



PRESENTS

ROGER BRUSHLESS TECHNOLOGY
FOR AUTOMATIC OPENING

International Exhibition of Stuttgart  2012

The brothers Dino, Primo and Renato Florian offer an exclusive preview of the first automatic gates using ROGER BRUSHLESS technology.



With increasing focus on perfection, the specialists in advanced automation have evolved and now present their symbol: a true turning point in our sector, in the new world of automatic opening. He is: ROGER BRUSHLESS.

Have you ever thought that such cutting-edge technology as the BRUSHLESS technology could be gainfully applied in automatic gates? No? Although, you can only just imagine it... we have actually done it!

Brothers: Dino, Primo e Renato Florian
ROGER TECHNOLOGY snc
Brand owners:

A detailed close-up photograph of the internal components of a motor, showing several copper-colored stator windings arranged in a circular pattern around a central rotor assembly. The rotor has a dark, metallic appearance with several small holes. The background is a dark, blurred purple.

HEAD OF THE
IN AUTOMATIC OPENINGS
CLASS





This marketing, promotional volume is dedicated to those working in the field, to our customers and to all those to come in the future. We are certain that as you leaf through these pages, you will be drawn in, a part of a new age that will change our home-living experience forever.

Enjoy!

Florian Brothers: Dino, Primo e Renato.

Founders of:

ROGER TECHNOLOGY snc

Brand owners:



THE MAP OF **ROGER BRUSHLESS**

- _ **The brand: symbol of evolution**
- _ **What is Brushless technology**
- _ **Why Roger Brushless?**
- _ **Advantages of Roger Brushless technology: an overview**
- _ **New label design, the new mark**
- _ **A preview**
- _ **Conclusions**

- _ **Origins - Values**
- _ **Growth and evolution**





THE BRAND SYMBOL OF EVOLUTION

Already known on the market for its automatic gate systems, the Roger Technology brand gradually changed. Through research, the pointed material symbol slowly evolved, adapting to market demands and acquiring the concrete, tangible form that today represents us. Indeed, it will write the history of automatic gate opening systems, marking a **clear-cut passage from direct current, brush-based technology CC to the unique technology ROGER BRUSHLESS made by Roger Technology.**

The brand embodies a new technology that will bring many advantages to the field of automatic opening systems.

The Florian brothers, founders of Roger Technology, previewed the first gate with ROGER BRUSHLESS INSIDE TECHNOLOGY at the International Exhibition of Stuttgart R+T.

