door-solutions

Installation Manual

Sectional door with rear springs (LF 70)
Conform TÜV / CE EN 13241-1

TÜV NORD CERT

UK

Contents

1. Symbols and warning signs

General Symbol for DANGER !!
Symbol for ATTENTION !!
Carefully read the text with this symbol!!

Symbol: Risk of physical injury!!
Carefully read the text with this symbol!!

2. General warnings

This manual has been prepared for use by qualified personnel and therefore not by trainees or “do it your self”
In case of doubt about the assembly and/or maintenance, please contact DOCO International.

To avoid severe personal injury, carefully read and observe all indications and warnings in this manual.

- This manual describes the assembly and disassembly of the residential set of fittings LF 70; this may be supplemented by other manuals, for instance the door operator manual (if applicable.)
- Your set of fittings has been designed according to the latest European standards; however please check as to whether this standard corresponds with the local national standard.
- Adding or leaving out parts can affect the working, and therefore the safety, of the finished sectional door and is therefore strongly discouraged!
- All indications concerning the assembly right or left are always viewed from the assembly location, that is from the inside to the outside!
- All measures are in millimetres unless otherwise specified.
- After assembly check that the CE marking has been completed and attached.
- Keep this manual in a safe place.
- Subject to technical changes, without written notice.

2.1 Safety requirements for assembly, first use and maintenance.

- The garage door may only be mounted, connected and put into operation by qualified personnel.
- Make sure that the power is switched off and remains switched off while electrical work is carried out!
- Never bridge safety devices !
- Some parts contain sharp edges: use protective gloves.
- Never use the sectional door in the case of visible damage to the safety devices.
- When performing assembly/maintenance, always wear at the very least gloves and safety boots. During drilling, always wear safety goggles!
- Make sure that work can always be performed in a stable environment.
- Secure the assembly/maintenance site with safety ribbon to keep others (children!) at a distance.
- Maintenance must only be performed by a qualified company and/or qualified personnel.
- Make sure there is enough light.
- Only use appropriate tools, especially when tensioning the torsion springs.

3. Directives and standards

The following directives and standards have been used for the design, production and mounting of these rail sets:

98/79/EEC	**Machine Directive**
89/106/EEC	**Construction Product Directive (EN 13241-1)**
89/336/EEC	**EMC Directive**
EN 12604	Mechanical aspects; requirements and classification
EN 12605	Mechanical aspects; test methods
EN 12445	Safety for power operated doors; test methods
EN 12453	Safety for power operated doors; requirements
EN 12978	Safety devices for power operated doors, test methods and classification
EN 12426	Air Permeability, test methods
EN 12427	Air Permeability; requirements and classification
EN 12425	Water tightness; requirements and classification
EN 12489	Water tightness, test methods
EN 12424	Resistance to Wind Load; requirements and classification
EN 12444	Resistance to Wind Load, test methods
EN 12428	Thermal Resistance.

This set of fittings complies with the above mentioned standards and directives.
The conformity has been proven. The documents concerned are available at DOCO International.
You will find the Declaration of Conformity under paragraph 12.2 of this manual.

3.1 Guarantee and liability

Unprofessional assembly, any changes made to the garage door or changes in the door operator that do not comply with this manual will annul the guarantee and liability.
This also applies to damage caused by incorrect operation, failure to observe the instructions in this manual and/or poor maintenance or care.

4. Application and testing

Doco International has developed a set of fittings for building into garages in the private sector.
Complies with the CE standard, provided only DOCO International parts are used.

This manual describes the assembly of a complete residential garage door exclusively equipped with DOCO-International parts. Assembly of non-specified parts or other parts that are not described in this manual is the responsibility of the final garage door manufacturer. He is also responsible for correct CE certification of the residential garage door.

TÜV NORD CERT

DOCO International had the “ITT“ of this set of fittings carried out by the institute TÜV Nord cert in Germany, known as Notified Body No. 0032.
Documents of this “ITT” are available from DOCO upon request.

This “ITT” does NOT include a pass door. Should you wish to install a pass door, a separate ITT must be carried out. This is the responsibility of the garage door manufacturer.

Classification in accordance with EN 13241-1 : refer to Annex C

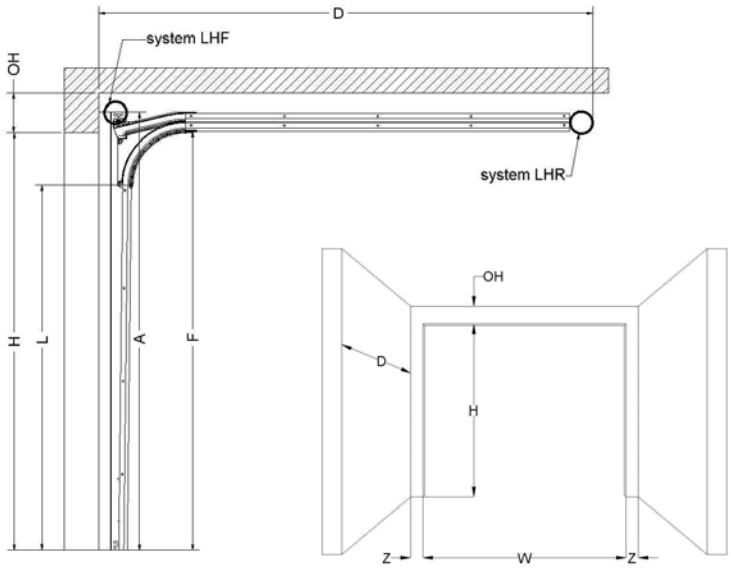
5 Assembly

This set of fittings does not include the fixing materials required to mount this rail set onto walls and/or the ceiling! It is the responsibility of the installer to check whether the construction of the assembly location is strong enough to support this garage door. The installer is also responsible for choosing the appropriate fixing materials for the foundation (stone, concrete, steel, wood).

5.1. Preparation of the assembly

- Check that the place where the rail set is to be mounted is level, and that the construction of the assembly location is strong enough to support this rail set. If not: reinforce.
- Check that the garage has the required dimensions before starting assembly.

W = Clear width
H = Clear height
OH = Upper space
Z = Lateral space
D = Built-in depth



System LHR OH =70 ***

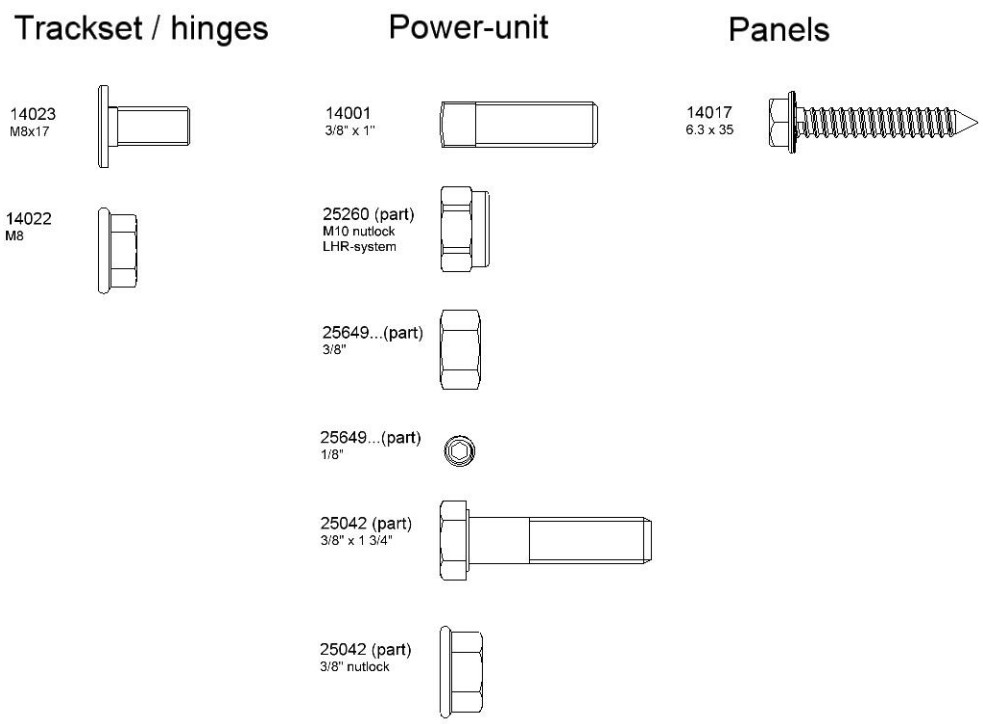
Angle	Max (H)	A	L	F	Z*	D with 20226 track**	D with 20270 tack**
23699 *	2120	H+50	=H-240	=H-60	164	2898	3338
23698	2560	H+50	=H-240	=H-60	164		3338
23697	2850	H+50	=H-240	=H-60	164		3338

