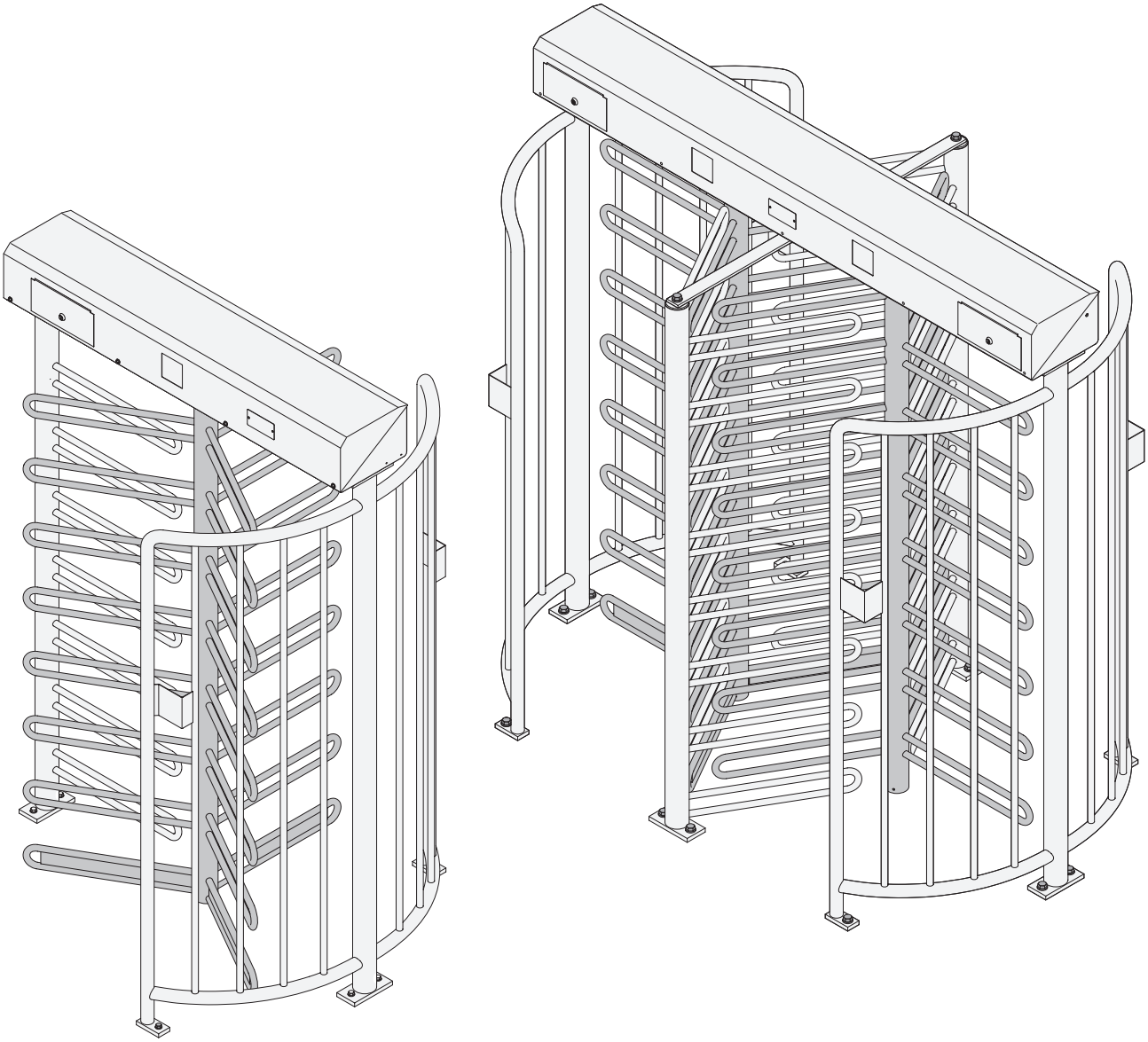
Operating Instructions

Full Height Turnstile

MPT-333 and MPT-353



Doc. ID: 5817,0028EN
Version 01

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Contents

1 Notes 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.

These operating instructions contains the following information: Assembly and function, transport and storage, unpacking and delivery, installation and assembly, electrical connection, commissioning, operation, cleaning and maintenance, decommissioning, dismantling and disposal.

IMPORTANT!

For the parameterisation of the MGC control unit see separate document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

1.2 Read and store the operating instructions

Pre-requisite for safe working is the observance of all specified safety notes, warning notes and instructions. In addition, the local accident prevention regulations, general safety regulations and local environmental regulations applicable to the area of application of the product must be observed.

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

If the product is passed on to third parties, please also provide these operating instructions.

1.3 Non-compliance with the operating instructions

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

This applies in particular to damage caused by:

- Non-intended use
- Use of non-qualified personnel
- Use of non-approved components
- Unauthorised modifications
- Inappropriate assembly and installation
- Improper operation
- Defective or unperformed maintenance and repairs
- Use of non-approved spare parts
- Operation of a faulty product

1.4 Symbols and illustrations used in these operating instructions

1.4.1 Warning notes and notes

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

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

Warning Notes

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

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

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

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

Notes and recommendations

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

2 Safety

2.1 Intended use

The MPT-333 Magnetic Turnstile and MPT-353 Magnetic turnstile are intended only for access-control of persons from a zone not controlled (ZNC) to a zone controlled (ZC).

The turnstile is intended for passage of persons who can pass the turnstile safely, speedily and without any help. Separate access options are provided for persons who cannot pass the turnstile safely or without any help, e.g. small children, the elderly or persons with impairments. Children under 14 years of age may only pass through the turnstile under the supervision of an adult.

The turnstile may only be mounted on non-flammable floors.

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

Misapplications

Any other or further use is considered improper use. Magnetic is not liable for any resulting personal injury or damage to property.

For example, the following applications are considered to be contrary to regulations:

- Unaccompanied use of the turnstile by children under 14 years of age.
- Use of the turnstile by persons who cannot pass the turnstile safely, quickly or without assistance.
- Use of the turnstile without cleared passage. This means that the centre pillar is forced to rotate.
- Mounting the turnstile on a flammable floor.

2.2 Changes and modifications

Changes or modifications to the product, attachments or components may result in unforeseen hazards. Before making any technical changes or modifications to the product of any of the components, written permission must be obtained from Magnetic.

2.3 Target groups

2.3.1 Operator and his responsibilities

The operator must comply with the statutory obligations regarding work safety. In addition to the safety instructions and warning notes in these 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 work 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 installation, commissioning, operation, cleaning, maintenance, etc.
- that the 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 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 understand the operating instructions and the required operating instructions.

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 assess the work assigned to her/him, recognises possible dangers and take suitable safety measures.
Technician	› Has completed training as a plant mechanic, plant fitter, assembly mechanic, assembly fitter or has a comparable technical education. › Has completed training as an electrical safety expert. › Has additional knowledge and experience. › Knows the associated technical terms and regulations. › Can assess the work assigned to her/him, recognises possible dangers and take suitable safety measures.
Electrical specialist	› Has technical training which entitles him to carry out and monitor electrical work for commercial purposes. › Has additional knowledge and experience. › Knows the associated technical terms and regulations. › Can assess the work assigned to her/him, recognises possible dangers and take suitable safety measures.
Operator	› Trained by the operator.

Table 1: Qualifications of personnel

Action	Transport equipment operator	Technician	Electrical specialist	Operator
Transporting	X	X	–	–
Unpacking	X	X	X	–
Laying the foundation	–	X	–	–
Assembly	–	X	X	–
Electrically connect	–	X	X	–
Parameterise	–	X	X	–
Commissioning	–	X	X	–
Operating	–	X	X	X
Cleaning	–	X	X	X
Waiting	–	X	X	–
Rectify faults	–	X	X	–
Repairing	–	X	X	–
Decommissioning	–	X	X	–
Disassemble	–	X	X	–
Dispose	–	X	X	–

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 and safety shoes and wear during work.

2.5 Symbols on the device

Warning of dangerous electrical voltage!

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

› If the insulation or any parts are damaged, switch off the power supply at once and initiate repair.

› Only qualified electricians or electrical safety experts may work on the electrical system.

› Switch off power supply and secure against re-activation before performing any work. Test for absence of voltage.

› Perform electrical installation in accordance with the applicable regulations.

› Install protective devices that are prescribed by national regulations, such as e.g. residual current circuit breakers. These protective devices must be provided by the customer.

› Observe the information on the type plate.

› Close all covers after work has been carried out.

› Keep moisture and dust away from live parts. Penetrating moisture and dust can lead to a short circuit.

› If the electrical connection is made during precipitation, e.g. rain or snow, prevent the penetration of moisture by means of suitable protective covers.

› During or after a lightning strike into the system, there is danger to life if the components are touched or during a stay in the immediate vicinity of the system. When installing outdoors, do not install and mount the pedestrian gate during thunderstorms.

2.7 To protect the environment

Improper disposal!

Improper disposal can lead to damage to the environment.

› Dispose of product in accordance with local and national laws and regulations.

› Sort resources and supply them to recycling.

2.8 Emergency opening of the pedestrian gate

↗ Page 97, Chapter 10.6.

3 Technical data

3.1 Dimensions and design MPT-333

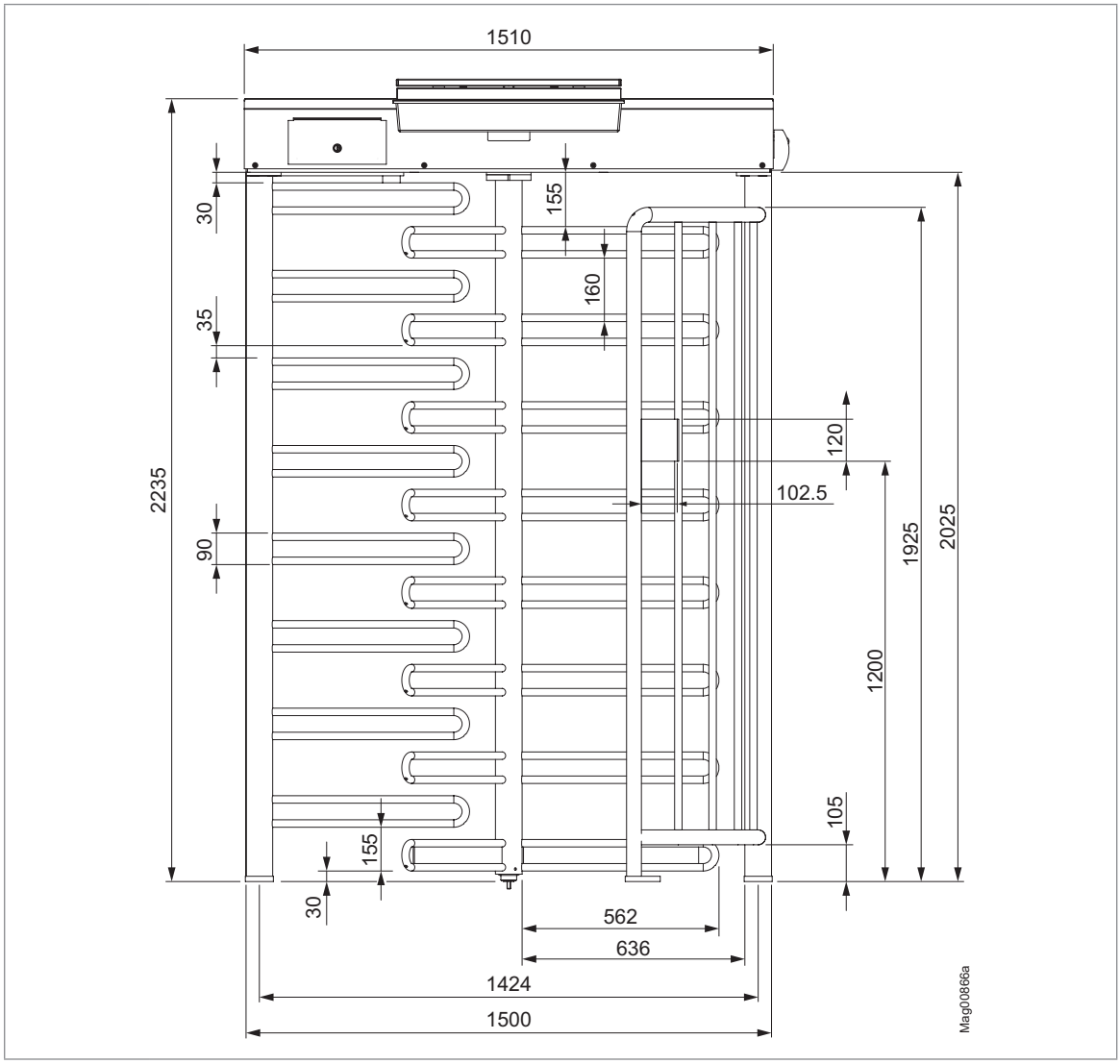

Fig. 1: Dimensions MPT-333 – front view (dimensions in mm), shown here version "entrance side left", illumination optional

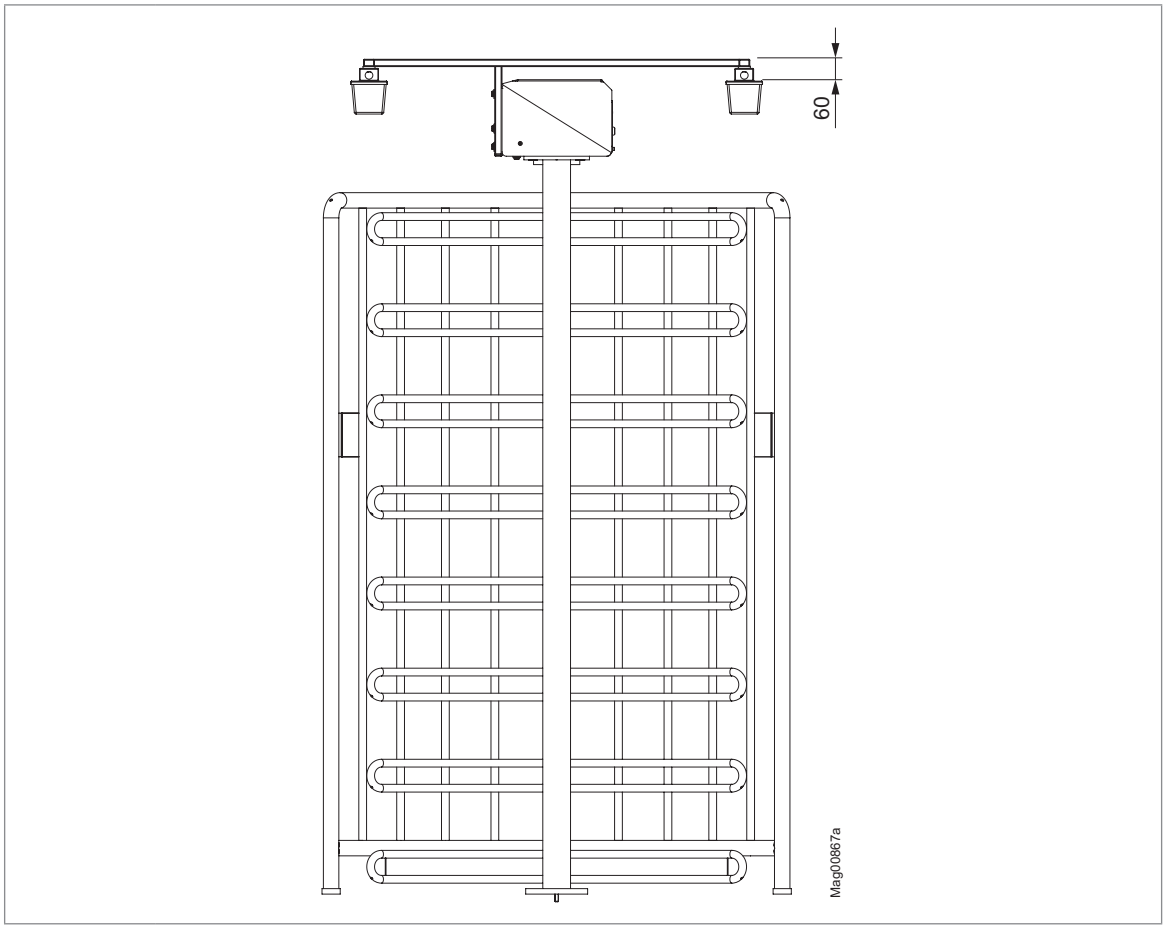

Fig. 2: Dimensions MPT-333 – side view (dimensions in mm), illumination optional

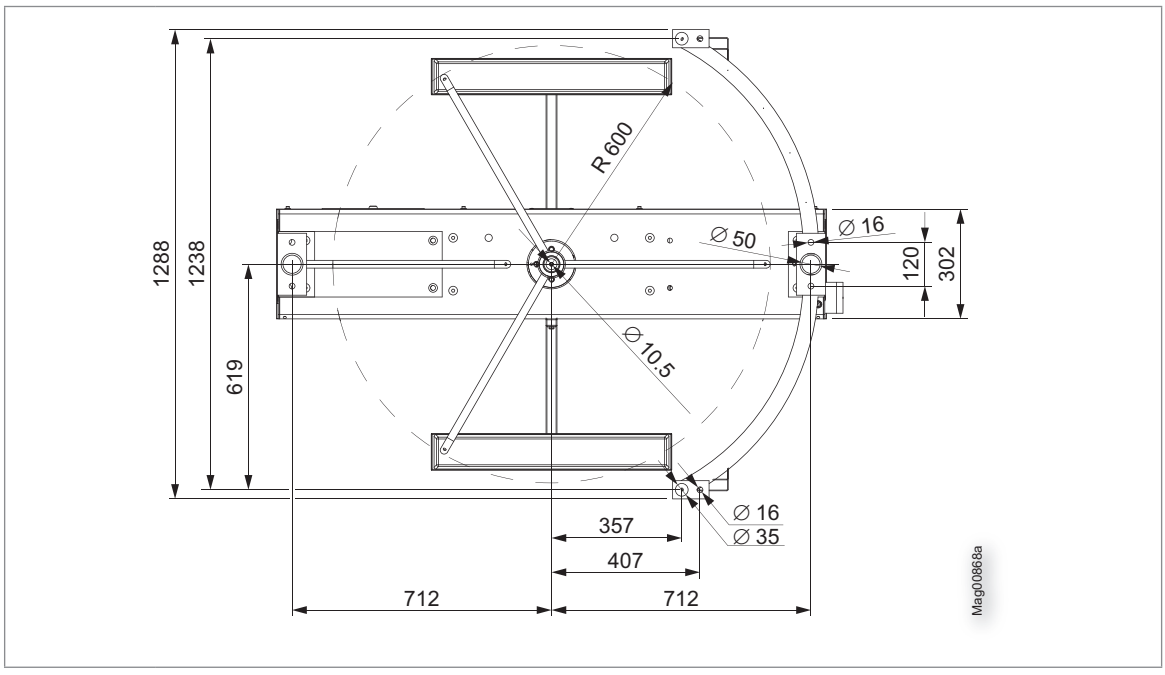

Fig. 3: Dimensions MPT-333 – view from below (dimensions in mm), illumination optional

Designation	Value
Dimensions without attachments (width x depth x height)	1510 mm x 1288 mm x 2235 mm
Weight	› Turnstile without attachments: 325 kg › Base frame: 63 kg
Material	Hot-dip galvanised steel
Colour	› Hot-dip galvanised › Service door: Powder-coated RAL 7042

Table 3: Dimensions and design – MPT-333

3.2 Dimensions and design MPT-353

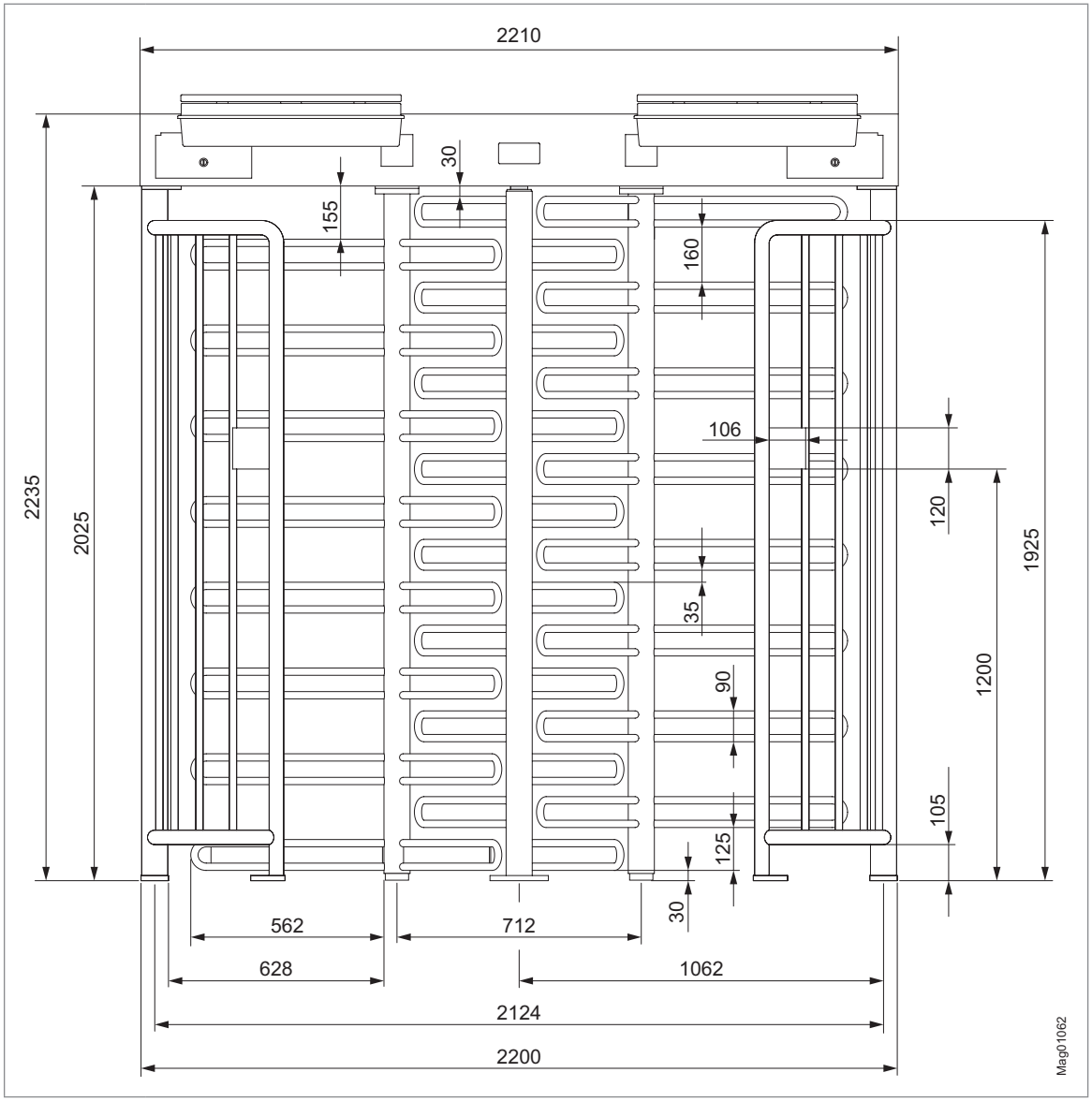

Fig. 4: Dimensions MPT-353 – front view (dimensions in mm), illumination optional

