

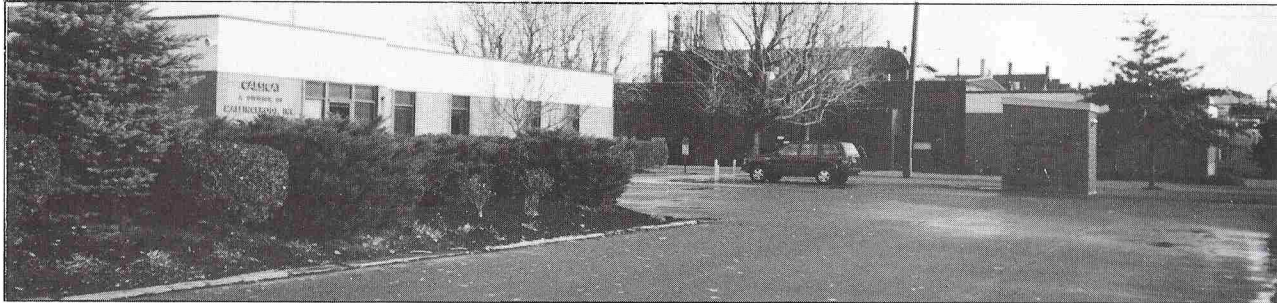
VIBRA SCREW CASE HISTORY



C-266 Vibra Screw Feeders Improve Quality Control in Pellet Production

Customer

Calsicat Division of Mallinckrodt Baker Chemical. This Erie, PA chemical plant manufactures catalyst pellets.



Engineers at Calsicat Division required vibration of the hopper, trough, and feed tube to accommodate non-free-flowing materials.

Problem

Pellets of catalytic materials for petrochemical and oleochemical industries must offer high levels of quality and consistency to satisfy Calsicat's many customer specifications. Catalyst pellets are charged to user's specs, usually for fixed-bed hydrogenators. This consistency was not always easy to achieve when older, less accurate feed devices unevenly distributed the inorganic compounds to Calsicat's pellet production lines.

With previous feeders, production personnel had no control of feed rate. They spent too much time watching the raw material supply trays and needed additional manpower to audit and control pellet quality. Operators dealt with many mechanical problems including banging on the supply hoppers to unjam bridging or ratholing materials.

Solution

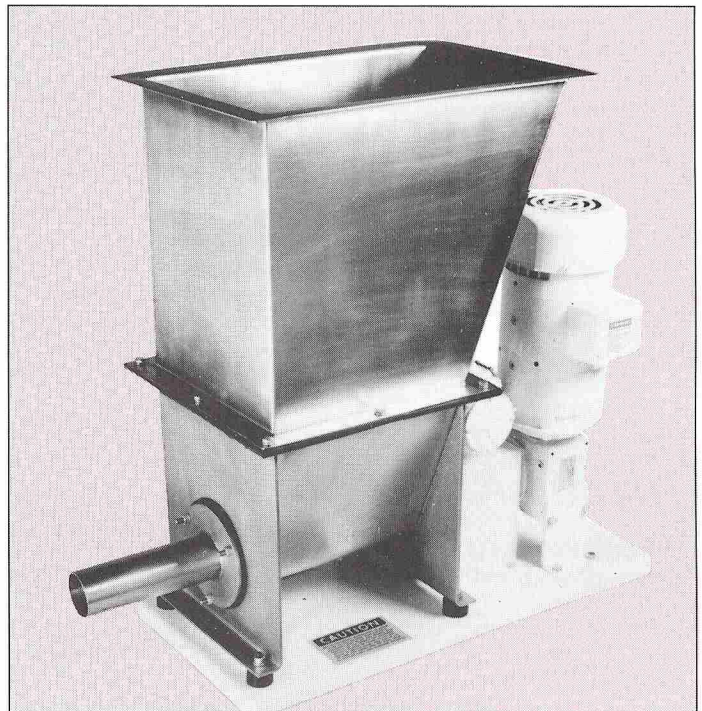
Vibra Screw had the answer in its VersiFeeder screw feeders. VersiFeeders are designed to accurately feed a wide variety of materials. Although Vibra Screw offers a secondary trough conditioning screw for semi-free-flowing materials, Calsicat engineers specified controlled vibration of the hopper, trough, and feed tube to accommodate non-free-flowing materials. The units would provide Calsicat with accuracy of $\pm 1-2\%$ and could be operated as continuous or batch feeders, depending on the customer order.

They initially installed two VersiFeeders with 1 1/2 inch screw diameters beneath 2000 pound capacity bins. This size unit is capable of feeding up to 8.8 cubic feet of material per hour. The units' DC, SCR controls provide operators with the variable feed rates necessary to produce each new batch according to the customer's strict specifications.

Results

With the success of its first two Vibra Screw units, Calsicat subsequently added four more VersiFeeders to its pellet

production lines. VersiFeeders improved control of feed rate and allow operators to accurately increase or decrease the rate and therefore the volume. With VersiFeeders supplying their pellet production, operators concentrate on the quality of their end product rather than watching the material supply trays. Frequent changes in materials for batch changes are easily accommodated by the VersiFeeder's controlled vibration and electronic controls.



Six Vibra Screw VersiFeeder volumetric screw feeders improved control of feed rate and accurate supply of raw materials to supply trays in a pellet production line.