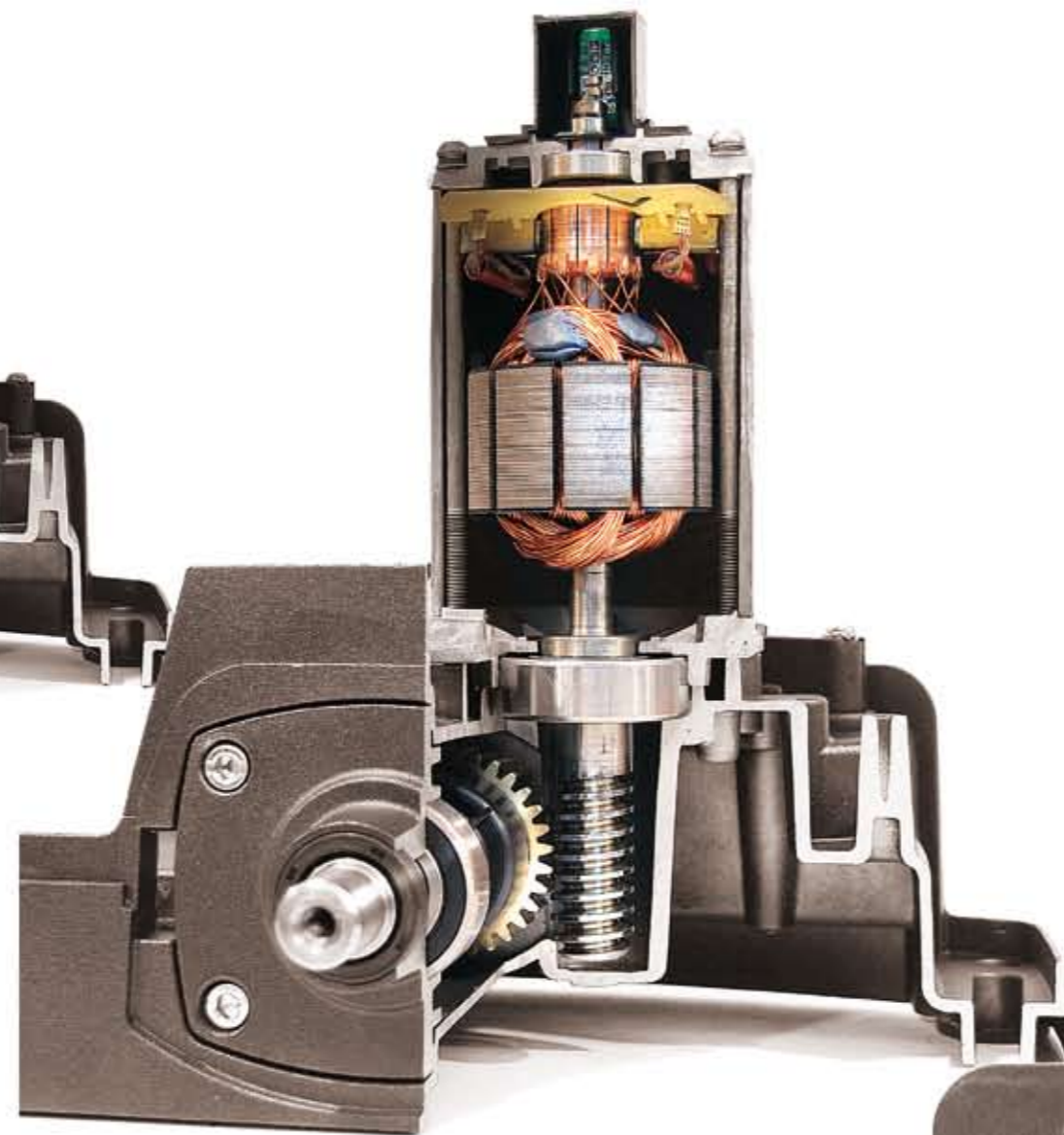
With their know-how and 30 years of experience, not only as manufacturers but also as owners of advanced **2012** systems, these brothers have thrown down the gauntlet, generating **1st class** products.

The first and only automatic gate system with Brushless technology, made by Roger Technology.
ROGER BRUSHLESS is born.





1970 > AC Motor



2000 > DC Motor

TECHNOLOGY FOCUS ON THE OVERTAKING

WHAT IS THE BRUSHLESS TECHNOLOGY

Ideally, the Brushless motors are derived from DC motors, designed to eliminate the commutator and then the brushes.

This offers countless advantages: longer life because there are no parts subject to wear; efficient performance which can, in some cases, exceed the torque 95%, keeping it steady at all extraordinary acceleration and deceleration rates; function, even at 24 V, rotation inverts in just a few milliseconds because the rotor is lighter.

Well versed in mechanics and electronics, the Florian brothers perceived that the Brushless system already being used in such advanced fields as aeronautics, advanced mechanics and robotics could be a valid solution for automatic opening systems as well.

And thus the new **ROGER BRUSHLESS** trademark was born and developed.

What you can only just imagine, we have already produced.

Today **ROGER BRUSHLESS** is the new applied technology for our automatic opening systems.

ROGERTM
BRUSHLESS
NUOVA TECNOLOGIA NELLE AUTOMAZIONI. OGGI.



2012 > Motor with ROGER BRUSHLESS Technology





A unique mating of passion and technology, made to last. The exceptional characteristics are the fruit of reliable research, in-house testing and a great deal of knowledge.

We have produced a new technology, unique and unrepeatable, a technology that will change automatic opening systems technology forever.

Direct current with brushes?
"No, brushless"

Alternating current 230 V?
"No, thanks"

NOW

Only **ROGER BRUSHLESS** technology.
A single motor in which the study of three components: motor, electronic and mechanical components are perfectly balanced and, together, they offer the advantages of both a "reliable" induction motor associated and a "high-performance" direct current motor.

