

# TOWER

## GATE AUTOMATION

01.2024

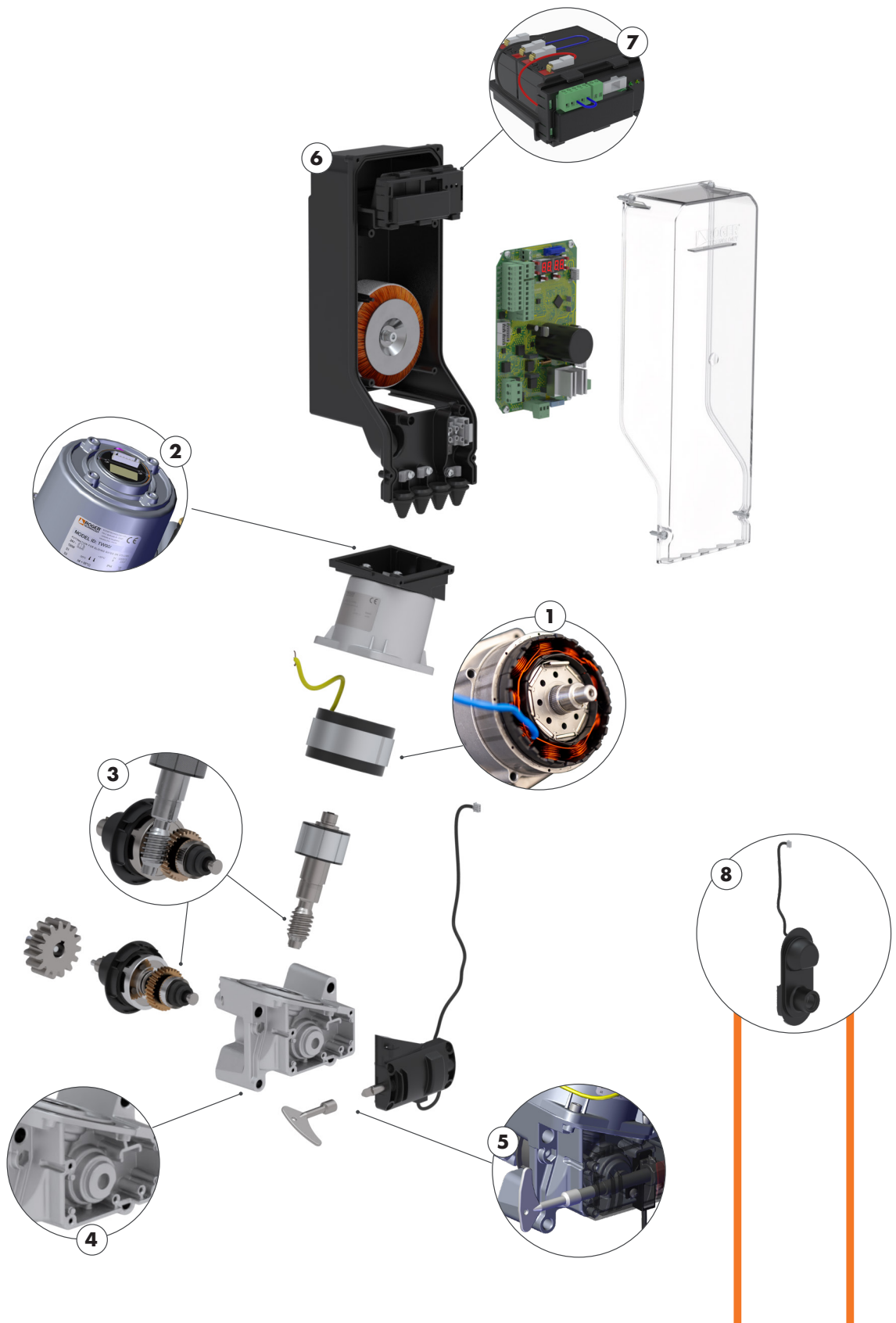
EDGE  
SMITH



# TW90 SERIES



AUTOMATION FOR COLUMN SLIDING GATES WITH BUILT-IN CONTROL UNIT UP TO 800kg



## 1 DIGITAL BRUSHLESS MOTOR

Digital Brushless motor based on a permanent magnetic field, which uses neodymium iron-boron magnets inside the rotor. With special concentrated coil windings, powered by a three-phase sinusoidal 24V AC power system, the motor is extremely compact and operates at ambient temperature, guaranteeing super-intensive use with extremely low consumption.

## 2 4096 PPR SENSORED DIGITAL ENCODER

4096 PPR high resolution magnetic encoder, it ensures an extremely accurate automation control in all its acceleration/deceleration movements, especially in obstacle detection phases.

## 3 PRECISION ENGINEERING

The gear motor is made entirely of aluminium, steel and bronze.  
All gears are assembled with superior quality double shielded ball bearings to ensure absolute precision between axes, and provide long-lasting, noiseless performances.

## 4 COMPACT AND VERSATILE

Thanks to our experience in sliding gate automation, we designed a compact, high-performing gearbox compatible with 135mm x 140mm columns.

## 5 LOCK RELEASE SYSTEM

Lock release system with trilobe key, available on both column sides.  
With magnetic release sensor that communicates the automation release status to the control unit.

## 6 BUILT-IN CENTRAL BOX

In this version, the new 24V digital controller B70/1T for TW90 automations is built-in and directly connected to the gearbox, through a prewired, ready-to-use safety box, which ensures an automation height up to 470mm.







