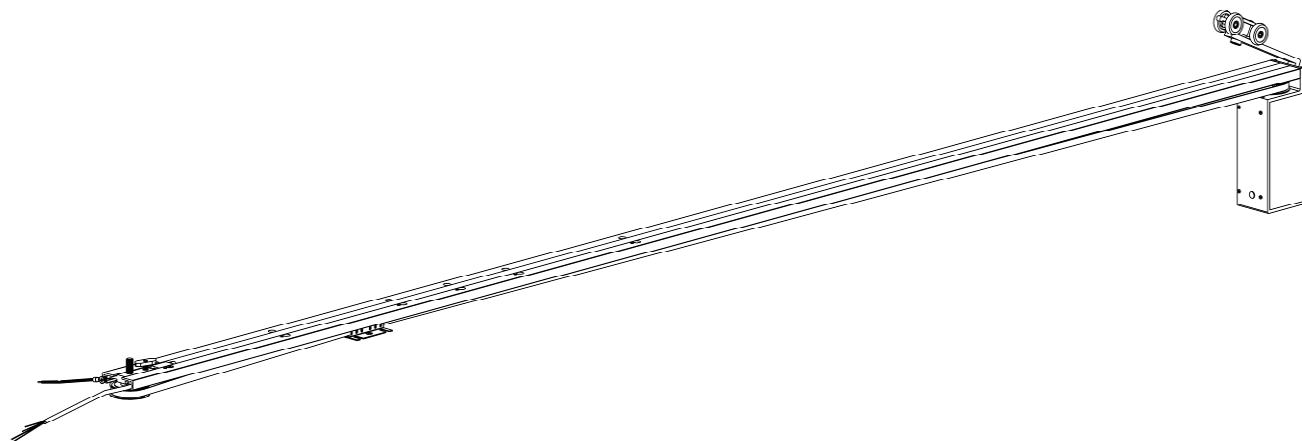




# ASSEMBLY MANUAL AUTOMATION KIT OPEN1000 - OPEN1200



Name	<b>AUTOMATION FOR INTERIOR SLIDING DOORS</b>
Function	<b>MOTORIZED OPENING AND CLOSURE OF SLIDING DOORS</b>
Model	<b>OPEN</b>
Code	<b>30199 - 30201</b>
Construction year	
Serial number	

**CONTENTS**

CHAP. 0. PACKAGING CONTENTS .....	4
CHAP. 1. CONTENTS AND CONSULTATION INSTRUCTIONS.....	1
1.1. FOREWORD .....	1
1.2. PURPOSE OF THIS ASSEMBLY MANUAL .....	1
1.2.1. IMPORTANCE OF THIS ASSEMBLY MANUAL.....	1
1.2.2. PURPOSE / AIM OF THIS ASSEMBLY MANUAL.....	1
1.2.3. PERSONS FOR WHOM THIS MANUAL IS INTENDED .....	2
1.2.4. CONSERVATION OF UPDATES, ADDITIONS AND REPLACEMENTS.....	2
1.2.5. GENERAL INFORMATION / CONSULTATION.....	2
1.3. MEANING OF SYMBOLS .....	3
1.4. DEFINITIONS.....	5
1.5. HOW TO READ THIS ASSEMBLY MANUAL .....	6
CHAP. 2. GENERAL INFORMATION AND CHARACTERISTICS .....	1
2.1. TECHNICAL CHARACTERISTICS .....	1
2.1.1. PURPOSE – AIM – CONSTRUCTION COMPONENTS .....	1
2.1.2. BASIC CONFIGURATION.....	2
2.1.3. PERFORMANCE.....	3
2.1.4. TECHNICAL AND CONSTRUCTION SPECIFICATIONS .....	3
2.2. PRODUCTS ADDRESSED .....	3
2.3. CONDITIONS OF SERVICE .....	4
2.4. NORMAL INSTALLATION.....	4
CHAP. 3. ITEMS SUPPLIED.....	1
3.1 IDENTIFICATION .....	1
3.2 CERTIFICATION OF THE AUTOMATION KIT .....	2
3.3 DECLARATION OF INCORPORATION .....	3
CHAP. 4. SAFETY INSTRUCTIONS .....	1
4.1. FOREWORD .....	1
4.2. OBLIGATIONS AND DUTIES .....	1
4.2.1. OBLIGATIONS OF THE EMPLOYER.....	1
4.2.2. GENERAL REQUIREMENTS FOR PERSONNEL .....	2
4.3. WORK AND TRANSIT ENVIRONMENTS AND PLACES .....	3
4.4. GENERAL STANDARDS FOR THE PROTECTION OF THE AUTOMATION KIT .....	4
4.5. MOVEMENT OF STRUCTURES.....	4
4.6. PERSONAL PROTECTION EQUIPMENT AND EMERGENCY ASSISTANCE .....	4
4.7. INDICATIONS OF RESIDUAL RISKS PRESENT .....	5
4.8. SAFETY NOTICES.....	7
4.9. DESCRIPTION OF SAFETY FUNCTIONS.....	7
4.10. INTEGRATION OF THE AUTOMATION KIT FOR SAFETY PURPOSES .....	8
CHAP. 5. TRANSPORT, INSTALLATION AND MOVEMENT .....	1
5.1. INSTALLER REQUIREMENTS.....	1
5.2. WORK POSITIONS AND TASKS OF THE INSTALLER .....	1
5.3. REQUIREMENTS FOR INSTALLATION .....	1
5.4. STORAGE, TRANSPORT AND MOVEMENT .....	2
5.4.1. TRANSPORT, LIFTING AND MOVEMENT – GENERAL RULES.....	2
5.4.2. DIMENSIONS AND WEIGHTS OF SINGLE COMPONENTS .....	3
5.5. REDUCTION OF LENGTH.....	5
5.6. ASSEMBLY SEQUENCE .....	8
5.7. POWER SUPPLIES .....	13
5.7.1. ELECTRICAL POWER.....	13
5.8. INSTALLATION ON EXISTING DOOR.....	16
5.9. INSTALLATION ON NEW DOOR .....	17
CHAP. 6. MAINTENANCE, TRACING FAULTS AND CLEANING.....	1
6.1. MAINTENANCE TECHNICIAN REQUIREMENTS .....	1
6.2. WORK POSITIONS AND TASKS OF THE MAINTENANCE TECHNICIAN .....	1
6.3. REQUIREMENTS FOR MAINTENANCE.....	2
6.3.1. ACCESSIBILITY AND IDENTIFICATION .....	2
6.4. CLEANING / LUBRICATION .....	3
6.5. NON-ROUTINE MAINTENANCE.....	4

Document

MAN\_Automazione\_Porte\_Open\_rev0\_01-10-12\_EN

Chapter

0

Page

3

of

4

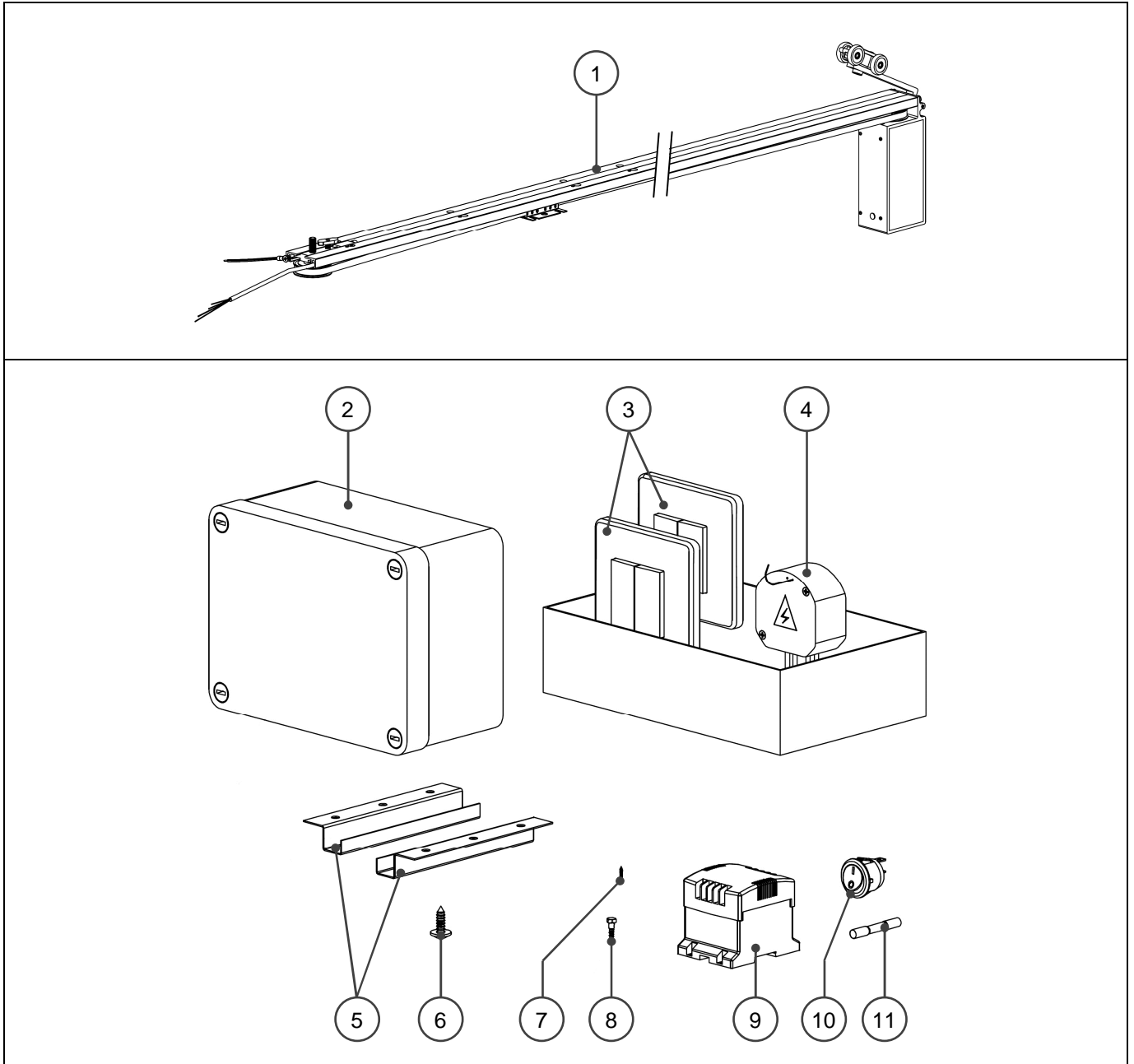
Vers.

00

---

6.6. TRACING FAULTS.....	5
6.7. REINSTALLATION AND REUSE .....	5
6.8. FIRE EXTINGUISHING DEVICES .....	5
CHAP. 7. DISPOSAL.....	1
7.1. GENERAL INFORMATION .....	1
7.2. DEMOLITION AND DISPOSAL .....	1
CHAP. 8. APPENDICES / ANNEXES .....	1
8.1. MAINTENANCE REGISTER FOR THE AUTOMATION KIT .....	1
CHAP. 9. IDENTIFICATION DATA .....	1
9.1. MANUFACTURER .....	1
9.2. DOCUMENT .....	1

### CHAP. 0. PACKAGING CONTENTS



REF.	DESCRIPTION
1	1 Motor unit with cables length 1 metre
2	1 Box for installation on existing frame
3	2 plates with transmitters
4	1 receiver
5	2 brackets for fixing motor unit
6	6 self-tapping screws Ø 4.2x13

REF.	DESCRIPTION
7	1 self-tapping screw Ø 2.9x13
8	2 wood screws 5x20
9	1 transformer
10	1 single-pole switch
11	5 heat-shrink joints

## CHAP. 1. CONTENTS AND CONSULTATION INSTRUCTIONS

### 1.1. FOREWORD

Dear Customer.

Thank you for having chosen the automation kit addressed by this assembly manual. We hope you will always be satisfied with it. This product has been manufactured in conformity with the strictest safety standards applicable in the European Union.

**The automation kit addressed by this manual may not be put into operation before the assembly into which it will be incorporated or of which it will form a part has been identified and declared conformant to the provisions of Directive 2006/42/EC.**

To guarantee personal safety, the automation kit addressed by this assembly manual must be moved, installed, used, serviced and dismantled/eliminated scrupulously following the instructions provided in this assembly manual and in compliance with applicable legal requirements.

### 1.2. PURPOSE OF THIS ASSEMBLY MANUAL

#### 1.2.1. IMPORTANCE OF THIS ASSEMBLY MANUAL

This manual must be considered to be **an integral part of the automation kit**:

- it must be conserved for the entire lifespan of the automation kit;
- it must accompany the automation kit if it is ever transferred to other owners.

#### 1.2.2. PURPOSE / AIM OF THIS ASSEMBLY MANUAL



This manual is an integral part **of the automation kit**, and has been entirely compiled by the manufacturer with the aim of providing the necessary information to those persons authorized to interact with it.

The manual describes the state of the product at the moment of its publication, and can in no way describe future or non-standard products.

The contents of this manual have been checked for correctness and conformity to the product described. It is not however possible to guarantee the absence of possible differences.

All products or trademarks listed in this manual belong to their respective owners.

The purpose of this assembly manual is to provide the assembler with all necessary information to ensure that the same is able to assemble the product in the most independent and safest way possible:

- Correct promotion of the awareness of personnel on the problems of safety;
- Handling of the packed and unpacked automation kit in conditions of safety;
- Correct installation of the automation kit;
- Thorough knowledge of its operation and limits;
- Carrying out maintenance operations correctly and safely;
- Dismantling the automation kit in conditions of safety and in compliance with applicable standards safeguarding worker health and the environment.



In accordance with applicable standards, the installer is obliged to carefully read the contents of this document and to have users read the sections of the documents that are applicable to them.

The document presupposes that applicable standards of work safety and health are complied with in the environments where the automation kit is intended to be used.

The texts, illustrations and diagrams contained in the instructions are of a confidential technical nature and are the property of the company Scrigno S.p.A. Unipersonale, and may not be reproduced partially or in their entirety in any way or form whatsoever, either electronically or mechanically, for any purpose whatsoever, without the prior written authorization of Scrigno S.p.A. Unipersonale.



Before carrying out any operations with the automation kit, the installer must carefully read this assembly manual.

This manual is an essential and integral part of the automation kit. It contains important information that

is fundamental to be able to work correctly in conditions of maximum safety.

The automation kit must be used only for the use for which it has been expressly designed, programmed and marketed.

Any use of the automation kit in ways other than those indicated in Section 2.1.1 must be considered to be improper, and the manufacturer therefore declines all liability in case of any such use.

The manufacturer may not be considered responsible for any malfunctions that may be caused by unreasonable, improper or incorrect use.

The installer of the automation kit must extremely carefully read and understand the information provided in this assembly manual.

In case of doubts on the correct interpretation of the instructions, the manufacturer of the automation kit must be consulted so as to obtain the necessary clarifications.

### 1.2.3. PERSONS FOR WHOM THIS MANUAL IS INTENDED

This manual, consigned as a single copy together with the automation kit, is supplied as an integral part of the automation kit, and is intended for the qualified technicians assigned to the installation and maintenance of the automation kit.

Scrigno S.p.A. Unipersonale, the manufacturer of the automation kit, declines all and any liability for injuries or damage caused by failure to observe this instruction.

The installer for whom the automation kit is intended must read this manual so as to be able to take all appropriate technical and organizational measures to reduce to a minimum the risks associated with the assembly of the automation kit. The installer must also take into consideration all possible emergency situations that may arise during operations of installation, repair, maintenance, cleaning, disassembly and dismantling, taking into account the work environment in which the automation kit is intended to operate.

### 1.2.4. CONSERVATION OF UPDATES, ADDITIONS AND REPLACEMENTS



- This manual must be conserved and made available.
- If this manual is damaged or lost, another copy can be requested from the manufacturer Scrigno S.p.A. Unipersonale.
- This manual reflects the state of technical knowledge at the moment of manufacture of the automation kit. The manufacturer reserves the right to update products, and consequently to update further editions of the instruction manual, with no obligation to update previous products or instruction manuals, except in particular cases regarding the health and safety of persons.
- If the automation kit is ever transferred to other owners, the user is invited to also transfer this manual, which must accompany the automation kit even in case of transfer to other owners.



- Scrigno S.p.A. Unipersonale reserves the right to modify and improve the design of the automation kit without notifying customers of the same, and without updating the assembly manual already provided.
- Scrigno S.p.A. Unipersonale assumes responsibility for the descriptions given in the Italian language. Any translations made cannot be fully verified, and in case therefore of discrepancies, reference should be made to the original version in Italian, and if necessary contact our sales office, which will make any modifications considered to be appropriate.