System LHR OH =150

Angle	Max (H)	A	L	F	Z*	D with 20226 track**	D with 20270 track**
23699 *	2120	H+110	=H-300	=H	164	2898	3338
23698	2560	H+110	=H-300	=H	164		3338
23697	2850	H+110	=H-300	=H	164		3338

* Only use the 20182 track as vertical track in combination with 23699 vertical angle
*** Dimensions excluding door operator.
*** excluding operator track

5.2 Mounting materials and instructions



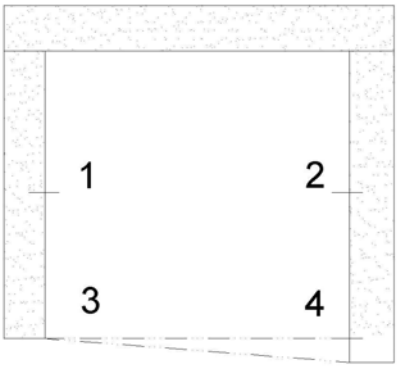
Description	Mounting material	Quantity	Torque (Nm)
Vertical angle (23699) and vertical track (20182)	14022 14023	8x 8x	20 20
Vertical angle (23699) and curved rail (24718)	14022 14023	8x 8x	20 20
Vertical track (20226) and connecting plate (24602)	14022 14023	8x 8x	20 20
Vertical track (20226) and curved rail (24718)	14022 14023	4x 4x	20 20
Vertical angle (23699) and side bearing bracket (13018 / 13022)	14022 14023	4x 4x	20 20
Bracket (24809) and suspension profile (24807)	14022 14023	4x 4x	20 20
Vertical track (20226) with angle plate (24621)	14022 14023	2x 2x	20 20
Angle plate (24621) with mounting plate (24620)	14022 14023	2x 2x	20 20
Side bearing bracket (13022) and spring break device (25649…)	14022 14023	4x 4x	20 20
Side bearing bracket (13018 / 13022) and bearing supports (13026/27)	14022 14023	4x 4x	15 15

Spring break device (25649…) and spring plug (12002 S /12003 S)	Nut 3/8"	4x	…
Spring break device (25649…) and ratchet wheel (25649….)	Hexagon socket screw 1/8"	4x	10
Spring plug (12002 W / 12003 W) and shaft (25018 / 25016)	14001	4x	34
Cable drum (11000 /11001 / 11014) and shaft (25018 / 25016)	14001	4x	34
Cable drum (11001 / 11014) and cable (25111-…)	Bolt 3/8"-16UNC-1 1/4" spec.	2x	18
Coupler (25042) with shaft (25016 /25018) / key (25064 / 25073)	14001	4x	34
Coupler (25042) between the two halves	Bolt 3/8"-16UNC-1 3/4" Nut plastic ring 3/8"-16UNC	3 3	34 34
Coupler (25034) with shaft (25016 /25018) / key (25064 / 25073)	14001	3x	34
Bottom bracket (25029) and panel	14017	12x	15
Side hinges and panel (per side hinge)	14017	6x	12
Roller carrier and basis side hinge (per hinge)	14022 14023	2x 2x	15 15
Intermediate hinges and panel (per intermediate hinge)	14017	4x	10
Top roller carrier (25046 / 25043) and panel	14017	4x	10
Top roller carrier (25046) and adjustable bracket (25046)	14022 14023	2x 2x	18 18

5.2.1 Assembly tools and attachments

The following tools are required for assembly:

- Water level (hose)
- (Battery) drill; with bit 10 mm for self tapping fasteners.
- Open/Ring ended wrench: 10 mm / 13mm / 3/8” (spring break device)
- Hexagon key wrenches: 1/8” (spring break device)
- Self-grip wrenches: 3 (at least 2).
- Metal saw (for non-standard build-in dimensions)
- Approx. 5m of rope

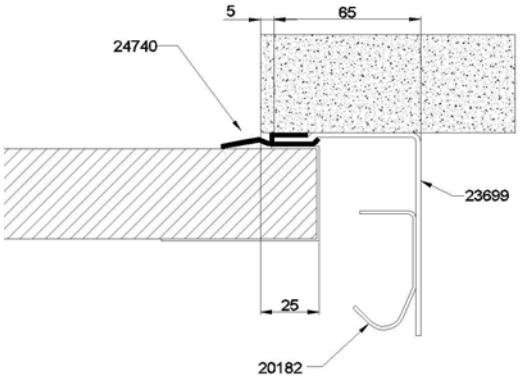


When drilling, always wear safety goggles!
Use a stable and safe ladder!

5.3 Mounting vertical angles and curves

As an example, we use a garage door with the dimensions 2500 x 2120; this set does not require any sawing or drilling! For the assembly of doors with other dimensions, see **

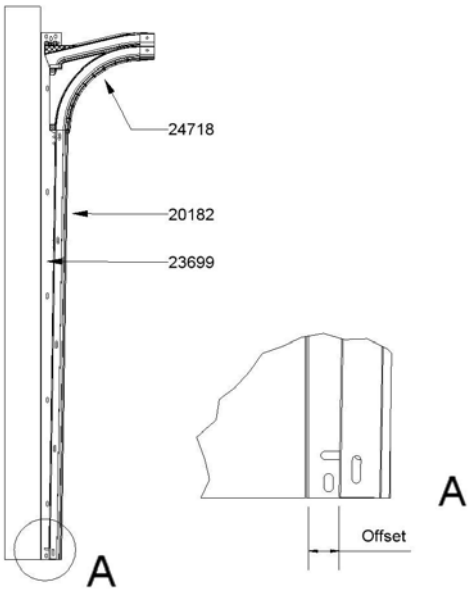
Mark the wall with a line (1).
Next, mark a line (2) with a water level.
For the floor alignment, mark lines (3) and (4) on the floor.



***** Vertical angle size = H (clear height) + 110 mm***

Mount seal (24740) on vertical angle (23699)
Mount both vertical angles against the wall with the bottom sides parallel to point (3) and (4); make sure that both angles are parallel and level in both directions.
Secure in at least in 3 places on each side to the wall.

Next, mount plastic curve (24718) on vertical angle (23699)
with 4 lock bolts (14023) and 4 flange nuts (14022).
Take track (20182) and slide it into the curve (24718) up to the stop.



***** Length vertical rail = H (clear height) – 300 mm***

Slide the vertical track (20182) into the plastic curve (24718) and then mark the bottom offset (depending on the panel thickness). Mark this bottom offset (panel thickness) in relation to the vertical angle and secure the vertical rail with at least 3 lock bolts (14023) and flange nuts (14022).

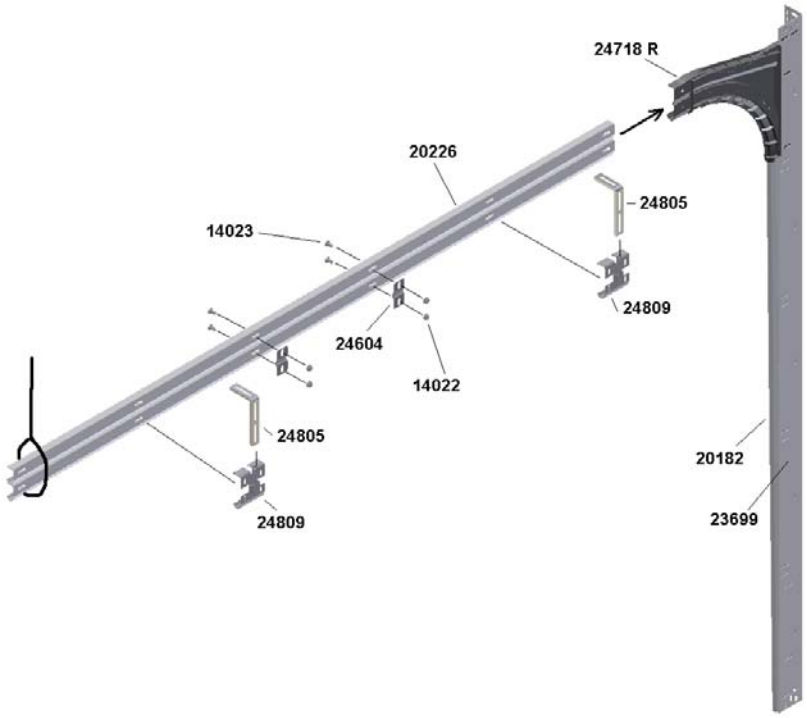
5.4 Assembling the horizontal tracks

Mount both tracks (20226) to each other using the rail connecting plate (24604), the lock bolts (14023) and flange nuts (14022). Take note of the mounting positions!
Fix a piece of rope to the ceiling or roof construction to keep the rear end of the rails up so that the horizontal rails are easy to mount.
Now slide the connected rails in the plastic curve (24718) and secure with lock bolts (14023) and flange nuts (14022) *See figure below.*

5.5 Suspension

Take 2 brackets (24809) and click them onto the mounted horizontal tracks, one bracket (24809) on the plastic curve (24718) and one on the end of the horizontal track set.
Next, slide the brackets (24085) under the roof beams or roof construction and secure bracket (24085) to the horizontal part of the rail set.
Then mount the suspension brackets (24805) on the ceiling, using 2 fixing devices* per mounting position. Next, untie the rope. *See figure below.*

This set of fittings does not include the mounting material necessary to mount this rail set onto walls and/or the ceiling! It is the responsibility of the installer to check whether the construction of the assembly location is strong enough to support this garage door. The installer is also responsible for the appropriate fixing materials for the foundation (stone, concrete, steel, wood.)



