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INSTALLATION MANUAL

MAW110Plus



2-POINT and 1-POINT
track suspension

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1. INFORMATION AND GENERAL REMARKS

This manual describes how to **assemble the mobile wall of the MAW110Plus mobile system**. It consists of side-by-side panels moving along rails mounted in the ceiling.

Basic function of the mobile wall is:

- **dividing the occupied room - placing the panels** in the track leading them out of the parking rack or parking space (depending on the type of panel suspension system)

Each stage of the wall assembly is described in detail in the following chapters in the form of illustrations along with specific notes, recommendations and warnings.

This manual uses graphic **symbols to pay particular attention to information** relevant to the mobile system:



FOR INFORMATION

Note or recommendation to be followed to improve the installation of the mobile system



CAUTION

Special attention or **dependencies to be observed!**

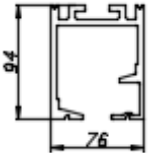
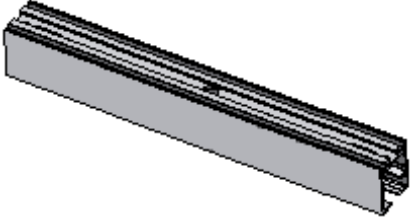
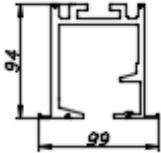
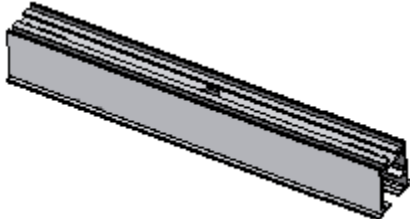
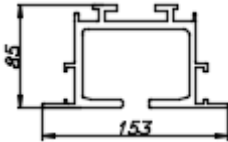
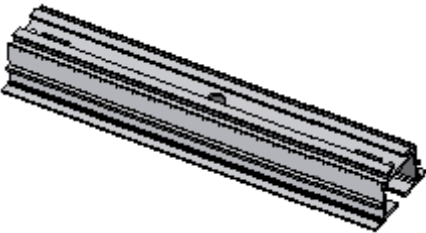


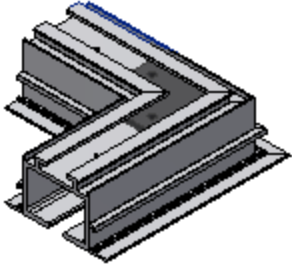
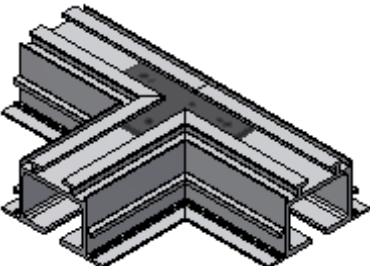
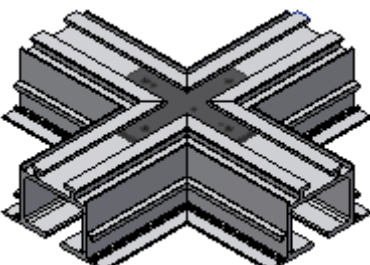
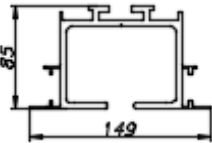
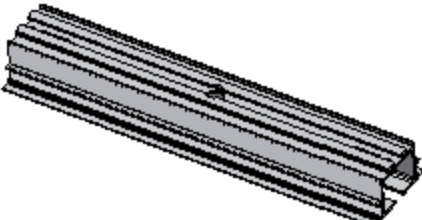
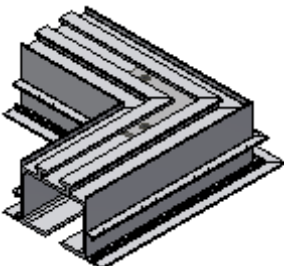
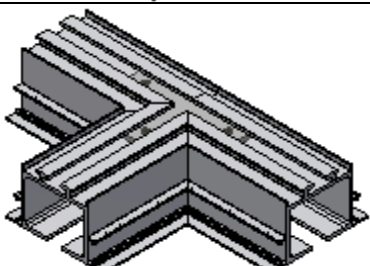
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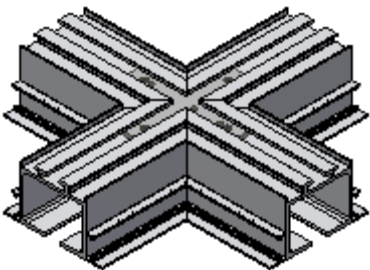
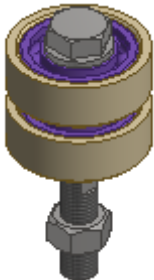
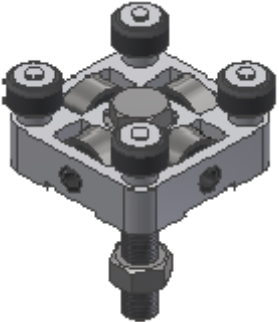
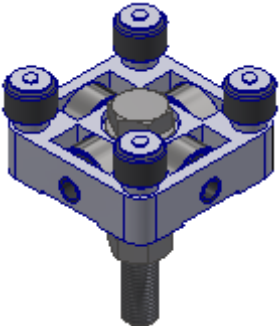
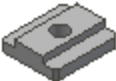
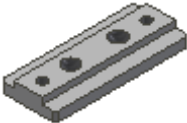
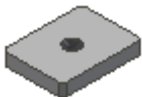
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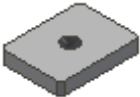
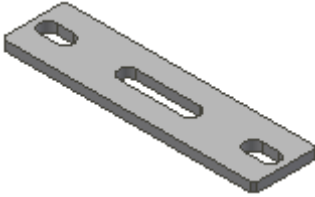
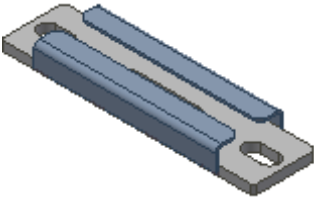
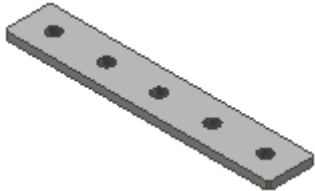
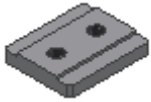
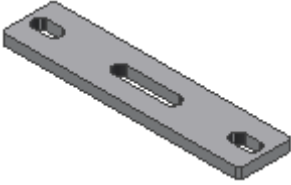
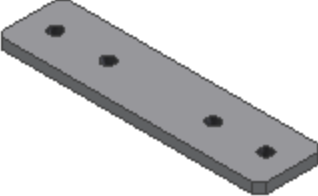
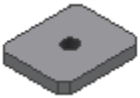

2. LIST OF TRACK FIXING PARTS OF THE MAW SYSTEM

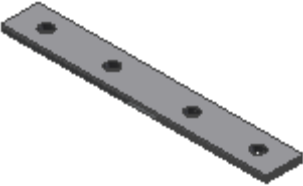
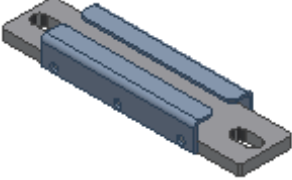
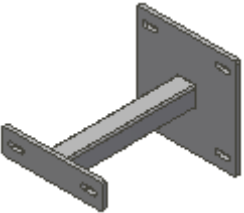
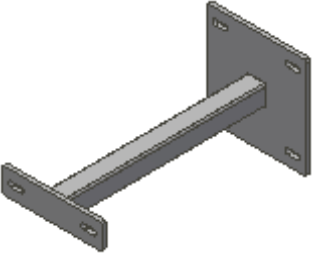
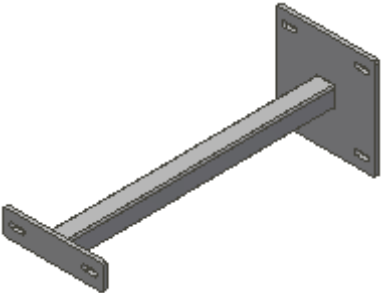

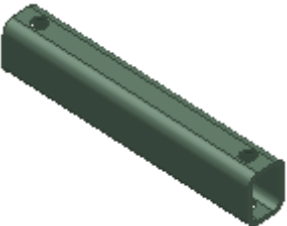
Below you will find all the possible components that are necessary for the installation of the track:

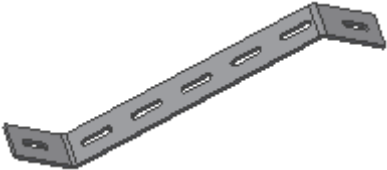
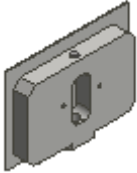
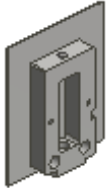






No.	Figure	Index	Name	Notes/Dimensions
1		34-0130	Double-level track	Only for panels with 1-point suspension
2		34-0130-1	Track service module 34-0130	For 34-0130 track (length 900mm)
3		34-0131	Double-level track with shelf	Only for panels with 1-point suspension
4		34-0131-1	Track service module 34-0131	For 34-0131 track (length 900mm)
5		34-0150	Heavy single-level track	
6		34-0150-1	Track service module 34-0150	To track 34-0150 (length 900mm)

7		34-0150-2	Track corner module 34-0150	
8		34-0150-3	Track T module 34-0150	
9		34-0150-4	Cross track module 34-0150	
10		34-0151	Single-level track	
11		34-0151-1	Track service module 34-0151	For 34-0151 track (length 900mm)
12		34-0151-2	Track corner module 34-0151	
13		34-0151-3	Track T-module 34-0151	

14		34-0151-4	Cross track module 34-0151	
TROLLEYS for tracks				
15		34-3200	Two-level carriage for track 34-0130 and 34-0131 (two- disk, two-roller) (roll diameter approx. 62 mm)	For panels with 1- point suspension for weight under 130 kg
16		34-3220	Trolley for heavy track 34-0150 (body width 83 mm)	For panels with: 1-point suspension for weight over 130 kg
				For panels with: 2-point suspension for weight over 250 kg
17		34-3221	Trolley for a single-level track 34-0151 (body width 85 mm)	For panels with 2-point suspension for weight below 250 kg
COMPONENTS for rails 34-0130, 34-0131 i 34-0151				
18		34-5041	Reinforced plate for fixing the track	
19		34-5042	Reinforced plate for fixing the service module	
20		34-5043	Track fixing plate, unthreaded	

21		34-5045	Mounting plate service module with threaded hole	
22		34-5050	Track retaining plate	Only for tracks 34-0130 and 34-0131
23		34-5051	Service module of the track retaining plate	Only for tracks 34-0130 and 34-0131
24		34-5090	Track connecting plate, straight	
COMPONENTS for heavy track 34-0150				
25		34-5151	Reinforced plate for fixing the track 34-0150	
26		34-5152	Track retaining plate for 34-0150	In addition to track 34-0151
27		34-5157	Track connecting plate for 34-0150 straight	
28		34-5158	Track fixing plate for 34-0150 not threaded	
29		34-5160	Reinforced plate for fixing the service module of the track 34-0150	

30		34-5161	Track connecting plate, side-piece	In addition to track 34-0151
31		34-5162	Service module retaining plate	In addition to track 34-0151
OTHER COMPONENTS for the assembly of the rails				
32		34-5119	Short bracket of the track suspension (length 416 mm)	When the bottom surface of the track from the ceiling is above 600 mm
33		34-5129	Long bracket for the track suspension (length 816 mm)	When the bottom surface of the track from the ceiling is above 1 m
34		34-5130	Extended bracket for the track suspension (length 1216 mm)	When the bottom surface of the track from the ceiling is above 1.4 m
35		34-5117	Intermediate profile of the track fixing	When the track is below the ceiling (Fig.19)
36		94-3003PER	Closed profile 40x30x3	Surrounding the I-beam (Fig.18)

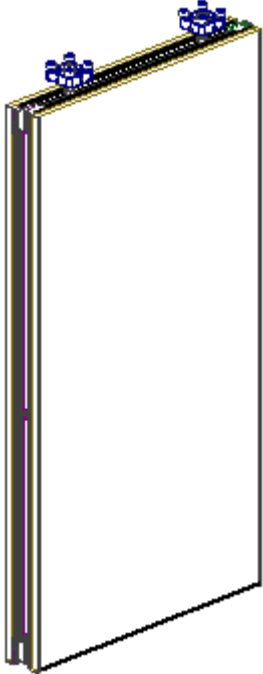
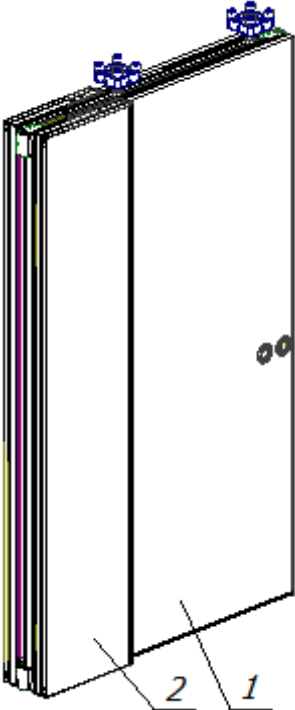
37		94-3003PER	Perforated flat bar 3x3000 mm	For stiffening track suspension (Fig.16)
38		34-5037	Heavy track end cap 34-0150	(Fig.31)
39		34-5038	Track cap 34-0130 and 34-0131	(Fig.31)
40		34-0034	Pin fi3x30 DIN6325	Used in the upper and lower channels of the 34-0130 and 34-0131 tracks
41		94-0002	Threaded rod M10x2000 mm	Pin for track suspensions
42		94-0003	M10 hex nut DIN 934	
43		94-0050	M10 round washer DIN 125	
44		94-0006	Hex head screw M10x20 - DIN 933	For the track suspensions
45		94-0098	Hex head screw M10x60 - DIN 933	For direct track sling (Fig..XX)

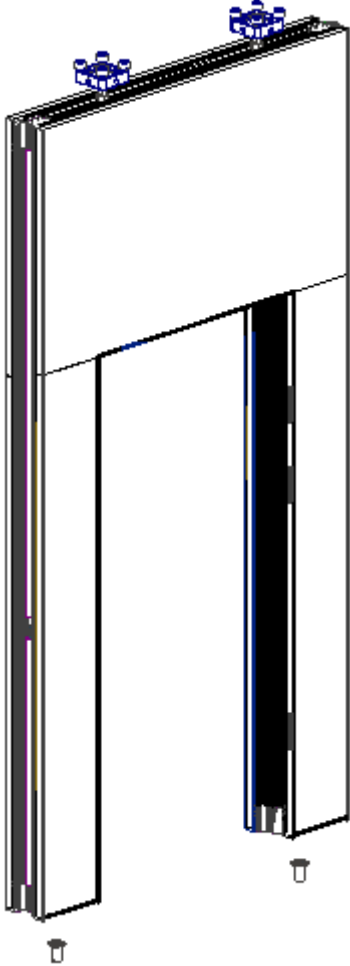
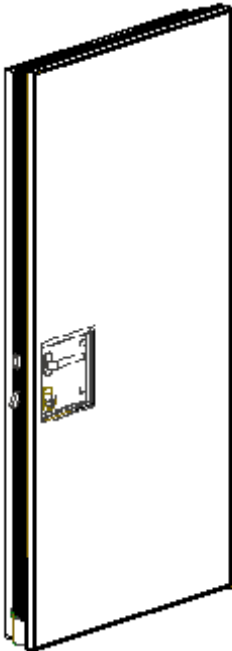
INSTALLATION MANUAL for the MAW110Plus Mobile Wall

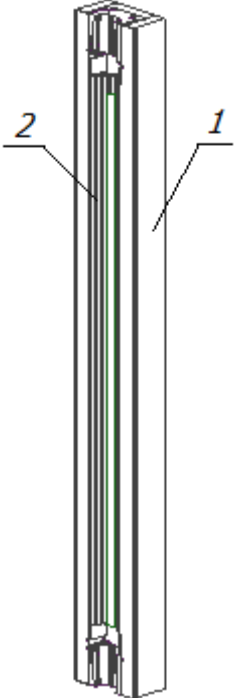
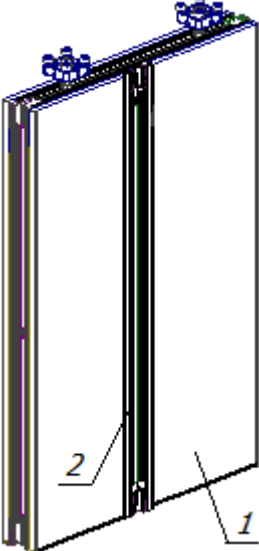
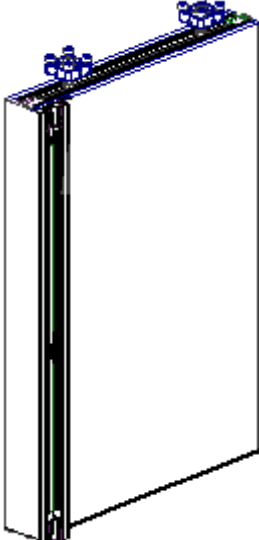
46		94-0007-FR	M10x40 steel hammer-in anchor	FISCHER company
47		94-0107	Conical screw M10x25 kl.10.9 - DIN 7991	For the track suspensions
48		94-0081	Conical screw M10x22 kl.10.9 - DIN 7991	For the track service module
49		94-0057	Push screw M6x14 - DIN 913	For the service plate of the track
50		94-0087	Push screw M10x10 - DIN 913	For the track suspensions

3. LIST OF THE MAW110Plus MOBILE PARTITION WALL COMPONENTS

Below is a list of components that are mounted and installed in the track after fixing it:

No.	Figure	Index	Name	Notes/Dimensions
1		-	<p>PLAIN standard panel:</p> <ul style="list-style-type: none"> • with a keyhole in the profile • with a button and contactors in the profile (electric option) 	
2		-	<p>TELESCOPIC panel:</p> <ul style="list-style-type: none"> • with key holes on the plate • with a button on the plate and contactors in the profile (electric option) <p>TELESCOPIC panel consists of:</p> <ul style="list-style-type: none"> • fixed part (1) • pull-out part (2) (drawers) 	<p>First in the wall (near the parking rack)</p> <p>100 mm wider than a regular panel (drawer pulled out)</p> <p>when the drawer is hidden is equal to a regular panel</p>







<p>3</p>		<p>-</p>	<p>Door panel FRAME:</p> <ul style="list-style-type: none"> • with turnkey holes in the profile • with a button and contactors in the profile (electric option) 	
<p>4</p>		<p>-</p>	<p>DOOR LEAF of the door panel</p>	<p>Installed only after hanging the door frame in the track</p>










5		-	<p>SKIRTING BOARD:</p> <ul style="list-style-type: none"> • with up/down bumpers (or without) • with contactors in the profile and a switch that activates the wall (electric option) <p>SKIRTING BOARD: consists of:</p> <ul style="list-style-type: none"> • troughs, made of C-shaped plates (1) • grille (2) 	At the beginning and end of each wall (mounted to the wall)
6		-	<p>T-panel:</p> <ul style="list-style-type: none"> • with turnkey holes in the profile • with a button and contactors in the profile (electric option) <p>T-panel consists of:</p> <ul style="list-style-type: none"> • fixed part (1) • tightened equivalent of the skirting board (2) 	Connecting two mobile walls
7		-	<p>CORNER panel:</p> <ul style="list-style-type: none"> • with turnkey holes in the profile • with a button and contactors in the profile (electric option) 	Connecting two mobile walls at an angle of 90 degrees (corner)









4. LIST OF TOOLS AND EQUIPMENT

Below is a list of tools that are recommended and necessary for track assembly.

No.	Image (illustrative)	Name	Notes / Application
1		Hammer drill	Obligatory Drilling holes for steel anchors in the ceiling for suspensions
2		Cordless screwdriver	Obligatory Screwing screws by fixing wall modules
3		Grinder	Obligatory
4		Jigsaw with oscillation	Recommended If special notches are needed e.g. in boards
5		Circular saw	Recommended If you need special cuts, e.g. in boards
6		Miter saw for cutting aluminum	Recommended If you need to trim e.g. the track

7		Laser level (on a stand)	<p>Obligatory Determination the curvature of the floor and walls Determination the axis of a wall Track and panel leveling Determining the verticality of wall modules (skirtboard)</p>
8		Aluminum, carpentry spirit level (at least 1 m)	<p>Obligatory Track and panel leveling</p>
9		Laser rangefinder	<p>Obligatory Measurement of the room before implementation</p>
10		Collapsible measure	<p>Obligatory Alternative room measurement - very small spaces (verification of laser measure)</p>
11		Ladder	<p>Obligatory All work related to drilling holes, track assembly, adjustment and etc.</p>
12		Assembly scaffold	<p>Recommended For high walls</p>

13		Hand saw for wood	Recommended For fine trims
14		Hand saw for metal	Recommended For fine trims
15		White rubber hammer	Obligatory For punching the panel and telescope (blade) into aluminum profiles
16		Steel hammer	Recommended
17		Steel hammer	Recommended
18		Drill bits for metal (set)	Obligatory
19		Drills bits for concrete with a SDS handle (set)	Obligatory Drilling holes for steel anchors in the ceiling for suspensions
20		Installation knife with interchangeable blades	Obligatory
21		Steel carpentry angle	Obligatory Verification of the wall module verticality in relation to the levelled track

22		<p>Hammered steel anchor (under the M10 pins)</p>	<p>Obligatory For fixing in the ceiling to suspensions</p>
23		<p>Expansion plugs (universal) for concrete from $\phi 6$- $\phi 12$</p>	<p>Obligatory For fixing wall modules (skirting strip)</p>
24		<p>Expansion plugs for plaster-cardboard panels from $\phi 6$- $\phi 12$</p>	<p>Recommended If the implementation requires covering e.g. a track with cardboard-gypsum boards</p>
25		<p>Wood screws</p>	<p>Recommended If the implementation requires the housing of the track e.g. laminate /furniture boards, etc.</p>
26		<p>Set of screws, screws, nuts, washers</p>	<p>Recommended If the implementation requires the installation of additional components</p>
27		<p>Flat eye wrench (especially 13, 17, 24)</p>	<p>Obligatory Wrench 13 for the screw of the carriage Wrench 17 for M10 nuts Wrench 24 for low M16 nuts</p>
28		<p>Ratchet wrenches</p>	<p>Obligatory When assembling and dismantling the service module of the track Use in hard-to-reach places</p>
29		<p>Allen key set</p>	<p>Obligatory</p>

5. WALL SPECIFICATION

The **MAW110Plus** mobile wall system is a system consisting of panels (modules) that enable the separation of rooms from any usable space. An additional advantage is the fact that they are available in **standard or increased acoustics**.

The panels, using carriages, move along the track suspended from the ceiling/ceiling. Depending on the weight, the panels can be hung on **one carriage** or on **two carriages** (then there is a parking space).

5.1. Classification and types of walls

The MAW110Plus system has a wide range of different **subsystems**:

- Types of panel suspensions:
 - **2-point** modules are parked in a **parking rack** (Fig.1), with a spacing of:
 - **500 mm** (for panels 800-1000 mm)
 - **600 mm** (for panels 1000-1100 mm)
 - **700 mm** (for panels 1100-1300 mm) between carriages
 - **1-point** modules are parked in **the axis of the wall** (Fig.2)
- Types of panel fills:
 - **plain board system** (panel frame visible)
 - **frameless system** (no visible panel frame)
 - **glazing of panels** (window opening in the board)
- Door types:
 - **standard door leaf "900"** (door panel approx. 1252 mm)
 - other "800" and "1000" (respectively narrower and wider by 100 mm)

Due to the possibility of building very high panels (up to 5-6 m), the system consists of several types of tracks to which carriages are assigned.

- Types of tracks:
 - **two-level carriage (34-3200)** for tracks 34-0130 and 34-0131 (item 15)
 - for panels with **1-point suspension** for weights **below 130 kg**
 - **heavy duty carriage (34-3220)** for track 34-0150 (item 16)
 - for panels with **1-point suspension** for weights **over 130 kg**
 - for panels with **2-point suspension** for weights **over 250 kg**
 - **carriage for a single-level track (34-3221)** for track 34-0151 (item 17)
 - for panels with a **2-point suspension** for a weight **below 250 kg**

The most important feature of a mobile wall is its **acoustic properties**. There is a wide range of options for selecting the appropriate insulation materials on world markets. The MAW110Plus system is mainly characterized by acoustics **confirmed by tests and certificates**.

