

BR20 SERIES

TODAY'S DIGITAL INTELLIGENCE
MOVES YOUR GATE



WHAT WE DO

INNOVATION, TOP NOTCH MECHANICS AND NEVER-ENDING TECHNOLOGICAL RESEARCH ARE THE ELEMENTS THAT MAKE ROGER TECHNOLOGY A UNIQUE AND DIFFERENT COMPANY

Starting from our first day of work we immediately gave priority to the development and production of excellent, completely Italian mechanics, based only on top quality ferrous and non ferrous raw materials and guaranteed by impeccable production and surface treatment processes. It was just a few years later, starting in the 1990s, that we created the first major step in our history, by implementing a real mass production line for completely robotised motors, thus becoming a reference outsourcer for major brands of the gate automation market.

PEOPLE, IDEAS AND PRODUCT EXPERIENCE

From the very beginning Roger Technology has evolved and grown because it's people believe that any bright idea can lead to great change in the future. Our people are passionate and innovative in our approach to every challenge, allways pushing the boundaries to develop extraordinary products.

In our language we translate the word "experience" as passion. It is this passion that drives us in the development of revolutionary **new products** that serve the real needs of our customers. We understand that our customers want a product designed around the way that they work.

*Primo Florian
Founding partner
Engineering
and design*

*Dino Florian
Founding President
Development
and design*

*Renato Florian
Founding partner
Assembly
and quality*



OUR PLUSES

EXCELLENT RAW MATERIALS

Steel, ductile cast iron, aluminium, bronze, copper and titanium have always been the main and exclusive raw materials used in the advanced engineering processes of our company.



PRODUCTION TECHNOLOGY

At Roger Technology all internal manufacturing is carried out on optimised production lines making use of very advanced technology. We have invested heavily in robotics and automated all product manufacturing phases. This ensures that all components and semi-finished products are highly reliable and are fully compliant with our exceptionally high quality standards.



INTERNAL ASSEMBLY

Our highly qualified and dedicated staff oversee the fitting and assembly stages. Every piece of equipment is checked by our all italian personnel to ensure that we deliver reliable products to our customers.



MADE IN ITALY

All solutions, products, design and the complete production process of Roger Technology is developed in Italy with the use of materials of primary quality always found in the market trough partner suppliers that share the same passion and professionalism of our company in developing products technologically reliable, efficient and simple in the way that they have been made for being installed and used.



BRUSHLESS MOTOR

A DIGITAL BRUSHLESS MOTOR WITH PERMANENT MAGNETIC FIELD, DIGITAL ELECTRONICS FOR THE COMPLETE MANAGEMENT OF THE AUTOMATION SYSTEM CONTROL. DESIGNED FOR SUPER INTENSIVE USE WITH THE ADDED BENEFIT OF A SUPER LOW POWER CONSUMPTION: THIS IS ROGER BRUSHLESS

We are the creators at the heart of the product!
All of our digital brushless motors are designed and manufactured in our own factories. Using dedicated automated machines the motors are wound with ultimate precision.

DIGITAL BRUSHLESS MOTOR

Revolutionary and innovative digital Brushless motor with permanent magnetic field, three-phase sinusoidal power supply with native encoder that allows super-intensive use of the automation system with extremely low power consumption, not only providing 100% compliance with all the automation system management and safety rules, but setting new standards in gate safety.

