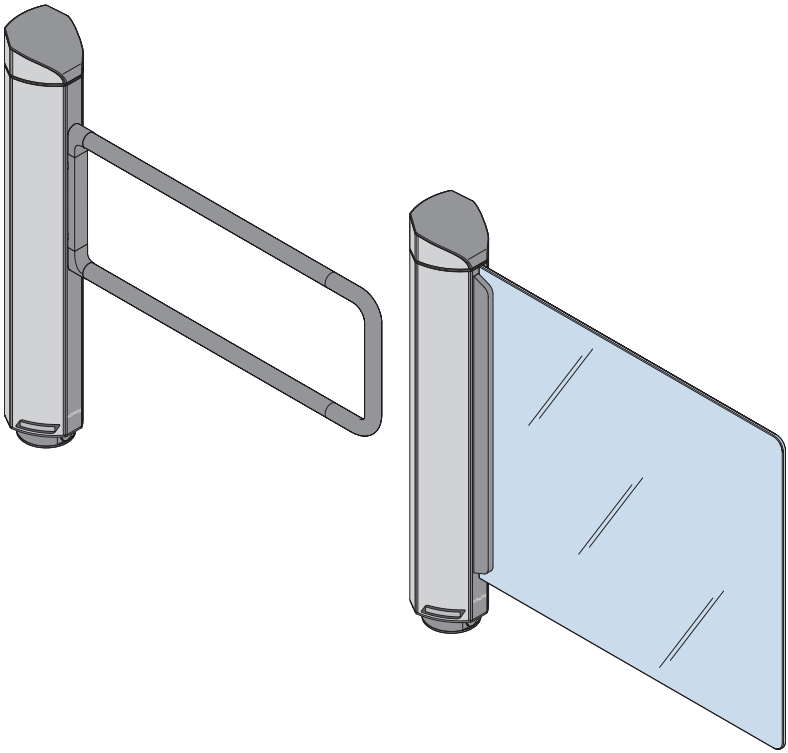
Operating Instructions

Swing door

MHTM™ FlowMotion®

mSwing



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Version 01

Original Operating Instructions

This document is available as PDF in the Magnetic Autocontrol download area (www.magnetic-access.com). Authorisation is required for download.

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Contents

1 Notices on the document

1.1 Purpose and contents of this operating instructions

These operating instructions provide all the information required for the product in the various phases of its life cycle.

This operating instructions contains the following information: Design and function, transport and storage, unpacking and delivery, installation and mounting, electrical connection, commissioning, operation, cleaning and maintenance, decommissioning, dismounting and disposal.

IMPORTANT!

For parameterisation see separate document "Description of MGC control unit for mSwing (Doc.ID: 5817,0031)".

1.2 Reading and storing the operating instructions

Prerequisite for secure work is compliance with all indicated safety notes, warning notes and instructions. In addition, the local accident prevention regulations, general safety regulations and local environmental regulations applicable to the area of application of the product must be observed.

Carefully read these operating instructions before starting any work! The operating instructions are a product component and must be kept in direct proximity of the product, well accessible to the personnel at all times.

When passing the product on to third parties, these operating instructions must also be handed over.

1.3 Non-observance of the operating instructions

Magnetic declines all liability for personal injury and material damage caused by not observing the operating instructions.

This applies in particular to damage caused by:

- Improper use
- Use of non-qualified personnel
- Use of non-approved components
- Arbitrary modifications
- Inappropriate mounting and installation
- Incorrect operation
- Defective or unperformed maintenance and repairs
- Use of non-approved spare parts
- Operating a defective product

1.4 Symbols and illustrations used in the operating instructions

1.4.1 Warning notes and notices

Warning notes are characterised by pictograms in these instructions. A warning note starts with a signal word that expresses the extent of the hazard.

It is absolutely essential to observe the warning notes and to proceed with caution in order to prevent accidents as well as bodily injuries and property damage.

Warning Notes

⚠ DANGER	
	The signal word DANGER points to an immediately dangerous situation, which leads to death or severe injuries if it is not avoided.

⚠ WARNING	
	The signal word WARNING points to a potentially dangerous situation, which can lead to death or severe injuries if it is not avoided.

⚠ CAUTION
 The signal word CAUTION points to a potentially dangerous situation, which can lead to minor injuries if it is not avoided.

NOTICE
 The signal word NOTICE points to a potentially harmful situation, which leads to property damage if it is not avoided.

Notes and recommendations

IMPORTANT!

The signal word IMPORTANT highlights useful notes and recommendations as well as information for an efficient and trouble-free operation.

2 Safety

2.1 Intended use

The Magnetic swing door mSwing is designed for the controlled passage of persons who wish to enter or leave a restricted area. The swing door is also suitable for persons who cannot pass through other types of pedestrian gates such as turnstiles safely, quickly or without assistance. These people include, for example, small children, older people or people with impairments.

People with e.g. strollers, wheelchairs, trolleys, pushed bicycles may also use the swing door.

The swing door can be used as a supplement to pedestrian gates such as the turnstile.

Children under 14 years of age may only pass through the swing door under the supervision of an adult.

The swing door may only be mounted on non-flammable floors.

The swing door may only be operated within the temperature range indicated on the type plate.

Misuse

Any use differing from or beyond this is considered improper use. Magnetic is not liable for any resulting personal injury or damage to property.

For example, the following applications are regarded as improper use:

› Mounting of the swing door on flammable ground.

2.2 Changes and modifications

Modifications and conversions to the product, to an attachment or to one of the components can lead to unforeseen dangers. Magnetic's written approval must be obtained before any technical modifications or alterations are made to the product or any of its components.

2.3 Target groups

2.3.1 Operator and its responsibility

The operator must comply with the statutory obligations regarding work safety. In addition to the safety instructions and warning notes in this operating instructions, the valid safety, accident prevention and environmental protection regulations must be observed.

In particular, the operator must:

- determine additional danger in a danger analysis
- implement the necessary behavioural requirements in work instructions for operation with the product at the operating location
- regularly verify throughout the product time of use that the work instructions drawn up by him comply with the current state of the regulations
- adapt the working instructions to any new provisions, standards and usage conditions - where required.
- clearly regulate the responsibilities for all work on the product and with the product such as mounting, commissioning, operation, cleaning, maintenance, etc.
- ensure that personal protective equipment is worn
- ensures that all employees who work with the product or on the product have read and understood the operating instructions.

Furthermore, the operator must train personnel regarding the use of the product at regular intervals and provide information on possible dangers.

Furthermore, the operator is responsible for:

- the product is always in perfect technical condition.
- the product is maintained at specified maintenance intervals
- the product is only operated within the permitted temperature range.

The operator is also responsible for ensuring that the danger area of the product cannot be accessed by any unauthorised persons under any circumstances.

2.3.2 Personnel - activities and qualifications

Only authorised, trained and sufficiently qualified personnel may work on and with the product. The personnel must know and have understood the operating instructions and the required operating procedures.

Designation	Qualification
Transport equipment operator	› Has professional experience as a transport equipment operator or warehouse and transport worker. › Has a valid driving licence for the required industrial truck, e.g. forklift. › Knows the necessary regulations. › Can evaluate the work assigned to him, recognise possible dangers and take appropriate safety measures.
Technician	› Has completed training as a systems mechanic, machinery technician, installation mechanic, installation technician or has comparable technical training. › Has completed training as an electrical safety expert. › Has additional knowledge and experience. › Knows the relevant technical terms and regulations. › Can evaluate the work assigned to him, recognise possible dangers and take appropriate safety measures.
Magnetic MHTM™ FlowMotion® service expert	› Meets all the requirements of the technician. › Trained and authorised by Magnetic.
Operator	› Trained by the operator.

Table 1: Qualifications of personnel

Task	Transport equipment operator	Technician	Magnetic service expert	Operator
Transporting	X	X	–	–
Unpacking	X	X	X	–
Laying the foundation	–	X	–	–
Mounting	–	X	X	–
Electrical connection	–	X	X	–
Parameterisation	–	X	X	–
Commissioning [1)]	–	X	X	–
Operating	–	X	X	X
Cleaning	–	X	X	X
Servicing [2)]	–	X	X	–
Check [3)]	–	–	X	–
Troubleshooting	–	X	X	–
Repairing	–	X	X	–
Decommissioning	–	X	X	–
Dismounting	–	X	X	–
Disposing	–	X	–	–

1) According to the supplied log book MHTM™ FlowMotion® mSwing
2) According to the maintenance plan in these operating instructions
3) At least once a year in accordance with the supplied log book

Table 2: Activities and qualifications

2.4 Personal protective equipment

It is necessary to wear personal protective equipment when dealing with the product so as to minimise health hazards.

Before carrying out any work, properly dress in the necessary protective equipment such as work clothes, protective gloves, safety shoes and wear during work.

2.5 Symbols on the device

Warning of electric voltage!

The warning sign indicates dangerous areas with dangerous electric voltage. Non-observance of the warning signs causes severe injuries or death. The work to be carried out may only be carried out by a qualified electrician or an electrical safety expert.

This warning sign is fixed at the following point:

› On the reinforcing plate under the outer tube.

Risk of hand injuries!

The warning sign indicates dangerous areas with danger of crushing. Failure to observe the warning sign may result in crushing injuries to hands or fingers.

This warning sign is fixed at the following points:

› Under the cover

› Under the cover of the blocking element.

2.6 For your safety

Mortal danger by electric voltage!

Touching live parts can be lethal. Damage to the insulation or to individual components can be lethal.

- If the insulation or any parts are damaged, switch off the power supply at once and initiate repair.
- Only qualified electricians or electrical safety experts may carry out work on the electrical system.
- Before commencing any work, switch off power supply and secure against restarting. Test for absence of voltage.
- Perform the electrical installation in accordance with the applicable regulations.
- Protective devices that are required according to national and local regulations, e.g. residual current devices, must be provided. These protective devices must be provided by the customer.
- Observe the information on the type plate.
- Close all covers after all work is completed.
- Keep moisture and dust away from live parts. Intruding moisture and dust may cause a short circuit.
- If the electrical connection is made during precipitation, e.g. rain or snow, prevent the intrusion of moisture by means of suitable protective covers.
- During or after a lightning strike into the system, there is danger to life if the components are touched or during a stay in the immediate vicinity of the system. When mounting outside, do not install and mount the pedestrian gate during thunderstorms.

2.7 To protect the environment

Improper disposal!

Improper disposal can result in damage to the environment.

- Dispose of the product in accordance with local and national laws and regulations.
- Sort resources and supply them to recycling.

2.8 Emergency opening of the pedestrian gate

↗ Page 95, chapter 8.4.1.

2.9 mSwing for escape and emergency routes

↗ Page 95, chapter 8.5.

3 Technical data

3.1 Dimensions and design

3.1.1 mSwing with wing FMSW_MG

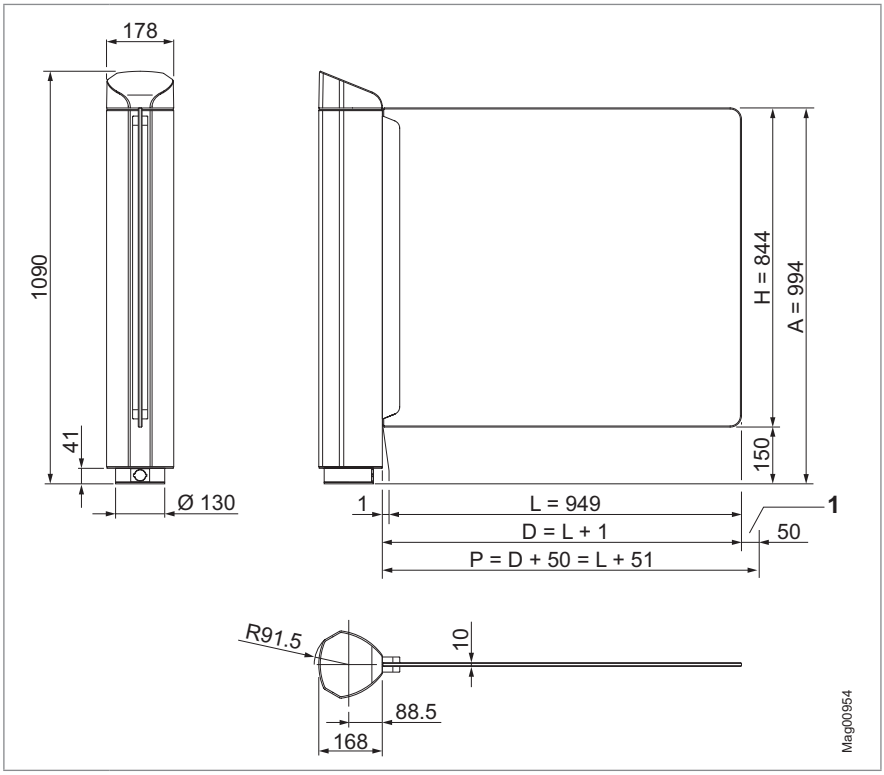

Fig. 1: Dimensions mSwing with wing FMSW_MG (dimensions in mm)
A, H and L are standard dimensions

1 Minimum distance between blocking element and a fixed object

A Distance floor – blocking element top edge

D Blocking width

H Blocking element height

L Blocking element length

P Passage width

Designation	Value
Dimensions	› Circumferential diameter of outer tube without blocking element: 183 mm › Total height: 1090 mm ↗ Page 17, Fig. 1 and ↗ Page 21, Fig. 4.
Passage width	› Min. 550 mm › Max. 1000 mm
Weight	› Swing door without wings: approx. 35 kg › Wings: 20 kg (standard wing) to 40 kg (special wing)
Material	› Housing: Aluminium › Cover: mDure › Wings: ESG or polycarbonate

Table 3: Dimensions and design – mSwing FMSW_MG

3.1.2 mSwing with bracket FMSW_MU

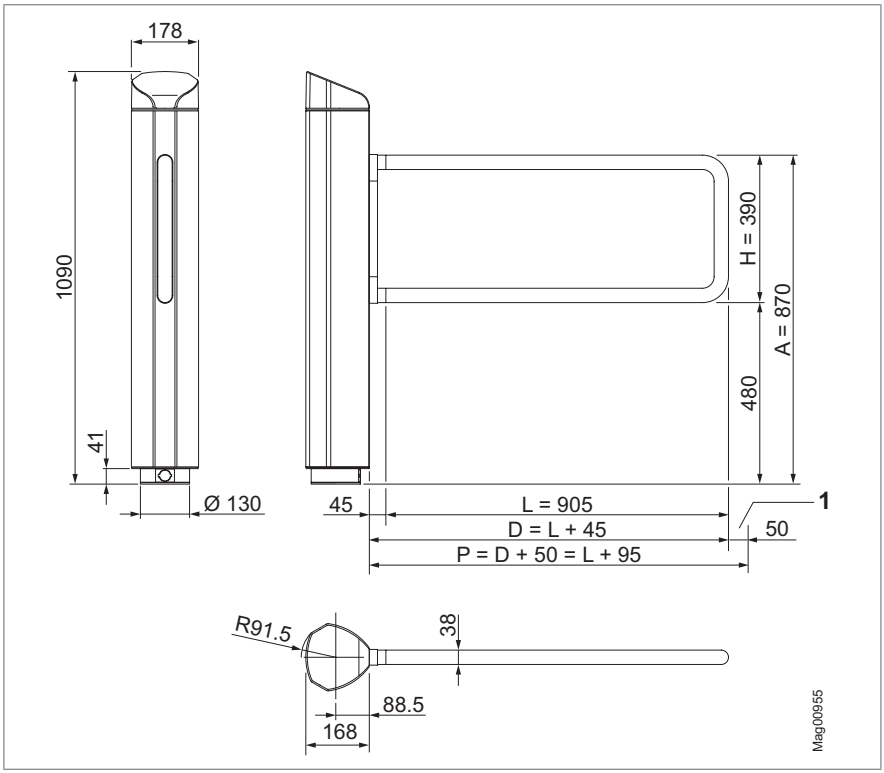

Fig. 2: Dimensions mSwing with bracket FMSW_MU (dimensions in mm)
A, H and L are standard dimensions

1 Minimum distance between blocking element and a fixed object

A Distance floor – blocking element top edge

D Blocking width

H Blocking element height

L Blocking element length

P Passage width

Designation	Value
Dimensions	› Circumferential diameter of outer tube without blocking element: 183 mm › Total height: 1090 mm ↗ Page 19, Fig. 2 and ↗ Page 22, Fig. 5.
Passage width	› Min. 550 mm › Max. 1800 mm
Weight	› Swing door without bracket: approx. 35 kg › Bracket: 3 kg (standard bracket) to 6 kg (special bracket)
Material	› Housing: Aluminium › Cover: mDure › Bracket: Stainless steel (uncoated or black)

Table 4: Dimensions and design – mSwing FMSW_MU

3.2 Clearances to be maintained

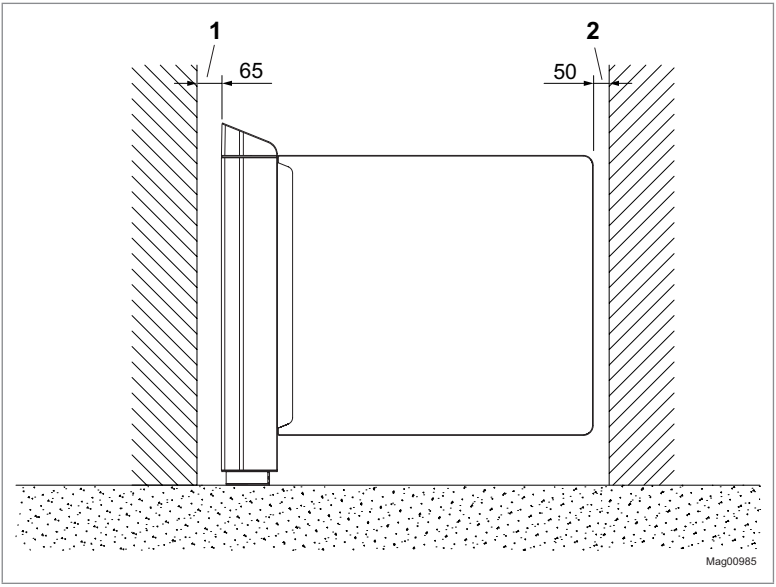

Fig. 3: mSwing clearances to be maintained, seen here is mSwing with wing

1 Minimum distance between blocking outer tube a fixed object

2 Minimum distance between blocking element and a fixed object

3.3 Swivel range and required mounting width

3.3.1 mSwing with wing FMSW_MG

There must be no obstacles in the swivel range.

