

1. DESCRIPTION

- 1.1 Vacuum-litter collection vehicle with 4 wheels. Propulsion by means of hydraulic wheel motors on front wheels, with central operator position and automotive steering wheel. Robotic Vacuum arm will have hydraulic 6 positions joy stick.

Make: MADVAC
Model: LR-50
Year: 2015 (or Current Year)

- 1.2 These vehicles are meant for the maintenance of walkways, parking lots, common areas and public places.

2. DIMENSIONS

- 2.1 Overall width: max. 48.75 in. (1238 mm)
- 2.2 Total length: max. 96 in. (2438 mm)
- 2.3 Total height: max. 92 in. (2335 mm)
- 2.4 Wheelbase: max. 65 in. (1650 mm)
- 2.5 Ground clearance: min. 8 in. (203 mm)
- 2.6 Gross vehicle weight: 2535 lbs. (1150 kg)

3. PERFORMANCE

- 3.1 Payload 150lb (70 kg)
- 3.2 Operator 352 lbs. (160 kg)
- 3.3 External turning radius: 90 in. (2286 mm)
- 3.4 Ground speed: min. 12 mph. (19 km/h)

4. GENERALITIES

- 4.1 Supply one (1) maintenance and parts manual in 3D including all options and accessories.
- 4.2 Supply one (1) set of keys for each vehicle.

5. BODY

- 5.1 Water proof storage.
- 5.2 Front and back rubber bumpers solidly bolted to the chassis.
- 5.3 Hinged Power assisted air cylinder tilt seat for access to engine compartment.
- 5.4 Hinged side door for oil cooler and radiator access.

- 5.5 Hinged side door for engine access.
- 5.6 Hinged rear power assist air cylinders gull wing cowling.

6. HYDRAULIC SYSTEM

- 6.1 Front wheel drive with hydrostatic pump and two wheel motors .
- 6.2 Hydraulic oil by-pass valve for towing the vehicle at low speed. The valve will be equipped with a handle for operation without tools.
- 6.3 Hydraulic 10 micron filtration strainer on the intake and a return of the oil tank.
- 6.4 Hydraulic operated traction pedal.
- 6.5 Hydraulic tank with a sufficient capacity for both the traction and the vacuum systems with internal baffle separating intake and return.
- 6.6 Hydraulic pump directly coupled to main engine.
- 6.7 Hydraulic tank will have a breather and an accessible drain.
- 6.8 Hydraulic tank will have a see through oil level indicator.
- 6.9 Hydraulic spin on type oil filter .
- 6.10 The hydraulic system will be filled with an ISO 46 hydraulic oil .

7. VACUUM

- 7.1 Electro-hydraulic valve for controlling the hydraulic vacuum motor.
- 7.2 Vacuum fan directly mounted on hydraulic motor.
- 7.3 No material shall pass through the fan .
- 7.4 Fan shall be located beneath the vacuum chamber so that collected litter is compacted as it is loaded.

8. DRIVE TRAIN

- 8.1 Front wheel steering with hydraulic power steering.
- 8.2 Four ply tires on all four wheels to be 20 X 8.5-10.
- 8.3 Tires to be the same size on all four wheels.
- 8.4 Rims to be compatible with the tires used.
- 8.5 Multiple transverse leaf spring front suspension on top of a torsion beam axle coil springs and shock absorbers on rear wheels.
- 8.6 Coil springs and shock absorbers on rear wheels.

9. BRAKING SYSTEM

- 9.1 Hydrostatic brake.
- 9.2 Rear disk for emergency and parking brakes.

10. ENGINE

- 10.1 Three cylinder liquid cooled Kubota diesel engine with 25 HP gross power.
 - Make: Kubota
 - Model: D1105
 - HP: 25
- 10.2 Two stage Donaldson cyclonic high capacity air filter with restriction indicator.
- 10.3 Variable speed regulator.
- 10.4 Minimum 40 liters fuel tank.
- 10.5 High temperature low oil pressure engine cut-off protection.
- 10.6 Engine compartment to be insulated for noise reduction.