MECHANICAL BRUSHLESS

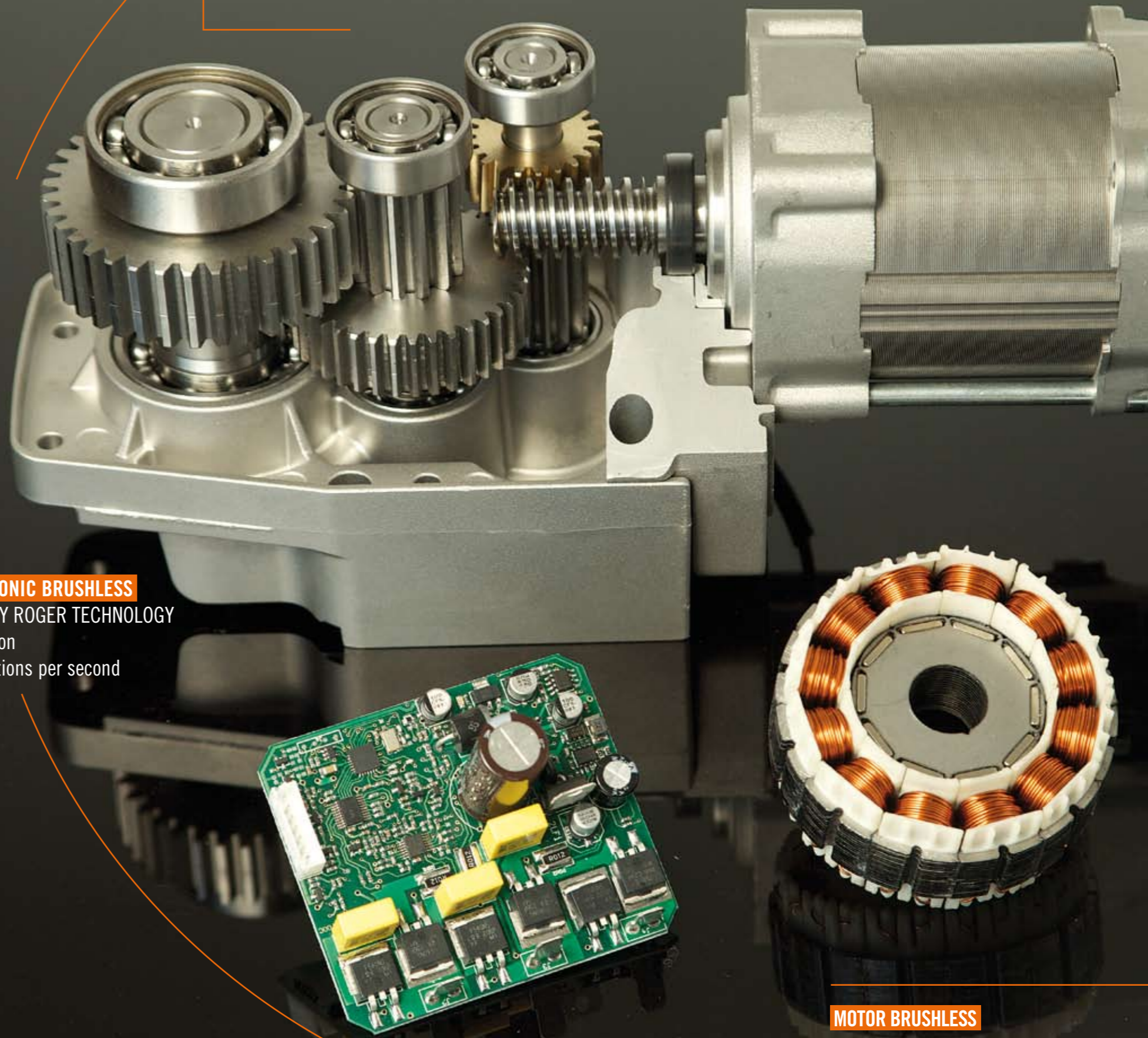
MADE BY ROGER TECHNOLOGY
1 million maneuvers

ELECTRONIC BRUSHLESS

MADE BY ROGER TECHNOLOGY
40 million calculations per second

MOTOR BRUSHLESS

MADE BY ROGER TECHNOLOGY
Rotation inverted in 2 milliseconds





Acknowledging market dynamics and installer demands, anticipating and interpreting the expectations of the final customer: these are the key factors. And we consider they reflect the reliability and technical innovation of our products.

To make it easier to understand, we have laid out the advantages offered by the **ROGER BRUSHLESS** system, describing them point by point. As you read on, you will be fascinated by their features.

“Remember, true progress only comes when technology is available to all”.
(Henry Ford)

We recognize this and, in confirmation, our plants will be producing such costly Brushless technology at an extremely competitive price.

We are geared to becoming your reliable, proactive partner.

