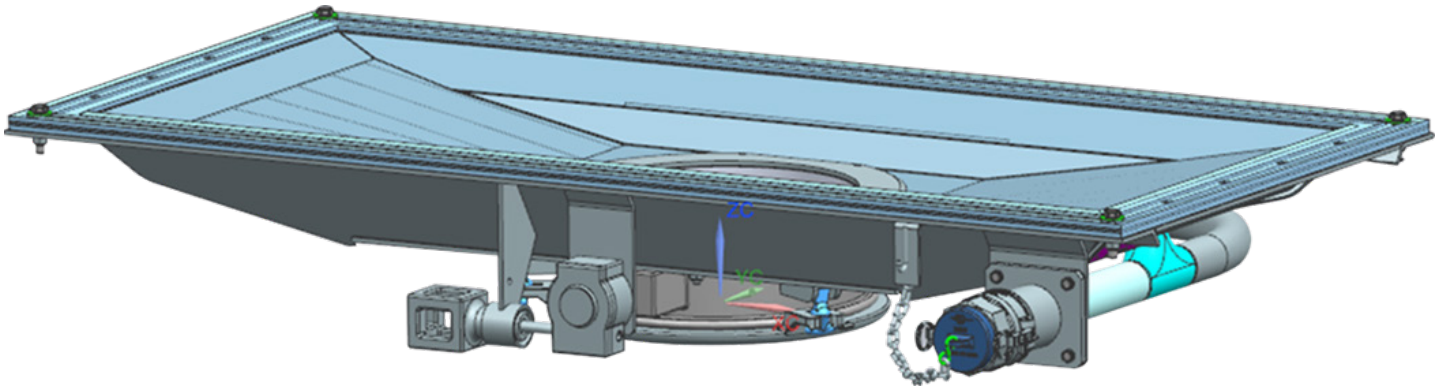
MODEL 5015 Fluidized Butterfly Outlet

SERVICE BULLETIN



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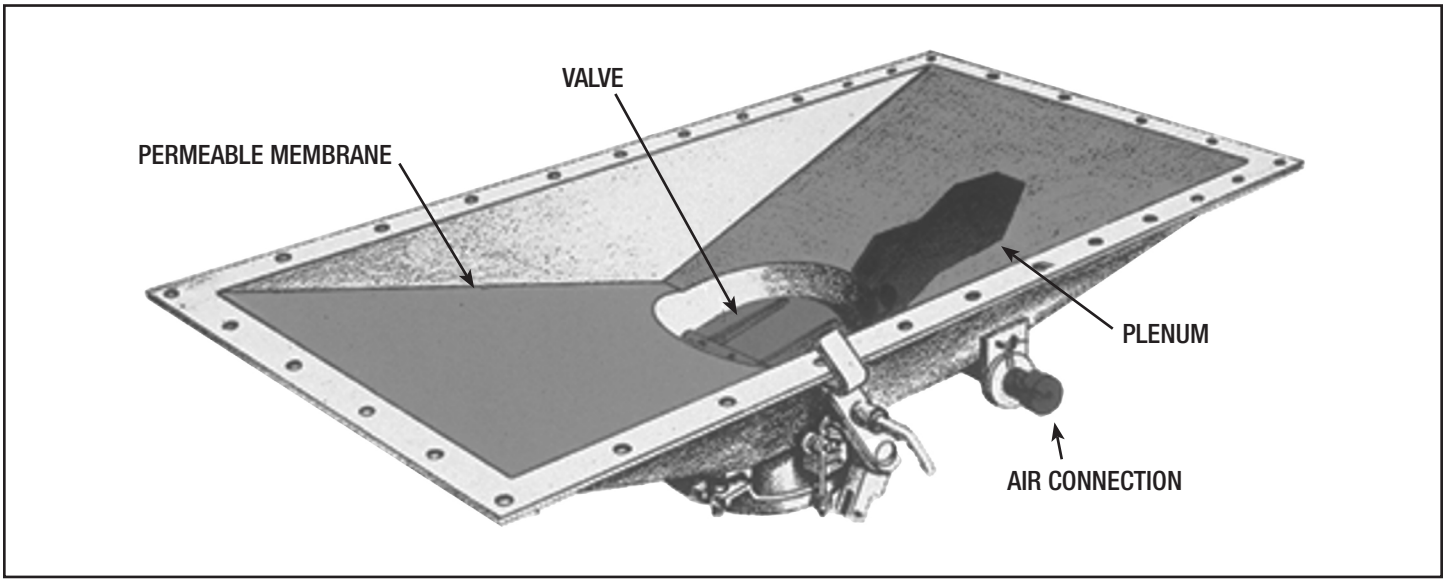
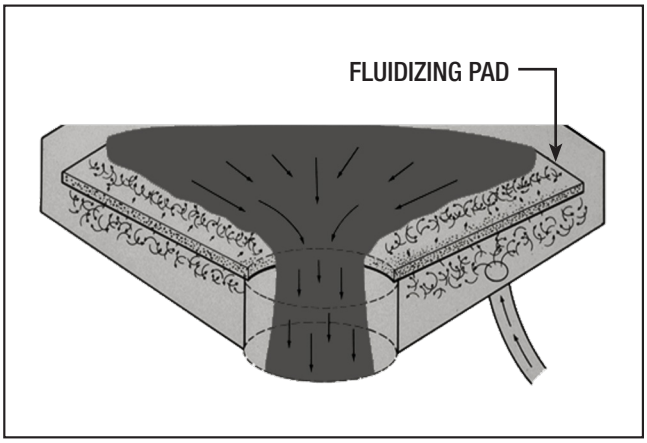
Model 5015 Fluidized Butterfly Outlet is designed for controlled gravity discharge of fine bulk powders with fluidized assist. When unloaded through conventional gravity outlets, powdered ladings have a tendency to bridge and column inside the hopper car, requiring time-consuming sledging, vibration and probing. With the fluidized butterfly outlet, available on Center Flow® covered hopper cars, low pressure air is used to fluidize powdered ladings so that they flow as freely as liquids. Unloading is faster and more efficient.