11. ELECTRICAL SYSTEM

- 11.1 12 volt system with a 105A alternator.
- 11.2 Standard SAE style top post battery with a minimum 450 COCA at -18 °C.
- 11.3 Total reserve capacity at 27°C, of 25 A; min. 90 minutes.
- 11.4 One headlamp at the front of the vehicle.
- 11.5 Three combination lamps for Stop / Turn / Reverse positions at the rear of the machine .
- 11.6 Two amber Position / Flashing lamps at the front.
- 11.7 Four way amber flashing hazard front and rear.
- 11.8 License plate holder and light.
- 11.9 Slow moving triangle reflective vehicle signal on rear cowling.

12. OPERATOR STATION

- 12.1 One seat and integral arm-rests, adjustable support and back-rest.
- 12.2 Grab handle and cup holder on the left side.
- 12.3 One safety lap belt.
- 12.4 Engine throttle control on the right.

12.5 Automotive type steering wheel with steering ball for ease of handling.

12.6 Clear polycarbonate panel behind operator covering from the back of the seat to the roof.

13. CONTROLS

13.1 Key ignition for starting and stopping the engine.

13.2 Key ignition glow plug on prior to starting the engine.

13.3 Neutral start switch installed on traction control pedal preventing engine starting if pedal is depressed.

13.4 Lever and cable for engine throttle control.

13.5 Horn on turn signal lever, mounted on left hand side of steering column.

13.6 Dashboard indicators.

13.7 Low voltage indicator light.

13.8 Hour meter.

13.9 Low oil pressure indicator light.

13.10 Fuel level gauge.

13.11 High engine temperature light.

14. VACUUM SYSTEM

14.1 Vacuum system mounted on rear of vehicle.

14.2 Vacuum passes through a fibrous litter bag and is collected inside bag .

14.3 Suction through a hose at the front mounted on a robotic type arm with Robotic 6 positions joy stick Up / Down, Right / Left and In / Out.

14.4 Robotic arm controlled by hydraulic proportional valves.

14.5 Vacuum fan to have a closed inlet static pressure of 7.472kPa .

14.6 Minimum air speed of 6500 ft/min.

14.7 8 in. (203mm) nominal clear vacuum hose.

14.8 Right side support for hose storage in transport mode.

14.9 The foot of the vacuum hose will be constructed of heavy metal for shock and abrasion resistance.

14.10 Work angle to be 160 degrees with stoppers at each end

15. LITTER CONTAINER

- 15.1 Simple tilt action for emptying the container.
- 15.2 Air cylinder power assist tilt container.
- 15.3 Container retained by a steel cable.
- 15.4 Minimum capacity of 260 liters.
- 15.5 Primary polypropylene fiber filter litter collection bag.
- 15.6 Secondary Exhaust bag.
- 15.7 Container and container cover is constructed of steel.

16. PAINT

- 16.1 Original manufacturer color, charcoal body, white panels.

17. WARRANTY

- 17.1 One year full parts and labor.

18. OPTIONS

- 18.1 48" Vacuum Head - Hydraulic Raise/Lower C/W Dual Vacuum Port (K14069).
- 18.2 Wander hose 6" Dia. X 15Ft. (4.5m) Retractable Hose (K11937).
- 18.3 Heavy Duty Rubber Hose Upgrade (K12132).
- 18.4 Filter Cartridge, Interior, 2 Micron, 105 Sq. Ft Media (Consists of a washable filter cartridge installed inside the litter container) (K11793).
- 18.5 Silent Pack - Extra Sound Proofing (K12160).
- 18.6 Enclosed Cab With Heated Windshield, Vinyl Doors (K13740).
- 18.7 In Cab Heater (K13147).
- 18.8 Convex Mirrors - Mounted On Each Side of Cab (2 Mirrors) (K13959).
- 18.9 Strobe Beacon, Amber, 12V (K12140).
- 18.10 Road Lighting Package LED (Includes LED Headlight, Turn Signals, LED Brake Lights, LED Flashers, LED Back Up Light, LED License Plate Holder, and SMV Emblem) (K11994).
- 18.11 Head Rest for operator (K13119).
- 18.12 Collector Bags, Bundle of 100 Bags (MV63271).