ELECTRICAL MOTOR SOLUTIONS



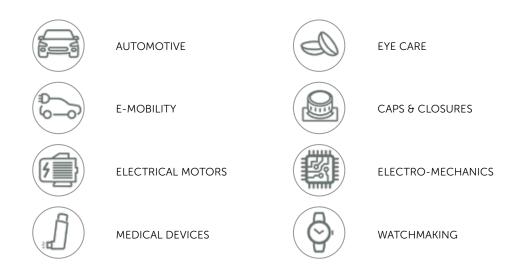
IMA AUTOMATION FLAWLESS ASSEMBLY

IMA AUTOMATION IS THE SEGMENT OF IMA GROUP COMPOSED OF LEADING COMPANIES IN THE AUTOMATION AND ASSEMBLY INDUSTRY, WITH OVER 50 YEARS OF EXPERIENCE.

With its integrated network of companies which guarantees a worldwide coverage, IMA Automation designs and manufactures advanced technology lines for handling and assembling parts for different applications fields, such as Automotive, E-Mobility, Electrical Motors, Medical Devices, Eye Care, Caps & Closures, Electro Mechanics and Watchmaking.

IMA Automation companies have developed top-of-theline technical skills, earning excellent market reputations and positioning themselves as leaders among those offering specialized technological solutions. IMA Automation hub is a perfect addition to the already consolidated packaging experience of IMA, allowing a synergy in the sharing of clients and widening our offer of technological solutions.



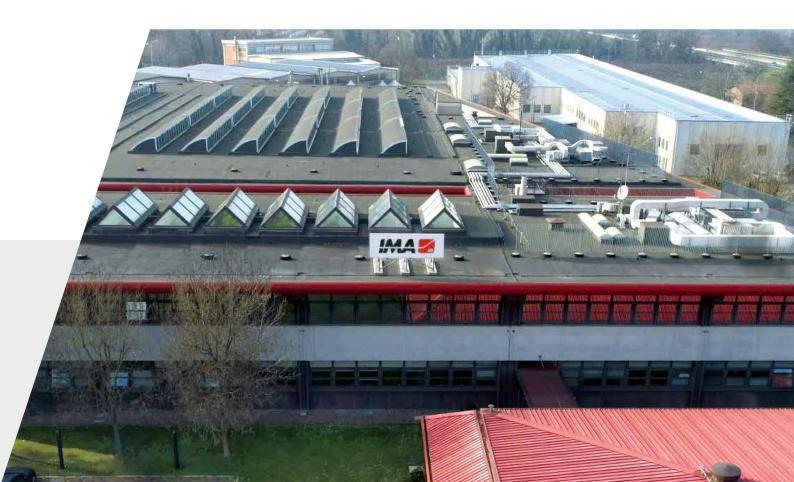


IMA, A SOLID LEADING GROUP IN PROCESSING, PACKAGING & AUTOMATION

Established in 1961, with the headquarters in Bologna, Italy, IMA is world leader in the design and manufacture of automatic machinery for processing, packaging and assembling products for several application fields. With a turnover of more than 1.600 million euros and 6000+ employees, the Group is present in about 80 countries, supported by a sales network made up of several branches, representative offices in central-eastern Europe and more than 50 agencies. IMA Group has more than 40 production plants in Italy, Germany, France, Switzerland, Spain, the UK, the USA, India, Malaysia, China and Argentina.



A WIDE NETWORK OF LEADING COMPANIES, A UNIQUE EXCELLENT OFFER.



YOUR STRATEGIC PARTNER FOR WOUND STATORS AND ROTORS



ATOP is a company part of IMA Automation, leading in manufacture of machines and automatic lines for the production of **wound stators and rotors of electric motors**. The development of tailored technology to meet quality and production requirements in all winding and assembly processes.

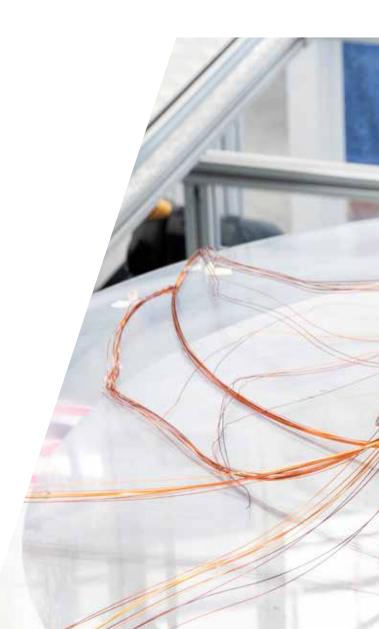


FASP is an Italian industrial company part of IMA Automation, specialized in the production of fully robotized and tailor-made solutions for manufacturing **coil winding and inserting systems** for asynchronous electric motors and automated assembly lines.



IMA Automation North America, with its long experience in the production of assembly lines, is able to support customer's projects with turnkey solutions for permanent magnet rotors and complete engine assembly.

TECHNOLOGICAL INNOVATION AND TAILORED SOLUTIONS FOR THE ELECTRIC MOTORS PRODUCTION.

