



## TECHNICAL SPECIFICATION

(The contents given in this manual are not binding and are subject to change without notice.  
The details given are guidelines and are for illustration purpose only.)

### GARBAGE COMPACTOR Capacity 14 cu. m



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## **Specification of Truck Mounted Garbage Compactor 14 Cu. m capacity**

### **COMPACTOR EQUIPMENT:**

### **CONSTRUCTION:**

#### **General:**

The rear loading compactor shall be mounted on suitable 16 Ton GVW chassis. The compactor shall comprise of three main parts.

1. The body and Ejection Barrier
2. The Hopper and compaction hydraulic unit at rear body.
3. The bin lifter Mechanism.

The packing system will comprise of two moving plates the packing plate and the sweeping plate. The packing plate will travel angular track, and at the end of the stroke, sweeping plate will be activated and clean the hopper, at the end of its travel, packing plate start it's reverse travel and start compressing the refuse into the body. It's called one complete cycle of compaction.

The tailgate shall be provided with a hydraulic bin lifter which shall be suitable to lift standard DIN containers of size 120, 240, 600 & 1100 ltrs. The entire compaction system shall be operated at designed speed with auto throttle.

#### **1. The Body and Ejection Barrier:**

##### **A. The Body :**

- With optimum volumetric capacity of 14 cu.m, the body is constructed from high tensile steel ST 52, "one piece" rolled side sheets reinforced by front and rear stiffeners, pressed integrated channels and 'keel' type floor. The Rear entry floor plate is constructed form Hardox 450.
- The Cylindrical appearance of Body shape not only gives improved aesthetics but increases body capacity by 1-1.5 Cu.m per body size.
- Body manufactured from one piece rolled and pressed steel sides that extend body life and also increase the efficiency of the entire body concept and provide ready space for signage.
- The Keel shaped Body floor, fitted with under – floor sump and floor channels ensure 100% of leachate collection in the floor sump at the front of the body. It also ensures clean discharge of solid waste.

##### **B. Tailgate:**

- Optimized 2.4 m<sup>3</sup> swept volume capacity, resulting in fewer packing cycles giving high rate of packing garbage and also gives benefits of reduced wear, minimize fuel consumption, time & noise
- Full 1.9 m uncluttered loading width facilitates to accommodate bulky material to be packed.
- Low rake rail height of 1.05m facilitate for manual loading and versatile bin – lift mounting
- Tail gate sides are made up of high tensile abrasive resistant Hardox 450 steel and formed with integrated guide channel to guide the packing mechanism.
- Integral full height body / Hopper seal fitted to prevent liquid leakage from bottom edge and Hopper sides.
- Reduced overhang for improved weight distribution and maneuverability. Rear over hang shall be within the RTO norms i.e. 60% of the wheel base of the chassis.

**C. Packing Mechanism:**

- Proven two plate fabricated packer / sweeper design. Manufactured out of high tensile abrasive resistance Hardox 450 steel.
- Packing mechanism slides in integrated side channels and provided with low friction self lubricating Ertalon LFX guides.
- Heavy duty and well corresponding hydraulic cylinders ensure the efficient sweeping and packing cycle, within a nominal cycle time of 23 seconds.
- We provide 3 stage compaction enabling better compaction ratio

**D. Refuse Ejection Barrier:**

- Ejector Barrier plate is manufactured from high tensile abrasion resistant Hardox 450 steel and formed in such a shape gives smooth and unobstructed discharge of garbage.
- Heavy duty Ertalon LFX self lubricated guides allow the barrier to move smoothly along the rail, provided within the body.
- Multi – staged double acting telescopic hydraulic cylinder and it's geometrical mounting gives efficient ejection and retraction travels, without any side load on sliding guides.

**E. Hydraulic System:**

- PTO Mounted Closed Coupled standard Gear pump delivers 82 LPM at 1000 RPM
- Body mounted Oil Tank which optimizes the mounting space, equipped with Return Line Filter, Breather, level indicator and shut-off Valve.
- Full flow 10 micron return line filter controls contaminant levels.
- Engine speed is maintained by electro-pneumatic throttle control system automatically, when hydraulic power consumption increases.
- Electro – pneumatic operated spool valves control all system functions separately, with inbuilt dump valve for retraction process.
- Automatically adjusted high and low pressure system, gives efficient and smooth working of the system and protect the system from over stress and obtain better fuel efficiency.
- Inverted fitment of Sweeping Cylinder with spherical bearings, protect the piston rod from direct contact of acidic waste/garbage.
- Heavy duty inverted packing Cylinders mounted outside the hopper, gives more clearance in Hopper loading area and protects the piston rod from direct contact of acidic waste/garbage.
- Roof mounted Hopper / Tail gate lift Cylinders, get well protected from accidental damage. Double check valve gives extra safety in case of hose failures.

**F. Electrical System:**

- Fully integrated logical system and printed circuit board located on the body in a IP66 weather proof panel.