VALUES

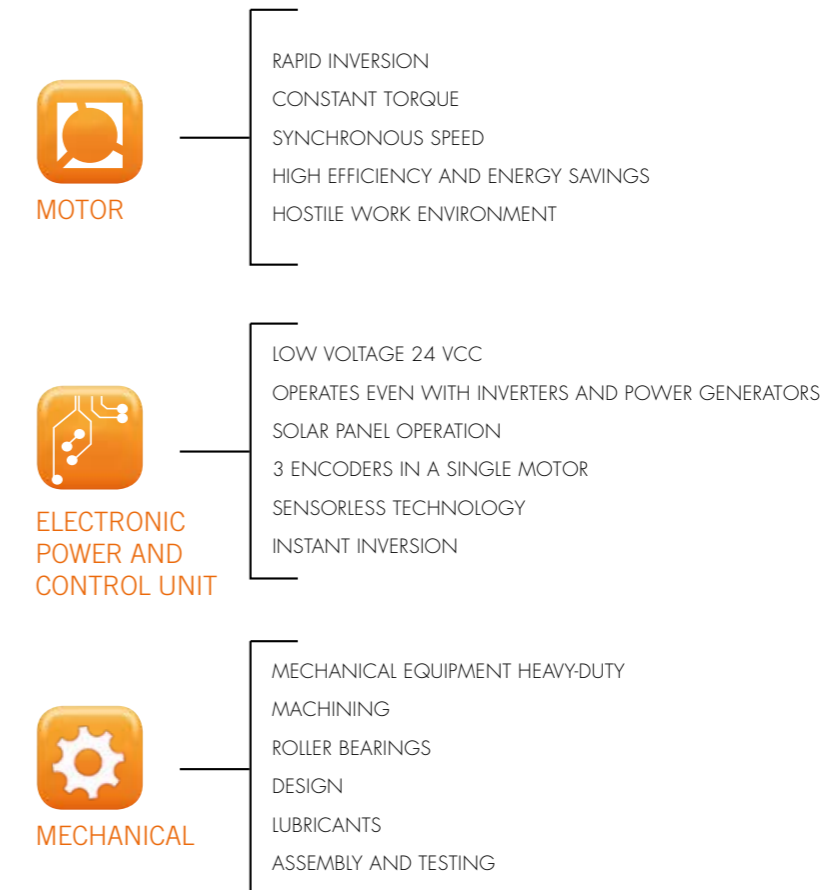
TOUR OF ROGER BRUSHLESS TECHNOLOGIES

Roger Brushless technology offers many advantages. We have broken them down into 3 categories, each with their own characteristics. Roger Brushless technology is composed of an electric motor, electronic power and control units and the mechanical. Everything is designed entirely in-house, at the Roger Technology site, a true added value that makes this technology truly unique, exceptional. When taken together, these 3 elements (motor, electronic and mechanical) exalt the quality-related aspects of the Brushless technology. We will lay them out separately, but once you have seen them together, you will understand that there is no turning back.

ELECTRIC MOTOR

ELECTRONIC POWER AND CONTROL UNIT

MECHANICAL





The numerous advantages of this technology are summed up in the very name: "Brushless". Indeed, "Brushless" means just that: an electric motor with extraordinary properties designed and operated without any brushes since, in direct current motors, the brushes are the main source of defects. The absence of brushes, the use of neodymium iron boron magnets in the rotor and the particular concentrated windings powered by a 24 V AC three-phase sinusoidal system have created an extremely compact motor that is reliable in time.

> RAPID INVERSION

Rotor inversion times can be just a few thousandths of a second, something inconceivable for all other motors. This means that, when an obstacle is encountered, the inversion time requirements outlined in European law are fully met, guaranteeing utmost system safety.

> CONSTANT TORQUE

A constant torque means that the peak motor-generated torque is available at all speeds, even at extremely slow rates. This advantage results in extremely precise slowdown, ensuring that opening and closing operations are run all the way to the set point.

> SYNCHRONOUS SPEED

The synchronous operating principle of the Brushless motor requires that the rotor turn in sync with the stator's magnetic field speed: motor and stator magnetic field revolution must never differ. This means that, during operation and slowdown, the electronic power unit ensures that the program acceleration rate settings are always executed within the set amount of time. Moreover, they do not in any way depend on outside weather conditions - hot, cold, wind.

