

X-Pact® High Current

Switched-mode power supply units
for electrolytic strip processing



ecomodules






ecomodules

up to

50 % Energy savings

An innovative, modular solution for greater sustainability.

Challenge

Energy and cost savings, higher levels of availability, and the possibility of utilizing innovative techniques for electrolytic strip treatment processes are steadily gaining importance.

Switched-mode power supply units are now the standard for most direct current applications (e.g. chargers, computer power supply units, and LED drivers). These have now reached commercial maturity for large currents and are employed in strip treatment processes.

SMS group solution

SMS's extensive expertise and years of experience in plant engineering and construction for electrolytic strip treatment processes and in the field of energy supply are what makes our integrated solution for this type of equipment stand out.

Alongside the system-related advantages of the switched-mode power supply unit, such as its modularity, space-saving design and high availability, X-Pact® High Current guarantees a huge reduction in energy consumption and is thus included in the portfolio of eco modules based on SMS group's holistic sustainability concept.

Advantages of SMS group switched-mode power supply units

During everyday production, rectifiers are often operated under partial load, as they are designed for maximum requirements. In terms of energy consumption, the advantages of the switched-mode power supply unit operated in partial load mode are particularly evident when compared with conventional thyristor units. Energy savings (costs and CO₂ footprint) of up to 50% are possible.

The availability of the system is greatly enhanced thanks to the modular design of our switched-mode power supply units. What's more, the costs of keeping spare parts in stock are reduced considerably, as only a few different modules are fitted.

The high intermediate circuit frequency of the switched-mode power supply units not only enables high control speeds, it also opens up new possibilities for the process itself. Alongside the "regular" control systems, for example current and voltage, which offer very high quality (low residual ripple, high control accuracy, etc.), reverse and pulse width controlled methods of operation are a possible alternative, involving minimal effort and cost.

Single source supplier

As a company with a broad base, SMS group brings together all the necessary expertise and competencies under one roof. This means that responsibility for a project, whether it's a new plant or a revamp, lies solely with us.

Despite the very low system perturbation with our switched-mode power supply units, a network analysis should always be conducted due to the high overall output. To avoid network problems during or after commissioning, we have the capability to carry out these checks in-house thanks to our extensive experience and competence in the steel industry.

Adaptations, modifications and maintenance on mechanical equipment, such as strip guidance, drive systems and components, and processing sections, are expertly performed by SMS group.

Our comprehensive project management expertise and ability to handle a vast array of systems and fields, for example designing and supplying rectifiers, power supply, busbars, installation and erection, and mechanical modifications and revamps, round off SMS group's holistic concept.

In addition, SMS group can offer a wide range of different software solutions for special processes, e.g. coating thickness control (total current control) for electrolytic coating lines, thus enabling the optimal coating thickness to be applied.

Modernization

The innovative switched-mode power supply concept X-Pact® High Current is suitable for both new and existing plants. In many cases the replacement of existing thyristor units with switched-mode power supply units has a return on investment of under two years.

Benefits at a glance

- High energy efficiency
- Enhanced plant performance (residual ripple, control speed, control accuracy, cos phi)
- Alternative operating modes (pulse mode, reverse pulse mode)
- High availability thanks to modular design
- Efficient troubleshooting and monitoring
- Fewer and more cost-effective spare parts
- Everything from a single source



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