- Types of acoustics:
 - **standard 49 dB**
 - **increased 50 dB, 51 dB and 53 dB**

In the illustration below there is an image of a typical mobile wall in the most characteristic and **standard case**:

- with the **2-point** suspension - with a parking rack (Fig.1)
- with the **1-point** suspension - without a parking rack (Fig.2)

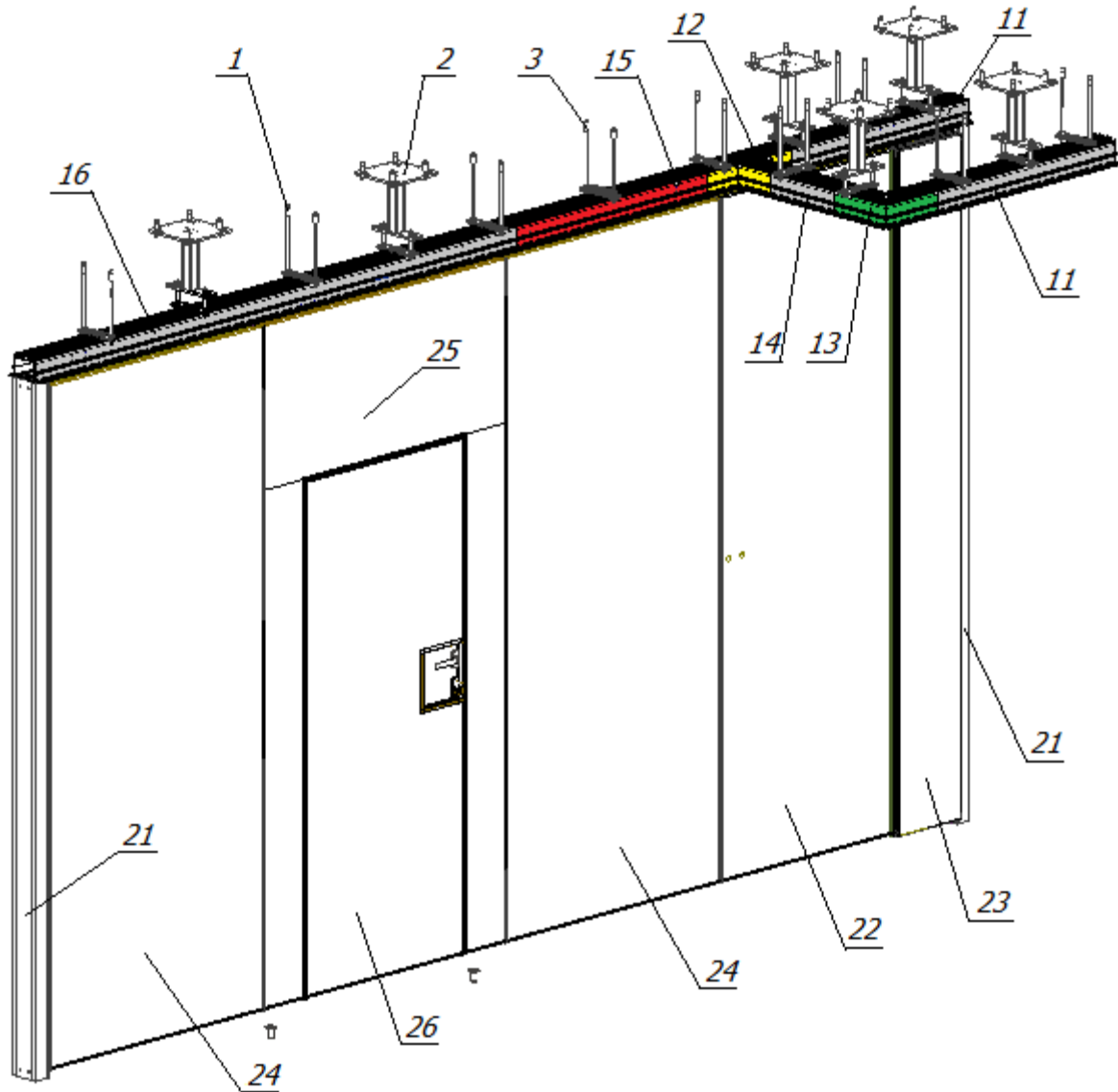


Fig.1. General diagram of a typical MAW110Plus mobile wall spread out with a parking rack (suspension of **2-point** panels)

- | | |
|---|--|
| 1-standard sling on pins | 16-straight section of track (remaining) |
| 2-hanging on the bracket | 21-skirting board |
| 3-sling for the service module | 22-telescopic panel (fixed part) |
| 11-parking rack track | 23-telescopic panel (retractable part) |
| 12-T-track module (yellow) | 24-plain panel (standard) |
| 13-track corner module (green) | 25-door frame of the door panel |
| 14-section connecting modules (cross track) | 26-door leaf of the door panel |
| 15-service module (red color) | |



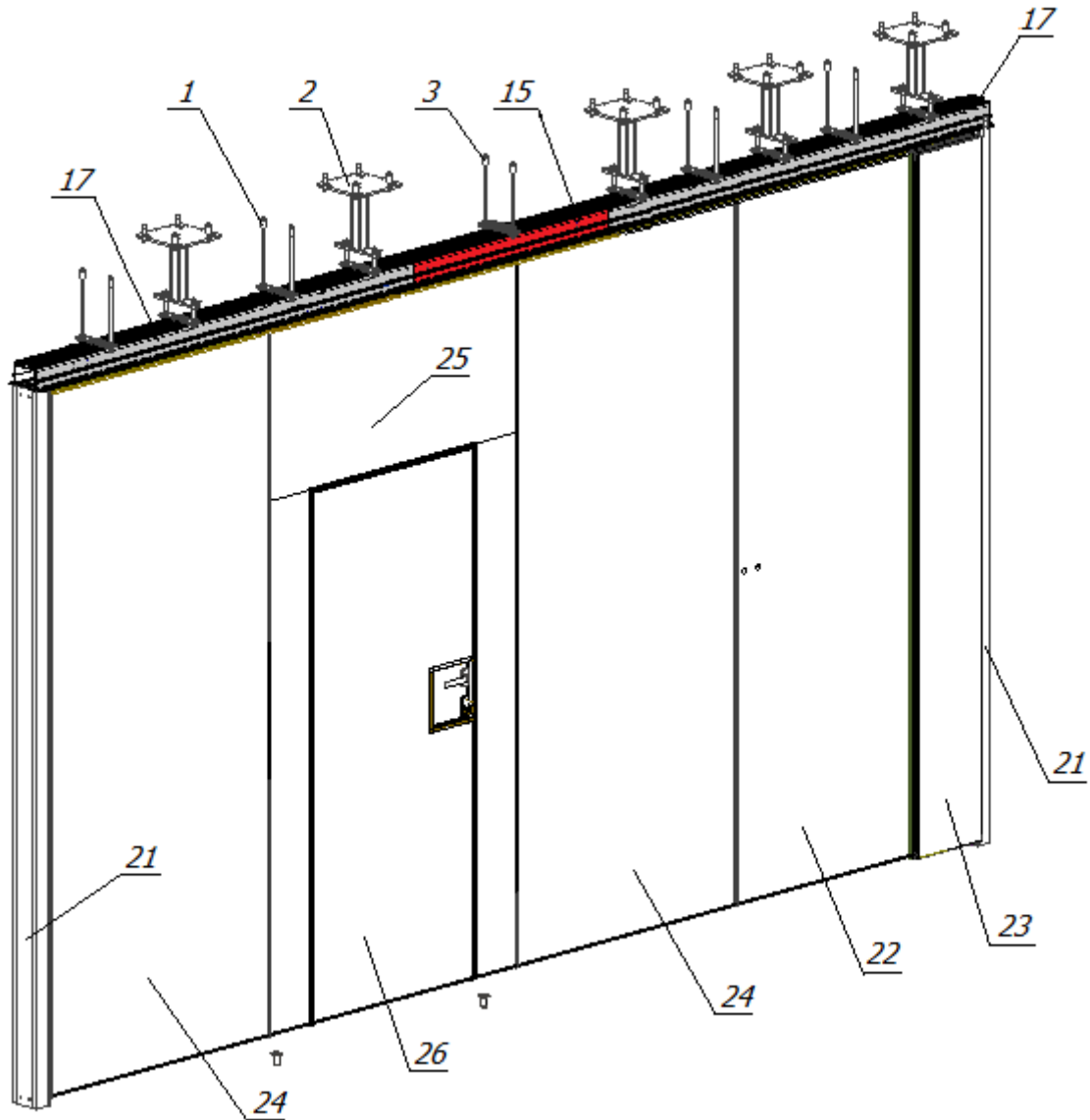
CAUTION

The telescopic panel (22 in Fig.1) is **always** placed on the side of the parking rack



FOR INFORMATION

The service module (15) is **always** placed behind the T-module (12) of the parking rack (applies to a **2-point** wall)



Rys.2. General diagram of a typical MAW110Plus mobile wall spread out without a parking rack (**1-point** panel suspension)

- 1-standard sling on pins
- 2-hanging on the bracket
- 3-sling for the service module
- 15-service module (red color)
- 17-straight section of track (remaining)

- 21-skirting board
- 22-telescopic panel (fixed part)
- 23-telescopic panel (retractable part)
- 24-plain panel (standard)
- 25-door frame of the door panel
- 26-door leaf of the door panel



CAUTION

The telescopic panel (22 in Fig.1) is **always** placed **from the side of the panel parking place**, due to the greater number of slings in the track



FOR INFORMATION

The **service module** (15) is **always** located **in the middle of the wall length** when there is no parking rack (applies to a wall with **1-point** panels)

5.2. Method of measuring the wall

The first step before any stage of order execution is **to perform the correct measurement** of the room in which the mobile wall will be installed. To determine the dimensions of the wall, you need **two most important data**:

- width of the measured room **L** (Fig.3)
- height of the measured room **Hs** (Fig.4)
- determination of floor curvature **Dr** (**NECESSARY condition!**)

5.2.1. Measuring the room's width



FOR INFORMATION

Measure the width **from wall to wall every 1 m** from the floor (Fig.3), preferably using a laser rangefinder

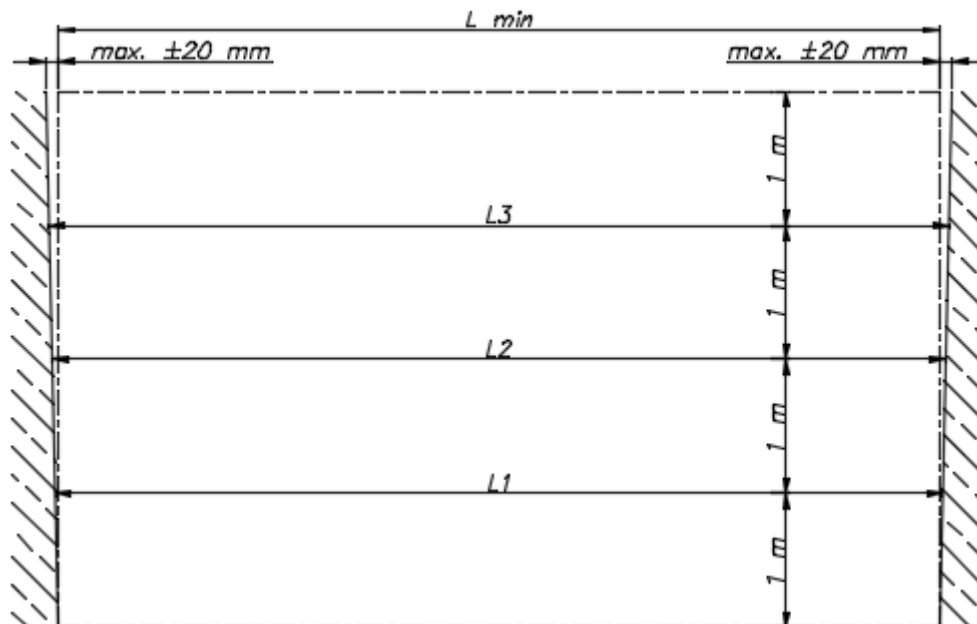


Fig.3. How to measure the width of a room
 L_{min} - minimum width of the measured room/wall
 L1, L2, L3 - sample measurements



CAUTION

Permissible deviations of the wall from the vertical should not exceed 20 mm. With larger deviations, any imperfections and gaps between the vertical modules (skirts) **must be filled!**



CAUTION!

From the obtained results L1, L2, L3, **select the one with the SMALLEST dimension, i.e. L_{min}**

5.2.2. Determination of the track height

The next step is to **set the track at the right level!** The height of the track is usually **consistent with the height of the suspended ceiling** (dimension Hp).

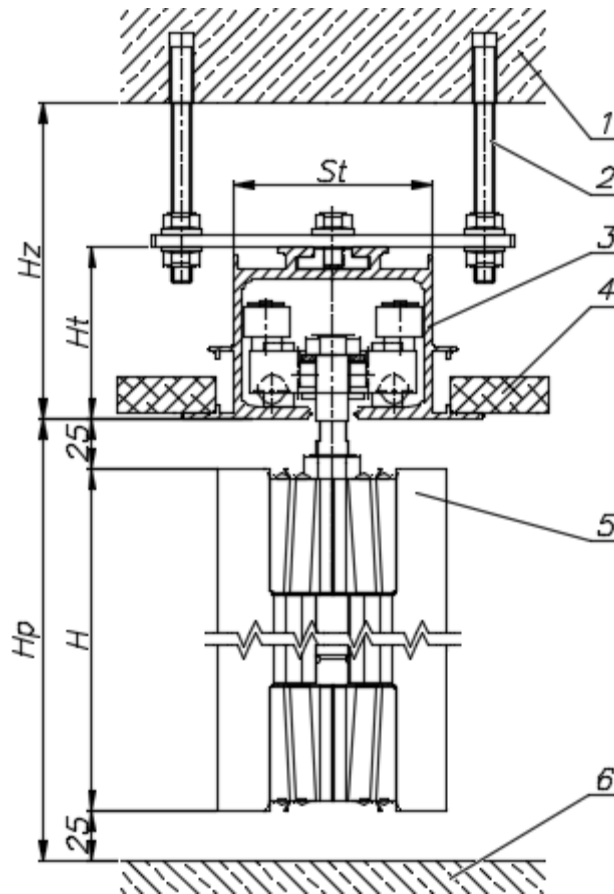


Fig.4. Suspension diagram of the track and the height in the wall

H-panel height

Hp-assumed track height **from the floor to the bottom plane of the track**

Hz-distance **from the bottom plane of the track to the ceiling**

Ht-track height (**85 mm** for tracks 34-0150 and 34-0151,

94 mm for tracks 34-0130 and 34-0131)

St-track width (**153 mm** for track 34-0150, **149 mm** for track 34-0151,

76 mm for track 34-0130, **99 mm** for track 34-0131)

1-ceiling

2-track suspension

3-track

4-suspended ceiling

5-mobile panel

6-floor



FOR INFORMATION

The distance **from the bottom surface of the track to the ceiling** (Hz dimension) is the starting point for determining **what type of track sling will be used** during its installation (**chapter 6.3**)

The construction of the building, the ceiling or the location of the wall can be so **non-standard**, then the way of hanging the track can be selected individually according to the needs.



CAUTION

The track **must be adjusted and leveled** (**chapter 7.5**) until the **gaps between the floor and the panel and the track are adequate**, i.e. **25 mm each!** (Fig.4)

5.2.3. Measuring the room's height

After assembling the track and setting it **leveled at the set height** (Fig.4), you can start measuring the height of the wall.



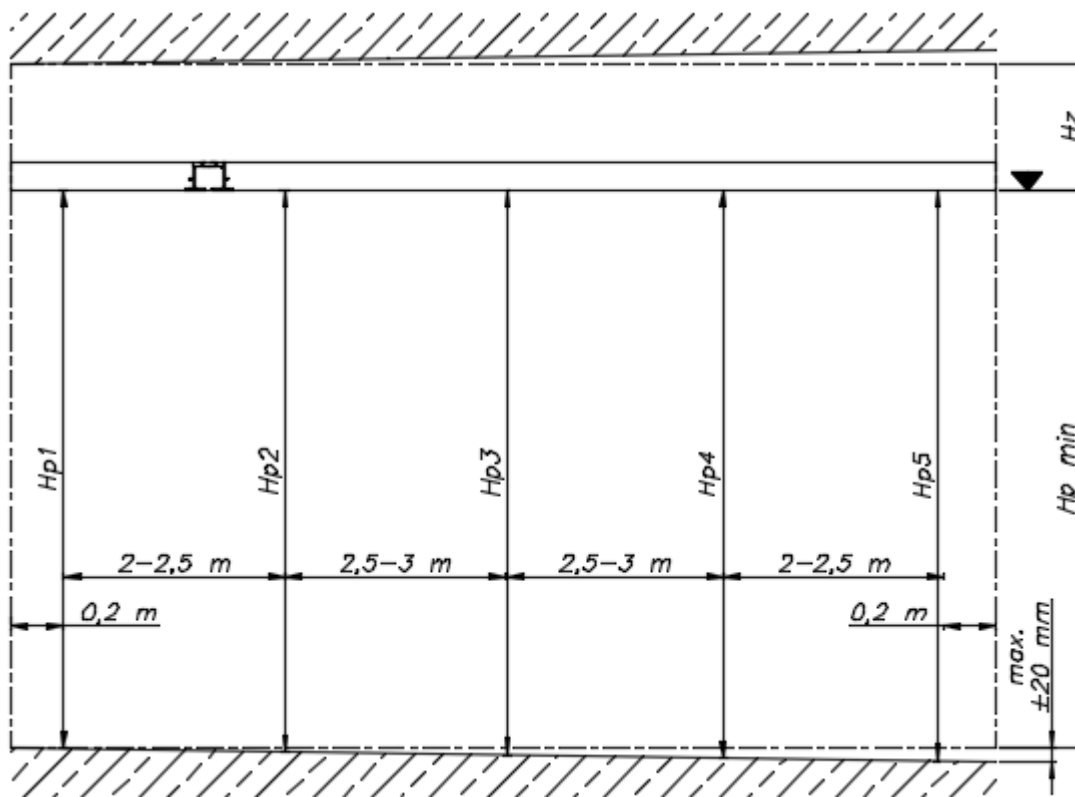
CAUTION !

If the panels **have already been manufactured**, the track should be installed at the **APPROPRIATE** height in accordance with the **dimensions adopted in the design** and according to the diagram (Fig.4)



FOR INFORMATION

Measure the height **from the floor to the ceiling (or ceiling) 0.2 cm from the wall and every 2 - 2.5 - 3 m** (Fig.5), preferably using a **laser rangefinder**



Rys.5. How to measure the height of the measured room

$H_{p_{min}}$ -minimum **assumed height** of the wall **from the floor to the bottom plane of the track**

H_{p1} , H_{p2} , H_{p3} , H_{p4} , H_{p5} - sample measurements

H_z -distance **from the bottom plane of the track to the ceiling** (Fig.4)



CAUTION

Permissible deviations of the floor from the level should be no more than 20 mm. With larger deviations, there is a risk of **incorrect operation of the up/down sealing mechanisms**



CAUTION!

From the obtained results H_{p1} , H_{p2} , H_{p3} ... H_{p5} , **the one with the smallest dimension, i.e. $H_{p_{min}}$** , is selected so that the panels fit!

5.3. How to calculate the dimensions of the panels

After determining the **proper dimensions** of the wall measured earlier (according to chapter 5.2), you can start calculating the **width of the S panels**. Several types of walls are listed below. All wall calculations in Section 5.3 apply to both **2-point** and **1-point** suspension walls.

5.3.1. Calculation for a straight wall

It is the most common and **classic wall** dividing the room. Here's an example:

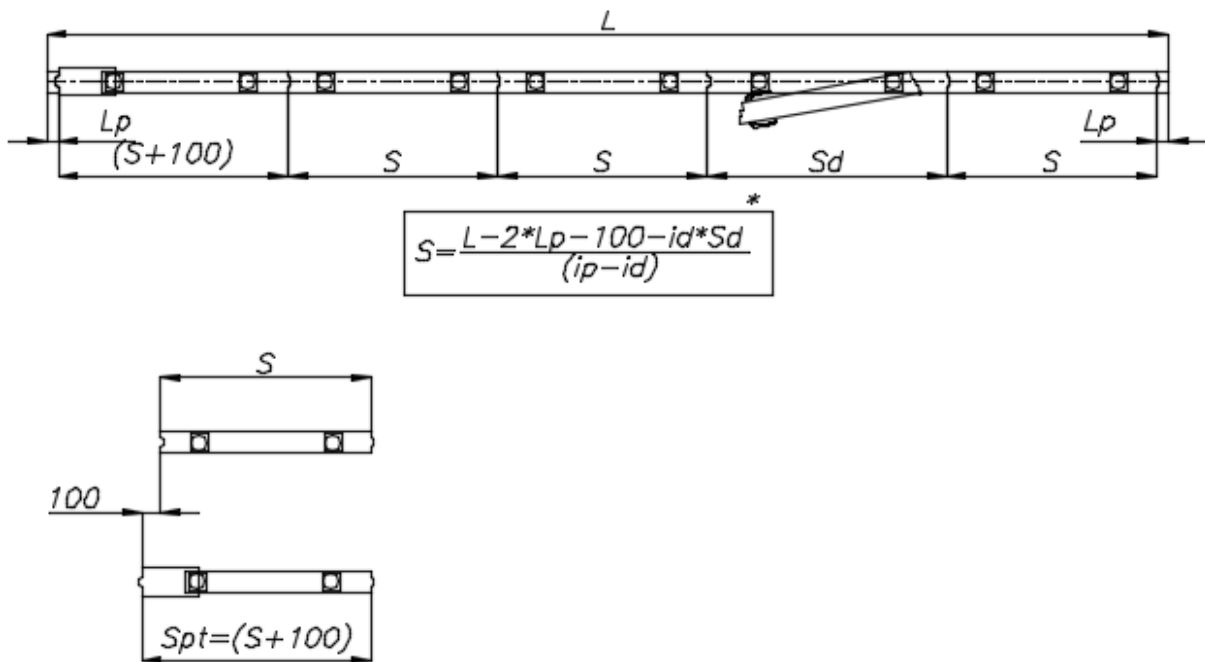


Fig.6. Calculation of a straight wall

L-wall length
 Lp-skirting board
 Spt-telescopic panel

S-calculated panel
 ip-number of all panels (except the door panel)
 Sd-door width (1152, 1252 or 1352 mm)
 id-number of door panels



CAUTION

The telescopic panel, after unfolding the withdrawable part, is **100 mm wider than the standard panel (this is included in the formulas!)**



FOR INFORMATION

Panel layouts can be varied. There can be more than one door panels, located in different places in the wall, hence the **id** variable in the formula defining the number of door panels

5.3.2. T-wall calculation

A less common and non-standard wall dividing a room is a **T-shaped wall** - i.e. one mobile wall adjoining another. Below is an example:

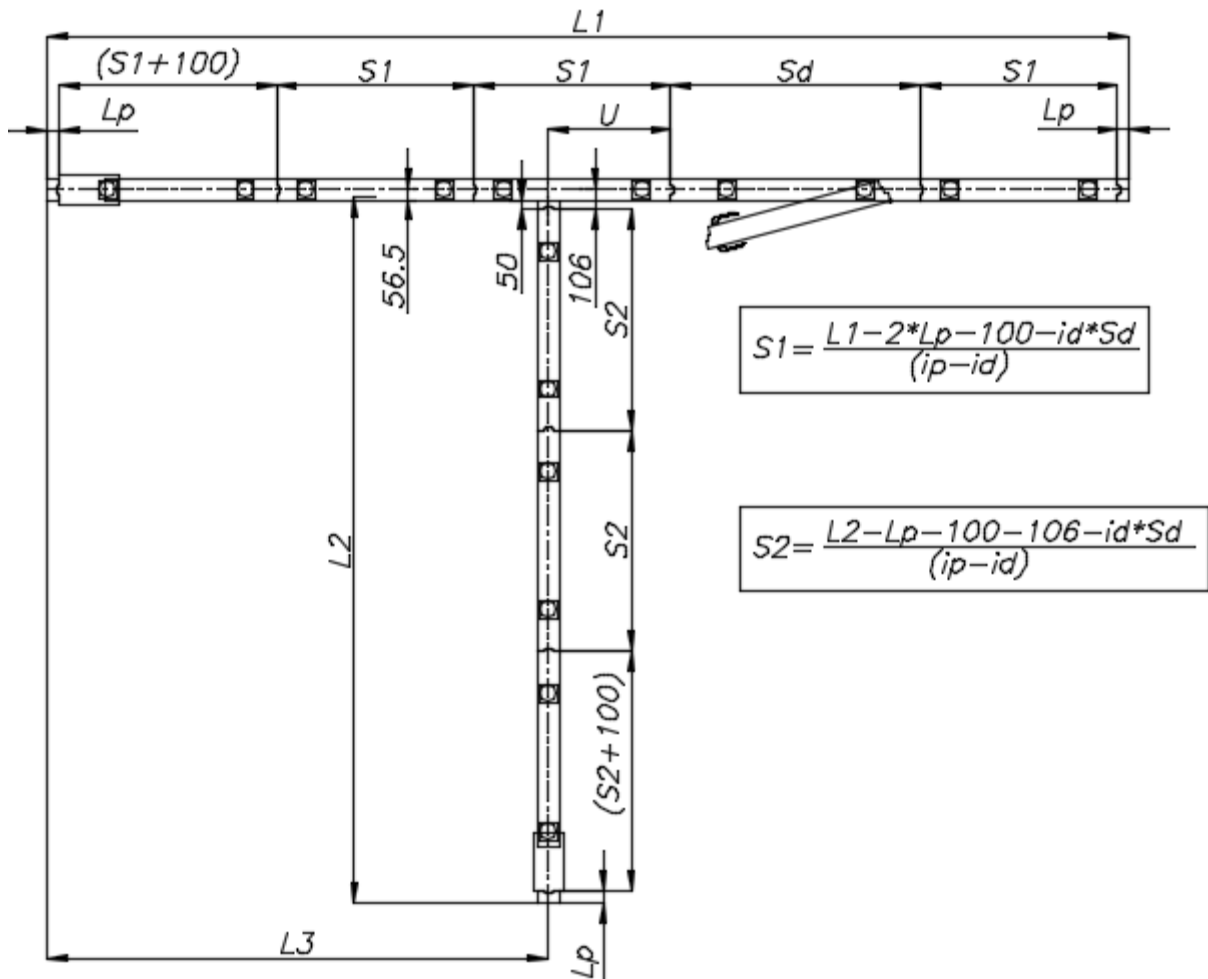


Fig.7. Calculations for a T-shaped wall
 $L1$ and $L2$ -length of both walls
 Lp -skirting boards
 $Spt1$ and $Spt2$ -telescopic panels
 $L3$ -distance of wall axis $L2$ from the wall

$S1$ i $S2$ -calculated panels

ip -number of all panels (except the door panel)
 Sd -door width (1152, 1252 or 1352 mm)
 id -number of door panels



CAUTION

The U dimension is **ALWAYS** set from the front of the panel (Fig.7), i.e. where the male tab of the T-panel is located to the axis of the "attached" skirting board in the T-panel!