> HOSTILE WORK ENVIRONMENT

It is not generally possible to install a conventional direct current motor in a dusty, steamy or damp environment. An example of such a critical situation would be an underground installation as brushes tend to oxidize at such sites. Instead a Brushless motor resolves this problem.

> HIGH EFFICIENCY AND ENERGY SAVINGS

Together with the other characteristics of the electrical windings, the use of permanent neodymium iron boron or "rare earth magnets" - offering magnetism at least 10 times greater than ferrite magnets - results in a highly efficient motor, able to significantly reduce electrical power consumption.



ELECTRONIC
POWER AND
CONTROL UNIT

Control and power electronics have been designed to work in combination with the brushless motor electronics, thus mutually enhancing each other's properties. The cutting-edge electronics can adapt to various installation conditions; moreover they also meet modern market demands and comply with current safety standards.

> OPERATES EVEN WITH INVERTERS AND POWER GENERATORS

The power electronics have been designed to operate even when the power supply is not uniform, when there are abrupt surges in voltage as is often the case when cheap inverters or generators are used, e.g. those notorious for generating disturbed, variable frequency electricity with irregular, non sinusoidal wavelengths.

> 3 ENCODERS IN A SINGLE MOTOR

The control electronics turn the motor's ability to act as a power generator to best advantage. This means that, when the motor is running, in the unpowered phases, it generates an electric signal - the back f m - equivalent to that produced by three extremely efficient, precise encoders. The control unit then uses these signals for fine-tuned, ongoing monitoring of the position and speed of the moving gate.

> SENSORLESS TECHNOLOGY

The motor power electronics uses highly sophisticated sensorless technology so the power control unit can detect the rotor's exact position without the need for sensors; instead of sensors, it uses the motor absorbed current measurement and the feedback received from the signal - the back f m - windings.

This particular technology significantly simplifies the electrical wiring and drastically reduces the possibility of breakdown.

> INSTANT INVERSION

The electronic power control guarantees inversion times of just a few thousandths of a second.

Motor rotation is inverted by inverting the current in the stator windings with solid state electronic switches "mosfet": this means that inversion can be repeated millions of times and in full safety since there are no relay contacts to grip or bond.

> LOW VOLTAGE 24 VOLT MAXIMUM SAFETY

All motors using Roger Brushless technology with low voltage (24 V direct current) and battery operation are extremely efficient. This is why they are particularly suited to use with batteries and solar panels.

The electronic power control recreates a 24 VAC three-phase sinusoidal voltage for motor operation.

This feature makes the system unique, protecting against the risk of electrocution.





MECHANICAL

The superb mechanics of the Roger Brushless technology are based on conventional mechanical design and construction principles and uses prime quality components. It is designed to last. Mechanical with Brushless motors and control electronics achieve high performance levels.

> METAL MATERIALS

In mechanics it is our policy to use: aluminium in the bodies; carbon steel alloys in the gears, at times, heat treated for extra hardness; aluminium in the bushes for gears coupled with a worm screw, it, too, in a steel alloy and spheroidal cast iron where the use of self-lubricating material is necessary.

> ROLLER BEARINGS

All mechanical shafts turn on ball bearings, some specifically designed for electric motors, others for slow turning shafts. Bushings are not used except on rare occasions.

> DESIGN

Three decades of experience in the sector and the use of modern computer-aided structural verification techniques have laid the foundations for mechanical design that meets the goals of solid, long-lasting construction.

> LUBRICANTS

Great attention is paid to selection of lubricants as we are well aware that they are the key to good operation and long life of moving parts.