## 7 STANDBY BATTERIES IN THE EVENT OF POWER FAILURE

No problem in the event of power failure! The system is preset to house two 12VDC 1.2 Amp/H batteries and the related charging board B71/BC, located in a protected position inside the control box.

## 8 OPTIONAL MAGNETIC LIMIT SWITCH

The automation can be equipped with a magnetic limit switch, through an optional accessory. The limit switch is shaped and can be installed into the automation, taking up as low space as possible.



CODE	DESCRIPTION	NUMBER ITEMS OF PALLET	PHOTO
TW90/600/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 600 kg with built-in digital controller B70 series, without limit switch	50	
TW90/800 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 800 kg with built-in digital controller B70 series, without limit switch	50	
TW90/800/R 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, reversible, ideal for sliding gates up to 800 kg with built-in digital controller B70 series, without limit switch	50	

The codes are available also in the 115V version: TW90/600/HS/115, TW90/800/115






## TECHNICAL SPECIFICATIONS

	TW90/600/HS	TW90/800	TW90/800/R
Drive type	IRREVERSIBLE	IRREVERSIBLE	REVERSIBLE
Mains power supply	230V~	230V~	230V~
Voltage from the control unit to the Brushless motor	24V~, variable frequency		
Inverter driven motor	field oriented control (FOC), sensored with high-resolution encoder		
Maximum power absorption	180 W	180 W	180 W
Starting power	270 W	290 W	320 W
Starting force	540 N	690 N	615 N
Maximum force (service S3 40%, -20°C +55°C)	250 N (@1530 RPM) (*)	385 N (@1200 RPM) (*)	270 N (@580 RPM) (*)
Nominal force (service S1 100%, -20°C +55°C)	210 N (@ 845 RPM)	190 N (@ 1200 RPM)	135 N (@ 600 RPM)
Sliding rate	5.7 - 25 m/min	7.4 - 12.3 m/min	5.7 - 18 m/min
Maximum leaf weight	600 kg	800 kg	800 kg
Maximum stroke length	20 m	20 m	20 m
Exit gear	Z15/mod4	Z15/mod4	Z15/mod4
Operating cycles (internally tested)	150000 (**)	150000 (**)	150000 (**)
Usage	INTENSIVE use (with nominal torque)		
Degree of protection	IP44	IP44	IP44
Operating temperature	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C
Maximum admissed gradient	0,5%	0,5%	0,5%
Sound pressure during use	<70 dB(A)	<70 dB(A)	<70 dB(A)
Operator weight	7,7 kg	7,7 kg	7,7 kg
Force to be applied on the mechanical release	10 N	10 N	10 N
Control unit	B70/1T	B70/1T	B70/1T

(\*) force allowing a 40% duty-cycle operation, at the RPM specified in the table, with ambient temperature of +55°C.

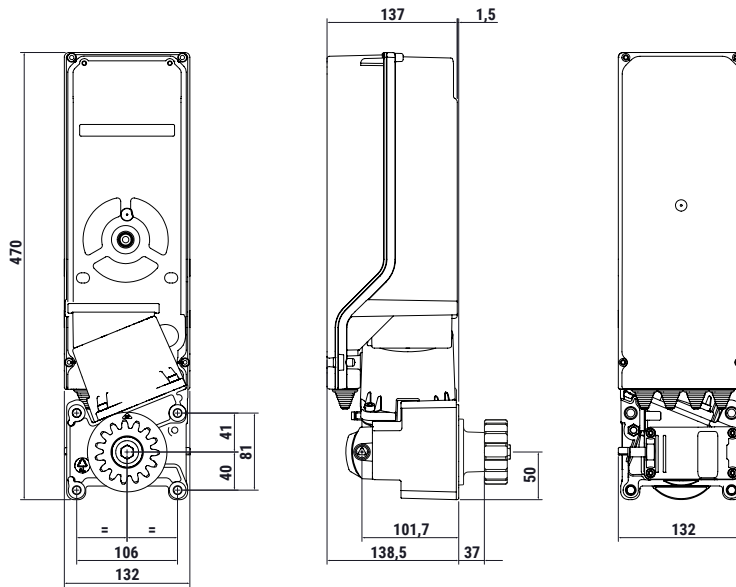
(\*\*) internal test verified at the nominal sliding gate value of 5 meters, at an ambient temperature of 20°C. The value specified is NOT the maximum value.

## ACCESSORIES

	<b>MC784</b>	Magnetic limit switch for TW90 with built-in control unit		<b>BT12V12</b>	Battery 12V 1.2 Ah (1 pc)
	<b>MC785</b>	Magnetic limit switch kit and brackets for TW90 with built-in control unit		<b>R99/C/001</b>	Signboard "Automatic Opening"
	<b>B71/BC</b>	Batteries charger for Brushless digital controller B70/1T (only for TW90 with built-in control unit)			