CAUTION!!!

A minimal shift of the U dimension will cause that the $L2$ wall panel will not hit the "attached" strip of the T-panel and will not close the wall!

5.3.3. Calculations for a corner wall

Another less common and non-standard wall dividing the room is the **corner wall** - i.e. one mobile wall comes to the other, but at its end.



FOR INFORMATION

The telescopic panel is **ALWAYS** in the wall adjoining the corner panel (wall L1 in Fig.8)



CAUTION

Before commencing the calculation of the corner wall, it **should be determined at the design stage** whether the telescopic panel is also present in the wall with the corner panel (wall L2 in Fig.9)

Below is an example of a wall in which:

- there is **one telescopic panel** (always in the L2 wall)

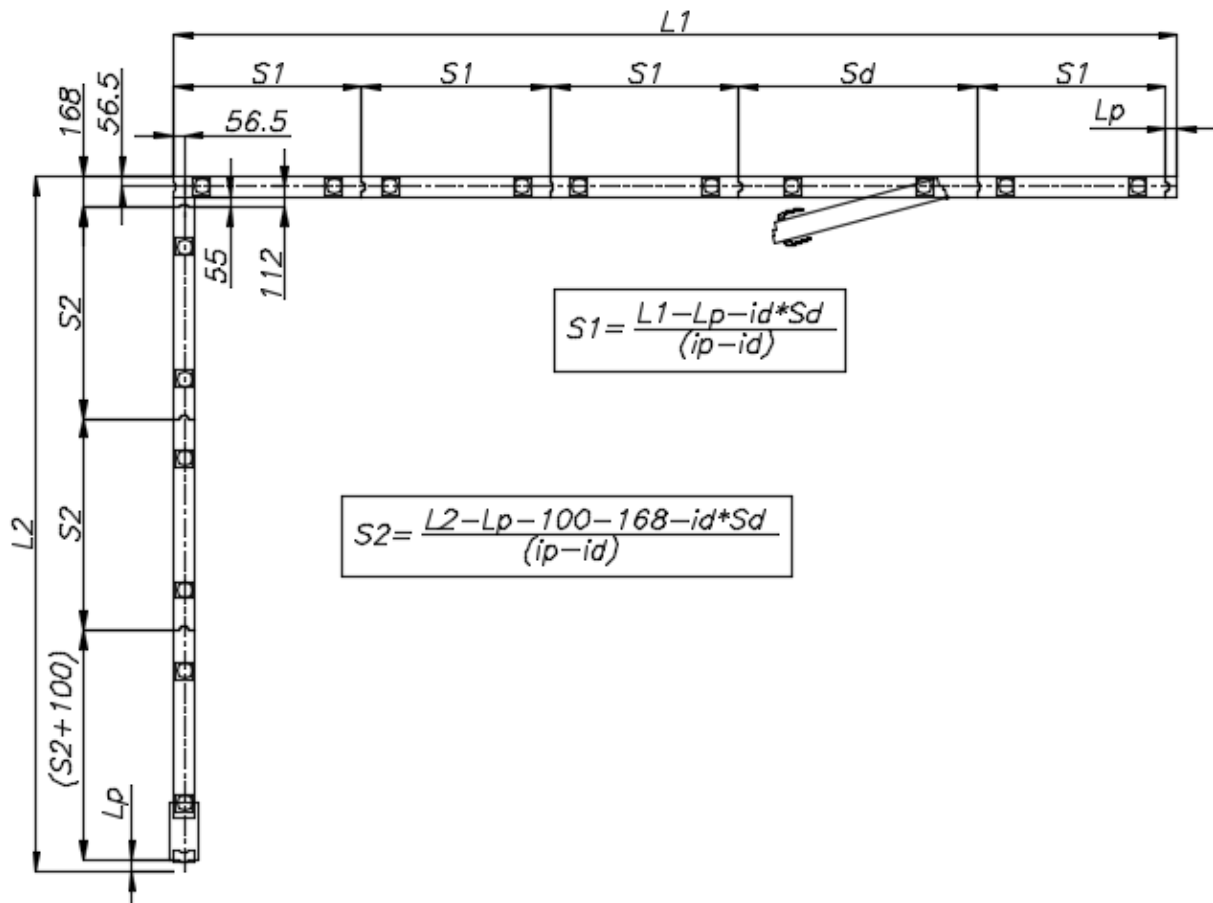


Fig.8. Calculation of the corner wall with one telescopic panel

L1 i L2-length of both walls
Lp-skirting boards
Spt2-telescopic panel
168-corner panel end width

S1 and S2-calculated panels
ip-number of all panels (except the door panel)
Sd-door width (1152, 1252 or 1352 mm)
id-number of door panels

- there are **two telescopic panels** (always in the L2 wall and additionally in the L1 wall)

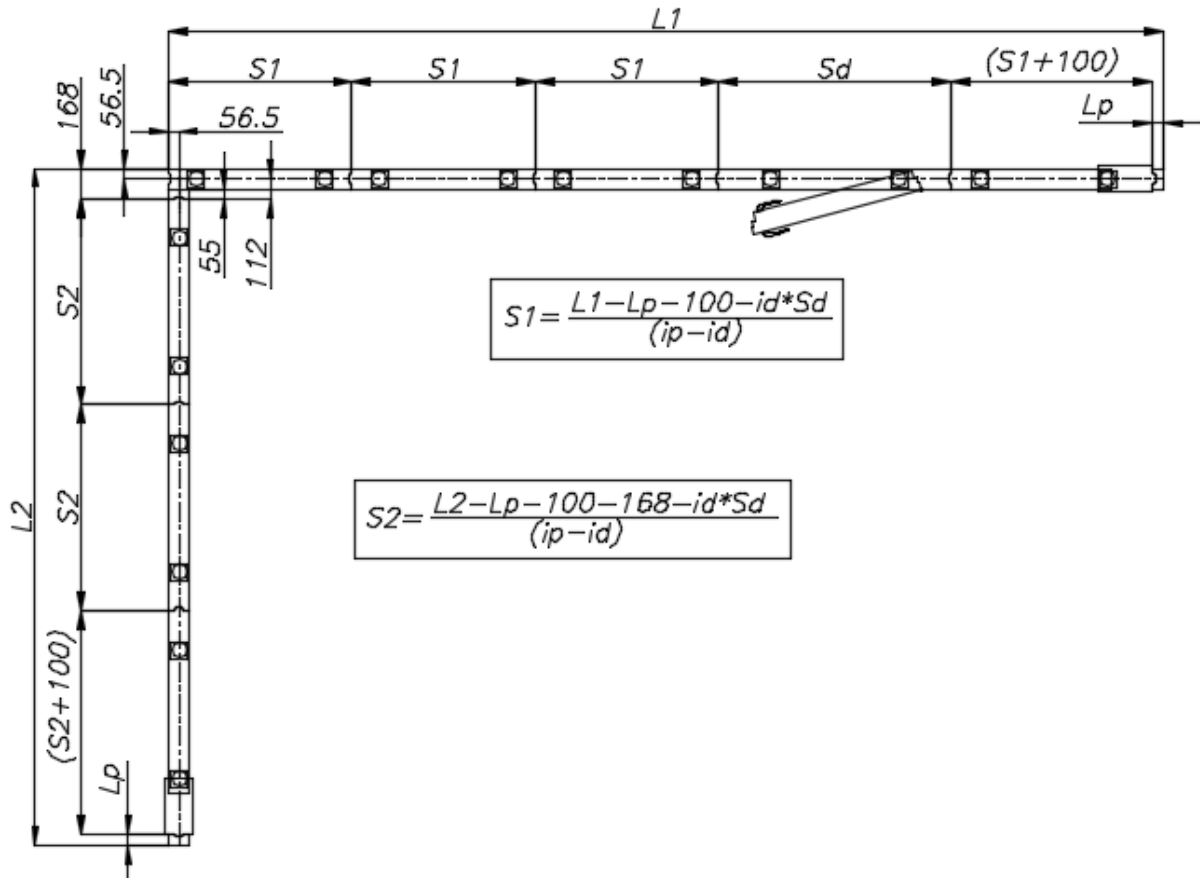


Fig.9. Calculation of a corner wall with two telescopic panels

L1 and L2- length of both walls

Lp- skirting boards

Spt1 and Spt2- telescopic panels

168-corner panel end width

S1 and S2-calculated panels

ip-number of all panels (except the door panel)

Sd-door width (1152, 1252 or 1352 mm)

id-number of door panels



FOR INFORMATION

In the case where there are **two telescopic panels in the corner wall**, **the corner panel is made with two grooves**, due to the possibility of locking and unlocking them with a key

5.4. Calculation of the wall traverse

Applies only to mobile walls with **2-point suspension**, i.e. those with **parking racks**. The location of the **cross track** marked with dimension **W**, otherwise known as **the size of the parking rack**, will be calculated.

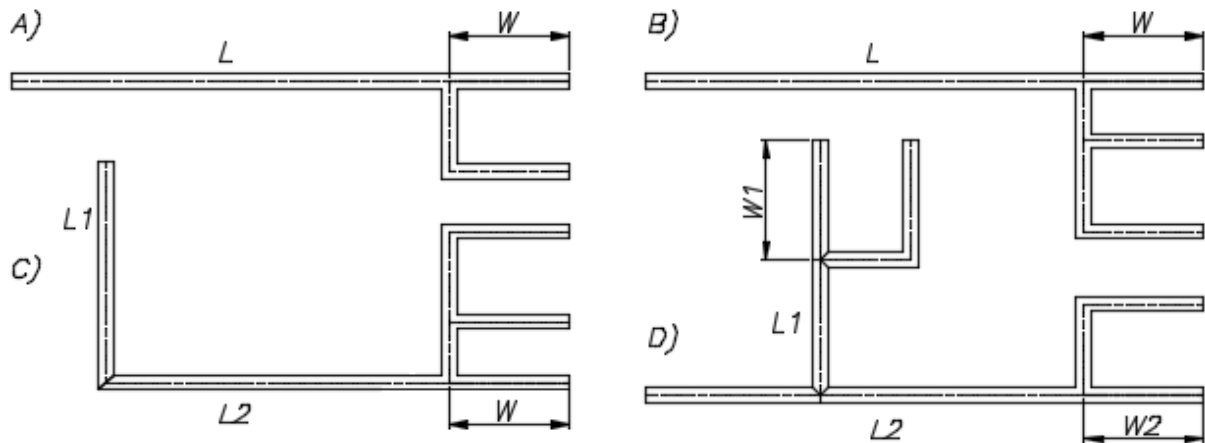


Fig.10. Example of parking racks in mobile walls

A-wall with an offset parking rack

B-wall with an "h" type parking rack

C-corner wall with an parking rack

D-T-shaped wall with two parking racks



CAUTION

Dimension **W** is the distance of the **AXIS OF THE TRANSVERSE TRACK** from the **BEGINNING OF THE MOBILE WALL** where the **beginning of the skirting board** is located (Fig. 1 and 2) always at the telescopic panel

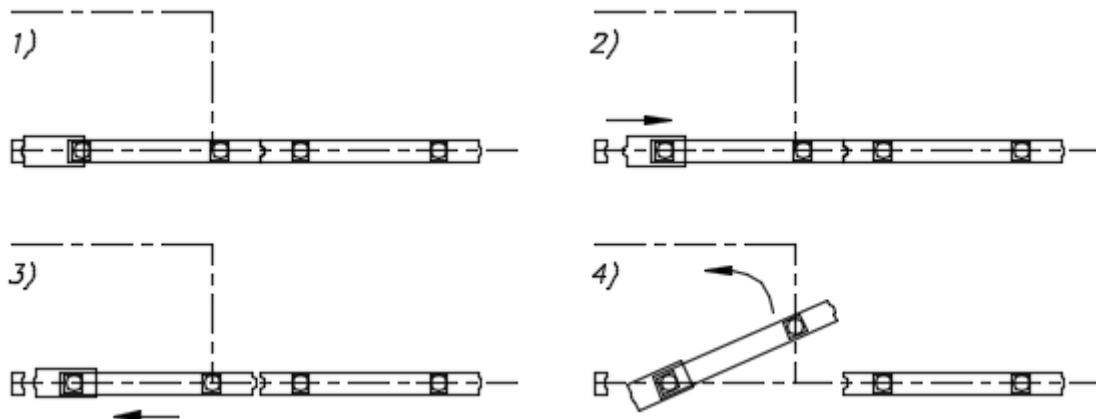


Fig.11. Scheme of the location of the transverse track relative to the telescopic panel and the principle of operation of the mobile wall

1-unfolded wall

2-hiding the sliding part of the telescopic panel

3-retraction of the telescopic panel to the axis of the track

4-driving the telescopic panel into the parking rack

In order to be able to **unlock the wall**, i.e. it must be folded:

- unlock the telescope (retract the telescope's extended "drawer")
- retract the panel (drive its carriage to the axis of the transverse track)
- enter the park (insert the roller into the transverse track)



FOR INFORMATION

The use of the wall is described in the **MAW110Plus USER MANUAL** and its electric version



CAUTION!!!

For the calculation of the **Axis distance** of the transverse track (dimension **W**), we use the width of the telescopic panel (**Spt**), which is **100 mm WIDER** than the standard/normal panel (**S**) !

There are **three cases** of placing the transverse track **depending on the type of development and the location of the wall in the room**. The parking space cross track may be present:

- as the **standard** after the **second roller** of the telescopic panel:

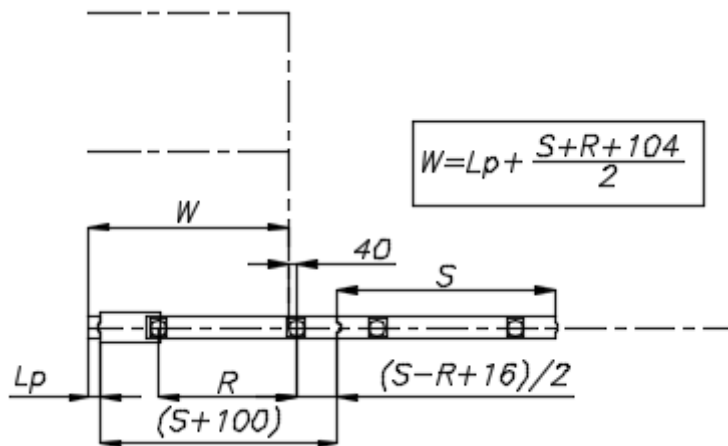


Fig.12. Scheme of calculation of the transverse track **for the second panel carriage**
 Spt-telescopic panel **W-calculated parking rack cross track**
 R-spacing of panel carriages **Lp**-skirting board
40-distance between the axis of the carriage and the axis of the transverse track

- after the **first roller** of the telescopic panel:

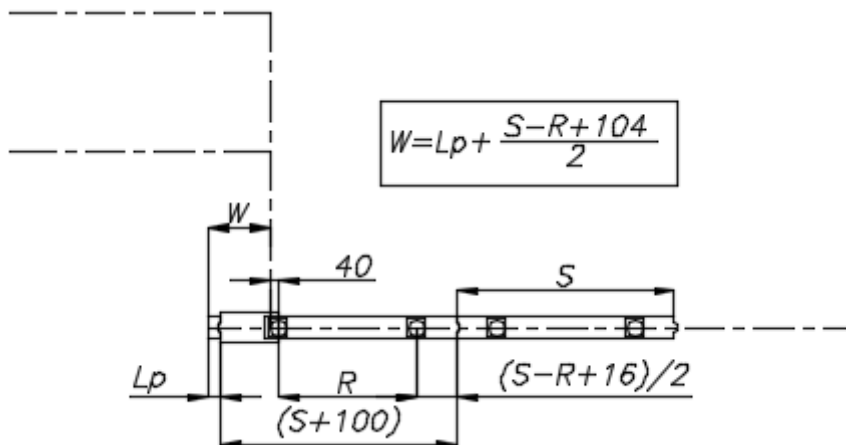


Fig.13. Scheme of calculation of the transverse track **for the first panel carriage**
 Spt-telescopic panel **W-calculated parking rack cross track**
 R-spacing of panel carriages **Lp**-skirting board
40-distance between the axis of the carriage and the axis of the transverse track

- behind **any roll** of the panel (in this case the **second** one):

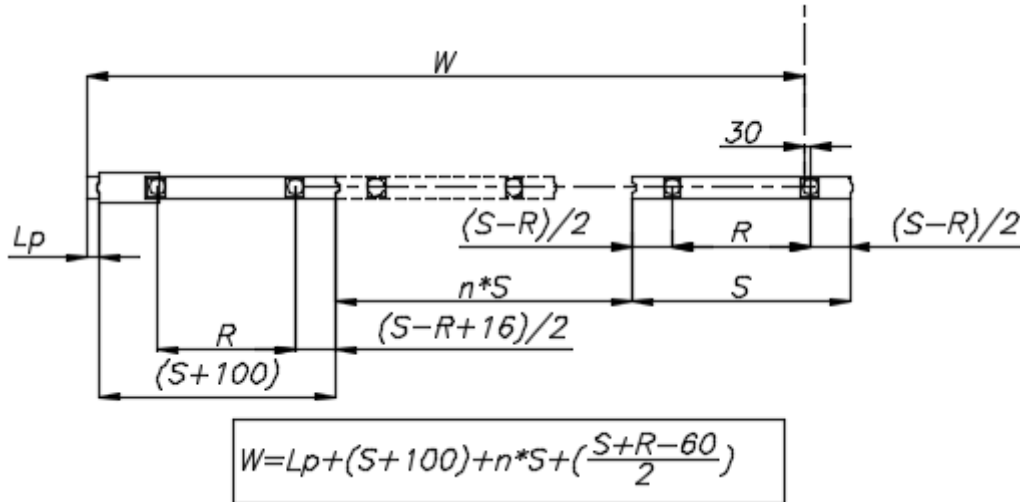


Fig.14. Scheme of calculation of the transverse track **for any panel carriage**
 Spt-telescopic panel **W-calculated parking rack cross track**
 S-plain/standard panel **Lp-skirting board**
 R-spacing of panel carriages
n-the number of panels between the panel where it is transverse and the telescopic panel
30-distance between the axis of the carriage and the axis of the transverse track



CAUTION

The above solution, where the transverse track is **behind any roll of the panel (Fig.20)**, should be used if:

- it is the **T-shape wall installation**
- **all panels of both walls park in a parking rack located on the transverse track**

Sometimes, due to **measurement inaccuracies**, it is necessary to shorten the track by a few millimeters or even a few centimeters. Then, **follow the note below, which is MOST IMPORTANT** for the correct operation of the system!



CAUTION!!!

DO NOT shorten the arms of the parker (11 in Fig.1) being in the axis of the wall or dimension W of the track (Fig.12-13)! Violation of this dimension will result in NO POSSIBILITY of entering and exiting the panel from the parking rack!



FOR INFORMATION

It is allowed to correct the length of the **straight section of the track (16 in Fig.1) behind the service module** (on the other side of the wall)

6. INSTALLATION OF THE TRACK

Before installing the track, check and make sure that there are no missing components among those received for the implementation:

- sections of track,
- track modules (applies to the 2-point suspension wall)
- fixing plates,
- connecting components,
- other additional components (if required by the design)



CAUTION

Check **the condition of tools and other equipment to maintain all safety and health measures**

6.1. Track assembly diagrams

Several standard systems for mounting the track the ceiling are distinguished. Due to the wide variety of finishes in construction, sometimes the track mounting system needs to be more complex or heavily modified.

Types of standard track fasteners:

- **on pins**
 - **regular (Fig.15)**
 - reinforced with **perforated flat bars** (Fig.16) - depending on the weight of the panel and the distance of the track from the ceiling (Hz dimension in Fig.4)
 - reinforced with other structural elements

Types of custom or modified track mounting systems:

- directly to the ceiling (Fig.17)
- on the profile surrounding the I-beam (Fig.18)
- with an intermediate component (Rys.19)
- suspension on the bracket (Fig.20)
- suspension for a wooden beam (very similar to Fig. 24)



CAUTION !!!

