

G – S PRODUCTS MODEL SB8228S

SPECIFICATIONS FOR 28 CUBIC YARD SIDE LOADER SINGLE- SIDE LOADING. DUAL PURPOSE, 60/40 SPLIT, SEMI- AUTOMATED, FULL EJECT

SCOPE

This specification describes a split-body, truck mounted, hydraulic refuse packer. This machine must be equipped with loading mechanism on the curb side of the material receiving hopper near the front of the body.

This loading system must be configured so that two materials can be mechanically loaded into the compaction chamber simultaneously and kept separate for compaction inside 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 twenty-eight (28) cubic yards including the tailgate. Body to be split vertically with a fixed divider and result in the street-side chamber having 40% of body capacity and the curb-side chamber having 60% of the body capacity.

B. DIMENSIONS

1. Body length – 281” – (including bustle tailgate).
2. Overall height above chassis – 102” – (bin in “down” position).
3. Overall height above chassis – MUST NOT EXCEED 118” – (bin in full “up” position).NO EXCEPTIONS ALLOWED.
4. Overall body width with loading bucket down – 102”

C. CONSTRUCTION

1. The body floor shall be constructed of 1/4” HARDOX 450 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, eleven (11) gauge HARDOX 450 steel sheet.
4. Body roof shall be curved shell style, eleven (11) gauge HARDOX 450 steel sheet.
5. All external welds shall be continuous.

II. TAILGATE

A. CAPACITY

1. Street-side tailgate shall have a usable capacity of 3.20 cubic yards minimum. Curbside tailgate shall have a usable capacity of 4.80 cubic yards minimum.

B. CONSTRUCTION

1. Body tailgates shall be bustle type, top hinged, with heavy-duty hinges and tapered-pin plunger style locks. Pivots and lock pins must have grease fittings.
2. Tailgate shall be equipped with a flow control device to assure smooth, even operation.
3. Tailgate to be constructed from 12 gauge steel sheet and framed with formed steel channel.
4. Gate shall have a seal across the bottom and at least 12" up each side to control liquid leakage.

C. OPERATION

1. Each tailgate shall be raised and lowered with one 2 ½" bore x 28" stroke double acting hydraulic cylinder.
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. Tailgates 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 6.0 cubic yards capacity minimum.
2. Hopper shall act as receiving chamber for materials dumped by the loading bin.
3. Hopper shall be configured so that both materials being loaded can be kept separate and routed into their respective compaction chambers. TO ASSURE MORE EFFICIENT LOADING, HOPPER MUST BE SPLIT 50/50.
4. Forward hopper chamber must be equipped with a hydraulically controlled flipper panel to assist with movement of material toward the street-side compaction chamber as needed. Also, this chamber must have a retractable wind screen for use during transport.
5. Rear hopper chamber must be equipped with a hydraulically operated crusher panel/hopper cover. Control for this panel to be located adjacent to the loading bucket control.

B. CONSTRUCTION

1. Hopper floor to be constructed of 1/2" HARDOX 450 steel plate.

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 bin 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 32 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 it's 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 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 1/2" 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 bin must tilt 5 degrees during the lift cycle to control spillage.
7. Materials loaded into both the front and rear section of the loading bin and/or 32-100 gallon roll carts attached to the cart attachments must be EMPTIED SIMULTANIOUSLY WITH A SINGLE LOADING MECHANISM CYCLE.
8. The loading bin must have "CHIP-GUARD" coating on the inside surface for easy clean-out during the dump cycle.
9. 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.
10. Bins shall be track guided by roller bearing type steel rollers and stabilized by two lift arms, one at each end.
11. Loading bin lifting mechanism operation must be smooth and non-binding, regardless of uneven bin loading.
12. Loading bin lifting capacity must be 2500 LBS. minimum with a 2 to 1 design safety factor.
13. Loading bin volume shall be one and one half (1 1/2) cubic yard each.
14. Top opening of loading bin shall measure 72" x 22" minimum. Smaller openings are not acceptable.
15. Outside wall of loading bin must fold outboard to effective opening of 33" to allow loading of oversized items such as large bags or boxes. Folding panels for the front and rear sections must operate independently of each other and must lock in both the open and closed position with spring-loaded lock pins.

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 bin 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 the loading mechanism shall be located both immediately behind the chassis cab and immediately behind the loading bucket 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. DUE TO SAFETY CONCERNS WITH UNBALANCED LOADS, NO GRAVITY UNLOAD BODIES WILL BE CONSIDERED.
2. Each ejector panel to be operated by one (1) 4" bore x 56" stroke single section hydraulic cylinder and one (1) 3" bore x 80 " stroke single section hydraulic cylinder. MULTI-STAGED TELESCOPIC CYLINDERS WILL NOT BE ACCEPED.
3. Ejectors shall operate using a track guided inner/outer slide system that allows the panel to move the full length of the body while discharging the load. This system must be suspended below the body roof and be equipped with a hydraulically sequenced closure panel to assist in sweeping the body of material.
4. Ejector operation shall be sequenced so that panel will "extend" only when packer panel is in full " retracted" position and tailgate is fully "up".
5. 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 track shall be equipped with HARDOX 450 steel wear strips.

VII. HYDRAULICS

A. PUMP

All body and lift functions shall be powered by tandem -section gear type pump,(25 G.P.M.@ 800 R.P.M.) This pump shall be powered by a transmission mounted Chelsea Model 890 power take off. Each pump section shall automatically unload to tank when factory flow settings are exceeded. This feature prevents inadvertent or accidental over-speed of the system.

B. CONTROL VALVE

The body main valve must be a Parker Hydraulics Model VA-35 with main system pressure set @ 2600 P.S.I. This valve must have one (1) control section to act as directional control for the packer. This valve must be electric/air/hydraulic controlled by automotive style relays. NO COMPUTERS OR PLC'S.

The valve assembly that controls all other loading and body unloading functions shall be Parker Hydraulics Model VA-20 with relief set @ 2500 P.S.I.. Valve spool control must be pneumatic. Body operating functions must operate with NO COMPUTERS or PLC'S.

C. HYDRAULIC RESERVOIR

The body shall be equipped with a hydraulic reservoir with a minimum capacity of fifty (50) 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. All oil shall be routed through a 10 micron return line filter. This filter shall be installed in the top of the hydraulic reservoir 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. Filter service must be possible without loss of fluid. Service indicator must be supplied.
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 controls.
3. Body ejector controls.
4. Work light and strobe light switches.
5. Hopper cover control
6. Packer override/reverse switch

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. Curb-side loading location must have work lights.
4. Peterson Smart-Lite strobe/turn system, four (4) rear, two(2) front.

5. Mid-body turn signals.
- 6.

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.
6. Triple camera system by ZONE DEFENSE (Hopper, Back-up, Left side)
7. Detached Aluminum service ladder.
8. Broom and shovel holder.

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 two-year warranty against manufacturing defects shall be provided by the manufacturer.

XIII. CART ATTACHMENT (optional)

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.

