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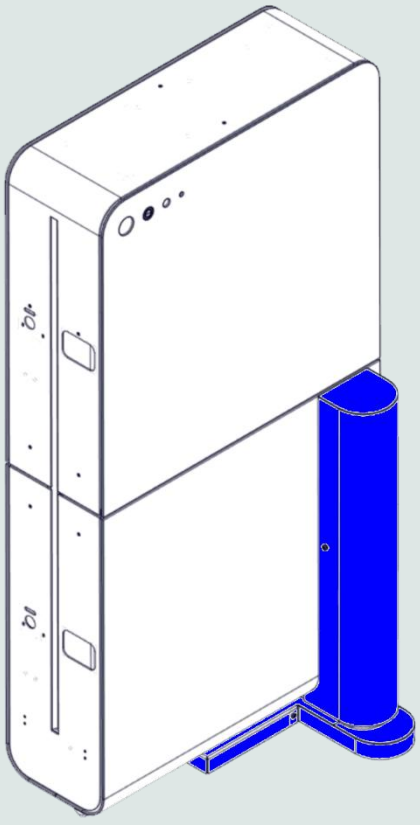
Installation Manual

SigmaGate MPB 2.0 Rev.1



This Manual

This manual is a supplement to the SigmaGate Manual and focuses exclusively on the SigmaGate MPB 2.0 components. For complete instructions regarding the entire SigmaGate system, please refer to the SigmaGate Manual.

Contents

PRODUCT OVERVIEW

1 Product overview

1.1 Types and models

Number	Model	Specification
1	SigmaGate MPB 2.0	900 mm opening width

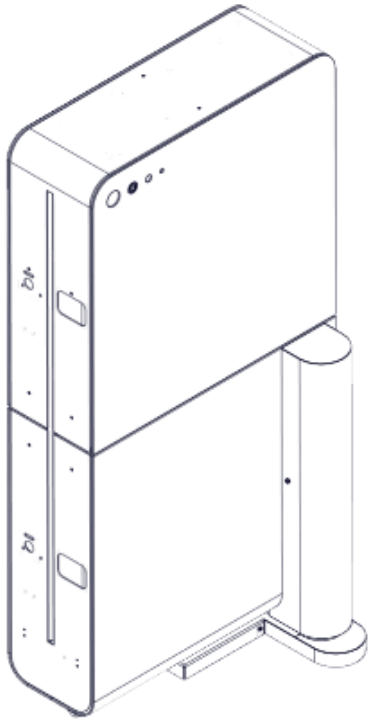


Figure 1 - SigmaGate MPB 2.0

1.2 Technical specification

Dimensions H x L x W (mm) (pair)	SigmaGate MPB 2.0:	1141 x 2030 x 325
Weight (kg) (pair)	SigmaGate MPB 2.0:	82.5 kg

1.3 Dimensions

1.3.1 SigmaGate with MPB 2.0

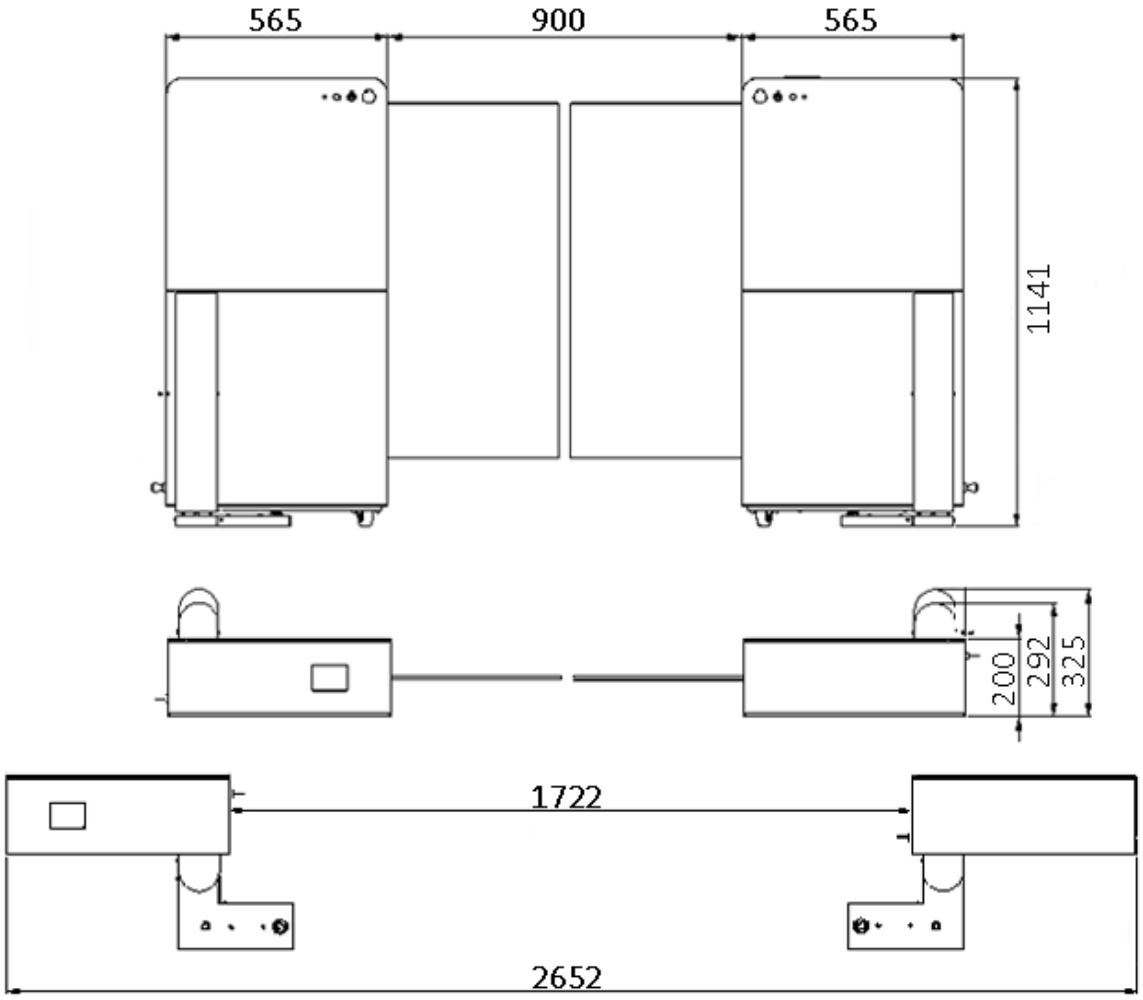


Figure 2 - Front view, upper view, upper view (MPB open)

INSTALLATION

2 Installation

2.1 Shipment content

Before beginning the installation, ensure that your shipment contains all the necessary parts. Check against the provided parts list or inventory sheet to confirm that you have everything required for a complete and successful installation. This preliminary step helps prevent delays and issues that may arise from missing components.