### 1.2.5. GENERAL INFORMATION / CONSULTATION



- Use the automation kit correctly.
- Observe and apply the safety instructions given in the assembly manual.
- Pay particular attention to the contents of **Chapter 4**, which highlights the residual risks present on the automation kit and the respective safety instructions that must be observed.
- Scrigno S.p.A. Unipersonale considers itself responsible for the automation kit in its original configuration.
- Scrigno S.p.A. Unipersonale does not consider itself responsible for injuries or damage caused by the improper or incorrect use of the automation kit and of documentation.
- Scrigno S.p.A. Unipersonale does not consider itself responsible for injuries or damage caused by non-compliance with compulsory requirements, negligence, inexperience, imprudence and failure to respect standards.
- Scrigno S.p.A. Unipersonale does not consider itself responsible for the consequences of the use of non-original spare parts.
- When consulting this manual the symbol shown to the side will be seen.

This symbol is associated with the words: DANGER, CAUTION.

This denotes the presence of a hazardous situation, which may cause injuries or damage if the correct precautions are not taken.

- The entire automation kit supplied presents no hazards if it is used following the instructions provided, as long as safety devices are kept in conditions of constant efficiency.



### CAUTION

For motives of clarity, some illustrations presented in this manual may show the automation kit or parts of the same with panels or protections removed.

**DO NOT use the automation kit in these conditions.**

**The automation kit can operate only if complete with all protections.**



Before carrying out any operations whatsoever on the automation kit, take careful note of the labels applied to the kit itself.

During activities of all types, safety devices must not be tampered with or disconnected for any reason whatsoever, and must not be bypassed or used for purposes other than those envisaged by the manufacturer.

After any operation, safety devices must be replaced and rendered fully operational.

In case of deterioration or illegibility of notices, replacements must be requested immediately from the supplier of the automation kit.

## 1.3. MEANING OF SYMBOLS

Clear indications are given below on the meanings of symbols and of the definitions used in this document.



### DANGER

Indicates the presence of a hazard for persons working with the automation kit and for persons in the vicinity; the activity warned of must be carried out in compliance with the applicable safety standards and with the instructions provided in this manual.



### PRECAUTION

Indicates a warning providing useful information and/or further advice and/ or precautions regarding the operation being carried out.



### CAUTION

Indicates an operation to be carried out with due caution to avoid damaging the automation kit.



### MECHANICAL MAINTENANCE TECHNICIAN

Qualified and authorized technician capable of installing the automation kit and carrying out routine maintenance and/or repairs of a mechanical nature only.







### ELECTRICAL MAINTENANCE TECHNICIAN

Qualified and authorized technician capable of installing the automation kit and carrying out routine maintenance and/or repairs of an electrical nature only.

### SAFETY SYMBOLS

Safety symbols enclosed by a triangle indicate DANGER; safety symbols enclosed by a circle indicate a PROHIBITION. Examples of safety symbols.

Symbol	Name
	Electrical hazard.
	Crushing hazard.
	Trapping hazard.
	Generic hazard.
	Moving parts.
	Do not perforate structural components.
	Do not remove safety devices.
	Prohibited to clean, oil, grease, repair or manually adjust moving parts.
	Prohibited to carry out work before disconnecting electrical power supplies.
	Use of protective gloves compulsory.
	Use of safety footwear compulsory.
	Safety helmet compulsory.
	Protection of body compulsory.



## 1.4. DEFINITIONS

### DANGER ZONE

Any zone inside and/or near the automation kit where the presence of an exposed person would constitute a risk for the health and safety of this person (Annex I, Art. 1.1.1. Directive 2006/42/EC).

### EXPOSED PERSON

Any person wholly or partially in a danger zone (Annex I, Art. 1.1.1, Directive 2006/42/EC).

### INSTALLER / ASSEMBLER / MAINTENANCE TECHNICIAN

Person assigned to the installation and/or maintenance of the automation kit according to its intended use, and to CE marking and the application of Machinery Directive 2006/42/EC to the finished assembly.

### QUALIFICATIONS OF INSTALLER / ASSEMBLER / MAINTENANCE TECHNICIAN

Minimum level of skills required by personnel to carry out the operations described.

### AUTOMATION KIT

The subject of this manual. By itself it is not able to guarantee any specific function. The automation kit is intended solely for incorporation in an assembly to compose and machine regulated by the applicable directive.

### FIXED GUARD

Guard kept in position (closed) either permanently or by means of fixing components that make it impossible to remove/open without the use of tools.

### INTENDED USE

Use of the automation kit in conformity with the information provided in this document.

### RESIDUAL RISKS

Hazards that it has not been possible to eliminate or reduce sufficiently in the design process, and against which protection devices are not (or are not totally) effective. Information is given in this manual on the presence of these risks, together with instructions and warnings that allow them to be overcome (see, respectively, sections 5.4 and 6.5.1 of European standards EN ISO 12100-1 and EN ISO 12100-2).

### MANUFACTURER

Producer of the automation kit.

### EMPLOYER

The company, including its managing director, which is responsible for the installation of the automation kit addressed by this manual.

### USER

The person intended to use the automation kit, incorporated or assembled in an assembly to constitute a machine regulated by the applicable directive.

## 1.5. HOW TO READ THIS ASSEMBLY MANUAL

This assembly manual is divided into separate chapters, each of which is intended for one or more specific persons (electrical installer/maintenance technician, mechanical installer/maintenance technician). Each chapter defines the skills necessary to work on the automation kit in conditions of safety.

To make texts more immediately understandable, a number of expressions, abbreviations and symbols are used, with meanings as indicated both in previous chapters and below:

- Chap. = Chapter
- Sect. = Section
- P. = Page
- RA = Risk analysis
- PPE = Personal protection equipment
- RR = Residual risk
- EP = Electrical panel
- FG = Fixed guard(s)

This manual is composed of a front cover, a summary of contents and a number of chapters.

## CHAP. 2. GENERAL INFORMATION AND CHARACTERISTICS

### 2.1. TECHNICAL CHARACTERISTICS

#### 2.1.1. PURPOSE – AIM – CONSTRUCTION COMPONENTS

The “**OPEN**” **AUTOMATION KIT FOR INTERIOR SLIDING DOORS** addressed by this manual is a motorized movement system hereinafter called the "automation kit", designed and manufactured for the command and control of a sliding disappearing door, for pedestrian passage.

The door is of the disappearing type with one panel suspended from two hangers, sliding horizontally. It can be installed in "Gold Base" frames.

The opening command is given by pressing a button or by using a microwave radar control, which opens the door by detecting the presence of a person. The door closes automatically after an interval of time.

Opening and closure movements are powered by low voltage, and if an obstacle is encountered during closure, the direction of movement is reversed.

The kit can be installed on either an existing or a new structure, and the holes provided on profile bars allows its length to be reduced for doors with a smaller opening width.

The installation methods take into consideration that the automation kit and its control devices cannot be used by children or by persons with disabilities, and that they may never be used by children to play with.

**The automation kit is intended to be inserted into an assembly or integrated with other devices. The installer and/or assembler are responsible for CE marking and for the application of Machinery Directive 2006/42/EC to the finished assembly.**

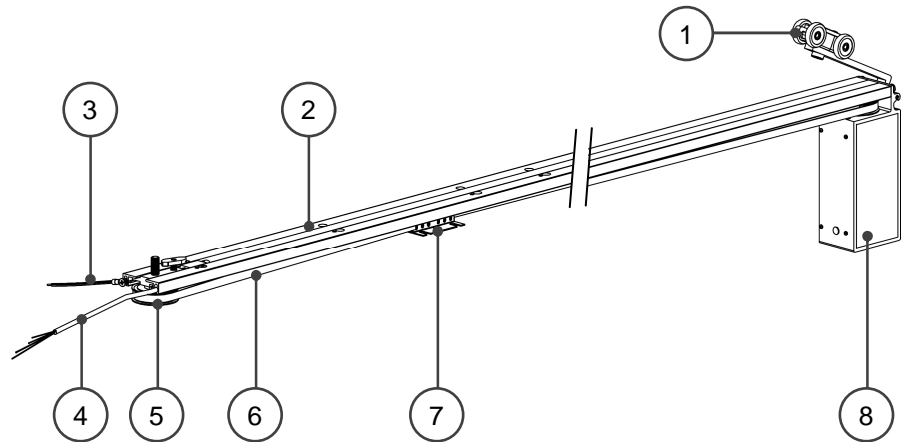
The automation kit is of the stationary type, and has been designed for installation and fixing inside the frame of a sliding disappearing door.

The automation kit is intended to be integrated and installed **only by professional operators** and not by consumers.

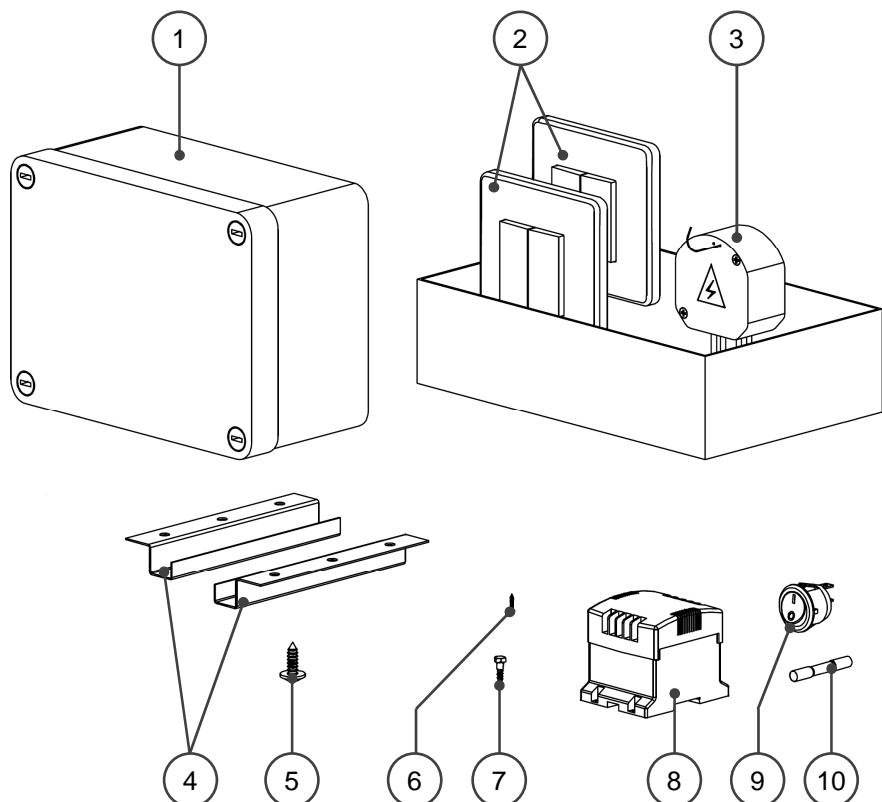
### 2.1.2. BASIC CONFIGURATION

The basic configuration of the automation kit is composed of a series of functional units, including:

1. Runner for insertion and fixing on the motor side.
2. Two aluminium profile bars, pre-drilled for any necessary width reduction.
3. Cable for ground connection, length 1 metre.
4. Multi-pole cable for electrical connections, length 1 metre.
5. Idler pulley for belt return, fixed to the tightening device.
6. Toothed drive belt.
7. Plate for belt jointing and fixing to door panel, allowing it to move.
8. Metal housing containing the command and control card for the system. The housing also contains the electric motor that drives the toothed wheel.



1. External box with IP 56 rating, 150x110x70, to contain electrical equipment; used in case of installation on existing frames.
2. Two plates with buttons and radiofrequency transmitters for door opening commands.
3. Radiofrequency receiver.
4. Two brackets to fix the profile bars to the upper part of the sliding door frame.
5. Six self-tapping screws to fix the brackets.
6. One self-tapping screw  $\varnothing$  2.9x13.
7. Two wood screws to fix the plate.
8. Transformer.
9. Single-pole switch.
10. Five heat-shrink joints.



### 2.1.3. PERFORMANCE

As devised, designed and constructed, the automation kit addressed by this manual:

- a. if used in compliance with the safety requirements indicated in **Chapter 4**;
- b. if used in compliance with the specific instructions indicated in **Chapter 5**;
- c. if subjected to maintenance and regularly cleaned, as indicated in **Chapter 6**;

has an expected operational life of 10 years, starting from the date of the first use and with the frequency of use indicated in the technical specifications.

### 2.1.4. TECHNICAL AND CONSTRUCTION SPECIFICATIONS

#### i. Dimensions of automation kit

a. Length (Open1000/Open1200)	2020/2420 mm
b. Width	52 mm
c. Height	202 mm
d. Weight	~6 kg

#### ii. Technical data

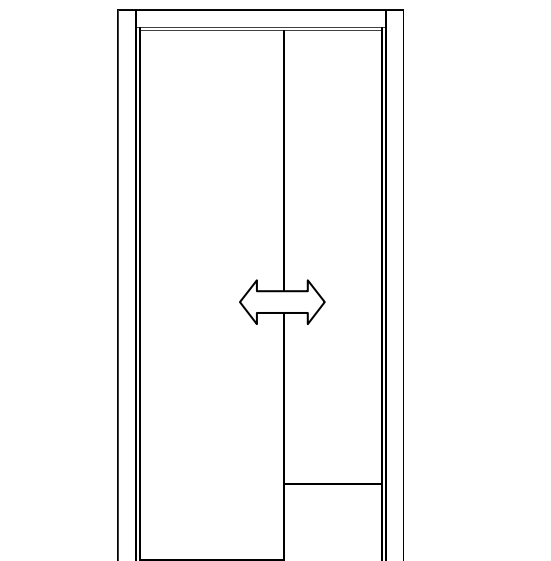
a. Maximum/minimum weight of sliding door to be moved	40 / 10 kg
b. Maximum/minimum width of door frame opening width	1200 / 600 mm
c. Maximum door closing speed	0.28 m/sec
d. Pause time before door closure	5 – 20 sec
e. Force necessary to prevent door closure	~60 N
f. Force necessary to start door movement in absence of electrical power	~15 N
g. Force necessary to keep door in movement in absence of electrical power	~10 N
h. Number of movement cycles during operational life	100,000
i. Frequency of use for openings – closures / day	25

#### iii. Electrical technical data

a. Power supply	1 N PE	230 V AC	50 Hz
b. Power input	0.2 A		

## 2.2. PRODUCTS ADDRESSED

The products integrated with the automation kit addressed by this manual must consist in sliding doors of various dimensions and finishes made from wood and similar materials, constructed/modified to protect or isolate all zones of shearing, crushing and dragging. The arrow indicates the direction of horizontal sliding.



### 2.3. CONDITIONS OF SERVICE

Installation location	Interior
Maximum ambient air temperature	+40°C
Minimum ambient air temperature	+ 5°
Transport and storage temperature	Between -25°C and +55°C
Minimum lighting necessary for installation	600 lux
The automation kit is <b>not suitable</b> for operation in environments where contaminant substances are present, such as for example dust, acids, corrosive gases and similar.	
The automation kit is <b>not suitable</b> for operation in environments where potentially explosive atmospheres classified as Zone 0 or Zone 1 or Zone 2 are present.	
The automation kit is <b>not suitable</b> for operation in environments where ionizing or non-ionizing radiation is present, such as for example microwaves, ultraviolet rays, lasers, X-rays and similar.	
The electrical equipment is <b>not suitable</b> for combination with machines or for operation in environments where vibrations and impacts are present.	

### 2.4. NORMAL INSTALLATION

The automation kit described in this manual is intended to be installed by a trained INSTALLER made aware of the residual risks, with the safety skills possessed by maintenance technicians and with professional expertise as indicated in **Chapter 4**.

In its NORMAL and reasonably foreseeable installation, the automation kit can be installed only in accordance with the methods defined in this manual.

Installation of the automation kit for applications other than those indicated in this manual must be considered to be improper, and is therefore absolutely prohibited.

The following are also compulsory:

1. the automation kit must be installed only by an installer made aware of all the functions, performance features and hazards inherent to the automation kit;
2. ensure that no exposed persons are present in the area involving the automation kit before starting any kind of operation.



This manual lists and describes the residual risks that it has not been possible to eliminate in the design process and that remain in the automation kit.

For every risk, instructions or precautions that the installer must take to avoid hazards are provided.

For safety reasons, during work operations the presence of other persons in the zone around the automation kit is not permitted.



The manufacturer may not be considered responsible for any malfunctions that may be caused by unreasonable, improper or incorrect installation.

The installer is however responsible for any damage or injuries caused by the failure to respect the specified installation conditions.

In addition, the installer is always responsible for providing items of personal protection equipment.

## CHAP. 3. ITEMS SUPPLIED

### 3.1 IDENTIFICATION

The identification plate of the automation kit is applied to the motor housing, and gives the following information:

Scrigno SpA Unipersonale Via Casale S. Ermete n. 975 47822 - Santarcangelo di Romagna (RN) - Italy		  
DESIGNAZIONE	AUTOMAZIONE PER PORTE INTERNE SCORREVOLI	
MODELLO	OPEN	
PORTATA	40 Kg max	
ALIMENTAZIONE	230 Vac 50/60 Hz	
ASSORBIMENTO	0,2 A	
TEMPERATURA DI ESERCIZIO	min 5° C - max 40° C	
PESO	~ 6 Kg	
CODICE	<input type="checkbox"/> 30199 OPEN 1000 <input type="checkbox"/> 30201 OPEN 1200	
ANNO DI COSTRUZIONE	_____	
MATRICOLA	_____	
CONTROLLO	FIRMA: _____	DATA: _____
  		

### 3.2 CERTIFICATION OF THE AUTOMATION KIT

Directive 2006/42/EC specifies the minimum conditions with which an automation kit can be placed onto the market in the European Union.