# INSTALLATION

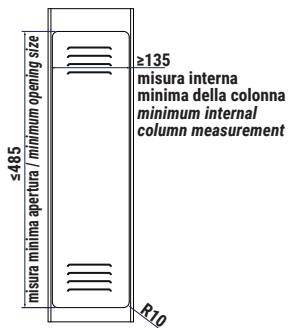
## DIMENSIONS



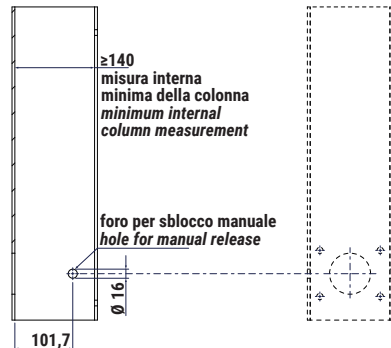
23

## COLUMN MOTOR INSTALLATION SET-UP

VISTA FRONTALE  
FRONTAL VIEW



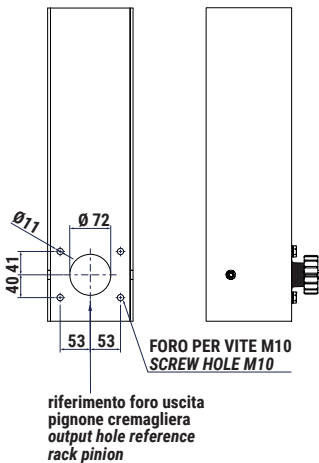
VISTA LATERALE  
LATERAL VIEW



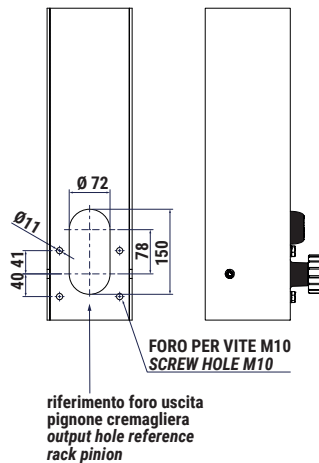
VISTA POSTERIORE  
BACK VIEW



PREDISPOSIZIONE PER FISSAGGIO  
MOTORIDUTTORE ALLA PARETE  
-SENZA FINECORSA-  
PREDISPOSITION FOR MOUNTING  
THE MOTOR TO THE WALL  
-WITHOUT LIMIT SWITCH-



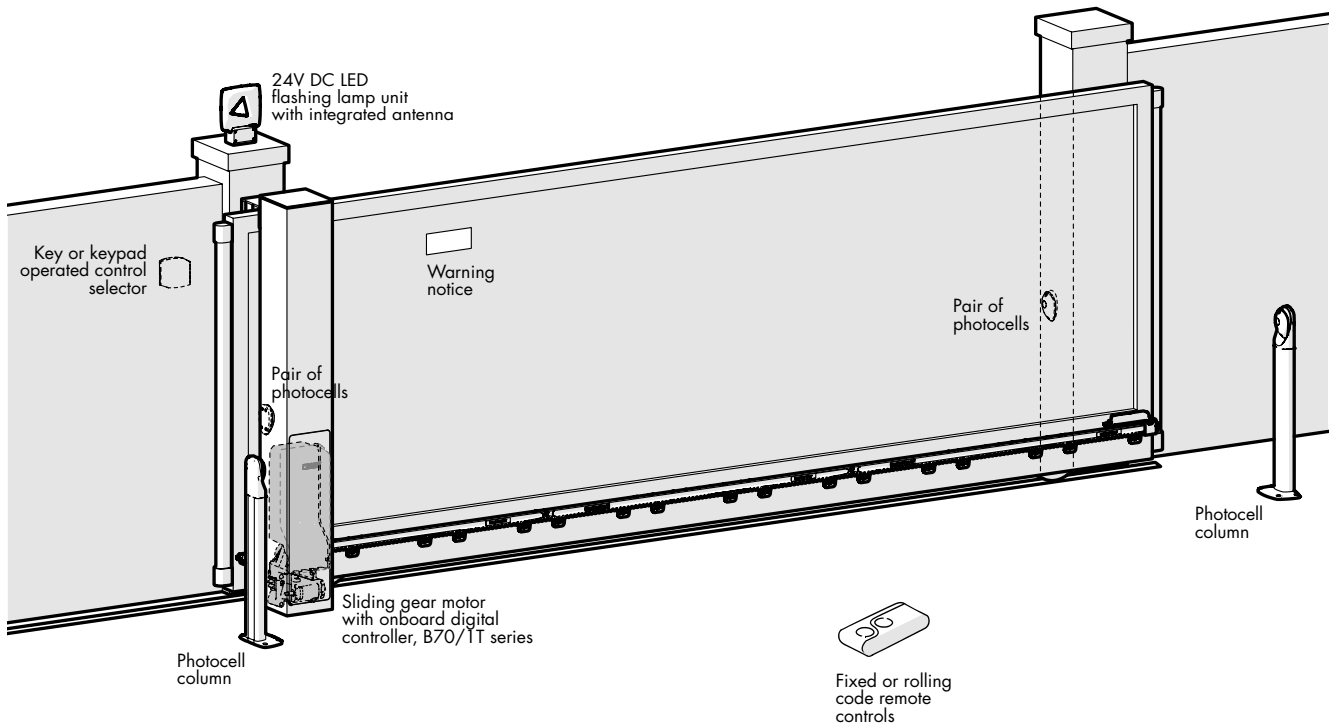
PREDISPOSIZIONE PER FISSAGGIO  
MOTORIDUTTORE ALLA PARETE  
-CON FINECORSA-  
PREDISPOSITION FOR MOUNTING  
THE MOTOR TO THE WALL  
-WITH LIMIT SWITCH-



25

# INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION



# GEAR MOTOR WITH SEPARATE CONTROL UNIT





# SERIE TW90



**AUTOMATIONS FOR COLUMN SLIDING GATES WITH  
PREWIRED CONTROL UNIT IN PLASTIC BOX UP TO 800kg**



## 1 DIGITAL BRUSHLESS MOTOR

Digital Brushless motor based on a permanent magnetic field, which uses neodymium iron-boron magnets inside the rotor. With special concentrated coil windings, powered by a three-phase sinusoidal 24V AC power system, the motor is extremely compact and operates at ambient temperature, guaranteeing super-intensive use with extremely low consumption.

