



## Operating instructions

Last updated: 01.2014

# Operator system for Sliding Gates Comfort 850S, 851S















**[E]** EASY  
**[S]** OPERATING  
SYSTEM

MSBUS 

# 1. Meaning of symbols

## Controls and motor unit symbols

-  Photocell or closing edge safety device (CESD)
-  Gate position OPEN
-  Intermediate position
-  Gate position CLOSED
-  Reference control point
-  Has no function
-  Impulse  
(remote control, external control elements)
-  Operation
-  Closing edge safety device
-  STOP
-  External control elements
-  Modular antenna

## Advice



### Caution! Danger of personal injury!

The following safety advice must be observed at all times so as to avoid personal injury!



### Attention! Danger of material damage!

The following safety advice must be observed at all times so as to avoid material damage!



### Advice / Tip



### Check



### Reference

## Type plate on control unit

Type: \_\_\_\_\_  
Art. No.: \_\_\_\_\_  
Product No.: \_\_\_\_\_

## Type plate on motor unit

Type: \_\_\_\_\_  
Art. No.: \_\_\_\_\_  
Product No.: \_\_\_\_\_

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## 3. General safety advice



**Please read carefully!**

### **IMPORTANT SAFETY INSTRUCTIONS:**

IMPORTANT - PLEASE OBSERVE ALL SAFETY INSTRUCTIONS TO PREVENT INJURY TO PERSONS.  
PLEASE KEEP THESE INSTRUCTIONS FOR FURTHER USE.

### **IMPORTANT INSTRUCTIONS FOR SAFE INSTALLATION:**

IMPORTANT - INCORRECT INSTALLATION CAN RESULT IN SERIOUS INJURY. PLEASE FOLLOW ALL INSTALLATION INSTRUCTIONS.

### **Target group**

This operator system may only be installed, connected and put into operation by qualified and trained professionals!

Qualified and trained specialist personnel are persons

- who have knowledge of the general and special safety regulations,
- who have knowledge of the relevant electro-technical regulations,
- with training in the use and maintenance of suitable safety equipment,
- who are sufficiently trained and supervised by qualified electricians,
- who are able to recognise the particular hazards involved when working with electricity,
- with knowledge regarding applications of the EN 12635 standard (installation and usage requirements).

### **Warranty**

For an operations and safety warranty, the advice in this instruction manual has to be observed. Disregarding these warnings may lead to personal injury or material damage. If this advice is disregarded, the manufacturer will not be liable for damages that might occur.

Batteries, fuses and bulbs are excluded from warranty.

To avoid installation errors and damage to the gate and operator system, it is imperative that the installation instructions are followed. The system may only be used after thoroughly reading the respective mounting and installation instructions.

The installation and operating instructions are to be given to the gate system user, who must keep them safe. They contain important advice for operation, checks and maintenance.

This item is produced according to the directives and standards mentioned in the Manufacturer's Declaration and in the Declaration of Conformity. The product has left the factory in perfect condition with regard to safety.

Power-operated windows, doors and gates must be checked by an expert (and this must be documented) before they are put into operation and thereafter as required, but at least once a year.

### **Correct use**

The operator system is designed exclusively for opening and closing sliding doors and gates.

### **Gate requirements**

The Comfort 850 S operator system is suitable for:

- small and medium-sized sliding gates weighing up to 400 kg.

The Comfort 851 S operator system is suitable for:

- small and medium-sized sliding gates weighing up to 800 kg.

The gate must have:

- mechanical gate stops in both directions,
- a straight and even travel path, i.e. with absolutely no slope.

**Beside the advice in these instructions, please observe the general safety and accident prevention regulations! Our sales and supply terms and conditions are effective.**

### **Information on installing the operator system**

- Ensure that the gate is in good mechanical condition.
- Ensure that the gate can stop in any position.
- Ensure that the gate can be easily moved in the OPEN and CLOSE directions.
- Ensure that the gate opens and closes properly.
- Remove all unnecessary components from the gate (e.g. cables, chains, brackets).
- Render any installations inoperable that will no longer be needed after the operator system has been installed.
- Before commencing cabling works it is very important to disconnect the operator system from the electricity supply. Ensure that the electricity supply remains disconnected throughout the cabling works.
- Adhere to the local protection regulations.
- Lay the electricity supply cables and control cables; these MUST be laid separately. The controls voltage is 24 V DC.
- Install the operator system with the gate in the CLOSED position.
- Install all the impulse transmitters and control devices (e.g. remote control buttons) within sight of the gate and at a safe distance from the moving parts of the gate. A minimum installation height of 1.5 m must be observed.
- Ensure that no part of the gate extends across public footways or roads when the installation is complete.

### **Information on commissioning the operator system**

After initial operation, the persons responsible for operating the gate system, or their representatives must be familiarised with the use of the system.

- Make sure that children cannot access the gate control unit.
- Before moving the gate, make sure that there are neither persons nor objects in the operating range of the gate.
- Test all existing emergency command devices.
- Never insert your hands into a running gate or moving parts.
- Pay attention to any parts of the gate system that could cause crushing or shearing damage or accidents.  
The EN 13241-1 regulations must be observed.

### **Information on servicing the operator system**

To ensure proper operation, the following items must be checked regularly and repaired if necessary. Before any works to the gate system are undertaken, the operator system must be disconnected from the mains.

- Check once a month that the operator system stops and reverses in every position when the gate touches an obstacle. Place an obstacle in the path of the gate to check this.
- Check the settings of the OPEN and CLOSE automatic cut-out function.
- Check all movable parts of the gate and operator system.
- Check the gate system for signs of wear or damage.
- Check whether the gate can be easily moved by hand.

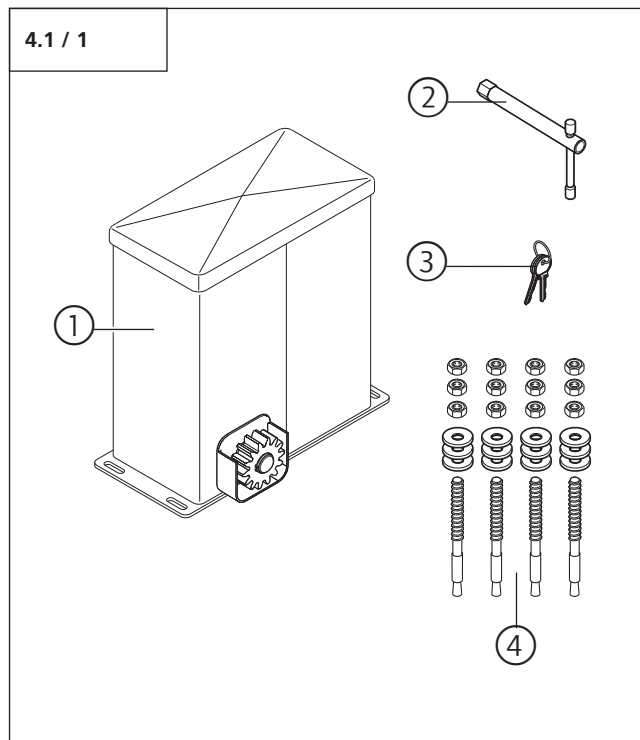
### **Information on cleaning the operator system**

Never use water jets, high pressure cleaners, acids or bases for cleaning.

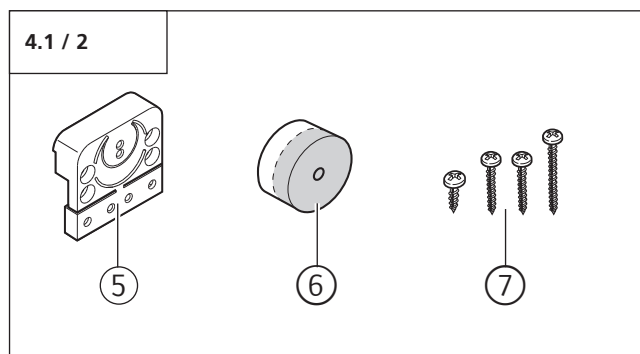
## 4. Product overview

### 4.1 Comfort 850 S, 851 S supply package

#### Standard package

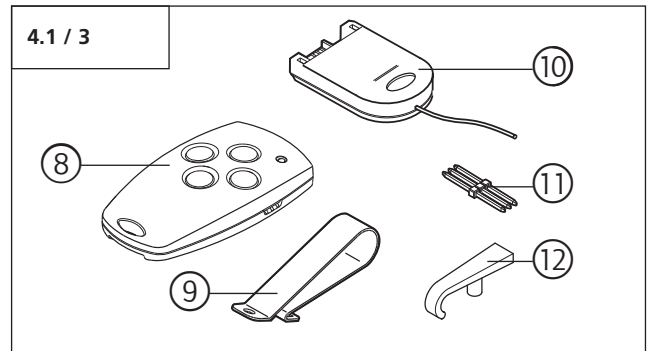


- 1 Comfort 850 S, 851 S motor unit
- 2 Release key
- 3 Keys (2x)
- 4 M8 heavy-duty wall plugs



Magnet housing set (reference point):

- 5 Magnet housing
- 6 Reference point magnet
- 7 Fixing material



- 8 Hand transmitter
- 9 Sun visor clip
- 10 Modular antenna
- 11 Transmission plug
- 12 Operation button

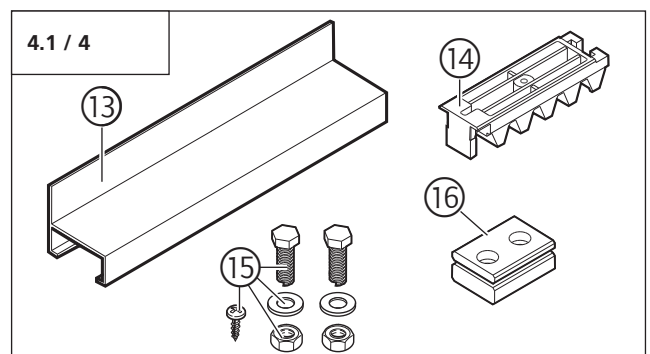
In addition to the components in the standard package, the following is required for the installation:  
- toothed rack

#### Toothed racks

The motor unit can be combined with different toothed racks.

