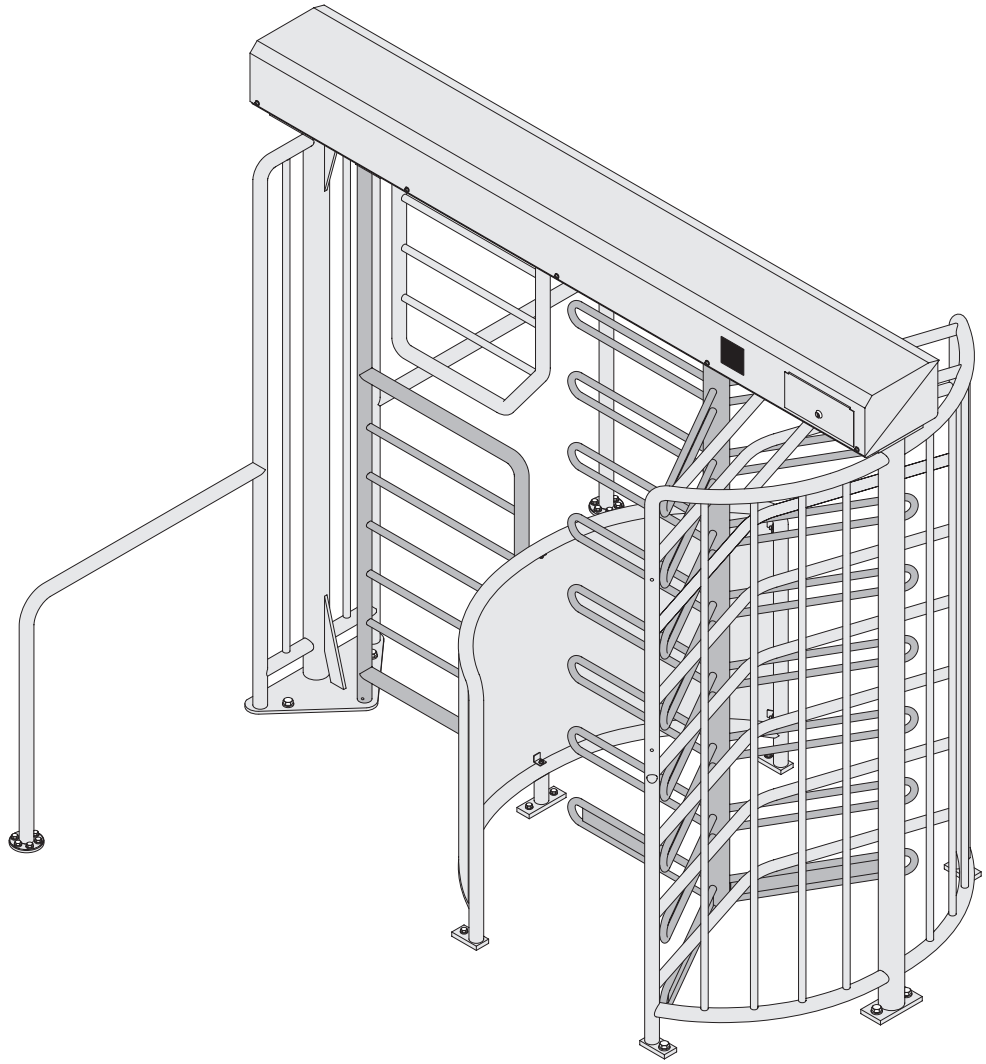
MAGNETIC®
ACCESS TO PROGRESS

Operating Instructions

Full height turnstile with bicycle access

MPB-311



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Original Operating Instructions

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

MAGNETIC AUTOCONTROL GMBH
Grienmatt 20
D-79650 Schopfheim
Germany

Phone +49 7622 695 5
Fax +49 7622 695 802
info@magnetic-germany.com
www.magnetic-access.com

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 the parameterisation of the MGC control unit and trouble-shooting, see the separate document "Description control unit MGC (Doc.ID: 58170027)".

1.2 Reading and storing the operating instructions

Pre-requisite 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 part of the product and must be kept in direct proximity of the product and 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 property 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
- Inadequate or omitted 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 personal injuries and property damage.

Warning notes

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

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

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

NOTICE	
	The signal word NOTICE indicates a potentially harmful situation, which leads to property damage if 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 pedestrian gate MPB is made of a full height turnstile and a bicycle access. The pedestrian gate MPB is intended only for access control of persons from a zone not controlled (ZNC) to a zone controlled (ZC). The separate bicycle access makes it possible to move a bicycle into the zone controlled. Riding the bicycle is contrary to provisions.

In general, the pedestrian gate is integrated in the fence and gate systems.

The pedestrian gate is intended for passage of persons who can pass the pedestrian gate safely, quickly and without any help. Separate means of access must be provided for persons who cannot pass through the pedestrian gate safely, quickly or without assistance, such as small children, elderly people or people with disabilities. Children under 14 years of age may only pass through the pedestrian gate under the supervision of an adult.

The pedestrian gate may only be mounted on non-flammable floors.

The pedestrian gate 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:

- Use of the pedestrian gate by unaccompanied children under 14 years of age.
- Use of the pedestrian gate by persons who cannot pass the pedestrian gate safely, quickly or without assistance.
- Use of the pedestrian gate without released passage. This means that the centre pillar is forced to rotate.
- Mounting of the pedestrian gate 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.
Qualified electrician	› Has technical training which entitles him to carry out and monitor electrical work for commercial purposes. › 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.
Operator	› Trained by the operator.

Table 1: Qualifications of personnel

Task	Transport equipment operator	Technician	Qualified electrician	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 [2)]	–	X	X	X
Servicing [3)]	–	X	X	–
Troubleshooting	–	X	X	–
Repairing	–	X	X	–
Decommissioning	–	X	X	–
Dismounting	–	X	X	–
Disposing	–	X	X	–

1) As per the supplied log book "Full height turnstile with bicycle access MPB-311"
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 done may only be performed by a qualified electrician or an electrical safety expert.

This warning sign is fixed at the following point:

› At the terminals, under the cover.

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 other parts are damaged, switch off the power supply at once and arrange for repairs.

› Only qualified electricians or electrical safety experts may perform any 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.

› Install protective devices that are required by national and local regulations, such as e.g. residual current devices. 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 struck the system, touching the components or being in the immediate vicinity of the system poses a danger to life. 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 the pedestrian gate

↗ Page 93, chapter 9.6.

2.9 Earthing support beam, cover and service door

IMPORTANT!

For safe operation, the support beam, the cover and the service door must be earthed. Service door, cover and support beam are earthed via protective earth conductors and earthing points. During operation, all protective earth conductors must be connected to the intended earthing points.

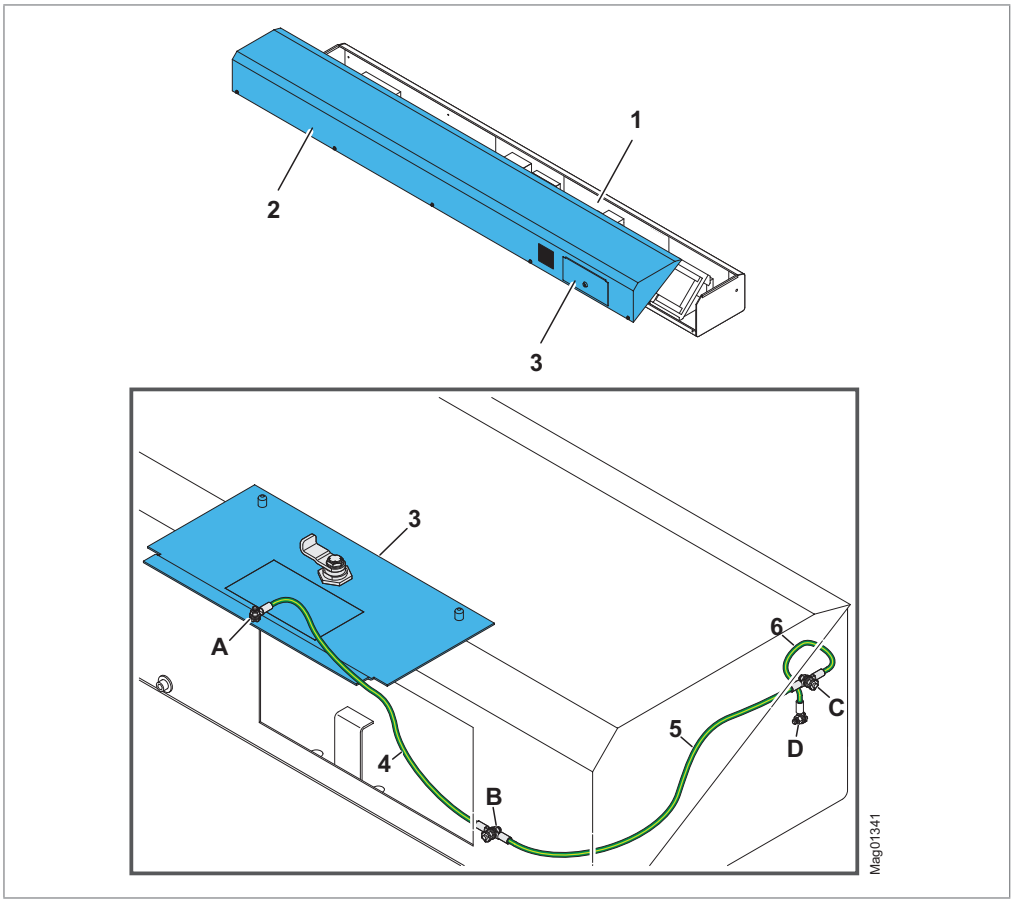

Fig. 1: Earthing support beam, cover and service door

1 Support beam
2 Cover
3 Service door
4 Protective earth conductor for service door
5 Protective earth conductor for cover
6 Protective earth conductor for support beam
A Earthing point service door (single) ↗ Page 17, Fig. 2
B Earthing point cover (double) ↗ Page 17, Fig. 2
C Earthing point support beam (double) ↗ Page 17, Fig. 2
D Earthing point mounting panel support beam (single) ↗ Page 17, Fig. 2

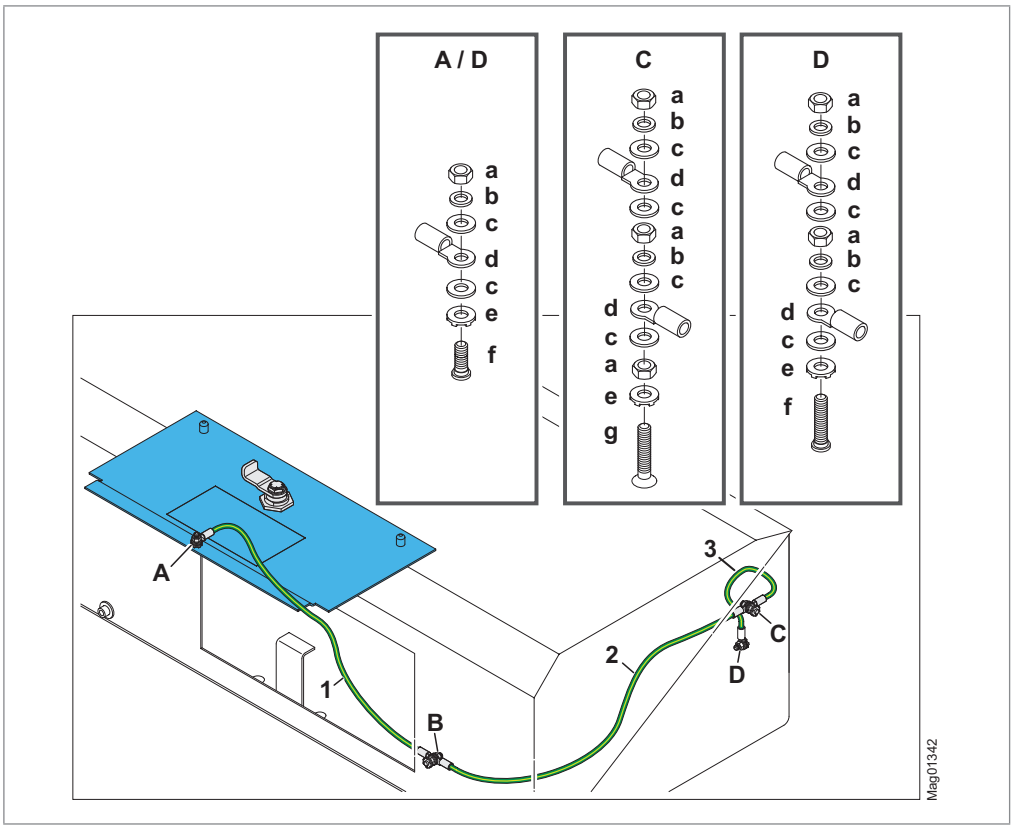

Fig. 2: Earthing points service door, cover and support beam

A Earthing point service door (single)
B Earthing point cover (double)
C Earthing point support beam (double)
D Earthing point mounting panel support beam (single)

a Brass nut
b Schnorr fuse
c Brass disc
d Ring cable lug
e Contact disc
f Earthing bolt
g Countersunk screw for earthing

1 Protective earth conductor for service door
(protective earth conductor service door – cover)
2 Protective earth conductor for cover
(protective earth conductor for cover – support beam)
3 Protective earth conductor for support beam
(protective earth conductor mounting panel support beam – support beam)

3 Technical data

3.1 Dimensions and design

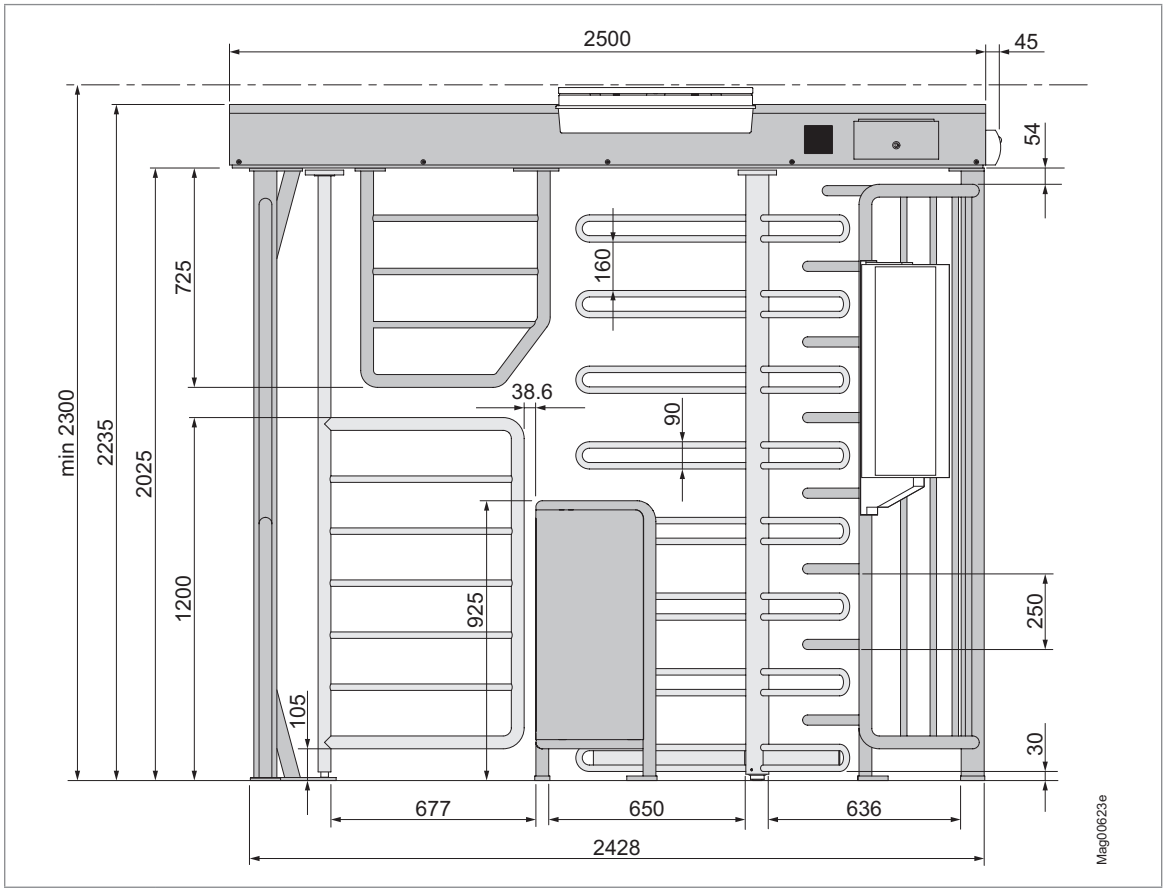

Fig. 3: Dimensions (dimensions in mm) –
View from the zone controlled (ZC),
Here version MPB-B (Entrance side right),
Lighting and mounting pillars optional
Required height min. 2300 mm to open the cover.

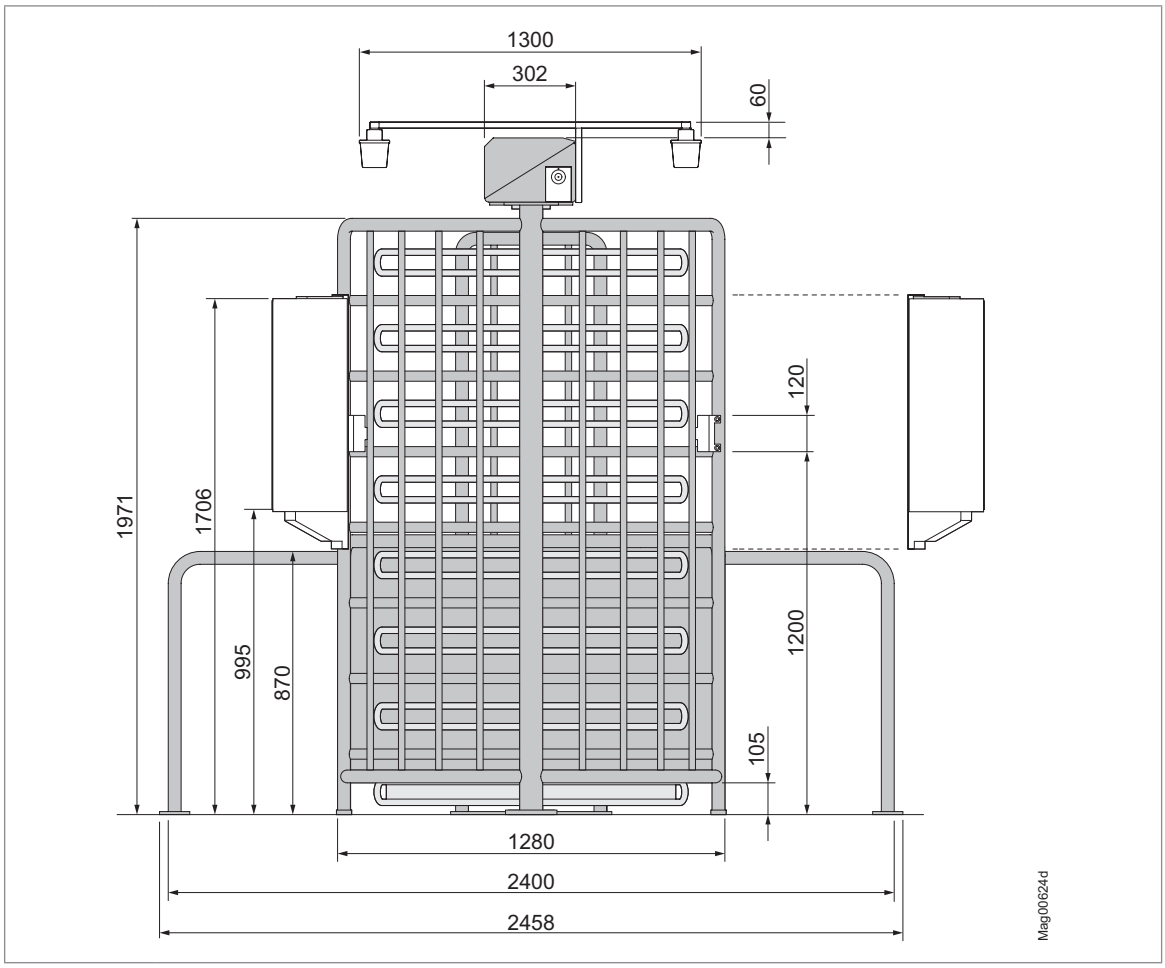

Fig. 4: Dimensions – side view (dimensions in mm),
Lighting optional,
Mounting bracket or mounting pillar optional (only one option possible),
In case of mounting bracket and mounting pillar version, dimensions determined by Magnetic

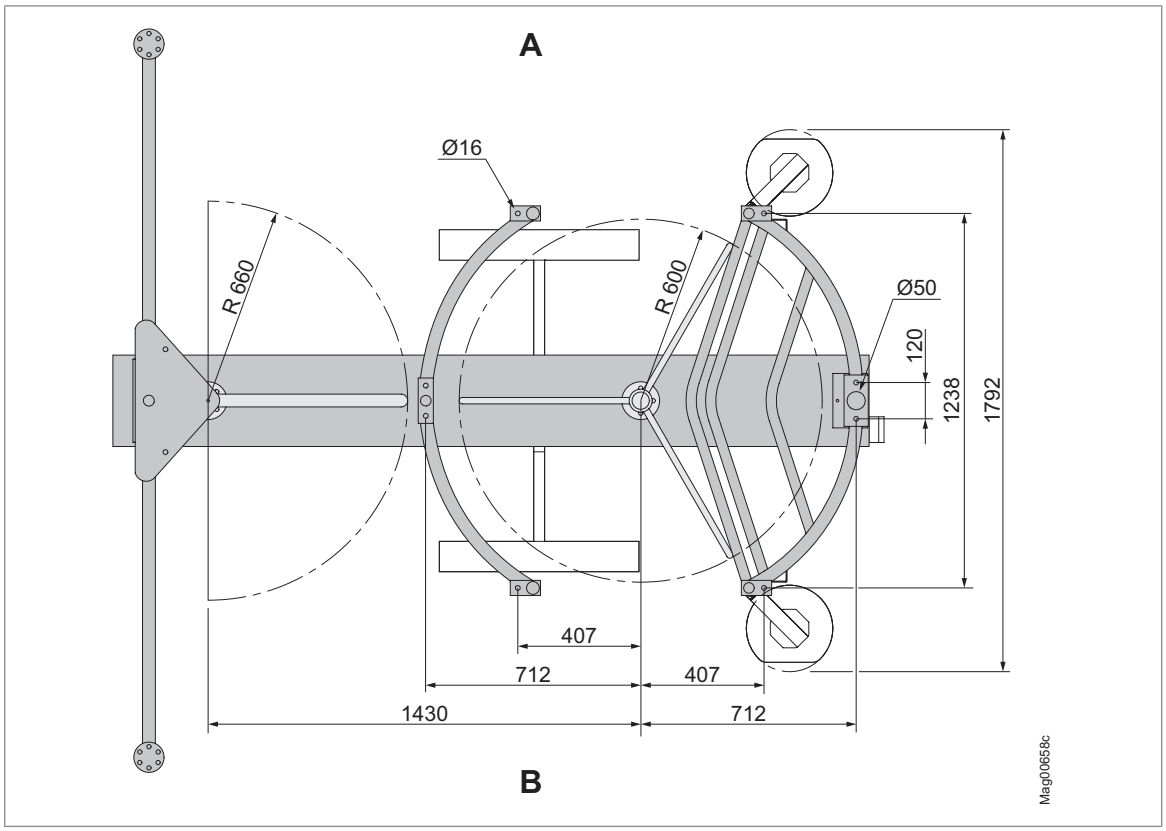

Fig. 5: Dimensions – top view (dimensions in mm),
here version MPB-B (entrance side right)
Illumination and mounting pillars optional

A Zone not controlled (ZNC)

B Zone controlled (ZC)

Designation	Value
Dimensions (width x depth x height)	2428 mm x 2458 mm x 2300 mm
Weight without attachments	550 kg
Material, coating and colour	Depending on the version ordered: See order confirmation.

Table 3: Dimensions and design

3.2 Electrical connection

Designation	Value
Power supply	100 to 240 V AC ± 10%, 50 to 60 Hz
Max. current consumption	› In movement: 0.55 A › At home position: 0.44 A
Max. power consumption	› In movement: 85 W › At home position: 60 W
Starting current (max. 30 ms)	19 A
Duty cycle	100%

Table 4: Electrical connection

3.3 Operating conditions

Designation	Value
Operating temperature range	–25 to +55 °C
Storage temperature range	–30 to +70 °C
Relative humidity	Maximum 95%, non-condensing
IP rating	IP 43, optional: IP 54

Table 5: Operating conditions

3.4 Emissions

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

Table 6: Emissions

3.5 Control unit MGC

Designation		Value
Power supply		24 V DC
Control unit		max. 1 A: max. 300 mA + current consumption of the different 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 up 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 7: Control unit MGC

4 Design and function

4.1 Design

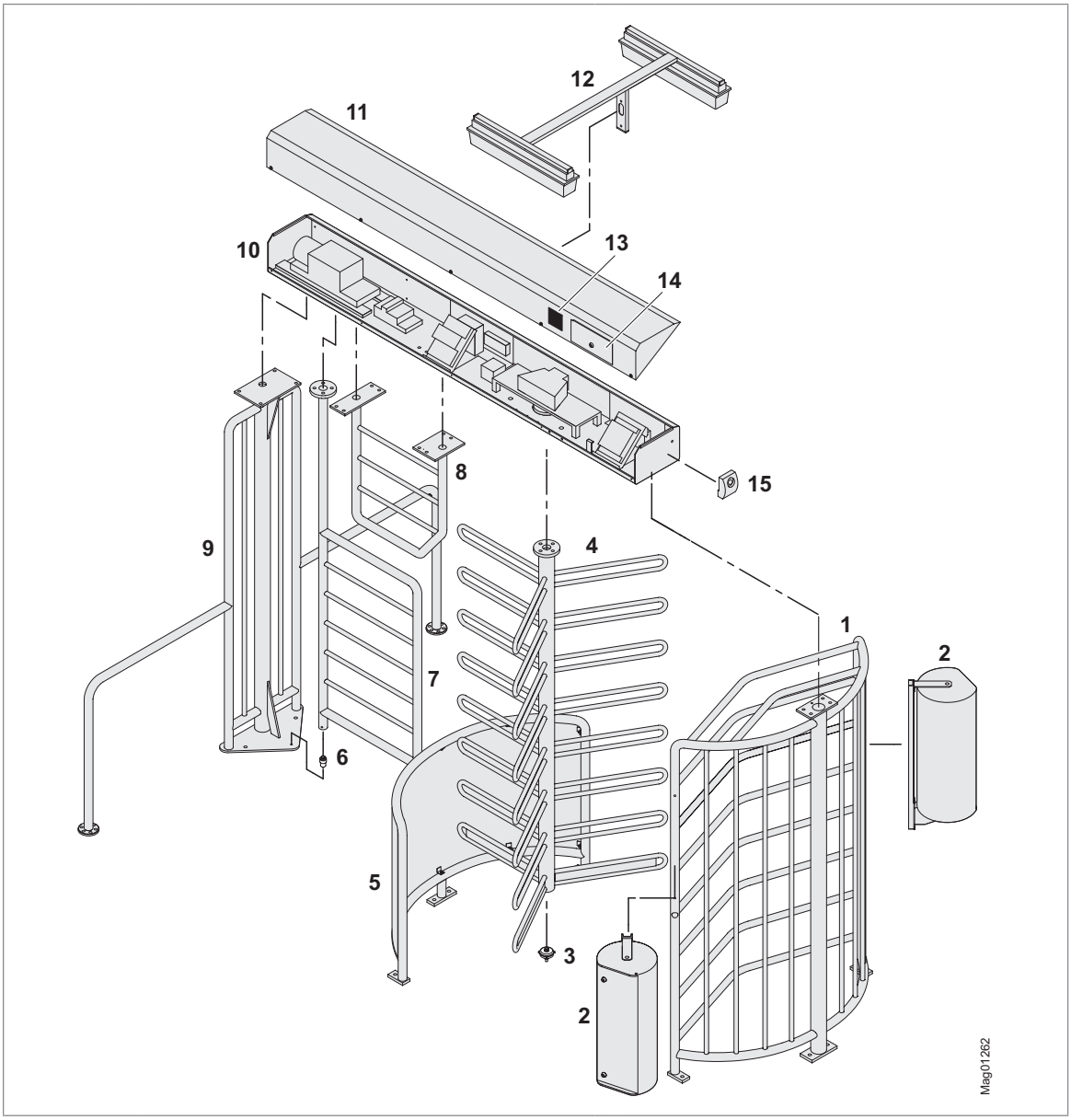

Fig. 6: Design "full height turnstile with bicycle access MPB-311"

1 Cage half with blocking bracket
2 Mounting pillar (optional) for customer's access-control devices
3 Centre pillar floor bearing
4 Centre pillar
5 Guide element
6 bicycle door floor bearing
7 Upper barrier
8 Bicycle door
9 Base with two handrails
10 Support beam for MPB
11 Cover
12 Illumination (optional)
13 Cover or optional GED
14 Service door
15 Twilight switch (optional)

4.2 Function

The MAGNETIC pedestrian gate MPB is made of a turnstile and a bicycle access.