Carefully check the following:
The horizontal parts of the rail set must be at right angles to the wall / door surface, whereby angle X = 90 degrees.
Measure sizes C and D and check if they are equal. If not: correct the suspension .
Then measure sizes A and B - they must also be equal. If not: adjust.
Your rail set is now aligned.
See figure on the right

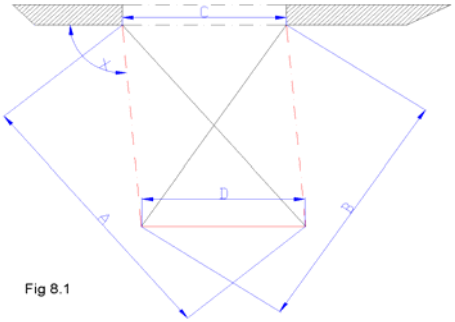
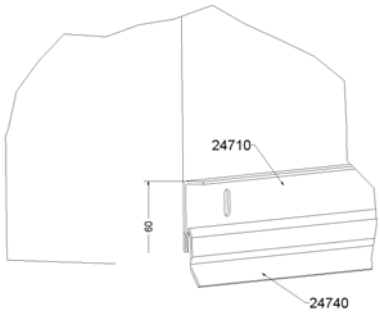


Fig 8.1

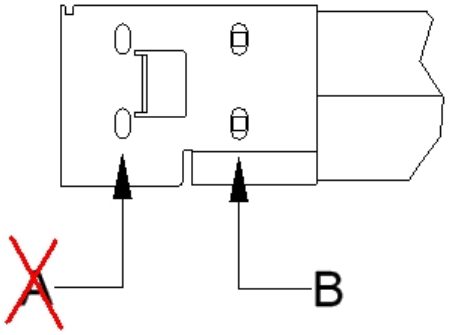
5.6 Mounting the lintel seal



Slide the sealing rubber (24740 or 24250/550) over the sealing profile (24710).
Mount the sealing profile (24710) against the lintel with the same length as the clear width.
Mount the sealing profile (24710) at 60 mm above the lintel.
Attention! : maximum overlap top panel: 15 mm
See figure on the right
Observation: If a different lintel seal is used the classification indications are no longer valid.

5.7 Mounting rear consoles with C track and Z brackets.

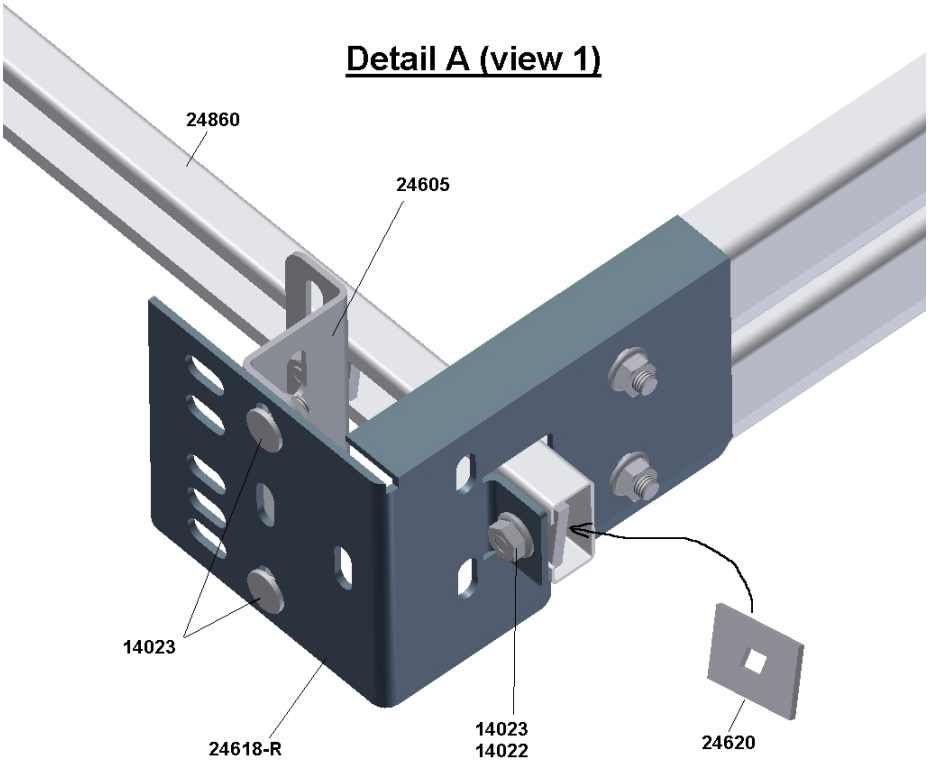
Secure the mounting brackets (24618 L-R) to the horizontal rails at mounting position B, as shown on the right. Secure this to the horizontal rails using 2 locking bolts (14023) and 2 flange nuts (14022). *See figure on the right*



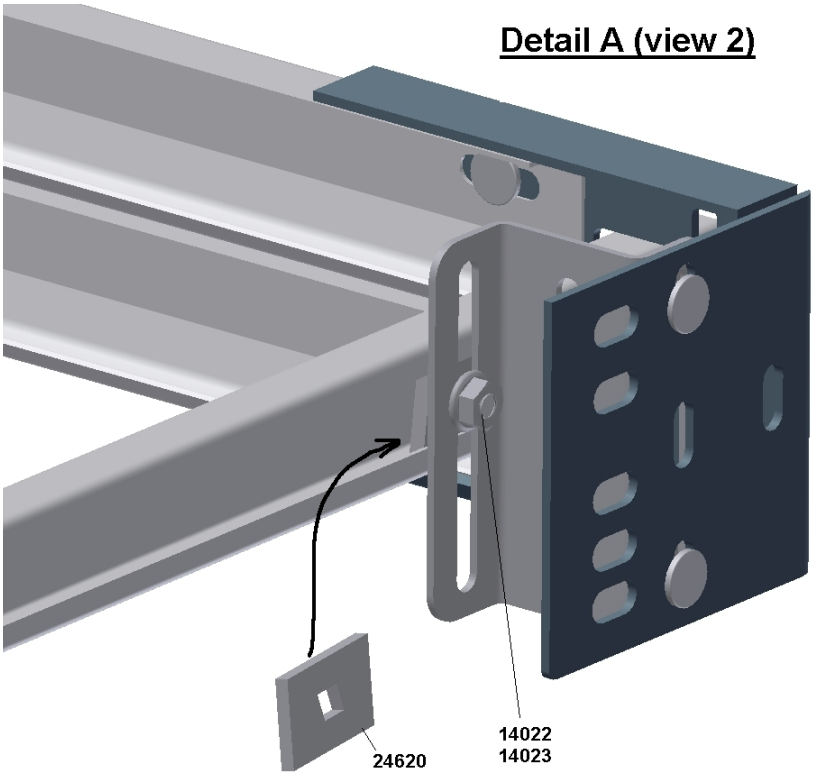
Next, mount the C rail between the brackets 24618.
The length of the C rail is determined as follows:

Length C rail = Clear width + 190 mm

Detail A (view 1)



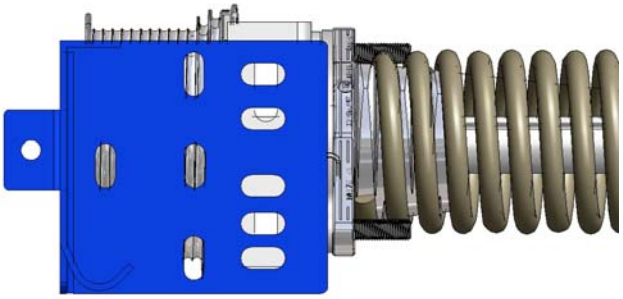
Detail A (view 2)

