

# AJAX Top Tips

## Screw Conveyor Performance

Screw conveyors are a common method of efficiently moving materials between processes. Although conveyors are suited to handling many types of bulk materials, using standard equipment design can sometimes inhibit performance. Here are Ajax's top tips on screw conveyors:

1. **Do not overload the auger's cross section, particularly if hanger bearings are fitted.** If it is possible for the supply feed to surge, as with dust collectors and some process equipment, a reduced capacity feed control section should be incorporated.
2. **If the size range of the bulk material can get trapped with standard flight tip clearance use a larger casing size or smaller screw to give more working clearance.** Take special care with products such as wood chips, scrap paper, and hard, flat, flakes that can laminate to form a firm and incompressible bed. In this situation specialist designs such as those supplied by Ajax are needed. Select increased power with caution and appropriate strength in the screw.
3. **Ribbon flights are ideal for damp, sticky and cohesive bulk products.** To maximise performance with these materials, Ajax has developed LynFlow™ flights, a form of ribbon flight with maximum resistance to build up around the shaft. 'Coreless' type screws can also resist clogging, except for applications where a drive and a shaft is necessary to transmit the power.
4. **Inclining a screw conveyor at more than 20° to the horizontal can compromise capacity and performance.** When inclined, material in a screw conveyor falls back into prior pitch space, dramatically increasing the cross sectional loading of the conveyor. This can be prevented by using specially selected flights, and appropriate rotational speed, to generate effective radial pressure to drive the material forward.
5. **Off-the-shelf standard screw conveyor components are relatively economical in unit price, but devoid of performance responsibility if bought in sections.** They are also limited in the lengths available, whereas a custom built unit can incorporate a large diameter centre shaft for longer spans and be constructed and include features to suit the application. When considering purchase, weigh the capital cost against the utility of reliable performance. 'What period of production down-time would equate to the cost difference of quotations from alternative suppliers?' is a good measure of the value of a buyer's confidence in a supplier's competence and support.



*An inclined screw conveyor used in the processing of biomass.*

Need advice on Screw Conveyor Performance? Contact Ajax today:

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