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OUR HERITAGE AND BRANDS

1947



MECC ALTE IS ESTABLISHED
BY MARIO CARRARO IN
VICENZA, ITALY

1954

WE PRODUCE OUR FIRST
SYNCHRONOUS ALTERNATOR

1978

WE MOVE TO A SPECIALIST
PRODUCTION FACILITY IN
CREAZZO, VICENZA

1988



ZANARDI, A MANUFACTURER
OF SPECIALISED ALTERNATORS
AND WELDERS, IS OPENED

INDUSTRIAL & MARINE PRODUCTS: 3.5 - 5,000kVA

Our main brand - a manufacturer and supplier of
synchronous alternators 4 pole from 3.5kVA through to
5,000kVA and 2 pole alternators 5kVA to 2,000kVA.

WELDERS & SPECIAL PRODUCTS

A factory specialising in customised power
solutions making tailor-made specialised
alternators and welding generators.

1994



OUR PORTABLE RANGE IS
LAUNCHED FOLLOWING THE
ACQUISITION OF EUROGEN

1997

UK PRODUCT MANUFACTURING IS
ESTABLISHED IN THE MIDLANDS
AT OUR FACTORY IN OAKHAM

2004

WE BECOME THE FIRST
MANUFACTURER TO FIT DIGITAL
REGULATORS AS STANDARD

2006

WE PURCHASE VECO, A LAMINATION
COMPANY, TO FURTHER CONTROL
OUR SUPPLIER CHAIN

2 POLE PRODUCTS 1-18kVA

A company that specialises in the volume manufacturing
of small 2 pole portable units 1.2kVA to 17kVA Portable

2007

WE BEGIN TO
MANUFACTURE
IN CHINA

2010

WE BEGIN TO
MANUFACTURE
IN INDIA

2012

WE EXPAND IN
THE UK AND CHINA

2014



MECC ALTE POWER PRODUCTS
IS FORMED IN VICENZA, ITALY

2017

WE CELEBRATE OUR 70TH
ANNIVERSARY AND 20 YEARS
OF UK MANUFACTURING

HIGHLY CUSTOMISED PRODUCTS

Focusing on MV and HV products for power generation
and producing synchronous and asynchronous generators
suitable for hydropower applications.

World Class

PRODUCTION SYSTEM



NEWS FROM GROUP

Also this year the Mecc Alte group annual meeting has taken place.

The Event took place at "De La Ville hotel" in Vicenza center from 25 to 27 October.

As usual our president Mr. Carraro welcomed all the staff from all the branches present in the world.

Many topics were discussed from our current position in the market to how our competitors are positioned; what we can do in the future to increase our business, new products, new business strategies, marketing and communication.

Our President after a short introduction on the group financial situation, confirmed once again as solid and well structured, highlighted that during the last three / four years, our competitors have become increasingly aggressive due to the fact they have moved productions to countries where labor cost is strongly lower than Europe.

Of course this policy penalizes our factories located in Italy and UK, while less sufferance is for China and India.

During this year many changes have occurred within the group, some people have faced new adventures, others have arrived into Mecc Alte world.

Moreover what we have done allows us to fix a positive sign also this year, but certainly the challenge for the next year is very demanding and will require a lot of commitments and professionalism in order to establish ourselves increasingly in the market.



ZANARDI

Also this year Zanardi introduces some news about more interesting sectors, regarding the development of new machines or the improvement of already existing machines.

Moreover it has been studied a new application to achieve the best performance of the PMG alternator in variable speed for battery charge applications.

Here below we analyze new models:

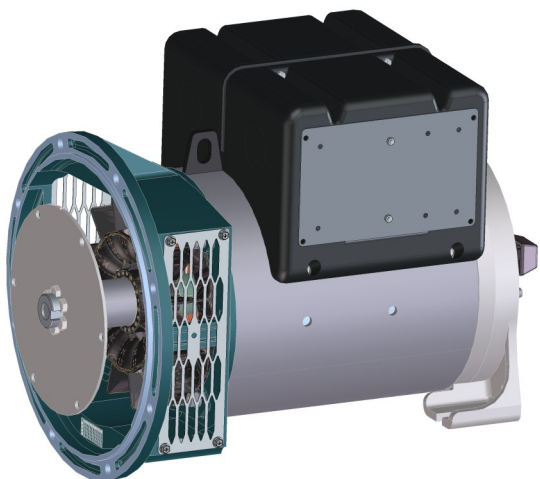
-PW3A-ELM: new generator-welder 2 pole brush excitation, this alternator offers a compact design and excellent electrical performance. The control panel puts together the generator, with their plug and switch, and the welder side with his regulation and connectors.

