

DeZURIK GLASS-LINED ECCENTRIC PLUG VALVES FOR HIGH VISCOSITY SLUDGE/BIOSOLIDS HANDLING

Background

Wastewater treatment plants can manage the byproducts of the treatment process in a few different ways. One way is to use the resulting sludge, also known as biosolids, as fertilizer for fields and forests; this process is known as land application. The biosolids are dewatered before transporting them to an off-site location. Dewatering reduces the moisture content of biosolids and makes transportation more economical.

Challenge

A wastewater treatment plant in the midwestern United States needed valves to isolate and control the flow of thick dewatered biosolids. A standard unlined eccentric plug valve can efficiently handle sludge for most applications in a treatment plant. What made this application unique was the percent solids of the processed sludge was around 10%. The wastewater treatment plant needed a valve that could efficiently handle this extremely thickened sludge.

Land application of wastewater biosolids can only take place during small windows of time, generally in the spring or fall when fields are vacant of crops. The seasonal use of the system may result in valves that remain in an open or closed state for a large portion of the year. Because of this, extra precautions were requested to further ensure valves in the system would operate when needed.



DeZURIK glass-lined Eccentric Plug Valves for high viscosity sludge/biosolids handling.



DeZURIK Eccentric Plug Valves can be sourced and manufactured in the US making them AIS and BABA compliant.



Biosolids stored in a staging area awaiting seasonal land application.

Solution

DeZURIK has the extensive product line and application expertise to recommend the most cost-effective and top-performing solution for any application. Due to the extreme nature of the thickened biosolids, high percent solids and intermittent use, the engineer chose to specify glass-lined DeZURIK PEC Eccentric Plug Valves with stainless steel plugs and grease ports.

The glass lining on the interior of the valve created an ultra-smooth nonstick surface. The high-solids sludge is not able to stick to the surface of the valve, thereby preventing any media buildup. To battle corrosion, stainless-steel plugs were selected. Stainless-steel is highly resistant to any corrosion that would take place in a wastewater system. The solid 316 stainless-steel plugs provide added corrosion resistance at the upper and lower bearing journals. Grease ports were specified to keep the journals and bearings well lubricated and free of any pipeline media.

Result

After nearly a decade in operation, the DeZURIK glass-lined PEC Eccentric Plug Valves continue to operate without issue in this biosolids transport system.

For complete information on DeZURIK PEC Eccentric Plug Valves, or to discuss a specific application, contact info@DeZURIK.com or contact your local DeZURIK representative.



Glass-lined Eccentric Plug Valves have welded nickel seats.

SALES AND SERVICE

For more information, contact DeZURIK

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