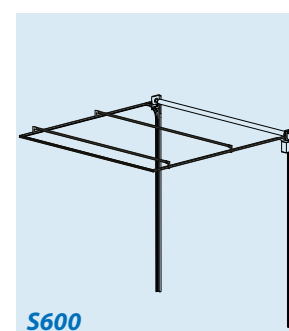
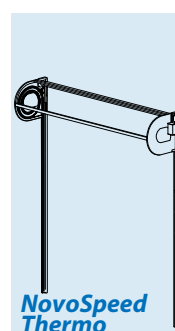
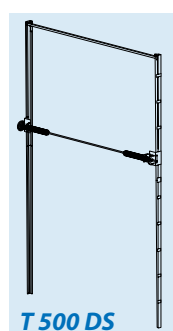
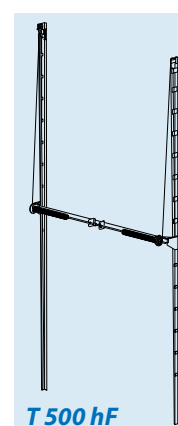
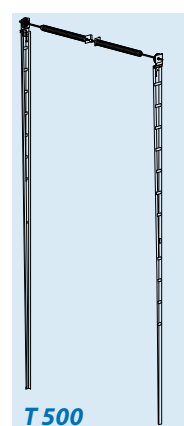
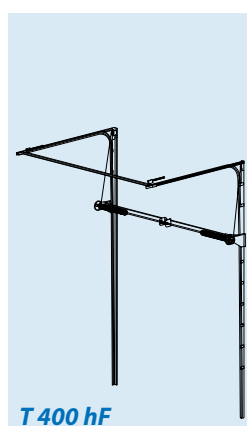
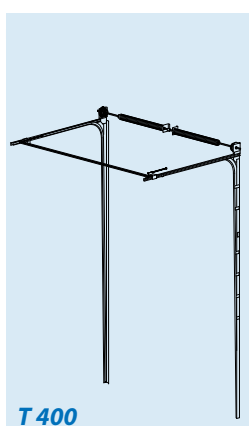


Track system, dimensions, installation criteria



Low headroom track system, internal cable runs + steel support beam	T 240
Normal lift track system, rear-mounted spring shaft assembly + steel support beam	T 340
Normal lift track system (standard)	T 450
High lift track system	T 400
High lift track system with low-mounted spring shaft assembly + steel support beam	T 400 hF
Vertical lift track system	T 500
Vertical lift track system with low-mounted spring shaft assembly + steel support beam	T 500 hF
High lift track system with low-mounted spring shaft assembly	T 400 DS
Vertical lift track system with low-mounted spring shaft assembly	T 500 DS
Spiral	NovoSpeed Thermo
Horizontal track system	S600



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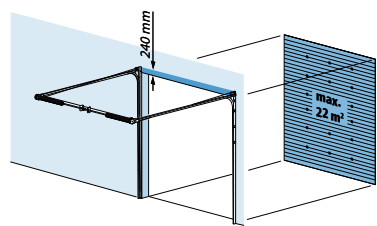
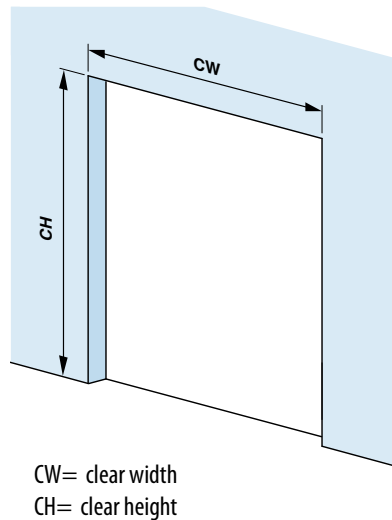
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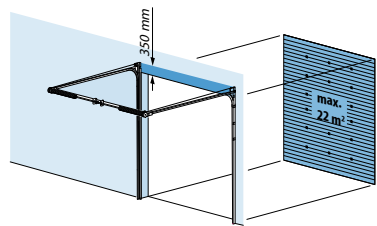
Track system selection guide

- The choice of track system is primarily determined by the headroom available (installation space above the opening). The space from the underside of the lintel to the underside of the roof/ceiling determines the choice of track system.
- Allowances must be made for conduits, mobile crane guides, traverses, etc. that are fixed to the wall and/or hung from the roof in the area into which the door leaf retracts when open, as they restrict the available installation space. Such obstructions may make it necessary to select a different track system.
- It is recommended that the available headroom is used to the best possible advantage in order to achieve optimum door operation and reduce the distance that the open door leaf projects into the building.
- A summary of the eleven basic track systems can be found on pages IV and V. The systems are described in detail in the remainder of this document.
- A choice can be made from:
 - T 240 Low headroom track system, internal cable runs + steel support beam
 - T 340 Normal lift track system, rear-mounted spring shaft assembly + steel support beam
 - T 450 Normal lift track system (standard)
 - T 400 High lift track system
 - T 400 hF High lift track system with low-mounted spring shaft assembly + steel support beam
 - T 500 Vertical lift track system
 - T 500 hF Vertical lift track system with low-mounted spring shaft assembly + steel support beam
 - T400 DS High lift track system with low-mounted spring shaft assembly
 - T500 DS Vertical lift track system with low-mounted spring shaft assembly
 - NovoSpeed Thermo Spiral
 - S600 Horizontal track system
- Roof angle system details are shown separately in the detail information relating to each type of track system.
- All dimensions indicated are conservative. If there is only a slight difference (plus or minus) between the measured dimensions and the indicated required dimensions, it may still be possible to install the desired system. Please contact us for detail information.
- The upper limits set for each type of track system, such as door surface area, are not absolute values. They assume a "reasonable" relationship between the door width and door height. It is impossible to detail all the permutations in this documentation. If in doubt, please contact us.
- We do not accept responsibility for any errors or misprints. If you have any questions, please contact us.



