Operating Instructions

Turnstile

MHTM™ FlowMotion®

mTripod

Doc. ID: 5817,0030US-EN
Version 01

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Important Safety Instructions

- Read and follow all instructions.
- Do not install the pedestrian gate in areas where there is a risk of flooding.
- Never let children operate or play with pedestrain gate controls.
- Keep pedestrain gate properly maintained. Read these instructions. Have a qualified service expert make repairs to pedestrain gate.
- Save these instructions.

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 pedestrian gate 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 parameterisation of the MGC control unit, see separate document "Description of MGC control unit for MHTM™ FlowMotion® (Doc.ID: 5817,0025)".

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 Magnetic turnstile mTripod is designed for the control of persons who wish to enter or leave a restricted area.

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.
- Using the turnstile without an enabled passage. This means that the blocking arms are 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 behavioral 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. › Is a professional installer according to NFPA 70 National Code and Local Code. › 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.
Magnetic MHTM™ FlowMotion® service expert	› Meets all requirements of the technician. › Trained and authorised by Magnetic.
Operator	› Trained by the operator.

Table 1: Qualifications of personnel

Action	Transport equipment operator	Technician	Magnetic service expert	Operator
Transporting	X	X	–	–
Unpacking	X	X	X	–
Laying the foundation	–	X	–	–
Assembly	–	X	X	–
Electrically connect	–	X	X	–
Parameterise	–	X	X	–
Commissioning [1)]	–	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	–	–

1) According to the supplied test book MHTM™ FlowMotion® mTripod

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 55, chapter 8.4.1.

3 Technical data

3.1 Dimensions and design

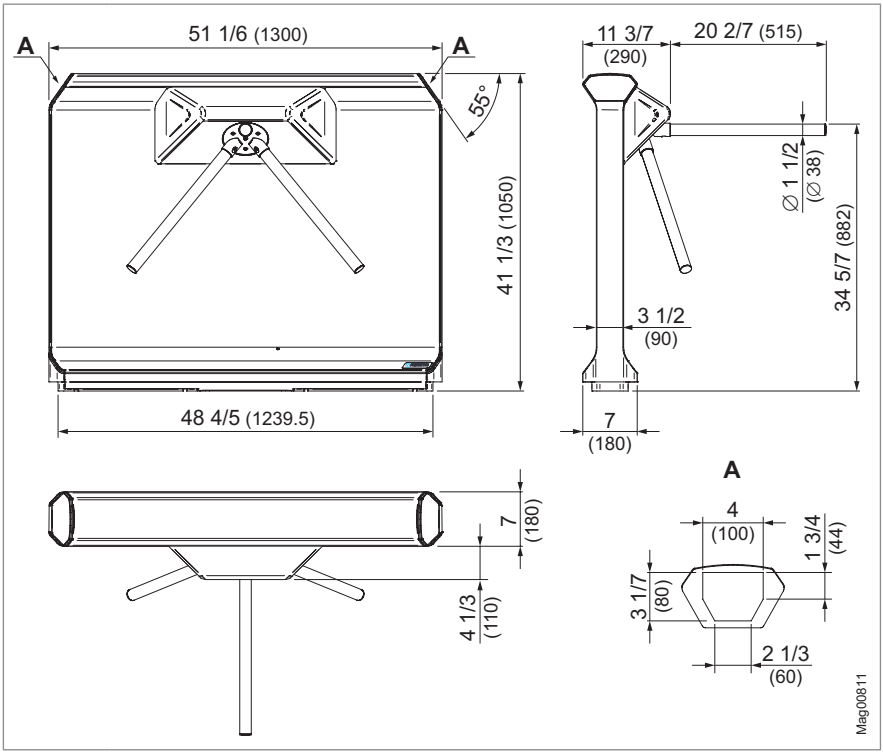


Fig. 1: Dimensions mTripod ML (Dimensions in inch are without parenthesis. Dimensions in mm are in parenthesis.)

A Dimensions for customer's access-control device

Designation	Value
Dimensions (length x width x height)	51 1/6 inch x 11 3/7 inch x 41 1/3 inch (1300 mm x 290 mm x 1050 mm) ↗ Page 18, Fig. 1.
Passage width	20 2/7 inch (515 mm)
Weight	› Pedestrian gate complete: 154 1/3 lbs (70 kg) › Optional floor plate: 13 2/9 lbs (6 kg)
Material	› Housing: mDure › Optional floor plate: 1.4301
Housing colour, standard	› Side parts: basalt › Frame: anthracite

Table 3: Dimensions and design

3.2 Clearances and line configuration to be maintained

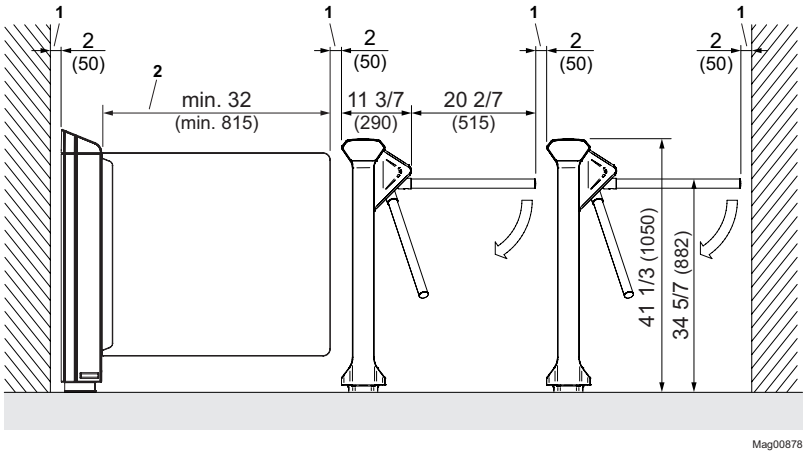


Fig. 2: Clearances and line configuration to be maintained (Dimensions in inch are without parenthesis. Dimensions in mm are in parenthesis.)

1 Minimum distance 2 inch (50 mm)

2 Required additional passage with a passage width of at least 32 inch (815 mm), here e.g. Magnetic mSwing with a passage width of 37 2/5 inch (950 mm)

3.3 Electrical connection

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

Table 4: Electrical connection

3.4 Operating conditions

Designation	Value
Operating temperature range	–22 to +131 °C (–30 to +55 °C)
Storage temperature range	–22 to +131 °C (–30 to +55 °C)
Relative humidity	Max. 95 %, non-condensing
Protection class	IP 54

Table 5: Operating conditions

3.5 Emissions

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

Table 6: Emissions

3.6 Control unit MGC

Designation		Value
Power supply		24 V DC
Control unit		max. 1 A max. 300 mA + current consumption of the different plug-in modules
Power consumption		max. 24 W: Max. 7.2 W + Power consumption of the individual plug-in modules
Control unit safety		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)]	98.4 ft (30 m)
Digital outputs	Number	4 (open collector)
	Input voltage	24 ± 10 % V DC
	Input current	100 mA
	Max. cable length [1)]	98.4 ft (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)]	98.4 ft (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 98.4 ft (30 m), overvoltage modules must be installed in front of the terminal clamps.