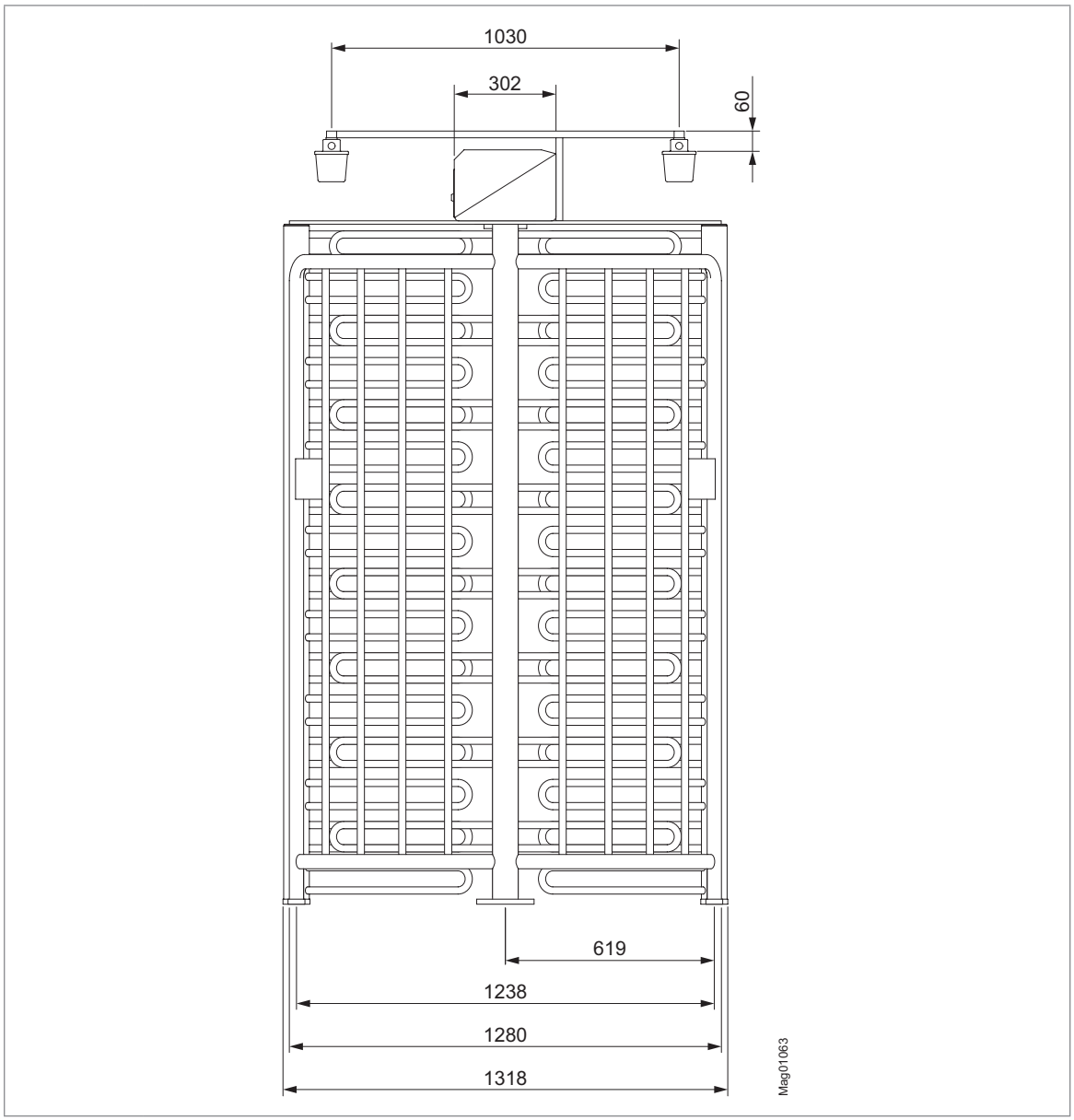

Fig. 5: Dimensions MPT-353 – side view (dimensions in mm), illumination optional

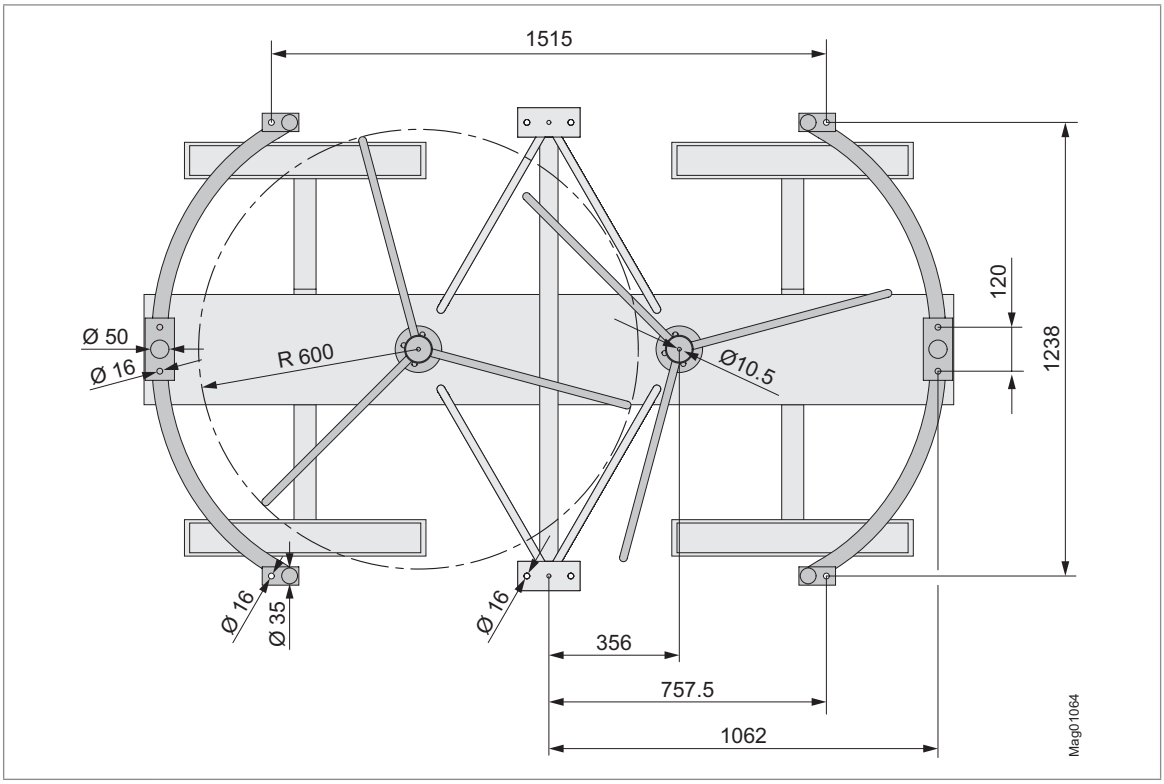

Fig. 6: Dimensions MPT-353 – view from below (dimensions in mm), illumination optional

Designation	Value
Dimensions without attachments (width x depth x height)	2210 mm x 1318 mm x 2235 mm
Weight	› Turnstile without attachments: Approx. 409 kg › Base frame: Approx. 81 kg
Material	Hot-dip galvanised steel
Colour	› Hot-dip galvanised › Service doors: Powder-coated RAL 7042

Table 4: Dimensions and design – MPT-353

3.3 Electrical connection

Designation	Value	
	230 V AC / 50 Hz	**120 V AC / 60 Hz**
Power supply	100 to 240 V AC ± 10 %, 50 to 60 Hz	
Max. current consumption	› In movement: 0.32 A › At home position: 0.22 A	› In movement: 0.4 A › At home position: 0.35 A
Max. power consumption	› In movement: 65 W › At home position: 40 W	› In movement: 45 W › At home position: 40 W
Max. starting current (max. 30 ms)	19 A	7.5 A
Max. power consumption during switch-on	5.5 kW	1.1 kW
Duty cycle	100 %	

Table 5: Electrical connection – MPT-333

Designation	Value	
	230 V AC / 50 Hz	**120 V AC / 60 Hz**
Power supply	100 to 240 V AC ± 10 %, 50 to 60 Hz	
Max. current consumption	› In movement: 0.64 A › At home position: 0.44 A	› In movement: 0.8 A › At home position: 0.7 A
Max. power consumption	› In movement: 130 W › At home position: 80 W	› In movement: 90 W › At home position: 80 W
Max. starting current (max. 30 ms)	38 A	15 A
Max. power consumption during switch-on	11 kW	2.2 kW
Duty cycle	100 %	

Table 6: Electrical connection – MPT-353

3.4 Operating conditions

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

Table 7: Operating conditions – MPT-333 and MPT-353

3.5 Emissions

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

Table 8: Emissions – MPT-333 and MPT-353

3.6 Control unit MGC

The MPT-333 turnstile contains a control unit. The MPT-353 turnstile contains two control units. The specifications are per control unit.

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		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. switching voltage	30 V AC / DC
	Switching current	10 mA to 1 A
	Max. cable length [1)]	30 m
Display		Graphics display, 128 x 65 Pixel
Number of slots for plug-in modules		5

1) Specification without optional overvoltage module. For line lengths exceeding 30 m, overvoltage modules must be installed in front of the terminal clamps.

Table 9: MGC control unit

4 Design and function

4.1 Design MPT-333

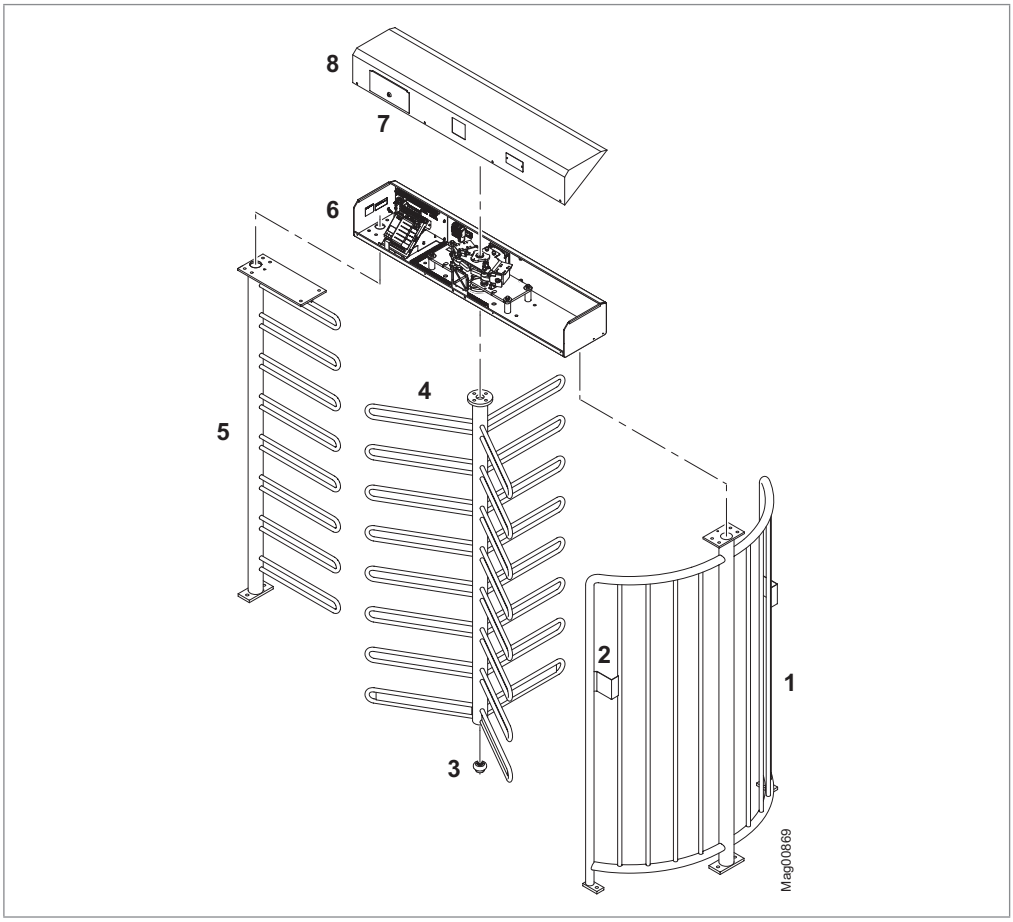

Fig. 7: Design "Full Height Turnstile MPT-333"

1 Cage half
2 Mounting the bracket for optional attachment control devices
3 Floor bearing
4 Centre pillar
5 Locking comb
6 Support beam with drive unit and drive flange
7 Cover
8 Service door

4.2 Design MPT-353

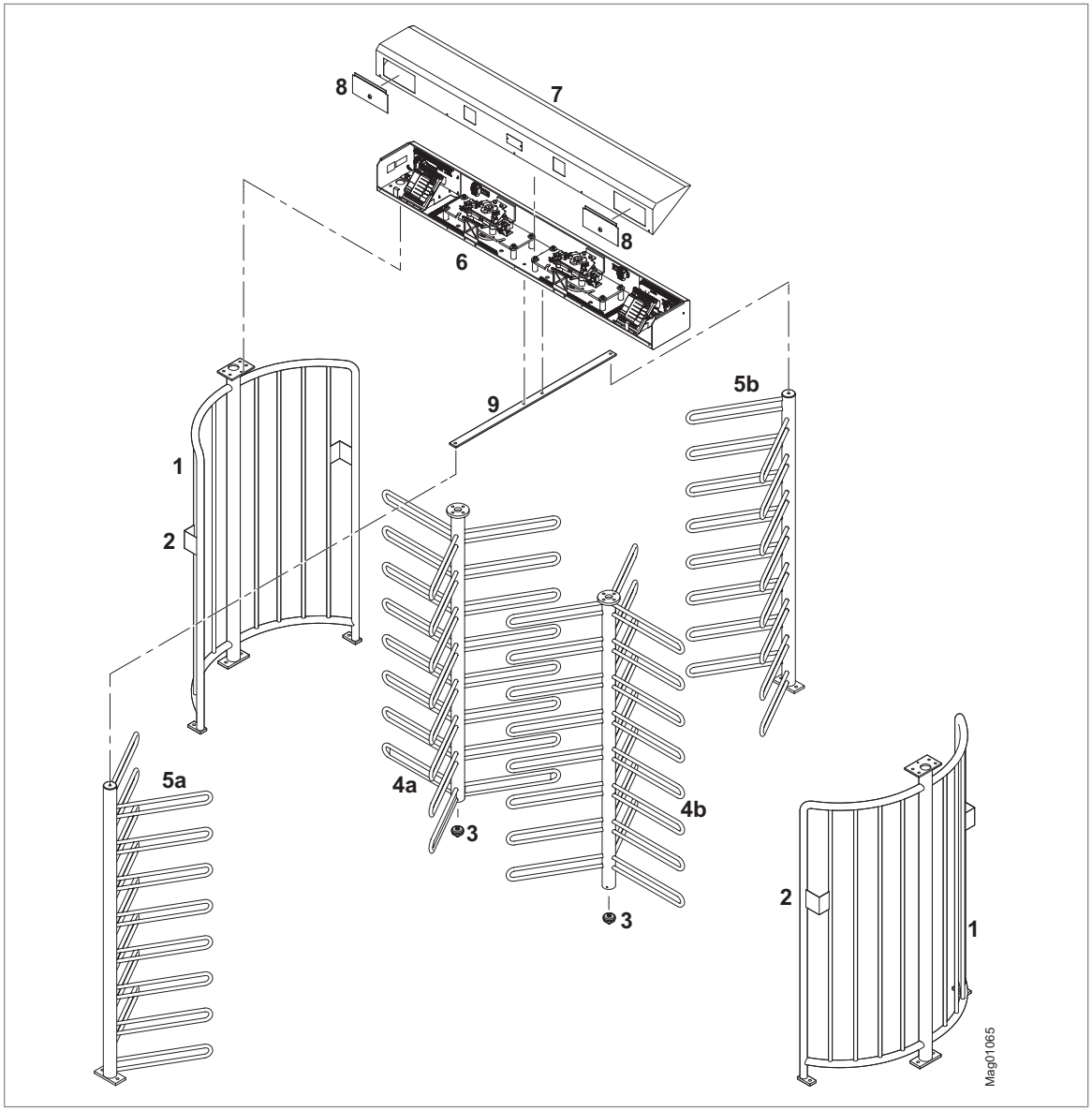

Fig. 8: Design "Full Height Turnstile MPT-353"

1 Cage half (2 pieces)
2 Mounting the bracket for optional attachment control devices
3 Floor bearing (2 pieces)
4 Centre pillar, with different layout of the U-brackets
5 Locking comb, with different layout of the U-brackets
6 Support beam with drive units and drive flanges
7 Cover
8 Service door (2 pieces)
9 Connecting rod

4.3 Function

The MPT turnstile is used to control pedestrians in outdoor areas with relatively high safety requirements. The turnstile can be operated either in one direction or in both directions.

Normally, the turnstile is closed. Only after authorisation by means of an external command unit, such as a card reader, will a passage be possible and the centre pillar can be rotated by 120°. If the centre pillar is not turned completely, a spring moves the centre pillar to the next end position.

Alternatively, the turnstile can be enabled permanently in one direction or in both directions.

As standard, the turnstile is supplied with the "Locking normally open" 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 normally closed", the turnstile is locked in both directions.

A random function is integrated for checking persons or bags. If the random function reaches the random value of passes, the pass is blocked and a signal is given. Only after the operating personnel has actuated an enable signal, the passage is enabled and the person can pass.

4.4 Definitions and versions

4.4.1 Definitions and versions MPT-333

Left and right

› Left: The passage is to the left of the locking comb.

› Right: The passage is to the right of the locking comb.

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)

Version "Entrance side right"

Entry	Exit
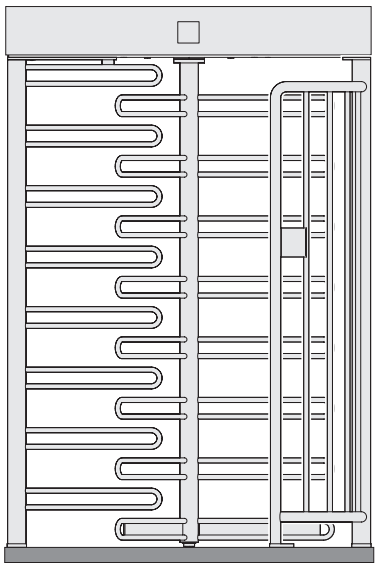	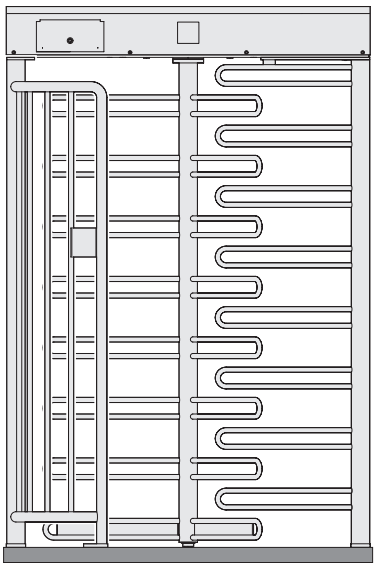
Fig. 9: Version "Entrance side right" – view from the zone not controlled (ZNC), the entrance is to the right of the locking comb	Fig. 10: Version "Entrance side right" – view from the zone controlled (ZC), the exit is to the left of the locking comb

Version "Entrance side left"

Entry	Exit
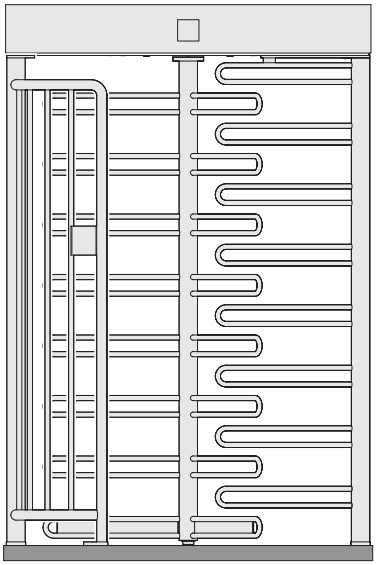	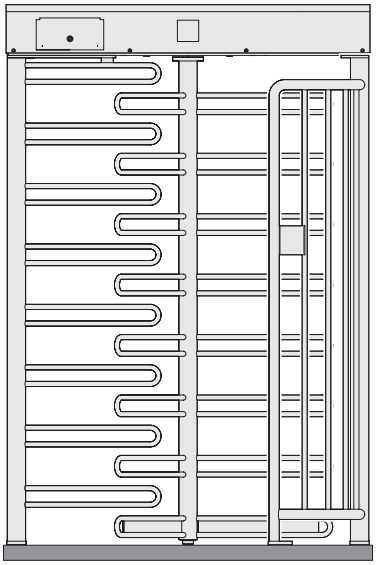
Fig. 11: Version "Entrance side left" – view from the zone not controlled (ZNC), the entrance is to the left of the locking comb	Fig. 12: Version "Entrance side left" – view from the zone controlled (ZC), the exit is to the right of the locking comb

IMPORTANT!

Unless otherwise ordered, the standard version is "Entrance side right".

4.4.2 Defintions and version MPT-353

Left and right

› Left: The passage is to the left of the locking comb.

› Right: The passage is to the right of the locking comb.

Version

IMPORTANT!

Unless otherwise ordered, both passages of the turnstile are delivered with “Entrance side right” version.

The service doors in the support beam should point towards the zone controlled.

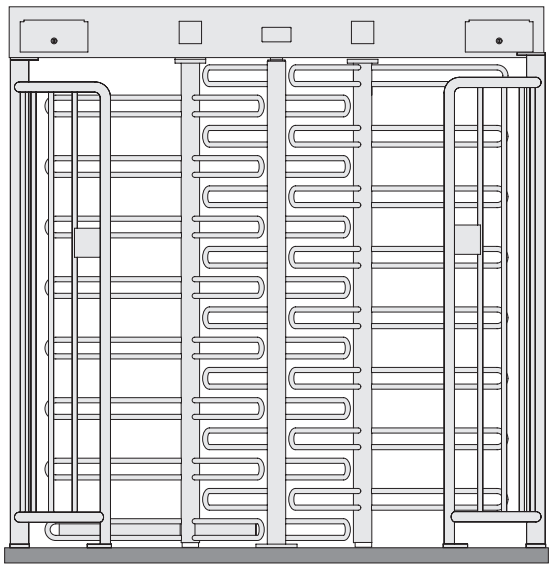

Fig. 13: View from the zone controlled (ZC)

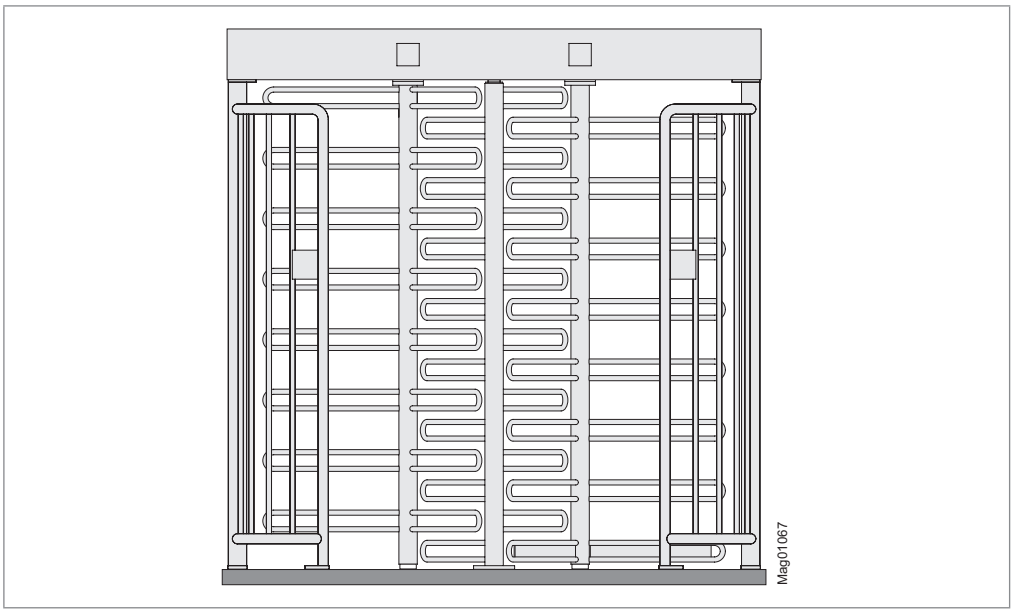

Fig. 14: View from the zone not controlled (ZNC)

5 Receipt of goods, transport and storage

5.1 Goods receiving department

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

In the event 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	
	**Lifting of heavy loads!** The weight of heavy objects can severely injure a person's back or supportive system. › Preferably transport the transported goods with suitable transport aids. › Alternatively, the transported goods can be carried by two persons. › Lift and deposit the transport goods with two persons.

NOTICE	
	**Improper transport!** Improper transport can result in damage to the product. › Observe the symbols on the packaging. › Always load, transport and unload packages carefully. › Observe dimensions. › Do not remove packaging until immediately before assembly and at the final location of the product.

5.3 Transport

The recipient of the product is responsible for internal transport.

› Transport and put down the load with a suitable forklift or lift 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 load with sufficiently sized loops.

5.4 Storage

Store packages or the product under the following conditions:

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

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

6 Unpacking, scope of delivery and identification

6.1 Unpacking

⚠ WARNING	
	**Lifting of heavy loads!** The weight of heavy objects can severely injure a person's back or supportive system. › Preferably transport the transported goods with suitable transport aids. › Alternatively, the transported goods can be carried by two persons. › Lift and deposit the transport goods with two persons.

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

Do not destroy the packaging and remove only directly before assembly. The packaging is designed to protect the individual components from transport damage, corrosion, etc.

1. Unpack product at final location.
2. Report incomplete and 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 national and regional laws and guidelines.

6.2 Scope of delivery

For options and attachments, see your order confirmation.

MPT-333

The following components are supplied as standard for each MPT-333 turnstile:

- 1 centre pillar
- 1 cage half
- 1 locking comb
- 1 support beam with 1 control unit, 1 drive unit and 1 drive flange and 1 mounted hood
- 1 floor bearing for the centre pillar
- 1 attachment set for mounting the turnstile directly on a foundation
- 1 drilling template
- Documentation: Electrical circuit diagram, these operating instructions and description "Control unit MGC"

MPT-353

The following components are supplied as standard for each MPT-353 turnstile:

- 2 centre pillars
- 2 cage halfs
- 2 locking combs
- 1 support beam with 2 control units, 2 drive units and 2 drive flanges and 1 mounted hood
- 2 floor bearings for the centre pillars
- Attachment set for mounting the turnstile directly on a foundation
- Drilling template
- Documentation: Electrical circuit diagram, these operating instructions and description "Control unit MGC".

6.3 Identification

6.3.1 Type plate

The type plate is located under the cover to the right of the drive unit.

