

DC to AC Conversion, Carl Meyer Stone Saw.



D.C. Drive Retrofit on Carl Meyer Stone Saw Cross Travel.

Drives and Automation were asked to help with completing a DC to AC conversion at a Chesterfield Stone Mill.

The Carl Meyer saw was originally powered with DC Drives and Motors, however aging equipment in an aggressive environment was leading to increased breakdowns and so the decision was made to swap from DC to AC. Mechanically the saw was in good working order.

An AC motor had already been installed on site, however the customer was having difficulties in installing a suitable inverter drive and integrating the new motor into the existing control panel.

Following a site meeting with the customer it was quickly determined that the environment dictated that an IP 66 drive was utilised to prevent future breakdowns and ensure reliability.

Space was at a premium which ruled out the installation of a stainless steel IP66 panel to replace the existing unit, and so an Invertek IP66 Drive was selected which could be mounted externally to the existing panel.



Control was via a run signal and a potentiometer, with a separate control for the home function. An aging control panel showing signs of modifications over the years had left the fast home function inoperable, this was rectified as a part of the project.

The existing E-Stop was also replaced and Integrated into the panel.

The Invertek IP66 / NEMA 4X rated variable frequency drives can be used in applications and environments containing large amounts of dust, moisture, and chemicals. They are the perfect choice for applications such as conveyors, mixers, packaging, ventilation and fans, and water or liquid pump systems.

The high level of protection provided allows the drives to be placed directly on, or very close to, the motor and application without the need for a cabinet. This makes them an ideal solution for outdoor applications, retrofitting and equipment requiring washdown.

A coated heatsink combined with the protected enclosure, and a design that eliminates areas where dirt can become lodged, makes them able to withstand strong water jets, which means they are perfectly suited to applications requiring stringent hygiene standards.

With up to 50 parameters available in total for a highly flexible performance, and an internal Category C1 EMC Filter saving cost and time for installation, the Optidrive E3 provides sensorless Vector Control for all Motor Types and was the perfect choice for this retrofit.

Drives and Automation (DnA), based in Chesterfield, provide a comprehensive system design, control system manufacture and project management service for new and retrofit control systems. Working alongside machine builders or end users, we provide systems encompassing AC and DC drives, PLC systems and turnkey project solutions.

Technical Details

- AC to DC Conversion
- Installation of Invertek IP66 Drive with associated fusing and contactors
- Restoration of fast Home function
- E-Stop Replacment