Before implementing the project, make sure what type of suspension will be the BEST and SAFEST based on the resulting distance from the track to the ceiling (Hz dimension in Fig.4) after determining its height at the design stage

Examples of **standard and non-standard track mounting** systems are shown in the illustrations below (Fig.15-20)



FOR INFORMATION

Descriptions for Figures 15-20 are provided on page 37

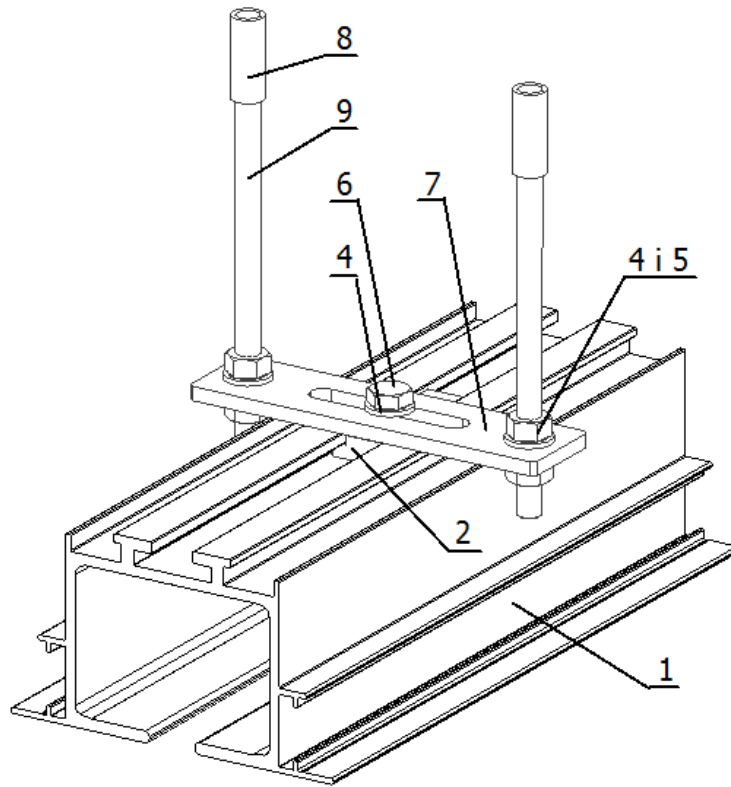


Fig.15. Diagram of mounting the suspension on pins

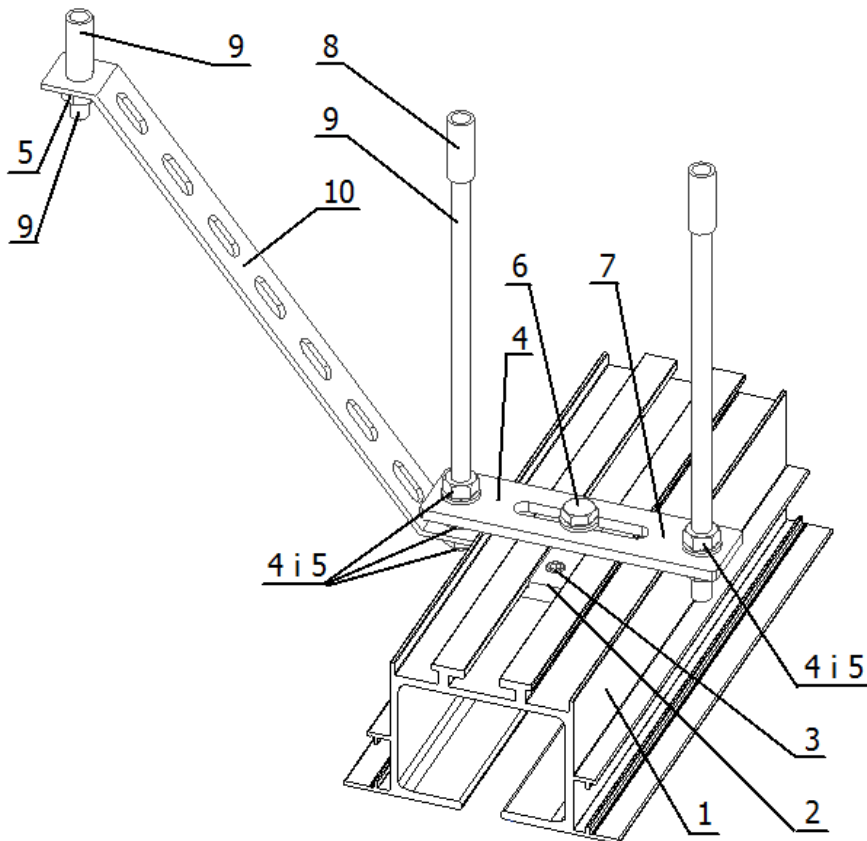


Fig.16. Diagram of mounting the suspension on pins with a perforated flat bar

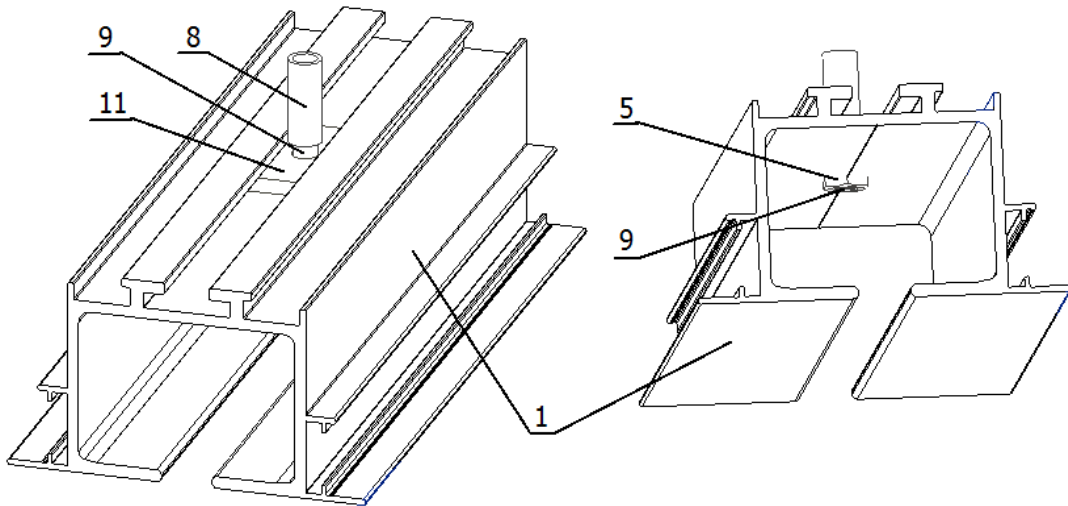


Fig.17. Scheme of track mounting directly to the ceiling

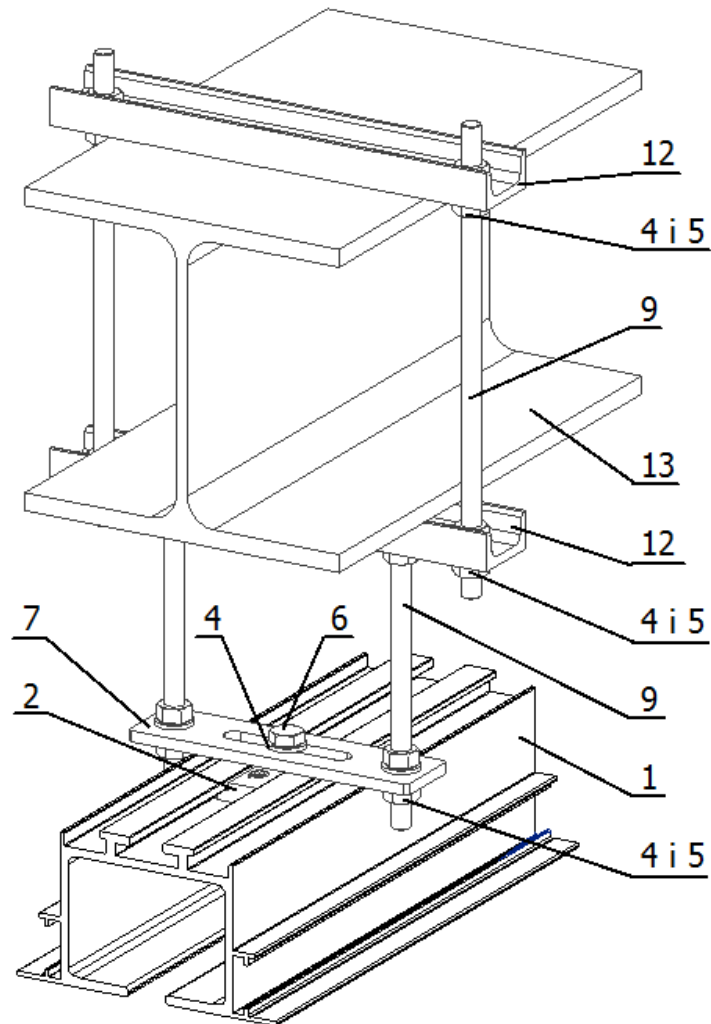


Fig.18. Scheme of track mounting with elements surrounding the I-beam

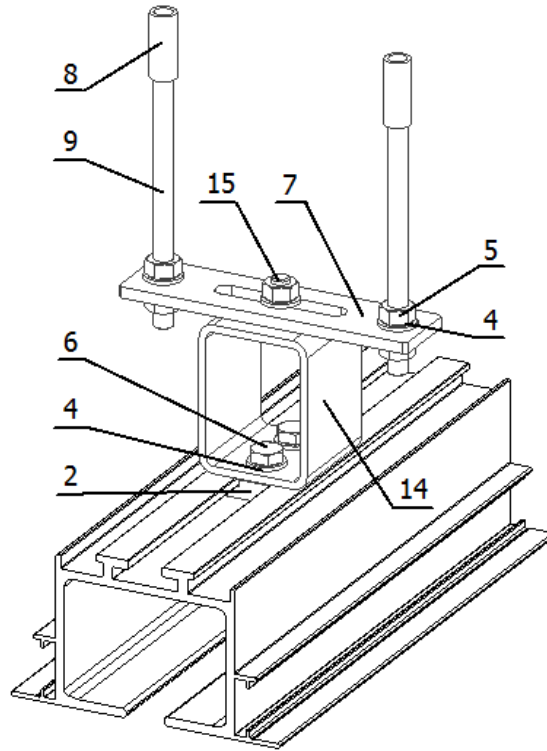


Fig.19. Scheme of track mounting with an intermediate element

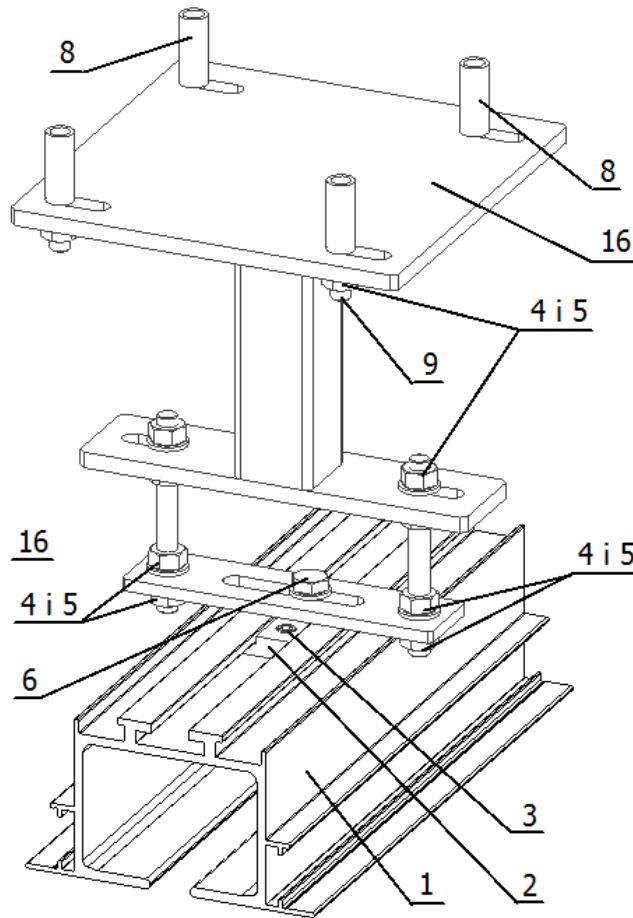


Fig.20. Scheme of track mounting with a steel bracket

Description for Figures 15-20:

- | | |
|---|--|
| 1 - track | 9 - threaded rod M10 class 8.8 (so-called pin) |
| 2 - reinforced plate for fixing the track | 10 - perforated flat bar |
| 3 - push screw M10x10 | 11 - plate for fixing the track, unthreaded |
| 4 - round washer M10 | 12 - metallurgical channel 40x20x5 |
| 5 - hex nut M10 | 13 – I-beam |
| 6 - screw M10x20 | 14 – closed profile 80x60x4 |
| 7 - retaining plate | 15 - screw M10x30 |
| 8 - FISCHER drop-in anchor | 16 - steel bracket (3 types of length) |

Individual types of track fasteners may differ in their components from the standard fasteners used, e.g. instead of a C-profile (12 in Fig.18), a closed profile is used (item 36 in chapter 2)



FOR INFORMATION

Track fixing rules **remain the same for ANY type of suspension of 2-point and 1-point panels!**

The track mounting diagrams described above (Fig.15-20) **the drawings of the single-level track 34-0151 (item 10 in Section 2)** were used. The MAW110Plus system offers other tracks:

- for the 2-point suspension **tracks 34-0150 and 34-0151**
- for the 1-point suspension **tracks 34-0130 and 34-0131** and additionally **track 34-0150 (Fig.21)**

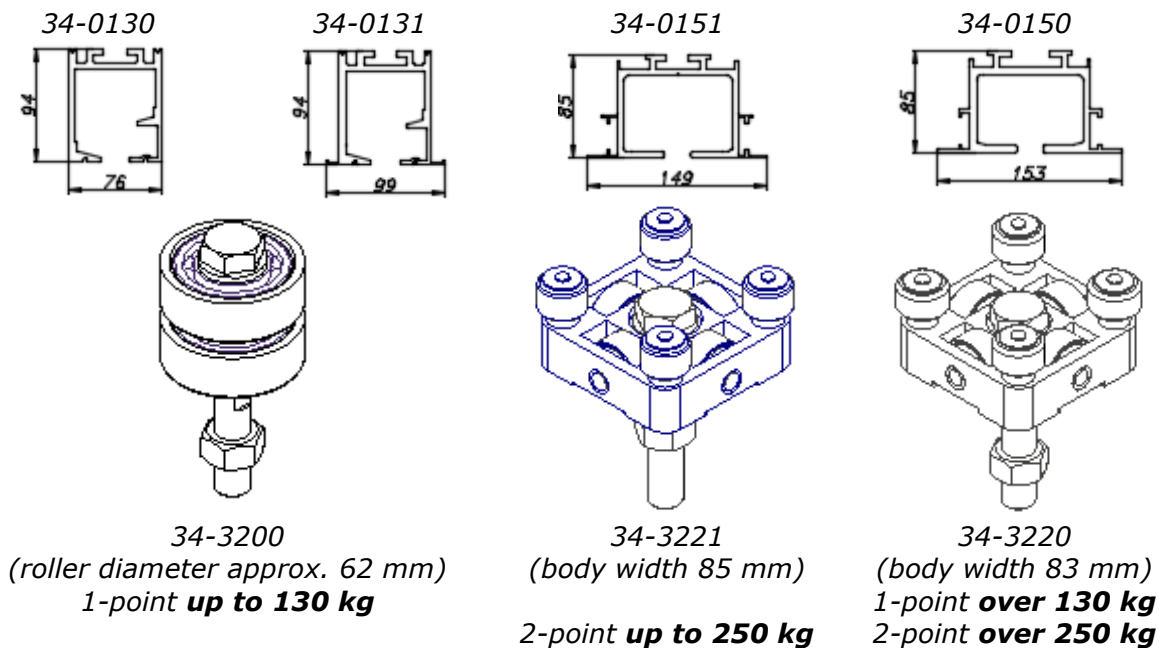


Fig.21. Types of tracks with carriages assigned to them depending on the weight of the panels



CAUTION

Based on the **weight of the panel (the door panel is heavier than the regular panel)** **SELECT the appropriate carriage (the track is automatically assigned) according to the guidelines above (Fig.21)**

6.2. Connecting the track

All the received track sections together with the modules specified for parking spaces (if any) are connected by means of:

- a **straight sheet** connecting **all the tracks** (17 in Fig. 21 and 22), with the difference that:
 - straight sheet 34-5157 for heavy track 34-0150
 - straight sheet 34-5090 for other tracks
- **side plate** 34-5161 connecting **only tracks 34-0150 and 34-0151** (19 in Fig.22)

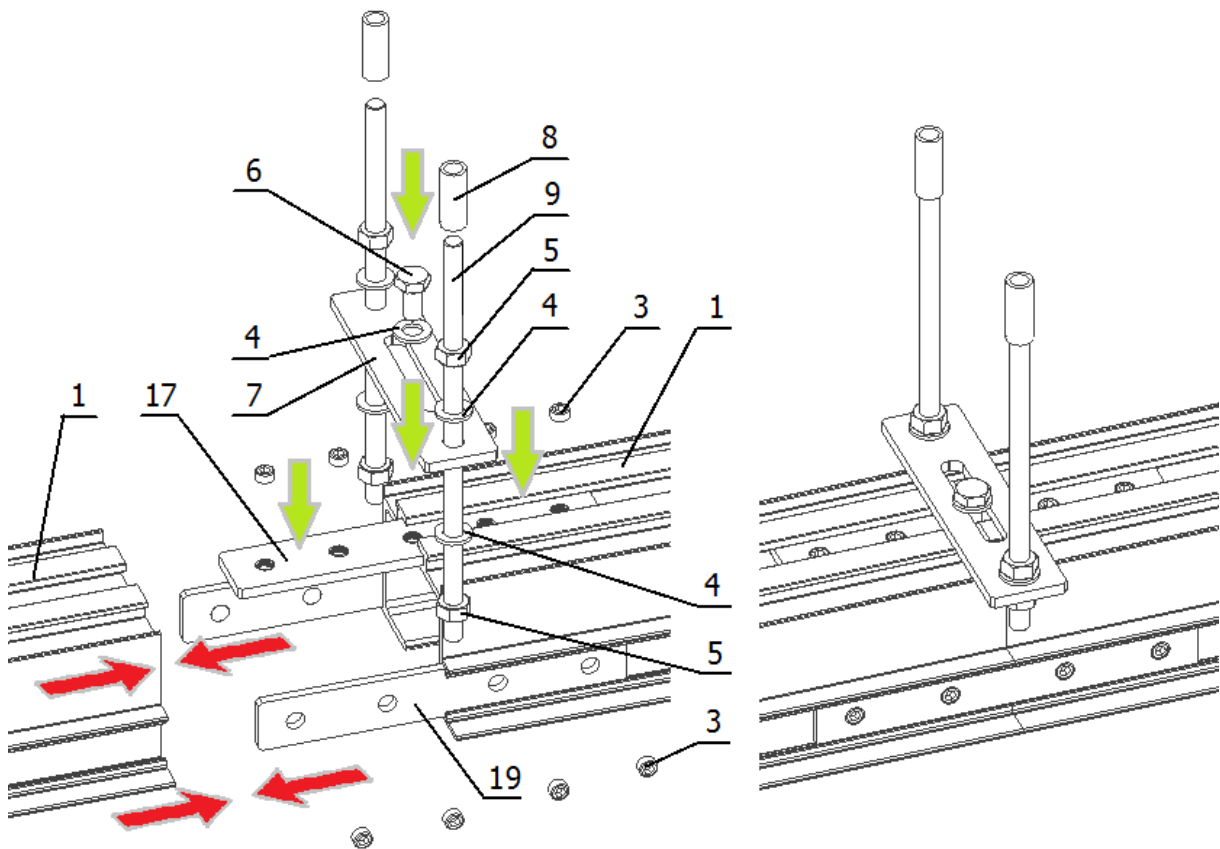


Fig.22. Scheme of track connection for a 2-point suspension by means of a straight connecting plate and a side plate (example for track 34-0151): red arrows - inserting the plate into the track sections; green arrows - twisting of the components of the track fastening

- | | |
|---------------------|--|
| 1-track | 7-retaining plate |
| 3-push screw M10x10 | 8-FISCHER anchor |
| 4-round washer M10 | 9-threaded rod M10 k.8.8 |
| 5-hex nut M10 | 17-straight plate connecting the track |
| 6-nut M10 | 19-side plate connecting the track |



FOR INFORMATION

Proceed in the same way for track 34-0150

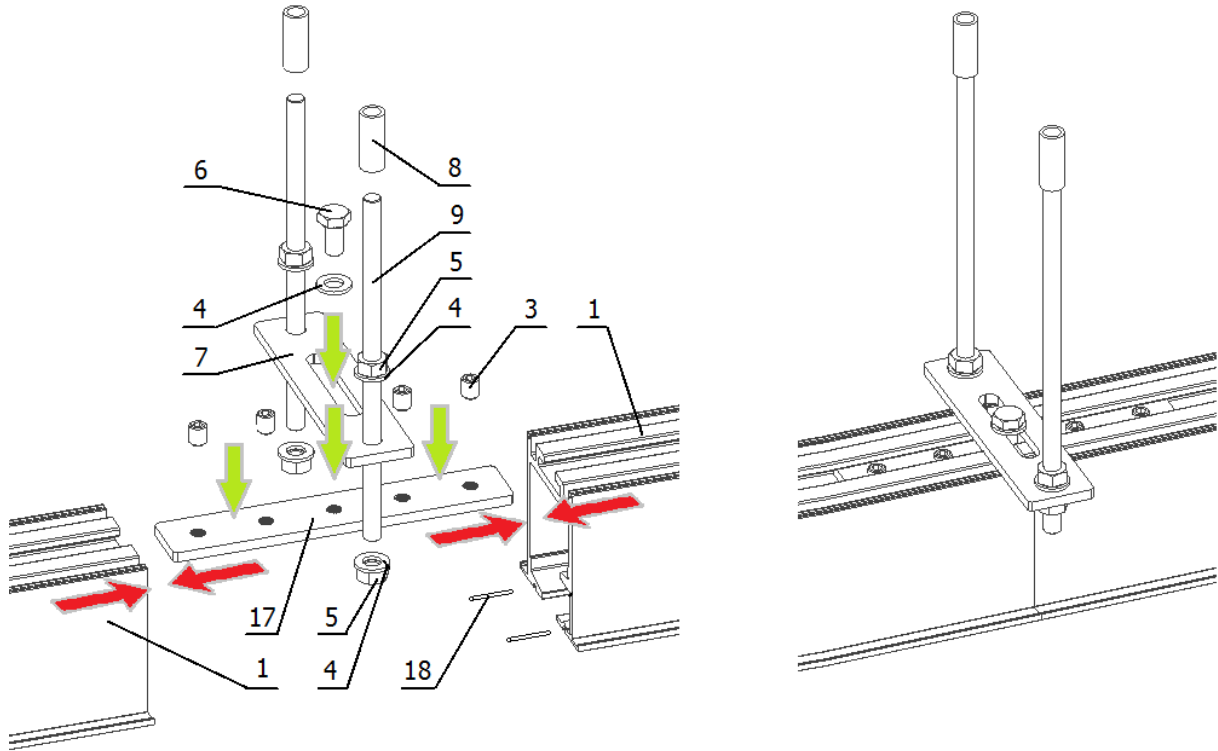


Fig.23. Scheme of track connection for **1-point suspension** by means of a straight connecting plate (**example for track 34-0131**): red arrows - inserting the plate into the track sections; green arrows - twisting of the components of the track fastening

- | | |
|---------------------|--|
| 1-track | 7-retaining plate |
| 3-push screw M10x10 | 8-FISCHER anchor |
| 4-round washer M10 | 9-threaded rod M10 k.8.8 |
| 5-hex nut M10 | 17-straight plate connecting the track |
| 6-screw M10 | 18-steel pin $\phi 3 \times 30$ |



FOR INFORMATION

Proceed in the same way for track 34-0130

6.3. Installation of the track and the parking rack

Components of the track along with the parking rack (if it exists), **T-modules, corner, straight track sections** are **ready-made** elements - they contain the **final dimensions** set at the order stage. Before proceeding with the installation of these elements, it is mandatory to read the following notes.



FOR INFORMATION

The rules for assembling track elements are the same for **2-point and 1-point panel suspension**



CAUTION!!!

DO NOT shorten the arms of the parking rack (11 in Fig.1) which is in the axis of the wall or dimension W in the track (Fig.12-13)! Violation of this dimension will result in **NO POSSIBILITY of entering and exiting the panel from the parking rack!**

Below is a step-by-step guide to assembling the track components:

1. We determine the axis of the wall, which runs **exactly between the holes of the track fastenings**



FOR INFORMATION

When marking **holes for fixing the pins, wall axis or track leveling (Section 6.6)**, it is recommended that the assembly team have a laser level (item 7 in Section 4)

2. We determine the location of the holes for fixing the pins (8) **using the spacing of the holes on the retaining plates assigned to the appropriate track (Fig.24) in relation to the axis of the wall (Fig.25)**

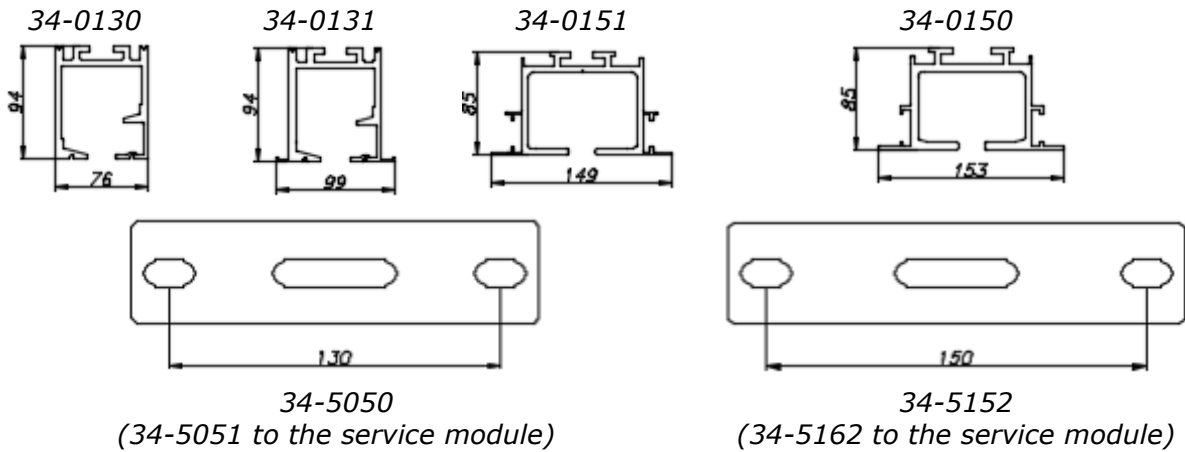
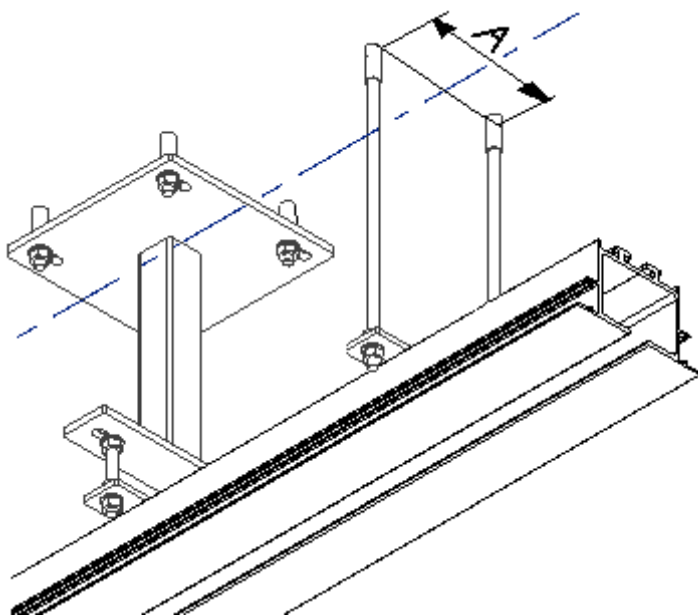


Fig.24. Spacing of the holes for fixing the track suspension pins



CAUTION

The axis of the wall runs **exactly in the middle of the spacing between the holes** in the plates fixing the track fastening

Fig.25. Position of the holes for the pins relative to the axis of the wall
A-the spacing of the fixing plate holes

3. Mark the holes **for the service module (15 in Fig.1-2) in the middle of its length**
4. We determine the location of the holes in the places **where track sections and modules connect, except for connecting them to the service module** by means of service plates (item 19 or 29 in chapter 2)



CAUTION

The type of track fastening and the number/frequency of its embedding depends mainly on two variables:

- Hz height from the bottom plane of the track to the ceiling (Fig. 4 and 26)
- the weight of the panels (Fig.27-30) in the parking places and in the axis of the wall

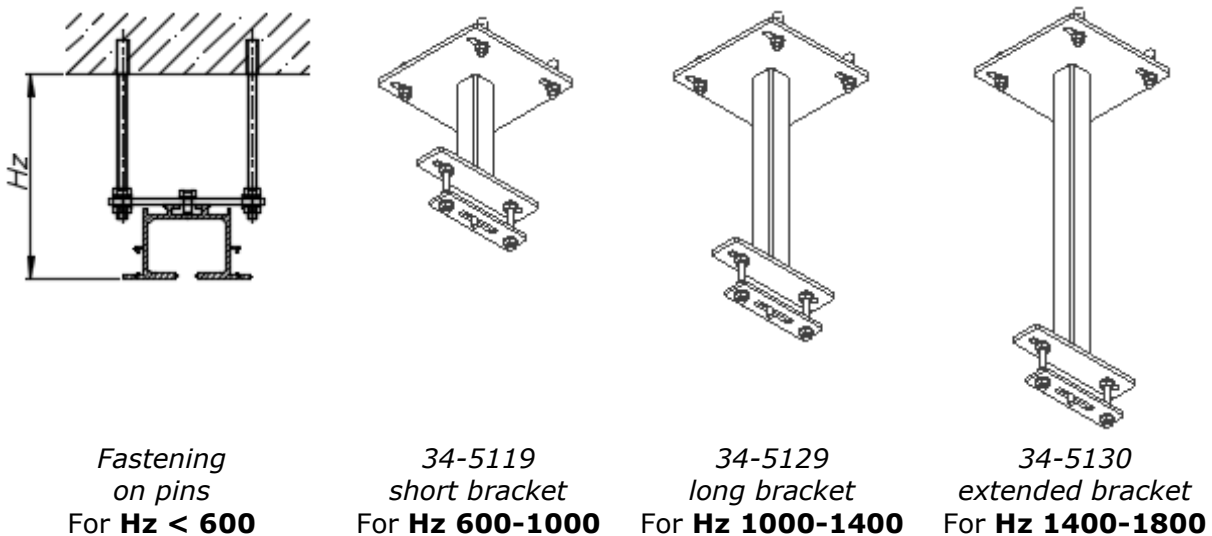


Fig.26. The use of appropriate brackets to stiffen the track fastening Hz-height from the bottom plane of the track to the ceiling (Fig.4)



CAUTION!!!