Figure 3 – Check shipment content

2.2 Unpack

Carefully remove the SigmaGate MPB 2.0 from its protective packaging, ensuring the product is not damaged.

WARNING

SigmaGate MPB 2.0 is heavy. Be careful and do not lift it higher than necessary when lifting it from the pallet.

WARNING

Once removed from the pallet and its attachments, SigmaGate MPB 2.0 become very unstable and could cause injury by crushing if they were to fall over onto a person.

2.3 Before installation

2.3.1 Check delivery

Ensure that all parts have been delivered in good condition. Inspect each item for any signs of damage, such as dents, scratches, or broken pieces, as soon as you receive them. This check is important to avoid future functional issues or unsatisfactory results post-installation. If any damage is found, report it to the supplier immediately to arrange for replacements or resolve the issue.

2.3.2 Prepare for installation

Ensure there is sufficient workspace around SigmaGate MPB 2.0, and if necessary, cordon off the required area to maintain safety and efficiency during installation or maintenance.

To fasten SigmaGate MPB 2.0 to the floor, you need to turn the footplate from the closed position. Make sure there is space available for this.

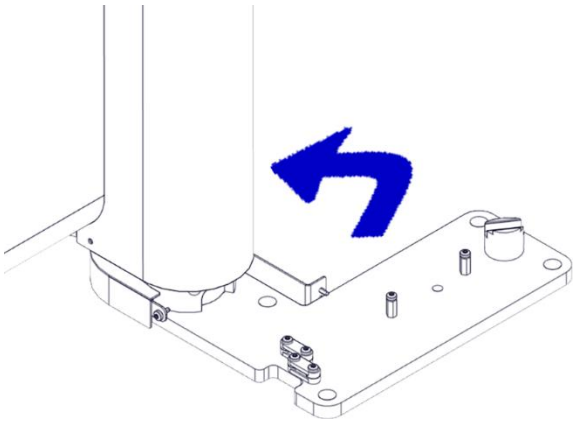


Figure 4 - Open the foot plate

2.4 Mounting

2.4.1 Prepare the site

Make sure the floor where SigmaGate MPB 2.0 will be placed is flat and clean.

2.4.2 Mark where to drill

If available, use a drilling template and place it on the floor where SigmaGate MPB 2.0 is to be located. Then, mark where to drill.

If no template is available, use the gate foot as a guide to mark the drilling points.

2.4.3 Drill the holes

Drill holes where previously marked for the fasteners for each SigmaGate MPB 2.0. Ensure the hole depth and diameter are suitable for the type of floor and the type of fasteners used.

When installing a pair of SigmaGate MPB 2.0 in parallel, make sure that the two sides of the drill template are well aligned with each other. This alignment is essential to ensure that SigmaGate MPB 2.0 are parallel and function smoothly without any misalignment issues.

2.4.4 Ensure the floor is level

When installing a pair of SigmaGate MPB 2.0, it's especially crucial to ensure that the floor is level. Proper levelling is important both for the functionality of the gates and for their aesthetic appearance. An uneven floor can lead to operational issues and detract from the visual symmetry between the paired gates.

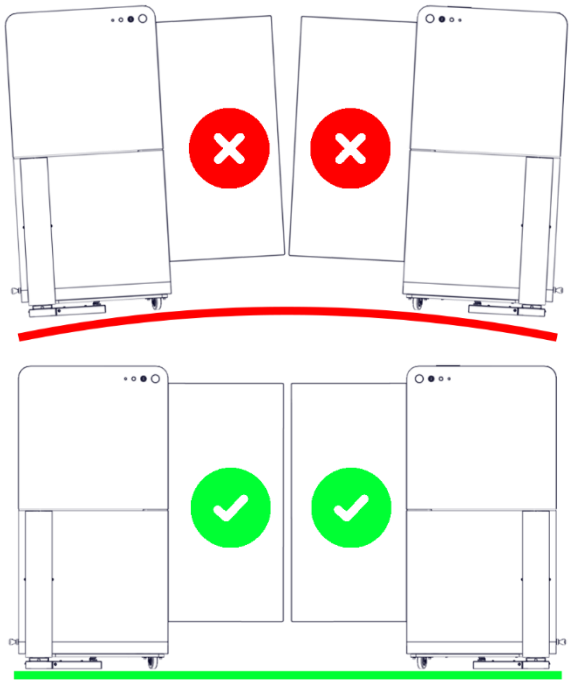


Figure 5 - SigmaGate MPB 2.0 installed on a level floor

2.4.5 Fasten the footplate to the floor

Place SigmaGate MPB 2.0 over the predrilled holes and fasten the footplate to the floor with adequate fasteners (shielded anchor, etc.) in the holes (5).

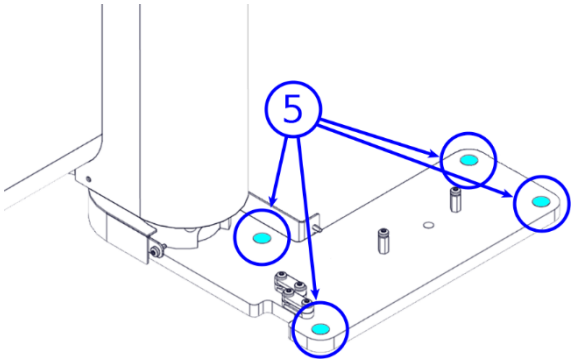


Figure 6 - Predrilled holes for fastening SigmaGate MPB 2.0

NOTE

Always ensure that no fixing materials or chemical cement are present between the floor and the gate's foot when securing the gate foot to the floor.

2.4.6 Sideways levelling

To level SigmaGate MPB 2.0 sideways, it is possible to use shims under the foot plate.