## 2 4096 PPR SENSORED DIGITAL ENCODER

4096 PPR high resolution magnetic encoder, it ensures an extremely accurate automation control in all its acceleration/deceleration movements, especially in obstacle detection phases.

## 3 PRECISION ENGINEERING

The gear motor is made entirely of aluminium, steel and bronze.  
All gears are assembled with superior quality double shielded ball bearings to ensure absolute precision between axes, and provide long-lasting, noiseless performances.

## 4 COMPACT AND VERSATILE

Thanks to our experience in sliding gate automation, we designed a compact, high-performing gearbox compatible with 135mm x 140mm columns.

## 5 LOCK RELEASE SYSTEM

Lock release system with trilobe key, available on both column sides.  
With magnetic release sensor that communicates the automation release status to the control unit.

## 6 BUILT-IN CENTRAL BOX

In this version, the new 24V digital controller B70/1T dedicated to TW90 automations is housed in a special plastic box, separated from the gear box. This way, it can be easily installed at a height of 1 meter.







## 7 PREWIRED WIRINGS

The automation and digital controller box are supplied prewired for all motor, encoder, release sensor connections. Connections are achieved through high quality corrugated cable conduits for outdoor use.

## 8 OPTIONAL MAGNETIC LIMIT SWITCH

The automation can be equipped with a magnetic limit switch, through an optional accessory. The limit switch is shaped and can be installed into the automation, taking up as low space as possible.



CODE	DESCRIPTION	NUMBER ITEMS OF PALLET	PHOTO
TW90/620/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 600 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW90/820 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 800 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW90/820/R 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, reversible, ideal for sliding gates up to 800 kg with digital controller series B70 in prewired plastic box, without limit switch	30	

The codes are available also in the 115V version: TW90/620/HS/115, TW90/820/115




## TECHNICAL SPECIFICATIONS

	TW90/620/HS	TW90/820	TW90/820/R
Drive type	IRREVERSIBLE	IRREVERSIBLE	REVERSIBLE
Mains power supply	230V~	230V~	230V~
Voltage from the control unit to the Brushless motor	24V~, variable frequency		
Inverter driven motor	field oriented control (FOC), sensored with high-resolution encoder		
Maximum power absorption	180 W	180 W	180 W
Starting power	270 W	290 W	320 W
Starting force	540 N	690 N	615 N
Maximum force (service S3 40%, -20°C +55°C)	250 N (@1530 RPM) (*)	385 N (@1200 RPM) (*)	270 N (@580 RPM) (*)
Nominal force (service S1 100%, -20°C +55°C)	210 N (@ 845 RPM)	190 N (@ 1200 RPM)	135 N (@ 600 RPM)
Sliding rate	5.7 - 25 m/min	7.4 - 12.3 m/min	5.7 - 18 m/min
Maximum leaf weight	600 kg	800 kg	800 kg
Maximum stroke length	20 m	20 m	20 m
Exit gear	Z15/mod4	Z15/mod4	Z15/mod4
Operating cycles (internally tested)	150000 (**)	150000 (**)	150000 (**)
Usage	INTENSIVE use (with nominal torque)		
Degree of protection	IP44	IP44	IP44
Operating temperature	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C
Maximum admissoned gradient	0,5%	0,5%	0,5%
Sound pressure during use	<70 dB(A)	<70 dB(A)	<70 dB(A)
Operator weight	5,4 kg (motor) 4,6 kg (box)	5,4 kg (motor) 4,6 kg (box)	5,4 kg (motor) 4,6 kg (box)
Force to be applied on the mechanical release	10 N	10 N	10 N
Control unit	B70/1T	B70/1T	B70/1T

(\*) force allowing a 40% duty-cycle operation, at the RPM specified in the table, with ambient temperature of +55°C.

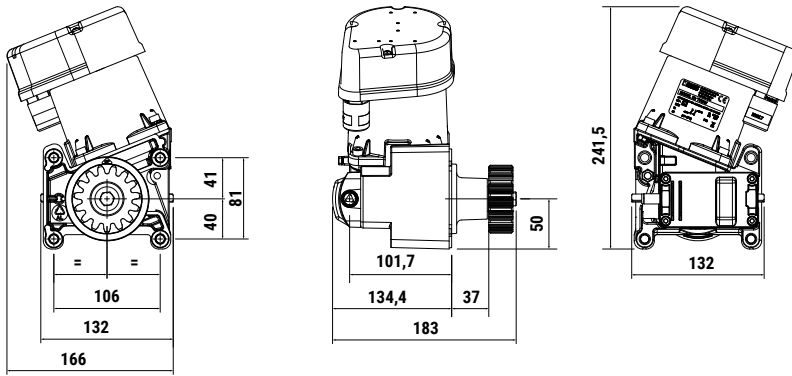
(\*\*) internal test verified at the nominal sliding gate value of 5 meters, at an ambient temperature of 20°C. The value specified is NOT the maximum value.

