

KEMTRON HDD 1500HDX™ Fluid Recycling System



Astec | KEMTRON HDD offers innovative turn-key solutions for today's operators in the trenchless industry. The KEMTRON HDD 1500HDX™ is the industry's largest and most effective cleaning system in the market. Built on a 56' long triple-axel rock over trailer with an impressive 9,000 gallon tank capacity. With inset pump cabins along the side of the unit, pump pressure is more efficient which reduces hydraulic friction losses during operation. Additionally, inset pump cabins provide an additional advantage of direct maintenance access to each pump. Onsite installation is enhanced with Astec's proprietary cat-walk lift assist cylinders that allows for two operators to erect and secure the side deck and railing.

Hydraulically Balanced Mud System

With the 9,000 gallon tank capacity, the KEMTRON HDD 1500HDX™ is able to provide a hydraulically balanced mud system at 1,500 gallons per minute (9,000 gallons / 1,500 gpm = 6 minutes residence time, the design target for a hydraulically tuned mud system). To achieve 1,500 gpm, the hydrocyclone packages are designed with (3) 10" hydrocyclone desanders and eighteen (18) 5" valve-isolated hydro-cyclone desilters.

Highest Mixing Power

With the large tank size and reduced pipe congestion, Astec is able to enhance mixing with one 5HP, top-mounted, 36" hydrofoil agitators in each of the three tank compartments. Coupled with a series of mud guns, the KEMTRON HDD 1500HDX™ has the highest mixing power per gallon found in the industry. Top mounted agitators are also significantly less expensive to maintain over their life and reduce the horsepower demand on the generator package when compared to submersible mixers.

Dedicated Hydrocyclone Centrifugal Pumps

However, to achieve a 1,500 gpm capacity, both the desilter manifold and desander manifold feed pumps feature 60HP Series 250 6x8 Centrifugal Pumps. These pumps ensure that the unit has the required pressure head to operate the hydrocyclones at 1,500 gpm. Despite the size of the centrifuge pumps, the lowered electrical draw from the top-mounted agitators, allows the KEMTRON HDD 1500 HDX™ to be fitted with a 250KW Tier-4 generator package.

Auto Transfer Pump Control

As a new paradigm in integrated mud system controls, Astec has developed a proprietary new control panel that features an 'Auto Transfer Pump Control' which automatically activates/shutdowns the transfer pump during operation, based on high/low level tank sensors in the clean tank. This feature protects the pump from running dry and ensures fluid transfer efficiency to the triplex pump for downhole return.

KEMTRON 1500HDX™ Benefits:

- Multi-pass cleaning system maximizes shaker and hydrocyclone performance helping to maintain target mud weights.
- Two (2) dual-deck Hyper-G 6P™ scalping shakers, each with 56 sq. ft. of screening surface, providing for substantially more cleaning capacity when dealing with large bores.
- Two (2) single-deck Hyper-G 3P™ linear motion mud cleaners, each with 28 sq. ft. of screening surface.
- Three (3) Vortex 10™ hydrocyclone desanders and eighteen (18) Vortex 5™ hydrocyclone desilters with pressure gauges and dedicated isolation valves for operation efficiency.
- Hyper-G™ shaker with rubber vibration isolators, providing reduced noise, long-lasting, maintenance free operation.
- Most efficient tank agitation per unit volume of mud utilizing top mounted agitators and mud guns ensures complete mixing performance.
- Dedicated centrifugal pumps, inset on the side of the tank for easy maintenance, provide independent transfer, mud circulation/hopper, desander, and desilter operations.
- Proprietary 'Cat-Walk Lift Assist' for easy onsite installation of side deck and rails.

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Pump Pockets

Pumps inset into tank side for unobstructed access for service and maintenance.



Additives Hopper

Large hopper with 6" venturi nozzle for easy chemical loading.



Agitation

Three (3) top-mounted vertical high-efficiency agitators.



Vortex Hydrocyclones™

Configured with three (3) Vortex 10™ Desander and eighteen (18) Vortex 5™ Desilter manifolds.

Model Number:	KEMTRON HDD 1500 Pro™
Description:	1,500 gpm recycling / cleaning capacity (95 lps)
Screen Type:	BlueCrest 28™ / BlueWave 28™ Composite Screens
Centrifugal Pumps:	(2) Vision 65™ (40 hp) & (2) Vision 86™ (60 hp)
Linear Motion Shaker Motors:	(2) 3.3 hp & (2) 2.0 hp
Number of Screen Panels on Single Deck Shaker:	Three (3) Screens 28 sq. ft. (2.6 m ²) total screening area
Number of Screen Panels on Double Deck Shaker:	Six (6) Screens 56 sq. ft. (5.2 m ²) total screening area
Screen Surface Area:	168 sq. ft. (15.61 m ²) total on all four shakers
Vortex Desilter Hydrocyclones:	(18) Vortex 5" Desilter Hydrocyclones (10.16 cm)
Vortex Desander Hydrocyclones:	(3) Vortex 10" Desander Hydrocyclones (25.4 cm)
Maximum Flow Rate:	1,500 gpm (95 lps)
Dimensions:	L 56' (17 m) x W 8' (2.4 m) x H 12.5' (3.8 m)
Weight:	79,000 lbs (35,834 kg)
Tank Capacity:	9,000 gallon (34,000 liters)

Upgrade Options:

- For superior fluid cleaning capacity add an Elgin Separation Apex™ decanter centrifuge and create the perfect closed loop environment.
- Add a 600 gpm (38 lps) quintuplex pump package to maximize system integration and performance.
- Upgrade to dual-motion shaker motors capable of linear motion and balanced elliptical motion for managing sticky solids.
- Winterization Package - Add full canopy structure to upper deck and pump pockets to protect from elements and immersion tank heaters to severe cold climate environments.
- Submersible Feed Pump - Add a 1,500 gpm (95 lps), 20 hp, PitBull 1500™ pump to the system to deliver fluid to the recycling system.

Additional Features:

- Triple axel trailer with three (3) 30,000 lb axels distributes load evenly.
- Onboard pressure washer for cleaning screens, tanks and pumps.
- 1/4" ASTM A36 plate steel, with full seam welded, industrial coated construction improving corrosion resistance.
- Phenolic-lined interior tank to expand tank life & minimize corrosion.
- 6" venturi hopper with working table. Hopper discharge diverted away from tank suction conveniently located at ground level, eliminating the need for material handling on the top deck.
- Seven (7) 5/8" high-velocity mixing guns for supplementing tank agitation.
- Fitted with a 250 kW stand-by (225 kW prime) premium-grade generator with extended life diesel tank.
- Uniform working surface across entire working deck to minimize trip hazards with LED lighting.
- Entire upper deck fully surrounded by an OSHA compliant walkway and railings.



KEMTRON HDD 1500HDX™ skid with three (3) dual-deck scalping shakers, single-deck desander mud cleaner, and single-deck desilter mud cleaner.