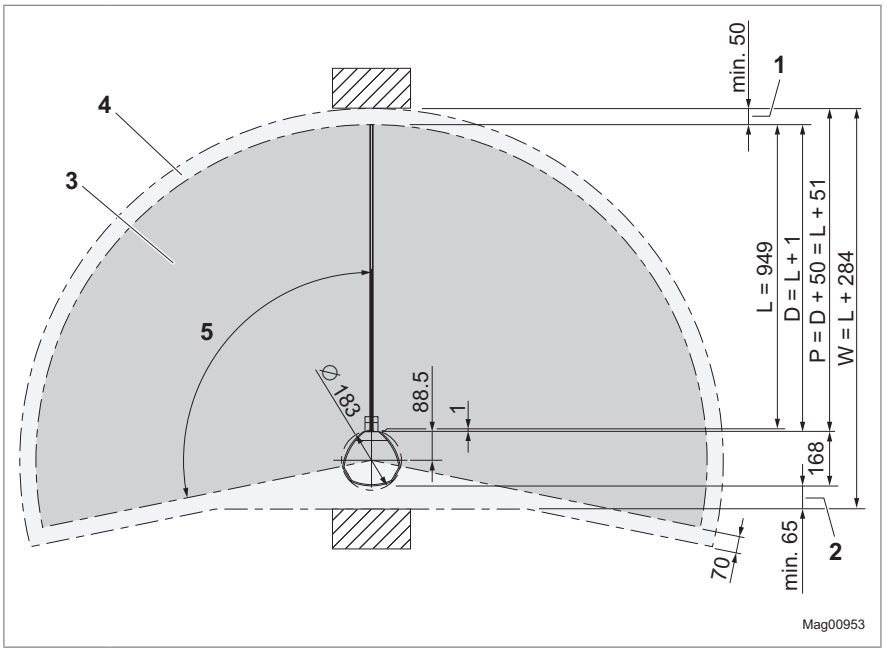

Fig. 4: Swivel range mSwing variant with wing ((dimensions in mm)
L is a standard dimension

1 Minimum distance between blocking element and a fixed object
2 Minimum distance between blocking outer tube a fixed object
3 Swivel range
4 Area to be kept free
5 Opening angle
D Blocking width
L Blocking element length
P Passage width
W Required mounting width

3.3.2 mSwing with bracket FMSW_MU

There must be no obstacles in the swivel range.

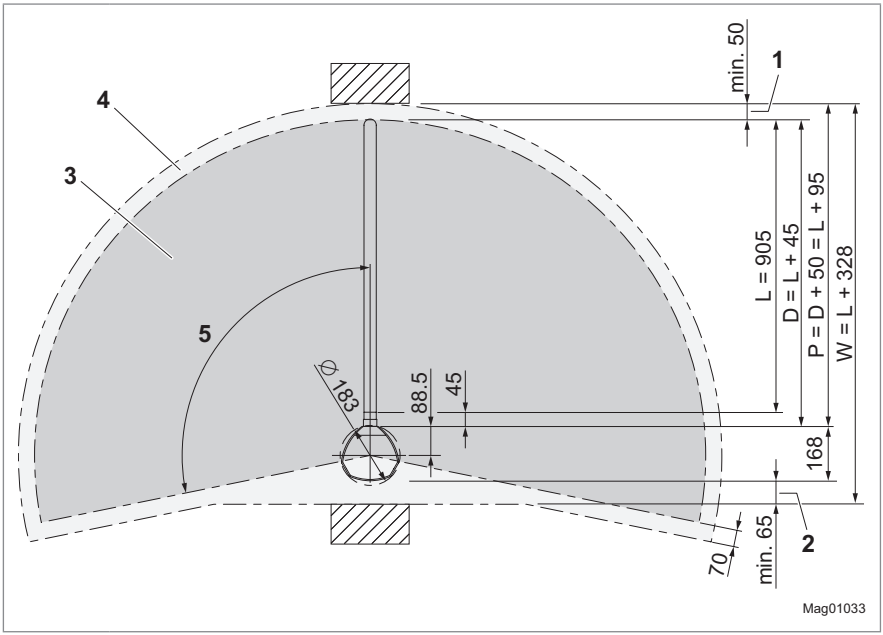

Fig. 5: Swivel range mSwing variant with bracket ((dimensions in mm)
L is a standard dimension

1 Minimum distance between blocking element and a fixed object
2 Minimum distance between blocking outer tube a fixed object
3 Swivel range
4 Area to be kept free
5 Opening angle
D Blocking width
L Blocking element length
P Passage width
W Required mounting width

3.4 Electrical connection

Designation	Value
Power supply	100 to 240 V AC ± 10 %, 50 to 60 Hz
Current consumption at 240 V AC	1.0 A
Current consumption at 100 V AC	2.1 A
Max. performance	174 W
Duty cycle	100 %

Table 5: Electrical connection

3.5 Operating conditions

Designation	Value
Operating temperature range	-30 to +55 °C
Storage temperature range	-30 to +55 °C
Relative humidity	Maximum 95 %, non-condensing
IP rating	IP 54

Table 6: Operating conditions

3.6 Emissions

Designation	Value
Airborne sound pressure level (LpA)	≤ 70 dB (A)

Table 7: Emissions

3.7 Control unit MGC

Designation		Value
Power supply		24 V DC
Control unit		max. 1 A: max. 300 mA + current consumption of the individual plug-in modules
Power consumption		max. 24 W: Max. 7.2 W + power consumption of the individual plug-in modules
Control unit safety device		1 A T
Output terminal 2	Output voltage	24 V DC
	Max. output current	300 mA
Digital inputs	Number	8
	Input voltage	24 ± 10 % V DC
	Input current	< 10 mA per input
	Max. cable length [1)]	30 m
Digital outputs	Number	4 (open collector)
	Input voltage	24 ± 10 % V DC
	Input current	100 mA
	Max. cable length [1)]	30 m
Relay outputs	Number	3 closers + 3 changeovers , isolated
	Max. switched voltage	30 V AC / DC
	Switching current	10 mA to 1 A
	Max. cable length [1)]	30 m
Display		Graphics display, 128 x 65 pixel
Number of slots for plug-in modules		5

1) Specified without optional over voltage module. For cable lengths above 30 m, over-voltage modules must be installed upstream of the connection terminals.

Table 8: Control unit MGC

4 Design and function

4.1 Design of the mSwing with wing FMSW_MG

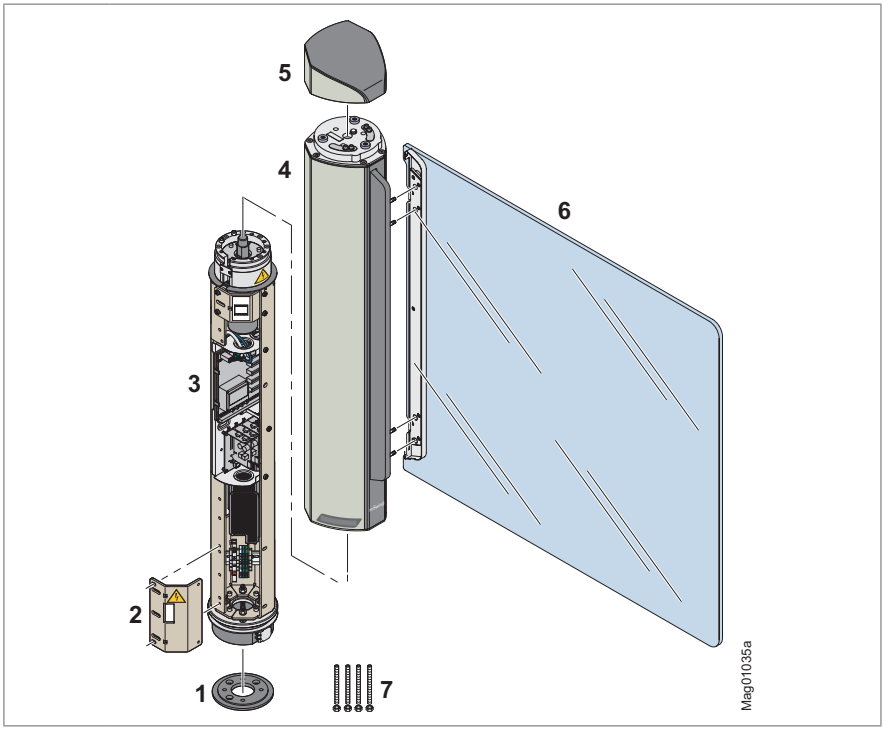

Fig. 6: Design of mSwing variant with wing

1 Floor plate
2 Reinforcing plate
3 Edge profile with control unit MGC and drive
4 Outer tube with tappet flange
5 Cover
6 Blocking element, here wing
7 M8 threaded pins incl. nuts

4.2 Design of the mSwing with bracket FMSW_MU

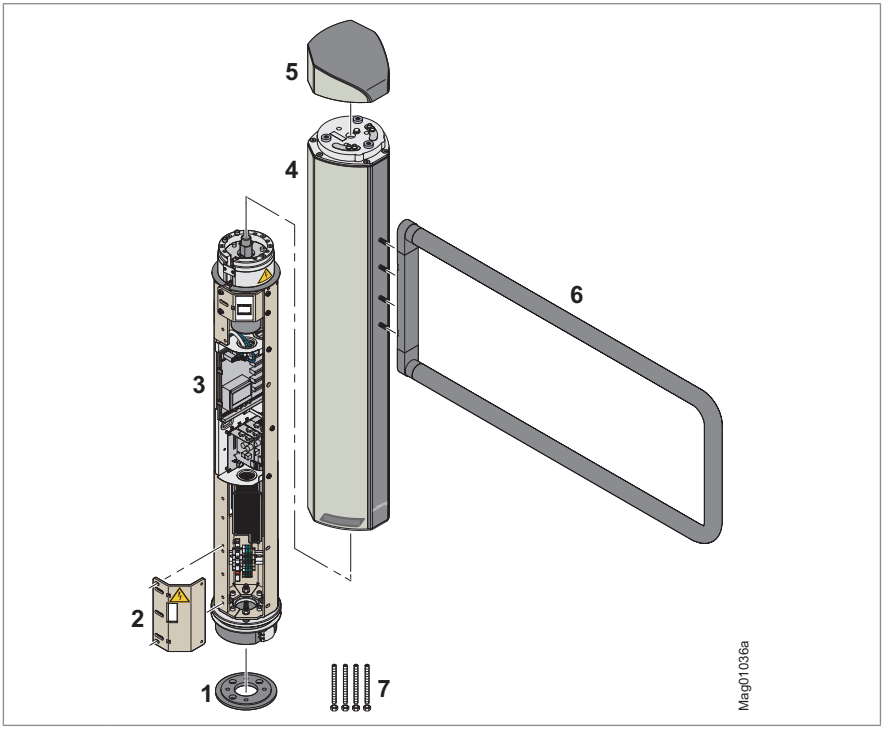

Fig. 7: Design of mSwing variant with bracket

1 Floor plate
2 Reinforcing plate
3 Edge profile with control unit MGC and drive
4 Outer tube with tappet flange
5 Cover
6 Blocking element, here bracket
7 M8 threaded pins incl. nuts

4.3 Function

The Magnetic mSwing swing doors control people who want to enter or leave restricted areas. The swing door is often used in applications with low safety requirements and operated by a supervisor.

The swing door is also suitable as a supplement to other pedestrian gates, where bulky objects must be taken along or persons separated in a wheelchair-accessible manner.

The swing door can be operated in two directions. Ex works, the swing door is configured for the bidirectional operation with an opening angle of 90° each. Opening angles up to 120° are possible. Furthermore, the speed of the blocking element, hold-open time, etc. can be parameterised.

The swing door is opened by external access control systems and via digital inputs. Closing automatically takes place after the set hold-open time or via digital inputs.

The blocking element can be locked in the closed position with an electromechanical tooth coupling.

If the blocking element is pushed from one of its positions by application a strong force, the blocking element will swivel automatically back to this position after the force is removed.

The entire drive is nearly maintenance- and wear-free and works without end switch.

If the voltage fails, the swing door can swivel freely in both directions.

The mSwing swing door is approved only for escape and emergency routes in combination with the optional Magnetic emergency stop button set.
Further notices: ↗ Separate instructions "Doc.ID: 5837,0025" in the download section (www.magnetic-access.com).

4.4 Definition of "left" and "right"

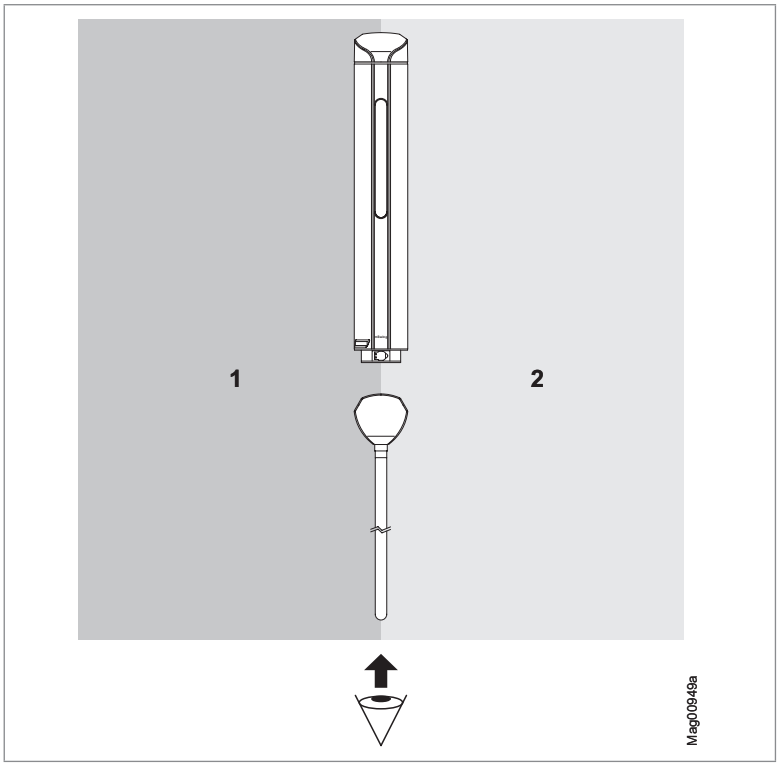

Fig. 8: Definition of "left" and "right"

1 Left (function "open from left" for a passage from the left)

2 Right (function "open from right" for a passage from the right)

5 Receipt of goods, transport and storage

5.1 Receipt of goods

Immediately check the delivery after receipt for completeness and transport damages.

In case of externally visible transport damage, proceed as follows:

› Do not accept the delivery or only under reserve.

› Note the extent of damage on the transport documents or on the delivery note of the carrier.

› Lodge complaint.

IMPORTANT!

Lodge a complaint for each defect, as soon as it is recognised. Compensation claims can only be submitted within the valid complaint periods.

5.2 Safety during transport

Qualification of personnel

› Transport equipment operator

› Technician

› Magnetic MHTM™ FlowMotion® service expert

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes.

⚠ WARNING

Lifting heavy loads!

Lifting heavy objects can result in severe damage to the back or supporting structure.

- Preferably, transport the goods with suitable transport equipment.
- Alternatively, the transported goods can be carried by two persons.
- Lift and deposit the transport goods with two persons.

NOTICE

Improper transport!

An improper transport may result in damage to the product.

- Observe the symbols on the packaging.
- Always load, transport and unload packages carefully.
- Note the dimension.
- Do not remove packaging until immediately before mounting and at the final location of the product.

5.3 Transport

The recipient of the product is responsible for internal transport.

- Transport and position the goods to be transported with a suitable forklift or pallet truck.
- The forklift forks or lift truck forks must reach completely under the transported goods. Observe the centre of gravity of the load.
- Secure the transported goods with sufficiently dimensioned lifting gear.

5.4 Storage

Store packages or the product under the following conditions:

- Store the delivery in its original packaging. Observe the symbols on the packaging.
- Do not store outdoors.
- Store dry and dust free.
- Do not expose to aggressive media.
- Protect against solar irradiation.
- Avoid mechanical vibrations.
- Storage temperature range: -30 to +55 °C
- Relative humidity: max. 95 %, non-condensing

Check the general condition of all components and packaging regularly, if they are stored for longer periods than 3 months.

6 Unpacking, scope of delivery and identification

6.1 Unpacking

⚠ WARNING	
	**Lifting heavy loads!** Lifting heavy objects can result in severe damage to the back or supporting structure. › Preferably, transport the goods with suitable transport equipment. › Alternatively, the transported goods can be carried by two persons. › Lift and deposit the transport goods with two persons.

The individual components are packed according to the expected transport conditions.

Do not destroy the packaging and remove only directly before mounting. The packaging should protect the components against transport damages, corrosion, etc.

1. Unpack product at final location.
2. Place the product vertically.
3. Report an incomplete or faulty delivery to Magnetic.
4. Check the scope of delivery with the delivery note.
5. Separate material according to type and size and continue to use them after recycling. Observe local and regional standard laws and guidelines.

6.2 Scope of delivery

The following components are supplied with every mSwing pedestrian gate by default:

- 1 swing door mSwing without blocking element
- 1 blocking element such as wing or bracket
- Floor plate
- Blocking element cover opening tool
- Auxiliary tool for opening the hood
- 1 bag with small parts
  - 4 M8 threaded pins
  - 4 M8 wedge securing discs
  - 3 M10 x 30 hexagon head screws
  - 3 M10 x 20 hexagon head screws
  - 3 M10 wedge securing discs
  - 8 M8 nuts
- Documentation: these operating instructions, description "Control unit MGC", wiring diagram, log book and visualisation film (frosted glass film) to be pasted on the wing

For options and attachments, see your order confirmation.

6.3 Identification

6.3.1 Type plate

The type plate is provided on the edge profile below the hood.

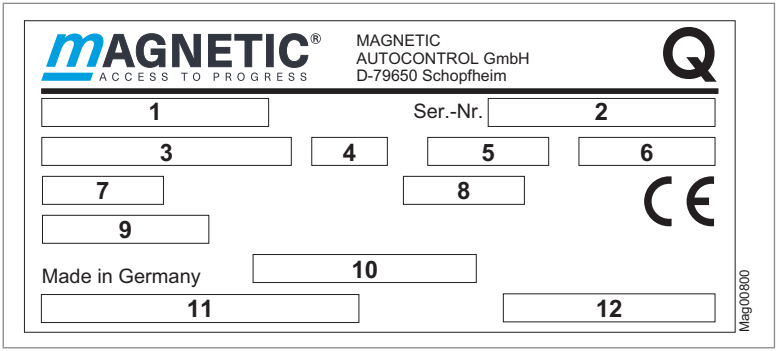

Fig. 9: Type plate

1 Product designation
2 Serial number
3 Power supply
4 Frequency
5 Current consumption
6 Power consumption
7 IP rating
8 Duty cycle for operating mode S1 "Continuous operation"
9 Ambient temperature range
10 Date of manufacture, version, date of type plate printing
11 Bar code for product designation
12 Bar code for serial number

7 Installation and mounting

7.1 Safety during installation and mounting

Qualification of personnel

› Technician

› Magnetic MHTM™ FlowMotion® service expert

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes.

⚠ WARNING

Improper fixing!

Improper fixing can cause the pedestrian gate to tip over, resulting in crushing and serious injury.

› Mount the pedestrian gate in accordance with the description on the foundation.

› Observe and follow the separate notes and instructions of the fixing material manufacturer.

› After mounting, check all screws and nuts for tightness.

⚠ WARNING

Improper mounting on flammable ground!

The mounting of the pedestrian gate on a flammable floor can promote the development of a fire and accelerate the spread of the fire. A fire and the resulting smoke can cause life-threatening injuries.

› Only mount the pedestrian gate on a non-flammable floor.

7.2 Mounting variants

With all mounting variants, you mount the mSwing pedestrian gate directly to the supplied floor plate.

