

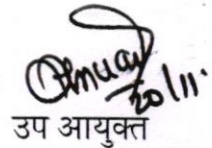
## जाहिर सुचना

उप आयुक्त (घनकचरा व्यवस्थापन विभाग), पनवेल महानगरपालिका हद्दीतील घनकचरा संकलन व वाहतूक करणेकामी वापरण्यात येणाऱ्या वाहनांची दुरुस्ती करणे या कामाचे अंदाजपत्रक बनविण्याकरीता खाली नमूद केलेल्या बाबींकरीता बाजारभाव दरपत्रके मागविण्यात येत आहे.

अ.क्र.	कामाचे नाव	मुदत
१	पनवेल महानगरपालिका हद्दीतील घनकचरा संकलन व वाहतूक करणेकामी वापरण्यात येणाऱ्या वाहनांची दुरुस्ती करणे.	२९/११/२०२३ ते ३८/११/२०२३ (७ दिवस)

Sr. No	DESCRIPTION	Quantity	Rate
1	Replacement of Compactor body and hydraulic system of 14 Cum Refuse Compactor.	11	Rs..... Per Vehicle
2	Replacement of Compactor body and hydraulic system of 07 Cum Refuse Compactor.	14	Rs..... Per Vehicle
3	Replacement of Closed body tipper and hydraulic system of 01 Ton tipper.	22	Rs..... Per Vehicle
4	Replacement of Open body tipper and hydraulic system of 01 Ton tipper.	12	Rs..... Per Vehicle

- सदर कामाचा तांत्रिक तपशील व इतर बाबी [www.panvelcorporation.com](http://www.panvelcorporation.com) या संकेतस्थळावर दि. २९/११/२०२३ ते दि. ३८/११/२०२३ पर्यंत दुपारी ०३.०० पर्यंत उपलब्ध राहणार आहेत.
- सीलबंद निविदा दि. ३८/११/२०२३ रोजी दुपारी ३.०० वाजेपर्यंत पनवेल महानगरपालिकेच्या घनकचरा व्यवस्थापन विभागात स्विकारण्यात येतील.
- प्राप्त झालेली दरपत्रके शक्यतो दि. ३८/११/२०२३ रोजी दुपारी ३.३० (शक्यतो) वाजता उपस्थित ठेकेदार यांच्या समक्ष उघडण्यात येतील.
- अटी व शर्ती युक्त निविदांचा विचार केला जाणार नाही.

  
उप आयुक्त

घनकचरा व्यवस्थापन विभाग  
पनवेल महानगरपालिका

जा.क्र पमपा/घकवि/२५२३/प्र.क्र.३७२/१००५ /२०२३  
दि. २०/११/२०२३

प्रत माहितीस्तव —

- प्रसिध्दीकरीता
- माहिती फलक करीता

## **TECHNICAL SPECIFICATION OF 14 CUM REFUSE COMPACTOR BODY**

### **(A) COMPACTOR BODY (SHELL)**

The Body shall be of 14 Cu.M approx. with payload capacity of approx.6cu.M garbage. The hopper shall be of suitable to carry approx. 2cum garbage. The body will be mounted on the chassis with the help of cross members, suitable "U" bolts and fish plate.

The paneling of the body shall be as follows:

<b>SR NO</b>	<b>DESCRIPTION</b>	<b>THICKNESS</b>	<b>MATERIAL</b>
1	Roof	3mm	IS 2062
2	Sides	4mm	IS 2062
3	Flooring Sheet	4mm	IS 2062
4	Flooring Runner	ISMC 175X65	
5	Flooring Cross Member	ISMC 100X50	

The Shell body shall be Hexagon in shape.

The complete structure shall be fully welded to with stand the compaction. The body shall be open at the rear end.