The outlet consists of shallow-sloped hoppers with a centrally located 16" cylindrical discharge port and a butterfly valve that controls the rate of flow. A special permeable membrane forms an air chamber between the slope sheets and the outlet's outer shell. Low pressure air flowing through the membrane is injected into the area around the discharge opening, causing the lading to lose its internal strength and flow toward the outlet.



Superior Fluidizing Pad Construction

The fluidizing membranes in the fluidized butterfly outlet are available in polypropylene or polyethylene, depending upon commodity requirements. The outlet is available with manual operating controls or may be equipped with a gear reduction system to lower operating torque.

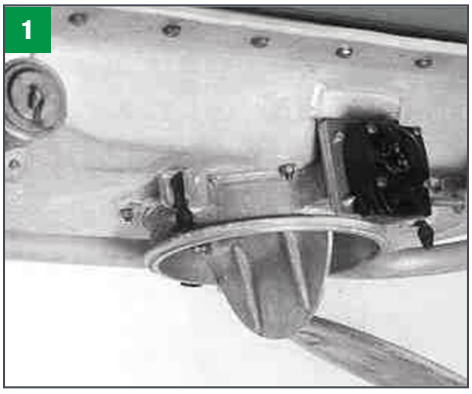


Completely Sanitary

Maximum protection from contamination Is achieved using an unloading boot attached directly to the discharge port. The boot can be applied with a boot lift system or manually. Sanitation is further assured due to the fact that only the sealed shaft of the operating handle extends outside the hopper. A sanitary shield protects against contamination during transit.

OPERATING INSTRUCTIONS

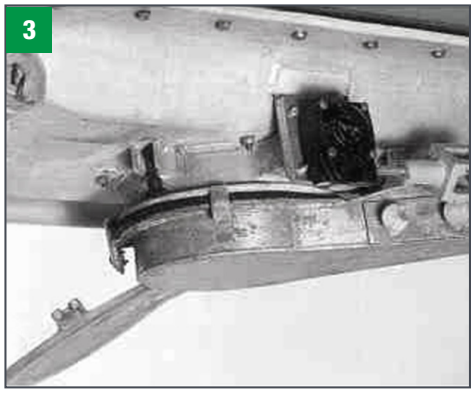
1. Open at least one hatch on the comportment being unloaded.
2. Disengage the three fasteners holding the sanitary shield in place and swing the shield clear of the discharge port.
3. Attach an unloading boot to the discharge port. The three fasteners which retained the sanitary shield during transit may be used to hold the boot in place. Flexible boots may be retained by a drawstring around the special lip provided around the discharge opening.
4. Remove the cap from the fluidizing air inlet connection and attach a fluidizing line. Depending upon lading density, the air supply should be 150 to 450 cfm volume at a pressure of between 3 to 10 psi. Turn on the fluidizing air prior to opening the outlet.
5. For gear reduction operation (photo 1): rotate capstan counterclockwise to open, until the indicator on the gear box is in the desired valve position. Turn clockwise to close. Skip to step 8 for gear operation. For manual operation (photo 2): loosen nut and swing down operating handle locking bolt. Continue with steps 6 and 7.
6. Pull out the position-retaining handle and rotate control handle counterclockwise to regulate rate of flow.
7. Engage the position-retaining handle to hold valve at proper position.
8. When the compartment is empty, open and close the control valve several times to clean out any residue lading. Close the outlet valve and reverse the above steps.