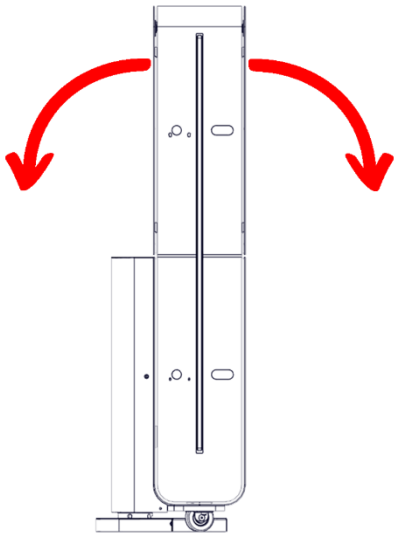


Figure 7 - Sideways levelling

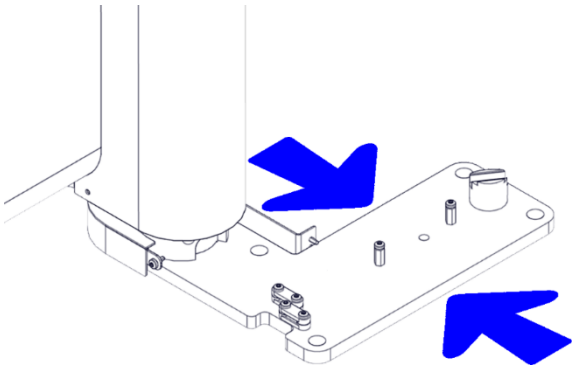


Figure 8 - Place shims to level SigmaGate MPB 2.0

To place shims under the footplate, first, loosen the fastening bolts. Then, put the shims between the floor and the footplate where needed.

After using a spirit level to ensure the gate is level retighten the bolts properly.

NOTE

The shims used should be of an appropriate material and large enough to ensure they do not destabilize SigmaGate MPB 2.0. Use only shims at the sides indicated in the image.

NOTE

SigmaGate MPB 2.0 should not be fastened to other foundation that concrete floor or similar.

CAUTION

When installing SigmaGate MPB 2.0, ensure that the cables are not pinched, as this can lead to product damage and create a safety hazard.

2.4.7 Adjust the front wheel

It is possible to further level SigmaGate MPB 2.0 by adjusting the height of the front wheel.

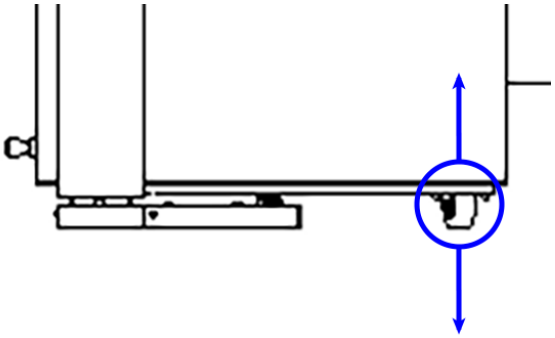


Figure 9 – Front wheel

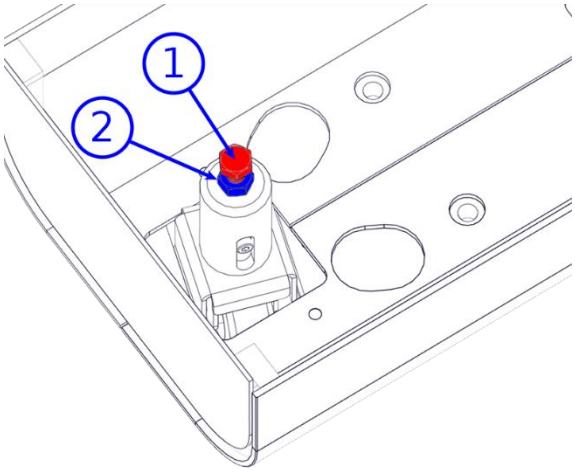


Figure 10 - Adjust the front wheel

Start by loosening the locking nut (2)

Use the wheel adjustment screw (1), which is located inside at the front end of SigmaGate MPB 2.0. By tightening the screw, you will lower the wheel and loosening it will raise the wheel.

After adjusting the wheel to the desired height, retighten the locking nut (2) to secure the wheel in its new position.

These steps allow you to effectively control the positioning of the front wheel, enhancing the functionality and stability of SigmaGate MPB 2.0.

NOTE

The front wheel should always be in contact with the floor.

2.4.8 Set the Mechanical Panic Breakout (MPB) holder

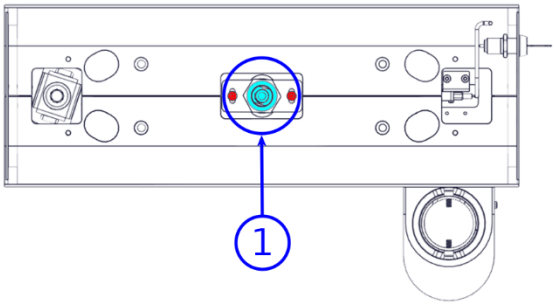


Figure 11 - Set MPB holder

Follow the steps below to adjust the MPB holder to the correct height:

- Untighten the locking nut (1) with a wrench (36 mm).
- Turn the MPB holder (1) clockwise until the bottom of the holder just touches the foot. You may need an 18 mm wrench to do this.
- Turn the MPB holder (1) half turn anticlockwise to create a small distance between the MPB holder and the foot.
- Retighten the locking nut (1).

Always test the function after adjusting.

2.4.9 Set MPB force

The default MPB force for SigmaGate MPB 2.0 is set to around 200N, measured 1000 mm from the floor level and at the outer edge of the gate door.

Should it be necessary to change the MPB force it can be adjusted with the 8 mm Allen bolt.

Turn the Allen bolt anticlockwise to decrease the MPB force.

If the MPB force has been decreased earlier, it can be increased by turning the Allen bolt clockwise.

NOTE

Be sure to follow national regulation regarding emergency evacuation routes.

2.4.10 Set the Mechanical Panic Breakout Trigger

The Mechanical Panic Breakout (MPB) trigger (1) is set using the MPB trigger adjustment screw, which is located on the side of the upper part of the MPB column.