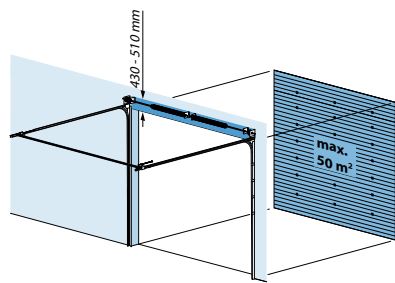
1.0
T 240 Low headroom track system, internal cable runs + steel support beam

- Headroom requirement above the clear opening: 240 mm.
- Maximum door leaf area: 22 m².
- Maximum door width: 6500 mm.
- Roof angle system available, max. 15°.



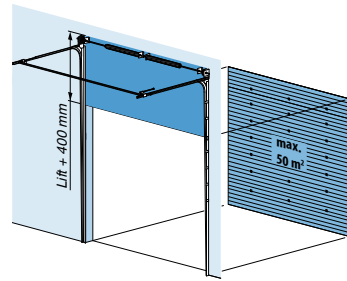
2.0
T 340 Normal lift track system, internal cable runs + steel support beam

- Headroom requirement above the clear opening: 340 mm.
- Maximum door leaf area: 22 m².
- Maximum door width: 6500 mm.
- Roof angle system available, max. 30°.



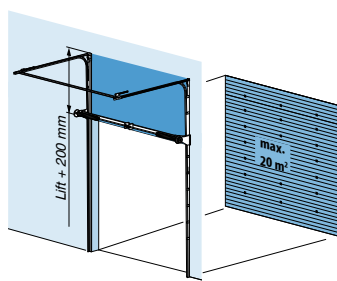
3.0
T 450 Normal lift track system (standard)

- Headroom requirement above the clear opening: 430 - 510 mm.
- Maximum door leaf area: 50 m².
- Roof angle system available.



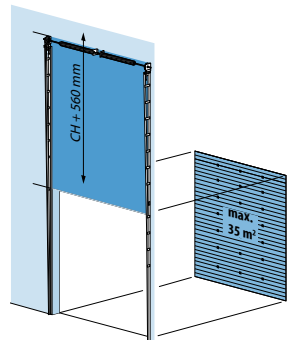
4.0
T 400 High lift track system

- Headroom requirement above the clear opening: lift + 400 mm, where lift is defined as the dimension from the bottom face of the lintel to the bottom face of the horizontal tracks.
- Maximum door leaf area: 50 m².
- Roof angle system available.
- Lift dimension: 300 – 4150 mm.



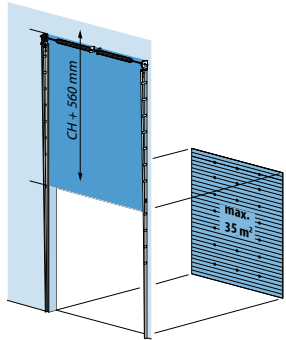
5.0
T 400 hF High lift track system with low-mounted spring shaft assembly + steel support beam

- Headroom requirement above the clear opening: lift + 200 mm, where lift is defined as the dimension from the bottom face of the lintel to the bottom face of the horizontal tracks.
- Maximum door leaf area: 20 m².
- Maximum door width: 4500 mm.
- Roof angle system available.
- Lift dimension: 1450 – 4150 mm.



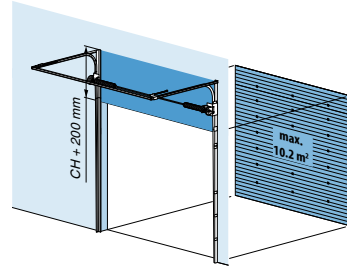
6.0
T 500 Vertical lift

- Headroom requirement above the clear opening: clear opening height (CH) + 560 mm.
- Maximum door leaf area: 35 m².



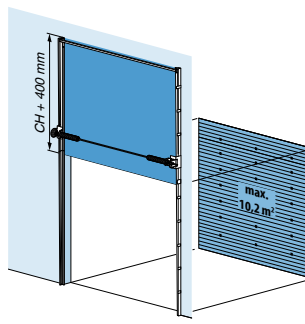
7.0
T 500 hF Vertical lift track system with low-mounted spring shaft assembly + steel support beam

- Headroom requirement above the clear opening: clear opening height (CH) + 400 mm.
- Maximum door leaf area: 20 m² and maximum door width: 4500 mm.



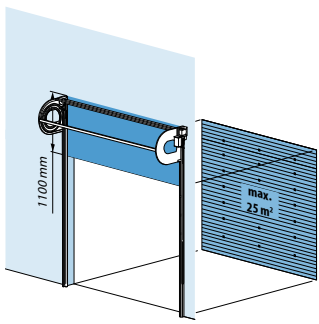
8.0
T400 DS High lift track system with low-mounted spring shaft assembly

- Headroom requirement above the clear opening: lift + 200 mm, where lift is defined as the dimension from the bottom face of the lintel to the bottom face of the horizontal tracks.
- Maximum door leaf area: 10.2 m².
- Maximum door width: 3200 mm.
- Roof angle system available.
- Lift dimension: 1700 mm.



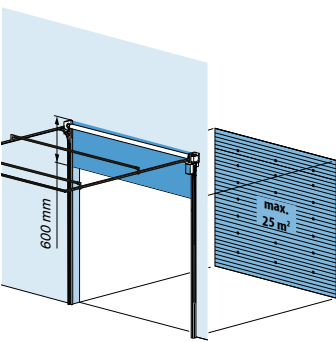
9.0
T500 DS Vertical lift track system with low-mounted spring shaft assembly

- Headroom requirement above the clear opening: lift + 400 mm, where lift is defined as the dimension from the bottom face of the lintel to the bottom face of the horizontal tracks.
- Maximum door leaf area 10.2 m².
- Maximum door width: 3200 mm.
- Lift dimension: 3200 mm.



10.0
NovoSpeed Thermo Spiral

- Headroom requirement above the clear opening: 1100 mm.
- Maximum door leaf area: 25 m².
- Maximum door width: 5000 mm.



11.0
S600 Horizontal track system

- Headroom requirement above the clear opening: 600 mm.
- Maximum door leaf area: 25 m².
- Maximum door width: 5000 mm.
- Roof angle system available, increasing with 5°.

