

  ITALIAN QUALITY

Motors, Generators,
Controllers, Drives
for *energy & automation*

#4/2018
EVENT CATALOGUE
HANNOVER 23-27 APRIL



soga  energyteam

OUR SOLUTIONS FOR MANY APPLICATIONS

RENEWABLES | VARIABLE SPEED

INDUSTRIAL | RAILWAY | AUTOMOTIVE | OIL & GAS | MARINE

CONSTRUCTION | WELDING | TELECOMS | LIGHTING | MILITARY



- **RELUCTANCE, INDUCTION, BRUSHLESS & SERVO MOTORS**
- **PERMANENT MAGNET, HYBRID & IP54 GENERATORS**
- **PROGRAMMABLE CONTROLLERS**
- **DRIVES & HMIs**

ITALIAN EXPERTISE AND SOLUTIONS SINCE 1966

Innovative projects require **state-of-the-art components** developed with deep know-how and solid technical skills.

Thanks to our 50-year-expertise in the design and manufacturing of motors, generators, drives and programmable controllers intended for energy and automation sectors, **we provide OEMs the best suitable solutions for success.**

Products fully conceived by our R&D or created in co-design with our customers, featured by the **highest level of customization** for Your Innovation.



SOGA ENERGY TEAM at a glance

PURE EUROPEAN MANUFACTURERS

Soga Energy Team industrial group is an Italian player operating worldwide, **since 1966**.

The group develops and manufactures an **exhaustive range of rotating electrical machines and electronic systems, MADE IN EUROPE** in Italy and Croatia, recognized in the market thanks to its 5 commercial brands.

Soga Energy Team co-operates with OEMs in the most different markets and applications by providing **standard** versions, **custom-made** executions, **new special projects** to create exclusive products.



5

Brands

6

Production sites, with LEAN system

50

Half a century of experience in the production of alternators and motors

80

We have customers in 80 countries

300

Collaborators

850

850 models up to 2,6 MW/50Hz in our catalogues (alternators and motors).
One of the widest ranges in the world.

250.000

Units as yearly production capacity



MOTORS, GENERATORS, CONTROLLERS, DRIVES IN STANDARD AND SPECIAL EXECUTION



AC electric motors



AC & DC alternators and welders



PTO tractor-driven
generators



AC generators for renewables
and special projects



Electronic systems



1) RELUCTANCE MOTORS

NEW
2018
HIGH EFFICIENCY
NO MAGNETS

HIGH EFFICIENCY SYNCHRONOUS ELECTRIC MOTORS

- Three-phase, AC synchronous for constant or variable speed industrial applications
- IE4 *Super Premium Efficiency*
- Rotor with flux-barriers design
- Designed for sensorless control
- Smart **alternative to the traditional induction motors:**
 - Higher efficiency (with the same motor size)
 - Reduction of energy consumption
 - More compactness compared to IE3/IE4 induction motors
- Valid **alternative also to the permanent magnet motors:**
 - High efficiency without magnets
 - Performances not temperature-sensitive
 - Higher flux weakening area
 - Easier handling in case you have to disassemble the motor
- IP54

SOON AVAILABLE UP TO 15 KW*

HIGHER POWERS ON REQUEST

*4POLES 100HZ 3000RPM



VIEW ON ROTOR

2) INDUCTION MOTORS



ELECTRIC MOTORS
FOR SPECIFIC NEEDS

CUSTOM-DEDICATED

- Three or Single-phase, squirrel cage
- Versions: IEC (IE1 *Standard Efficiency*, IE2 *High Efficiency*, IE3 *Premium Efficiency*), flat, hollow shaft, with gearbox
- Customized executions starting from our basic versions including over 350 models
- Made in Italy
- IP54

UP TO 37 KW



SOME ELECTRICAL EXECUTIONS

- Windings (double impregnation, double speed rotation, encapsulation, insulation systems, double phase executions, tropicalization, voltages and frequencies for any market, VPI)
- Encoder

SOME MECHANICAL EXECUTIONS

- Shafts (hollow shaft, ceramic coating, hardening, stainless steel and other special materials, splined shafts...)
- Housings (upon drawing or made in any material)
- Outcoming cables
- Special flanges
- Safety brakes
- Gearboxes

STANDARDS AND REGULATIONS

- CSA/UL
- UL 1446 insulation system
- ECA
- Reach
- RoHs
- SASO
- ATEX (zone 22)

TECHNICAL QUALIFICATIONS

- CP/CIM ESF/2009 – 3464 (SNCF high-speed rail)
- PSW 10399
- PSW 54 00636
- IMQ/CSV

