



Specifications and Descriptions for Super Products Mud Dog™ Hydro-Excavator Unit



1.0 Debris Tank/Collector Body

- 1.1 Debris tank shall have a minimum total usable volume of ten (10) cu. yds. (7.6 m³), 2000 gallon water capacity (7,570 L), cylindrical shaped, and constructed from 0.25" (6.0 mm) A36 steel including the rolled cylinder and front tank head.
- 1.2 Debris tank is emptied via ejector plate unloading. A full diameter, hydraulically operated ejector plate ejects the collected material from the debris body.
- 1.3 The rear door to be full diameter and opened with double acting hydraulic cylinders for power open and close. The door to open 90 degrees to allow easy access to the debris body interior.
- 1.4 Splash shield around lower two thirds of rear tailgate.
- 1.5 Controls for latching/unlatching, opening/closing the tailgate , and extending/retracting the ejector plate must be located on the driver's side and forward of the debris tank.
- 1.6 Two (2) worklights mounted on rear of unit. Switched in truck cab.
- 1.7 The rear door seal must be self compensating type and mounted on the door to increase seal life.
- 1.8 A full diameter, rear opening tailgate, top hinged, with flat construction shall be provided, fabricated of 0.25" (6.0 mm) steel plate, and fitted with a full diameter "B" shaped neoprene gasket to ensure a water tight seal.
- 1.9 Five (5) Hydraulic wedge type latches shall be provided on the rear tailgate for holding the door closed.
- 1.10 Flashing arrow board on rear of unit. Controlled in truck cab.
- 1.11 To prevent overfilling by liquids of the collector body, two (2) 9" dia. (228.6 mm) stainless steel float balls will be provided to act as the primary stage to prevent debris from reaching the vacuum pump.
- 1.12 Toolbox located directly behind chassis cab. Toolbox to be 18" x 48" x 60".
- 1.13 A 6" dia. (152.4 mm) right side body mounted drain will be provided with a knifegate valve to remove water from the front of the collector body. A 6" x 10' (152.4 mm x 3.05 m) lay flat drain hose will be provided.
- 1.14 Beacon Light mounted on roof of cab.



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2.0 Vacuum System – 28" Hg

- 2.1 A positive displacement trilobe vacuum pump rated at 6000CFM and 28"hg., driven from the single chassis engine via a heavy duty Cotta transfer case mounted between the rear axle and the truck transmission.
- 2.2 A steel cover will shield the drive shaft between the vacuum pump and transfer case.
- 2.3 To engage and disengage the vacuum pump, a floor mounted mechanical lever and cable, connected to the transfer case, will be operated from inside the cab.
- 2.4 To reduce the dba level, a heavy-duty exhaust silencer, with a top mounted rain cap, shall be mounted to the vacuum pump.
- 2.5 To achieve the second stage filtration level, a tapered cyclone separator will be installed between the collector body vacuum outlet and the vacuum pump. A rectangular storage area with a clean-out cover and a liquid drain valve shall be located at the bottom of the tapered cone.
- 2.6 Third stage filtration will be achieved by providing a pleated filter capable of containing particles sized 10 micron or larger. The filter shall be removed for easy cleaning or replacement.
- 2.7 To allow the operator the convenience of shutting the vacuum off and on at the inlet tube without disengaging the vacuum pump, a vacuum relief vent door shall be included and operable from the portable pendant or cabinet control panel.

3.0 Boom System

- 3.1 An 8" dia. (203.2 mm) heavy duty vacuum hose and boom assembly shall be provided and mounted on top of the forward part of the collector body.
- 3.2 The boom assembly shall be stored at the right front corner of the chassis for transport.
- 3.3 A cradle shall also be provided to support the boom during transport.
- 3.4 All boom functions (up/down/left/right/in/out) shall be hydraulic powered and controlled at the portable pendant, and furnished with 50' of heavy duty electrical cord. Back up controls for the boom functions shall be provided inside the primary storage cabinet.



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- 3.5 The boom tower shall be supported by a heavy duty turntable bearing assembly and rotate 335° via a hydraulic powered worm gear drive, raise and lower via two (2) hydraulic cylinders, and extend and retract 8' (101.6 mm) via a single (1) hydraulic cylinder.
- 3.6 To increase the operators working area, the boom arm shall extend 8' and have a minimum 26' reach from the centerline of the collector body.
- 3.7 To reduce elbow wear, the boom tower design shall include an "air backed" elbow where materials can accumulate in a "T" section at the collector body inlet.
- 3.8 An 8" dia. heavy-duty rubber hose shall be provided for connecting the boom to vacuum intake tubes.
- 3.9 Boom function shall be controlled by a 12 V DC hydraulic manifold valve which includes manual overrides for all functions.
Also included is a wireless remote control for boom functions.
- 3.10 The boom shall have minimum lifting capacity of 700 lbs. (318 kg) in the fully extended position.

