

Major Corrugated Packaging Producer Improves Production and Safety With Cognito EODD Pumps

In corrugated packaging production, reliable wastewater handling is essential for smooth operations and worker safety. One major producer faced repeated flooding and equipment damage after centrifugal pumps failed in industrial high-heat sump applications.

Challenges in Wastewater Management

The production process uses hot steam that condenses into 225 degrees Fahrenheit water. Additional washdowns from double backers and double facers add water containing starch, glue, oil, and fibers. This mix flows into wastewater sumps and then to treatment.

The company's centrifugal pumps could not withstand the heat or solids. Seal failures caused leaks. Pumps ran dry, then failed, which led to sump overflows. Overflowing water-soaked paper rolls that had to be discarded created unsafe conditions for workers and caused production losses.

As a temporary fix, the plant deployed AODD pumps. These handled heat and solids but ran continuously around the clock, even when sumps were empty. This strained compressors and raised energy costs. The constant use also shortened pump life.

Process Details

- **Application:** Wastewater sump transfer
- **Fluid:** Wastewater with starch, glue, and solids
- **Temperature:** 225°F
- **Solids:** Up to 2.8mm (0.11")
- **Flow Rate:** 41 GPM
- **Discharge Pressure:** 4 Bar (58 PSI)
- **Viscosity:** 1.2 cP
- **Specific Gravity:** 1.1
- **Suction Piping:** 10' of 2" pipe
- **Discharge Piping:** 300' of 2" pipe
- **Duty Cycle:** Less than one hour per day



The Cognito Solution: EODD Pump with Automated Controls

Cognito recommended a 2" stainless steel EODD unit with Santoprene diaphragms, paired with an automatic float switch.

The float switch activates the pump only when sump levels rise, then shuts it off once the water is removed. This control system eliminated the need for constant operation and protected against flooding.

Key Results

- ✓ Sealless design ended high-temperature seal failures
- ✓ Float activation allowed the pump to run only when needed
- ✓ Solids-handling ability made it ideal for sump duty
- ✓ Energy use dropped by 80% compared to AODD units running nonstop
- ✓ Low-duty cycle extended service life and reduced maintenance

Measurable ROI

The AODD units had consumed as much as 100 SCFM of compressed air each. Switching to Cognito EODD technology lowered the requirement by 20HP per pump. The reduced power use created significant annual savings.

The customer also eliminated sump overflows and floor flooding. No paper rolls have been damaged since installation, and maintenance demands are near zero.

Customer Gains

- Leak-free operation with no seal failures
- Reduced energy draw through on-demand pump control
- Consistent uptime with no sump overflows
- Safer floor conditions for staff
- Extended MTBF with minimal servicing required

Reliability and Safety in Corrugated Packaging

Cognito's EODD solution helped this packaging producer address sump failures, lower energy demand, and maintain safe operations. By running only when needed, the pumps deliver consistent reliability while controlling costs and downtime.