The number of suspensions depends on **THE WEIGHT OF THE PANEL and WHERE IT OCCURS (hanging on a straight section of the track or parking rack)**. And so it is assumed that for the weight of the panels:

- **up to 250 kg** the distance between the suspensions shall be:
 - 400 mm on the parking rack or parking location
 - 600 mm on a straight section of the track
- **more than 250 kg:**
 - 250 mm on the parking rack or parking location
 - 400 mm on a straight section of the track

The sling spacing diagram is shown in Figures 27-30

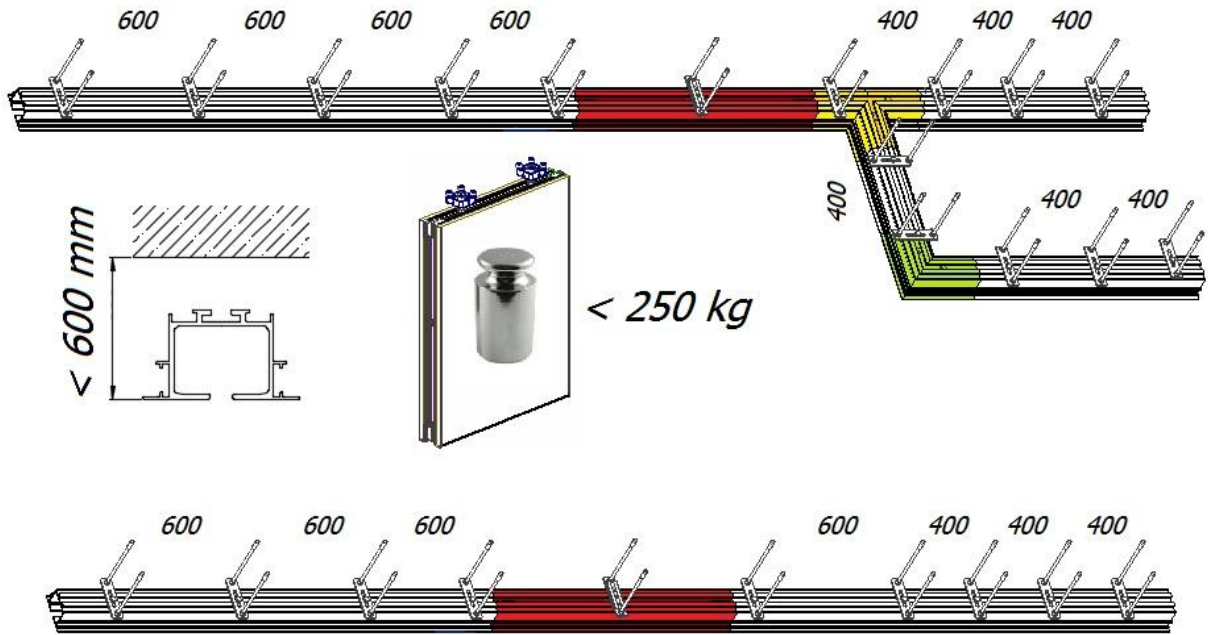


Fig.27. Location of track fixings for **panel weight of less than 250 kg** and a track-to-ceiling distance of **less than 600 mm**

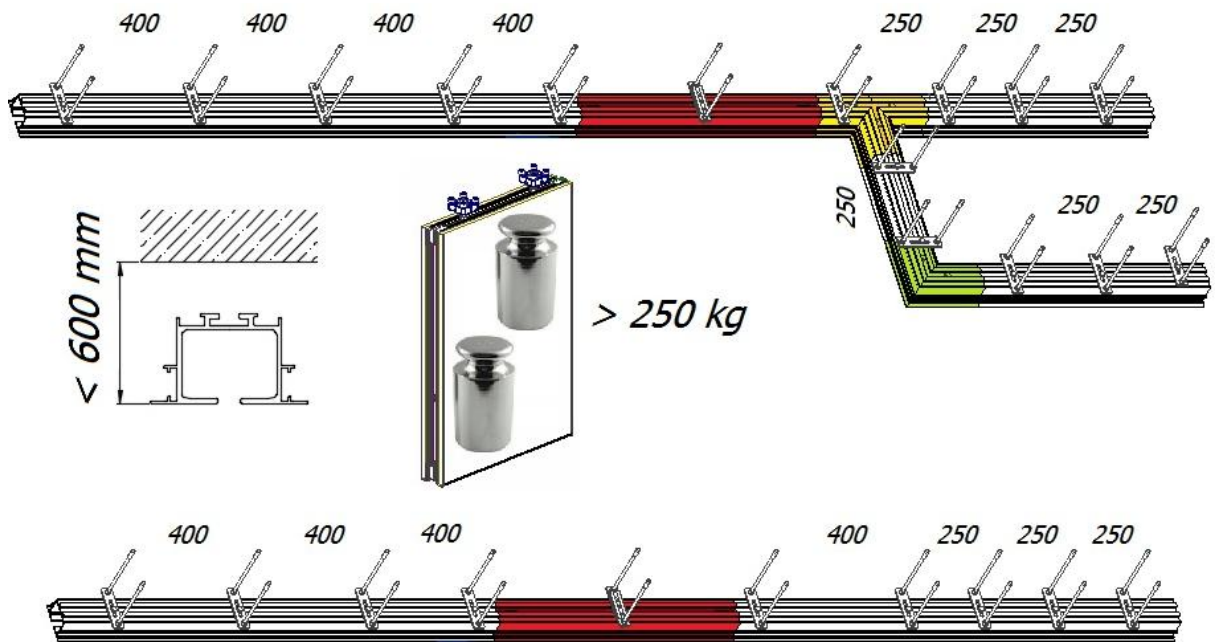


Fig.28. Location of track fixings for **panel weight over 250 kg** and distance from track to ceiling **less than 600 mm**

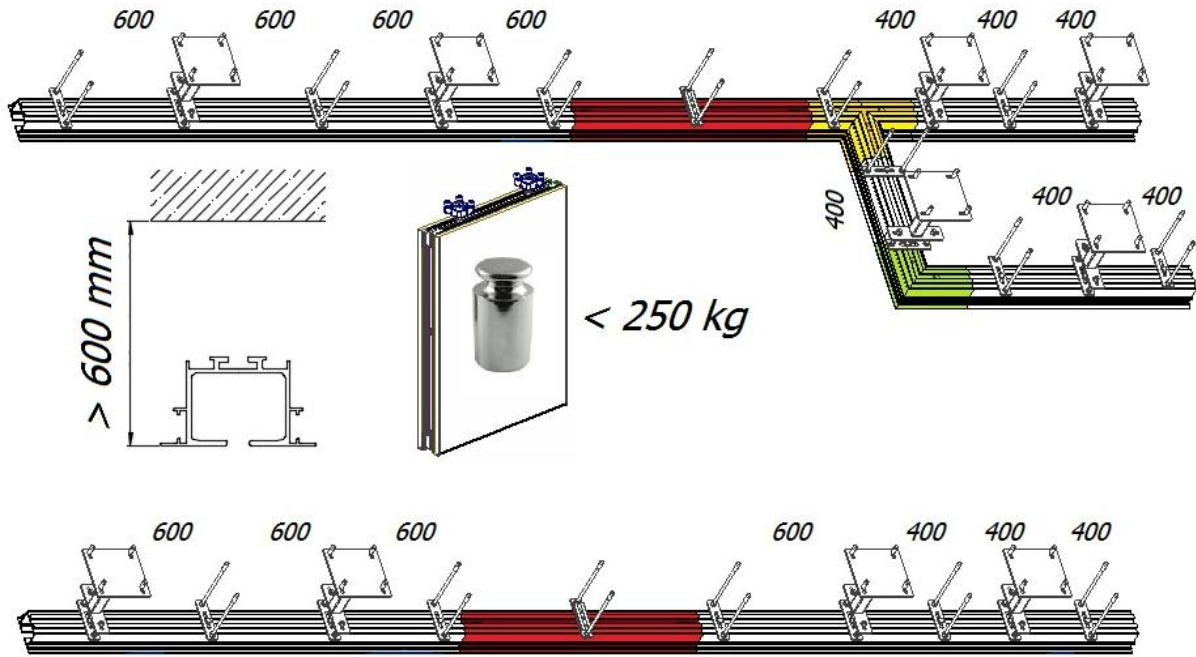


Fig.29. Location of track fasteners for **panel weight below 250 kg** and distance from track to ceiling **greater than 600 mm**

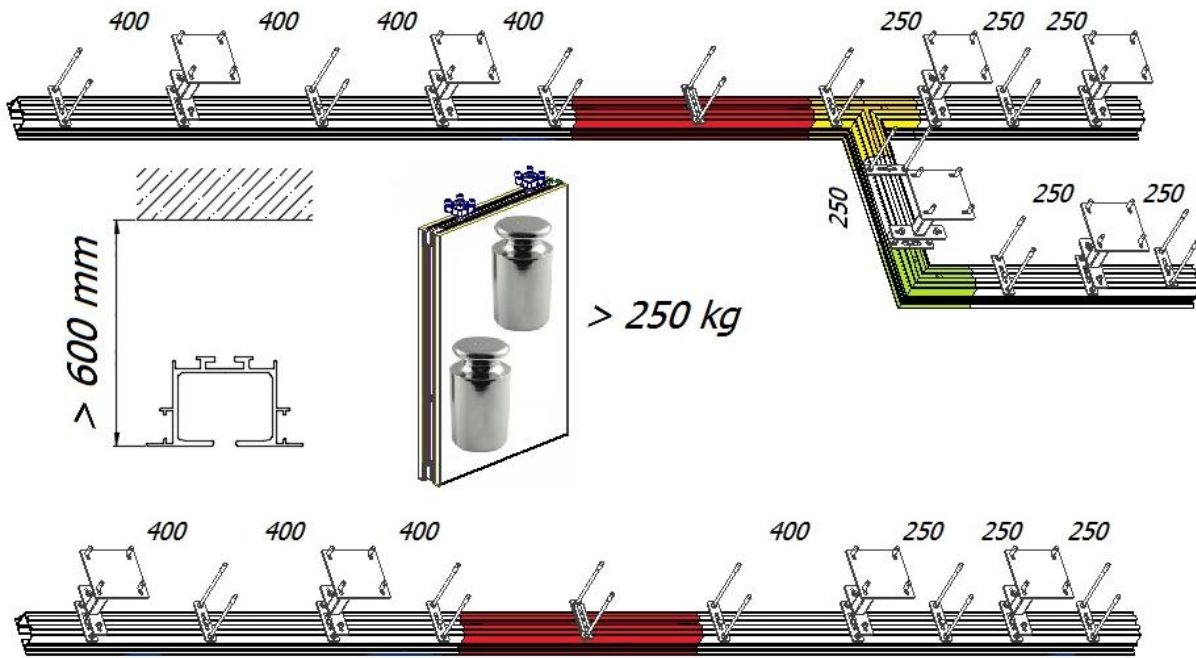


Fig.30. Location of track fasteners for **panel weight over 250 kg** and distance from track to ceiling **greater than 600 mm**



CAUTION !!!

When the track-to-ceiling **H_z** distance **exceeds 600 mm**, use brackets:

- **short** (34-5119 in Fig.26) **every 3 standard fasteners** in the wall axis (**every 2 on the parking rack**)
- **long** 34-5129 and **elongated** 34-5130 **every 2 standard slings**

5. Fix a steel anchor in each drilled hole (8)
6. Screw in each anchor a threaded rod M10 (9) **of the appropriate length** depending on the Hz distance from the track to the ceiling (Fig.4 and 26)



FOR INFORMATION

In order to screw the pins (9) into the anchors (8) more efficiently, you can use **two nuts and counter them**. Then, using a size 17 wrench suitable for M10 nuts (5), start screwing the pin (9) into the anchor (8). After screwing in the pin, remove the two counter nuts

7. Screw M10 nuts (5) together with washers (4), retaining plates (7) onto the threaded rods and again M10 nuts (5) together with washers (4) from below
8. **Insert the reinforced sheets (2) into the upper channel of the track in the individual sections of the track in the places of the previously determined suspensions**
9. Screw the individual sections of the track through the retaining plates (7) using the **M10x20 screw (6) with the washer (4)** to the reinforced sheets previously inserted into the upper channels of the track for fastening (Fig. 15-20)



CAUTION

Check that ALL the nuts (5) on the threaded rods (9) are tightened to the retaining plates (or similar depending on the mounting)

10. After setting the track, screw the M10 set screws (3) into the remaining holes on the sheets connecting the track (or similar elements)



CAUTION !!!

After mounting the track, **check** that:

- the track **has been hung at the PROPER height**
- the track is **LEVELING**



FOR INFORMATION

Leveling the track by setting it at the appropriate height is described in **chapter 6.6**

Sometimes **the weight of the panel or the height of Hz requires the use of perforated flat bars (10 in Fig.16)** in the standard suspension. They are used to stiffen the entire track mounting structure. They can be mounted:

- **outside** (according to the diagram in Fig.16)
- **inside**, if the track requires strict development, e.g. with plasterboards (Fig.36)



CAUTION

Use perforated flat bars (10 in Fig. 16) **every 2 track fastenings**

6.4. Blinding the track

Sometimes the arms of the parking rack or other sections of the track **do not reach the wall**. The track section should be **blinded with a plate** as shown below (Fig.31). In the absence of a parking rack, this Section shall be omitted.

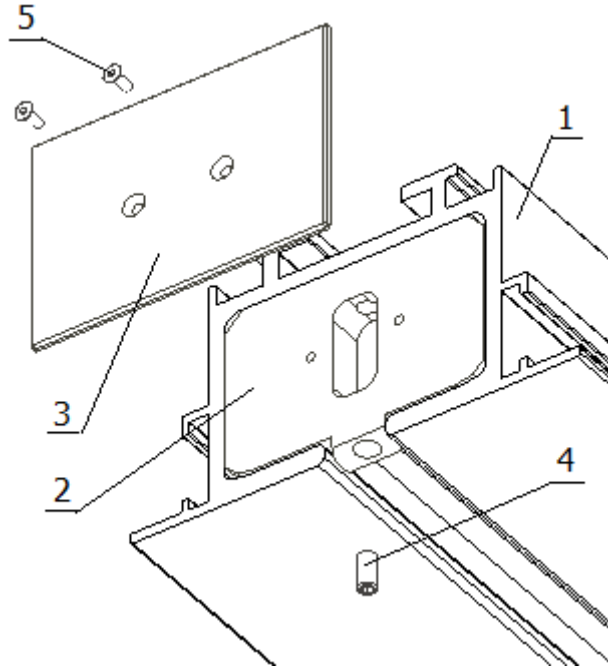


Fig.31. Method of blinding the track with a plate

- | | |
|--|---|
| 1-arm of the track parking rack or the straight track only | 4-push screw M6x14 (supplied with a blind plate) |
| 2-track blind plate core | 5-screw M3x6 DIN 7991 (supplied with a blind plate) |
| 3-track blind plate | |



CAUTION!!!

THE LACK OF BLINDING THE TRACK poses a risk to health and life by the ejection of the panel from the track and its FALL !!!

The track blind plate is fixed as follows:

1. With the push screw (4), lock the core of the plate (2). Its surface should align with the end surface of the track (1).
2. Attach the track blind plate (3) to the fixed core of the plate (2) with the screws(5)



FOR INFORMATION

The above example was used for the 34-0131 two-level track. This is the 34-5039 end cap (item 38 section 2) which also **fits** the 34-0150 heavy gauge track. Tracks 34-0130 and 34-0131 are sealed with detail 34-5038 (item 39, chapter 2)

6.5. Installation of the service module

This is a necessary section of the track because its assembly and disassembly allows the mobile panel to be moved into the adjacent track by a carriage, i.e. **to install the panel in the track (chapter 7.3)**. The service module is mounted **on one own standard suspension** (Fig.32 i 33).



FOR INFORMATION

The service module is always located **between the parking rack and the other sections of the track** (for a 2-point suspension case).

In the case of a 1-point suspension, there is a **straight section of the track** instead of a parking rack (**the one above the wall-mounted telescope**)

Below is a step-by-step guide on **how to assemble the service module** in the suspended track:

1. **Insert the unthreaded fastening plate (6)** into the service module (10)
2. **Insert reinforced service plates (8)** into the service module (10) on both sides (red arrows in Fig.32) so that they do not protrude beyond the ends of the module
3. **Screw in the M6x14 push screws (12)** to secure the service plates (8)



CAUTION

Set screws (12) screwed into the service plates (8) **prevent plate from slipping** when lifting the service module (10)

4. Insert the FISCHER anchors (1) into the marked and drilled holes in the ceiling, screw in the M10 pins (2) of the appropriate length
5. **Insert the threaded plate (5)** into the service retaining plate (7)
6. On the M10 pins (2), screw the M10 nuts (3) with washers (4), put the service retaining plate (7) into them.
7. **From below, screw the M10 nuts (3) with washers again (4)**
8. In the hole in the middle of the service module (10) **insert the M10x40 countersunk screw (14)** so that it **passes through the hole of the unthreaded plate (6)** fixed the service module (10) in point 1
9. Lift the service module (10) up and screw it with **a countersunk screw M10x40 (14)** through the plate with an unthreaded hole (6) **to the threaded plate (5)** previously inserted into the service retaining plate (7) in point 5
10. **Move the service plates (8) to their halfway point** where the module joins the track sections (9 and 11) and **screw the M10x22 countersunk screws (13) into the service plates (8)**
11. Use the M10 nuts (3) on the pins (2) to set the **appropriate height in accordance with the height of the other sections**



CAUTION

Check that **ALL the nuts (3) on the threaded rods (2) and the screws in the service plates (13 and 14)** are properly tightened

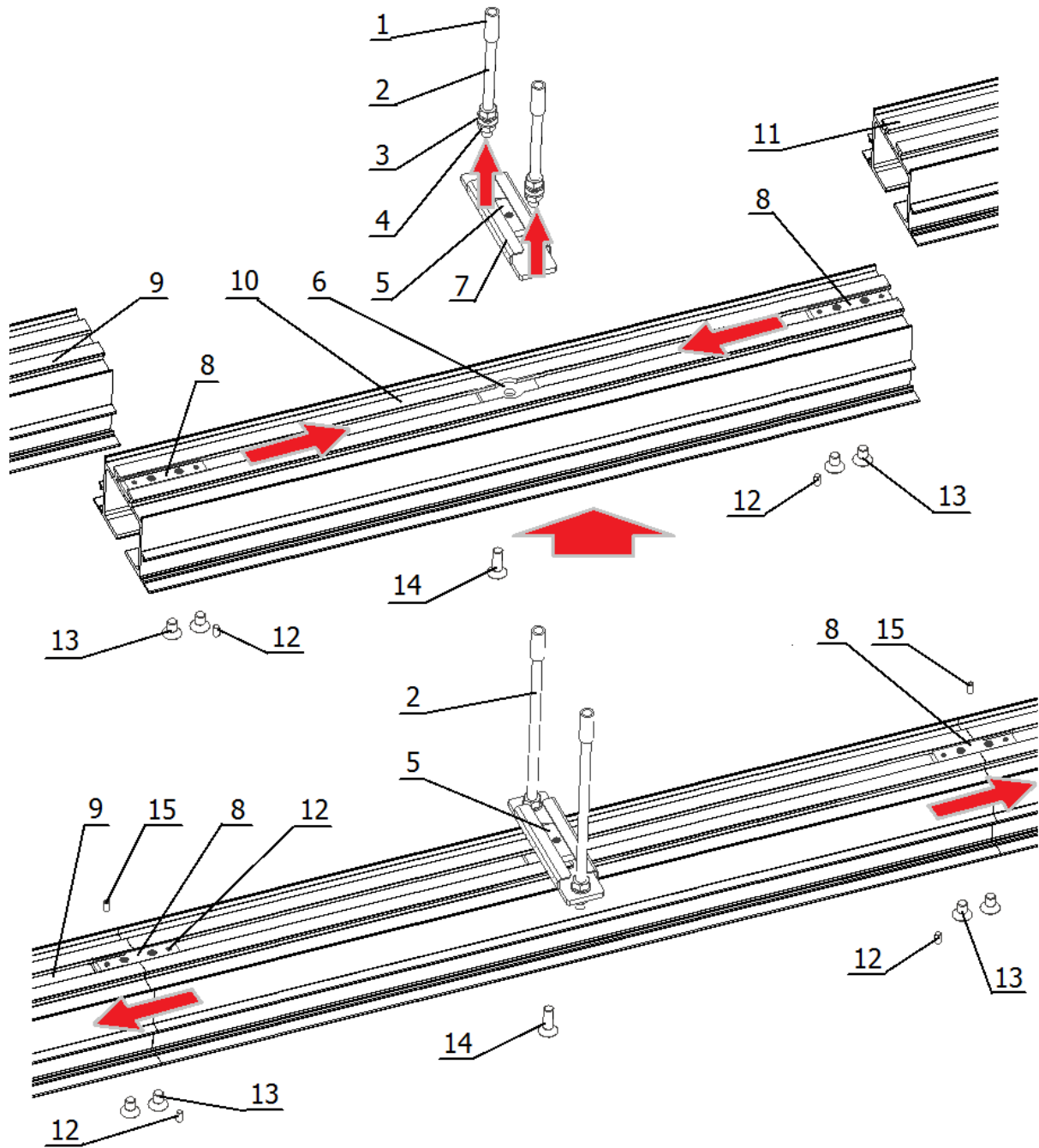


Fig.32. Assembly diagram of the service module for tracks 34-0150 and 34-0151

- | | | |
|--------------------------------|---------------------------------------|-----------------------------|
| 1 – FISCHER anchor | 6 - unthreaded plate | 11 - rest of the track |
| 2 - threaded rod M10 class 8.8 | 7 - service retaining plate | 12 - push screw M6x14 |
| 3 - hex nut M10 | 8 - service plate | 13 - counters. screw M10x22 |
| 4 - round washer M10 | 9 - T-section module or track section | 14 - counters. screw M10x40 |
| 5 - threaded plate | 10 - service module | |