To certify the conformity of the automation kit to the provisions of the Machinery Directive, before placing it onto the market, Scrigno S.p.A. Unipersonale arranged for the tests required by the essential safety requirements indicated in the Declaration of Incorporation and the trials envisaged by the reference standards to be carried out, including an analysis of risks so as to verify precise conformity with the health and safety requirements applied and fulfilled.

The relevant technical documentation, comprising fundamental design data and all characteristics relating to the safety of the automation kit, has been compiled in conformity with the provisions of Annex VII of Directive 2006/42/EC, is kept on record at our offices, and is available for verification by supervisory bodies following a motivated request thereto, as envisaged by applicable legislative provisions.

Having verified that the automation kit has been designed and constructed in conformity with the provisions of Directive 2006/42/EC by means of the aforesaid analyses, and that the kit can be placed onto the market in the conditions envisaged by this manual, Scrigno S.p.A. Unipersonale hereby places the automation kit onto the market, providing and accompanying it with:

- Declaration of Incorporation
- Assembly Manual



### 3.3 DECLARATION OF INCORPORATION

The undersigned, representing the following manufacturer

Manufacturer	Scrigno S.p.A. Unipersonale
Address	975 Via Casale Sant'Ermete, 47822 Santarcangelo di Romagna (RN) - Italy

conserves the relevant technical documentation at

Name	Scrigno S.p.A. Unipersonale
Address	975 Via Casale Sant'Ermete, 47822 Santarcangelo di Romagna (RN) - Italy

declares here below that the automation kit

Name	<b>AUTOMATION FOR INTERIOR SLIDING DOORS</b>
Function	<b>MOTORIZED OPENING AND CLOSURE OF SLIDING DOORS</b>
Model	<b>OPEN</b>
Code	<b>30199 - 30201</b>
Serial number / Lot serial number	
Construction year	

is conformant to the following essential safety requirements of Machinery Directive 2006/42/EC, applied and fulfilled:

No.	Description
1.1.5	Design of machinery to facilitate its handling
1.2.2	Control devices
1.2.6	Failure of the power supply
1.3.1	Risk of loss of stability
1.5.4	Errors of fitting

It is also declared that the "Relevant Technical Documentation" has been compiled in conformity with Part B or Annex VII of Machinery Directive 2006/42/EC.

It is also declared that the automation kit is conformant to the applicable sections of the following directives:

2004/108/EC - Electromagnetic Compatibility Directive

In response to an adequately motivated request from a national authority, the manufacturer undertakes to transmit relevant information regarding the automation kit, as a hard paper copy and/or in an electronic format.

**THE AUTOMATION KIT ADDRESSED BY THIS DECLARATION MUST NOT BE PUT INTO SERVICE UNTIL THE FINAL MACHINERY INTO WHICH IT IS TO BE INCORPORATED OR OF WHICH IT WILL BE A COMPONENT HAS BEEN IDENTIFIED AND DECLARED TO BE IN CONFORMITY WITH THE PROVISIONS OF DIRECTIVE 2006/42/EC. THIS MEANS UNTIL THE AUTOMATION KIT ADDRESSED BY THIS DECLARATION CONSTITUTES AN ASSEMBLY OF MACHINERY SUBJECT TO THE APPLICATION OF DIRECTIVE 2006/42/EC.**

LIMITATIONS AND CRITERIA AND METHODS FOR INTEGRATION ARE INDICATED IN THE ASSEMBLY MANUAL.

**Santermete di Santarcangelo** (place)    **01/10/12** (date)

 (signature)

## CHAP. 4. SAFETY INSTRUCTIONS

### 4.1. FOREWORD



**ALWAYS RESPECT SAFETY INSTRUCTIONS.**

**FAILURE TO APPLY SAFETY STANDARDS AND PROCEDURES MAY BE A SOURCE OF HAZARDS AND OF INJURY TO PERSONNEL OR DAMAGE TO THE AUTOMATION KIT.**

The safety instructions indicated in the assembly manual are of a general nature, and although they are based on experience, they do not cover all situations that may occur.

The manual supplements and does not replace the constant application by the installer of the automation kit of the basic safety standards of which persons working in the specific field are aware.

It is therefore advisable to observe the standards of safety and prevention already used in the places where the automation kit will be installed.



**Section 4.7** highlights the residual risks present in the automation kit despite the correct application of design and safety standards. Indications are also provided on the precautions that must be applied by the installer to reduce and/or eliminate the residual risks highlighted.

**Section 4.8** describes the safety notices present on the automation kit, and those that must be applied on the automation kit or in its vicinity.

The automation kit supplied by us has installation limits with regard to:

1. all rules for its introduction into the environment and for human behaviour established by applicable laws and/or standards, with particular reference to the automation kit supplied and its electrical connections;
2. all further instructions and warnings for use forming part of the technical/graphic documentation attached.

The automation kit must be installed, protected, serviced and finally dismantled (when no longer required for use) in such a way as to avoid hazards, as far as is reasonably possible, for persons, things or animals, and this must be done in such a way as to ensure the necessary maintenance.

### 4.2. OBLIGATIONS AND DUTIES

#### 4.2.1. OBLIGATIONS OF THE EMPLOYER

The persons responsible for the supervision of work activities must, within the limits of their respective job assignments and competences:

- a. implement the required safety measures;
- b. make maintenance technicians aware of the specific risks to which they are exposed and bring to their attention the essential standards for accident prevention;
- c. require individual maintenance technicians to observe safety standards and to use the items of protection equipment made available to them.

### 4.2.2. GENERAL REQUIREMENTS FOR PERSONNEL

#### Personnel interacting with the automation kit supplied:

- a. must have read and understood all the safety instructions provided in this assembly manual;
- b. must have normal psychophysical capacities;
- c. must have been previously informed and trained on:
  - c.1. hazards of injury or other damage that may be caused by direct or indirect contacts;
  - c.2. hazards caused by high temperatures, electric arcs or radiation produced and/or emitted by any electrical equipment that may be present;
  - c.3. non-electrical hazards that, as experience shows, can be caused by any electrical equipment that may be present;
  - c.4. hazards of injury or other damage caused by the residual risks indicated in this assembly manual;
- d. must therefore possess the following requirements (or must have acquired them by means of adequate training and instruction):
  - d.1. general and technical knowledge of a sufficient level to be able to understand the contents of this assembly manual and to be able to correctly interpret the circuit diagram if attached and all technical drawings;
  - d.2. knowledge of the main hygiene, accident prevention and technological standards;
  - d.3. overall knowledge of the automation kit and of any electrical equipment that may be present;
  - d.4. knowledge of the correct conduct in case of emergencies;
  - d.5. knowledge of where to obtain items of personal protection equipment and how to use them correctly if the instructions provided by the manufacturer require this or if collective protection measures are insufficient;
- e. Personnel must also:
  - e.1. abstain from carrying out, on their own initiative, any operations or manoeuvres that have not been assigned to them, and that may compromise their own safety or the safety of other persons;
  - e.2. abstain from wearing rings, wristwatches, torn clothing, scarves, ties and any other loose garment or accessory that may be a source of hazards, and must firmly tighten sleeves around the wrists, and always keep long hair collected together;
- f. be of an adult age;
- g. be physically and mentally capable of carrying out work activities of particular technical difficulty;
- h. have been judged by their employer to be suitable to carry out the work assigned to them;
- i. have received adequate instructions on the maintenance of the automation kit;
- j. be capable of understanding and interpreting this manual;
- k. be aware of emergency procedures and their application;
- l. be capable of operating the specific type of equipment;
- m. be familiar with the specific standards applicable to the situation in question.



These expert personnel must be able to assess the work assigned to them and to recognize possible hazards on the basis of their professional training, knowledge and experience and of their knowledge of the machines in question, their respective components and the applicable standards. They must also have adequate professional qualifications regarding the machines in question. Personnel must have been trained in matters relating to safety and have been made aware of the residual risks as indicated in this chapter.



In addition, personnel must be **experts and not merely informed**, meaning a technician with knowledge relating to the automation kit, its respective components and the applicable standards, and with specific technical skills or training.

The maintenance technician may also gain access to the electrical panel with components under live voltage.

### 4.3. WORK AND TRANSIT ENVIRONMENTS AND PLACES

In compliance with Directive 89/391/EEC regarding the implementation of measures intended to promote the health and safety of workers during work activities, the employer must make arrangements to eliminate or reduce the residual risks indicated as required in this manual.

#### FLOORS AND TRANSIT PASSAGES AROUND THE AUTOMATION KIT

The workplace around the automation kit must be free from holes and dangerous projections, and must be in a condition such as to ensure the safe movement and transit of persons and means of transport. Floors and transit passages must not be obstructed with materials that prevent normal circulation. When for evident technical reasons it is impossible to completely eliminate fixed or moving obstacles from transit zones, with these obstacles constituting a hazard for workers or vehicle needing to use these zones, adequate warning must be given of the obstacles.

#### FIRE PREVENTION

Suitable measures for the prevention of fires and the protection of workers in case of fire must be taken in all companies and specific work processes.

In companies or particular work processes in which specific fire hazards are present:

1. it is forbidden to smoke;
2. it is forbidden to use equipment with naked flames and to handle incandescent materials, unless appropriate safety measures are taken;
3. fire extinguishing equipment suitable for the specific conditions in which it may be used must be provided, including portable fire extinguishers for emergency use;
4. fire extinguishing equipment must be kept in conditions of efficiency and must be checked at least once every six months by expert personnel;
5. the easy and swift evacuation of workers from danger areas in case of need must be ensured;
6. water must not be used to extinguish fires if the materials with which it may come into contact may react in such a way as to significantly increase the temperature or release inflammable or harmful gases. Similarly, unless in the form of a nebulized spray, water and other conductors of electricity must not be used in the vicinity of conductors, machinery and electrical equipment with live voltages.

The above prohibitions must be made known to personnel by means of notices.

#### NOISE

The automation kit is not substantially noisy. One specific factor that affects the risks of exposure to noise in the workplace is the duration of exposure, together with the characteristics of buildings, noise emissions from nearby machinery, etc.

The employer must therefore take the following precautions:

1. limit exposure times by organizing work shifts;
2. if necessary, provide items of personal protection equipment (earmuffs), also instructing workers in their correct use;
3. ensure that workers are given periodic health checks.

#### LIGHTING

The environment in which the automation kit is to be installed must be sufficiently illuminated, in such a way as to ensure that the automation kit and the safety symbols applied to it can be visually checked. In the case of installation in a basement, suitable lighting must be provided locally, perhaps by means of a portable lamp that conforms to applicable standards. The quantity of light produced must not be such as to dazzle the eyes or cause any other visual disturbances to the personnel assigned to maintenance.

#### CLIMATE CONDITIONS

Similarly to the indications given for noise and lighting, it is also necessary to check that the climate of the work environment is appropriate.

The automation kit addressed by this manual is suitable for operation in the climate conditions defined in **Section 2.3**, in which its technical specifications are indicated.

#### GENERAL CONDITIONS OF THE ENVIRONMENT IN WHICH THE AUTOMATION KIT CAN BE USED

1. The work environment must comply with the requirements of Directive 89/654/EEC.
2. Lighting equipment must be checked periodically and kept in conditions of efficiency.
3. Extraneous objects must not be present in the work area.
4. Cables and pipes must be protected and must not obstruct movement.

## 4.4. GENERAL STANDARDS FOR THE PROTECTION OF THE AUTOMATION KIT

### TEMPORARY REMOVAL OF PROTECTIONS AND SAFETY DEVICES

The protection devices of the automation kit must not be removed unless work is to be carried out.

If protection devices need to be removed, immediate precautions must be taken to draw attention to the resulting hazard and to reduce it to the minimum possible.

Protections and safety devices must be replaced as soon as the conditions requiring their temporary removal have ceased.

### PROHIBITED TO CLEAN, OIL OR GREASE MOVING PARTS

It is prohibited to clean, oil or grease moving parts of machines by hand, unless made necessary by particular technical needs, and in this case suitable equipment must be used to avoid all hazards.

### PROHIBITED TO CARRY OUT REPAIR OR ADJUSTMENT OPERATIONS ON MOVING PARTS

It is prohibited to carry out repair or adjustment operations of any kind whatsoever on moving parts.

If it is necessary to carry out these operations during movement, adequate precautions must be taken to ensure worker safety.

## 4.5. MOVEMENT OF STRUCTURES



Before moving structures, always ensure that the movement area is not occupied by persons or objects that could constitute a hazard.

In case of inadequate illumination and/or visibility, no structures must be moved until a person with responsibility has checked for the necessary freedom of movement in the work area. Do not presume that the work area is free, but always check it visually.



Secure all moving parts of a structure or item of equipment that must be transported.

## 4.6. PERSONAL PROTECTION EQUIPMENT AND EMERGENCY ASSISTANCE

Use items of personal protection equipment in conformity with the indications provided by Directive 2009/104/EC and subsequent amendments and updates. The employer must provide workers with personal protection equipment appropriate for the risks inherent in the work processes and operations carried out, if technical protection devices are absent or insufficient.

Workers exposed to specific hazards of head injuries due to materials falling from above or to contact with other dangerous elements must be provided with appropriate headgear.

Workers exposed to eye injuries due to the projection of fragments or of substances that are extremely hot, caustic, corrosive or dangerous in other ways must be provided with suitable protective glasses, visors or screens.

In processes with specific hazards of puncture wounds, cuts, grazes, burns, or corrosion to the hands, workers must be provided with mittens, gloves or other suitable means of protection.

To protect the feet in work processes involving specific hazards of burns, puncture wounds or crushing, and to prevent the risk of tripping, slipping or falling on the floor surface on which workers are transiting, they must be provided with strong footwear that is suitable for the nature of the risk.

### 4.7. INDICATIONS OF RESIDUAL RISKS PRESENT

#### GENERAL INFORMATION



This manual lists and describes the residual risks that it has not been possible to eliminate in the design process and that remain in the automation kit.



For every risk, instructions or precautions that the installer must take to avoid hazards are provided.



In compliance with Directive 89/391/EEC and subsequent amendments and updates, regarding the implementation of measures intended to promote the health and safety of workers during work activities, the employer must make arrangements to eliminate or reduce the residual risks indicated as required in this manual.

The employer must arrange to instruct personnel on the risks of accidents, on safety equipment and on the general rules for accident prevention envisaged by European Union directives and by the legislation of the country in which the automation it is installed.

It is the responsibility of the employer to ensure that the instructions given have been adequately understood.

#### INTEGRATION OF THE AUTOMATION KIT



The automation kit must be assembled only for the purposes for which it is expressly intended, as specified in **Chapter 2**.



The integration of the automation kit is reserved exclusively to persons that have followed a specific course on its use and safety, and these persons must have carefully read the instructions for integration provided in this manual.



The assembler must also be adequately informed and trained and must work cautiously and dedicate attention to the warnings indicated on the automation kit, and must always devote the greatest attention during assembly activities.

#### PPE to be used:



Protective gloves



Safety footwear



Body protection



Eye protection

#### RESIDUAL RISK DUE TO LIGHTING MALFUNCTIONS



As indicated in **Chapter 2**, lighting in the work area of the maintenance technician must not be lower than 600 lux.



In case of malfunctions with the lamp providing lighting during operations of installation or cleaning, and in general during adjustment and maintenance operations, a residual risk is present for the maintenance technician, who would be obliged to work in conditions of insufficient lighting.



In this case, work must be immediately interrupted for the replacement of the malfunctioning lamp or lamps.

Any further operations by the maintenance technician can be proceeded with only after conditions of adequate lighting have been restored.

#### PPE to be used:



Protective gloves



Safety footwear



Body protection

#### RESIDUAL RISK DUE TO THE NATURE OF THE PRODUCTS USED FOR CLEANING AND LUBRICATION



A residual risk is present for the maintenance technician due to the nature and chemical composition of the products used for cleaning and lubrication.





Consult the technical information sheets for safety provided by the manufacturer, also giving indications on the specific residual risks that these products present, together with the precautions to be taken.



**PPE to be used:**



Eye protection



Protective gloves



Safety footwear



Body protection



Hearing protection

### RESIDUAL RISK DUE TO LIFTING OPERATIONS AND WORK OPERATIONS REQUIRING MANUAL PROCEDURES



Even though carried out in compliance with the indications provided in this manual, lifting and transport operations carried out on the automation kit or on parts of it are manual procedures that present a residual risk, due above all to impacts, crushing, dragging, slipping or grazing.



A residual risk of impacts, grazing, cuts, puncture wounds and slipping is also present for the maintenance technician during maintenance, cleaning and other manual operations that involve the possible fall of parts or components from above, due also to the need to carry out manual operations on the machine.



