mecc alte

Power Products

Totally Focused. Totally Independent.

TOTALLY FOCUSED ON

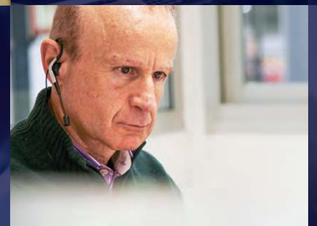
WORLD-CLASS INDUSTRIAL ALTERNATORS

The world's largest independent producer of alternators 1 – 5,000kVA







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OUR UNIQUE COMPANY

TOTALLY FOCUSED. TOTALLY INDEPENDENT.

We only make one kind of product. That's why we've been totally focused on producing high quality alternators since we were established in 1947. Today, we have factories or distribution centres in every continent and we're the world's largest independent producer of alternators. Our independence is very important to us... and to our customers because we never compete with any of them in the end market (we don't sell complete generator sets). We believe that we're a totally unique company because of the special combination of qualities that set us apart from our competitors. We offer the highest levels of global support to our customers and we put them at the forefront of every single decision we make, which continually spurs us on in terms of our continuous development, product innovation and constantly evolving product ranges.

TOTALLY COMMITTED TO GLOBAL PRODUCTION

We manufacture the world's widest range of low voltage alternators 1 – 5,000kVA via our 'made for manufacturing' product design in Italy, the UK, China and India. Our network of factories is supported by wholly-owned subsidiaries across the globe who specialise locally in the sales, distribution and aftersales for all Mecc Alte products. This global support ensures that our customers get the assistance they need... wherever they are.

TOTALLY COMMITTED TO QUALITY

We've reached the highest possible quality standards in every area of design, production and sales. At Mecc Alte, our constant pursuit of quality begins well before the actual production process with careful checks on semi-processed parts and sample testing of electrical components. We build over 1,400 alternators every day, over 450,000 a year. We have a complete range of products and our production process is totally integrated. This ensures that every production phase, from the design and selection of materials right through to manufacture and aftersales assistance, complies with the strictest international and organisational standards.

OUR UNIQUE PEOPLE

We employ over 1,200 unique people throughout the world. Every one of them is totally committed to the global support that we offer to our customers... and to ensuring that every single alternator we produce meets the world-class standards that Mecc Alte is renowned for.

A POWERFUL PROPOSITION

Mecc Alte is globally recognised as the world's leading independent manufacturer of alternators. We design and produce a wide range of alternators characterised by high reliability and performance. Our Power Products Division integrates the electromechanical expertise we have gained since 1947 to offer a range of high quality low, medium and high voltage solutions from 1 – 5,000kVA.

Using the latest technologies and materials, our product designs were born from market requirements. Working from a blank sheet, we utilised our experience and that of specialists in the field to make a tailor-made range built around our customers' needs.

Our core focus is to be the most reliable partner to companies operating within the energy sector. Mecc Alte's products are supported in many market sectors and their applications include power generation, industrial energy, marine energy, and renewable energy. The company's alternators have been designed to offer solutions in generating sets, cogeneration, telecommunications, UPS systems, Offshore, Oil and Gas, shipboard power and hydropower plants.

OUR ITALIAN HERITAGE, EXPERIENCE AND EXPERTISE

70 YEARS 1947–2017



Mecc Alte was established in 1947 in Alte, Vicenza, Italy and has continuously evolved from its humble beginnings into a global brand in the 21st century.

Our strategic decision in the early 70s to specialise in only producing alternators has allowed us to attain a leading global position in the electromechanical field.

The Carraro family has retained sole ownership and, as an independently-owned private company, has focused on achieving the highest possible levels of specialisation, quality and service. We concentrate on servicing our customers and, what's more, we never compete with them in the end market.

Mecc Alte is in the business of transforming mechanically generated energy into electrical energy – so we only sell alternators. We are proud to be a flexible and fast-acting company and our 100% ownership of our supply and distribution channels gives us complete control in the market place.

We have extensive experience. We know what is needed from the industry we serve and we aim to provide it.

OUR LEADING BRANDS

Industrial and Marine Products

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.