Table 7: Control unit MGC

4 Design and function

4.1 Design

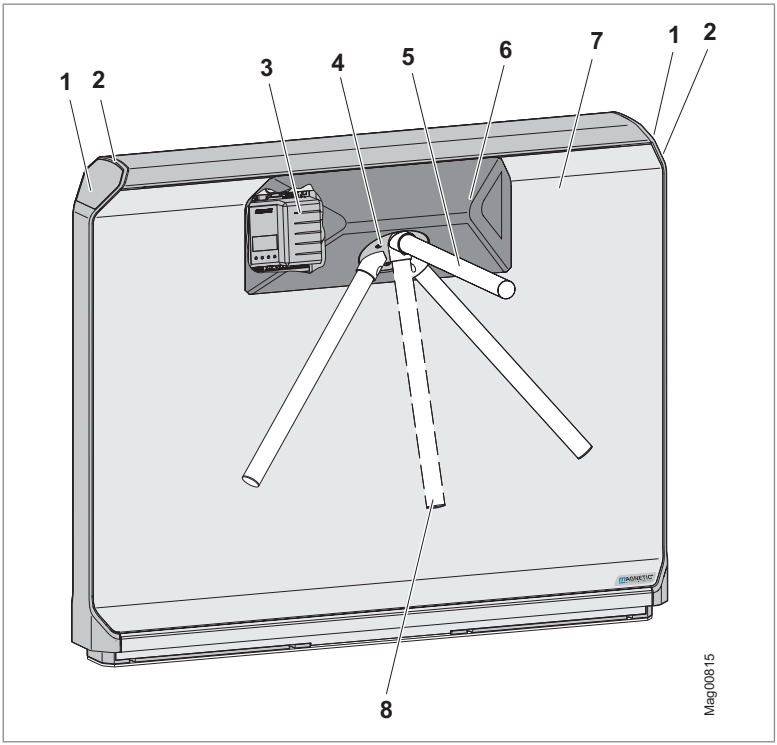


Fig. 3: Design of the mTripod ML

1 Room for access-control device provided by the customer, e.g. card reader
2 Space for GED (passage direction display)
3 Control unit MGC
4 Drive for blocking element, consisting of 3 blocking arms
5 Blocking arm (3 x)
6 Cover for control unit and drive blocking element, consisting of cover and trapezoidal plate
7 Side part (front panel)
8 Drop arm (option)

4.1.1 Function

The Magnetic turnstiles mTripod separate and control pedestrians who wish to access or leave areas with restricted access.

Depending on the parameterisation of the turnstile, it can be passed either in one direction or in both directions after the turnstile has been released. Furthermore, the turnstile can be used in free entry or exit mode.

For emergencies such as fire or power failures Magnetic has developed the option "drop arm". With this option, when an emergency is triggered or in the event of a power failure, the blocking arm, which is at the top at this time, unlocks. The blocking arm turns downwards. When the voltage returns, the blocking arm is automatically turned to its basic position. With turnstiles without the "drop arm" option, the passage in both directions is enabled when an emergency is triggered and in the event of a power failure.

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 operator has actuated an enable signal, the passage is enabled and the person can pass.

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

› Magnetic MHTM™ FlowMotion® service expert

↗ Page 14, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes.

⚠ 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 pedestrian gate 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: –22 to +131 °C (–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 the pedestrian gate at the final location.
2. Align pedestrian gate upright. 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

The following components are supplied as standard for each mTripod turnstile:

- 1 mTripod turnstile
  The rear panel, the trapezoidal plate, the cover for the connection unit and the cover plate for the base frame are mounted.
- Front panel
- Cover
- 3 blocking arms
- 1 attachment set for 3 blocking arms without "drop arm" option
- 1 attachment set for 3 blocking arms with "drop arm" option
- 4 U-profiles
- 1 assembly tool
- Documentation: Electrical circuit diagram, test book, these operating instructions and description "MGC control unit"

For options and attachments, see your order confirmation.

6.3 Identification

6.3.1 Type plate

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

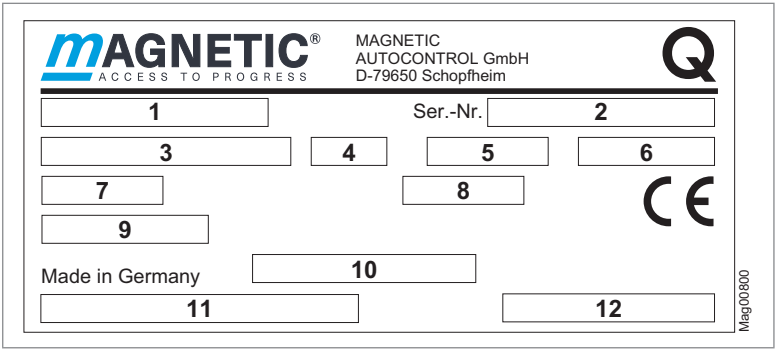


Fig. 4: Type plate mTripod ML

1 Product name
2 Serial number
3 Power supply
4 Frequency
5 Current consumption
6 Power consumption
7 Protection class (IP)
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 Installation and assembly

7.1 Safety when unpacking

Qualification of personnel

› Technician
› Magnetic MHTM™ FlowMotion® service expert

↗ Page 14, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes
› Protective gloves
› Safety shoes.

⚠ 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.

7.2 Assembly options

You may install the pedestrian gate as follows:

- With the Magnetic attachment set BSS100
- With the Magnetic attachment set BSSKL100
- With the Magnetic base frame FURA100
  and the Magnetic attachment set BSSFURA100

7.3 Required steps

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

- Set up foundation and placing empty conduits.
  ↗ Page 31, chapter 7.4.

The following work steps must be carried out during assembly:

- Unpack the pedestrian gate. ↗ Page 27, chapter 6.1.
- Align the pedestrian gate.
- Assemble the pedestrian gate. ↗ Page 35, chapter 7.6.
- Connect the pedestrian gate electrically. ↗ Page 50, chapter 8.

7.4 Setting up foundation and placing empty conduits

7.4.1 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 figure Fig. 5
- Non-slip surface
- Horizontal and level.

For outdoor assembly, the foundation must meet the following additional requirements:

- Concrete C35/45 XD 3 XF2
- Foundation depth: at least 31 1/2 inch (800 mm), frost-proof. Adjust foundation depth to the local conditions.
- Reinforcing mesh as shown in figure Fig. 6.

7.4.2 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.

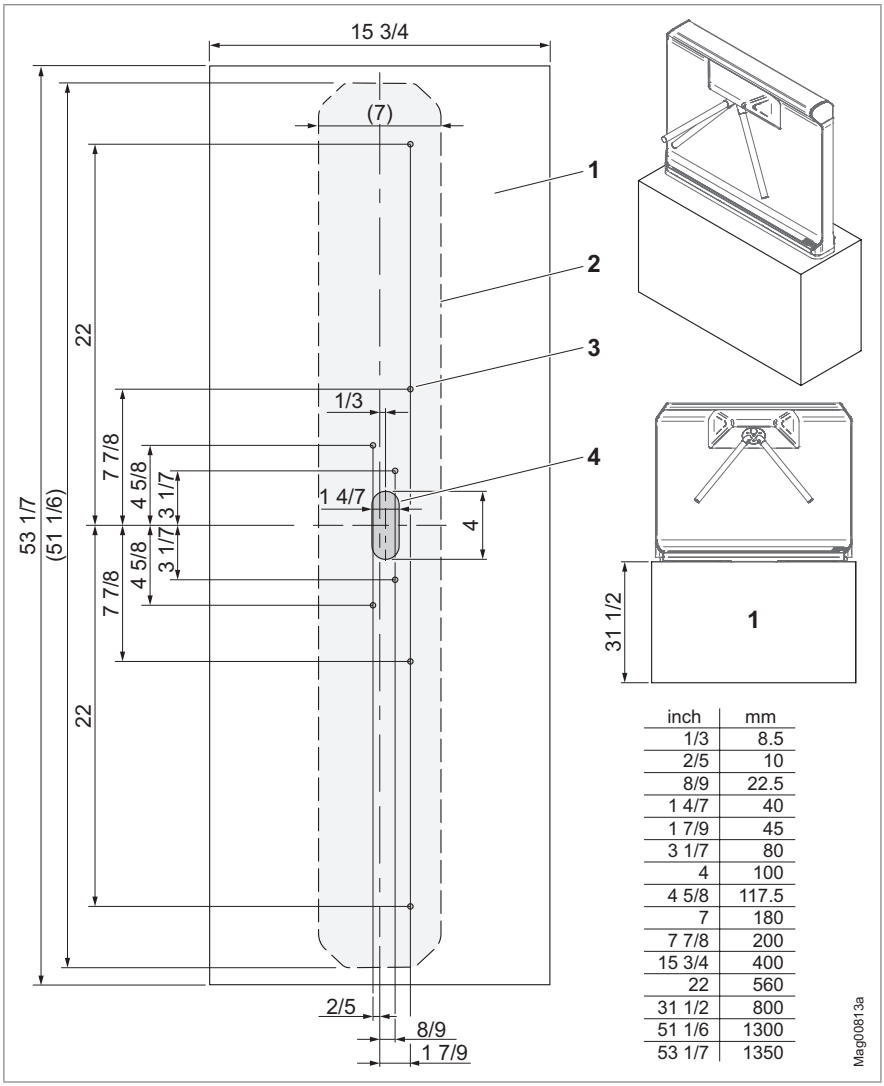
IMPORTANT!