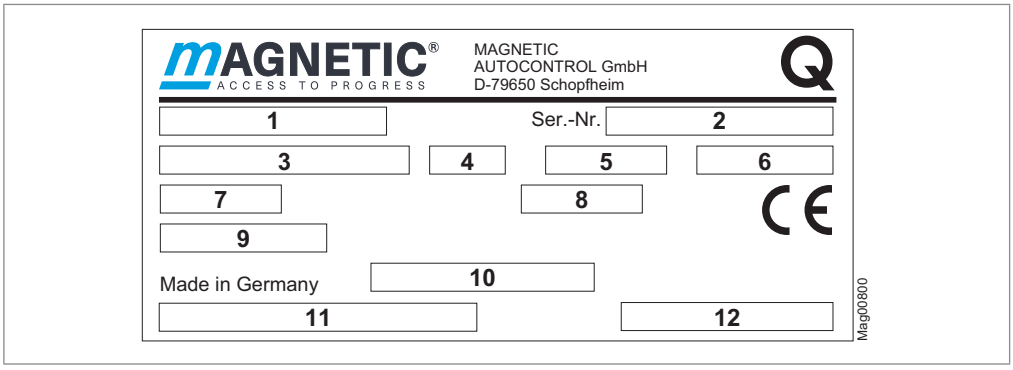

Fig. 15: Type plate MPT-333

1 Product name
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, printing date of the type plate
11 Barcode of the product name
12 Bar code for serial number

7 Mounting the MPT-333

7.1 Safety during mounting

Qualification of personnel

› Technician

› Electrical specialist

↗ 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 attachment can cause the pedestrian gate to tip over, causing bruising and serious injury. › Install the pedestrian gate on the foundation according to the description. › Observe and follow separate notes and instructions provided by the manufacturer of the attachment material. › After assembly, check all bolts and nuts for tightness.

⚠ WARNING	
	**Improper assembly on flammable ground!** Installing 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 install the pedestrian gate on a non-flammable floor.

⚠ WARNING
 **Lifting of heavy loads!** The weight of heavy objects can severely injure a person's back or supportive system! › Preferably transport the transported goods with suitable transport aids. › Alternatively, the transported goods can be carried by two persons. › Lift and deposit the transport goods with two persons.

NOTICE
 **Possible seizure of stainless steel fasteners!** Stainless steel fasteners are susceptible to seizure. › Grease stainless steel screws before use.

7.2 Mounting options

You can mount the turnstile as follows:

› Directly on the foundation:
With this variant, you mount the turnstile on a foundation using foundation anchors. The attachment set and a drilling template are included in the scope of delivery.

› Via the optional Magnetic base frame FURA T3:
In this version, install the base frame on a foundation with foundation anchors. Mount the turnstile on the base frame. 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.
Optionally, you can order an attachment set for mounting the base frame and an attachment set for mounting the turnstile on the base frame from Magnetic.

7.3 Required steps

The following work steps must be carried out before mounting:

› Specify the installation position. ↗ Page 40, Chapter 7.4.

› Set up foundation and placing empty conduits. ↗ Page 40, Chapter 7.5.

The following work steps must be carried out during assembly:

› Unpack the turnstile. ↗ Page 35, Chapter 6.1.

› Mount and mount optional base frame. ↗ Page 47, Chapter 7.6.

› Mount cage half and locking comb. ↗ Page 50, Chapter 7.8.1.

› Mount the support beam. ↗ Page 51, Chapter 7.8.2.

› Mount the centre pillar. ↗ Page 53, Chapter 7.8.3.

› Mount optional mounting pillar for access-control devices. ↗ Page 83, Chapter 9.

› Connect the turnstile electrically. ↗ Page 91, Chapter 10.

› Install and connect access-control devices. ↗ Page 97, Chapter 10.7.

7.4 Specifying the installation position

The turnstile MPT-333 is available in the versions "Entrance side right" and "Entrance side left". ↗ Page 28, Chapter 4.4.1.

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 Setting up foundation and placing empty conduits

7.5.1 Requirements foundation

The foundation must meet the following requirements:

› Have sufficient load-carrying capacity

› Concrete C20/25 or corresponding industrial floor

› Attachment must be able to grip securely

› Foundation cross section according to foundation and empty conduit plan

› Non-slip surface

› Horizontal and level.

Foundation and empty conduit plan for base frame FURA T3:
↗ Page 43, Fig. 16 and ↗ Page 44, Fig. 17.

Foundation and empty conduit plan for direct mounting:
↗ Page 45, Fig. 18 and ↗ Page 46, Fig. 19.

For outdoor assembly, 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 foundation depth to the local conditions.

7.5.2 Requirements empty conduits

Observe the following points for the empty conduits:

› Place empty conduits according to the foundation plan.

› Conduits have to be planned to a sufficient length.

› Plan empty conduits required for access-control devices and other peripheral devices. The cabling for this is the responsibility of the customer.

IMPORTANT!

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

Foundation and empty conduit plan for base frame FURA T3:
↗ Page 43, Fig. 16 and ↗ Page 44, Fig. 17.

Foundation and empty conduit plan for direct mounting:
↗ Page 45, Fig. 18 and ↗ Page 46, Fig. 19.

7.5.3 Setting up foundation and placing 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. Close empty conduit to prevent water from entering.
4. Concrete the foundation.
5. Create smooth coating.
6. Let concrete cure.
7. Apply moisture protection for outdoor installation.

Foundation and empty conduit plan for base frame FURA T3:
↗ Page 43, Fig. 16 and ↗ Page 44, Fig. 17.

Foundation and empty conduit plan for direct mounting:
↗ Page 45, Fig. 18 and ↗ Page 46, Fig. 19.

7.5.4 Foundation and empty conduit plan for base frame FURA T3

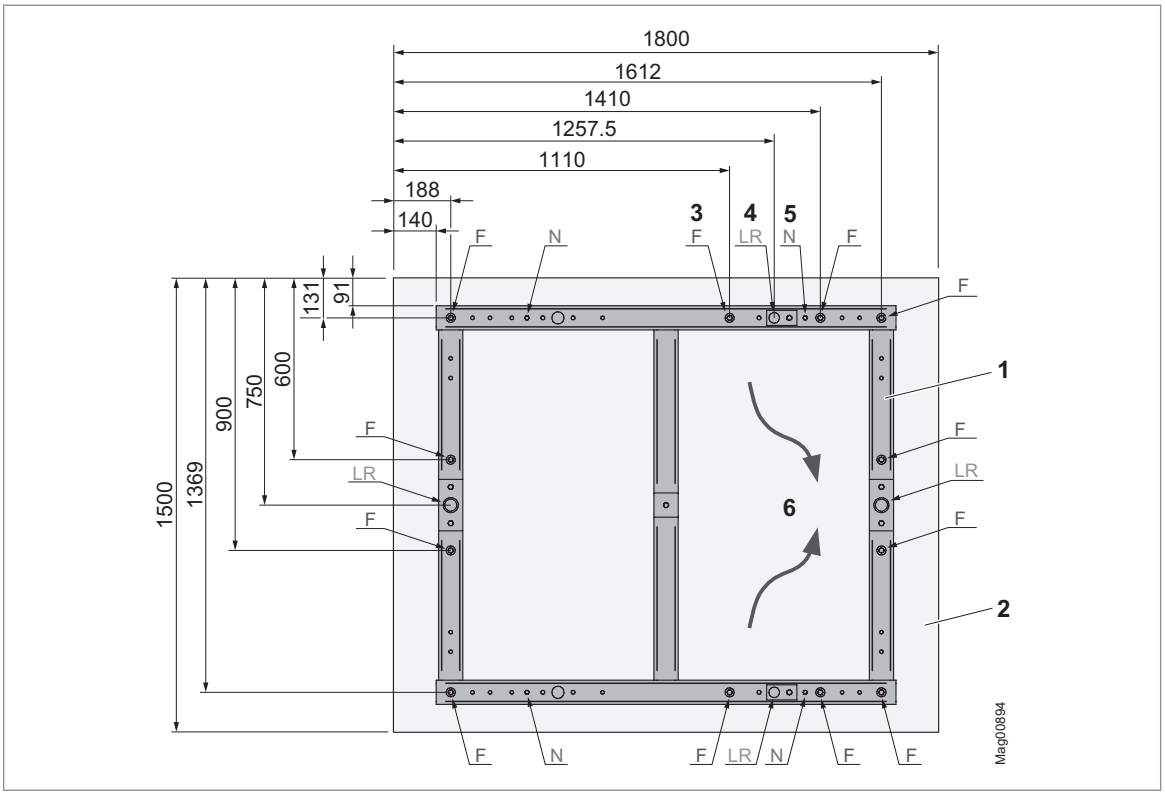

Fig. 16: Foundation and empty conduit plan for base frame FURA T3 – top view (dimensions in mm)

1 Base frame FURA T3

2 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof

3 F: Foundation anchor (12 pieces), holes for anchor rods
Hilti HIT-Z-R M10 x 160 A4: Drilling diameter 12 mm, drilling depth 105 mm

4 F: Foundation anchors (12 pieces), holes for sleeves with inner thread
Hilti HIS-RN M10 x 110 A4: Drilling diameter 18 mm, drilling depth 110 mm

5 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.

6 N: Levelling screws to align the base frame

7 Passage

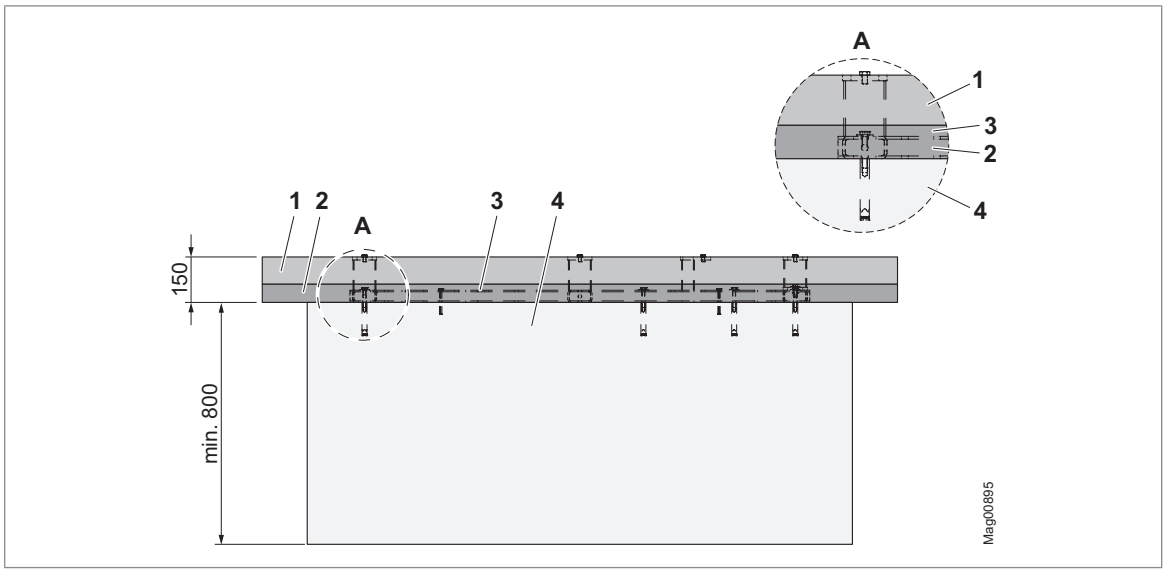

Fig. 17: Foundation and empty conduit plan for base frame FURA T3 – side view (dimensions in mm)

1 Finished paving such as interlocking stones or cobblestones, flush with the attachment plates

2 Gravel and sand layer

3 Base frame level and horizontal, fill any hollows under the base frame

4 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof

7.5.5 Foundation and empty conduit plan for direct mounting

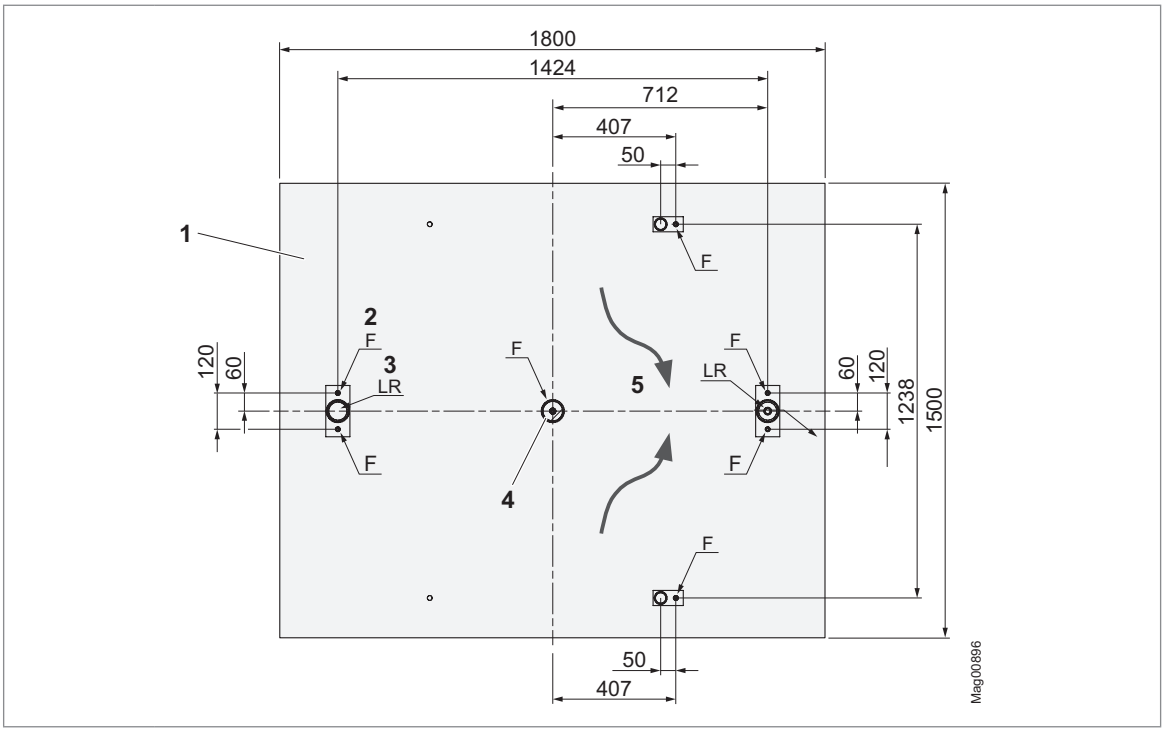

Fig. 18: Foundation and empty conduit plan for direct mounting MPT-333 – top view (dimensions in mm)

1 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof

2 F: Foundation anchors (7 pieces), bores for sleeves with inner thread depending on make: Upat UKA 3 M10: Drilling diameter 16 mm, drilling depth 90 mm;
Fischer RG 16 x 90 M10: Drilling diameter 18 mm, drilling depth 90 mm.

3 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.

4 Floor bearing

5 Passage

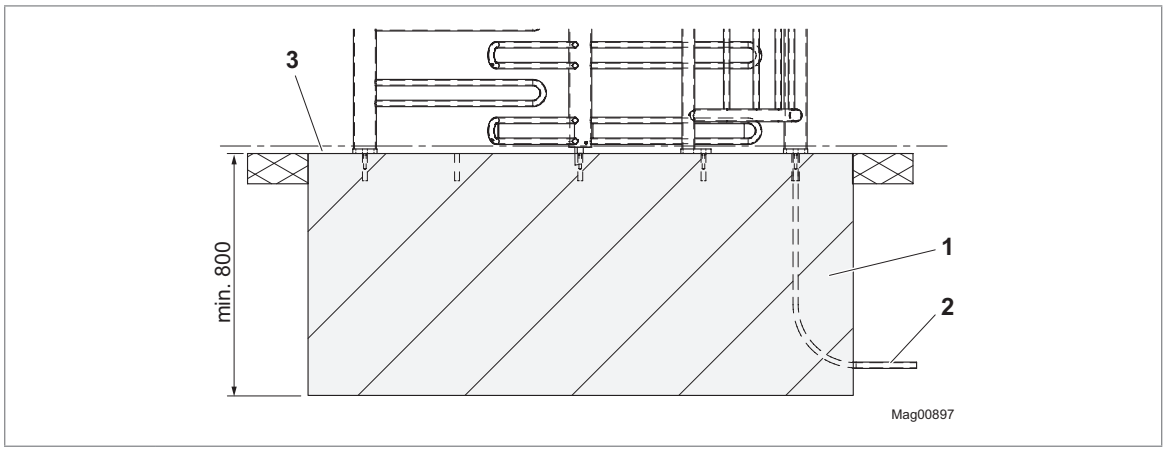

Fig. 19: Foundation and empty conduit plan for direct mounting MPT-333 – side view (dimensions in mm)

1 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof

2 Empty conduit: 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.

3 Foundation, smooth coating, even and horizontal

7.6 Assembling and mounting the base frame

You need to install the pedestrian gate with a base frame on interlocking stone paving.

Dimensions of foundation and base frame, position of foundation anchors, levelling screws and empty conduits: ↗ Page 43, Fig. 16.

7.6.1 Assembling the base frame

1. Mount the FURA KH adapter on the base frame. Tightening torque of screws: 48.8 Nm

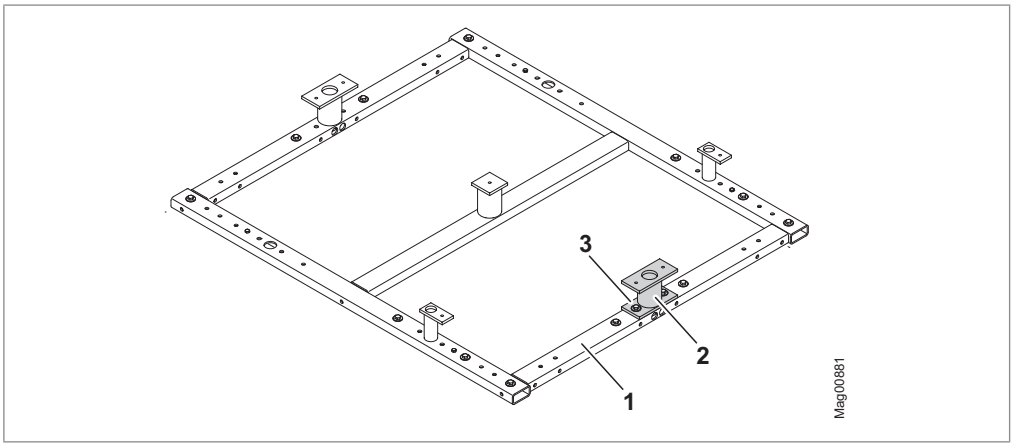

Fig. 20: Assemble base frame FURA T3

1 Base frame FURA T3
2 FURA KH adapter
3 Screw M10 x 16

7.6.2 Assembling the base frame

Prerequisites

› The conduits have been placed.

› The foundation has cured.

› The foundation is precisely 150 mm lower than the finished paving. ↗ Page 44, Fig. 17.

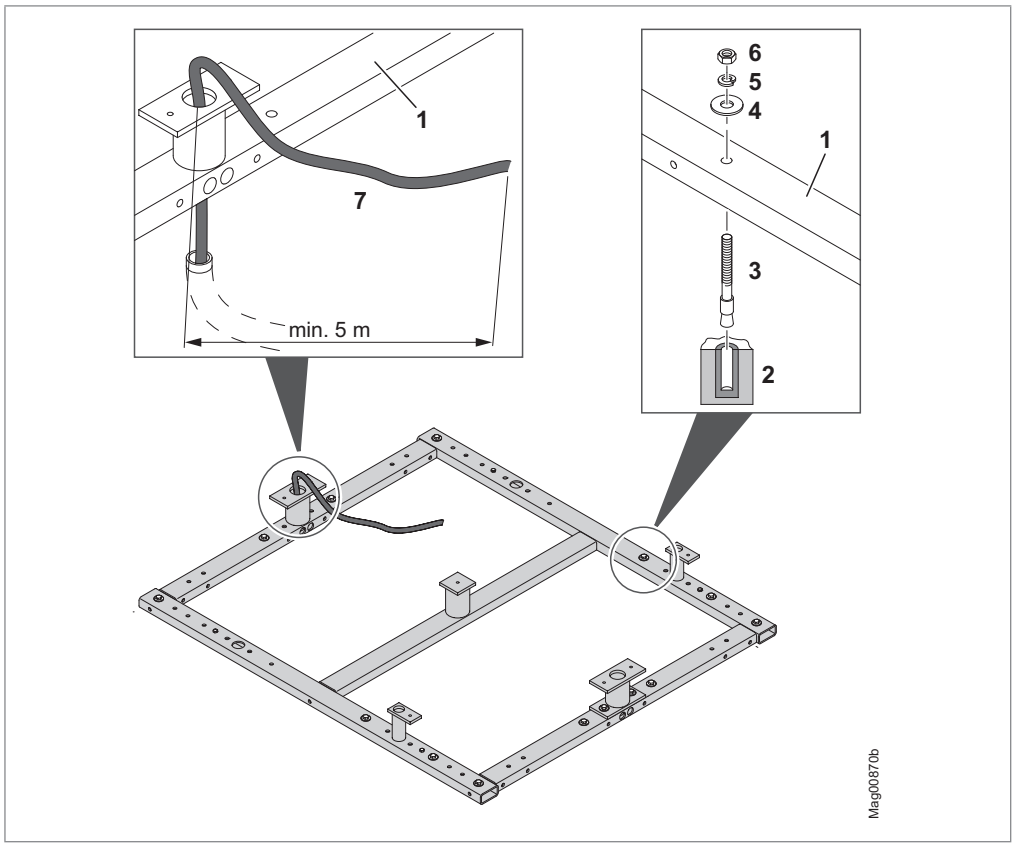

Fig. 21: Assembling the base frame FURA T3

1 Base frame FURA T3
2 Borehole
3 Anchor rod Hilti HIT-Z-R M10 x 160 A4
4 Washer Ø10.5
5 Washer
6 Nut
7 Line e.g. mains cable

Assembling 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 assembled. You can assemble the components of the pedestrian gate. ↗ Page 50, Chapter 7.8.

7.7 Preliminary work for installation directly on the foundation

Prerequisites

› The conduits have been placed.

› The foundation has cured.

IMPORTANT!

Observe the separate instructions as well as the packaging inscriptions for the attachment material.

1. Mark holes for sleeve with inner thread. A drilling template is included in the scope of delivery. ↗ Page 45, Fig. 18.
2. Bore holes for the sleeve with inner thread.
3. Clean the boreholes with compressed air.
4. Inject injection mortar into the boreholes.
5. Screw in sleeve with inner thread by hand to the bottom of the boreholes.
6. Wait for the curing time. Follow separate instructions.

√ The preliminary work has been completed. You can assemble the components of the pedestrian gate. ↗ Page 50, Chapter 7.8.