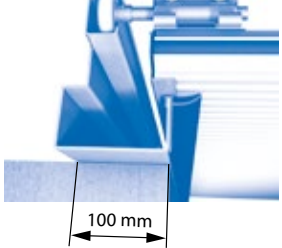
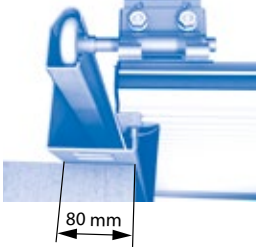
General information

Mounting surface

Thermo 40 / Thermo 60 + Novolux 40 / Novolux 60

Standard frame (ST)

Heavy-duty frame (ZHK)

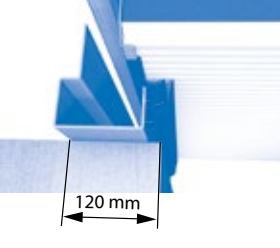
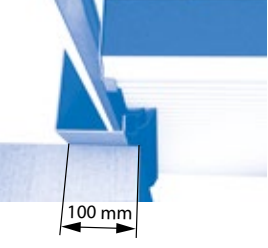


- The mounting surfaces (mounting frame) must be smooth and perfectly flush (if necessary, compensate for irregularities using angle profiles, flat strip, rectangular tube, etc.).
- The mounting surface (mounting frame) must be sufficiently stable in itself, or be securely fixed to the wall/structure of the building.

Thermo 80

Standard frame (ST)

Heavy-duty frame (ZHK)



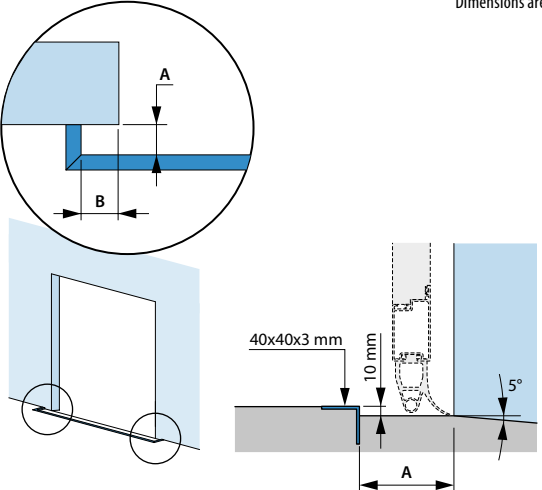
- The mounting surfaces (mounting frame) must be smooth and perfectly flush (if necessary, compensate for irregularities using angle profiles, flat strip, rectangular tube, etc.).
- The mounting surface (mounting frame) must be sufficiently stable in itself, or be securely fixed to the wall/structure of the building.

Water stop

Thermo 40 / Thermo 60 + Novolux 40 / Novolux 60

	Standard frame (ST)			Heavy-duty frame (ZHK)		
	Panel thickness			Panel thickness		
	40	60	40/60	40	60	40/60
	A		B	A		B
Door without wicket door	120	140	100	145	165	120
Door with wicket door, drempel 22 mm	180	180	100	205	205	120
Door with wicket door, drempel 110 mm	120	140	100	145	165	120
Door with wicket door, drempel 185 mm	120	140	100	145	165	120

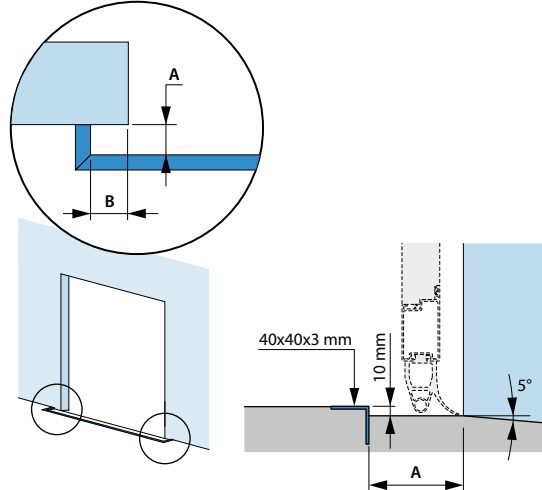
Dimensions are in mm.



Thermo 80

	Standard frame (ST)		Heavy-duty frame (ZHK)	
	Panel thickness		Panel thickness	
	80		80	
	A	B	A	B
Door without wicket door	160	120	185	140

Dimensions are in mm.

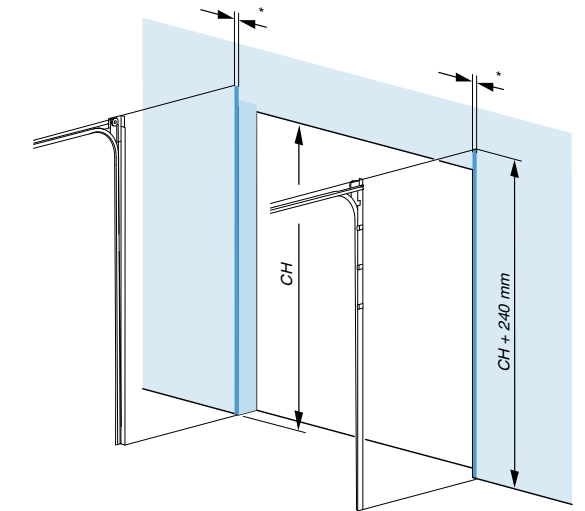


Door type with corresponding rail system

	Rail system										
	T 240	T 340	T 450	T 400	T 400 hF	T 500	T 500 hF	T 400 DS	T 500 DS	NovoSpeed Thermo	S600
Thermo 40	•	•	•	•	•	•	•	•	•	•	•
Thermo 60	•	•	•	•	•	•	•	•	•		
Thermo 80			•	•	•	•	•				
Novolux 40	•	•	•	•	•	•	•	•	•	•	•
Novolux 60	•	•	•	•	•	•	•	•	•		