#### Special 432 (M4)

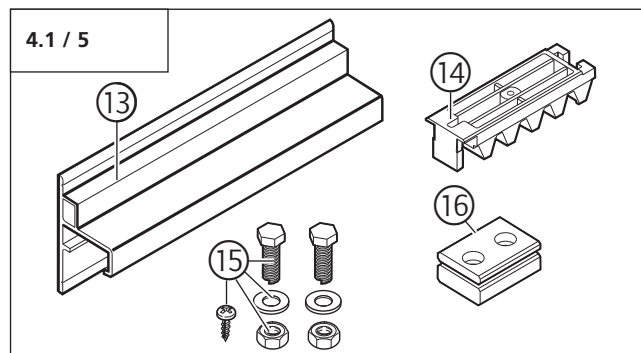
Steel rack housing  
with plastic toothed rack segment



## 4. Product overview

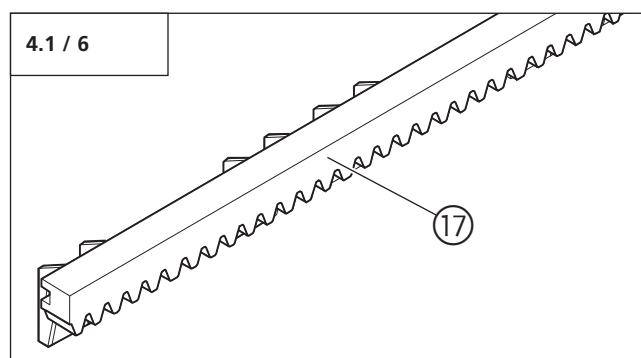
### Special 441 (M4)

Aluminium rack housing  
with integrated cable channel  
and plastic toothed rack segment



### Special 471

Plastic toothed rack segment with steel core

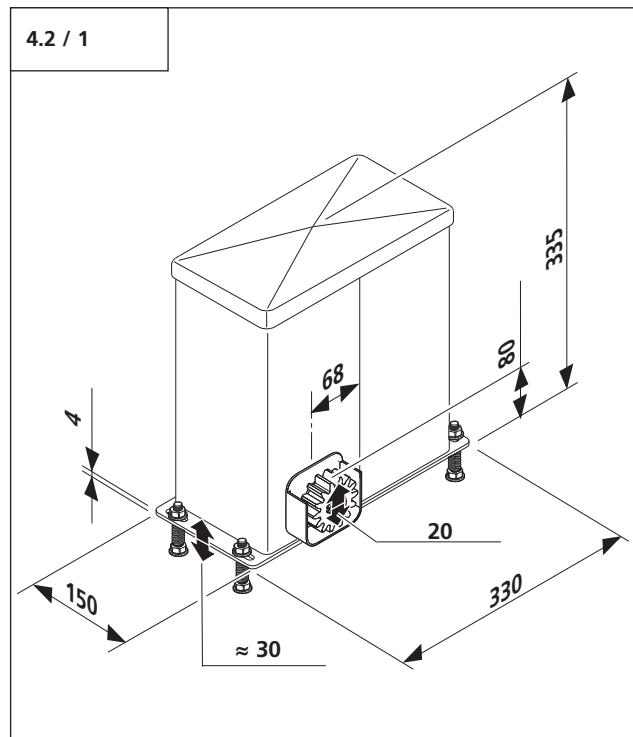


The toothed rack package includes:

- 13 Rack housing
- 14 Plastic toothed rack segment
- 15 Fixing material
- 16 Clamping assembly
- 17 Plastic toothed rack segment with steel core

The quantities of the individual components are dependent on the gate length.

## 4.2 Dimensions

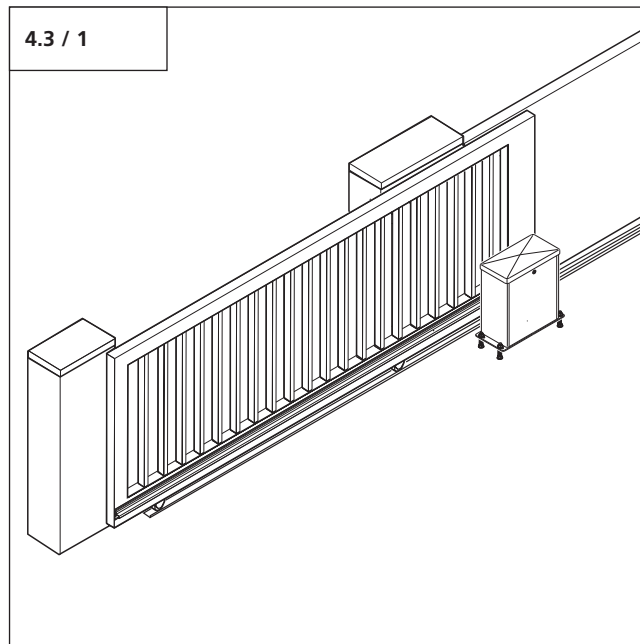


## 4. Product overview

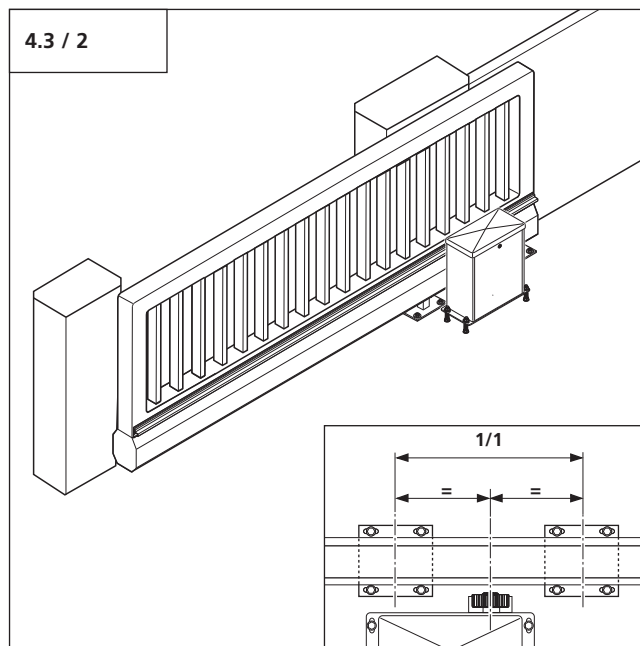
### 4.3 Gate variations

The standard supply package is suitable for the following types of gate.

#### Gate system on rails



#### Cantilevered gate system


















## 5. Preparation for mounting

### 5.1 General notes

The pictures in these instructions are not true-to-scale. Dimensions are always given in millimetres (mm)!

The motor can be mounted on the right or left hand side of the gate depending on the direction of opening. These instructions show the motor being installed on the right hand side.

For correct mounting you will need the following tools:

5.1 / 1			
	13	2	5
			
2	10*	∅ 8	∅ 3.5
			
∅ 4.5	∅ 7	6	
			

\* Minimum shaft length 160 mm

## 5. Preparation for mounting

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### 5.2 Checks



#### **Attention!**

In order to guarantee correct mounting, carry out the following checks before installing.

#### **Supply package**

- Check the package to ensure that all the parts are included.
- Check that you have all the additional components that are necessary for your particular installation requirements.

#### **Foundations**

- Check the proposed installation location for the operator system:
  - The motor unit and the toothed rack must be installed on the inside of the gate with the gate closed.
  - The motor unit should not be installed within the clear width (r)!
  - For cantilevered gates, the motor unit must be mounted at the mid point between the carrier roller assemblies.
  - The foundations must be suitable for heavy-duty wall plugs.
- Check whether the existing foundations are suitable.
- Check the supply cable.  
Pay particular attention to the cable exit point where the motor unit is to be installed.