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

7.4.3 Setting up foundation and placing empty conduits

1. Excavate the foundation hole according to the foundation and empty conduit plan.
   ↗ Page 33, Fig. 5. ↗ Page 34, Fig. 6.
2. If installed outdoors, lay the reinforcement braid.
3. Place empty conduits according to the foundation and empty conduit plan in the foundation hole.
4. Close empty conduit to prevent water from entering.
5. Concrete the foundation.
6. Create smooth coating.
7. Let concrete cure.
8. Apply moisture protection for outdoor installation.

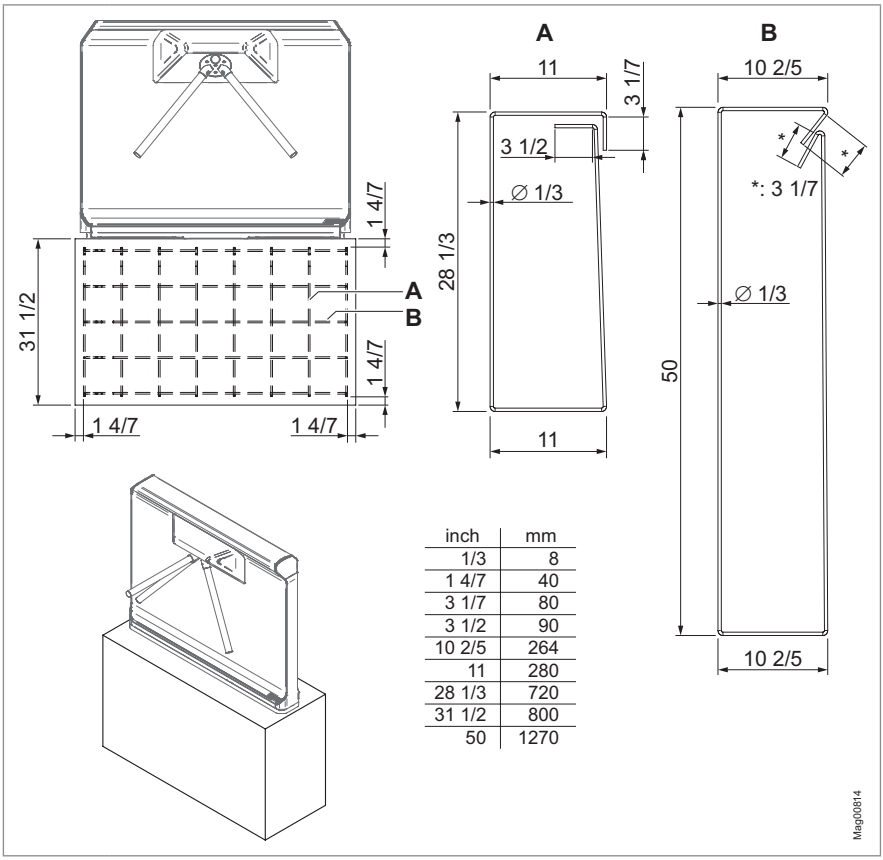
7.4.4 Foundation and empty conduit plan and reinforcement mTripod ML



inch	mm
1/3	8.5
2/5	10
8/9	22.5
1 4/7	40
1 7/9	45
3 1/7	80
4	100
4 5/8	117.5
7	180
7 7/8	200
15 3/4	400
22	560
31 1/2	800
51 1/6	1300
53 1/7	1350

Fig. 5: mTripod ML foundation and empty conduit plan (dimensions in inch)

1 Foundation, frost depth, outdoor area
2 mTripod ML outline
3 Boreholes (8 x)
4 Feed-through for empty conduits



inch	mm
1/3	8
1 4/7	40
3 1/7	80
3 1/2	90
10 2/5	264
11	280
28 1/3	720
31 1/2	800
50	1270

Fig. 6: Reinforcement (dimensions in inch)

7.5 Aligning the pedestrian gate

When installing several pedestrian gates, align the pedestrian gates to the customer's specifications and to the on-site conditions, e.g. walls, tile joints and railings, using a laser or scale.

7.6 Assembly of the mTripod

Prerequisites

- The foundation was built.
- The empty conduits were laid.
- The foundation has cured.

The following components are assembled when the turnstile is delivered: Rear panel, trapezoidal plate, cover for the connection unit, cover plate for the base frame. Cover, front panel and blocking arms are not assembled on delivery.