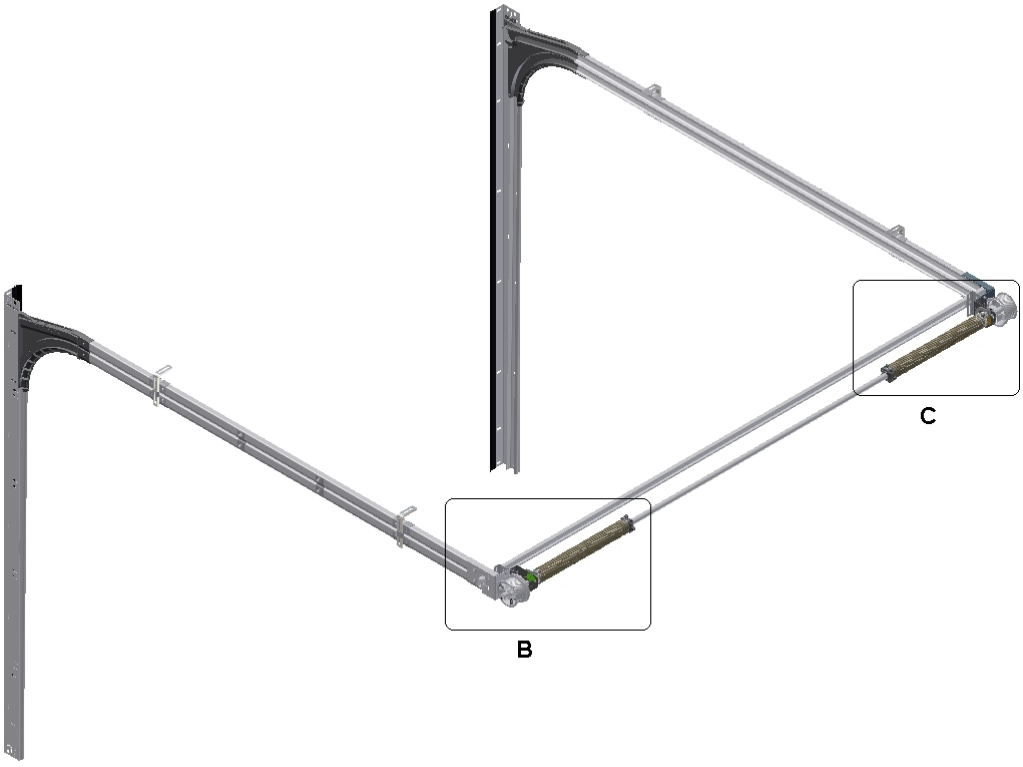


5.8 Mounting the shaft with torque springs

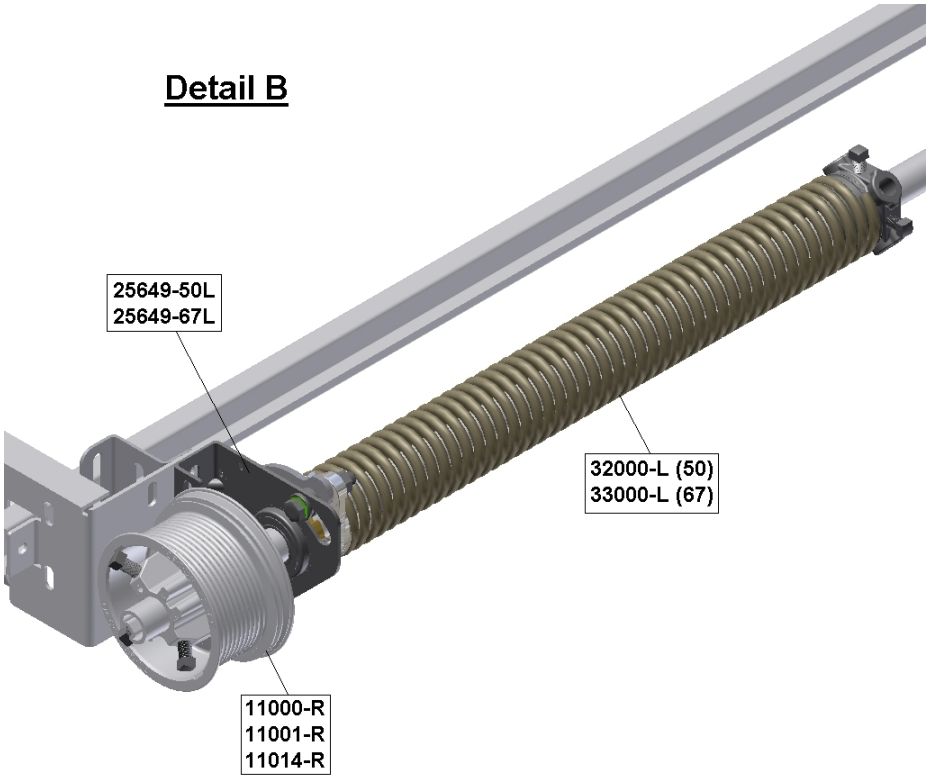
Up to clear width < 3000

Slide cable drum (11000, 11001, 110141), spring break device* (25649L/R50 or 25649L/R67) and the mounted springs over the hollow shaft with key way (25018) as shown in detail figures B and C.
Now mount the whole in such a manner to brackets LHR (24618) that the flat part of the cable guide onto the cable drum can be seen over the top of the LHR bracket (24618), see figure on the right.
Use 2 lock bolts (14023) and 2 flange nuts (14022) for fixing each side of the spring break device.
Note:
Since the patterns of holes in the spring break devices (50 / 67) differ from each other, it is possible to mount them in different positions on the LHR bracket.
* See the installation manual for spring break devices (25649-50 / 25649-67)

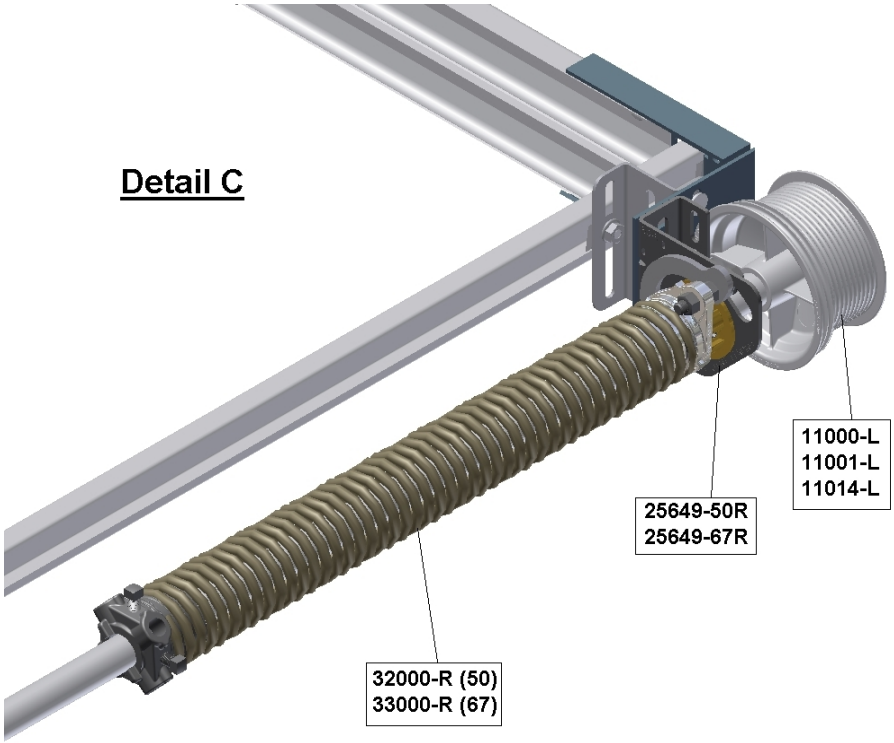




Detail B

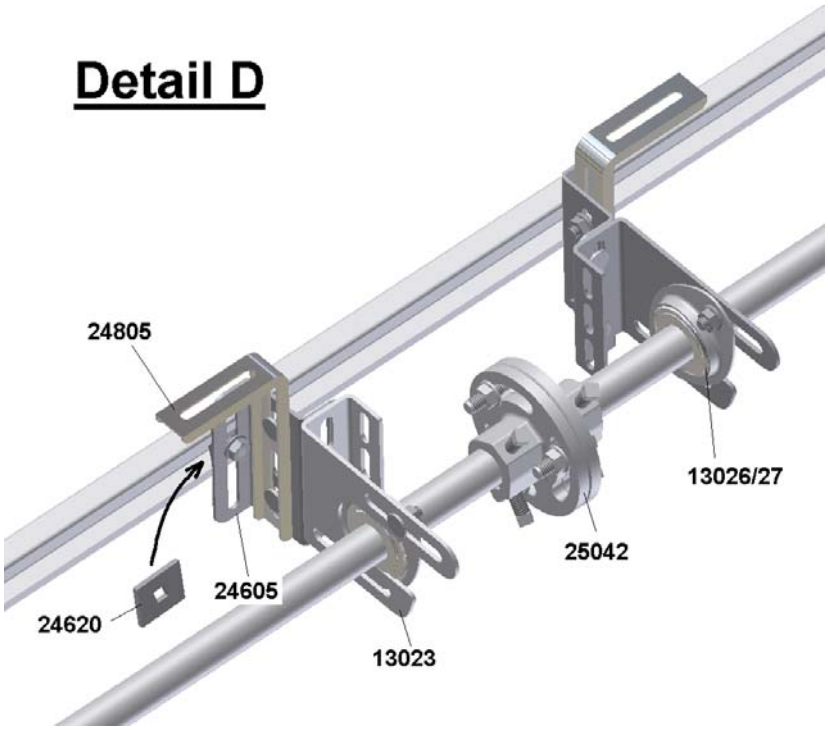


Detail C



As of clear width > 3000

For clear widths > 3000 extra bearing brackets (13023 + 24605) and a coupler (25042 or 25034) need to be mounted, including suspension from the ceiling. See detail D.
All parts are secured with 14023 bolts and 14022 nuts.

