

ASRS upgrade with Flux Vector Drives

A national catalog distribution facility has 10 Eaton - Kenway ASRS in operation since the early 1980's. The maintenance staff has been fighting mechanical wear issues with the machines ever since the initial installation. All machines are manually controlled. A two speed AC motor is used for vertical operation with traditional magnetic control. This customer had tried three other brands of vector drives with no success and all being removed after short trial periods. In fact, one burned the DB resistors during the first cycle. Drivecon Corporation was contacted for a solution. After inspection, it was determined the 20 HP, 2 speed AC motor could be reused after retrofit of an optical encoder. A pilot hole was drilled in the motor's end shaft and a Drivecon D60197 hollow shaft encoder kit was installed. Since the existing motor was being noticeably overloaded, a current reading was taken. Peak acceleration currents were measured at well over 500% of full load current. In order to provide similar responsiveness a VF61C-3044; 62.5 Amp closed loop flux vector drive was chosen. The VF61C crane and hoist specific drive platform is a natural fit since it provides safety features not found in general purpose drives. It also allows for easy retrofits allowing reuse of existing motors due to the ability of auto tuning itself. In fact, the operators were amazed with the lack of platform bounce and irregular operation. Most noticeable was the absence of any drop before moving up which was exhibited in the previous unsuccessful drive installations. The existing 2 step master switch was reused, however an infinitely variable switch can be substituted for infinite control. The customer has been amazed by the perfect service record the machine has compiled since the retrofit. Work is underway to retrofit the remaining 9 units before the busy holiday season.

Money saved in repair cost and downtime has justified the investment in AC drives. Payoff on the investment is likely to occur within 1 year of installation.

Benefits of Retrofit

- 1) Safer operation due to the VF61C's internal hoist control software.
- 2) Smoother operation due to the programmed ramp times.
- 3) Reduced maintenance cost.
- 4) Reduced equipment down time.
- 5) Installation was completed in 2 days with Drivecon's retrofit kit.
- 6) Re-engineered electrical schematics supplied with system.

Equipment furnished

- 1) VF61C-3044; 62.5 Amp; 460/3/60 AC Hoist Duty Flux Vector Drive.
- 2) VFDB505; 50A Dynamic Brake Module.
- 3) DBK1-18-7.2KP Dynamic Brake Resistor.
- 4) D61097 hollow shaft 3.5" rotary encoder kit with screw in stub shaft and pre-wired cable.
- 5) 1 day factory Start-up assistance instructed the auto tuning of motor and set up drive for optimal performance.



820 Lakeside Drive - Gurnee, IL 60031
Ph: 847-855-9150 Fax: 847-855-9650
800-374-8266

E-mail: drive.sales@drivecon.com
www.drivecon.com