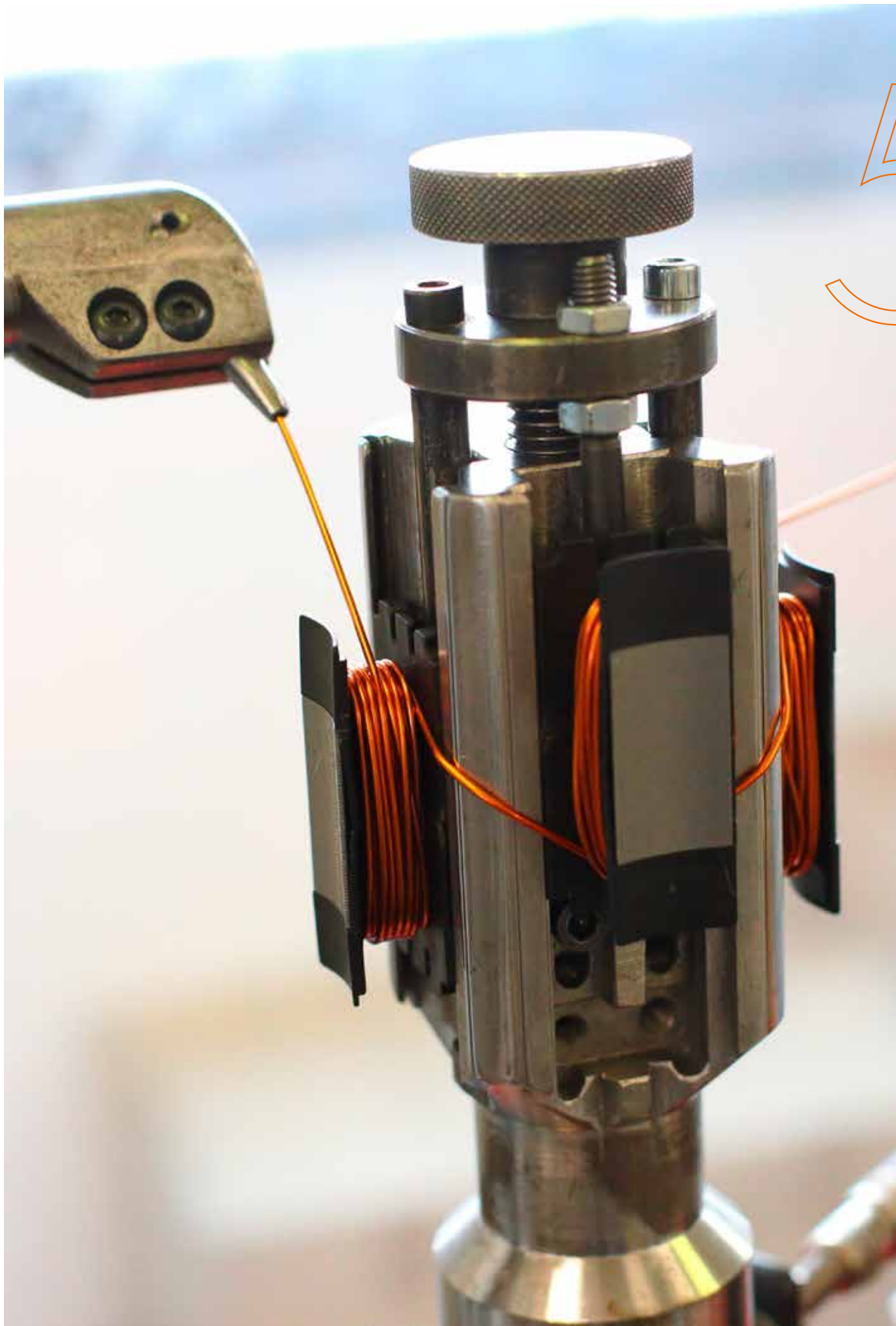
NEW GENERATION OF ELECTRONICS

The new control unit with onboard digital Brushless controller. Without traditional relays and due to the revolutionary MOSFET quadrant system and its control technology entirely based on a DSP (Digital Signal Processor) microcontroller, it represents a new generation of electronic cards created to safely handle all movement phases of the automation system.

ENGINEERING PASSION

All the mechanical components and gears are manufactured in steel, cast iron and bronze. The automation system casings are made from titanium-reinforced die-cast aluminium. All the gears are inspected and assembled on high-quality bearings and inserted on precise seats machined to provide absolute precision between the axes.

A TECHNOLOGY THAT OFFERS MAXIMUM PERFORMANCE BUT CONSUMES LESS POWER THAN OTHER MOTORS



5

COMPLETELY BRUSHLESS

THE REVOLUTIONARY DIGITAL MOTOR WITH 12 UNIQUE FEATURES



3-PHASE DIGITAL BRUSHLESS MOTOR

A very powerful motor with substantial torque. The motor is compact and neat due to the special concentrated coil windings, it is powered by a **three phase sinusoidal system**.



NO PROBLEM IN THE EVENT OF POWER FAILURE

With the help of internal or external batteries and the associated battery charging card, your automation system continues to operate for a considerable time **even during prolonged power cuts**, ensuring many more operations than traditional technologies.