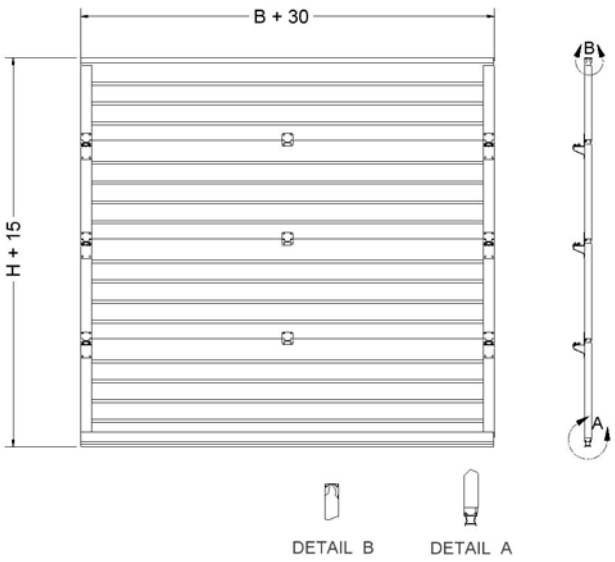


5.9 Mounting the panels

General:
Since our rail sets with hardware can be used universally with panels from different manufacturers, only a general description for mounting the panel is given.

Always ask the manufacturer of your panel which additional measures, if any, are needed to guarantee the finger guard.

As a general rule, when using sandwich panels (steel plate with PUR foam), pre-drilling should be done using Ø 4,5 mm. However, consult your panel manufacturer for the correct pre-drilling size!
The entire door blade including aluminium profiles and bottom seal must have the following dimensions.
See figure on the right



5.9.1 Choice of Hinges

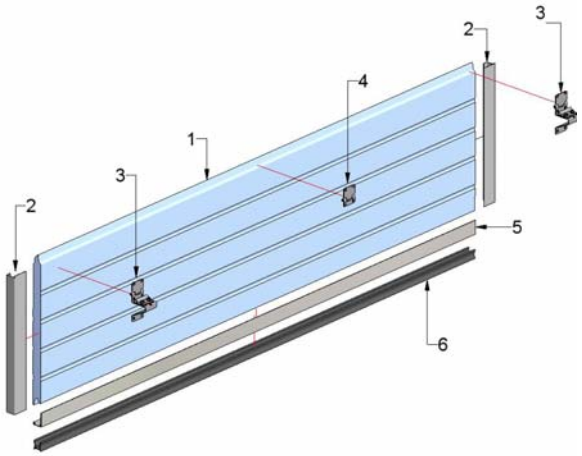
Consult annex A for the right choice of hinges in combination with the panel.
The distance between the intermediate hinges needs to be equally divided over the length of the panel, see the table below.

Door width	Number of intermediate hinges
0-2749	1
2749-3999	2
3999-5000	3

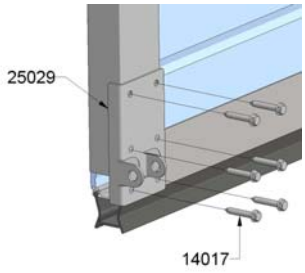
5.9.2 Pre-mounting the bottom section

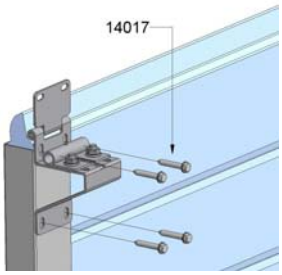
Important: NEVER shorten the bottom panel to determine the total height of the door blade; always shorten the top panel!
See Annex A for the correct article numbers.

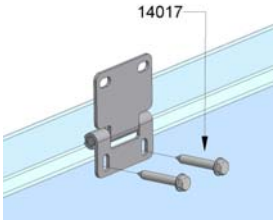
- Saw the panel (1) to the right length.
- Mount the end caps (2) on the panel (1) using blind rivets.
- Slide the aluminium profile (5) along the entire length of the panel (1) and secure it with blind rivets. Slide the sealing rubber on the aluminium profile.



- Mount the bottom bracket 25029. *See figure below on the left.*
- Mount the side and intermediate hinges. *See figures below in the middle and on the right.*

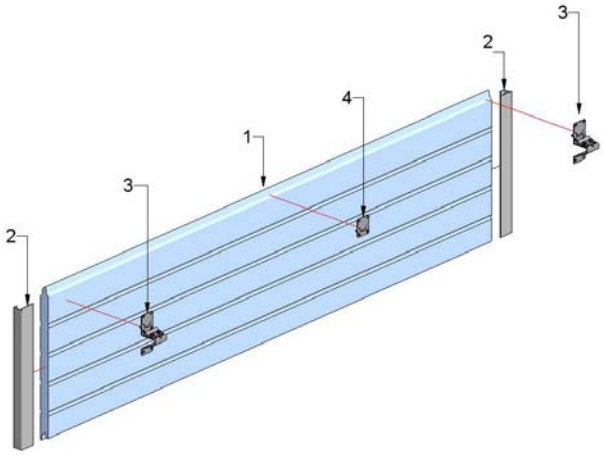






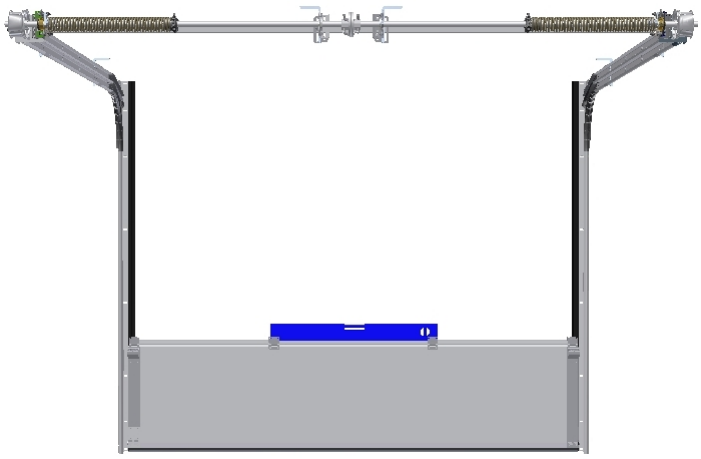
5.9.3 Pre-mounting the intermediate panels

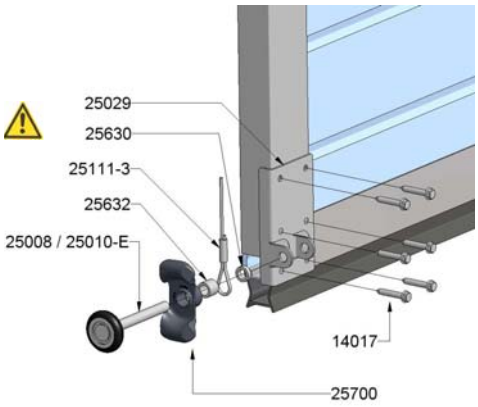
See Annex A for the correct article numbers.
Mount the intermediate panels as shown in the figure on the right.



5.9.4 Placing the bottom panel and intermediate panels

- Place the floor section between the vertical angles. Make sure it is level!