### **(B) TAILGATE**

<b>SR NO</b>	<b>DESCRIPTION</b>	<b>THICKNESS</b>	<b>MATERIAL</b>
1	Side Sheet	4MM	IS2062
2	Rear Side Hopper	6MM	IS2062
3	Bottom of Hopper	5MM	HARDOX 450/ EQUIVALENT
4	Suitable shoe block Gallow	6MM	IS2062
5	Sweep / Packer Blade	4MM	IS2062

### **(C) EJECTION SYSTEM**

<b>SR NO</b>	<b>DESCRIPTION</b>	<b>THICKNESS</b>	<b>MATERIAL</b>
1	EJECTOR PLATE	3MM	IS2062

### **(D) BIN LIFTER**

1. The bin lifter shall be made from IS 2062 Material.
2. The length of bin lifter shall be minimum 1.4 meters.
3. Two double acting hydraulic cylinders (one on each side) shall be provided for lifting the bin.
4. The bin lifter shall be suitable to lift the standard containers of size 120 liters, 240, (HDPE Bins) 660 and 1100 liters. (GI Bins) / Structural steel.
5. Both arms type & comb lifting attachment to be provided in binlifter.

## (E) HYDRAULIC CYLINDERS AND PIPE LINE

Total 9nos hydraulic cylinders, 7nos shall be double acting and 2nos shall be single acting. The piston rod shall be hard chrome plated. The gland and piston shall be made of EN 8 materials. The seal will be of good quality material.

02nos. single acting Cylinders using for lifting and lowering of tailgate. The ejection process shall be carried out with Imported (US/Europe) make double acting 4stage telescopic cylinder. While 2 nos. Cylinders each shall be provided for packer plate, carrier plate and bin lifter movement. More details are given below:-

CYLINDER	BORE IN MM	STROKE IN MM
Tailgate	70	726
Packer Plate	100	520
Slider Plate	110	670
Binlifter	80	250
Ejector	4 stage double acting	

The high pressure hoses shall have working pressure of 270kg/cm.sq. Testing pressure of 540 kg/cm.sq. PSI and bursting pressure of 675 kg/cm.sq.

A pressure relief valve shall have to be provided as built in control valve to safe guard the hydraulic circuit and to prevent excess loading of the equipment.

2nos imported valves is using for hydraulic working of compactor unit.

a) Under body valve: -The tailgate lifting/lowering mechanism and ejector forward/backward mechanism carried out with this Under body valve. The compaction ratio also controlled with under body valve.

b) 3-spool valve:-This valve controls the packing mechanism through the complete cycle. The position of the packer blade and slider and their respective cylinders can be positioned as desired with the help of this valve. Packing and sliding mechanism controlled with Auto-kickout valve. Binlifting mechanism lever also controlled with this valve. The valve shall be Imported (US/Europe) make.

Cylinder mounting profiles, cylinder mounting pin & bushes are made on Plasma cutting machine and CNC lathe respectively. so that we can achieve the standard and accuracy on each profile and pin&bushes of compactor and smooth operation. All the MS pins used on the equipment shall be of EN 8 and hardened.

All the metallic pipes shall be **trivalent** plated, will be seamless and shall be suitable to withstand the high pressure. The end connections, bends shall be as per manufacturer standards, leak proof with latest technology connection systems.

## **(F) HYDRAULIC TECHNICAL DETAILS**

1. An Arrangement given from chassis manufacturer as have direct drive from PTO to the hydraulic Pump.
2. A Pressure relief valve shall have to be provided as built in control to safe guard the hydraulic circuit and to prevent excess loading of the equipment.
3. The pump shall be directly coupled with power take off and shall develop sufficient pressure to operate the complete hydraulic system. The necessary valves shall be provided, so as to have the simultaneous operation of the system.
4. Suitable hydraulic tank with Air breather cum filter shall be provided. The filter shall be provided at the inlet line and return line.