7.8 Mounting the MPT-333

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

7.8.1 Mounting the locking comb and cage half

1. Pull the mains cable and control lines through the support of the locking comb.
2. Mount the locking comb.

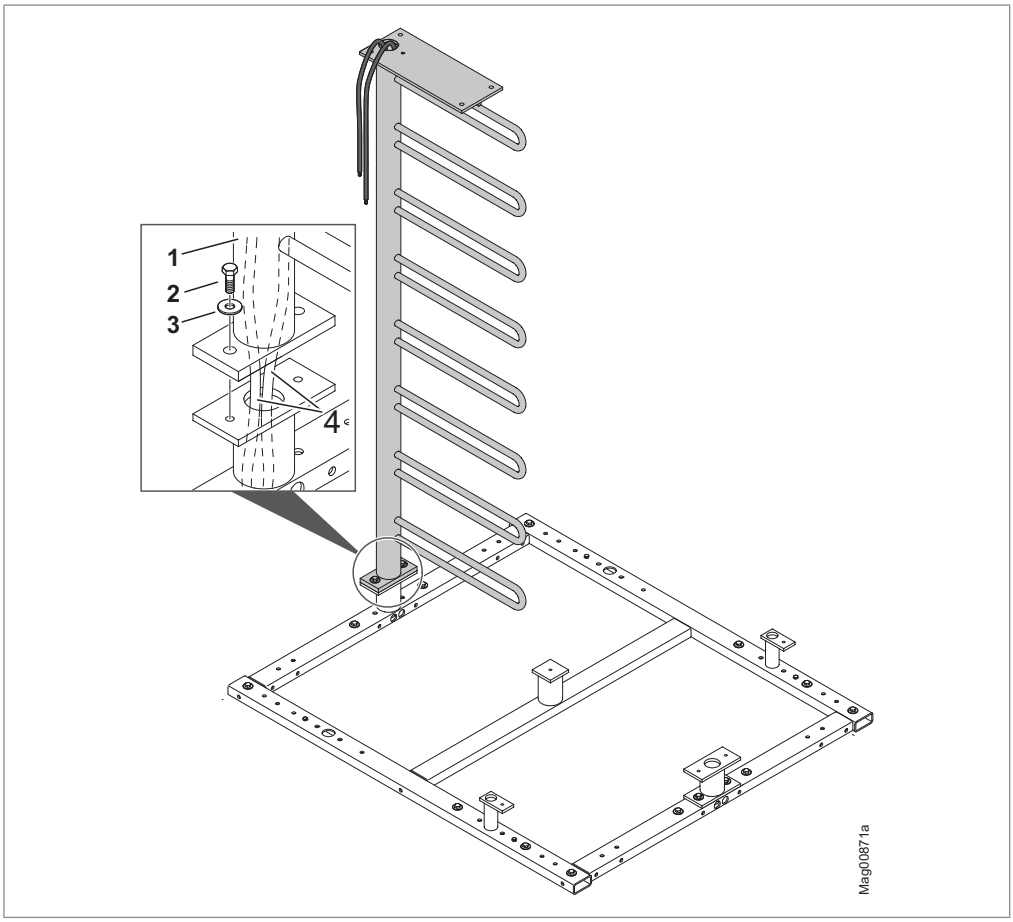

Fig. 22: Mounting the locking comb

1 Locking comb
2 Hexagon head screw M10 x 30
3 Washer Ø10.5
4 Mains cable and control lines

3. Mount the cage half.

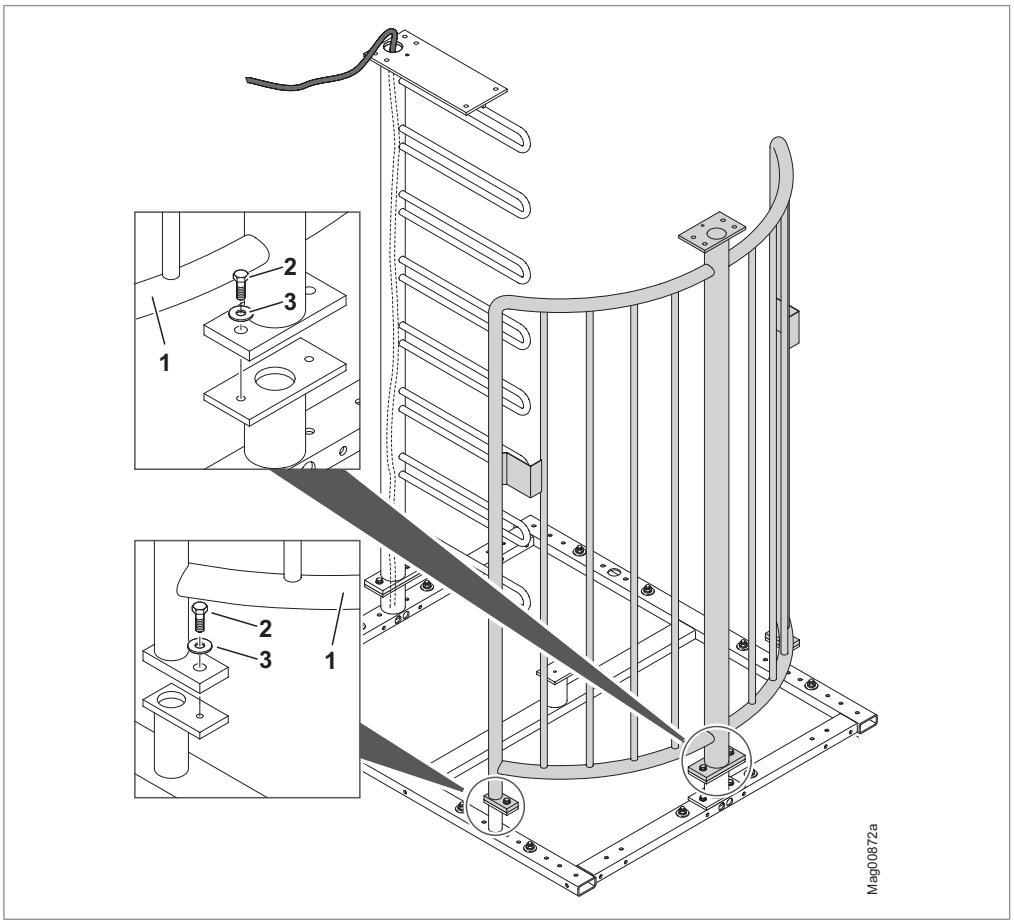

Fig. 23: Mounting the cage half

1 Cage half
2 Hexagon head screw M10 x 30
3 Washer Ø10.5

7.8.2 Mounting the support beam

1. Loosen the screw of the cover.
2. Dismount the protective earth conductor at the cover.
3. Pull off the cover to the front and remove it.
4. Place the support beam on the cage half and the locking comb by means of a lifting device. 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!
5. Immediately secure the support beam using the countersunk screws supplied. Tighten countersunk screws.

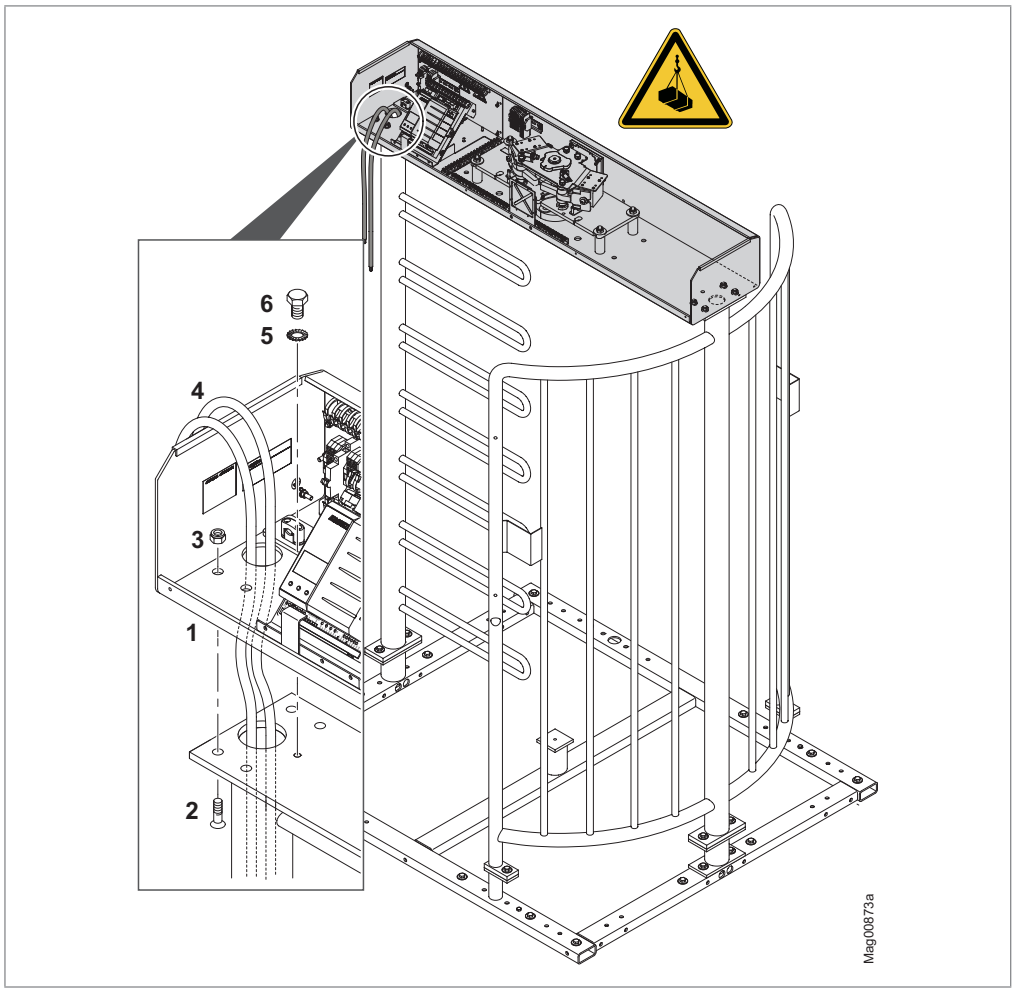

Fig. 24: Putting on the support beam and installing it

1 Support beam
2 Countersunk screw
3 Nut M12
4 Toothed disc 10.5 for grounding the support beam
5 Hexagon head screw M10 x 20 for grounding the support beam
6 Mains cable and control lines

7.8.3 Mounting the centre pillar

1. Attach sleeve and washer with hexagon head screw.
2. Slide the plastic bearing over the sleeve, washer and hexagon head screw.

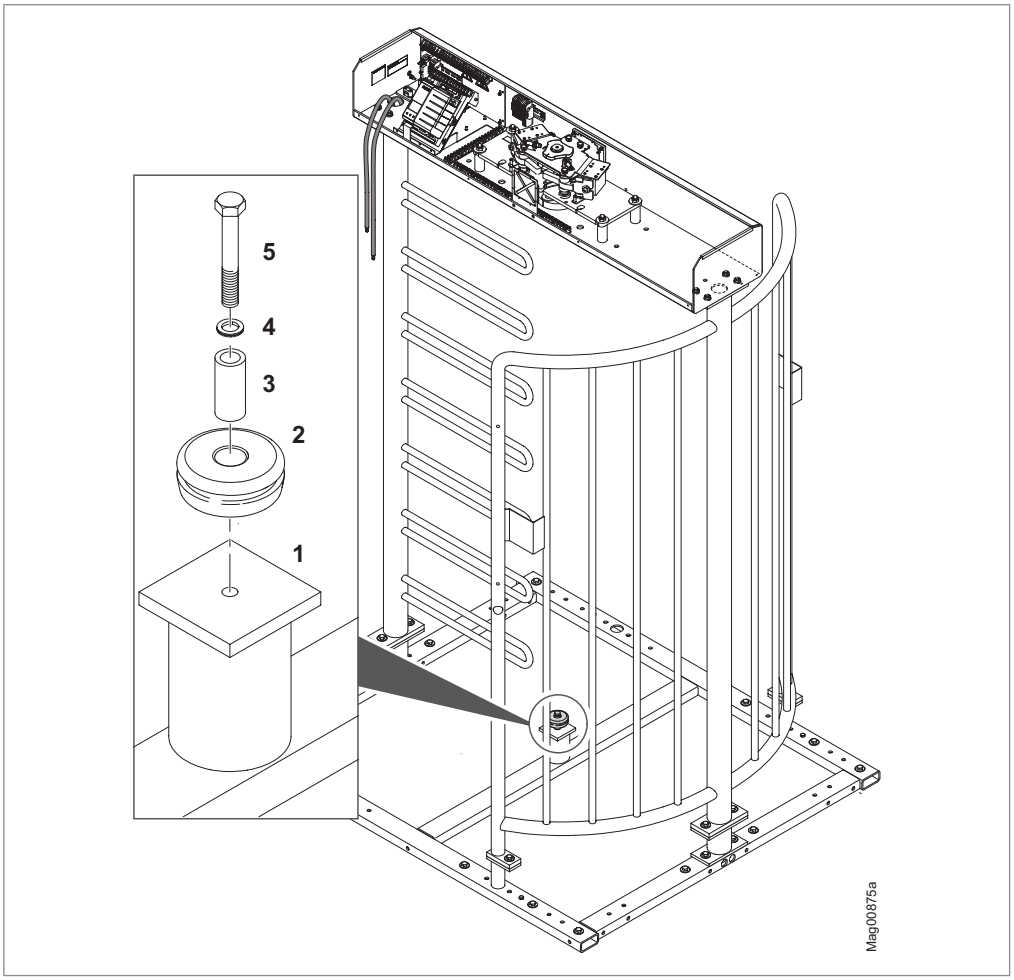

Fig. 25: Mounting the floor bearing (plastic bearing, sleeve, washer and hexagon head screw)

1 Base for base frame
2 Plastic bearing
3 Sleeve
4 Washer
5 Hexagon head screw

3. Place the centre pillar on the floor bearing.

4. Fix the centre pillar to the drive flange from above using the four screws supplied. Make sure that the centre pillar is correctly positioned in relation to the locking unit. ↗ Page 56.
   - › Screw in the first fastening screw with the washer.
   - › Tighten the first fastening screw.
   - › Turn the drive flange, insert the rest of the fastening screws and tighten. You can usually turn the drive flange over the centre pillar. If you cannot turn it, first screw a fastening screw into the drive flange from below.
   - › Secure screws with threadlocker such as Loctite 241.

Fixing the centre pillar to the floor bearing

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

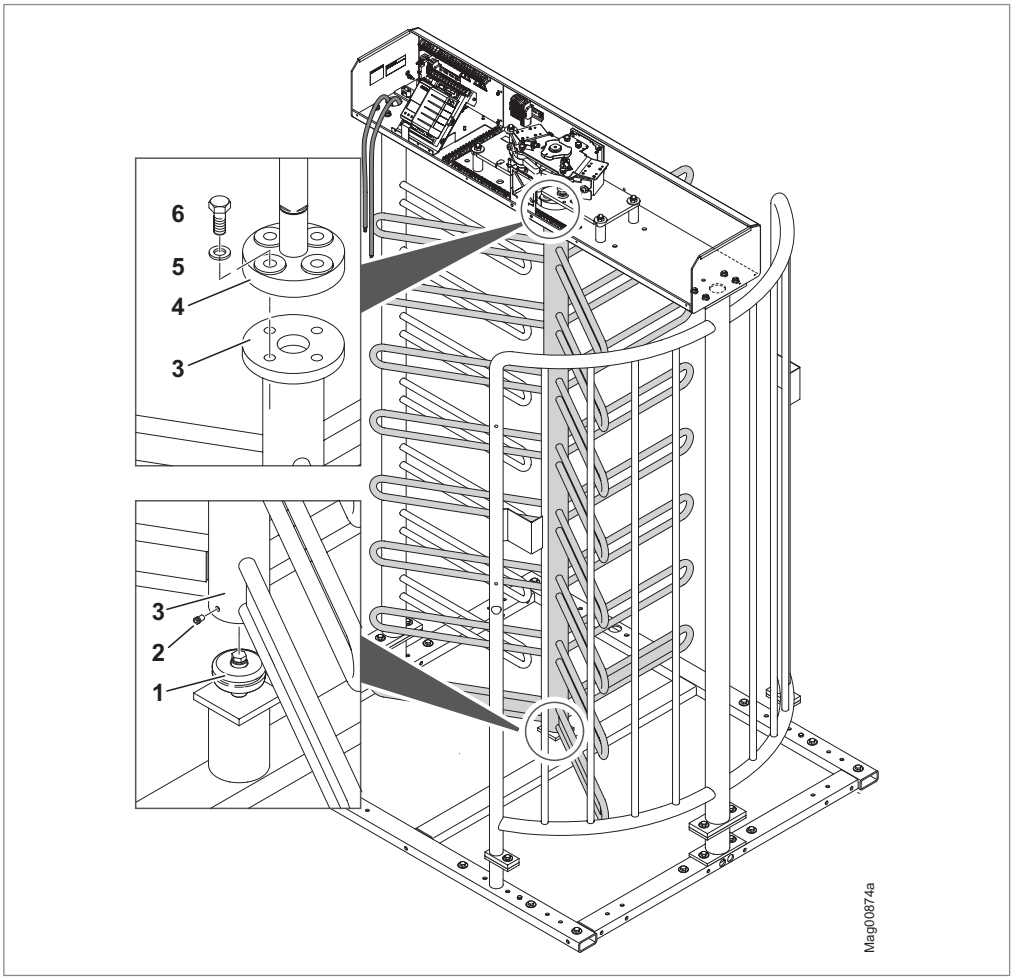

Fig. 26: Mounting the centre pillar

1 Floor bearing
2 Threaded pin
3 Centre pillar
4 Flange
5 Washer
6 Hexagon head screw,
flange connection, secure with threadlocker such as Loctite 241.

Correct positioning of the centre pillar

IMPORTANT!

Observe correct positioning. The countersink on the switching cam (item 1) must point forward into the zone controlled (ZC). The centre pillar must be mounted such that the bracket row (item 3), which is opposite to the countersink on the underside of the centre pillar flange (item 2), is in the locked position.

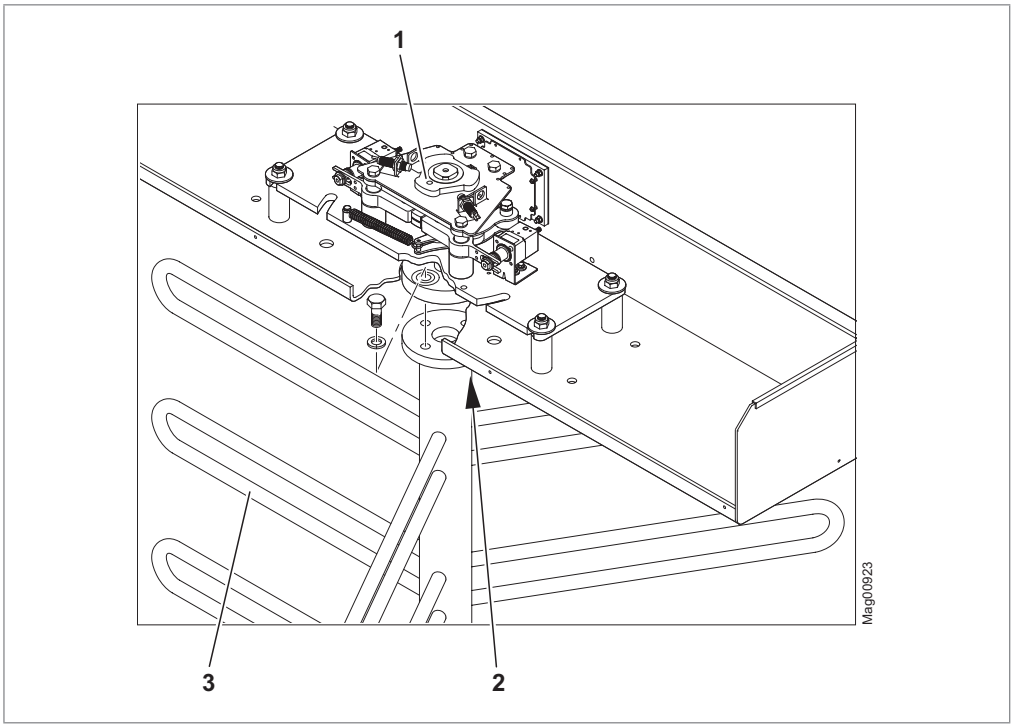

Fig. 27: Correct positioning of the locking unit – illustration shows version "Entrance side right"; in version "Entrance side left", the centre pillar is turned by 180°.

A Front

1 Countersink on switching cam. The countersink must point forward into the zone not controlled.

2 Countersink on the flange bottom of the centre pillar. The bracket row (item 3) opposite this countersink must be in the locked position.

3 Bracket row of the centre pillar opposite from the countersink on the flange bottom on the centre pillar

7.8.4 Closing the cover of the support beam

When the installation work is completed or during extended breaks, close the support beam with the cover.

↗ Page 93, Chapter 10.3.

7.9 Checking the assembly

After assembly, check the following points:

- Are all foundation anchors firmly fixed?
- Are all fastening screws firmly tightened?
- Is the support beam earthed? ↗ Page 52, Fig. 24.
- 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 assembled correctly?
- Is the service door in the cover closed?

8 Mounting the MPT-353

8.1 Safety during mounting

Qualification of personnel

› Technician

› Electrical specialist

↗ 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 attachment can cause the pedestrian gate to tip over, causing bruising and serious injury. › Install the pedestrian gate on the foundation according to the description. › Observe and follow separate notes and instructions provided by the manufacturer of the attachment material. › After mounting, check all bolts and nuts for tightness.

⚠ WARNING	
	**Improper mounting on flammable ground!** Installing 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 install the pedestrian gate on a non-flammable floor.

⚠ WARNING

Lifting of heavy loads!

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

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

NOTICE

Possible seizure of stainless steel fasteners!

Stainless steel fasteners are susceptible to seizure.

› Grease stainless steel screws before use.

8.2 Mounting options

You can mount the turnstile as follows:

› Directly on the foundation:
With this variant, you mount the turnstile on a foundation using foundation anchors. The attachment set and a drilling template are included in the scope of delivery.

› Via the optional Magnetic base frame FURA T5:
In this version, install the base frame on a foundation with foundation anchors. Mount the turnstile on the base frame. 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.
Optionally, you can order an attachment set for mounting the base frame and an attachment set for mounting the turnstile on the base frame from Magnetic.

8.3 Required steps

The following work steps must be carried out before mounting:

› Specify the installation position. ↗ Page 60, Chapter 8.4.

› Set up foundation and placing empty conduits. ↗ Page 60, Chapter 8.5.

The following work steps must be carried out during mounting:

› Unpack the turnstile. ↗ Page 35, Chapter 6.1.

› Mount the optional base frame. ↗ Page 67, Chapter 8.6.

› Mount the cage halves. ↗ Page 70, Chapter 8.8.1.

› Mount the support beam. ↗ Page 71, Chapter 8.8.2.

› Mount the connecting rods and the centre pillars. ↗ Page 73, Chapter 8.8.3.

› Mount the locking combs. ↗ Page 80, Chapter 8.8.4.

› Mount optional mounting pillar for access-control devices.
↗ Page 83, Chapter 9.

› Connect the turnstile electrically. ↗ Page 91, Chapter 10.

› Install and connect access-control devices. ↗ Page 97, Chapter 10.7.

8.4 Specifying the installation position

The service doors in the support beam should point towards the zone controlled.
↗ Page 30, Chapter 4.4.2.

8.5 Setting up foundation and placing empty conduits

8.5.1 Requirements foundation

The foundation must meet the following requirements:

› Have sufficient load-carrying capacity

› Concrete C20/25 or corresponding industrial floor

› Attachment must be able to grip securely

› Foundation cross section according to foundation and empty conduit plan,

› Non-slip surface

› Horizontal and level.

Foundation and empty conduit plan for base frame FURA T5:
↗ Page 63, Fig. 28 and ↗ Page 64, Fig. 29.

Foundation and empty conduit plan for direct mounting:
↗ Page 65, Fig. 30 and ↗ Page 66, Fig. 31.

For outdoor mounting, 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 foundation depth to the local conditions.

8.5.2 Requirements empty conduits

Observe the following points for the empty conduits:

› Place empty conduits according to the foundation plan.

› Conduits have to be planned to a sufficient length.

› Plan empty conduits required for access-control devices and other peripheral devices. The wiring for this is the responsibility of the customer.

IMPORTANT!

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

Foundation and empty conduit plan for base frame FURA T5:
↗ Page 63, Fig. 28 and ↗ Page 64, Fig. 29.

Foundation and empty conduit plan for direct mounting:
↗ Page 65, Fig. 30 and ↗ Page 66, Fig. 31.

8.5.3 Setting up foundation and placing 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. Close empty conduit to prevent water from entering.
4. Concrete the foundation.
5. Create smooth coating.
6. Let concrete cure.
7. Apply moisture protection for outdoor installation.

Foundation and empty conduit plan for base frame FURA T5:
↗ Page 63, Fig. 28 and ↗ Page 64, Fig. 29.

Foundation and empty conduit plan for direct mounting:
↗ Page 65, Fig. 30 and ↗ Page 66, Fig. 31.

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8.5.4 Foundation and empty conduit plan for base frame FURA T5

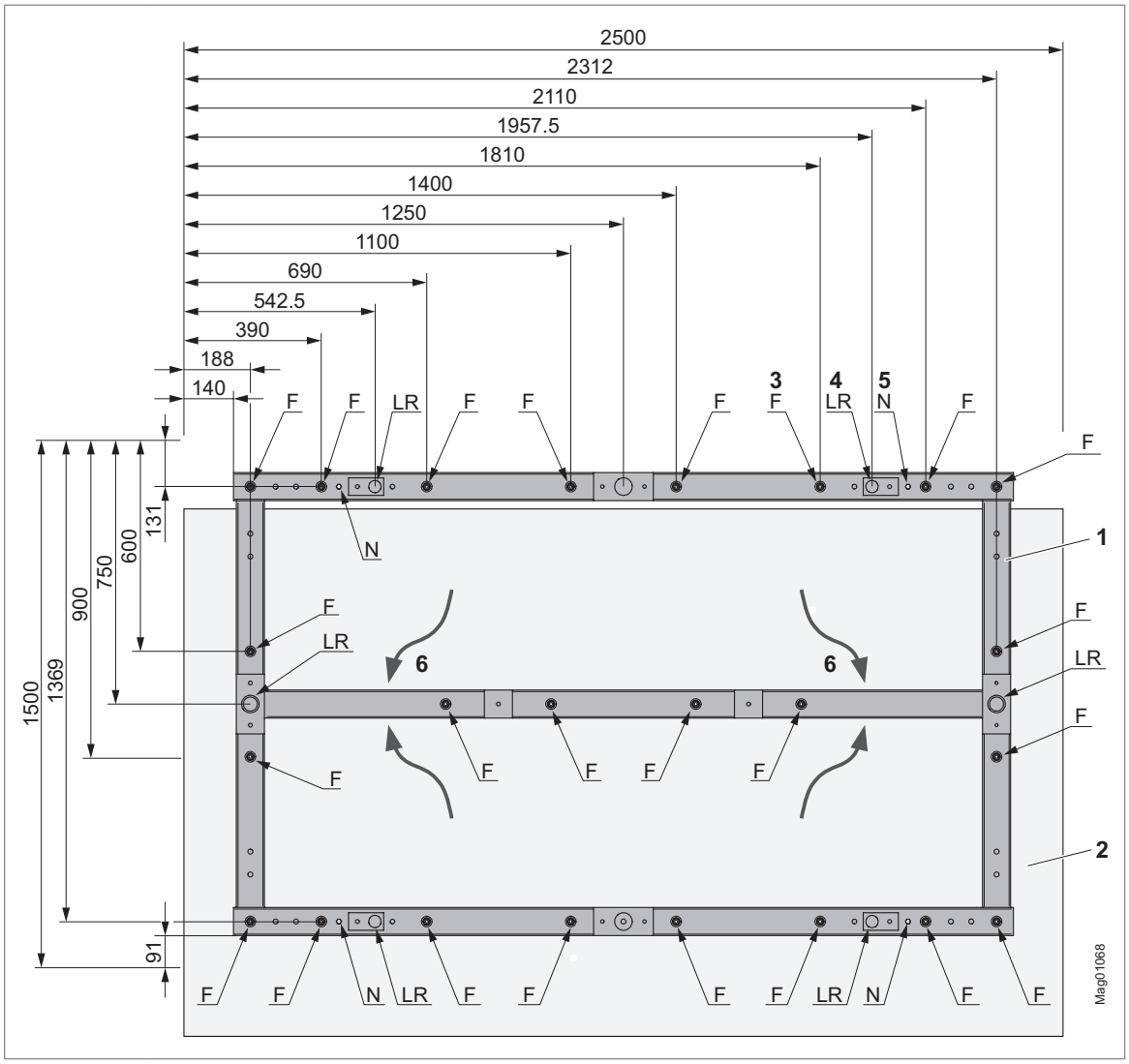

Fig. 28: Foundation and empty conduit plan for base frame FURA T5 – top view (dimensions in mm)

1 Base frame FURA T5

2 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof

3 F: Foundation anchor (24 pieces), holes for anchor rods Hilti HIT-Z-R M10 x 160 A4: Drilling diameter 12 mm, drilling depth 105 mm

4 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.