## ACCESSORIES

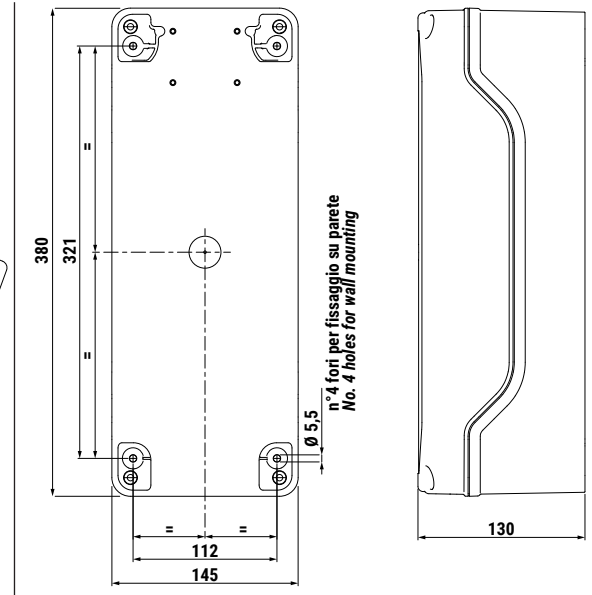
	<b>MC788</b>	Magnetic limit switch for TW90 with control unit in separate box		<b>R99/C/001</b>	Signboard "Automatic Opening"
	<b>MC789</b>	Magnetic limit switch kit and brackets for TW90 with control unit in separate box			

# INSTALLATION

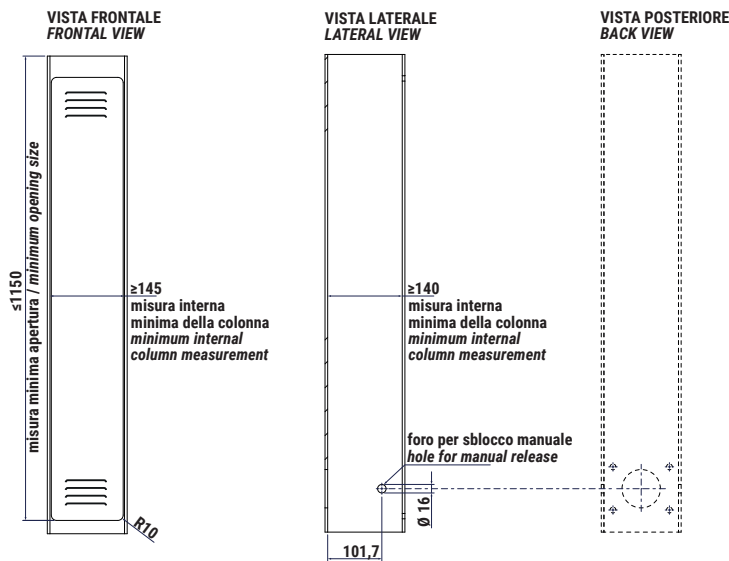
## DIMENSIONS



## CONTROL UNIT DIMENSIONS

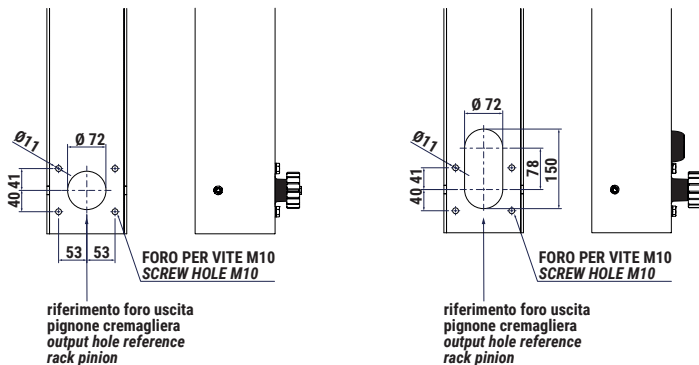


## COLUMN MOTOR INSTALLATION SET-UP



PREDISPOSIZIONE PER FISSAGGIO MOTORIDUTTORE ALLA PARETE -SENZA FINECORSA-  
 PREDISPOSITION FOR MOUNTING THE MOTOR TO THE WALL -WITHOUT LIMIT SWITCH-

PREDISPOSIZIONE PER FISSAGGIO MOTORIDUTTORE ALLA PARETE -CON FINECORSA-  
 PREDISPOSITION FOR MOUNTING THE MOTOR TO THE WALL -WITH LIMIT SWITCH-