SPEED, ACCELERATION AND DECELERATION WITH EXTREME ELEGANCE

The automation system with brushless digital technology creates perfect and elegant movements. With a constant **force and torque** at every point and with the option of varying the speed on deceleration and acceleration the system can be managed with maximum safety.



EXTREMELY LOW ENERGY CONSUMPTION

A motor that can operate at low voltage in super-intensive use and which can operate in environments with extremely demanding weather conditions while maintaining **very low energy consumption and absorption levels**. We can open a swing gate with two leaves of 2.5mt length for each single leaf, using a maximum of 40W of power.



DIGITAL AND VECTORIAL AUTOMATION CONTROLLER

The BRUSHLESS digital controller, which operates at low voltage **24V/36V DC**, allows 100% control of the automation system in digital mode. Due to its operation entirely based on a DSP microcontroller the travel and all the movements of your automation system can therefore be programmed and customised easily, precisely and elegantly.



MOTOR AT AMBIENT TEMPERATURE

The brushless motor was created with the main goal of being a motor for super intensive use and **with a 99% efficiency**. Regardless of how many operations the engine performs in a day, it always remains cold or at the most reaches the outside ambient temperature.



THE DIGITAL SILENCE OF THE MOTOR

One great impact is the **silence** or the near absence of noise, generated by the BRUSHLESS motor during all its movements.



MOTOR FOR SUPER-INTENSIVE USE

We wanted to surprise our customers with a product that was fundamentally different to any other product on the market. Fact: our motor remains **permanently cold** even after many days of super intensive use.



IMPACT, OBSTACLE DETECTION AND REVERSAL IN TOTAL SAFETY

Thanks to digital technology we are able to **detect an obstacle** and reverse the motor instantly, by simply specifying the torque of the motor, the sensitivity, the time and the travel of the reversal. All in full compliance with safety requirements.



ONBOARD NATIVE DIGITAL ENCODER

The BRUSHLESS motor has a highly advanced **native digital encoder** that controls management of automation systems in a safe, precise and extremely elegant manner.



SIMPLE INSTALLATION WITH A SINGLE 3-WIRE CABLE

The BRUSHLESS motor can be installed by simply connecting it using three wires! What could be easier? This will provide full digital management of your automation system thanks to the **SENSELESS** and **SENSORED** (absolute encoder) technology incorporated in the BRUSHLESS sliding gate motors.



ADVANCED PRECISION ENGINEERING TO OBTAIN OPTIMAL MOTOR PERFORMANCE

We have created a mechanism that gives you the opportunity to get **the maximum performance out of the motor**. A product which combines the quality of the internal production processes, the mechanical processing and the use of high quality ferrous and non-ferrous materials.

WHY BRUSHLESS?

DIGITAL, SMART, POWERFUL, ELEGANT, ROBUST AND ALL-ITALIAN



1 SIMPLE INSTALLATION WITH A SINGLE 3-WIRE CABLE

The 3 input terminal board makes connection quick, simple and easy, with the motor connected to the digital controller with a single 3-wire cable.

2 ECCENTRIC RELEASE LEVER WITH BARREL LOCK AND KEY

The eccentric release lever is operated with a practical and durable barrel lock and key. The release system uses an extremely robust and resilient eccentric lever and a double lever lock mechanism, for manually releasing the automated system when needed simply and easily.

3 HIGH PRECISION ENGINEERING

Reducer gears made with only with high quality materials such as aluminium, steel, cast iron and bronze; gears assembled with superior quality double shielded ball bearings to ensure absolute precision between axes.

4 STURDY, DURABLE FORK AND NUT SCREW

The fork and nut screw rotating in the worm gear are manufactured from superior quality materials. In particular, the bronze nut screw features a completely threaded inner surface and is press-fit onto the steel fork to ensure a precise mechanical connection.

5 ADJUSTABLE ALUMINIUM TRAVEL LIMITS

The BR20 swing gate motor is factory-fitted with two aluminium travel limits reinforced with titanium in the gate open and gate closed positions. Both travel limits are adjustable and feature a completely threaded inner surface to form a solid mechanical connection with the worm gear during contact with the fork in both directions of movement of the motor.