FOR INFORMATION

When connecting the service module in track 34-0150 and 34-0151 (Fig. 32), **side sheets connecting the track are not used** (item 30, chapter 2)

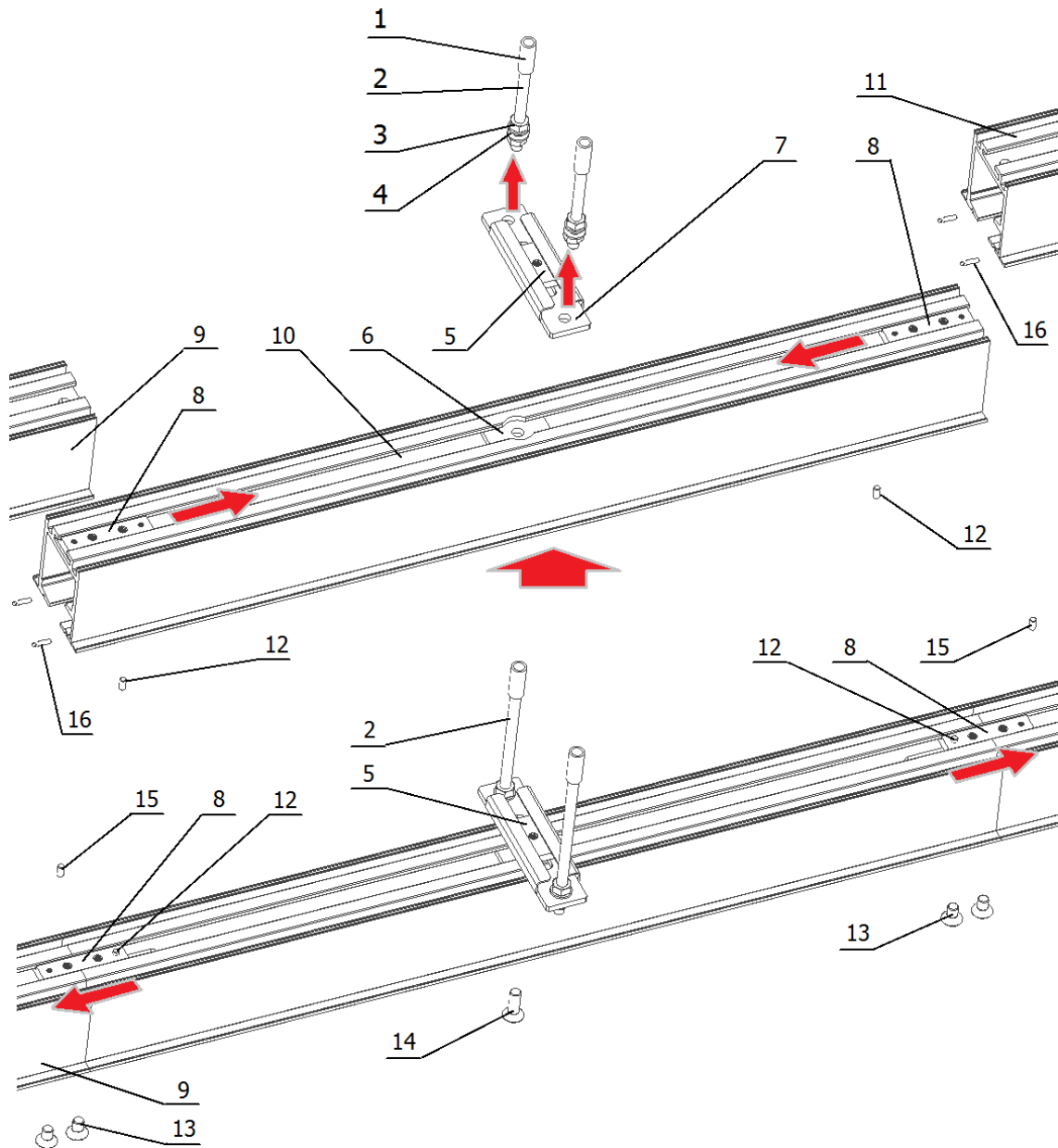


Fig.33. Assembly diagram of the service module for tracks **34-0130** and **34-0131**

- | | | |
|--------------------------------|---------------------------------------|-----------------------------|
| 1 – FISCHER anchor | 6 - unthreaded plate | 11 - rest of the track |
| 2 - threaded rod M10 class 8.8 | 7 - service retaining plate | 12 - push screw M6x14 |
| 3 - hex nut M10 | 8 - service plate | 13 - counters. screw M10x22 |
| 4 - round washer M10 | 9 - T-section module or track section | 14 - counters. screw M10x40 |
| 5 - threaded plate | 10 - service module | |



FOR INFORMATION

Only in **heavy track 34-0150** is used:

- **retaining plate (7)** 34-5162 (item 31, chapter 2),
- **service plate (8)** 34-5151 (item 25, chapter 2),
- **unthreaded sheet (5)** 34-5158 (item 28 chapter 2)

In the remaining tracks **34-0130**, **34-0131** and **34-0151**:

- **retaining plate (7)** 34-5051 (item 23, chapter 2),
- **service plate (8)** 34-5042 (item 18, chapter 2),
- **unthreaded plate (5)** 34-5043 (item 20 chapter 2),

6.6. Track and parking rack adjustments (leveling)

The mounted track must be **leveled accordingly (Fig.34)**. This applies to every **implementation!** Adjustment (leveling) is done by adjusting the suspension on the nuts to keep the track at **the same height adopted during the design of the Hp**. In this way, full functionality of the panels and aesthetics and visual effect are obtained.

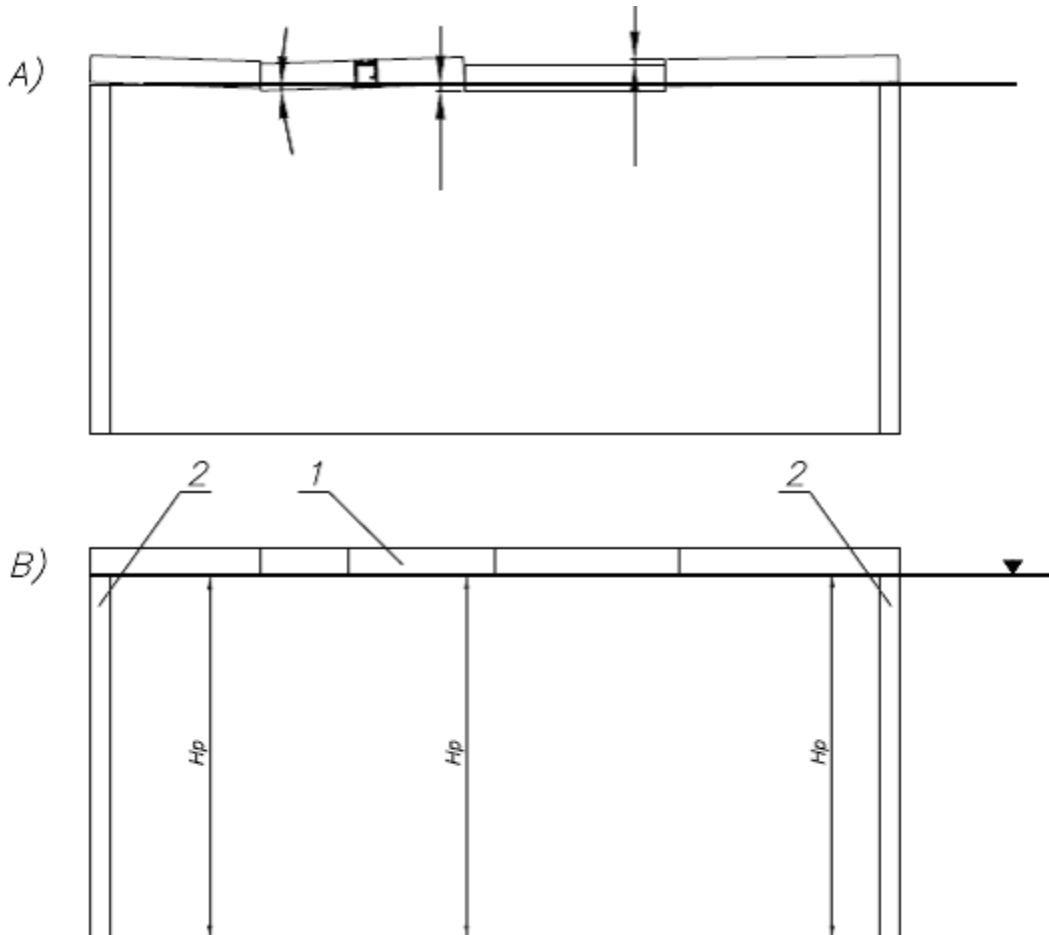


Fig.34. Visualization of track adjustment (before adjustment and after adjustment)

A-WRONG (before adjustment)

B-GOOD (after adjustment)

1-track sections

2- skirting boards

Hp-assumed height of the track from the floor to the bottom plane of the track (Fig.4)



FOR INFORMATION

Track adjustment (leveling) should be done with **the open-end wrench 17** (for the M10 nut)

The **leveling scheme of the track (or the parking rack)** is as follows:

1. **Turn the top and bottom nuts (6) left or right with wrench 17** depending on whether you want to raise the **track** or **lower** it. Rotating the nuts raises or lowers the track line.
2. After **setting the appropriate track height** (height **Hp** on Fig. 4), **turn the lower nut (6) into the retaining plate (2)**



CAUTION!!!

DO NOT allow the lower nut (6 on Fig. 35), supporting the retaining plate (2 on Fig.35), to spin during the adjustment! This may cause the track section or parking rack (1 on Fig.35) not yet tightened up with other fixings to fall

3. Repeat until the last sections of the track have been adjusted
4. **Check the level of all track sections**
5. If the end result is satisfactory (B on Fig.34) **tighten up the top nut (6) to retaining plate (2)**
6. Repeat until all nuts are tightened up (6) in all track suspensions are screwed



CAUTION!!!

IT IS FORBIDDEN to remove the M10x20 screw (3)! This could cause the track section or the parking rack (1) not yet tightened up with other fasteners to fall. This screw does not take part in the adjustment of the height of the track and the parking rack

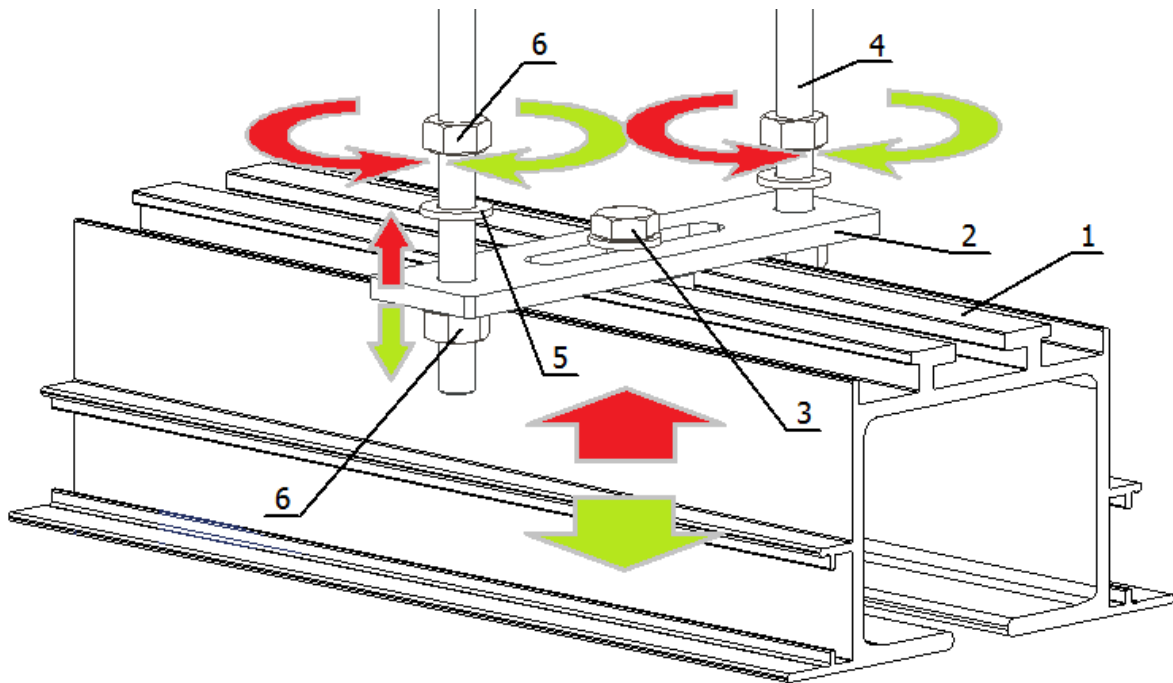


Fig.35. Diagram of adjustment of the track (or the parking rack) with standard suspensions on pins

color and **red arrows** – track lifting,

color and **green arrows** – lowering the track

1-track section (or parking rack)

3-screw M10x20 for plate

5-round washer M10

2-retaining plate

4-threaded rod M10 (pin)

6-hex nut M10



CAUTION

Check that ALL nuts (6) on threaded rods (4) are properly tightened



FOR INFORMATION

In the case of other types of track suspension (by means of an intermediate profile or other components), the scheme of conduct is **the same**

6.7. Construction of the track

This case applies only to those implementations where **there is no suspended ceiling** and everything that is above the track can be seen. It is possible to **embed the track**. Usually this is done with the help of plates or plaster-cardboard panels. This is an individual issue and depends on the type of room in which the implementation is to be carried out.



FOR INFORMATION

The illustration below (Fig.36) **presents only an example, the concept of built-in installation of the track**. This is an individual issue, usually determined on the spot

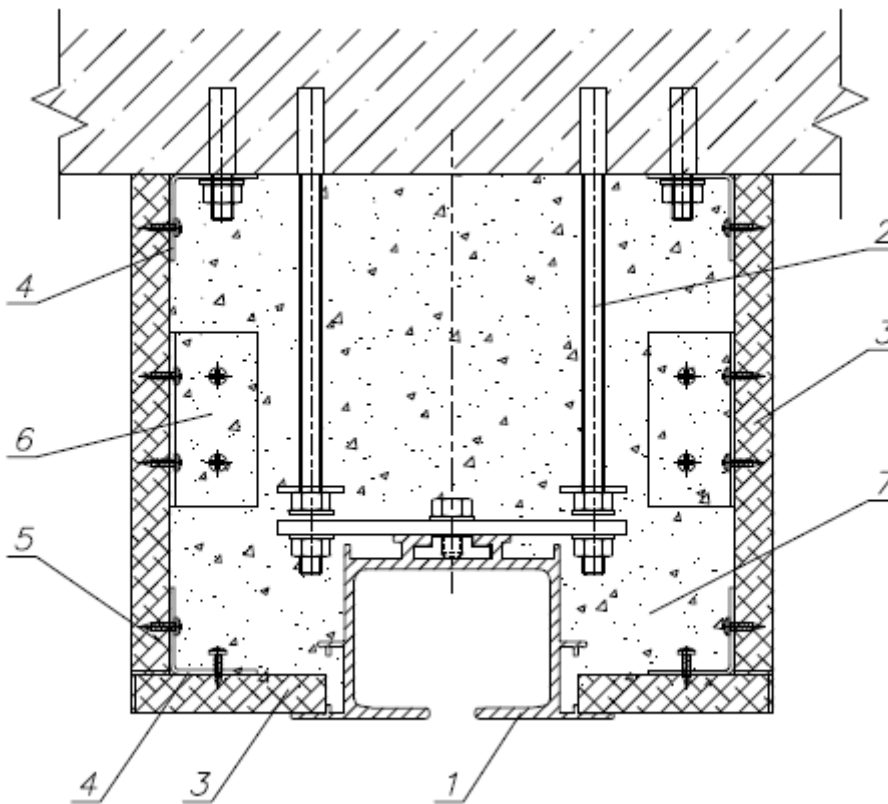


Fig.36. Exemplary scheme of the construction of the track

- | | |
|--------------------|---------------------------------------|
| 1-track | 5-screws for wood |
| 2-track suspension | 6-other angles and auxiliary elements |
| 3-housing plates | 7-filling (e.g. acoustic wool) |
| 4-mounting angle | |



CAUTION

The resulting space in the middle of the track **should be filled with acoustic wool or a similar product with acoustic properties!**

7. INSTALLATION OF PANELS AND MODULES IN THE TRACK

After all sections of the track have been installed and all the steps have been completed (Section 6), the panels and wall modules should be installed. In the standard wall, **the following are** installed first:

- wall modules:
 - **skirting boards** (chapter 7.1) or their electrical versions if there is an **electric wall**
- mobile panels:
 - **regular panel** (chapter 7.2.1) or its other variations,
 - **telescopic panel** (chapter 7.2.2),
 - **door panel** (chapter 7.2.3) if present in the project

Finally, check the wall by **leveling the panels (chapter 7.6) in relation** to the hanging, leveled track (chapter 6.6).

7.1. Installation of skirting boards

The skirting board in the mobile wall of the MAW110Plus system occurs **twice**. It is at **the beginning and end** of each wall. It is divided into two parts:

- **fixed part** - the so-called batten trough (1 in Fig.37)
- **finishing part** - i.e. aluminum profile (2 in Fig.37) with additional cooperating elements (4, 5, 6 and 7 in Fig.37)



FOR INFORMATION

Mount the skirting board using **hexagon head screws with $\phi 8 \times 120$ washer and $\phi 12 \times 80$ expansion bolts**

Below is a step-by-step **installation of the skirting board** to the wall:

1. Measure the holes for the wall plugs (3) **alternately 20 mm from the axis of symmetry** of the skirting board **according to the dimensions (Fig.37)**
2. Drill measured holes in the wall
3. Fix the wall plugs (3) in each drilled hole
4. Place the trough (1) against the wall



CAUTION

Check that the trough (1) is **VERTICAL after fastening! If not - correct it!**

5. Fasten the trough (1) of the skirting board
6. Attach the aluminum profile (2) to the trough (1)



CAUTION

Check that the aluminum profile (2) is **VERTICAL after fastening! If not - correct it!**

7. **Fill any gaps** between the wall and the rear part of the trough (1) if possible



FOR INFORMATION

In order to securely attach the aluminum profile (2) to the trough (1), it is recommended to **use glue or other means**

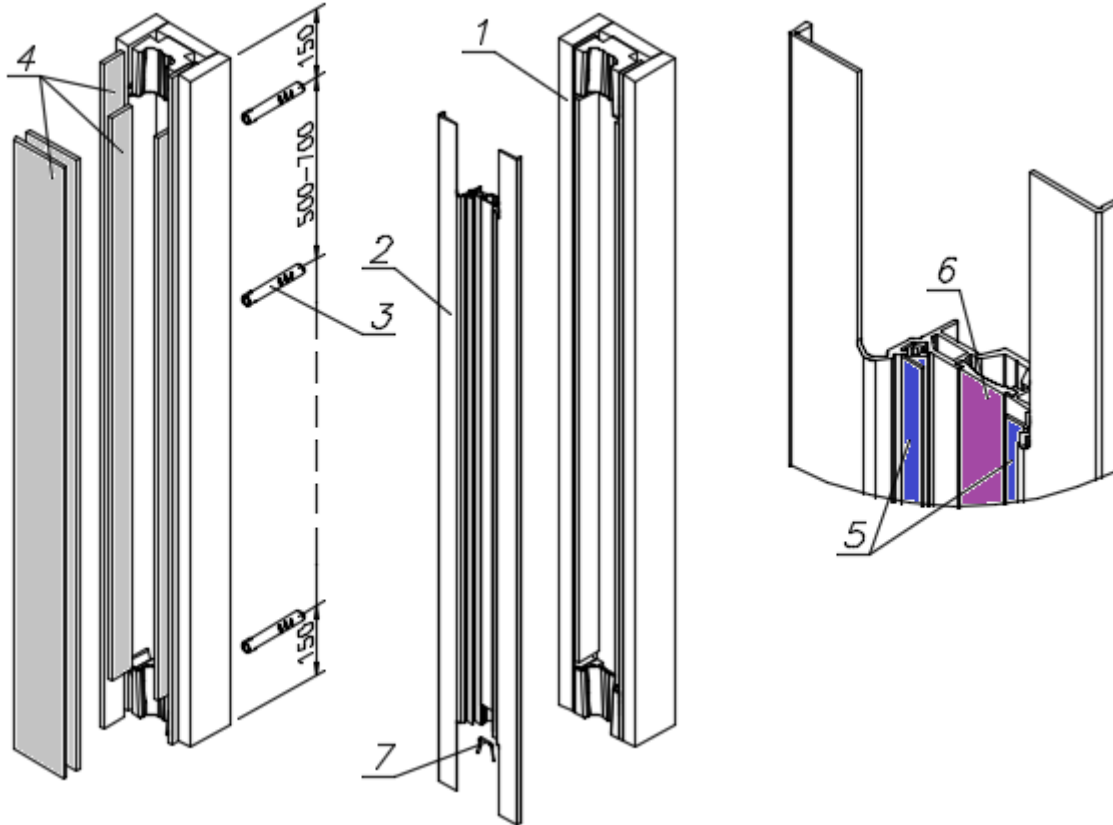


Fig.37. Installation of the skirting board

- 1-trough (C-shaped plates)
- 2-profile (female mask)
- 3-expansion bolt fixing the strip
- 4- filling with rubber strips (not applicable when the acoustics is 48dB)
- 5-vertical gasket
- 6-magnetic stripe
- 7-magnetic strip lock



CAUTION !!!

The skirting board **absolutely MUST "hold" the VERTICAL!** This determines tightness with the vertical profile of the adjoining panel!

7.2. Installation of carriages

Before hanging the panels in the track, **appropriate carriages** should be screwed in, thanks to which the mobile panel will move. Based on the suspended track (Chapter 6.3), the bogies are automatically assigned. **Trolleys are screwed into the holes** located in the upper part of the panel in the **draw-out beams (2 in Fig.38)**



FOR INFORMATION

Check whether the carriages are properly selected for the weight and type of panel suspension (SEE the table in Fig.21!)



FOR INFORMATION

Screw in the carriages (3 and 4) to the appropriate distance (Fig. 38) according to the type of carriage and **pre-lock them with a nut** set on the core of the carriage bolt (5)

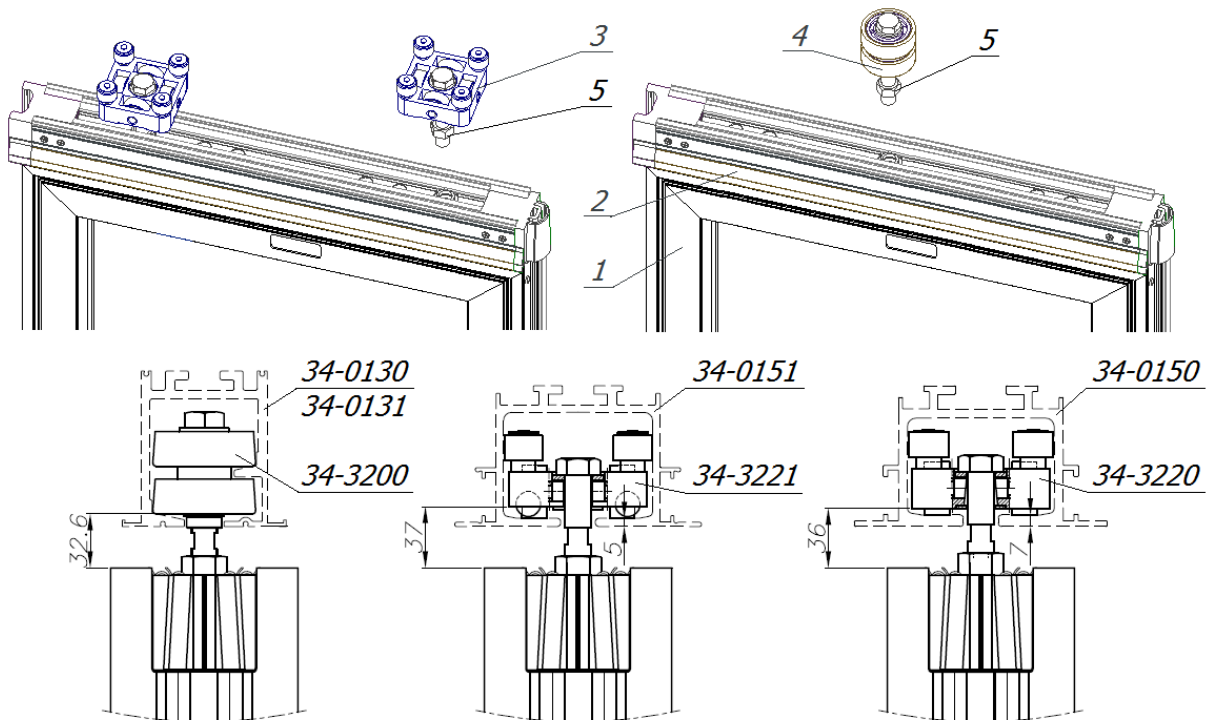


Fig.38. Screwing the carriages in the panels to the appropriate distance

1-panel frame

2-panel spreading beam

3-carriage

4-carriage (**only** for the panel with **1-point** suspension)

5-carriage counter nut



CAUTION

DO NOT FORGET to screw the **M16 locknuts (5 in Fig.38)** onto the carriage bolt core when screwing them into the panel

7.3. Suspending the panels in the track

Mobile panels in the MAW110plus system **are not fully folded and completely hung in the track**. Due to the weights that may occur, especially with higher heights of mobile walls, they have been divided into several parts that are easier to transport, carry and lift. They consist of

- **aluminum frame**
- **boards** with filling elements inside
- **profiles** fastening the entire panel (**vertical male and female masking panels**)



FOR INFORMATION

First, the **aluminum frame of the panel** is hung, then the **boards (chapter 7.4)**, and finally the **vertical masking panels of the panel** are screwed



CAUTION !!!