-PW3A-ELT: up grade of PW3A-ELM which integrates in PW3A design the same function and performance of PW3- ELM. The welding current and the 3ph. generator voltage are regulated by one electronic regulator device.

SERIES 3 TYPE :

From the series3-A we study a new design which allows to modernize the series 3 in all its regulation and Excitation type (ECP-BTP-CTP). Machine interchangeability and some components have been maintained.

Born from the PMG series with variable speed, the current / speed control system exploits the engine capacity by a control unit with an actuator, to obtain battery charge characteristics that can be set via software. This type of application makes the system maintenance-free and cost effective.



C-TYPE

RANGE PRESENTATION

The C-Type series promises to offer more features and improved performance across its four product series (producing between 7.5kVA to 165kVA 50Hz and 9.3kVA to 200kVA in 60Hz).

Power density and efficiency requirements are becoming more stringent.

The thermal engineering function plays a growing important role in giving customers the best possible product.

The power industry is always focused on improving the machine's power to weight ratio.

With this purpose, the design phase required a deep analysis of the physics of the machine: thermal, electromagnetic, electrical and mechanical aspects in a multi-physics based approach, using connected analytical tools to create optimized product design.

In this instance the mechanical engineering team has worked very closely with the electrical teams, evaluating any design changes.

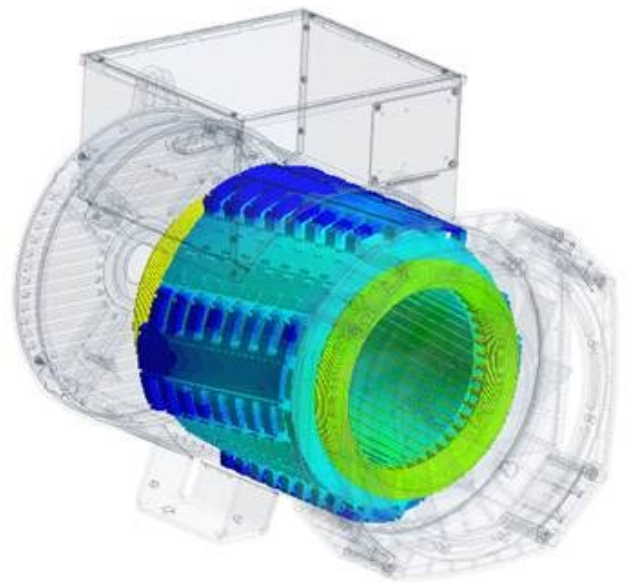
New features include specialist AVR access panels for simple, safe and rapid adjustment, and the AVR panel position is thought to reduce potential access problems by obstructive engine parts.

An optimization of the fans with fluid cooling technology and CFD analysis, provides more efficient temperature control over longer periods; while the new aluminium brackets and reduced length improve the weight ratio. This makes the C-Type more compact

and provides cost-effective transportation and it enables customers to minimise their frame size and costs. Improved connection flexibility is reached thanks to an innovative terminal board featured with fast-link reconnection, that allows rapid adaptation for a multitude of working conditions.

In conclusion, Mecc Alte has reengineered every aspect of the alternator to create a range of highly configurable, compact and lighter products with improved cooling and accessibility.

Across the full C-Type range, Mecc Alte designers have ensured that every feature and element have a purpose. The target is to reach a new user-friendly layout, enabling efficient connectivity with easy assembly, fast-link connection, to keep production costs low, without compromising on power.



