

FRUIT FILLING WITH WHOLE FRUIT PIECES

Equipment

Waukesha Universal 1 Series
Circumferential piston Pump



**WAUKESHA
CHERRY-BURRELL™**
An ITT Company

Industry / Application

A food processing company* produces cherry and strawberry fillings containing whole or large fruit pieces suspended in a highly viscous base.

The filling is transferred from the cooking kettle through a scraped surface heat exchanger and onwards to the filling equipment. Product temperature is approximately 110°F and viscosity is around 50,000 cps.

The pump therefore has to move a highly viscous product while protecting delicate fruit pieces from damage.

Problem

Whole fruit pieces can easily be crushed or sheared when they pass through pumps with unsuitable internal geometry or tight product passages.

Damage to the fruit affects both the appearance and texture of the finished filling, making gentle product handling essential.

At the same time, the pump must provide reliable volumetric transfer of a product with a viscosity of approximately 50,000 cps. Daily dismantling and hand cleaning also make simple, economical sealing important.

*) The company name is not disclosed due to confidentiality.

Solution

A Waukesha Universal 1 Series pump with External Circumferential Piston (ECP) rotors was selected.

The ECP rotor geometry creates large cavities within the pump chamber, providing sufficient space for whole fruit pieces to pass through without excessive compression or shear.

The rugged positive displacement design also provides reliable transfer of the high-viscosity filling between the kettle, heat exchanger and filler.

For daily cleaning, simple single O-ring shaft seals provide a practical and economical alternative to more complex mechanical sealing arrangements.



Result

The Waukesha U1 transfers the cherry and strawberry fillings while maintaining the integrity of the fruit pieces and preserving the desired product appearance and texture.

Since installation, the pump has operated without reported operational problems, with maintenance primarily limited to replacement of the O-ring seals.

The result is reliable high-viscosity transfer, gentle product handling and straightforward maintenance in a production process requiring daily pump cleaning.



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