



Installation and operating instructions

Last updated: 10.2025

Operator system for Sliding Gates SDO 05



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About this document

- Original operating manual.
- Part of the product.
- Reading and subsequent storage mandatory.
- Protected by copyright.
- No part of this manual may be reproduced without our prior consent.
- Subject to changes which are in the interest of technical improvements.
- All dimensions in millimetres.
- Figures are not to scale.

Safety instructions

**WARNING!**

Safety information regarding a danger that can lead to death or serious injuries.

**CAUTION!**

Safety information regarding a danger that can lead to minor or moderate injuries.

**ATTENTION!**

Safety information regarding a danger that can lead to damage or destruction of the product.

Meaning of symbols

- Action prompt
- ✓ Check
- List, itemisation
- Reference to other parts of this document
-  Reference to separate documents that must be observed
-  Factory settings

1. Safety information

WARNING!

Risk of death due to a failure to observe the operating manual!

This manual contains important information for handling the product safely. Particular reference is made to possible dangers.

- Read this manual through carefully.
- Follow the safety instructions in this manual.
- Store the manual in an accessible location.

1.1 Correct use

The motor unit is designed exclusively for opening and closing sliding gates.

Use is only permissible:

- On gates with a horizontal travel path, i.e. with absolutely no slope (gate systems with an incline are special cases and require advice from a specialist).
 - In technically faultless condition.
 - Following correct installation.
 - In compliance with the data in the technical specifications.
- "2.2 Technical Data"

Any other use is deemed to be improper use.

1.2 Target groups

1.2.1 Operator

The operator is responsible for the building in which the product is used. The operator has the following tasks:

- Knowledge and safekeeping of the instruction manual.
- Instruction of all persons who use the gate system.
- Ensure that the gate system is inspected and maintained regularly by qualified specialist personnel.
- Make sure that inspection and maintenance are documented in the inspection logbook.
- Safe and proper keeping of the inspection logbook.

1.2.2 Specialist personnel

Qualified specialist personnel are responsible for assembly, commissioning, maintenance, repair, disassembly and disposal.

Requirements applicable to qualified specialist personnel:

- Knowledge of the general and specific safety and accident-prevention regulations.
- Knowledge of the relevant electrical regulations.
- Training in the use and care of appropriate safety equipment.
- Knowledge of the application of the following standards

Electrical work by qualified electricians exclusively, in accordance with DIN VDE 0100.

Requirements applicable to qualified electricians:

- Knowledge of the basics of electrical engineering.
- Knowledge of national regulations and standards.
- Knowledge of the relevant safety regulations.
- Knowledge of this operating manual.

1.2.3 Users

Instructed users operate and care for the product.

Requirements applicable to instructed users:

- Users are instructed in relation to their work by the operator.
- Users must have been instructed on how to use the product safely.
- Knowledge of this operating manual.

Special requirements apply to the following users:

- Children aged 8 and above.
- Persons with reduced physical, sensory or mental capabilities.
- Persons with a lack of experience and knowledge.

These users are only authorised to operate the product.

Special requirements:

- The users must be supervised.
- Users must have been instructed on how to use the product safely.
- The users must understand the dangers involved in handling the product.
- Children are not allowed to play with the product.

1.3 General safety advice

Persons or objects must never be moved with the aid of the gate.

In the following cases, the manufacturer accepts no liability for damages. The guarantee on the product and accessory parts is voided with:

- A failure to observe these operating instructions.
- Misuse and improper handling.
- The assignment of unqualified personnel.
- Modifications or changes to the product.
- The use of spare parts that have not been produced or approved by the manufacturer.

The product is manufactured according to the directives and standards mentioned in the Declaration of Incorporation. The product has left the factory in perfect condition with regard to safety.

Batteries, accumulators, fuses and bulbs are excluded from warranty.

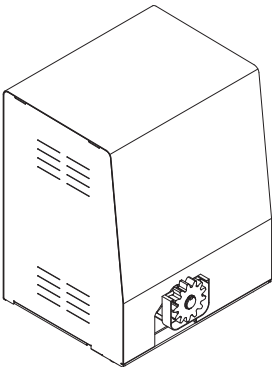
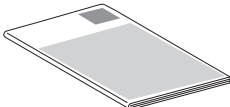
Further safety information can be found in the relevant respective sections of the document.

→ "3.1 Safety instructions for installation"

2. Product information

2.1 Scope of delivery

Country-specific deviations are possible.

