



Reversible Screw Feeders

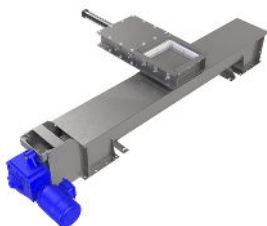
Question

I want to meter my bulk material from a single hopper to two different production lines about 10 feet apart, can I use a single screw feeder to do this?

Answer

Let's start with some basics of screw feeder design. It is not recommended to design screw feeders with uniform outside diameter and constant pitch because bulk materials will fill the screw from the rear of the inlet opening first, creating rat-holing, stagnant material, and possible bridging of bulk materials above the screw feeder. To draw bulk materials evenly across the full length of the inlet each flight must increase in available volume as the screw progresses towards the discharge of the screw feeder. A variable or stepped pitch screw is most commonly used to achieve this. Because the pitch varies through the inlet, it makes reversing the screw feeder to feed the other direction an impossible task without compacting the bulk material and plugging the screw flights.

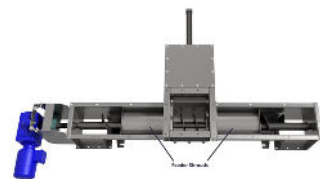
Reversible screw feeders with central inlets must have a control valve above the inlet to ensure bulk material flow is completely stopped. The feeder must be allowed to clear out completely after closing the control valve and before reversing. Feeders must come to a complete stop prior to starting counter rotation of screw conveyor drive. Failure to do so will cause the feeder to plug, stall, and damage to occur. Reversible screw feeders must be equipped with a shroud for at least 2 pitches beyond the inlet opening to prevent flooding of the bulk material past the inlet on both sides. The shroud is a curved cover that converts a standard U-trough into a tubular housing and prevents bulk material flooding.



Reversible Screw Feeders Meter Bulk Materials to Two Different Production Lines



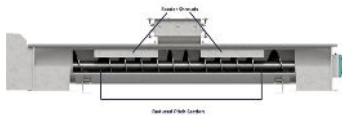
Control Valve Must Be Located Above Reversible Screw Feeder to Stop Bulk Material Flow Before Reversing Screw Feeder



Feeder Shrouds Prevent Bulk Material Flooding Past Inlet



Reduced Pitch Screw Section is Required for Accurate Metering



Feeder Shroud Converts U-Trough to Tubular Housing



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