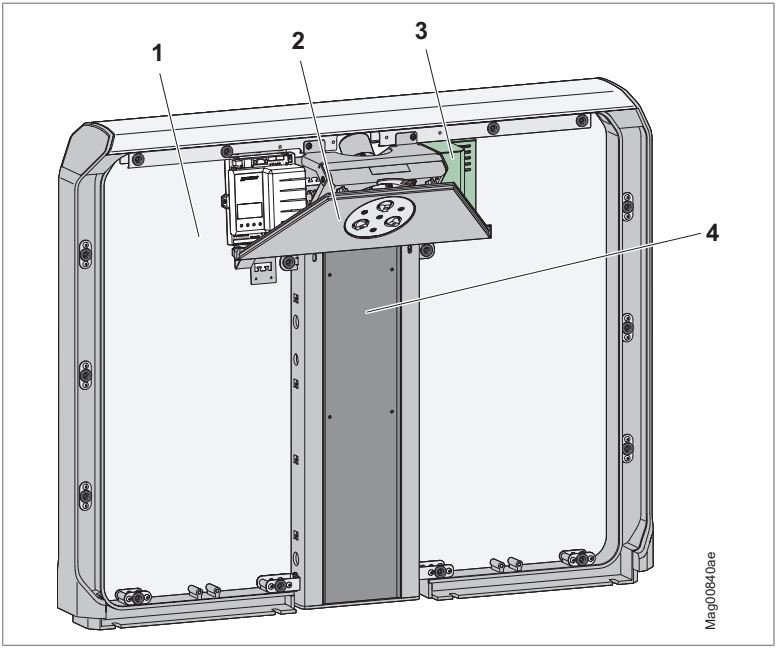


Fig. 7: Turnstile in delivery state

1 Rear panel
2 Trapezoidal plate
3 Cover connection unit
4 Cover plate base frame

1. Disassemble the cover plate for the base frame. To do this, loosen the 4 screws.

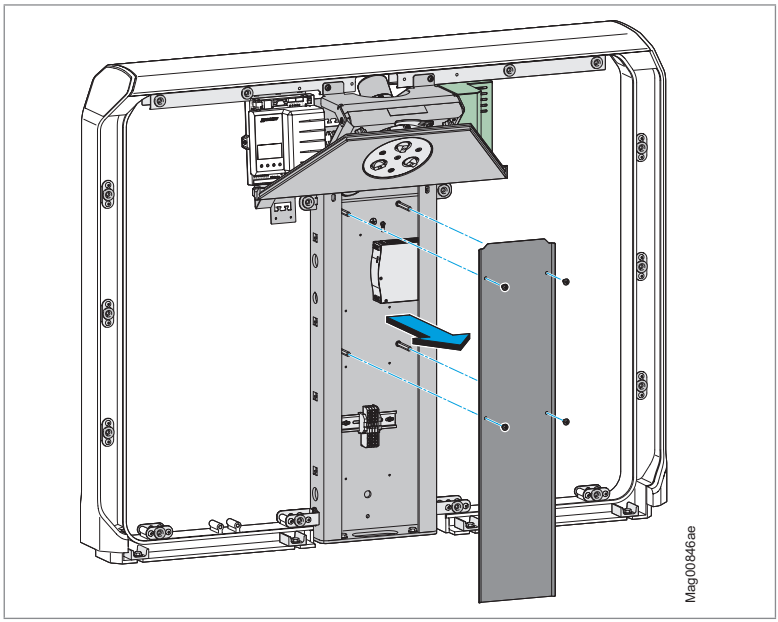


Fig. 8: Disassembly of the cover plate

2. Attach mTripod to the floor. ↗ Page 42, chapter 7.7.

3. Disassemble the holding bracket. To do this, loosen the 4 screws.

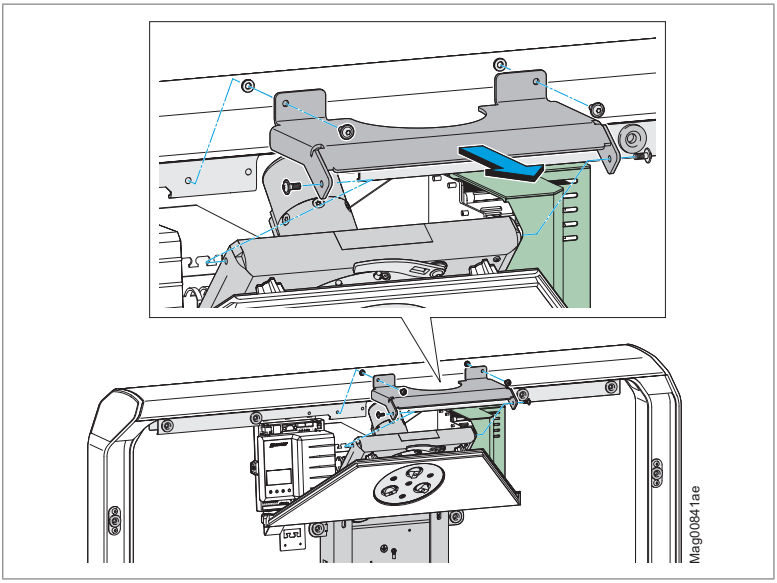


Fig. 9: Disassembly of the holding bracket

4. Disassemble the trapezoidal plate. To do this, loosen the 2 screws.

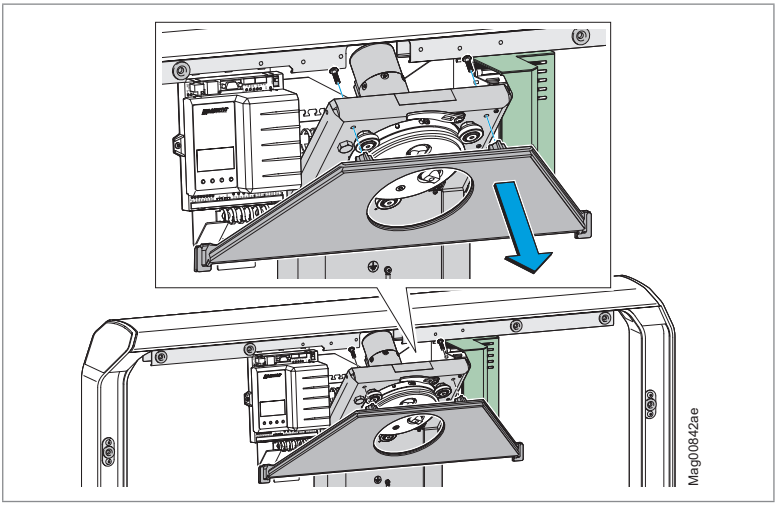


Fig. 10: Disassemby of the trapezoidal plate

5. Arrange electrical connections. ↗ Page 50, chapter 8.
6. Assemble the trapezoidal plate.
7. Assemble the holding bracket.
8. Assemble the cover plate for the base frame.

9. Assemble the front panel. A click sound is heard each time it clicks into place.

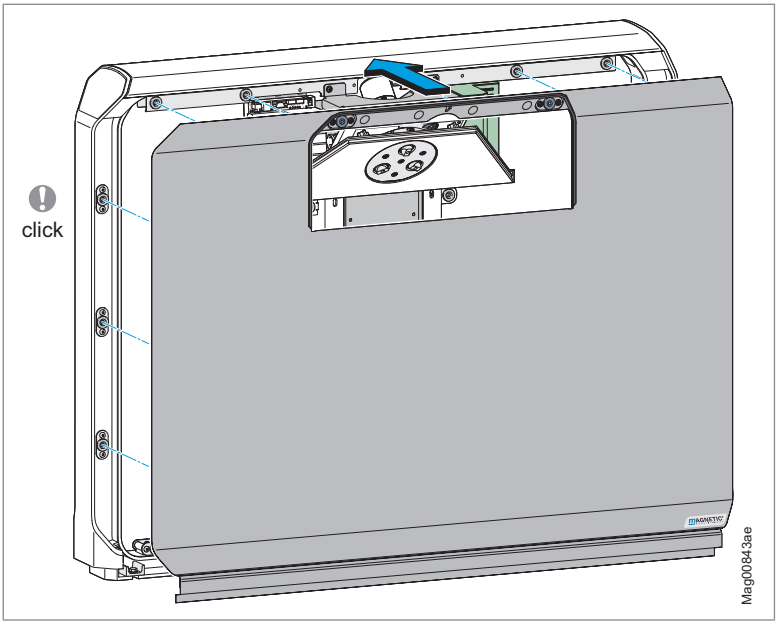


Fig. 11: Assembly of the front panel

10. Attach the front panel with the 4 screws.

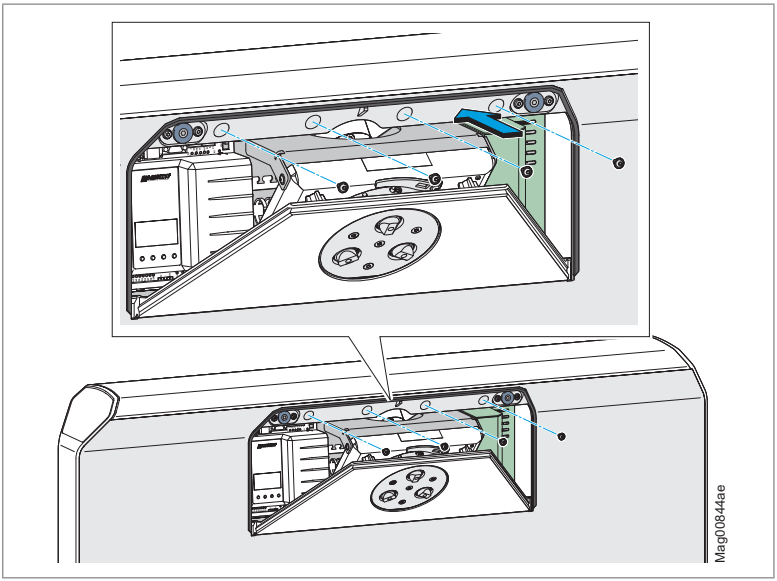


Fig. 12: Attachment of the front panel

11. Assemble the cover. The cover is held by 2 magnets.

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

› Hang in the cover.