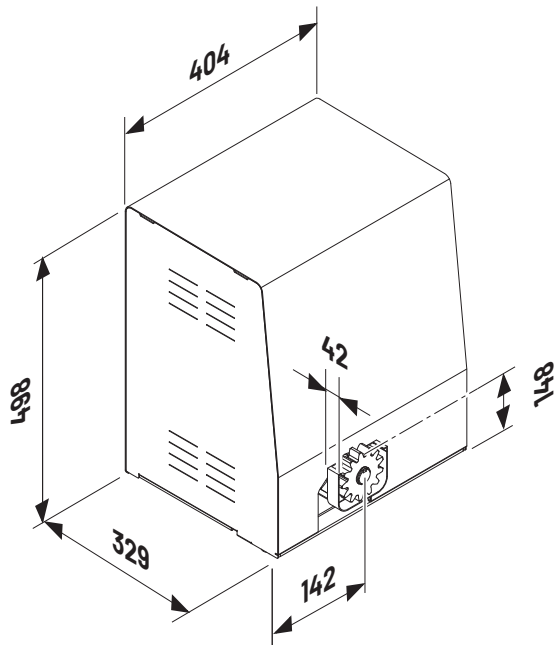
Item		
1		1x
2		4x
3		1x
4		2x

2.2 Technical Data

Electrical specifications		
Mains voltage		
- SDO 05-8-45	V	Y 3N~ 400
- SDO 05-10-30 FU-I		1N~ 230
Rated frequency	Hz	50
Input current		
- SDO 05-8-45	A	Y 1.9
- SDO 05-10-30 FU-I		3.3
Motor power	kW	0.55
Max. cycles per hour		10
Power supply for external elements	V	24 / 500 mA
Protection category		IP 65
Protection class		I
Mechanical specifications		
Driving torque		
- SDO 05-8-45	Nm	80
- SDO 05-10-30 FU-I		100
Nominal RPM		
- SDO 05-8-45	min ⁻¹	45
- SDO 05-10-30 FU-I		30
Max. revolutions, driven shaft		76
Emergency operation		Release mechanism
Sleeve shaft diameter	mm	25.4
Gate travel speed at 50 Hz		
- SDO 05-8-45	mm/s	180
- SDO 05-10-30 FU-I		120

Ambient specifications

Dimensions



Weight	kg	31,4
Sound pressure level	dB(A)	< 70
Temperature range	 °C	-20
	 °C	+60

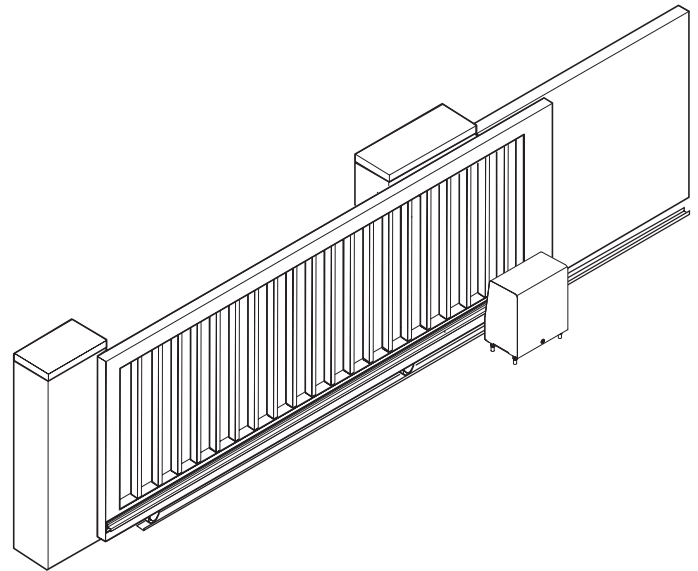
Area of application		SD0 05	
		8-45	10-30 FU-I
Max. gate width	m	18	18
Max. gate weight	kg	1.100	1.300

