

## **G – S PRODUCTS MODEL MP8131D- 84I-WLP**

### **SPECIFICATIONS FOR 31 CUBIC YARD SIDE LOADER DUAL – SIDE LOADING. SEMI-AUTOMATED, FULL EJECT**

#### **SCOPE**

This specification describes a truck mounted, hydraulic refuse packer. This machine must be equipped with loading mechanisms on both the curb and street sides of the material receiving hopper near the front of the body. Body must be designed so that optimum load distribution can be achieved when installed on a 54,000 G.V.W. truck cab and chassis. Body installation shall not require modification to a standard truck chassis forward of the rear suspension. (NO DROP FRAME)

#### **I. BODY**

##### **A. CAPACITY**

1. The body shall have a usable capacity of thirty-one (31) cubic yards including the tailgate.

##### **B. DIMENSIONS**

1. Body length – 301” – (including bustle tailgate).
2. Overall height above chassis – 102” – (bin in “down” position).
3. Overall height above chassis – MUST NOT EXCEED 112” – (bin in full “up” position).NO EXCEPTIONS ALLOWED.
4. Overall body width with loading buckets down – 102”

##### **C. CONSTRUCTION**

1. The body floor shall be constructed of 1/4” HARDOX 450,175,000 P.S.I. steel plate.
2. The body floor shall have 6” x 10.5 lbs./ft. structural channel long – members.
3. Body sides shall be curved shell style, ten ( 10 ) gauge HARDOX 450 steel sheet. Sides must be single continuous sheet with no vertical seams.
4. Body roof shall be curved shell style, ten ( 10 ) gauge HARDOX 450 steel sheet.
5. All external welds shall be continuous.

#### **II. TAILGATE**

##### **A. CAPACITY**

1. The tailgate shall have a usable capacity of 6.30 cubic yards minimum.

##### **B. CONSTRUCTION**

1. Body tailgate shall be bustle type, top hinged, with heavy-duty hinges and tapered-pin plunger style locks. Lock pins must have

grease fittings. All cylinder and top hinge pivots must be equipped with greaseless bearings.

2. Tailgate shall be equipped with a flow control device to assure smooth, even operation.
3. Tailgate wrap to be constructed from 10 gauge HARDOX 450 steel sheet and framed with formed steel channel.
4. Gate shall have a seal across the bottom and at least 17" up each side to control liquid leakage.

#### **C. OPERATION**

1. For greater operational stability and safety the tailgate shall be raised and lowered with two 2 1/2" bore x 28" stroke double acting hydraulic cylinders.
2. All tailgate controls shall be located inside the truck cab within easy reach of the operator's position. I.E. tailgate operation shall not require exit of the cab by the driver. Controls shall be electric/air/hydraulic and spring returned to the "neutral" position.
3. Tailgate to lock and release hydraulically through the use of positive acting, tapered rod, plunger- style locks.
4. Tailgate ajar and lock status warning light and alarm to be installed in the truck cab.
5. Safety prop for tailgate to be included.
6. All exterior welds to be continuous.

### **III. PACKER HOPPER**

#### **A. FUNCTION**

1. The receiving hopper shall have 4.8 cubic yards capacity minimum.
2. Hopper shall act as receiving chamber for materials dumped by the loading bins.
3. Hopper shall be configured so that both left and right side loading bins can be dumped at the same time without contact or interference with each other.

#### **B. CONSTRUCTION**

1. Hopper floor to be constructed of 1/4" HARDOX 450 steel plate with a 1/4" HARDOX 450 overlay extending 12" past the hopper.
2. Hopper side walls to be 1/4 " HARDOX 450 steel plate.

### **IV. COMPACTOR**

#### **A. FUNCTION**

1. Compactor is to move the material dumped by the loading bins from the receiving hopper into the body chamber. Also, compactor is to compress the loaded material to such an extent that the vehicle is loaded to its' recommended capacity.