In addition to being adequately informed and trained, every time that manual operations must be carried out, the maintenance technician must not only comply with the envisaged instructions for use, but must also use protection equipment for the head (if components with the risk of falling from above are present), hands and feet, together with clothing suitable for the workplace, such as for example a safety helmet, safety gloves to protect against cuts, and strong non-slip footwear suitable for the particular nature of the risk and with steel toecaps.

**PPE to be used:**



Protective gloves



Safety footwear



Body protection

### RESIDUAL RISK DUE TO THE DANGER OF ELECTRIC SHOCK



A residual risk is present for the maintenance technician for electrical equipment, if operations are necessary inside branch boxes and on live electrical components for the performance of checks, maintenance operations and operating trials that require operations with live electrical equipment and/or the removal or protection devices.



It is important to stress that it is not sufficient for the persons carrying out these operations to have been trained only on aspects associated with electrical risks, but must also:

- possess a thorough knowledge of all other safety problems regarding the machine on which they are working;
- have been expressly authorized by the employer to carry out work operations on live electrical equipment.

With regard to the standards for electrical work operations with, without and in the vicinity of live voltages, the following are cited (by way or example):

- CEI 11-15 - Performance of work with live voltages on Category II and III electrical systems with alternating current;
- CEI 11-27 - Work on electrical systems;
- CEI EN 50110 Parts 1 and 2- Operation of electrical installations.

**PPE to be used:**



Protective gloves



Safety footwear



Body protection



Facial protection

### 4.8. SAFETY NOTICES



Safety notices must always be suitably visible and must never be removed.

The user is obliged to immediately replace safety notices that have become illegible due to deterioration.

Safety symbols present on the automation kit:



### 4.9. DESCRIPTION OF SAFETY FUNCTIONS

#### PROTECTION DEVICES ON THE AUTOMATION



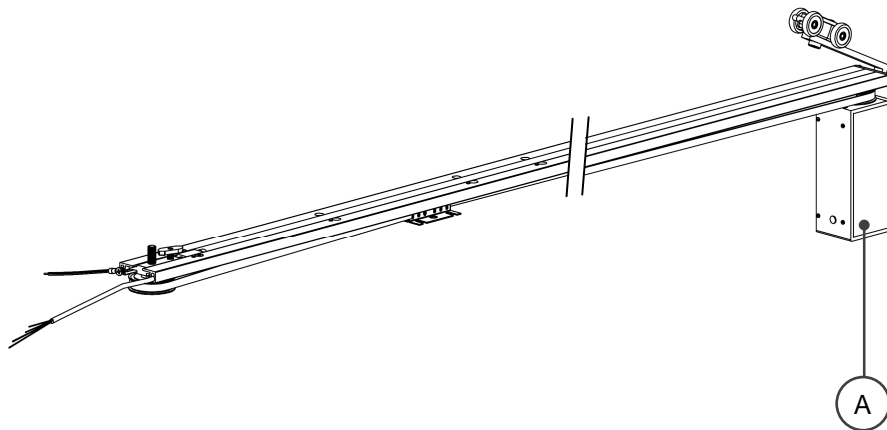
The protections and safety devices of the automation kit must not be removed unless work is to be carried out.

If they need to be removed, immediate precautions must be taken to draw attention to the resulting hazard and to reduce it to the minimum possible.

Protections and safety devices must be replaced as soon as the conditions requiring their temporary removal have ceased.

The motor unit is protected by a housing constructed from fixed protections, preventing access to several dangerous components, with the exception of the sliding bars of the door panel.

Guards and safety devices provided on the automation kit



Ref.	GUARDS / PROTECTION DEVICES – POSITION	TYPE OF DANGER PROTECTED AGAINST
A	Fixed guard	➤ <b>Fixed guard:</b> housing composed of metallic components screwed to the structure of the automation kit, to prevent access to the motor and to devices for the operation of the toothed pulley.



The manufacturer absolutely prohibits the dismantling of or tampering with any of the safety devices present, even partially or momentarily, since these devices are installed for the specific purpose of protecting against injuries.



Failure to comply with this prohibition may give rise to risks, and is a breach of applicable legal requirements on workplace safety.





### 4.10. INTEGRATION OF THE AUTOMATION KIT FOR SAFETY PURPOSES

The kit addressed by this manual, named “**OPEN**” **AUTOMATION KIT FOR INTERIOR SLIDING DOORS**, has been designed, constructed and adjusted, and therefore intended, to be incorporated into or assembled together with other machines to constitute a machine pursuant to Machinery Directive 2006/42/EC.

The person responsible for integration therefore:

1. must perform an assessment of risks that takes into account all risks associated with the overall operation of the machines constituting the assembly, and must take adequate technical safety measures (e.g. guards or protection devices);
2. must subsequently ensure compliance with the applicable legislative requirements and regulations made necessary by the CE marking of the automation kit.

For electrical safety measures to protect against direct contacts, indirect contacts, etc, refer to the requirements of the most recent edition of the CEI EN 60204-1 standard.



In the condition in which it is supplied, the automation kit **cannot therefore be out into service.**

**The automation kit addressed by this declaration must not be put into service until the final machinery into which it will be incorporated or of which it will be a component has been identified and declared to be in conformity with the provisions of Directive 2006/42/EC. This means until the automation kit addressed by this declaration constitutes an assembly of machinery subject to the application of Directive 2006/42/EC.**

Installation must be carried out in conformity with all applicable legislative requirements of the country in which the automation kit is used.

The design and installation of external electrical power supply systems requires great attention to avoid hazards during normal operation and in case of any possible malfunctions of the components assembled and connected inside it.

## CHAP. 5. TRANSPORT, INSTALLATION AND MOVEMENT

### 5.1. INSTALLER REQUIREMENTS



Installation involves a series of considerable problems of a mechanical and electrical nature, and the installer must therefore possess a good technical and practical knowledge of the automation kit.



It is absolutely necessary for installation activities to be assigned to expert personnel with suitable skills and authorized by the employer.



Personnel must have been trained in matters relating to safety and have been made aware of the residual risks as indicated in **Chapter 4**.

### 5.2. WORK POSITIONS AND TASKS OF THE INSTALLER



The task of the installer is to:

install and adjust the automation kit, with dangerous moving parts disconnected from the power supply, not moving and in a condition of guaranteed safety, with movement halted due to disconnection of the power supply from actuators and/or with external power supply cut-off devices open and locked in position, for the components envisaged and indicated in this assembly manual.



The work zones that may present risks for the maintenance technician installing the automation kit are:  
A. the zone affected by the movement of the toothed belt and the associated pulleys.



The precautions indicated in **Section 4.7** must be taken against the risks for the maintenance technician.



### 5.3. REQUIREMENTS FOR INSTALLATION



All installation operations, without exclusions, must be carried out only with this automation kit at a total standstill, after disconnecting all external energy supplies. They must not be simply stopped.



It is prohibited to carry out any maintenance operations of any kind whatsoever on moving parts.



In some cases, it may not be possible to carry out certain maintenance operations with the automation kit at a standstill, due to practical technical necessities or because it may be necessary to carry out certain operations to avoid greater hazards or greater damage (lubrication of drive belts). Additional measures and precautions must be taken however so as to guarantee that no injuries are caused.

## 5.4. STORAGE, TRANSPORT AND MOVEMENT

The automation kit is intended for installation in interiors, and in case of storage it must be deposited in a storeroom, well ventilated and protected against dust. The components delivered must remain packed until the moment of final installation.

In case of long inactivity, the automation kit must be stored taking the necessary precautions for the place and times of storage:

1. store the automation kit in a closed space and protect it against impacts and stresses;
2. protect the automation kit against damp and excessive temperature variations;
3. do not allow the automation kit to come into contact with corrosive substances;
4. check that packaging materials have not been damaged and that they are perfectly dry;
5. in particular, if the automation kit is stored inside a container, the storage area must be covered and protected against direct weather conditions, such as rain, snow and hail, and must be accessible only to authorized persons.

### 5.4.1. TRANSPORT, LIFTING AND MOVEMENT – GENERAL RULES

#### PERSONNEL REQUIREMENTS



All transport, lifting and movement operations must be carried out by persons informed and trained on the risks and hazards that may arise during the performance of the activities in question.

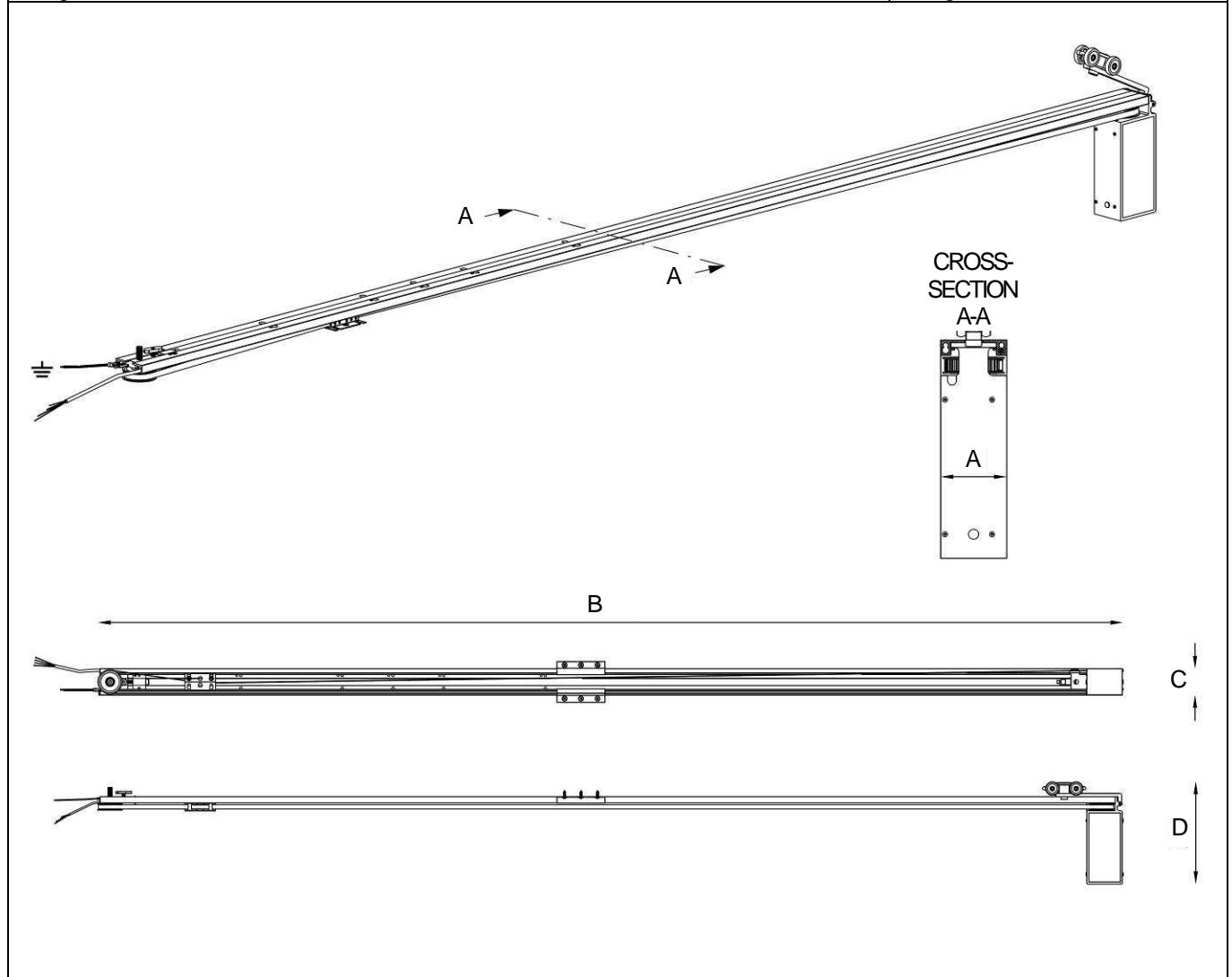


The area involved in the installation of the automation kit must be inspected beforehand to identify the possible presence of any "DANGER ZONES".

During transport, lifting and movement operations, no exposed persons must be present in "DANGER ZONES".

### 5.4.2. DIMENSIONS AND WEIGHTS OF SINGLE COMPONENTS

Mod. OPEN1000	DIMENSIONS
Cross-section A-A	A = 52 mm
Overall length	B = 2020 mm
Overall width	C = 52 mm
Overall depth	D = 202 mm
Weight	~6 kg

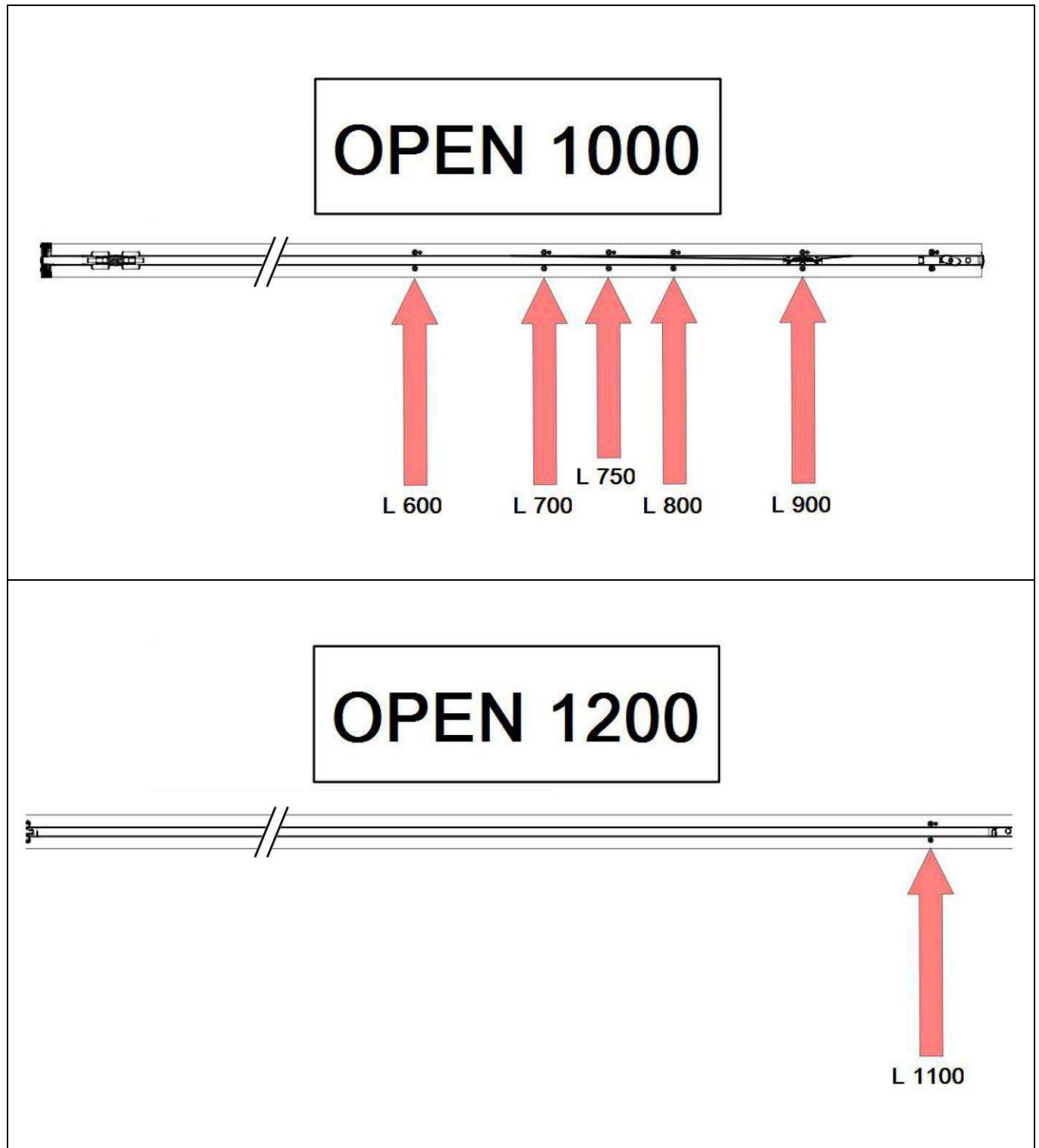


Mod. OPEN1200	DIMENSIONS
Cross-section A-A	A = 52 mm
Overall length	B = 2420 mm
Overall width	C = 52 mm
Overall depth	D = 202 mm
Weight	~6 kg

## 5.5. REDUCTION OF LENGTH

Both model OPEN1000 and model OPEN1200 allow length to be reduced by means of holes present on the aluminium profile bars.