You may mount the pedestrian gate as follows.

Mounting variant	Material required per pedestrian gate	Notice
Variant 1 Mount the floor plate either directly on a concrete foundation or, when in a building, directly on a finished floor. Mount the pedestrian gate on the floor plate.	› Attachment set BSS103 for mounting the pedestrian gate directly on a foundation	› Suitable for concrete foundation › Indoor application typical › Use the M8 x 30 screws and wedge securing discs supplied.
Variant 2 Mount base plate to foundation or unfinished floor. The threaded rods position the floor plate and are set in concrete. Mount the pedestrian gate on the floor plate.	› Base plate FURA103 › Attachment set BSSFURA103 for mounting the pedestrian gate via threaded rods › Attachment set BSS103 for mounting the base plate, alternatively customer-supplied fastening material	› Suitable for solid floors › Height of finished floor can still be defined › Variable height up to max. 250 mm › Indoor application typical
Variant 3 Glue base plate to foundation or finished floor. Glue the floor plate to the base plate. Mount the pedestrian gate on the floor plate.	› Base plate FURA103 › Adhesive set BSSKL100 for gluing the base plate	› Suitable for finished floors such as tiles › Not suitable for concrete as the porous structure absorbs the adhesive › Indoor application typical › Use the M8 x 20 screws and wedge securing discs supplied.
Variant 4 Mount the base frame on the foundation. Mount the pedestrian gate on the floor plate. Mount the pedestrian gate on the floor plate.	› Base frame FURA113 › Attachment set BSS103 for mounting the base frame, alternatively customer-supplied fastening material	› Concrete foundation required as mounting base › Suitable for slabs and interlocking paving stones › Defined height of max. 150 mm › Outdoor application typical

Table 9: Mounting variants

Mounting material	Consisting of
Mounting material supplied	› 3 M10 x 30 hexagon head screws › 3 M10 x 20 hexagon head screws › 3 M10 wedge securing discs
BSS103 (optional attachments)	Attachment set › 3 M10 x 90 sleeves with inner thread, A4 › Composite mortar UPAT UPM44 CX150 Mounting aids for sleeves with inner thread: › 3 DIN 933 M10 x 16 screws, zinc-plated › 3 D10,5 wedge securing discs, zinc-plated
BSSFURA103 (optional attachments)	› 3 M10 x 330 threaded rods, 1.4301 › 9 DIN 934 M10 washers, A2 › 1 adjustment aid
BSSKL100 (optional attachments)	Adhesive set › Surface cleaner HaftClean › Surface cleaner HaftPlus › Surface cleaner Entferner › Construction adhesive Power
FURA103 (optional attachments)	Base plate, 1.4301
FURA113 (optional attachments)	Base frame height 150 mm, 1.4301

Table 10: Description mounting material

IMPORTANT!
You must order the optional mounting attachments separately.

7.3 Steps to be taken

The following work step must be carried out prior to mounting:

› Build foundation and lay empty conduits.
↗ Page 39, chapter 7.5.

The following work steps must be carried out during mounting:

› Unpack the pedestrian gate. ↗ Page 32, chapter 6.1.
› Plan the mSwing installation. ↗ Page 38, chapter 7.4.
› Mount the floor plate. ↗ Page 41, chapter 7.6.
› Prepare mSwing for mounting. ↗ Page 67, chapter 7.7.
› Mount the mSwing on the floor plate. ↗ Page 70, chapter 7.8.
› Connect the mSwing electrically. ↗ Page 90, chapter 8.
› Mount the blocking element. ↗ Page 80, chapter 7.10.
› Set the end stops. ↗ Page 76, chapter 7.9.
› Mount the cover.

7.4 Plan the mSwing installation

Observe the following points regarding the position of the mSwing pedestrian gate:

› Swivel range of the blocking element ↗ Page 20, chapter 3.2.
› Clearances to be maintained ↗ Page 20, chapter 3.2.
› The blocking element's orientation in the position "Closed" ↗ Page 70, chapter 7.8.
› On-site conditions such as walls, tile joints and railings

Depending on the mounting variant, the orientation of the blocking element is determined either via the base plate, the base frame and/or the floor plate.

Align the pedestrian gate using a laser or scale.

7.5 Building foundation and laying empty conduits

7.5.1 Requirements foundation

The foundation must meet the following requirements:

- Have sufficient load-carrying capacity
- Concrete C20/25 XD3 XF2 or corresponding industrial floor
- Fastening must have a secure grip
- Foundation cross-section according to foundation and empty conduit plan
- Non-slip surface
- Horizontal and level.

When installing outdoors, the foundation must meet the following additional requirements:

- Concrete C20/25 XD3 XF2
- Foundation depth: at least 800 mm, frost-proof. Adapt the foundation depth to the local conditions.
- Reinforcement mesh according to reinforcement plan

Foundation and empty conduit plan and reinforcement: ↗ Page 40, Fig. 10.

7.5.2 Requirements empty conduits

Note the following points for the empty conduits:

- Lay empty conduits according to the foundation plan.
- Conduits have to be planned to a sufficient length.
- Plan the empty conduits required for access control-devices and other peripheral equipment. The wiring for this is the responsibility of the customer.
- For variants with optional Ethernet module EM01, plan the empty conduit for the customer's network cable for connection to the customer's network.

IMPORTANT!

To ensure trouble-free operation, install separate empty conduits for all mains cables and the control lines.

7.5.3 Building foundation and laying empty conduits

1. Excavate the foundation hole according to the foundation and empty conduit plan. ↗ Page 40, Fig. 10.
2. When installing outdoors, lay the reinforcement mesh.
3. Place empty conduits according to the foundation and empty conduit plan in the foundation hole.
4. Seal empty conduits so that no water can enter.
5. Concrete the foundation.
6. Create a smooth plaster.
7. Let concrete cure.
8. Apply moisture protection for outdoor mounting.

7.5.4 Foundation and empty conduit plan and reinforcement

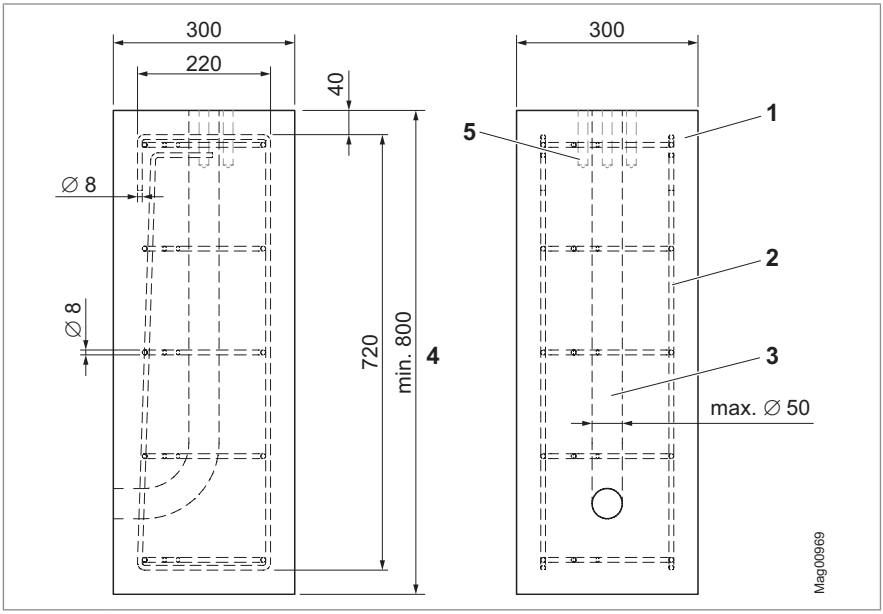

Fig. 10: Foundation and empty conduit plan and reinforcement (dimensions in mm)

1 Foundation
2 Reinforcement
3 Area for conduits
4 Required foundation depth, frost-proof
5 Boreholes, depending on the mounting variant

7.6 Mounting the floor plate

7.6.1 Mounting variant 1 (direct mounting)

With this mounting variant, you mount the floor plate either directly on a foundation or, when in a building, on a finished floor. Mount the pedestrian gate above the floor plate.

Required material, included in the scope of delivery:

- M10 x 30 hexagon head screws
- M10 wedge securing discs

Required material, not included in the scope of delivery

- 3 M10 x 90 sleeves with inner thread, A4
- Composite mortar UPAT UPM44 CX150

IMPORTANT!

We recommend the attachment set BSS103, which contains the necessary material for direct mounting. You must order the BSS103 attachment set separately.

Overview

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Overview

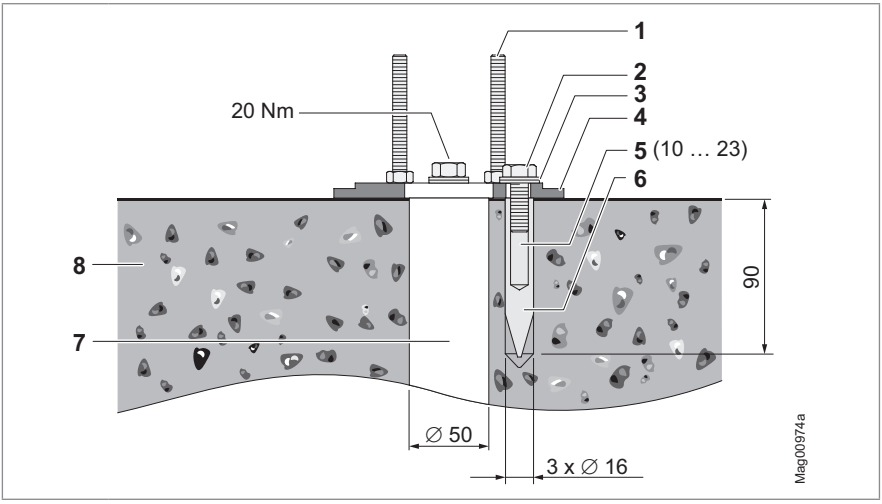

Fig. 11: Overview mounting variant 1 (direct mounting)

1 M8 threaded pin (4 pcs)
2 M10 x 30 screw (3 pcs)
3 M10 wedge securing disc (3 pcs)
4 Floor plate
5 Thread reach 10 … 23 mm
6 Sleeve with inner thread M10 (3 pcs), attachment set BSS103
7 Area for conduits
8 Foundation

Procedure

Requirements:

› The foundation was built.
› The empty conduits for the mains cable and the control lines were laid.
› The foundation has cured.

IMPORTANT!
Follow the separate notices and instructions for the composite mortar and sleeves with inner thread.

1. Specify the blocking element's orientation in the position "Closed". You determine the orientation of the blocking element using the floor plate.

   NOTICE
   Incorrect alignment of the blocking element! Observe the following figure.

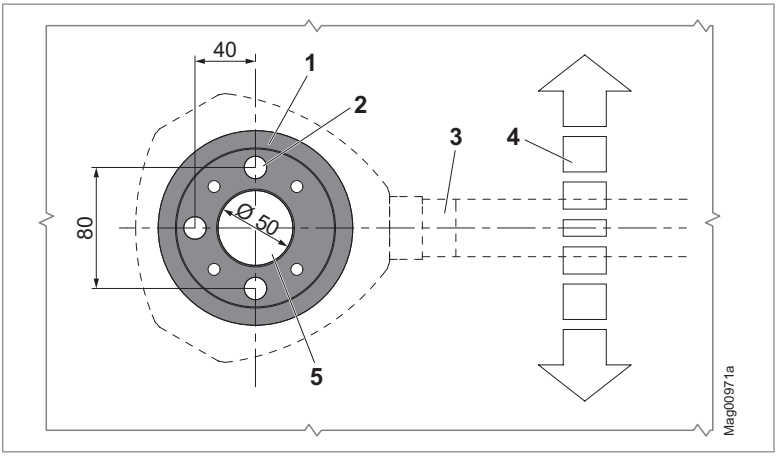

Fig. 12: Mounting variant 1: Setting the blocking element orientation using the floor plate

1 Floor plate
2 Boreholes for mounting the floor plate with sleeves with inner thread and screws
3 Blocking element in the "Closed" position (not yet mounted)
4 Passage
5 Area for conduits

2. Outline the boreholes using the floor plate.

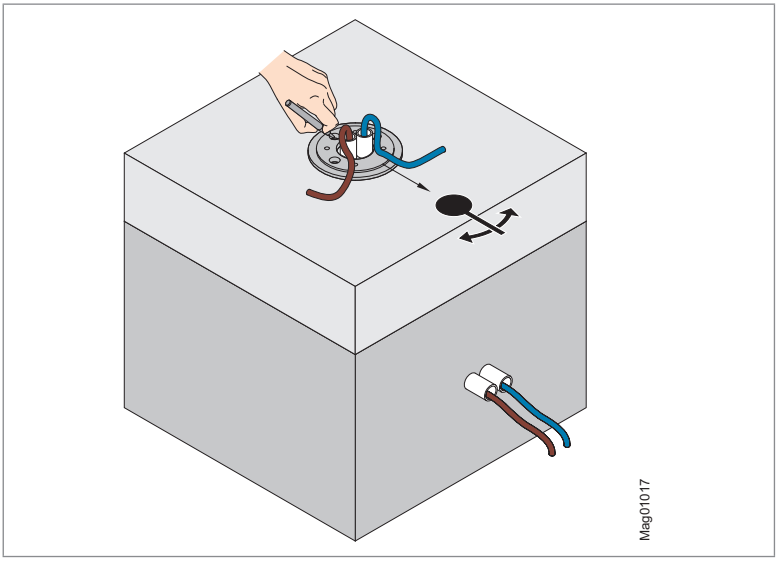

Fig. 13: Mounting variant 1: Sketching boreholes

3. Drill holes for the sleeves with inner thread. ↗ Page 42, Fig. 11.
4. Clean the boreholes with compressed air.
5. If necessary, prepare the sleeves with inner thread using mounting aids. The BSS103 attachment set contains mounting aids for the sleeves with inner thread.
6. Inject composite mortar into the boreholes.
7. Screw in the sleeves with inner thread by hand until the sleeves are flush with the floor. If necessary, use mounting aids.
8. Wait for the curing time. Follow separate instructions.
9. If necessary, remove mounting aids.

10. Mount floor plate with wedge securing discs and M10 x 30 screws. Tighten the screws slightly.

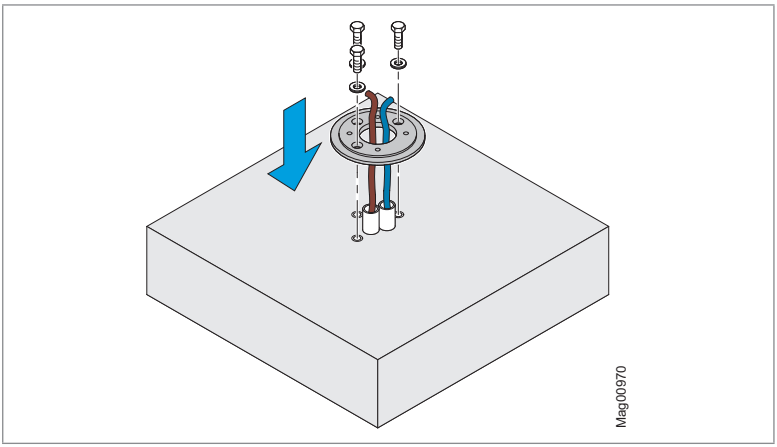

Fig. 14: Mounting variant 1: Mounting the floor plate

11. Screw the threaded pins into the floor plate. Fix the position of the threaded pins with nuts.

    IMPORTANT!
    You can level the floor plate using the threaded pins.

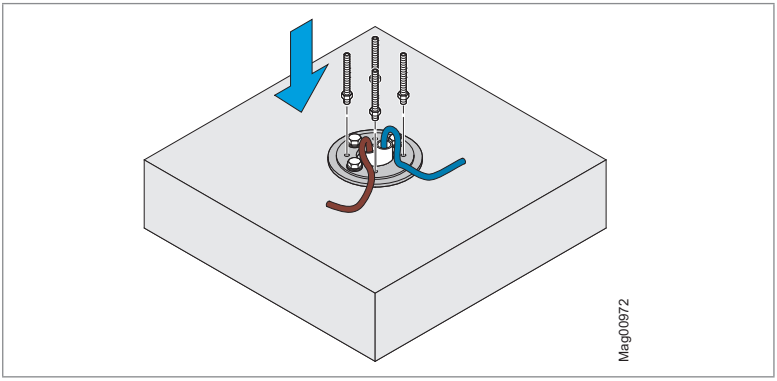

Fig. 15: Mounting variant 1: Mounting threaded pins

12. Tighten the M10 screws firmly.
    › Tightening torque: 20 Nm
13. Prepare mSwing for mounting. ↗ Page 67, chapter 7.7.

7.6.2 Mounting variant 2 (mounting the base plate)

With this mounting variant, first mount the base plate on the foundation or on the unfinished floor. Use threaded rods to position the floor plate at the desired height. After finishing the finished floor, mount the floor plate. Mount the pedestrian gate above the floor plate.

Required material, included in the scope of delivery:

- M10 x 30 hexagon head screws for base plate
- M10 wedge securing discs for floor plate

Required material, not included in the scope of delivery:

- Base plate FURA103
- Attachment set BSSFURA103 for mounting the floor plate

Required material to be provided by the customer:

- M10x 90 sleeves with inner thread (3 pcs) for base plate
- M10 wedge securing discs (3 pcs) for base plate

IMPORTANT!

To mount the FURA103 base plate, you can also use the optional attachment set BSS103.

Overview

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Overview

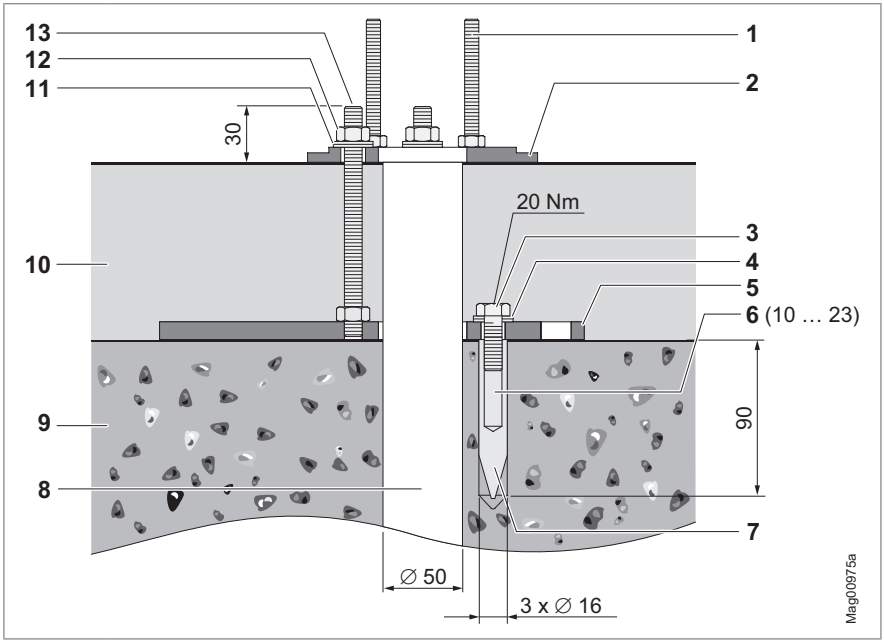

Fig. 16: Overview mounting variant 2 (mounting the base plate)

1 M8 threaded pin (4 pcs)
2 Floor plate
3 M10 x 30 screw (3 pcs), included in the scope of delivery
4 M10 wedge securing disc (3 pcs), recommended, such as attachment set BSS103
5 Base plate FURA103
6 Thread reach 10 … 23 mm
7 M10 sleeve with inner thread (3 pcs), recommended, such as attachment set BSS103
8 Area for conduits
9 Foundation or unfinished floor
10 Finished floor, for example screed
11 M10 wedge securing discs, included in the scope of delivery
12 M10 nut (3 pcs), attachment set BSSFURA103
13 M10 threaded rod (3 pcs), attachment set BSSFURA103

Before finishing the finished floor – mounting the base plate and threaded rods

Requirements:

- The foundation / unfinished floor has been built.
- The empty conduits were laid.
- The foundation / unfinished floor has hardened.

