

EVO Series™ Electric Diaphragm Pump

HIGH EFFICIENCY ON INK TRANSFER AND DOSING PROCESSES

- Flint Group manufactures a broad portfolio and markets an extensive array of printing inks, digital printing presses, blankets, press room chemistry, consumables and colorants.

The Flint Group is dedicated to bringing color and function to the printing and packaging products that consumers touch, see and use every day.

Flint Group is headquartered in Luxembourg operates more than 130 facilities worldwide and employs approximately 5,600 people. This case study is from the Flint Group Sweden facility in Trelleborg, Sweden.



APPLICATION OVERVIEW

EVO SERIES™

ELECTRIC DIAPHRAGM PUMP

The Application

The Flint Group saw demand increasing for certain ink production. The site wanted to fully automate the process to increase their output for larger batches of inks. They were looking for a pump that could:

- Handle abrasive liquids with higher viscosity and density
- Maintain smooth flow and low pulsation
- Reduce the overall energy consumption of the production facility
- Increase production volumes without requiring significantly more manufacturing space

The Flint Group evaluated many different types of positive displacement pump technology and discovered the EVO Series™ Electric Diaphragm Pump provided the reliability and efficiency they were looking for.



The Solution

Several electrical pump technologies were evaluated and the best result was reached with an ARO EVO Series™ Electric Diaphragm Pump.

Specifications of the Pump Installed:

- 2" EVO Series™ Electric Diaphragm Pump
- Stainless Steel
- PTFE Diaphragm and Balls

After **2 months**, the customer highlighted the following benefits of the solution:

- The pump delivers a **very smooth flow** thanks to its **unique 3-chamber design**
- The pump is completely **controllable from the local PLC system**
- The pump handles **deadhead operation** right out of the box. The pump only activates when the machine is running
- The pump is **significantly reducing the energy consumption** while production volumes are increasing
- The pump is not adding any heat to the product, maintaining the original ink characteristics. This was one of the fundamental points that EVO Series™ was selected against competition because the quality of the ink can be significantly impacted due to its level of sensitivity to heat.

In addition to the performance of the pump, the Flint Group is able to capture remotely the pump's operations data. They are storing this data in their own systems for optimizing future production cycles and planning maintenance cycles.

Based on their first experience in the Flint Group Sweden facility, **the Flint Group Narrow Web will use ARO as their preferred pump going forward.**

Technical Data Specifications

- **Inlet Configuration:** large batch tanks with suction from the bottom of the tank
- **Discharge configuration:** 2" pipe, 15m (49.2 ft) long 4m (13.1 ft) up and 4m (13.1 ft) down
- **Flow:** 100 l/min (26.4 gpm)
- **Duty cycle:** 24/7 operation
- **Current (avg):** 4.5 amps; min: 3.7 and max 5.4 used for the application
- **Monthly running hours*:** Intermittent duty. Pump is activated when base color matches the tank that needs to be pumped to the filling machine in a specific amount of volume and speed.

* The pumps are operated 24/7, however total amount depends on schedule

Technical Observations

- **Low Pulsation:** smooth filling process – no need to use pulsation dampener or any other device to guarantee a **consistent and harmonized flow rate**
- Significant **noise reduction**
- First analysis indicates a **significant energy efficiency improvement**. The Flint Group is starting to measure the projected annual energy savings.

Customer's Testimonial

The Flint Group Sweden Plant manager:

"We were looking for an electrical, frequency controlled pump to be able to adjust the flow in line with the demand from the filling machine."

*"We had explored many different manufacturers and technologies – there was **nothing available on the market that met all of our requirements** until we were introduced to the EVO Series pump."*

*"We heard the EVO Series pump could be completely controlled via the PLC and had real dead head capability – **the choice to try the EVO Series™ Electric Diaphragm Pump was easy**".*

*"For us, the **controllability is very important**. The pump is connected to our control system".*

FlintGroup



The Flint Group Narrow Web named the ARO pump as their preferred product for their global facilities.

Contact an authorized ARO® distributor for a product demonstration and view the variety of material configurations available to meet your compatibility requirements.

ARO®

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We are committed to using environmentally conscious print practices

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