

SPECIFICATIONS
AIR-FLO PRO-COM®
MULTI-PURPOSE DUMP BODY

INTENT:

It is the intent of these specifications to describe a multi-use heavy-duty crossmemberless 304 stainless steel dump body. This dump body shall have a telescopic hoist and an integral conveyor built into the floor for conveying and/or spreading ice control materials, chips for seal coating, asphalt or shoulder material.

BODY:

The overall length of the dump body shall be ___ and overall width shall be 94". It shall have a capacity of _____ cubic yards without sideboards. The double wall sides of the body shall be 17" high and constructed of 12 gauge 304 stainless steel. The top of the side shall have a 4 ½" deep boxed top rail with a top radius bend of 1 1/8". The bottom of the sides shall have a 45 degree dirt shedding rub rail that is 6" wide from the bend and have a bottom radius bend of 1 1/8". For additional support the sides are designed with a full length formed inward "V" bend. The rear corner post shall be 12" wide and 6" deep.

The floor outside of the conveyor shall be of 10 gauge 304 stainless steel and constructed without the use of cross members. There shall be a single bar flight chain conveyor in the center of the floor running the entire length of the body. The floor shall be formed in the center to fully cover the chain links. The floor shall be supported by two formed 10 gauge 304 stainless steel trapezoidal longitudinals that span the entire length of the body.

TAILGATE:

The tailgate shall be 23" high and constructed of 10 gauge 304 stainless steel. The outer full width vertical gussets shall be 3" deep with radius bends of 1 1/8". The top of the tailgate shall be 4 ½" deep with 1 1/8" radius bend and bottom horizontal rail shall be full width. The tailgate shall have an opening in the center to accept a conveyor hood. The tailgate latch shall be made of ½" 304 stainless steel and have a 1" latch pin. There will be threaded rod adjustments and have two yokes with 5/8" pins. The tailgate hinge pin shall be 1" in diameter. The gate handle shall be made of 1" rod and will have a safety chain with a ring that will slide over the handle. All moving parts shall be equipped with accessible grease fittings.

CONVEYOR HOOD:

The conveyor hood shall be mounted in the center rear opening of the dump truck tailgate. It shall be capable of being shifted to a forward extended position inside the body, covering the rear end of the conveyor and to a rearward retracted position where a front face of the conveyor hood is flush with an inner face of the tailgate. Within the conveyor hood shall be the coal door assembly. The conveyor hood shall contain a vertically sliding door that is locked at different adjustable settings by a treaded friction type locking handle. A horizontally revolving feed gate is not acceptable.

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CONVEYOR:

For ease of dumping operations, even tailgate spreading of aggregates the conveyor shall end flush with the rear of the body and shall not extend past the tailgate of the unit.

For overall high strength and structural integrity of the unit, the 34" wide conveyor shall be an integral part of the body. The inside face of the trapezoidal longitudinal shall also be the side of the conveyor.

The conveyor chain outside width shall be a minimum of 32" and shall run on a 10 gauge 304 stainless steel conveyor bedplate. The outside edge of the conveyor bedplate shall be welded to the inside face of the trapezoidal longitudinal.

When the conveyor chain is moving material toward the rear of the body, the material shall be fed through the doghouse opening in the tailgate. The rear of the floor and rear conveyor shall have no openings by which material shall pass through before it moves rearward through the doghouse in the tailgate. The rear of the floor and rear conveyor shall seal tight against the tailgate and doghouse when the coal door is closed. This tight seal shall eliminate any material leaking out of the body.

The conveyor shall feed material rearward through the coal door of the tailgate and shall be 32" minimum width. The sides of the conveyor which are also the longitudinal members of the body shall be constructed of 10 gauge formed 304 stainless steel channel. The D667K pintle chain shall have a ¼" x 1 ½" bar flight welded to every link. The conveyor chain shall be powered by a 6:1 ratio spur gearbox mounted to one side of the rear mounted 1 ½" drive shaft. The gearbox shall be powered by a hydraulic motor.

TELESCOPIC HOIST:

The hoist shall be a front trunion mounted telescopic design hoist. It shall be designed to operate up to 2000 PSI and shall be self-bleeding. It shall be installed with the largest stage at the bottom for stability. The cylinder shall lift the body via 1 7/8" pin mounting connected to the bottom front of the box.

The tubes comprising this cylinder shall be processed through a liquid salt bath nitriding treatment to enhance the surface hardness and corrosion resistance. The corrosion resistance obtained through this process will be roughly ten times that of chrome plating. The cylinder shall be a bore seal design, with each section sealing against the ID of the next largest diameter tube. As the external surface of these tubes never make contact with a seal; scrapes and score that may occur over the life of the hoist will not affect the sealing capabilities. There will be an oscillating collar on the outer cover of the cylinder to allow the body to be offset 5° to 7° without transferring that side load to either the truck frame or the cylinder tubes, and therefore enhancing stability, and longevity.

The piston rod shall be machined from ASI 4140 and nitrated using the QPQ method to establish the following mechanical properties:

Surface Hardness: Rockwell C60-C65

Surface Finish: RMS 20

(using ASTM B117 salt spray)

Approximately 7% surface area
corrosion in 88 hours (or 10 times
better than hard chrome plating)

Fatigue Strength: Approximately 80% to 100% increase
using QPQ as compared untreated
sample.

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HYDRAULIC CONTROL:

To operate the unit as a spreader, there shall be two variable speed hydraulic cab controls mounted in the cab. One control knob will govern the conveyor speed and the other will govern the spinner or shoulder conveyor speed.

SPINNER:

The spinner disc shall be a 20" steel plate. It shall have 6 formed vanes and be powered by a hydraulic motor mounted underneath the spinner disc.

CAB SHIELD:

There shall be a ½ cab shield supplied made of 12 gauge 304 stainless steel. The ½ cab shield shall extend 27" from the front of the body.

Struck capacity of 9' body:	3.1 cubic yards without sideboards.
Struck capacity of 11' body:	4 cubic yards without sideboards.

