

Proper Drain Location
for Screw Conveyor

Importance of Proper Drain Location for Wastewater Screw Conveyors

Question

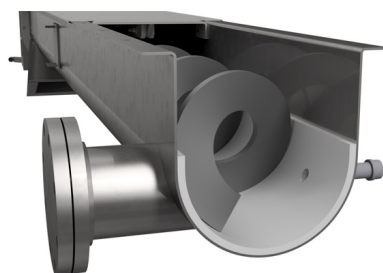
I am designing screw conveyors for conveying dewatered biosolids. As part of the process, the conveyors need drains at the lower end to discharge centrate and wash water. What is the proper design and location of the drain to avoid plugging?

Answer

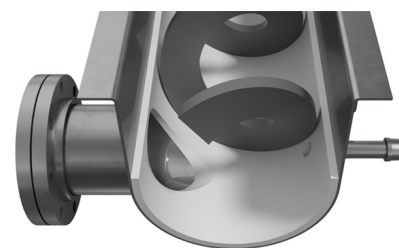
The drain must always be located on the non-carry side of the screw conveyor at the inlet end. The drain is typically perpendicular to the centerline of the trough and flush with the bottom of the trough for maximum effectiveness. To eliminate the chance of plugging a flushing port must be installed directly opposite of the drain to spray wash water directly through the drain opening to wash out material build up. Failure to have a flushing port will ultimately lead to the drain plugging.

Recommended drain size depends on conveyor diameter. KWS recommends a minimum drain size of 4-inch schedule 40 pipe with a 1-inch flushing port. Maximum drain size is typically 8-inch schedule 40 pipe. Drains are typically supplied with either NPT threads or ANSI flange connections for ease of installation.

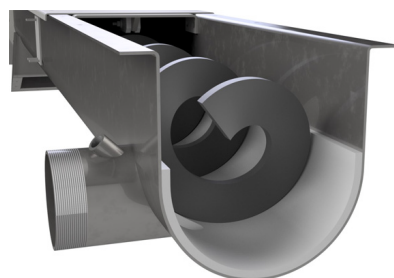
An alternate location for the flushing port is at the interface of the drain and screw conveyor trough. A 1-inch flushing port can be mounted at an angle or perpendicular to the drain as close to the trough as possible. This method is useful to prevent plugging when a flushing port cannot be located across from the drain.



Drain is Located on Non-Carrying
Side of Screw Conveyor on Inlet End



Flushing Port is Installed
Directly Opposite Drain



Flushing Port can be Mounted
at an Angle on Drain



KWS Manufacturing

3041 Conveyor Drive
Burlleson, Texas 76028

Toll Free: (800) 543-6558

Phone: (817) 295-2247

Fax: (817) 447-8528

www.kwsmfg.com