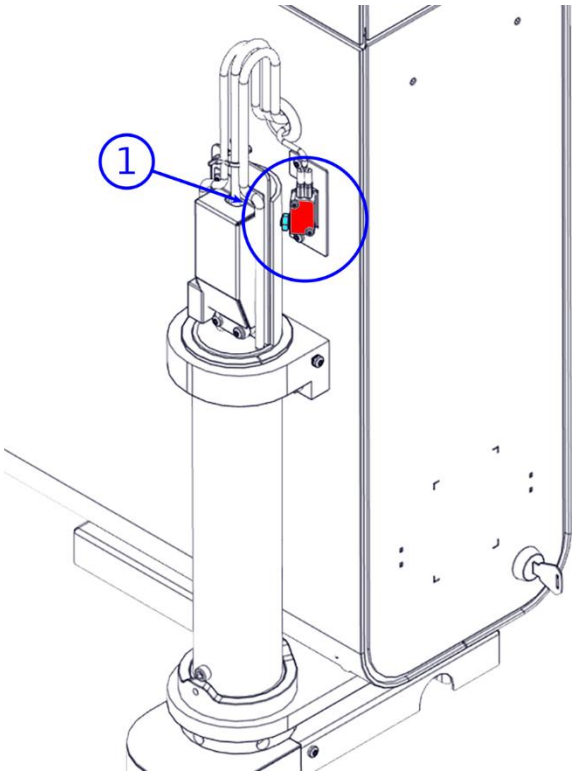


Figure 12 – MPB trigger adjustment screw

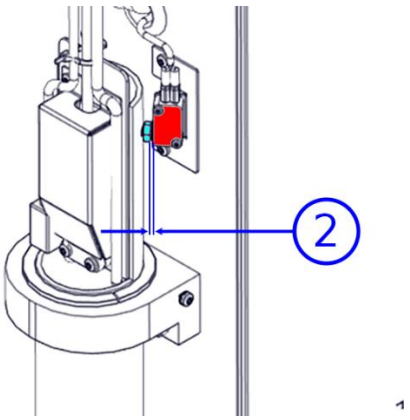


Figure 13 - MPB trigger gap (2)

To adjust the MPB trigger correctly, follow these steps:

1. Remove the MPB cover to expose the MPB trigger adjustment.
2. Adjust the MPB trigger adjustment screw clockwise until the LED indicator on the bottom of the MPB sensor emits a steady yellow light, indicating that the MPB trigger adjustment screw is correctly adjusted. The gap is normally around 1 mm.
3. Test the function by pushing the gate open. The gate should trigger the alarm. Note: The alarm should not activate in response to a light or minor push.

2.4.11 Align two SigmaGate MPB 2.0

Figure 14 - Align two SigmaGate MPB 2.0

If two parallel mounted SigmaGate MPB 2.0 need fine alignment after they have been secured to the floor the alignment can be fine adjusted. To align two gates, follow these steps:

Start by loosening the two Allen bolts (1) located at the bottom part of each gate. These bolts allow for adjustments to be made to the gate's position.

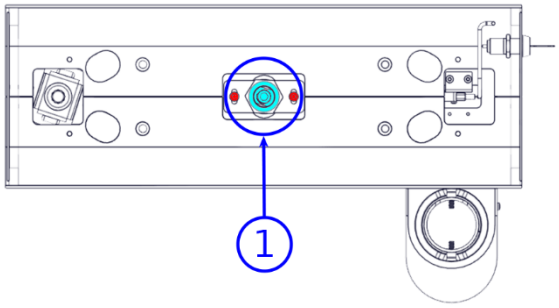


Figure 15 - Screws for aligning

Use a straightedge or a similar tool to check the alignment of the two gates. Adjust the position of each gate until they are perfectly aligned with each other.

Once the gates are aligned correctly, retighten the Allen bolts (1) to secure the gates in their new positions. Make sure the bolts are tight enough to hold the gates firmly, but avoid overtightening, which could damage the bolts.

The above steps ensure that the gates are aligned not just for functional performance but also for aesthetic consistency.

2.4.12 MPB cover

To remove the MPB cover (1), unscrew the screws (2) shown in the picture.

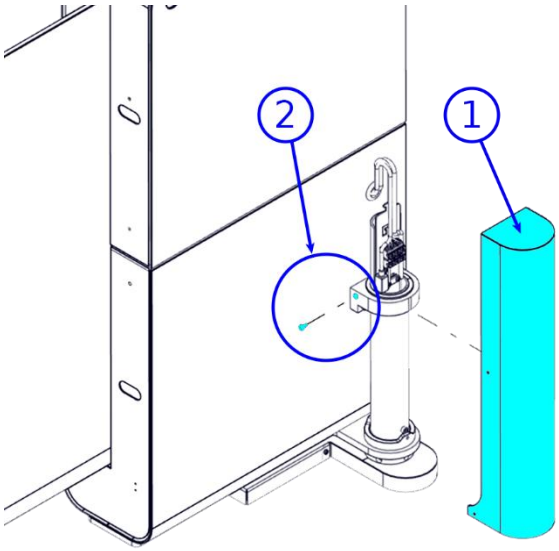


Figure 16 - MPB cover screws (2)

2.4.13 Connectors cover

Remove the connectors cover with the four screws (1).

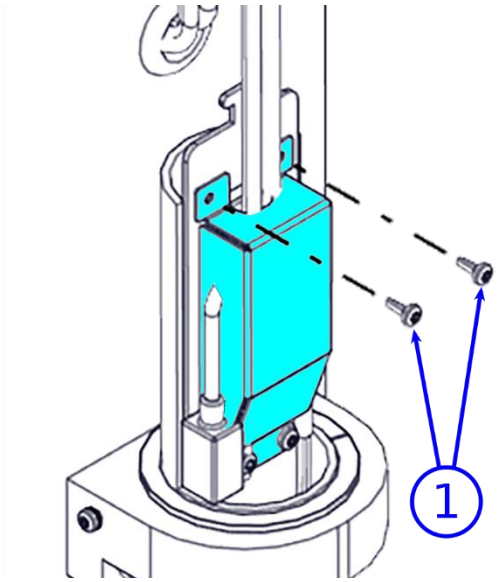


Figure 17 - Connectors cover screws (1)

2.4.14 Electrical connectors

The electrical connections are located behind the connectors cover.