**G. Hydraulic Cylinder:**

- Heavy duty double acting inverted sweeping cylinders fitted with maintenance free spherical bearings – 2 nos.
- Heavy duty double acting inverted packing cylinder mounted outside the hopper, clear of the loading area – 2 nos.
- Roof mounted heavy duty double acting hopper lift cylinder – 2 nos.
- Heavy duty double acting cylinders for bin lifting – 2 nos
- Heavy duty multi stage double acting telescopic cylinder for ejection plate - 1 no.
- Maximum no. of cylinders is 09 nos. (Double acting)

**BIN LITER:**

- The Bin lifter will be made from light weight conventional steel structural framework.
- Bolt on connection with tail gate and has a relatively short rear overhang
- Reduced effective rear axle load, delivering significant payload advantage
- The bin lifter shall be suitable to lift the standard DIN containers of size 120, 240, 600 & 1100 Ltrs. (120 Ltrs & 240 Ltrs. of HDPE & 1100 Ltrs of Steel)
- The length of bin lifter shall be minimum 1.40 meter
- Two double acting hydraulic cylinders (one on each side) shall be provided for lifting the bins.
- Bin lifter arms shall be supplied with DIN arms
- A safety valve shall be provided to avoid sudden descent of bin lifter in case of failure of hydraulic pressure.

**OTHER EXTRA FITMENTS:**

- a) Two Footsteps will be provided one each on left and right side at the rear & two hand bars one on each side at the rear side shall be provided for the equipment operators to stand and travel when the compactor is moving.
- b) One large flashing light will be provided in the front in the centre at the highest point so as be seen clearly
- c) Two emergency stop switches will be provided on either side of the body to instantly stop the operation in case of emergency.
- d) A level indicator will be provided to indicate hydraulic oil level in the tank
- e) The Vehicle will be provided with reverse horn so that it gives the indication at the time of reversing.
- f) Arrangement will be provided to get an indication as soon as the garbage contained reached its maximum. Arrangement shall also be provided to stop the operating cycle as soon as the Compactor is full.

**MATERIAL FOR BODY:**

Sr. No	Description	Specification
1	Material	High Strength Steel, Yield Strength 340 N/Sq. mm – ST52
2	Roof Paneling	4 MM
3	Side Paneling	4 MM
4	Floor Thickness	5 MM
5	Rear Cross Bar Thickness	75 x 40 x6 MM

**MATERIAL FOR TAILGATE:**

Sr. No	Description	Specification
1	Material	Special High Strength steel Min Yield 1200 N/Sq.mm – Hardox 450
2	Side Paneling Thickness	7 mm
3	Rear Side Hopper Plate Thickness	7 mm
4	Hopper Bottom	7 mm
5	Superstructure member thickness	6 mm

**EJECTOR SYSTEM:**

Sr. No	Description	Specification
1	Ejector Plate Materials	High Strength Steel, Yield Strength 340 N/Sq. mm – ST 52 with bottom portion from special high strength steel of min. yield 1200N / Sq.mm – Hardox 450
2	Pads	Etalon LFX Bearing

The tender shall provide material Test Certificate at the time of fabrication / inspection.

**HYDRAULIC SYSTEMS:**

Sr. No	Description	Specification
01	P.T.O	Preferably Vehicle Manufacturers
02	Hydraulic pump pressure	Min. 170kg per CM Square
03	Packer plate Hyd Cylinder stroke	548 mm
04	Packer plate Hyd Cylinder Internal Diameter	100 diameter
05	Tailgate Hyd Cylinder Internal Diameter	70 diameter
06	Tailgate Hyd. Cylinder stroke	726 mm
07	Bin lifter Cylinder internal diameter	80
08	Bin lifter Cylinder stroke	250 mm
09	Carrier plate Cylinder internal diameter	110
10	Carrier Plate Cylinder stroke	670
11	Ejector Cylinder	Telescopic type
12	Ejector Cylinder No. of stages	04
13	Ejector Cylinder internal diameter	140
14	Ejector Cy. stroke	3455
15	Hydraulic Cylinder	Hyva / Wipro / Dantal Make
16	Hyd. Valve	Dual flow Vane pump
17	Oil Capacity	125 Litres
18	Size of suction filter	140 microns
19	Size return line filter	10 microns
20	Size of Ejector Plate	920 x 1740 x 2000
21	Cycle duration for Bin lifter	25 Seconds
22	Duration of Ejection	28 Seconds
23	Pump and PTO mounting	Directly coupled without any intermediate shaft

The above equipment shall be mounted on client supplied chassis with PTO like TATA / ASHOK Leyland / Eicher or equivalent of 16 Ton GVW and 4200mm wheel base. Bidder shall furnish full details of vehicle chassis. Bidder shall also make arrangements to procure the vehicle with cabin from the manufacturer. The client will make direct payment to the chassis manufacturer/their dealer against their proforma invoice to avail Govt. rates. The standard tools accessories and spares supplied with the chassis shall be handed over to the client at the time of delivery of the unit.

The Bidder shall make arrangements for mounting equipment on the chassis according to the rules laid down by the Regional Transport Office, and loads recommended by the chassis manufacturer on the front and rear axles. The Client shall make arrangements for registration of the complete unit with the Regional Transport Office. The Government fees required for registration of the units shall be paid by the client.