

## **- V-FORCE RECYCLING COMBI UNIT -**

SUITABLE FOR BEING MOUNTED ON A 4 AXLE CHASSIS



### **The V-FORCE RECYCLING COMBI:**

- 2,250gallons Sludge Tank + 1,350gallons HP Water Tank - SS 304
- Powerful SIHI SL2700, 1,480cfm/hr, 90% vacuum, Liquid Ring Pump
- Vacuum Pump Water Tank 340gallons in Stainless Steel
- URACA HP Pump with 79gallons/min at 2,800psi
- Discharge Compressor, 100cfm/hr and 0.5bar Overpressure
- Stainless Steel Hose Racks & Tool Boxes
- Special Suction Cassette
- Radio Remote Control with 12 functions

## TECHNICAL SPECIFICATION

### Chassis:

- Delivery:** Free issue delivery by the customer to our workshop.
- Manufacturer / Type:** MAN 8 x 4 chassis with a minimum of 400HP.
- MAW:** Minimum: 32,000kg
- Wheelbase:** To be determined by our Technical Department as soon as the exact type and execution are known.
- Chassis:** The near side of the chassis, within the wheelbase, has to be kept free for the mounting of the Vacuum ump, HP Pump and other equipments.
- Chassis Cab:** The Free Issue chassis cab to be supplied painted in customer's livery.
- Aux. Equipment:** The chassis has to be equipped, at the customers expense, by the chassis manufacturer with:
- Pre-wiring for engine speed control. The switch itself is provided by Amphitec and will be mounted on our main control panel.
- A more precise list regarding needed signals will be handed over upon order, when the exact brand and chassis type are known.



### Power Take-Off:

- PTO:** The chassis will be equipped at our expenses with:
- 1 x Transfer Case in the main drive line, with 4 PTO- outlets:
    - o 1 x High power outlet with pneumatic clutch for driving the vacuum pump ( $\pm 75\text{kW}$ )
    - o 1 x High power outlet with pneumatic clutch for driving the jetting pump ( $\pm 135\text{kW}$ )
    - o 1 x Output for the needed hydraulic pump for the jetting hose reel.
  - transfer case mounted with vibration dampers
- PTO:** The chassis will be equipped at your expenses with:
- 1 x PTO on the gearbox for driving the needed hydraulics ( $\pm 20\text{kW}$ )



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## Build:

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Pressure/Vacuum Suitable for the transport of non hazardous waste products and built in accord with the design rules vacuum operated waste tankers.

## Pressure Vacuum Tank:

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Shape: Cylindrical shaped tank with U-sectional external stiffening rings in stainless steel.  
Material: Stainless steel, grade A240-304L  
Capacity:  $\pm 10,000$ Litres  
Baffles: Not Included  
Wall Thickness  $\pm 6.0$ mm  
Head Thickness  $\pm 6.0$ mm  
Working pressure: -0.9bar vacuum and 0.5bar Overpressure.  
Tipping Ram: Front tipping ram with safety support for easy working under a tipped tank.  
Handrail: On top of the tank, on both sides, foldable handrails are foreseen for safe working on top of the tank, with access ladder.  
*Due to the presence of the suction cassette, no walkway is included.*

Vent Valve: A stainless steel butterfly valve, pneumatically operated from the main control panel, on tank top.

Content Indicator: Level indicator by means of sight glass 90mm over the full height, mounted on the n/s of the tank. Level indicator foreseen with isolation valves and caps for cleaning.

Discharge Chute: A stainless steel discharge Chute is mounted at the rear of the tank, lower part, to protect the rear.

Rear Door: Full door with hydraulically opening operation and heavy, adjustable hinges. No threshold because door bottom is at same level as tank floor.

Safety: Hydraulic check valves with auto check in upper position.

Locking Mechanism: The door is locked by hydraulic operated clamps.

Seal: Positive seal with rubber seal in neoprene.

Inlet Valve: One off 100mm ball valve with manual operation. Valve to be in steel with a chrome plated ball. Located in base of rear door. A riser pipe is fitted to the inlet line with a suitable bend. Terminating in 4" Bauer male connection with blank cap.

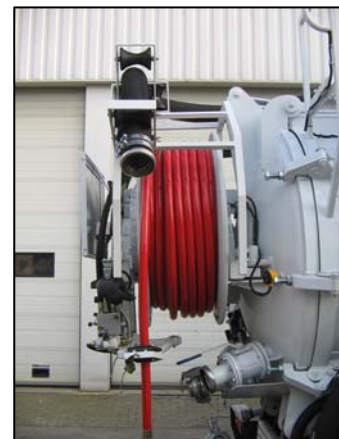
Outlet Valve: One off 100mm ball valve with manual operation. Valve to be in steel with a chrome plated ball. Located in base of rear door. Terminating in 4" Bauer male connection with blank cap.