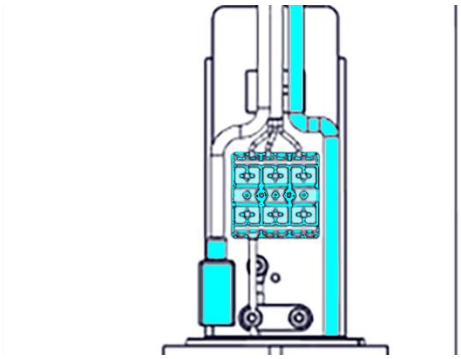


Figure 18 – Connectors

2.4.15 Connect Ethernet

Connect SigmaGate MPB 2.0 to a network by using an Ethernet cable (CAT5e or higher). The Ethernet connector (4) is located behind the connectors cover.

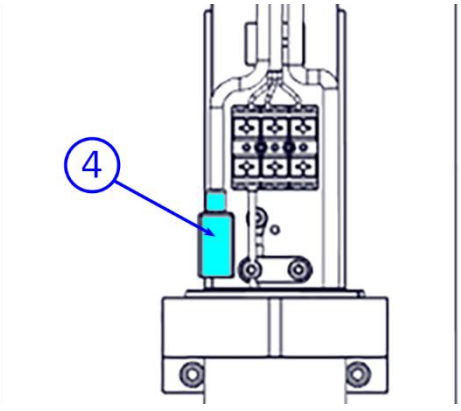


Figure 19 - Ethernet connector

2.4.16 Connect signal cables

Connect signal cables (GateCOM, Cleaning, etc.) to the connectors (3).

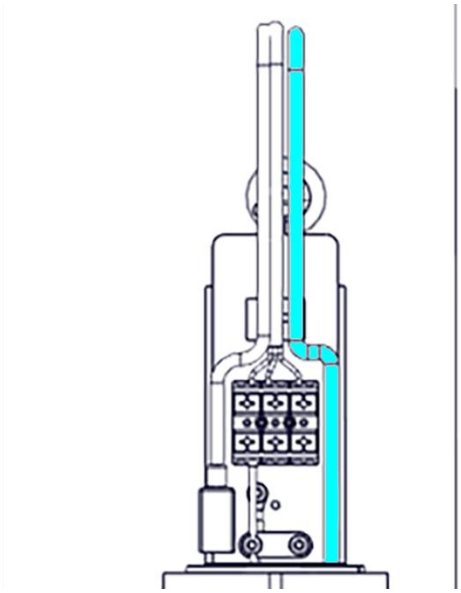


Figure 20 – Signal cable routing

2.4.17 Prepare electrical connection

Use recommended cables with nominal cross section area 1.5 – 2.5 mm². Installation cables can be found at https://www.nexans.se/en/.

2.4.18 Connect power - 220-240V

The power connection terminal block is located behind the connectors cover.

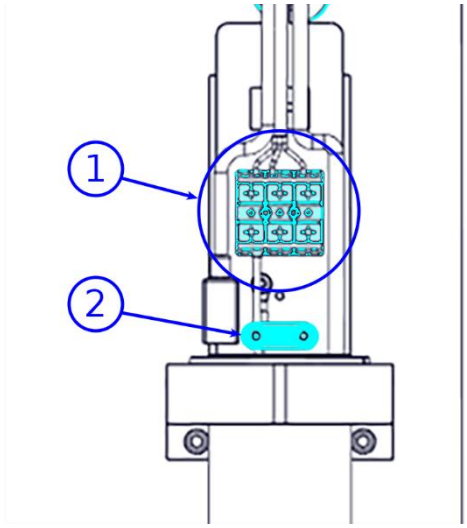


Figure 21 - Connect power 220-240V

Connect SigmaGate MPB 2.0 to Mains 220-240V by following these steps:

- Adjust the cable length.
- Connect the cable to the terminal block (1) according to the markings on the terminal.
- Fasten the cable to the strain relief (2).

2.4.19 Cable routing

Route the power, Ethernet, and signal cables as shown in the picture, and secure them using the two cable strain reliefs. Ensure that some slack is left in the cables to allow the gate to move without causing damage. The hole at the bottom of the pillar measures approximately 20×10 mm.

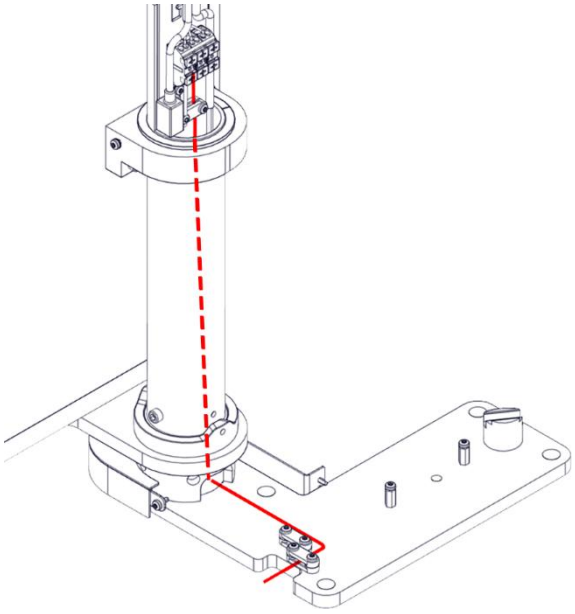


Figure 22 - Cable routing

2.4.20 Care with cable routing

When routing cables, ensure that there are no sharp grades, bends or tight angles that could damage the cables. Confirm that all cables are properly routed, correctly positioned, and free from being pinched or strained.

2.4.21 Store excess cables

Do not store any excess cable inside SigmaGate MPB 2.0.

2.4.22 Mount footplate cover

Place the footplate cover (6) and fasten them with the provided screws.

