ROGER TECHNOLOGY

BE20 SERIES

Today's digital intelligence moves your gate.

WHY BRUSHLESS...?

Digital, smart, powerful,
elegant, robust
and all-Italian.

1 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.

2 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.

3 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.

4 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.

5 Adjustable, screw-mounted fastener brackets

The BE20 brushless swing gate motor is equipped with screw-mounted adjustable fastener brackets, making the motor even quicker and easier to install on the gate. The brackets are oversized and manufactured from hot-galvanised carbon steel, for superior durability and to keep the motor fastened securely in place. The rear bracket offers a choice of 5 predetermined adjustment positions.

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 BE20 is powered by low voltage (24V DC/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 Adjustable aluminium travel limits

The BE20 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. The travel limits are easily adjustable even with the motor already installed, by simply removing the aluminium cover.

8 Removable protection brushes

The extruded aluminium casing includes two specific guides for brushes preventing accidental contact and protecting and cleaning the worm gear and the relative fork. The brushes are removable and can even be replaced with the motor installed.

9 Elegant, reinforced aluminium casing

The casing covering the worm gear of the motor is manufactured from anodised aluminium, and features multiple reinforcement points along its entire length. The casing is fastened to the motor housing with through bolts crossing the full width of the casing.

10 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.

11 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.

12 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**

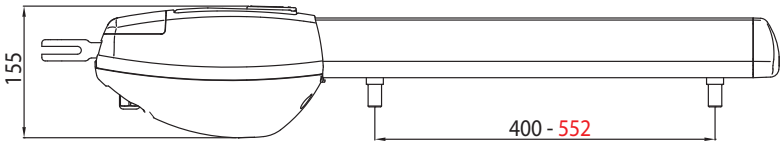
	BE20/200	BE20/200/HS	BE20/400
Maximum gate leaf length	Up to 2.5 metres per single leaf	Up to 2.5 metres per single leaf	Up to 4 metres per single leaf
Line power supply	230V AC - 115V AC 50/60Hz +-10%	230V AC - 115V AC 50/60Hz +-10%	230V AC - 115V AC 50/60Hz +-10%
Brushless motor power supply	24V	36V	36V
Rated power	200W	200W	200W
Frequency of use	Super Intensive	Super Intensive	Super Intensive
Operating temperature	-20 +55°C	-20 +55°C	-20 +55°C
Degree of protection	IP43	IP43	IP43
Maximum stroke	400 mm total	400 mm total	550 mm total
Time to open to 90°	15 - 25 s	10 - 15 s	17 - 26 s
Speed of operation	1,66 cm/s	3 cm/s RAPID	1,66 cm/s
Thrust	100 - 2200 N	100 - 2200 N	100 – 2800 N
Encoder	Digital native encoder	Digital native encoder	Digital native encoder
Limit switch type	2 adjustable open and closed position mechanical travel limits	2 adjustable open and closed position mechanical travel limits	2 adjustable open and closed position mechanical travel limits
Controller unit	B70/2DC/BOX	EDGE1/BOX (since version P3.05)	EDGE1/BOX (since version P3.20)
Daily operation cycles (open / close - 24 hours Non-stop)	800	800	1.000
Packaged product weight	8,0 kg	8,0 kg	8,5 kg
Release	Eccentric lever with key cylinder	Eccentric lever with key cylinder	Eccentric lever with key cylinder
Number of packages per pallet (single motor)	50	50	36
Number of packages per pallet (motor in kit form)	21	21	18