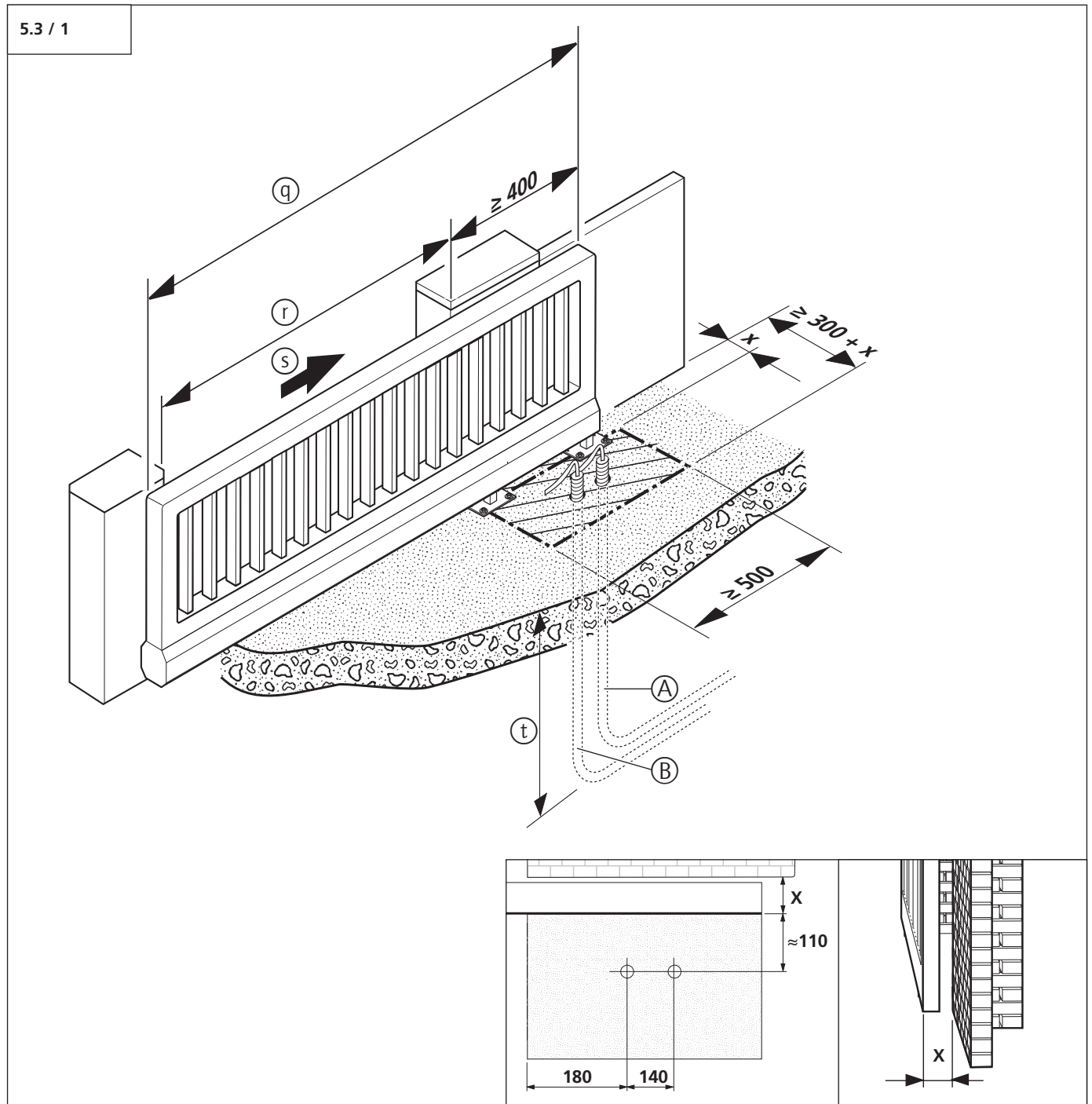
#### **Gate system**

- Ensure that your gate system has an appropriate electricity supply connection and a facility for disconnecting the mains. The minimum cross-sectional area of the earth cable is  $3 \times 1.5 \text{ mm}^2$ .
- Ensure that all cables are suitable for outdoor use (UV resistant and cold resistant).
- Check that the gate to be operated fulfils the following conditions:
  - The travel path of the gate must be horizontal, i.e. on no account sloping.
  - When closed, the gate should extend at least 400 mm further than the clear width on the installation side.
  - The gate must have a mechanical gate stop for both directions.
  - The closing edges must be fitted with a flexible gate seal.
  - The gate itself must be straight, so that the distance between the motor unit and the gate never changes.



## 5. Preparation for mounting

### 5.3 Gate and foundation layout



- A Empty conduit for control cable
- B Empty conduit for electricity supply cable
- q Gate width
- r Clear width
- s Opening direction
- t Below depth of frost penetration
- x Gate thickness + distance from structure

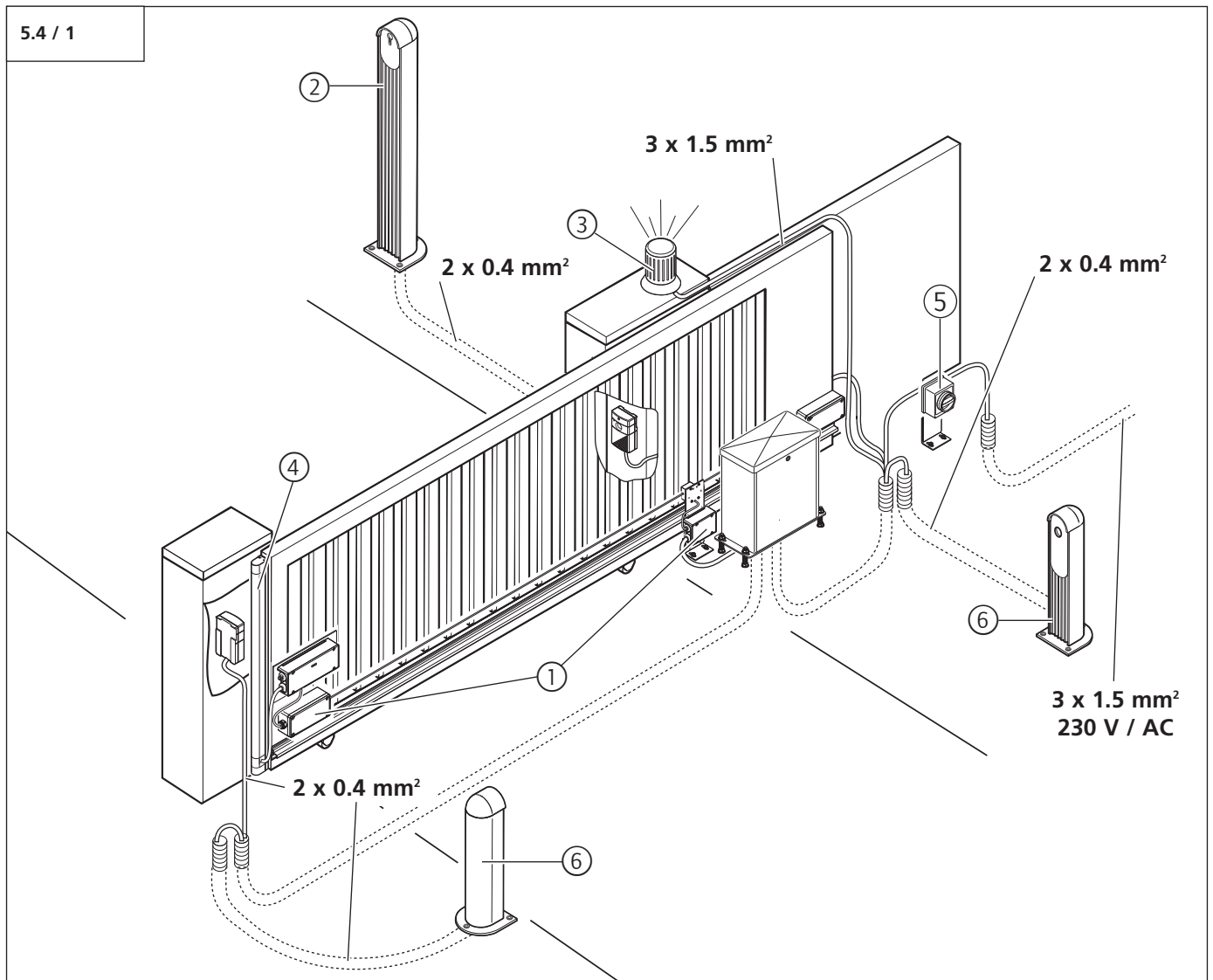
## 5. Preparation for mounting

### 5.4 Cabling layout



#### Advice:

This is just an example of a cabling layout; the layout can vary according to the type of gate and the associated equipment.



- 1 Signal transmission system
- 2 Key switch / code button
- 3 Signal light

- 4 Closing edge safety device (CESD)
- 5 Mains isolator switch (mains disconnection facility)
- 6 Photocell



#### Reference:

For the installation and cabling of the gate sensors, control elements and safety equipment, the relevant installation instructions must be observed.

## 6. Installation

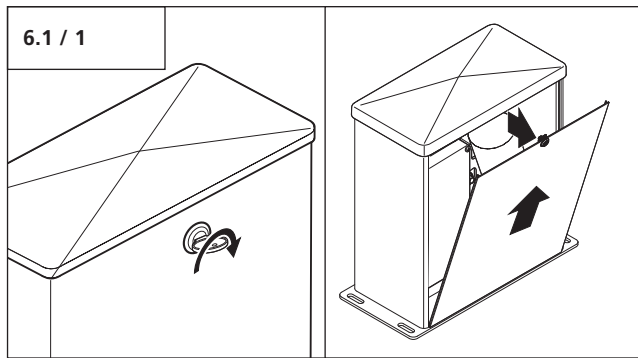
### 6.1 Installing the motor unit



#### Attention!

To install the motor unit correctly, the following points must be assured:

- The motor unit console must be aligned to face the gate, so that the spur gear can mesh with the toothed rack whatever the position of the gate.
- The wall plugs for the floor console must be at least 80 mm from the edge of the foundations.