4.0 Vacuum Tubes

- 4.1 A fixed tube rack shall be provided and mounted to the rear tailgate and have sufficient capacity to hold one (1) 8" x 7' aluminum suction tube (203.2 mm x 2.1 m); one (1) 8" x 5' tube (203.2 mm x 1.5 m); one (1) 8" x 3' tube (203.2 mm x 0.914m); one (1) 8" x 6" reducer (203.2mm x 152.4 mm); and one (1) 6" x 7' digging tube (152.4 mm x 2.1 m) with a urethane end to protect underground components from damage. Sufficient clamps and gaskets shall be provided to fit the above tubes.

5.0 Water System

- 5.1 The water system shall include four (4) modular water tanks each with a capacity of 250 gallons (946 L) providing an operating capacity of 1000 gallons (3785 L). The water tanks shall be saddle mounted to the collector body.
- 5.2 The modular water tanks will be constructed of non cross linked polyethylene and UV resistant. Tanks constructed of steel will not be considered.
- 5.3 To provide hydro jetting capabilities, a triplex water pump shall be provided with a minimum flow of 14 gpm and a minimum pressure of 3000 psi. The water pump shall be hydraulically driven from a dedicated hydraulic pump mounted to the truck transmission and have the ability to vary flow and pressure.



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- 5.4 The water system shall be located in the primary storage cabinet and include: a water pressure gauge, water pump relief valve, pulsation dampener and water system drains.
- 5.6 A water recirculation system shall be included which allows water to be circulated through the water pump and back to the water tank in both the traveling and stationary mode for cold weather operation.
- 5.7 To effectively loosen dirt prior to and during vacuuming, a special application lance with multi-direction jetting orifices will be provided with an on/off trigger and guard and two (2) pipe extensions for depths up to 15' (4.6 m).

6.0 Hydraulic System

- 6.1 A tandem heavy-duty hydraulic pump driven by a 6-bolt PTO mounted to the truck transmission shall be provided to power the collector body pusher plate and all of the boom functions with one section and the water pump with the second section. Engagement controls will be located inside the truck cab.
- 6.2 A 30-gallon (114 L) hydraulic oil reservoir shall be provided with two (2) return line screw on oil filters with filter condition indicator.
- 6.3 Operating control levers to open/close the rear tailgate door and move the ejector plate out/in will be located behind the cab on the driver's side.

7.0 Primary Storage Cabinet

- 7.1 A large steel storage compartment shall be located just forward of the collector body and provide ample storage space for work clothes, boots, digging tools, etc..
- 7.2 The cabinet will be a minimum of 44" long x 96" wide x 96" high (1117.6mm L x 2438.4mm W x 2438.4mm H).
- 7.3 Two (2) full opening cabinet doors 30" wide x 66" high (762mm W x 1676.4mm H) with turn type latches will be provided and offer easy access to the interior area.
- 7.4 Plug in recap for pen in cabinet.
- 7.5 IIOU GFI outlet located in cabinet.

8.0 Control Panel and Gauges

The control panel shall be located inside the primary storage cabinet and shall include the following standard items:

- Boom backup functions (up/down/left/right/in/out)



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- Master power switch – push button type
- Vacuum relief vent door switch – open/close
- Vacuum pump tachometer
- Vacuum gauge – inches of vacuum
- Chassis engine throttle – electric
- Compartment light switch

9.0 Mounting – Paint Finish

9.1 The above-described hydro excavator will be professionally mounted to an acceptable chassis. The entire unit will be properly prepped prior to painting and finished with a one-color enamel high-gloss paint. An electronic back-up alarm shall be provided with a minimum 97-dba rating.

10.0 Warranty/Miscellaneous

10.1 A one (1) year parts only warranty shall be included against defects in material and workmanship.

10.2 Two (2) Operations/Maintenance/Service Manuals are to be included.

10.3 Standard mounting on factory approved chassis.

11.0 Options Recommended to Support the above Hydro Excavation Specs

11.1 Wireless remote control for boom functions

11.2 Anti-freeze injection system for cold weather applications

11.3 Boom flapper valve.

11.10 Storage cabinet heater – 65,000 Btu/hr.

11.11 Extra tube storage racks.

11.12 Various dig tubes, nozzles and accessories.

11.13 880,000 BTU Heater