The pedestrian gate controls access of persons from a zone not controlled to a zone controlled. The separate bicycle access makes it possible to take along a bicycle into the zone controlled.

Basically, the pedestrian gate can be used in both directions. In multi-lane installations with high passage rates, the entry and exit lanes can also be configured for one-way passage.

In its normal state, the pedestrian gate is closed. The turnstile and the bicycle access unlock only after validation by an external command transmitter, e.g. card reader.

The centre pillar is moved depending on the drive version. With the electromechanical version, the centre pillar is moved manually. The end positions are mechanically locked. Furthermore, there will be a return latch after 60°.

The bicycle door can be opened either by induction loops or buttons.

As standard, the turnstile is supplied with the "locking rotating freely when de-energised" configuration. In this case, the turnstile can be passed in both directions in the de-energised state. If the turnstile is supplied with the configuration "locking locked when de-energised", the turnstile is locked in both directions. The bicycle access is always supplied with the "locked when de-energised" configuration. In the de-energised state, the bicycle access is blocked in both directions.

4.3 Definitions and versions

Left and right

› Left: The person passage is to the left of the centre pillar.

› Right: The person passage is to the right of the centre pillar.

Entry and exit

The service door or the cover of the support beam points into the zone controlled.

› Entry: Passage from the zone not controlled (ZNC) to the zone controlled (ZC)

› Exit: Passage from the zone controlled (ZC) to the zone not controlled (ZNC)

IMPORTANT!

Unless otherwise ordered, the standard version is "Entrance side right" (MPB-3xxB).

Version "Entrance side right" (MPB-3xxB)

Entry

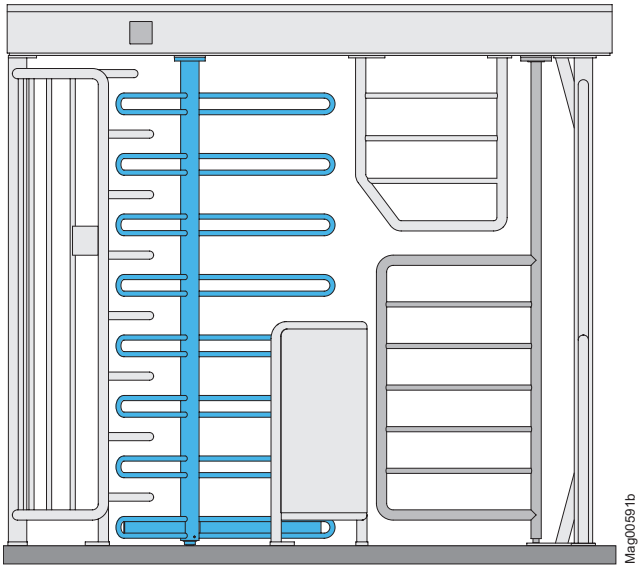

Fig. 7: Version "Entrance side right" - view from the zone not controlled (ZNC), the entrance is to the right of the centre pillar

Exit

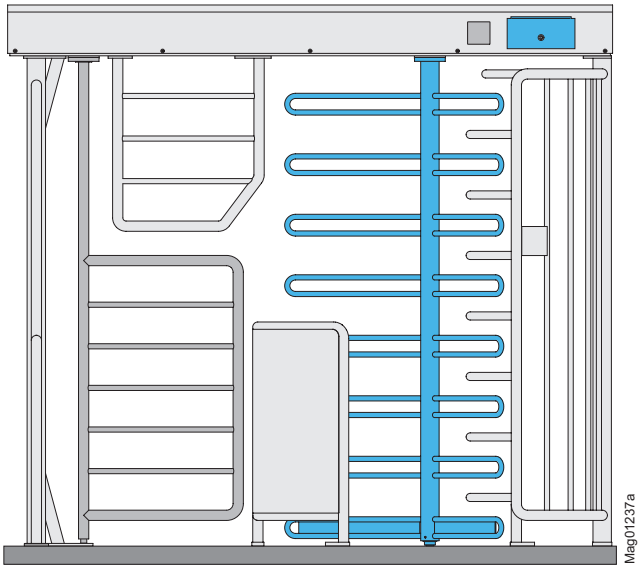

Fig. 8: Version "Entrance side right" - view from the zone controlled (ZC), the exit is to the left of the centre pillar

Version "Entrance side left" (MPB-3xxA)

Entry

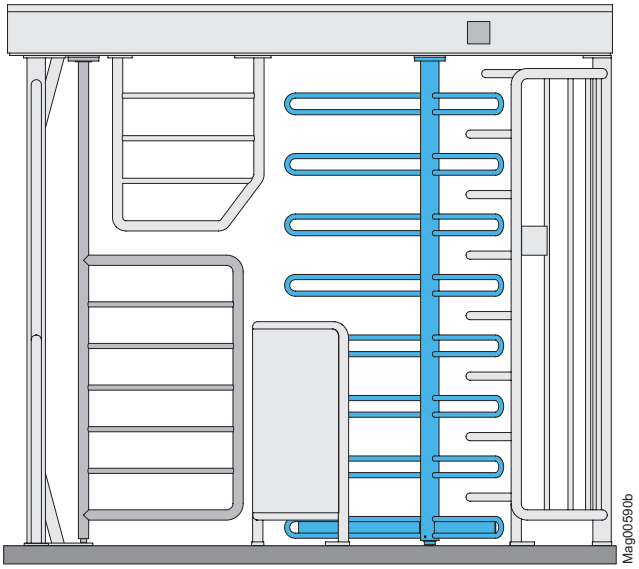

Fig. 9: Version "Entrance side left" - view from the zone not controlled (ZNC), the entrance is to the left of the centre pillar

Exit

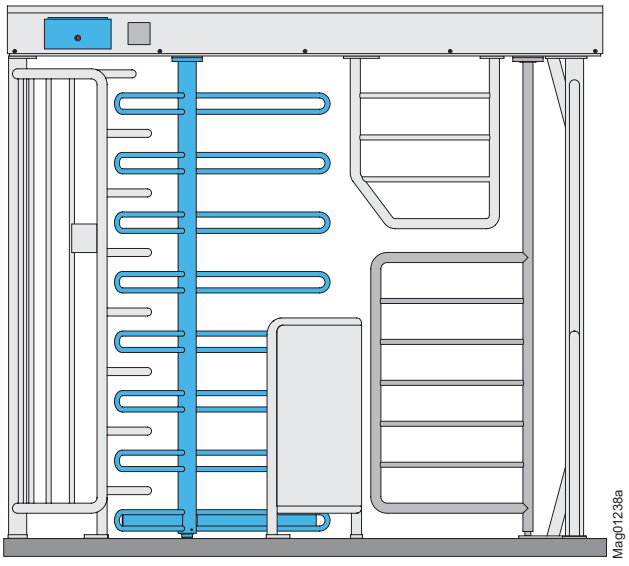

Fig. 10: Version "Entrance side left" - view from the zone controlled (ZC), the exit is to the right of the centre pillar

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

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

⚠ WARNING

Falling or tipping components!

The weight of the components can cause serious crushing injuries and severe injuries.

- Ideally, transport and position the goods to be transported with suitable transport aids such as forklifts or pallet trucks.
- Forklift forks or lift truck forks must reach entirely through under the components or pallet. Observe the centre of gravity of the load.
- Secure the transported goods with sufficiently dimensioned lifting gear. Observe the weight of the respective components.
- Only install the pedestrian gate when there is little or no wind.
- Secure the components against falling off or tipping.

⚠ WARNING

Lifting heavy loads!

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

- Transport, lift and set down the goods to be transported using suitable transport aids.

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	
	**Falling or tipping components!** The weight of the components can cause serious crushing injuries and severe injuries. › Ideally, transport and position the goods to be transported with suitable transport aids such as forklifts or pallet trucks. › Forklift forks or lift truck forks must reach entirely through under the components or pallet. Observe the centre of gravity of the load. › Secure the transported goods with sufficiently dimensioned lifting gear. Observe the weight of the respective components. › Only install the pedestrian gate when there is little or no wind. › Secure the components against falling off or tipping.

⚠ WARNING	
	**Lifting heavy loads!** Lifting heavy objects can result in severe damage to the back or supporting structure. › Transport, lift and set down the goods to be transported using suitable transport aids.

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. Report an incomplete or faulty delivery to Magnetic.
3. Check the scope of delivery with the delivery note.
4. 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

For version, options and attachments, see your order confirmation.

The following components are supplied with every MBP pedestrian gate by default.

- 1 base with two handrails
- 1 cage half with blocking bracket
- 1 centre pillar
- 1 guide element
- 1 upper barrier
- 1 bicycle door
- 1 support beam with mounted cover
- 1 floor bearing for the bicycle door
- 1 floor bearing for the centre pillar
- 2 keys for the service door
- Associated documentation and wiring diagram

IMPORTANT!

Information about the attachment material: ↗ Page 35, chapter 7.2

6.3 Identification

6.3.1 Type plate

The type plate is located below the cover.

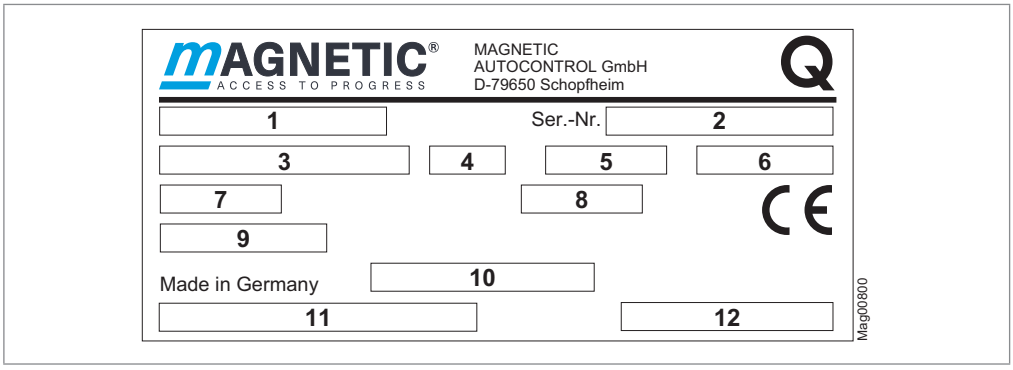

Fig. 11: Type plate

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 Mounting

7.1 Safety during mounting

Qualification of personnel

› Technician

› Qualified electrician

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

⚠ WARNING	
	**Improper attachment!** 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 separate notes and instructions provided by the manufacturer of the attachment material. › 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.

⚠ WARNING

Lifting heavy loads!

The weight of heavy objects can severely injure a person's back or supportive system.

› Transport, lift and set down the goods to be transported using suitable transport aids.

NOTICE

Possible seizure of stainless steel fasteners!

Stainless steel fasteners are susceptible to seizure.

› Grease stainless steel screws before use.

7.2 Mounting options and instructions, attachment material

7.2.1 Overview

You may mount the MPB pedestrian gate as follows:

› Via the optional base frame FURA-B or FURA-B

› Directly on the foundation

7.2.2 Optional base frame FURA-B or FURA-B-D

In this version, install the base frame on a foundation with foundation anchors. Install the MPB pedestrian gate on the base frame.

IMPORTANT!

We recommend this version because the mounting distances are specified by the base frame. This version must be chosen for use on interlocking stone paving and cobblestones.

Attachment material

To mount the pedestrian gate on a base frame, you need the MPBS attachment set. You must order this attachment set separately.

The attachment set for the base frame is included in the scope of delivery of the base frame. The base frame must be ordered separately.

7.2.3 Directly on the foundation

In this version, install the pedestrian gate on a foundation with foundation anchors.

If you choose this variant, we recommend the ARS alignment templates. The alignment templates specify the required drill hole distances.

More information: Planning documentation perimeter products

Attachment material

To mount the MPB directly on the foundation, you need the MPBSOF attachment set. You must order this attachment set separately.

7.3 Required steps

The following work steps must be carried out before mounting:

› Specify the mounting position. ↗ Page 37, chapter 7.4.

› Set up foundation and placing empty conduits. ↗ Page 37, chapter 7.5.

The following work steps must performed during mounting:

› Unpack the pedestrian gate. ↗ Page 31, chapter 6.1.

› Assemble and mount optional base frame. ↗ Page 42, chapter 7.6.

› Plan and install induction loops. ↗ Page 46, chapter 7.7.

› Mounting base with two railings. ↗ Page 52, chapter 7.8.1.

› Mount the cage half with blocking bracket. ↗ Page 52, chapter 7.8.1.

› Mount the support beam. ↗ Page 54, chapter 7.8.2.

› Prepare the mounting of the bicycle door. ↗ Page 57, chapter 7.8.3.

› Mount the floor bearing and the bicycle door. ↗ Page 61, chapter 7.8.4.

› Mount the floor bearing and the centre pillars. ↗ Page 68, chapter 7.8.5.

› Mount of the upper barrier of the bicycle access. ↗ Page 74, chapter 7.8.6.

› Mount the guide element. ↗ Page 75, chapter 7.8.7.

› Mount optional mounting pillar for access-control devices. ↗ Page 78, chapter 8.

› Connect the pedestrian gate electrically. ↗ Page 86, chapter 9.

› Install and connect access-control devices. ↗ Page 93, chapter 9.7.

7.4 Specifying the mounting position

The pedestrian gate can be supplied in the following variants: "Entrance side right" (MPB-xxxB) and "Entrance side left" (MPB-xxxA). ↗ Page 25, chapter 4.3.

The layout of the components depends on the version ordered. The service door in the support beam should point towards the zone controlled.

7.5 Building the foundation and laying empty conduits

7.5.1 Foundation requirements

The foundation must meet the following requirements:

- Have sufficient load-carrying capacity
- Concrete C20/25 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.

Foundation and empty conduit plans: ↗ Page 39, chapter 7.5.4.

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

- Concrete C35/45 XD 3 XF2 with reinforcement
- Foundation depth: at least 800 mm, frost-proof.
  Adapt the foundation depth to the local conditions.

7.5.2 Empty conduits requirements

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.

IMPORTANT!

To ensure trouble-free operation, individual empty conduits must be installed for all mains cables and control lines.

Foundation and empty conduit plans: ↗ Page 39, chapter 7.5.4.

7.5.3 Building the foundation and laying empty conduits

1. Excavate the foundation hole according to the foundation and empty conduit plan.
2. Place empty conduits according to the foundation and empty conduit plan in the foundation hole.
3. Seal empty conduits so that no water can enter.
4. Concrete the foundation.
5. Create a smooth plaster.
6. Let concrete cure.
7. Apply moisture protection for outdoor mounting.

Foundation and empty conduit plans: ↗ Page 39, chapter 7.5.4.

7.5.4 Foundation and empty conduit plans

Example

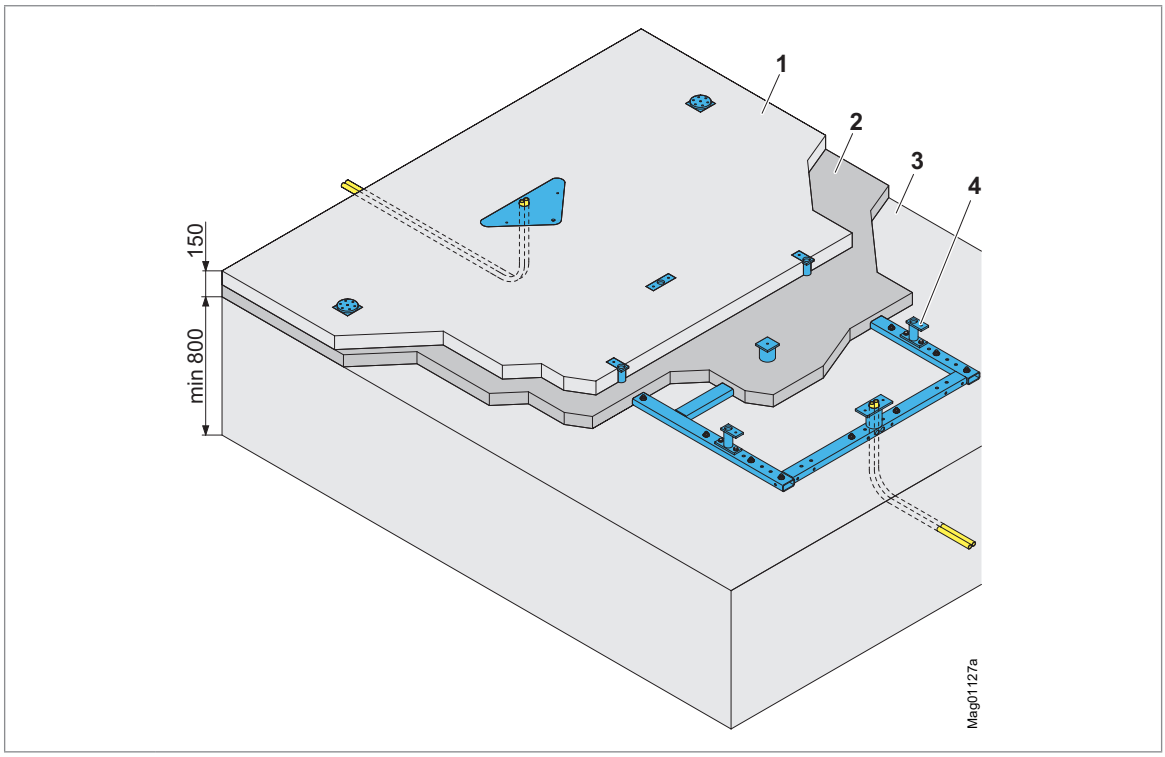

Fig. 12: Example of foundation structure with empty conduits, floor covering and base frame (dimensions in mm)

1 Finished paving such as interlocking stones or cobblestones, flush with the attachment plates
2 Gravel and sand layer
3 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof
4 Base frame level and horizontal, fill any hollows under the base frame

Key for foundation and empty conduit plans

Marking	Description
F	Foundation anchor, holes for anchor rods Hilti HIT-Z-R M10 x 160 A4: Drilling diameter 12 mm, drilling depth 105 mm Observe separate instructions for foundation anchors.
F2	Foundation anchor, holes for anchor rods Hilti HIT-Z-R M10 x 160 A4: Drilling diameter 12 mm, drilling depth 95 mm Observe separate instructions for foundation anchors.
LR	Possible position for empty conduits. Lay empty conduits separately for mains cable and control lines. Allow empty conduits to protrude approx. 50 mm above foundation and lines to protrude at least 5 m from the empty conduits.
N	Levelling screws to align the base frame

Table 8: Key for foundation and empty conduit plans

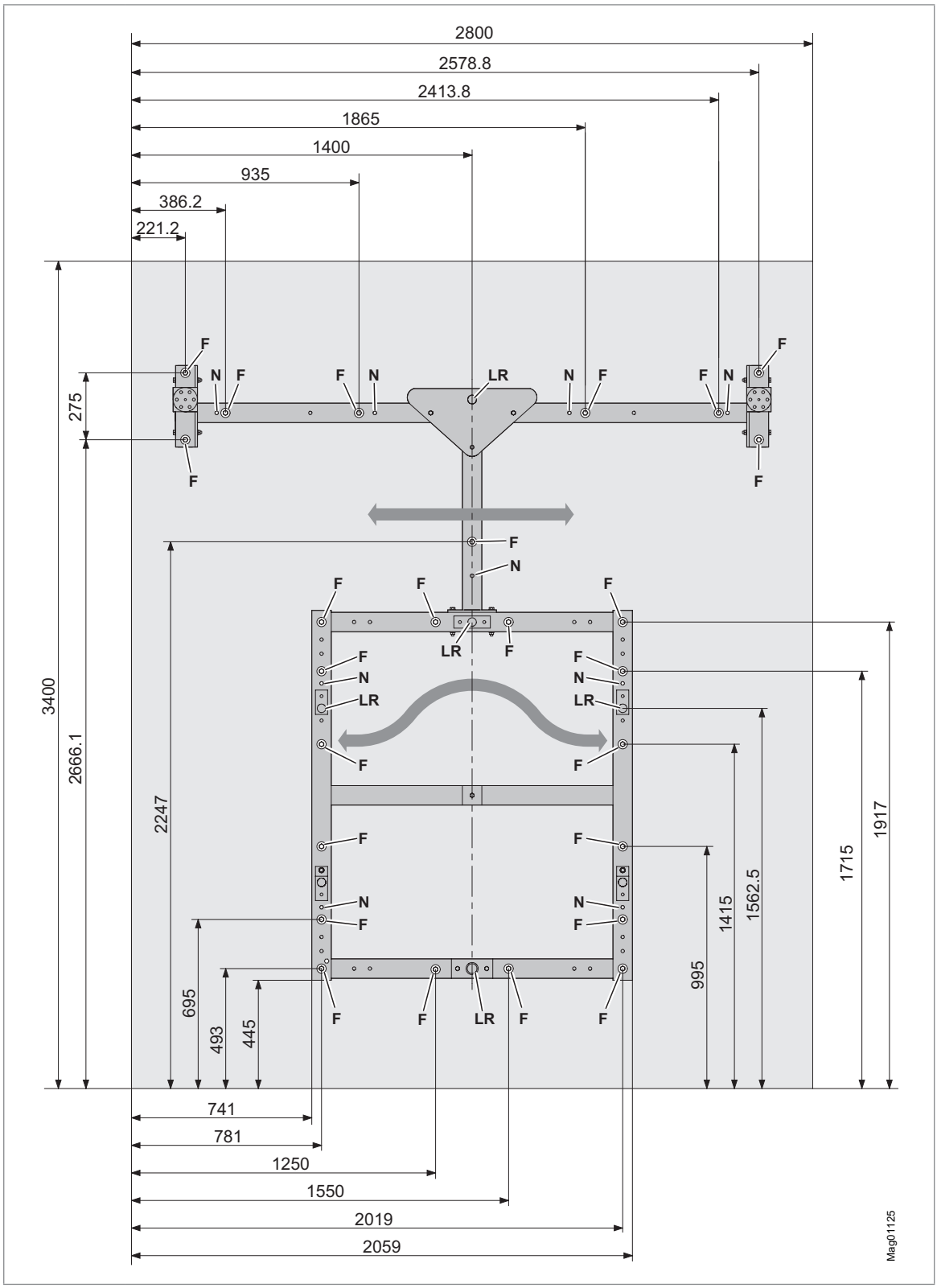

Fig. 13: Foundation and empty conduit plan for base frame FURA-B
(MPB "Standard" without optional roof) – top view (dimensions in mm)
F, LR and N: ↗ Page 39, Table 8

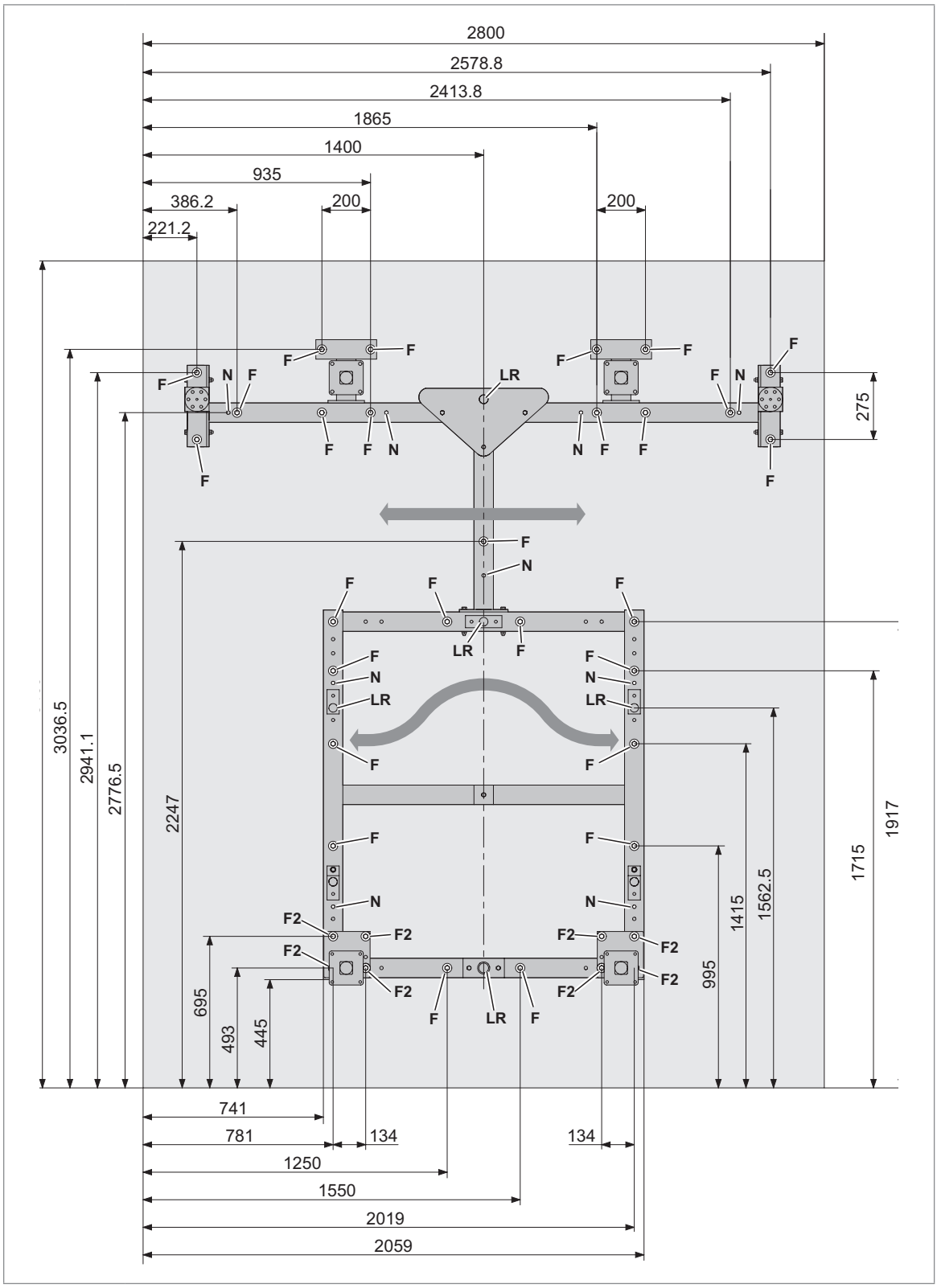

Fig. 14: Foundation and empty conduit plan for base frame FURA-B (MPB with optional roof) – top view (dimensions in mm)
F, F2, LR and N: ↗ Page 39, Table 8

7.6 Assembling and mounting the base frame

Dimensions of foundation and base frame, position of foundation anchors, levelling screws and empty conduits: ↗ Page 39, chapter 7.5.4.

IMPORTANT!

Note that there are two different base frames. The FURA-B base frame is for pedestrian gates without optional roof. The FURA-B-D base frame is for pedestrian gates with roof. The foundation and empty conduit plans depend on the selected base frame.