6 BRUSHLESS DIGITAL MOTOR

Digital brushless motor based on a permanent magnetic field which uses neodymium iron-boron magnets inside the rotor. With innovative high density coil windings powered by a sinusoid three-phase power system, the motor of the BR20 is powered by low voltage (36V DC). The motor is extremely compact and operates at normal ambient temperature, making it suitable for extremely intense use and extraordinarily energy efficient.

7 TOTAL REVERSIBILITY IN CASE OF BLACKOUT

The BR20 motor, thanks to the management of the magnetic reversibility, allows, in the event of a blackout, to freely move the gate without interacting with the mechanical cylinder key release lever. Reversibility is automatic in the absence of mains and automatically irreversible with the presence of the network, without consuming any energy to keep the motor blocked in the event of a grid.

8 MICRO-CONTROLLER WITH DSP SENSORLESS TECHNOLOGY

Simply connecting the BRUSHLESS motor to the controller with a single 3-wire cable ensures completely digital control of your automated gate system with SENSORLESS motor power control technology.

9 MULTIFUNCTION DIGITAL DISPLAY

4-quadrant digital display with 6 function keys that allow you to go through the various parameters, change their values, check error messages and input statuses and perform all the self-learning phases.




10 4 QUADRANT MOSFET DIGITAL INVERTER

The digital controller of the digital three-phase sinusoidal motor with field oriented control uses an extremely potent and revolutionary 12 Mosfet, 4 quadrant sinusoidal control digital inverter to control motor power with vector frequency modulation.



TECHNICAL SPECIFICATIONS

BR20/400/R

DESCRIPTION	Electromechanical actuator BRUSHLESS, low voltage, super intensive use, with native encoder onboard, reversible, ideal for swing gates with leaf up to 4 mt length, with mechanical stopper in opening and closing.	
POWER LINE SUPPLY	230V AC - 50Hz	
MOTOR POWER SUPPLY	36V	
POWER RATING	210W	
FREQUENCY OF USE	Intensive use	
THRUST	100 - 1500N	
OPERATING TEMPERATURE	-20 C° +55 C°	
PROTECTION LEVEL	IP43	
REDUCTOR TYPE	Reversible	
MANOEUVRE SPEED	2,22 cm/s	
OPENING TIME AT 90°	18-28 s	
STROKE	520 mm	
LIMIT SWITCH	Mechanical stopper in opening and closing	
RECOMMENDED DIGITAL CONTROLLERS	230V: EDGE1/BOX 115V: EDGE1/BOX/115	
ENCODER	Digital native encoder SENSORLESS 48 PPR	
OPERATING CYCLES PER DAY (OPENING/CLOSING - 24 HOURS NO STOP)	1000	
MAXIMUM DIMENSION PRODUCT IN MM (L X W X H)	1088,5 x 120 x 165	
PRODUCT WEIGHT PACKED (KG)	9,8	

ATTENTION: reversibility is reduced for leaves less than 2500 mm.