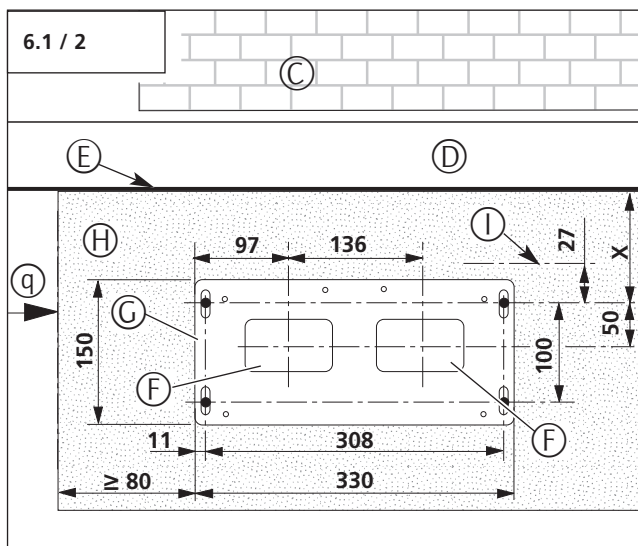


- Remove the motor unit cover.



#### Attention!

To install the motor unit correctly, it must be mounted at the mid point between the carrier roller assemblies if the gates are cantilevered.



C	Wall
D	Gate
E	Mounting surface for the toothed rack
F	Empty conduit for power supply cable / control cable
G	Floor console
H	Foundations
I	Front edge of the existing toothed rack
q	Clear width

- Calculate the distance from the mounting surface for the toothed rack (E) to the motor unit, taking into account dimension X.  
Special 432: X = 60  
Special 441: X = 60  
Special 471: X = 73



#### Reference:

When determining the mounting surface for the toothed rack, the information given in Section 6.2.2 must be observed.



#### Advice:

When using an existing toothed rack, the correct dimension is 27 mm from the first screw to the front edge of the toothed rack.

- Before installing the motor unit, check whether the possible height adjustment of the motor unit is sufficient for the situation on site, or if the motor unit needs to be raised on a backplate.
- Align the floor console, with the motor unit parallel to the gate.



#### Reference:

The height adjustment of the motor unit is described in Section 6.3.

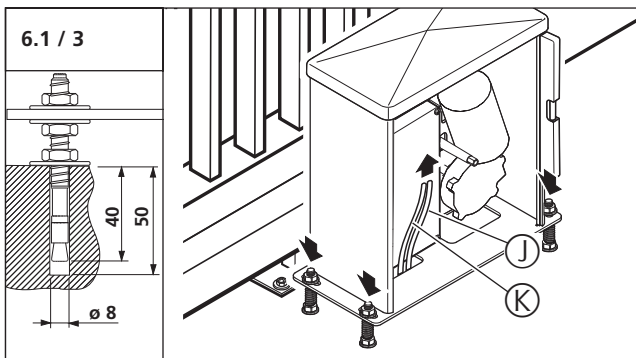
- Drill the holes for the wall plugs as shown in the drilling diagram.

## 6. Installation



### Caution!

Danger of electric shock:  
Before commencing cabling works it is very important to disconnect the operator system from the electricity supply. Ensure that the electricity supply remains disconnected for the duration of the cabling works (e.g. prevent reconnection).



- Push in the wall plugs.
- Feed the control cable (J) and the power supply cable (K) through the floor console.
- Align the motor unit.
- Screw the floor console into place.

## 6.2 Mounting the toothed rack

### 6.2.1 General



### Attention!

To install the rack correctly, the following must be ensured:

- The motor unit has been mounted.
- The motor unit is unlocked (released).



### Reference:

- For gates with an existing toothed rack, please skip to Section 6.3.
- Section 6.5 describes how to release the motor unit.

The toothed racks are available in two standard lengths: 2,000 mm und 4,000 mm. The toothed racks can be cut to length or slotted together according to requirements.

### Special 432, Special 441

The toothed rack comprises a rack housing, toothed rack segments and two clamping assemblies.

### Special 471

The toothed rack is made up of several toothed rack segments.

### Minimum length of toothed rack

The minimum length of the toothed rack is equal to the movement stroke of the gate between the gate OPEN and gate CLOSED positions + 180 mm.

### Maximum length of toothed rack

The maximum length of the toothed rack is equal to the width of the gate.

## 6. Installation

### 6.2.2 Determining the installation height

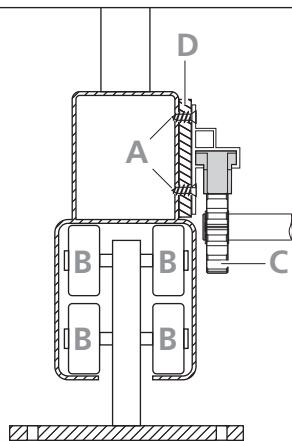


#### Attention!

To ensure trouble-free movement of the gate, the following points must be assured:

- The screws (A) should not obstruct the operation of the gate (e.g. by extending into the path of the gate rollers (B)).
- The spur gear (C) should not rest against the gate.
- The spur gear (C) should not be at its lowest possible position (it must be possible to lower the spur gear by 1 to 2 mm after the toothed rack assembly has been installed).

6.2.2 / 1



- Determine the installation height of the toothed rack on the gate.
- Adjust the height of the spur gear accordingly.



#### Reference:

The height adjustment for the motor unit is described in Section 6.3.



#### Advice:

The toothed rack can be adapted to fit the gate by means of a backplate (D).

### 6.2.3 Determining the installation position and the length of the toothed rack

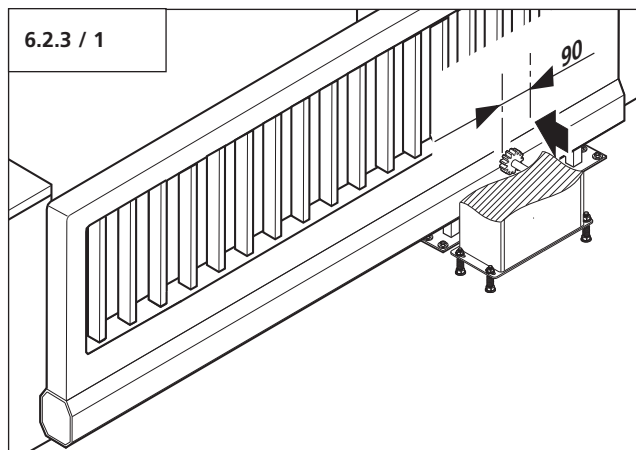
#### Maximum length of toothed rack

If a toothed rack is to be installed across the entire width of the gate, then the installation position does not have to be determined. The length and installation position of the toothed rack correspond to the gate width.

#### Minimum length of toothed rack

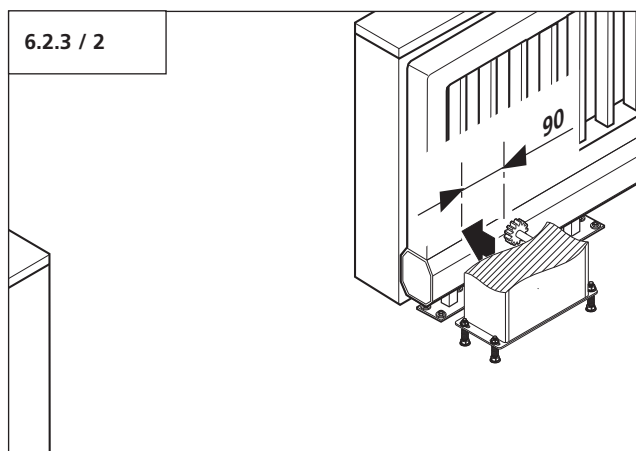
The minimum length of toothed rack must be determined at the gate.

6.2.3 / 1



- Move the gate to the CLOSED position.
- Make a mark on the gate: 90 mm from the centre of the spur gear in the direction of opening.

6.2.3 / 2



- Move the gate to the OPEN position.
- Make a mark on the gate: 90 mm from the centre of the spur gear in the direction of closing.

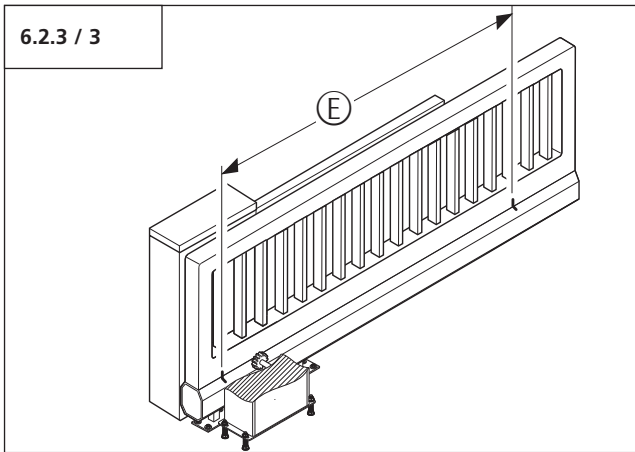
## 6. Installation



### Attention!

To ensure trouble-free operation, the toothed rack must at least extend across the area (E) between the markings.