› Tilt the cover backwards until the magnets close the cover.

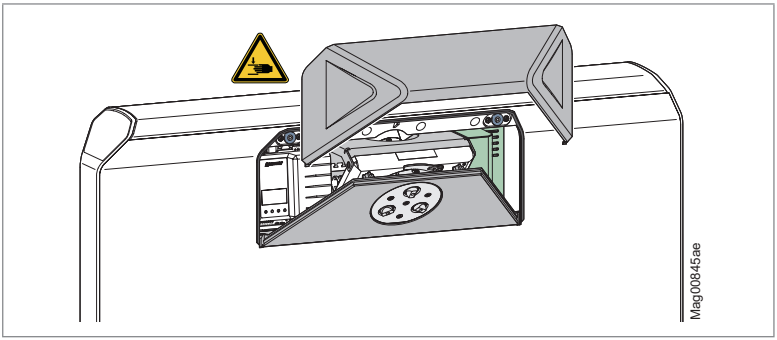


Fig. 13: Assembly of the cover

12. Assemble blocking arms.
    - Blocking arms with drop arm function:
      ↗ Page 40, Fig. 14.
    - Blocking arms without drop arm function:
      ↗ Page 41, Fig. 15.

IMPORTANT!

The scope of delivery includes one attachment set for blocking arms without “drop arm” option and one attachment set with “drop arm” option per pedestrian gate. Assemble the blocking arms with the correct attachment set.

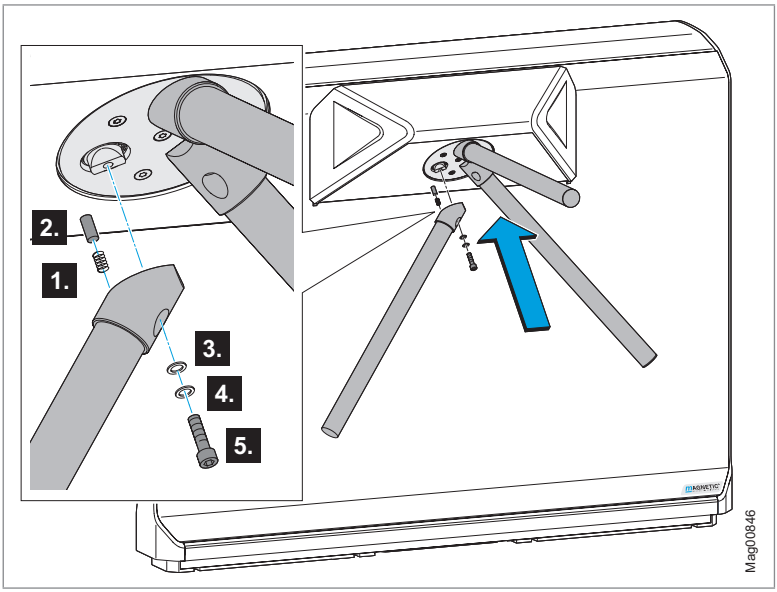


Fig. 14: Assembly of the blocking arms with drop arm function
Observe the assembly sequence of the spring, silicone sleeve, washer, north lock washer and hexagon head screw.

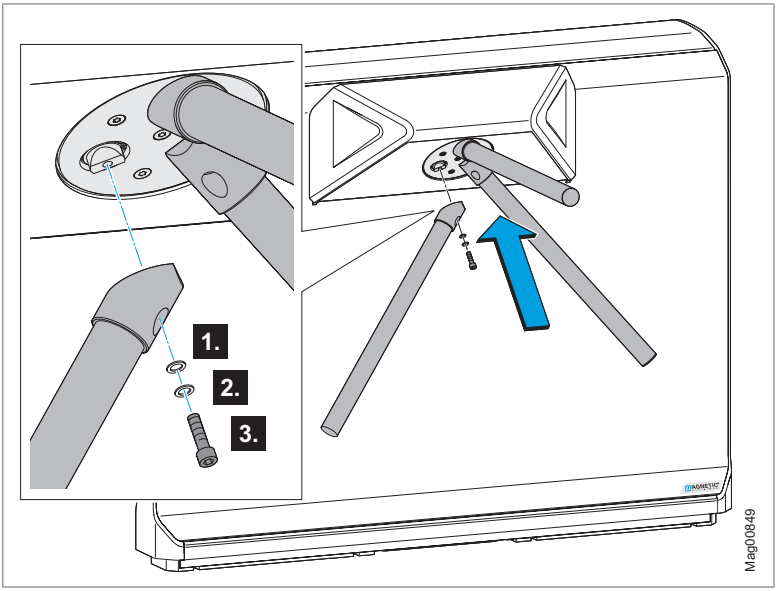


Fig. 15: Assembly of the blocking arms without drop arm function
Observe the assembly sequence of the washer, north lock washer and hexagon head screw.

7.7 Attaching the mTripod to the floor

7.7.1 Attaching the mTripod with the attachment set BSS100

Prerequisites

› The mTripod is in delivery state. ↗ Page 35, Fig. 7.

1. Disassemble the cover plate for the base frame. ↗ Page 36, Fig. 8.

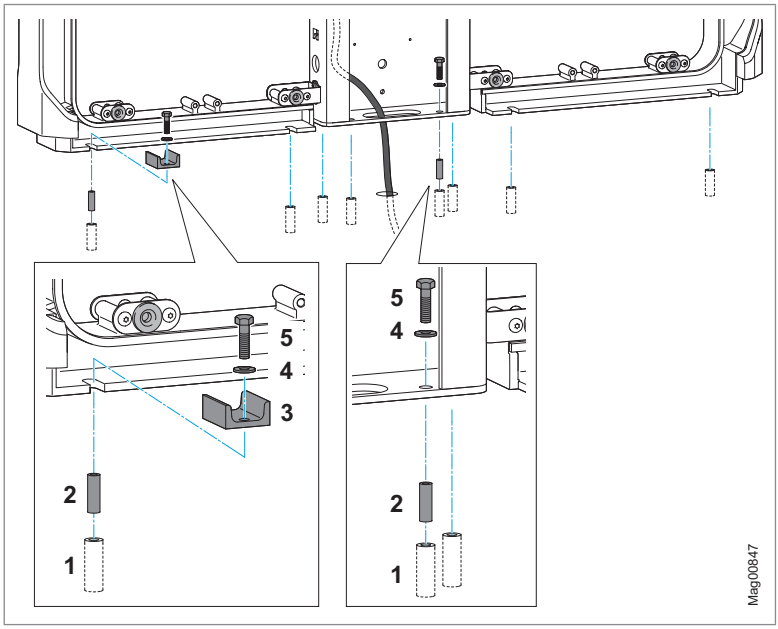


Fig. 16: Attachment with attachment set BSS100

1 Boreholes (8 x)
2 Anchor with internal thread 12 x 90, M8, VA (8 x)
3 U-profiles (4 x)
4 Washer DIN 125 A 8.4 mm A2, stainless steel (8 x)
5 Hexagon head screw DIN 933 M8 x 30 A2, stainless steel (8 x)

IMPORTANT!
Please observe the separate notes and instructions for the injection mortar and the anchor with internal thread.