Suspending the panels in the track should be done **with due care and compliance with health and safety rules according to lifting standards when moving and lifting manually!!**

Below is a step-by-step installation of the panel's aluminum frame in the track:

1. **Remove the service module (section 6.5)**. If it has not yet been installed in the track - skip this note
2. **Put the aluminum frame (1) upright** on the floor



CAUTION

Be careful **not to damage the mechanisms** in the panel's aluminum frame by placing it in a vertical position



CAUTION

To avoid scratching the elements of the panel frame and the floor when placing it vertically, **place a piece of mat, cardboard or other soft material under the service module**

3. **Put the carriages (3) inside the track (2) and drive down** the track to the end of the wall or to the parking rack, depending on which side of the track the panel frame was hung
4. The steps for the next panels are as in points 2-3
5. Repeat the steps until the last panel is placed in the track
6. **Replace the service module (chapter 6.5)**

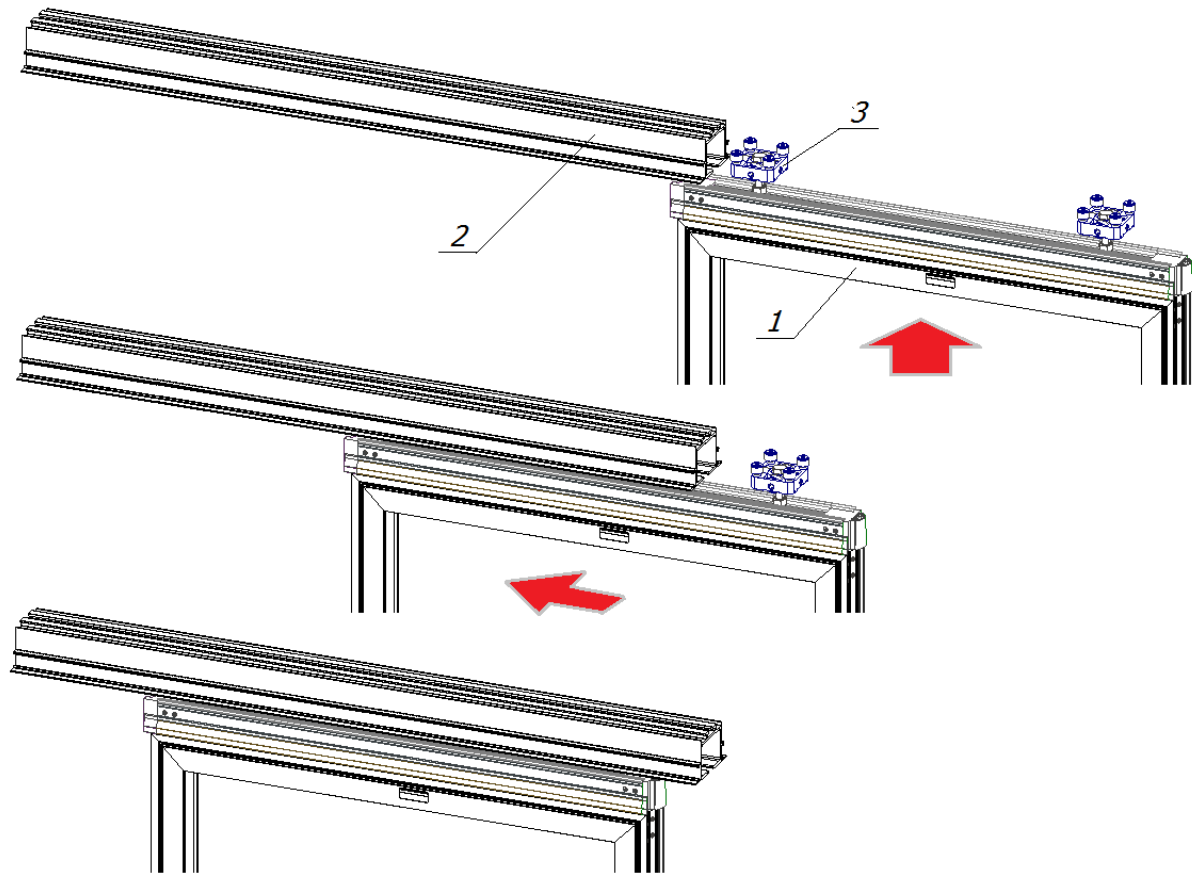


Fig.39. The course of suspending the panel's aluminum frame in the track (after removing the service module)

1-panel aluminum frame

2-running track

3-panel carriage



FOR INFORMATION

Proceed in the same way **for any other module (door panel, corner panel, etc.)**

7.4. Suspending the boards in panels

After hanging the frames of the aluminum panels in the track (chapter 7.3), you can start hanging the panels. A **special handle** is attached to **each panel** to pull the panel to the panel frame so that there are no gaps between the spreading beam, especially in the middle of the panel width.

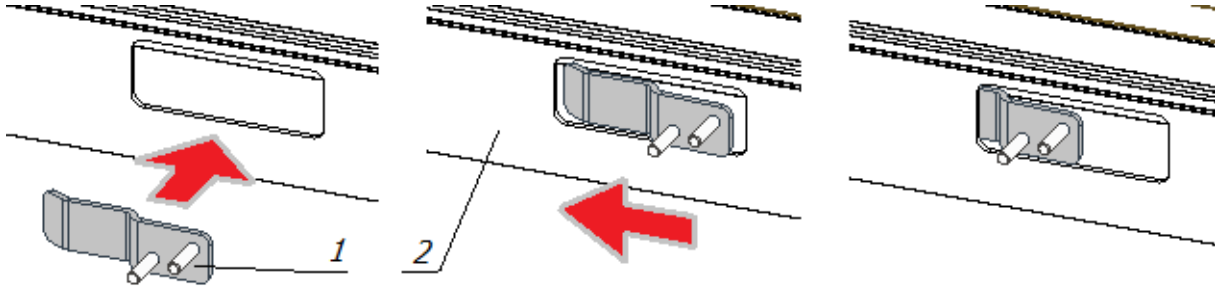


Fig.40. The essence of the handle attached to the panel (invisible in this case) entering the hole in the horizontal profile (on both sides)

1-bracket attached to the plate

2-panel frame horizontal profile



FOR INFORMATION

Panel holders (1) are **always mounted in its upper part** and for all panel pieces (also applies to panel division) **from the invisible (inner) side**



CAUTION !!!

The handle (1) in both panel plates (telescopic ones as well) are mounted **SYMMETRICALLY** to each other and are **DIRECTED** in the direction where the appropriate vertical profile of the panel is located (SEE Fig.41!)

7.4.1. Suspending the boards in standard and door panels

Screwing the handles onto the regular panel board (Fig.41) and then hanging the panels (Fig.42) are described below.

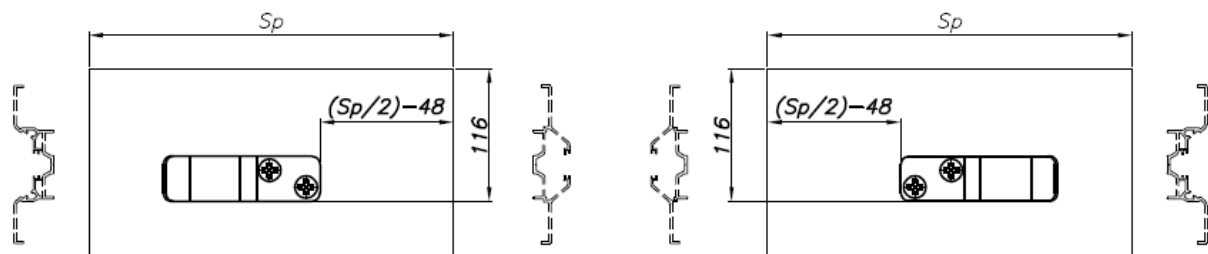


Fig.41. Screwing the handles in both panels of the regular panel according to dimensions **Sp**-panel width



FOR INFORMATION

Mount the board holder in the same way for the door panel (Fig.41)

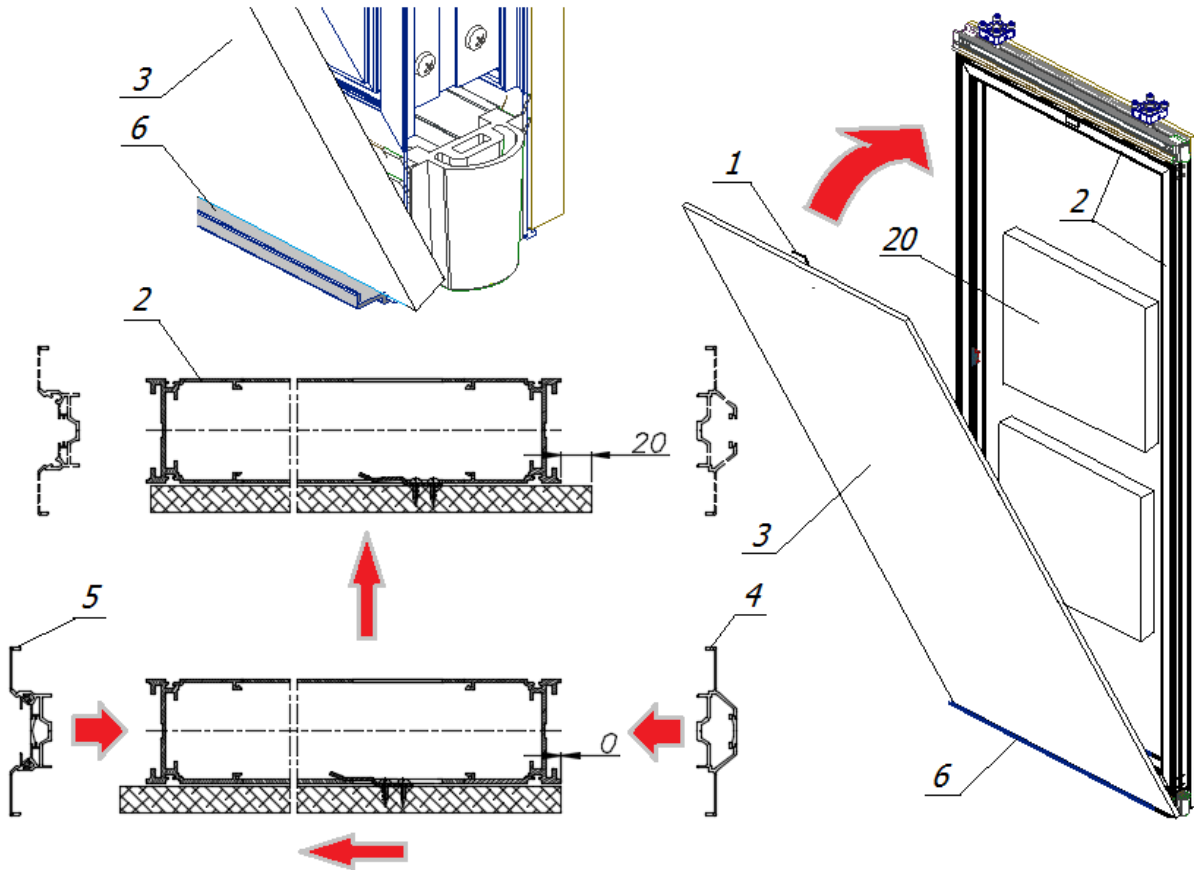


Fig.42. Scheme of setting and suspending the board in relation to the frame of a regular panel

1- bracket attached to the plate
2- panel frame
3- suspended plate

4- "male" mask
5- "female" mask
6- bottom strip on the plate

20-acoustic wool (fills the middle of the panel between the boards)



CAUTION

Check that the **CORRECT** plate (3) has been selected for insertion and set it initially 20 mm (Fig.42!) from the edge of the panel frame profile **FROM** the "male" side of the masking plate, and then insert "zero"



CAUTION

After hanging the first board (3), the inside of the panel should be lined with previously prepared cut-to-size **acoustic wool** (20 in Fig.42)



FOR INFORMATION

Proceed in the same way for the door panel

The last step is to attach the appropriate "male" (4) and "female" (5) masking panels to the panel (2) using screws $\phi 3 \times 16$ (min) every 400-500 mm.

7.4.2. Suspending the boards in a telescopic panel

Screwing the handles on the telescopic panel plate (Fig.43) and then hanging the plates (Fig.44) are described below.

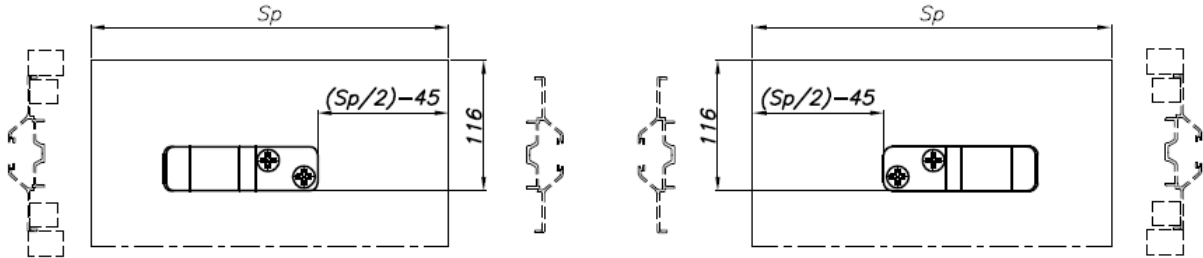


Fig.43. Screwing the handles in both plates of the telescopic panel according to the dimensions

Sp-width of the plate of a given telescopic panel

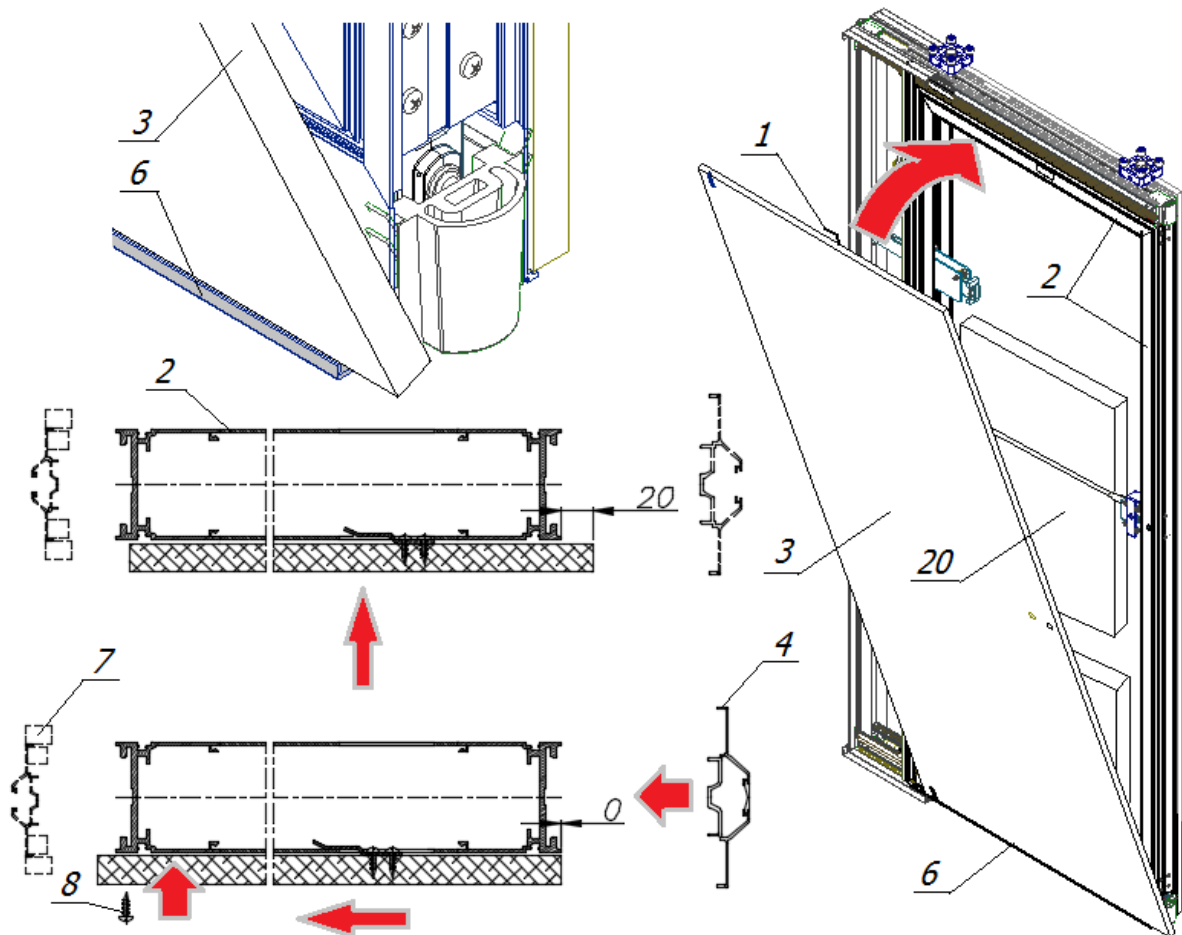


Fig.44. Scheme of setting and suspending the plate in relation to the frame of the telescopic panel

- | | | |
|-------------------|---------------------------------|---|
| 1-plate holder | 4-"male" mask | 8- screw tightening the board to the panel frame |
| 2-panel frame | 6-bottom strip on the plate | 20-acoustic wool (fills the middle of the panel between the boards) |
| 3-suspended plate | 7-side of the withdrawable part | |



CAUTION

Check that the **CORRECT** panel has been selected for insertion and set it initially 20 mm (Fig. 44!) from the edge of the panel frame **FROM**

the "male" masking side, then insert "zero" and SCREW its other vertical edge with a sheet metal screw $\phi 3 \times 25$ (8 in Fig.44)



CAUTION

After hanging the first board (3), the inside of the panel should be lined with previously prepared cut-to-size acoustic wool (20 in Fig.44)

Then the plates of the withdrawable part (drawers) are attached to the C-profile (9) which is part of the frame of the telescopic panel, which runs according to the diagram below (Fig.45).

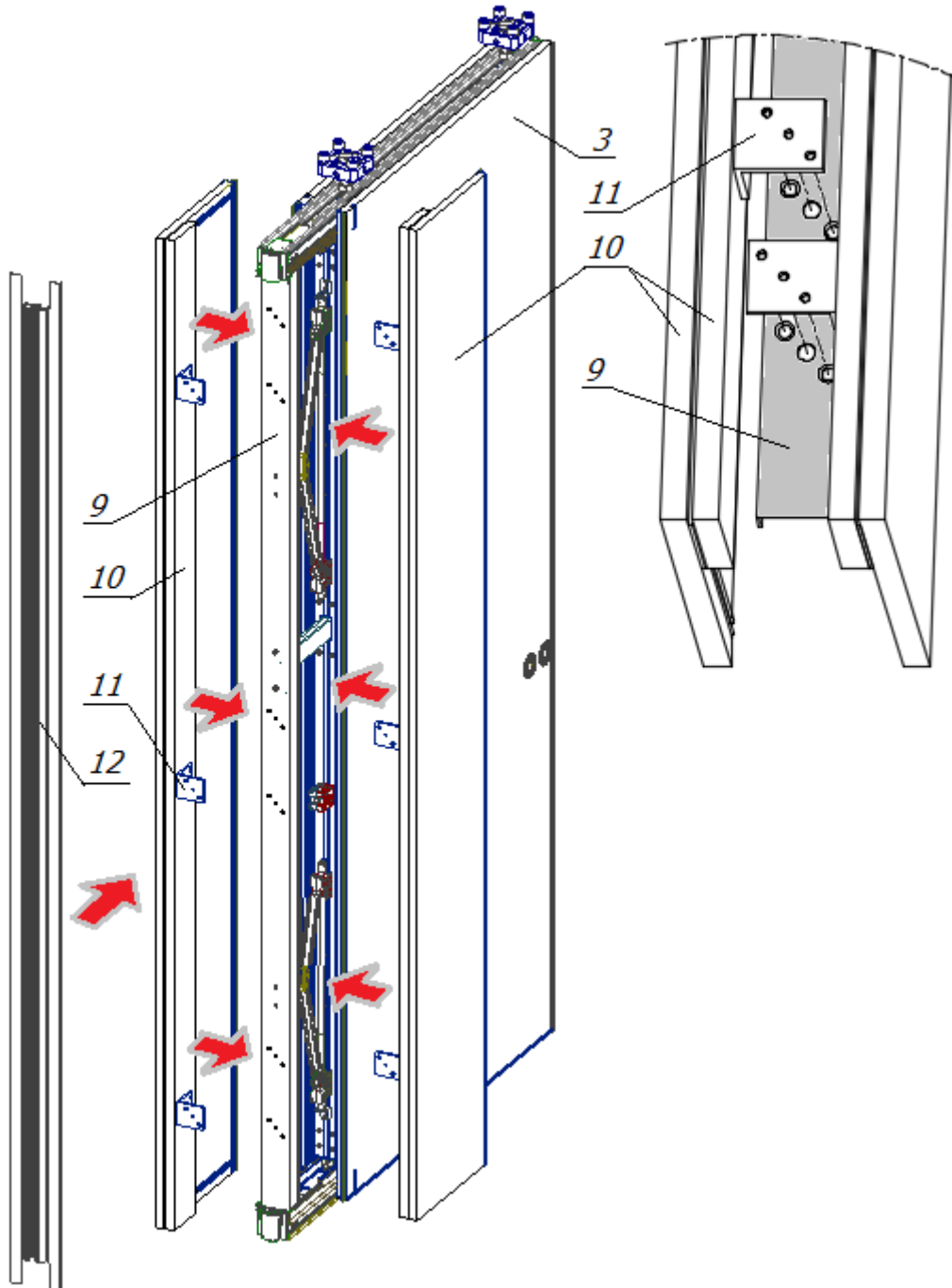


Fig.45. Installation diagram of the plates of the telescopic panel's withdrawable part
3-previously suspended plate (Fig.44) 10-sliding part plates
9-vertical C profile 11-mounting bracket pull-out part

12-"male" cover on the side of the withdrawable part



CAUTION

Check that the **CORRECT** part of the sliding plates (10) has been selected for the assembly of the "drawer" and screw it through the mounting angles (11) according to the holes made in the C-profile (9 in Fig. 45!) using the M6x20 screw (with rivet nuts in the C-profile)



CAUTION

To prevent the boards from "separating", a special board guide holder (14 in Fig. 46) was used, which is placed in all channels on fixed boards (3) already suspended (according to Fig. 44)

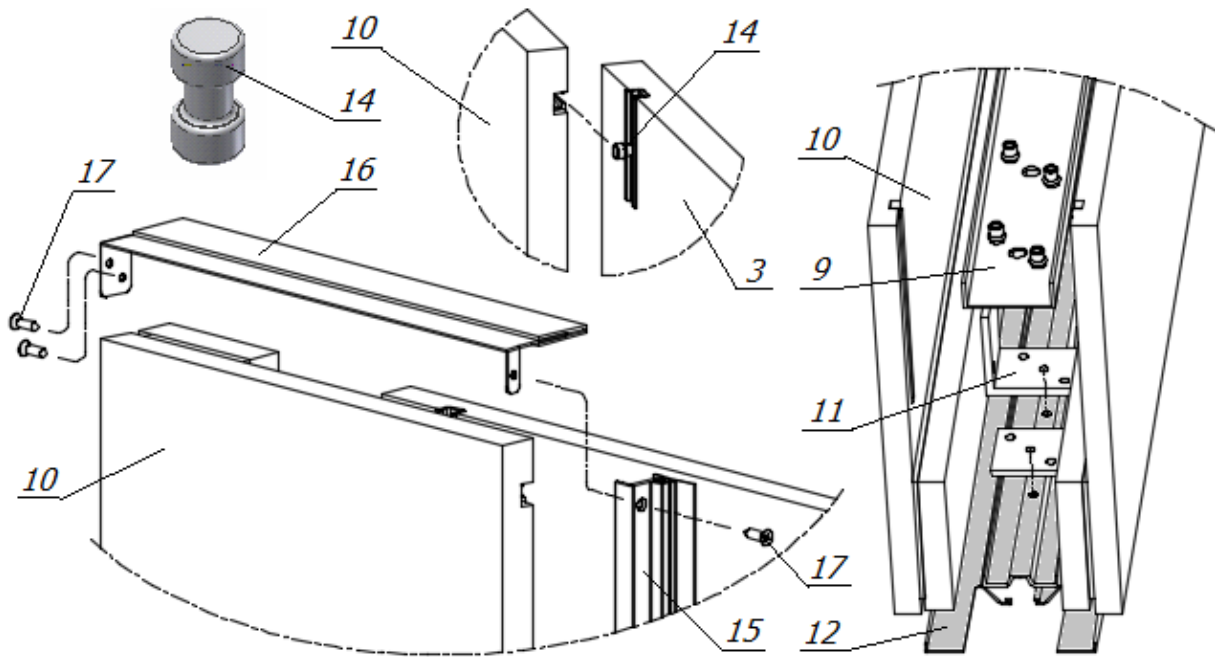


Fig.46. Assembly of the plates of the withdrawable part with cooperating elements
 3-previously suspended plate (Fig.44) 14-pull-out plate guide handle
 9-vertical C profile 15-maskng strip
 10-sliding part plates 16-soundproofing strip (top/bottom)
 11-mounting bracket pull-out part
 12-"male" cover on the side of the withdrawable part 17-screws fixing elements (15 and 16)



FOR INFORMATION

When all the plates work together with the guide holders (14) fasten first:

- soundproofing strip (16) at the top and bottom on both sides
- masking strip (15) on both side using screws $\phi 3 \times 16$ (17 in Fig.46)

The last step is to fasten the cover plate (12 in Fig.45) from the side of the "drawer" with M6x20 screws in the threaded holes on the angle bars (11).

