

NEW PRODUCT



POWER STATION pe5910-W-AFE

3 in 1 – optionally with integrated Active Front End (AFE) technology and electrical pole changer - 10.000A, water-cooled DC power supply

plating electronic GmbH is one of the technology leaders in designing and the manufacturing of direct current (DC) rectifiers and pulse reverse power supplies for electrochemical processes. For most varied applications in surface treatment industry, plating electronic extended the product range of water cooled, high DC current power supplies. The new rectifier cabinet POWER STATION pe5910-W-AFE convinces with high DC power output in a compact cabinet design and high power efficiency. This cabinet fits perfect to processes e.g. for chromium plating, (hard) anodizing and aluminium colouring, electrolysis etc.

POWER STATION pe5910-W-AFE, optionally with integrated, electrical pole changer defines a new standard for DC power supplies applied in the surface finishing industry.

This DC power supply, built as compact cabinet type provides up to 10.000 A at 20 V and a maximum output of 200 kW DC power. You benefit from maximum power at very small dimensions and an installation area of only 800 mm x 600 mm (WxD).

The modular design of this power supply is the result of the experiences of decades to optimize the cabinet for customers in regard to achieve maximum flexibility, high device availability and easy access in case of maintenance.

All power supplies from plating electronic using the reliable switch mode technology. This design and the digital control of the units results in a very high control accuracy and very low output ripple. At the end, customer's benefits are optimized processes and quality advantages for many surface treatment processes such as electroplating, coating, anodizing, electrolysis etc. The pe5910-W-AFE power supply shows a high-energy efficiency of 90-96% resulting in lower energy consumption and reduction of operation costs. In addition the high power factor of standard 0.95 and with the AFE-technology of 1.0 (see below) lead to further energy savings due to reduction of reactive power and increased grid quality.

The small installation area of the cabinet and the possibility of placing the unit close to the plating tank could lead to further savings.

A further unique feature of the pe5910-W-AFE is the design of the flat, DC copper plates on the backside of the cabinet. This allows a random connection of the busbars to the cabinet, therefore an easy and flexible integration in existing plating lines is also possible.

Parallel or series connection of several pe5910-W-AFE power supplies will increase the resulting output power.

The control of the DC power supplies can be done by a wide range of well-known serial interfaces e.g. Profibus, Profinet, Modbus on TCP/IP or RS485. Others are available on request. Even the control by analogue signals e.g. for integration in old PLC systems is possible. Manual control of the power supply is a further option for customers. Here, plating electronic provides suitable control units for easy and fast implementation.

NEW:

ACTIVE FRONT END (AFE) TECHNOLOGY – OPTIONALLY AVAILABLE – INBUILT IN POWER STATION pe5910-W-AFE

Under certain circumstances oscillation of the supply grid of electronic power supplies can occur. Essential factors for the tendency to oscillate are the load conditions and parameters of the local grid. There are practicable solutions available to prevent oscillation e.g. installation of active filters or usage of Active Front End technology in electrical systems.

POWER STATION pe5910-W-AFE with inbuilt AFE technology behaves like an ohmic load in the supply grid. This means a sinusoidal current drain from the mains supply, therefore no phase

NEW PRODUCT

shift between current and voltage. Sinusoidal current drain leads to a noticeable decrease of the resulting current harmonics below 1 % (THD value for U and I referring to total harmonic distortion). Simultaneous the power factor ($\cos \text{PHI}$) of these power supplies increase from 0.95 close to 1.00. A further positive benefit of this new technology is the reduction of the phase current and a lower transformer load at the end.

Below you will see the typical current drain from mains supply for standard switch mode power supply and for power supply with AFE technology compared to Thyristor controlled Power Supply (SCR).