7.6.1 Assembling the base frame FURA-B for MPB without optional roof

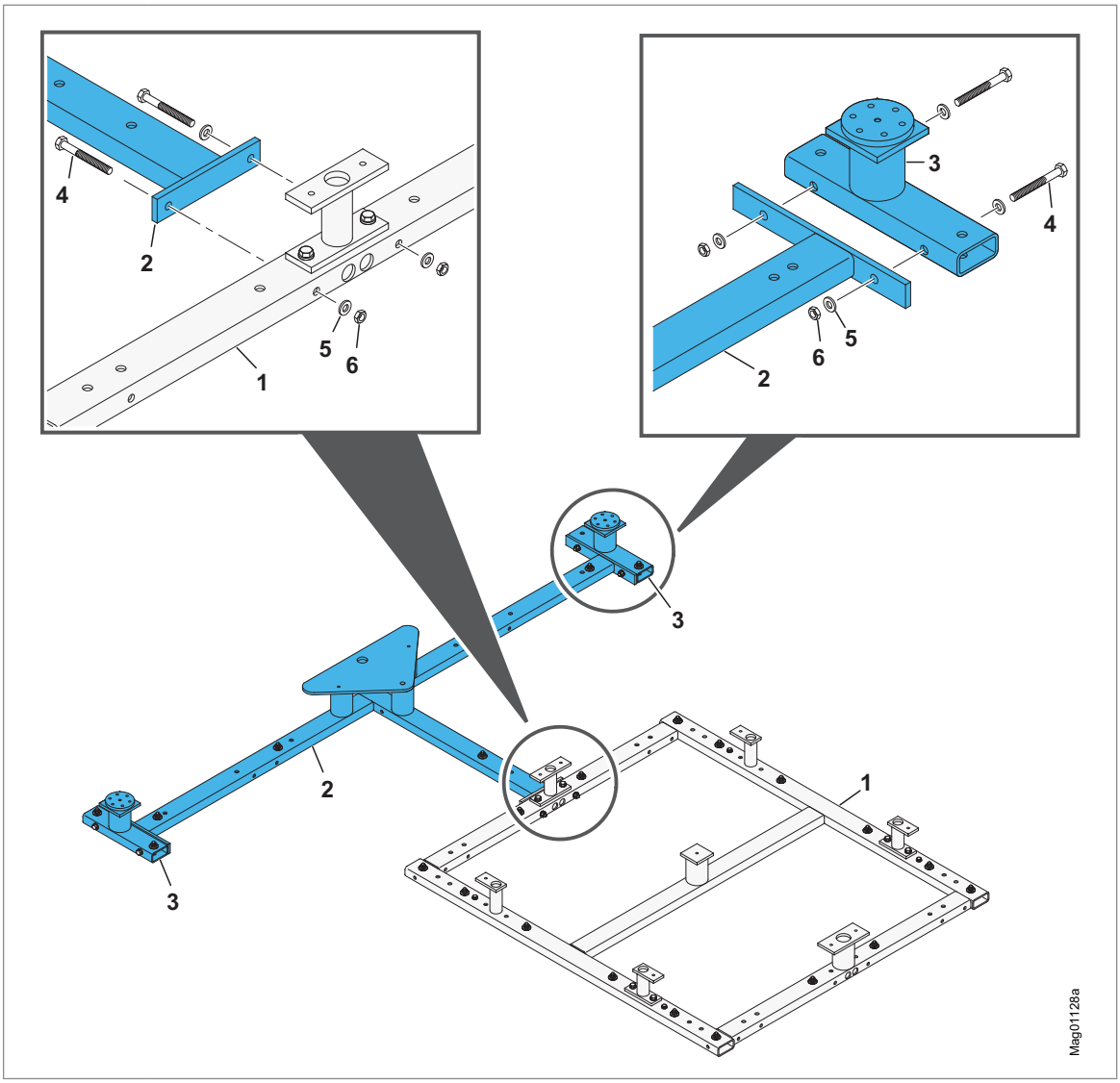

Fig. 15: Assembling the base frame FURA-B

1 Base frame FURA-B
2 Bicycle access T-extension
3 Adapter for handrails (2 pcs)
4 Hexagon head screw DIN 931 M10x110, A2
5 Wedge securing disc
6 Nut DIN 932 M10, A2

7.6.2 Assembling the base frame FURA-B-D for MPB with optional roof

1. Assemble the base frame according to the figure "Fig. 15".
2. Install the adapter for the roof as shown in the following figure.

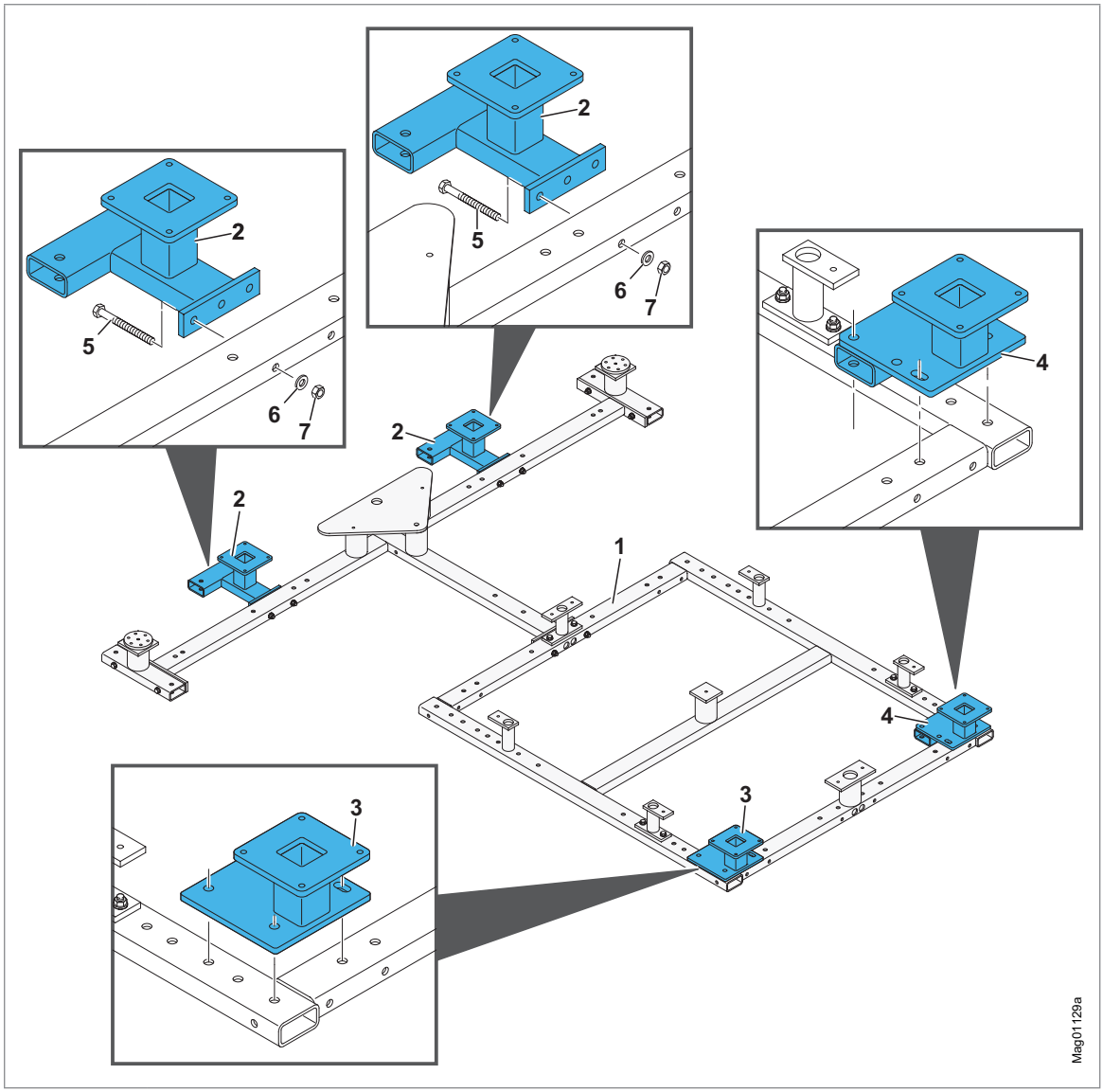

Fig. 16: Installing the adapter for the optional roof – base frame FURA-B-D

1 Base frame FURA-B
2 Adapter for roof (2 pcs)
3 Adapter for roof (1 piece), mounted over foundation anchor ↗ Page 41, Fig. 14
4 Adapter for roof (1 piece), mounted over foundation anchor ↗ Page 41, Fig. 14
5 Hexagon head screw
6 Wedge securing disc
7 Nut

7.6.3 Mounting the base frame

Requirements

- The conduits have been placed.
- The foundation has cured.
- The foundation is precisely 150 mm lower than the finished paving.
  ↗ Page 39, Fig. 12.

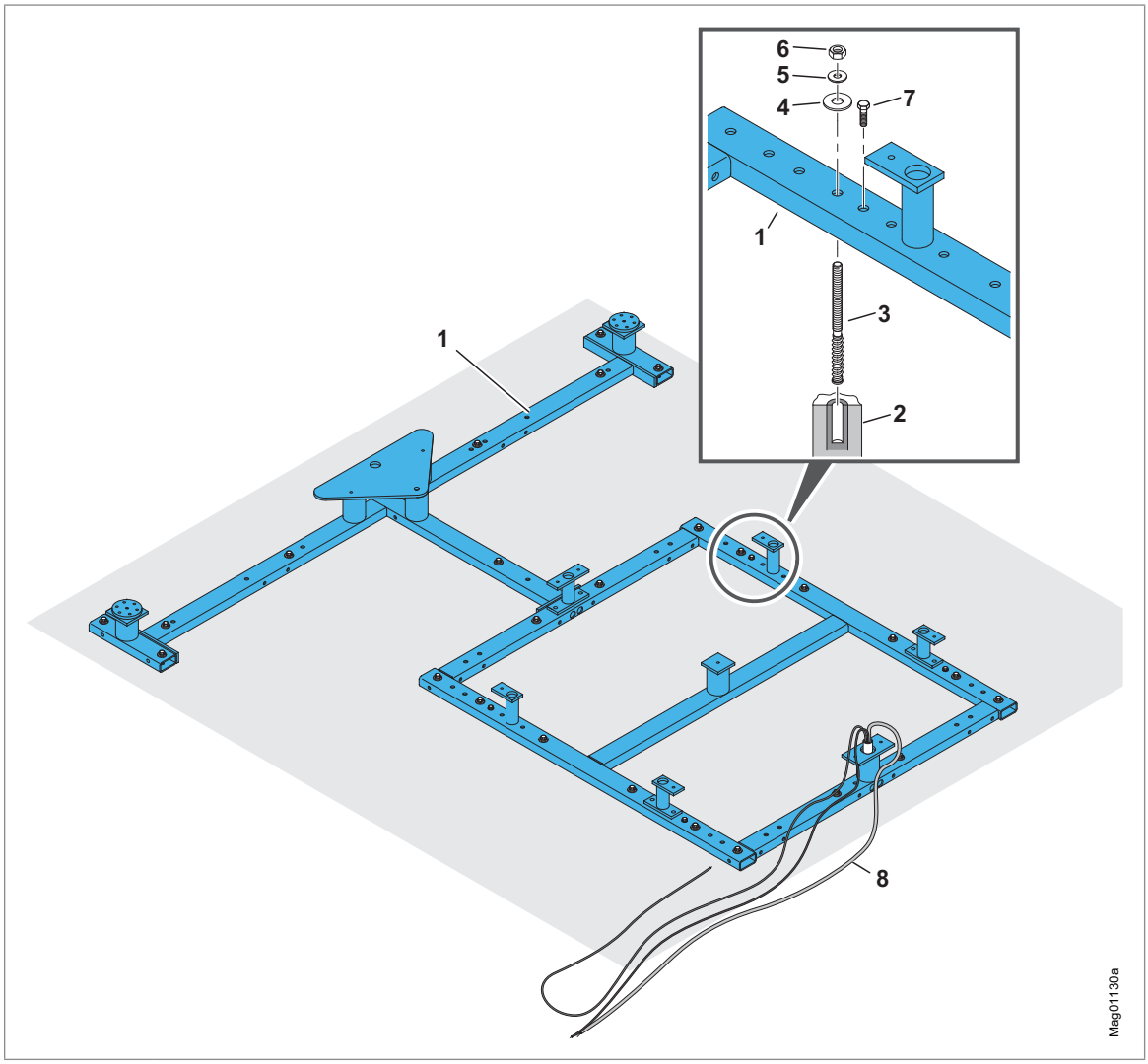

Fig. 17: Mounting the base frame

1 Base frame FURA-B
2 Borehole
3 Anchor rod, Hilti HIT-Z-R M10 x 160 A4
4 Washer D10.5
5 Washer
6 Nut
7 Levelling screw
8 Line e.g. mains cable

Mounting the base frame

IMPORTANT!

The injection mortar is not included in the scope of delivery. We recommend the injection mortar Hilti HIT-HY 200-A for the Hilti anchor rods Hilti HIT-Z-R. Follow the separate instructions for the injection mortar and foundation anchors.

1. Drill the boreholes for the anchor rods according to the foundation plan.
2. Clean the boreholes with compressed air.
3. Inject injection mortar into the boreholes.
4. Turn in the anchor rods to the bottom of the boreholes by hand.
5. Wait for the curing time. Follow separate instructions.
6. Align the base frame with levelling screws and suitable support material.
7. Place washers and tighten nuts firmly.

√ The base frame is mounted. You can mount the components of the pedestrian gate. ↗ Page 51, chapter 7.8.

7.7 Planning and installing induction loops

After successful access control and once the induction loop and the installed detector have detected a bicycle, the bicycle door will open automatically.

For bicycles with an average metal share to be detected, place the induction loops according to this chapter.

7.7.1 Ready-assembled and self-assembled induction loops

The induction loops are available as ready assembled cables in various lengths from Magnetic.

Alternatively a loop can be manufactured from single wire. The following requirements must be fulfilled:

› Wire cross section: 0.75 to 1.5 mm^2.

› Inductivity of the loop: 70 to 500 µH. This is equivalent to a loop with 3 to 6 windings.

› When using hot pouring compounds, such as bitumen, temperature resistant loop cables / strands must be used.

7.7.2 Induction loops location plan

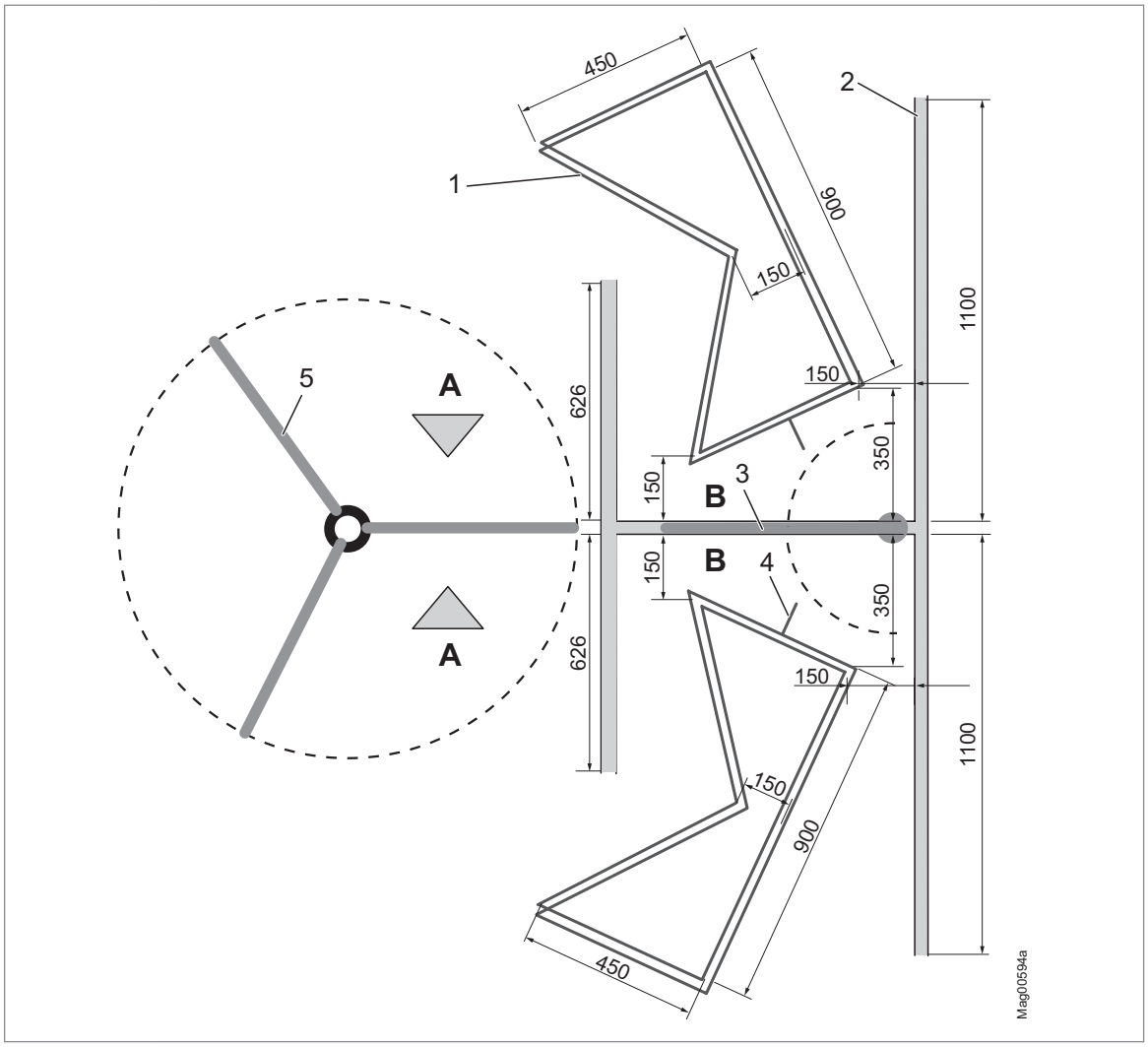

Fig. 18: Location plan of induction loops for bicycle access (dimensions in mm)

A Pedestrian passage

B Bicycle access

1 Magnetic induction loop IS06, double installed

2 Base frame

3 Bicycle door

4 Supply line induction loop, route into the support beam through the support

5 Centre pillar

7.7.3 Installing the induction loops – general notes

Please observe following points when installing the induction loops.

Loop geometry and clearances

- Install the induction loops. ↗ Page 47, Fig. 18.
- Double install induction loops.
- Install the induction loops as close as possible under the surface.
- Install the induction loops with a minimum distance of 50 mm from reinforcements. Metals in the proximity of the induction loop affect the response sensitivity.

Mounting and ground conditions

- Please make sure when moulding or installing that the loop cannot move anymore once it is in operation. Any geometric alteration will act as inductivity change, which will set the detector to an error state.
- Brittle road surfaces, loose pavements, gravel paths etc. are not suited for the application of loops.

Loop supply lines

The loop supply lines are connected to the loop detector in the support beam.

Observe the following points regarding the loop supply lines:

- The loop supply line must not be any longer than 15 m.
- The loop supply line must protrude at least 5 m from the foundation.
- Shorten the loop supply lines to the matching length and do not wind them up.
- Twist loop supply lines up to right in front of the terminals of the loop detector with ca. 20 twists per metre.

7.7.4 Installing induction loops in bitumen, asphalt, or concrete

1. Cut a 50 mm deep groove into the surface or asphalt using a cutting disc. The groove must be equally deep at every point. The corners of the groove must be cut in a 45° angle.

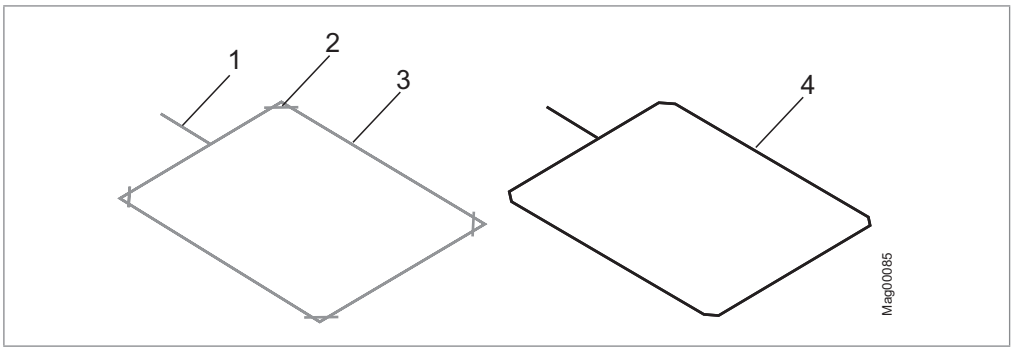

Fig. 19: Installing induction loop in bitumen, asphalt, or concrete

1 Groove for induction loop feed line
2 Corners cut diagonally
3 Groove for induction loop
4 Induction loop

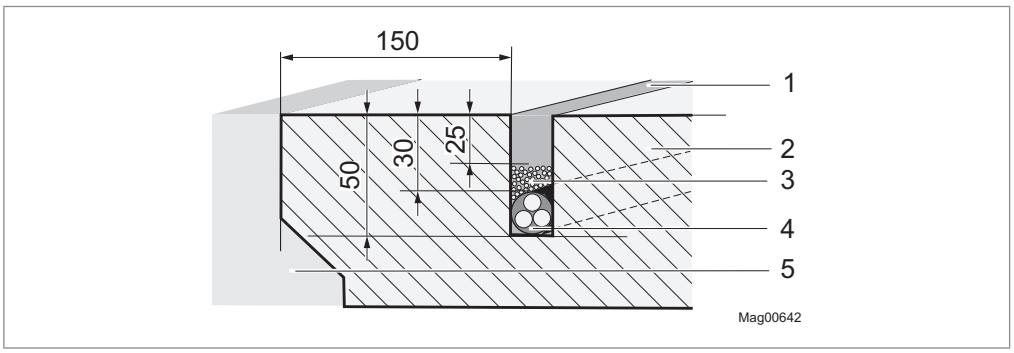

Fig. 20: Installing an induction loop in bitumen, asphalt, or concrete (dimensions in mm)

1 Groove with potting compound
2 Asphalt surface
3 Quartz sand filling
4 Induction loop
5 Foundation

2. Lay the loop carefully into the groove and push it down by means of a blunt object, such as a piece of wood. The insulation must by no means be damaged.
3. To avoid slipping of the loop, fix the loop using small wooden wedges. Remove the wooden wedges later on.
4. Route the loop supply lines through the support to the loop detector in the support beam.
5. Measure the induction loops. ↗ Page 51, chapter 7.7.6.

6. We recommend covering the inserted loop using quartz sand. Make sure that at least 25 mm remain between the upper edge of the carriageway and the quartz sand for the potting compound.
7. Seal the groove with the potting compound. The temperature resistance of the loop must match the temperature of the potting compound.
8. Allow the potting compound to cure.

7.7.5 Installing induction loops under interlocking stone paving

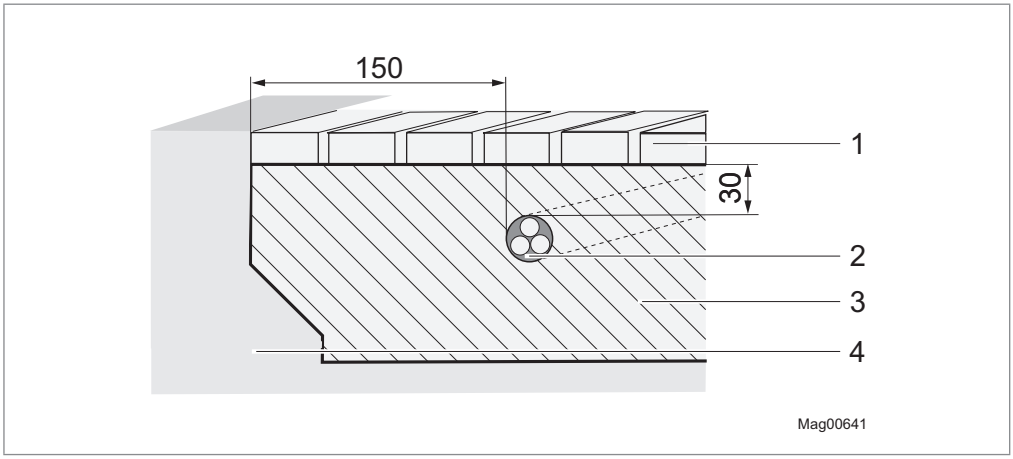

Fig. 21: Installing an induction loop under interlocking stone paving (dimensions in mm)

1 Paving
2 Induction loop
3 Sand bed
4 Substructure

When installing induction loops under interlocking stone paving, following points must be observed additionally:

› Only use the pre-assembled loop from Magnetic type IS06.
› Install the induction loop in sand only. The induction loop must not be installed in gravel or split.
› The induction loop must not slip or shift or be damaged during operation.
› Keep a minimum clearance between paving and induction loop of approx. 30 mm.

7.7.6 Testing induction loops

Test the following values after installing the induction loop:

- Contact resistance: 0.8 to 2.0 ohm
- Insulation resistance to earth: > 1 MOhm
- Inductivity of the loop: 70 to 500 µH

If the values are not within the specified ranges, the induction loop is defective.

7.8 Mounting the pedestrian gate

The mounting of the pedestrian gate on a base frame and the mounting of the pedestrian gate directly on a foundation are identical in procedure. Only the attachment material is partly different. The following figures show the mounting with the optional base frame.

7.8.1 Mounting the base with 2 railings and the cage half with blocking bracket

1. Pull supply lines for the induction loops through the support of the base.
2. Mounting base with two railings. For this, the delivery includes screws in two different lengths. Install the screws alternatingly. There must be a long screw between two short screws.

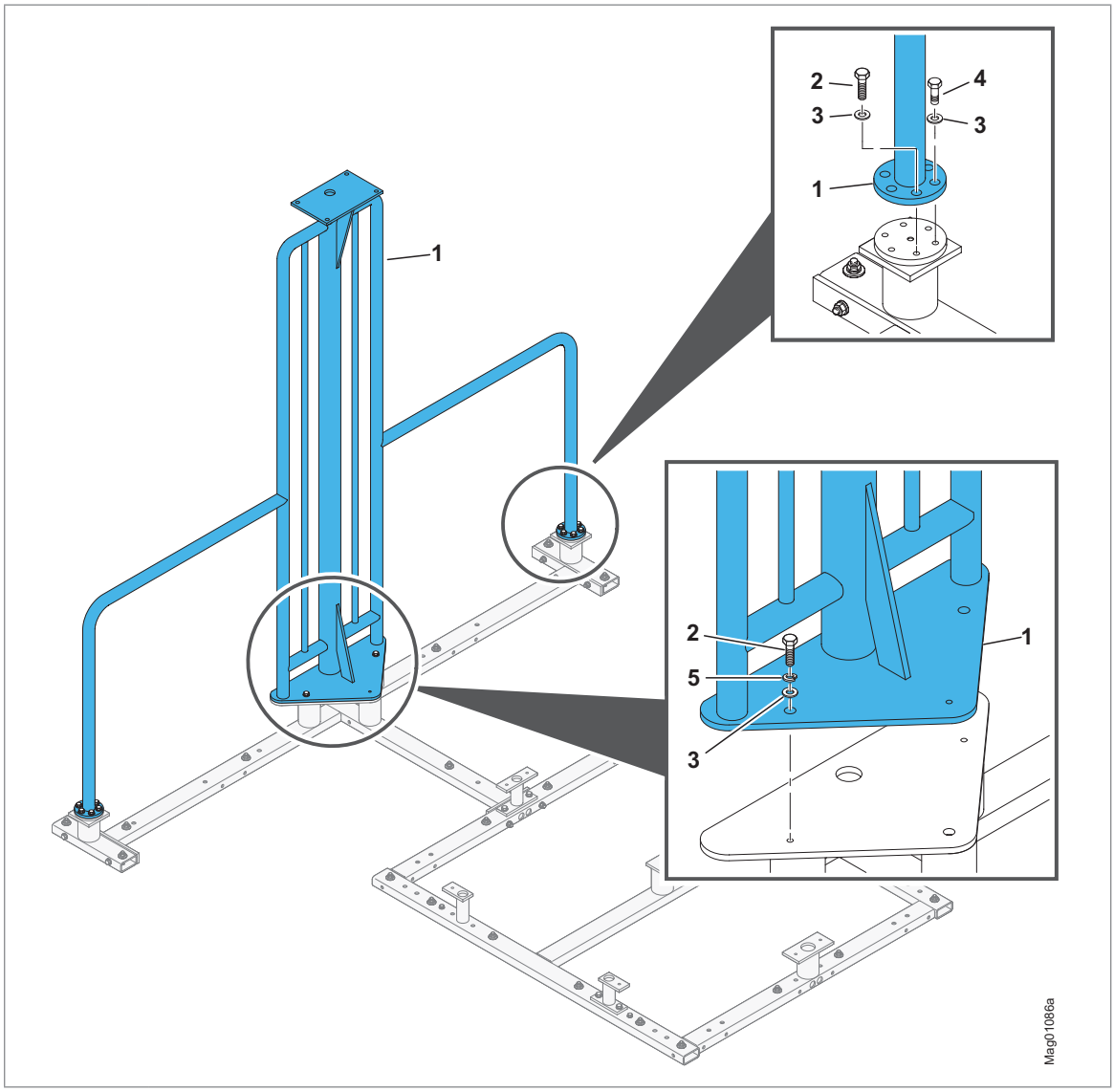

Fig. 22: Mounting base with two railings

1 Base with two handrails
2 Screw M10x25
3 Washer
4 Screw M10x22
5 Spring washer

3. Pull the mains cable and control lines through the support of the cage half with the blocking bracket using the pull.
4. Mount the cage half with blocking bracket.

