



CAEV

TECHNOLOGY FOR YOUR ENERGY

Power AC/DC converters and power suppliers



# ABOUT US

CAEV is a well established company in power electronics design and production.

Since the early 60's it has been developing its expertise, products and innovations in the power electronics and semiconductor power control field.

It supplies AC/DC power converters and power suppliers for all industrial applications where high power control is required.

A large range of rectifiers and power suppliers designed and built according to the most advanced technology requested in various application fields. Technical Department and Electronic Laboratories are constantly engaged in searching for new solutions technologically advanced economically profitable.

Our main competency is: our attitude to customer requests, broad

knowledge of their processes and needs, constant technological updating.

Every machine is completely designed, produced and tested in CAEV plants.

Electronic devices and software are designed by the CAEV Technical Department.

Ever aware of how important the continuous service of production plant is, we take a great care in making extremely durable and affordable machines.

In addition, in the event of a sudden need the Assistance Service provide a constant and immediate service of consultancy, spare parts, spare machines and speedy intervention.

Our Customer Care Service offers: technical consultancy, quotations, second hand machine revamping, repairs.



## Thyristor rectifiers

0...1.000Vdc  
0...30.000Adc

Strong, reliable and versatile converters for heavy duty, continuous working and aggressive environments. Easy maintenance. Every model is designed for a specific application and special converters can be designed on customer specification.

# THYRISTOR RECTIFIERS



## MAIN FEATURES

Technology: thyristor controlled AC/DC converters

Circuit: 6 and 12 pulse bridge

AC input:

- three phase and single phase
- low and medium voltage

Regulation: from 0 to max value

Stabilization: constant voltage/constant current

Accuracy: 1%

Ripple: according to customer request

Cooling:

- forced air
- water closed loop
- air conditioner

Protection: IP20..IP55, Atex

Controls: on the front door or in remote control box

PLC control: AI/AO 0-20mA, 4-20mA, 0-10V  
field bus connection

Protections:

- against overvoltage
- against over temperature
- against short-circuit
- max current limitation
- fast fuses
- auxiliary circuit protection

Standards: CE conformity

## FACILITIES

Static reversing polarity

Pulsing current control

Ramp programmer

Oxide thickness programmer

AH meter and dosing pump

Process time setting

## Switching suppliers

0...100Vdc  
0...4000Adc

Power switching suppliers are designed for industrial applications and laboratories. Based on IGBT technology and modular connection, their strengths are: accurate control, low ripple, power factor 1, tiny dimensions.

# SWITCHING SUPPLIERS



## MAIN FEATURES

Technology: PWM and IGBT

Architecture: modular

AC input: three phase and single phase

Power factor: 1

Regulation: from 0 to max value

Stabilization: constant voltage/constant current

Accuracy: 1%

Ripple: 2%

Cooling: forced air

Protection: IP20..IP55, Atex

Controls: on the front door or in remote control box

PLC control: AI/AO 0-20mA, 4-20mA, 0-10V  
field bus connection

Protections:

- main breaker
- single module breaker
- against overvoltage
- against over temperature
- against short-circuit
- max current limitation
- fast fuses
- auxiliary circuit protection

Standards: CE conformity

## FACILITIES


Pulsing current control

Ramp programmer

AH meter and dosing pump

Process time setting





## Special realizations and devices

Special realizations and supplier for special applications. Hardware and software for special control.

# SPECIAL REALIZATIONS AND DEVICES



### **Rectifiers for special applications**

High power control systems, made up of interconnected converters and switchboards to connect / disconnect loads by means of static switches .

### **Rectifiers with input medium voltage**

Rectifiers with input medium voltage transformers, on board or in separate cabinets.

### **Pressurized cabinets (Atex)**

Pneumatic control cabinet for potentially explosive atmospheres according to standards EN 60079-0/06 and 60079-02/04. Protection degree: IP65. The system automatically provides the pressurization of the cabinet while keeping the protection gas (not contaminated air or inert gas) at a pressure higher than that of the outside atmosphere, thus preventing the penetration of hazardous gas. Explosion proof enclosure for all input-output connections.

### **Sea water cooling**

The sea water is isolated into components that can be designed to tolerate the corrosive action and it's separated from the internal circuit water by a titanium water / water heat exchanger.

### **Wireless connection net**

Rectifiers connected to a wi-fi network.

### **Ramp programmer**

The Ramp Programmer manages and supervises the rectifier working cycle, made up of voltage/current programmable ramps and different levels. Cycles can be easily programmed and memorized.

### **Pulsing current programmer**

The Programmer can modulate either current or voltage in order to obtain a pulsing DC wave.

Base value, pulse amplitude and duty cycle can be set.

### **Oxide thickness programmer**

The Oxide Thickness Programmer is an instrument that, being based on the rectifier supplied voltage and current and bath temperature, calculates the oxide microns during the anodizing process. Before starting it is possible to set the micron value and the current density. When the process starts the Programmer calculates the total current needed and controls the rectifier output in order to stabilize the current density. Besides, it calculates the micron value and when the oxide thickness has reached the set value an alarm is activated.





0...100Vdc 0...30.000Adc

CAEV designs a complete line of rectifiers for sulphuric anodizing, chromium anodizing and hard anodizing. They are equipped with **Ramp and Pulsing Current Programmer**. Productivity and efficiency can be greatly improved by the **Oxide Thickness Programmer**.

ANODIZING



CAEV designs three lines of suppliers for electro-colouring:

- Sinusoidal single-wave AC supplier
- Sinusoidal single-wave DC+AC supplier
- Static three-phase DC+AC supplier

ELECTRO  
COLOURING

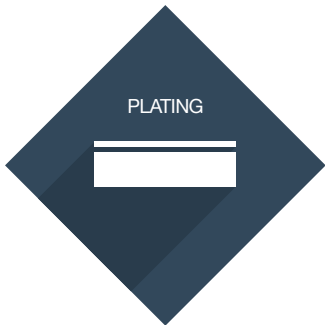


0..400Vdc 0..3000Adc

Low ripple rectifiers with adjustable ramp. Manual and PLC control, "maintenance voltage" selection, protection by safety relays.

ELECTROPHORESIS





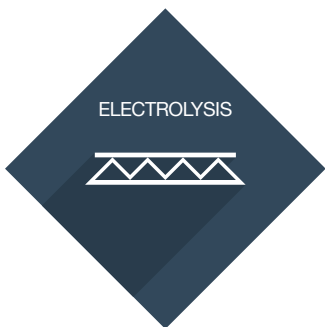
0...50Vdc 0...30.000Adc

Rectifiers for plating are manual and PLC controlled, easy plug-in and bus bar connections, user friendly with easy maintenance (same electronic card for all models). Facilities: low ripple smoothing filter (for chromium coating), pulsing current, reversing polarity facilities, AH meters and dosing pumps.



0...16Vdc 0...30.000Adc

Rectifiers for hard chromium are highly reliable, made to supply high current for long time. Automatic reversing polarity with reverse and direct voltage regulation can be set. Soft start for gradual current raise and accurately stabilization for homogeneous coating. Cooling can be by forced air or closed loop water.



0...1000Vdc 0...30.000Adc

Rectifiers for electrolysis are designed for hydrogen production, chlorine plants and water treatments. Other applications can be thermal treatments, cathode protection, test chambers and special treatments.



[www.caev.it](http://www.caev.it)



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