1. Specify the blocking element's orientation in the position "Closed". You determine the orientation of the blocking element using the base plate.

   NOTICE
   Incorrect alignment of the blocking element! Observe the following figure.

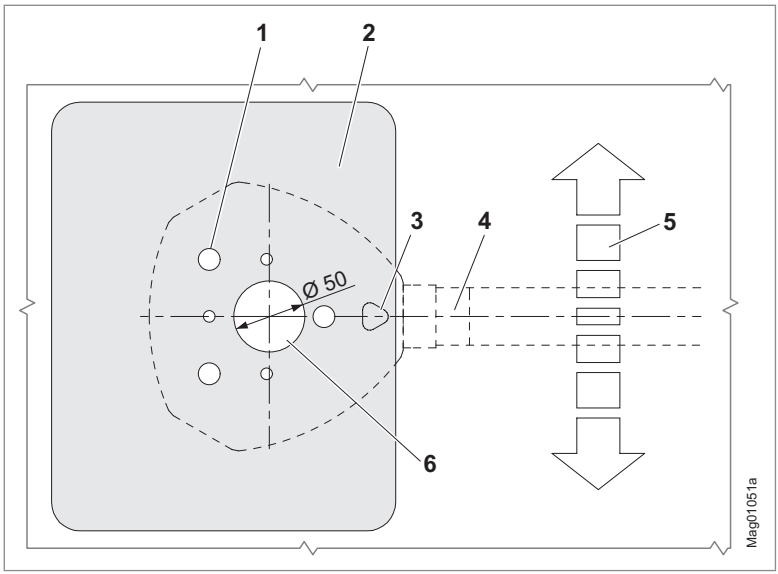

Fig. 17: Mounting variant 2: Setting the blocking element orientation using the base plate

1 Boreholes for mounting the base plate with sleeves with inner thread and screws
2 Base plate FURA103
3 Marking for blocking element orientation
4 Blocking element in the "Closed" position (not yet mounted)
5 Passage
6 Area for conduits

2. Outline the boreholes using the base plate.

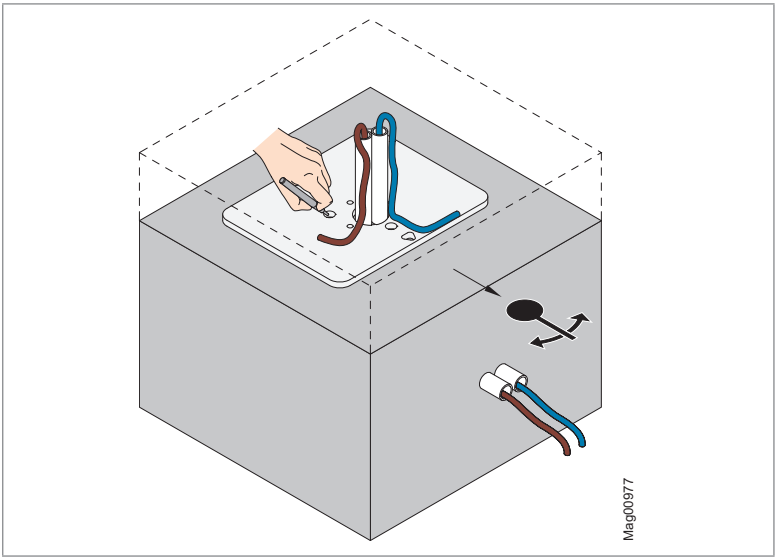

Fig. 18: Mounting variant 2: Sketching boreholes

3. Drill holes for the sleeves with inner thread. ↗ Page 42, Fig. 11.
4. Clean the boreholes with compressed air.
5. If necessary, prepare the sleeves with inner thread using mounting aids. The BSS103 attachment set contains mounting aids for the sleeves with inner thread.
6. Inject composite mortar into the boreholes.
7. Screw in the sleeves with inner thread by hand until the sleeves are flush with the floor. If necessary, use mounting aids.
8. Wait for the curing time. Follow separate instructions.
9. If necessary, remove mounting aids.

10. Mount the base plate with wedge securing discs and M10 x 30 screws on the foundation or unfinished floor.
    › Tightening torque: 20 Nm

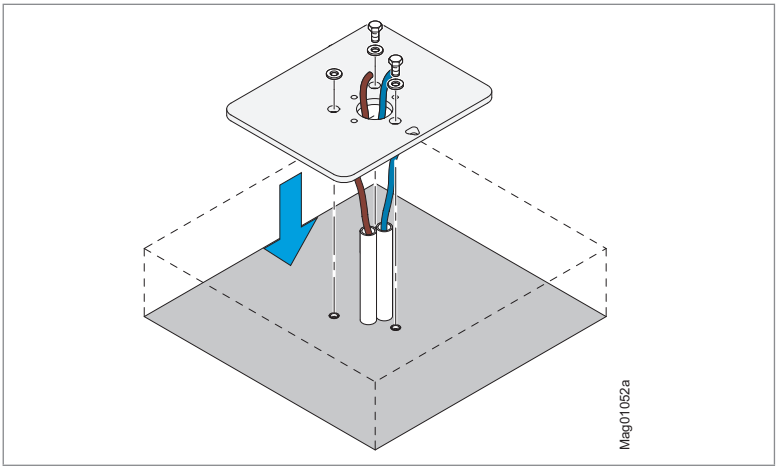

Fig. 19: Mounting variant 2: Mounting the base plate

11. Screw the threaded rods into the base plate.
12. Fix the threaded rods with nuts.
13. Mount the other nuts on the threaded rods slightly above the planned finished floor height.

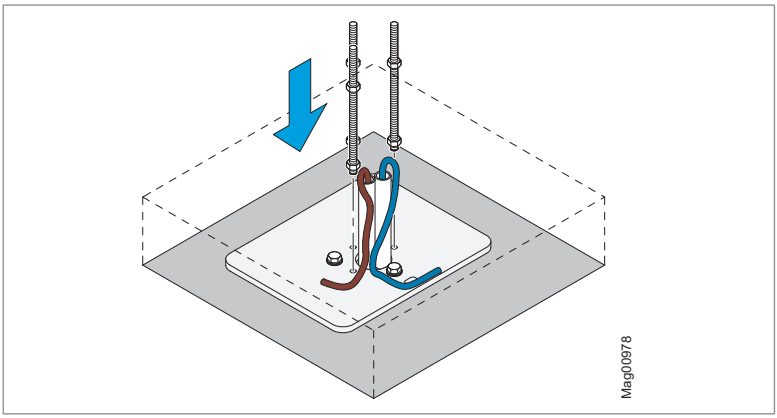

Fig. 20: Mounting variant 2: Mounting threaded rods

14. Place the adjustment aid on the threaded rods.

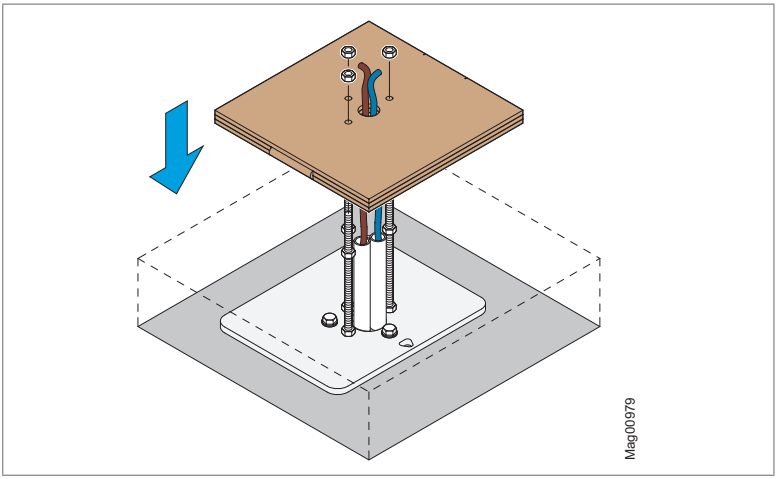

Fig. 21: Mounting variant 2: Placing the adjustment aid

After completion of the finished floor – mounting the floor plate

Requirements:

› The finished floor is finished.

1. Remove the adjustment aid and nuts from the threaded rods.

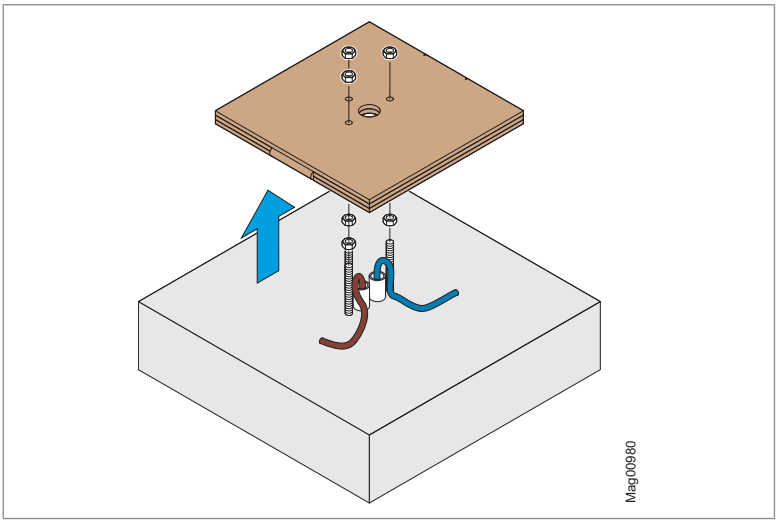

Fig. 22: Mounting variant 2: Removing the adjustment aid and nuts

2. Flex off the threaded rods 30 mm above the finished floor.

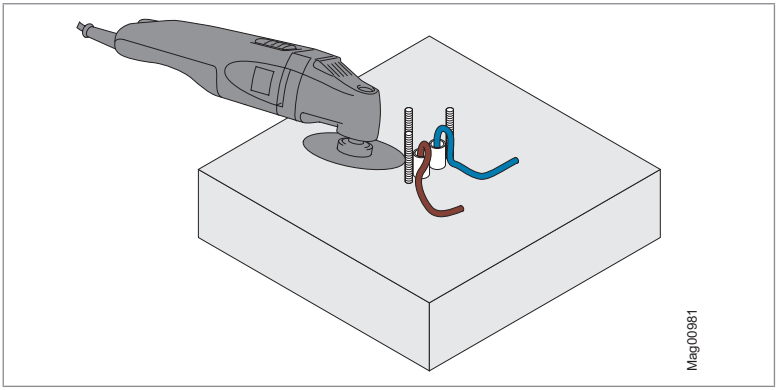

Fig. 23: Mounting variant 2: Flexing off threaded rods

3. Place the floor plate on threaded rods.
4. Mount the floor plate with wedge securing discs and nuts. Tighten the nuts slightly.

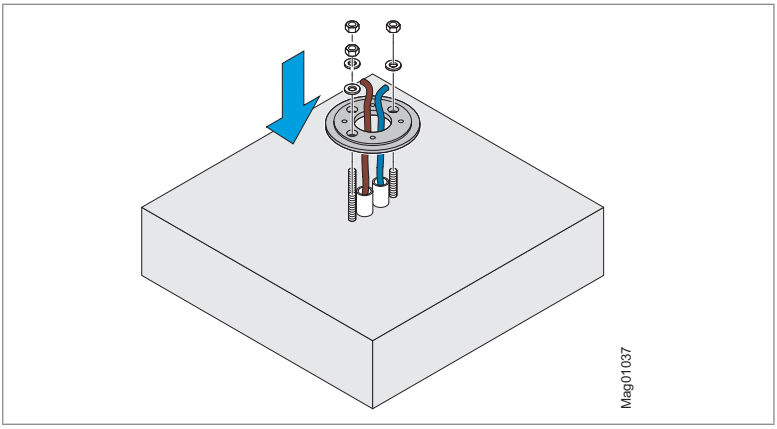

Fig. 24: Mounting variant 2: Mounting the floor plate

5. Screw the threaded pins into the floor plate. Fix the position of the threaded pins with nuts.

   IMPORTANT!
   You can level the floor plate using the threaded pins.

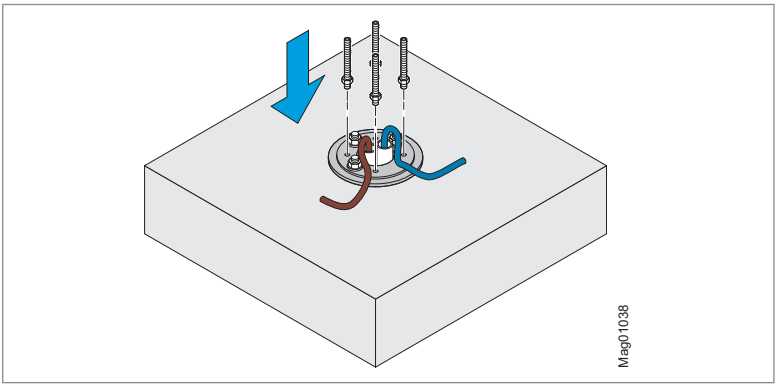

Fig. 25: Mounting variant 2: Mounting threaded pins

6. Tighten the M10 nuts firmly.
   › Tightening torque: 20 Nm
7. Prepare mSwing for mounting. ↗ Page 67, chapter 7.7.

7.6.3 Mounting variant 3 (glueing the base plate)

With this mounting variant, you first glue the base plate onto the foundation or the finished floor. Then mount the floor plate on the base plate. Mount the pedestrian gate above the floor plate.

Required material, included in the scope of delivery:

- M10 x 20 hexagon head screws
- M10 wedge securing discs

Required material, not included in the scope of delivery:

- Base plate FURA103
- Attachment set BSSKL100 for gluing the base plate

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NOTICE

Unsuitable floor types!

Some floor types are not suitable for the "gluing" mounting variant.

- Unsuitable floor types are coated floors, PVC coatings, carpets, laminate and parquet.
- Tiles and slabs are only suitable to a limited extent.
- Follow the separate instructions and the packaging inscriptions for the surface cleaner, construction adhesive and remover.

Overview

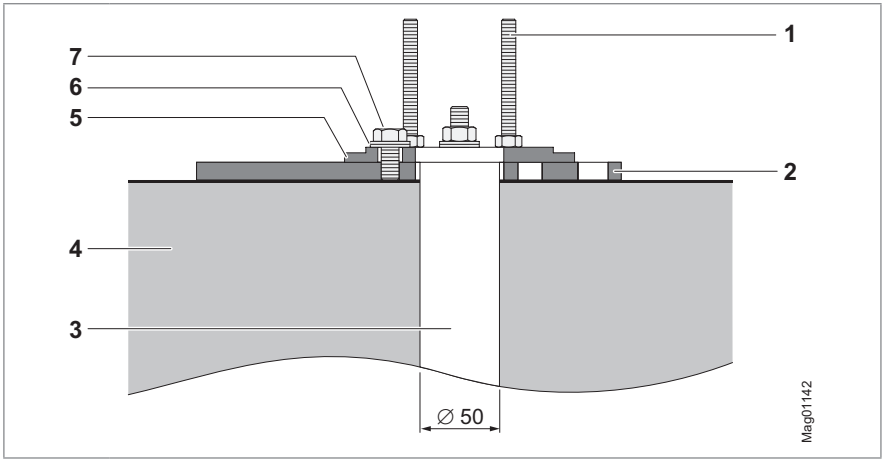

Fig. 26: Overview mounting variant 3 (glueing the base plate)

1 M8 threaded pin (4 pcs)
2 Base plate FURA103
3 Area for conduits
4 Foundation or finished floor
5 Floor plate
6 M10 wedge securing disc (3 pcs)
7 M10 x 20 screw (3 pcs)

Procedure

Requirements:

› The foundation / the finished floor was erected.
› The empty conduits were laid.
› The foundation / the finished floor has hardened.

IMPORTANT!
Follow the separate instructions as well as the packaging labels for the surface cleaner, construction adhesive and remover.

The floor must be free of paint and varnish.

1. Specify the blocking element's orientation in the position "Closed". You determine the orientation of the blocking element using the base plate.

   NOTICE

   Incorrect alignment of the blocking element! Observe the following figure.

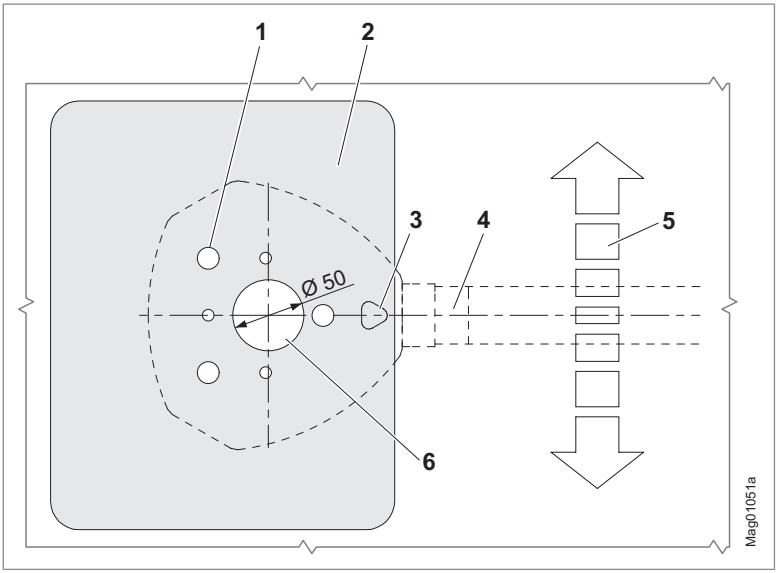

Fig. 27: Mounting variant 3: Setting the blocking element orientation using the base plate

1 Boreholes (not used with this mounting variant)
2 Base plate FURA103
3 Marking for blocking element orientation
4 Blocking element in the "Closed" position (not yet mounted)
5 Passage
6 Area for conduits

2. Place and align the base plate.
3. Mark the outline of the base plate on the floor. Make sure that the markings are either washable or invisible.