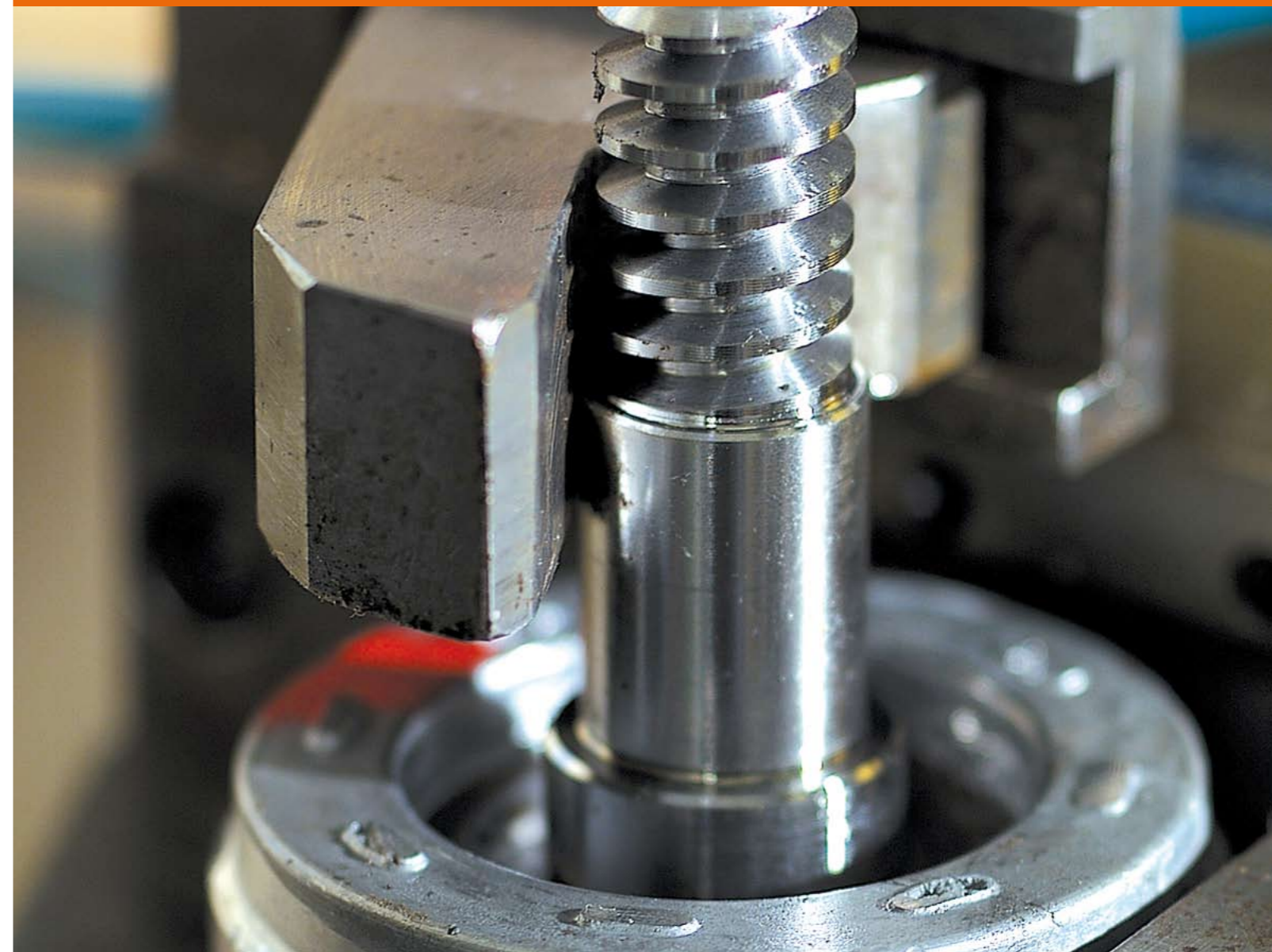
We work in collaboration with lubricant manufacturers, pushing to create specific, customized products with exceptional characteristics such as a lithium-soap grease having a special formula suitable for the extreme pressures (EP) found between gear teeth.

> ASSEMBLY AND TESTING

Assembly and testing are the last phases of the production process and yet they are among the most important. If they are not performed correctly, all prior work will have been performed in vain. This is why 100% of Roger Technology 's products undergo in-house testing.

> MACHINING

What makes the difference is the machining of our cast aluminium parts. When possible we: mill and grind all coupled parts, lathe and roll the bearing seats, thread all holes for assembly. Indeed, we handle each and every detail - both the visible and those hidden from view.