FORO PER VITE M10  
 SCREW HOLE M10

riferimento foro uscita pignone cremagliera  
 output hole reference rack pinion

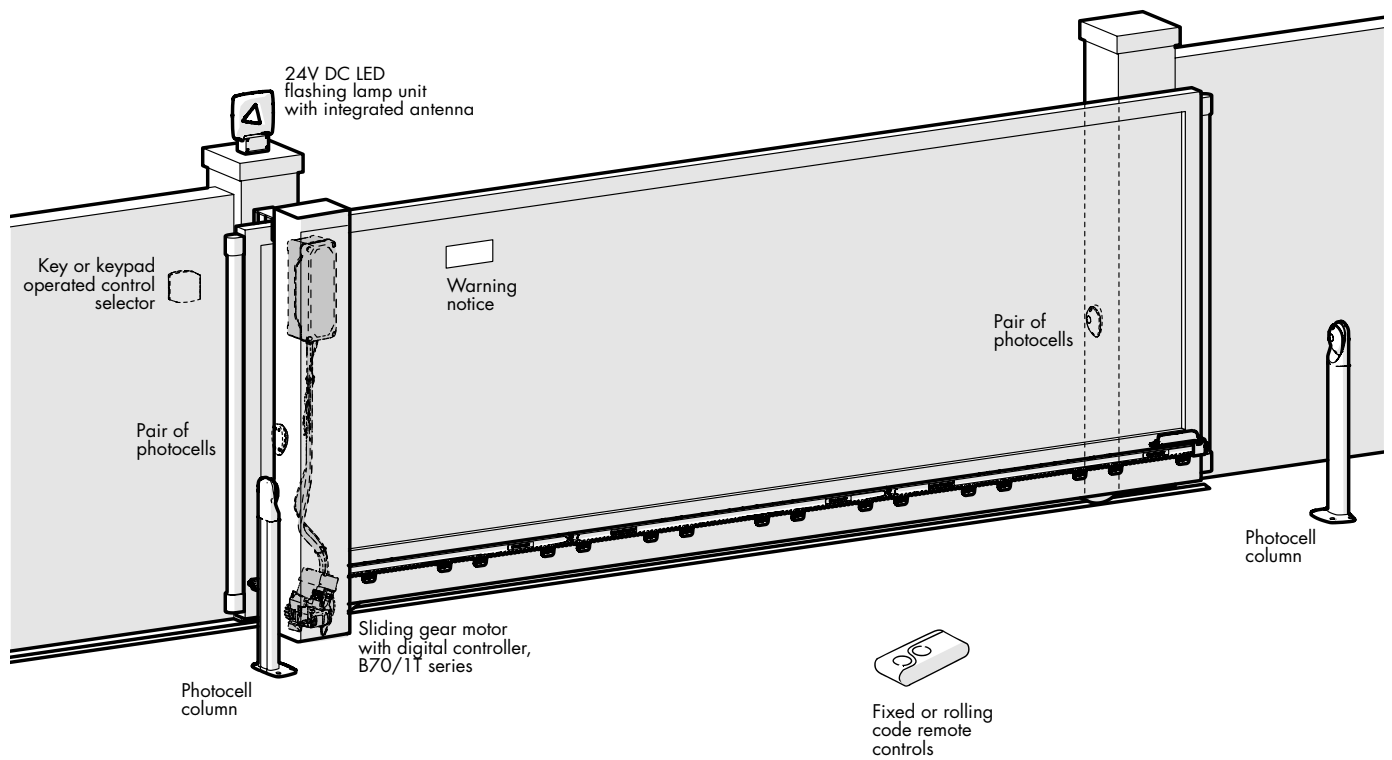
FORO PER VITE M10  
 SCREW HOLE M10

riferimento foro uscita pignone cremagliera  
 output hole reference rack pinion

31

# INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION



# GEAR MOTOR TW110



# SERIE TW110



**AUTOMATIONS FOR COLUMN SLIDING GATES WITH  
PREWIRED CONTROL UNIT IN PLASTIC BOX UP TO 2000kg**





1

## DIGITAL BRUSHLESS MOTOR

Digital Brushless motor based on a permanent magnetic field, which uses neodymium iron-boron magnets inside the rotor. With special concentrated coil windings, powered by a three-phase sinusoidal 36V AC power system, the motor is extremely compact and operates at ambient temperature, guaranteeing super-intensive use with extremely low consumption.

2

## 4096 PPR SENSORED DIGITAL ENCODER

4096 PPR high resolution magnetic encoder, it ensures an extremely accurate automation control in all its acceleration/deceleration movements, especially in obstacle detection phases.

3

## PRECISION ENGINEERING

The gear motor is made entirely of aluminium, steel and bronze.  
All gears are assembled with superior quality double shielded ball bearings to ensure absolute precision between axes, and provide long-lasting, noiseless performances.

4

## ADJUSTABLE PINION

Pinion easily adjustable on 7 positions. With the through type pinion shaft, the pinion distance can be adjusted via 5 mm steps, up to a maximum extension of 30mm. Available with pinion module 4 and module 6 (optional).

5

## LOCK RELEASE SYSTEM

Internal lever unlocking system equipped with a magnetic release sensor, which allows the control unit to be informed of the unlocking status of the automation.

6

## BUILT-IN CENTRAL BOX

In this version, the new 36V digital controller B70/1THP dedicated to TW110 automations is housed in a special plastic box, separated from the gear box. This way, it can be easily installed at a height of 1 meter.

7

## PREWIRED WIRINGS

The automation and digital controller box are supplied prewired for all motor, encoder, release sensor connections. Connections are achieved through high quality corrugated cable conduits for outdoor use.









8

## OPTIONAL MAGNETIC LIMIT SWITCHES

The automation can be equipped with magnetic limit switches, through an optional accessory. Magnetic limit switches are screw adjustable, and are supplied in pairs of two NORD-SUD pieces.





CODE	DESCRIPTION	NUMBER ITEMS OF PALLET	PHOTO / PRICE
TW110/1000/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 1000 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW110/1200/R 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, reversible, ideal for sliding gates up to 1200 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW110/1600/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 1600 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW110/2000 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 2000 kg with digital controller series B70 in prewired plastic box, without limit switch	30	

The codes are available also in the 115V version: TW110/1000/HS/115, TW110/1600/115, TW110/2000/115






