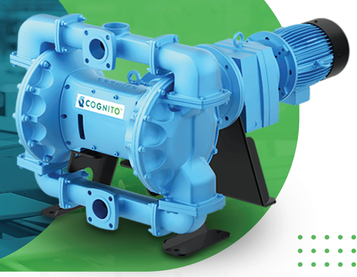
COGNITO™

COGNITO™ EODD PUMPS

Designed to Handle the Most Abrasive Slips, Slurries, and Glazes in the Ceramic Industry



THE NEED

Ceramic industry has one common challenge: managing highly viscous and abrasive materials as integral parts of the manufacturing process.

One of the leading global ceramic clients encountered difficulties in locating a pump that could handle their extremely abrasive slips.

They used conventional AODD pumps which failed to deliver sufficient pressure to maintain a consistent slurry flow, resulting in frequent downtime due to diaphragm wear and tear/ air valve damages. This downtime caused the slurry to solidify within the pipeline, leading to blockages and increased pipeline maintenance.

With the AODD pump operating for 20-22 hours a day, they experienced considerable energy consumption.

They were looking for smart and sustainable pumps capable of providing energy savings, reducing downtime, and improving production efficiency.

Challenges with AODD Pump

- Higher Energy Consumption
- Frequent Wear and Tear in diaphragm
- Leakage
- Pinholes in End-Product
- Higher Operational Cost

Process Details

01 **Fluid:** Abrasive Slip

02 **Flow:** 350 - 400 LPM

03 **Discharge Pressure:** 4 bar

04 **Viscosity:** 1300 to 2000 cps

05 **Specific Gravity:** 1.6 to 1.7 kg/cm2

06 **Negative suction:** 3 to 4 mtr

The right Solution

The Cognito™ team has extensive application knowledge, including a deep understanding of challenges encountered in ceramic manufacturing operations. They assessed the customer's pain points & offered 3" Cognito™ EODD pump with IOT solution.

The introduction of the Cognito™ EODD pump marked a significant breakthrough, addressing frequent maintenance issues and enhancing efficiency while achieving substantial energy savings.

The Cognito EODD pump integrated with IoT solution provided a transformative experience for customers by enabling seamless remote monitoring and preventive maintenance. Through real-time data collection and analysis, customers could remotely monitor the pump's performance, ensuring optimal functionality and avoiding unexpected downtimes.

The successful trial prompted the customer to replace multiple AODD pumps with Cognito™ EODD pumps.

Customer Experience

The Cognito EODD pump excelled in slip transfer application, improving energy efficiency, reducing maintenance costs, and eliminating wastage from frequent leakages.

- Significant energy savings
- Reduced maintenance cost
- Leakages eliminated
- Decreased unplanned downtime
- Achieved ROI within one years
- Improved total cost of ownership
- Remote monitoring and preventive maintenance
- Extended pump lifespan

Energy consumption	AODD Pump	Cognito™ EODD Pump
No. of Working Hours/ Day	22 hrs	22 hrs
Energy Consume at Duty Point (estimated)	11.6 KW	3 KW
Electricity Consumption/ Month	7632 KWh	1980 KWh
Total Electricity Cost / Month	$ 9200	$ 2400

Maintenance	AODD Pump	Cognito™ EODD Pump
Total Maintenance cost per year per pump (due to multiple diaphragm & Air valve replacements)	$ 1500 K	$ 500 K

Per year Energy Saving per Cognito EODD pump: **67900 KWh**

Per year Operational cost saving per Cognito EODD Pump: **$ 7300**