#### **B. OPERATION**

1. Compactor to be powered by one (1), 6" bore x 84" stroke, single section, dual acting hydraulic cylinder.
2. Packer cycle shall be 40 seconds @ 1200 R.P.M.

3. When fully extended, compactor must penetrate the body by 18" minimum. This aids compaction of the material and reduces fallback into the loading hopper.
4. Compactor shall displace 2.6 cubic yards/cycle minimum.
5. Compactor shall have "on-demand" style controls with both "AUTOMATIC PACK" and "MANUAL PACK" selector console mounted in the truck cab and convenient from both sides of cab..
6. Compactor stroke shall be automatically reversible through the use of high quality automotive grade switches sensitive to both position and pressure.
7. Unit to be equipped with a "near-loaded" warning alarm to alert operator that body is approaching its' maximum capacity.

### **C. CONSTRUCTION**

1. Compactor to be guided by a floor mounted "T" track beam.
2. Both the "T" track beam and compactor guide shoes must be made of HARDOX 450, 175,000 P.S.I. steel plate.
3. The compactor shall be constructed of engineered steel sections and fully tested using state-of-the-art Finite Stress Analysis technology.

## **V. LOADING DEVICE**

### **A. FUNCTION**

1. The loading device must provide top loading of materials into the receiving hopper.
2. The loading height of the bin shall be approximately 40" (may vary with tire and frame options).
3. Each lifting mechanism must be operated by one (1), 4" bore x 16" stroke, hydraulic cylinder with 1 ½" fluid cushions in both the rod and base ends.
4. Lift cycle time shall be approximately 10 seconds at engine idle.
5. When in the full dump position, the bin dump angle must be 52 degrees minimum, measured from a horizontal line parallel to the ground.
6. The loading bins must tilt 5 degrees during the lift cycle to control spillage.
7. The loading bins must have "CHIP-GUARD" coating on the inside surface for easy clean-out during the dump cycle.
8. The body to bin gap, (space between the loading bin and body sides) must not exceed two (2) inches during the dump cycle. This prevents overhead spillage and reduces the need for clean-up.
9. Bins shall be track guided by roller bearing type steel rollers and stabilized by two lift arms, one at each end.
10. Loading bin lifting mechanism operation must be smooth and non-binding, regardless of uneven bin loading.

11. Loading bin lifting capacity must be 2500 LBS. minimum with a 2 to 1 design safety factor.
12. Loading bin volume shall be one and one half (1 1/2) cubic yard each.
13. Top opening of loading bins shall measure 72" x 24" minimum. Smaller openings are not acceptable. Must be "FOLD-OUT" type for loading of bulk materials.

#### **B. CONSTRUCTION**

1. Loading bin lifting arms must be constructed of solid, high tensile steel plate, minimum allowable section modulus for loading bin lift arms shall be 3.0 cubic inches. Tubular load lifting components are not acceptable.
2. All loading bin lift arm connecting pins shall be 1.25" minimum diameter with spring steel bushings and grease fittings.
3. Loading bins shall be constructed of 12 gauge COR-TEN steel sheet supported by a tubular steel frame. Ends of bins shall be 10 gauge COR-TEN steel sheet.

#### **C. CONTROLS**

1. Controls for each loading mechanism shall be located immediately behind the chassis cab and convenient for operator access.
2. The lift control valve shall be a three (3) position air directional valve.

### **VI. BODY UNLOADING**

#### **A. FUNCTION**

1. Body payload to be offloaded by hydraulically powered horizontal ejection.
2. Ejector panel to be operated by two (2), 3" bore x 116" stroke, single section, double acting hydraulic cylinders.
3. Ejector operation shall be sequenced so that panel will "extend" only when packer panel is in full "extend" position and tailgate is fully "up".
4. Controls to be mounted convenient to operator's in-cab driving location.