- 3.5 – 5,000kVA
- 1 phase brushless – capacitor for light towers
- Slipring/Compound in 2 and 4 pole up to 24kVA
- Brushless compound in 2 and 4 pole to 98.5kVA with AVR option
- Brushless AVR in 2 and 4 pole to 5,000kVA
- 400Hz up to 200kVA
- 6 pole alternators
- Specialised technologies
- Variable speed
- Permanent magnet generators
- Generators for renewable applications (water and wind turbine)
- Mercurio DC system and hybrid systems for telecom applications 5kW to 15kW

Specialised Power Products

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

Low, medium and high voltage alternators, designed for demanding applications

- 1 – 5MVA
- LV – voltage up to 690V / MV up to 7,200V / HV up to 13,800V
- > 4, 6, 8 pole
- Separate circuit cooling by air or water is available upon special request

Hydropower alternators

- Synchronous alternators up to 10MVA, 380 – 13,800V, up to 32 pole, water or air-cooled, horizontal or vertical mounting
- Asynchronous alternators up to 700kW, low speed, water or air-cooled
- D2G – permanent magnet generators, steady speed without inverter up to 500kW
- Permanent magnet generators for wind turbine application, 100kW 60 pole

Portable 2 Pole Products 1 – 17kVA

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

- 1 phase brushless capacitor excited units with optional AVR or Brush + AVR
- 3 phase with slipring compound control or Brush + AVR

Welders and Specialised Products

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

- 2 and 4 pole welding alternators with auxiliary output
- AC 130-220A and 200-500A DC
- Special products tailored to meet customers' requirements
- Water-cooled, DC, lighting, totally enclosed, variable speed, short units
- Asynchronous alternators
- Wound component parts
- Permanent magnet generators

MANUFACTURING PROCESS

We are a volume producer with complete control over our factories and have a truly international manufacturing base. All our factories incorporate the latest technologies and manufacturing processes, producing a truly global product that is consistent worldwide. This ensures physical characteristics, technical features, quality and performance are guaranteed wherever in the world it is manufactured.



Our facilities cover over 60.000m². We have over 1,200 employees and over 30 CNC-controlled robots. We continue to invest in our future through increasing global capacity and this ensures that we are able to support the growth of our clients. We can react to any market demands and always ensure that we can instantly maximise any growth opportunities for our customers.

Every alternator we produce is made with highly selected materials and components – all tested in conformity to ISO 9001 quality specification and in conformity to ISO 18001 process qualification for health and safety.

Our production process consists of various stages of advanced manufacturing technologies. Each working phase is carried out using state-of-the-art equipment to ensure high performance, great reliability and precision. Robotic machining and winding operation processes enable the highest degree of precision which ensures maximum results in consistent quality. Operating to an effective environmental management system, we have ISO 14001 which ensures we minimise our impact on the environment.

Italy – Mecc Alte SpA
Producing alternators from 1 – 5,000kVA

Italy – Mecc Alte Power Products
Producing alternators from 800 – 5,000kVA

UK – Mecc Alte UK
From 5 – 3,000kVA 4 pole

China – Mecc Alte Haimen
Producing from 7kVA through to 3,000kVA

India – Mecc Alte India
Producing 5 – 420kVA 4 pole and 7.5 – 48kVA 2 pole

Italy – Mecc Alte Portable
Manufacturing portable alternators 1 – 17kVA 2 pole

Italy – Zanardi
Producing specialised products and welding alternators

With an integrated supply chain (we also own our own lamination factory) and 100% ownership of our sales and worldwide distribution, we are perfectly positioned to professionally serve all world markets... and further enhance our reputation as a global leader in alternator manufacturing.

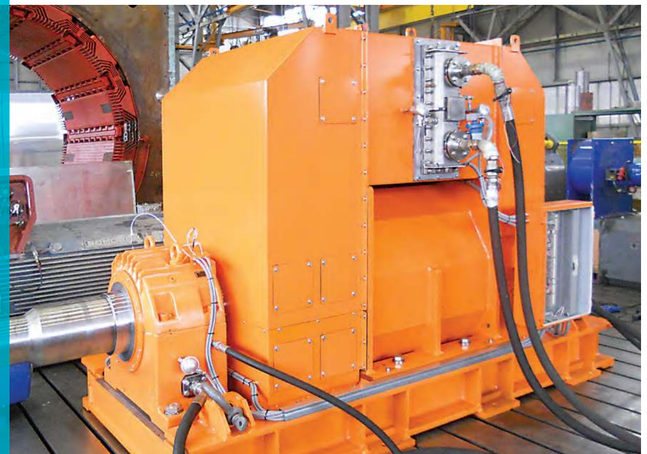
POWER PRODUCTS RANGE

We focus on MV and HV products for power generation and, in addition, produce synchronous, PMG and asynchronous generators for hydropower applications.