7.5. Adjustment of the panels (leveling)

Suspended panels in the track must be **leveled** accordingly (**Fig.47**). **This applies to every implementation!** The purpose of the adjustment is to keep the panels at **such a height that the gaps between the panel and the track and the floor are 25 mm (Fig.4)**. Full functionality of the operation and aesthetics and visual effect are obtained in this way.

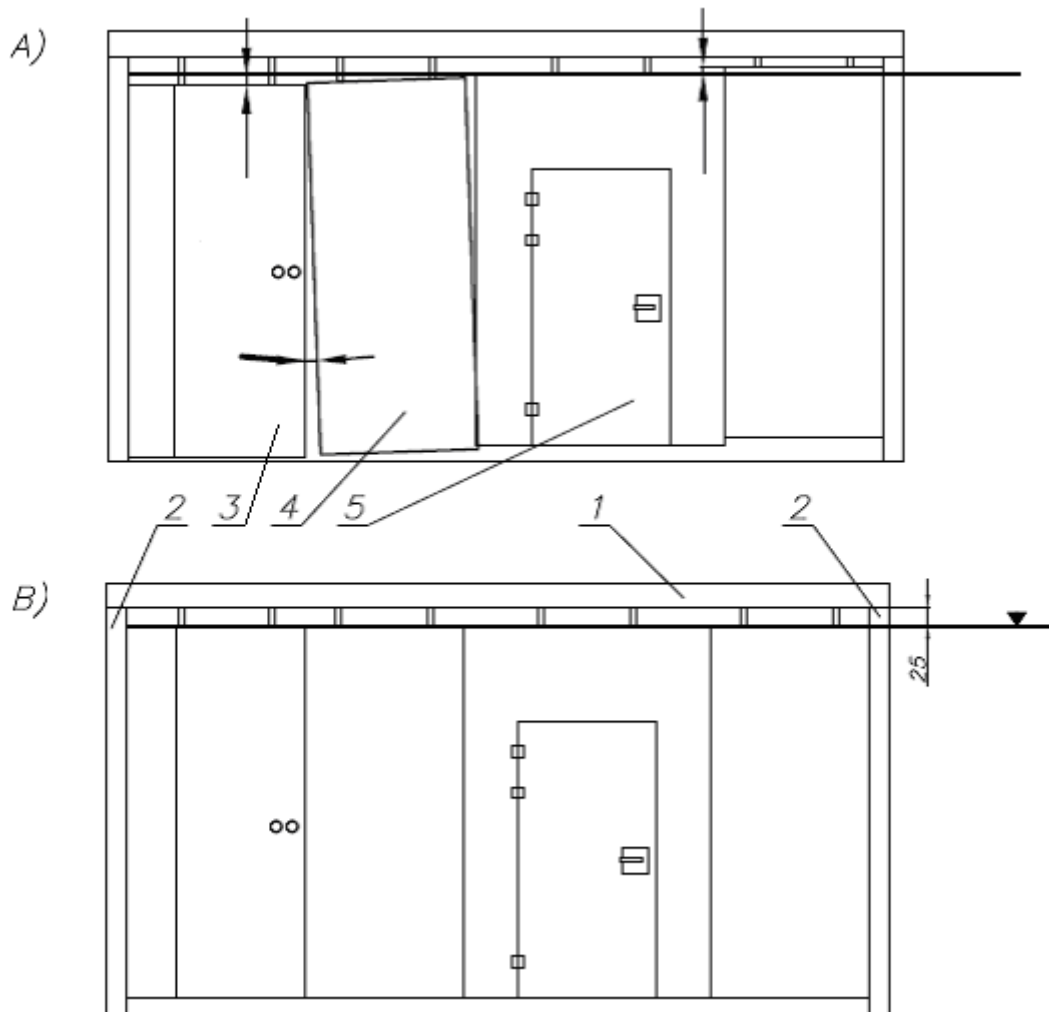


Fig.47. Visualization of panel adjustment (before adjustment and after adjustment)

A-WRONG (before adjustment)

B-GOOD (after adjustment)

1- track sections
2- skirting boards

3-telescopic panel
4-standard panel

5-door panel



FOR INFORMATION

Panel adjustment (levelling) should be done with help:

- **open-end wrench 13** to the bolt (2 in Fig.48) of the carriage
- **open-end wrench 24** to the nut (1 in Fig.48) countering the carriage

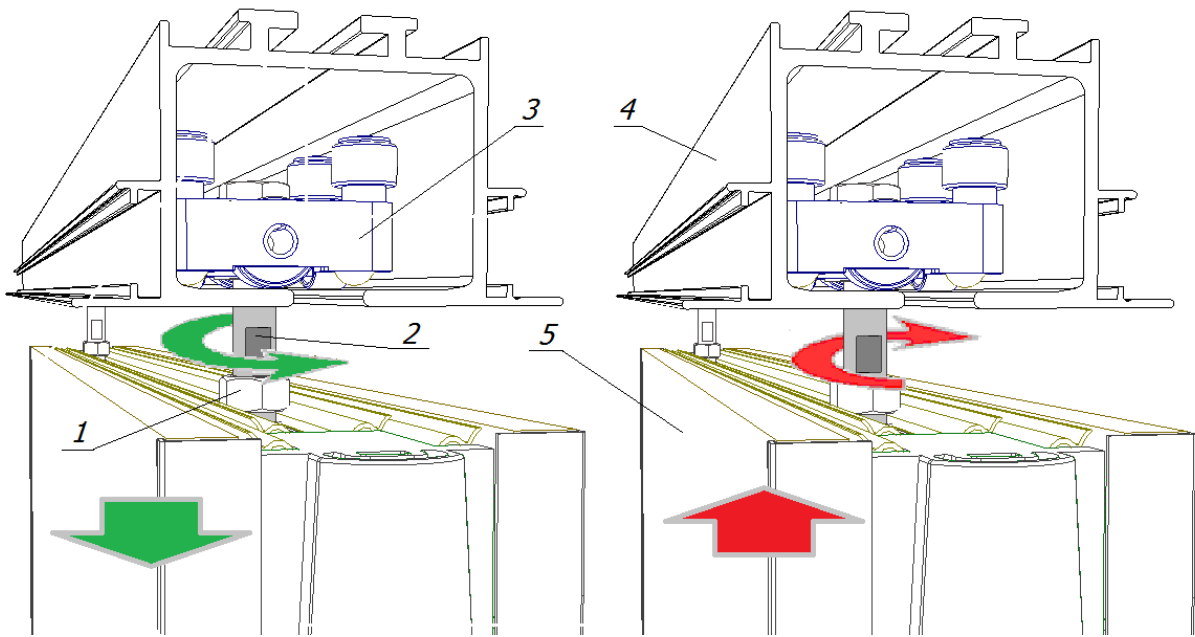


Fig.48. Leveling the mobile panel

1-locknut countering the carriage
2-carriage bolt (place of applying the key)

3-carriage
4-track

5-adjustable panel



FOR INFORMATION

The panel is leveled by turning the carriage screw (2) LEFT or RIGHT with the key 13

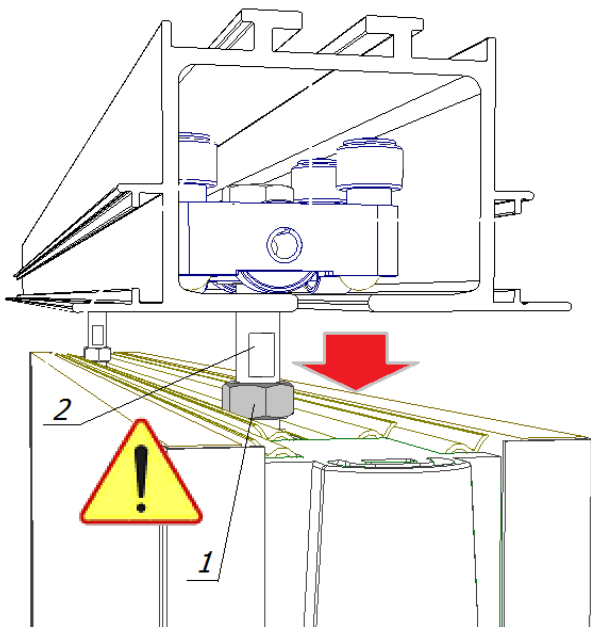


Fig.49. Countering the carriage

1-locknut countering the carriage
2- carriage bolt



CAUTION !!!

The counter nut (1) secures the unscrewing of the carriage screw (2), and thus the lowering or raising of the panel again, which would not match other panels. Therefore, it is necessary to counter ALL the nuts in the panel carriages by tightening them fully (Fig.49)!

7.6. Door panel positioning

The door panel suspended in the track (according to the guidelines in chapters 7.3 and 7.4.1) is **heavier than a normal panel**. The door leaf (2 in Fig. 50) during opening or closing may cause slight movements of the door frame itself (1 in Fig. 50), which is stretched to the unknown base which will be there. Undesirable movements of the door panel can be avoided by using **anti-dust sockets (4 in Fig.50) mounted in the floor**.



CAUTION

It is **FORBIDDEN** to determine the location of holes for sockets (4) according to the dimensions of the project! There is a risk that in practice the pins of the lower door beams (3) **will not hit** the previously made holes for sockets (4)

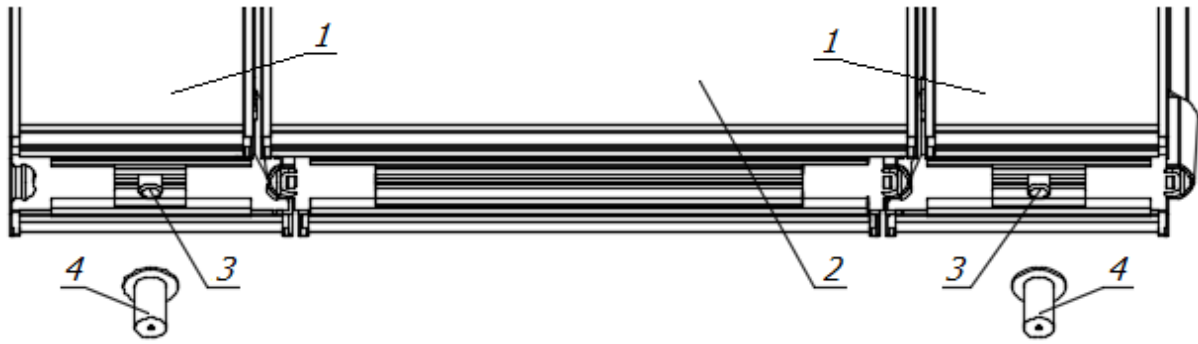


Fig.50. Determination of the anti-dust seat in the floor by direct method by means of a door panel

1-door panel casing
2-door leaf

3-spreader beam pin
4-anti-dust seat



CAUTION

In the place where the door panel is located, after unfolding the entire wall, the pins of the lower beams (3) will mark the position of the anti-dust sockets (4) in the floor



FOR INFORMATION

To **unfold the mobile wall** (take the panels out of the parking rack or parking place) and **follow the "OPERATING INSTRUCTIONS"**

In measured places:

- **make holes in the floor** depending on the diameter and depth of the embedded sockets (4),
- **embed sockets in the floor (4),**
- **check again** whether the pins (3) from the beams spreading the door panel "hit" the sockets (4) embedded in the floor

The next step is to **check the lower beam sealing the door (13 in Fig. 51) after closing it** and adjusting it if it does not function properly



CAUTION

Check that the bottom beam sealing the door (13 in Fig.51) does not stick too much to the ground before the door closes! If so, it should be adjusted

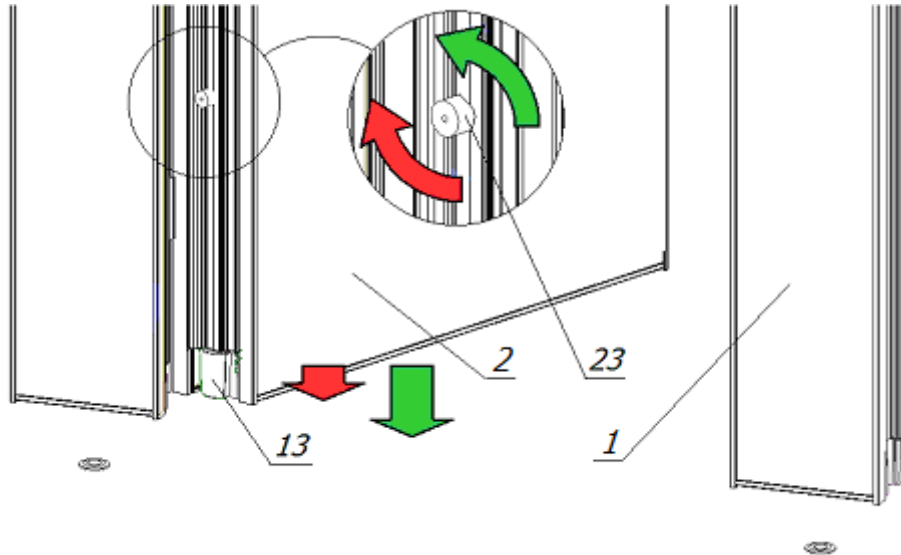


Fig.51. Adjusting the pressure of the lower beam sealing the door

1-door panel casing

13-bottom beam sealing the door

2-door leaf

23-pin regulating the pressure of the lower beam sealing the door



FOR INFORMATION

Adjustment of the lower beam (13) is done by means of the pin (23) by turning:

- **RIGHT, increasing the ground pressure** (marked with a colored **green vertical arrow** in Fig.51)
- **LEFT, reducing the pressure to the ground** (marked with a colored **shorter red arrow** in Fig.51)

On the hanging door panel in the track, **check** that the door (2) has not "dropped" due to its initial fastening to the frame (1). Then **start adjusting the hinges**



FOR INFORMATION

The adjustment of the hinges is carried out according to the instructions provided by the hinge manufacturer or on the website www



The tracks and panels have been suspended and

adjusted - a successful implementation

8. INSTALLATION OF THE ELECTRIC WALL

The assembly of the mobile wall described in this manual concerned the system with **manual extension** of the spreading beams. In the MAW110Plus system, there are mobile walls with **electric extension** of the spreading beams activated by a **button located in the panels (2 in Fig.52)**.



FOR INFORMATION

Electrical modules differ from regular modules as they have:

- **electric motor**, expanding the panel beam mechanisms after pressing the button (**SEE THE "OPERATION MANUAL"**)
- **"male" and "female" contactors** located in the aluminum profiles of the panels and on the power supply wall strip
- **24V power supply** located in the **skirting board**
- **ON-OFF key switch** that starts the entire electrical wall



CAUTION !!!

Connect the electrical wall according to the electrical diagram while maintaining all PRECAUTION and SAFETY measures !!

An example of a **wall with an electric beam ejection** is shown in the figure below (Fig.51).

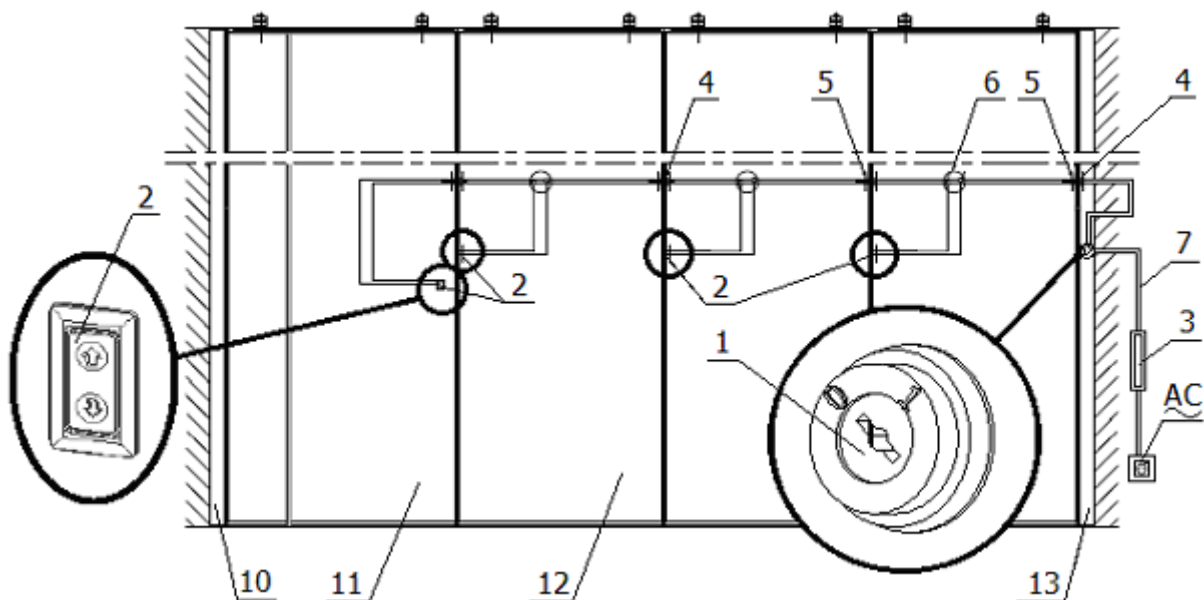


Fig.52. Simplified diagram of the MAW110Plus electric mobile wall

1-ON-OFF key switch, 2 positions, Ø19, 4A 125VAC - marked S246/OFF

2-rocker switch with illumination II microswitches (MARKLAND)

3-24V DC60W switching power supply

6-electrical connector (WAGO)

7-low - voltage cable YLY 2 x 1.5

10-skirting board

11-electric initial panel

4-panel contactor - female
5-panel contactor – male

12-electrical panel
13-electric skirting board

8.1. Contactor adjustment

The last step before starting the electric wall is to **check the height of the "male" and "female" contactors** embedded in the panels, especially in **the skirting board**.



CAUTION!!!

NOT ADJUSTED contactors may have **insufficient contact with each other**, resulting in **INCORRECT** or **NO** operation of the electrical wall or even a **SHORT** circuit of the entire wall!!
This poses a risk to health and life!

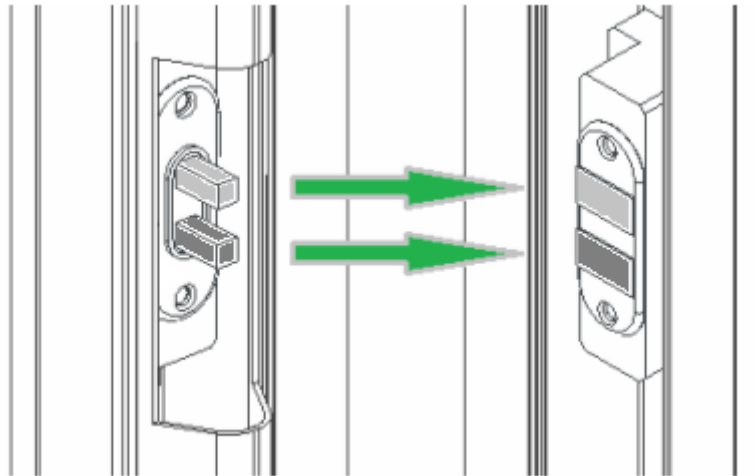


Fig.53. Correct cooperation of contactors between the panels

It happens that **after installing an electrical skirting board**, its contactor may slightly **differ in location from the contactor in the panel adjacent to it**.



CAUTION

Check that the contactor (4) of the skirting board is at the SAME height as the contactor in the panel ADJACENT to it!

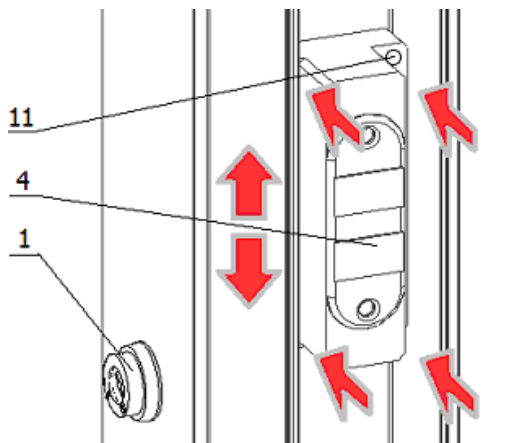


Fig.54. Height adjustment of the contactor in the electrical skirting board

1-wall switch
4-"female" contactor
11-strip contactor adjusting screw



FOR INFORMATION

The adjustment of the skirting board contactor (4) is done by **slightly loosening the screws (11) and moving it up or down depending on the height of the contactor of the panel adjacent to it.**

9. ORDER OF ASSEMBLY WORK PERFORMED

This **step-by-step guide describes each stage** of the partition wall installation, from the suspension of the track to the installation and adjustment of panels. Not all steps will take place during installation (e.g. blinding the track - section 6.4 if the arms of the parking rack machine normally reach the concrete wall). The following is a brief list of the most important and general things during each partition wall assembly, regardless of whether the installation includes only panels or tracks together with the panels:

1. Wall design stage:

- Measurements of the room (Section 5.2)
- Enumeration of the panels in the wall (Section 5.3)
- Verification of the correct operation of the partition wall (Section 5.4) – entry / exit from the parking rack (if any)
- Based on the weight of the panels (Fig.21) to select the appropriate type of fastening and the number of fastenings between the track and the ceiling (Section 6.3)

2. Track assembly stage:

- Checking the quantity of parts and components received for the mounting the track (list of components - Section 3)



FOR INFORMATION

The MAW110Plus mobile system components list (Section 3) contains **all** the components that enter the mounts for all types of track. **Only those components that relate to a given realization in quantities and types depending on the dimensions of the wall and its weight are obtained**

- Determination of the axis of the wall (together with the axes of the parking rack tracks, if any) - preferably using a laser level



CAUTION!!!

The axes of the wall tracks should be determined **in the SAME way as in the adopted design (Section 5.4!)**

- Determination of the position of the track suspension holes:
 - service module (Sections 6.3 and 6.5)
 - for other suspensions (Section 6.3) together with the parking rack (if any)
- Installation of suspensions in the ceiling (according to the diagrams in Section 6.1)
- Installation of the parking rack (if any)
- Installation of the service module (Section 6.5)
- Installation of the rest of the track
- Track adjustment - levelling (Section 6.6)

- Installation of the track (Section 6.7) according to your needs
3. Stage of assembling / installation of panels in the track / wall:
- Installation of fixed components:
 - installation of the skirting board (Section 7.1)
 - checking the verticality of the mounted wall modules



CAUTION

Skirting boards **absolutely MUST keep vertical!** This determines the correct arrival of the panels or the telescopic panel by **closing the gap between their profiles, sealing the connection**

- Installation of mobile components:
 - screwing the carriages into the panels (Section 7.2)
 - lifting the panel, inserting the carriages into the track and traveling to a safe place (Section 7.3)
 - placing the panels on the hanging panel frames (Section 7.4.1)
 - installing the plates of the telescopic panel's withdrawable part (Section 7.4.2)
 - do the same with the door panel (Section 7.5.2 - if it exists)
 - re-attachment of the service module (Section 6.5)



FOR INFORMATION

Depending on the weight of the panel and design assumptions, it is **possible** that the panels will be hung in the track already **ready with previously installed boards**

- Unfolding the entire wall in the track (**SEE "User manual"**)
- Panel adjustment - leveling (Section 7.5)
- Positioning of the door panel in the floor (Section 7.6 - if any)
- Validation of the operation of the electrical wall (Section 8 - if any)
- Checking and possible adjustment of the contactor height in the wall batten in the electrical version (Section 8.1 - if any)