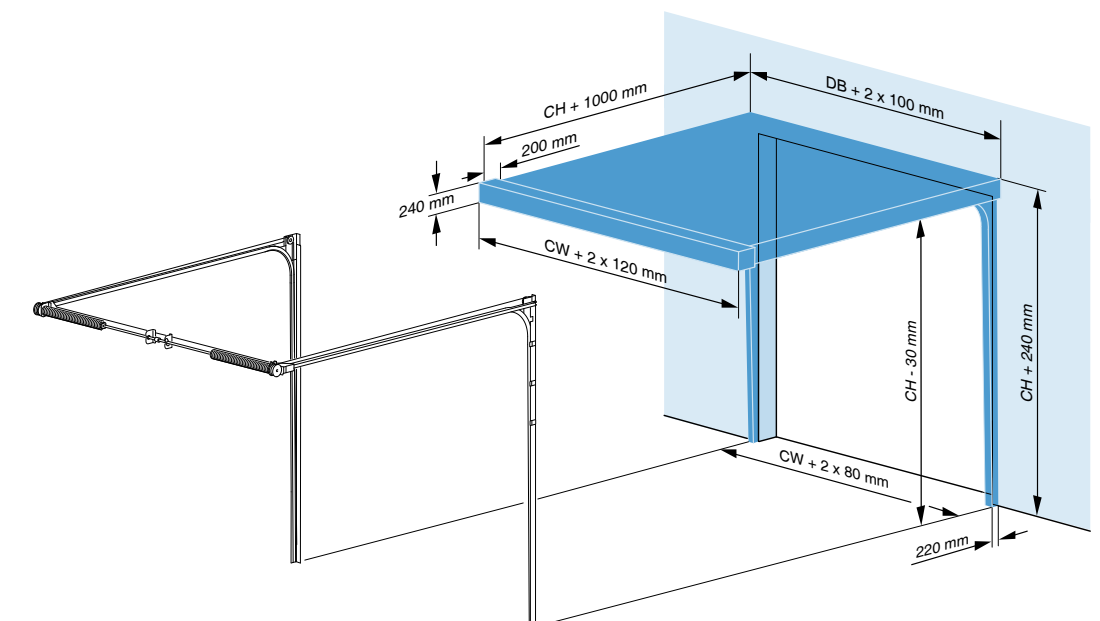
1.1 Installation space requirements – vertical tracks

- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height (mounting frame): $CH + 240 \text{ mm}$.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.



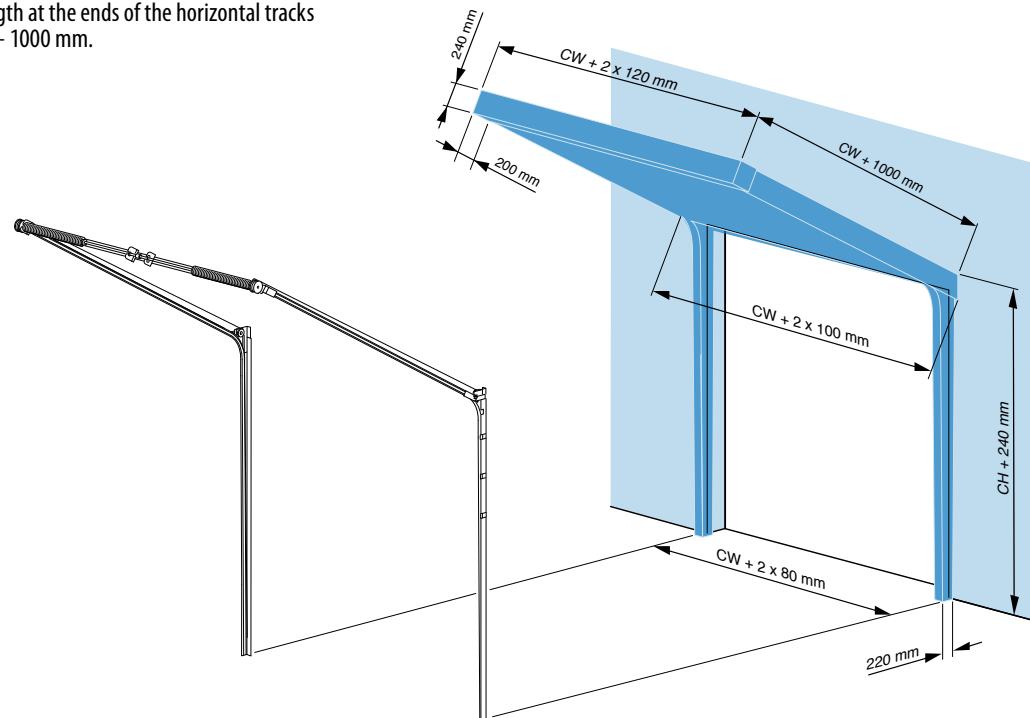
1.2 Installation space requirements – complete track system

- Minimum projection dimension (into the room): $CH + 1000 \text{ mm}$.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.
- The spring shaft assembly requires an installation space of 200 mm x 240 mm in the horizontal plane at the end of the horizontal tracks, with a total width of $CW + 2 \times 120 \text{ mm}$. The extra 200 mm length at the ends of the horizontal tracks is already included in the dimension $CH + 1000 \text{ mm}$.
- The horizontal tracks are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.
- The use of a chain hoist with the T 240 track system is not recommended (the chain hangs down in the working area).