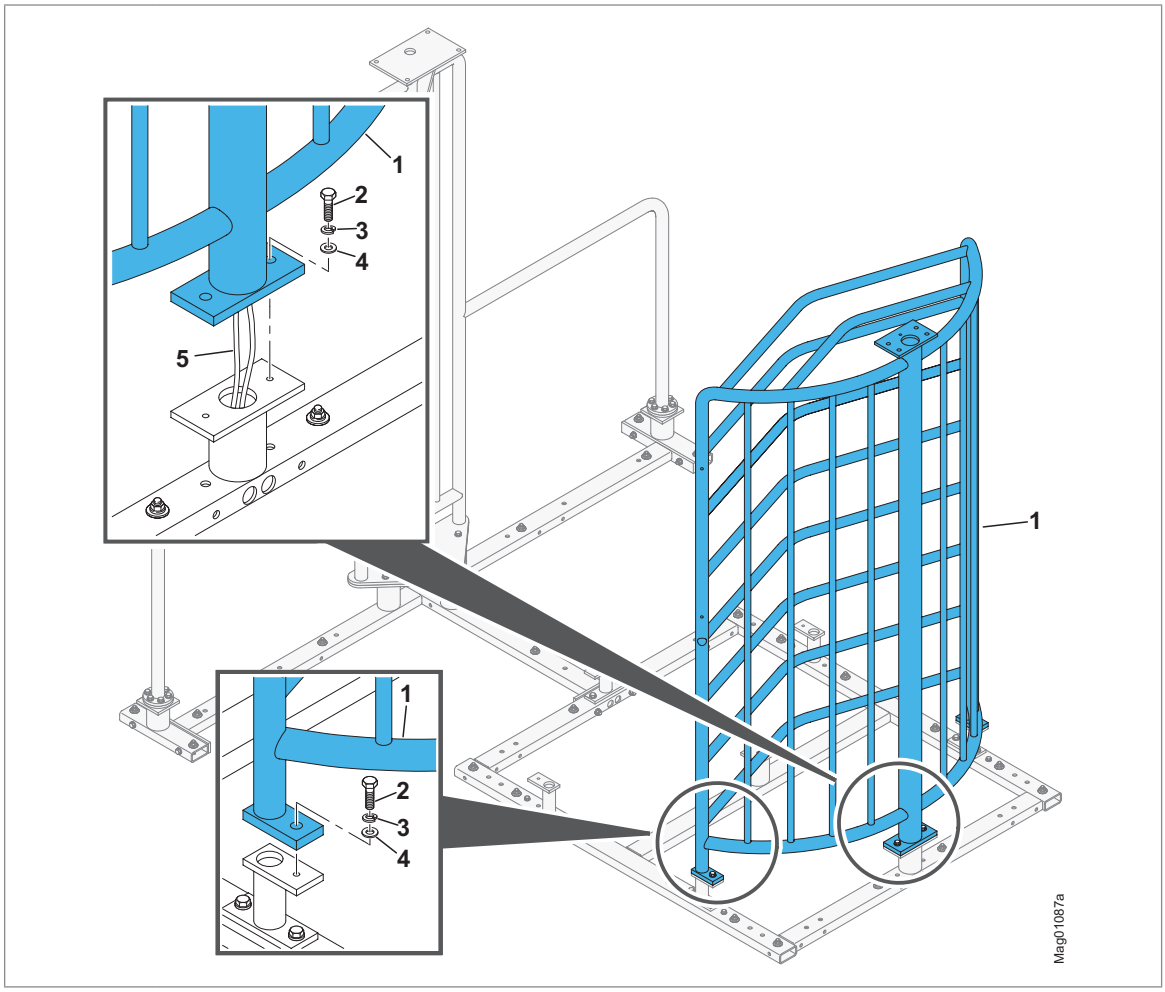

Fig. 23: Mounting the cage half with blocking bracket

1 Cage half with blocking bracket
2 Screw
3 Spring washer
4 Washer
5 Mains cable and control lines (example)

7.8.2 Mounting the support beam

The support beam is delivered with the cover closed. For mounting, the cover must be removed and the protective earth conductor for the cover must be disconnected.

1. Open the service door with the supplied key.
2. Disconnect the protective earth conductor for the cover at the earthing point of the support beam.

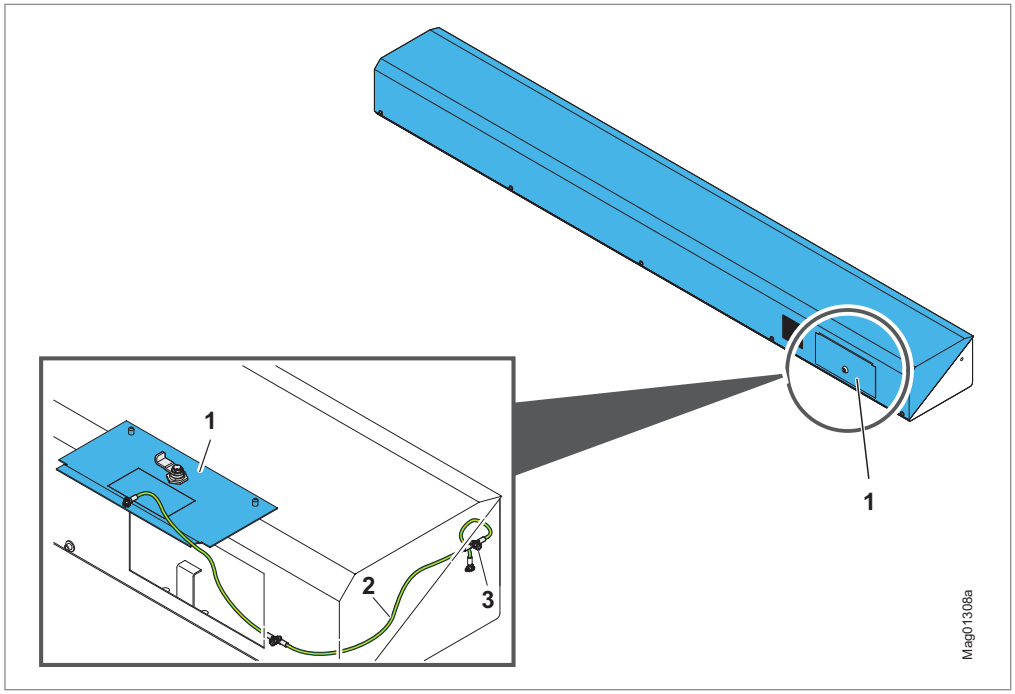

Fig. 24: Loosen earthing cover

1 Service door
2 Protective earth conductor for cover, earthed via earthing point support beam
3 Support beam earthing point

3. Close the service door.

4. Loosen the screw of the cover.
5. Pull the cover to the front and remove it.

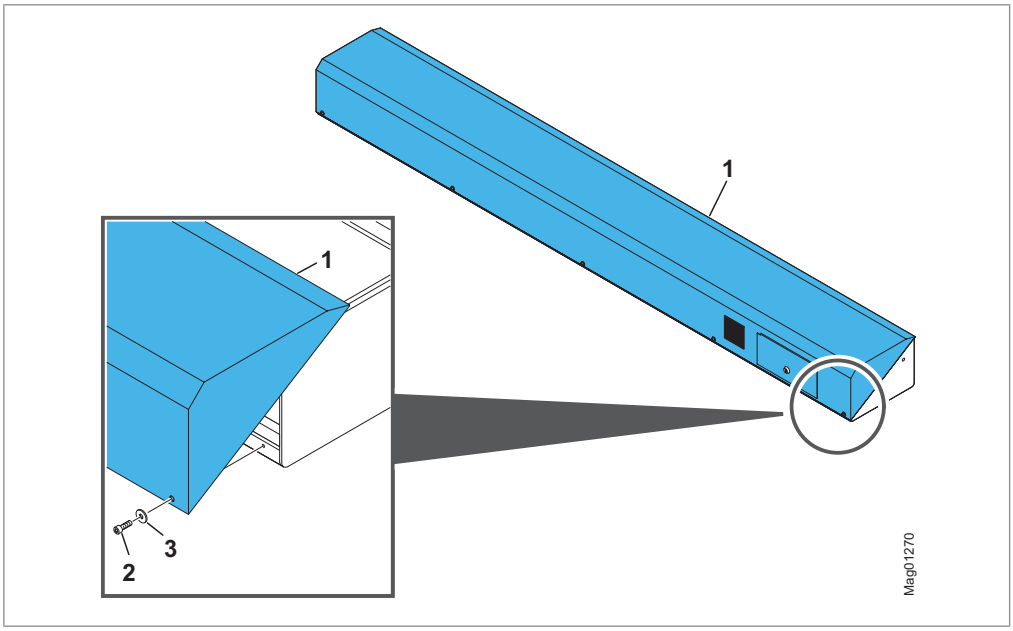

Fig. 25: Opening the cover

1 Cover
2 Screw
3 Washer

6. Place the support beam onto the cage half and the base with railings. At the same time, pull the lines through the bores in the bottom of the support beam.

   ⚠ WARNING
   Risk of injury from a falling support beam!

7. Immediately secure the support beam using the countersunk screws supplied. Tighten the countersunk screws.
8. Ground the support beam on both sides using the contact discs and the hexagon head screws supplied.
9. Mount the tension relief on the support beam.

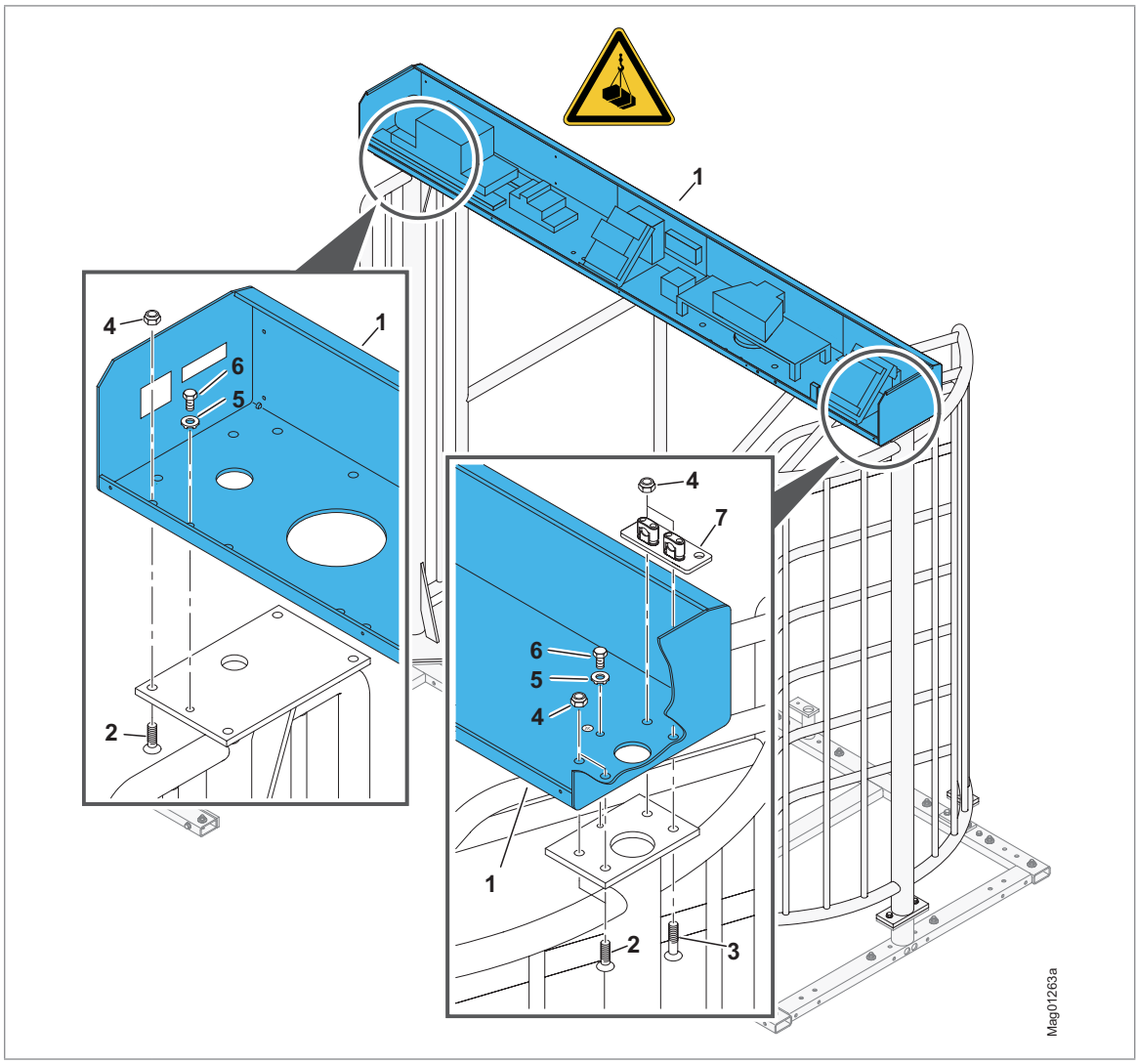

Fig. 26: Setting up, grounding and installing the support beam

1 Support beam
2 Countersunk screw
3 Countersunk screw
4 Nut M12
5 Counter disc M10 for grounding the support beam
6 Hexagon head screw M10 x 20 for grounding the support beam
7 Tension relief for mains cable and control lines

7.8.3 Preparing the mounting of the bicycle door

IMPORTANT!

The support beam is delivered with all components assembled.

Before mounting the bicycle door to the drive unit, you need to remove the locking unit, the end stops, the locking discs and the centring bolts. The centring bolts are located below the locking discs.

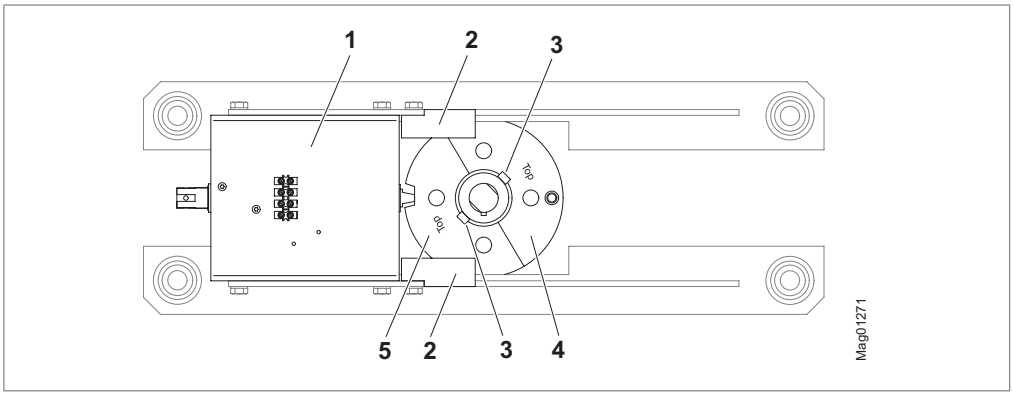

Fig. 27: Drive unit without motor and gear (top view)

1 Locking unit
2 End stops
3 Hold-down screws
4 Locking disc 2, without groove
5 Locking disc 1, with groove

1. Loosen and remove the 4 screws of the locking unit.
2. Remove the locking unit. Do not remove connection lines!
3. Loosen and remove the 2 screws of the end stops.
4. Remove the end stops.

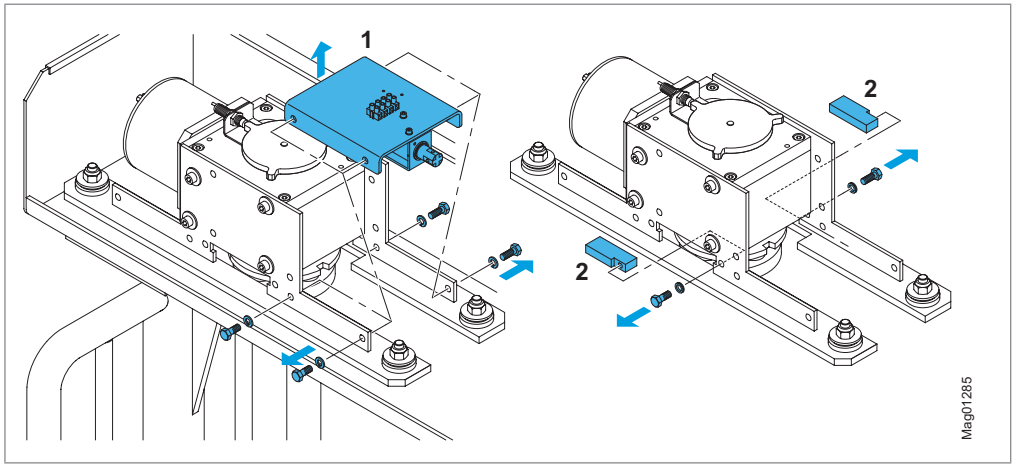

Fig. 28: Removing the locking unit and end stops

1 Locking unit

2 End stops

IMPORTANT!

Complete the following steps, always turning the drive flange in a clockwise direction viewed from below. Turn the drive flange via the hexagon socket screw into the drive shaft.

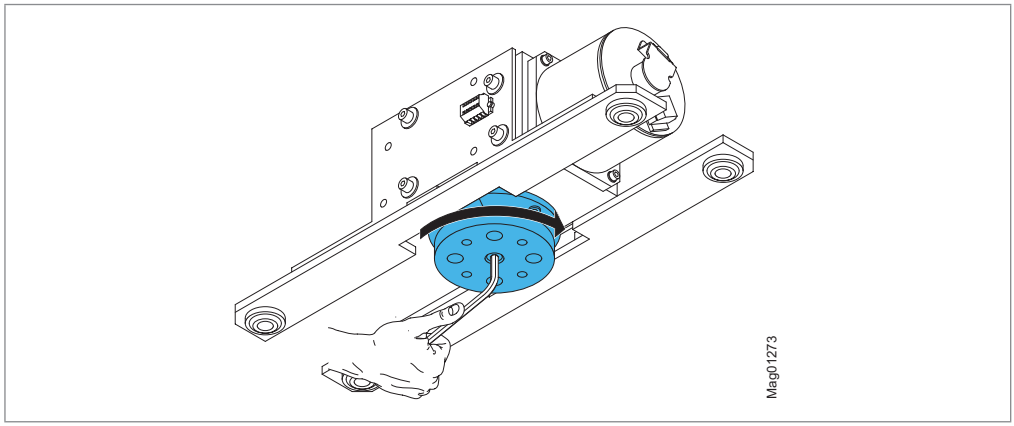

Fig. 29: Turn drive flange over drive shaft

IMPORTANT!

The locking discs must be installed again in the same positions later in which you remove the locking discs. The tops are marked TOP. The groove of locking disc 1 points in the direction of the locking unit.

5. Turn the drive flange until the first hold-down screw is visible.
6. Unscrew the first hold-down screw.
7. Remove the first locking disc.
8. Loosen and remove the first two centring bolts.

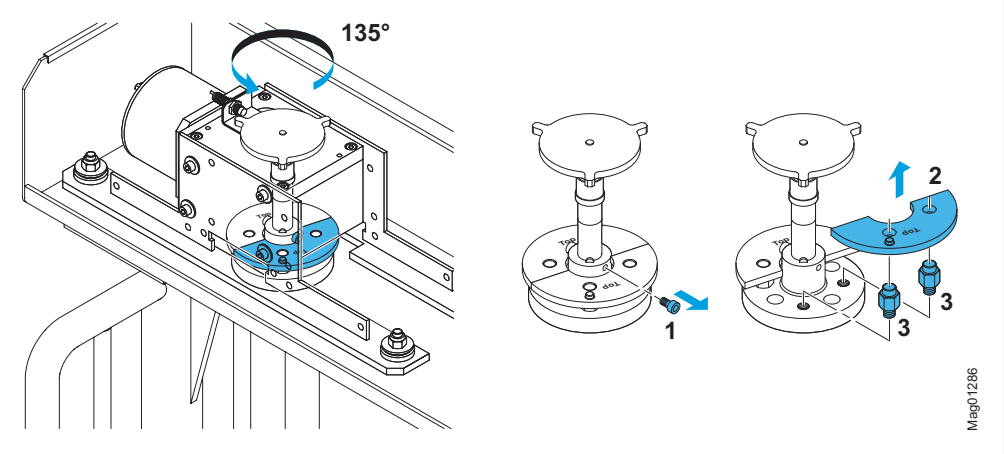

Fig. 30: Removing the hold-down screw, locking disc and centring bolt

1 Hold-down screw
2 Locking disc, here locking disc 2 without groove
3 Centring bolts

9. Turn the drive flange for another 180°.
10. Unscrew the second hold-down screw.
11. Disassemble the second locking disc.
12. Loosen and remove the two remaining centring bolts.

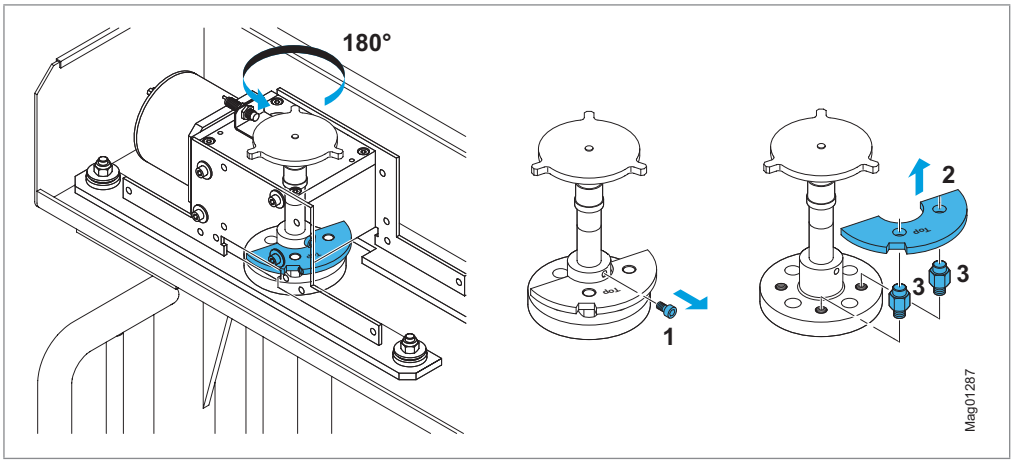

Fig. 31: Removing the hold-down screw, locking disc and centring bolt

1 Hold-down screw

2 Locking disc, here locking disc 1 with groove

3 Centring bolts

7.8.4 Mounting the floor bearing and the bicycle door

Mounting the floor bearing

1. Mount the floor bearing for the bicycle door.

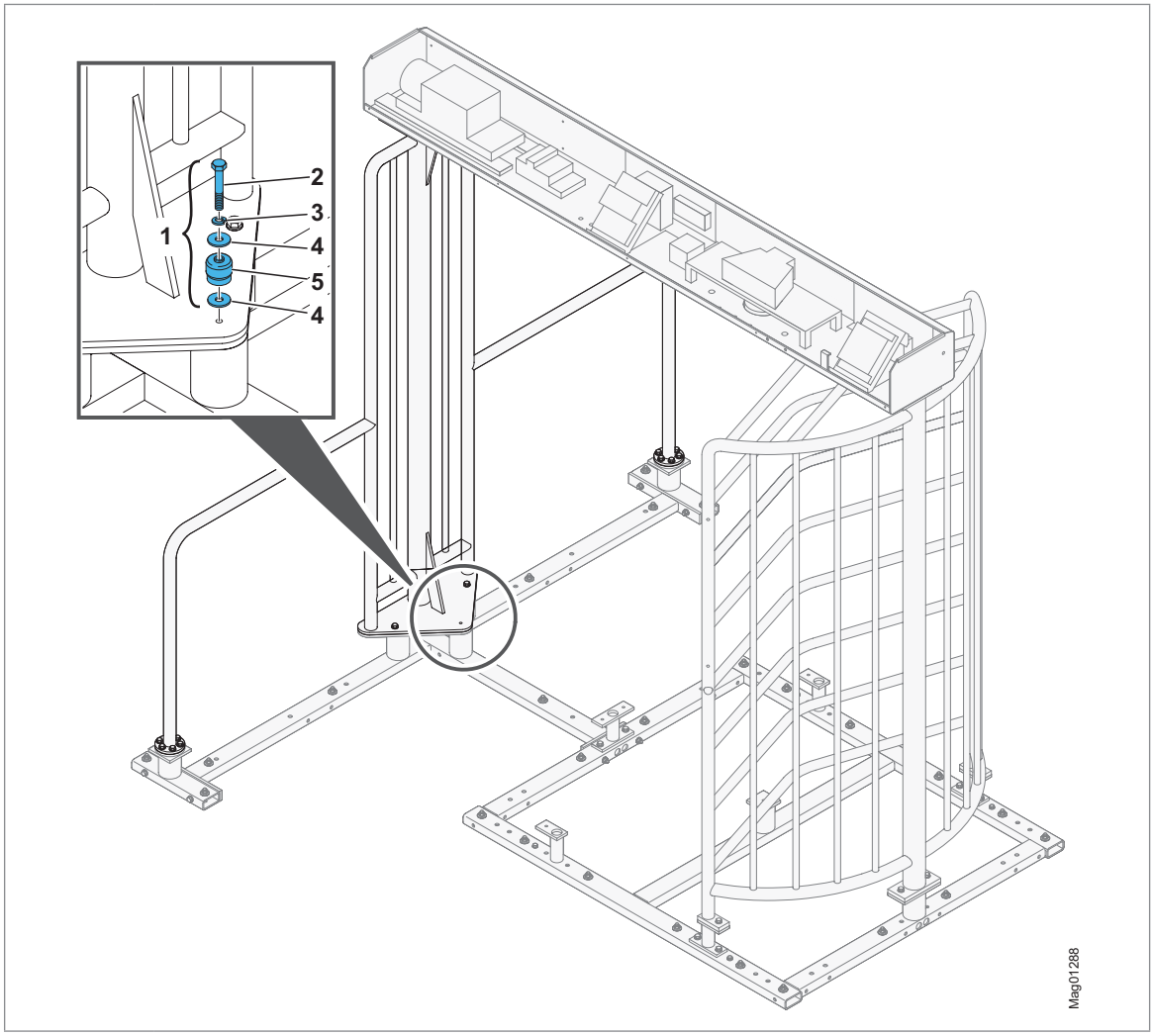

Fig. 32: Mount the floor bearing for the bicycle door.