2.3 Gate variations

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

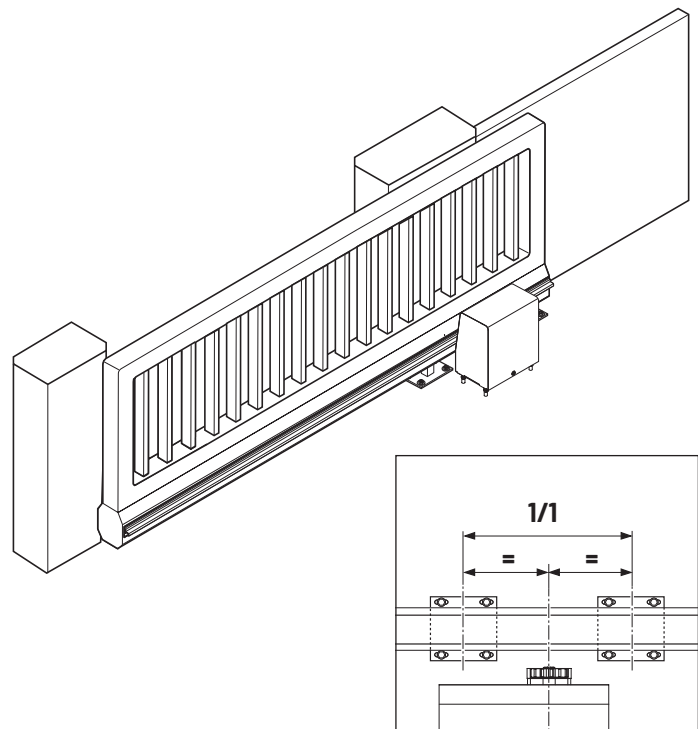
Gate system on rails

2.3 / 1



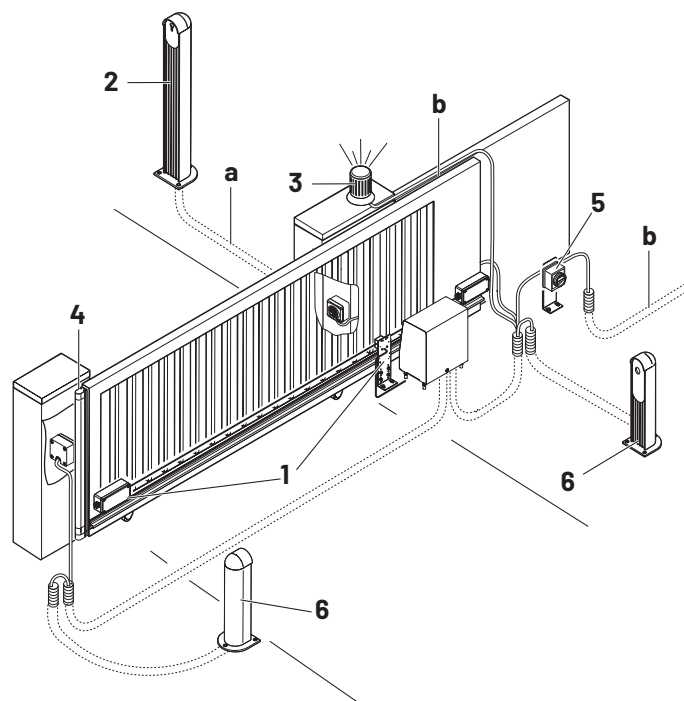
Cantilevered gate system

2.3 / 2



2.4 Example application

2.4 / 1



This is just an example of a gate system and can vary depending on the type of gate and the associated equipment. The gate system shown comprises the following components:

- 1 Signal transmission system
- 2 Key switch / Special 751
- 3 Signal light
- 4 Closing edge safety device (CESD)
- 5 Mains isolator switch (mains disconnection facility)
- 6 Photocell

Cable cross-sections:

- a $2 \times 0.4 \text{ mm}^2$
- b $3 \times 1.5 \text{ mm}^2$

-  Further information on accessories can be found on the manufacturer's website.
-  For the installation and cabling of the gate sensors, control elements and safety equipment, the relevant installation instructions must be observed.

3. Installation

3.1 Safety instructions for installation



WARNING!

Danger due to a failure to observe the installation instructions!

This chapter contains important information for the safe assembly of the product.

- Read this chapter through carefully before assembly.
- Follow the safety instructions.
- Perform the assembly as described.

Assembly by qualified specialist personnel only.

→ "1.2.2 Specialist personnel"

Electrical work must be performed by qualified electricians exclusively.

→ "1.2.2 Specialist personnel"

- Before assembly, it is necessary to make sure that the power supply has been and remains disconnected. Only establish the power supply when prompted to do so in the corresponding assembly step.
- It is essential to adhere to the local protection regulations.
- It is essential that mains supply cables and control cables are laid separately. The controls voltage is 24 V DC.
- The gate must be in good mechanical condition:
 - The gate comes to a stop in any position.
 - The gate is easy to move.
 - The gate opens and closes correctly.
- All pulse transmitters and control devices (e. g. remote control buttons) must be installed within sight of the gate and at a safe distance from the moving parts of the gate. A minimum installation height of 1.5 metres must be observed.
- Only use fixing material that is suitable for the respective construction substrate.

3.2 Preparation for installation

Before starting installation, it is essential to perform the following work.

Scope of delivery

- Check which product variant you have, and ensure the scope of delivery is complete.
- Check that you have all the accessory parts required for your installation.

Foundations

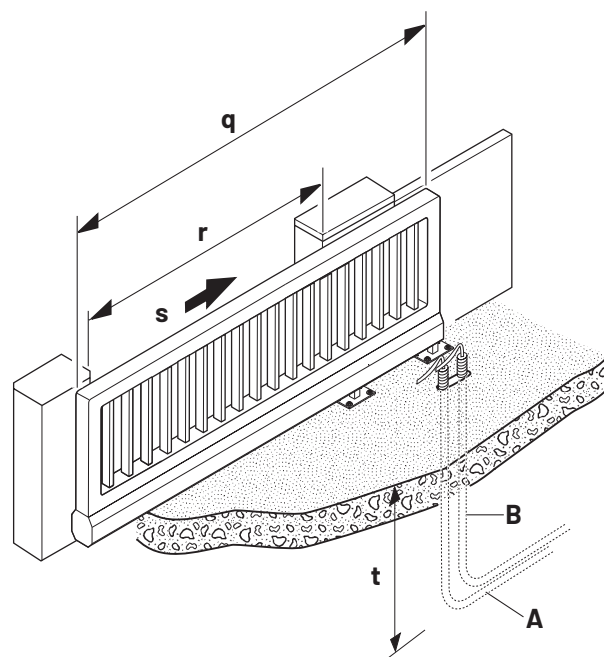
- Check the proposed installation location for the operator system:
 - The motor unit and the toothed rack must be installed on the inside of the gate with the gate closed.
 - The motor unit should not be installed within the clear width (**r**)!
 - For cantilevered gates, the motor unit must be mounted at the mid point between the carrier roller assemblies.
- "2.3 Gate variations"
- 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