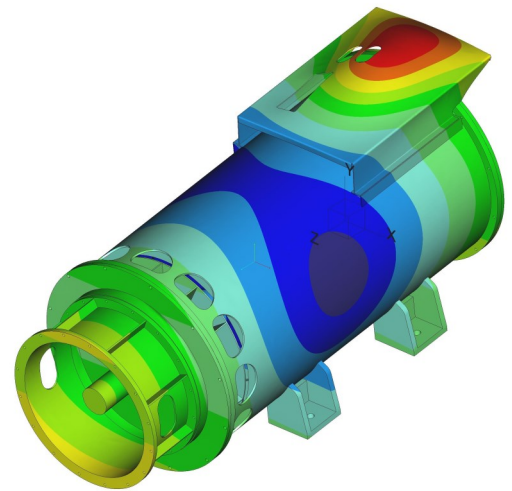
MEDIUM VOLTAGE GENERATORS: GREAT RESULTS COME FROM DESIGN AND PROCESS

Mecc Alte Power Products designs its own generators using electromagnetic and mechanical FEM analysis

Synchronous generators are rotating electrical machines that convert mechanical into electrical power, supplying several utilities. They must be well designed in order to increase reliability and efficiency of the whole system.

Stator and rotor are the main components; the stator is built as a laminated iron core with slots, in which coils are installed; the mechanical structure is provided by an external steel frame with shields, bearings and other components. The designers choose magnetic materials, insulation system, copper wires, mechanical components, and manufacturing processes.

The rotor core is laminated with pole shoes and copper winding; it is coupled with steel shaft and fan for cooling.

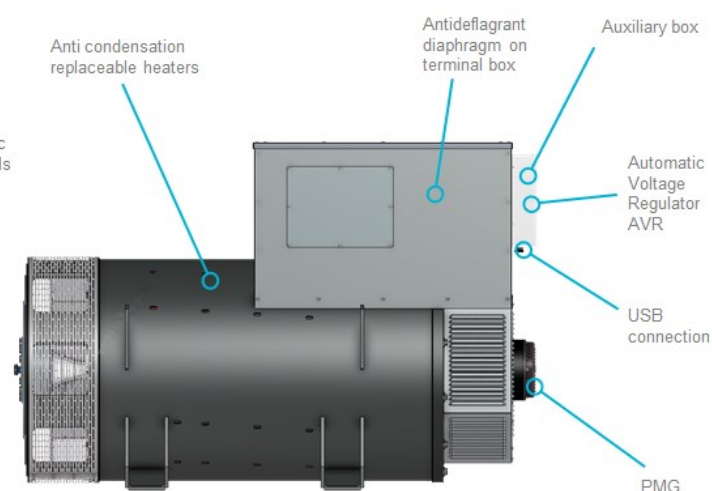
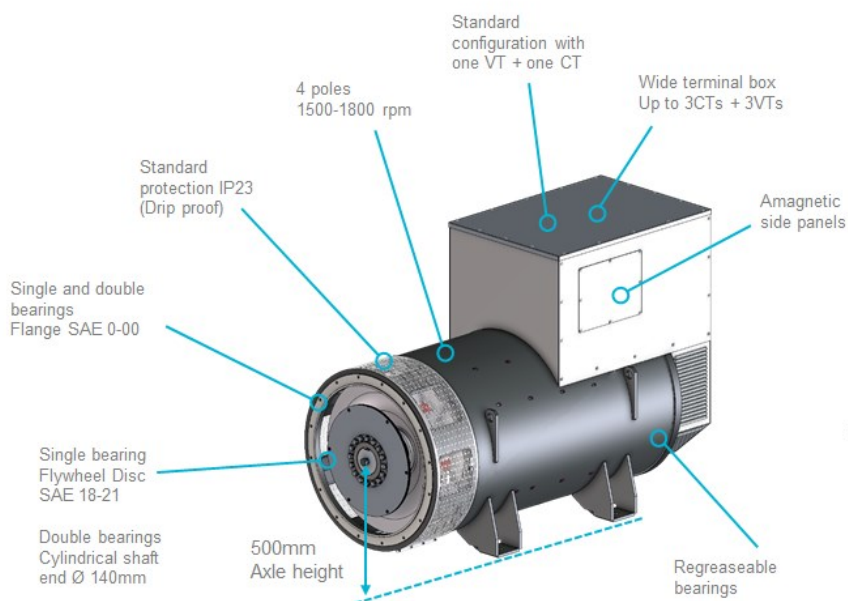


Vibration simulation using FEM on synchronous generator

The terminal box is installed on the top side of the machine with instrument transformers, power cables, and auxiliary connections. Auxiliaries include the AVR, a system mainly dedicated to voltage regulation.