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## Jetting Pump:

- Make:** Triplex piston jetting pump, make Uraca, type P3-45, driven from the PTO on the transfer case with drive shaft and V-belts. Engage and disengage from main control panel.
- Flow/pump:** ± 350 Litres/min
- Max Pressure:** ± 200bar
- Power requirement:** ± 135kW
- Mounting:** Within the wheelbase.
- Pump protection:** Low level water detection in water tank.
- Pressure regulation:** Pneumatic operated pressure regulation valve with overflow to water tank.
- Water tank:** Water tank in stainless steel 304(L), ± 6.000L, executed as saddle water tanks, mounted left and right to the sludge tank. Foreseen with filling duct and drain, manhole and 40/30mm acrylic sight glass.
- Safety:** Audible alarm device for low water level. At that moment, the jetting pump is automatically disengaged. The pressure duct can be connected to the air supply system of the truck to blow out all water in case of temperatures below 0°.
- Equipment:** Suction duct in stainless steel to jetting pump, foreseen with:
- Water filter to protect the HP pump, foreseen with isolation valves for cleaning purposes.
  - The necessary drain and aeration valves.
- Jetting Hose Reel:** Suitable for 120m of HP hose ID32 – (1¼”), hydraulically operated with adjustable speed in both directions, and foreseen with lever operated HP ball valve. The hose reel is mounted on the rear cover and swivels horizontally over an angle of ± 110degr. The swivel is controlled hydraulically. Control panel on the hose reel with emergency stop. Equipped with 120m synthetic HP hose ID32mm (1¼”)
- Secondary Hose Reel:** Suitable for 50m of HP hose ID13 – (½”), manually operated and fitted with lever operated HP ball valve. The hose reel is fixed mounted on the rear left. Equipped with 40m synthetic HP hose ID13mm (½”)





- “ECOCYCLE” System: Mounting of the water recycling system “Ecocycle” consisting off:
- Self cleaning, rotating stainless steel filter inside the barrel, 700microns. This filter is fitted with a floating device to keep it in the liquid fraction. Max. flow:  $\pm 400\text{L}/\text{min}$ .
  - This filter is also equipped with a high pressure nozzle rod to clean it out from the inside with high pressure.
  - The pre-filtered water is taken out by a centrifugal pump, operating whilst the tank is under vacuum. A pneumatic isolation valve is mounted in de suction line towards the pump.
  - A drain duct is mounted parallel to the barrel and is foreseen, at the rear, with a coupling and a blank cap. The water can thus be drained back into the sewer or other.
  - A cyclone water filter is mounted to filter down the pre-filtered water to a degree suitable for the installed jetting pump. The filtered water is returned to the water tank, the separated solid particles are returned to the sludge tank.
  - This system is capable of operating during normal combination work.
  - Multi-functional control panel with all necessary alarms and controls.

### Tank Mounting:

Tank mounting: The chassis will be equipped at our expense with a sub frame acc. chassis manufacturers prescriptions.  
 At the rear, the tank is equipped with 2 heavy hinge points.  
 At the front, the tank rests in a tank saddle with rubber lining.

### Hydraulic, Pneumatic and Electrical Equipment:

Equipment: All needed control valves and equipment for a smooth and easy operation of the unit is installed.

Hydraulic: The needed hydraulic pumps are mounted directly onto the PTO's.  
 The unit is foreseen with a suitable oil tank and the needed accessories.

Pneumatic: The necessary air supply is taken from the main air supply of the truck. The necessary safety valves are installed.

Electrical: The needed electrical current, 24VDC, is taken from the trucks electrical system and is foreseen with the needed fuses.

## Suppl. Safety Features:

- Emergency Stop:** An emergency stop is installed on the main control panel and near the jetting hose reel.
- Rotary Beacon:** 2 off amber coloured rotary beacon will be mounted on the top at the rear. Switched on/off from inside cab.
- Working Light:** 3 off working light is foreseen at the rear:
- 1 off on each side at the rear, telescopically mounted.
  - 1 off on the sewer hose reel

## Control Panel:

- Controls:** All necessary controls needed for good operation are provided.
- Controls:** All controls are mounted in a stainless steel watertight box at the rear. All control panels are lighted for working at night. The needed gauges are also lighted.
- Remote Control:** A wireless remote control will be foreseen with max. 12 functions. These functions will be determined together with the customer.
- Labels:** The whole unit is foreseen with clearly engraved labels where necessary.
- Speed Governor:** A speed governor is foreseen at the control panel. Pre-wiring for this has to be executed by the chassis supplier at his expense.





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## Finishing:

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Hose Racks	On the o/s, a stainless steel hose storage rack with solid bottom is foreseen. Length according available place.
Suction Hoses:	Not provided.
Tool boxes:	On one side a multi compartment stainless steel toolbox is foreseen. The control panel is also located inside this box.
Large storage box:	At the front, on one side, a large storage will be foreseen for drying of clothes.
Mud wings:	Synthetic mud wings are foreseen on all rear axles.
Traffic regulation:	All necessary items to comply with the local traffic regulations are mounted on the truck.

## Treatment:

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Sandblasting:	All steel and stainless steel parts are sandblasted to grade SA2.5.
Paint:	The whole unit is painted in an acrylic paint in your FLN colours.
Inside:	No treatment.
Advertising:	Not foreseen in this offer.

## Delivery:

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Delivery:	Ready to operate but without suctions hoses and other equipment, unless mentioned earlier in this offer.
Manual:	The unit is foreseen with an operations manual and a manual for complete maintenance in English language.
Training:	A One day training in our production facilities is foreseen.