Brushless Motor



Intensive Use



High Speed Motor



Reversible Motor



PACKAGING

BR20/400/R

L.: 113 cm

W.: 13 cm

H. 18 cm

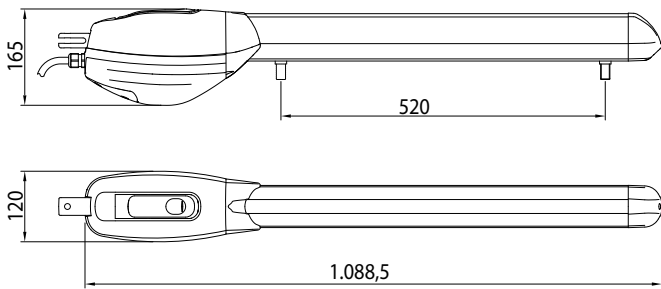
FUNCTIONS

OF AUTOMATED SLIDING GATE MOTOR

DESCRIPTION	BR20/400/R
MAXIMUM LENGTH OF SINGLE GATE LEAF	UP TO 4 METERS
DITAL CONTROLLER	EDGE1/BOX (since version P4.00)
RADIO RECEIVER TYPE	H93/RX20/I and H93/RX22A/I with fixed code connection H93/RX2RC/I with rolling code connection
MOTOR POWER SUPPLY	36V DC
MOTOR POWER CONTROL TECHNOLOGY (ETPC)	Field oriented control (FOC) SENSORLESS technology
ENCODER TYPE	Digital SENSORLESS, 48 PPR
MAINS POWER SUPPLY	230V 50/60 Hz
BATTERY OPERATION	(optional) 2 internal batteries (in digital controller box) 3x4,5 Amp/h
ENERGY CONSUMPTION	Very low consumption
NUMBER OF MOTORS	1 - 2 motors
POWER SUPPLY FOR ACCESSORIES	24V DC
FLASHING LIGHT TYPE	24V DC LED
OUTPUT FOR GATE OPENING INDICATOR AND AUTOMATION SYSTEM ON WARNING LIGHT	√
OUTPUT FOR COURTESY LIGHT	40W
TIMED AND GUARANTEED AUTOMATIC CLOSING	√
GATE EDGE SAFETY MANAGEMENT, 8.2KΩ OR STANDARD	√
LIMIT SWITCH TYPE	Adjustable open and closed position mechanical travel limits
SEPARATE MANAGEMENT FOR MOTOR 1 - 2	√
FORCE ADJUSTMENT IN NOMINAL MOVEMENT	√
FORCE ADJUSTMENT IN START-UP AND DECELERATION	√
OBSTACLE DETECTION - MOTOR REVERSAL	√
ADJUSTEMENT IMPACT FORCE SEPARATE MOTOR 2	√
SPEED ADJUSTMENT	√
DECELERATION	√
STARTING ACCELERATION (SOFT-START)	√
GUARANTEED CLOSING	√
WIND PROTECTION FUNCTION WITH GATE CLOSED	√
MOTOR STOPPING DISTANCE AND BRAKING DISTANCE	√
PARTIAL OPENING CONTROL	Pedestrian entry
HUMAN PRESENCE CONTROL	√
LOCK MANAGEMENT	√
CONDOMINIUM FUNCTION	√
SAFETY DEVICE CONFIGURATION	√
INSTALLATION TEST FUNCTION	(prog button)
OPERATING TEMPERATURE	-20°C/+55°C
INVERTER THERMAL PROTECTION	√
CURRENT ABSORPTION MAPPING SYSTEM	(MCA)
RESTORE FACTORY DEFAULT VALUES	√
INFORMATION ON USE OF MOTOR	√
B-CONNECT UNIT INPUT ON-BOARD	√
SECURITY PASSWORD MANAGEMENT	√

INSTALLATION

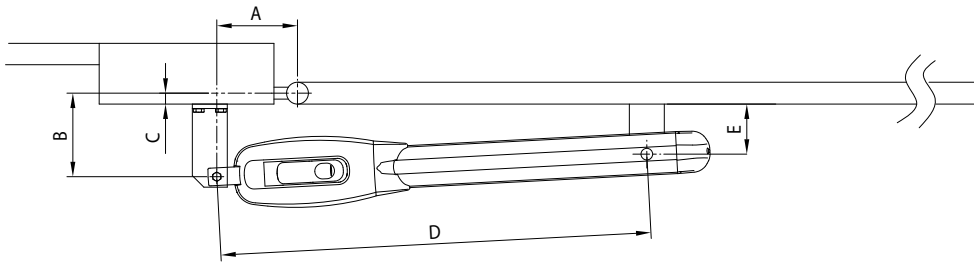
DIMENSIONS



BR20/400/R

Note: all measurements in the drawings are in millimetres

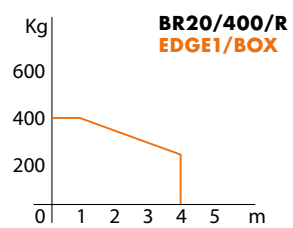
PREPARATIONS FOR STANDARD INSTALLATION



OPERATING LIMITS

BR20/400/R

A	B	α°
100	210	90°
150	210	90°
150	300	90°
250	180	110°
220	200	110°
180	130	120°
210	180	120°
C (max)	D (max)	E
190	950	123





OPTIONAL ACCESSORIES

EVERYTHING YOU NEED FOR A COMPLETE, PROFESSIONAL INSTALLATION

	KT201/R	Screw-welded Long front bracket		KT205/R	Kit of screw-adjustable long rear bracket and screw-welded long front bracket
	KT203/R	Screw-adjustable long rear bracket		R99/C/001	Signboard "Automatic Opening"