Exciter and permanent magnet generator are also important for generator operation; the first one is dedicated to the rotor winding supply, the second one to supply the AVR.

It is very important to design well each part of the generator, studying mechanical, electrical and thermal stresses; a simple manufacturing process must be considered in order to reduce costs and delivery time.



ECO46MV-HV 3D overview



Montecchio Maggiore site

CLAUDIO LAZZARI: THE MOST EXPERIENCED WORKER ENROLLED

Mr. Claudio Lazzari has worked for Mecc Alte for the last 41 years. He started working in the old site in Montecchio Maggiore.

Hello Claudio, do you know that among all the employees you are the one who has been working in Mecc Alte for the longest time?

Yes, I do. But I'm not the oldest one! I've been working in Mecc Alte for over 41 years.. and they don't want me to retire!

How old were you when you arrived here?

I was 15, I was a "bocia".. (Veneto dialect for "a little boy")

Was Mecc Alte your first work experience?

With a regular contract yes; but I had previously worked without contract in small artisan companies that produced welding machines and battery chargers

Do you remember when exactly was your first day of work in this company?

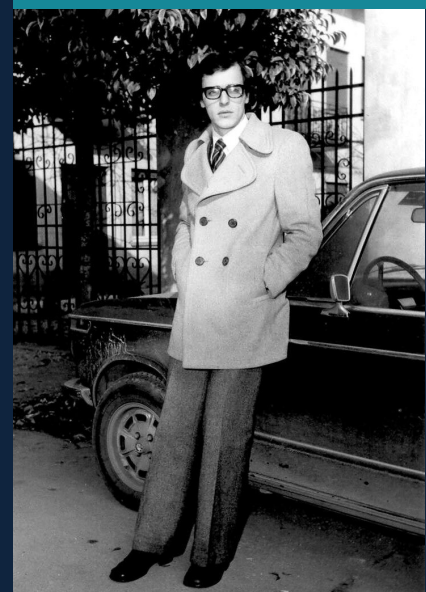
May 2, 1977! ..ah, good times!

What did you think that night, after the first day of work?

I remember that I was very happy, because I had found a secure job in a much bigger company and more solid than my previous experiences

Which was the biggest difficulty you encountered at the beginning?

Mr. Diego Carraro



I didn't find any particular problems; I was taken under the protective wing of Mr. Zausa, an old worker who retired a few months later. My first job was to assemble GPA3 alternators; later on I also learned to test them

Who did your selection interview?

Mr. Diego Carraro in person. I will always remember that moment, Mr. Carraro was dressed in a white shirt and jeans and with me he was formal, respectful and polite even though I was a little older than a child.

What job did you dream when you were child?

My dream was to become an electrician, but for family needs I couldn't continue my studies

How many departments did you work in?

I worked in the assembly department (small machines), then in the winding department (winding rotors, then connecting, then also impregnation and finally repairs), then to the press department (insertion of shafts and frames); I am currently in the Machine Tools department (machining frame with stator) and sometimes I go back to the Assembly department (large machine wiring).

A funny anecdote on your first years of work?

I well remember that many years ago instead of the coffee break we used to have a break with "pane e so-presa" and "un'ombra de vin"; sometimes Mr. Carraro, during his walks in the plant, stopped by someone of the seniors and drank a glass of good wine with them .

Another anecdote is this: once my foreman brought me by Mr. Romano Cavaliere (former partner of Mr. Carraro) because I sang and whistled and according to him I had to be reproved; Mr. Cavaliere asked the foreman: does this boy work? Yes; does he work well? Yes; And then let him sing and whistle. It was for me a small great satisfaction.

Do you remember what the retirement age was when you started working?

The workers who started working at the age of 15 retired at 50 years old after 35 years of activity

And on the other hand, when are you going to retire?

I will retire in 2020, at 58 and after 43 years of work

What advice would you give to a newcomer?

