

Vortex Ventures Bulk Transfer System With Dust Recovery

Vortex Ventures Flow Process for “P” Tanks with Dust Recovery Tank

1. A dense phase pneumatic conveying system is employed to transfer and store bulk barite and bulk cement when transferred from a Marine Supply vessel.
2. During the conveying process of material transfer, the expanding air generates dust that is exhausted through the “P” Tank vent lines.
3. The vented dust is routed through a connecting pipe to a Dust Recovery Tank. The DRT is fitted with an Air Cyclone that employs special features developed by Vortex Ventures Inc. to separate the air and suspended solid particles. The exhausted air is discharged from the Air Cyclone with particle size of less than 12 microns. A filter sock may be employed on the vent line from the Air Cyclone to further reduce solids particle release to the atmosphere. Solid particles with size greater than 12 microns are directed downward out of the Air Cyclone into the DRT. This process will insure minimal product loss. Care should be taken during the filling process not to over-fill the “P” Tank. This could cause downstream plugging in the pipe leading to the DRT.
4. A return line connected to the P-tank(s) inlet manifold from the bottom of the DRT is used with a Lobestar Eductor and air nozzle to form a vacuum pulling the barite or cement from the DRT while conveying the recovered material back to the “P” Tank. The DRT can be emptied after each batch of transferring is complete or anytime the high level alarm signals that the unit is full. A completely separate system is employed for the barite and cement. Each system has its own DRT.
5. During the Surge tank filling process while Drilling Fluid is being mixed the top sight glass or the weight indicator should be carefully observed so the Surge tank is not over-filled. This could cause downstream plugging in the pipe leading to the Dust Recovery Tank (DRT). The DRT can be emptied after the mixing of the Drilling Fluid is complete or anytime the high level alarm signals that the unit is full.
6. A return line connected to the P-tank(s) inlet manifold from the bottom of the DRT is used with a Lobestar Eductor and air nozzle to form a vacuum pulling the barite from the DRT while conveying the recovered material back to the “P” Tank.
7. The “P” Tank storage silos and surge tank for cement is piped in similar manner, but completely separate from the Barite.