3) BRUSHLESS SERVO MOTORS WITH INTEGRATED DRIVE



GET MORE DETAILS

HIGHLY COMPACT AND PERFORMING

- One of the widest ranges of sizes available in the market
- Single connector for: 560 Vdc DC bus | supply of the 24 Vdc logic section | safety contact STO | homing input
- 2 connectors for input and output of the CANopen/EtherCAT fieldbus
- Many on board I/O's
- Stand alone programmability according to the standard IEC61131
- Great using flexibility
- Strong reduction of wiring and space inside the cabinet
- IP65

FROM 1,3 TO 30 NM

ON FLANGE 60, 80, 100, 142, 190 MM

CANopen

EtherCAT



4) IP54 SYNCHRONOUS AND ASYNCHRONOUS GENERATORS



SSG CATALOGUE



ASG CATALOGUE

SYNCHRONOUS GENERATORS 2 AND 4 POLES | IP54

- For gen-sets used by fire brigades, in rescue operations, military and other severe applications
- Versions: Single & Three phase | Brushless / Capacitor | Brushless / AVR
- According to DIN 14685-1
- Analogic AVR and EMI filter
- Cone, SAE, IM B34 couplings
- **On request:** special voltage, tropicalization, 12 leads, outcoming cables & loose AVR, digital AVR, 2/3 pitch, control panel with 1 CEE 400V + 3 CEE 230V + switch + thermal protections

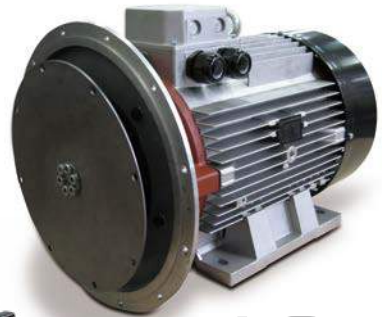
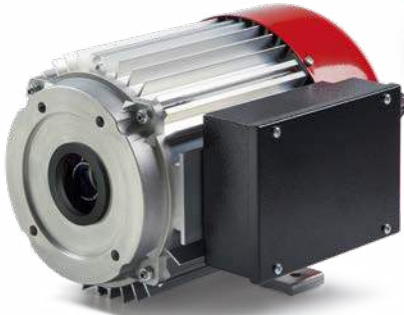
UP TO 17 KVA

ASYNCHRONOUS GENERATORS 2 AND 4 POLES | IP54

- Asynchronous technology for small co-generation or portable gen-sets. supplying resistive loads. equipment and devices
- Versions: Single & Three phase
- Excellent wave form
- Housing made in die-cast aluminum, assuring IP54 cool
- Strong and reliable
- SAE and cone couplings
- **Special executions on request**

UP TO 30 KVA

SSg



ASg

5) PERMANENT MAGNET SYNCHRONOUS GENERATORS

PMG



EV CATALOGUE

GENERATORS FOR VARIABLE SPEED (LOW/MEDIUM)

- Permanent magnet multipole, modular technology for variable, low and medium speed applications
- From 0 to 500 RPM
- IP54
- Examples of applications: direct-drive wind turbines (low-speed) and turbines with gearbox (medium -speed), horizontal axis (HAWT) or vertical axis (VAWT). In railway, on trains as electric traction motors
- Patented design of stator lamination, determining **the market best efficiencies (nominal values up to 96%)**
- Much lighter and more compact than common PMGs
- Low cogging torque
- **Huge possibility of customizations**

UP TO 300 KW

WITH DIAMETER 1800 MM (EV900 FRAME SIZE)

EV



sogaenergies

6) HYBRID TECHNOLOGY SYNCHRONOUS GENERATORS

HYBRID

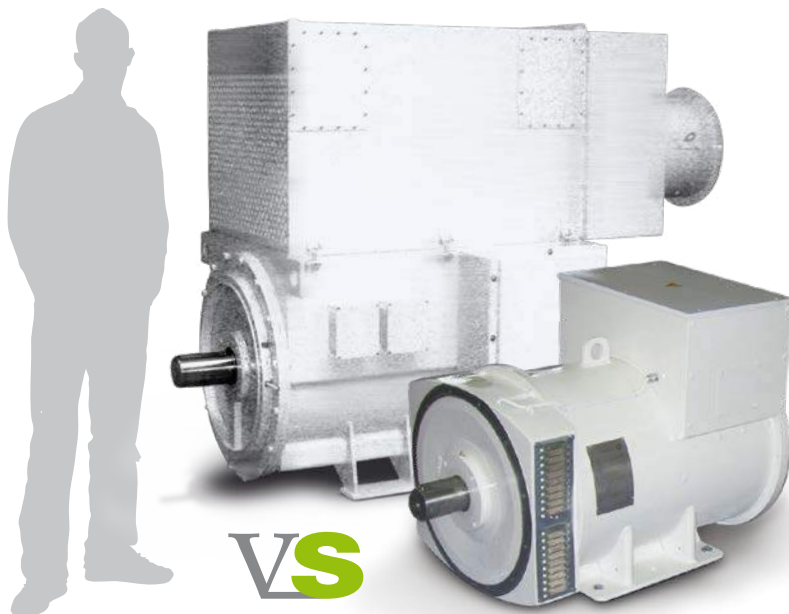


VS CATALOGUE

GENERATORS FOR VARIABLE SPEED (MEDIUM/HIGH)