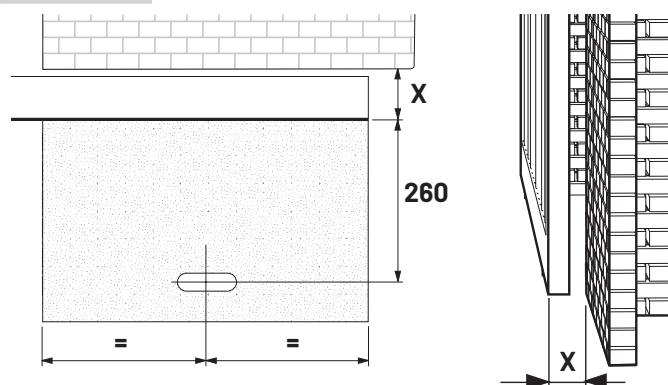
- Ensure that your gate system has an appropriate electricity supply connection and a facility for disconnecting the mains.
- Ensure that all cables are suitable for outdoor use (UV resistant and cold resistant).
- To stop the gate in automatic closing, take measures to safeguard any crushing or shearing zones.
- Install both OPEN and CLOSED gate positions with a mechanical gate limit stop. Choose the position in such a manner that the closing edge in the OPEN position and the CLOSED position will not be pushed in or activated.
- 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 500 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

 When using and installing accessories, always observe the corresponding documentation.

3.2 / 1



3.2 / 2



- 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

3.3 Installing the motor unit

WARNING!

Risk of fatal injuries due to electric shocks!

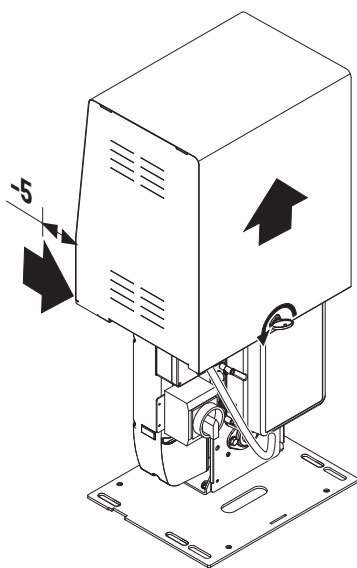
Contact with live parts can lead to electric shock, burns and death.

- Ensure that the power supply is and remains disconnected throughout any wiring work.

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

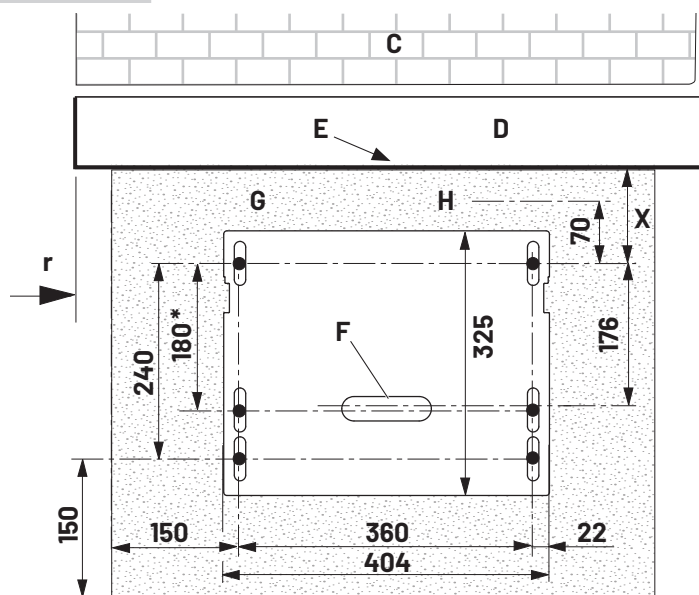
- The motor unit console must be aligned to face the gate, so that the spur gear can mesh with the toothed rack whatever the position of the gate.
- The wall plugs for the floor console must be at least 150 mm from the edge of the foundations.
- After completing installation and commissioning, all the covers must be reattached to the motor unit
- To install the motor unit correctly, it must be mounted at the mid point between the carrier roller assemblies if the gates are cantilevered.

3.3 / 1



- Remove the motor unit cover.

3.3 / 2



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

* Bei Antriebstauch können vorhandene Dübel der alten Bodenkonsole (bis 2025) weiter genutzt werden.

- Calculate the distance from the mounting surface for the toothed rack (**E**) to the motor unit, taking into account dimension X.
Special 475: X = 100

→ When determining the mounting surface for the toothed rack, the information given in Section 3.4.2 must be observed.

- When using an existing toothed rack, the correct dimension is 70 mm from the first screw to the front edge of the toothed rack.
- The floor console can either be screwed to the foundations or set into the foundations as required.

- Before installing the motor unit, check whether the possible height adjustment of the motor unit (approx. 50 mm) 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.