1 Floor bearing
2 Hexagon head screw
3 Wedge securing disc
4 Washer
5 Plastic bearing with sleeve

Mounting the bicycle door

1. Attach the bicycle door to the floor bearing.

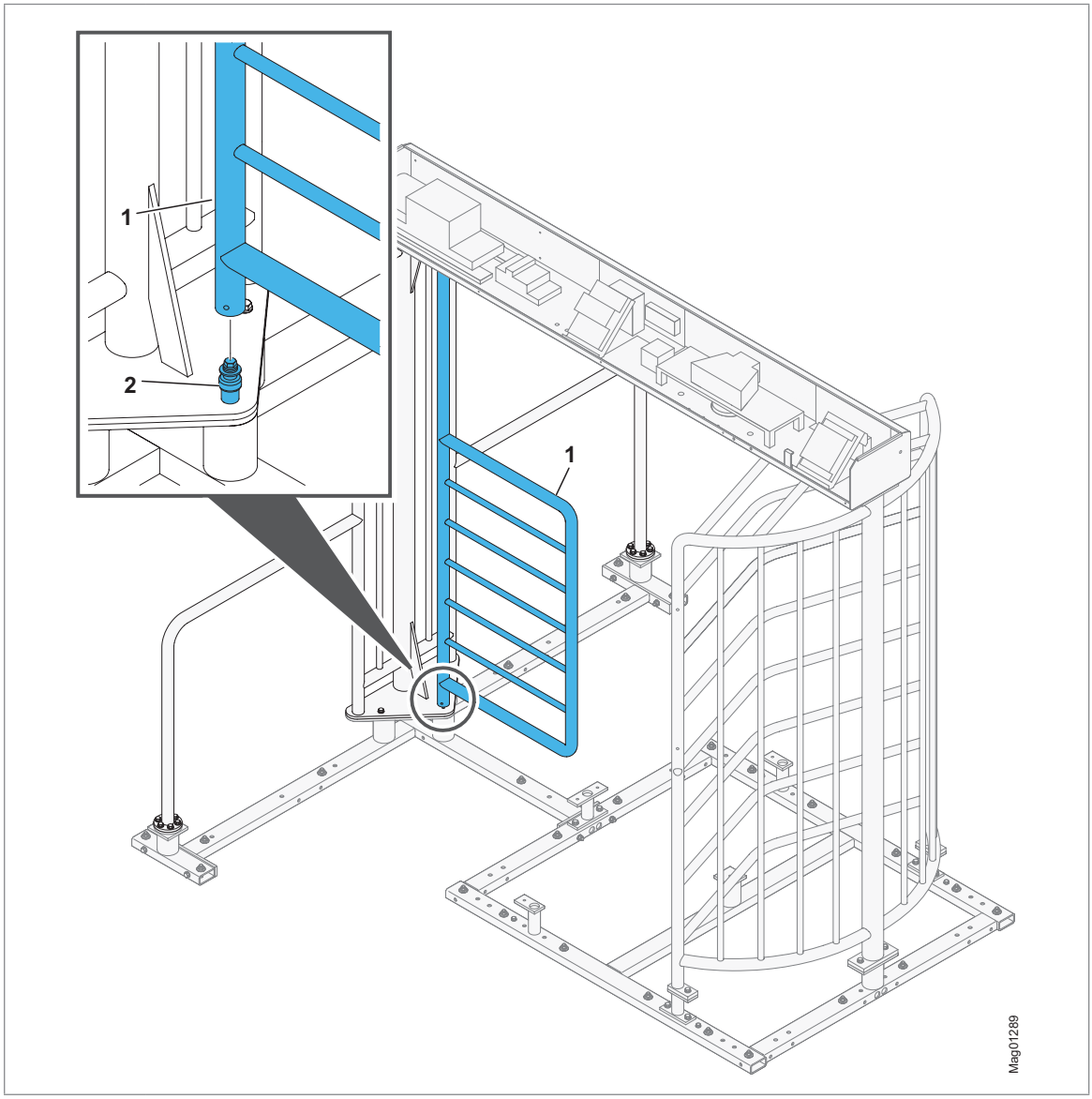

Fig. 33: Attaching the bicycle door to the floor bearing

1 Bicycle door
2 Floor bearing

IMPORTANT!

If you cannot turn the drive flange, screw two attachment screws into the drive flange from below. Once the bicycle door is fixed with two attachment screws from above, you can turn the drive flange over the bicycle door. Remove the attachment screws screwed in from below.

2. Fix the bicycle door to the drive flange from above using the four wedge securing discs and attachment screws supplied.
   - › Secure attachment screws with threadlocker such as Loctite 241.
   - › Screw in the first attachment screw with the wedge securing disc. Lift the bicycle door up to the drive flange.
   - › Screw in the second attachment screw with the wedge securing disc.
   - › Turn the drive flange and screw in the remaining attachment screws with wedge securing discs.
   - › Tighten all attachment screws firmly.

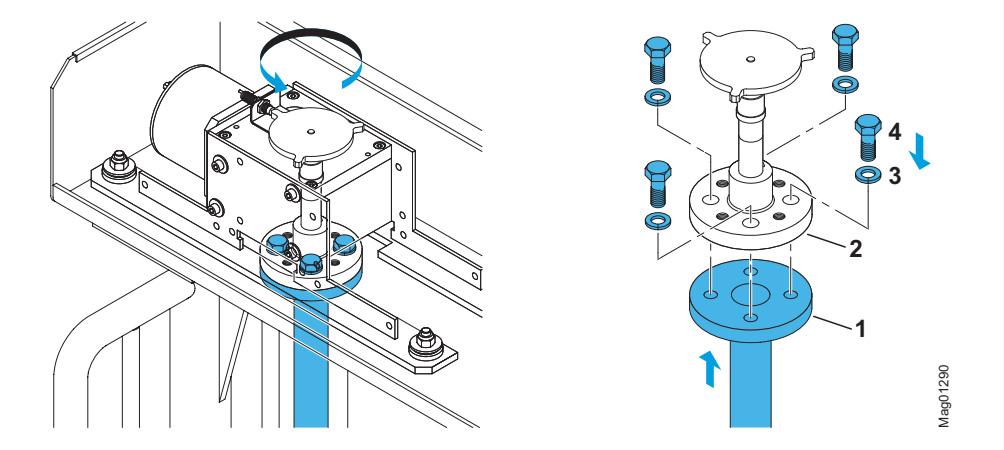

Fig. 34: Install the attachment screws

1 Bicycle door
2 Drive flange
3 Wedge securing disc
4 Securing attachment screws with threadlocker such as Loctite 241

3. Install the four centring bolts on the drive flange and secure with Loctite 241.

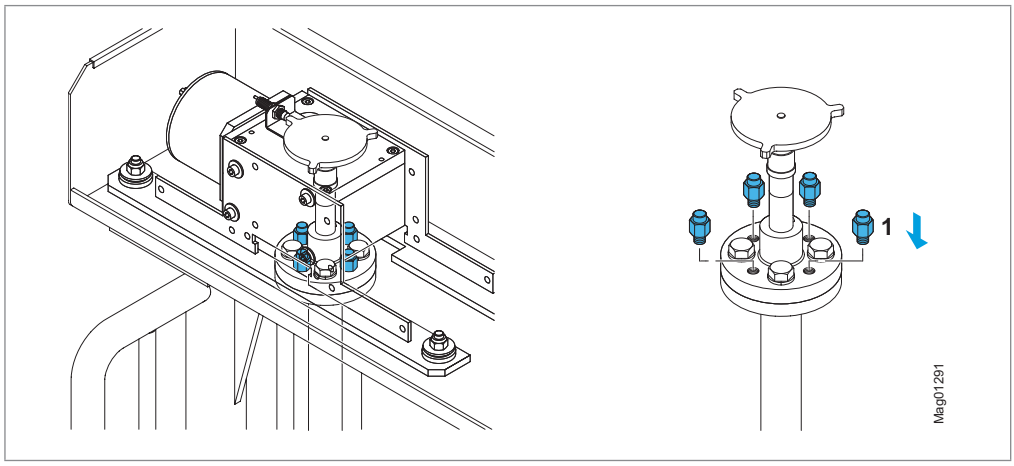

Fig. 35: Installing centring bolts
1 Centring bolts

IMPORTANT!

Observe the correct position when installing the locking discs. The inscription TOP must face upwards. The groove of locking disc 1 must point in the direction of the closed bicycle door and the locking unit that has not yet been installed.

4. Install the locking disc.
5. Screw in the hold-down screw.

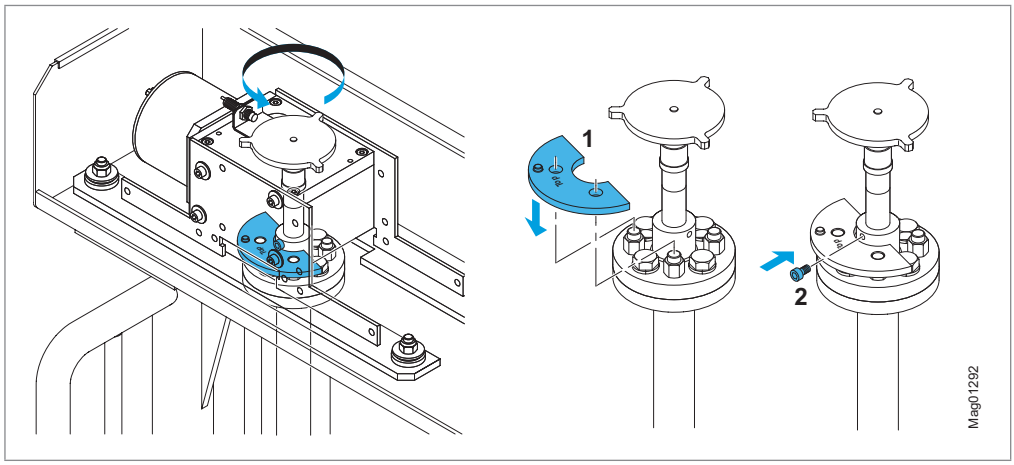

Fig. 36: Mounting locking washer 2 and hold-down screw
1 Locking disc, here locking disc 2 without groove
2 Hold-down screw

6. Install another locking disc.
7. Screwing in another hold-down screw

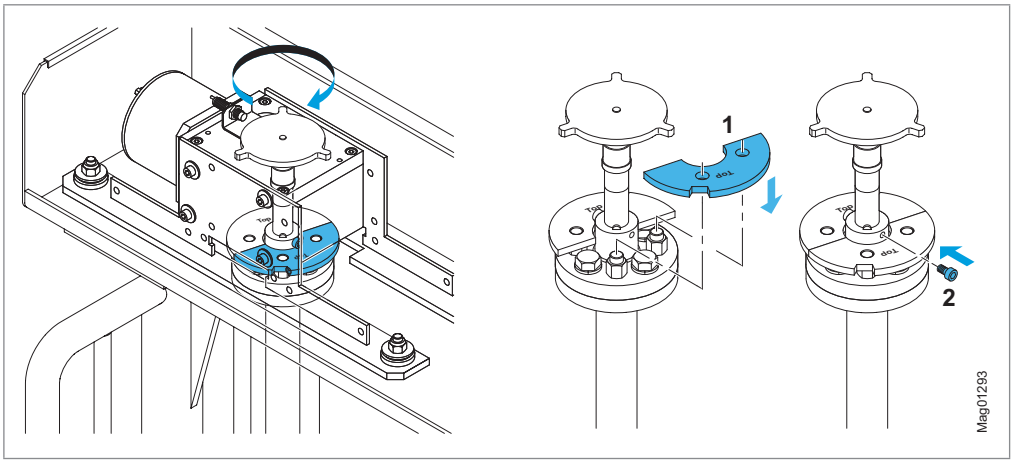

Fig. 37: Mounting locking washer 1 and hold-down screw
1 Locking disc, here locking disc 1 with groove
2 Hold-down screw

8. Mount the end stops and locking unit.

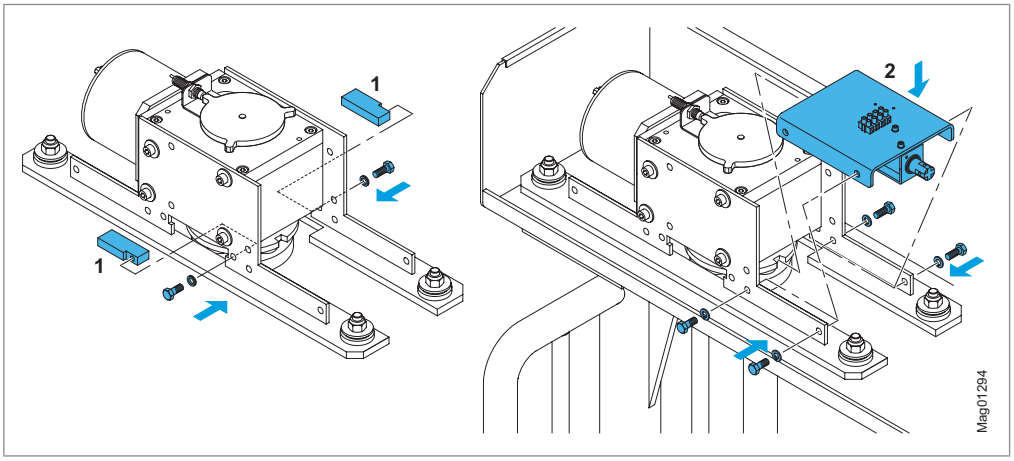

Fig. 38: Mounting the end stops and locking unit
1 End stops
2 Locking unit

Fixing the bicycle door to the floor bearing

1. Secure threaded pin with threadlocker such as Loctite 241.
2. Tighten headless screw so that the bicycle door can be moved easily in both rotating directions.

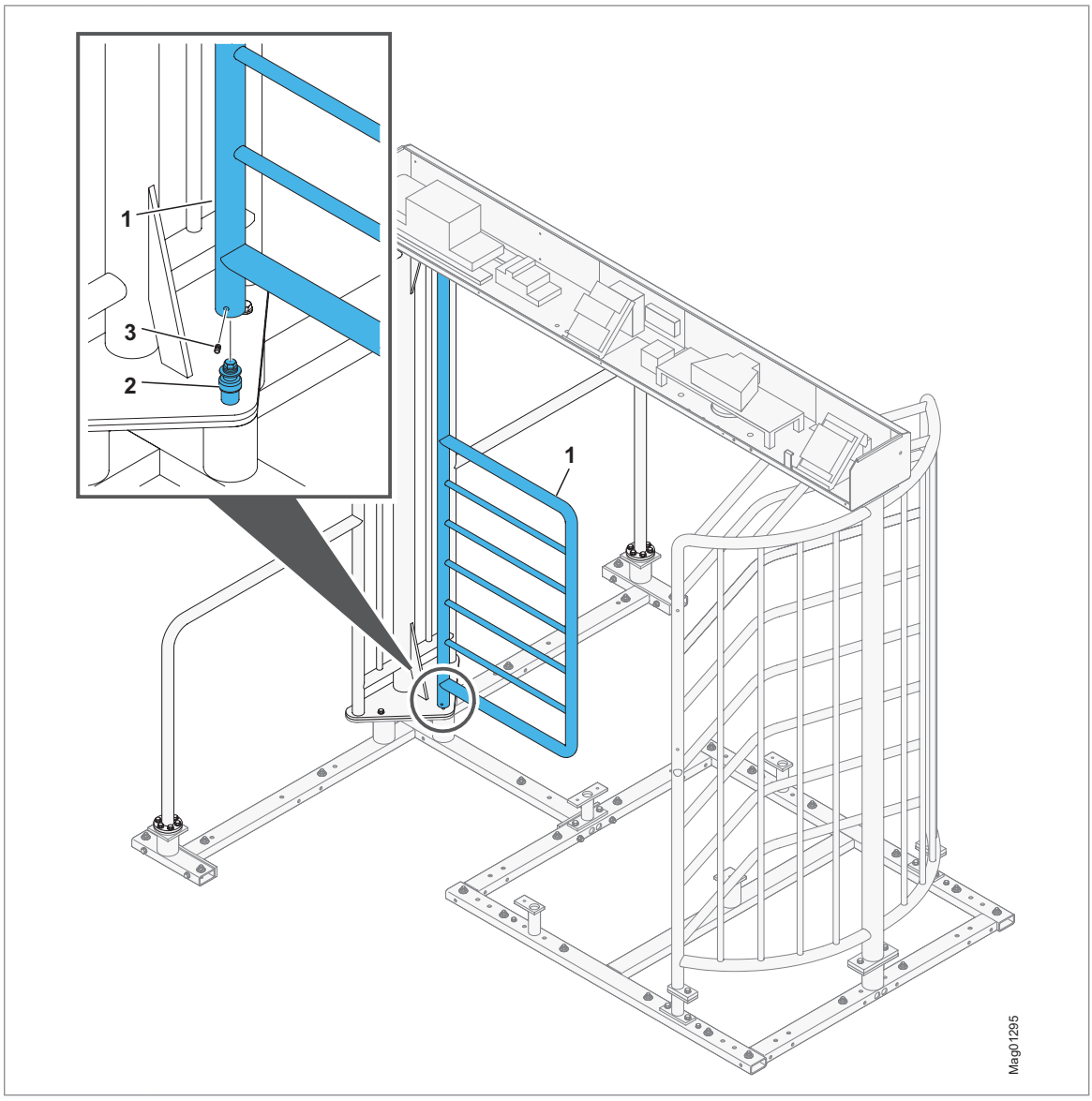

Fig. 39: Fixing the bicycle door to the floor bearing

1 Bicycle door
2 Securing threaded pin with threadlocker such as Loctite 241
3 Floor bearing

Setting the position "blocked" (home position)

1. Set the bicycle door to the "blocked" position.

   √ The switching cam must be precisely in front of the proximity sensor in this position.

If there is a clear offset between the switching cam and the proximity sensor, you need to adjust the cam plate as follows:

1. Loosen the hexagon socket screw on the drive shaft using a size 4 wrench.
2. Turn the cam plate so that it is exactly in front of the proximity switch.
3. Tighten the hexagon socket screw.

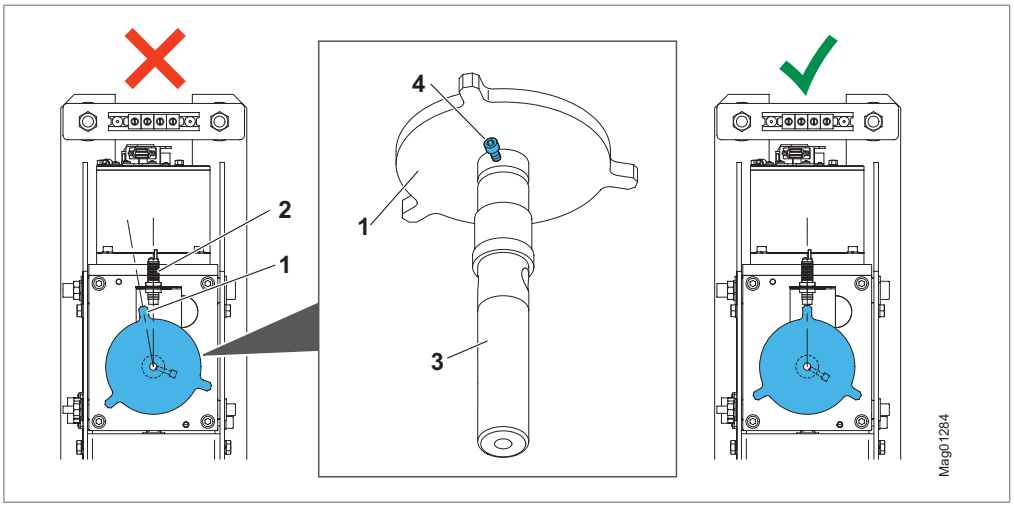

Fig. 40: Setting the home position

1 Cam plate
2 Proximity sensor
3 Drive shaft
4 Hexagon socket screw size 4

7.8.5 Mounting the floor bearing and the centre pillars

Mounting the floor bearing

1. Attach sleeve and washer with hexagon head screw.
2. Slide the plastic bearing over the sleeve, washer and hexagon head screw. The conical side of the plastic bearing must point downwards.

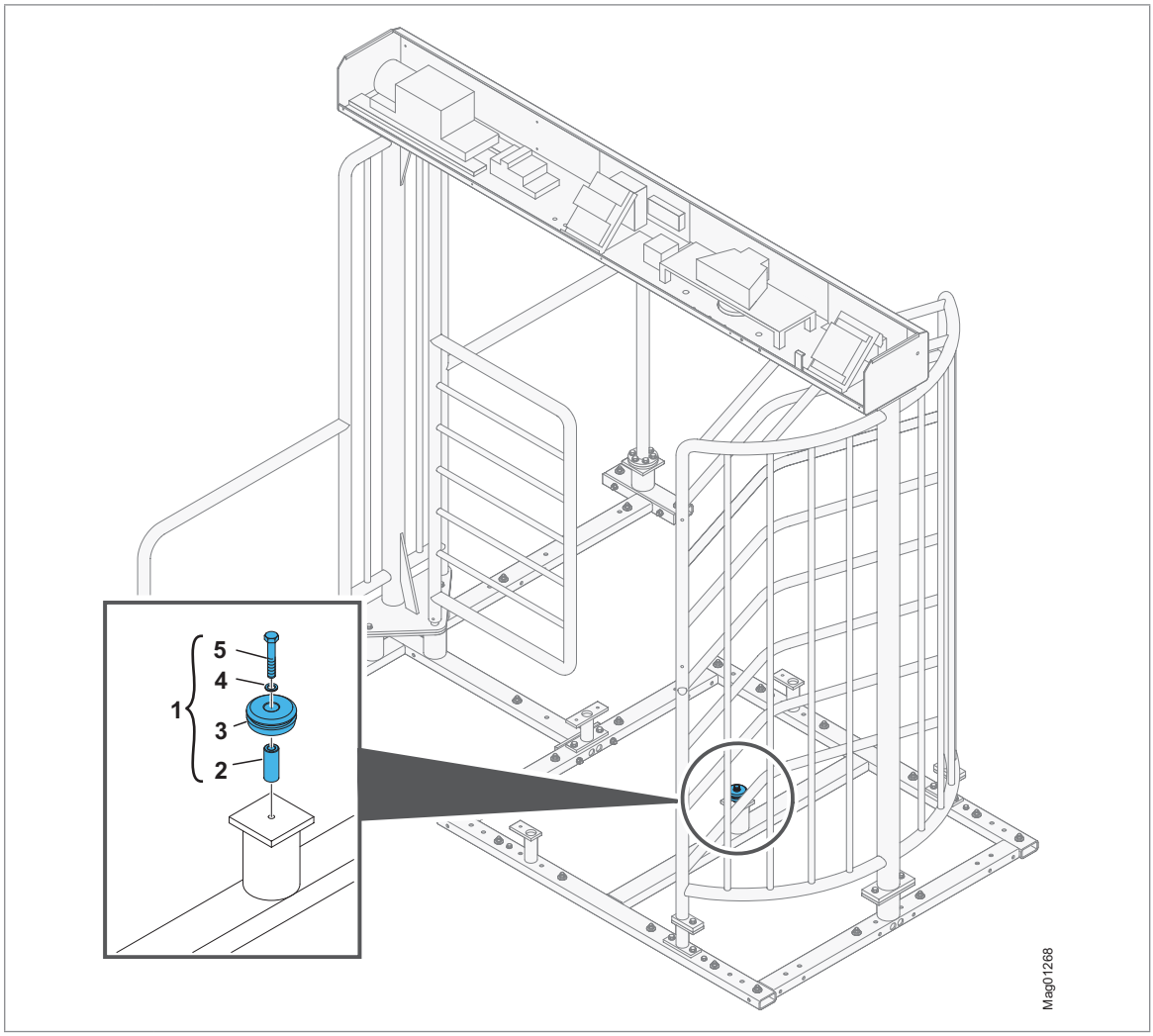

Fig. 41: Mounting the floor bearing

1 Floor bearing
2 Sleeve
3 Plastic bearing
4 Washer
5 Hexagon head screw

Mounting the centre pillar

1. Place the centre pillar on the floor bearing.

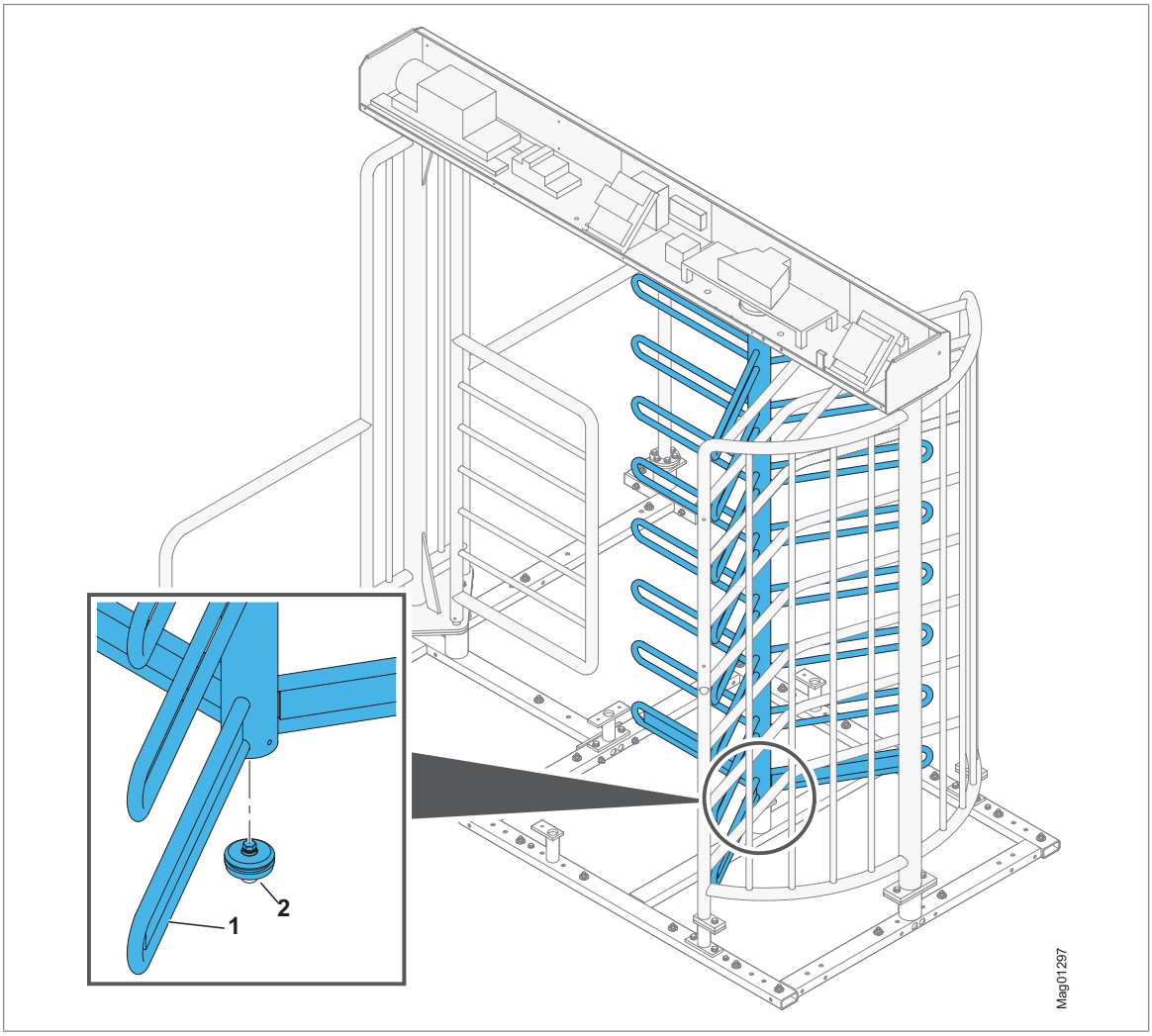

Fig. 42: Placing the centre pillar on the floor bearing

1 Centre pillar
2 Floor bearing

IMPORTANT!

The centre pillar is mounted on the flange of the locking via four screws. Before mounting the first screw, the locking must be in the home position and the bracket rows of the centre pillar must be in a certain position.

2. Make sure that the locking unit is in the home position.

   › The countersink in the cam plate must point in the direction of the locking levers. The locking levers are open.