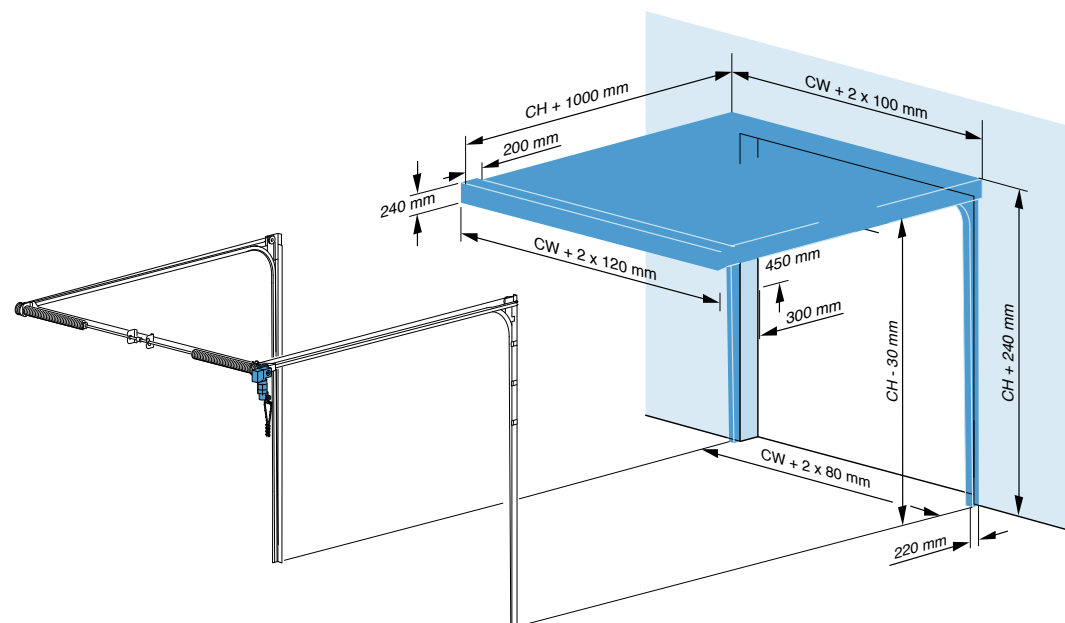
1.3 Installation space requirements – roof angle track system

- Minimum projection dimension (into the room): $CH + 1000$ mm.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.
- The spring shaft assembly requires an installation space of 200 mm x 240 mm in the horizontal plane at the end of the horizontal tracks, with a total width of $CW + 2 \times 120$ mm. The extra 200 mm length at the ends of the horizontal tracks is already included in the dimension $CH + 1000$ mm.
- The horizontal tracks are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.
- The use of a chain hoist with the T 240 track system is not recommended (the chain hangs down in the working area).



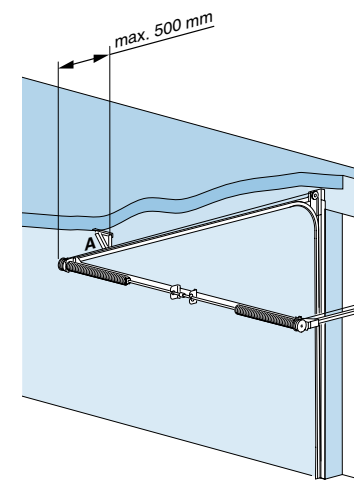
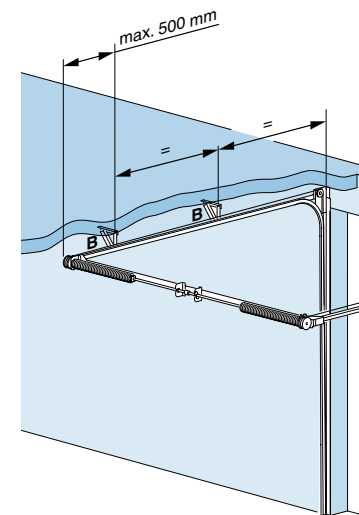
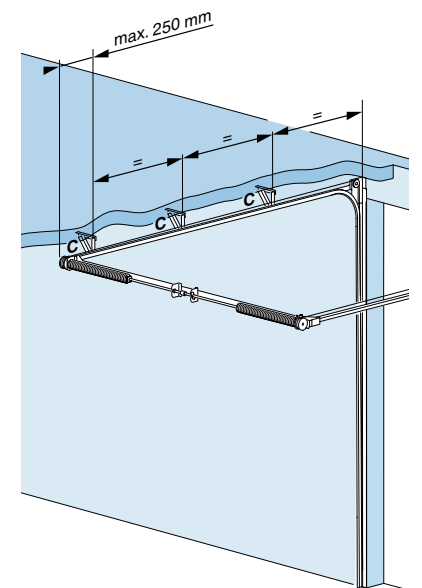
1.4 Installation space requirements for the horizontal tracks, cable guides, spring shaft assembly – with electric drive

- Side room requirement for the electric drive (mounted at the end of the horizontal tracks), clear opening width (CW) + 300 mm, in a zone measuring 300 mm x 450 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.
- Note that the electric drive reduces the clear opening height by 210 mm, this obstruction is to the side of the clear opening, but must still be allowed for.



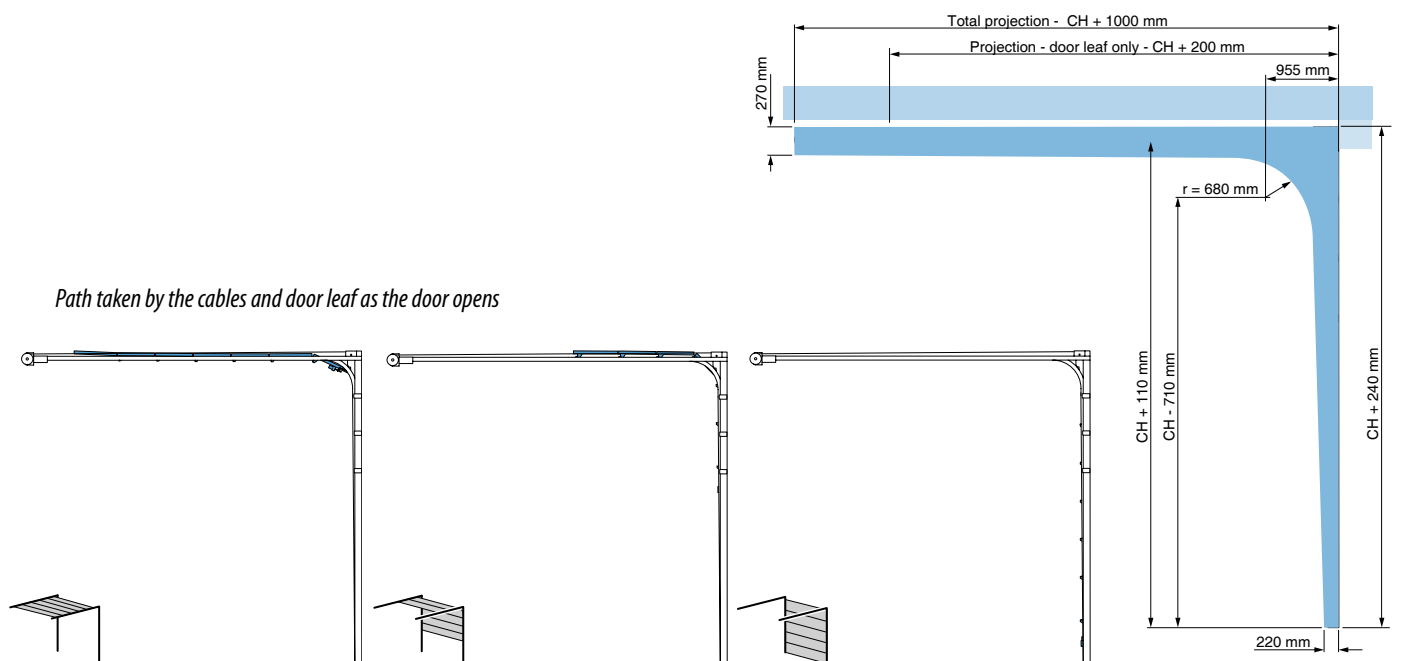
1.5 Track suspension points – quantity and position