### **Technical Details Given Below:-**

1	P.T.O	Preferably vehicle manufactures
2	Hydraulic pump pressure	Min.170 kg per CM Square
3	Ejector Cyl. No. of stages	04 stages
4	Oil Capacity	Max.125 ltrs
5	Cycle duration for Bin lifter	20 Sec. min (at Idle )
6	Duration of Ejection	50 Sec. min (at Idle )
7	Duration of Compaction	45 Sec. min (at Idle )
8	Pump and PTO mounting	Directly coupled without any intermediate shaft

### **MAKE OF HYDRAULIC COMPONENTS**

S.N	Components	Make
1	P.T.O	Vehicle Manufactures
2	Pump	Wipro/ Equivalent make
3	Hydraulic Cylinders	Canara /U.T Ltd./Dental/or Equivalent
4	Hydraulic Hoses	ALFAGOMMA /Aeroquip or Equivalent make
5	Main Control Valve	Imported (US/Europe)
6	Under body Valve	Imported (US/Europe)
7	Ejector Cyl.	Imported (US/Europe)

## **(G) WORKING**

The packer plate shall push the garbage inside the compactor body and the same shall be compacted against the ejector plate. The compaction ratio achieved shall be minimum 1:2

The packer plate shall be of highly solid steel and strongly reinforced with lateral bearings arms for the attachment of the hydraulic rams. It clears the hopper and initiates the primary compaction of the refuse at the time of its transportation into the refuse collection body.

The packing system shall comprise of two moving plates the packing plate and the sweeping plate. The packing plate shall travel on angular track, and at the end of the stroke, sweeping plate shall be activated and clean the hopper, at the end of its travel, packing plate start it's reverse travel and starts

compressing the refuse into the body. It's called one complete cycle of compaction. The entire compaction system shall be operated at designed speed. It shall be easy to handle and will allow the loading personnel to operate the vehicle with minimum physical effort and maximum safety. The complete packer cycle shall be taking around 40-45 seconds at Idle condition of chassis. The carrier plates shall be slide on the shoe block which shall reduce continuous abrasion to the tailgate.

## **(H) KEY FEATURES**

1. Compactors have suitable ground clearance at rear side to prevent tailgate body from damage at dumping ground
2. Hydraulic operation can run at idle condition of chassis
3. Automatic speed controller shall be provided for safeguard the PUMP & PTO

## **Technical Details of Refuse Compactor**

1. The compactor body shall be sufficiently strong and will have volume of approx 14 cum
2. The Equipment is rear loading type and shall be able to load and unload 120,240,660 and 1100 litrs. Containers of DIN standards Universal loading comb arm arrangement also provided.
3. An Arrangement shall be provided to manually load the vehicle also. The height of hopper for manual loading shall be min 1000mm
4. The construction of the vehicle will consist of the body, the ejector system, the tailgate and hydraulically bin loading system.
5. The garbage will be loaded in the hopper either manually or by emptying the container hydraulically with the help of lifting mechanism. the garbage from the hopper shall be swept by sweeping plate fitted at the end of packing plate and pushed inside the body and compressed against the ejection plate.
6. The tailgate shall be equipped with heavy duty turn buckle one on each side to hold tailgate and body together
7. Grab handles shall be located on each side of the tailgate. The tailgate shall be fixed with heavy duty hardened pins at the top with the compactor body.
8. The tailgate shall be provided with study arrangement for raising and controlling of descent.
9. The tailgate shall be provided with rubber gasket extending across the entire bottom width of the tailgate.
10. There are 4 nos Aluminum bronze strip (1150X50X11MM THK) shall be provided on male slider plate for smooth sliding operation of female slider plate.
11. There are 2 nos Aluminum bronze shoe block (220X110X50MM THK) shall be provided for smooth operation of female plate and durability.
12. Hose burst relief valves shall be provided for safety.
13. Lever shall be provided on the rear side of the vehicle to start packing, sliding and binlifting mechanism.
14. Ejector plate shall be suitably angled strong design.

15. Ejector plate shall be guided on two square tubes located on both sides of the shell body. Free sliding replaceable guide bronze pads made of high wear resistant shall be used between the plate and the tube.

