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FACTORY AUTOMATION

Customer Reference

S. Norton Group

World's FIRST sustainable metal recycling Plant

The S. Norton Group has invested £20 million in a brand-new, world-class metal shredding facility in Manchester, UK. The company collects, processes, and exports 1.5 million tonnes per year. In Manchester, the ZZ Power Zerdirator is the world's first shredder equipped with a state-of-the-art drive solution, achieving an annual throughput of 130 tph.

Key points

- **S. Norton Group invested £20 million in a cutting-edge metal shredding facility in Manchester, featuring Mitsubishi Electric's energy-efficient drive solutions.**
- **The 3,000 hp Lindemann ZZ Power shredder processes 130 tonnes of metal per hour, combining power and energy efficiency.**
- **Mitsubishi Electric's advanced inverters and digital tools, like the Recycling Asset Portal, drive energy savings and support the company's 2050 sustainability goals.**

Existing systems can easily be retrofitted with low-maintenance frequency inverters on three-phase asynchronous motors, which leads to savings in energy, wear and maintenance costs. Source: Mitsubishi Electric Europe B.V.

"This installation is the best in its class for shredders worldwide," said Nikolas Sachinopoulos, General Manager of LINDEMANN in the UK. "It is a great example of the significant benefits offered by the motor load monitoring and speed control systems of the frequency inverter."

The 3,000 hp Lindemann ZZ Power shredder at S. Norton is one of the most powerful and efficient shredders in the world, capable of processing up to 130 tonnes of recycled metal per hour. Powered by Mitsubishi Electric's advanced TMDrive inverters, it ensures precise control of the motor, enabling high throughput while minimising energy consumption. This makes it one of the most energy-efficient shredders available today.

One of the standout features of the shredder is its intelligent load management system. Mitsubishi's frequency inverters, such as the FR-A800/FR-F800 series, play a critical role in reducing load peaks, stabilising energy use, and ensuring the system operates in its optimal range. This not only lowers overall energy consumption but also extends the lifespan of key components, making the shredder ideal for large-scale recycling operations.

The drive units form the centerpiece and the power section of the inverter. If necessary, they can be pulled out in a modular fashion and serviced. Source: Mitsubishi Electric Europe B.V.

The system's efficiency is further enhanced by including the EtaRip Pre-shredder and the Shredder Drive Assistant (SDA). These components optimise the feeding process and the shredder's capacity, allowing the machine to adapt to varying material compositions without losing performance. Even when processing heavy scrap metal, the SDA ensures stable power draw, avoiding energy spikes while maintaining efficient operation.

Operating data is visualized in a user-friendly way via the GOT operator terminal from Mitsubishi Electric.
Source: Mitsubishi Electric Europe B.V.

In addition to its operational advantages, the ZZ Power shredder contributes significantly to a sustainable circular economy by recycling a wide range of materials, from individual scrap pieces to entire end-of-life vehicles. Mitsubishi Electric's digital tools, such as the Recycling Asset Portal and RD55 data logger, help optimise system performance and energy efficiency.

With our energy-saving and flexible drive technology for shredders and conveyor belts, you can further optimize your recycling process. Source: Mitsubishi Electric Europe B.V.

This approach supports the company's 2050 sustainability goals and addresses the high energy demands of the recycling sector, which played a major role in Germany's 2022 recycled steel production, accounting for 45.8% of its crude steel output.

The Melsec I-QR series controller provides the operating data for the Asset Portal via the RD55 data logger.
Source: Mitsubishi Electric Europe B.V.

Further information on this topic:

https://de.mitsubishielectric.com/fa/**de_en**/lp/loesungen-fuer-die-recyclingindustrie

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