- Clear opening height ≤ 3000 mm (or door leaf area ≤ 12 m²): 1 suspension point per horizontal track as shown in arrangement **A**.
- Clear opening height > 3000 mm and ≤ 5000 mm (or door leaf area ≤ 12 m² and ≤ 20 m²): 2 suspension points per horizontal track as shown in arrangement **B**.
- Clear opening height > 5000 mm (or door leaf area > 20 m²): 3 suspension points per horizontal track as shown in arrangement **C**.

A: $CH \leq 3000$ mmB: $CH > 3000$ mm and ≤ 5000 mmC: $CH > 5000$ mm

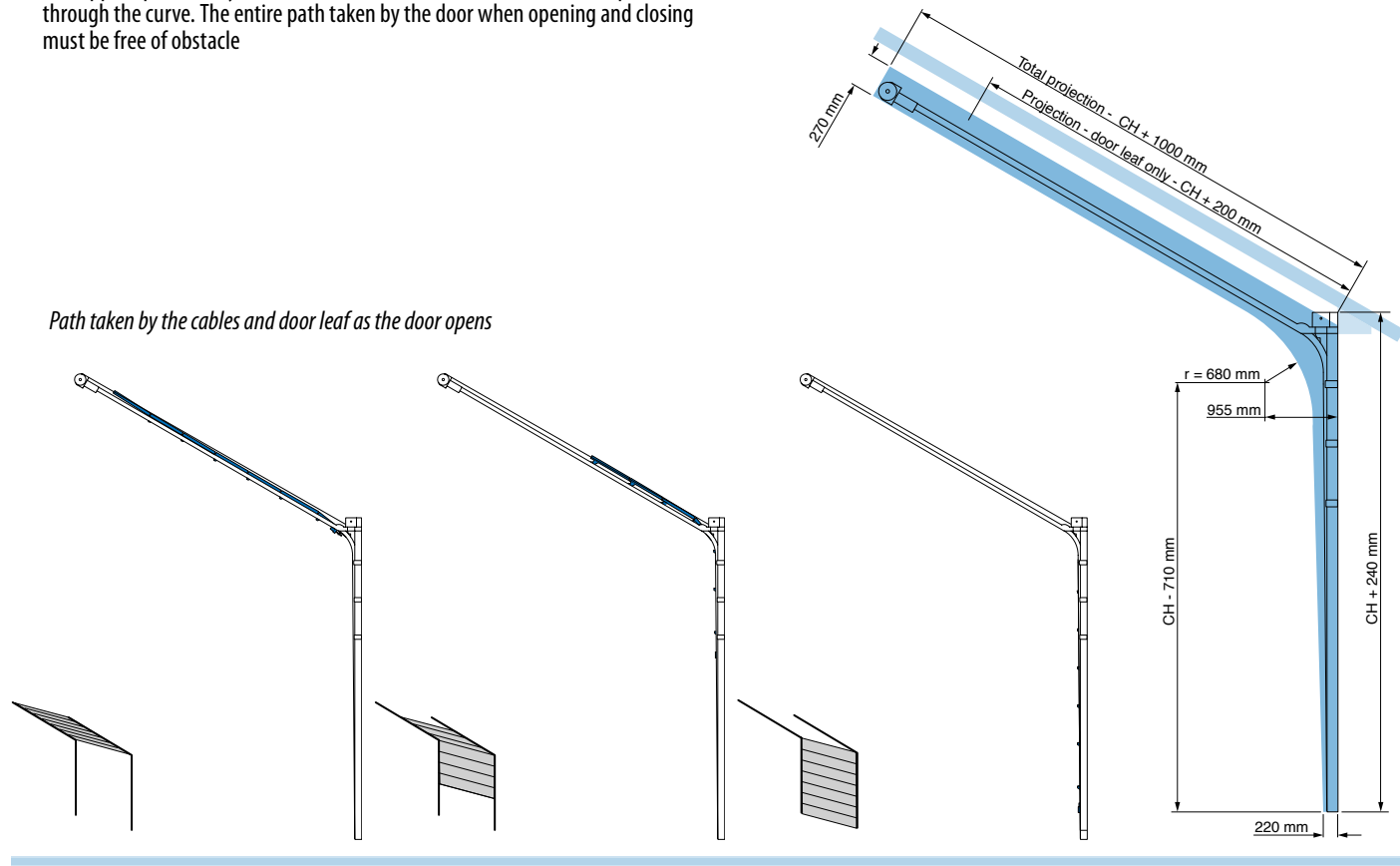
1.6 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