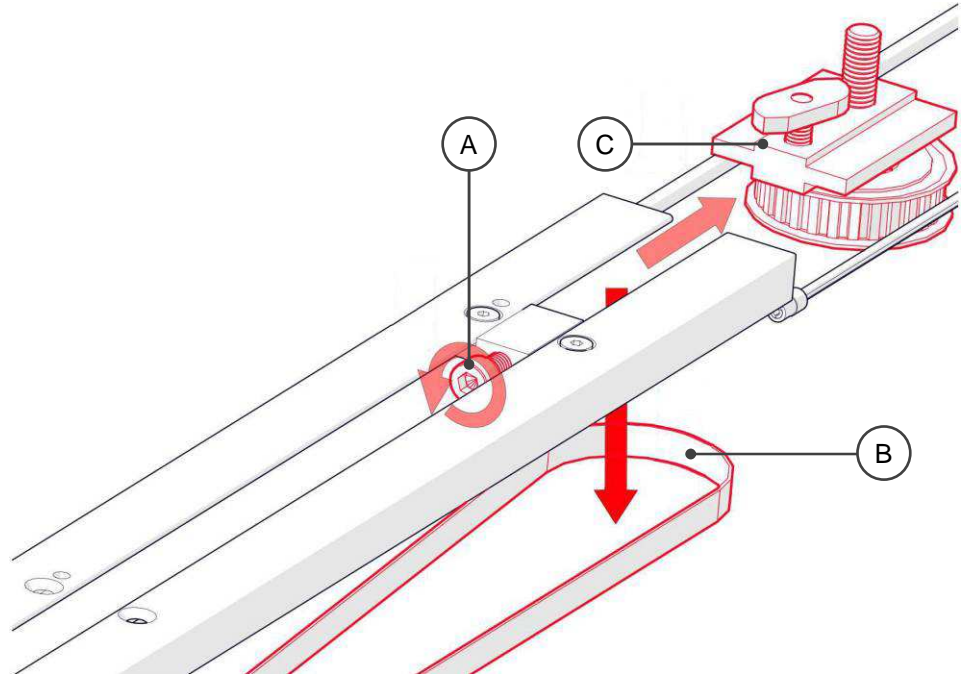
The following chart shows the lengths that can be obtained on each model:



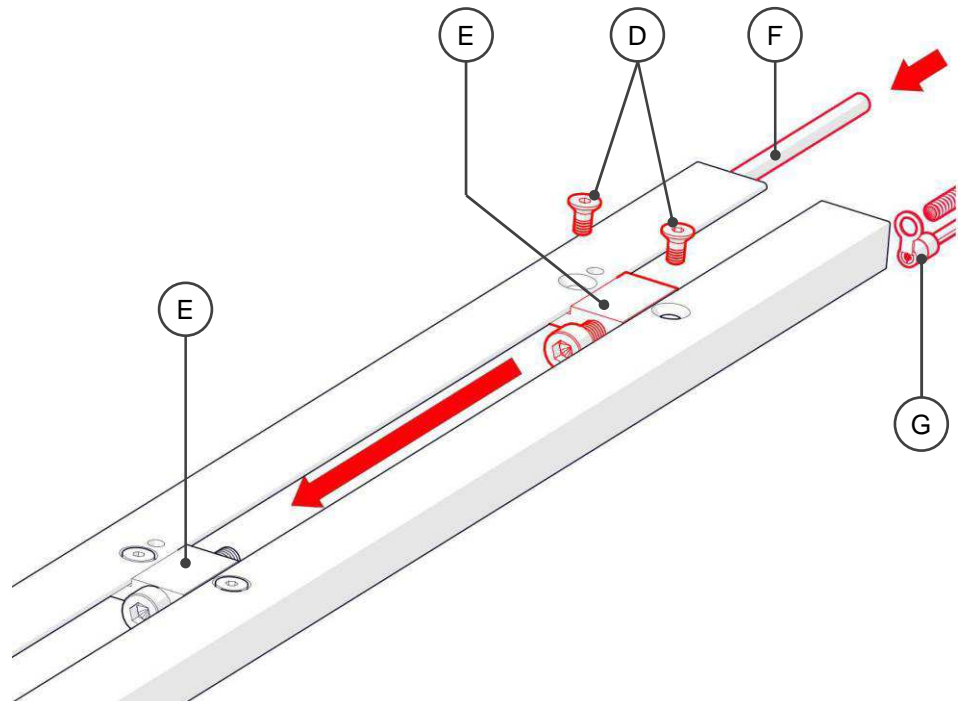
### PROCEDURE FOR REDUCTION OF LENGTH

Reduce the length of bars as follows:

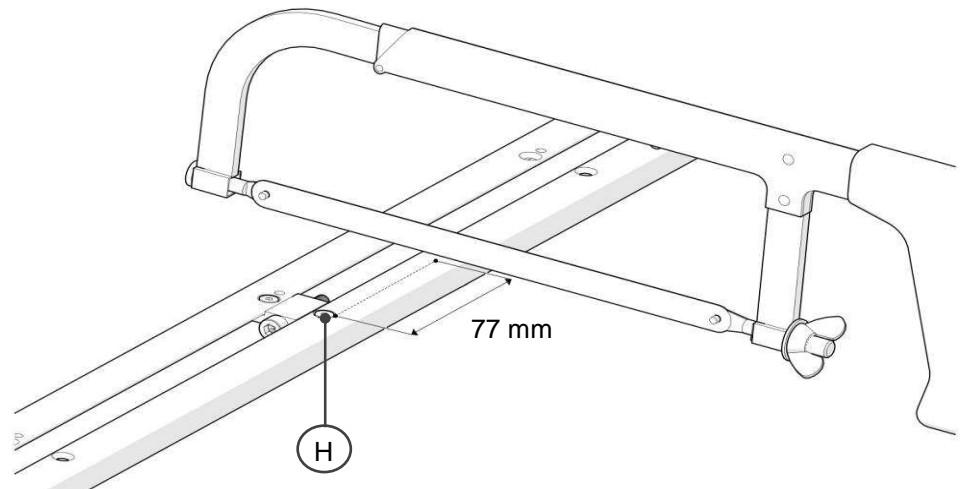
1. Slacken screw (A).
2. Pull the toothed belt (B) away from the idler pulley.
3. Extract the tightening device (C) in the direction of the arrow.



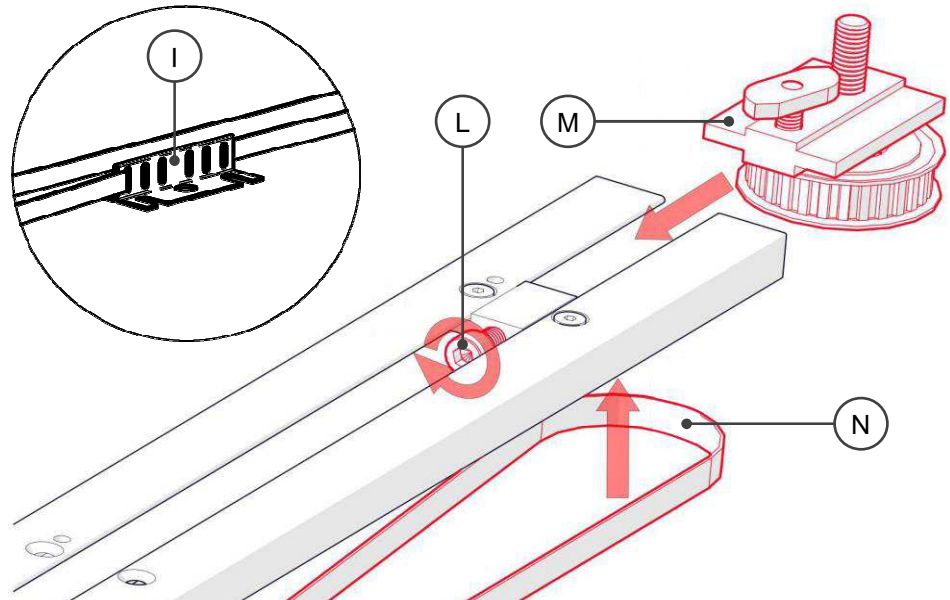
4. Remove the screws (D) securing the travel-end stop.
5. Move the travel-end stop to the desired position (E) and fix it with the screws (D).
9. Pull out the multi-pole cable (F) in the direction of the arrow.
10. Remove the terminal of the ground connection cable (G).



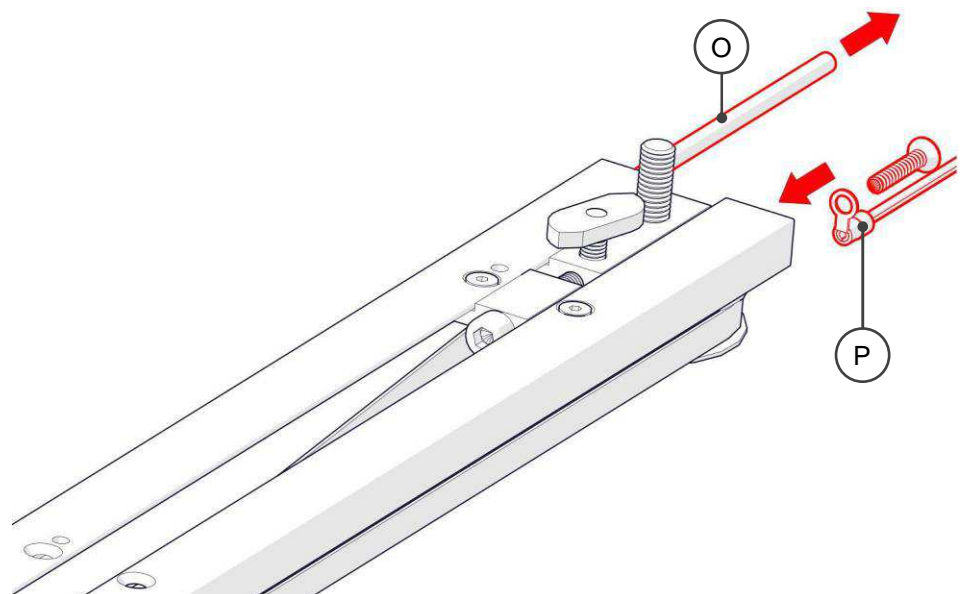
11. At the distance of 77 mm from the centre of the hole (H), draw a line at right angles to the bars to act as a guide for cutting. Wear protective gloves when making the cut.



12. Insert the belt tightening device (M) into its recess.  
13. Thread the belt (N) onto the toothed pulley.  
14. Adjust the length of the belt in the junction plate (I).  
15. Tighten the belt using the screw (L). Correct tightness is necessary to prevent it from slipping on the teeth of the pulley. Avoid excessive tightness to prevent damage to the system.



16. Insert the multi-pole cable (O) into its recess.  
17. Fix the terminal of the ground connection cable (P) using the screw provided.

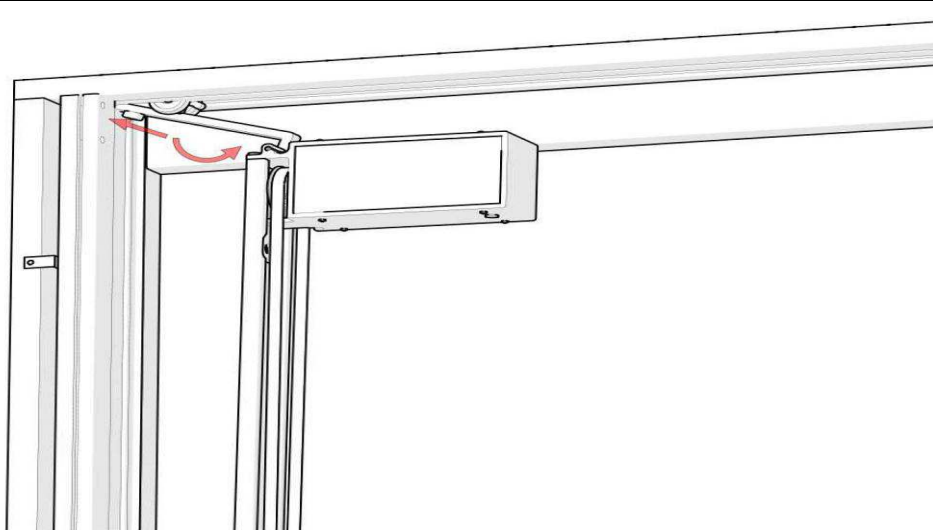




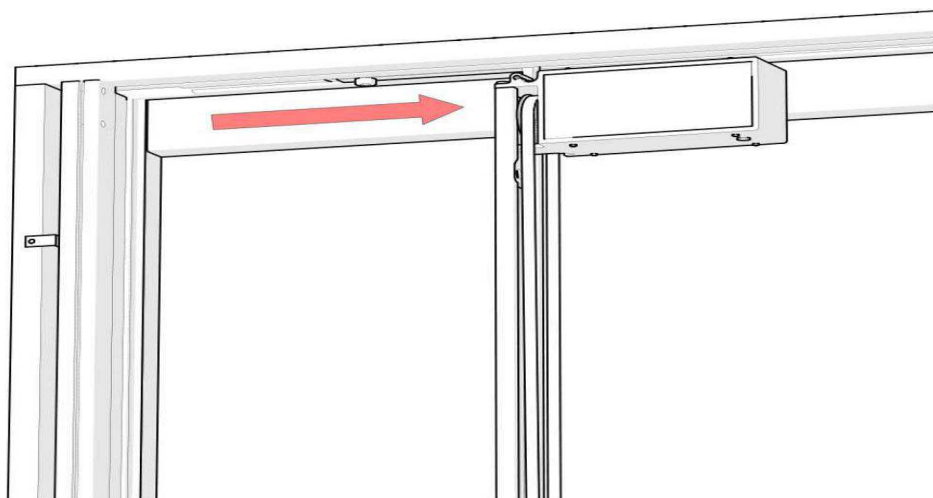
### 5.6. ASSEMBLY SEQUENCE

Proceed with the assembly of the automation kit as follows:

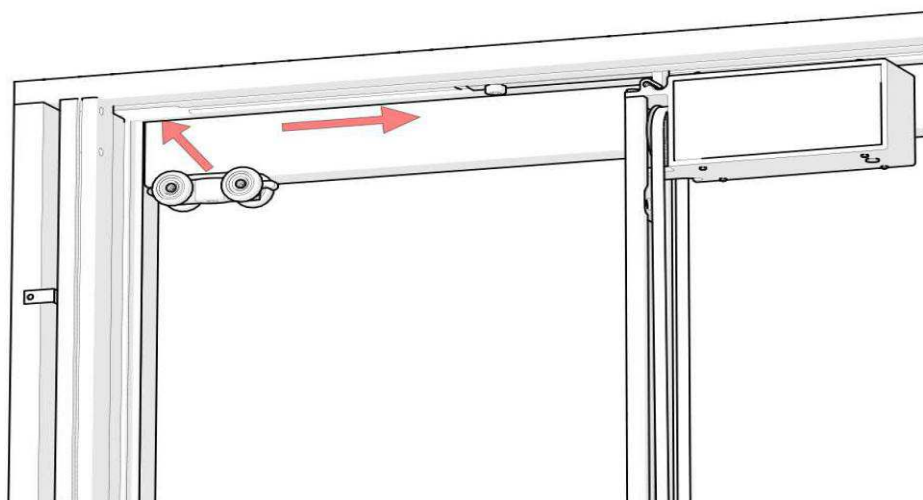
1. Insert the runner into the upper part of the frame.



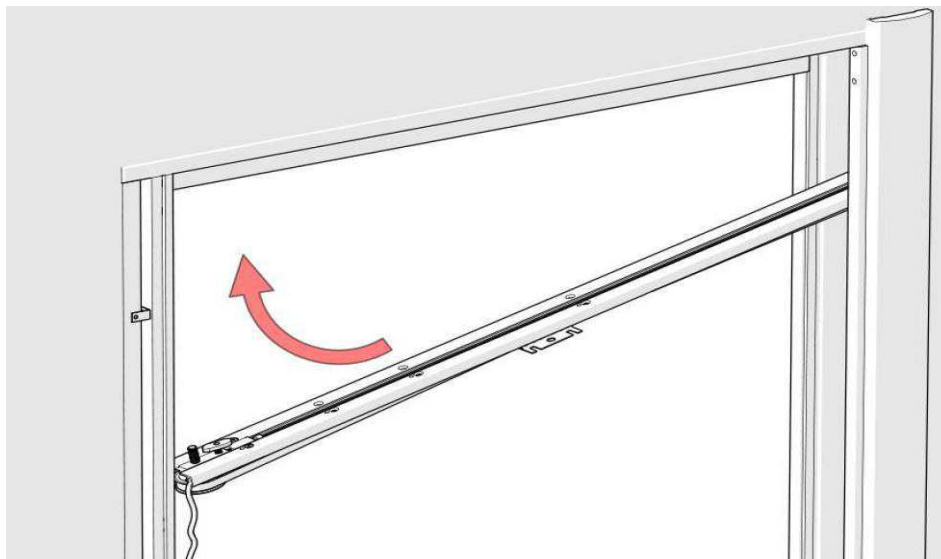
2. Slide the runner into the frame.



