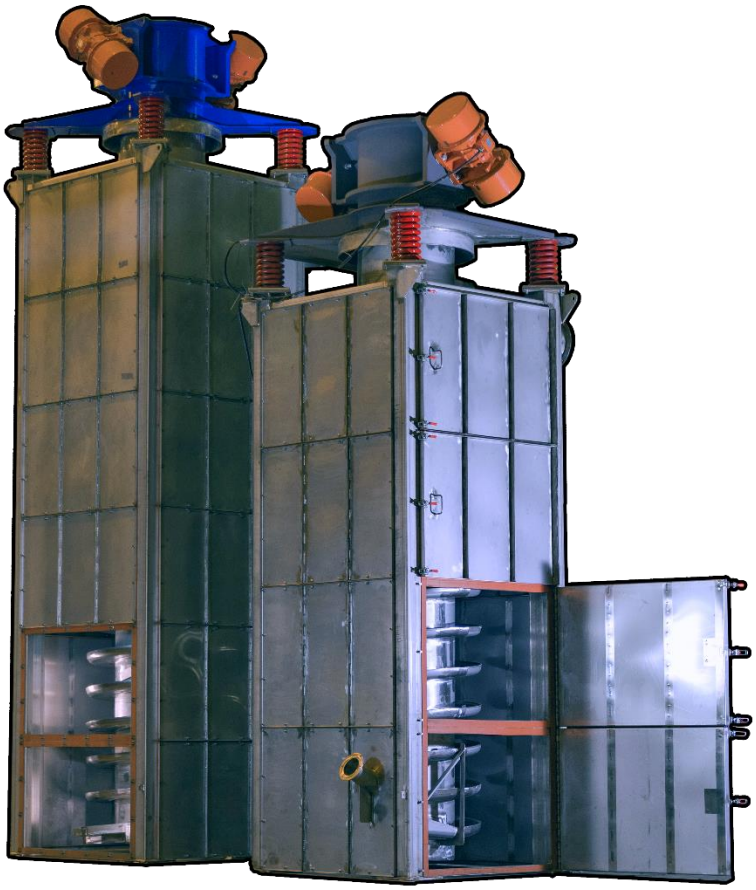
High Temperature Spiral Elevators

Problem: A chemical company came to Carrier needing to cool and transport a chemical catalyst immediately after it had been processed in a rotary furnace and needed a solution that would be able to handle the 1,500-degree temperature the catalyst would be when exiting the furnace. The company was also concerned about possible cross contamination of the product and had worries about employee safety around the hot product being conveyed.

Solution: Carrier was able to develop a set of vibrating spiral elevators that utilized top mounted motors to convey the catalyst while it cooled. Both spiral elevators were situated inside a stationary metal shroud to protect personnel, prevent cross contamination, and simplify the duct control needed. One spiral elevator was used immediately after the furnace, and conveyed 1,500-degree catalyst, requiring it to be built from 309 stainless steel to handle the material.

To protect the motors from the high heat, this spiral was designed with steel heat shields, prolonging the equipment's life and reducing downtime and maintenance. The second shrouded spiral was located later in the process line where the catalyst had cooled to 200 degrees.

The shrouds were designed to be able to be easily opened, allowing for ease of access for maintenance and cleaning of the entire system.



3400 Fern Valley Rd. Louisville, KY 40213 502-969-3171 cve@carriervibrating.com