To a guy who starts working now I would say to be correct, to try to learn to perform as many activities as possible and to follow the suggestions of seniors as we used to do in the past... ah, good times!

New vs old winding machines



THANK YOU DAVIDE

Hi Davide, first of all thank you so much for this interview: we know you are so busy!

We know that these are your two last months here in Maspa, so: what do you remember about your first day here in Mecc Alte Spa?

D: It was 20th April 1998, it was Monday, a spring day.

The first person I met was Mr Antonio Galeazzo, that introduced me to Mr Andrea Tonello. Mr Tonello was my colleague for almost 10 years. We worked in a little office in the middle of MEcc 1 production floor. I learnt to carry out the electrical stator test, everything was new for me.

M: What was your previous work experience?

D: I was a postman for 3 months and before I had worked in a bookbindery.

M: So, you have been part of Mecc Alte Group since 1998. Now you are the Health and Safety Manager. How did you get this position?

D: At the end of 2008 the Company proposed me to be in charge of H & S as substitute of the previous H & S Manager that had left the Company for retirement: Mr Marchetto.

So I had a very intensive training most than 100 hours mandatory for Italian Law. I started on the 1th April 2009: It is not April's fool's prank!!

Today I have been working close to Ms Iva Bonetto, that is the Environmental Manager: Ms Bonetto also cooperates with me for the H & S Management.

The team is made by Mr Antonio Galeazzo too, that is the Quality Manager; he also has the Power of Attorney for Safety in Maspa.

M: Now you are leaving Maspa: what is the most funny moment you will remember?

D: I remember the first informal meeting during the Annual General Meeting among many people from Worldwide. We played 5 a side football and had a lot of beer....I also organized the teams and the matches of football.

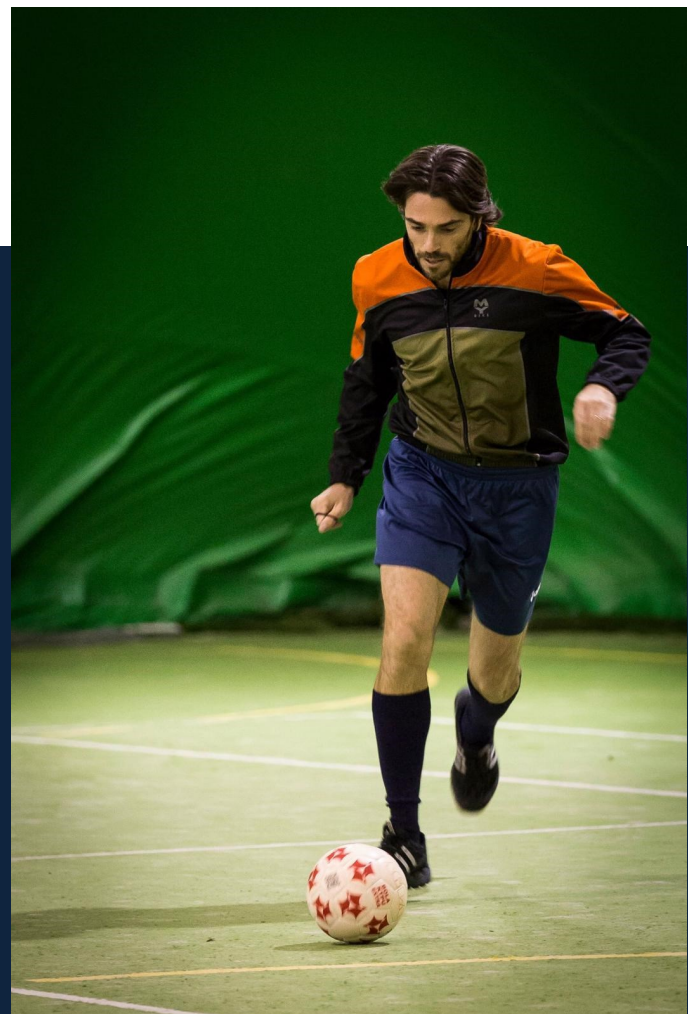
M: Would you like to say goodbye to someone?