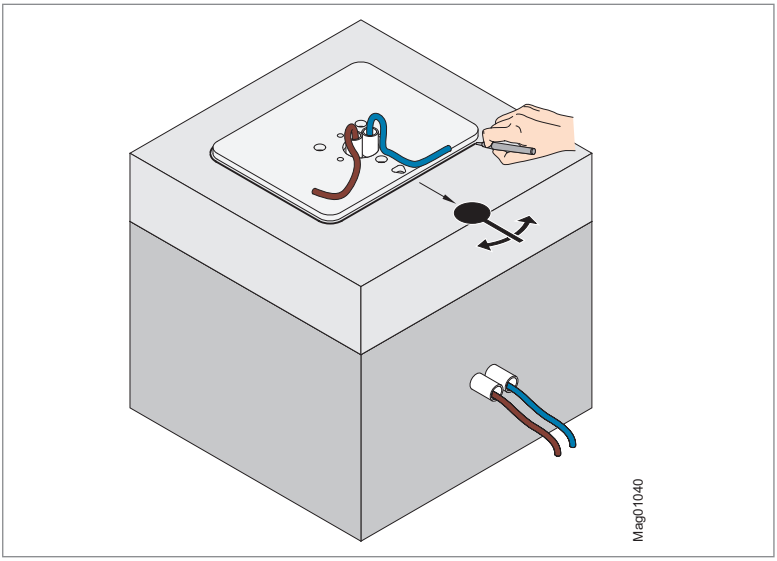

Fig. 28: Mounting variant 3: Mark outline

4. Turn the base plate over and put it aside. The uncoated side must face upwards.
5. Clean the floor with the "HaftClean" surface cleaner.
6. Clean the uncoated side of the base plate with the "HaftClean Metall" surface cleaner.

7. Apply construction adhesive "Klebt + D Dicht Power" to the floor in the form of a beat within the marking. Apply less construction adhesive towards the edge.

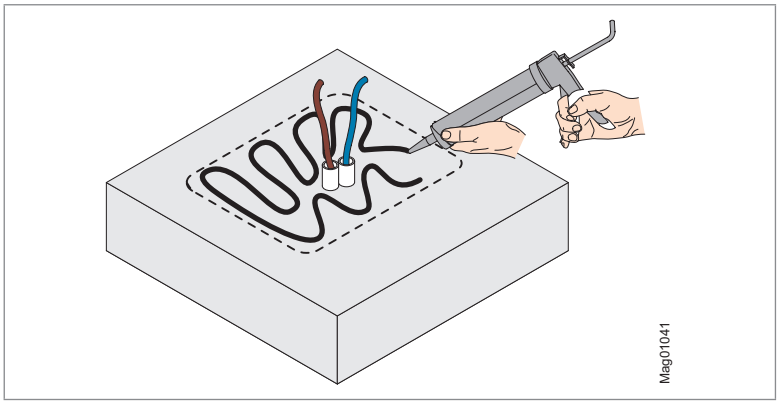

Fig. 29: Mounting variant 3: Applying construction adhesive

8. Turn the base plate over and immediately place the uncoated side of the base plate on the construction adhesive. Observe markings.

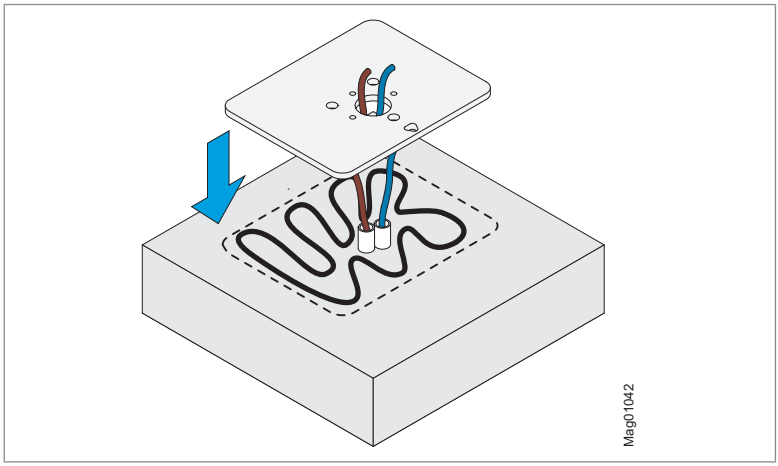

Fig. 30: Mounting variant 3: Placing the base plate

9. Press the base plate on well immediately. Weigh down the base plate with weights until the construction adhesive has hardened.

10. Remove excess construction adhesive as soon as possible with "Klebt + Dichtet Entferner". If the construction adhesive has already cured, remove excess construction adhesive with a suitable tool. When selecting the tool, consider the material of the base.
11. Wait for the curing time.
12. Mount floor plate with wedge securing discs and M10 x 20 screws.

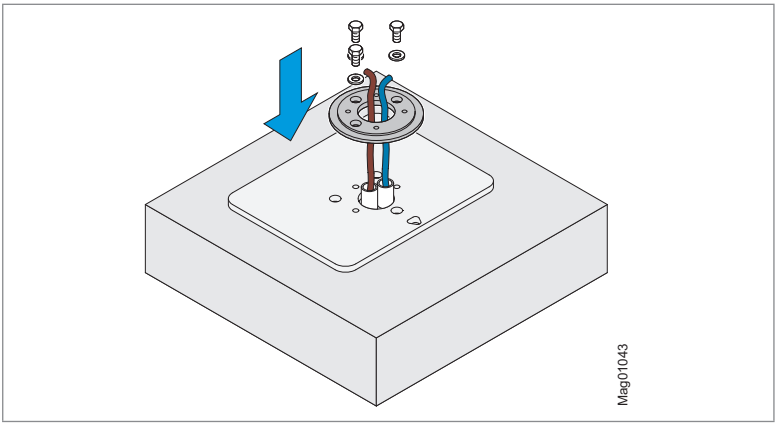

Fig. 31: Mounting variant 3: Mounting the floor plate

13. Mount the threaded pins.

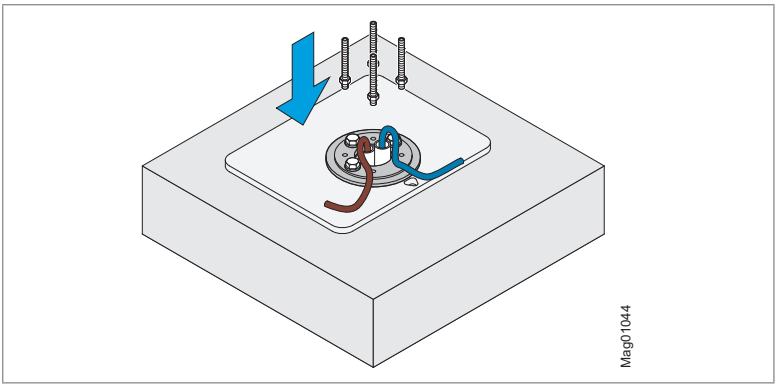

Fig. 32: Mounting variant 3: Mounting threaded pins

14. Prepare mSwing for mounting. ↗ Page 67, chapter 7.7.

7.6.4 Mounting variant 4 (base frame)

With this mounting variant, first mount the base frame on the foundation or on the unfinished floor. After the slabs or interlocking paving stones have been laid, mount the floor plate on the base frame. Mount the pedestrian gate above the floor plate.

Required material, included in the scope of delivery:

- M10 x 30 hexagon head screws for floor plate
- M10 wedge securing discs for floor plate
- M10 x 20 hexagon head screws for base frame

Required material, not included in the scope of delivery:

- Base frame FURA113

Required material to be provided by the customer:

- M10x 90 sleeves with inner thread (3 pcs) for base frame
- M10 wedge securing discs (3 pcs) for base frame

IMPORTANT!

To mount the FURA113 base frame, you can also use the optional attachment set BSS103.

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Overview

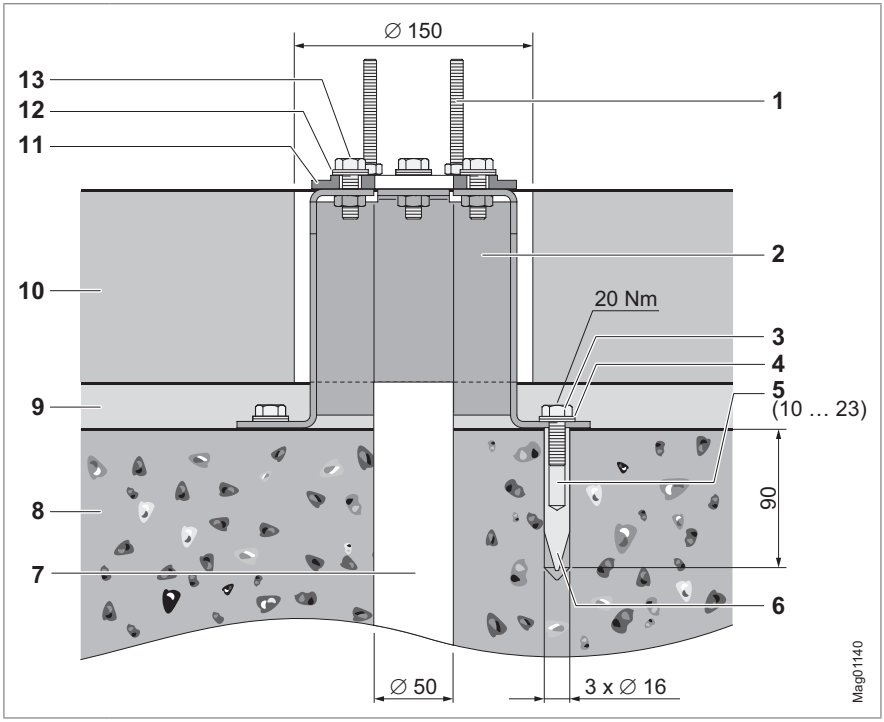

Fig. 33: Overview mounting variant 4 (base frame)

1 M8 threaded pin (4 pcs)
2 Base frame FURA113
3 M10 x 20 screw (3 pcs), included in the scope of delivery
4 M10 wedge securing disc (3 pcs), recommended, such as attachment set BSS103
5 Thread reach 10 … 23 mm
6 M10 sleeve with inner thread (3 pcs), recommended, such as attachment set BSS103
7 Area for conduits
8 Foundation
9 Sand or gravel
10 Slabs or interlocking paving stones
11 Floor plate
12 M10 wedge securing discs (3 pcs), included in the scope of delivery
13 M10 x 30 screw (3 pcs), included in the scope of delivery

Base frame FURA113

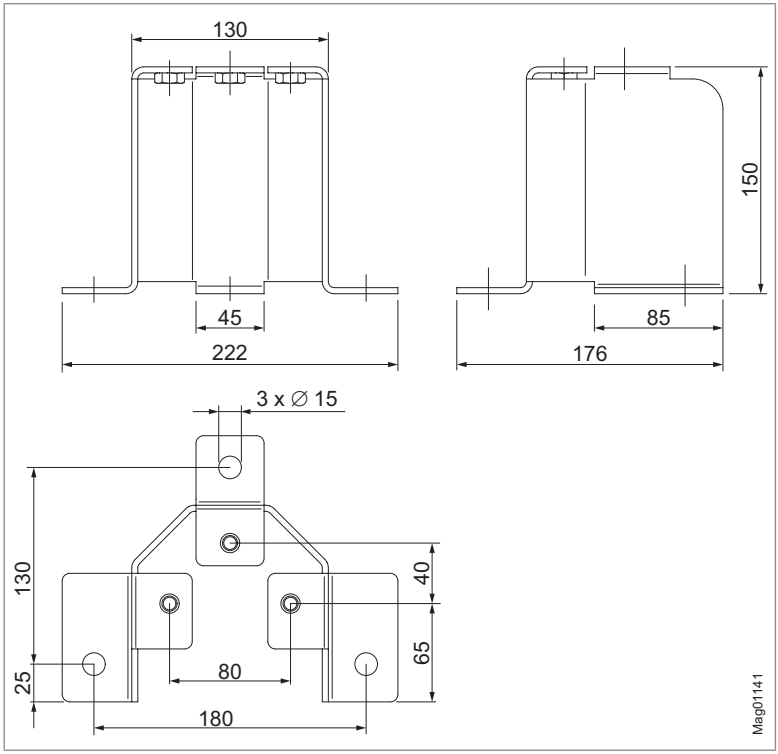

Fig. 34: Base frame FURA113

Before laying the slabs or interlocking paving stones – mounting the base frame

Requirements:

› The foundation was built.

› The empty conduits for the mains cable and the control lines were laid.

› The foundation has cured.

1. Specify the blocking element's orientation in the position "Closed". You determine the orientation of the blocking element using the base frame.

   NOTICE
   Incorrect alignment of the blocking element! Observe the following figure.

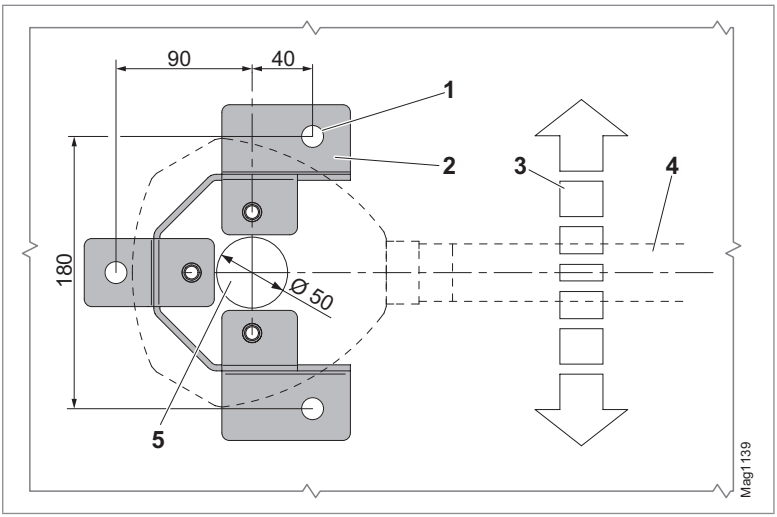

Fig. 35: Mounting variant 4: Setting the blocking element orientation using the base frame

1 Boreholes for mounting the base frame with sleeves with inner thread and screws
2 Base frame FURA113
3 Passage
4 Blocking element in the "Closed" position (not yet mounted)
5 Area for conduits

2. Outline the boreholes using the base frame.

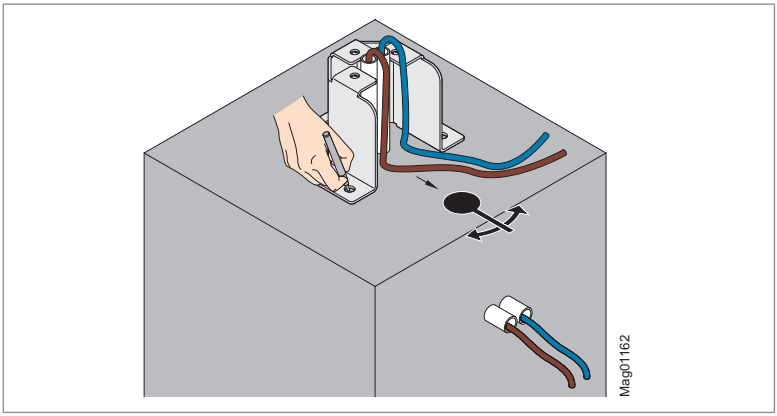

Fig. 36: Mounting variant 4: Sketching boreholes

3. Drill holes for the sleeves with inner thread. ↗ Page 62, Fig. 34.
4. Clean the boreholes with compressed air.
5. If necessary, prepare the sleeves with inner thread using mounting aids. The BSS103 attachment set contains mounting aids for the sleeves with inner thread.
6. Inject composite mortar into the boreholes.
7. Screw in the sleeves with inner thread by hand until the sleeves are flush with the floor. If necessary, use mounting aids.
8. Wait for the curing time. Follow separate instructions.
9. If necessary, remove mounting aids.

10. Mount base frame with wedge securing discs and M10 x 20 screws.

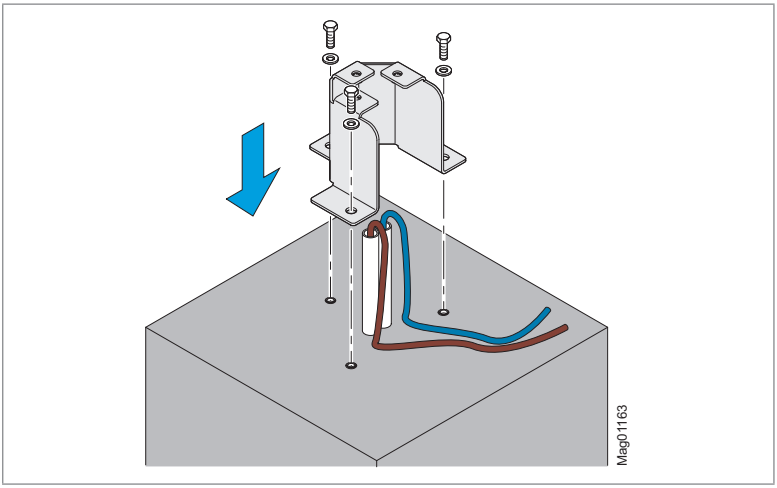

Fig. 37: Mounting variant 4: Mounting the base frame

After laying the slabs or interlocking paving stones – mounting the floor plate

Requirements:

› The slabs or interlocking paving stones have been laid.

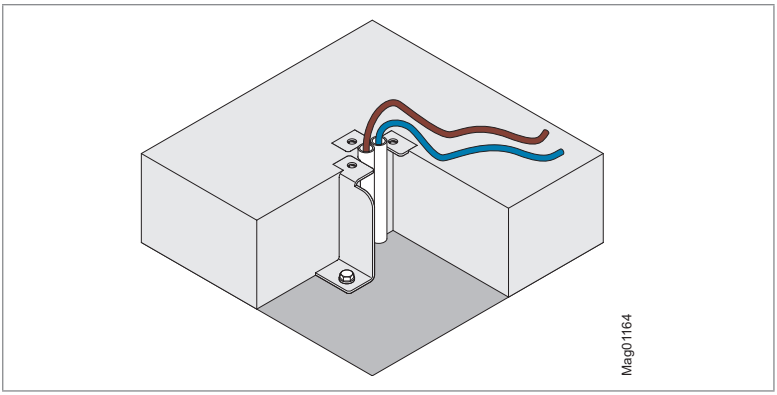

Fig. 38: Mounting variant 4: Slabs, interlocking paving stones, etc. have been laid

1. Place the floor plate on the base frame. Observe the alignment of the floor plate.
2. Mount floor plate with wedge securing discs and M10 x 30 screws. Tighten the screws slightly.

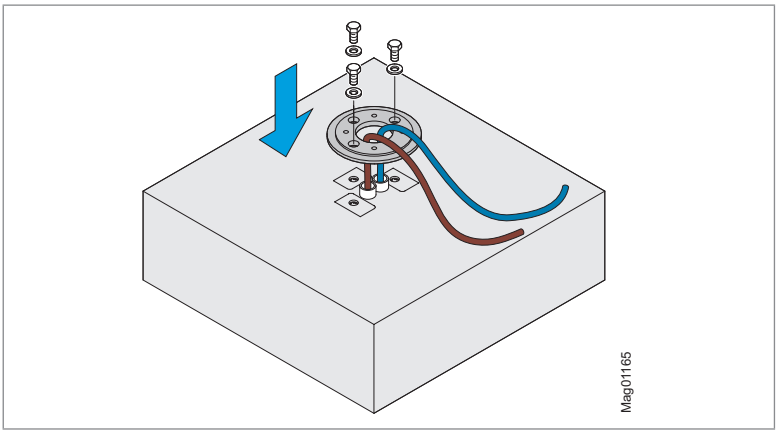

Fig. 39: Mounting variant 4: Mounting the floor plate

3. Screw the threaded pins into the floor plate. Fix the position of the threaded pins with nuts.

   IMPORTANT!
   You can level the floor plate using the threaded pins.

