TOWED MECHANICAL SWEEPER

1. FEATURES

1.1 – PRESENTATION

Designed and built using the most advanced technical solutions, the VMR sweeper features a simple and robust construction, which, besides making operation easier in use, requires minimal effort and/or tools for maintenance.

2. CHASSIS:

Built from ASTM A 36 steel plates, #1/4 (6.35mm) thick, reinforced with a C-profile structure, electrically welded by the MIG process.

3. WATER TANK

With a capacity of 860 liters of water, built from ASTM A 36 steel plate, 3.175mm thick, it has two filler openings on top and an inspection cover measuring 800 mm x 950 mm, fixed by bolts, for any repairs inside the tank. Its internal finish is obtained by blasting, chemical treatment and application of anticorrosive paint.

4. OIL TANK

Capacity of 140 liters, manufactured from ASTM A 36 steel plates, 3.175mm thick, bent and electrically welded. Submerged inside the water tank, it provides efficient heat exchange, cooling the hydraulic fluid, which helps extend the service life of the system components. In addition to a level sight gauge on the side, it also has a suction filter and a return filter, in order to ensure good oil quality in the circuit.

5. FAIRING

Designed to house the entire hydraulic circuit of the equipment, it is made of aluminum sheet, providing easy access for maintenance; this space serves as a toolbox. There is one fairing on each side, in order to give the equipment a good appearance and finish.

6. RUNNING GEAR

Tricycle type, uses 700x16 tires, 16” rims, 10-ply, with reinforced center. The axle end made of SAE 1045 steel, and the wheel hub of GG 42 cast iron, seated on automotive-grade bearings, properly lubricated through grease fittings, gives the assembly great durability and safety.

7. SIDE BRUSHES

Driven by hydraulic motor, they are designed to achieve the greatest possible use of the bristles, using the parallel-arm system, driven by independent double-acting cylinders, which allows differential adjustment of ground pressure from one side to the other, as well as adjustment of the “angle of attack”, through dedicated devices located on the brush itself. This parallel-arm system makes it possible to compensate for undulations in the road surface, as well as to absorb impacts from possible collisions with foreign objects or even with the side curbs of the road. The hydraulic system has check valves to keep the brushes safely raised during travel.

8. CENTRAL BRUSH

Mounted in its own compartment (INLET) whose function is to guide debris into the load compartment, it rests on casters, to absorb and follow the undulations of the floor. It has six combs (with an option of 7 or 8 combs, depending on the surface to be swept) of high-density polypropylene, which, through the rotation transmitted by the hydraulic motor, at about 800 revolutions per minute, drag the dirt through the inside of the inlet, throwing it into the load compartment. Shaft made of SAE 1045 steel, hubs and bearing housings made of GG 42 nodular cast iron resting on ball bearings, sealed against dust by oil seals, chrome-plated steel rods and comb guides in tubular structure, give an assembly that is quiet, robust and of excellent durability. It also has a system to compensate for the wear suffered by the bristles, in an easily accessible place and simple to handle. In the inlet there are two doors, one on each side, for replacing the combs. It is also equipped with a device for raising the assembly, by means of a hydraulic cylinder, intended to preserve the components during travel to the work site.

9. LOAD COMPARTMENT

With a capacity of 1,680 liters, located at the rear of the equipment, it is built from high-strength steel plates, which are shot-blasted with steel grit and receive two coats of primer. Two hydraulic cylinders external to the load box, mounted in a protected manner, inside the structure so that they are protected from possible shocks and bumps, make it possible to discharge the debris directly into stationary containers, eliminating the inconvenience of discharging onto the ground and having it collected afterwards by the workers.

10. IRRIGATION

Fitted with an irrigation system to suppress dust, through spray nozzles located at the front of the tractor, on the side brushes, and on the central brush, with independent opening and closing controls by ball valves, located at the irrigation control station, on the tractor. A water pump, coupled to the multiplier, feeds the irrigation lines. Optional electric pump.

11. CONTROL PANEL

Located on the tractor itself, next to the driver, through electrical controls it allows control of all functions for operating the equipment, easily identified by symbols and writing in the national language, with an electrical socket system, with pins and quick coupling.

12. SURFACE FINISH

Blasted to the preparation grade, left with a white appearance, oxide primer and two coats of paint in the standard DAMAEQ color, or as specified by the customer, are applied.

13. SIGNALING

In accordance with traffic legislation (CNT) it has the following features:

Side: Signal lamps, one on each side, to indicate a change of direction (turn signals).

Rear: Automotive-grade lights, to indicate change of direction, braking and hazard warning.

Top: One amber Giroflex rotating beacon, to signal that the equipment is in service.

14. HYDRAULIC CIRCUIT

From the hydraulic pump coupled to the speed-multiplier assembly, the system is pressurized, and all the oil is directed to the electrically actuated manifold block, which is responsible for all control of the operations, making it possible to adjust the discharge pressure, the speed of the side brushes and the distribution of oil among the various functions of

the equipment. Hydraulic motors sized to withstand radial loads, through a shaft on bearings, and hydraulic cylinders with chrome-plated rods and Viton seals are responsible for performing the movements of the various mechanisms of the equipment. The speed-multiplier assembly coupled to the tractor power take-off transfers the driving force and increases the output speed to drive the hydraulic pump. Built with heat-treated helical gears, it is sized to absorb and transfer the power necessary for the full operation of the sweeper.

15. TRACTOR MODEL

The compatible tractor model to be coupled to the Sweeper is 65 cv. The BUYER must send the invoice of the tractor that will be used with the Sweeper.