→ The height adjustment of the motor unit is described in Section 3.5.

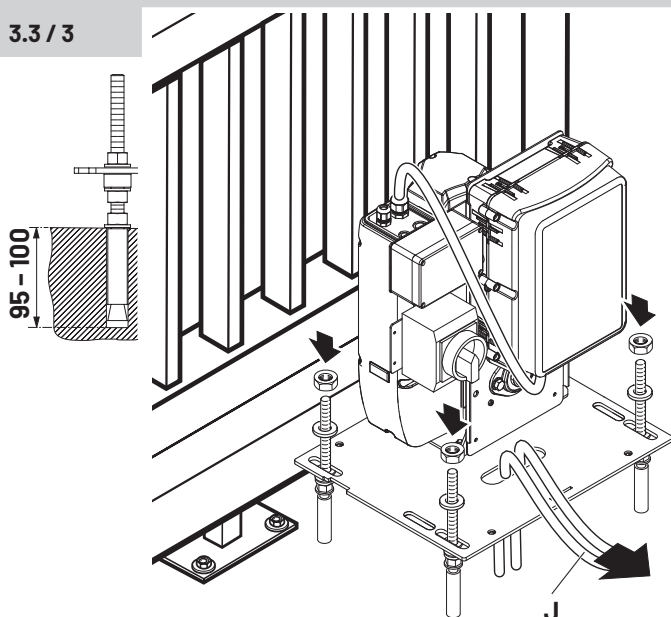
ATTENTION!

Sachschaden durch unsachgemäße Montage des Motor-Aggregats!

Ein unsachgemäß montiertes Motor-Aggregat kann zu Schäden an Toranlage und Antrieb führen. Um Beschädigungen zu vermeiden:

- Stellen Sie sicher, dass das Fundament ausgehärtet ist, bevor die Montagedübel eingesetzt werden.
- Stellen Sie sicher, dass die Leitungen durch den passenden Verschraubungseinsatz geführt werden, um die Schutzart der Steuerung zu gewährleisten.

3.3 / 3



- Drill the holes for the wall plugs as shown in the drill pattern provided.
- Insert the wall plugs.
- Feed the control cable (J) into the motor unit.
- Align the motor unit.
- Screw down the motor unit.

3.4 Mounting the toothed rack

If the toothed rack has already been mounted, this step is not necessary.

3.4.1 Conditions for mounting

The motor unit has been mounted.

- The motor unit has been mounted.
 - The motor unit is unlocked (released).
- "5.3 Emergency operation"

3.4.2 Determining the installation height

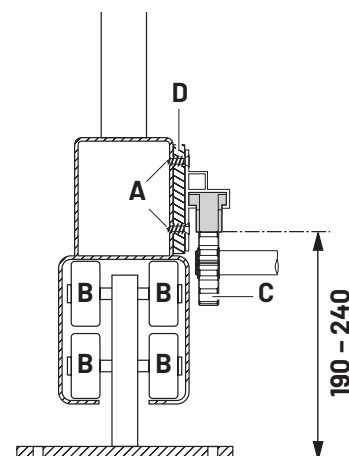
ATTENTION!

Material damage due to incorrect installation of the toothed rack!

An incorrectly fitted toothed rack can result in damage to the gate system and the gate operator. To prevent damage: Ensure that screws (A) do not obstruct the operation of the gate (e.g. by extending into the path of the gate rollers (B)).

- Ensure that the spur gear (C) is not touching 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).

3.4 / 3



- Determine the installation position of the toothed rack on the gate.
 - Adjust the motor unit to the appropriate height.
- "3.5 Adjusting the height of the motor unit"

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

3.4.4 Determining the installation position and the length of the toothed rack

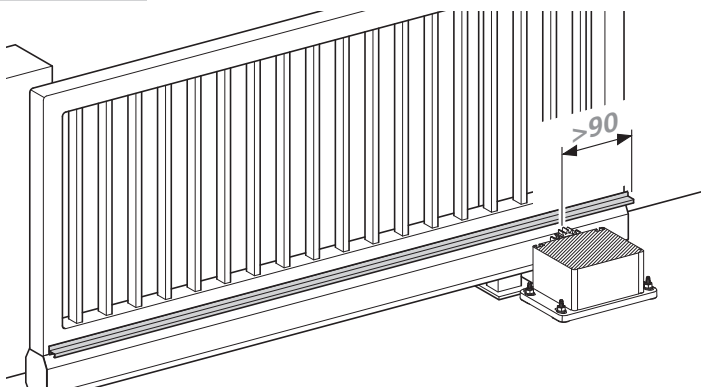
Maximum length of toothed rack

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

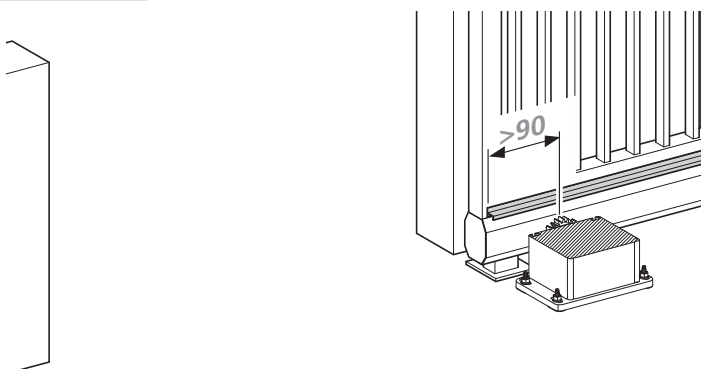
The minimum length of toothed rack must be determined at the gate.