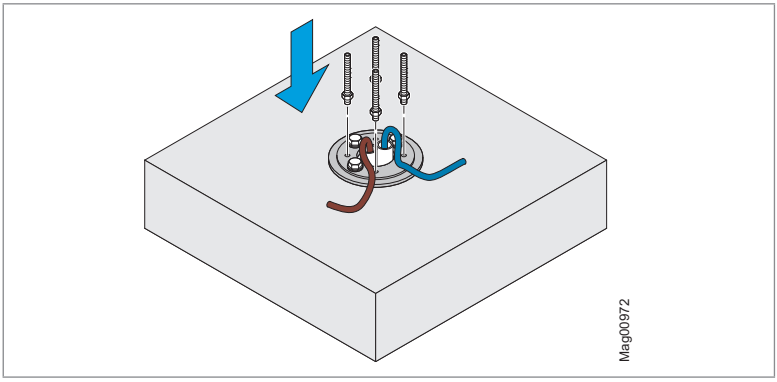

Fig. 40: Mounting variant 4: Mounting threaded pins

4. Tighten the M10 screws firmly.
   › Tightening torque: 20 Nm
5. Prepare mSwing for mounting. ↗ Page 67, chapter 7.7.

7.7 Preparing the mSwing for mounting

1. Dismount the hood. To do so, insert auxiliary tool into the drill hole and simultaneously pull the hood upwards.

   ⚠ CAUTION
   Danger of crushing! Hold the cover only at the edge.

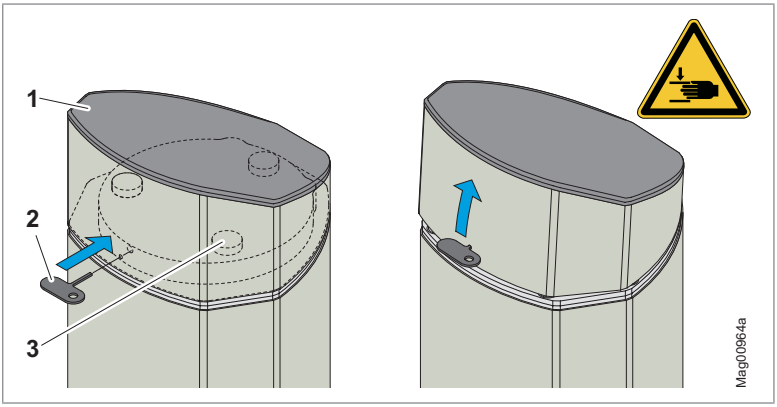

Fig. 41: Dismounting the cover

1 Cover
2 Auxiliary tool
3 Magnets (3 pcs)

2. Mark the drive shaft and driving tappet flange with a line, e.g. to the centre of the magnet. This marking helps you when placing the outer tube during mounting.

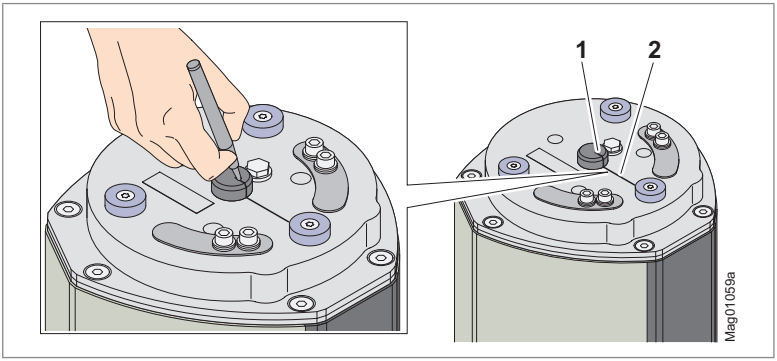

Fig. 42: Mark

1 Mark on the drive shaft
2 Mark on the tappet flange

3. Dismount the outer tube. For this, loosen the screw in the tappet flange. Do not unscrew the screw. If necessary, lightly tap the screw head to loosen the clamping wedge connection.

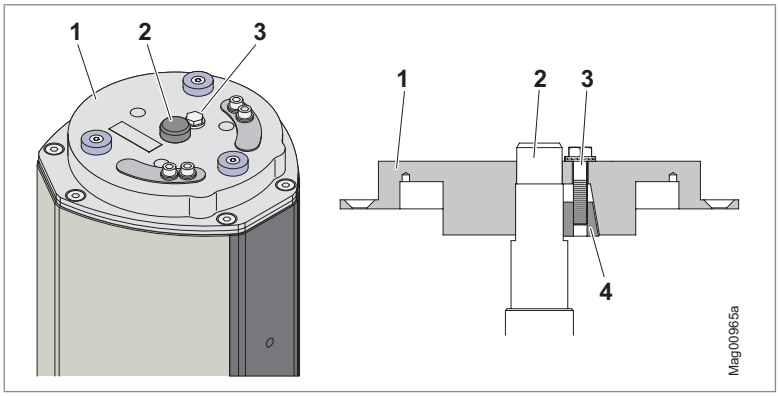

Fig. 43: Dismounting the outer tube

1 Tappet flange
2 Drive shaft
3 Screw
4 Clamping wedge

4. Lift the outer tube off the edge profile.

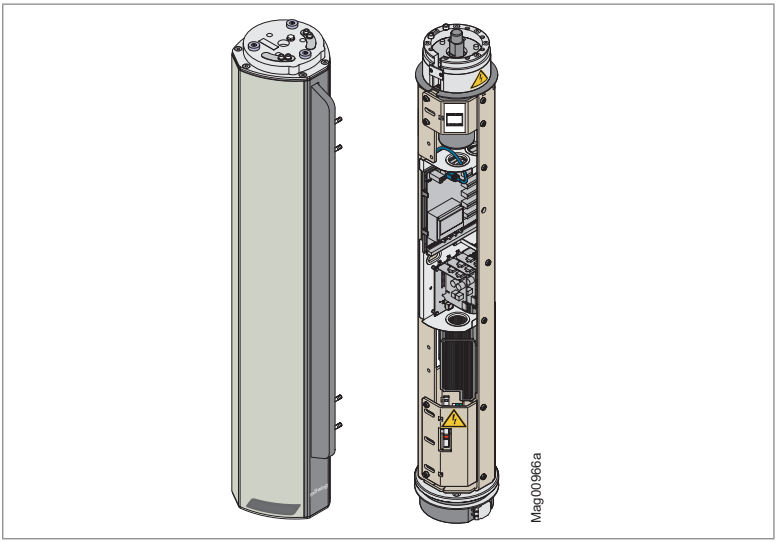

Fig. 44: Outer tube removed

√ The mSwing is prepared for floor mounting.

7.8 Mounting mSwing on the floor plate

Requirements

› The floor plate is mounted on the floor.

› The threaded pins are mounted.

1. Place the edge profile with drive unit on the threaded pins. Place the edge profile so that the RJ-45 socket points in the same direction as the blocking element.
2. Fasten the edge profile with washers and nuts.

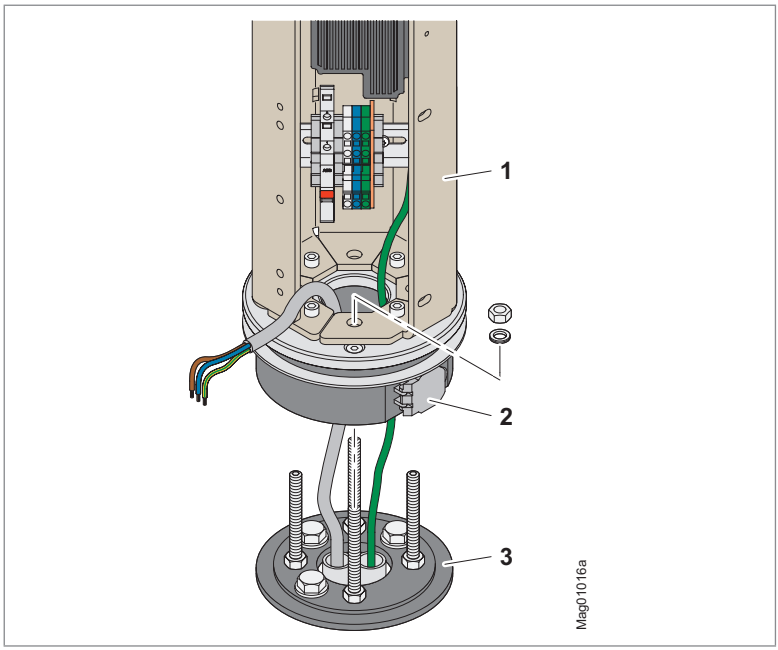

Fig. 45: Mounting the edge profile

1 Edge profile
2 RJ-45 socket
3 Mounted floor plate

3. Arrange electrical connections. ↗ Page 90, chapter 8.
4. Switch on the on and off switch. ↗ Page 97, chapter 9.3.

5. Mount the reinforcing plate.

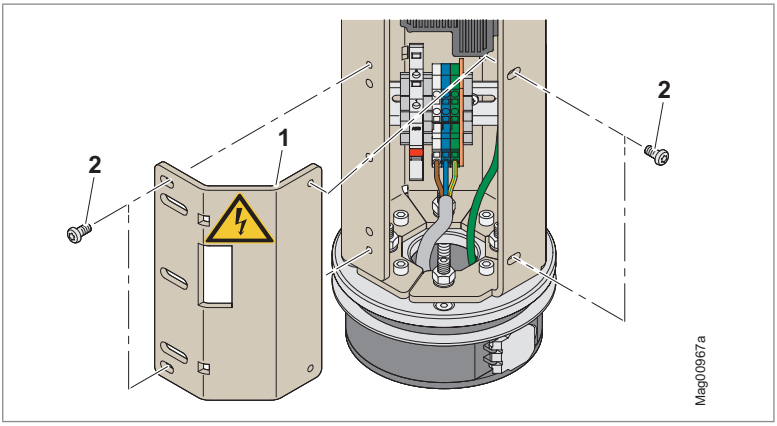

Fig. 46: Mounting the reinforcing plate

6. Check that the clutch disc is correctly positioned in the edge profile. A pin of the clutch disc and the width flats of the drive shaft must be aligned to the blocking element in the planned "Closed" position.

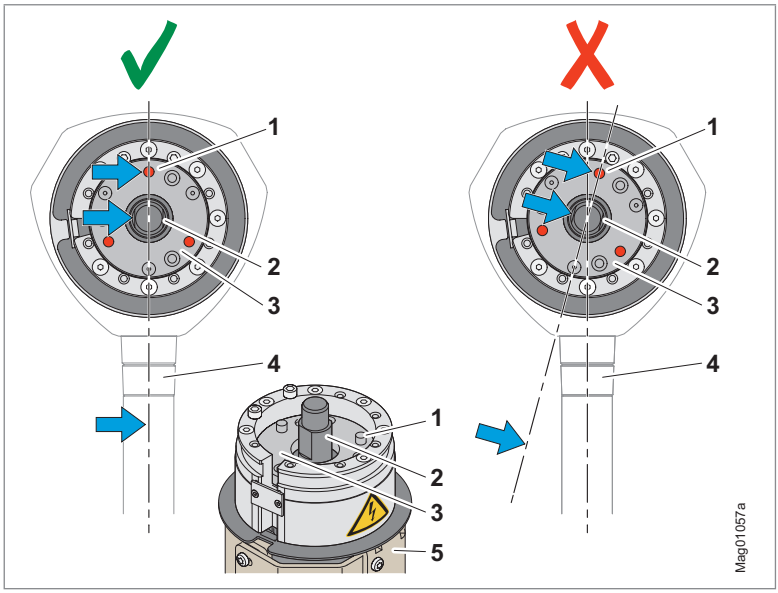

Fig. 47: Correct and incorrect positioning of the clutch disc

1 Pin of the clutch disc
2 Width flat of the drive shaft
3 Clutch disc
4 Not yet mounted blocking element
5 Edge profile

7. Place the outer tube on the edge profile so that the marking on the drive shaft matches the marking on the tappet flange.

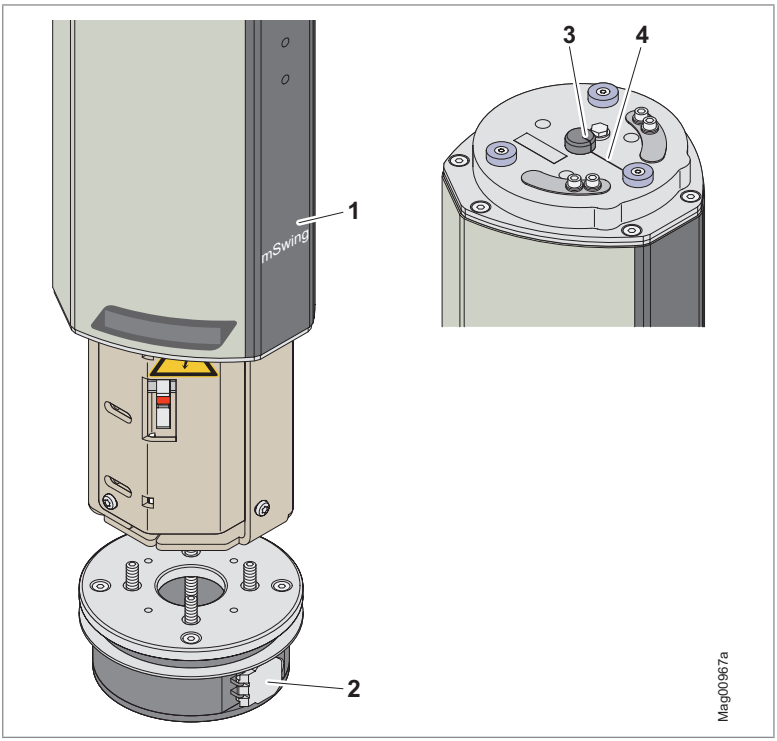

Fig. 48: Placing the outer tube

1 Outer tube, side for blocking element
2 RJ-45 socket
3 Mark on the drive shaft
4 Mark on the tappet flange

8. Check that the drive shaft protrudes 8 mm from the tappet flange.
9. Mount the outer tube. For this, tighten the screw at the tappet flange. The clamping wedge clamps the drive shaft.

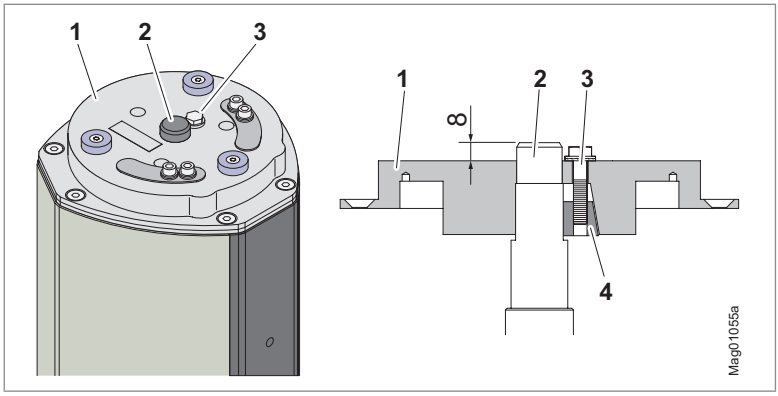

Fig. 49: Checking the drive shaft dimension and mounting the outer tube

1 Tappet flange
2 Drive shaft
3 Screw
4 Clamping wedge

10. Mount the blocking element. ↗ Page 80, chapter 7.10.
11. Set the end stops. ↗ Page 76, chapter 7.9.

12. Mount the cover. The cover is held by 3 magnets.

    ⚠ CAUTION
    Danger of crushing! Hold the cover only at the edge.

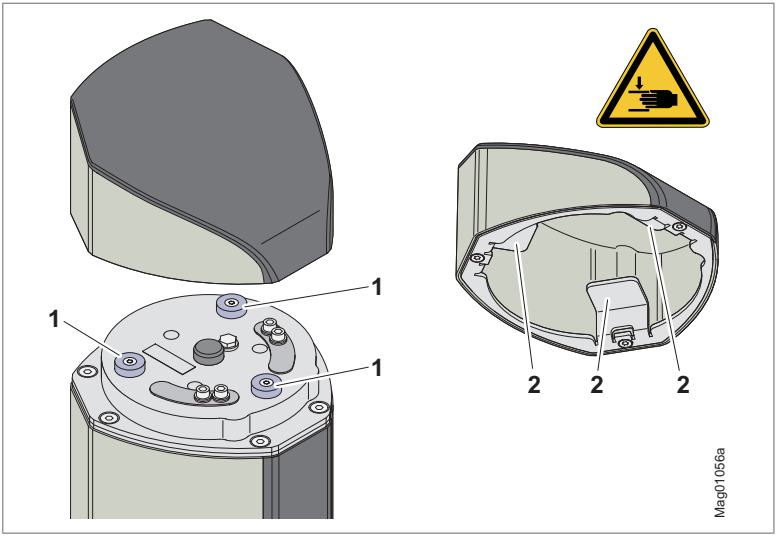

Fig. 50: Mounting the cover

1 Magnets

2 Mating surfaces for magnets

7.9 Setting the end stops

7.9.1 Mechanical end stops explanations

The mechanical end stops "Left" and "Right" are set using 2 fixed end stops and 2 following end stops. A fixed end stop consists of a screw. A following end stop consists of a square and 2 screws.

The fixed end stops are used for gross adjustment. The following end stops are used for precise adjustment.

After the swing door is switched on, the left and right end stops are approached to determine the angle of rotation. During operation the left and right target position are approx. 3° away from the respective end stop. ↗ Page 77, chapter 7.9.3.

7.9.2 Setting the end stops

1. Set the mechanical fixed end stops "Left" and "Right" using the screws. ↗ Page 78, chapter 7.9.4.
2. Mount the outer tube. ↗ Page 79, chapter 7.9.5.
3. Mount the blocking element. ↗ Page 80, chapter 7.10.
4. Turn the blocking element in the first desired target position manually.
5. Further turn the blocking element by hand for 3°.
6. Check that the blocking element is at least 50 mm away from solid walls and objects in the end position.
7. Move the corresponding following end stop in the crescent until the following end stop abuts against the inner stop screw.
8. Check that the cover plate covers the crescent. If necessary, turn the cover plate.
9. Tighten the screws for the following end stop with 5 Nm.
10. Follow steps 4 to 9 for the second target position.
11. Perform reset.
12. Set target positions on the MGC control unit or via mSwing Connect.

Observe the following points during the setting of the following points:

› The mechanical end stops must be set at least 3° behind the respective target position.

› If you change the setting of the mechanical end stops, you must check the target positions and readjust them if necessary.

IMPORTANT!
For setting the target positions and to reset, see separate document "Description of MGC control unit for mSwing (Doc.ID: 5817,0031)".

