

VIBRA SCREW CASE HISTORY



C-173

Bin Activator Enables Automation of Filtration System

Company

Stauffer Chemical Company, Food Ingredients Div., San Jose, California.

Problem

Diatomaceous earth is used by Stauffer Chemical for filtration in processing monosodium glutamate. A fully automated bulk filter-aid system recently installed requires that diatomaceous earth be discharged on demand from a storage silo into a slurry tank below. Before the automated bulk system was installed, material was manually dumped from 50 lb. bags directly into a slurry tank. Now, however, the material is stored in a large storage silo, 26 ft. in diameter by 64 ft. high with a 300,000 lb. capacity. Reliable movement of the material from bulk storage is of primary concern, as there is no operator in attendance. The automated controls depend upon the material discharging without bridging or clogging at the discharge outlet — difficulties which are often associated with the handling of this material.

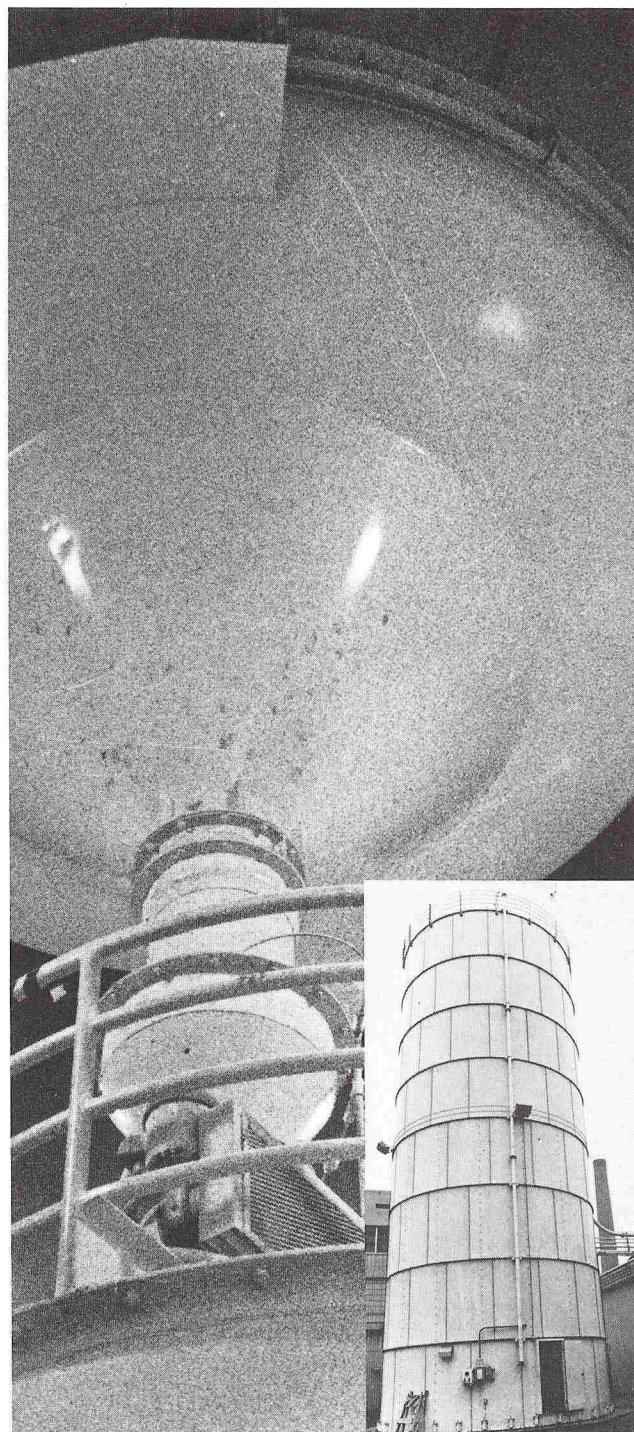
Solution

A Vibra Screw 12 ft. Bin Activator.

The company installed a Bin Activator on the bottom of the storage silo. Replacing the compaction-causing cone bottoms of conventional storage bins, the Bin Activator is flexibly hung from the bin by rubber-fitted, forged steel hangers. Under the action of a patented gyrator, the activator keeps material mobile and free flowing without vibrating the bin structure itself. An integral baffle relieves headload from the discharge outlet and directs vibrations high into the bin helping to eliminate overhead bridging and compacting of material.

Results

Since the installation of the Bin Activator, the removal of diatomaceous earth from bulk storage is efficient and accurate. Manpower has been reduced as well as the inaccuracies previously inherent in the manual addition of the material into the slurry. According to Sinclair Cohen, Project Engineering Superintendent at Stauffer, "The Bin Activator does a good job — we actually had to have such a device that would consistently allow material to discharge from the large silo. The system operation is unattended, and our automatic controls would be useless if bridging or clogging occurred."



Bin Activator discharges diatomaceous earth from storage into a rotary airlock valve for metering into slurry tank below.

Stauffer's 64 ft. high storage silo is equipped with a 12-ft. dia. Bin Activator.