VIBRA SCREW

CASE HISTORY

C-186

Nuclear-Grade Castings Made With Help of Live Bin Feeder System

Customer

Alloy Steel Casting Company, Southampton, Pennsylvania. Manufacturer of specialty and high-alloy stainless steel nuclear-grade castings.

Problem

Because of the extremely high quality of molds required by Alloy Steel Casting Company for their castings, additives must be fed to the sand mixer at highly accurate and reliable rates.

The company uses iron oxide and yellow ochre when making molds for castings of carbon and stainless steel. Both of these additives are difficult to handle because of their fine particle size, dustiness and their tendency to hang up in storage bins. This causes uneven feeding, which results in gas buildup and defective molds.

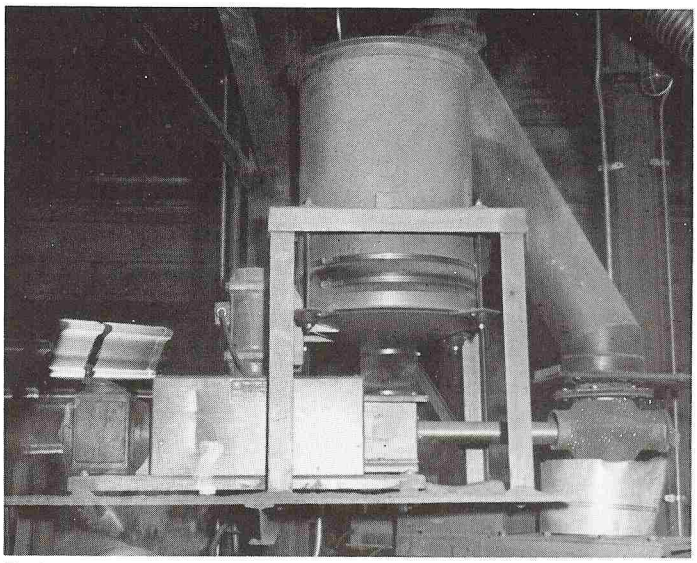
Solution

Vibra Screw Live Bottom Bin 20-5 and Live Bin Screw Feeder with 2-in. diameter screw.

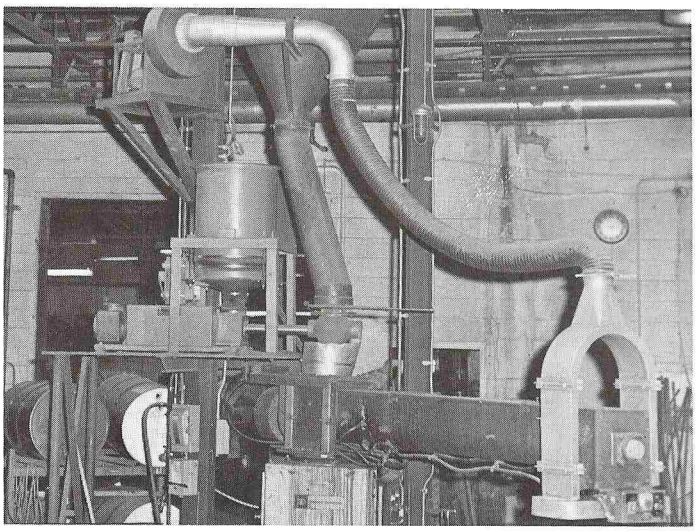
The Live Bottom Bin provides up to 5 cu. ft. supply capacity for the additives which are delivered in bags. In the bin, the contents are subjected to controlled vibration so that the material (iron oxide or yellow ochre) is completely and uniformly discharged into the screw feeder below. The feeder also employs controlled vibration of its rotating feed screw to assure uniform and accurate feed (±1 to 2 percent minute-to-minute) to the sand mixer. Both pieces of equipment are ruggedly and simply designed for long life with minimum attention.

Results

The company has redesigned its entire binder system based on efficient handling of additives with its Vibra Screw equipment. The system eliminates dusting and additive hangups, and most important, improves the soundness of the company's castings by improving the quality of the molds.



The Live Bottom Bin completely and uniformly discharges iron oxide and yellow ochre into the Live Bin Screw Feeder, which accurately feeds material into the sand mixer.



The efficient handling of additives has improved the quality of the company's casting molds.