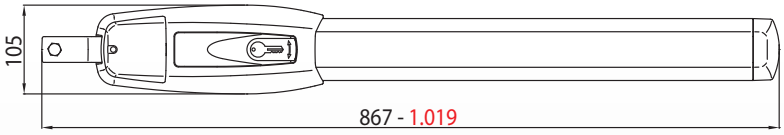
FUNCTIONS of automated swing gate motor

DESCRIPTION	BE20/200 - KIT BE20/210	BE20/200/HS	BE20/400 - KIT BE20/410
Maximum length of single gate leaf	up to 2.5 metres	up to 2.5 metres	up to 4 metres
Digital controller	B70/2DC/BOX (BE20/200)	EDGE1/BOX (since version P3.05)	EDGE1/BOX (since version P3.20)
Radio receiver type	H93/RX22A/I with fixed code connection H93/RX2RC/I with rolling code connection	H93/RX22A/I with fixed code connection H93/RX2RC/I with rolling code connection	H93/RX22A/I with fixed code connection H93/RX2RC/I with rolling code connection
Motor power supply	24V DC, with self-protected inverter	36V DC	36V DC
Motor power control technology (ETPC)	Field oriented control (FOC) with SENSORLESS technology	Field oriented control (FOC) with SENSORLESS technology	Field oriented control (FOC) with SENSORLESS technology
Encoder type	Digital SENSORLESS, 48 PPR	Digital SENSORLESS, 48 PPR	Digital SENSORLESS, 48 PPR
Mains power supply	230V 50/60 Hz	230V 50/60 Hz	230V 50/60 Hz
Battery operation	(optional) 2 internal batteries (in digital controller box) 12V DC, 1.2 Amp/h	(optional) 2 internal batteries (in digital controller box) 12V DC, 1.2 Amp/h	(optional) 2 internal batteries (in digital controller box) 12V DC, 1.2 Amp/h
	(optional) 2 external batteries 12V DC, 4.5 Amp/h	(optional) 2 external batteries 12V DC, 4.5 Amp/h	(optional) 2 external batteries 12V DC, 4.5 Amp/h
Energy consumption	Very low consumption	Very low consumption	Very low consumption
Number of motors	1 - 2 motors	1 - 2 motors	1 - 2 motors
Power supply for accessories	24V DC	24V DC	24V DC
Flashing light type	24V DC LED	24V DC LED	24V DC LED
Output for gate opening indicator and automation System on warning light	√	√	√
Output for courtesy light	40W	40W	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	Adjustable open and closed position mechanical travel limits	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	√	√	√
Separate impact force setting for 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	Pedestrian entry	Pedestrian entry
Human presence control	√	√	√
Lock management	√	√	√
Condominium function	√	√	√
Safety device configuration	√	√	√
Installation test function	(prog button)	(prog button)	(prog button)
Operating temperature	-20°C/+55°C	-20°C/+55°C	-20°C/+55°C
Inverter thermal protection	√	√	√
Current absorption mapping system	(MCA)	(MCA)	(MCA)
Restore factory default values	√	√	√
Information on use of motor	√	√	√
Security password management	√	√	√