- Hybrid technology for variable speed applications
- Wide RPM range
- Active control on the output voltage
- Example of applications: wind turbines with gearbox
- High efficiency also with low speed wind conditions
- The alternator and the control system are in operation even in case of over-speed, assuring the turbine safety and full efficiency
- **Customizations on request**

UP TO 1 MW



7) PERMANENT MAGNET SYNCHRONOUS GENERATORS

PMG

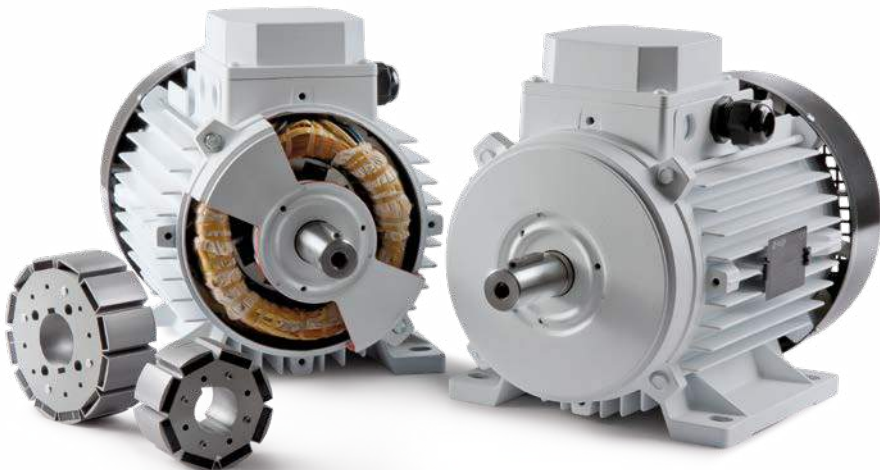


PMG CATALOGUE

GENERATORS FOR VARIABLE SPEED (MEDIUM/HIGH)

- Permanent magnet multipole, modular technology for variable, medium and high speed applications
- From 200 to 4,500 RPM
- Examples of applications: automotive, hydro-turbines, other variable speed applications
- High efficiency
- Compactness
- **Customizations on request**
- IP54

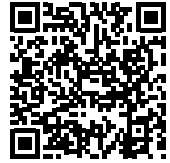
UP TO 70 KW



PMG

8) PERMANENT MAGNET GENERATORS FOR GEN-SETS

PMG



PMG-K CATALOGUE



SOME APPLICATIONS | telecoms | hybrid | apu | marine | military

GENERATORS FOR VARIABLE SPEED (MEDIUM/HIGH)

- Permanent magnet multipole, radial flux modular technology
- 18 poles
- For generating sets working at medium/high variable speed
- High efficiency
- Great compactness
- IP20

UP TO 20 KVA



**COMPACT
& EFFICIENT**

up to 20 kVA in 204 mm



9) MASTER PROGRAMMABLE CONTROLLERS



GET MORE DETAILS

ACCORDING TO IEC61131

- Black box motion controllers equipped with a PowerPC microprocessor
- Programmable according to the standard IEC61131
- CANopen and EtherCAT master based on a real-time operating system (Precise MQX) with CMZ drivers developed in-house
- Development environment CODESYS or 4CONTROL
- Possibility for the user to develop libraries (electronic cams, interpolation, flying shear, weight and temperature control as well as for the realization of whole machine)

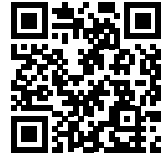
UP TO 99 AXES

CANopen[®]

EtherCAT[™]



10^{HMI} INDUSTRIAL TOUCH PANELS



GET MORE DETAILS

EFFICIENT CONNECTION FOR ANY KIND OF APPLICATION

- Wide range of touch-screen terminals
- For simple (low budget versions) and advanced applications, always keeping a reasonable cost
- Designed for efficient connection to CMZ controllers and communication with most popular programmable controllers thanks to standard or dedicated protocols
- Supporting multi-languages, BMP and JPG graphics, GIF animations

UP TO 15" SVGA TFT WIN CE AND EMBEDDED TOUCH COMPUTER



WE MAKE INNOVATION

ITALIAN DESIGN & INDUSTRIAL MANUFACTURING OF
MOTORS, GENERATORS, CONTROLLERS, DRIVES
FOR *ENERGY & AUTOMATION*



soga  energyteam

Soga S.p.A. Via Della Tecnica, 15 • 36075 Montecchio Maggiore (VI) • ITALY
Ph. +39 0444 747700 • sales.soga@sogaenergyteam.com

sogaenergyteam.com | cmz.it