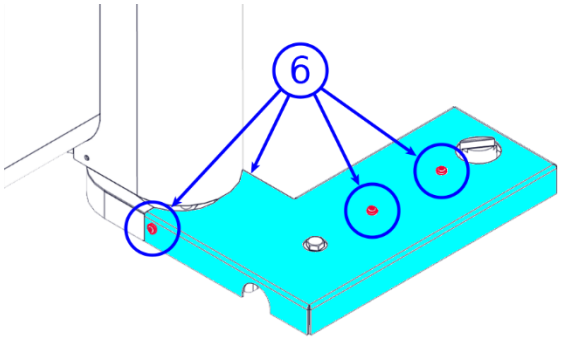


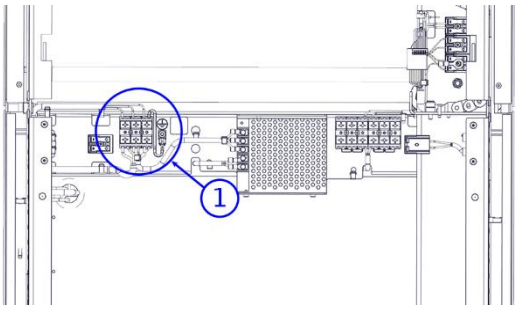
Figure 23 - Footplate cover

2.5 Retrofit (mount SigmaGate on MPB 2.0 foot)

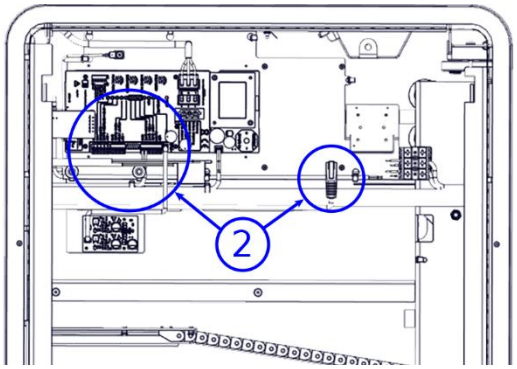
2.5.1 Disconnect MPB cabling

To disconnect the cables, follow these steps:

- Ensure power is off.
- Cut off the cable ties securing the cables to the MPB bracket.
- Disconnect power cables (1).



- Disconnect network and signal cables (2).



2.5.2 Remove the previous foot from SigmaGate.

To remove SigmaGate from its foot, follow these steps:

- Remove the top hatches.
- Locate and remove the four Allen bolts (1) at the bottom of the SigmaGate.

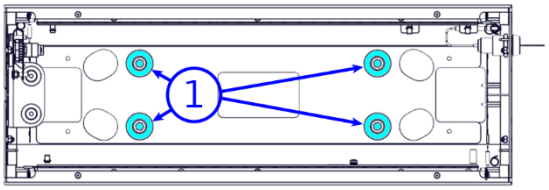


Figure 24 – View from above

2.5.3 Remove the lower side plate from SigmaGate.

- Unscrew the four nuts (1) and the two screws (2) underneath that secure the lower side cover.

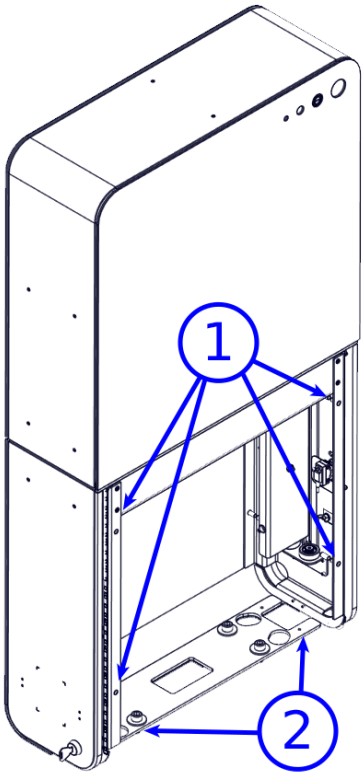


Figure 25 - Lower side cover removed

CAUTION

Ensure to remove the correct lower side plate.

After completing these steps, the SigmaGate will be ready for mounting onto the SigmaGate MPB 2.0 foot.

2.5.4 Mount SigmaGate on MPB 2.0

To mount SigmaGate on the MPB 2.0 foot follow these steps:

- Remove the MPB 2.0 pillar from the side plate by unscrewing the two screws (1) that secure it to the side plate.

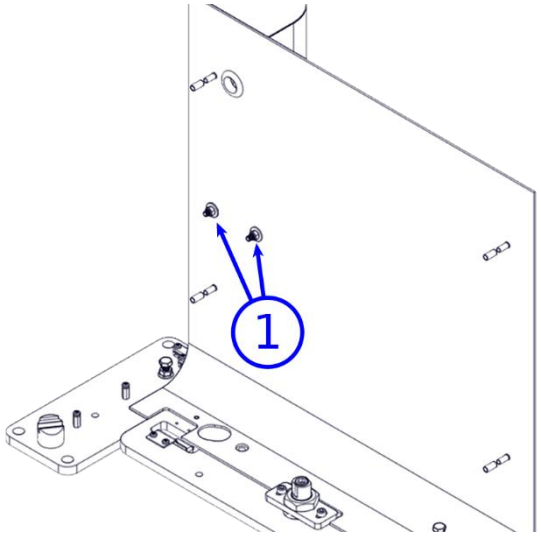


Figure 26 - Remove pillar

- Place the side plate on the SigmaGate and mark the location for drilling a 6.5 mm hole in the side structure of the SigmaGate, where the MPB 2.0 pillar is secured.

> **NOTE**
> This hole may already be pre-drilled in later-produced chassis.

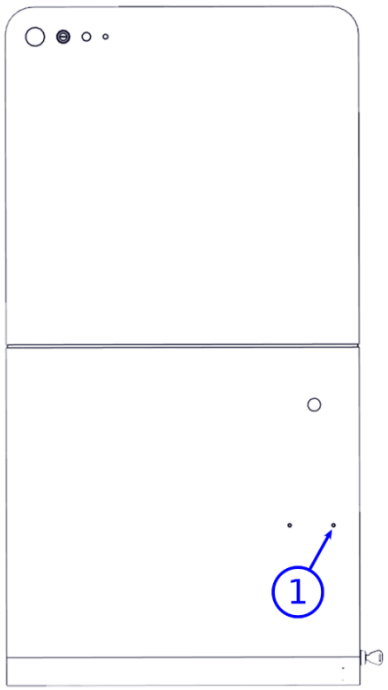


Figure 27 - Mark and drill the 6.5 mm hole

- Remove the side plate and drill the hole. Make sure to remove any metal shavings.
- Attach the side plate to SigmaGate and secure it using the two screws (2) underneath and the four nuts (3).