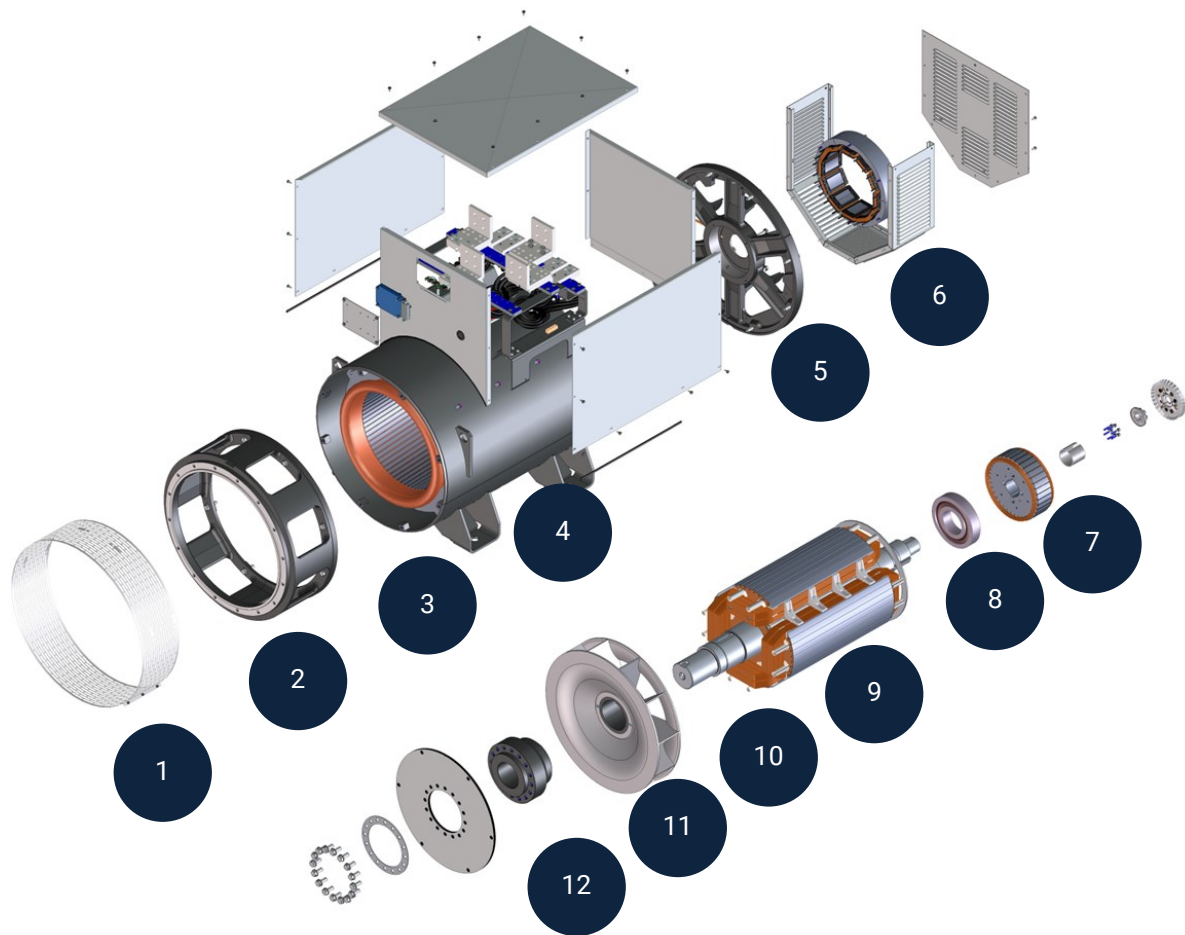
D: It's hard to choose somebody because I don't want to forget anyone but, for sure, I will send greeting to everyone during my last day.

M: Thank you Davide for your job here in Maspa, 20 years are a very long time...

I think that everyone is grateful to have spent his work time, and free time during the lunch break, with you.

Good Luck and I hope we'll keep in touch!!





Let's write it in English!

Shaft
 IP protection
 Main stator
 Main rotor
 Exiter stator
 Exiter rotor
 Bearing
 DE bracket
 NDE bracket
 Fan
 Frame
 Hub

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

9 _____

10 _____

11 _____

12 _____



Let's keep in touch

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