The Compactors part wise material specification and technical details given below:

### **(I) EXTRA FITTINGS**

1. Two footsteps shall be provided one each on left and right side at the rear.
2. Two hand bars one on each side at the rear side shall be provided.
3. A level indicator shall be provided to indicate hydraulic oil level in the tank.
4. 50ltr leachate tank of Stainless Steel 316 grade material with valve system for drainage on shell bottom.
5. Reflector shall be provided on both side of the shell.
6. Mud flap shall be provided for tyres on both sides.
7. One footstep shall be provided in between driver cabin and shell for maintenance purpose and hydraulic oil filling on tank.
8. PVC clamp shall be provided for metal hydraulic pipeline.
9. Drainage valve provided on tailgate hopper

### **(J) PAINTING**

- 1) The compacting unit shall be sand blasted and painted with anti-corrosive primer before painting with two coats of Enamel paint of ISI approved make.
- 2) The Vehicle shall be painted with approved colour shade.
- 3) All the painting work shall be done at well-equipped Spray Paint booth for better paint finish and to reduce pollution.
- 4) All necessary indicative labels shall be pasted on for easy operation.
- 5) The rear body shall be painted from outside with shade equivalent and from inside with anti-corrosive special black.

## **TECHNICAL SPECIFICATION OF 7 CUBIC GARBAGE COMPACTOR BODY**

### **A. Shell Body**

The Body will be of 7 Cum approx. with minimum capacity to carry 2.5 cum garbage. The hopper shall be of suitable to carry approx. 1cum of garbage. The body will be mounted on the chassis with the help of runner and suitable "U" bolts & side support. The cross member shall be minimum size of 75X40X6mm in size

**The paneling of the body shall be as follows:**

<b>SR NO</b>	<b>DESCRIPTION</b>	<b>THICKNESS</b>	<b>MATERIAL</b>
1	Roof	3mm	IS 2062
2	Sides	4mm	IS 2062
3	Flooring Sheet	4mm	IS 2062

- Tailgate Resting Frame on Both Sides: 6mm Thickness Box Section
- Internal Dimensions: 3350(L)X1880(W)X1530(H)

### **B. Tailgate**

<b>SR NO</b>	<b>DESCRIPTION</b>	<b>THICKNESS</b>	<b>MATERIAL</b>
1	Side Sheet	4MM	IS2062
2	Rear Side Hopper	5MM	IS2062
3	Bottom of Hopper	5MM	E 350
4	Suitable shoe block Gallow	6MM	IS2062
5	Sweep / Packer Blade	4MM	IS2062

### **C. Ejection**

<b>SR NO</b>	<b>DESCRIPTION</b>	<b>THICKNESS</b>	<b>MATERIAL</b>
1	EJECTOR PLATE	3MM	IS2062
2.	Pads		Bronze

- Ejector Plate Shall be supported as well as guided on two square tubes located on both sides of the shell body
- Smooth sliding replaceable guider shoes made of high wear resistant bronze pads shall be used between plate and square tubes.

### **D. Bin Lifter System**

1. The bin lifter shall be made from 2062 Steel IS Specification.
2. Only 2nos double acting hydraulic cylinders (one on each side) shall be provided for lifting & lowering of bin.
3. The bin lifter shall be suitable to lift the standard containers of size 120 liters, 240, (HDPE Bins) 660 and 1100 liters. (GI Bins) / Structural steel.
4. The bin lifter shall contain a binlifter arm.

5. The length of the bin lifter shall be minimum 1.4 mtrs.( or suitable to tail gate & bin lifting operation )
6. Both arms types & comb lifting attachment to be provided

### **E. Hydraulic System**

There shall be maximum 9 hydraulic cylinders are used for operation of garbage compactors. The piston rod shall be hard chrome plated. The gland and piston shall be made of EN 8 materials. The seal will be of good quality material.