6.2.3 / 3



### Adjust the length of the toothed rack



### Attention!

To avoid damaging the toothed rack segments, there should be no toothed rack segments in the rack housing at the point where the cut is to be made.

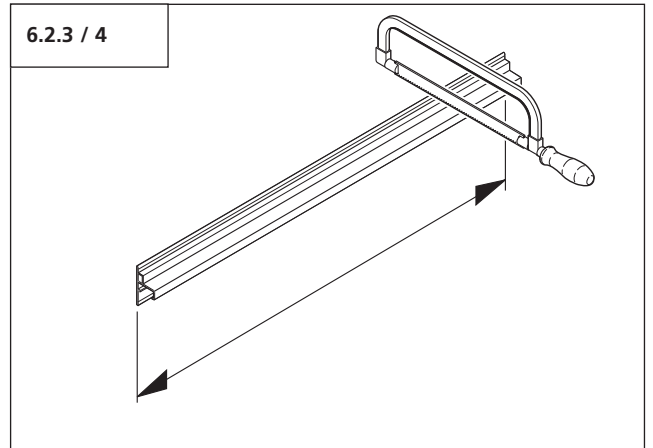
- Measure the required length of toothed rack at the gate.

### If the standard rack length equals the required length of toothed rack:

The length of the toothed rack need not be adjusted.

### If the standard rack length is longer than the required length of toothed rack:

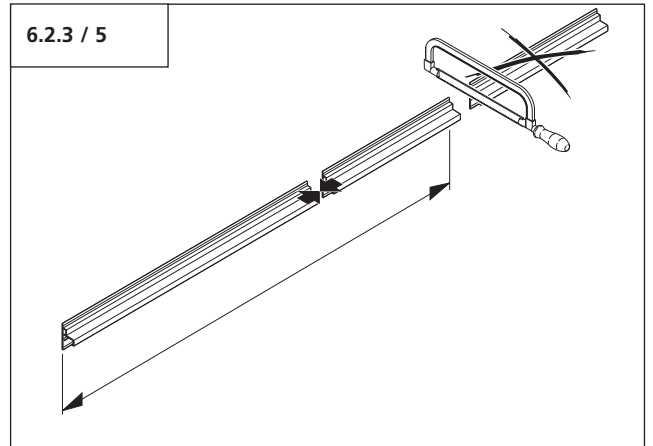
6.2.3 / 4



- Cut off the excess length of the rack housing using a metal saw.

### If the standard rack length is shorter than the required length of toothed rack:

6.2.3 / 5



- Place the required number of rack housings end to end.
- Cut off any excess length from the last rack housing using a metal saw.

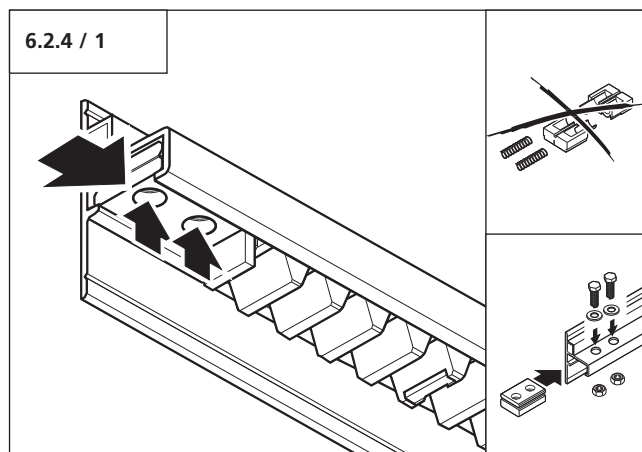
## 6. Installation

### 6.2.4 Preparing the toothed rack (only applies to Special 432 and 441)



#### Caution!

To avoid injuries, do not insert the supplied spring buffer into the toothed rack.



- Move the gate to the OPEN position.
- Slide the first clamp assembly into the rack housing on the motor unit side.
- Mark the drill hole locations.
- Slide the clamp assembly back out of the rack housing.
- Drill two holes for the clamp assembly screws at the hole location marks.
- Slide the clamp assembly back into place and secure with the screws.

### 6.2.5 Mounting the toothed rack



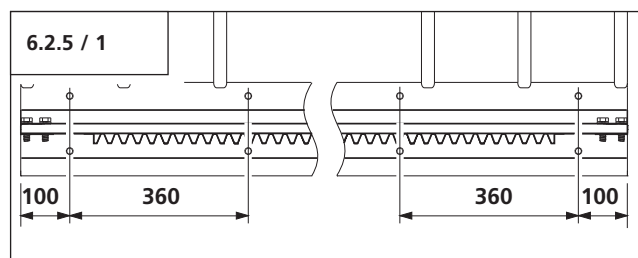
#### Attention!

To ensure that the gate runs correctly, the countersunk screws must be tightened and counter sunk until they are flush with the surface.

The different types of toothed rack have different screw fixing points on the gate:

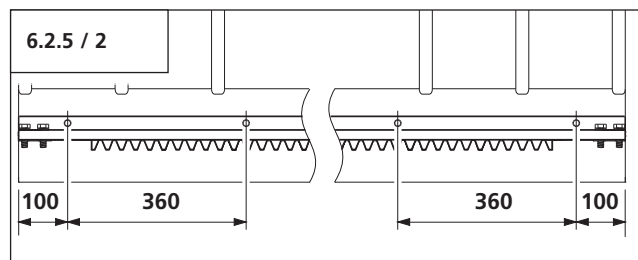
#### Special 441

Aluminium model



#### Special 432

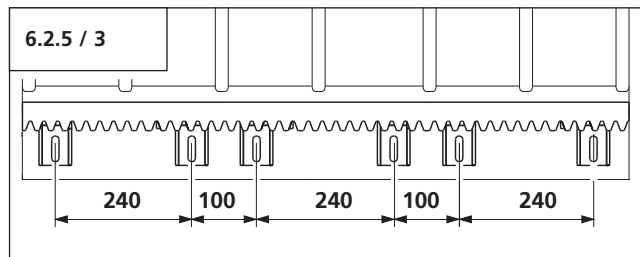
Steel model



## 6. Installation

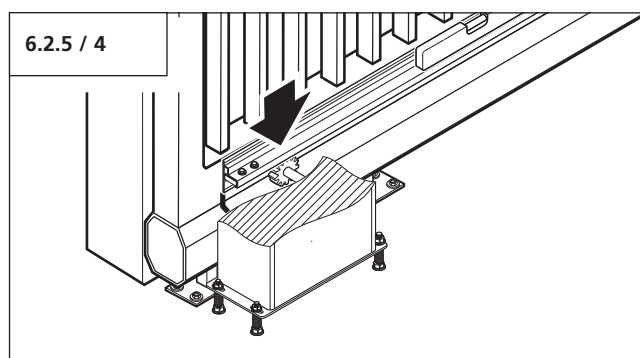
### Special 471

Plastic model



#### Reference:

For the Special 471 toothed rack, the reference point magnet must be installed before the rack is mounted. The installation of the reference point magnet is described in Section 6.4.



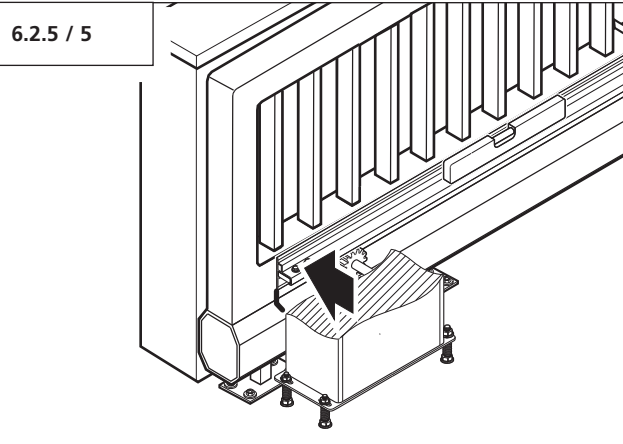
- Hold the toothed rack in place at the point marked on the gate on the motor unit side.



#### Advice:

If the toothed rack stretches the entire width of the gate, the rack housing must be held in place at the end of the gate.

- Lay the toothed rack onto the spur gear so that the toothed rack engages the spur gear.
- Align the toothed rack horizontally.
- Hold the toothed rack in position at the other end using a clamp

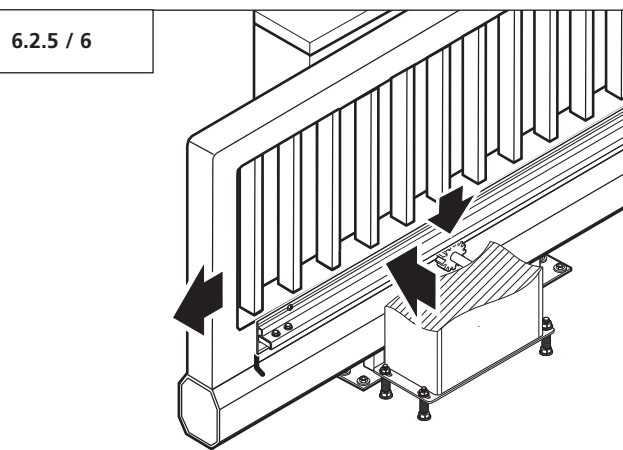


- Screw the toothed rack to the gate at the first screw fixing point, in accordance with the relevant drill-hole diagram.
- Remove the clamp.