2. Drill the boreholes for the anchors with internal thread according to the foundation plan. ↗ Page 33, Fig. 5.
3. Clean the boreholes with compressed air.
4. Inject injection mortar into the boreholes.
5. Screw in the anchors with internal thread to the bottom of the boreholes by hand.
6. Wait for the curing time. Follow separate instructions.
7. Place the housing on the anchors with internal thread.
8. Place U-profiles and hexagon head screws with washers.
9. Slightly tighten the hexagon head screws.
10. Align the pedestrian gate.
11. Tighten the hexagon head screws firmly.
12. If necessary, seal the housing with a silicone joint.
13. Arrange electrical connections. ↗ Page 50, chapter 8.
14. Assemble trapezoidal plate, holding bracket, cover plate for the base frame, front panel, cover and blocking arms. ↗ Page 35, chapter 7.6.

7.7.2 Attaching the mTripod with the attachment set BSSKL100

Prerequisites

› The mTripod is in delivery state. ↗ Page 35, Fig. 7.

1. Disassemble the cover plate for the base frame. ↗ Page 36, Fig. 8.

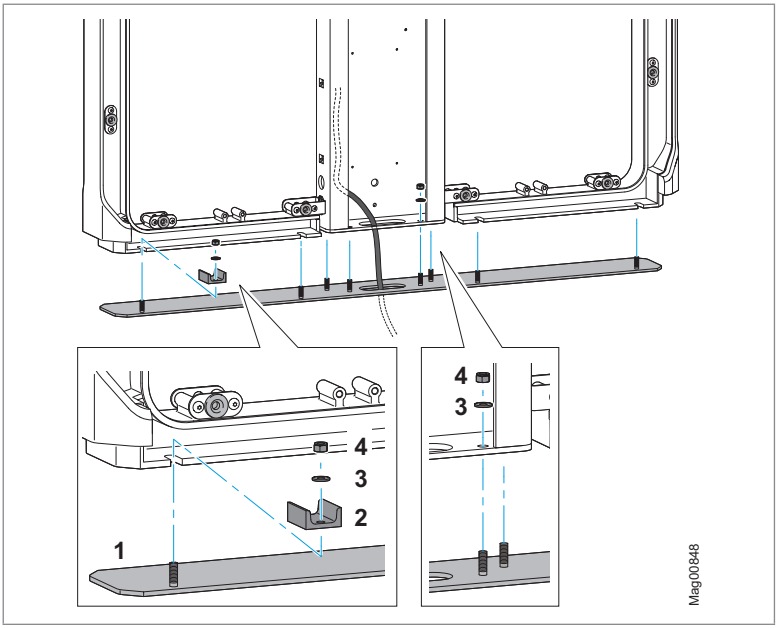


Fig. 17: Attachment with attachment set BSSKL100

1 Floor plate (1 x)
2 U-profiles (4 x)
3 Washer DIN 125 A 8.4 mm A2, stainless steel (8 x)
4 Nut DIN 985 M8 A2, stainless steel (8 x)

IMPORTANT!

Follow the separate instructions and packaging labels for the surface cleaner, construction adhesive and remover.

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

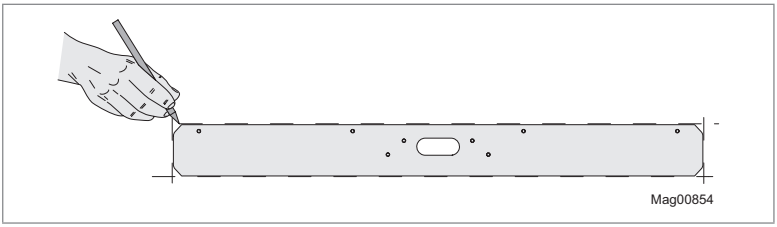


Fig. 18: Drawing outline

4. Put the floor plate aside. The underside must face upwards.
5. Clean the floor with the "HaftClean" surface cleaner.
6. Clean the underside of the floor plate with the surface cleaner "HaftClean Metall".
7. Apply construction adhesive "Klebt + D Dicht Power" to the floor in the form of a beat within the marking. Apply less adhesive towards the edge.

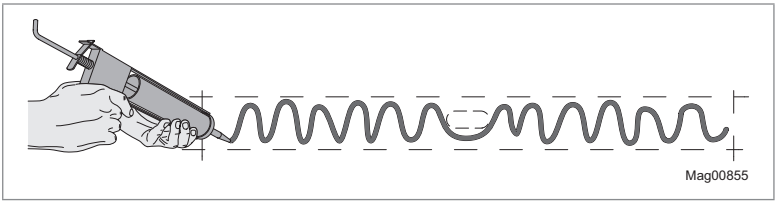


Fig. 19: Applying construction adhesive

8. Place the floor plate immediately on the adhesive. Observe markings.

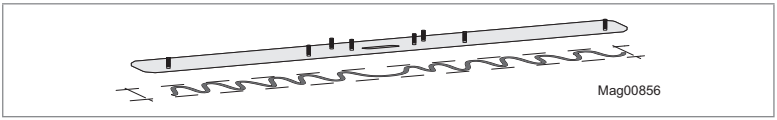


Fig. 20: Placment of the floor plate

9. Press on the floor plate immediately. If the floor plate stands out due to unevenness of the floor, weight the floor plate.

10. Remove excess adhesive as soon as possible with "Klebt + Dichtet Entferner". If the adhesive is already cured, remove excess adhesive with a suitable tool. When selecting the tool, consider the material of the base.
11. Wait for the curing time.
12. Place the pedestrian gate on the floor plate.
13. Place U-profiles and washers.
14. Tighten nuts slightly.
15. Align the pedestrian gate.
16. Tighten nuts to 10 Nm.
17. If necessary, seal the floor plate laterally with a silicone joint.
18. Arrange electrical connections. ↗ Page 50, chapter 8.
19. Assemble trapezoidal plate, holding bracket, cover plate for the base frame, front panel, cover and blocking arms. ↗ Page 35, chapter 7.6.

7.8 Disassembling and assembling the cover

For the following activities, for example, you must disassemble the cover:

› Switch the turnstile on and off.

› Parameterise the MGC control unit.

The cover is held by 2 magnets.

Disassembling the cover

1. Place the supplied tool near the magnets..
2. Lever the cover forward with the tools.
3. Unhook the cover.

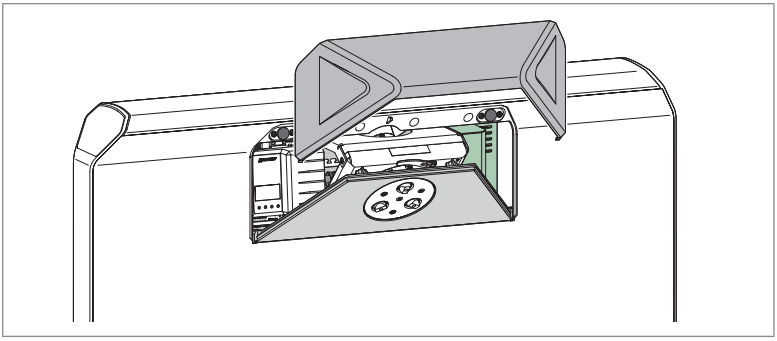


Fig. 21: Disassembly of the cover

Assembling the cover

1. Hang in the cover.

   ⚠ CAUTION
   Danger of crushing! Hold the cover only at the edge.
2. Tilt the cover backwards until the magnets close the cover.

7.9 Opening and closing the housing

To perform the electrical connection you have to open the housing.

Opening the housing

1. Disassemble cover. ↗ Page 47, chapter 7.8.
2. Disassemble blocking arms. ↗ Page 40, Fig. 14 or Page 41, Fig. 15.
3. Loosen the 4 screws of the front panel. ↗ Page 39, Fig. 12.

NOTE!
Front panel may break if disassembled incorrectly.

4. Disassemble front panel.
   - Alternately open side closures. ↗ Fig. 22, 1. to 6.
   - Open the top closures. ↗ Fig. 22, 7. to 8.
   - Open the lower closures. ↗ Fig. 22, 9. to 10.

