

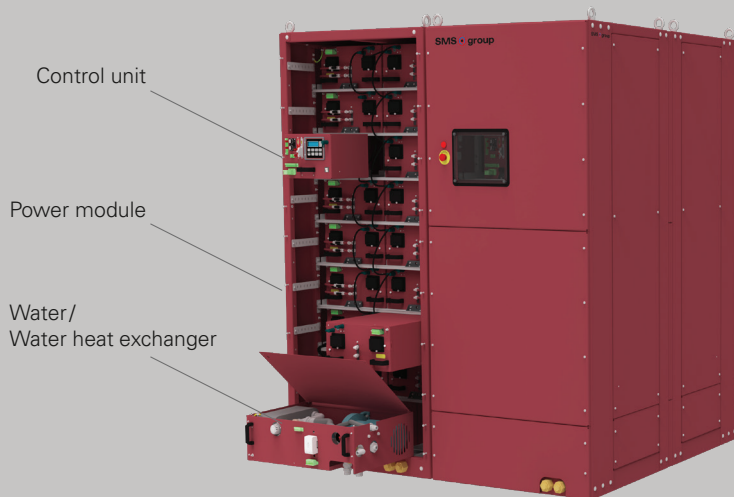


**SMS**  **group**

PRODUCT FACT SHEET

# X-PACT® HIGH CURRENT

Switched-mode power supply units for greater sustainability



The X-Pact® High Current switch-mode rectifiers enable customized, module-based DC power supply for electrolytic coating processes, including galvanizing, tinning, chromating, and stainless steel lines. They increase energy efficiency, reduce CO<sub>2</sub> emissions, and improve plant availability.

Additionally, X-Pact® High Current delivers maximum process-oriented power supply performance, strengthening our customers' competitiveness. Leveraging advanced technologies such as pulse plating, these rectifiers enable surface design options that cannot be achieved with traditional thyristor DC systems.

## CHALLENGES CUSTOMER



- › Improved surface quality
- › Increased wear resistance
- › Variable/adjustable hardness
- › Enhanced corrosion resistance
- › Possibility of multi-layer deposition
- › Faster coating process
- › Reduction of so-called "paint cracks"
- › Decreased risk of "hydrogen embrittlement"

## ADVANTAGES OF PRODUCT



- › High energy efficiency: up to 40 % energy savings
- › Enhanced plant performance (residual ripple, control speed, control accuracy, cos phi)
- › Alternative operating modes (pulse mode, reverse pulse mode)
- › High availability thanks to a modular design
- › Efficient troubleshooting and monitoring
- › Fewer and more cost-effective spare parts

# Product highlights

## AVOIDANCE OF QUALITY LIMITATIONS

### ***Technological advantages, e.g. for the electrolytic galvanizing process***

Hydrogen absorption can be prevented, eliminating associated quality issues such as material failure and surface defects. This advancement allows for the treatment of high-strength steel grades ( $R_m > 500 < 2000 \text{ MPa}$ ).

## PULSE/PULSE REVERSE PLATING FOR SURFACE DESIGN

### ***Technological advantages, e.g. for the electrolytic tinning lines***

With pulse plating/pulse reverse plating, it is possible to achieve a multitude of technological advantages of the coating and to improve the quality and properties of the plated layer in terms of edge grits, dendrites, adjustable roughness values, multi-layer coating, oil adhesion improvement, and strip cleaning.

## SQUARE AC FOR IMPROVED CLEANING RESULTS

### ***Technological advantages, e.g. for the stainless steel lines***

The square AC option (variable 5-60 Hz) enables improved cleaning results and a more homogeneous surface treatment with consistent properties. Passivation of pole plates is not required, and there is no need to alternate the cleaning frequency or change the DC poles (every hour).

## CONTROL OPTIONS FOR ENHANCED PLANT PERFORMANCE

### ***Technological advantages, e.g. for the electrolytic tinning lines***

Switch-mode rectifiers show significantly better control accuracy, control cycle time, wave shape control and especially lower residual ripple (less than 5% and even less than 3% or 1% independent of the operating point). The power factor over the entire working range is better than 95%.



Contact details

Feel free to use our contact form for questions, inquiries or personal contact:  
<https://www.sms-group.com/x-pact-high-current>