#### Attention!

To ensure correct operation, the toothed rack must always be pushed onto the spur gear as the gate is moved.



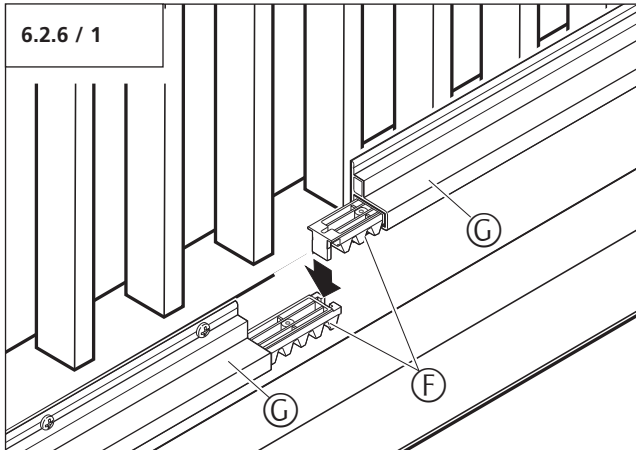
- Push the gate 500 mm in the direction of closing.
- The section of toothed rack that now lies between the spur gear and the fixed part of the rack can be screwed into place, in accordance with the relevant drill-hole diagram.



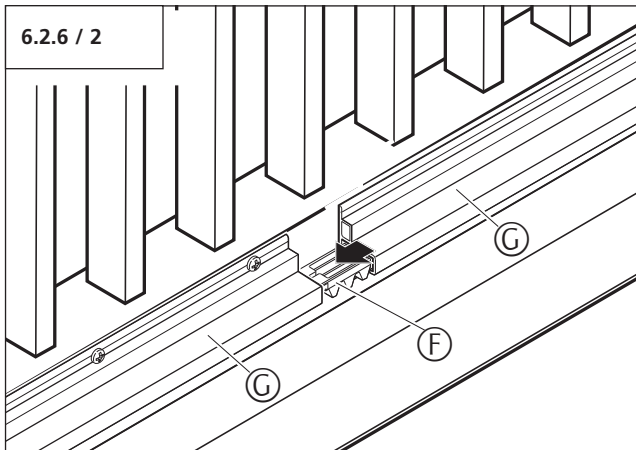
## 6. Installation

### 6.2.6 Joining the lengths of toothed rack

#### Special 432, Special 441

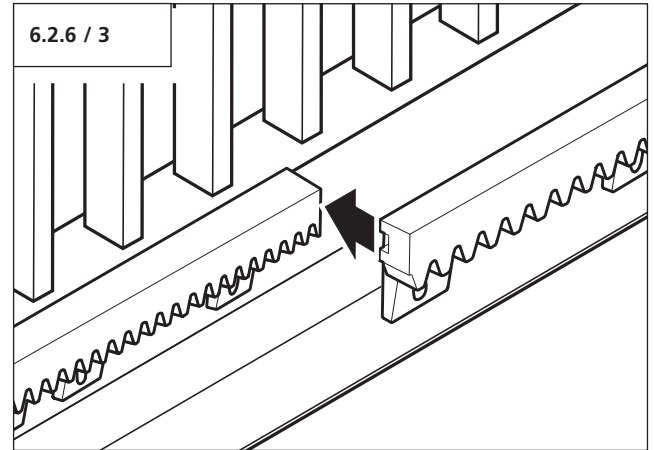


- Slide the toothed rack segments (F) out of the rack housing (G).
- Slot the toothed rack segments (F) together.



- Slide the toothed rack segments (F) up to the first clamping assembly.
- Push the rack housing sections (G) together.
- Push the gate 500 mm in the direction of closing.
- The section of toothed rack that now lies between the spur gear and the fixed part of the rack can be screwed in place, in accordance with the relevant drill-hole diagram.
- Extend the toothed rack using as many rack housing sections as necessary until the required length is reached.

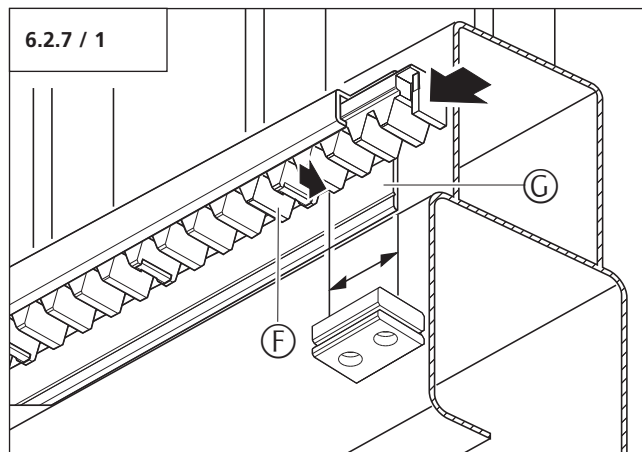
#### Special 471



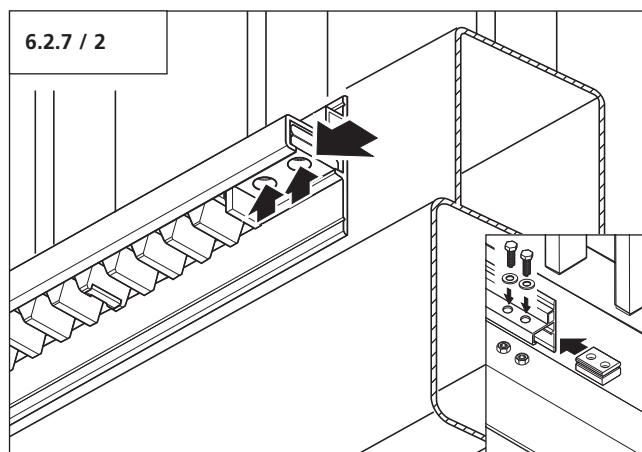
- Fasten the toothed rack segments together.
- Push the gate 500 mm in the direction of closing.
- The section of toothed rack that now lies between the spur gear and the fixed part of the rack can be screwed in place, in accordance with the relevant drill-hole diagram.
- Extend the toothed rack using as many segments as necessary until the required length is reached.

## 6. Installation

### 6.2.7 Fixing the toothed rack segments (only applies to Special 432 and 441)



- Push the toothed rack segments (F) up to the first clamping assembly.
- Shorten the length of toothed rack segments (F) by just enough to allow the second clamping assembly to be pushed into the rack housing (G).



- Slide the clamping assembly into the rack housing and push it tightly against the toothed rack segments.
- Mark the drill hole locations.
- Remove the clamping assembly from the rack housing.
- Drill two holes for the clamp assembly screws at the hole location marks.
- Slide the clamping assembly back into place and fix with the screws.

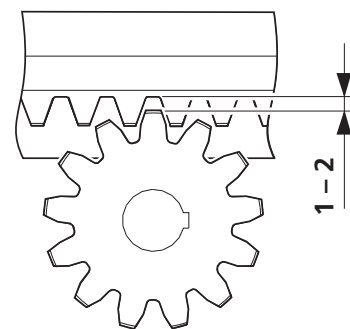
### 6.2.8 Adjust the motor unit



#### Attention!

To ensure that the gate runs smoothly, it is important that a vertical gap of 1 to 2 mm is maintained between the toothed rack and the spur gear.

6.2.8 / 1



The height of the spur gear must therefore be readjusted.

- Lower the spur gear by 1 to 2 mm.



#### Reference:

Section 6.3 describes how to adjust the height of the motor unit.

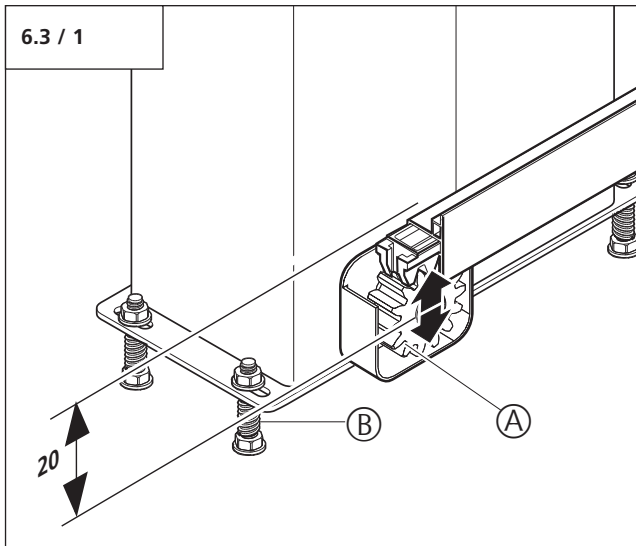


#### Check:

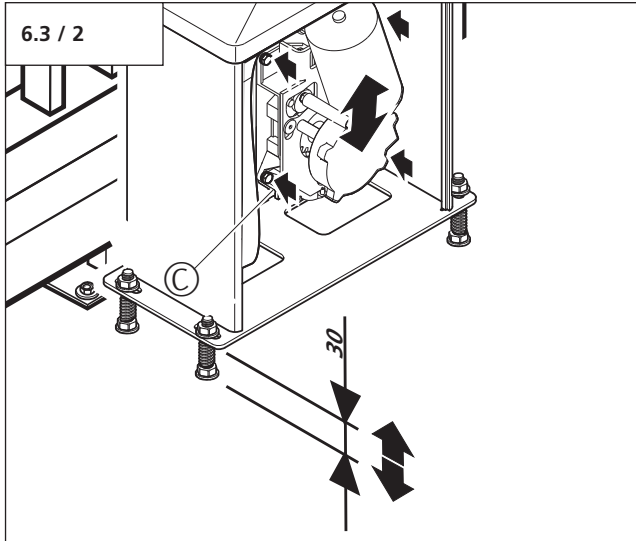
To check that the spur gear engages the toothed rack along its entire length, the gate must be pushed once to the OPEN position and back to the CLOSED position.

