

HILTON KNIFE GATE VALVE IN HIGH TEMPERATURE DRY MATERIAL SILO ISOLATION



APPLICATION:

During the recausticizing process at a commercial printing and imaging paper mill, lime powder at 1800°F (980°C) is dropped from a silo onto a screw feeder. A material handling isolation valve on the silo is closed when maintenance needs to be performed on the screw feeder. In order to shut off flow of lime powder from the silo, the valve is required to cut through a standing column of material.

PROBLEM:

The valve previously used in this application was another manufacturer's 14" O-port gate valve with an electric actuator. Although an O-port valve will typically cut through a standing column of dry material, the gate draws material into the body with each cycle, filling the body over time. This material buildup eventually caused the valve to become extremely difficult to operate, to the point where operating the valve often took longer than actually repairing the feeder. In addition, the gate had galled badly from the abrasive lime powder which was leaking through the packing.

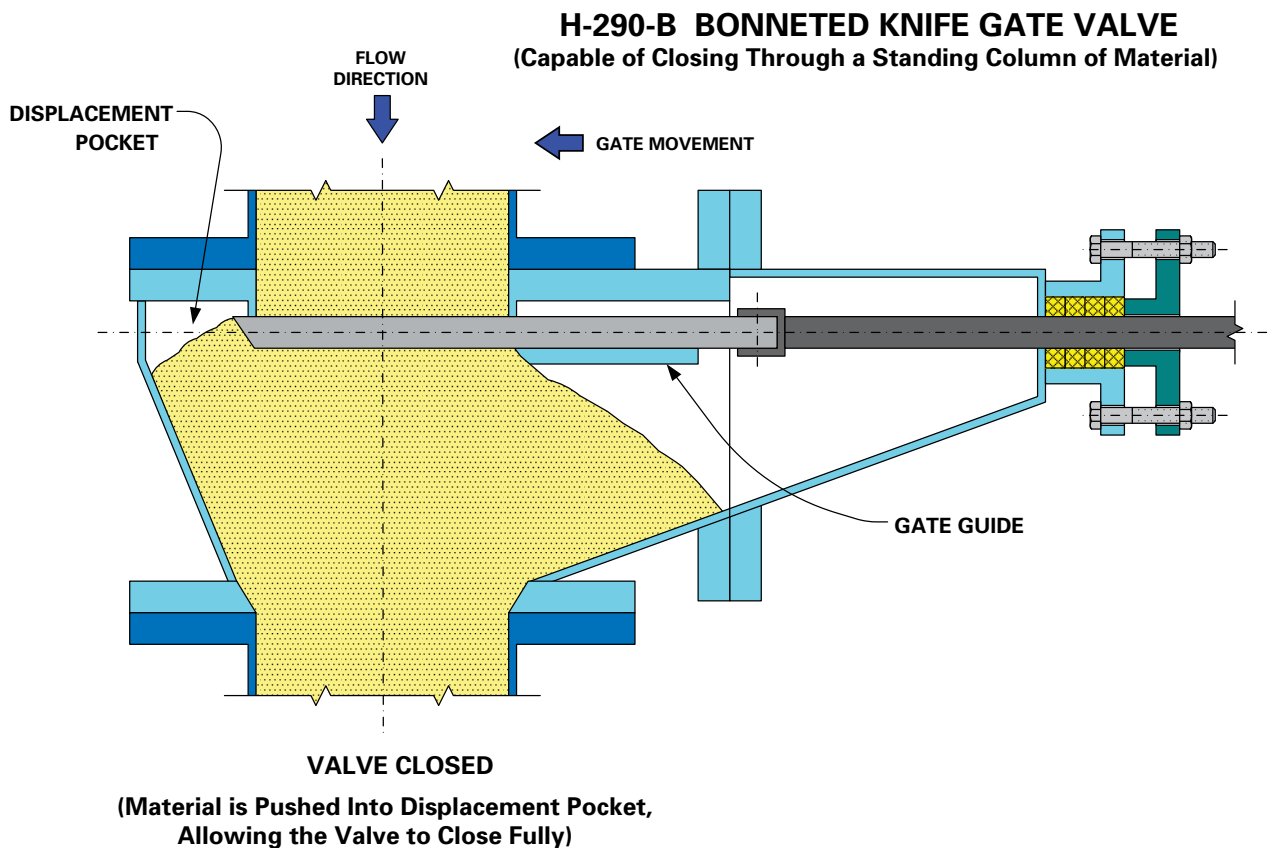
SOLUTION:

Working closely with the customer, a horizontally mounted Hilton H-290-B knife gate valve was designed specifically for this high temperature, dry material handling application. Fabricated in 310 stainless steel, the valve has a tapered body with a displacement pocket where material is pushed away as the gate closes. The tapered body and displacement pocket allows material in this valve to flow out of the way enabling the gate to fully close.

A bonneted valve was constructed for ease of valve maintenance and to reduce the operating thrust. This bonneted design with its small packing area also prevented material from leaking through the packing.

Because this is a custom fabricated valve, the valve was designed to fit within the allowed space, using the existing flange connections and including a round port inlet and square port outlet.

For complete information on Hilton Knife Gate valves for dry service handling, or any other DeZURIK/APCO/Hilton products, contact your DeZURIK representative. DeZURIK representatives are located in major cities throughout the world. For the name of the representative nearest you, contact DeZURIK.



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