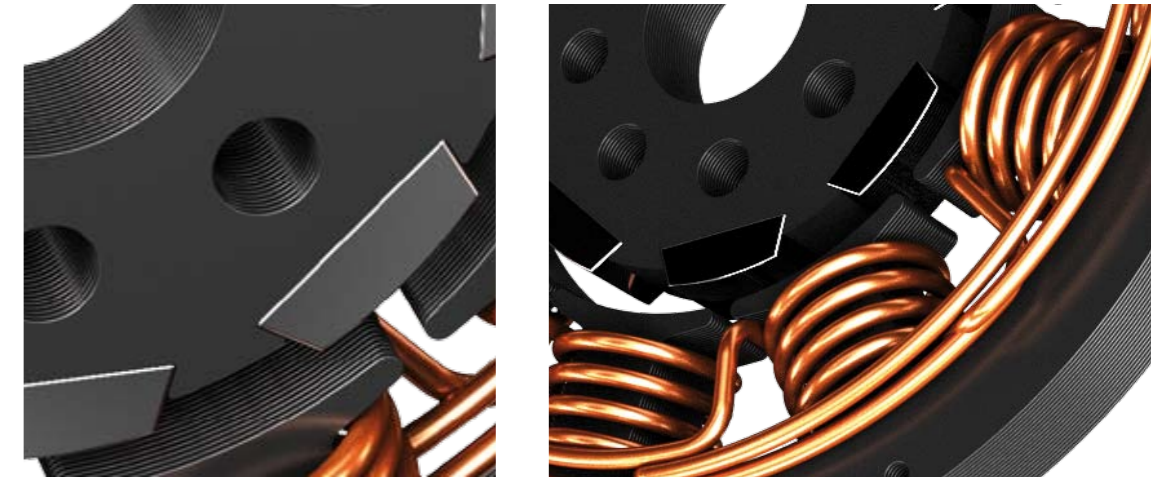
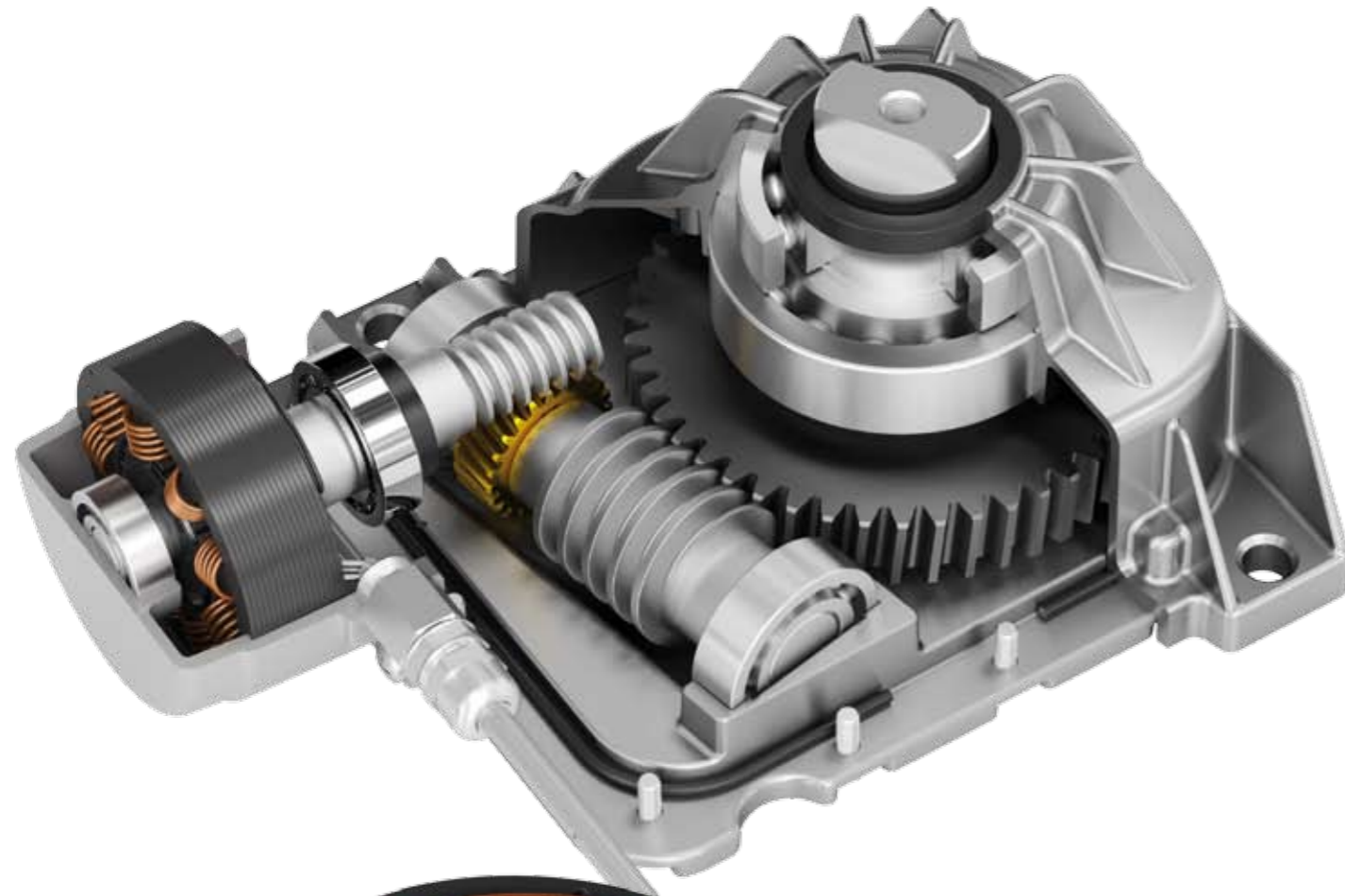
NEW LABEL DESIGN