02nos. double acting Cylinders using for lifting/ lowering of tailgate and automatic locking of tailgate. The ejection process shall be carried out with 01No.double acting cylinder. While 2 nos. Cylinders each shall be provided for packer plate, carrier plate and bin lifter movement. More details are given below:-

<b>CYLINDER</b>	<b>BORE IN MM</b>	<b>STROKE IN MM</b>
Tailgate	63	405
Packer Plate	70	460
Slider Plate	80	685
Binlifter	80	250
Ejector	80	1565

- The pump shall be directly coupled with power take off and shall develop sufficient pressure to operate the complete hydraulic system. The necessary valves shall be provided, so as to have the simultaneous operation of the system.
- Suitable hydraulic tank with Air breather cum filter shall be provided. The filter shall be provided at the inlet line and return line.
- A pressure relief valve shall have to be provided as built in control valve to safe guard the hydraulic circuit and to prevent excess loading of the equipment.
- All the pins used on the equipment shall be of EN 8 and hardened.
- All the metallic pipes shall be **trivalent** plated, will be seamless and shall be suitable to withstand the high pressure. The end connections, bends shall be as per manufacturer standards, leak proof with latest technology connection systems
- The tailgate with hopper shall form the basic structure to which the functionary parts, slide plates and packer plates shall be attached.

### **F. Technical Details**

1	P.T.O & Pump	Supplied by vehicle manufactures
2	Hydraulic pump pressure	Min.140kg per square cm.
3	Pump working speed	1200 RPM Approx.
4	Hydraulic Cylinder	9 no double acting Cylinders.
5	Hydraulic Valve	Walvoil
6	Hydraulic tank capacity	Max75 ltrs
7	Size of suction filter	140 microns
8	Size return line filter	10 microns
9	Size of Ejector Plate	1000X1900X1530



10	Cycle duration for Bin lifter	30 Sec. min (at Idle )
11	Duration of Ejection	60 Sec. min (at Idle )

The following reputed makes of hydraulic equipment shall be fitted on the vehicle.

S.N	Components	<i>Suppliers</i>
1	P.T.O&Pump	Vehicle Manufactures/Wipro/ Equivalent make
2	Hydraulic Cylinders	Reputed Manufacture make
3	Valves	Reputed make
4	Hydraulic Hoses	Reputed Manufacture make

#### **G. OTHER EXTRA FITMENTS**

1. Two footsteps shall be provided one each on left and right side at the rear.
2. Two hand bars one on each side at the rear side shall be provided.
3. A level indicator shall be provided to indicate hydraulic oil level in the tank.
4. A leachate collection tray with valve system for drainage on shell.
5. Reflector shall be provided on both side of the shell.
6. Mudflap shall be provided for tyres on both sides.
7. One footstep shall be provided in between driver cabin and shell for maintenance purpose and hydraulic oil filling on tank.
8. PVC clamp shall be provided for metal hydraulic pipe line.

#### **H. PAINTING**

1. The compacting unit shall be sand blasted and painted with anti-corrosive primer before painting with two coats of Enamel paint of ISI approved make.
2. The Vehicle shall be painted with approved colour shade.
3. All the painting work shall be done at well equipped Spray Paint booth for better paint finish and to reduce pollution.
4. All necessary indicative labels shall be pasted on for easy operation.
5. The rear body shall be painted from outside with shade equivalent and from inside with anti corrosive special black.

## **TECHNICAL SPECIFICATION OF 1 TON GARBAGE TIPPER BODY**

Sr no	Description	Details
01	Volumetric capacity of Tipper body	1.8 cum
02	Purpose	Garbage collection in narrow lanes
03	Application	A effective equipment for door to Door collection of garbage in narrow lanes and crowded areas,  It cuts down the handling cost by directly unloading the garbage into the hopper of the garbage compactor.
04	Tipper body	All welded construction of sheet Metal adequately reinforced by the stiffeners having formed ribs on the container and optional folding flap provided on top  Side sheet thk-1.6mm Flooring sheet thk-2.5mm
05	Sub-frame	All weld construction of Rectangular hollow section size 100x50mm, reinforced adequately on the load members mounted on chassis with nuts and bolts
06	Operation  Hyd. Cylinder	12v power pack unit with Oil tank  Valve with liver provided for operation  Hyd cylinder for tipping-1no lifting capacity-3tonn/bore dia.-80mm Rod dia-50mm
07	Tipping angle	70 degree (flat floor).
08	Painting	Paint shall be superior quality to Ensure long lasting structure life suitable to use for handling raw garbage under corrosive operation.  Painting work carried out in paint booth for better paint finish and to reduce pollution