## TECHNICAL SPECIFICATIONS

	TW110/1000/HS	TW110/1200/R	TW110/1600/HS	TW110/2000
Drive type	IRREVERSIBLE	REVERSIBLE	IRREVERSIBLE	IRREVERSIBLE
Mains power supply	230V~	230V~	230V~	230V~
Voltage from the control unit to the Brushless motor	36V~, variable frequency			
Inverter driven motor	field oriented control (FOC), sensored with high-resolution encoder			
Maximum power absorption	240 W	240 W	240 W	240 W
Starting power	570 W	500 W	560 W	500 W
Starting force	1150 N	1150 N	1250 N	1700 N
Maximum force (service S3 40%, -20°C +55°C)	270 N (@1000 RPM) (*)	300 N (@520 RPM) (*)	380 N (@1220 RPM) (*)	570 N (@1100 RPM) (*)
Nominal force (service S1 100%, -20°C +55°C)	190 N (@ 730 RPM)	230 N (@ 470 RPM)	230 N (@ 940 RPM)	300 N (@ 1100 RPM)
Sliding rate	5.7 - 25 m/min	5.7 - 17 m/min	5.7 - 21 m/min	5.7 - 12 m/min
Maximum leaf weight	1000 kg	1200 kg	1600 kg	2000 kg
Maximum stroke length	25 m	25 m	25 m	25 m
Exit gear	Z20/mod4	Z17/mod4	Z17/mod4	Z17/mod4
Operating cycles (internally tested)	150000 (**)	150000 (**)	150000 (**)	150000 (**)
Usage	INTENSIVE use (with nominal torque)			
Degree of protection	IP44	IP44	IP44	IP44
Operating temperature	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C
Maximum admissoned gradient	0,5%	0,5%	0,5%	0,5%
Sound pressure during use	<70 dB(A)	<70 dB(A)	<70 dB(A)	<70 dB(A)
Operator weight	12,5 kg (motor) 4,6 kg (box)	12,1 kg (motor) 4,6 kg (box)	12,3 kg (motor) 4,6 kg (box)	12,1 kg (motor) 4,6 kg (box)
Force to be applied on the mechanical release	15N	15N	15N	15N
Control unit	B70/1THP	B70/1THP	B70/1THP	B70/1THP

(\*) force allowing a 40% duty-cycle operation, at the RPM specified in the table, with ambient temperature of +55°C.

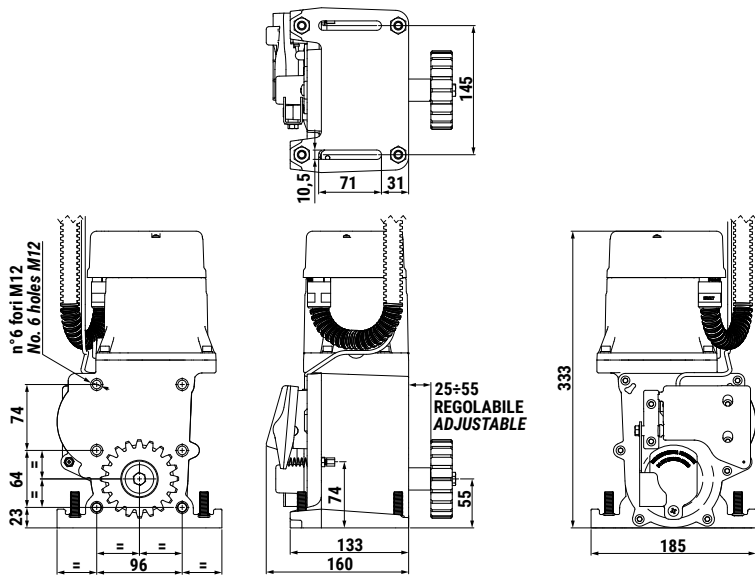
(\*\*) internal test verified at the nominal sliding gate value of 5 meters, at an ambient temperature of 20°C. The value specified is NOT the maximum value.

## ACCESSORIES

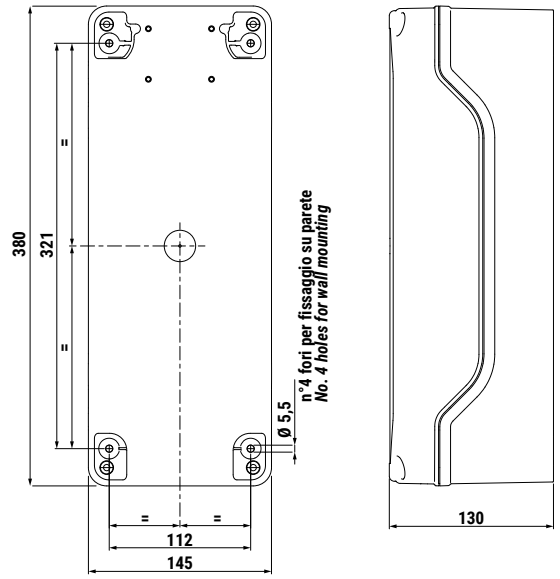
	<b>MC786</b>	NORD-SUD magnetic limit switches for TW110		<b>B71/BCHP/BOX</b>	Kit for emergency batteries charger for Brushless digital controller B70/1THP 36V DC. Box case included and without recovery batteries
	<b>MC787</b>	NORD-SUD magnetic limit switch kit and brackets for TW110		<b>R99/C/001</b>	Signboard "Automatic Opening"
	<b>B71/BCHP/EXT</b>	Kit for emergency batteries charger for Brushless digital controller B70/1THP 36V DC with plug-in card, with 2 recovery batteries 12V DC, 4.5 Ah. Box case included			

