

Technology Focus

Ten Benefits of Variable Frequency Drives for Accurate Shredder Motor Control



The loads placed on shredder motors require a built-for-purpose control system to both lower system stress and reduce energy consumption. Optimizing speed and torque control enables delivery of a precise level of power, based on the requirements at a particular moment in the process.

Industrial Service Solutions (ISS) Variable Frequency Drives provide performance and reliability advantages over conventional liquid resistance starters for medium-voltage (MV) and low-voltage (LV) applications.

BENEFIT
1

Industry-Leading Low Input Current Harmonics

The electric utility grid operates most efficiently when connected loads do not distort or shift the current waveform. Unfortunately, when AC power is converted to DC from rectification, the current is distorted, contains high frequencies, and gives the impression of a low power factor due to the resulting harmonic content. Most AC drives convert power to DC as the first part of the conversion process to variable voltage and frequency. The resulting high distortion can create issues with other loads connected to the same grid. ISS's drives deliver one of the lowest harmonic footprints in the industry by providing built-in harmonic mitigation filters and specially designed transformers.

BENEFIT
3

Best in Class Components

Every medium voltage and low voltage drive assembled by ISS is custom designed to meet the industry-specific needs of the specified application. During the design phase, ISS carefully selects the right components to meet customer and industry requirements.

BENEFIT
7

A True Turnkey Solution

ISS operates one of the largest motor test stands in North America, enabling each transformer/driver/motor setup to be fully tested before delivery. This unique step ensures the VFD drive is optimally tuned to prevent power line flicker while ensuring maximum efficiency from the motor.

BENEFIT
4

Higher Efficiency Standards

ISS delivers one of the highest guaranteed efficiency numbers in the industry, approximately 97%, thanks to high quality drive components.

BENEFIT
8

User-Friendly Design

ISS engineers are focused on AC drive design, delivering a compact footprint while preserving ease of access for maintenance. Optional modular drive designs simplify cell replacements, while also enabling third-party control access.

BENEFIT
2

Higher Quality Waveform

ISS 2.4kV or 4kV medium voltage drive solutions can be applied to standard industrial medium voltage motors designed for power line operation without derate, thanks to six power conversion cells. These cells produce a motor-friendly three phase, near-sinusoidal waveform utilizing seventeen voltage steps to level output.

BENEFIT
5

Higher Reliability

ISS utilizes extended diagnostics techniques to allow technicians to monitor each inverter module individually, minimizing unplanned downtime.

BENEFIT
9

Remote Monitoring Capability

The Spectare® Intelligent Platform accelerates condition monitoring via real-time data, deep learning algorithms, and advanced analytics. Spectare empowers better decision-making for improved operational efficiency.

BENEFIT
6

Custom Cooling Options

ISS can design a custom cooling package to meet any requirement, utilizing both liquid cooled and air cooled drive components.

BENEFIT
10

Dedicated, Nationwide Support

With more than 50 locations nationwide, ISS provides 24/7 service and support expertise to ensure reliable motor and drive performance.



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