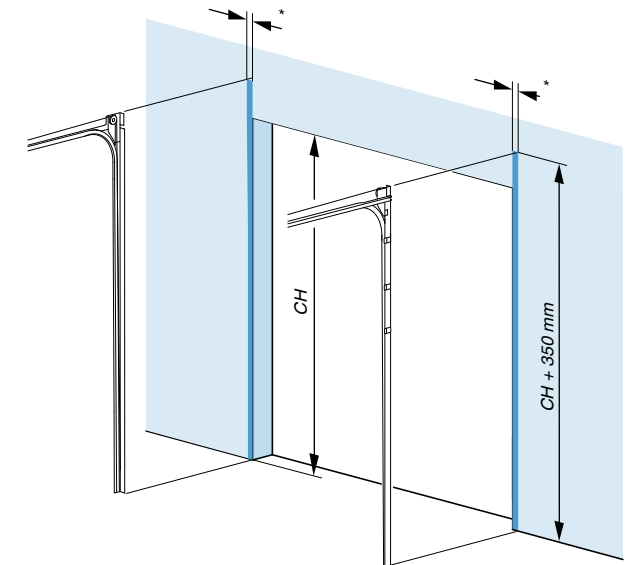
1.7 Space requirement for unobstructed door movement, various key dimensions – roof angle system

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacle



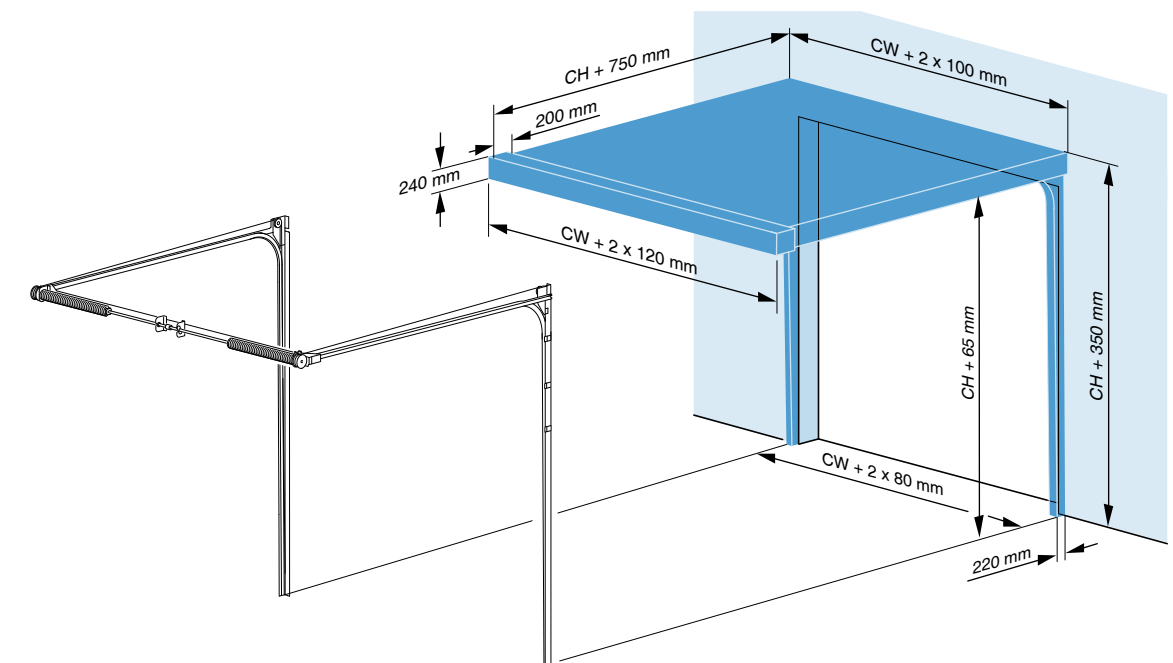
2.1 Installation space requirements – vertical tracks

- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height (mounting frame): CH + 350 mm.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.



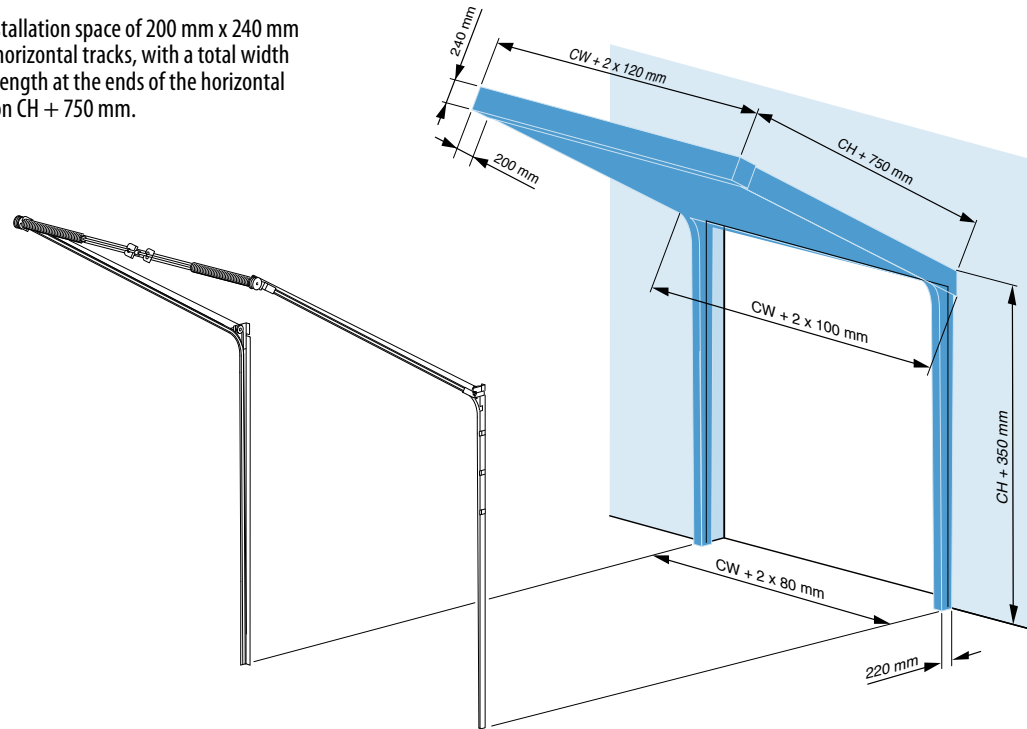
2.2 Installation space requirements – complete track system

- Minimum projection dimension (into the room): CH + 750 mm.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.
- The spring shaft assembly requires an installation space of 200 mm x 240 mm in the horizontal plane at the end of the horizontal tracks, with a total width of CW + 2 x 120 mm. The extra 200 mm length at the ends of the horizontal tracks is already included in the dimension CH + 750 mm.
- The horizontal tracks are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.
- The use of a chain hoist with the T 340 track system is not recommended (the chain hangs down in the working area).