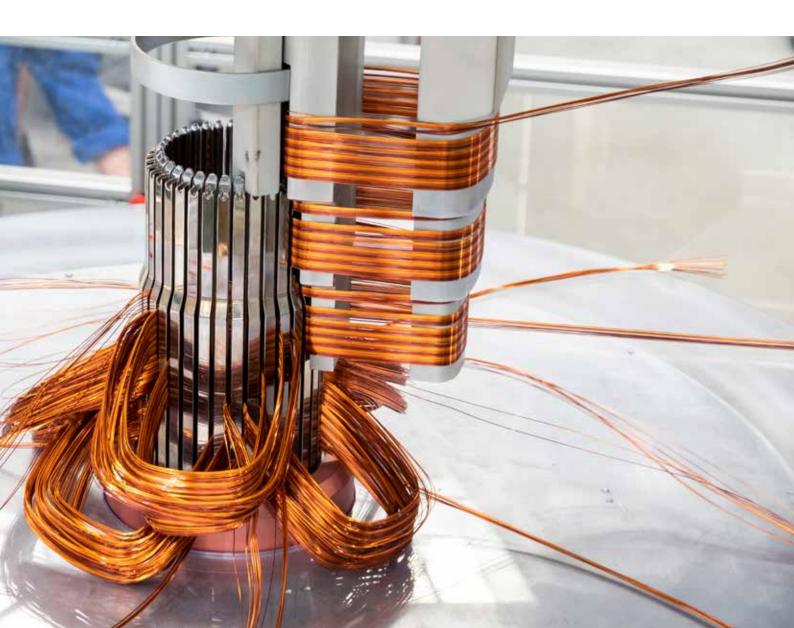


PRODUCTION

WINDING TECHNOLOGY:

- Needle
- Flyer

WITH ATOP AND FASP, IMA AUTOMATION PROVIDES A **COMPLETE PRODUCT PORTFOLIO** TO SERVE SEVERAL MARKET SECTORS



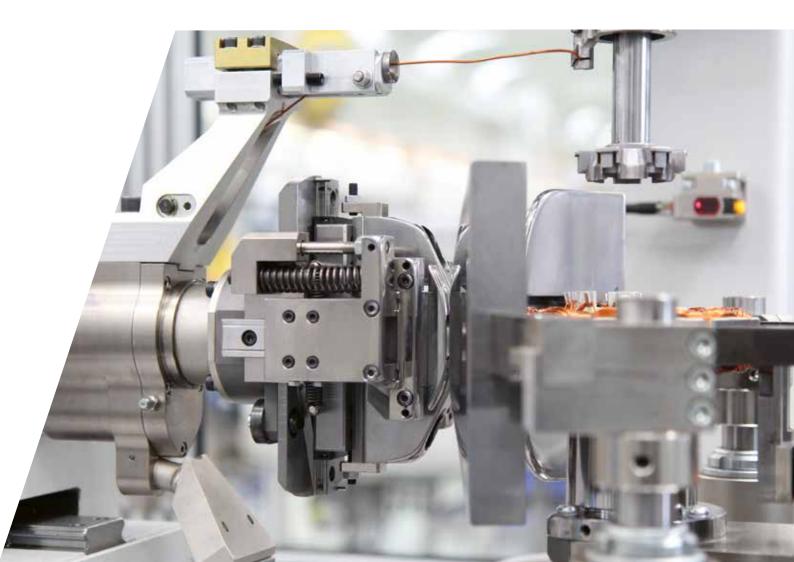
ELECTRIC MOTOR SOLUTIONS

The stators and rotors produced with IMA Automation Technologies belong to several market segments.

Stators and rotors produced by means of IMA Automation technologies are present in our everyday life: at work, at home, in daily commuting and when dedicating to our hobby. Every small or big daily action, such as turning on your car or using the washing machine, needs an efficient motor to operate.

The best industries worldwide rely on IMA Automation due to the commitment in facing new challenges to industrialize and manufacture lines for the production of standard and special electric motors.

At the same time guaranteeing greater performance and respect of environment and the workforce. From automotive to household appliances, from industrial applications to power tools, bringing innovation in the field of the electric drive applied to sustainable mobility. Every day, IMA Automation takes on challenges in many sectors to meet customers needs and goals.



APPLICATION FIELDS



BRUSHLESS ELECTRIC MOTORS

- Water pump for heating systems and air conditioning
- Cooling fan
- Lift
- Drum motor for conveyor belt
- Electric pumps
- Submersible motors
- Energy power generators

BRUSHLESS ELECTRIC MOTORS

HOUSEHOLD

- Washing machine
- Dishwasher
- Fan
- Kitchen robot
- Vacuum cleaner
- Hand dryer

UNIVERSAL ELECTRIC MOTORS

- Washing machine
- Dishwasher

• Fan

INDUCTION ELECTRIC MOTORS

Washing machine

BRUSHLESS ELECTRIC MOTORS

POWER TOOLS

- Drill
- Screwdrive
- Chainsaw
- Lawnmower
- Angular milling device
- Blower

UNIVERSAL ELECTRIC MOTORS

- Drill
- Screwdriver
- Chainsaw
- Lawnmower

BRUSHLESS ELECTRIC MOTOR SOLUTIONS

Brushless stators are conceived to meet the growing demand for energy-efficient, compact and best performing motors. The production of such stators requires increasingly complex assembly processes, combined with a strong design capability. These features are constantly offered by IMA Automation ATOP and IMA Automation FASP to their customers.

