125:1 planetary gear box.



Dual-Sheave Poly-Chain Configuration

Field Skid Configuration

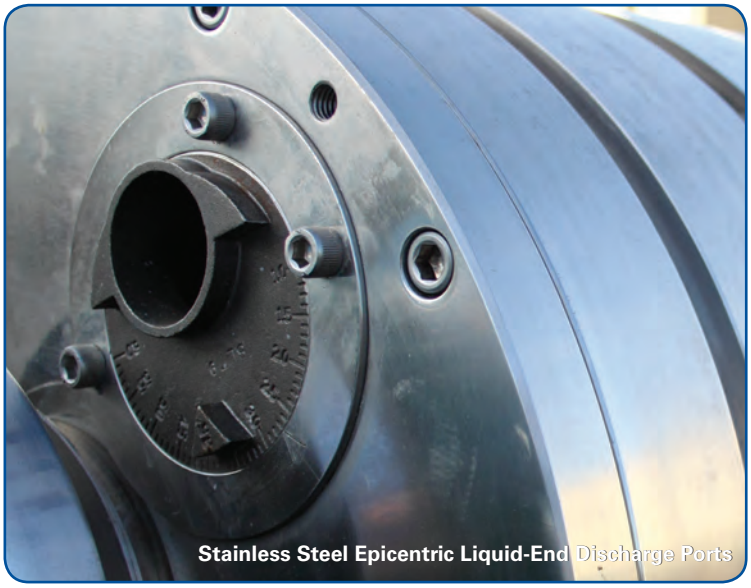
Assembled in an "offset skid" configuration, Elgin's ESS-1450HD2 requires limited effort to install. Utilizing explosion-proof electrical and controls, the control panel is provided with a convenient "pig-tail" electrical connection.

Elgin has also optimized the required footprint and redesigned its lifting system so that the entire assembly may be lifted from either the base lifting mounts or the lift eyes.

Not only does the offset main-drive configuration allow direct access to the motor and belts for efficient maintenance, but it also achieves a shorter end-to-end centrifuge length and lower center of gravity, therefore providing a greater level of installation flexibility.

Effluent Management

Elgin's ESS-1450HD2 centrifuge uses four, stainless steel, epicentric, liquid-end discharge ports. Each port can be rotated to the desired pond depth setting, therefore allowing the operator to make efficient changes in pond depth by simply loosening the set screws.



Stainless Steel Epicentric Liquid-End Discharge Ports

The ESS-1450HD2 utilizes four, wide-mouth" tungsten carbide discharge ports and plows. These features allow the ESS-1450HD2 to handle large volumes of erosive solids without damaging the centrifuge.

The ESS-1450HD2 centrate discharge hopper is ported to allow bottom, front or rear fluid discharge. Each of the three fluid discharges are fitted with 6" (15.24 mm) Victaulic™ connections.

Wide-Mouth Tungsten Carbide Discharge Ports and Plows

Rotating Assembly

Elgin's ESS-1450HD2 stainless steel rotating assembly is 14" (356 mm) in diameter and 49.5" (1,257 mm) in length. By using a length over diameter ratio of 3.5, Elgin achieves an extremely stable centrifuge, even at maximum rotational speed. The rotating assembly is given further stability by the use of two SKF™ premium bearings. Both bearings are installed in precision-machined pillow blocks. Equipped with externally

accessible grease ports, daily greasing can be performed without the removal of machine guards. The internal flights are lined with tungsten carbide tiles along the entire length of both the clarification and the tapered section, extending the ESS-1450HD2's ability to manage erosive solids.

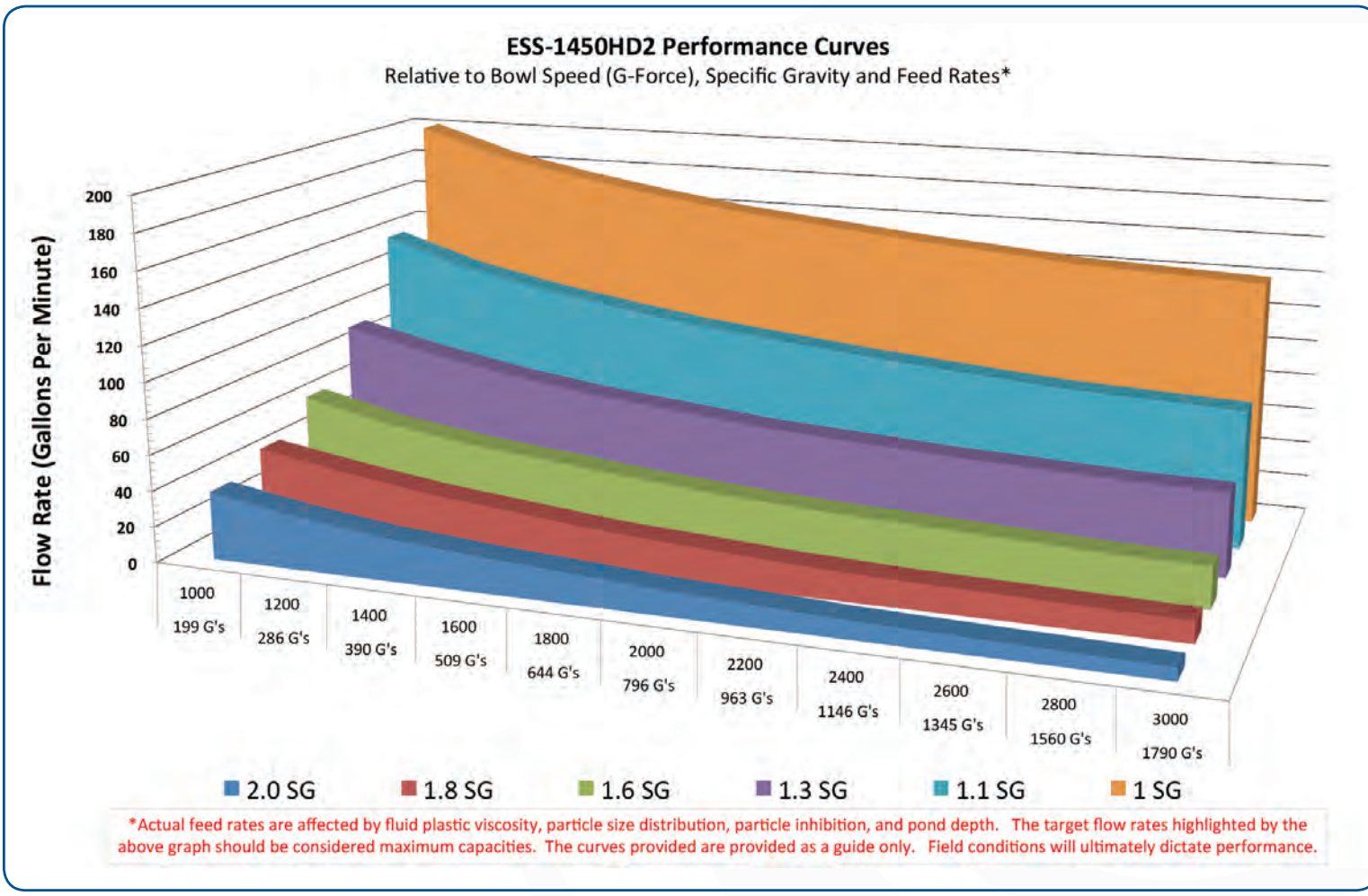
To protect the upper cover from the radial discharge of solids, a 180 degree radial, protective deflector plate has been incorporated into the upper stainless steel centrifuge lid.