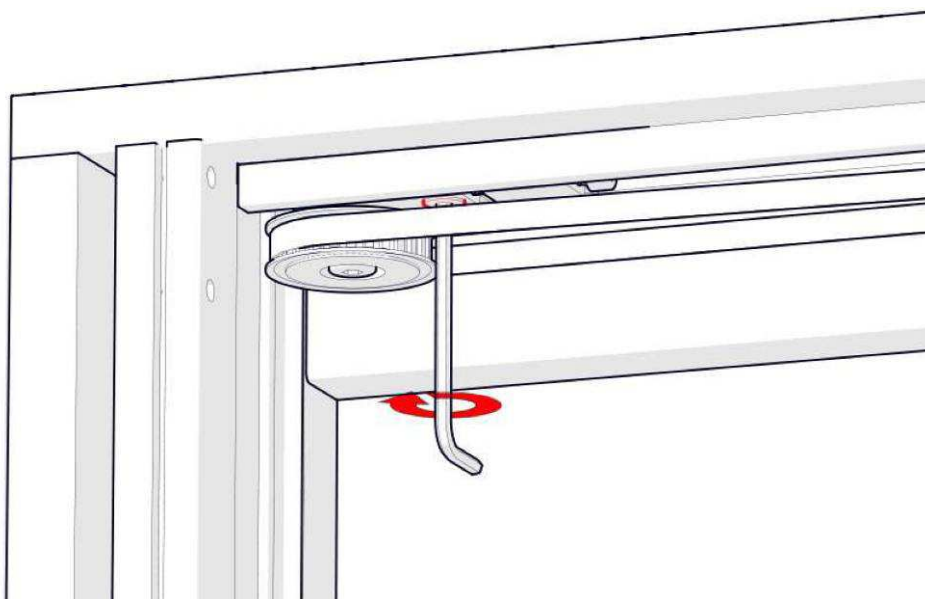
3. Fit the two hangers that support the door panel into the frame.



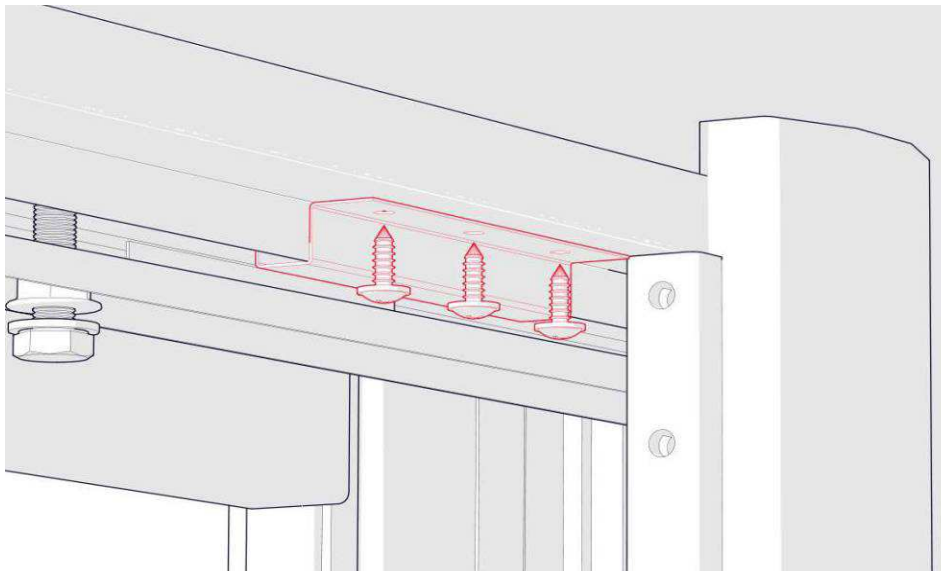
4. Lift the assembly to bring it into contact with the frame.



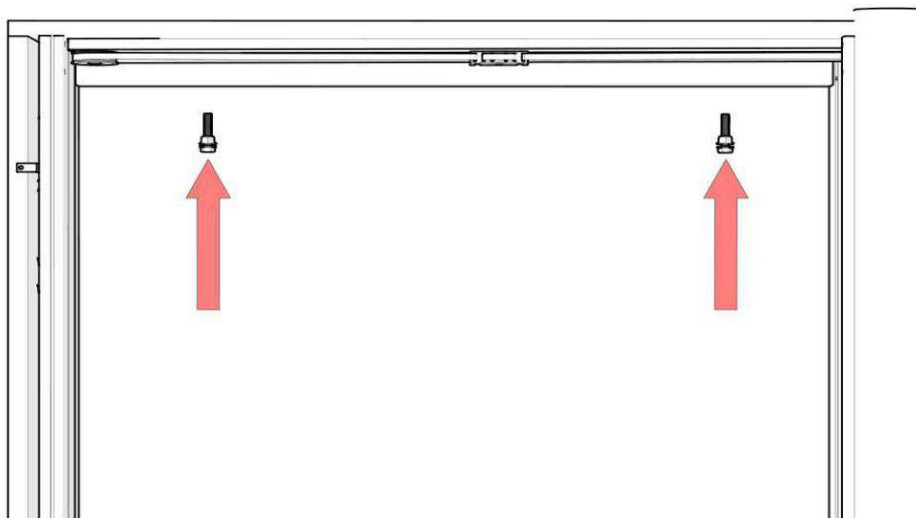
5. Use a hexagonal key to tighten the screw that fixes the bars in position.



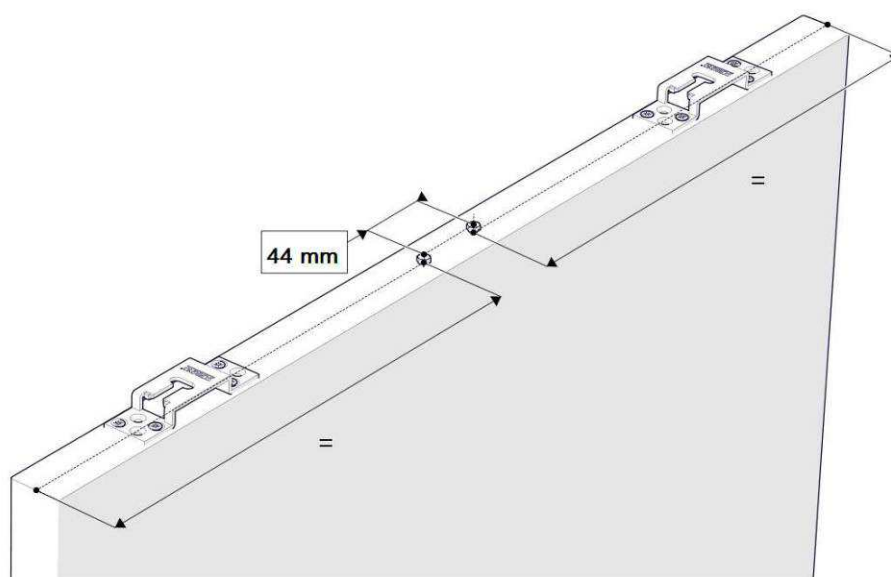
6. Fix the two brackets securing the bars using the six screws provided.



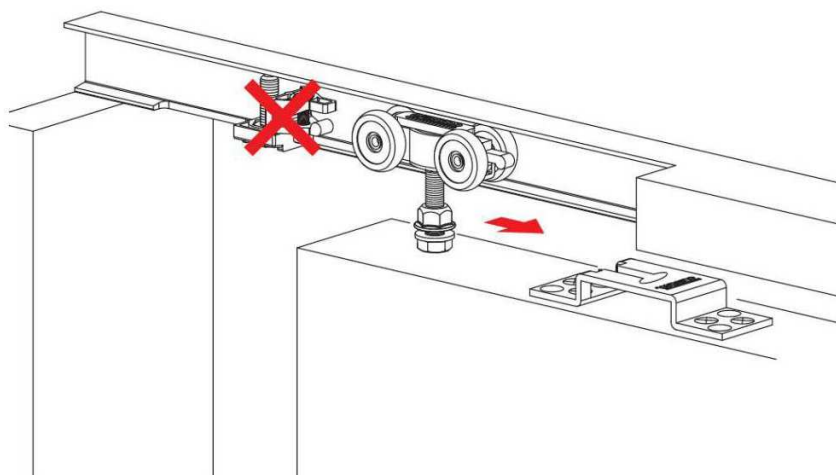
7. Screw the two screws for door support into the hangers previously inserted.



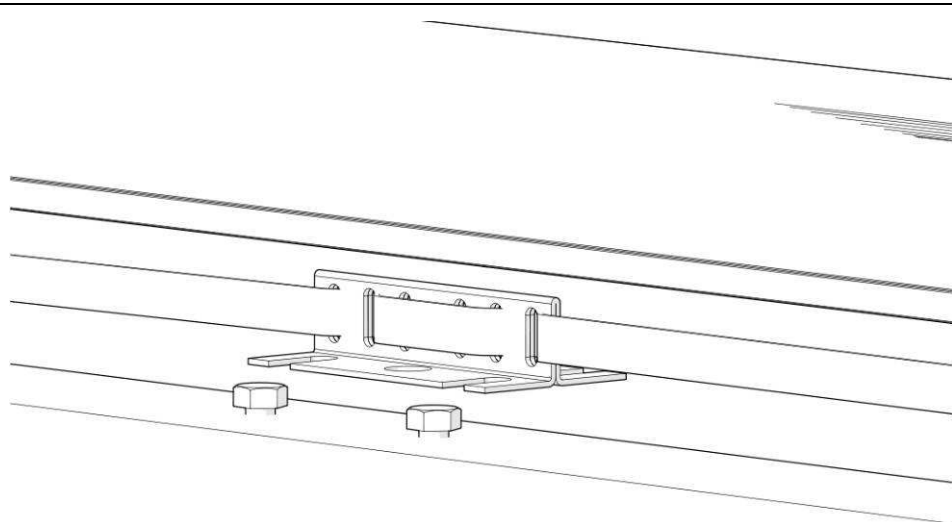
8. On the upper part of the crosspiece of the door, screw in the two wood screws provided.



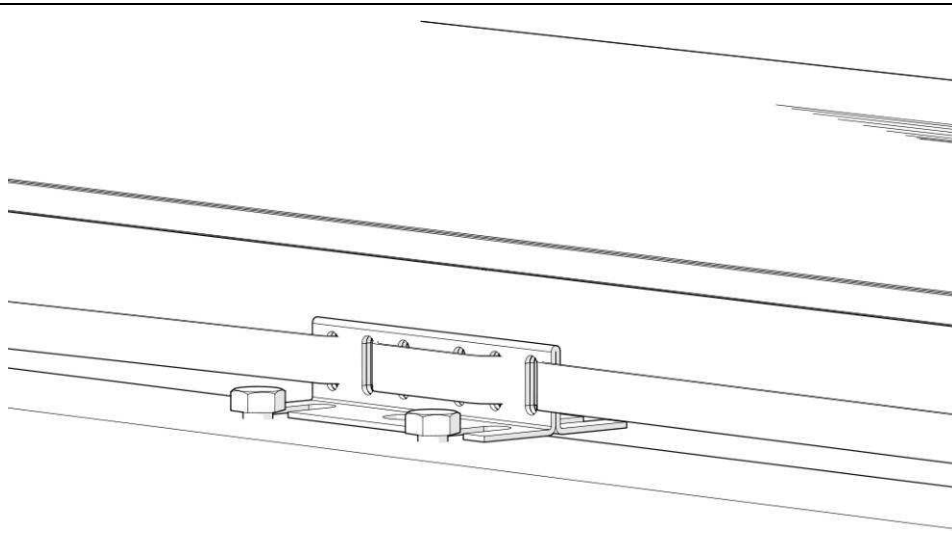
9. Fit the heads of the two screws into the brackets fixed to the upper crosspiece of the door, so that the door is supported by the two hangers.



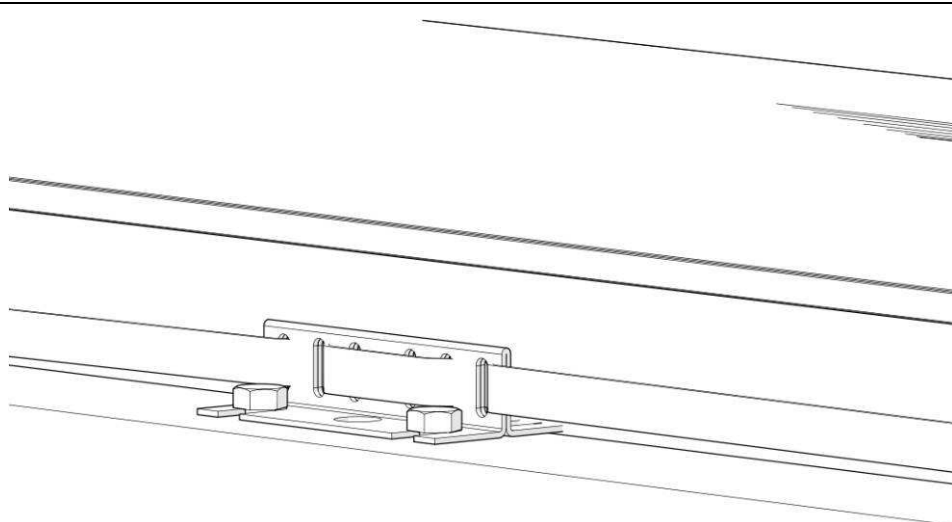
10. Align the two screws with the belt junction bracket.



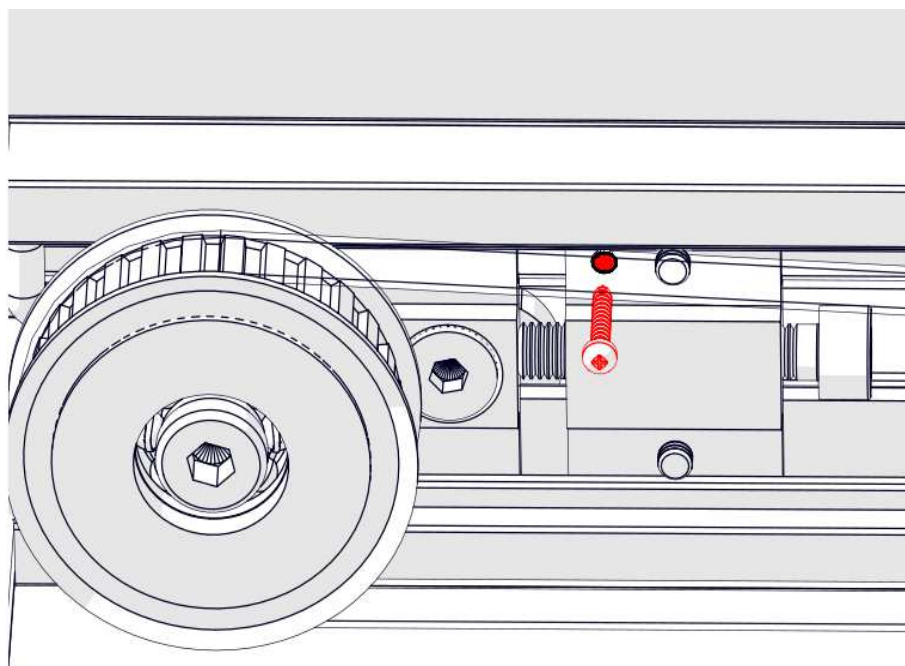
11. Fit the two screws into the U-shaped recesses on the bracket.



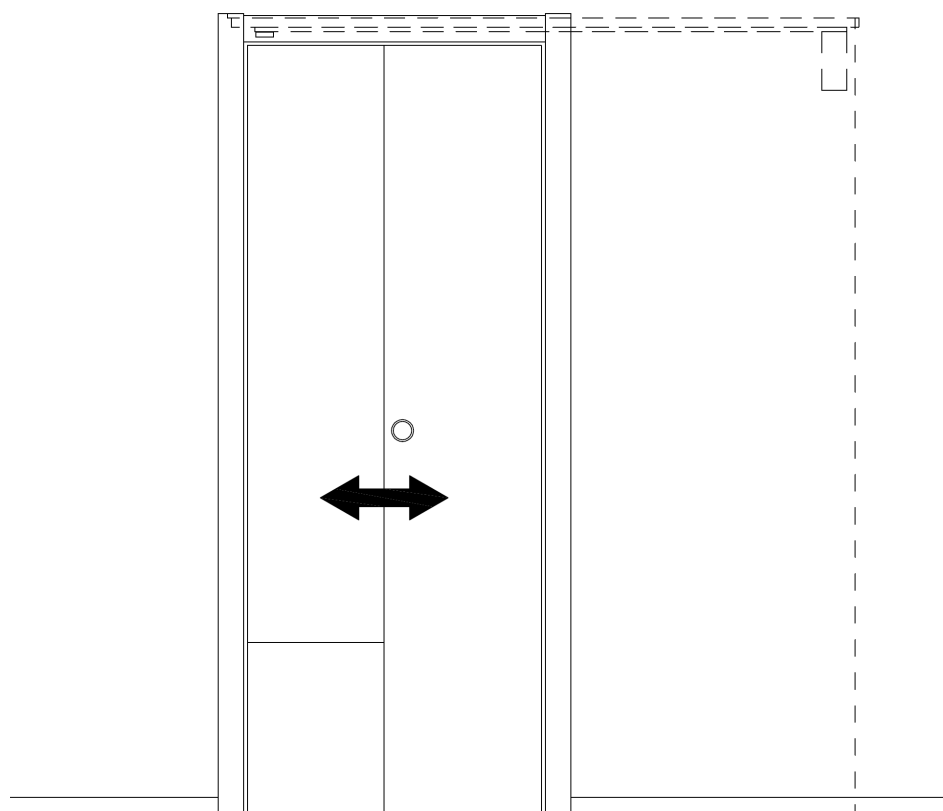
12. Tighten the two screws, so that the door is secured to the drive belt.



