

# SUCCESS STORY

## VFD IMPROVES OIL & GAS MIDSTREAM PUMP EFFICIENCY

### INFORMATION

#### Industry

Oil and Gas

#### Application

Oil/Gas Midstream Pump

#### Product

Yaskawa GA800 Industrial VFD



*The GA800 Industrial VFD overcomes space limitations and harmonics concerns for oil and gas applications.*

### COMPANY HIGHLIGHTS

The customer, a subsidiary of a petrochemical manufacturing corporation, is an oil and gas pipeline operator with operations throughout the U.S. Yaskawa has been working with the customer for more than 15 years, systematically replacing failed non-Yaskawa variable frequency drives (VFDs) on their pumping systems.

### THE VFD APPLICATION

Having earned credibility with the customer, Yaskawa was pleased when the customer asked Yaskawa to help develop a retrofit for an outdated Toshiba 18-pulse drive package. A midstream pump uses the VFD at one of the customer's pumping locations.

Yaskawa worked with a distributor through their local office to design a retrofit solution.

### APPLICATION CHALLENGES

The retrofitting task was a significant challenge, requiring an 18-pulse retrofit and adherence to job site restrictions. Yaskawa initially proposed a custom-engineered **U1000 Industrial MATRIX** package, but it was too large for the existing space. Undeterred, Yaskawa and the distributor explored alternative solutions, including gutting the control panel and retrofitting a **U1000 Industrial MATRIX** chassis, which also proved to be too large.

Yaskawa and the distributor embarked on a meticulous process to find the right retrofit solution. They discovered that a **GA800 Industrial VFD** chassis could fit into the allotted space for the retrofit. However, it was crucial to ensure that the **GA800** would meet the harmonic reduction specifications of the 18-pulse drive. To do this, a harmonics evaluation was necessary. The customer promptly sent their power system schematics to Yaskawa engineers for a harmonic estimation, demonstrating their trust in Yaskawa's expertise.

The results showed that the 500 HP **GA800 Industrial VFD** added few harmonic effects to the electrical system. When Yaskawa shared the results, the customer decided to proceed with the **GA800**. Post-retrofit harmonic monitoring revealed that the **GA800** had less distortion than the original harmonic estimate. Solving problems with this complexity underscores Yaskawa's technical prowess and commitment to finding the best solution for our customers.

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### CONTACT YASKAWA

#### Yaskawa America, Inc.

Drives & Motion Division  
2121 Norman Drive S  
Waukegan, IL 60085, U.S.A.  
+1-800-YASKAWA (927-5292)  
www.yaskawa.com  
Email: info@yaskawa.com

#### More GA800 Industrial VFD information:

<https://www.yaskawa.com/ga800-drive>



#### Find a Yaskawa representative:

<https://www.yaskawa.com/support-training/support/sales-search>



### THE YASKAWA SOLUTION

This sale was a team effort by Yaskawa, the distributor, and the user to overcome the application challenges and develop a win-win solution. The geographic distance between personnel caused each party to use the available resources such as email, website information, software tools, phone calls, and video conferencing to complete successful planning and installation.

### KEY GA800 FEATURES

The Yaskawa **GA800 Industrial VFD** brings a set of notable advantages:

- Standard control inputs, which include eight digital, three analog, two safe torque off, and one pulse
- Standard monitor outputs include four digital, two analog, one pulse, and a 24 Vdc supply
- A high-resolution keypad equipped with a real-time clock, copy and backup functions, and micro-SD storage for fault history storage
- Normal Duty and Heavy Duty ratings for use in variable torque and constant torque motor applications
- Stall Prevention & Torque Limit features to manage motor current and machine stress to acceptable levels
- Capable of controlling various motor types, including induction, permanent magnet (both SPM & IPM), and synchronous reluctance motors
- Global certifications such as UL, CSA, CE, TÜV, EAC, RCM, KCC
- Yaskawa's award-winning 24-hour technical support, free of charge

Contact Yaskawa today to learn how you can use Yaskawa AC drives to perfect your oil & gas industry applications!