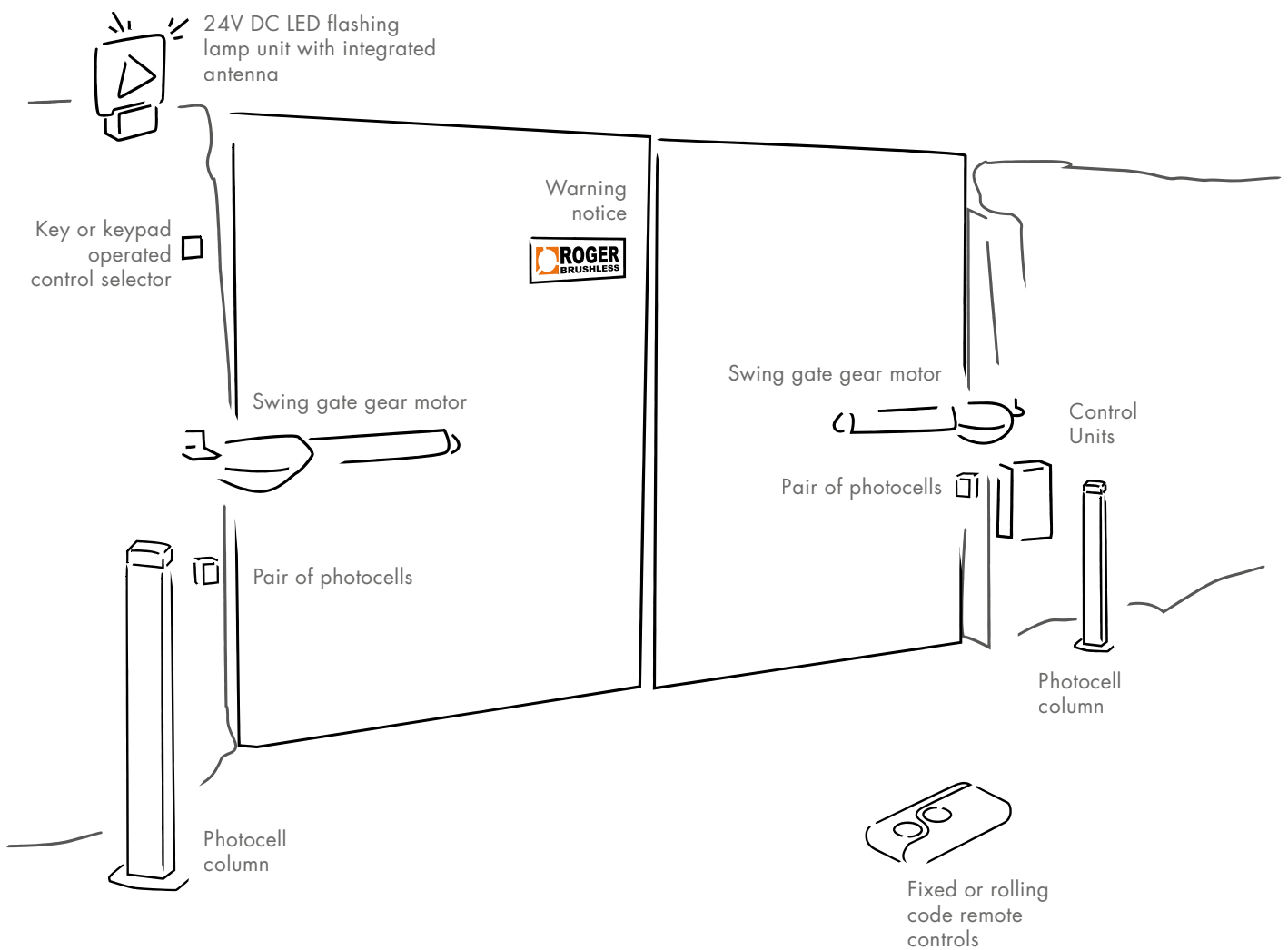
STANDARD ACCESSORIES

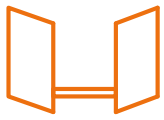
Always included in the individual product package or kit

