

# Drag Conveyors

## Advantages & Limitations



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**Engineered Systems**  
*Systems Engineering and Design*

# Drag Conveyors

## Advantages

Drags take up less vertical space; can easily be made wider than they are high. Screw housings are usually higher than they are wide, taking more head space.

Drags typically require about 50% less power than a comparable screw. Screws must be rotated to push material forward (this also lifts and aerates the material), which requires more power.

Drags are more efficient on an incline since they allow the material to settle. Screws actually “Lift and Agitate/Aerate” material which makes it more likely that it will fluidize and fall back over the top of the flights.

Drags don't agitate or aerate material; less dust potential and/or material degradation

Drags are more “self-cleaning” than screws; less chance for cross contamination. Screws require running clearance that translates into a “Dead Space” of stagnant material.

Drags can be designed to operate in two planes; horizontal, then inclined (up to 90) and back to horizontal. Screws are strictly straight-line.

Drags can be quite long (200ft, or more) as the only limitation is “Chain Pull” Higher strength chain or dual strands can be used. Screws are limited by the torsional capacity of the components.

Drags weigh less on a per-foot basis; allowing for lighter bents/legs and/or longer spans.

Spare parts are less expensive for drags and are easier to handle and store. Compare several feet of rolled chain on a skid vs. screws of specific lengths.

Chains are easier to replace than screws. New chain can be connected to the old chain and pulled thru at one cover location using a “Jog” control on the drive. All covers must be removed to replace screws.

Sprockets have hardened teeth and could be reversible for longer wear life and segmental for easier replacement.

Drags could have AR wear liners that are relatively easy to change. Drag bottoms usually bolted on vs. being one-piece like a screw trough.

Drags w/ forged chain have been used for dust and ash collection in mill-service application for years and have proven to be reliable and effective.

### Limitations:

Drags do not handle sticky materials well, it tends to stick to the flights & chain  
Drags do not mix or blend while conveying



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## Limitations

Drags do not handle sticky materials well, the material tends to stick to the flights & chain.

Drags do not mix or blend while conveying.

Drags cannot uniformly draw-down a bin.

Drags cannot readily be simultaneously flood loaded from multiple openings.

Because of the articulating chain links, it is very difficult to make a drag sufficiently “sanitary” for food handling, other than for grains (which are commonly handled by drags).

Drags don't perform as well handling very abrasive materials that have fines due to the articulating chain links.

Highly corrosive applications may be problematic due to the lack of availability of suitable chains.



# Other Equipment By

## TPI Engineered Systems, Inc.

**Bulk Materials Handling Systems**

**Belt Conveyors & Belt Feeders**

**Drag Chain Conveyors**

**Chain Reclaimers**

**Radial Stackers**

**Screw Conveyors & Screw Feeders**

**Live Bottom Storage and Bins**

**Bucket Elevators**

**Apron Conveyors & Apron Feeders**

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