## 6. Installation

### 6.3 Adjusting the height of the motor unit



The height of the spur gear (A) can be set on the motor unit within a range of 20 mm.



To adjust the height of the spur gear (A):

- Loosen the screws on the transmission unit (C) of the motor.
- Move the transmission unit until the spur gear (A) is at the required height.
- Tighten the screws on the transmission unit (C).



#### Advice:

If the height adjustment of the spur gear is not sufficient, the motor unit can be regulated by means of the heavy-duty wall plugs (B) in an area of approx. 30 mm.

## 6. Installation

### 6.4 Mounting the reference point magnet



#### Caution!

To avoid injury, the gate must have a mechanical end stop in both directions; otherwise it could spring out of line.

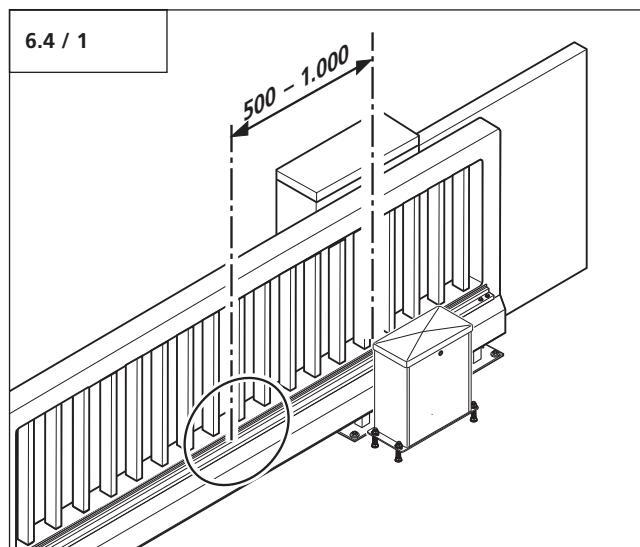


#### Attention!

To ensure correct operation, any existing magnets must be removed (e.g. in the case of retrofit measures with an existing toothed rack).

The operator system determines the gate positions and the extent of travel electronically.

For this it requires a reference point on the gate or on the toothed rack. A special reference point magnet is used as the reference point.



- Drive the gate to the CLOSED position.
- Determine the position for the reference point magnet.



#### Advice:

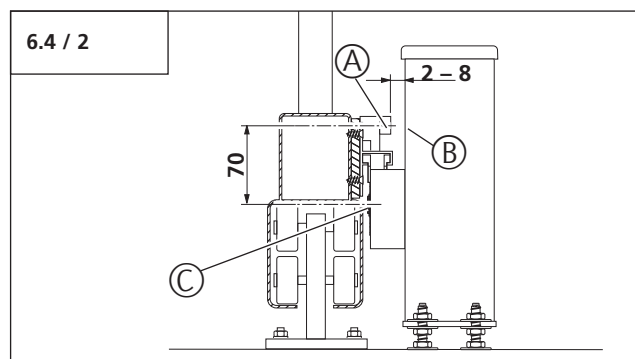
The reference point magnet has different coloured sides. The reference point magnet must always be installed with the green side facing the motor unit.



#### Attention!

To avoid faults occurring, the following dimensions must be adhered to without fail:

- The clear distance between the reference point magnet (A) and the motor unit (B) must be 2 to 8 mm.
- The distance between the centre of the magnet (A) and the centre of the spur gear (C) must be 70 mm.

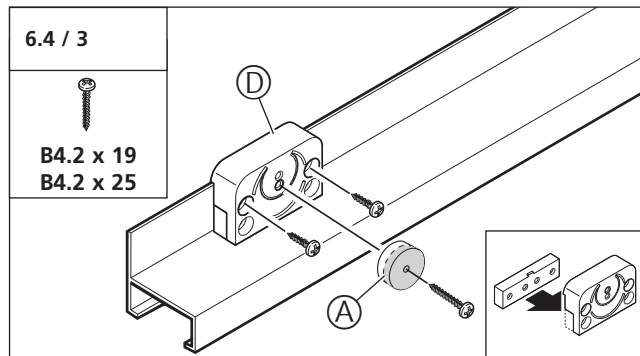


The reference point magnet is mounted differently according to the type of toothed rack used.

## 6. Installation

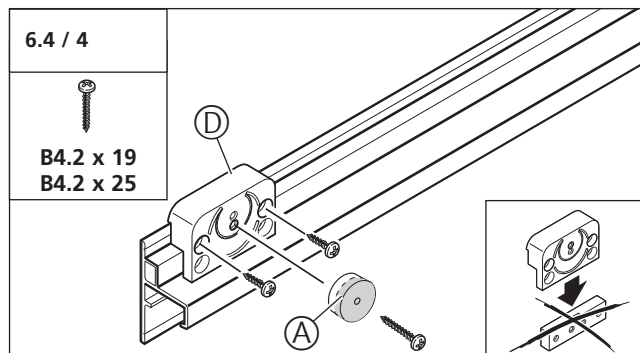
### Special 432

Steel model



### Special 441

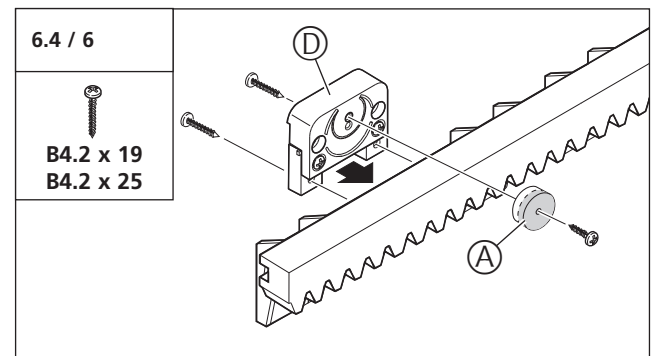
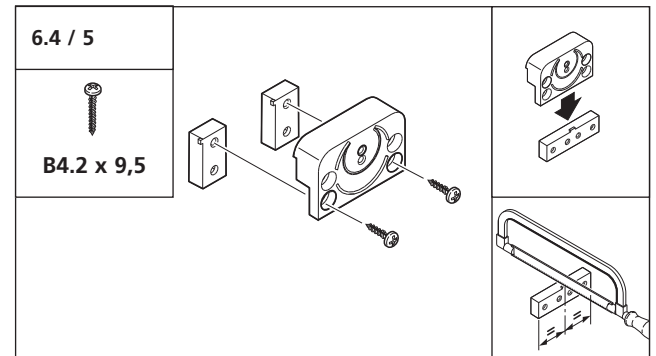
Aluminium model with cable channel



- Mount the reference point magnet (A) in the magnet housing (D).
- Mount the magnet housing (D) at the previously determined position on the toothed rack.
- Check the clear distance between the reference point magnet (A) and the motor unit (B).
- Check the distance between the centre of the reference point magnet (A) and the centre of the spur gear (C).

### Special 471

Plastic toothed rack with steel core

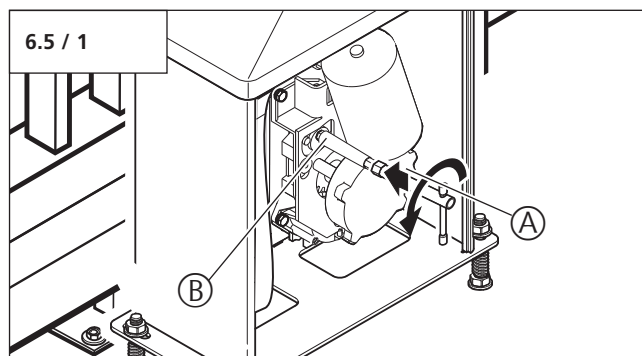


- Mount the reference point magnet (A) on the magnet housing (D), as shown.
- Mount the magnet housing (D) at the previously determined position on the toothed rack.
- Check the position of the reference point magnet (A).
- Check the clear distance between the reference point magnet (A) and the motor unit (B).
- Check the distance between the centre of the reference point magnet (A) and the centre of the spur gear (C).

## 6. Installation

### 6.5 Release

#### Releasing



- Place the release key (A) over the red release nut (B).
- Turn the release key (A) anti-clockwise by approx. 180° until it stops.
- Move the door shortly by hand in the OPEN and CLOSE direction.