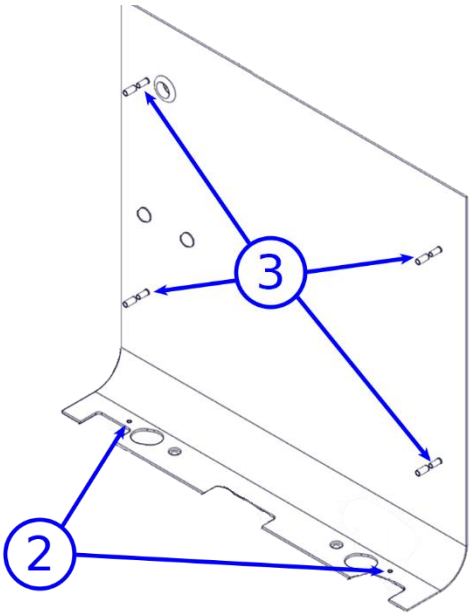


Figure 28 – Secure the two screws (2) & four nuts (3)

- Secure SigmaGate to the MPB 2.0 pillar using the two screws (1) and four Allen bolts (2) with washer.

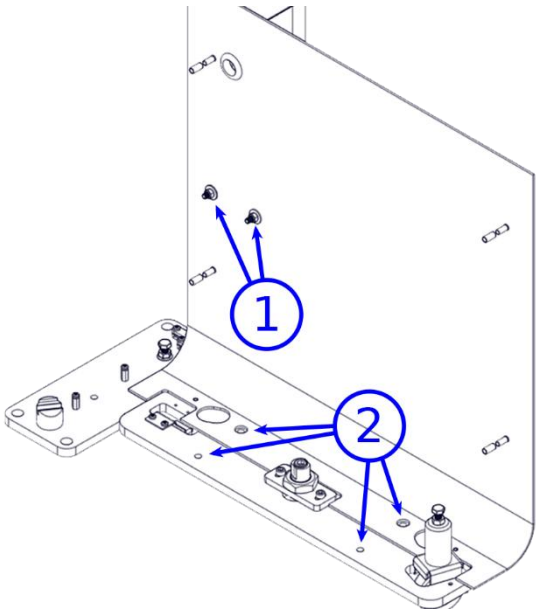


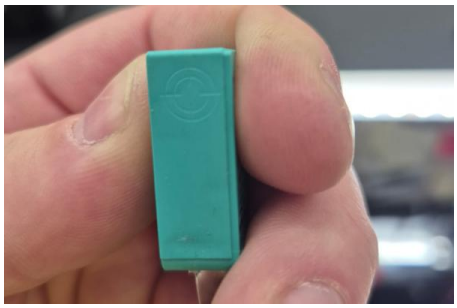
Figure 29 - Secure SigmaGate to MPB 2.0

2.5.5 Install the MPB switch & bracket

The SigmaGate MPB 2.0 switch, cable, and bracket are packaged together in the retrofit kit. Each side of the gate requires one MPB switch for proper operation.

2.5.5.1 Important notes before installing

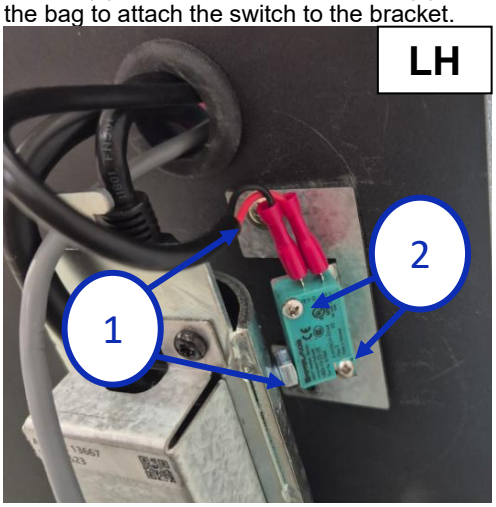
- The LED indicator beneath the switch should turn off when the switch makes contact with the metal bolt.
- The bullseye marking on the side of the switch indicates the exact point where the bolt should make contact.



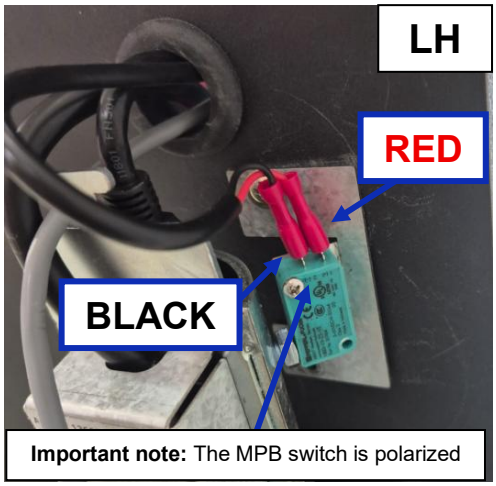
- Brackets are one-way fit only; they can only be installed in one orientation.
- The bracket has four holes, but only two are threaded. These threaded holes determine the correct orientation of the switch (up or down).
- Both switches must have their plugs facing upward, with the cables connected as shown below.

2.5.5.2 Installation on Left-Hand SigmaGate

Mount the bracket to the gate using two self-tapping screws (1). Then, use the two screws (2) provided in the bag to attach the switch to the bracket.



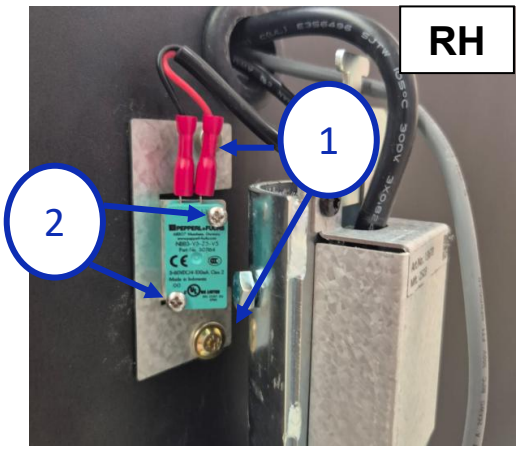
Make sure the cable is wired as follows on the left-hand gate:



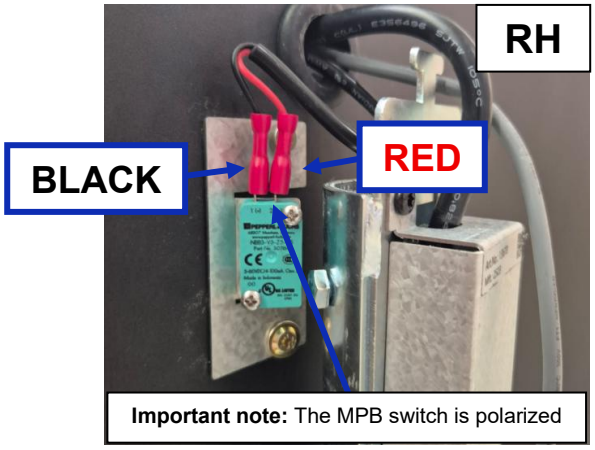
Important note: The MPB switch is polarized

2.5.5.3 Installation on Right-Hand SigmaGate

Mount the bracket to the gate using two self-tapping screws (1). Then, use the two screws (2) provided in the bag to attach the switch to the bracket.