3.4 / 5



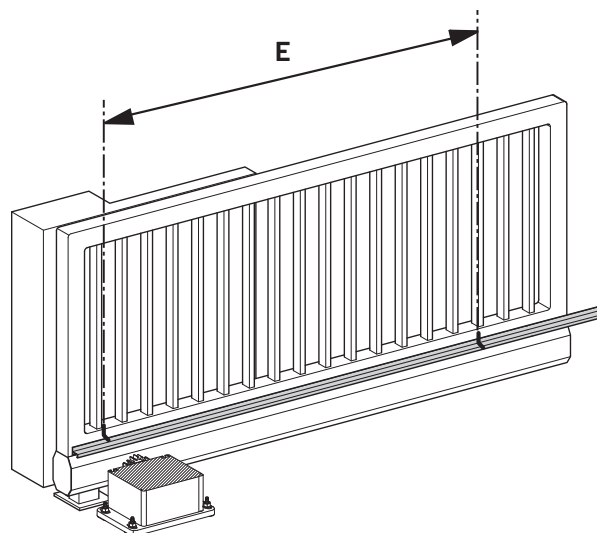
- Move the gate to the CLOSED position.
- Make a mark on the gate:
90 mm from the centre of the spur gear in the direction of opening

3.4 / 6



- 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.

3.4 / 7



- Ensure that the toothed rack extends at least the area (E) between the markings.

3.4.8 Adjust the motor unit

ATTENTION!

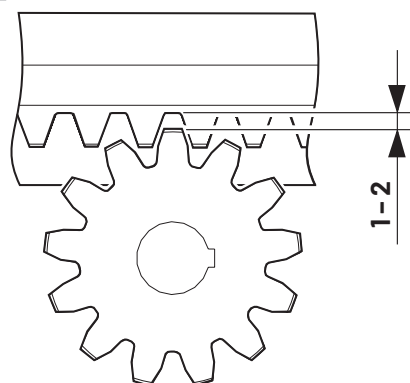
Malfunctions due to incorrect installation of the toothed rack!

If the adjustment between the toothed rack and the spur gear is too tight, the operator system could jam and become damaged during gate movement.

- Ensure that a clearance of 1 to 2 mm is maintained between the toothed rack and the spur gear.

The height of the spur gear must therefore be readjusted.

3.4 / 9

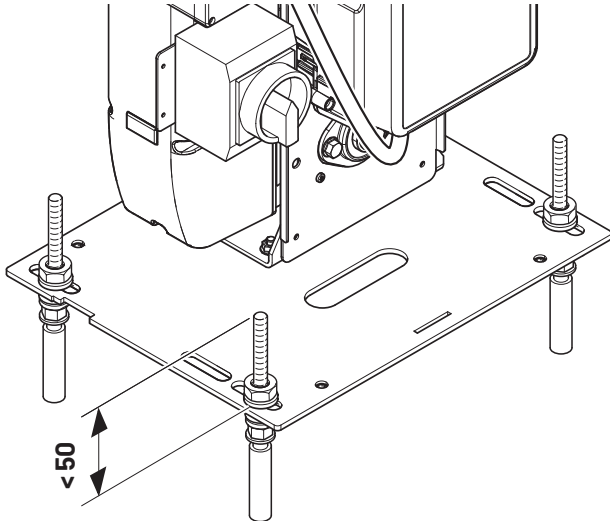


- Lower the spur gear by 1 to 2 mm.
→ "3.5 Adjusting the height of the motor unit"
- ✓ A functional check must be carried out to ensure that the toothed rack is engaged with the spur gear along its entire length:
- ✓ Ensure that the gate operator is unlocked (released).
→ "5.3 Emergency operation"
- ✓ Move the gate slowly by hand into the OPEN and CLOSED end positions.
The spur gear must be propelled by the movement of the gate.

3.5 Adjusting the height of the motor unit

To ensure that the gate runs smoothly, it is important that the gear wheel engages with the toothed rack along its entire length. It is possible to adjust the height of the motor unit.

3.5 / 1



- Loosen the screws.
- Adjust the motor unit to the appropriate height.
- Fasten the screws tight.

3.6 Connection to the control unit

- Follow the instructions in the relevant documentation when connecting the operator to the control unit.

4. Initial operation

- Instructions for initial operation and programming of the unit are given in the instruction manual for the control unit.

5. Operation

5.1 Safety instructions for operation

WARNING!

Danger due to a failure to comply with the operating instructions!

This chapter contains important information for safe operation of the product.

- Read this chapter through carefully before operation.
- Follow the safety instructions.
- Use the product as described.

