Food Processor Implements ZGF Spring Filter Technology to Recycle & Reuse Defrost Water

The Most Advanced, Automatic, Non-Disposable Liquid Filtration System

ZERO GRAVITY FILTERS

Food Processing

Each Pod contains (7) proprietary ZGF Spring Filter elements

ZGF EZ Clean EC700S, 4-Pod Flowrate: 500 gpm

Customer Challenge:

A Northwestern US processor of corn, peas, onions, and carrots wanted to investigate potential methodologies for recovering and recycling the plant's defrost water for reuse in defrost or in a second potential use as condenser water makeup.

Under the current company practice, the defrost water was being purchased from their city POTW purveyor, heated to approximately 100°F and subsequently used on a once through basis followed by direct discharge to the industrial wastewater facility. The total discharge from the defrost water was estimated at 250 - 300 GPM.

ZGF Solution:

ZGF in partnership with IER provided a turn-key solution (design, engineer and install). The ZGF / IER collaboration implemented a defrost water collection and recycle system capable of processing up to 500 GPM of defrost water (The plant specified 500 gpm design to allow for future expansion).

The system included two large storage tanks with automatic modulating level controls, an electro-chemical chlorine dioxide technology with ORP sensors for microorganism control, and a ZGF EZ Clean EC700S automatic filtration system for capture and removal of suspended solids.

Results:

The system operated virtually free of upsets through the 4-month fresh pack process with increasing efficiency in water recovery as the season moved forward.

To compensate for extremely high solids loadings during corn process plant clean up cycles, the plant decided to install a barrel screen in front of the ZGF filter. The barrel screen captured the coarse solids that were causing the ZGF EC700S to backwash more frequently.

In the final month of the corn process, the plant water usage decreased by 8 million gallons as compared to the prior process year even though plant production increased by 12%.