A refined marking "TECNOLOGIA ROGER BRUSHLESS INSIDE" accompanies all our ROGER BRUSHLESS production, made by Roger Technology, forever setting these systems apart from those that lack our advanced technology.

Refined, high quality automatic systems are synonymous with the attention our in-house production process pays to even the most minor details.

Unparalleled precision, steadfast quality standards, utmost reliability and safety, energy savings, reduced costs: these are just some of the things you can expect when you choose one of our automatic systems bearing the symbol ROGER BRUSHLESS, indicating a class of high performance products.





PREVIEW

A PERFECTLY PRECISE WHOLE

Underground motor R21 with **ROGER BRUSHLESS TECHNOLOGY INSIDE** designed and developed by **ROGER TECHNOLOGY**.

The new R21 underground motor **ROGER BRUSHLESS**, uses revolutionary technology, **MADE BY ROGER TECHNOLOGY** in combination with superb performance and extremely low consumption.

The use of prime quality raw materials - such as neodymium iron boron or rare earth for the magnets having 10 times greater magnetism than found in standard ferrite magnets used in conventional direct current motors - plus superb controls enables these units to transform electricity into mechanical power, thus reducing power consumption by as much as 50%. Technology that is not only innovative, but environmentally-friendly, too.

To confirm this, always sensitive to environmental questions, Roger Technology produces its automatic systems with reduced weight and space requirements; it builds a single version per category and aims to decrease shipping and storage costs while always meeting the installation requirements.



OUR FUTURE IS ROOTED IN OUR PAST



ORIGINS VALUES

It was **1975** when a company called “**La Bitecnica**” was founded in a small town in the province of Treviso. This company, with all its own production cycles, was conceived to manufacture superb electrical motors for the best brands on the European market.

In **1995**, while remaining within its province of origin, the company moved to its new site in Mogliano Veneto. The strong thrust toward innovation led the Florian brothers to establish **Roger Technology** in **2000**, kicking off production of their first R20 piston, a product that would soon open the doors to international markets, letting the company truly express its potential.

OUR VALUES

- A series of products based on solid “knowledge” and “being”.
 - The ability to invest in qualified human resources.
 - The courage to dare, steadfastly testing materials and technologies.
 - The evolution from project to product, a willingness to serve customers, to design and invent automatic opening systems geared to the site “architecture”, residential or industrial.
 - The ability to evolve without losing sight of the corporate DNA, those characteristics that make it stand out, its superb knowledge of electronics and mechanics.
 - Knowing how to grow, steadily increasing sales, adapting to socio-cultural changes while keeping faith with the founding principles.
- A true benchmark for our customers.**

1975, first artisan laboratory for restoring motor windings (75hp).





2012 ROGER TECHNOLOGY AND ROGER BRUSHLESS TECHNOLOGY



2000 Headquarters



2004 production site



GROWTH AND EVOLUTION

With pride and courage, in **2000** the Florian brothers invested in **Roger Technology**, international leader in the field of advanced application technologies and ongoing research and development geared to advanced automatic openings.

The company's bent toward rapid, dynamic evolution has made it a prime player on the market for automatic systems for gates, doors and entrances.

Advanced projects, patented electronic solutions. **Roger Technology** looks to the future through the eyes of ongoing research, developing increasingly sophisticated, efficient solutions with selected raw materials in full compliance with current environment and safety regulations.



ROGER TECHNOLOGY snc

The promotional information in this marketing and communications manual is designed to promote the new technology ROGER BRUSHLESS and we are certain sector professionals will appreciate this.

For any technical information you may require, see the general catalog or the instruction book supplied by the company.

Have we surprised you?

Get involved, try out the new technology.



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We thank you for your cooperation in creating this manual:

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