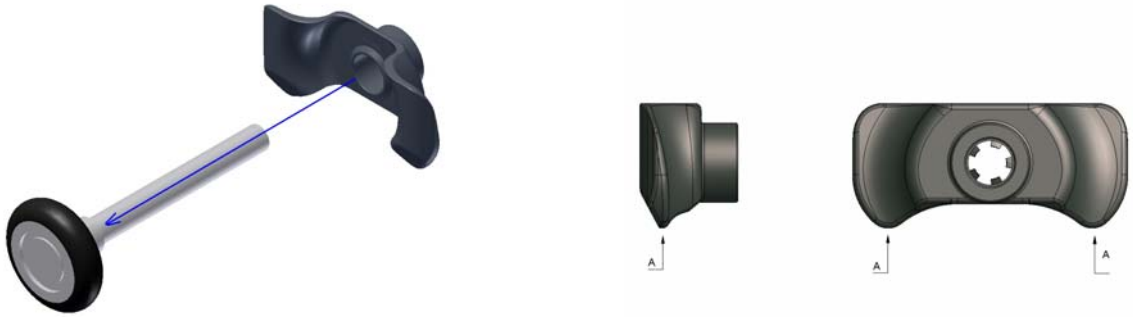




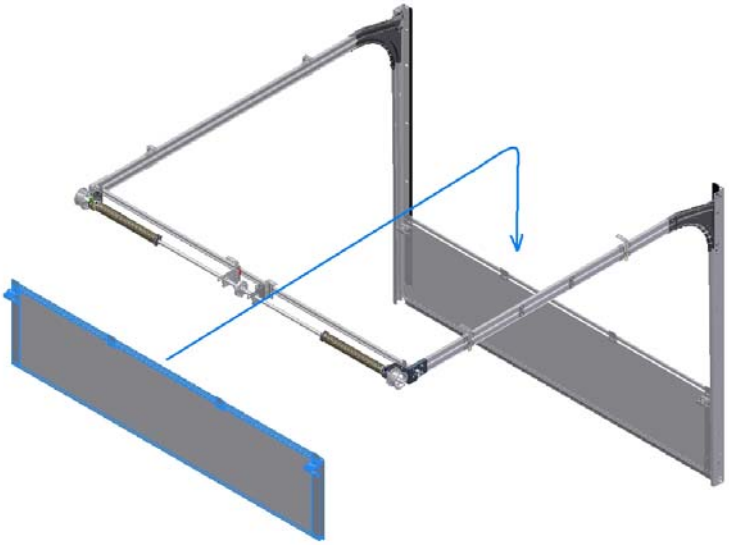
- Take roller (25010-E / 25008) and finger guard (25700) with spacers (25632/25630) and cable set (25111-3) and slide these into the bottom bracket (25029). *See figure.*

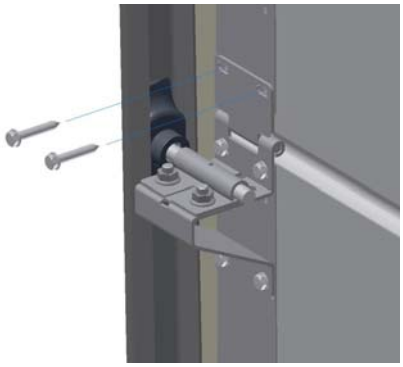
- *Do not forget spacer 25630 ! or you may risk damaging the cable set.*

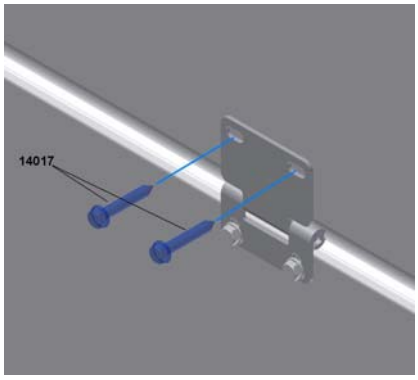
Use finger guards (25700) on each of the rollers, except on the top roller carrier (25046).
Make sure the roller with the finger guard is positioned in the rail correctly! The parts marked “A” must be positioned in the roller part of the rail.



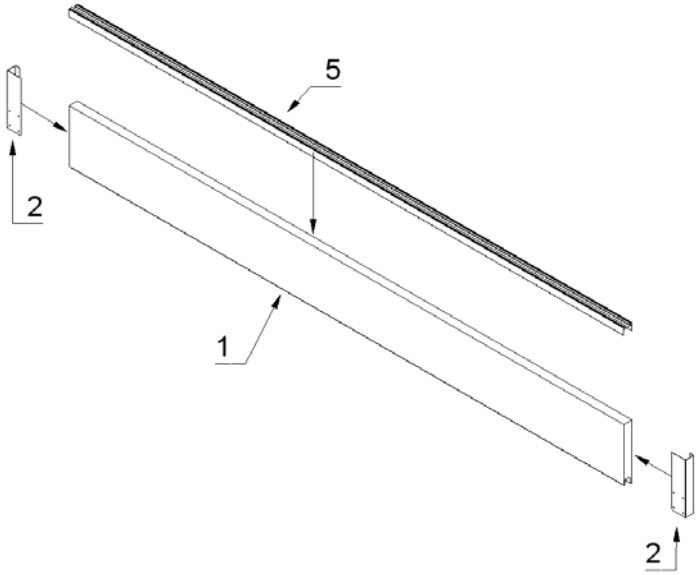
- Place the intermediate panels 2- 3 on the bottom panels and connect them with the hinges. Adjust the nylon rollers in such a way that the nylon tread lies in the rounding of the rail and that the play between panel and side seal (24740) is reduced to a minimum. It should be possible to turn the nylon roller with your hand.
- Before mounting the rollers, slide the finger guards (25700) over the roller chest.







5.9.5 Placing the top panel



See Annex A for the correct article numbers.

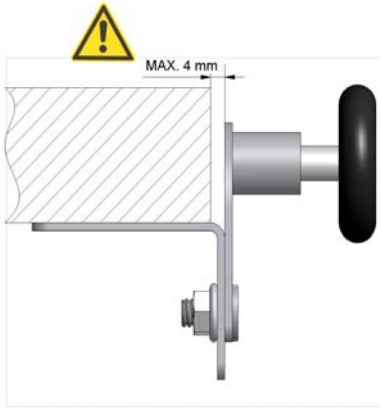
- Cut the top section to the correct height, see 5.9.0 for the correct height.
- Cut the end caps and aluminium profile to size.
- Mount the end caps and the aluminium profile.
- Place the top section on the last of the intermediate panels and secure the top section using self tapping fasteners (14017).
- Take the top roller carrier (25046) and mount it according to the instructions below.

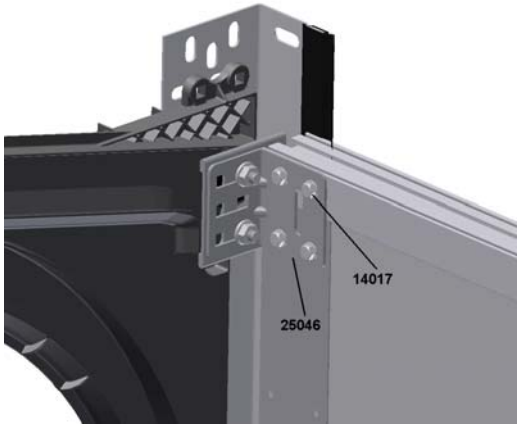
Choice between electrically or manually operated door.

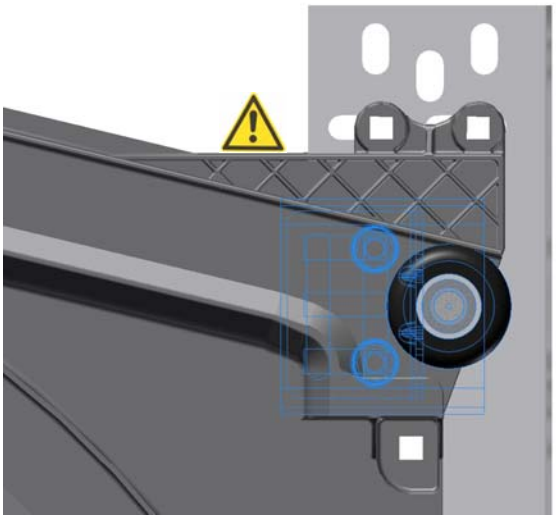
For electrically operated doors:

- Mount top roller carrier (25046) on the panel, using self tapping fasteners (14017).
- The roller of the top roller carrier (25046) must be positioned on the upper tread of the curve.
- **Attention!** do not position the top roller carrier (25046) pre-stressed on the tread.
- The play between end cap and adjustable bracket of the top roller carrier must not exceed 4 mm.

See the figures below.