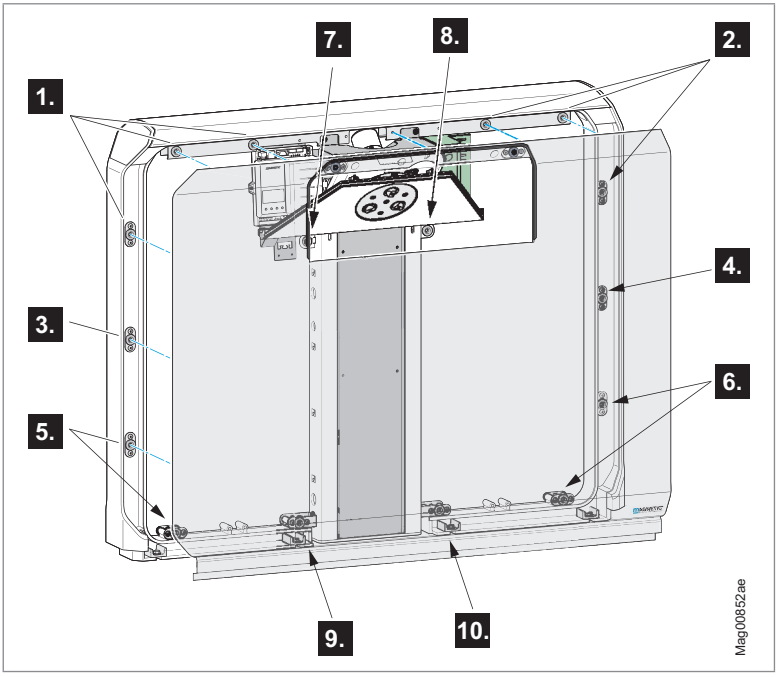


Fig. 22: Disassembly of the front panel

5. Disassemble holding bracket. ↗ Page 37, Fig. 9.
6. Disassemble trapezoidal plate. ↗ Page 37, Fig. 10.

Closing the housing

1. Assemble trapezoidal plate.
2. Assemble holding bracket.
3. Assemble front panel.
4. Assemble blocking arms.
5. Assemble cover. ↗ Page 47, chapter 7.8.

7.10 Checking the assembly

After assembly, check the following points:

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

8 Electrical connection

8.1 Safety during electrical connection

Qualification of personnel

› Technician
› Magnetic MHTM™ FlowMotion® service expert

↗ Page 14, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes
› Protective gloves
› Safety shoes.

⚠ DANGER	
	**Electric voltage!** Touching live parts can be lethal. 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.

8.2 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.

8.3 Connecting the mains cable

IMPORTANT!

Use cooper conductors only.
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.

Prerequisites

› The housing is open. ↗ Page 48, chapter 7.9.

1. Disassemble the cover plate for the base frame. ↗ Page 36, Fig. 8.
2. Disassemble the cover for the connection unit.

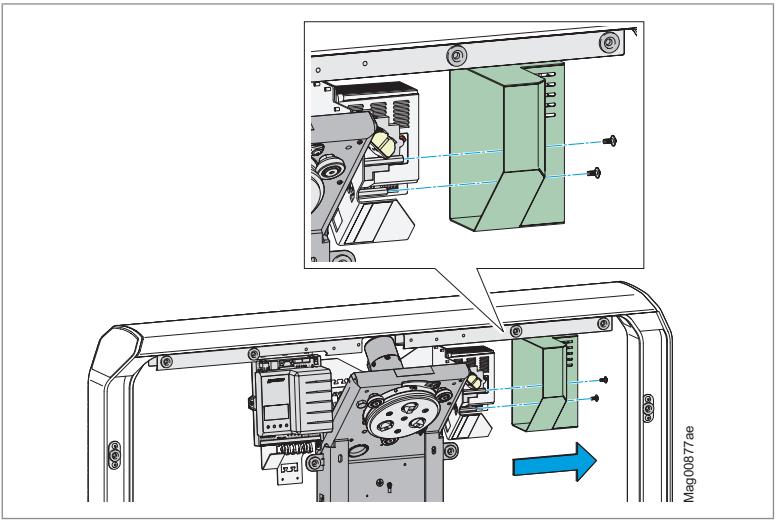


Fig. 23: Disassembly of the cover for connection unit

1. Disconnect the system from the power supply. Ensure that the system is powered down. Secure against reactivation.

   ⚠ DANGER
   Mortal danger by electric voltage!

2. Strip mains cable and strands according to the following figure.

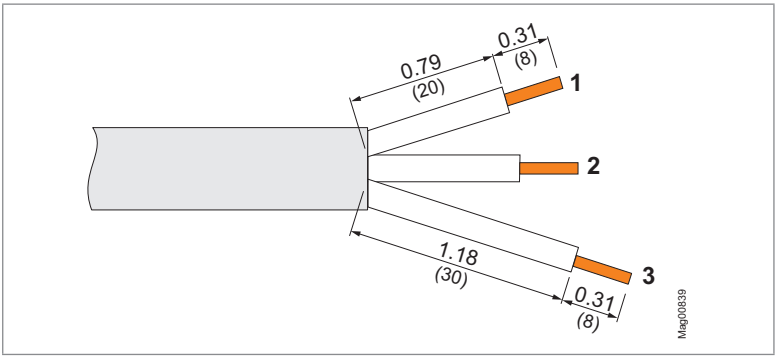


Fig. 24: Stripping (Dimensions in inch are without parenthesis. Dimensions in mm are in parenthesis.)

1 Phase
2 Zero conductor
3 Protective earth conductor

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

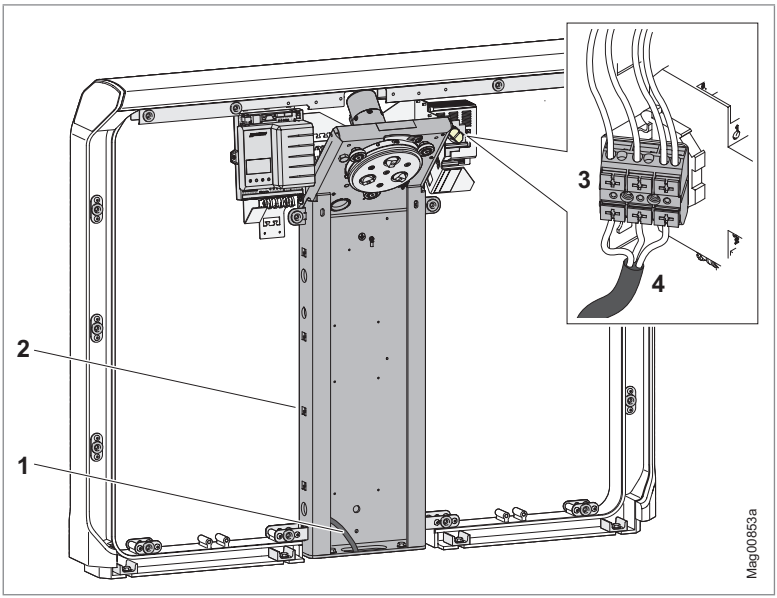


Fig. 25: Placing and connecting the mains cable

1 Feed-through for empty conduits and lines
2 Straps for fixing empty conduits and lines
3 Terminals
4 Mains cable to be connected

8.4 Connecting customer control lines

IMPORTANT!

For connecting the control lines provided by the customer, see separate document "Description of MGC control unit for MHTM™ FlowMotion® (Doc.ID: 5817,0025)".

8.4.1 Connecting emergency opening contacts

↗ Separate wiring diagram and document "Description control unit MGC for MHTM™ FlowMotion® (Doc.ID: 5817,0025)".

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.

Turnstiles with "drop arm" option: If the signal drops, the holder magnet for the "drop arm" is released. The motor starts up briefly so that the "drop arm" can be released.

