

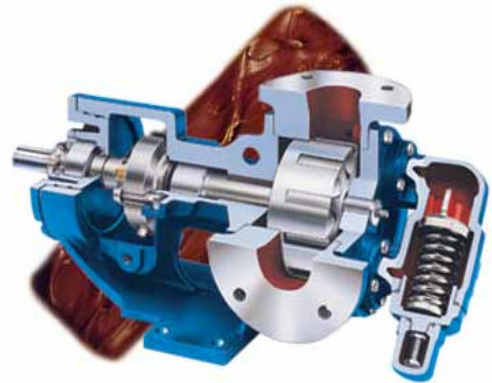


PumpAction.....

NEW PRODUCTS

Viking chocolate pumps smooth the way

Pumping chocolate has always been a tricky proposition. The amount of chocolate liquor, fat (cocoa butter), sugar content, sugar granule size, milk products, and other additives dramatically affect the behavior of the product. Even though many formulas are used, the application is generally described as "chocolate pumping".



Viking's Internal Gear pumps have been transferring many forms of chocolate for over 50 years and the company has acquired considerable experience in constructing pump designs specifically for long term reliability in service.

Viking suggests the following guidelines:

- Additional clearances within the pump for viscosities above 16,000 cps. The additional clearances prevent the "squeezing" of ingredients out of the chocolate emulsion and reduce the possibility of any heat induced into the liquid.
- Maximum pump speed limit to prevent the chocolate from changing consistency into a caramelized state. The following speeds are recommended:

Pump Size	Port Size	Max. Speed
H, HL	1½"	280 rpm
K, KK	2"	190 rpm
L	2"	125 rpm
LL, LS	3"	125 rpm
Q, QS	4"	100 rpm

- Minimize discharge pressure. Design system to reduce pump discharge pressure to approximately 700 kPa maximum.
- Drilled idlers are used to minimize build up in the idler pin and idler bush area. This design is specific to the Viking pump design and developed to introduce "fresh" and "cool" chocolate to flush and lubricate this close-running tolerance area of the pump.
- Mechanical seals are not recommended. Due to the inherent heat build-up over the seal faces, the possibility of "cooking" the sugar particles over this area causes seal face failure and subsequent leakage to the atmosphere. Packed glands are used.
- Pump casing "suck-back" holes or grooves are machined to assist moving the chocolate around the rear of the rotor area to prevent any heat build-up with stagnate flow of chocolate in this area.

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