



KWS Flanged Shaft-to-Pipe Connection

Shafted screw conveyors require a center pipe to support the screw and provide a means for rotation. KWS screw conveyors can be designed with a flanged connection between the screw center pipe and drive and end shafts. The flanged connection is located as close to the trough ends as possible to eliminate any restriction to the flow of bulk materials. The drive shaft is connected to the drive unit using a flexible shaft coupling or torque arm drive configuration that provides power to turn the screw while the end shaft is supported by an external bearing.

Historically, a coupling plate welded to a drive shaft was typical in the industry. KWS viewed this connection as a potential weak point and certainly a potential source of misalignment with the screw coupling plate. Any misalignment at this connection induces a cyclical load on the coupling and causes fatigue and eventual failure. KWS solved the potential misalignment problem by machining the drive shaft and coupling flange from one piece of solid bar. The result is a drive shaft coupling flange that is stronger, truly perpendicular, and will not fail.

The one-piece flanged drive shaft is bolted to a coupling plate on the ends of the screw center pipe. The screw center pipe coupling plate is designed with a register fit to the drive shaft coupling flange allowing for easy alignment. The screw coupling plates are machined following weldment into the center pipe to produce a precise connection and true alignment of the shafts and screw.

Features

Flanged Coupling – KWS provides a rigid bolted flanged connection between the shafts and center pipe providing a much stronger shaft-to-screw connection than a 2-bolt or 3-bolt CEMA standard coupling connection.

One-Piece Drive Shaft – KWS machines every flanged screw conveyor shaft from a solid bar with a generous radius at the shaft to coupling flange transition to provide an unbreakable connection. A registered fit between the coupling flange faces is standard.

Materials of Construction – KWS drive shafts and screws can be manufactured from a wide range of materials to suit any application. Shafts may be C-1045, SAE 4140, or stainless steel and screws may be constructed from carbon steel, abrasion-resistant steel, stainless steel, or as required by the strength, corrosion resistance, and abrasion resistance requirements of the application.

Benefits

Simplified Screw Replacement – Since the coupling faces are perpendicular to the product flow, the screw can be easily unbolted and removed vertically from the trough without disturbing the drive or end shafts and gear reducer.

Elimination of Failure Point – The KWS one-piece drive shaft will not fail under fatigue or torsional loading. Expensive downtime is minimized, creating a maintenance and worry-free operation.



KWS Manufacturing

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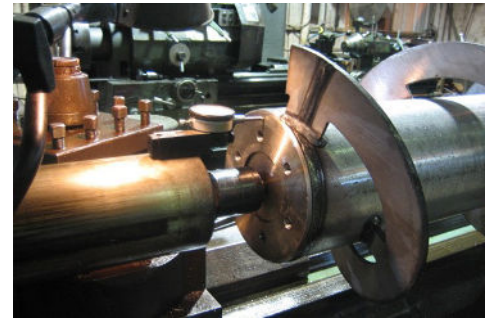


Features & Benefits

KWS Flanged Shaft-to-Pipe Connection



KWS Flanged Shaft-to-Pipe Connection
Will Not Fail



Screw Coupling Plates are Machined for
True Alignment with Flanged Shafts



Screw Coupling Plates After Machining



Screws with Flanged Shafts-to-Pipe
Connection are Ready for Shipment



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