MXQ Pump for Industrial Wastewater



CASE STUDY

APPI ICATION

Industial wastewater & sludge

PROCESS

Activated sludge with atmospheric and pure oxygen diffusion

THE CHALLENGE

The customer is a governmental entity created in Texas with the broad charge to protect the waters of the state. They currently process wastewater from municipalities and the petrochemical industry.

Their facility had been having trouble with a piston-pump system (shown below) that had constant seal problems and ball-valve leakage. The solids in the wastewater were constantly being trapped in these areas causing failures. Regular maintenance was required three to four times per year.

Unhappy with this old system, the customer wanted a more reliable replacement. A visit to the plant was needed to verify the operating conditions and make an analysis of the space available.



Above: Piston-pumping system to be replaced

Applications:

- Wastewater
- Paper
- Paint
- Crude Oil
- Food/Beverage Waste
- Asphalt Chemical Injection
- Slurry Drilling Fluids
- Ballast Water
- Calcium Carbonate
- Tall Oil

MXQ, LLC 9203 Zaka Rd. Houston, TX 77064 It was determined that the replacement pump had to be flexible enough to pump sludge from 30 to 300 GPM at a constant 85 PSI. Additionally, the length of the space available was less than the long geometry of the ideal pump.



Above: MXQ EH Model Progressive Cavity Pump (Over & Under Package) installation

THE SOLUTION

The answer to the problem was the MXQ model EH-2650 progressive cavity pump (shown above). The EH model met all of the customer's requirements through its low maintenance, cost-effectiveness, performance, and design.

The EH model's elongated profile requires a lower rpm resulting in low shear to the product and less pump wear. The EH model comes standard with two universal cardan joints. Unlike pin joints, theses cardan joints efficiently distribute radial and axial forces. This allows for better angularity and a longer service life.

Due to the ample overhead space, a belt-driven over and under design was suggested. This minimized the structural and pipe changes made. Moreover, a variable frequency drive was used to speed up and slow down the pump. This allows the user to dial in the desired flow.

With the addition of being valve-free, this model was the ideal solution to the customer's problems.

THE RESULT

The pump was mounted on a structural steel base-plate and driven by an overhead mounted 25 horsepower SEW motor with the variable-frequency drive. The design was compact and the operation was seamless with no vibration or resonance. After an approximate period of six months, a standby pump was also installed.

KEY BENEFITS

The MXQ EH model (shown below) is a reliable, robust progressive cavity pump. It has the impressive capability of pumping wastewater sludge and highly acidic media. Its standard features, such as its elongated profile and heavy duty cardan joints, give it the advantage over all other competitors in the industry.

Total customer satisfaction and excellent equipment performance is at the heart of our mission statement. When reliability, low maintenance, and optimum productivity are the desired result, then the MXQ EH model progressive cavity pump is

your solution.



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