mecc alte MV

mecc alte HV

mecc alte hydro





APPLICATIONS AND RANGE

Low (LV), medium (MV), and high voltage (HV) customisable alternators, in double or single bearing, with digital AVR all designed for demanding applications

- 1 – 5MVA
- LV – voltage up to 690V / MV up to 7,200V / HV up to 13,800V
- > 4, 6, 8 pole
- Separate circuit cooling by air or water is available upon special request

Hydropower alternators

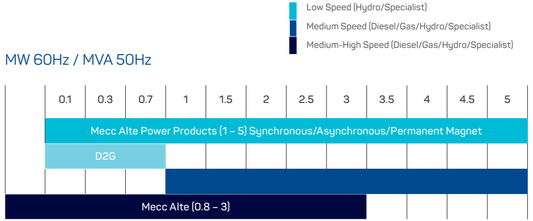
- Synchronous alternators up to 10MVA, 380 – 13,800V, up to 32 pole, water or air-cooled, horizontal or vertical mounting
- Asynchronous alternators up to 700kW, low speed, water or air-cooled
- D2G – permanent magnet generators, steady speed without invertor up to 500kW
- Permant magnet generators for wind turbine application 100kW 6 poles

Covering a power range of 1 – 5,000kVA, our alternators are designed to operate in the most demanding of environments and applications. The core DNA of every machine has been evolved from over 65 years of technical experience and knowledge. And, from this proven core, our modular design system means that our products can be adapted to rise to any challenge – anywhere.

The speed of rotation (187rpm to 1,800rpm) is individually matched to the application and to various drive systems, such as hydro turbines. In addition, core design elements can be added to match extreme environmental conditions, with unique features that can be installed to prevent damage from corrosion and humidity.

In extreme applications, our power range alternators can be built with totally enclosed frames, where the severity of environment demands a lot more than a standard product.





	Typical Data		
Generation System	Speed Range	kW	No. of Poles
Asynchronous	187 – 600rpm	90 – 700	12 – 24
Synchronous	187 – 1,800rpm	485 – 5,600	4 – 32
Specialist	300 – 429rpm	110 – 330	14 – 22

POWER PRODUCT FEATURES

All of our Power Products are designed to meet the applications they serve and the core design structure allows simple and full customisation to match exact demands. With a reinforced mechanical structure
giving superior mechanical resistance, oversized terminal boxes, market-matched power nodes use new innovation, the latest materials and a fresh commercial approach in a market that has always been highly traditional by nature.



01 REGULATION

Digital regulators allow custom settings for site applications

Integral protection and APO for 8 alarm parameters

Load monitoring, fault recording

Excitation loss activation through APO

02 TERMINAL BOX

Large box design to accommodate multiple cables or bus bars

Nominally 6 wire with ease of customer connection

Separate low voltage connection area on HV machines

Factory-fitted current transformers are available

03 ACCESSORIES/MONITORING

Anti-condensation heaters

Bearing temperature monitors

Winding temperature monitors

Vibration monitors

Environmental protection systems

04 BEARINGS

Ball, roller or sleeve bearings are available

Customer-specific bearings on request such as:

- Sleeve bearings
- Insulated bearings
- Specialised for high force or vertical application

05 EXCITATION AND OPTIONS

Auxiliary winding

PMG (Permanent Magnet Generator)

Over excitation protection

06 INSULATION SYSTEM

Class H insulation is standard on our LV range and on our MV and HV as well. Highest quality materials and systems are used with VPI (Vacuum Pressure Impregnation) techniques

For severe environments, additional coatings such as ProtexPlus protection are available

