

Cognito's Leak-Free EODD Pump Reduces Energy Use by 81% for Industry-Leading Organic Chemical Manufacturer

In the organic chemical manufacturing industry, operational efficiency and safety are non-negotiable. An industry-leading chemical manufacturer was grappling with persistent challenges in its filter press feeding process. Frequent seal failures, high energy consumption, and poor cake formation were hampering productivity and increasing operational costs.

Challenges in Filter Press Feeding

The customer was using centrifugal pumps, which led to:

- Frequent seal failures causing hazardous leakages
- Reduced filter press efficiency and improper cake formation
- High energy consumption
- Insufficient safety controls in the pumping system
- Increased downtime and maintenance costs

That's why the customer needed a leak-free, low-maintenance solution that could ensure better cake formation and reduce operational disruptions.

Process Details

The Cognito team studied the customer's process, challenges, and requirements before recommending the best solution.

- Application: Filter press feeding
- Fluid name: Organic slurry
- Flow rate: 234 LPM
- Discharge pressure: 6 bar
- Specific gravity: 1.25
- Viscosity: 300–500 cP
- Solid particle size: Micron level
- Temperature: 25°C

The Right Solution: Cognito's EODD Pump

Cognito proposed its [electrically operated double diaphragm \(EODD\) pump](#), mounted on a complete skid with integrated safety features. Key benefits included:

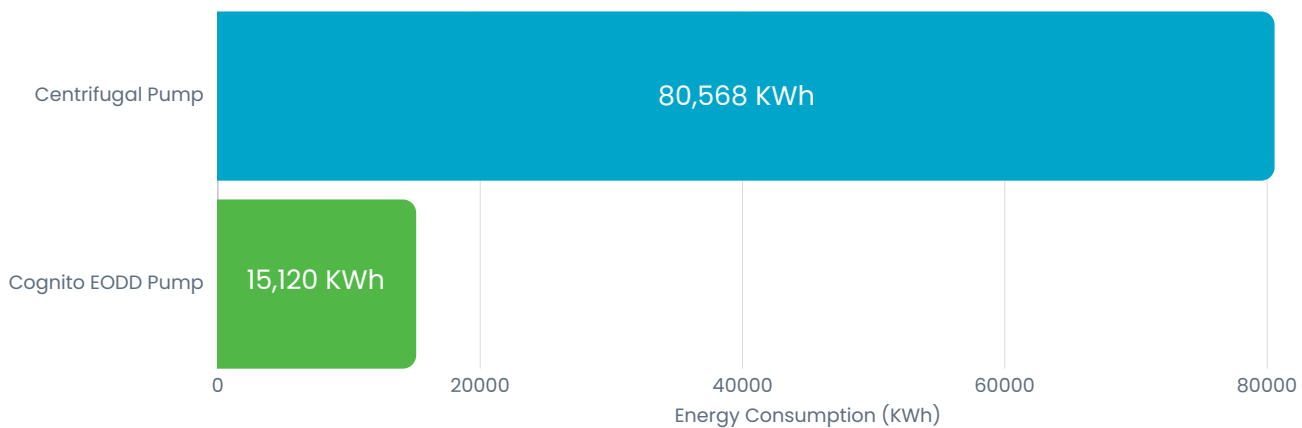
- Sealless design: Eliminates leakage risks
- Leakage sensor: Prevents fluid spillage
- Continuous high-pressure feeding: Ensures better cake formation
- Enhanced safety features: Reduces downtime and maintenance
- Environmentally friendly: No emissions or spills



ROI That Speaks For Itself

The transition to Cognito's EODD pump delivered immediate and measurable benefits. The chemical manufacturer saved 65,448 kWh, significantly reduced maintenance costs, and improved operational uptime, resulting in a full return on investment within the first year.

Energy Consumption Summary



Centrifugal Pump:
80,568 kWh/year

Cognito EODD Pump:
15,120 kWh/year

Annual Energy Savings:
65,448 kWh

Customer Benefits

The customer reported transformative improvements across key operational areas:

- **Leak-free operation:** No more seal failures or spills
- **Better cake formation:** Continuous, high-pressure feeding improved product quality
- **Reduced downtime:** Faster maintenance and fewer breakdowns
- **Significant energy savings:** Reduced power consumption led to lower operating costs
- **Enhanced safety:** With integrated sensors and robust design

Efficiency, Safety, and Uptime Delivered

Cognito's EODD pump has transformed filter press feeding at the customer's facility, delivering leak-free performance, greater energy efficiency, and improved uptime and safety. The system continues to run reliably with minimal maintenance, reinforcing Cognito's role as a trusted partner for [critical chemical processing applications](#).