5 N: Levelling screws to align the base frame

6 Passage

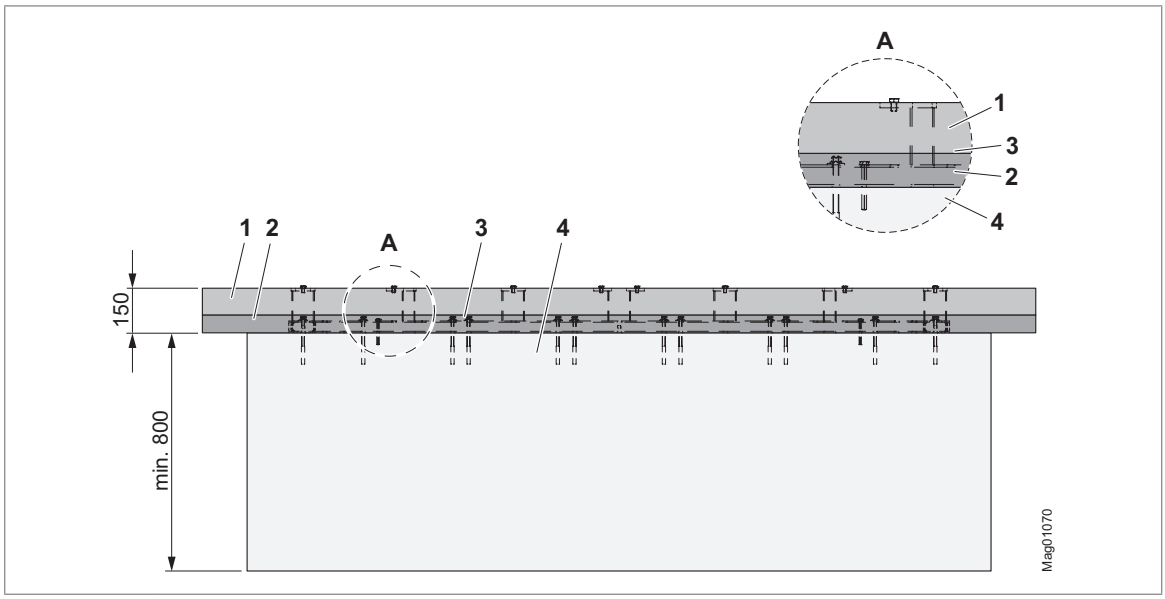

Fig. 29: Foundation and empty conduit plan for base frame FURA T5 – side view (dimensions in mm)

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

8.5.5 Foundation and empty conduit plan for direct mounting

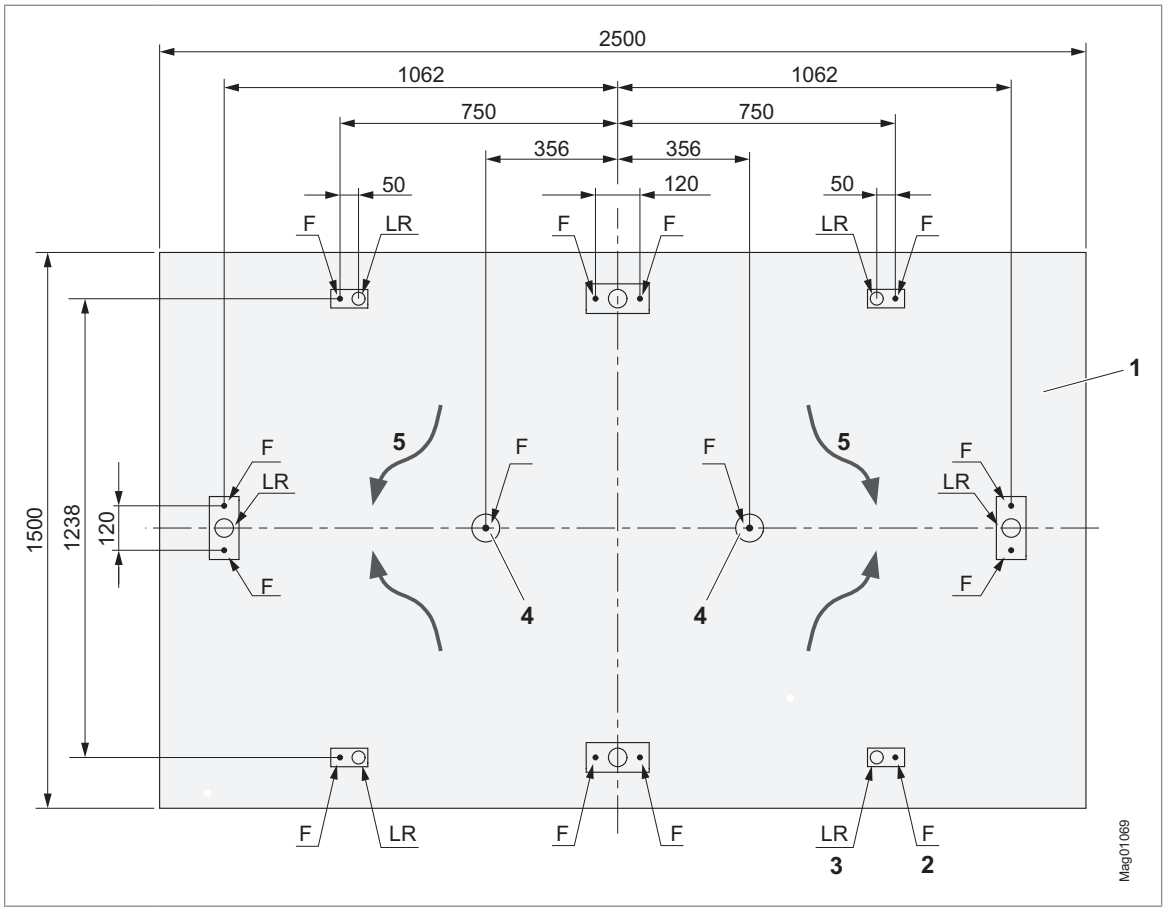

Fig. 30: Foundation and empty conduit plan for direct mounting MPT-353 – top view (dimensions in mm)

1 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof

2 F: Foundation anchors (14 pieces), bores for sleeves with inner thread depending on make: Upat UKA 3 M10: Drilling diameter 16 mm, drilling depth 90 mm;
Fischer RG 16 x 90 M10: Drilling diameter 18 mm, drilling depth 90 mm.

3 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.

4 Floor bearing

5 Passage

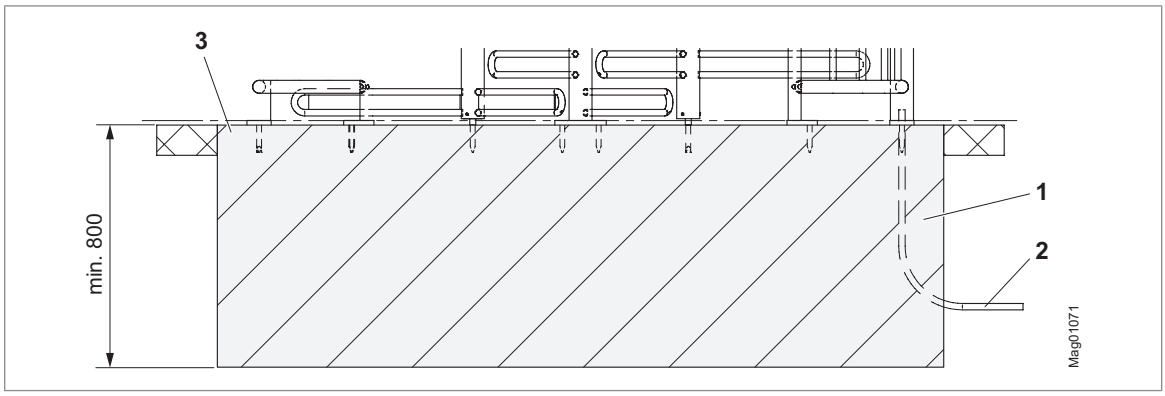

Fig. 31: Foundation and empty conduit plan for direct mounting MPT-353 – top view (dimensions in mm)

1 Foundation C35/45 XD3 XF2 with reinforcement, foundation depth: at least 800 mm, frost-proof

2 Empty conduit: 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.

3 Foundation, smooth coating, even and horizontal

8.6 Mounting the base frame

You need to mount the pedestrian gate with a base frame on interlocking stone paving.

Dimensions of foundation and base frame, position of foundation anchors, levelling screws and empty conduits: ↗ Page 63, Fig. 28.

Prerequisites

› The conduits have been placed.

› The foundation has cured.

› The foundation is precisely 150 mm lower than the finished paving. ↗ Page 64, Fig. 29.

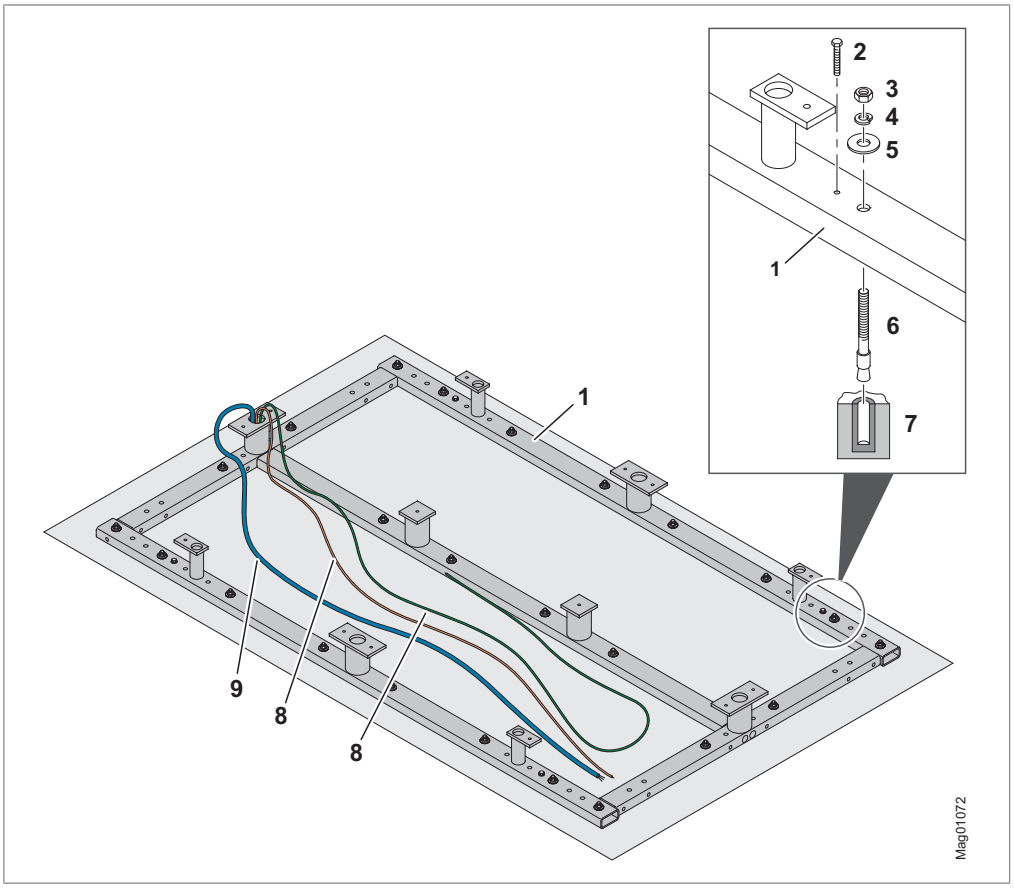

Fig. 32: Mounting the base frame FURA T5

1 Base frame FURA T5
2 Leveling screw
3 Nut
4 Washer
5 Washer Ø10.5
6 Anchor rod Hilti HIT-Z-R M10 x 160 A4
7 Borehole
8 Control line 2 pieces, 1 control line per control unit MGC
9 Mains cable 1 piece, 1 mains cable per MPT-353

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 69, Chapter 8.8.

8.7 Preliminary work for installation directly on the foundation

Prerequisites

› The conduits have been placed.

› The foundation has cured.

IMPORTANT!

Observe the separate instructions as well as the packaging inscriptions for the attachment material.

1. Mark holes for sleeve with inner thread. A drilling template is included in the scope of delivery. ↗ Page 65, Fig. 30.
2. Bore holes for the sleeve with inner thread.
3. Clean the boreholes with compressed air.
4. Inject injection mortar into the boreholes.
5. Screw in sleeve with inner thread by hand to the bottom of the boreholes.
6. Wait for the curing time. Follow separate instructions.

√ The preliminary work has been completed. You can mount the components of the pedestrian gate. ↗ Page 69, Chapter 8.8.

8.8 Mounting the MPT-353

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

8.8.1 Mounting the cage halves

1. Pull the mains cable and control lines through the support of the cage half. Alternatively, you can also pull the mains cable and control lines through the support of the cage half on the other side.
2. Mount the first cage half.

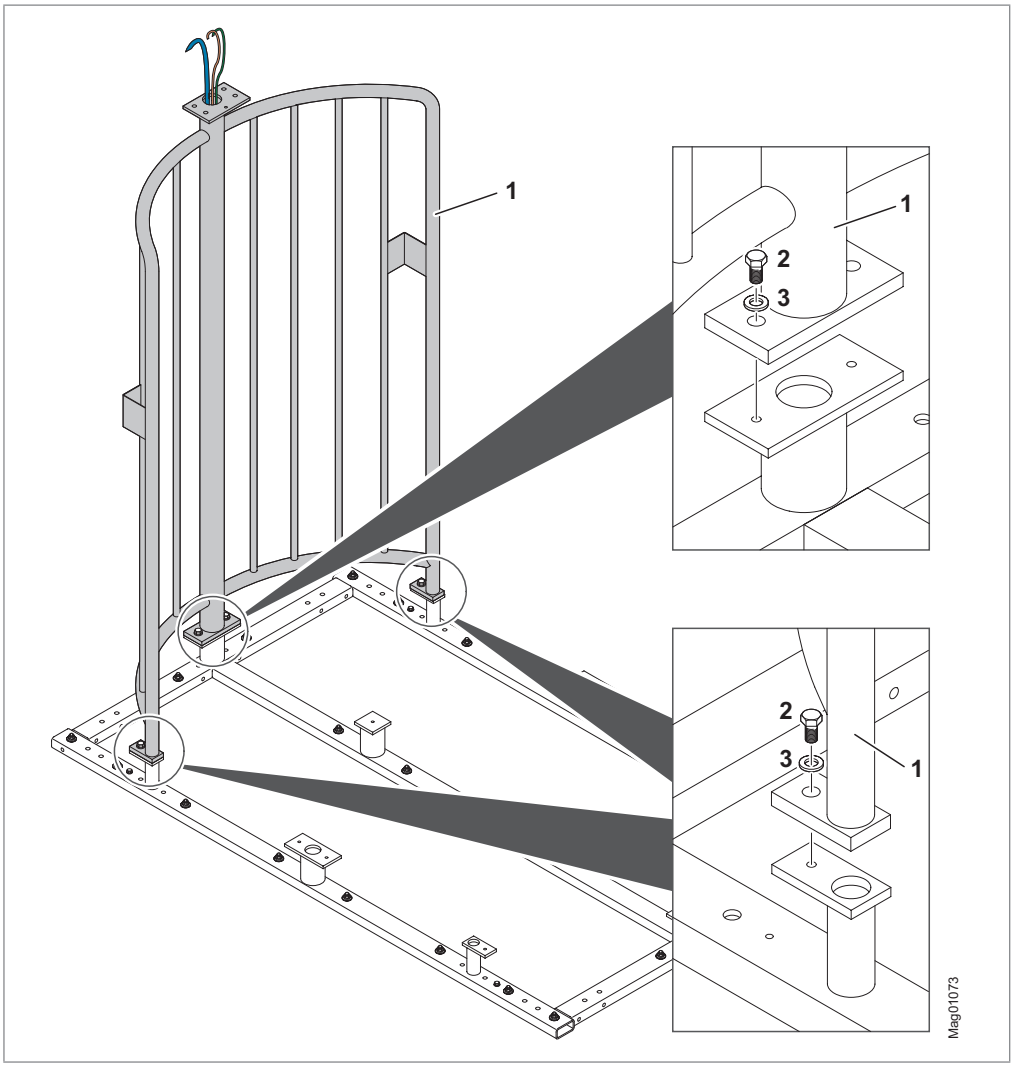

Fig. 33: Mounting the first cage half

1 Cage half
2 Hexagon head screw M10 x 35
3 Washer Ø10.5

3. Mount the second cage half.

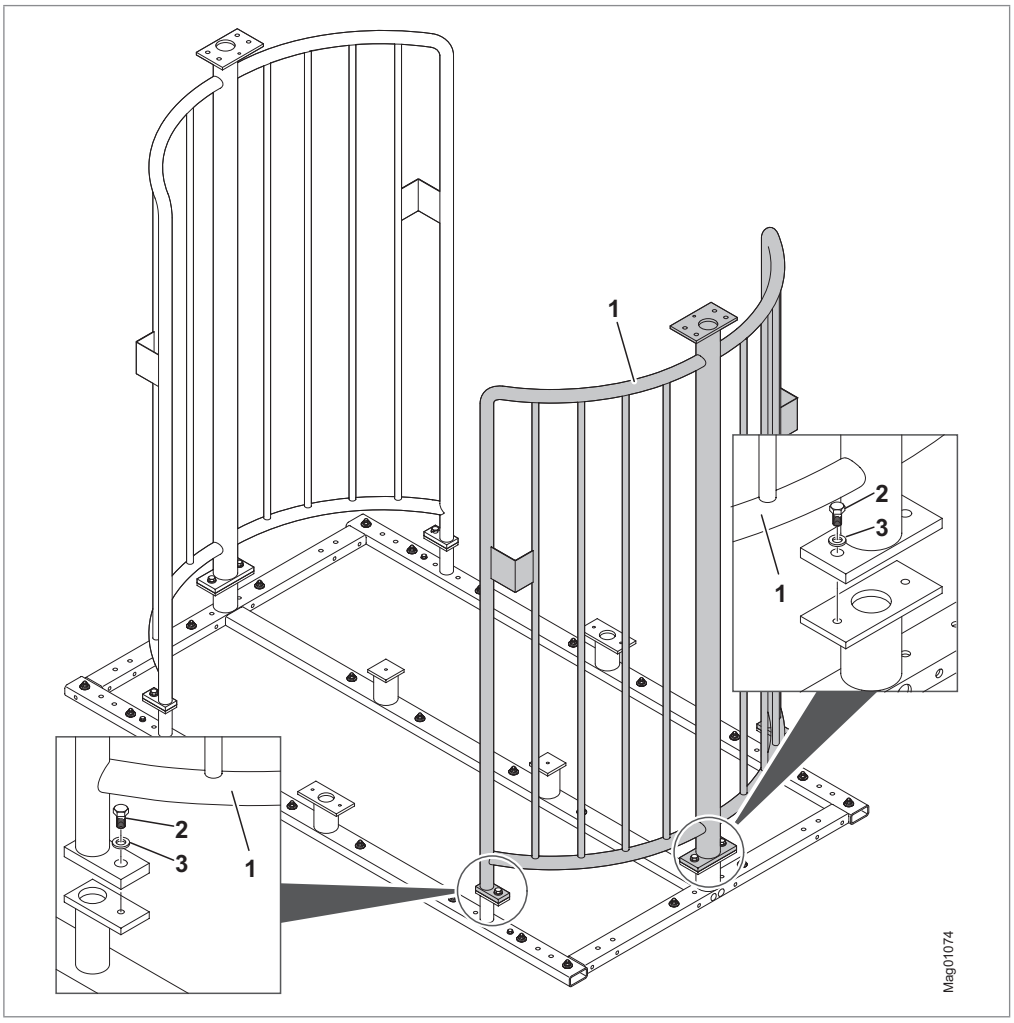

Fig. 34: Mounting the second cage half

1 Cage half
2 Hexagon head screw M10 x 30
3 Washer Ø10.5

8.8.2 Mounting the support beam

1. Loosen the screw of the cover.
2. Dismount the protective earth conductor at the cover.
3. Pull off the cover to the front and remove it.

4. Place support beam with lifting device on the cage halves. 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!

5. Immediately secure the support beam using the countersunk screws supplied. Tighten countersunk screws.

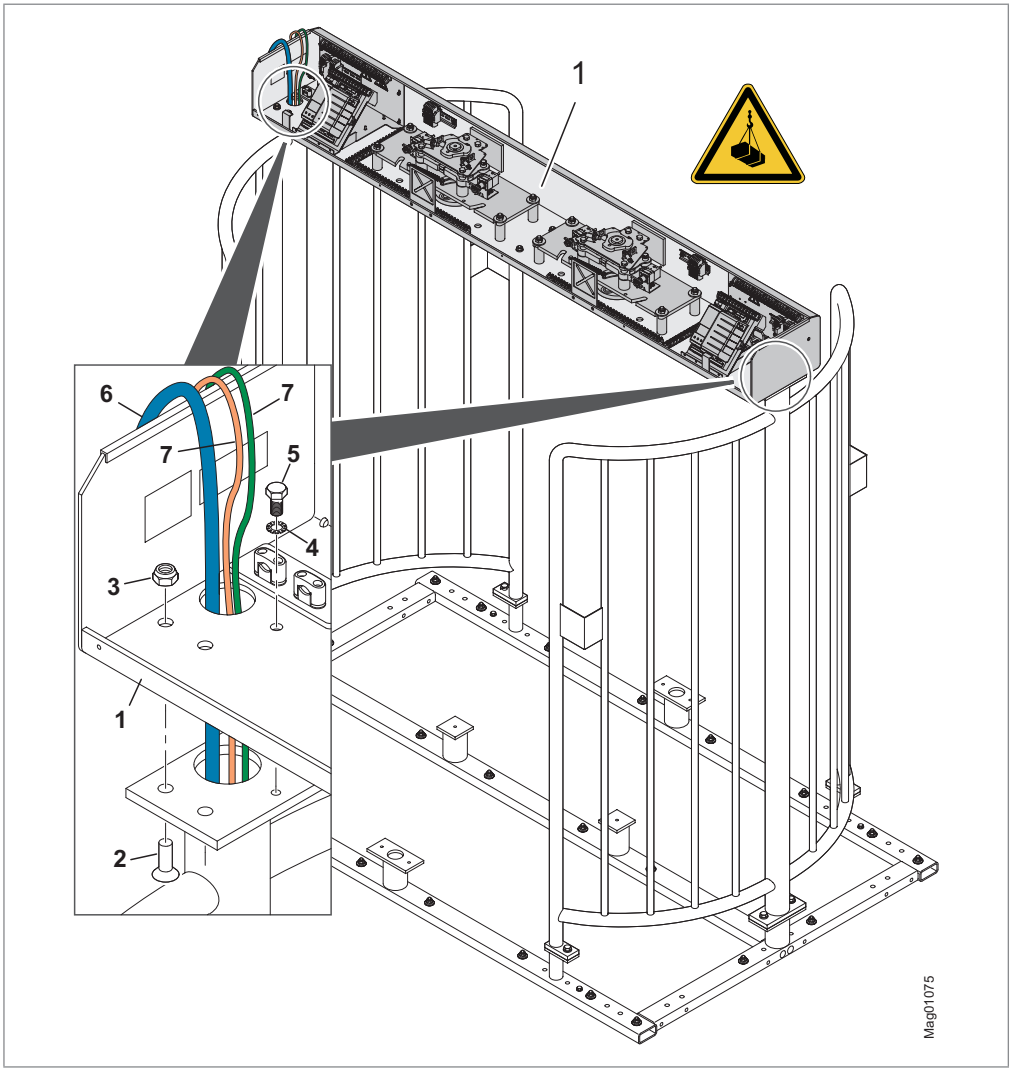

Fig. 35: Putting on the support beam and installing it

1 Support beam
2 Countersunk screw
3 Nut M12
4 Toothed disc 10.5 for grounding the support beam
5 Hexagon head screw M10 x 20 for grounding the support beam
6 Mains cable 1 piece, 1 mains cable per MPT-353
7 Control line 2 pieces, 1 control line per control unit MGC