- Winding of brushless stators: fully programmable wire stratification by means of needle or flyer winding technology for high slot fill and accurate coil wire positioning.
- High speed needle winding with multiple stations to reach maximum productivity.
- Fully automatic single pole stratification winding, assembly, fusing and testing including vision inspection.
- Termination of brushless stators: fully programmable termination system to carry out complex coil interpolations and wire-lead cuts in short time and limited space, without waste of wire.
- · High speed and precision insulator formation and placement.
- Multi-station machines to increase productivity and reduce operating space.
- Quick change-over tooling to optimize production changeover times.
- Advanced process management system for traceability of processes and materials.

industrial



HOUSEHOLD



WINDING TECHNOLOGY:

- Needle
- FLYER
- INSERTION

COMPLEX ASSEMBLY PROCESSES COMBINED WITH A STRONG DESIGN CAPABILITY.





UNIVERSAL ELECTRIC MOTOR SOLUTIONS

Universal motors are the first electric motors where IMA Automation has created technological know-how. From the beginning we accomplished tailored and innovative solutions to meet all quality and production requirements.

- Rotor winding: programmable wire stratification with flyer winding technology for high slot fill and accurate coil wire positioning.
- High speed flyer winding to reach maximum productivity.
- Universal stator winding with high speed needle technology.
- Fully programmable termination system to carry out complex universal stator coil interpolations and wire-lead cuts in short time and limited space, without waste of wire.
- High speed and precision insulator formation and placement.
- Multi-station machines to increase productivity and reduce operating space.
- Quick changeover tooling to optimize production changeover times.
- Advanced process management system for traceability of processes and materials.

WINDING TECHNOLOGY:

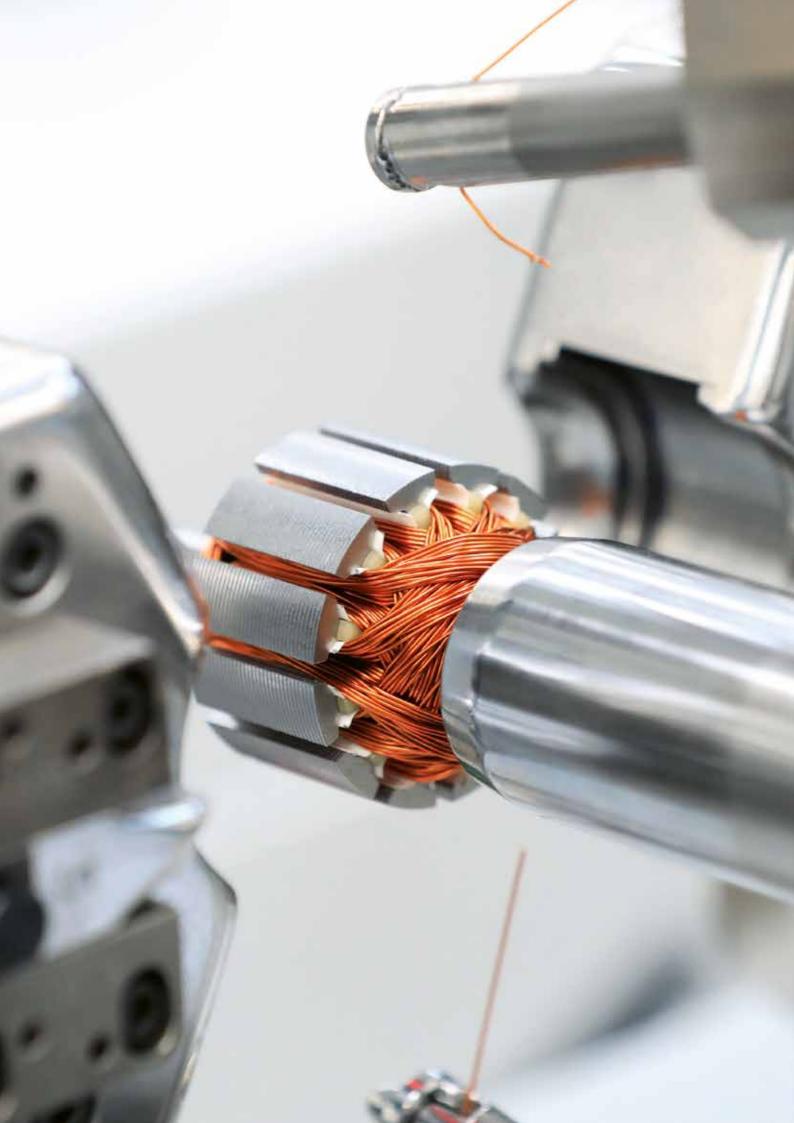
- NEEDLE
- FLYER

HOUSEHOLD









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