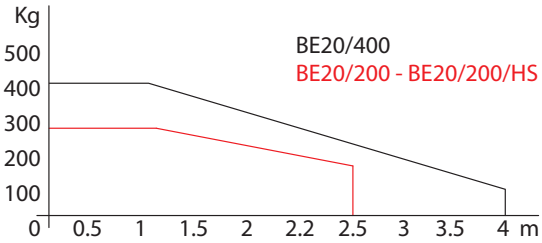
Dimensions

BE20/200 - BE20/200/HS
BE20/400





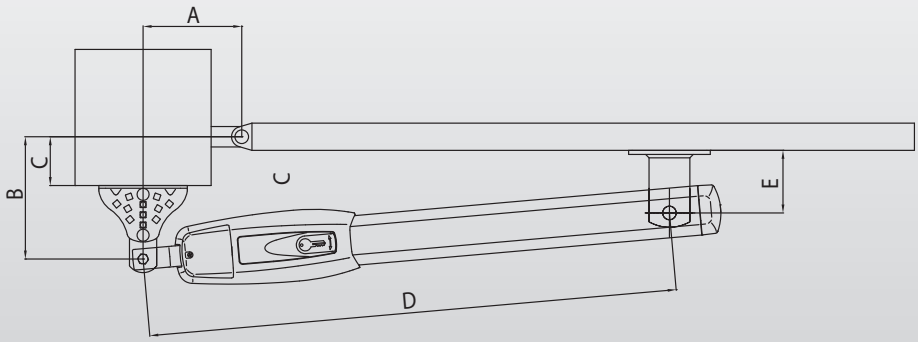
Operating limits



BE20/200 – BE20/200/HS (MAX RUN = 400 MM)					
A	B	C (max)	D (max)	E	α°
110	180	100	770	92	100°
110	210	100	770	92	95°
120	150	100	770	92	105°
120	200	100	770	92	100°
130	130	100	770	92	105°
150	130	100	770	92	120°
150	150	100	770	92	110°
150	200	100	770	92	100°
160	150	100	770	92	105°
160	160	100	770	92	100°

BE20/400 (MAX RUN = 550 MM)					
A	B	C (max)	D (max)	E	α°
120	180	150	922	125	100°
120	200	150	922	125	95°
150	180	150	922	125	105°
150	220	150	922	125	100°
170	200	150	922	125	105°
170	270	150	922	125	120°
200	200	150	922	125	110°
200	240	150	922	125	100°
220	180	150	922	125	110°
220	200	150	922	125	100°

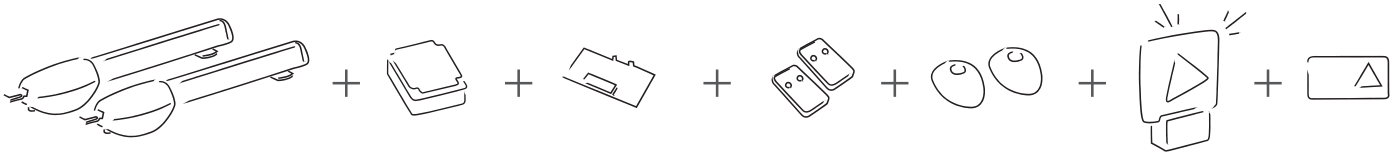
Preparations
for standard installation



kits

In **KIT BE20/210** for swing gates up to 2.5 m and **KIT BE20/410** for swing gates up to 4 m

Contents
of standard BE20 swing gate motor kit



2 swing gate motors

1 controller unit

1 radio receiver with 2 fixed code channels, H93 series

2 fixed code remote control units with copying function, E80 series

1 pair of photocells, R90 series

24V DC LED flashing lamp unit with integrated antenna

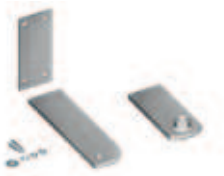
1 "Automatic Opening" warning notice

The composition of the kit is subject to change in the nature or quantity of the items. For the correct content of the kits always refer to the catalogue, the current sales price lists or the online product catalogue at WWW.ROGERTECHNOLOGY.COM

ACCESSORIES

BE20, everything you need for a complete, professional installation.