8.8.3 Mounting the connecting rods and the centre pillars

1. Mount the connecting rod.

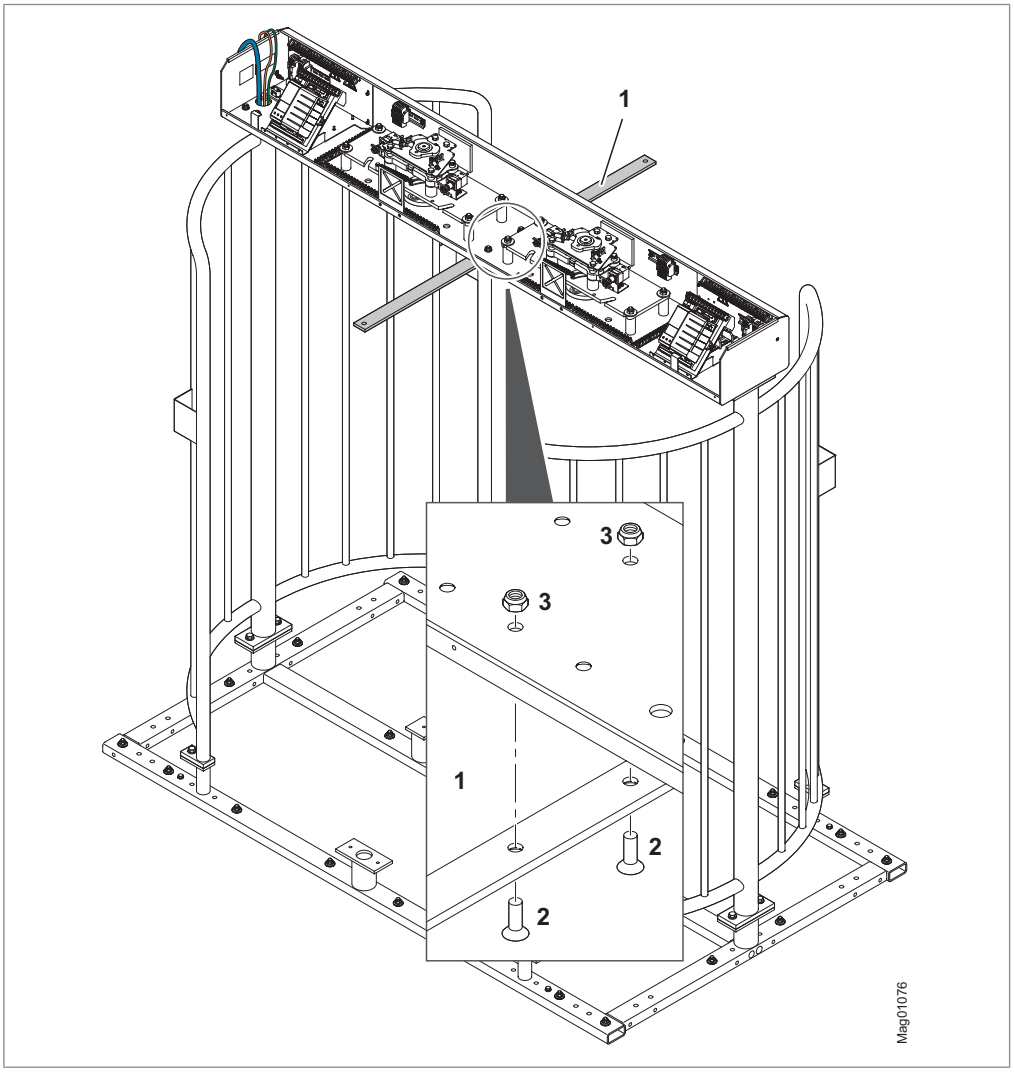

Fig. 36: Mounting the connecting rod

1 Connecting rod
2 Screw M12 x 35
3 Nut M12

2. Mount both floor bearings.
   - › Attach sleeve and washer with hexagon head screw.
   - › Slide the plastic bearing over the sleeve, washer and hexagon head screw.

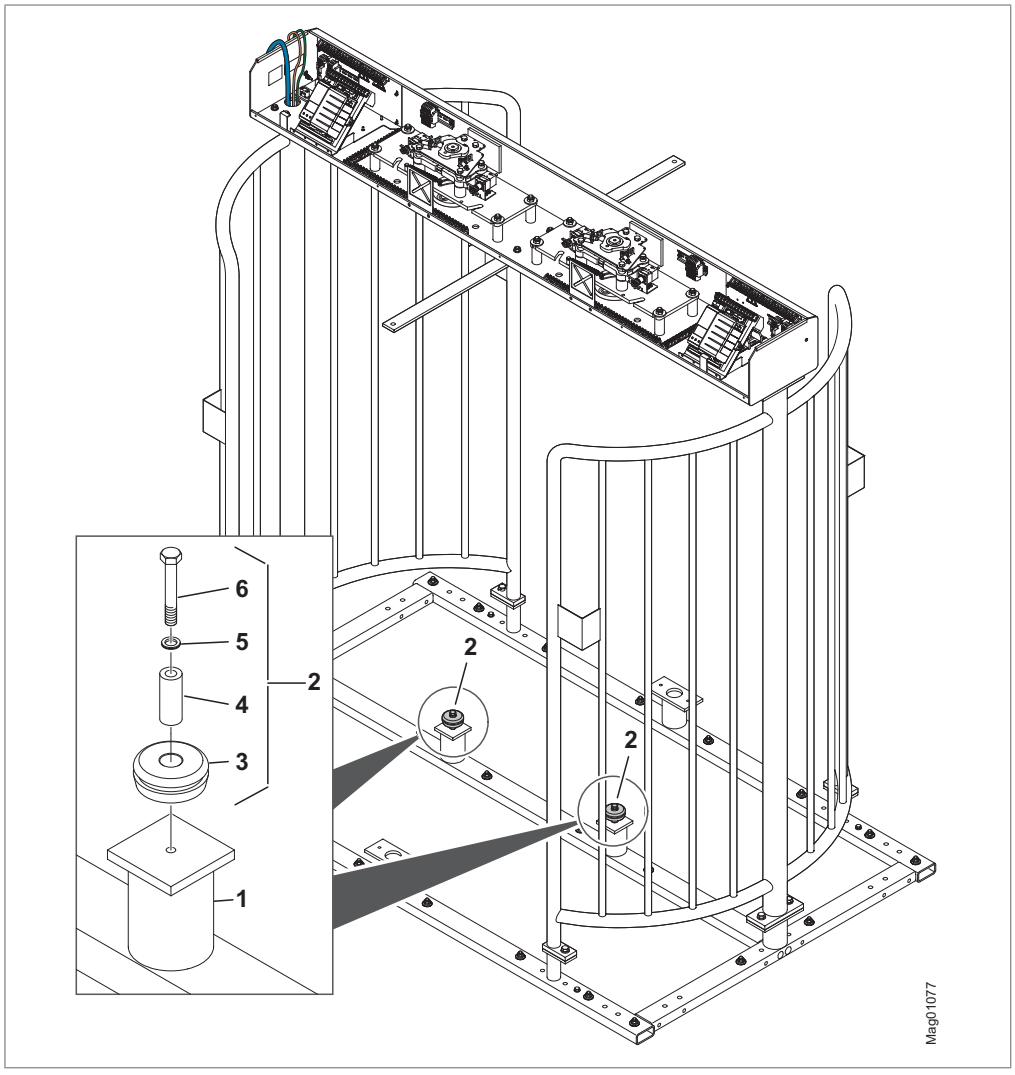

Fig. 37: Mounting the floor bearing (plastic bearing, sleeve, washer and hexagon head screw)

1 Base for base frame
2 Floor bearing
3 Plastic bearing
4 Sleeve
5 Washer
6 Hexagon head screw

3. Place the centre pillar with heel guard on the floor bearing. Note the different designs of the two centre pillars.

Attaching the centre pillar with heel guard to the drive flange

4. Fix the centre pillar to the drive flange from above using the four screws supplied. Make sure that the centre pillar is correctly positioned in relation to the locking unit. ↗ Page 79.
   - › Screw in the first fastening screw with the washer.
   - › Tighten the first fastening screw.
   - › Turn the drive flange, insert the rest of the fastening screws and tighten. You can usually turn the drive flange over the centre pillar. If you cannot turn it, first screw a fastening screw into the drive flange from below.
   - › Secure screws with threadlocker such as Loctite 241.

Fixing the centre pillar with heel guard to the floor bearing

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

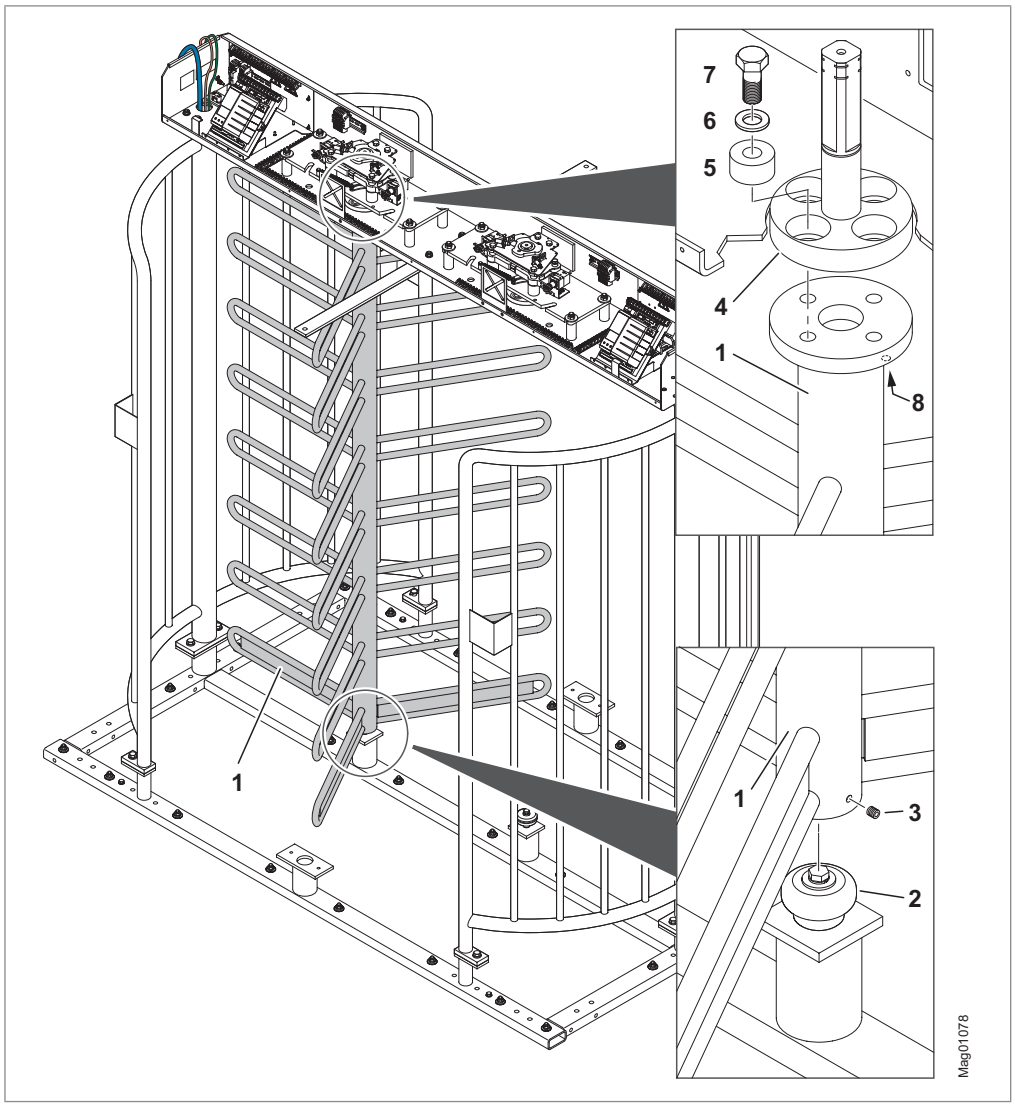

Fig. 38: Mounting centre pillar with heel guard

1 Centre pillar with heel guard
2 Floor bearing
3 Threaded pin
4 Flange
5 Rubber buffer
6 Washer
7 Hexagon head screw,
flange connection, secure with threadlocker such as Loctite 241.
8 Countersink on the flange bottom of the centre pillar ↗ Page 79, Fig. 40.

8. Place the centre pillar without heel guard on the floor bearing.

Fixing the centre pillar without heel guard to the drive flange

9. Fix the centre pillar to the drive flange from above using the four screws supplied. Make sure that the centre pillar is correctly positioned in relation to the locking unit. ↗ Page 79.
   - › Screw in the first fastening screw with the washer.
   - › Tighten the first fastening screw.
   - › Turn the drive flange, insert the rest of the fastening screws and tighten. You can usually turn the drive flange over the centre pillar. If you cannot turn it, first screw a fastening screw into the drive flange from below.
   - › Secure screws with threadlocker such as Loctite 241.

Fixing the centre pillar without heel guard to the floor bearing

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

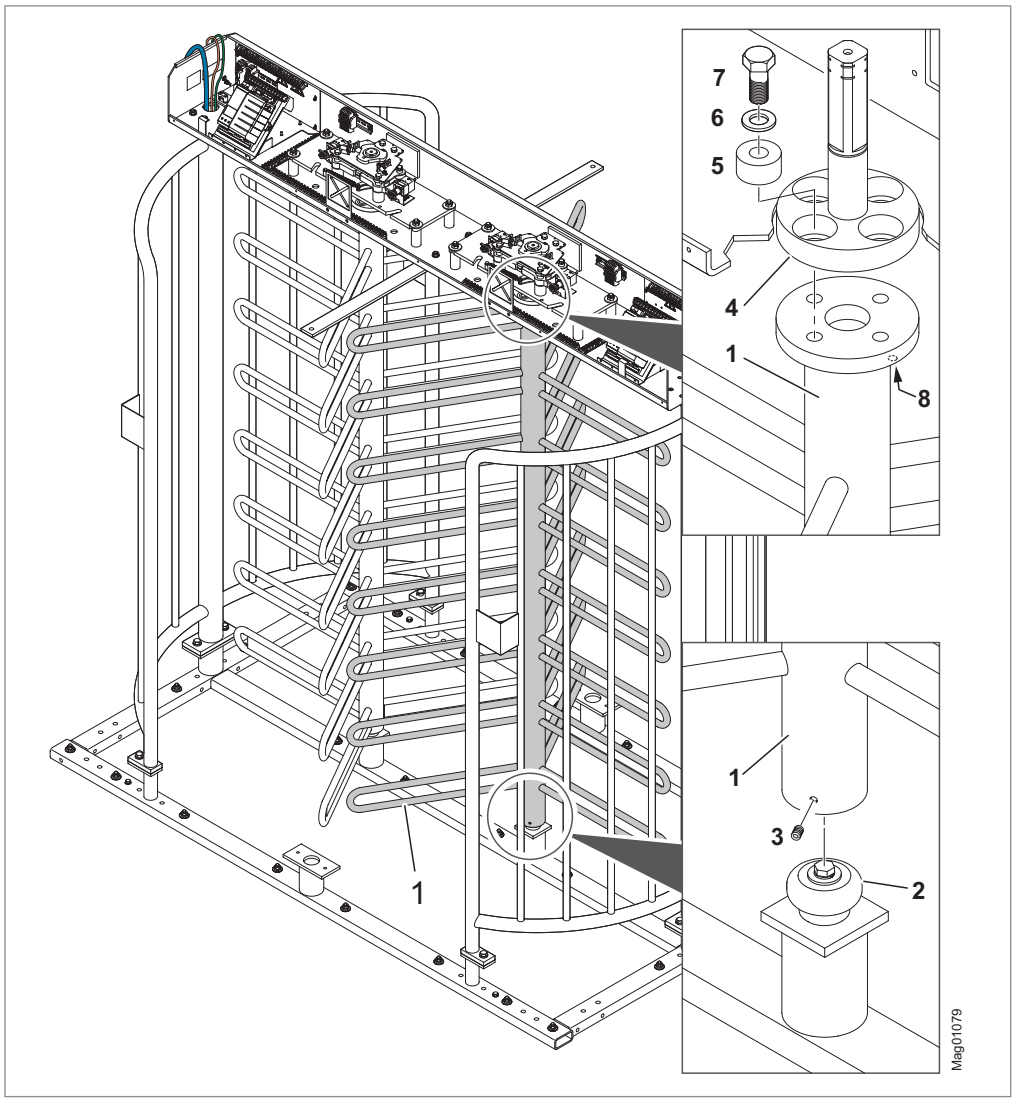

Fig. 39: Mounting the centre pillar without heel guard

1 Centre pillar without heel guard
2 Floor bearing
3 Threaded pin
4 Flange
5 Rubber buffer
6 Washer
7 Hexagon head screw,
flange connection, secure with threadlocker such as Loctite 241.
8 Countersink on the flange bottom of the centre pillar ↗ Page 79, Fig. 40.

Correct positioning of the centre pillars

IMPORTANT!

Observe correct positioning. The countersink on the switching cam (item 1) must point forward into the zone controlled (ZC). The centre pillar must be mounted such that the bracket row (item 3), which is opposite to the countersink on the underside of the centre pillar flange (item 2), is in the locked position.

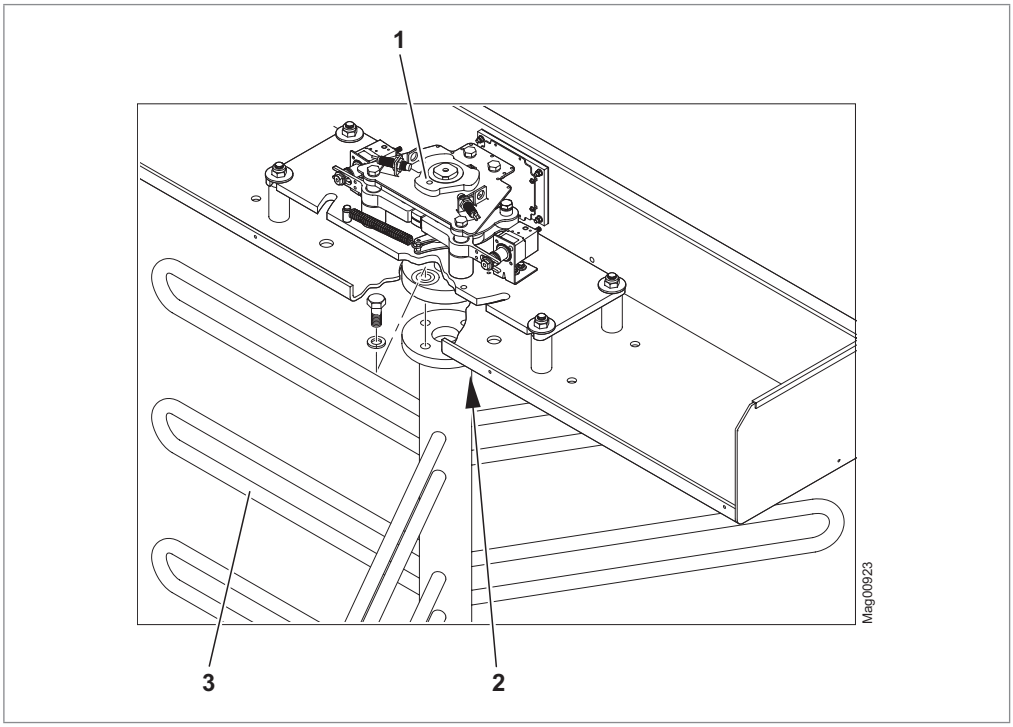

Fig. 40: Correct positioning of the locking unit – illustration shows version "Entrance side right"; in version "Entrance side left", the centre pillar is turned by 180°.

A Front

1 Countersink on switching cam. The countersink must point forward into the zone not controlled.

2 Countersink on the flange bottom of the centre pillar. The bracket row (item 3) opposite this countersink must be in the locked position.

3 Bracket row of the centre pillar opposite from the countersink on the flange bottom on the centre pillar

8.8.4 Mounting the locking combs

1. Mount the first locking comb.

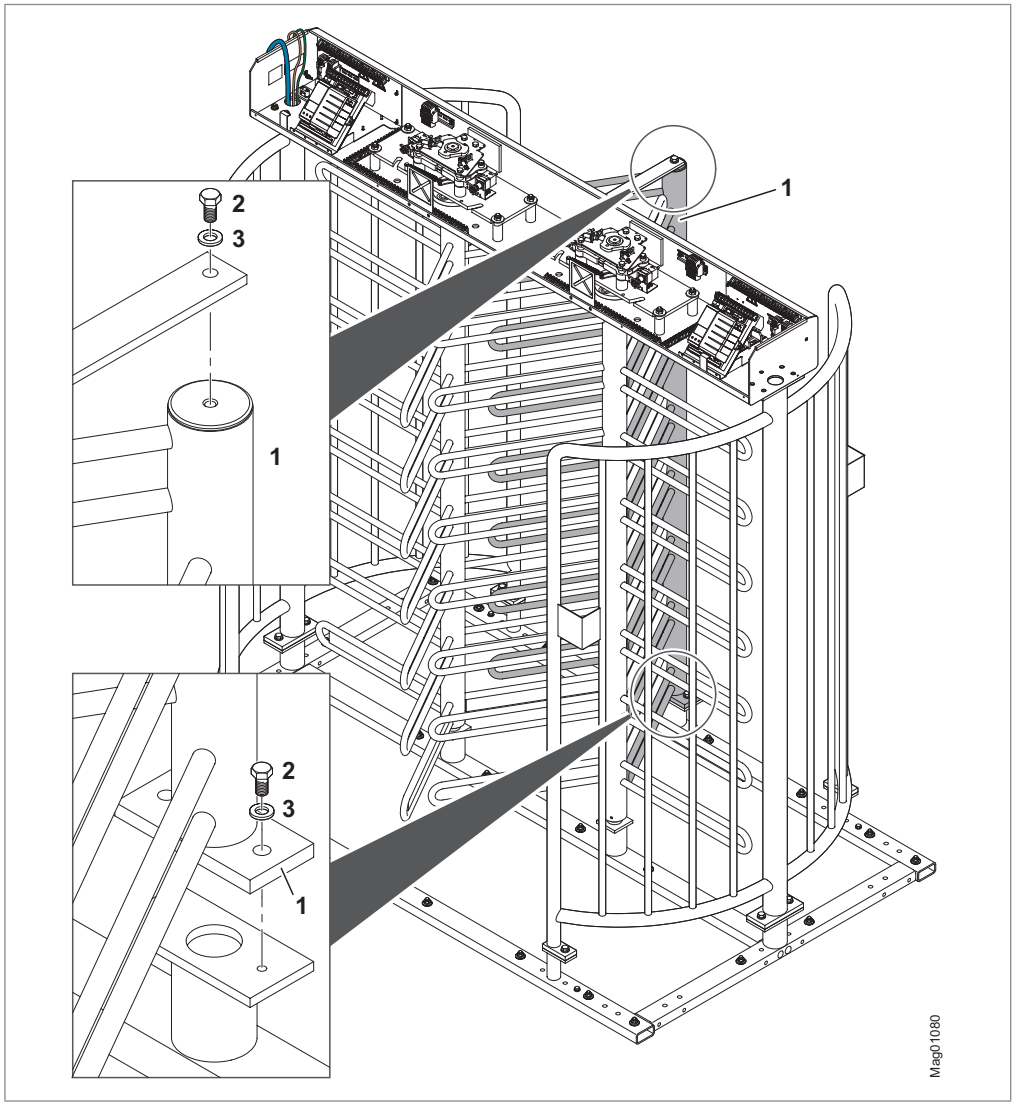

Fig. 41: Mounting the first locking comb

1 Locking comb
2 Hexagon head screw M10 x 30
3 Washer Ø10.5

2. Mount the second locking comb.

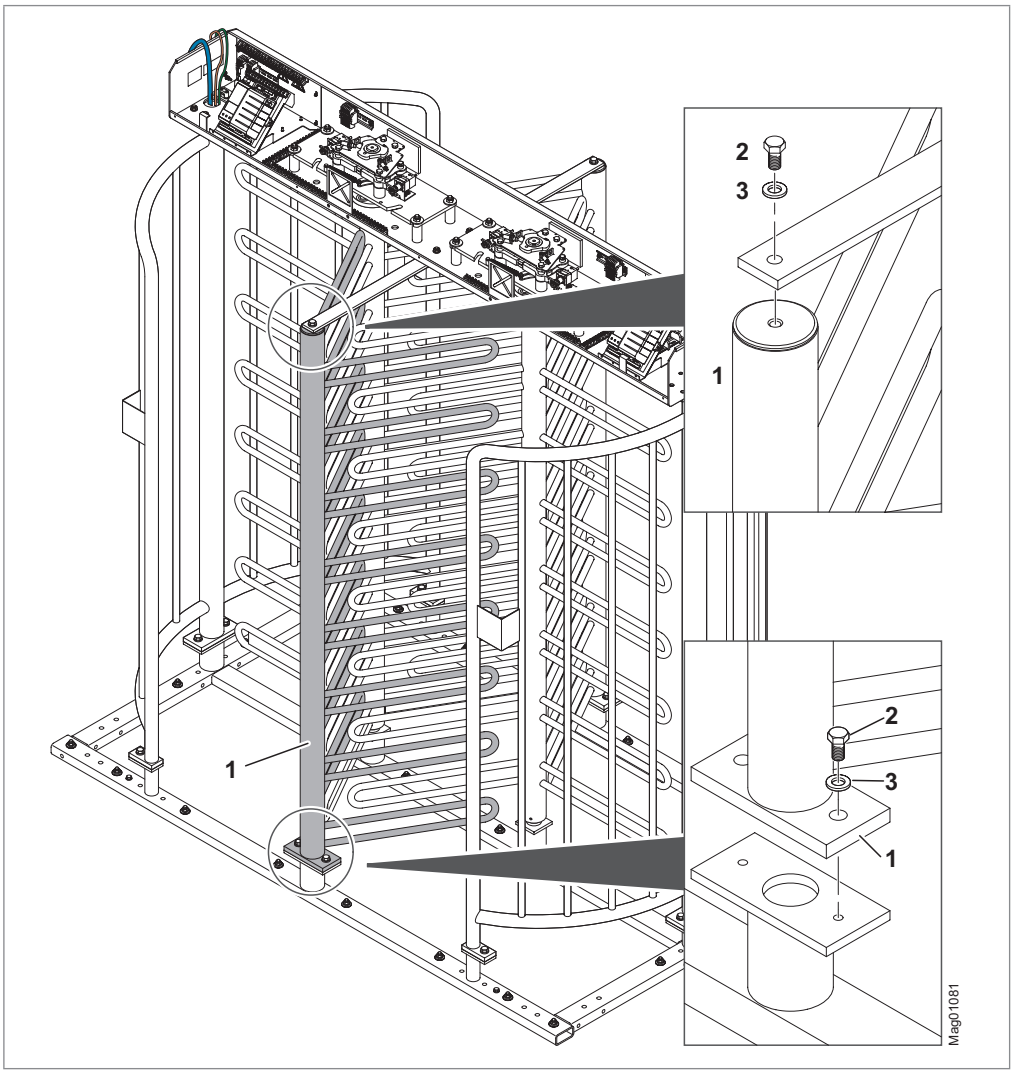

Fig. 42: Mounting the second locking comb

1 Locking comb
2 Hexagon head screw M10 x 30
3 Washer Ø10.5

8.8.5 Closing the cover of the support beam

When the installation work is completed or during extended breaks, close the support beam with the cover.