7.9.3 Factory setting and example of a different setting

Factory setting

The factory setting for the target position "Left" is -90° and for the target position "Right" +90°.

- Target position "Left" on the MGC control unit: -90°
- Mechanical fixed end stop "Left" (gross adjustment): Position **c** (-55° ... -105°)
- Mechanical following end stop "Left" (precise adjustment): -93°
- Target position "Right" on the MGC control unit: +90°
- Mechanical fixed end stop "Right" (gross adjustment): Position **d** (+55° ... +105°)
- Mechanical following end stop "Right" (precise adjustment): +93°

Example of a different setting

For the target position "Left", set **0°**, and for the target position "Right", set **+110°**.

- Target position "Left": 0°
- Mechanical fixed end stop "Left" (gross adjustment): Position **a** (0° ... -15°)
- Mechanical following end stop "Left" (precise adjustment): -3°
- Target position "Right": +110°
- Mechanical fixed end stop "Right" (gross adjustment): Position **c** (+100° ... +150°)
- Mechanical following end stop "Right" (precise adjustment): +113°

7.9.4 Setting the fixed end stops (gross adjustment)

The fixed end stops are used for gross adjustment. Tighten the screws with 17 Nm.

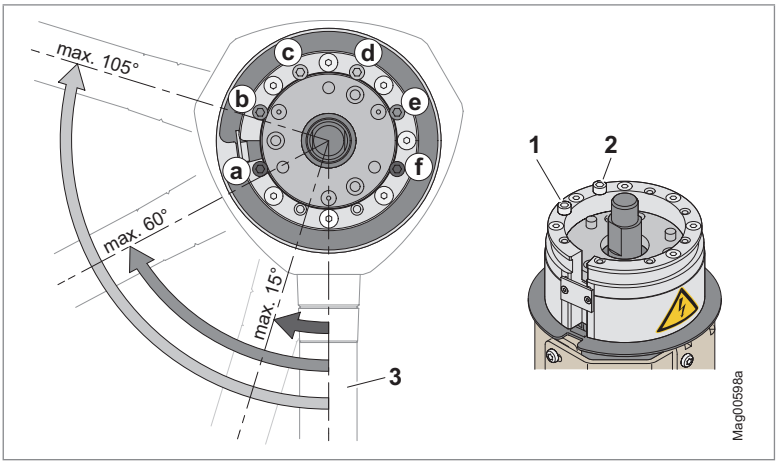

Fig. 51: Gross adjustment

1 Fixed end stop for rotating direction left (open from right)
2 Fixed end stop for rotating direction right (open from left)
3 Blocking element in position "Closed" (locking element not yet mounted)

The position of the two screws for the fixed end stops set the rotation angle ranges for both rotating directions.

Marking in figure	Fixed end stop for rotating direction left (counterclockwise (CCW))	Fixed end stop for rotating direction right (clockwise (CW))
a	0° … -15°	–
b	-10° … -60°	–
c	-55 … -105° (Factory setting)	+100° … +150°
d	-100° … -150°	+55 … +105° (Factory setting)
e	–	+10° … +60°
f	–	0° … +15°

Table 11: Angle of rotation ranges depending on the set position

7.9.5 Setting the following end stops (precise adjustment)

The following end stops are used for precise adjustment.

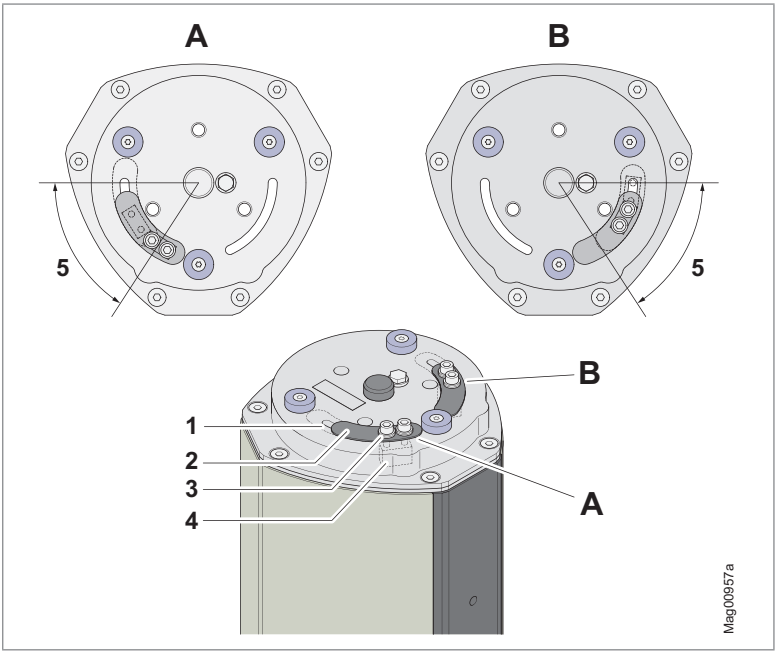

Fig. 52: Precise adjustment

A Example for the setting "rotating direction left"

B Example for the setting "rotating direction right"

1 Crescent in tappet flange

2 Cover plate for crescent

3 Screw of the following end stop (2 pcs)

4 Square of the following end stop, positioned below the tappet flange

5 Infinitely variable fine adjustment of the end stop (up to 50° regarding the fixed stop screw)

7.10 Mounting and dismounting the blocking element

7.10.1 Mounting the blocking element "wing"

The following components are supplied for wing variants.

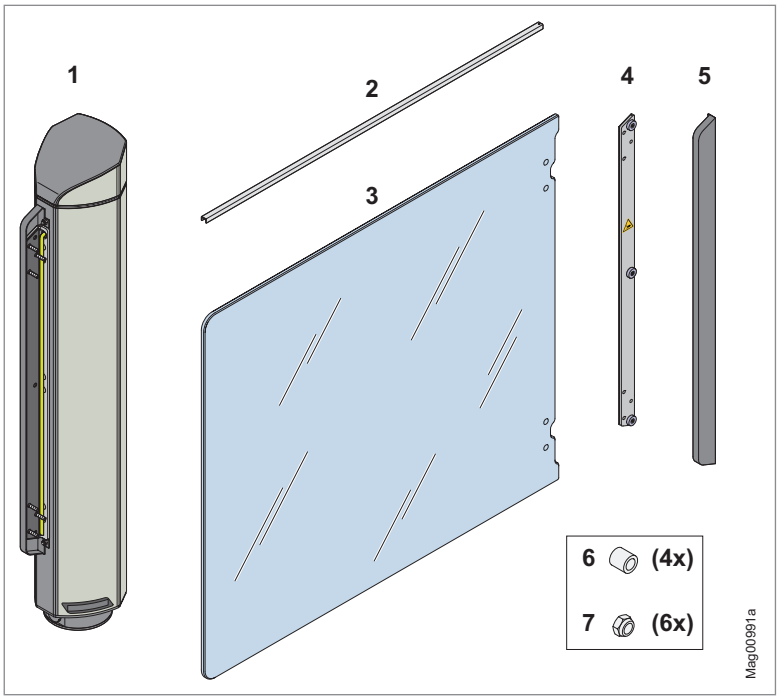

Fig. 53: Components for the "Wing" variant

1 mSwing, outer tube mounted
2 Edge protector (optional)
3 Wing
4 Retaining plate
5 Cover
6 Plastic sleeves
7 Nut

1. Put the plastic sleeves on the screws on the outer tube.
2. Push the wing on the screws and plastic sleeves.

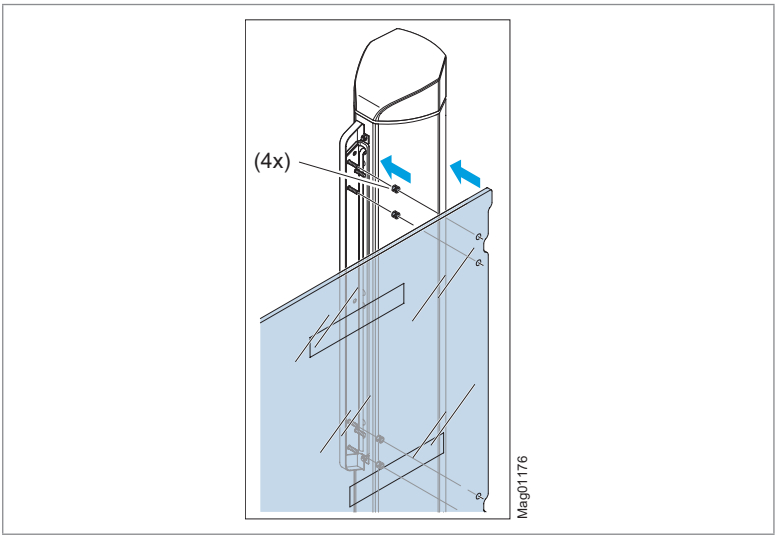

Fig. 54: Installing the wings

3. Mount the retaining plate with the nuts.

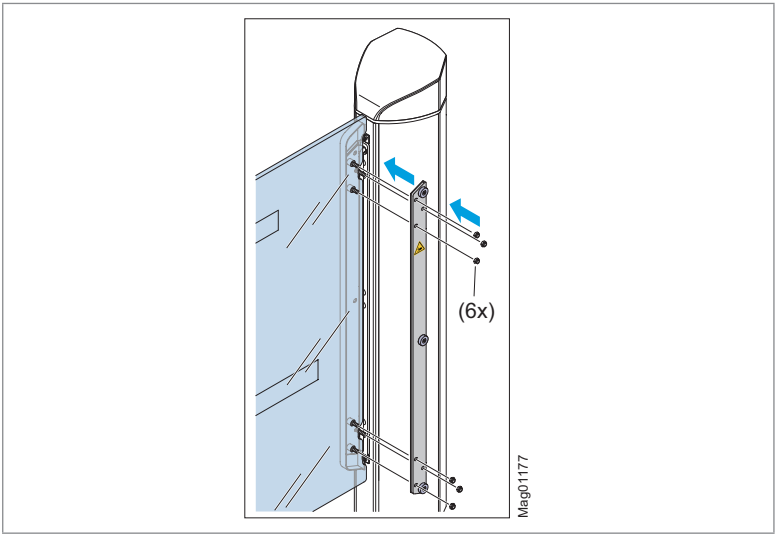

Fig. 55: Mounting the retaining plate with nuts

4. Mount cover. The cover is held by 3 magnets.

   ⚠ CAUTION
   Danger of crushing!

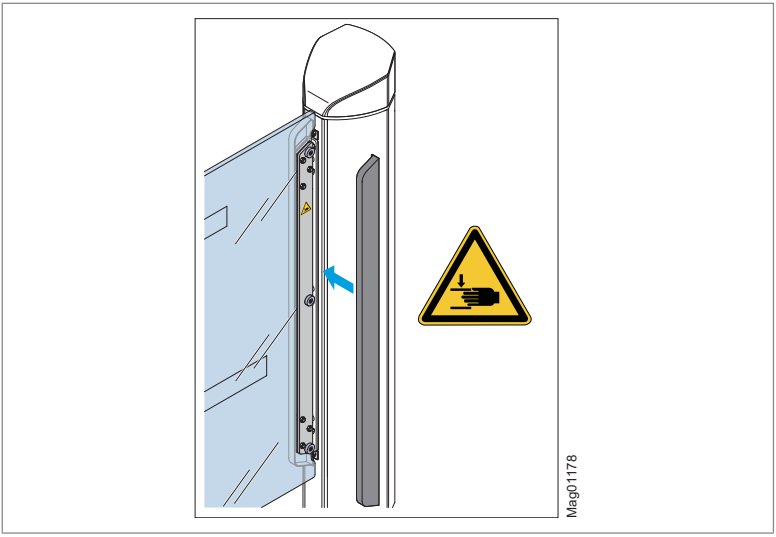

Fig. 56: Mounting the cover

√ The wing is installed.

7.10.2 Mounting the optional edge protector

1. Depending on the blocking width, shorten the edge protector to the required length.
   - The required length L1 is the blocking width D minus 50 mm.
   - Depending on the blocking width, you may have to shorten the protector to max. 450 mm or not at all.
   - Shorten the edge protector on the side with the small hole.
2. Remove the protective film from the adhesive strip in the edge protector.
3. Place the edge protector on the wing as seen in the following figure.
   - Distance to outer wing edge: 40 mm
   - Distance to outer tube: 10 mm
   - Sawing edge towards outer tube

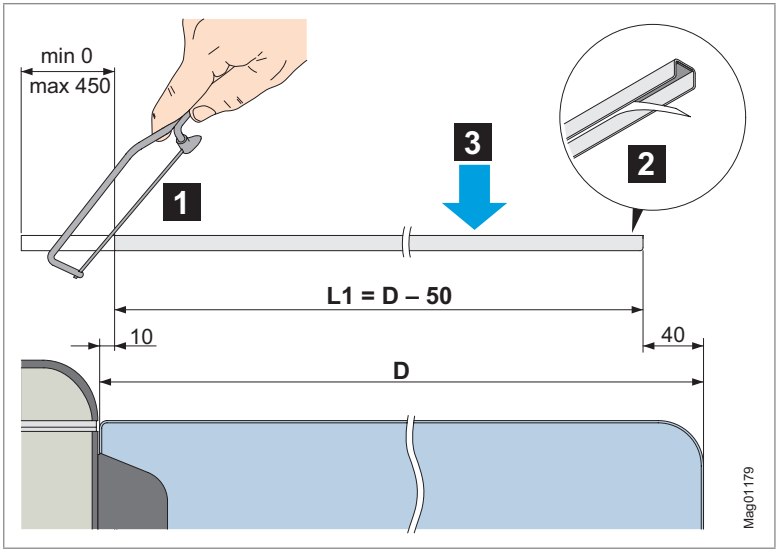

Fig. 57: Mounting the edge protector (all dimensions in mm)

7.10.3 Dismounting the blocking element "wing"

There is a protrusion at the bottom of the cover.

1. Use the supplied tool to lever off the cover at this protrusion. The cover is held by 3 magnets.

   ⚠ CAUTION
   Danger of crushing!

2. Remove the cover.

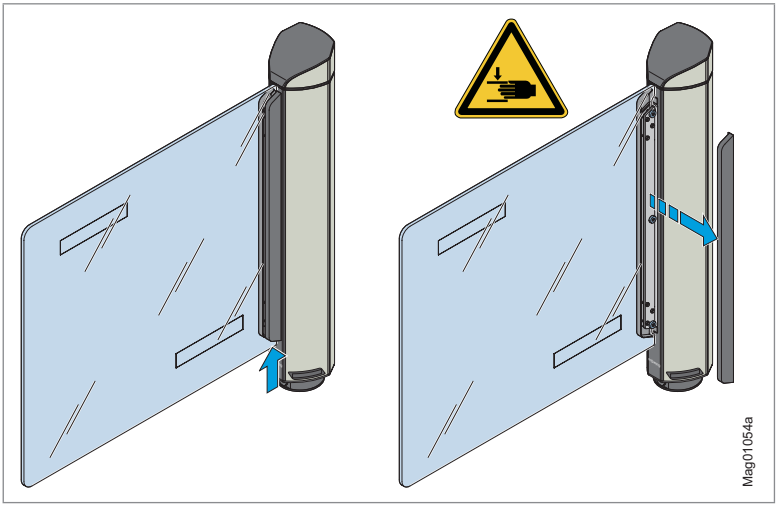

Fig. 58: Dismounting the wings

3. Dismount the wings in the reverse order as for mounting.

7.10.4 Mounting the blocking element "bracket"

The following components are supplied for bracket variants.

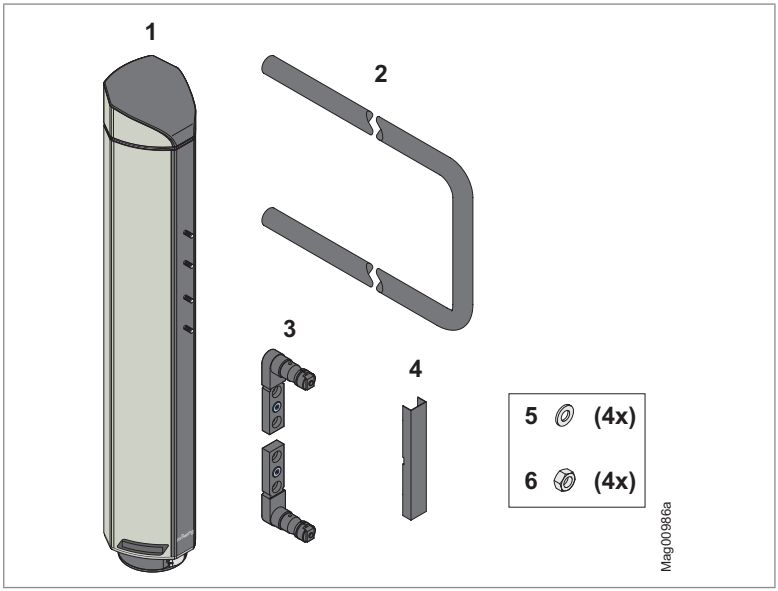

Fig. 59: Components for the "bracket" variant

1 mSwing, outer tube mounted
2 Bracket
3 Flange (2 pcs)
4 Cover
5 Wedge securing disc
6 Nut

1. Put the flanges in the bracket pipe.

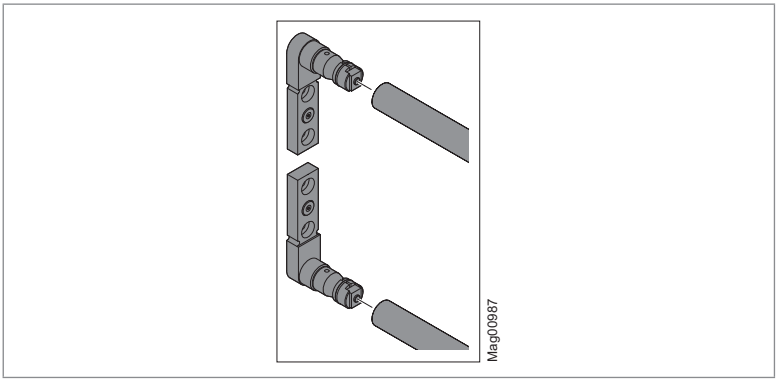

Fig. 60: Mounting the bracket

2. Align the flanges to each other.
3. Tighten the screws. Make sure that the flanges do not twist. If necessary, fasten the flanges with screw clamps.
   › Tightening torque: 32 Nm

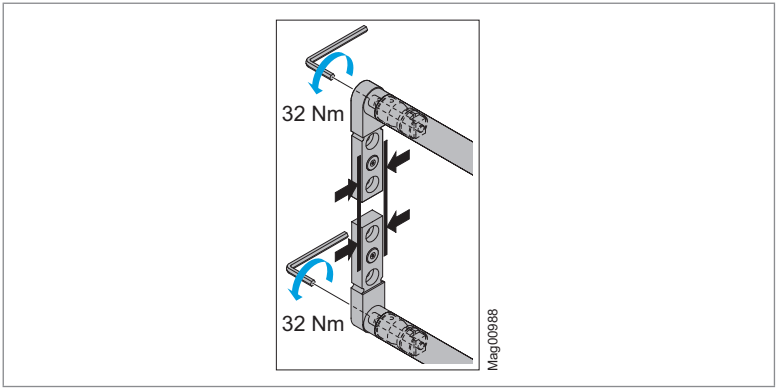

Fig. 61: Mounting the bracket

4. Push the flanges with the bracket on the screws on the outer tube.
5. Fasten flanges with bracket using wedge securing discs and nuts.
   › Tightening torque: 16 Nm

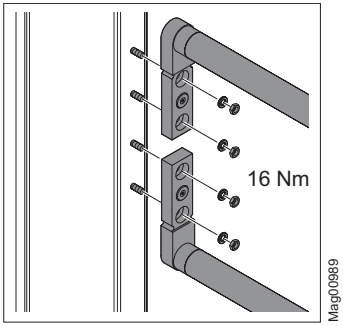

Fig. 62: Mounting the bracket

6. Place the cover. The cover is held by 2 magnets.

   ⚠ CAUTION
   Danger of crushing!