Control System Options

Depending on your budget and performance needs, the ESS-1450HD2 can be fitted with either a Dual-Sheave Poly-chain, Mechanical Variable Drive ("DSP MVD") or any number of Variable Frequency Drive ("VFD") configurations.

Elgin's new DSP MVD provides a new low-cost alternative to operators. Elgin's DSP MVD allows operators to operate the ESS-1450HD2 at two different speeds without the complete disassembly of the fluid-end and sheaves, or the cost of the VFD control system. Instead, by simply loosening the jack bolts on the motor mount base-plate, the poly-chain can be adjusted to the adjacent sheave. As a result, Elgin's ESS-1450HD2 centrifuges fitted with a DSP MVD drive can achieve both 1,250 and 3,250 rpm (460 V / 60 Hz) or 1,600 and 2,400 rpm without having two sets of sheaves or belts. Alternatively, Variable Frequency Controlled centrifuges allow the operator to change the centrifuge cut point with the flip of a switch.

Control Panels Shown in Various Configutations



*Actual feed rates are affected by fluid plastic viscosity, particle size distribution, particle inhibition, and pond depth. The target flow rates highlighted by the above graph should be considered maximum capacities. The curves provided are provided as a guide only. Field conditions will ultimately dictate performance.

Touch Screen Control System

To ensure maximum operator flexibility, Elgin has developed a proprietary touch-screen VFD control system. Each stainless steel, NEMA 4X panel is built from the ground up using the most sophisticated electrical components and Yaskawa™ A1000 variable frequency drives. Elgin's VFD systems include a variety of enhanced features including, internal lighting, ventilation and heating, Ethernet porting for diagnostics and programming updates, and a custom designed user interface that allows for maximum operating flexibility and control. Elgin's proprietary user interface provides complete control of all systems, as well as, a sophisticated set of diagnostic tools, information libraries and read-only fault logs. Class 1 / Division 1 explosion proof panels available with air conditioning and purged-air protection systems are also available.

Model Number	ESS-1450HD2	ESS-1450SL	ESS-1655HD	ESS-1967HD2	ESS-2580HD
Equipment Image:					
Maximum G Force:	2,100	2,100	2,300	2,600	3,200
Maximum Speed:	3,250 rpm	3,250 rpm	3,400 rpm	3,100 rpm	3,000 rpm
Hydraulic Capacity:	200 gpm (12.6 lps)	200 gpm (12.6 lps)	300 gpm (18.9 lps)	500 gpm (31.5 lps)	650 gpm (41 lps)
Bowl Construction:	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Carbon or Stainless Steel
Bowl Diameter:	14" (356 mm)	14" (356 mm)	16" (406 mm)	18.5" (470 mm)	25" (635 mm)
Bowl Length:	49.5" (1,257 mm)	49.5" (1,257 mm)	55" (1,397 mm)	67" (1,702 mm)	80" (2,032 mm)
Weight:	7,000 lbs (3,175 kgs)	6,000 lbs (2,721 kgs)	7,500 lbs (3,402 kgs)	11,500 lbs (5,216 kgs)	15,000 lbs (6,803 kgs)
Dimensions:	103" (2,616 mm) L x 74" (1,879 mm) W x 48" (1,219 mm) H	113" (2,870 mm) L x 36" (914 mm) W x 56" (1,422 mm) H	145" (3,683 mm) L x 36" (914 mm) W x 57" (1,447 mm) H	186" (4,724 mm) L x 50" (1,270 mm) W x 62" (1,574 mm) H	208" (5,283 mm) L x 52" (1,320 mm) W x 65" (1,651 mm) H
Gearbox Ratio:	52:1 or 125:1	52:1 or 125:1	56:1	80:1	76:1

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