13. Drill a hole in the track of the frame with a 2 mm diameter bit in alignment with the hole on the travel-end device, and secure with the screw provided.



14. The illustration on the right shows the door with the work completed. Check that the door slides in a straight line without resistance.



## 5.7. POWER SUPPLIES

### 5.7.1. ELECTRICAL POWER



Installation must be carried out in conformity with all applicable legislative requirements of the country in which the automation kit is used.



Check beforehand that the power supply system of the user guarantees the requirements indicated in **Section 2.1.4.** and then check the requirements indicated below.

All connection activities for external power supplies to the automation kit must be carried out only by an electrician.

### POWER SUPPLY SYSTEM OF THE USER

The power supply system of the user upstream from the command and control devices of the automation kit must be entirely designed, installed and maintained in conformity with the applicable requirements of the safety rules for "low voltage user systems" in accordance with IEC3644 / HD384 / CEI 64-8 (most recent editions).

With regard to the electrical distribution system that powers the command and control devices of the automation kit, it is also compulsory for it to fully and correctly belong to one of the TT or TN or IT normalized systems in accordance with IEC364\_4\_41 / HD382\_4\_41 / CEI 64.8 (4\_41) (most recent editions).

In connection with the above instructions/indications, the corresponding grounding system must be completely conformant to the applicable requirements for coordination with live associated devices, in accordance with IEC364-5-54 / HD382-5-54 / CEI 64.8 (5-54) (most recent editions).

### EQUIPOTENTIAL PROTECTION CIRCUIT

To prevent dangerous contact voltages in case of insulation defects between live components and ground connections, voltages between ground connections or inappropriate consents or stoppages that may arise on command circuits following a number of ground defects, **all ground components on the automation kit are connected** to an equipotential node connected to the PE terminal present inside the main housing.

The terminal must be connected to the ground system of the power supply network by a conductor with a cross-section at least equivalent to the cross-section specified in the circuit diagram.

### PROTECTION OF PERSONS AGAINST INDIRECT CONTACTS

Protective measures against indirect contacts by means of the automatic interruption of the power supply circuit to equipment consist in the interruption of one or more supply line conductors by means of the automatic triggering of a protection device in case of malfunctions.

This interruption must occur in a sufficiently brief time such as to limit the duration of contact with the voltage to a period within which the voltage is not dangerous. Interruption times are indicated in the IEC3644 / HD384 / CEI 64-8 standard (most recent editions).

This protective measure requires coordination between:

1. the type of power supply and the grounding system;
2. the impedance values of the various elements of the equipotential protection system;
3. the characteristics of the protection devices that detect insulation malfunctions.

The automatic interruption of the power supply of any circuit affected by an insulation malfunction is intended to avoid dangerous situations deriving from voltage contact. This protection measure includes:

1. both the equipotential connection of grounded components;
2. and:
  - a. protection devices against overcurrents that ensure the automatic interruption of the power supply in case of a malfunction in TN systems, or
  - b. differential current protective devices to start the automatic interruption of the power supply in case of a defect in the insulation of a live component towards grounded components or the ground connection in TT systems;or
  - c. insulation controllers or differential current protection devices to start the automatic interruption of the power supply in IT systems.

The electrical equipment of the automation kit **DOES NOT INCLUDE** the protection device against indirect contacts (see circuit diagram).

In any event, the person responsible for the first operation or for any subsequent installations following transfers of the automation kit, must:

1. check for the presence of a protection device that detects insulation malfunctions;
2. check the type of power supply and the grounding system;
3. measure the impedance value of the fault loop (TN systems) or of ground resistance (TT and IT systems);
4. coordinate the protection device and the impedance value of the fault loop or of ground resistance, using the formula  $R \times I_a \leq U_L$  (for TT systems) or  $Z_s \times I_a \leq U_0$  (for TN systems), so that the protection device is triggered within the maximum interruption times for protection specified in the IEC364\_4\_41 / HD382\_4\_48 / CEI 64.8 (4\_48) standard (most recent editions).

### ELECTRICAL POWER SUPPLY

The electrical power supply must therefore be kept in conformity with the following technical requirements:

1. the electrical panel power supply must always be of the type and have an intensity corresponding to the specifications indicated in **Section 2.1.4**. If excessive voltages are applied, components may be irreparably damaged;
2. the power supply cable to the electrical panel outside the automation kit must be passed through spaces prepared beforehand and suitably marked with the warning symbol for dangerous electrical voltages;
3. before powering the electrical equipment, the neutral conductor (N) must be checked for continuity (connected and available);
4. before powering the electrical equipment, the yellow/green conductor of the equipotential protection circuit must be checked for continuity (connected and available).

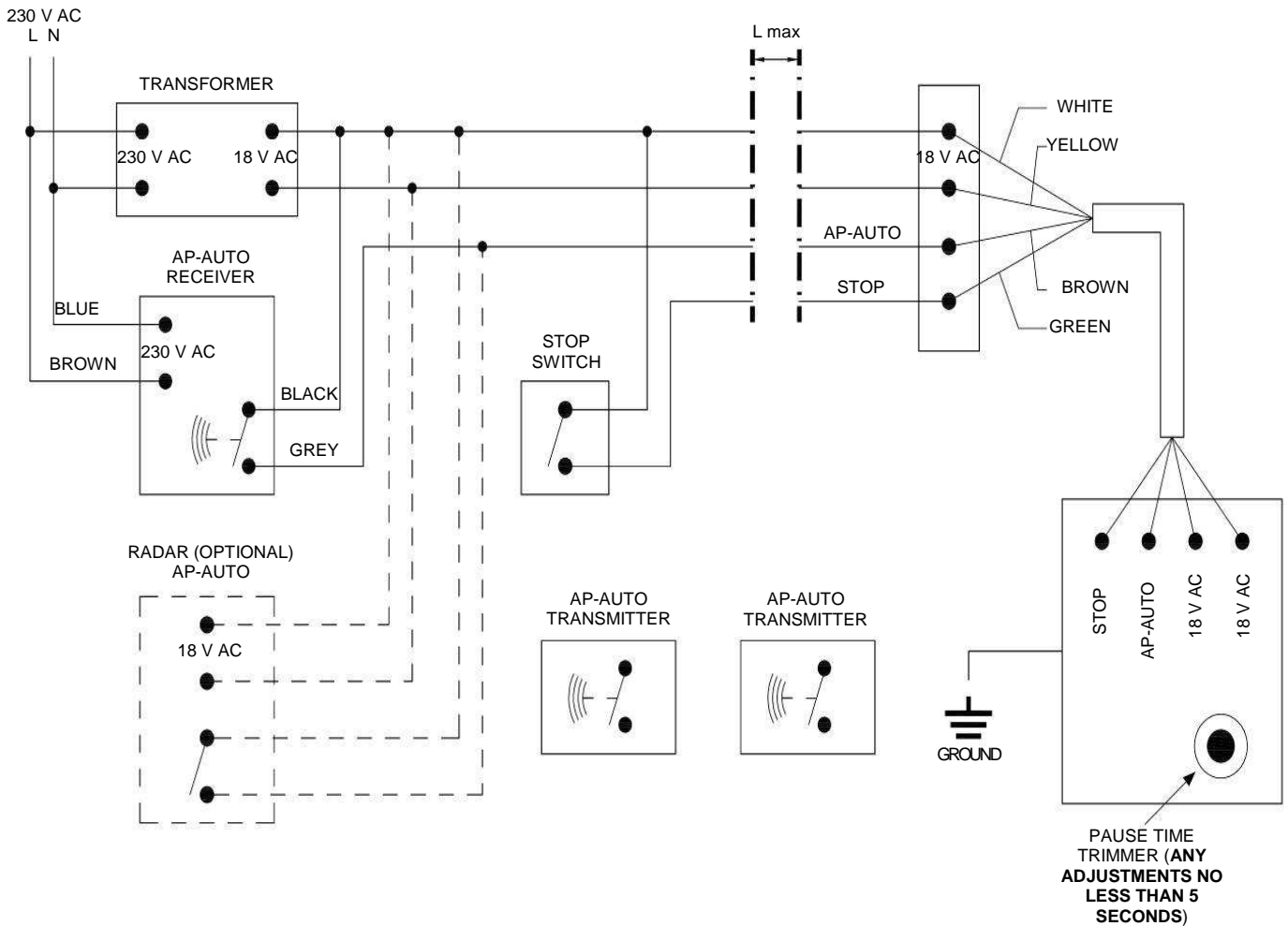
### CUT-OFF DEVICE FOR ELECTRICAL POWER SUPPLY

To make it possible to carry out operations without the risk of electrical shocks or burns, a cut-off device for the electrical equipment must be provided. The power supply cut-off device makes it possible to separate (isolate) the electrical equipment of the automation kit from the power supply, so as to allow operations to be carried out without the risk of electrical shocks.



Connect the power supply cable in the electrical box as described in the following circuit diagram:

L N PE ⇒ yellow/green



STOP: INHIBITS AUTOMATION  
AP-AUTO: ACTIVATES AUTOMATION

Cross-sections of cables  
downstream from transformer

(mm <sup>2</sup> )	L max (m)
0.5	10
0.75	15
1.00	20
1.5	35

Protections against short circuits (not indicated) must be provided by the installer.

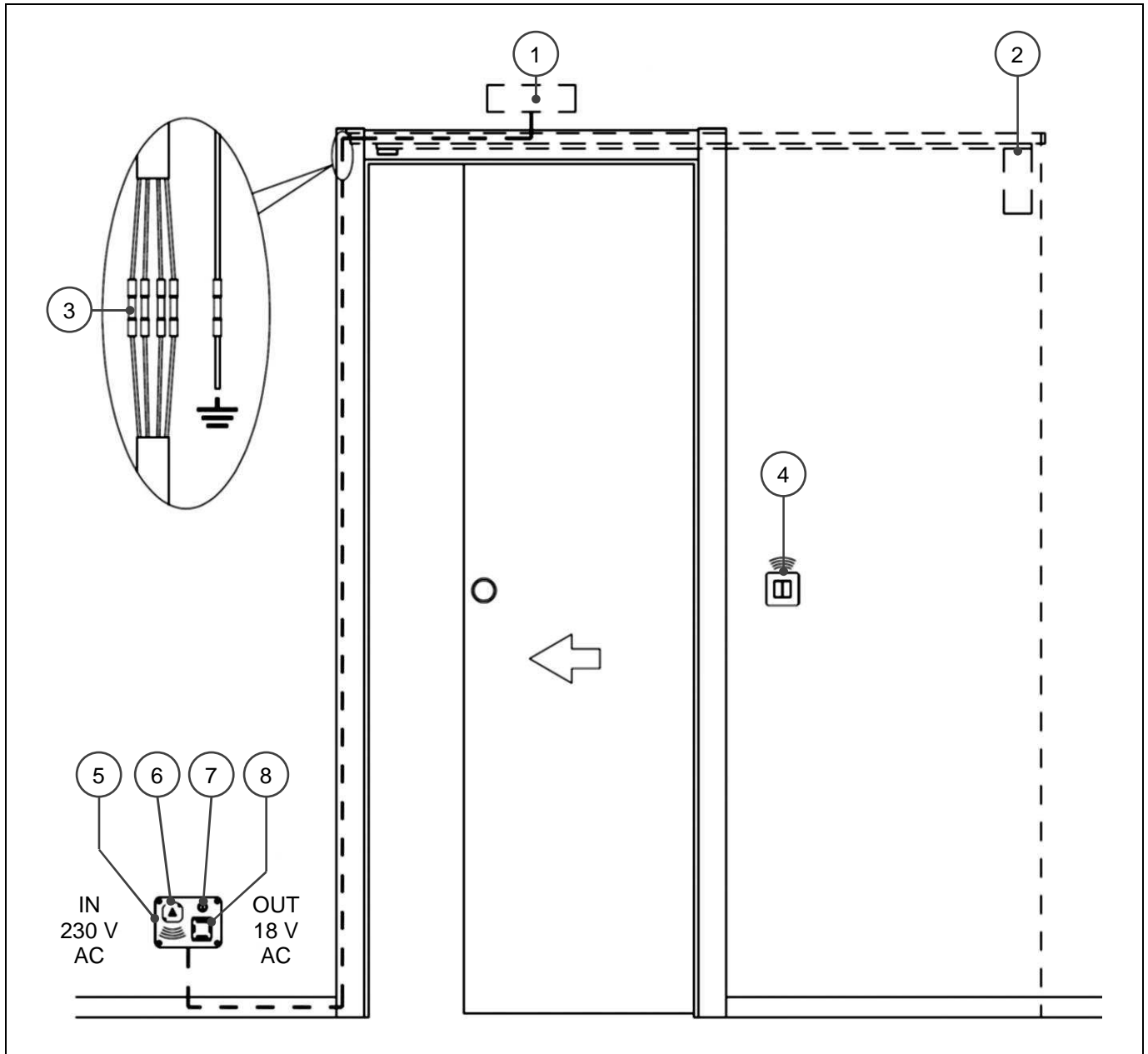


### 5.8. INSTALLATION ON EXISTING DOOR

For installation on an existing door, an external box is supplied to contain electrical devices. Wiring can be led under the surround trims of the door.

The connections made by the installer must guarantee a protection level of at least IP44. Heat-shrink connectors are provided to achieve this.

By purchasing the microwave radar device, the door can be operated by detecting the presence of a person.



REF.	DESCRIPTION
1	Microwave radar (purchased separately)
2	Motor unit
3	Heat-shrink connectors
4	Plates with transmitters

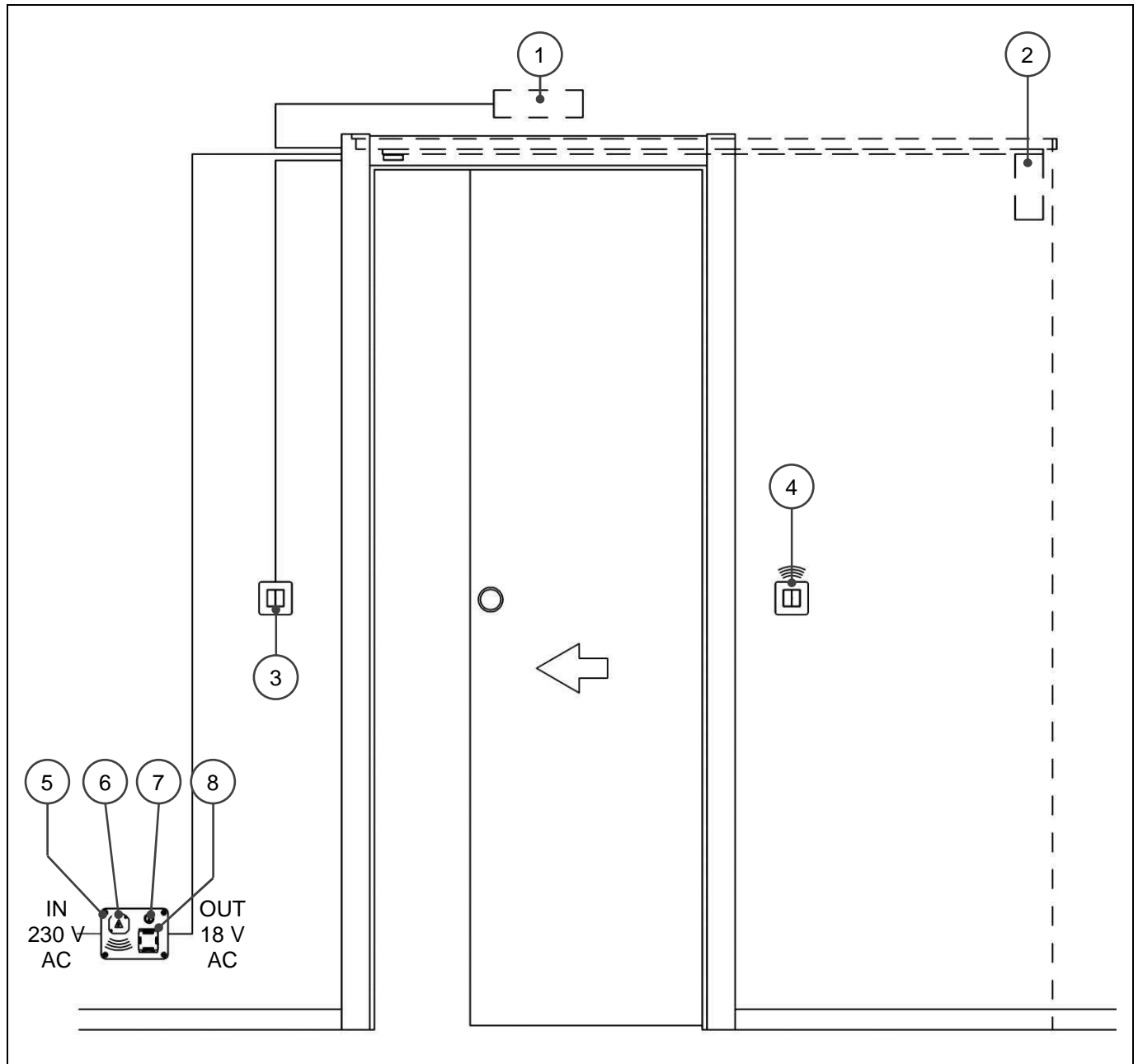
REF.	DESCRIPTION
5	Box for installation on existing frame
6	Radiofrequency receiver
7	Single-pole switch
8	Transformer

### 5.9. INSTALLATION ON NEW DOOR

For installation on a new door, specific corrugated sheaths or ducts must be embedded into the wall.