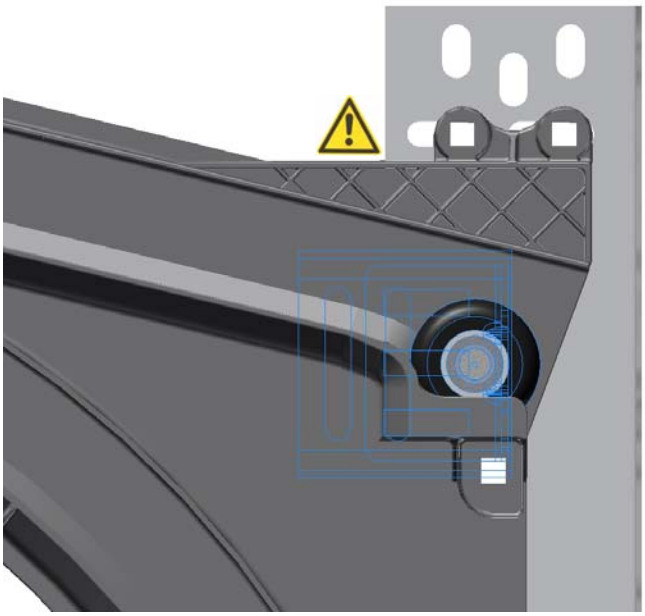




For manually operated doors:

- Mount top roller carrier (25046) on the panel, using self tapping fasteners (14017).
- The roller of the top roller carrier (25046) must be positioned in the “hollow” of the curve.
- The play between end cap and adjustable bracket of the top roller carrier must not exceed 4 mm.

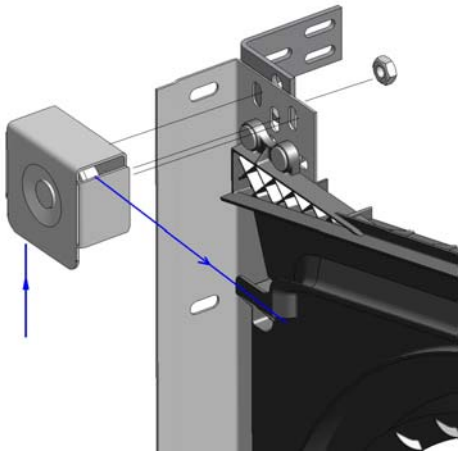
See the figure below.

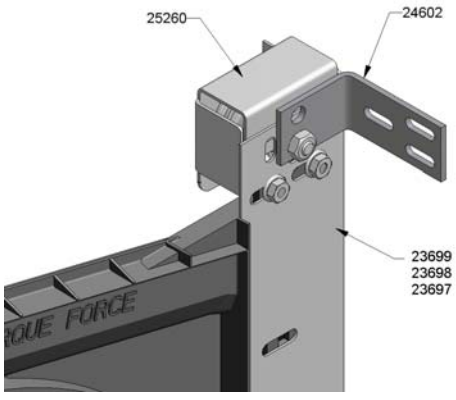


5.10 Mounting the pulley set

The 3 mm cable (25110-6) has already been secured to the bottom bracket. (see section 5.9.4)
Thread the cable behind the shafts of the roller.
Take the pulley (25260) and undo the safety nut.
First thread the cable through the pulley.
Take the pulley (25260) with cable and position both on the angle line. Then mount the M10 safety nut. DO NOT TIGHTEN COMPLETELY!
Next, mount the reinforcement angle (24602) on the angle line and secure it to the wall with no less than M6 dowels/screws. Pay attention to the mounting position!
Secure the pulley with its housing (25260) with the M10 safety nut.
Do this both on the left-hand and the right-hand side.

See the figures below!



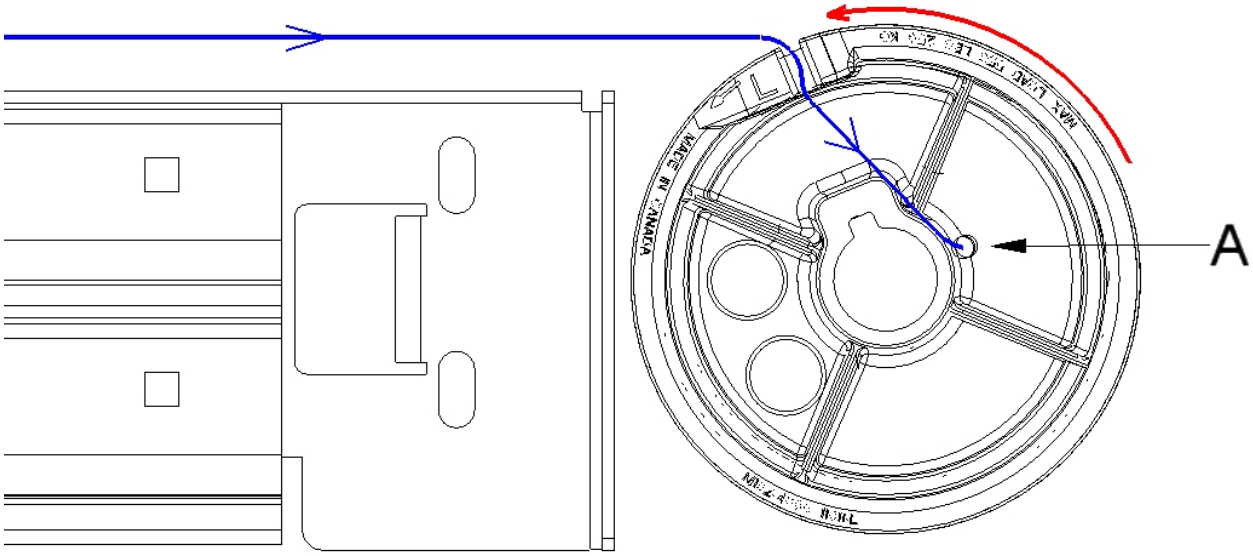


5.11 Mounting the cable on the cable drums

Once the pulley set (25260) has been mounted onto the angle line, the 3 mm cables (25110-6) * can be mounted onto the cable drums (11000/11001/11014).
Take the end of the cable and slide this, via the notch, through the cable fixing hole (A) of the cable drum and turn the cable drum in such a way so that the cable is tensioned, and that there is at least ½ a winding** of cable on the drum. *See figure*
Mount the key (25064 or 25073) between the shaft (25018) and cable drum (11000/11001/11014).

* Observation concerning cables:
Before fixing the steel cables, they must be unwound completely and checked for any twisting. A torqued steel cable will certainly split or break. Especially when fixing steel cables, guard against any twisting of the cables. PAY CLOSE ATTENTION TO THIS!

*** Equals 2 **TÜV approved** windings // Ref TÜV : BB-FTA-MUC/re-sc 30604_Besch_torque.doc*



(position shown is on the right-hand side)

Secure the cable drum with the fixing bolts on the shaft between 27 – maximum 34 Nm.
The cable fixing bolt must be tightened with approx. 13 Nm.
Now block the shaft using the self-grip wrench and secure the other cable in the same way.
It is important that both cables are equally tensioned and that the door blade is level.

5.12 Stretching the torsion springs

Secure the door in such a way that it cannot rise. Do this by fixing the vertical tracks with self-grip wrenches for example.
Tension the springs according to the following procedure.
The required number of turns of the spring is indicated on the labels of the assembled springs.
After stretching, secure the winding plug on the shaft using 27 to 34 Nm (this applies for both the 12002-W and for the 12003-W winding plugs.)

Procedure for stretching a spring.

IMPORTANT: There is great strain on tensioned springs; proceed carefully at all times, especially when performing corrective maintenance. Use tensioning bars that are well fitting and that have been well maintained (12025)

Stretch the springs from the bottom to the top! Due to stretching, the spring becomes thinner and longer (number of turns x wire thickness); if this is not the case, the left and right spring have been switched!

1) Mark the spring with a straight line.
2) Insert the first tensioning bar in the winding plug
3) Turn the first tensioning bar a quarter of a turn to stretch the spring.
4) Hold the first tensioning bar and place the second bar in the next hole of the winding plug.
5) Turn the second bar a quarter of a turn.
6) Hold the second tensioning bar (takes over the tension) and remove the first bar
7) Repeat steps 3 – 4 – 5 – 6 until the correct tension has been reached.
8) Secure the winding plug on the shaft by turning both bolts of the plug with 27 to 34 Nm.
9) Now remove the last tensioning bar
10) Check the number of turns that the spring has made by counting the number of lines on the spring.

Remove the block from the shaft and the vertical tracks and the sectional door is ready.
Check if the door is well balanced. If not, then check item .. (Correcting the spring tension).

5.13 Correcting the spring tension

Block the shaft and the door blade
Secure the door in such a way that it cannot rise. Do so for instance by fastening self-grip wrenches on the vertical tracks.

IMPORTANT: There is great strain on tensioned springs; proceed carefully at all times, especially when performing corrective maintenance. Use tensioning bars that are well fitting and that have been well maintained (12025)

You can correct the tension by stretching or releasing the spring with a maximum of 1 full turn. Make sure that both springs are equally corrected.