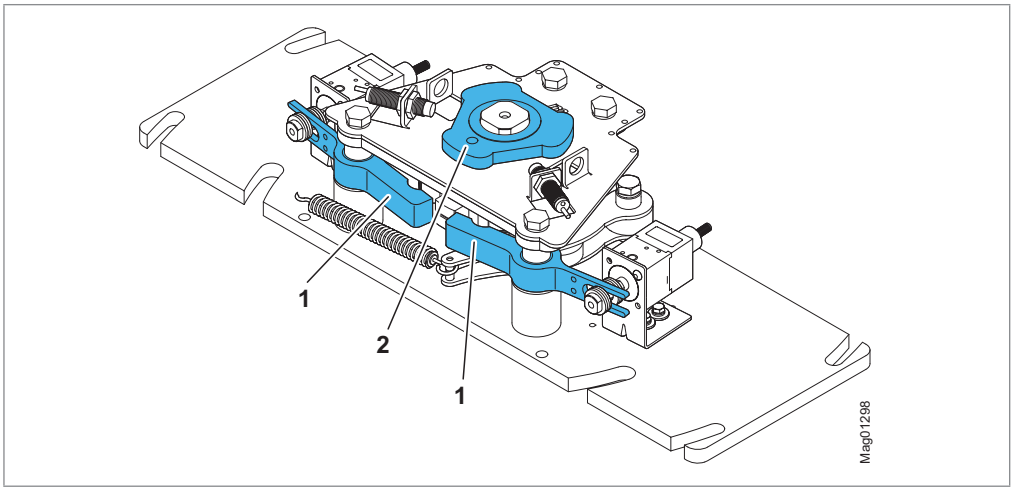

Fig. 43: Locking unit for centre pillar

1 Locking lever, open

2 Countersink in the cam plate, points in the direction of the locking lever

3. Turn the centre pillar so that the countersink on the flange bottom of the centre pillar (pos. 2) points towards the cage half with blocking bracket (pos. 3). The centre pillar is in the locked position. The bracket row (pos. 1) opposite the countersink (pos. 2) is in the locked position.

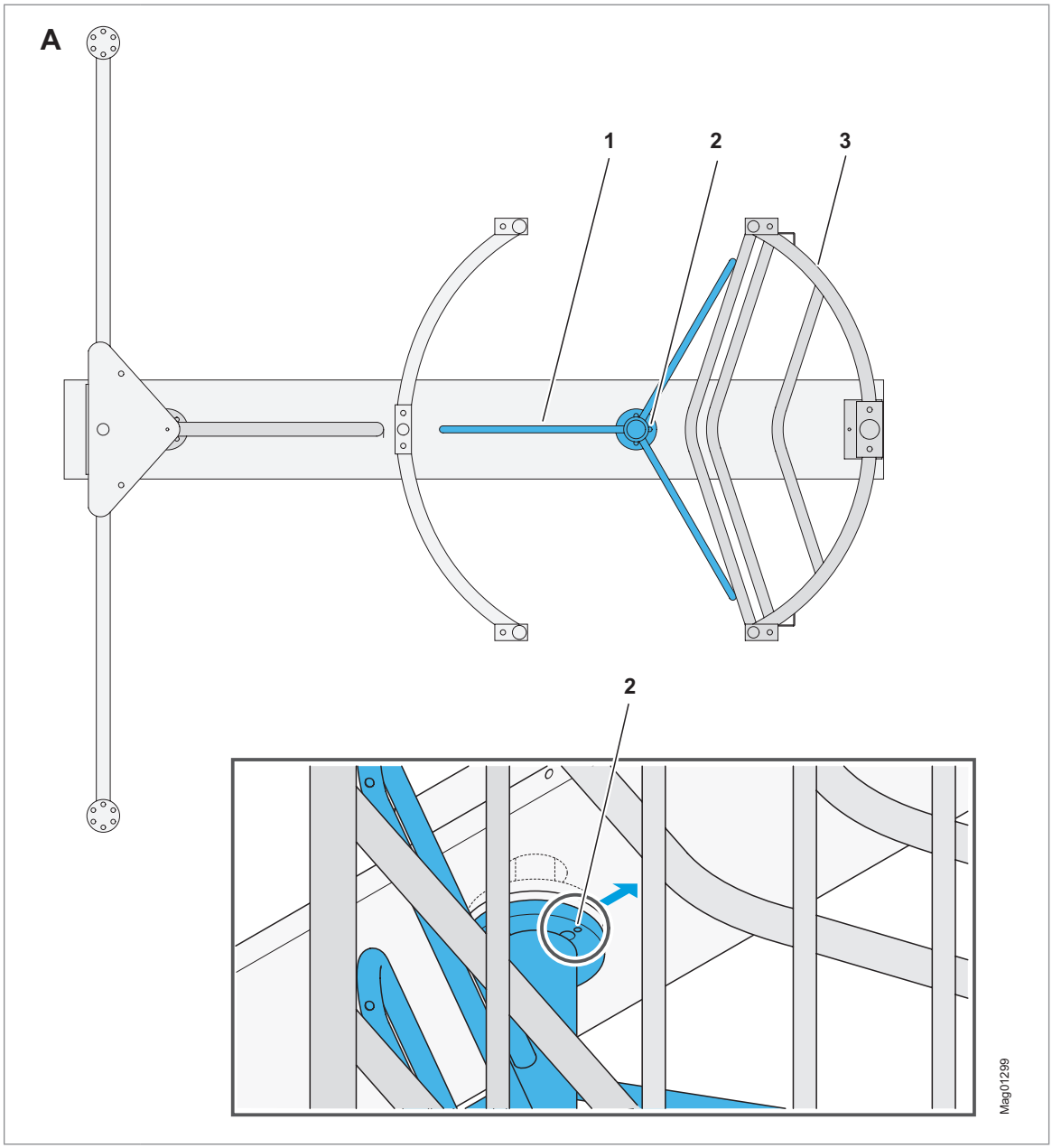

Fig. 44: Alignment of the centre pillar before mounting

A Bottom view

1 Centre pillar bracket row is in locked position

2 Countersink on flange bottom of the centre pillar

3 Cage half with blocking bracket

4. Fix the centre pillar to the locking flange from above using the four screws supplied. Make sure that the centre pillar is correctly positioned in relation to the locking unit. ↗ Page 71, Fig. 44.
   - › Secure screws with threadlocker such as Loctite 241.
   - › Screw in two screws by hand, each with a Nordlock lock. Lift the centre pillar up to the locking flange.
   - › Turn the centre pillar so that the other two screws with the Nordlock locks can be screwed in.
   - › When all four screws are in place, tighten all screws firmly.

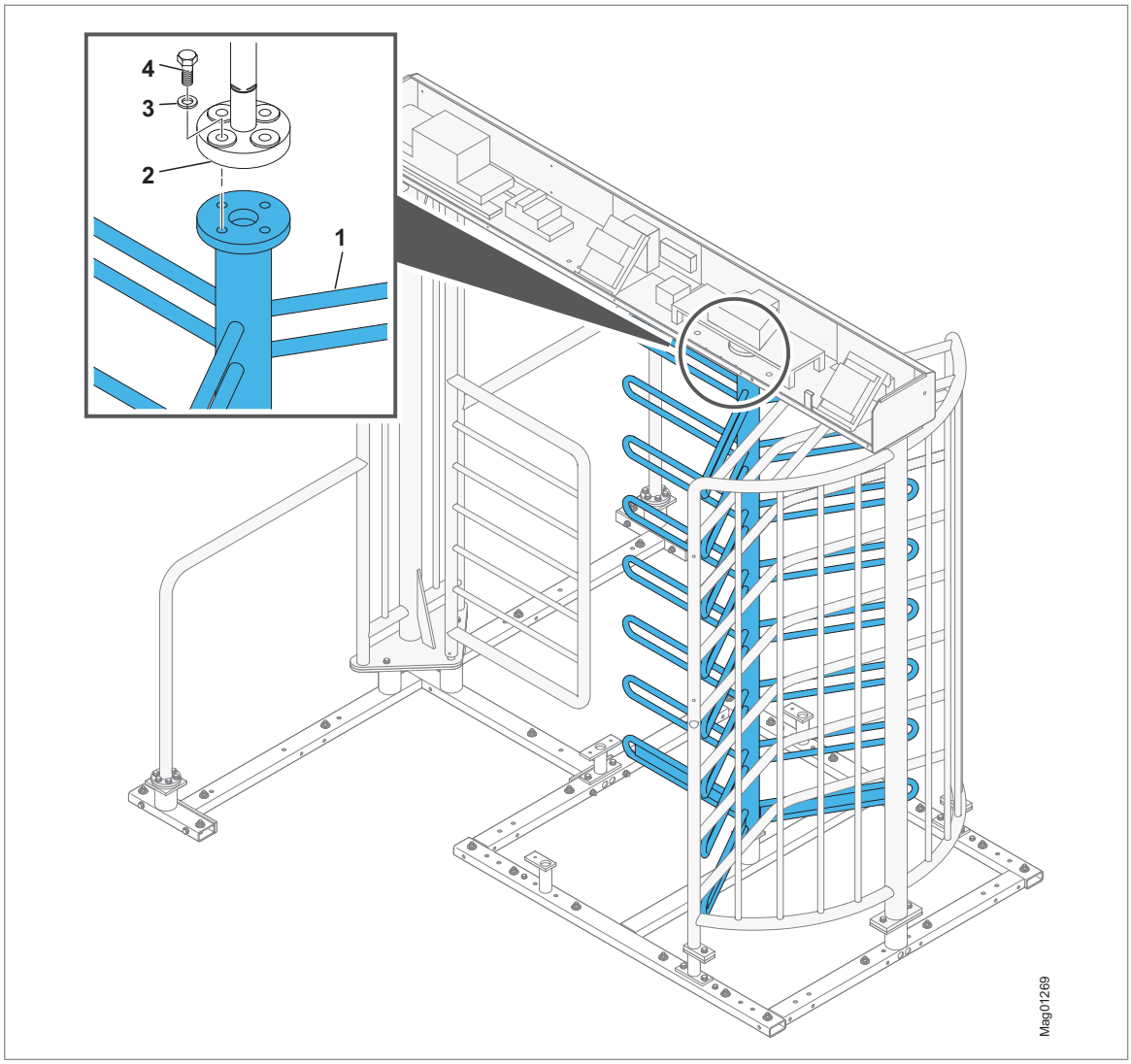

Fig. 45: Mounting the centre pillar on the locking flange

1 Centre pillar
2 Locking flange
3 Wedge securing discs
4 Securing screw with threadlocker such as Loctite 241

Fixing the centre pillar to the floor bearing

1. Push the plastic bearing from below into the centre pillar until the plastic bearing is flush with the centre pillar.
2. Secure threaded pins with threadlocker such as Loctite 241.
3. Tighten all 3 headless screws such that the centre pillar can be moved easily in both rotating directions.

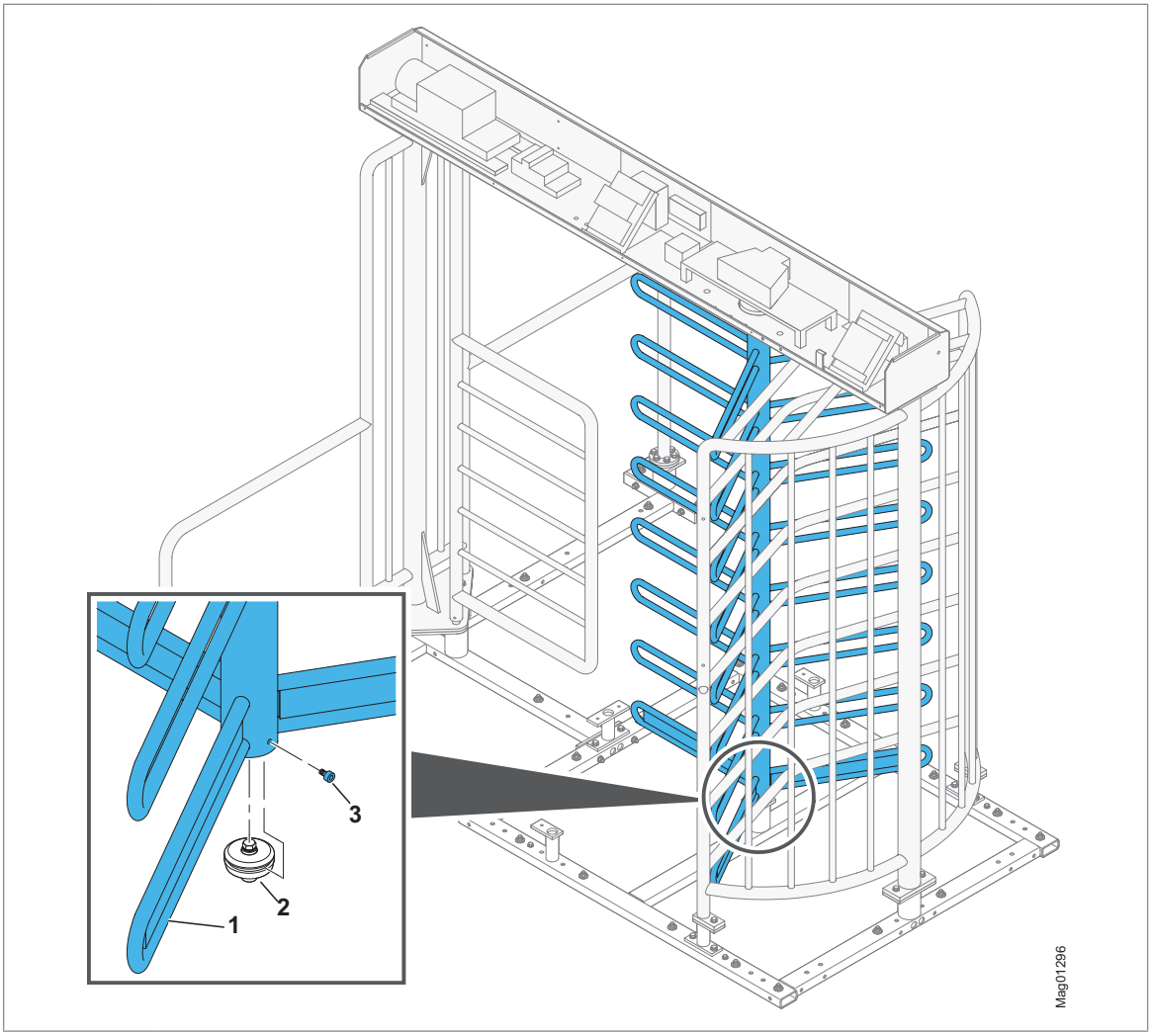

Fig. 46: Fixing the centre pillar to the floor bearing

1 Centre pillar
2 Securing threaded pin with threadlocker such as Loctite 241
3 Floor bearing

7.8.6 Mounting the upper barrier of the bicycle access

1. Mount the upper barrier to the support beam.

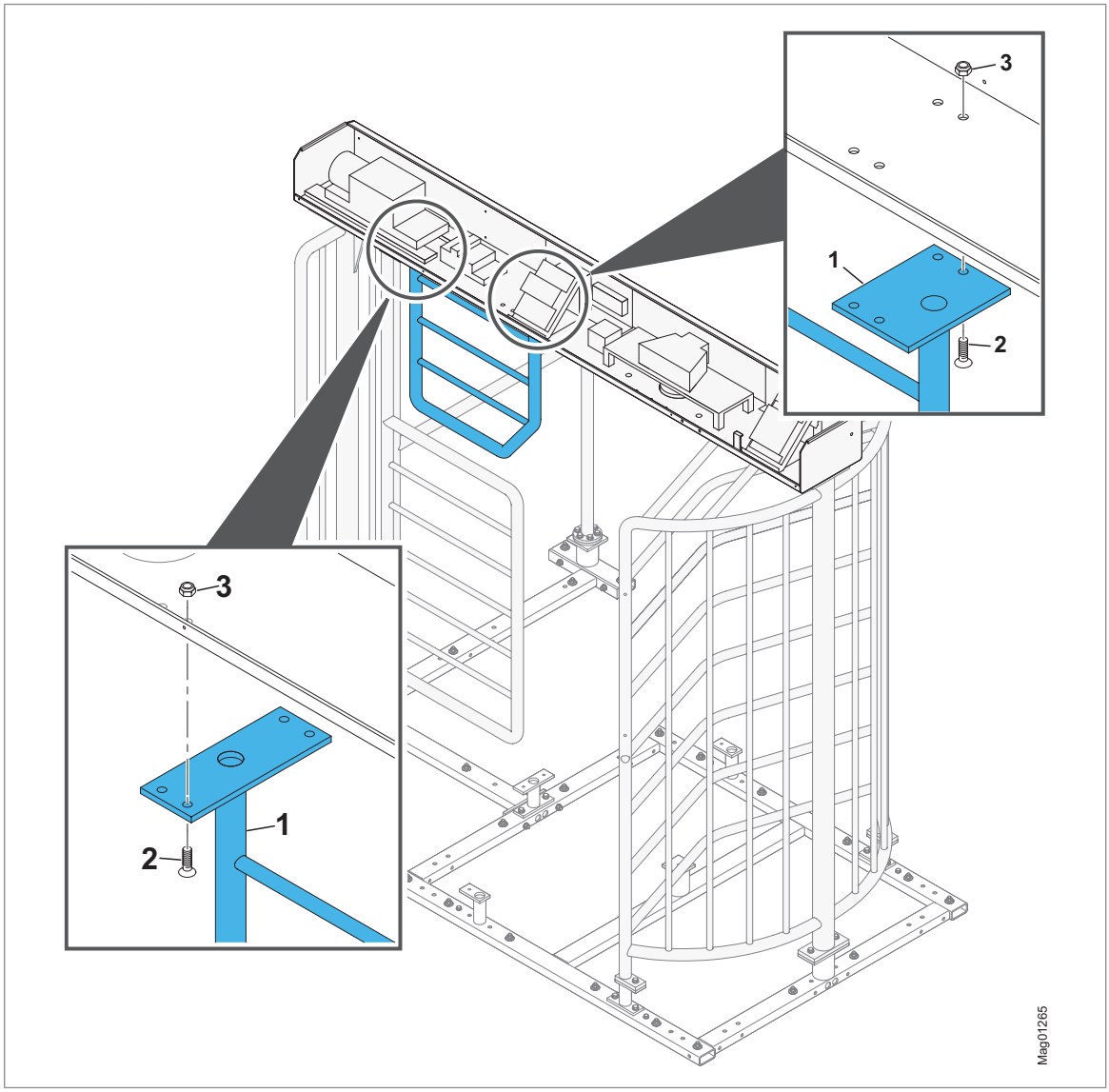

Fig. 47: Mounting of the upper barrier

1 Upper barrier
2 Screw (8 x)
3 Nut (8 x)

7.8.7 Mounting the guide element

1. Install the guide element to the guide element bases. Observe that the guide element must be vertically aligned.

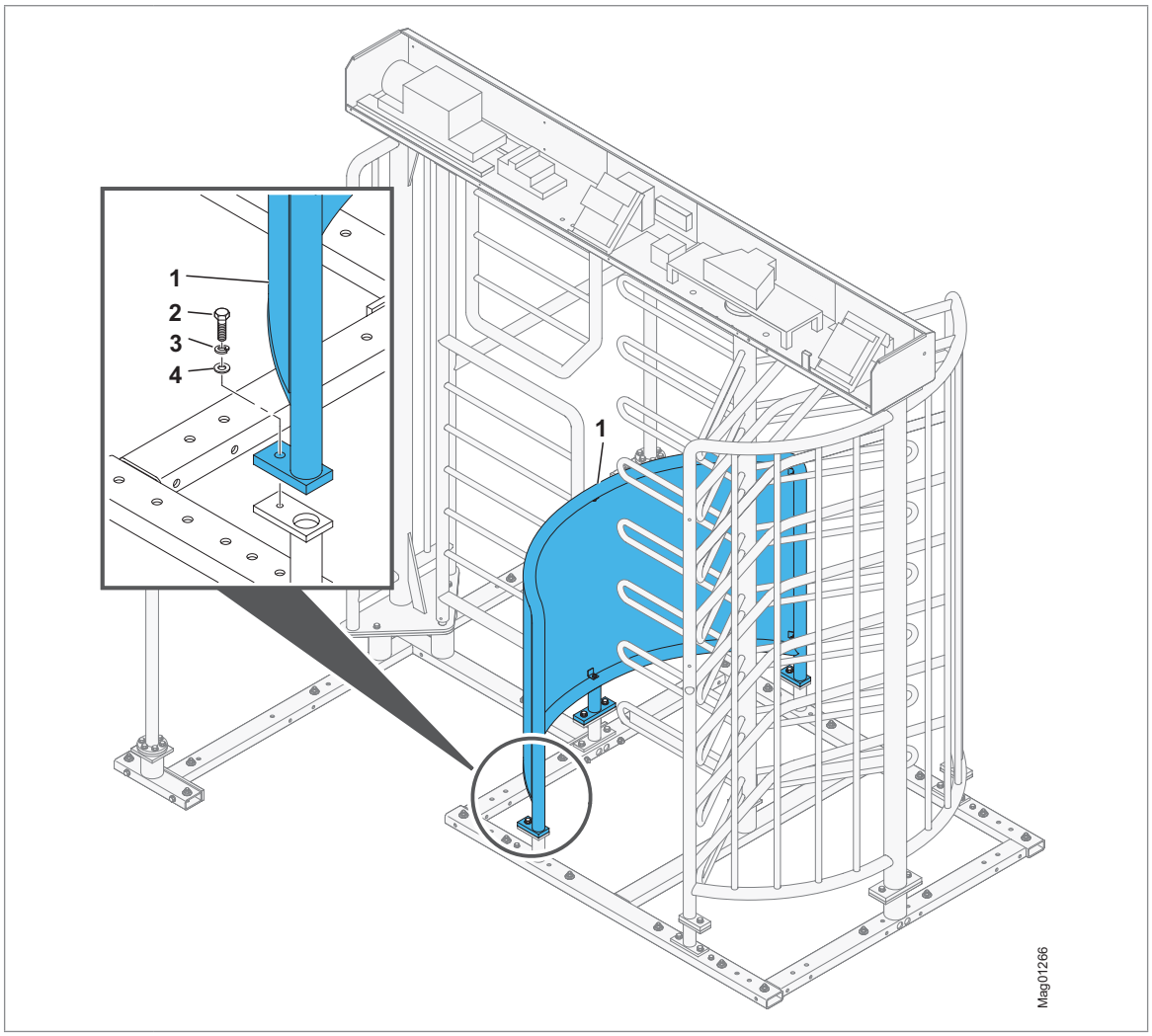

Fig. 48: Mounting of the guide element

1 Guide element
2 Screw
3 Spring washer
4 Washer

7.8.8 Connecting two pedestrian gates

If the system consists of two pedestrian gates, we recommend mounting the VBSET connection set.

You must order the BSS101 connection set separately.

7.8.9 Closing the cover of the support beam

IMPORTANT!

For safe operation, the support beam, the cover and the service door must be earthed. The service door and the cover are earthed via protective conductors, an earthing point on the cover and an earthing point on the support beam.

When the mounting work is completed or if the work is interrupted for a longer period of time, the support beam must be closed with the cover. We recommend checking that the protective earth conductors for the cover and the service door are correctly connected when closing the cover.

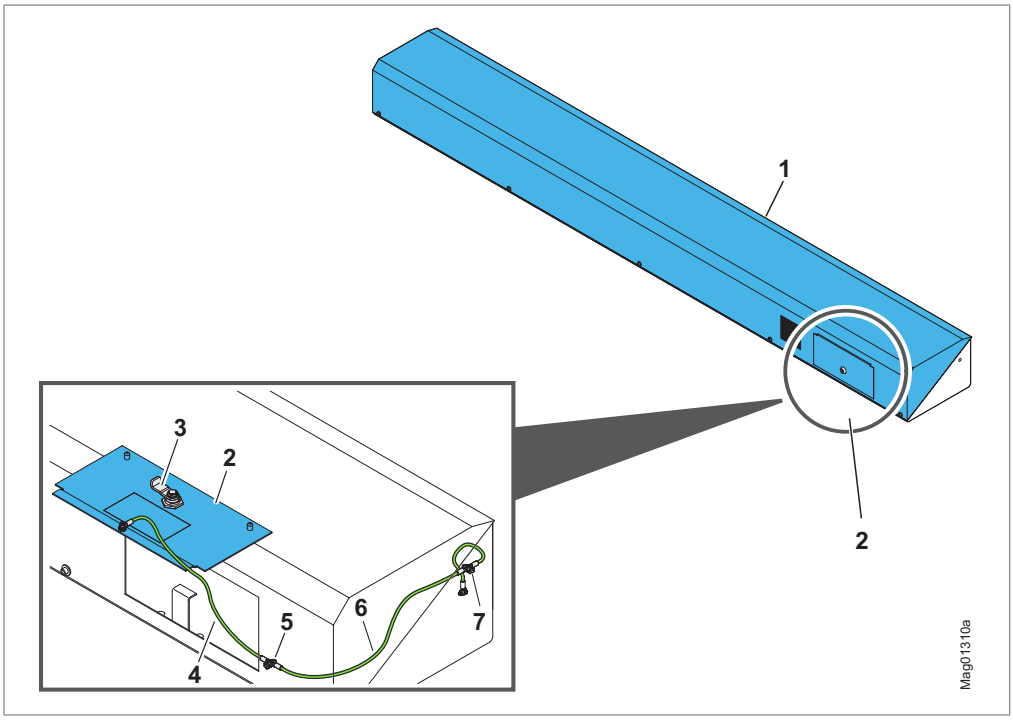

Fig. 49: Earthing cover and service door

1 Cover
2 Service door
3 Lock (back)
4 Protective earth conductor for service door, earthed via earthing point cover
5 Cover earthing point
6 Protective earth conductor for cover, earthed via earthing point support beam
7 Support beam earthing point

1. Open the service door with the supplied key.

⚠ DANGER

Danger to life if the protective earth conductor for the cover is not connected!

2. Connect the protective earth conductor for the cover at the earthing point of the support beam.

⚠ DANGER

Danger to life if the protective earth conductor for the service door is not connected!

3. Ensure that the protective earth conductor for the service door is located on the service door and connected to the cover.
4. Close the service door.
5. Put the cover onto the support beam from the front.
6. Secure the cover with the screws.

7.9 Checking the mounting

Check the following points after mounting:

› Are all foundation anchors tightened?

› Are all attachment screws firmly tightened?

› Is the support beam earthed?

› Is the support beam closed with the cover?

› Is the protective ground for the cover connected?

› Is the protective ground for the service door connected?

› Is the cover mounted correctly?

› Is the service door in the cover locked?

8 Mounting the optional mounting pillar for access-control devices

IMPORTANT!

Magnetic offers the mounting pillar ASMP as attachment for the installation of access-control devices.

