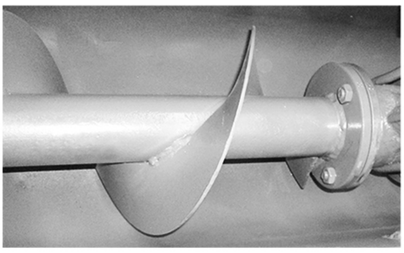
SHAFTED SCREW vs. SHAFTLESS SPIRAL

SHAFTED

A material buildup may occur around the shaft, resulting in a blockage or reduced capacity

Reduced torque capability due to thin flights and higher RPM (RPM shafted ≈ 2-3x RPM unshafted)



End bearings mean that axial (end) discharge is not possible

Hanger bearings create restrictions, requiring more power, reducing capacity and creating potential blockages; this problem is amplified in inclined conveyors where material may just roll back at the hanger bearing

Blockages, upset conditions, power failure recovery may not be overcome due to reduced torque

Gritty sludge will erode trough bottom as well as spiral flights

Screenings will "rag" or wrap around shaft creating a tangled mess, very difficult to unwind

Bearing lubrication is a maintenance problem, bearings in hostile environment, difficult to access

Auto-lube systems are unreliable, will eventually stop functioning resulting in bearing seizure

Low fill rates require large trough cross sections for equivalent transport capacity

SHAFTLESS

Shaftless spirals have no central shaft, wide open with nowhere for sludge to stick

High strength spirals allow low RPM, high torque, high fill rates

Axial connections, ie straight into the side of another conveyor are common, even at oblique angles

Can run up to 100% full, utilizing almost full cross section of trough, no restrictions to impede material flow

High torque gearboxes and heavy duty spirals will clear the most difficult upset conditions

Sacrificial liners are designed to be easily and inexpensively replaced

No shaft for screenings to wrap around

No bearings

No bearings

Less than half the x-sectional area required for equal capacity

SPIRAC®
Solid Handling Solutions