1) Insert the first tensioning bar in the winding plug.
2) Turn the tensioning bar in the appropriate direction.
3) Carefully loosen the bolts of the winding plug and take over the spring tension.
4) Hold the first tensioning bar and place the second bar in the next hole of the winding plug.
5) Turn the second tensioning bar a quarter of a turn in the appropriate direction.
6) Hold the second tensioning bar (takes over the tension) and remove the first bar
7) Repeat steps 4 - 5 - 6 until the correct tension has been reached.
8) Secure the winding plug on the shaft by turning both bolts of the winding plug with 27 to 34 Nm.

9) Now remove the last tensioning bar

Remove the block of the shaft and the vertical tracks and the sectional door is ready.

5.1.4 Operating

You can operate your sectional door in the following manner:

1) Manual operating
2) Electrical operating

5.1.4.1. Manual operating

Mount the handle (25407 / 25403) on the bottom section.

5.1.4.2 Electrical operating

Mount the door operator in accordance with the instruction manual of the door operator's supplier.

Attention!

In case of loss of power, it must be possible to disengage the door operator by means of the emergency disengagement device. This must make it possible to open or close the door blade by hand.
The door blade may only be operated with a handle.
The handle must be mounted in the centre of the door.
If there is no second exit in the garage, a disengagement lock must be installed (art. 60011).

5.1.4.2.1 Adjusting the door operator

Adjustment of the door operator must be done in accordance with the door operator manual.

Here, it is pointed out once again that this set of fittings is only TÜV / CE certified in combination with the door operators as specified in Annex C. Should a door operator be chosen other than the ones indicated in Annex B, the pinch force testing in accordance with EN 12445 / EN 12453 must be performed again!

5.15 Placing the CE-ID plate (sticker)

Place the CE sticker (art 80310 NL / FR) on the left or on the right side under an end cap of the second section.
See figure

6 Technical data

LR 70 system with plastic curve and torsion springs on the rear

- Width: max. 5,000 mm
- Height max. 2,850 mm
- Door surface: max. 11 m²
- Weight of door blade: max. 162 kg
- Installation space: 70 mm excl. operator track
- Noise load: <70 dBa
- Temperature range: –20º tot + 40ºC
- Environmental influences EN13241-1: refer to Annex C
- Lifespan: 15.000 cycles
-

The minimum safety level concerning safety of the closing side meets the demands specified in EN 12453, table 1.
Pinch force testing performed in accordance with EN 12445.
All measured values remained below the maximum values specified by this standard.
All measurements are available from Doco International bv upon request.

7 First use

The garage door must be put into operation by an experienced installer.
The first use of the garage door must be registered. The person responsible for the installation must write the declaration of conformity and affix the CE sticker.
Affixing the CE-sticker means declaring that the conditions of the EN directives have been met.

8 Trouble Shooter

Items to be checked in case of a door not functioning properly or being out of balance

Check #1) Check the weight of the door blade.

Check #2) Were the correct cable drums delivered?

Check #3) Have the cable drums been mounted correctly?
Pay attention to the following issues (looking outward from the inside):

- Left drum coded in red and mounted on the left-hand side.
- Right drum coded in black and mounted on the right-hand side.
- Does the cable run between the construction/wall and the shaft?
- Pay attention to the cable insertion point.

Check #4) Check whether the correct torsion springs have been delivered and have been mounted.

- Check the wire thickness
- Check the diameter of the springs
- Check the length of the springs (excluding the spring plugs)

Check #5) When the door blade is closed, friction must not be excessive. The rollers must still be able to turn.

check #6) Are there any obstructions when opening / closing the door blade?

Check #7) Check the play between door blade and track, this should be approx. 20 mm, whilst the cable should not be obstructed anywhere.

Check #8) Are the tracks parallel, both in the vertical and the horizontal ? Measure distance and height.

9 Disassembly

General:

- Disassembly may only be carried out by qualified personnel.
- Make sure that only the personnel carrying out the assembly/disassembly are present at the location. Keep other persons at a distance, for example by using a safety ribbon.
- When disassembling the device, make sure there is enough light.
- Make sure that the correct tools are used to remove the tension of the springs and ensure you are standing firmly.

Procedure:

Block the shaft with the self grip wrenches.
Secure the door in such a way that it cannot rise. Do so, for example, by fastening self grip wrenches to the vertical tracks.

IMPORTANT: There is great strain on tensioned springs; proceed carefully at all times.
Use tensioning bars that are well fitting and that have been well maintained (12025)

1) Insert the first tensioning bar in the winding plug.
2) Keep the first tensioning bar firmly in your hands and carefully loosen the bolts on the winding plug and take over the spring tension.
3) Now place the second tensioning bar in the next hole of the winding plug and carefully release the tension in the spring. In principle, the spring is always released from top to bottom.
4) Put the first tensioning bar back in the winding plug and release.
5) Repeat steps 3 - 4 until the spring is released.
6) Repeat steps 1 - 4 with the other spring.
7) Loosen the bolts of the cable drums and remove the steel cables from the cable drums.
8) Dismount the shaft with springs
9) Loosen the bolts and nuts from the coupling of the synthetic curve with horizontal track.
10) Dismount the suspension and slide the horizontal track out of the plastic curve.
11) Dismount the panel sections from top to bottom by loosening the roller carriers and intermediate hinges.
12) Dismount the synthetic curve.
13) Dismount the vertical angle.

9.1 Removal

All parts of the garage door are easy to separate and recycle.
Separate all elements after dismantling.
Note: The material is only recyclable if separated.
Turn in the materials at the authority responsible for the treatment of separated materials.

10 The Manufacturer

DOCO International b.v.
Nusterweg 96
6136 KV Sittard (NL)
Tel. +31 (0)46-4200666
Fax. +31 (0)46-4526894
E-mail : info@doco-international.com

Annex A Hardware / Panels.

Panel type (1)	End cap (2)	Side hinge (3)	Intermediate hinge (4)	Alu. Profile (5) Top and bottom	Bottom seal (6)
Bremet Securwall	80612L (610) / 80617L (488)	25734	25733	80041	80042
Bremet Securwall	80612L (610) / 80617L (488)	25006 / 25007 *	25006 *	80041	80042
Bremet Securwall	80612L (610) / 80617L (488)	25162 / 25163	25733	80041	80042
Hoesch	80612L (610) / 80613L (488)	25334	25333	80041	80042
Tekla Teckentrup	118438 / 118449	109555 / 122292	109554	116261	109549
Apco - Kingspann	80612L (610) / 80617L (488)	25334	25333	80041	80042
Ryterna	80612L (610) / 80617L (488)	25634	25633	80041	80042
Corsaro&lisco					

Max. door weight 90 kg. And max. door width 3000 mm

Annex B Certified door operators

Door operator:	Type:	Max. door width
Sommer	Aperto 868 L(550N)	3,500 mm
Sommer	Aperto 868 LX(800N)	5,000 mm
Sommer	Duo 500S (500N)	3,000 mm
Sommer	Duo 800SL (800N)	5,000 mm
Marantec	Comfort 220 (500N)	3,500 mm
Marantec	Comfort 250 (700N)	5,000 mm

Annex C EC Declaration of conformity

EC MANUFACTURER DECLARATION / EC DECLARATION OF CONFORMITY

We hereby declare that the products described below conform to the relevant fundamental requirements of the applicable EU directives, both in its basic design and construction as well as in the version marketed by us (Inspection bodies: TÜV Nord Cert 0032 and SP 0402). This declaration will cease to be valid if any modifications are made to this product without our express approval or if a door operator or panel other than those indicated below or other products than those described by Doco-International are used.

Product Description

Manually or electrically driven sectional overhead door DOCO LF 70/220

Panels in finger-safe execution:
ThyssenKrupp Hoesch, Ryterna, Bremet, Apco/Kingspan, Tekla/Teckentrupp

Motors:
Marantec Comfort 220, 250, 252; Sommer Duo 500S, Duo 800 SL, Aperto 868L, 868 LX

Manufacturer:

Doco-International BV
Nusterweg 96
NL-6136 KV SITTARD (NL)
Tel. +31-46-4200666
Fax. +31-46-4526894

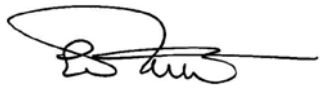
Relevant EU Directives applied:

- Machinery Directive 98/37/EC
- Construction Products Directive 89/106/EEC
- EMC Directive 89/336/EEC
- Low voltage Directive 73/23/EEC

Harmonised Standards applied:

- EN 13241-1 Doors - Product Standard, Part 1
- EN 12604 Doors - Mechanical aspects
- EN 12453 Safety in use of power operated doors - Requirements
- EN 12635 Doors - Installation and use
- EN 12978 Doors and gates - Safety devices

Sittard, 24. January 2006



E. Rottinghuis
Sales director