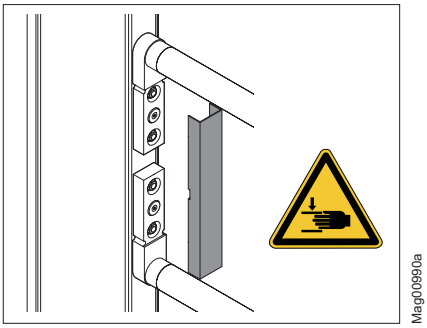

Fig. 63: Mounting of the cover

√ The bracket is installed.

7.10.5 Dismounting the blocking element "bracket"

There is a protrusion at the side of the cover.

1. Use the supplied tool to lever off the cover at this protrusion. The cover is held by 2 magnets.

   ⚠ CAUTION
   Danger of crushing!

2. Remove the cover.

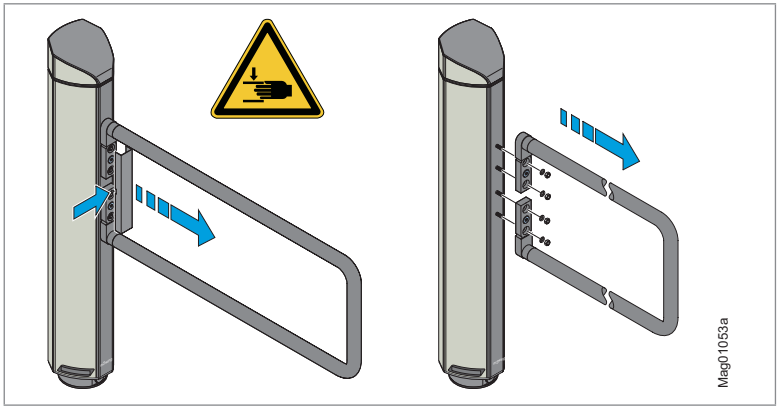

Fig. 64: Dismounting the bracket

3. Dismount the brackets in the reverse order as for mounting.

7.11 Opening and closing the housing

You will have to open the housing for the following activities:

› Switch the pedestrian gate on and off.
› Install the electrical connection and electrical wiring.

Opening the housing

↗ Page 67, chapter 7.7.

Closing the housing

↗ Page 70, chapter 7.8.

7.12 Checking mounting

Check the following points after mounting:

› Are all screws and nuts tightened?
› Have all pedestrian gate covers been properly mounted?

8 Electrical connection

8.1 Safety during electrical connection

Qualification of personnel

› Technician
› Magnetic MHTM™ FlowMotion® service expert

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes
› Protective gloves
› Safety shoes.

⚠ DANGER

Electric voltage!

Touching live parts can be lethal. Damage to the insulation or to individual components can be lethal.

› Only qualified electricians or electrical safety experts may carry out work on the electrical system.
› Before commencing any work, switch off power supply and secure against restarting. Test for absence of voltage.
› Keep moisture and dust away from live parts. Moisture or dust may cause a short circuit.
› If the electrical connection is established at precipitation, e.g. rain or snow, intrusion of moisture must be prevented by suitable measures, such as a protective cover.
› Protective devices that are required according to national and local regulations, e.g. residual current devices, must be provided. These protective devices must be provided by the customer.
› Observe the information on the type plate.
› Close all covers after all work is completed.

DANGER

Mortal danger from lightning and electric voltage!

During or after a lightning strike into the system, there is danger to life if the components are touched or during a stay in the immediate vicinity of the system.

› When mounting outside, do not install and mount the pedestrian gate during thunderstorms.

› Protect yourself in buildings or vehicles.

NOTICE

Electromagnetic interference!

The pedestrian gate is approved for industrial, residential, commercial and business use. Operation in other electromagnetic environments may result in interferences or malfunction.

› Place control lines and mains cables into separate conduits.

› Customer access-control devices, signal transmitters and receivers must be EMC-tested and comply with the prescribed EMC limits. In this case, a Declaration of Conformity must be carried out by the customer.

NOTICE

Malfunction due to excessive output current at terminal X2!

The maximum output current at terminal X2 is limited to 300 mA by a self-resetting fuse.

› Make sure that the maximum output current is not exceeded.

› If necessary, supply components such as other illumination with an additional power supply unit. The additional power supply unit must be installed outside the pedestrian gate.

8.2 Installing electrical protective devices

The protective devices that are required according to national and local regulations must be provided on site. This safety equipment is to be provided by the customer.

As a rule, the following protective devices must be installed:

- Residual current device (RCD)
- Circuit-breaker
- Lockable 2-pole main switch acc. to EN 60947-3.

8.3 Connecting the mains cable

IMPORTANT!

The wire cross-section of the mains cable must be between 1.5 and 4 mm². Observe national regulations regarding cable length and corresponding wire cross-section.

IMPORTANT!

To use the mSwing pedestrian gate in an escape and emergency route, see chapter "mSwing for escape and emergency routes".
↗ Page 95, chapter 8.5

Requirements

› The housing is open. ↗ Page 89, chapter 7.11

1. Disconnect the system from the power supply. Ensure absence of voltage. Secure against reactivation.

   ⚠ DANGER
   Mortal danger by electric voltage!

2. Strip the mains cable and wires as per the following figure.

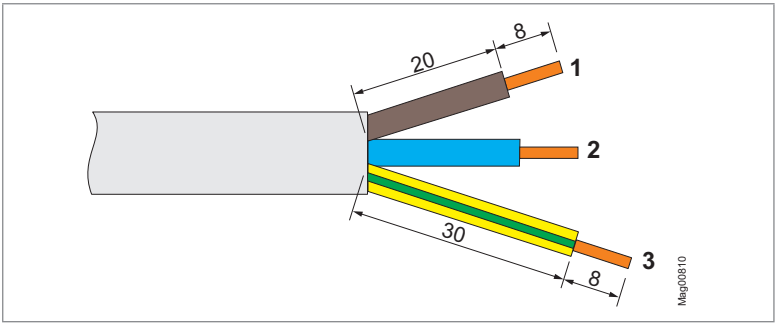

Fig. 65: Stripping (dimensions in mm)

1 Phase
2 Zero conductor
3 Protective earth conductor

3. Carefully guide the mains cable through the housing to the connection compartment and secure it with the brackets.
4. Connect the mains cable to the terminals X1: Connect L / N / PE. ↗ Wiring diagram, separate document.
5. Attach mains cable to the tabs with 2 cable ties.

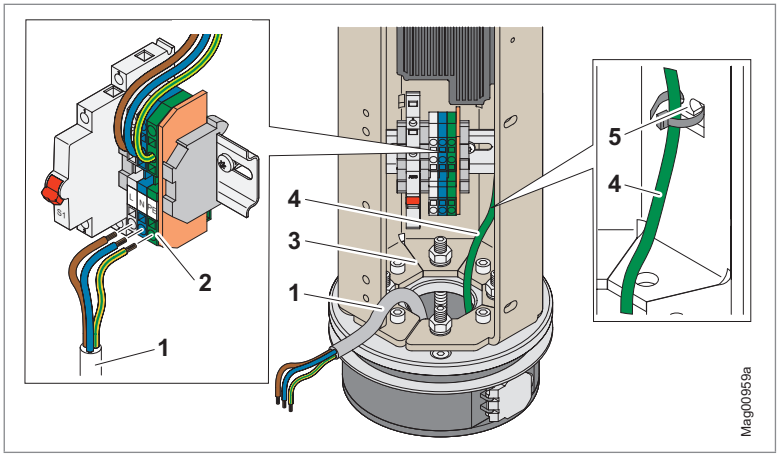

Fig. 66: Laying and connecting the mains cable

1 Mains cable to be connected
2 Terminals
3 Control line
4 Brackets for attaching control lines

8.4 Connect customer's control lines

IMPORTANT!

For connecting the control lines provided by the customer, see separate document "Description of MGC control unit for mSwing (Doc.ID: 5817,0031)".

8.4.1 Connecting emergency opening contacts

↗ Separate wiring diagram and document "Description control unit MGC for mSwing (Doc.ID: 5817,0031)".

Ex works, the input IN1 of the MGC control unit is parameterised with the input function "| Emergency open". Connect fire brigade switches, emergency opening contacts, etc. to this input. This input has the highest priority. As long as +24 V DC are present at this input, the pedestrian gate is in operation.

If the signal drops, the pedestrian gate is opened and released for passage.

The input function "| Emergency open" is superordinate to all other input functions.

IMPORTANT!

The input function "| Emergency open" does **not** fulfil the requirement of an emergency opening device as required for escape and emergency routes.

To use the mSwing pedestrian gate in an escape and emergency route, see chapter "mSwing for escape and emergency routes". ↗ Page 95, chapter 8.5.

8.5 mSwing for escape and emergency routes

The mSwing swing door is approved only for escape and emergency routes in combination with the optional Magnetic emergency stop button set NOT102 or NOT104. With the emergency stop button set NOT102 and NOT104 you receive the required type examination certificate.

Further notices: ↗ Separate instructions "Doc.ID: 5837,0025" in the download section (www.magnetic-access.com).

The emergency stop button must be installed in the mains cable in accordance with the separate wiring diagram.

8.6 Checking the electrical connections

Check the following after completing the electrical installation:

- Does the power supply match the specification on the type plate?
- Are the required protective devices installed?
- Is the pedestrian gate connected according to electrical circuit diagram?
- Is the pedestrian gate used in an escape and emergency route? Has the emergency opening device been connected to the mains cable of the pedestrian gate in accordance with the wiring diagram?
- Are the customer's signal transmitters and receivers correctly connected?
- Are all screws tightened?
- Have all pedestrian gate covers been properly mounted?

9 Commissioning

9.1 Safety during commissioning

Qualification of personnel

› Technician

› Magnetic MHTM™ FlowMotion® service expert

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes.

9.2 Putting the pedestrian gate into operation

IMPORTANT!

Commissioning must be carried out in accordance with the log book. See separate document "Log Book MHTM™ FlowMotion® mSwing (Doc.ID: 5837,0012)".

9.3 Switching the pedestrian gate on and off

NOTICE

Restarting quickly!

Restarting the pedestrian gate too quickly can lead to damage of the equipment!

› Wait for at least 10 seconds after switching off the pedestrian gate before you switch the mains power on again.

1. Open the housing. ↗ Page 89, chapter 7.11.
2. Switch the pedestrian gate on or off using the on/off switch.

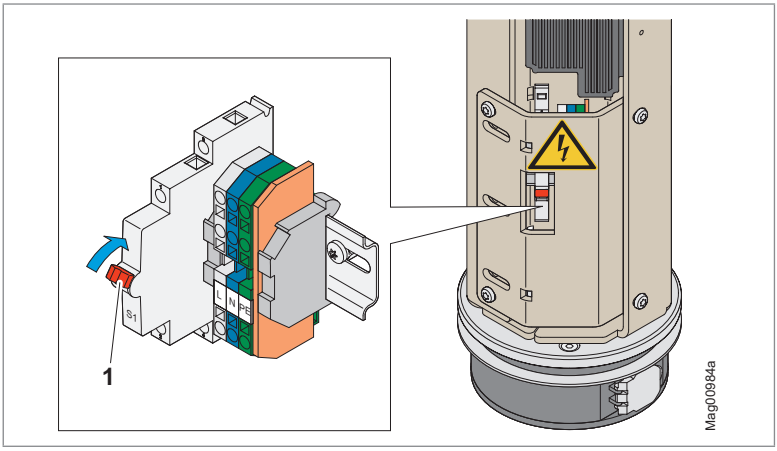

Fig. 67: Switching on the mSwing
1 On and off switch, here position "On"

3. Close the housing. ↗ Page 89, chapter 7.11.

9.4 Parameterising the pedestrian gate

IMPORTANT!

For parameterisation see separate document "Description of MGC control unit for mSwing (Doc.ID: 5817,0031)".

10 Operation

The operation of the pedestrian gate depends on the connected access-control devices, signal transmitters and signal receivers and on the parameterisation of the control unit.

We recommend to create a description for the operation, depending on the connected devices and the parameterisation.

IMPORTANT!

For parameterisation see separate document "Description of MGC control unit for mSwing (Doc.ID: 5817,0031)".

11 Log book

The pedestrian gate must be checked at least once a year in accordance with the log book.

The log book "MHTM FlowMotion® mSwing (Doc.ID: 5837.0012)" is included in the scope of delivery.

12 Cleaning and maintenance

12.1 Cleaning the pedestrian gate

NOTICE	
	**Aggressive cleaning aids and substances!** Aggressive detergents and consumables may damage or destroy components, electric cables, or the coating of the pedestrian gate. › Do not use cleaning agents with aggressive ingredients.

Cleaning the blocking element

1. Switch off power supply and secure against restarting.
2. Clean the glass wings with a glass cleaner.
3. Clean the stainless steel bracket with a stainless steel cleaner.

Cleaning the pedestrian gate from the outside – except for the blocking element

1. Switch off power supply and secure against restarting.
2. Pre-clean surfaces with a moist cloth. Never use wet cloth.
3. Clean the surface with a mild household cleaner.
4. Carefully clean areas with persistent dirt with spirit.
5. Dry surfaces with a dry cloth.

12.2 Maintenance schedule

The components do not have to be replaced by default.

The work listed in the maintenance plan are visual inspections and functional checks that we either recommend for safe, optimum and trouble-free operation of the pedestrian gate or that are prescribed by official regulations, ordinances, rules, guidelines and/or standards.

Interval	Work	Personnel
Monthly	Check blocking element such as glass wing for damage.	Operator
	Check the housing from the outside for damage.	Operator
Every 6 months	Check the fastening of the blocking element.	Technician
	Check the input function "emergency open". [1)]	Technician
	Check the function of the external residual current circuit breaker.	Technician
At least every 12 months	Check the function of the emergency opening device, e.g. emergency stop button, if the mSwing pedestrian gate is used in escape and emergency routes. [2)]	Technician
Every 12 months	Perform work as per the supplied log book.	Magnetic service expert

Ex works, the input IN1 of the MGC control unit is parameterised with the input function "| Emergency open". Connect fire brigade switches, emergency opening contacts, etc. to this input. If the signal drops, the pedestrian gate is opened and released for passage. The input function "| Emergency open" does **not** fulfil the requirement of an emergency opening device that are required for escape and emergency routes.

2) You may only use the mSwing pedestrian gate for escape and emergency routes in combination with the optional Magnetic emergency stop button set NOT102 or NOT104. More information: ↗ Page 95, chapter 8.5.

Table 12: Maintenance schedule

13 Corrective action

IMPORTANT!

For troubleshooting, see separate document "Description of MGC control unit for mSwing (Doc.ID: 5817,0031)".

14 Spare parts and repair

NOTICE

Wrong and faulty spare parts!

Incorrect or defective spare parts can result in damage, malfunctions or total failure and also impair safety.

› Use only the manufacturer's original spare parts.

Spare parts can be purchase from your authorised dealer. The address can be found on your delivery receipt, invoice or the rear of these operating instructions.

Spare part lists can be obtained on request.

15 Customer service

Our customer service can be contacted for any technical advice. Notices concerning the responsible contact person can be retrieved by telephone, fax, E-mail or via the Internet at any time, refer to manufacturer's address on page 2.

IMPORTANT!

In order to enable fast handling note the data of the type plate such as type, serial number, version etc. before calling.

16 Decommissioning

The pedestrian gate must be taken out of service in the following cases:

› The pedestrian gate is mounted at a different location.

› The pedestrian gate is decommissioned for more than 6 months.

If you only want to deactivate the pedestrian gate for a short time, see the "Switching the pedestrian gate on and off" section. ↗ Page 97, chapter 9.3.

16.1 Safety during decommissioning

Qualification of personnel

› Technician

› Magnetic MHTM™ FlowMotion® service expert

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes.

16.2 Taking the pedestrian gate out of service

1. Switch off the pedestrian gate. ↗ Page 97, chapter 9.3.
2. Disconnect the pedestrian gate from the power supply.
3. If necessary, dismount the pedestrian gate.
4. Store the pedestrian gate or its components correctly. ↗ Page 31, chapter 5.4.

17 Dismounting and disposal

17.1 Safety during dismounting and disposal

Qualification of personnel

› Technician
› Electrical specialist
› Magnetic MHTM™ FlowMotion® service expert

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:
› Work clothes
› Protective gloves
› Safety shoes.

17.2 Dismounting and disposal of pedestrian gate

Requirements

› The pedestrian gate is out of order. ↗ Page 103, chapter 16.2.

1. Disassemble the pedestrian gate into individual components.
2. Recycle parts by type and material. Dispose of non-recyclable materials in an environmentally friendly manner. Observe local and national laws and guidelines.

√ The pedestrian gate is dismounted and disposed of.

EU-Declaration of Conformity

CE

The manufacturer MAGNETIC AUTOCONTROL GmbH hereby declares for the product supplied by him:

Designation	**Pedestrian gate FlowMotion®**
Type	mSwing FMSW_M*
From serial number	11631134

The conformity according to:
Directive 2006/42/EC (Machine directive) amended by **2009/127/EC**
Directive 2014/30/EU (EMC directive)
Directive 2011/65/EU (RoHS 2 Directive)

Applied harmonised standards (or parts hereof):
EN ISO 12100:2010
Safety of machinery – General principles for design – Risk assessment and risk reduction

EN 60204-1:2018
Safety of machinery – Electrical equipment of machines – Part 1: Specifications for general requirements

EN 61000-6-2:2005/AC:2005
Electromagnetic compatibility (EMC) – Part 6-2: Generic standard – Immunity for industrial environments

EN 61000-6-3:2007/A1:2011/AC:2012
Electromagnetic compatibility (EMC) – Part 6-3: Generic standard – Emission standard for residential, commercial and light-industrial environments

EN ISO 13849-1:2015
Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design

EN 60335-2-103:2015
Household and similar electrical appliances – Safety – Part 2-103: Particular requirements for drives for gates, doors and windows

DIN EN 13637:2015-12
Building hardware – Electrically controlled exit systems for use on escape routes – Requirements and test methods

EltVTR:1997
Guideline on electrical locking systems for doors in emergency routes

This declaration is not a guarantee of characteristics in the sense of product liability law. The safety regulations of the operating instructions have to be observed.

MAGNETIC AUTOCONTROL GmbH
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Documentation Engineer
Mr. Stefan Wellinger

Schopfheim, 19/07/2021
Place and date

Signature

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