#### **B. CONSTRUCTION**

1. Ejector panel to have a structural steel tubular frame.
2. Panel guide tracks to be formed 3/16" steel plate.
3. Panel guide/cylinder enclosure tube shall be 5" x 7" x 3/16" structural steel tube equipped with HARDOX 450 steel wear strips.
4. Floor level wear pads must be HARDOX 450 steel plate.

### **VII. HYDRAULICS**

#### **A. PUMP**

All body and lift functions shall be powered by a single-section gear type pump. This pump shall be powered by a transmission mounted "hot shift" power take off.

**B. CONTROL VALVE**

The body and lift functions shall be controlled by a single stack type air activated directional hydraulic valve. All controls for the body and lift shall be air/hydraulic. This directional control valve shall be equipped with a reliable system pressure protection device. The maximum system operating pressure shall be 2500 P.S.I.

**C. HYDRAULIC RESERVOIR**

The body shall be equipped with a hydraulic reservoir with a minimum capacity of thirty (30) gallons. This reservoir shall be equipped with a fill cap, breather, fluid level indicator and temperature gauge.

**D. FILTRATION AND SERVICE**

System cleanliness and protection against contamination shall be accomplished through the use of the following devices.

1. HIGH PRESSURE FILTER.

All oil shall be routed through a 10 micron pressure line filter. This filter shall be installed between the hydraulic pump and the body control valve and properly sized so that 100% of the flow is filtered under normal operating conditions without bypass. Filter must be located so that all periodic service can be performed from ground level without the need for ladders or work-stands.

2. IN-LINE SHUTOFF.

For ease of service the suction line shall be equipped with a shutoff valve plumbed adjacent to the reservoir.

3. SUCTION STRAINER.

A 100-mesh oil strainer must be installed in the hydraulic system suction line. This strainer must be serviceable without draining the system reservoir.

**E. PLUMBING**

All body and lift plumbing not requiring flexibility to complete its function must be constructed of seamless steel hydraulic tubing correctly sized for each operation. Plumbing requiring hoses shall be routed in such a way as to prevent rubbing, chafing and undue bending.

**VIII. IN-CAB CONTROLS**

The following controls must be mounted inside the truck cab for safe and convenient operation.

1. Hydraulic system on/off switch.
2. Body tailgate control.
3. Body ejector control.

4. Work light and strobe light switches.

**IX. LIGHTS**

1. Standard lights shall be supplied in accordance with FMVSS#108.
2. All body lights must be TRUCKLITE Model "SUPER 44" L.E.D. with SERIES 50 wiring harness.
3. Both street side and curbside loading locations must have work lights.

**X. ACCESSORIES**

1. Federal under-ride bumper shall be installed.
2. Tailgate safety prop shall be provided.
3. Body "up" and tailgate "unlock" alarm shall be provided.
4. Back up alarm shall be provided.
5. Both body and hopper shall have access doors on each side for cleaning behind the packer and ejector panels. Doors must be sealed when closed.

**XI. PAINTING PROCEDURES**

1. The body and lift shall be free of all weld slag, dirt and grease and be prepared prior to painting in accordance with the paint manufacturers specifications.
2. Body and loading mechanism shall receive at least one coat of primer and one finish coat of polyurethane enamel. Primer shall be approved for use with the finish coat material.

**XII. WARRANTY**

1. A minimum one-year warranty against manufacturing defects shall be provided by the manufacturer.

**XIII. CART ATTACHMENT ( TWO ON EACH SIDE )**

1. Dumping attachment for 30-100 gallon containers.  
Semi-automated container attachments must be equipped with positive lock, automatic container latches. These latches must be linkage actuated by the lower bin lift arm and must require no action by the operator other than bin control lever operation. In order to prevent possible container damage, the container latches must automatically engage the container lower bar after the container is well clear of the ground or curb on the bin "up" cycle and automatically release well before the container reaches the ground or curb on the bin "down" cycle. Attachment of semi-automated carts to the container attachment shall not require tipping of the container or opening of the container lid for proper engagement.