Make sure the cable is wired as follows on the right-hand gate:



Important note: The MPB switch is polarized

2.5.6 Electrical connections

The routing of electrical cables varies depending on whether SigmaGate is right-hand or left-hand gate.

In the images below, cable colours represent the following:

	Blue	Incoming power (230 V)
	Red	Signal cable
	Green	Ethernet network (if applicable)

2.5.6.1 Right-hand SigmaGate

For a right-hand SigmaGate (determined by the walking direction), route the cables as shown in the image below.

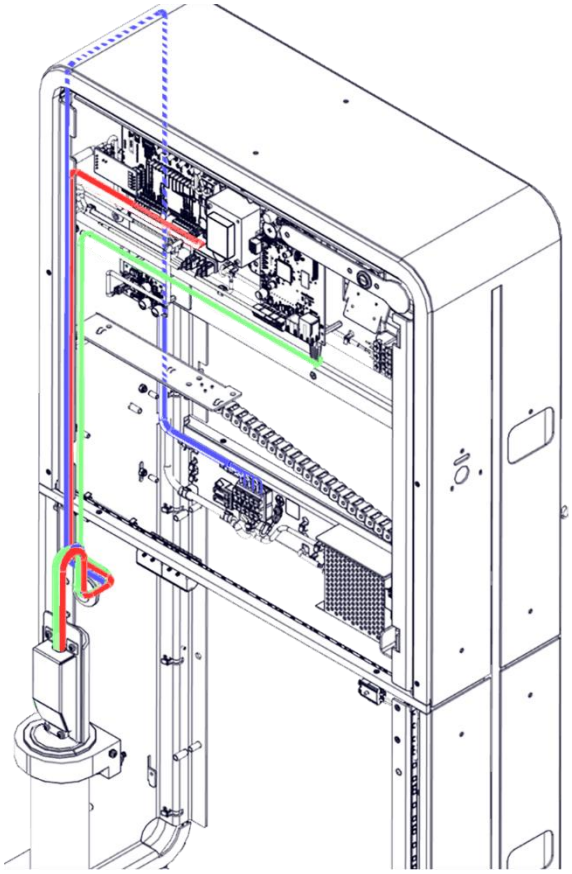


Figure 30 - Cable routing right-hand SigmaGate

2.5.6.2 Left-hand SigmaGate

For a left-hand SigmaGate (determined by the walking direction), route the cables as shown in the image below.

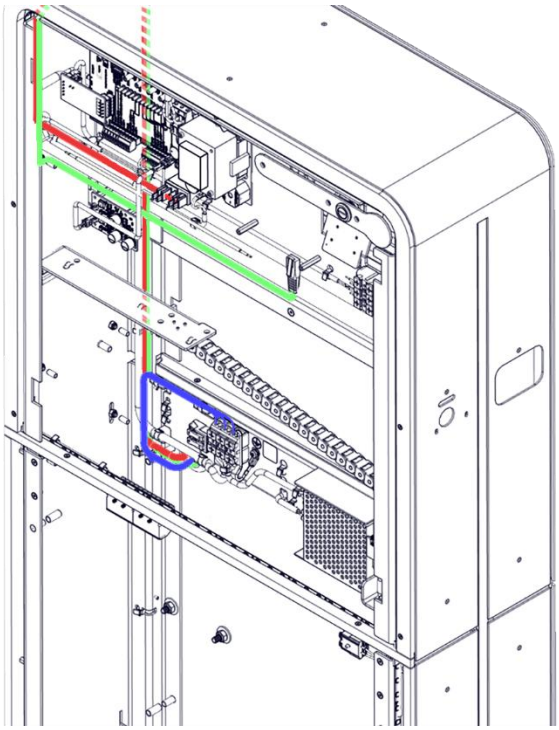


Figure 31 - Cable routing left-hand SigmaGate

2.5.7 SigmaGate MPB 2.0 ready for installation

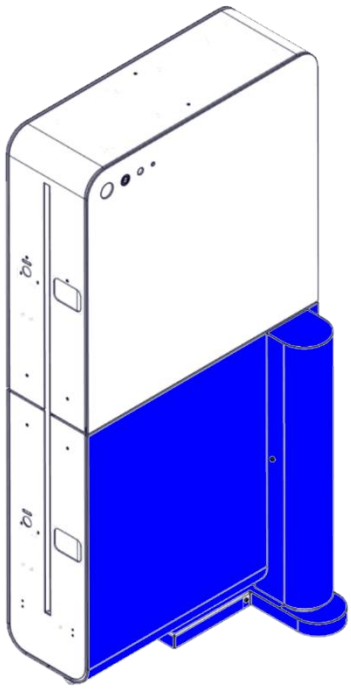


Figure 32 - SigmaGate with MPB 2.0 (left)

2.6 Final inspection

Upon completing the assembly or maintenance, it's crucial to conduct a thorough final inspection to ensure SigmaGate with MPB 2.0 is ready for operation.

This includes verifying that all components are correctly installed, cables are neatly routed and secured, and there are no loose parts.

The equipment should be clean, and all moving parts should operate smoothly without obstructions.

Test SigmaGate MPB 2.0 using standard calibration settings to confirm full functionality.

Document the inspection results, noting any issues that were addressed.

Safety checks should confirm adherence to electrical standards and equipment specifications.

This systematic approach ensures reliability, safety, and optimal performance.

Recommission the following items using the main commissioning manual:

1. Adjustment of Gate PEC (p.16)
2. Customer Facing Safety Radar Installation (if fitted) (p.17)
3. Adjustment of Glass Door (p.24)
4. Newton Meter Settings and testing of Panic break-out force (p.25)

Disclaimer: Check that all general commissioning settings are correct as per the main manual before final sign-off.