

RIBBED IDLER PROTECTS SENSITIVE SOLIDS

What is a ribbed idler?

By removing 0.035" (0.9 mm or 900 microns) of material from 80% of the flank of each idler gear tooth, on both sides, Viking's ribbed idler reduces gear-to-gear contact that could damage the tiny sugar crystals in magma or massecuite. It is available in hardened iron or hardened steel materials. The rib alternates position on each tooth to minimize wear on the rotor teeth in any given spot, and since the idler turns at a different speed than the rotor, that contact point changes with each revolution of the rotor gear.

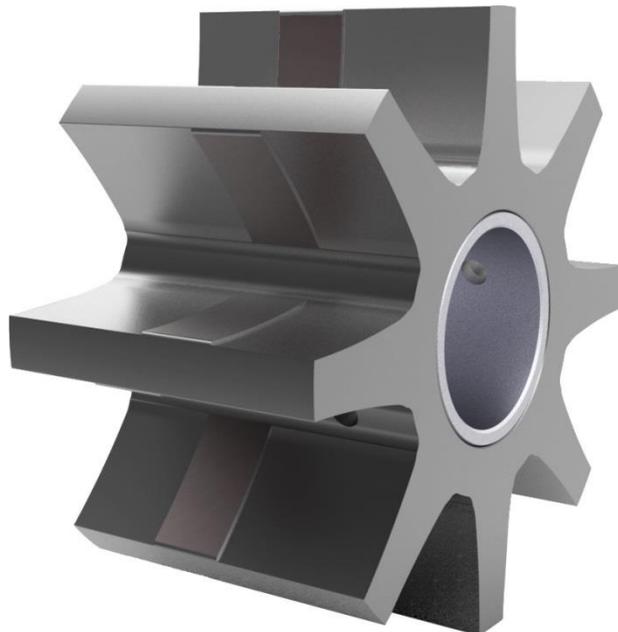
What impact does the ribbed idler have on pump performance?

The ribbed idlers do create additional slip paths that allow liquid to slip back from the high pressure (discharge) side of the pump to the low pressure (inlet) side. The amount of slip depends on the viscosity of the liquid.

High Viscosity Liquids: Pump capacity on high viscosity liquids using ribbed idlers is virtually identical to catalog performance with standard idler gears. For example, on 10,000 cSt liquid at 50 RPM, the capacity is reduced by only about 1% versus standard pump performance at 50, 100 and 150 PSID.

Low Viscosity Liquids: On water-thin liquids, testing shows a significant decrease in capacity, especially at higher pressures. Please contact Viking's Application Engineering Group for assistance in sizing a ribbed idler pump for low to medium viscosities.

Commonality: By simply changing the idler gear from a standard idler to a ribber idler, and slowing it to appropriate speeds, sugar producers can use the same pump for magma and massecuite that they use for syrup and molasses. Best practice is to install a pump on your thinnest syrup or molasses, and as it wears over time, move it to thicker liquid applications. With the ribbed idler those include magma or massecuite applications.



Ribbed Idler with Hardened Iron Bushing, Cross-Drilled for Improved Lubrication