					BR20/400/R
	MC781	Kit 2 mechanical stop BR20, BE20 series, R20/300MS and R20/500MS			✓
	KT205	Kit hinge plates long series			✓

STANDARD INSTALLATION

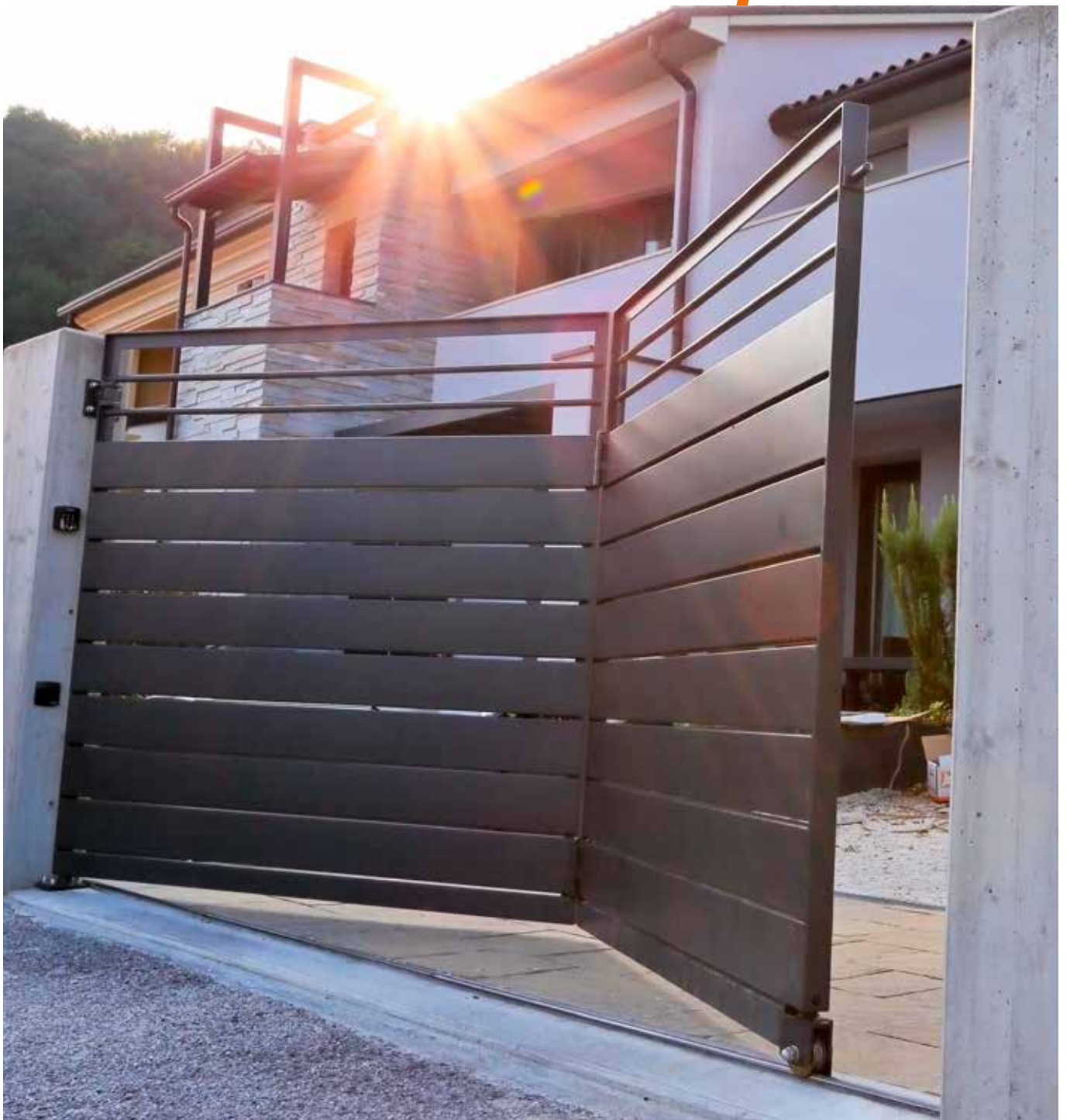
A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION





SWING GATE

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PREMIUM DEALER / PROFESSIONAL DEALER



100% Made in Italy

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