Vacuum Unloading Instructions

The relatively small size of the discharge port makes it possible to attach a light-weight adapter to meet vacuum unloading system requirements (photo 3).

1. Open at least one hatch on the comportment being unloaded.
2. Open the sanitary shield.
3. Attach the special vacuum adapter (the three fasteners which retain the sanitary shield can be used to hold the pan in place).
4. Connect the vacuum line to the adapter nozzle, and start the vacuum system.
5. Connect the fluidizing air line, turn the fluidizing air on and fluidize the loading for several minutes.
6. Open the outlet valve slowly until the desired flow rate is achieved.
7. When the unloading is completed, open and close the outlet valve several times to allow the vacuum air to sweep all the lading residue from the adapter. Close the outlet valve and reverse the above steps.



Cleaning Fluidized Butterfly Outlet

The fluidizing membranes in Center Flow® fluidized outlets are easily washed with ordinary soap and water. The membranes will not retain undesirable moisture.

Before, during and for several minutes following cleaning, fluidizing air should be introduced through the fluidizing hookup to assist in drying the outlet.

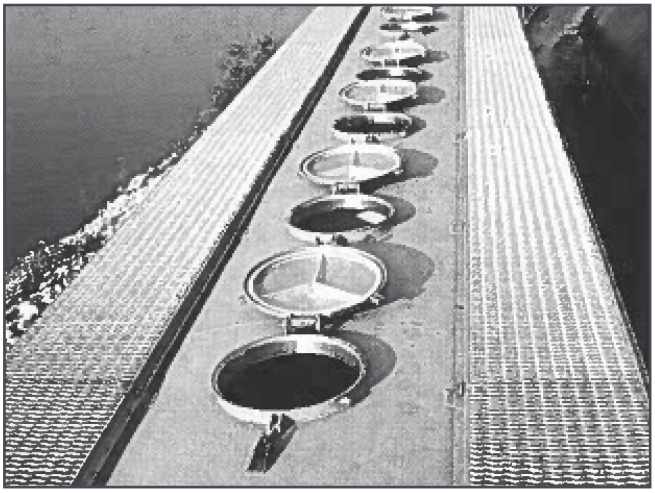
If a ladder is being used in the cleaning operation, it should never be set on the membranes.

Pre-trip Inspection

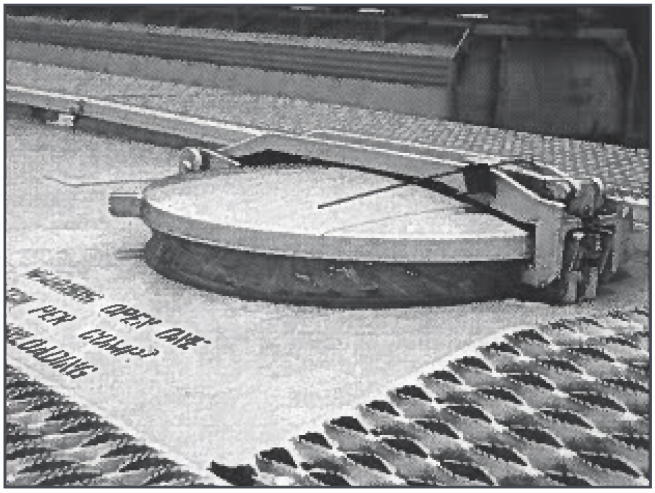
Secure the Outlet Prior to Loading

Outlets should be inspected to verify that they are functional and clean.

1. Secure the cap to the air inlet nozzle.
2. Verify that the handle has been rotated clockwise and the butterfly valve is in the closed position.
3. Swing the sanitary door over the opening and secure it with the three fasteners.
4. Cable seal the handle to the outlet frame using the hole in the handle and the chain link on the outlet pan.



Wipe hatch rings, covers, and gaskets clean to assure proper sealing of covers.



Properly applied seal through the hatch strap and over the cam lever. As can be readily seen, it would be impossible to open the hatch without breaking the seal.

Preparing an Empty Car

1. Secure the cap to the air inlet nozzle.
2. Verify that the handle has been rotated clockwise and the butterfly valve is in the closed position.
3. Swing the sanitary door over the opening and secure it with the three fasteners.
4. Cable seal the handle to the outlet frame using the hole in the handle and the chain link on the outlet pan.

The AAR requires that all outlets be closed and secured before an empty covered hopper car is routed back to a loading facility. This simple action will prevent damage and costly replacement or repairs to the outlets.