The connections made by the installer must guarantee a protection level of at least IP44. Heat-shrink connectors are provided to achieve this.

By purchasing the microwave radar device, the door can be operated by detecting the presence of a person.



REF.	DESCRIPTION
1	Microwave radar (purchased separately)
2	Motor unit
3	Button / switch (not supplied)
4	Plates with transmitters

REF.	DESCRIPTION
5	Box for embedding (not supplied)
6	Radiofrequency receiver
7	Single-pole switch
8	Transformer

## CHAP. 6. MAINTENANCE, TRACING FAULTS AND CLEANING

### 6.1. MAINTENANCE TECHNICIAN REQUIREMENTS



It is absolutely necessary for activities of maintenance, cleaning, replacement of parts and fault tracing carried out by the installer to be assigned to expert, skilled and authorized personnel.



Personnel must have been trained in matters relating to safety and have been made aware of the residual risks as indicated in **Chapter 4**.



In addition, personnel must be **instructed and not merely informed**, meaning a technician with knowledge relating to the automation kit, its respective components and the applicable standards, and with specific technical skills or training.

The technician, in addition to carrying out all maintenance work:

1. inside danger zones of the automation kit with movements halted in guaranteed safety;
2. may access the electrical panel with live equipment.

### 6.2. WORK POSITIONS AND TASKS OF THE MAINTENANCE TECHNICIAN



The normal work area of the maintenance technician and the respective duties/tasks are:

1. to install and adjust the automation kit, including inside danger zones with fixed guards in position and closed and locked in place, and with dangerous moving parts disconnected from the power supply and halted in guaranteed safety;

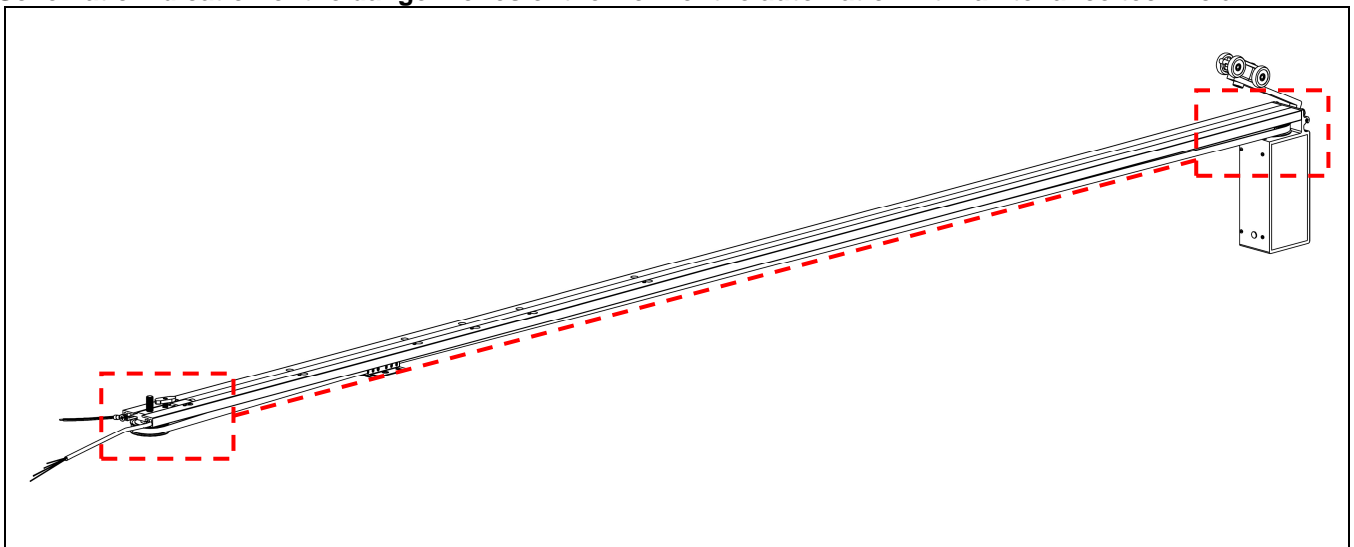


2. to clean internal parts of the automation kit (dismantling parts if necessary), maintenance, lubrication, assistance operations, tracing faults, replacing worn or deteriorated parts or structural parts (e.g. replacement of the drive belt, etc...), with dangerous moving parts disconnected from the power supply and halted in guaranteed safety, with movement halted due to the interruption of the power supply to actuators and/or with external power supply cut-off devices open and locked in position, for the components envisaged and indicated in this assembly manual.

The work zones that may present risks for the automation kit maintenance technician are:

- A. the toothed pulley on the motor side;
- B. the idler pulley;
- C. areas involved in the operation of the drive belt.

#### Schematic indication of the danger zones of the work of the automation kit maintenance technician



The danger zones are indicated by the dotted lines.

### 6.3. REQUIREMENTS FOR MAINTENANCE



All operations of maintenance, cleaning and replacement of parts, without exclusions, must be carried out only with this automation kit at a total standstill, after disconnecting all external energy supplies.



In addition, all cut-off devices for external energy supplies must be interrupted and locked in the zero "OFF" position or the "INTERRUPTED" position.

It is prohibited to carry out maintenance operations of any kind whatsoever on moving parts.



Before starting operations of maintenance, cleaning and parts replacement, always give warning that work is in progress using a clearly visible notice, and start up the automation kit again only after having checked that work has been completed and that all protections have been replaced.



### REMOVAL OF GUARDS AND/OR PROTECTION DEVICES



For some operations, it is necessary to remove a number of fixed guards and protection devices from their positions. These components may be removed only by the maintenance technician.



When work has been completed, these guards and protection devices must be replaced and secured in their original positions, complete with the fixing systems that were present before the work was carried out.



The person responsible for maintenance must fully deactivate the automation kit before proceeding with the removal of a fixed guard and/or with the replacement of any component of the automation kit.

#### 6.3.1. ACCESSIBILITY AND IDENTIFICATION

### TERMINAL – CONNECTORS

Terminals for connections are considered to be equivalent to plug-in devices (socket connectors – plug or connectors), and conductors must therefore be disconnected only if the power supply to electrical equipment has been disconnected as indicated earlier. The persons who may disconnect these devices must have the same characteristics as those indicated for the persons carrying out activities of "MAINTENANCE".

### CONDUCTORS, IDENTIFICATION AND INSTALLATION

All terminations of conductors with ends that are connected to devices or terminals are fitted with fixing devices. Conductors are identified at each end in conformity with the technical documentation (circuit diagram supplied with the equipment).

Protection conductors: all protection conductors are identified by means of colour along their entire length. The colour used is the combination of YELLOW and GREEN.

### 6.4. CLEANING / LUBRICATION



It is prohibited to clean or lubricate moving parts, unless made necessary by particular technical needs, and in this case suitable equipment must be used to avoid all hazards.

The cleaning operations that can be carried out by maintenance technicians with suitable professional skills as defined in **Chapter 5** are as follows:



Cleaning operations on internal parts of the automation kit must be carried out by the maintenance service.

All cleaning operations can be commenced only after having isolated and discharged the automation kit from external energy supply sources.



Do not use inflammable and/or corrosive solvents or fluids to clean the automation kit, electrical equipment or components. Use approved non-inflammable and non-toxic commercial solvents.



Comply with the instructions for use and use any necessary items of personal protection equipment envisaged by the suppliers of these substances.



The automation kit, electrical equipment and components must never be washed using water.



During lubrication operations:

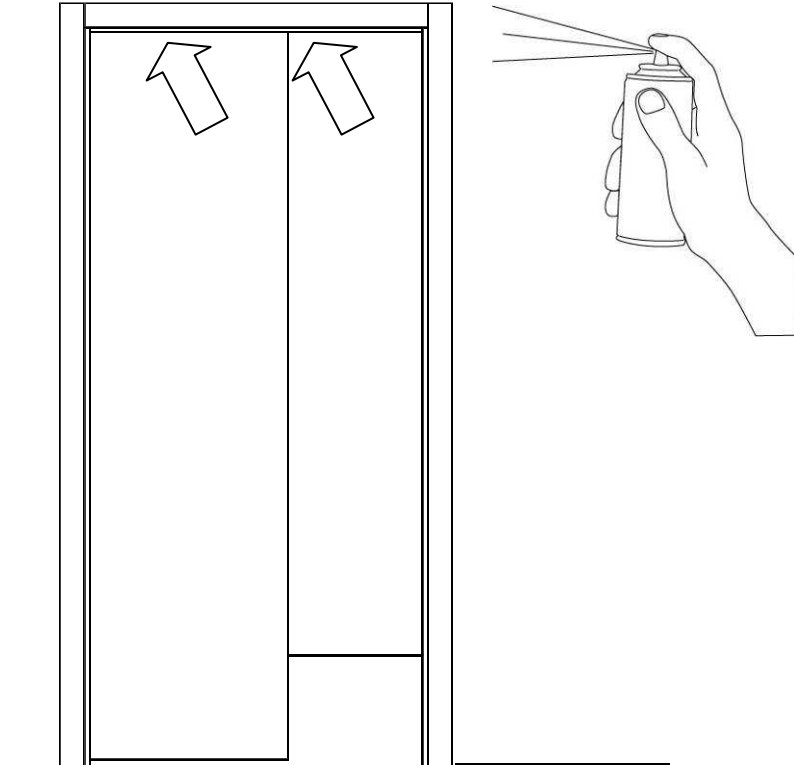
1. avoid the contact of oils on the skin;
2. wear protective gloves during replacement operations.



All lubrication operations must be carried out:

1. after having interrupted all external supply sources of the automation kit;
2. complying scrupulously with the indications given in **Chapter 4**.



FREQUENCY	PERSONNEL	ZONE - METHODS
As necessary	Maintenance technician	Remove dust and extraneous greasy substances from the hanger sliding tracks. Use a soft cloth without loose threads, or a vacuum cleaner and a brush. While cleaning, use dust masks and any other items of PPE required for operations of this type.
As necessary	Maintenance technician	<p>If the drive belt makes noises while operating, spray a film of a silicone-based lubricant directly onto the belt, from the slot indicated by the arrows. After this operation perform a few opening/closure cycles to distribute the lubricant on the toothed pulleys.</p> 

### 6.5. NON-ROUTINE MAINTENANCE

No instructions on non-routine maintenance are given in the assembly manual.

For operations of non-routine maintenance or the replacement of parts due to breakages or overhauls or mechanical or electrical malfunctions, it is necessary to request the assistance of the maintenance technician, who will explicitly request instructions from the supplier of the automation kit.



The following is also specified:

1. Do not attempt to replace and/or repair any important components;
2. Never use the automation kit if it is not in a condition of full efficiency.



Before operating the automation kit again after important operations of repair or the replacement of parts, the controls, adjustments and checks indicated in **Chapter 5** must be carried out with positive results.



For the disposal of worn or replaced materials, consult the indications given in **Chapter 7**.

### 6.6. TRACING FAULTS



Before proceeding with any operation or investigation:

1. use a notice to give warning that maintenance is being carried out on the automation kit;
2. before restarting the automation kit, always check that there are no persons still carrying out cleaning and/or maintenance operations;
3. checks and minor electrical repairs must be assigned only to professional, qualified and accredited electricians and/or electrical technicians.



Before returning to normal production operation, the maintenance service must check that mechanical and electrical components are undamaged and functioning, if necessary following the indications given in **Chapter 5**.

During the normal use of the automation kit, a number of problems may arise. These problems can be easily eliminated by following the descriptions below:

FAULT	POTENTIAL CAUSES	OPERATIONS AND CHECKS
<b>Mains power supply absent</b>	General blackout Triggering of the protection device against short circuits or any other device located upstream on the power supply line to electrical equipment	Contact the electrical power supplier  After eliminating the reasons for the triggering of one of these devices, reset it
<b>Motor does not start</b>	Absence of power supply Fuses blown or circuit breakers not operating Buttons not operating	Check and restore the electrical power supply Replace blown fuses, check the status of circuit breakers Check the efficiency of buttons
<b>Drive belt jumps on pulley teeth</b>	Insufficient belt tightness	Adjust belt tightness as indicated in <b>Chapter 5</b>
<b>Door does not open when radiofrequency buttons are pressed</b>	Low battery charge	If the incorporated LED does not go on when the button is pressed, change the battery

### 6.7. REINSTALLATION AND REUSE



Movement and reinstallation of the automation kit are particularly delicate operations that require great experience, and they must therefore be performed only by the maintenance technician or installer.

### 6.8. FIRE EXTINGUISHING DEVICES

Indications on fire extinguishing devices are of fundamental importance, because any extinguishing operations not carried out in compliance with the indications given below or that are not in any other way envisaged may cause damage to the automation kit, or even accidents.



All necessary fire extinguishing operations must be carried out by persons that have been adequately informed and trained on the risks and hazards that may arise while the activities in question are being carried out, and that must have read and understood the safety instructions provided in this assembly manual, and must have normal psychophysical capacities.



In case of fires involving electrical equipment, other parts of the automation kit or the product processed, it is advisable to use type-C carbon dioxide extinguishers.

## CHAP. 7. DISPOSAL

### 7.1. GENERAL INFORMATION



The decommissioning of the automation kit must be assigned to specialized personnel with suitable equipment, with the same professional skills as maintenance technicians as indicated in **Section 6.1**.

Before starting demolition, give warning that work is in progress.



### 7.2. DEMOLITION AND DISPOSAL



It is necessary to implement programmed maintenance, uninstalling the automation and cleaning away dust from the track of the door and the automation rotor with a damp cloth.



The automation kit **can be disposed of without needing to reduce it into small pieces**. It is sufficient to disconnect the main units of which it is composed and to consign them to the transport vehicle assigned to demolition.



**It is prohibited and may also be punishable** to abandon the automation kit and electrical equipment in the environment.





## CHAP. 8. APPENDICES / ANNEXES

### 8.1. MAINTENANCE REGISTER FOR THE AUTOMATION KIT

This maintenance register contains records on the activities of installation, maintenance, repairs and modifications made.

Description of operation					
<i>(Check the box corresponding to the operation carried out. Describe any residual risks and/or foreseeable improper use.)</i>					
Installation	Starting	Adjustments	Maintenance	Repairs	Modifications
Date:		Technician signature:		Customer signature:	

Description of operation					
<i>(Check the box corresponding to the operation carried out. Describe any residual risks and/or foreseeable improper use.)</i>					
Installation	Starting	Adjustments	Maintenance	Repairs	Modifications
Date:		Technician signature:		Customer signature:	

Description of operation					
<i>(Check the box corresponding to the operation carried out. Describe any residual risks and/or foreseeable improper use.)</i>					
Installation	Starting	Adjustments	Maintenance	Repairs	Modifications
Date:		Technician signature:		Customer signature:	

Description of operation					
<i>(Check the box corresponding to the operation carried out. Describe any residual risks and/or foreseeable improper use.)</i>					
Installation	Starting	Adjustments	Maintenance	Repairs	Modifications
Date:		Technician signature:		Customer signature:	

## CHAP. 9. IDENTIFICATION DATA

### 9.1. MANUFACTURER

#### **Scrigno S.p.A. Unipersonale**

975 Via Casale Sant'Ermete - 47822 Santarcangelo di Romagna (RN) – Italy

Tel. +39 0541/757711 – Fax +39 0541/758744

e-mail: [scrigno@scrigno.it](mailto:scrigno@scrigno.it) - [www.scrigno.net](http://www.scrigno.net)

### 9.2. DOCUMENT

#### **ASSEMBLY MANUAL**

No. of volumes: 1

Date: 01/10/12

Version: 00

© Copyright 2012 – Scrigno S.p.A. Unipersonale

Without the prior written authorization of Scrigno S.p.A. Unipersonale, this manual or any part of the same may not be in any way reproduced, modified, transcribed, translated into any language or made available to third parties, or used in any other way that may prejudice the interests of Scrigno S.p.A. Unipersonale

All violations will be prosecuted pursuant to law and copyright.