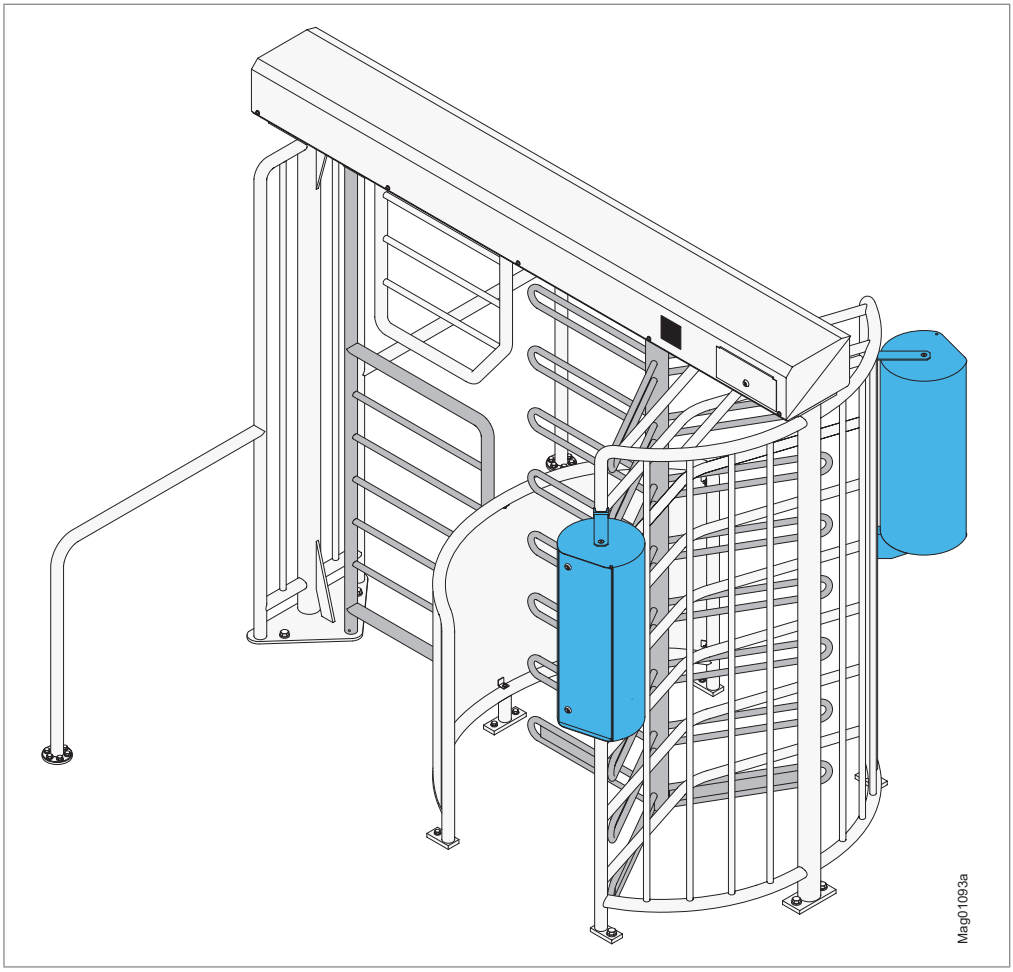

Fig. 50: Optional mounting pillars

If the mounting pillar was ordered at the same time as the pedestrian gate, pull wires are drawn in at the factory for the lines of the mounting pillar.

Additional steps for the subsequent ordering of the mounting pillar

If the mounting pillar was ordered subsequently, you must carry out the following steps before mounting the mounting pillar:

1. Drill two holes with a diameter of 10 mm for the mounting pillars in the cage half.
2. Either place a M8 blind rivet nut or cut a M8 thread in the 10 mm holes.
3. Drill a hole with a diameter of 30 mm for the pull wires and lines.

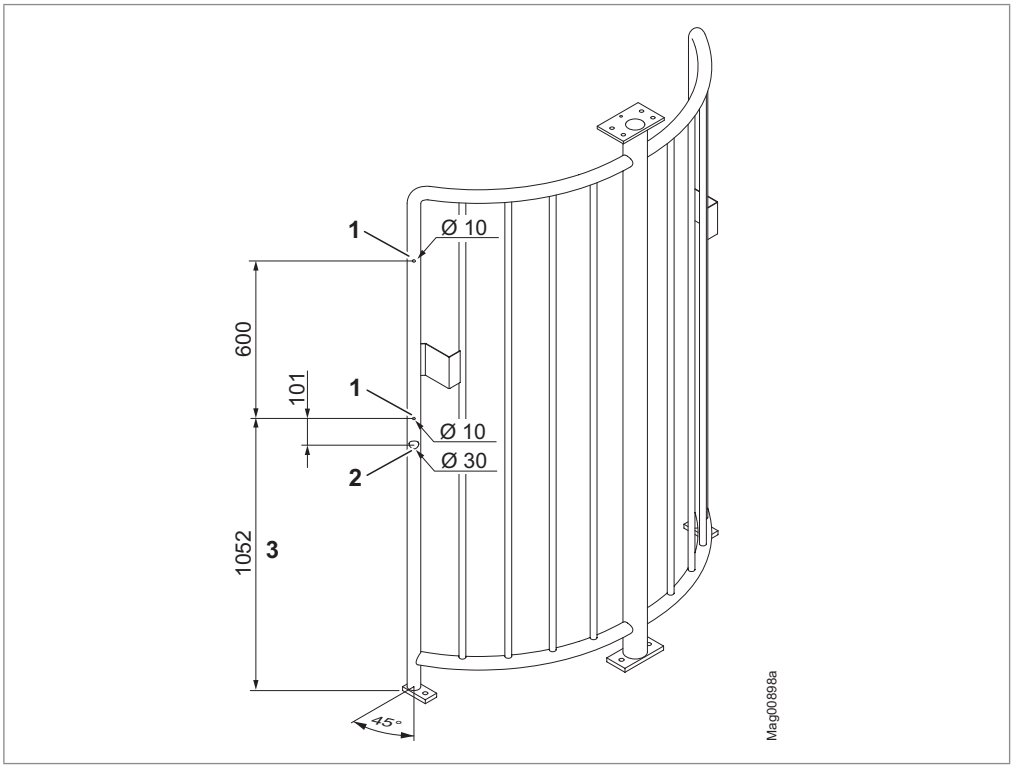

Fig. 51: Required holes for mounting pillar (all dimensions in mm)

1 Borehole diameter 10 mm either with M8 blind rivet nut or M8 thread for fastening U-profile (2x)

2 Borehole diameter 30 mm for pull wires and lines (1x)

3 Standard height for implementation by Magnetic

4. Pull the pull wires or lines for the mounting pillar through the outer supports of the cage half.

Installing the mounting pillar

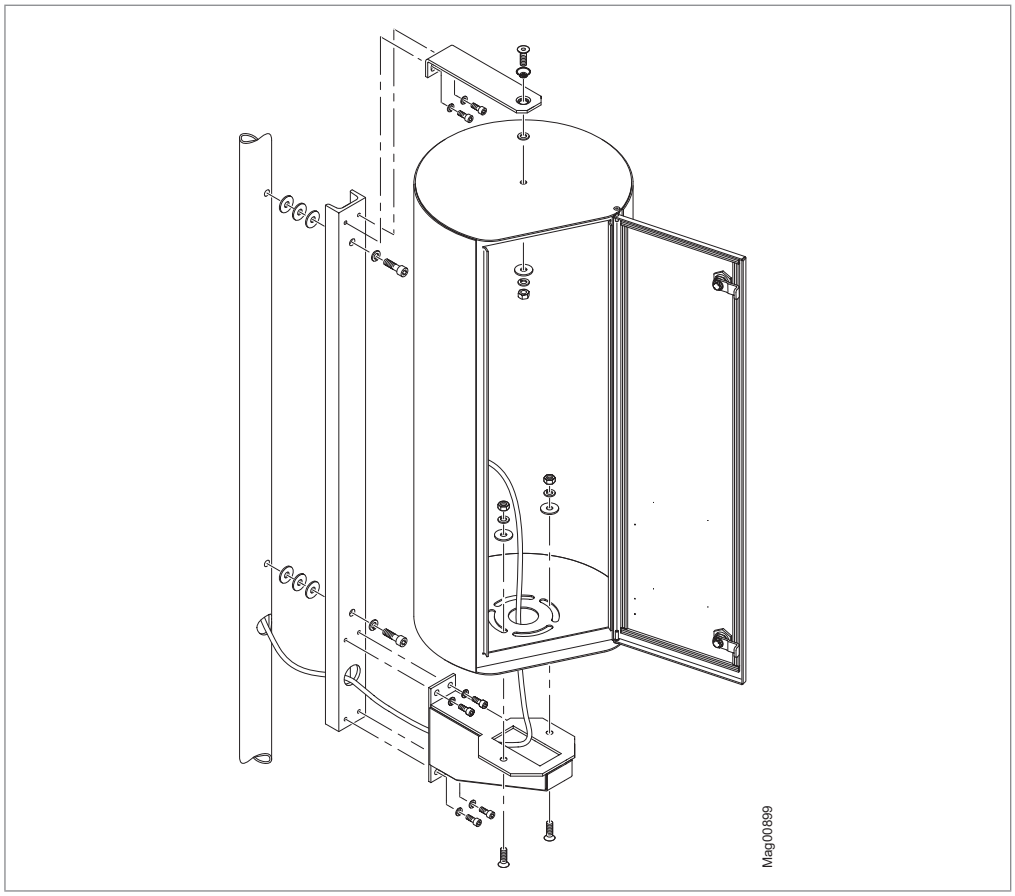

Fig. 52: Mounting pillar and attachment material

1. Mount the U-profile to the outer support of the cage half.

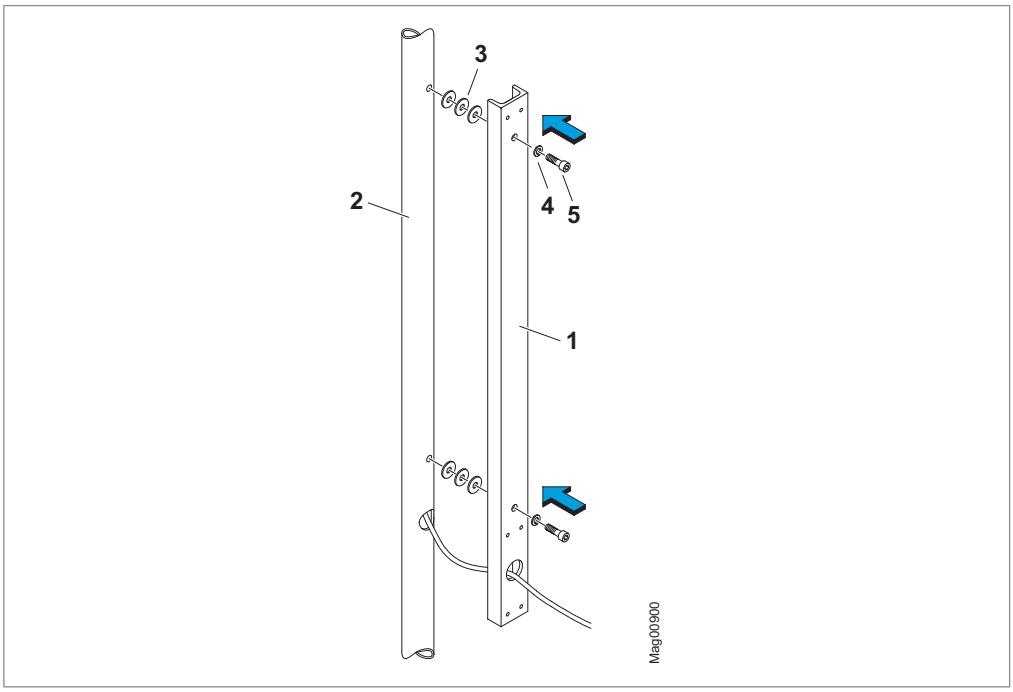

Fig. 53: Mounting the U-profile

1 U-profile
2 Outer support cage half
3 Washer D8.4
4 Spring washer A8
5 Hexagon socket screw M8 x 30

2. Mount the lower holder.

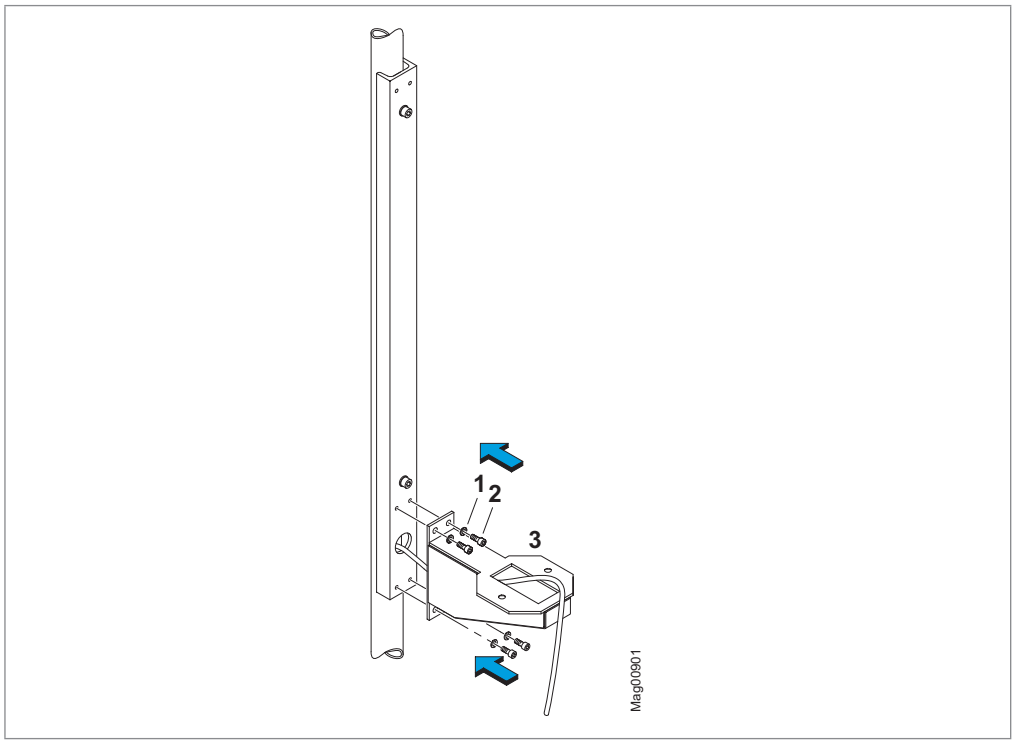

Fig. 54: Mounting the lower holder

1 Spring washer A6

2 Screw M6 x 16

3. Mount the attachment angle to the mounting pillar. Tighten nut by hand.

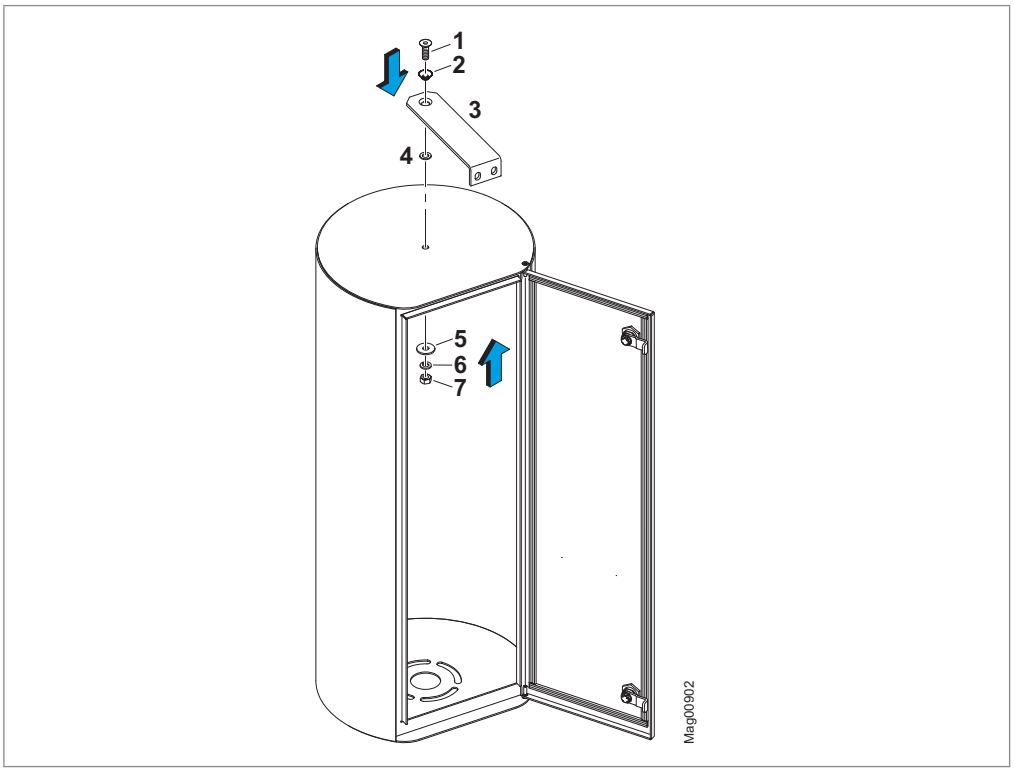

Fig. 55: Mounting the attachment angle

1 Screw DIN 7991 M8 x 25
2 Sleeve
3 Attachment angles
4 Washer PE D8.4
5 Washer D8.4
6 Spring washer A8
7 Nut M8

4. Mount the attachment angle with mounting pillar to the U-profile.

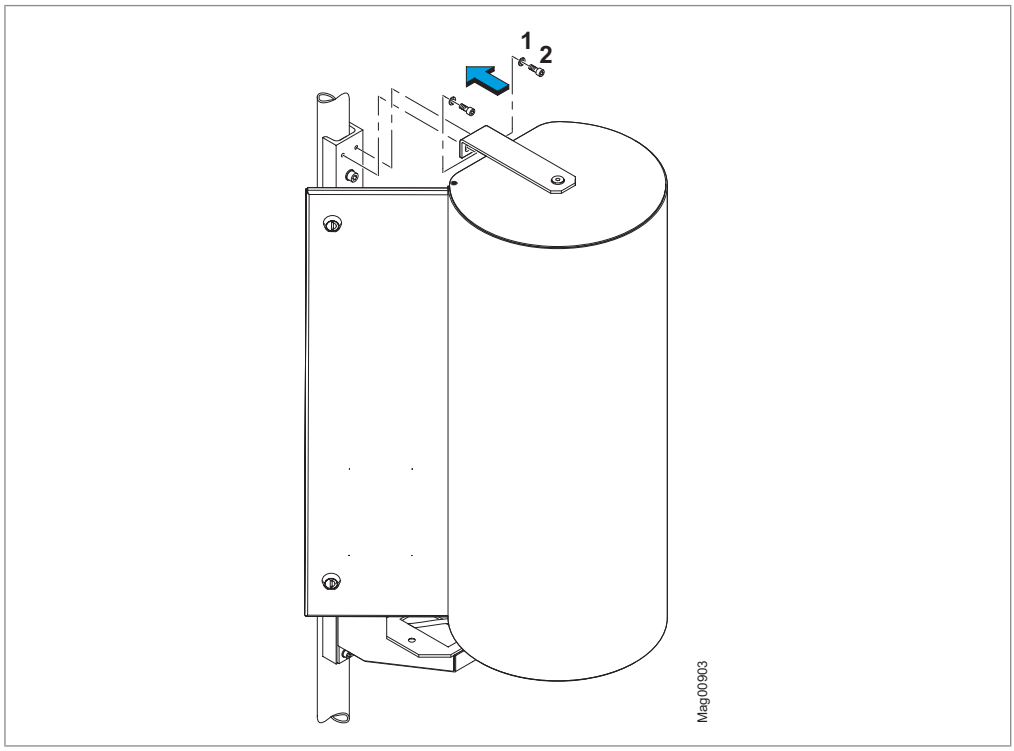

Fig. 56: Mounting the attachment angle

1 Spring washer A6

2 Screw M6 x 16

5. Align the mounting pillar by turning it.

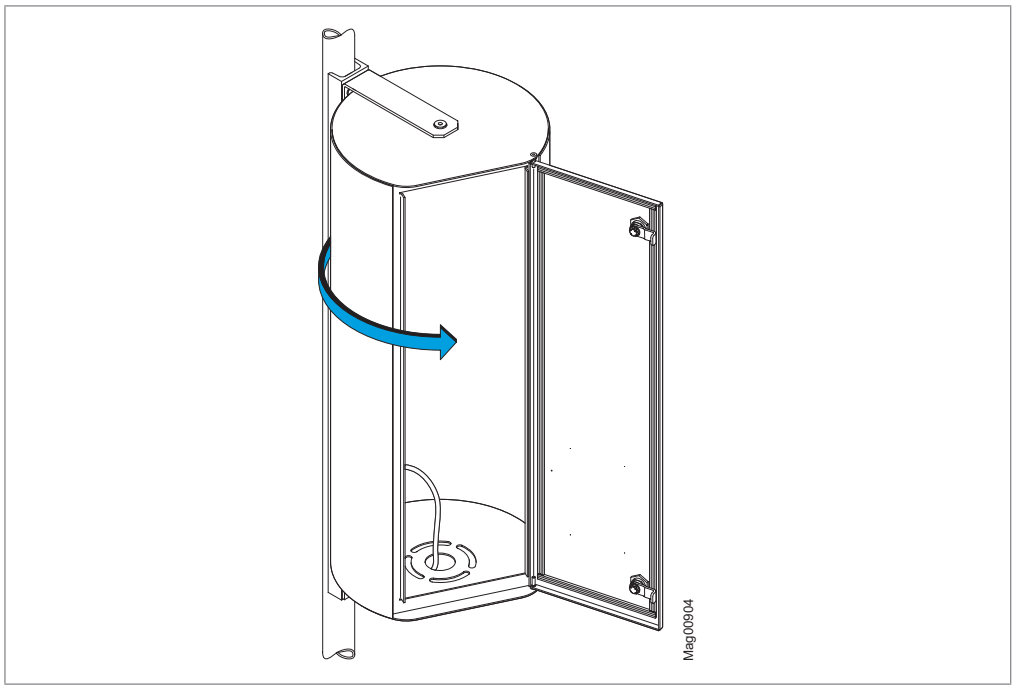

Fig. 57: Aligning the mounting pillar

6. Fix the mounting pillar to the lower holder.

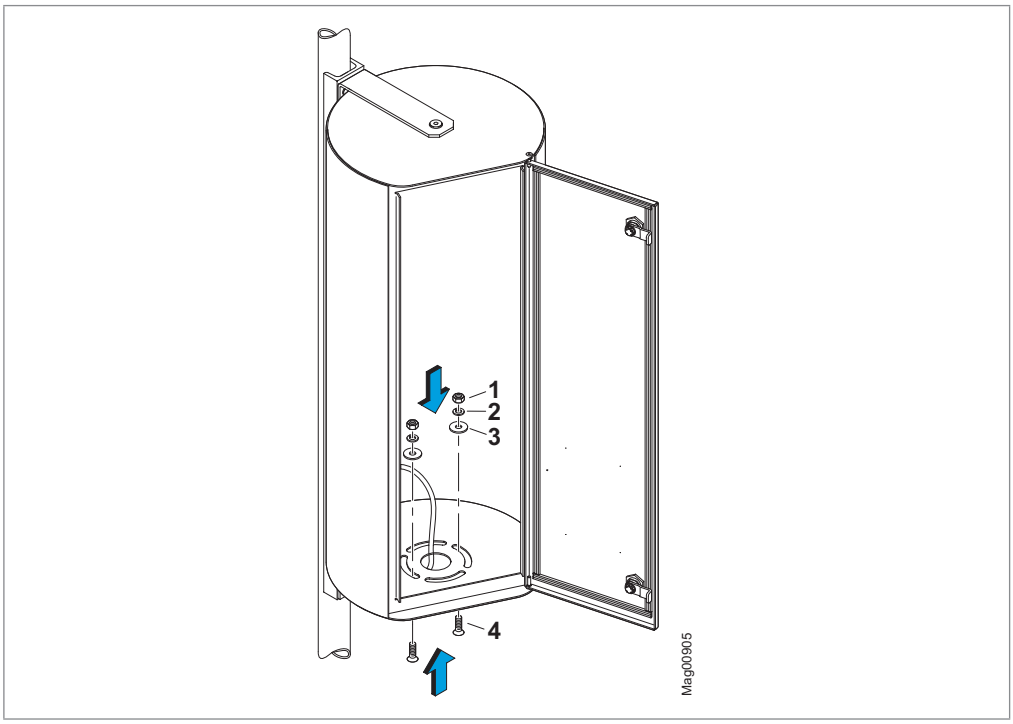

Fig. 58: Fixing the mounting pillar

1 Nut M8
2 Spring washer A8
3 Washer D8.4
4 Screw M8 x 25

7. Tighten the screw and nut on the upper attachment angle.

9 Electrical connection

9.1 Safety during electrical connection

Qualification of personnel

› Technician

› Qualified electrician

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

⚠ 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 perform any work on the electrical system.

› Before commencing any work, switch off power supply and secure against restarting. Test for absence of voltage.

› Keep live parts free from moisture and dust. 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.

› Install protective devices that are required by national and local regulations, such as e.g. residual current devices. 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 struck the system, touching the components or being in the immediate vicinity of the system poses a danger to life.

- 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.

9.2 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.

9.3 Opening and closing the cover or service door

IMPORTANT!

For safe operation, the support beam, the cover and the service door must be earthed. The service door and the cover are earthed via protective conductors, an earthing point on the cover and an earthing point on the support beam.

9.3.1 Opening and closing the cover

Opening the cover

1. Open the service door with the supplied key.
2. Disconnect the protective earth conductor for the cover at the earthing point of the support beam.

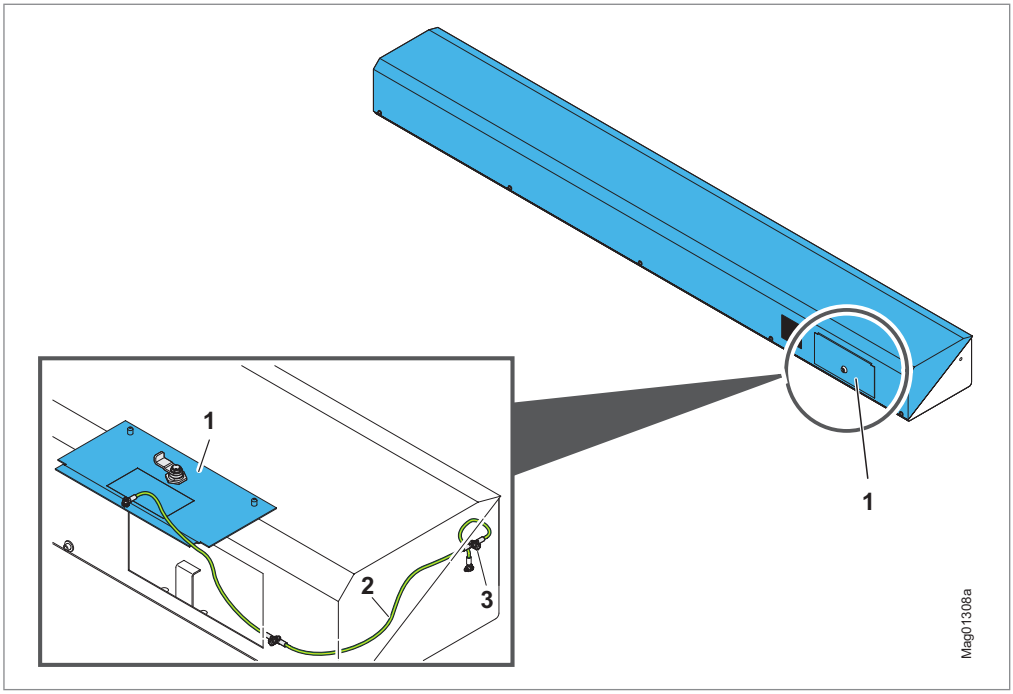

Fig. 59: Loosen earthing cover

1 Service door
2 Protective earth conductor for cover, earthed via earthing point support beam
3 Support beam earthing point

3. Close the service door.

4. Loosen the screw of the cover.
5. Pull the cover to the front and remove it.

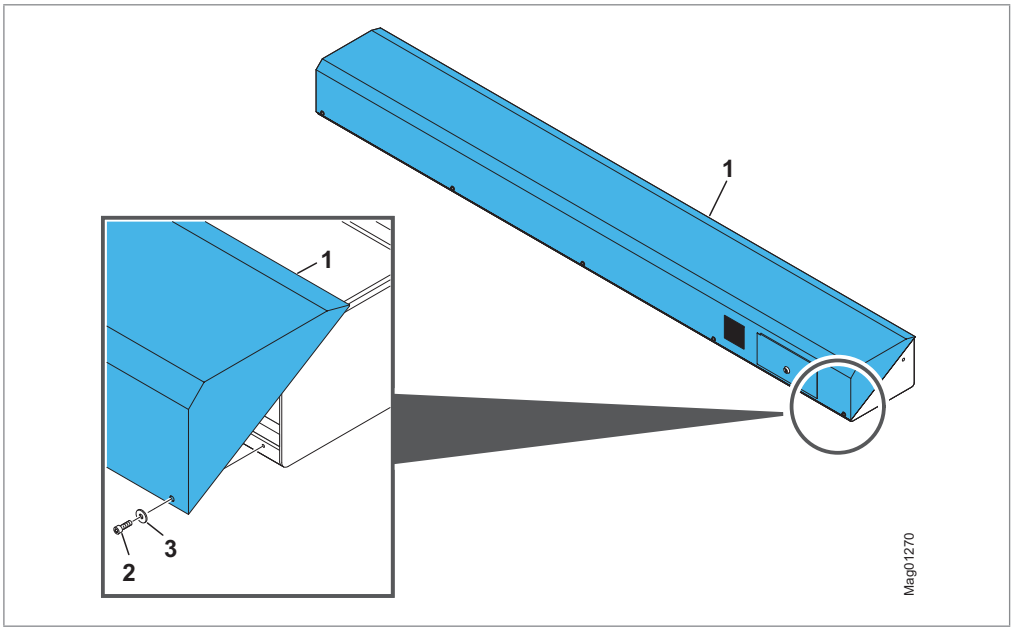

Fig. 60: Opening the cover

1 Cover
2 Screw
3 Washer

6. Loosen the screw of the cover.
7. Pull the cover to the front and remove it.

Closing the cover

1. Open the service door with the supplied key.

⚠ DANGER

Danger to life if the protective earth conductor for the cover is not connected!