↗ Page 94, Chapter 10.3.1.

8.9 Checking the assembly

After mounting, check the following points:

- Are all foundation anchors firmly fixed?
- Are all fastening screws firmly tightened?
- Is the support beam earthed? ↗ Page 72, Fig. 35.
- 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?
- Are the service doors in the hood closed?

9 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.

The mounting of the optional mounting pillar is shown for the MPT-333 turnstile. For the MPT-353 turnstile, the mounting pillar is mounted in the same way. Four mounting pillars are required for the MPT-353 turnstile.

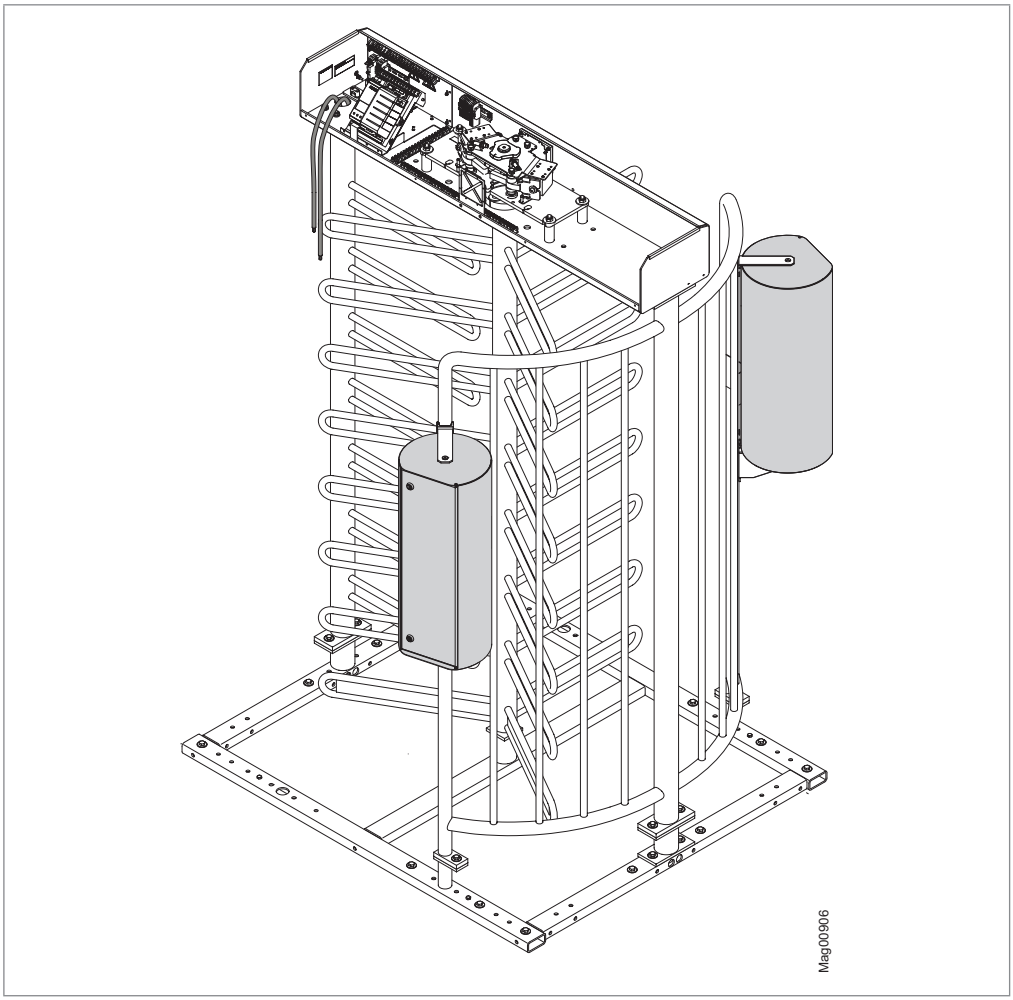

Fig. 43: Optional mounting pillars

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 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 holes for the mounting pillars in the cage half.

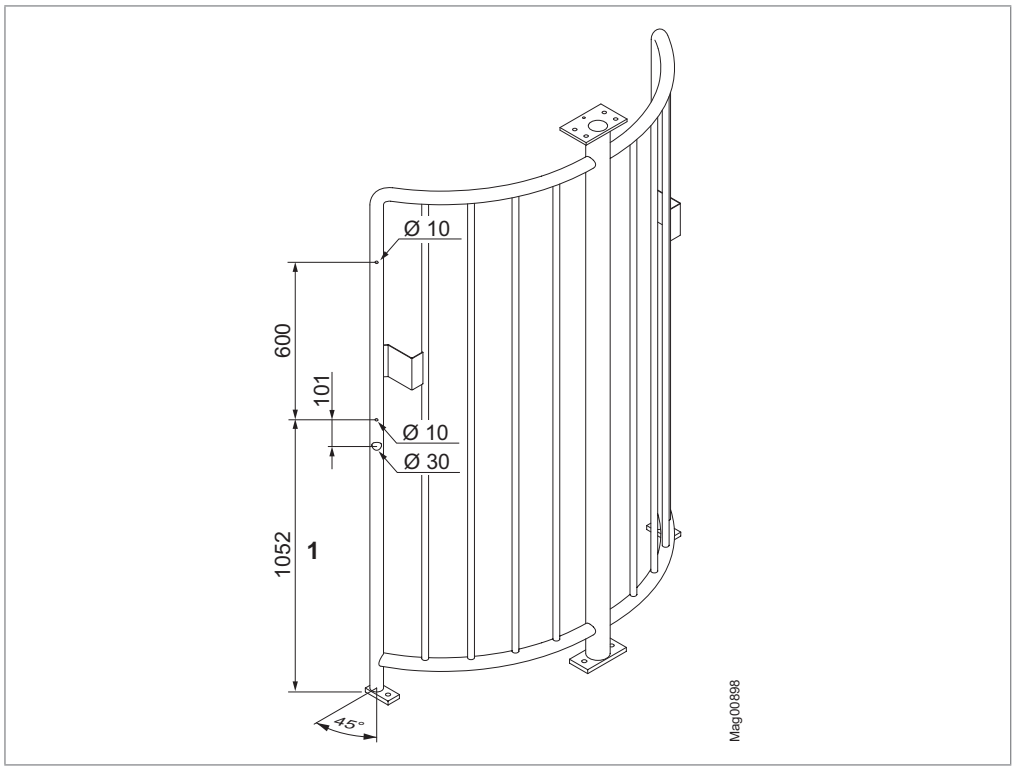

Fig. 44: Required holes mounting pillar (all dimensions in mm)
1 Standard height for implementation by Magnetic

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

Installing the mounting pillar

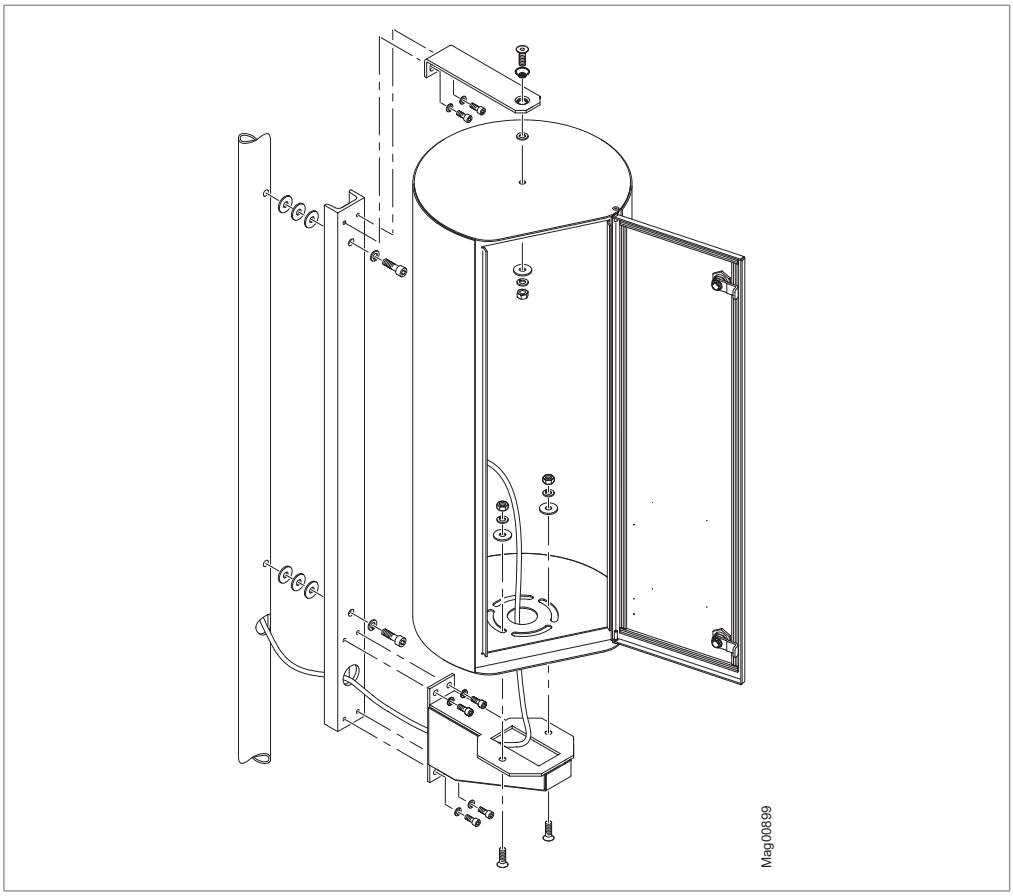

Fig. 45: Mounting pillar and attachment material

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

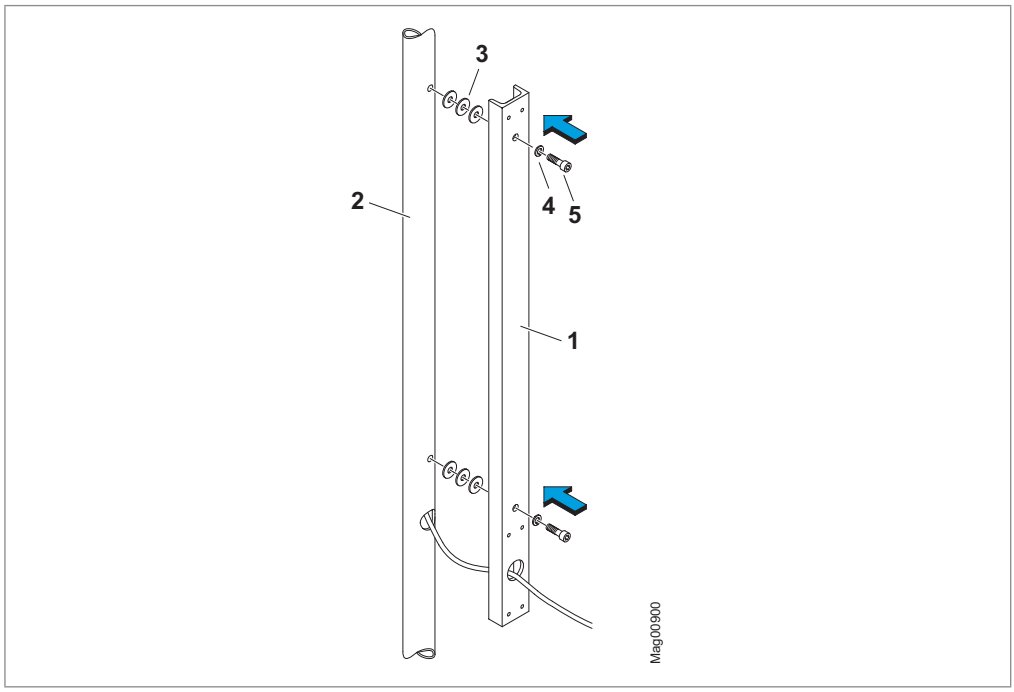

Fig. 46: Mounting the U-profile

1 U-profile
2 Outer support cage half
3 Washers ø8.4
4 Spring washer A8
5 Hexagon head screw M8 x 30

2. Mount the lower holder.

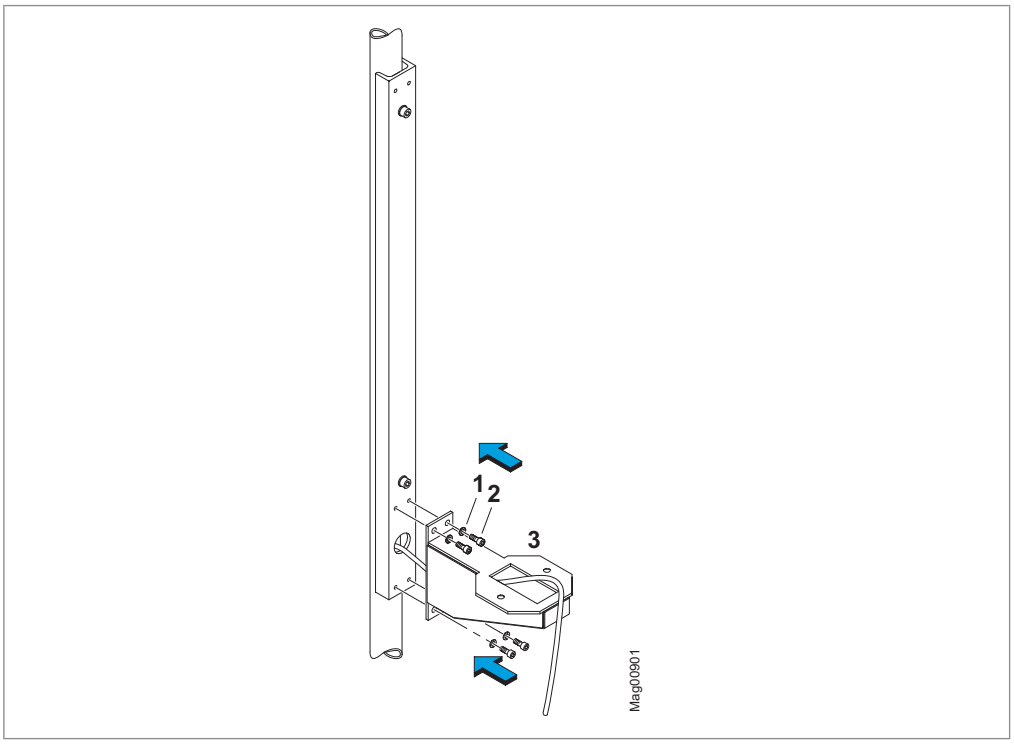

Fig. 47: Mounting the lower holder

1 Spring washer A6

2 Screw M6 x 16

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

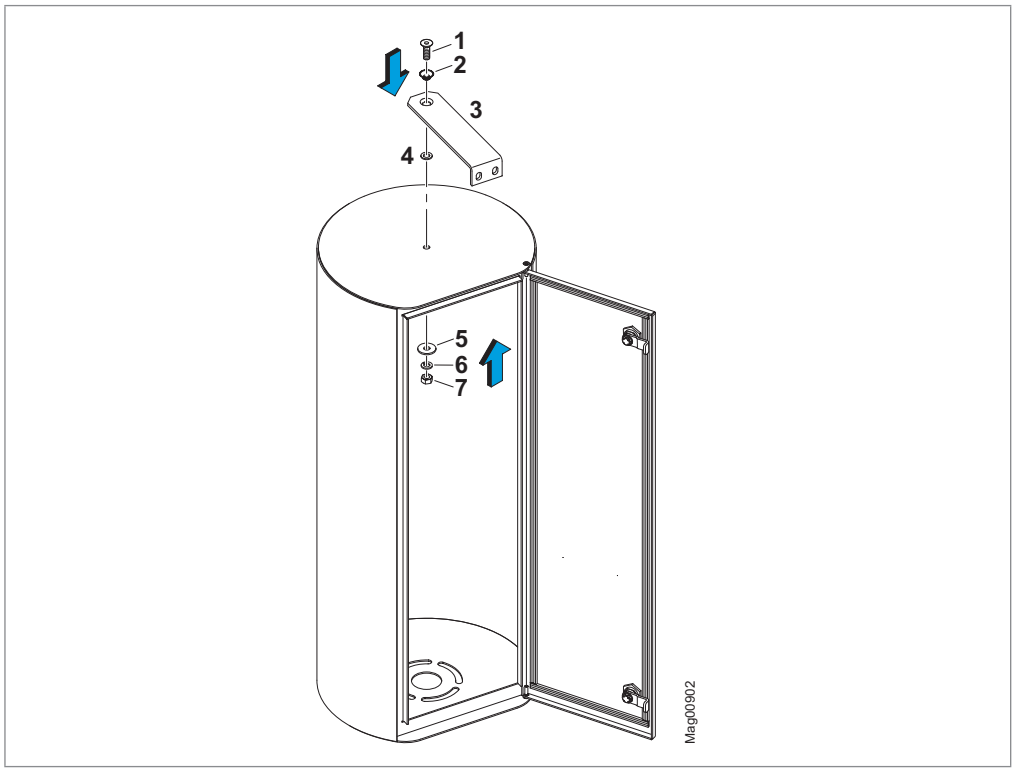

Fig. 48: Mounting the attachment angle

1 Screw DIN 7991 M8 x 25
2 Sleeve
3 Attachment angles
4 Washer PE ø8.4
5 Washer ø8.4
6 Spring washer A8
7 Nut M8

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

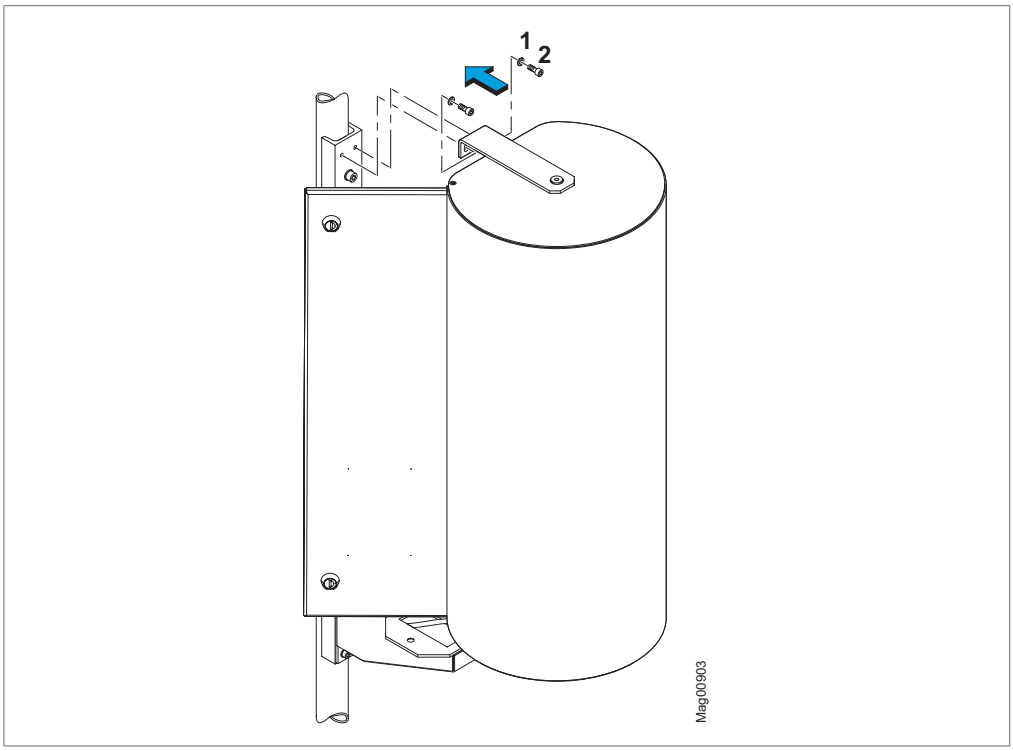

Fig. 49: Mounting the attachment angle

1 Spring washer A6

2 Screw M6 x 16

5. Align the mounting pillar by turning it.

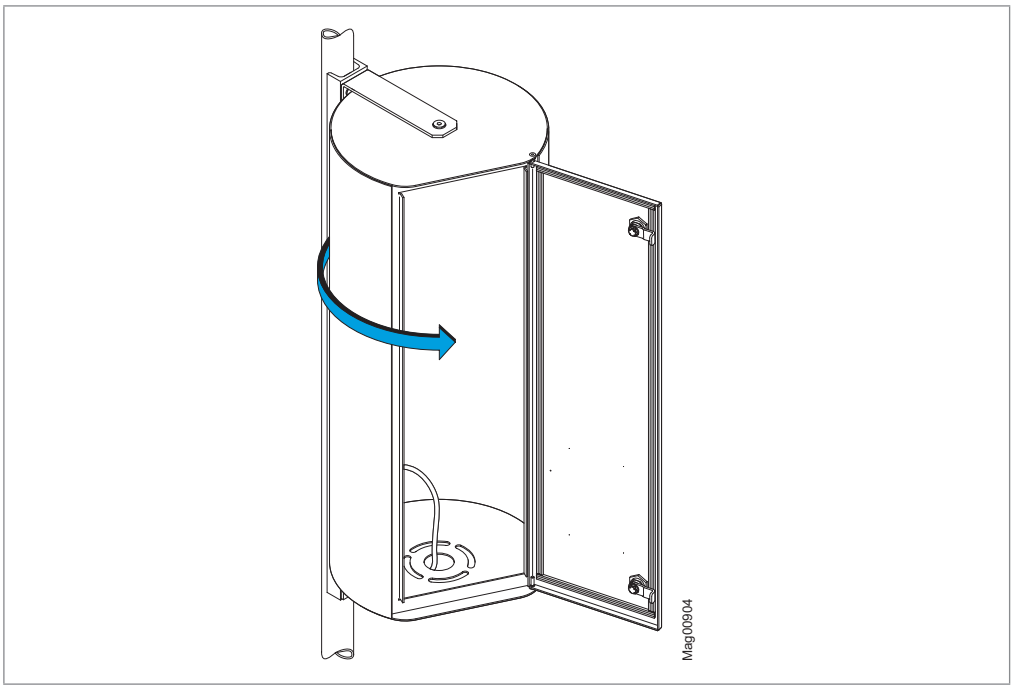

Fig. 50: Aligning the mounting pillar

6. Fix the mounting pillar to the lower holder.

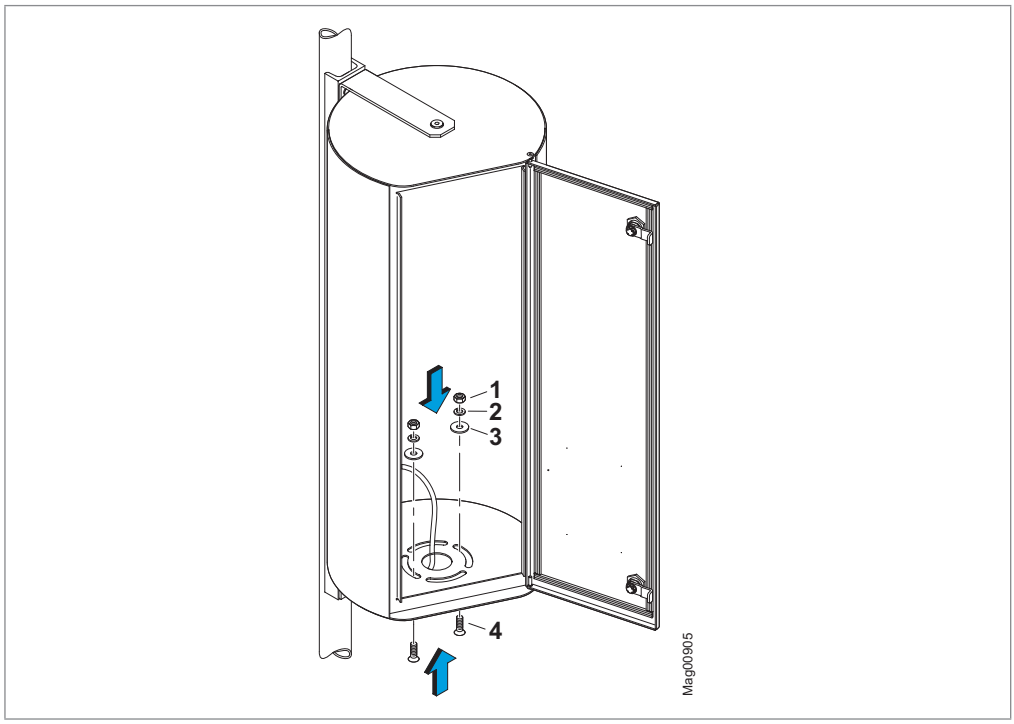

Fig. 51: Fixing the mounting pillar

1 Nut M8
2 Spring washer A8
3 Washer ø8.4
4 Screw M8 x 25

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

10 Electrical connection

10.1 Safety during electrical connection

Qualification of personnel

› Technician

› Electrical specialist

↗ 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. Damaged insulation or damaged parts may be fatal.

