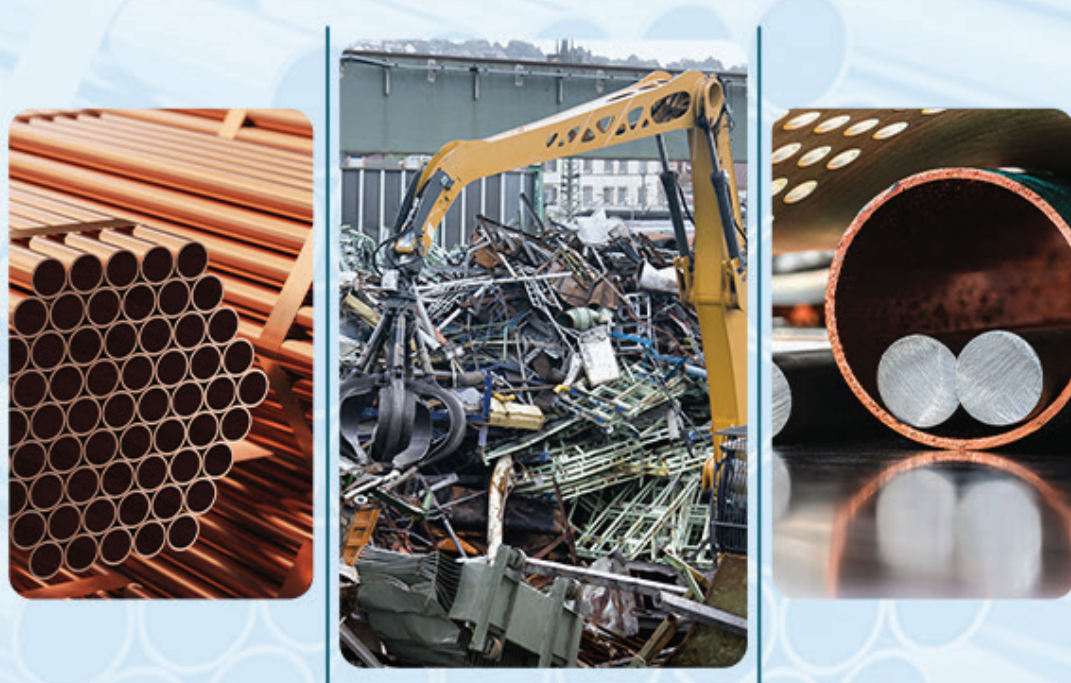


Learn how a top Non-ferrous Metal Manufacturer

In China enhanced energy efficiency and ensured a seamless production line with minimal unplanned maintenance by implementing Cognito™ EODD pumps.



In the non-ferrous metal industry, lime slurry transfer application is vital for moving thick, abrasive slurries. This process neutralizes acidic solutions, removes heavy metals from wastewater, and stabilizes waste materials. Efficient slurry transfer is crucial for product quality and environmental protection, with pumps playing a key role in ensuring reliable movement and operational efficiency.



The Need

One of the leading Non-ferrous metal manufacturers encountered difficulties with traditional AODD pumps in this demanding application. These challenges were successfully addressed with the introduction of Cognito's EODD pump. Let's delve into the specifics of how this solution made a difference.

Application

Lime Slurry Transfer Application in Non-Ferrous Metal industry

Customer Challenges



Higher Energy Consumption

The customer was not using any pumping technology due to a lack of confidence in positive displacement pumps



High Operational Time

significant safety hazards and operational disruptions due to undetected leakages from diaphragm ruptures



Elevated Maintenance Costs

Frequent diaphragm ruptures and wear of the ball and valve seat due to the abrasive nature of the liquid, along with potential air valve assembly failures, led to high maintenance costs & increased downtime

Process Details

Fluid	Flow Rate	Discharge Pressure	Viscosity	Specific Gravity
Lime Slurry (High abrasive in nature)	350 LPM	350 LPM	500 Cp	1.3 - 1.5

The Right Solution

EODD pumps offer greater efficiency and lower energy consumption than AODD pumps. Their electric operation and advanced safety features reduce energy use, quickly detect leaks, and ensure reliable performance. Additional features further lower maintenance costs and extend pump longevity in challenging conditions.

Unique patented diaphragm:

engineered for exceptional durability, especially in abrasive conditions. Their unique design and optimized balance of diameter and stroke length ensure effective performance and increased longevity under negative suction.

Seal-less design:

eliminates the need for seals, reducing maintenance requirements and minimizing potential failure points.

The unique "Stopper Cage Design":

extends manifold life by protecting seats from abrasion, ensuring trouble-free operation, and increasing the lifespan of the manifold, check valves, and seats by 2 to 3 times.

Leak detection mechanism

prevents leakages by promptly identifying leaks, allowing for immediate corrective action, reducing need for frequent inspections, and ensuring continuous, reliable pump performance.

The Cognito team successfully convinced the customer to replace 2" AODD pumps with 3" EODD pumps by showcasing the above benefits along with the ROI calculations. These features promised to cut maintenance needs, extend the lifespan of critical components by 2 to 3 times, reduction in energy cost by 60 – 70% and improve total cost of ownership. These significant benefits made a strong case for the replacement.

Site Pictures



Customer Experience

The switch to Cognito's EODD pumps has been transformative for the customer. They reported a substantial reduction in the energy cost, maintenance costs and downtime.

Post-implementation, the customer observed significant improvements:

Phenomenal energy savings

Reduced maintenance cost

Improved Safety mechanism

Achieved ROI within 0.8 year

Improved total cost of ownership

Energy Consumption	AODD Pump	Cognito™ EODD Pump
No. of Working Hours/Day	20 hr/day	20 hr/day
Energy Consume at Duty Point (estimated)	15.1 KW	2.2 KW
Electricity Consumption/ Month	6647 kWh	968 kWh
Total Electricity Consumption / Year	79762 kWh	11616 kWh

Maintenance	AODD Pump	Cognito™ EODD Pump
	Consumption of minimum 2 set Diaphragm & Air valve assembly in a year	Operated smoothly very minimum maintenance and zero downtime, resulting in efficient operations.

The customer conveyed their immense satisfaction with the reliability and efficiency of their new system, noting that the decision to replace the AODD pumps with EODD pumps enhanced their operational efficiency and overall cost savings.