2. Connect the protective earth conductor for the cover at the earthing point of the support beam.
3. Close the service door.
4. Put the cover onto the support beam from the front.
5. Secure the cover with the screws.

9.3.2 Opening and closing the service door

Opening the service door

1. Open the service door with the supplied key.

Closing the service door

⚠ DANGER

Danger to life if the protective earth conductor for the service door is not connected!

1. Ensure that the protective earth conductor for the service door is located on the service door and connected to the cover.
2. Close the service door.

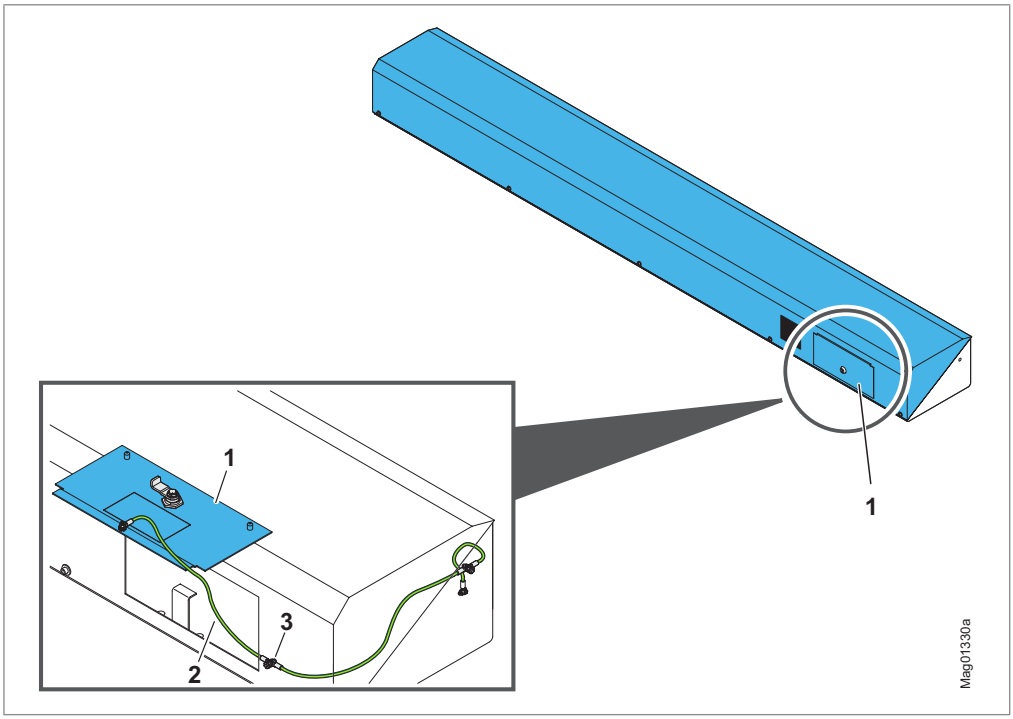

Fig. 61: Open service door, service door earthing

1 Service door
2 Protective earth conductor for service door, earthed via earthing point cover
3 Cover earthing point

9.4 Connecting the mains cable

⚠ DANGER

Danger to life due to electric shock!

If the mains cable is not connected to the terminal clamps correctly, loosens from the connection clamps and touches the housing or cover, there is a direct danger to life from electric shock.

- Only qualified electricians may perform any work on the electrical system.
- Connect mains cable according to the following description.
- Install electrical protective devices. ↗ Page 87, chapter 9.2.

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.

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

   ⚠ DANGER
   Danger to life, electrical voltage!

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

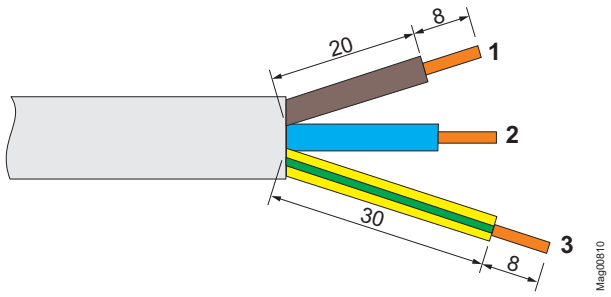

Fig. 62: Stripping (dimensions in mm)

1 Phase
2 Zero conductor
3 Protective earth conductor

3. Connect the mains cable to the terminals X1: L / N / PE in the support beam as shown in the following figures. ↗ Separate electrical circuit diagram.
   - Place mains cable properly in the support beam. Observe that the line does not get into any moving parts and is not crushed by the cover.
   - Secure the mains cable via the tension relief.

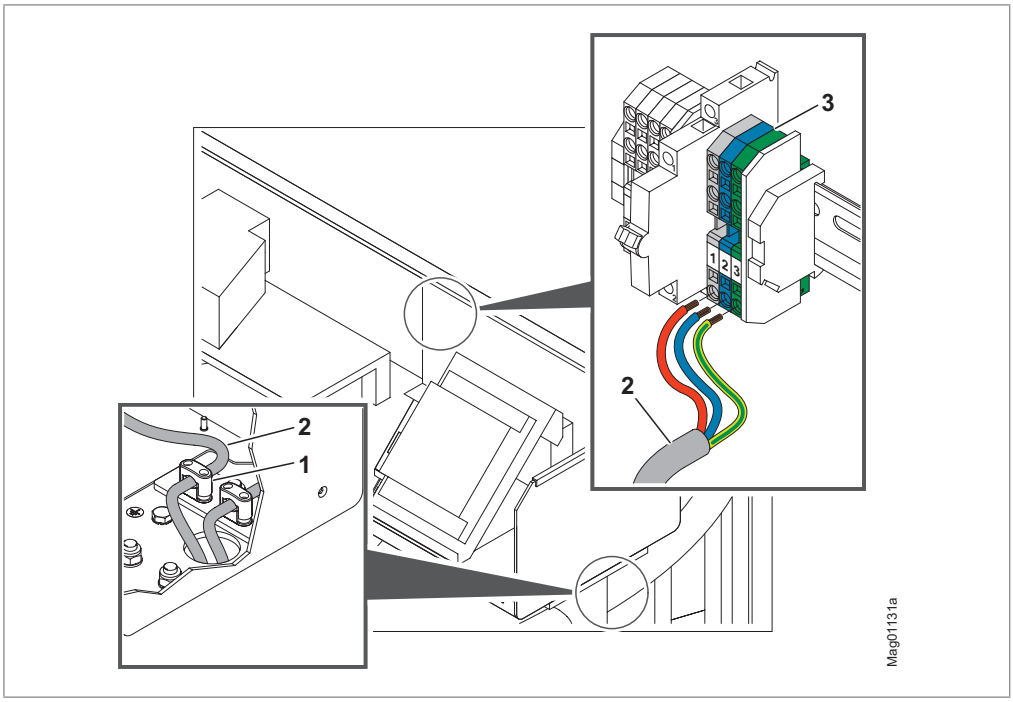

Fig. 63: Connecting the mains cable

1 Tension relief
2 Mains cable
3 Terminals mains cable X1

9.5 Connecting customer control lines

IMPORTANT!

For connecting the control lines provided by the customer, see separate document "Description of MGC control unit (Doc.ID: 58170027)".

9.6 Connecting emergency opening contacts

↗ Separate wiring diagram and document "Description control unit MGC (Doc.ID: 58170027)".

Connect fire brigade switches, emergency opening contacts, etc. to the "Emergency open" input. This input has the highest priority. The input function "Emergency open" is superordinate to all other input functions. As long as +24 V DC are present at this input, the pedestrian gate is in operation.

9.7 Installing and connecting customer access-control devices

⚠ DANGER

Danger to life due to electric shock!

Improper installation of the mounting pillar may cause electric shock and therefore potentially fatal injury.

- Only qualified electricians may perform any work on the electrical system.
- Connect the mains cable correctly to the terminals. Ensure that the mains cable cannot come free of the connection terminals and touch the housing or the door.
- When using voltages above 25 V AC or 60 V DC, earth the housing or connection plate.
- Use a voltage of no more than 25 V AC or 60 V DC on the operating front.

Mounting

You may mount the access-control devices in the following positions, for example:

- Optional mounting pillar: ↗ Page 78, chapter 8.
- Mounting bracket on the cage half:
  Optionally you may order the attachment set AMWMPT for the mounting brackets by Magnetic.

Electrical connection

The access-control devices are connected to the control unit MGC.

↗ Separate electrical circuit diagram.

9.8 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 emergency signal transmitter correctly connected?
- Are the customer's signal transmitters and receivers correctly connected?
- Are all screws tightened?
- Is the support beam earthed?
- Is the protective ground for the cover connected?
- Is the protective ground for the service door connected?
- Is the cover mounted correctly?
- Is the service door closed?

10 Commissioning

10.1 Safety during commissioning

Qualification of personnel

› Technician

› Qualified electrician

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

10.2 Putting the pedestrian gate into operation

Perform the following tests for each passage during commissioning:

› Home position of the centre pillar

› Function of the centre pillar in both directions

› Function of the centre pillar in case of power failure

› Function of the centre pillar in an emergency situation

› Function of the bicycle door

› Function of the optional displays for passage clear and passage locked

› Function of the customer-side access-control devices

10.3 Switching the pedestrian gate on and off

NOTICE

Restarting quickly!

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

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

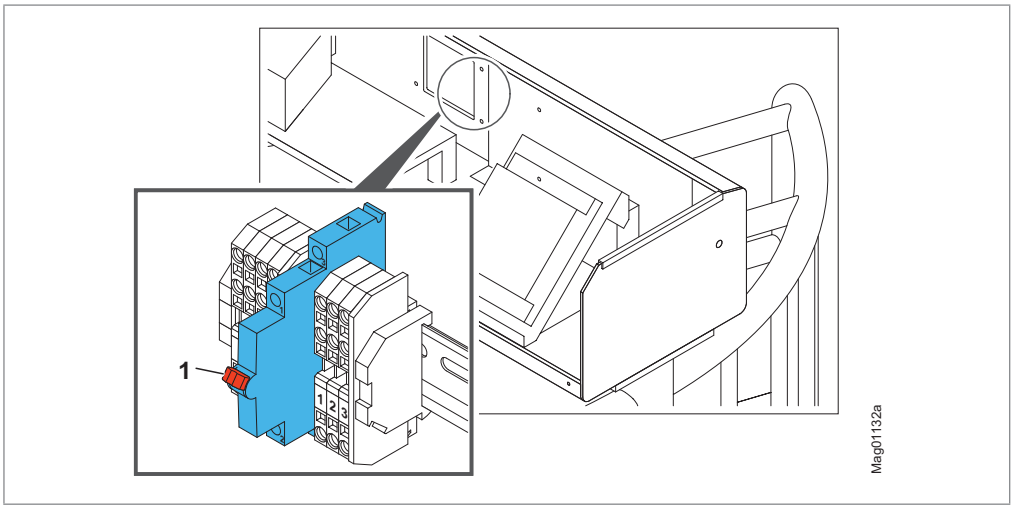

Fig. 64: Switching the pedestrian gate on and off
1 2-pin switch-off

1. Open the service door for the support beam. ↗ Page 90, chapter 9.3.2.
2. Switch the pedestrian gate on or off using the 2-pin switch-off.
3. Close the service door.

10.4 Parameterising the pedestrian gate

IMPORTANT!

For parameterisation see separate document "Description of MGC control unit (Doc.ID: 58170027)".

11 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 (Doc.ID: 58170027)".

12 Log book

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

The log book "full height turnstile with bicycle access MPB-311 (Doc.ID: 58370038)" is included in the scope of delivery.

13 Cleaning and maintenance

13.1 Safety during cleaning and maintenance

Qualification of personnel

Cleaning

› Operator

Cleaning and maintenance

› Technician

› Qualified electrician

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

13.2 Cleaning the pedestrian gate

The cleaning interval essentially depends on the environmental conditions and the climate.

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.

13.2.1 Cleaning the pedestrian gate from the outside

Clean the pedestrian gate at regular intervals.

› Remove soiling appropriately.

› Never use wet cloth.

› For powder-coated components: Clean or pre-clean regularly with a damp cloth and then dry off carefully.

› For stainless steel components: Clean or pre-clean regularly with a damp cloth and then dry off carefully. Clean with stainless steel detergent if required. We recommend the stainless steel polish from 3M. Apply a thin and even layer of stainless steel detergent and rub it dry by using a clean and dry disposable cloth.

› For galvanised components: Wash off surfaces using water and a soft cloth. Remove stubborn marks as soon as possible using a standard commercial detergent for zinc (e.g. ROTOL New Formula A2).

13.2.2 Cleaning the support beam from the inside

NOTICE	
	**Improper cleaning!** Cleaning with a vapour or pressure-jet cleaner will damage or destroy electrical components and cables. › Never clean the support beam with vapour or pressure-jet cleaners.

1. Disconnect the pedestrian gate from the power supply. Ensure absence of voltage. Secure against reactivation.
   ⚠ DANGER
   Danger to life, electrical voltage!
2. Open cover. ↗ Page 88, chapter 9.3.1.
3. Use a vacuum cleaner to clean dust from the inside of the support beam.
4. Close cover.

13.3 Maintenance schedule

The maintenance plan lists all work required to ensure safe, optimum and trouble-free operation of the pedestrian gate.

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 the pedestrian gate for damage from the outside.	Operator
Every 6 months	Check centre pillar, bicycle door, cage half, base with handrail, guide element and upper barrier for damage.	Technician
	Check support beam for damage from inside and outside. If necessary, clean support beam and correct defect in paint work.	Technician
	Check the floor bearing for the centre pillar for ease of movement. Adjust play if necessary.	Technician
	Check the floor bearing for the bicycle door for ease of movement. Adjust play if necessary.	Technician
	Check the screw connection of the flange connection of the centre pillar.	Technician
	Check the screw connection of the flange connection of the bicycle door	Technician
	Check the function of the locking mechanism for the centre pillar.	Technician
	Check the input function "emergency open".	Technician
	Check the function of the external residual current device.	Qualified electrician
Every 12 months-	Check electrical lines for damage.	Qualified electrician
	Check all electrical connections for tightness.	Qualified electrician
	Check the earthing of the support beam, cover and service door for damage and tightness. ↗ Page 16, chapter 2.9.	Qualified electrician
	Check signs and labels for completeness and legibility.	Technician
	Perform work as per the supplied log book.	Technician
	Check the attachment screws of the pedestrian gate.	Technician
According to the operator	Check emergency function.	Operator

Table 9: Maintenance schedule

14 Corrective action

IMPORTANT!

In case of a fault, please contact Magnetic Customer Support.

15 Spare parts and repair

15.1 Spare parts

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 on the back of these operating instructions.

Spare part lists can be obtained on request.

15.2 Changing and adjusting proximity sensors

↗ Separate electrical circuit diagram.

The pedestrian passage is equipped with two inductive proximity sensors. These proximity sensors are used to detect the end position of the centre pillar.

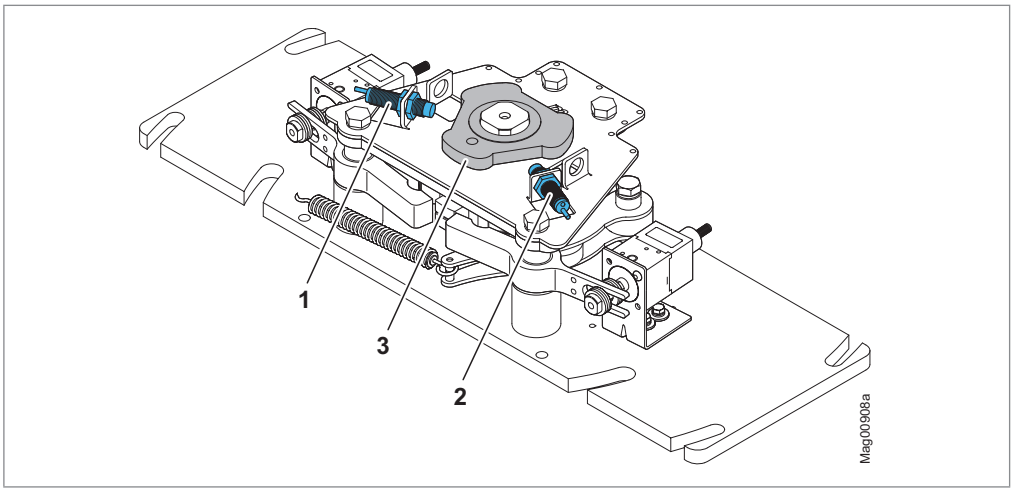

Fig. 65: Proximity sensors for detecting the end position of the centre pillar

1 Proximity sensor -B1, normally closed (NC)

2 Proximity sensor -B2, normally open

3 Switching cam of the cam plate, countersink marks the home position

The designation of the proximity sensors corresponds to the designation in the electrical circuit diagram. The proximity sensors are marked with the appropriate symbol for normally closed or normally open contact.

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

   ⚠ DANGER
   Danger to life, electrical voltage!

2. Loosen the connection line of the proximity sensor at the terminals.
3. Dismount the proximity sensor. Loosen the nut for this purpose.
4. Mount new proximity sensor. Make sure that the distance to the cam is between 0.5 and 2.0 mm.
5. Attach the proximity sensor. Tighten the nut.
6. Connect the connection line of the proximity sensor at the terminals.
7. Switch on power supply.
8. Check if the end position is recognised. If the end position is not detected, check the distance to the switching cams.

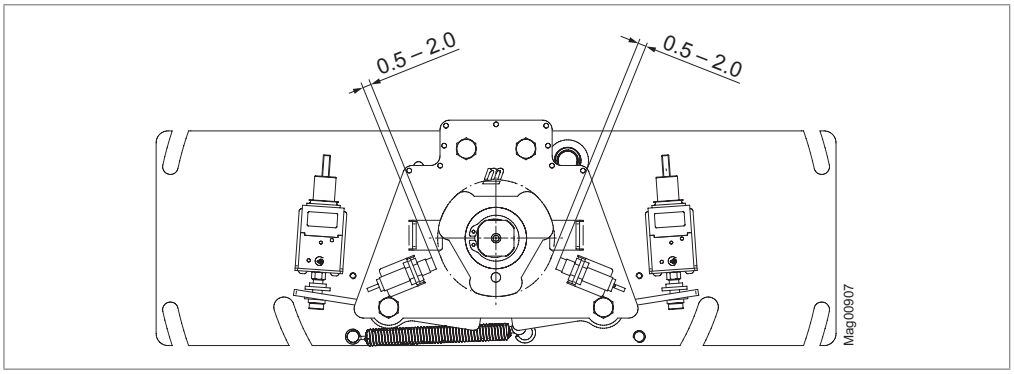

Fig. 66: Distance proximity sensor - switching cam

16 Conversion

16.1 Safety during conversion

Qualification of personnel

Cleaning and maintenance

› Technician

› Qualified electrician

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

16.2 Converting the locking unit

By default, the locking unit is delivered with the configuration "rotating freely when de-energised".

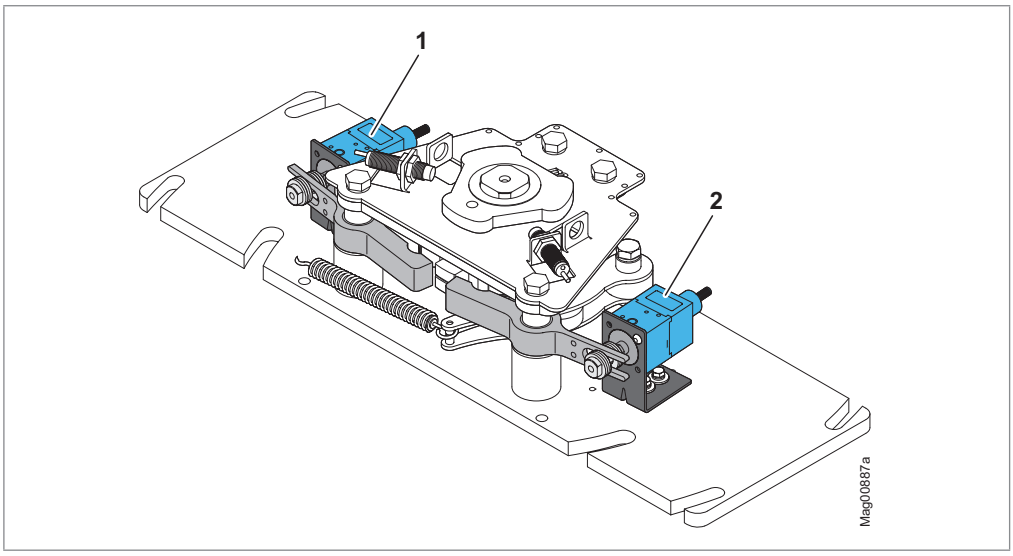

Fig. 67: Locking unit configuration "rotating freely when de-energised"

1 Magnet RL1

2 Magnet RL2

IMPORTANT!

You can modify the locking unit into the "Locked when de-energised" configuration. You must then parameterise the turnstile for the "Locked when de-energised" configuration in the "Gate HW" menu. For parameterisation see separate document "Description of MGC control unit (Doc.ID: 58170027)".

Characteristic	Rotating freely when de-energised	Locked when de-energised
Function	The centre pillar can be rotated in the event of a power failure. The passage is free for both directions.	In the event of a power failure, the passage is blocked for both directions. The centre pillar is locked.
Required washers	6 washers: 3 inner, 3 outer	5 washers: 3 inner, 2 outer

Table 10: Features "rotating freely when de-energised and "locked when de-energised"

Convert locking unit for configuration "Locked when de-energised"

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

   ⚠ DANGER
   Danger to life, electrical voltage!

2. Open cover. ↗ Page 88, chapter 9.3.1.

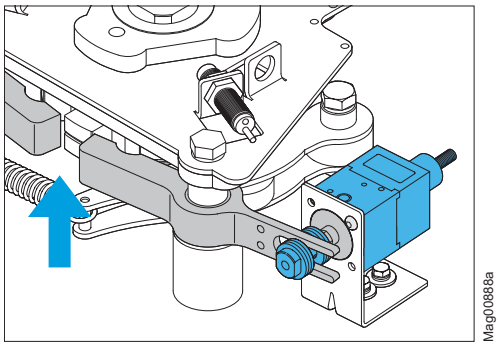

Fig. 68: Locking unit configuration "rotating freely when de-energised"

3. Remove magnet, e.g. magnet RL2. To do this, loosen both screws on the holder.
4. Loosen and remove the union nut.
5. Remove the 6 washers.

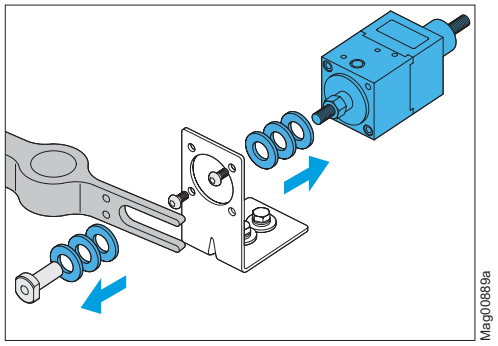

Fig. 69: Remove magnet, washers and union nut

6. Turn magnet 180°.
7. Remove one washer. The sixth washer is not required for the "Locked when de-energised" configuration.

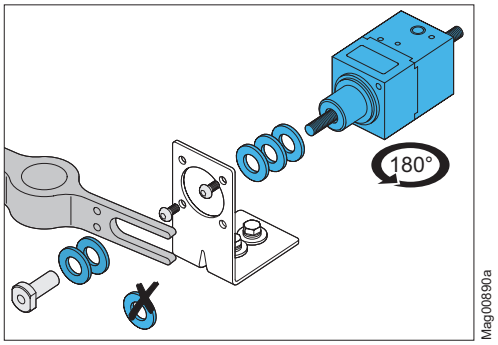

Fig. 70: Turn magnet, remove washer

8. Place the washers on the threaded rod of the magnet as shown in the figure. Place 3 washers between magnet and holder. Place 2 washers between notch lever and union nut.
9. Screw the union nut onto the threaded rod.
10. Mount the magnet on the holder.
11. Tighten the union nut and secure with threadlocker such as Loctite 241.

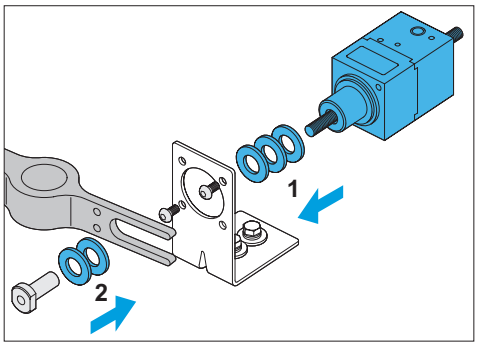

Fig. 71: Mount magnet, washers and union nut (locked when de-energised.)

1 3 washers between magnet and holder

2 2 washers between notch lever and union nut

12. Convert magnets on the other side, e.g. magnet RL1.

√ The locking unit has been modified for the "Locked when de-energised" configuration.

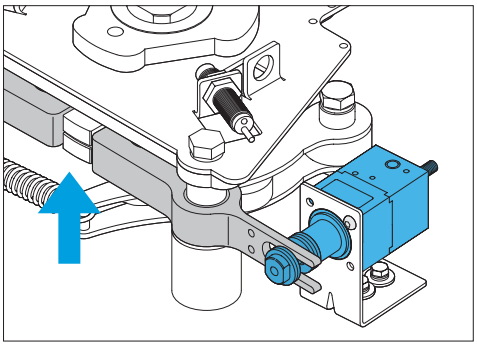

Fig. 72: Locking unit configuration "locked when de-energised"

13. Parameterise the turnstile for the "locked when de-energised" configuration in the "Gate HW" menu on the MGC control unit.

17 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.

18 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 96, chapter 10.3.

18.1 Safety during decommissioning

Qualification of personnel

› Technician

› Qualified electrician

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

18.2 Taking the pedestrian gate out of service

1. Switch off the pedestrian gate. ↗ Page 96, chapter 10.3.
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 30, chapter 5.4.

19 Dismounting and disposal

19.1 Safety during dismounting and disposal

Qualification of personnel

› Technician

› Qualified electrician

↗ Page 12, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

19.2 Dismounting and disposal of the system

Requirements

› The pedestrian gate is out of order. ↗ Page 110, chapter 18.2.

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

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

Designation	**Full height turnstile with bicycle access**
Type	MPB*
From serial number	12363889

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 13849-1:2013
Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design

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
Grienmatt 20-28
79650 Schopfheim

Documentation Engineer
Mr. Stefan Wellinger

Schopfheim, 01/03/2023
Place and date

Signature

Index

MAGNETIC AUTOCONTROL GMBH
Grienmatt 20
D-79650 Schopfheim
Germany

Phone +49 7622 695 5
Fax +49 7622 695 802
info@magnetic-germany.com
www.magnetic-access.com

Sales partner

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