If the closing edge safety device or light barrier (passage area) fails in the CLOSE direction, the control automatically switches to dead man's operation.

In order to rule out any foreseeable incorrect use in dead man's operation, the following points must be observed:

- Only trained persons may operate the gate system in dead man's operation.
- A CLOSE command in dead man's operation is only permitted when the operator has a clear view of the gate.

5.2 Operating systems

The gate system can be operated using the following control systems:

- Pushbutton / code button
- Transponder
- Coin validator
- Induction loop
- Hand-held transmitter / radio equipment

 Observe the corresponding instructions for using the controls.

5.3 Emergency operation

WARNING!

Risk of burns due to incorrect operation!

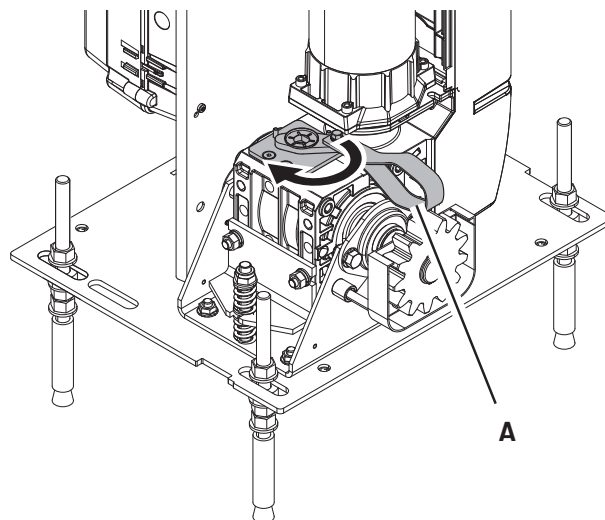
In order to avoid personal injury, the following points must be observed:

- Emergency operation must take place whilst standing on a stable foundation.
- Emergency operation shall only take place with the motor at a standstill.
- The system must be disconnected from the power supply during emergency operation.
- The gate wing must always remain in the intended position during emergency operation. The gate wing must not be able to leave its guides (e.g. rails, stops, rollers).

Emergency operation by qualified specialist personnel only.

→ "1.2.2 Specialist personnel"

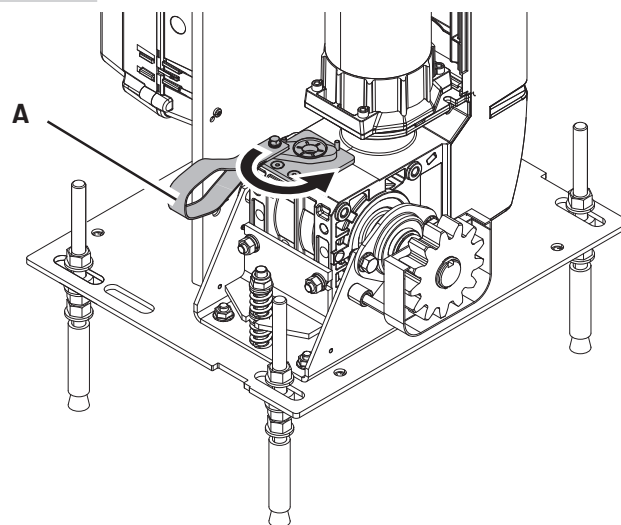
5.3.1 / 1



- Pull down on the release cable handle (**A**).

The gate can be moved manually.

5.3.1 / 2



- Pull down on the release cable handle (**A**).

The gate can be moved with the drive.

6. Care

WARNING!

Life-threatening danger due to electric shock!

Touching live parts can lead to an electric shock, burns or death.

- Make sure that the power supply is and remains disconnected for the duration of cleaning work.

ATTENTION!

Risk of property damage due to improper handling!

Never clean the drive using:

direct water jet, high pressure cleaner, acids or alkalis.

- Only use a soft non-linting cloth for cleaning.

In case of severe soiling, the housing can be cleaned with a mild cleaning solution.

- Clean the housing exterior using a damp cloth.

7. Maintenance

Maintenance by qualified specialist personnel only.

→ "1.2.2 Specialist personnel"

WARNING!

Risk of injury due to electric shock!

There is a danger of electric shock in case of contact with the mains voltage.

- Prior to maintenance work, always disconnect the drive system from the power supply.
- Ensure that the power supply remains disconnected for the duration of the maintenance work.

ATTENTION!

Risk of property damage due to improper maintenance of the drive!

In order to avoid damage to the drive and gate, observe the following points:

- Worn or faulty parts must be replaced.
- Only approved parts may be installed.
- All maintenance work must be documented.

The gear is lifetime lubricated and maintenance-free.

The hollow shaft must be kept free of rust.

- Check that all fastenings are securely seated.
- Move the gate manually to check that the gate travels easily and smoothly.
- Check that the photocell functions properly.
- Check that the closing edge safety device functions properly.
- Check for noise and oil loss.
- Check the drive fastening for corrosion.
- Check the housing for damage.

Replaced faulty parts must be disposed of properly in accordance with the materials they contain and local regulations.