07 CONSTRUCTION

Rugged design

Single or double bearing

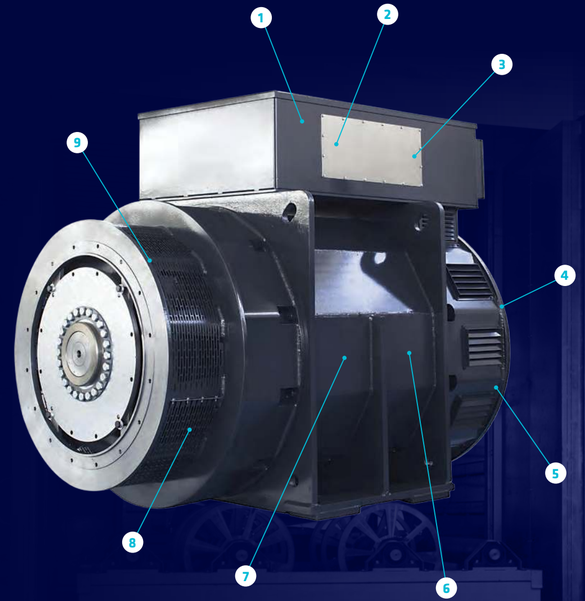
Windings have 5/6 or 2/3 pitch to reduce harmonic distortion and enhance voltage waveform

08 COOLING/PROTECTION

IP-rated from IP23 as standard, up to 56 (CACA/CACW)

09 BEARING LUBRICATION

All ball bearings are re-greasable



PURPOSE-BUILT, STATE-OF-THE-ART FACTORY

Our Power Products are manufactured on a new 5,000m² site located in Vincenza, Italy, close to the Mecc Alte Group's headquarters. In a purpose-built, state-of-the-art factory, its 2,500m² assembly area incorporates the latest production methods and technologies to ensure product quality remains at the forefront. With a customer-focused approach, the factory is designed to allow flexible production to cope with the ever-changing demands of the markets it serves. This allows capacity to flex as required and support rapid delivery times alongside its structured protocol. It has its own comprehensive test facilities which can be used for witness test of machines upon request. This is all supported through dedicated technicians in its 800m² research and design centre.

OUR QUALITY, SERVICE AND AFTERSALES

We have reached the highest possible quality standards in every area of design, production and sales. With us, the pursuit of quality begins long before actual production, with checks on semi-processed parts and sample tests on electronic components.

These tests are performed with rapid aging methods by means of alternating exposure to extreme temperatures. Our quality is enhanced during the production process with computerised equipment making checks on electronic and electrical circuits. The high quality of our finished products is due to a perfect combination – high performance and maximum reliability.

Every quality mark is a guarantee of the rigorous assessment of prototypes and a commitment to continuous audits by external inspectors to monitor product consistency – and product quality.

This quality assurance allows us to be proud of our products. Our products are now globally recognised. This high market acceptance has originated from a combination of effective marketing through our sales and distribution facilities, established training plans for our many customers, and consistently great aftersales service. We are a professional and responsible company and understand that a good reputation breeds success.

We recognise that our reputation depends on continually delivering high standards of support – whenever and wherever it is required. With an extensive global service and aftersales network, you can be assured that your product will be supported anywhere in the world.

Our quality is certified by international bodies and is supported by our ISO 9001 accreditation across the whole group. Ask factories for individual certifications achieved. This quality assurance allows us to be proud of our products and gives you peace of mind knowing our alternators are built with the highest possible quality standards.



GLOBAL COMMUNICATION

We are proud of the relationship that we have with each and every one of our customers. Effective communications with them are an integral part of our operations.

We appreciate the importance of developments in electronic communication and recognise the World Wide Web as a continually-evolving global communication tool. Our website holds up-to-the-minute company and product information. Operating as an online database, customers have access to product and commercial documents and downloads for support 24 hours a day, 7 days a week, 365 days a year.

Visit **www.meccalte.com**

SUPPORT

Through our global companies, we offer worldwide support. In addition, our dedicated support website provides latest model information, spare parts listings, test report data and useful pre and post sales tools.

We have a dedicated and flexible download centre where drawings and technical information is readily available in a dedicated user-friendly area.

Visit **www.meccalte.support.com** for further info.

BROCHURES

MECC ALTE TECHNICAL GUIDES BILINGUAL ITALIAN/ENGLISH

- Parallel Operation
- Regulators
- Thermal Probes & Heaters
- Shaft Stiffness
- Standard Conditions of Sale
- Spare Parts Lists
- Ratings Book
- Motor Starting Capability
- Insulation Protection Systems
- Digital Regulator

MECC ALTE PRODUCT GUIDE

- Portable Range
- Power Products Range
- Zanardi Range

MECC ALTE MINI GUIDES

- 400Hz
- Rail
- Marine
- Irrigation
- Telecoms
- PTO

All available to download at: **www.meccalte.com**



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