› Only qualified electricians or electrical safety experts may work on the electrical system.

› Switch off power supply and secure against re-activation before performing any work. Test for absence of voltage.

› Keep moisture and dust away from live parts. Penetrating moisture or dust can lead to a short circuit.

› If the electrical connection is established at precipitation, e.g. rain or snow, penetration of moisture must be prevented by suitable measures, such as a protective cover.

› Install protective devices that are prescribed by national regulations, such as e.g. residual current circuit breakers. These protective devices must be provided by the customer.

› Observe the information on the type plate.

› Close all covers after work has been carried out.

⚠ DANGER

Mortal danger from lightning and electrical voltage!

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

› When installing outdoors, 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 electro-magnetic environmental conditions may cause interference or malfunctions.

› 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 conformity assessment must be carried out by the customer.

10.2 Installing electrical protective devices

Protective devices that are prescribed by national regulations must be installed 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.

10.3 Open and close cover or service door

IMPORTANT!

The hood for the MPT-333 turnstile is equipped with a service door. The hood for the MPT-353 turnstile is equipped with two service doors.

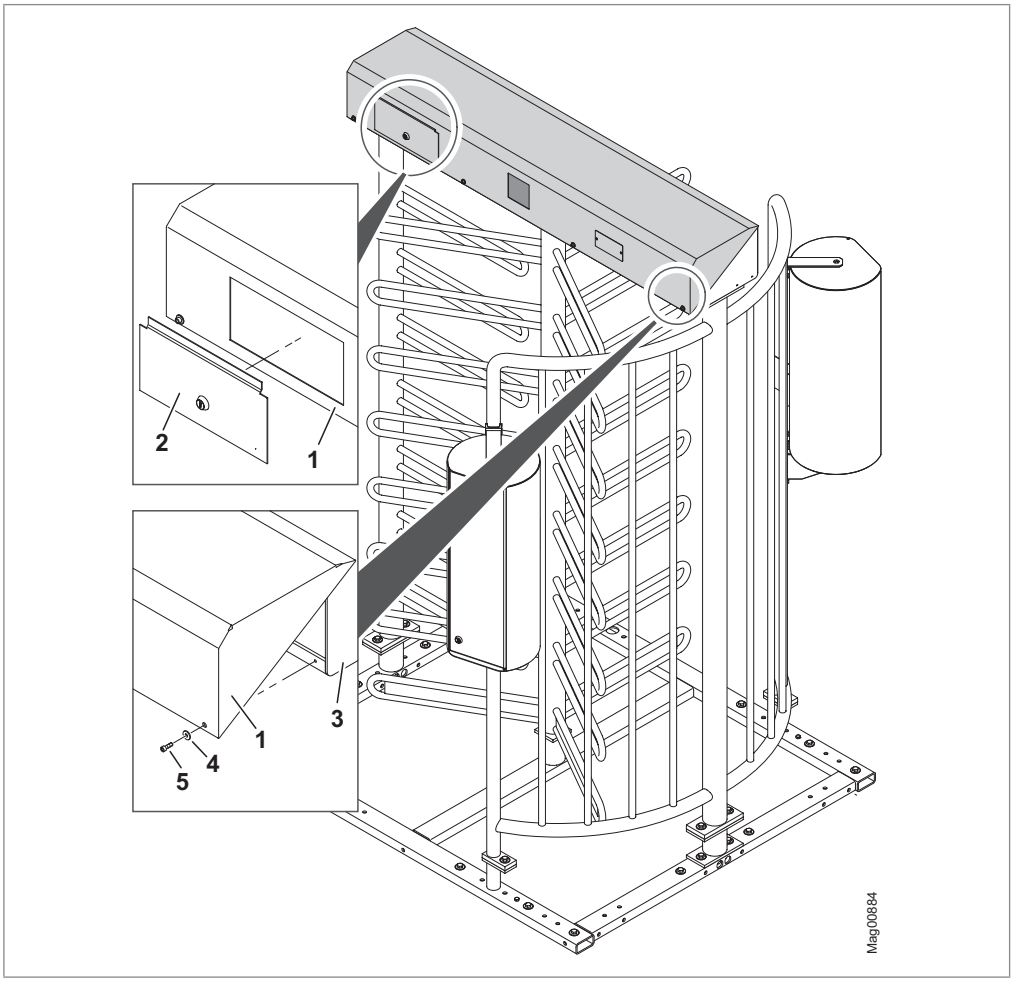

Fig. 52: Open and close cover or service door

1 Top cover
2 Service door
3 Support beam
4 Washer
5 Hexagon socket screws

10.3.1 Opening and closing the cover

Opening the cover

1. Loosen the screw of the cover.
2. Dismount the protective earth conductor at the cover.
3. Pull off the cover to the front and remove it.

Closing the cover

⚠ DANGER

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

1. Ensure that the protective earth conductor of the cover is connected to the service door.
2. Put the cover onto the support beam from the front.
3. Secure the cover with the hexagon socket screws.

10.3.2 Opening and closing the service door

IMPORTANT!

The hood for the MPT-333 turnstile is equipped with a service door. The hood for the MPT-353 turnstile is equipped with two service doors.

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 of the service door is connected to the service door.
2. Close the service door.

10.4 Connecting the mains cable

⚠ DANGER

Mortal danger by 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 electricians must carry out work on the electrical system.
› Connect mains cable according to the following description.
› Install electrical protective devices. ↗ Page 92, Chapter 10.2.

IMPORTANT!

The wire cross-section of the mains cable must be between 1.5 and 4 mm². Observe national provisions on line length and associated line cross-section.

IMPORTANT!

A mains cable is required for the MPT-333 turnstile and for the MPT-353. Connect the mains supply cable for the MPT-353 to terminals X1 either on the right or left side of the support beam.

1. Disconnect the pedestrian gate from the power supply. Ensure that the system is powered down. Secure against reactivation.
   ⚠ DANGER
   Danger to life, electrical voltage!
2. Strip mains cable and strands according to the following figure.

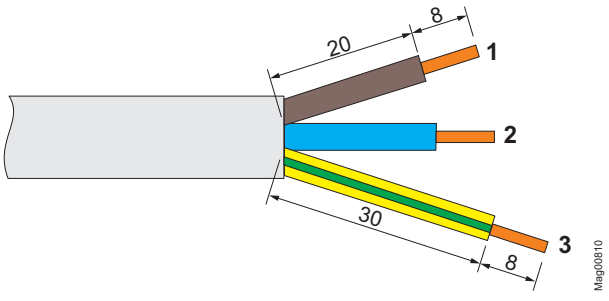

Fig. 53: Stripping (dimensions in mm)

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 according to 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.

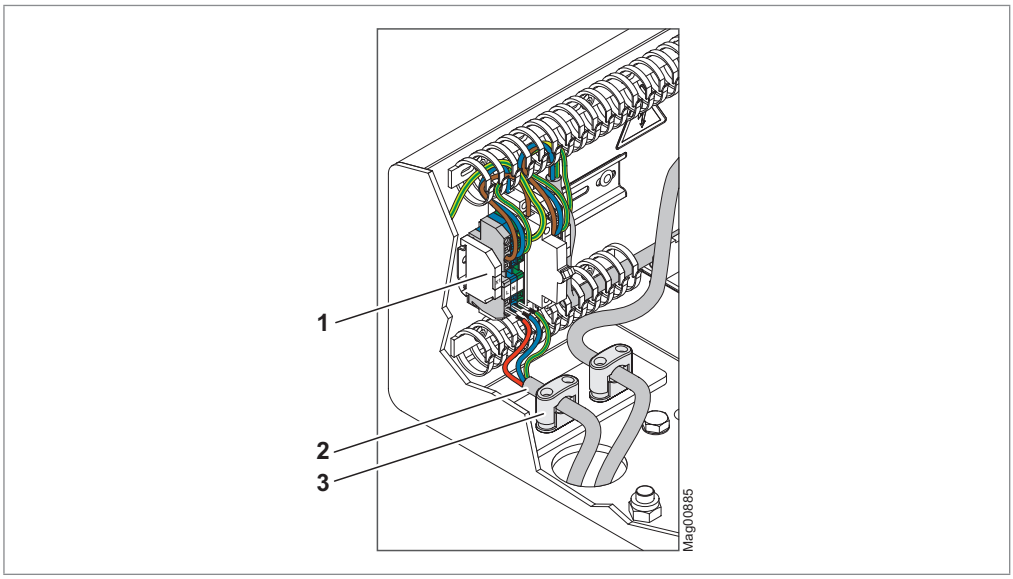

Fig. 54: Connecting the mains cable

1 Terminals mains cable X1
2 Mains cable
3 Tension relief

10.5 Connecting customer control lines

IMPORTANT!

For connecting the control lines provided by the customer, see separate document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

10.6 Connecting emergency opening contacts

↗ Separate electrical circuit diagram and document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

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

10.7 Installing and connecting customer access-control devices

⚠ DANGER

Mortal danger by electric shock!

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

- Only electricians must carry out 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 in excess of 25 V AC or 60 V DC, earth the housing or the connection plate.
- Use a voltage of no more than 25 V AC or 60 V DC on the operating front.

Assembly

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

› Optional mounting pillar: ↗ Page 83, Chapter 9.

› Mounting bracket on the cage half: ↗ Page 25, Fig. 7.
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 and document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

10.8 Checking the electrical connections

After the electrical installation, check the following points:

› Does the power supply match the specification on the type plate?

› Are the prescribed 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 firmly tightened?

› Is the support beam earthed? ↗ Page 52, Fig. 24.

› Is the protective ground for the cover connected?

› Is the protective ground for the service door connected?

› Is the cover assembled correctly?

› MPT-333: Is the service door closed?

› MPT-353: Are the service doors closed?

11 Commissioning

11.1 Safety during commissioning

Qualification of personnel

› Technician

› Electrical specialist

↗ Page 12, Chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

11.2 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 optional displays for passage free and passage locked

› Function of the customer-side access-control devices

11.3 Switching the pedestrian gate on and off

NOTICE

Fast restart!

Switching the pedestrian gate on again too fast can lead to damage to the device!

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

IMPORTANT!

The MPT-353 turnstile is equipped with two 2-pole off switches. An off switch is assigned to each passage. If you want to switch both passages on or off at the MPT-353 turnstile, you must press both off switches.

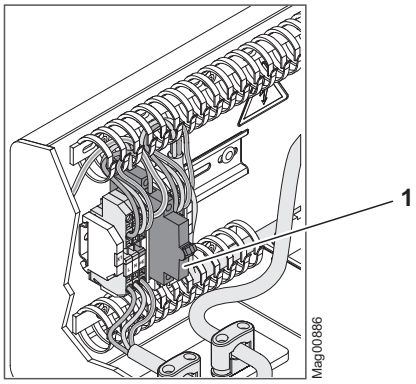

Fig. 55: Switching the turnstile on and off
1 2-pin switch-off

1. Open the service door(s).
   ↗ Page 93, Fig. 52 and ↗ Page 94, Chapter 10.3.2.
2. Switch the pedestrian gate on or off using the 2-pin switch-off.
3. Close the service door(s).

11.4 Parameterising the pedestrian gate

IMPORTANT!

For parameterisation see separate document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

12 Operation

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

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

IMPORTANT!

For parameterisation see separate document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

13 Cleaning and maintenance

13.1 Safety during cleaning and maintenance

Qualification of personnel

Cleaning

› Operator

Cleaning and maintenance

› Technician

› Electrical specialist

↗ 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 cleaning cloths.

› 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 even layer of stainless steel detergent and rub dry 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 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 that the system is powered down. Secure against reactivation.
   ⚠ DANGER
   Danger to life, electrical voltage!
2. Open top cover. ↗ Page 93, Fig. 52 and ↗ Page 94, Chapter 10.3.1.
3. Vacuum away dust from inside the support beam.
4. Close top cover.

13.3 Maintenance schedule

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

Interval	Work	Personnel
Monthly	Check the pedestrian gate for damage from the outside.	Operator
Every 6 months	Check centre pillar, cage half and locking comb 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 play on the floor bearing and ease of movement. Adjust play if necessary.	Technician
	Check the function of the locking.	Technician
	Check screwed connection on the drive flange.	Technician
	Check function of the external residual current operated device	Electrical specialist
Every 12 months	Check electrical lines for damage.	Electrical specialist
	Check if all electrical connections are firm.	Electrical specialist
	Check signs and labels for completeness and legibility.	Technician
	Check foundation fastening.	Technician
According to the operator	Check emergency function.	Operator

Table 10: Maintenance schedule

14 Corrective action

IMPORTANT!

For troubleshooting see separate document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

15 Spare parts and repair

NOTICE

Wrong and faulty spare parts!

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

› Use only the manufacturer's original spare parts.

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

Spare part lists can be obtained on request.

15.1 Changing and adjusting proximity sensors

↗ Separate electrical circuit diagram.

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

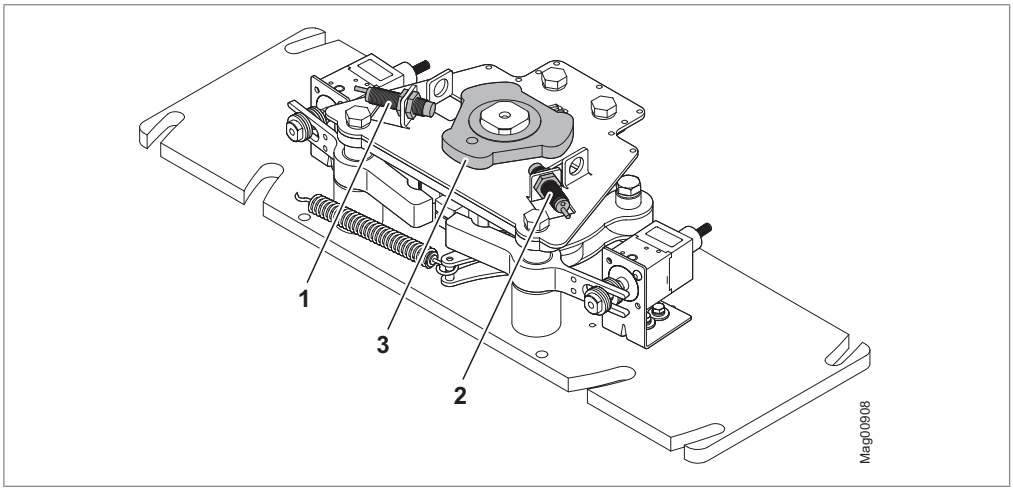

Fig. 56: Proximity sensors for detecting the end position of the centre pillar

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 that the system is powered down. Secure against reactivation.

   ⚠ DANGER
   Danger to life, electrical voltage!

2. Loosen the connection line of the proximity sensor at the terminals.
3. Disassemble 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. Fasten the proximity switch. 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.

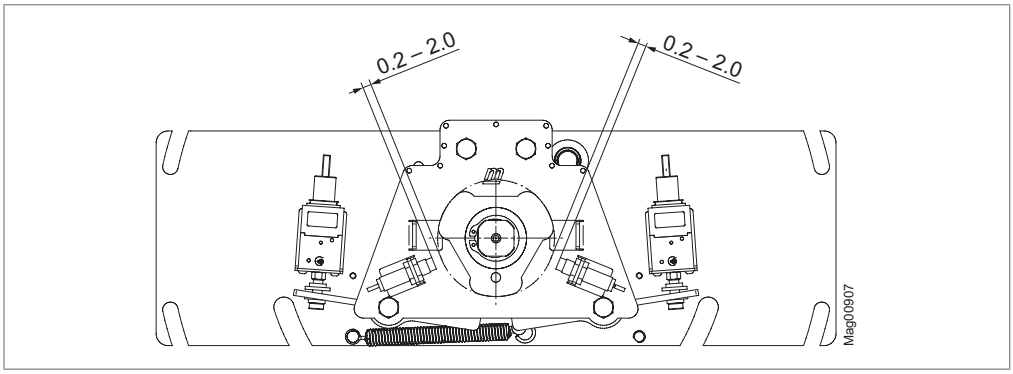

Fig. 57: Distance proximity sensor - switching cam

16 Converting the locking unit

16.1 Safety during conversion

Qualification of personnel

Cleaning and maintenance

› Technician

› Electrical specialist

↗ Page 12, Chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes

› Protective helmet.

By default, the locking unit is delivered with the configuration "normally open".

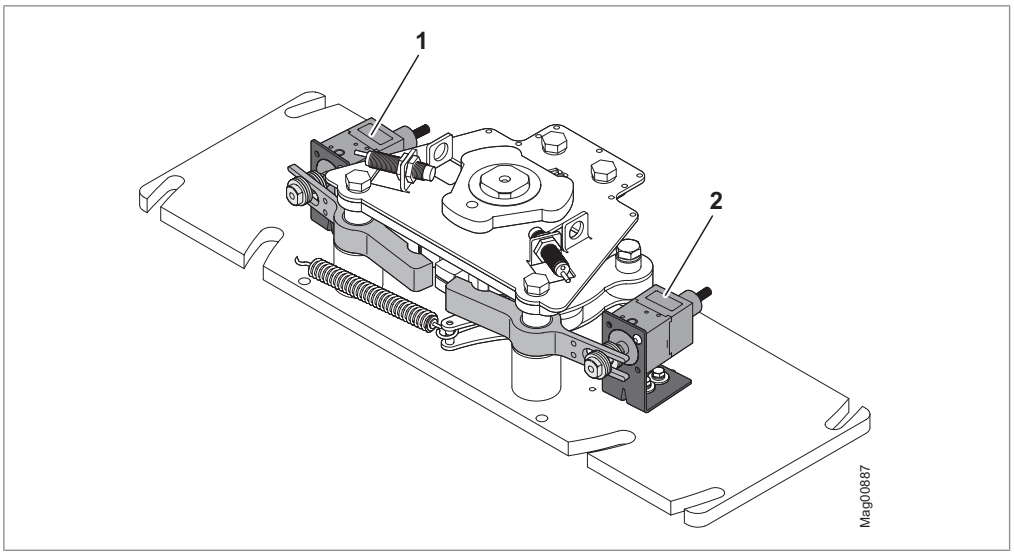

Fig. 58: Locking unit configuration "Normally open"

1 Magnet RL1

2 Magnet RL2

IMPORTANT!

You can modify the locking unit into the "normally closed" configuration. You must then parameterise the turnstile for the "Normally closed" configuration in the "Gate HW" menu. For parameterisation see separate document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

Characteristic	Normally open	Normally closed
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 11: Characteristics "Normally open" and "Normally closed"

Convert locking unit for configuration "Normally closed"

1. Disconnect the pedestrian gate from the power supply. Ensure that the system is powered down. Secure against reactivation.
   ⚠ DANGER
   Danger to life, electrical voltage!
2. Open top cover. ↗ Page 93, Fig. 52 and ↗ Page 94, Chapter 10.3.1.

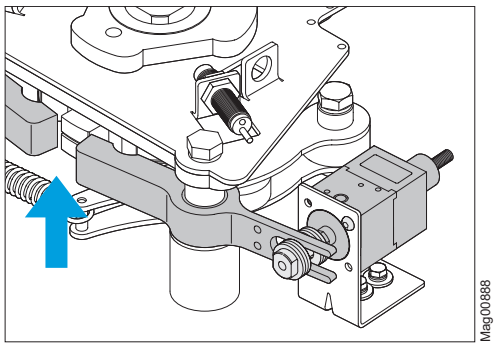

Fig. 59: Locking unit configuration "Normally open"

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.

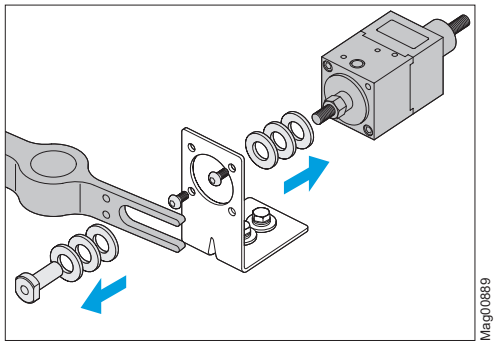

Fig. 60: Remove magnet, washers and union nut

6. Turn magnet 180°.
7. Remove a washer. The sixth washer is not required for the "Normally closed" configuration.

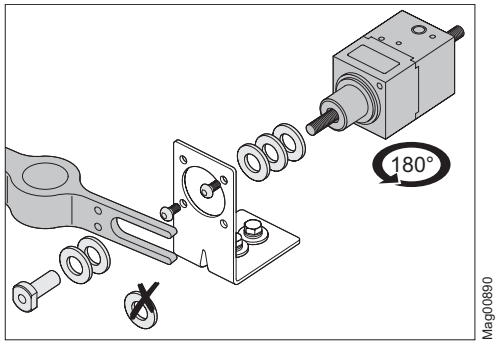

Fig. 61: Turn magnet, remove washer

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.

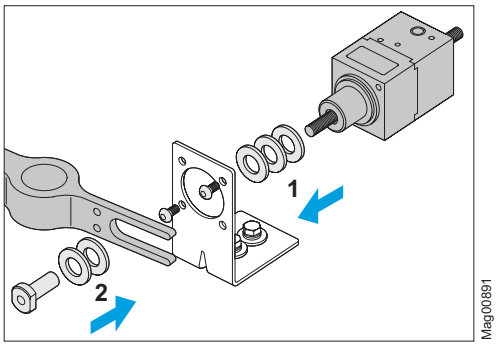

Fig. 62: Mount magnet, washers and union nut (normally open)

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 "normally closed" configuration.

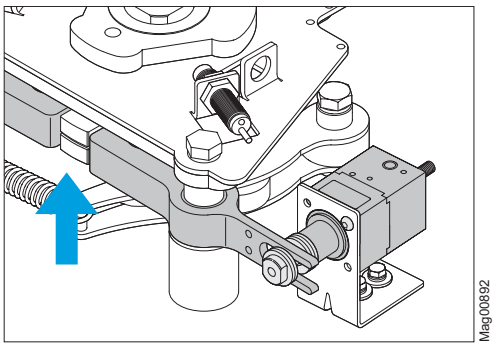

Fig. 63: Locking unit configuration "Normally closed"

13. Parameterise the turnstile for the "Normally closed" configuration in the "Gate HW" menu on the control unit MGC.

↗ Separate document "Description of MGC control unit for MPT-333 and MPT-353 Full Height Turnstile (Doc.ID: 5817,0027)".

17 Customer service

Our customer service can be contacted for any technical advice. Information about 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

You disable the pedestrian gate in the following cases:

› The pedestrian gate is installed at a different location.

› The pedestrian gate will be 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 100, Chapter 11.3.

18.1 Safety during decommissioning

Qualification of personnel

› Technician

› Electrical specialist

↗ 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 Take the pedestrian gate out of operation

1. Switch off the pedestrian gate. ↗ Page 100, Chapter 11.3.
2. Disconnect the pedestrian gate from the power supply.
3. If necessary, dismantle the pedestrian gate.
4. Store pedestrian gate or components properly. ↗ Page 34, Chapter 5.4.

19 Disassembly and disposal

19.1 Safety during disassembly and disposal

Qualification of personnel

› Technician

› Electrical specialist

↗ 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 Disassembly and disposal of the system

Prerequisites

› The pedestrian gate is out of order. ↗ Page 112, Chapter 18.2.

1. Disassemble the pedestrian gate into individual parts.
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 disassembled and disposed of.

EU-Declaration of Conformity

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

Designation	**Full height turnstile**
Type	MPT-3*3
From serial number	10631404

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 60204-1:2006/AC:2010
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 13849-1:2008/AC:2009
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, 04/05/2020
Place and date

Signature

Index

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Doc. ID: 5817,0028EN
Version 01

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