OPTIONAL ACCESSORIES

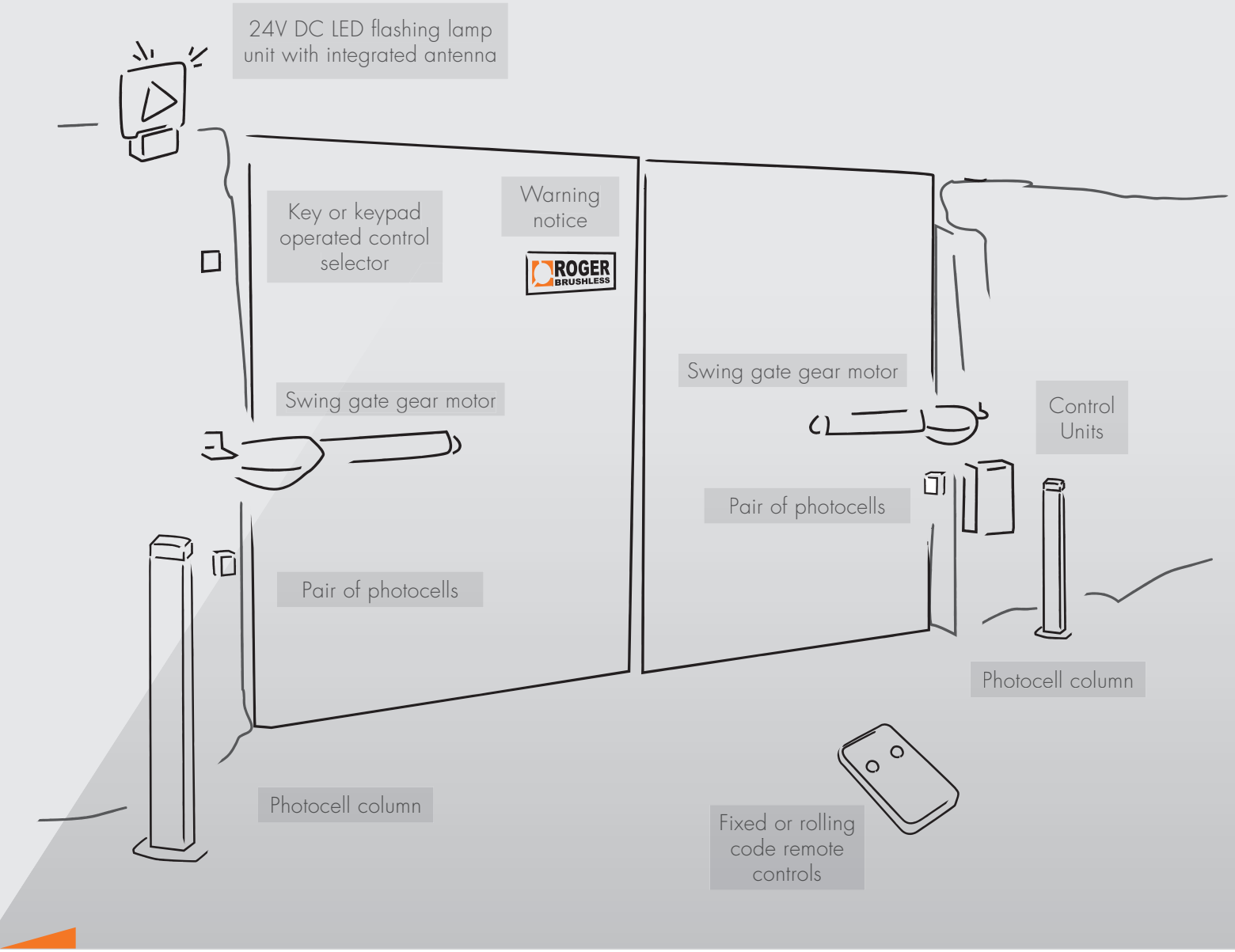
	KT201	Long front bracket, to weld, BE20/400 series		KT205	Kit with three long brackets to weld, BE20/400 series
	KT202	Short front bracket, to weld, BE20/200 - BE20/200HS series		KT206	Kit with three short brackets to weld, BE20/200 - BE20/200HS series
	KT203	Short rear bracket, to weld, BE20/400 series		R99/C/001	"Automatic Opening" warning notice
	KT204	Short rear bracket, to weld, BE20/200 - BE20/200HS series			

STANDARD ACCESSORIES (Always included in the individual product package or kit)

KT205/R
Kit long brackets
BE20/400 series

KT206/R
Kit short brackets
- BE20/200
- BE20/200HS

MC781
Two mechanical stop kits
- BE20/400
- BE20/200
- BE20/200HS



STANDARD INSTALLATION

a practical example
for your successful
installation