

# VIBRA SCREW CASE HISTORY



C-216

## Live Bottom Bin Keeps Even Powdered Salt Flowing Freely

### Customer

Morton Salt, Division of Morton Norwich, Rittman, Ohio. Leading producer of a wide variety of consumer and industrial salt products.

### Problem

Morton Salt makes two specialized salt products which require producing and processing fine powdered salt of 200 and 325 mesh, each of which has a bulk density of about 55-60 lbs. per cu. ft. In the process, regular granulated salt and additives are finely ground in a pin mill, which grinds them to a powder and spins the material out from the grinder into a holding bin below. The bin is 5 ft. in diameter and 20 ft. high, with a capacity of 15,000 lbs. From the bin, the salt goes to a scale feeder, which is a bagger with a scale built into it. Bagging of the 80 lb. bags completes the operation. When the process was originally planned, it was realized that the powdered salt, with its considerable caking tendency, would require assistance to be moved from storage. Manual means, of whatever kind, could not be depended on to assure the required discharge rate of 200 lbs. per minute.

### Solution

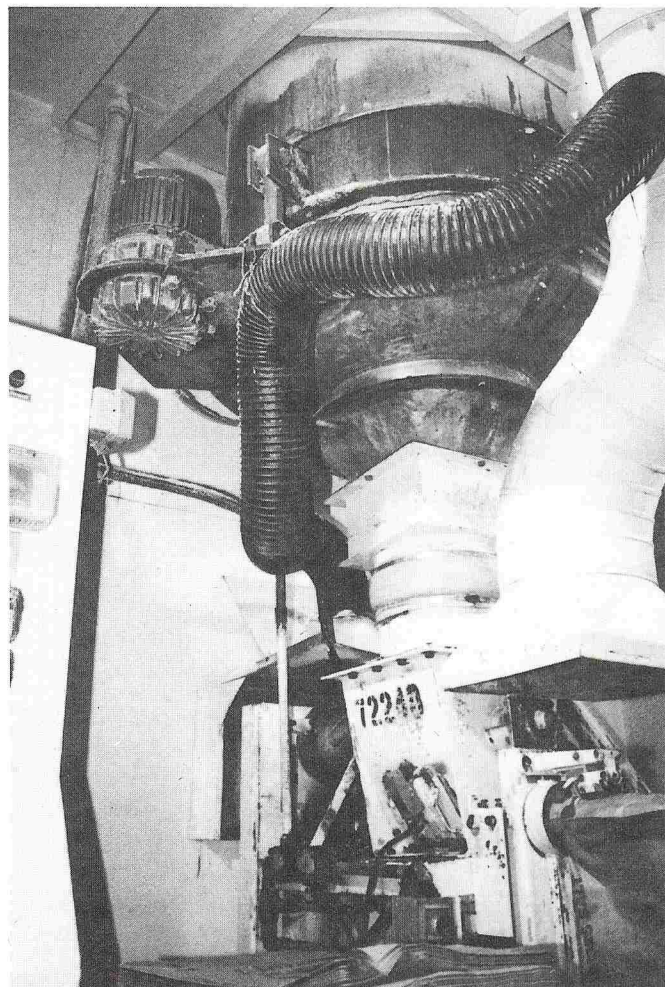
Vibra Screw Live Bottom Bin, 4 ft. diameter, 260 cu. ft. capacity, 316 stainless steel, food grade construction.

The company has used Vibra Screw equipment for a number of years to insure uninterrupted flow of materials. In this particular instance, they decided to install a Live Bottom Bin under their bin containing powdered salt to keep it free-flowing. The Live Bottom Bin is a self-contained unit combining a static cylindrical bin and a Bin Activator, which is subjected to controlled vibration. An integral baffle located above the discharge outlet of the Activator projects vibrations up into the bin. This relieves headload and compaction at the final outlet. The material in the bin is kept constantly mobile as the vibrations from the baffle are transmitted upward and toward the bin's sides, eliminating bridging and ratholing. The combination of the vibrating bin bottom and integral baffle assures mass flow of

the salt, even when unpreventable moisture is present.

### Results

According to a company official, the finely powdered salt would be virtually impossible to move without the Live Bottom Bin. Morton Salt has achieved a steady flow of the salt with its Live Bottom Bin, and has successfully met its production requirements with a minimum of maintenance.



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