8. Disassembly

Disassembly by qualified specialist personnel only.

→ "1.2.2 Specialist personnel"

WARNING!

Life-threatening danger due to electric shock!

Touching live parts can lead to an electric shock, burns or death.

- Make sure that the power supply is and remains disconnected for the duration of the disassembly work.

WARNING!

Risk of injury due to incorrect handling!

The size and weight of the product require extensive force during disassembly. If the product falls, this may cause serious injuries.

- Secure the drive system against falling prior to disassembly.
- Observe all applicable occupational safety provisions.

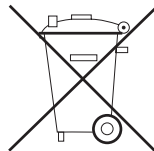
Disassembly takes place in reverse order to installation.

→ "3. Installation"

9. Disposal

Disposal by qualified specialist personnel only.

→ "1.2.2 Specialist personnel"



Used devices and batteries must not be disposed of with household waste!

- Dispose of used devices at a collection point for electronic scrap or via your specialist dealer.
- Dispose of used batteries in a recyclables container for used batteries or via a specialist dealer.
- Dispose of packaging materials in a recycling container for cardboard, paper and plastic.

10. Attachment

10.1 Manufacturer's declaration

Declaration of incorporation

in accordance with the Machinery Directive 2006/42/EC for the incorporation of an incomplete machine per Annex II, Part 1B.

Declaration of conformity

in accordance with the directives for electromagnetic compatibility 2014/30/EU and RoHS 2011/65/EU + 2015/863/EU + 2017/2102/EU.

Manufacturer:

Marantec Marienfeld GmbH & Co. KG, Remser Brook 11,
33428 Marienfeld, Germany

We hereby declare that the product cited below

Product designation: **Sliding Gate Operator**
Type designation: **SDO 05 8-45 / SDO 05 10-30 FU-I**

as an incomplete machine intended exclusively for incorporation in a gate system and developed, designed and produced in accordance with the following directives:

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2014/30/EU
- RoHS Directive 2011/65/EU + 2015/863/EU + 2017/2102/EU

Furthermore, it also satisfies the requirements of the Low Voltage Directive 2014/35/EU per Annex I Part 1.5.1 of the satisfies Machinery Directive 2006/42/EC.

Applied and referenced standards and specifications:

- EN 12453
Doors - Safety in use of power operated doors: Requirements and test methods
- EN 12604
Doors - Mechanical aspects: Requirements and test methods
- EN ISO 13849-1, PL "c", Cat. 2
Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design
- EN 60335-1
Safety of household and similar electrical appliances - Part 1: General requirements
- EN 60335-2-95
Safety of household and similar electrical appliances - Part 2-95: Particular requirements for drives for vertically moving garage gates for residential use
- EN 61000-6-2
Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61000-6-3
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

The following requirements of EC Directive 2006/42/EC were complied with:

General principles, No. 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.2.2, 1.2.3, 1.2.6, 1.3.1, 1.3.4, 1.3.7, 1.3.8, 1.3.9, 1.4.1, 1.4.3, 1.5.1, 1.5.4, 1.5.6, 1.5.8, 1.5.14, 1.7

Furthermore, we declare that the special technical documentation for this partly completed machine was prepared in accordance with Annex VII Part B and we undertake to supply these documents, in electronic form, to the national authorities in response to a duly reasoned request.

Person authorised to compile the technical documentation:

Marantec Marienfeld GmbH & Co. KG, Remser Brook 11.

33428 Marienfeld, Germany

Fon +49 (5247) 705-0

Incomplete machines in accordance with the EC directive 2006/42/EC are only intended for incorporation in other machines or incomplete machines or systems or for combination with them, in order to form a machine with them in accordance with the aforementioned directive. This product must therefore not be put into service until the complete machine / system into which it is incorporated is compliant with the provisions of the aforementioned EC directives.

A change to this product that has not been approved by us results in this declaration losing its validity.

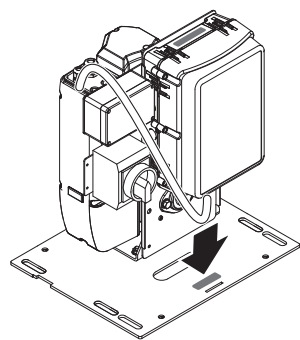
Marienfeld, 10.09.2025



M. Hesse, CTO



Motor type plate



	A	B / : C / D
		E
		F

Model (A) _____

Production month / year (B) _____

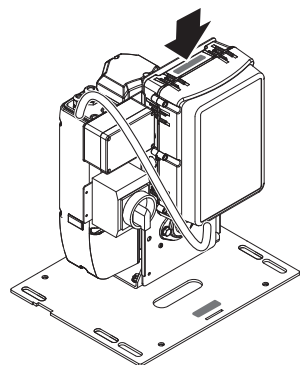
Art. No. Product (C) _____

Revision. (D) _____

Art. No. Sales product (E) _____

Serial number (F) _____

Type plate on control unit



	A	B	
	C	/ D / E	
		F	

Art. No. Product (A) _____

Model (B) _____

Order number / item (C / D) _____

Serial number (E) _____

Production year / month (F) _____