# INSTALLATION

## DIMENSIONS



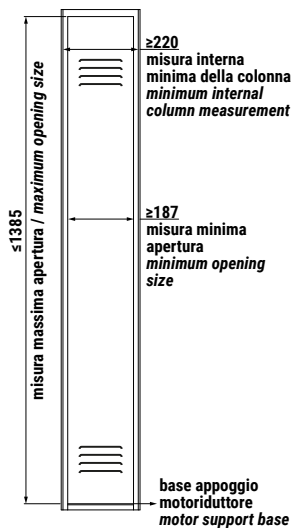
## CONTROL UNIT DIMENSIONS



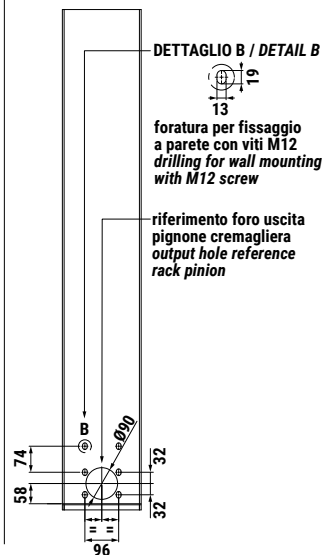
## COLUMN MOTOR INSTALLATION SET-UP

VISTA FRONTALE  
FRONTAL VIEW

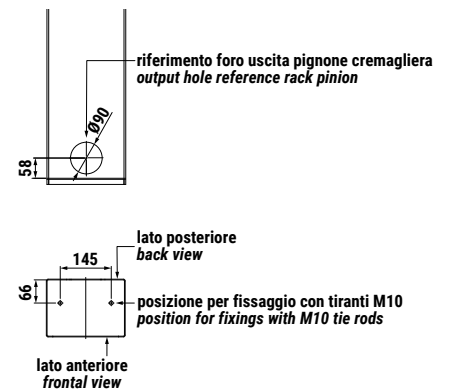
VISTA LATERALE  
LATERAL VIEW



PREDISPOSIZIONE PER FISSAGGIO  
MOTORIDUTTORE ALLA PARETE  
PREDISPOSITION FOR MOUNTING  
THE MOTOR TO THE WALL



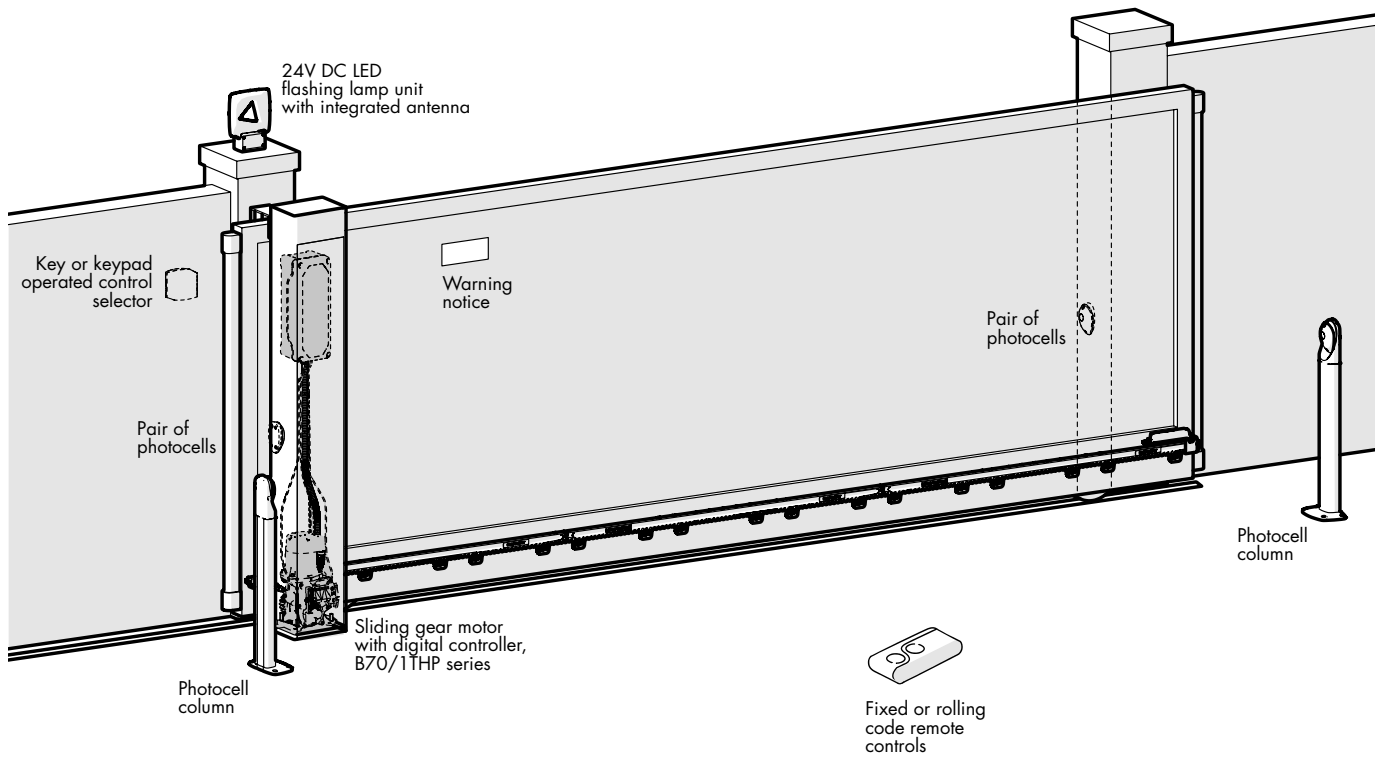
PREDISPOSIZIONE PER FISSAGGIO  
MOTORIDUTTORE ALLA BASE  
PREDISPOSITION FOR MOUNTING  
THE MOTOR TO THE BASE



# INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION

37





PREMIUM DEALER / PROFESSIONAL DEALER



[crew@edgesmith.com.au](mailto:crew@edgesmith.com.au)

[edgesmith.com.au](http://edgesmith.com.au)

---

## BRISBANE

55 Kabi Circuit,  
Deception Bay QLD 4508

T: 07 3707 6450

---

## MELBOURNE

Unit 6, 49 Bertie St  
Port Melbourne VIC 3207

T: 0418 326 138