Turnstiles without "drop arm" option: If the signal drops, the passage is enabled in both directions.

8.5 Installing and connecting customer-access control devices

The following conditions must be fulfilled for the connection of customer access-control devices:

- Only connect Class 2 access-control devices to the MGC control unit.
- Only use Class 2 connecting cables. The connecting cables must either be of type CL2, CL2P, CL2R or have a flammability rating of VW-1 or FT1 or better.
- Lay connecting cables only in the Class 2 area. ↗ Separate wiring diagram.

You can install access-control devices at both ends of the housing. Attach the access-control device to the cover with screws. Observe the installation dimensions. ↗ Page 56, Fig. 26.

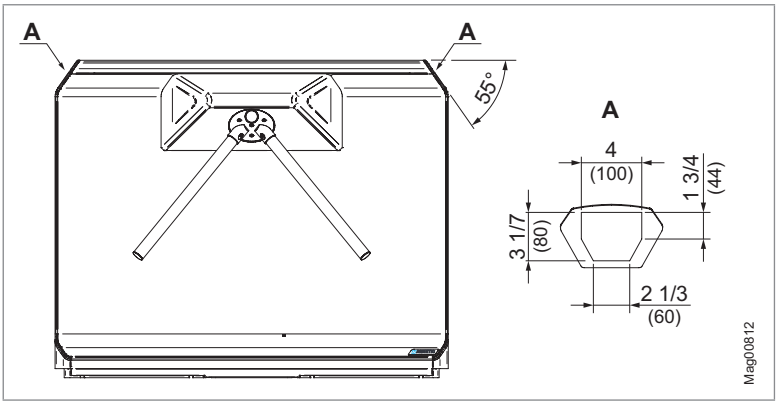


Fig. 26: Installation space for access-control device (Dimensions in inch are without parenthesis. Dimensions in mm are in parenthesis.)

A Dimensions for customer's access-control device

↗ Separate wiring diagram and document "Description control unit MGC for MHTM™ FlowMotion® (Doc.ID: 5817,0025)".

8.6 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 wiring diagram?
- Is the emergency signal transmitter correctly connected?
- Are the customer's signal transmitters and receivers correctly connected?
- Are all screws firmly tightened?
- Have all pedestrian gate covers been properly assembled?

9 Commissioning

9.1 Safety during commissioning

Qualification of personnel

› Technician

› Magnetic MHTM™ FlowMotion® service expert

↗ Page 14, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes.

9.2 Putting the pedestrian gate into operation

IMPORTANT!

Commissioning must be carried out in accordance with the test book. See separate document "Test Book MHTM™ FlowMotion® mTripod (Doc.ID: 5873,0002)".

9.3 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.

1. Disassemble cover. ↗ Page 47, chapter 7.8.
2. Switch the pedestrian gate on or off using the on/off switch.

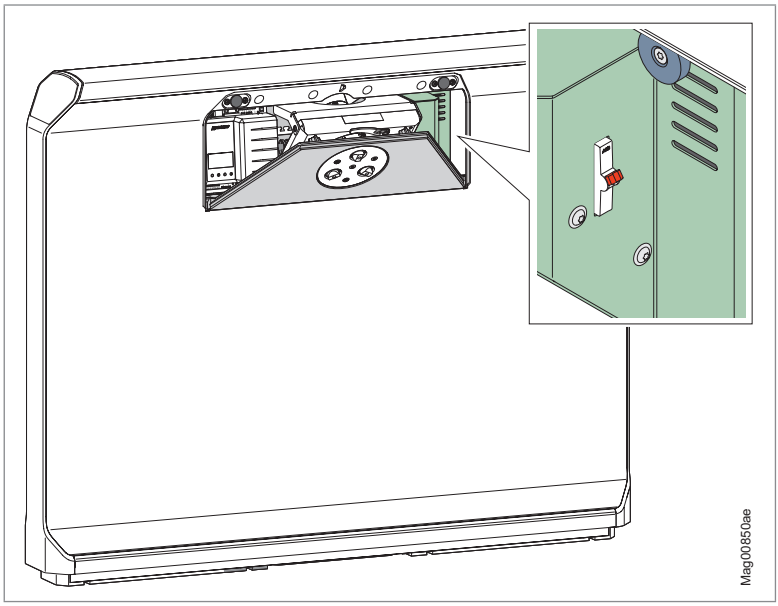


Fig. 27: Switching the mTripod on and off
1 On and off switch

3. Assemble cover.

9.4 Parameterising the pedestrian gate

IMPORTANT!

For parameterisation see separate document "Description of MGC control unit for MHTM™ FlowMotion® (Doc.ID: 5817,0025)".

10 Test book

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

The test book "MHTM FlowMotion® mTripod (Doc.ID: 5873.0002)" is included in the scope of delivery.

11 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 MHTM™ FlowMotion® (Doc.ID: 5817,0025)".

12 Cleaning and maintenance

12.1 Cleaning the pedestrian gate

NOTICE

Aggressive cleaning aids and substances!

Aggressive detergents and consumables may damage or destroy components, electric cables, or the coating of the pedestrian gate.

› Do not use cleaning agents with aggressive ingredients.

Cleaning the pedestrian gate from the outside

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

12.2 Maintenance schedule

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

Interval	Work	Personnel
Monthly	Check emergency function.	Operator
	Check the "drop arm" function for pedestrian gates with the "drop arm" option.	Operator
	Check the housing for damage from the outside.	Operator
Every 6 months	Check the attachment of the blocking arms.	Technician
	Check function of the external residual current operated device	Technician
	Check labels with instructions on the MGC control unit and on the power connection terminals. ↗ Page 61, chapter 12.3.	Technician
Every 12 months	Check electrical lines for damage.	Technician
	Check if all electrical connections are firm.	Technician
	Check the fastening of the housing.	Technician

Table 8: Maintenance schedule

12.3 Check labels with instructions

Check the following labels with instructions every 6 months for legibility. If the labels are no longer legible, you must replace them.

The following labels are attached to the MGC control unit:

› Caution! Class 2 supply 24 V.
Prudence! Class 2 24 V.

› WARNING – For continued protection against fire, replace only with same type and rating of fuse.
AVERTISSEMENT – pour ne pas compromettre la protection contre les risque d'incendie, utilisier und fusible de memes type et caracteristiques nonimales.

The following label is attached to the power connection terminals:

› Use cooper conductors only.
N'utilisez que des condocteuers en cuivre.

13 Corrective action

IMPORTANT!

For troubleshooting see separate document "Description of MGC control unit for MHTM™ FlowMotion® (Doc.ID: 5817,0025)".

14 Spare parts and repair

NOTICE

Wrong and faulty spare parts!

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

› Use only the manufacturer's original spare parts.

Spare parts 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 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.

16 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 57, chapter 9.3.

16.1 Safety during decommissioning

Qualification of personnel

› Technician

› Magnetic MHTM™ FlowMotion® service expert

↗ Page 14, chapter 2.3.2.

Personal protective equipment

Wear the following personal protective equipment:

› Work clothes

› Protective gloves

› Safety shoes.

16.2 Decommissioning of the pedestrian gate

1. Switch the pedestrian gate off. ↗ Page 57, chapter 9.3.
2. Disconnect the pedestrian gate from the power supply.
3. If necessary, remove the pedestrian gate.
4. Store pedestrian gate or components properly. ↗ Page 26, chapter 5.4.

17 Disassembly and disposal

17.1 Safety during disassembly and disposal

Qualification of personnel

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

↗ Page 14, chapter 2.3.2.

Personal protective equipment

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

17.2 Disassembly and disposal of the system

Prerequisites

› The pedestrian gate is not in operation. ↗ Page 63, chapter 16.2.

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.

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