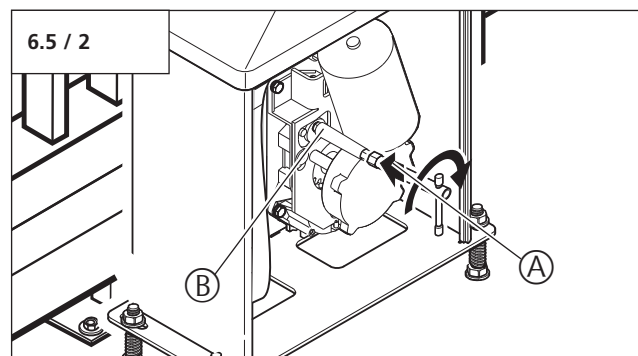
The transmission is now mechanically disengaged from the drive shaft. The gate can only be moved manually. The electric circuit in the controls is interrupted and the controls are out of operation. A corresponding message is displayed.



#### Reference:

The messages are explained in the documentation supplied with the control unit.

#### Locking



- Place the release key (A) over the red release nut (B).
- Turn the release key (A) clockwise by approx. 180° until it stops.

The transmission and drive shaft are now mechanically engaged. The gate can be driven via the motor. The electric circuit in the controls is closed again and the controls are in operation.

## 6. Installation

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### 6.6 Connection of control elements

**Reference:**



A description of the control unit can be found in the relevant documentation for the control unit.

## 7. Attachment

### 7.1 Technical data for Comfort 850 S, 851 S

Electrical data		
Voltage rating *)	V	120 / 230 / 260
Rated frequency	Hz	50 / 60
Current input	A	1.0
Power consumption in operation	KW	0.2
Power consumption on standby	W	3.7
Operating mode (connection period)	Min.	KB 5
Controls voltage	V DC	24
Protection category for motor unit		IP 44
Protection class		II
*) For country-specific version: see type plate		

Mechanical data		
Max. push and pull force		
- Comfort 850 S	N	400
- Comfort 851 S	N	800
Travel speed	mm/cec.	180
Opening phase (specific to gate)	sec.	approx. 22

General data		
Motor unit dimensions	mm	330x335x182
Weight Comfort 850 S	kg	12.5
Weight Comfort 851 S	kg	14.5
Sound pressure level	db (A)	< 70
Temperature range	°C	 -20
		 +60

Supply package **)	
Motor unit, Comfort 850 S, 851 S	
with integrated electronic controls: Control x.81	
Multibit remote control, 315 / 433 / 868 MHz, incl. Digital 304 mini hand transmitter, 4-channel *)	
Modular antenna, 868 MHz	
Release key	
Magnet housing set	
Spur gear, Module 4	
Fixing material	
*) For country-specific version: see type plate	
**) subject to country-specific alternations	

Application	
Can be universally used for gates up to 8 m wide and weighting a maximum of 400 kg (Comfort 850 S) or 800 kg (Comfort 851 S)	

Features / Safety functions	
Electricity saving technology	x
Reference point technology	x
Electronic travel cut-out	x
Soft start, soft stop	x
Anti-blocking device	x
Excess travel stop	x
Release function	x
Connections for push-buttons, code buttons and key switches	x
Connections for photocell, gate travelling directions OPEN and CLOSE	x
Connection for signal light 24 V DC	x
Connection of gate position message system	x
Connection of extension module for gate position message system	x
Connection for closing edge safety device OPEN and CLOSE 8.2 kΩ	x
Integrated evaluation 8.2 kΩ	x
Automatic cut-out OPEN and CLOSE, can be programmed separately	x
Partial opening can be programmed	x
Gate travelling speed can be programmed	x
Soft run position OPEN and CLOSE can be programmed separately	x
Soft run speed OPEN and CLOSE can be programmed separately	x
Automatic closing function	x
Retrofit measures for potential-free signal relay possible, for:	
- Signal light	
- Wiping impulse	
- 3 minute lighting	
- Travel limit message	
- Error message	x
Fault signalling	x
Reset function	x

Accessories	
Multibit remote control	x
Modular antenna, 868 MHz, IP 65	x
Signal light 24 V DC	x
Closing edge safety device 8.2 kΩ	x
Photocell	x
Transponder system	x
Key switch	x
Code button	x
Toothed rack	x
Signal light relay retrofit kit 24 V DC	x
Expansion module	x





## 7. Attachment

### 7.2 Protection of closing edges

The gate drives Comfort 850 S, 851 S can be applied for sliding gates of a door weight of up to 400 kg (Comfort 850 S) and 800 kg (Comfort 851 S).

A passive protection of the main and secondary closing edge up to the max. possible door weight is sufficient, if the following combinations are assured

#### Comfort 850 S: passive protection of closing edges

Door weight	Rubber profile of main closing edge	Main closing edge/ main leading edge		Rubber profile of secondary closing edge	Secondary closing edge	
		max. speed	max. soft run		max. speed	max. soft run
250 kg	Art. No. 61885	150 mm/sec.	80 mm/sec. *	Art. No. 63823	150 mm/sec.	80 mm/sec. *
300 Kg	Art. No. 61885	150 mm/sec.	70 mm/sec.	Art. No. 63823	150 mm/sec.	70 mm/sec.
400 Kg	Art. No. 63823	180 mm/sec.*	80 mm/sec. *	Art. No. 63823	180 mm/sec.*	80 mm/sec. *

#### Comfort 851 S: passive protection of closing edges

Door weight	Rubber profile of main closing edge	Main closing edge/ main leading edge		Rubber profile of secondary closing edge	Secondary closing edge	
		max. speed	max. soft run		max. speed	max. soft run
400 kg	Art. No. 63823	180 mm/sec.*	80 mm/sec. *	Art. No. 63823	180 mm/sec.*	80 mm/sec. *
600 Kg	Art. No. 63823	140 mm/sec.	80 mm/sec. *	Art. No. 63823	140 mm/sec.	80 mm/sec. *
800 Kg	Art. No. 63823	80 mm/sec.	80 mm/sec. *	Art. No. 63823	80 mm/sec.	80 mm/sec. *

#### Comfort 851 S: active protection of closing edges

Door weight	Rubber profile of main closing edge	Main closing edge/ main leading edge		Rubber profile of secondary closing edge	Secondary closing edge	
		max. speed	max. soft run		max. speed	max. soft run
600 kg	Art. No. 65290	180 mm/sec.*	80 mm/sec. *	Art. No. 65290	180 mm/sec.*	80 mm/sec. *
800 Kg	Art. No. 65290	160 mm/sec.	80 mm/sec. *	Art. No. 65291	160 mm/sec.	80 mm/sec. *



#### Advice:

The soft run position CLOSED at the main closing edge must be programmed 500 mm before the CLOSED end position (level 6 / menu 8).

\* Factory settings

## 7. Attachment

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### 7.3 Disassembly



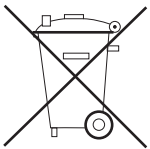
#### **Caution!**

Life-threatening danger due to electric shock!

It is vital that you disconnect the operator system from the power supply before disassembly. Take measures to ensure that the power supply remains disconnected during disassembly.

Possibility of serious injury due to incorrect dismantling!

Comply with all applicable occupational health and safety regulations.



The system must be disassembled by a qualified person, following the installation instructions in reverse order.

## 7. Attachment

### 7.4 Declaration of Incorporation

We hereby declare that in its design and construction, and in the form as delivered, the product mentioned below complies with the relevant basic requirements of the EC Machinery Directive (2006/42/EC).

This declaration shall no longer be valid if changes are made to the product without our authorisation.

**Product: Comfort 850 S, 851 S  
Sliding Gate Operator**

In addition, the partly completed machinery is in conformity with the EC Construction Products Directive 89/106/EC, the EC Electromagnetic Compatibility Directive 2004/108/EC and the EC Low Voltage Directive 2006/95/EC.

- Machinery Directive 2006/42/EC  
Health and safety requirements applied according to Annex 1:  
General principles No. 1 No. 1.1.2, 1.1.3, 1.1.5, 1.2.1, 1.2.2, 1.2.3, 1.2.6, 1.3.1, 1.3.2, 1.3.4, 1.3.7, 1.3.8, 1.3.9, 1.4.2.1, 1.5.1, 1.5.4, 1.5.6, 1.5.15, 1.6.1, 1.6.3, 1.7  
EN 60204-1:2007  
EN ISO 12100-1:2003  
EN ISO 13849-1:2008  
Cat. 2 / PLC for the functions of power limitation and end position detection  
EN 61508:2001
- EMC electromagnetic compatibility 2004/108/EC  
EN 55014-1  
EN 61000-3-2:2006 (2008)  
EN 61000-3-3:2009  
EN 61000-6-2:2006  
EN 61000-6-3:2007
- Low voltage directive 2006/95/EC  
EN 60335-1:2002  
EN 60335-2-103:2004

The relevant technical documentation is compiled in accordance with Annex VII(B) of the Machinery Directive 2006/42/EC. We undertake to transmit, in response to a reasoned request by the market surveillance authorities, this information in electronic form within a reasonable term.

The machinery is incomplete and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC.

Scope of application of these installation instructions:  
Production date 31.01.2014 - 01.02.2015



02.01.2012

M. Hörmann  
Management

Person authorised to compile the relevant technical documentation:  
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**English**

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Subject to changes which are in the interest of technical improvements.



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