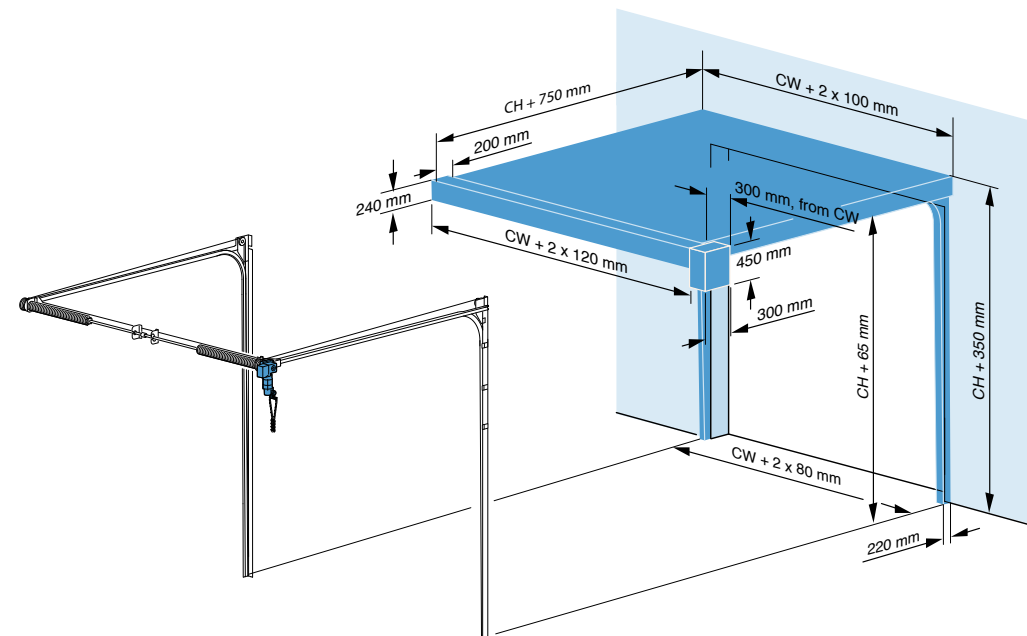
2.3 Installation space requirements – roof angle track system-

- Minimum projection dimension (into the room), following the angle of the roof: $CH + 750$ mm.
- The installation space required for the horizontal tracks, which follow the roof angle in this case, is included in the space requirement dimensions for unobstructed door movement.
- The spring shaft assembly requires an installation space of 200 mm x 240 mm in the horizontal plane at the end of the horizontal tracks, with a total width of $CW + 2 \times 120$ mm. The extra 200 mm length at the ends of the horizontal tracks is already included in the dimension $CH + 750$ mm.
- The horizontal tracks, which follow the roof angle in this case, are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



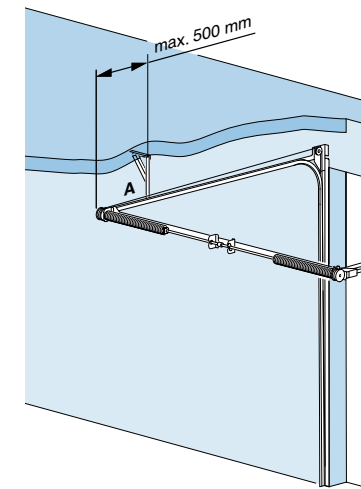
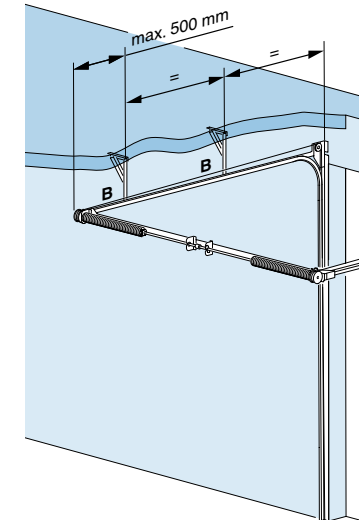
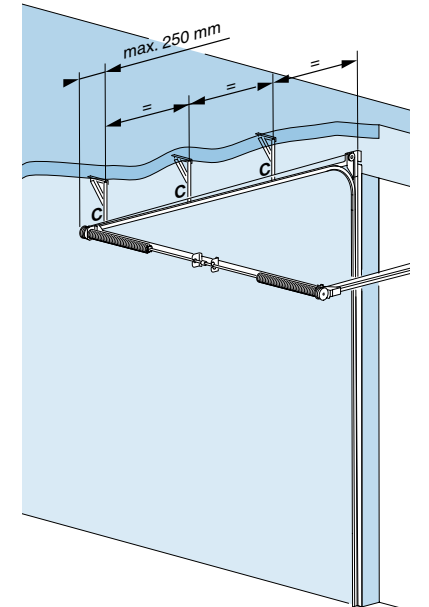
2.4 Installation space requirements for installation and operation (emergency chain) - electric drive

- Side room requirement for the electric drive (mounted at the end of the horizontal tracks), clear opening width (CW) + 300 mm, in a zone measuring 300 mm x 450 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.
- Note that the electric drive reduces the clear opening height by 145 mm, this obstruction is to the side of the clear opening, but must still be allowed for.



2.5 Track suspension points – quantity and position

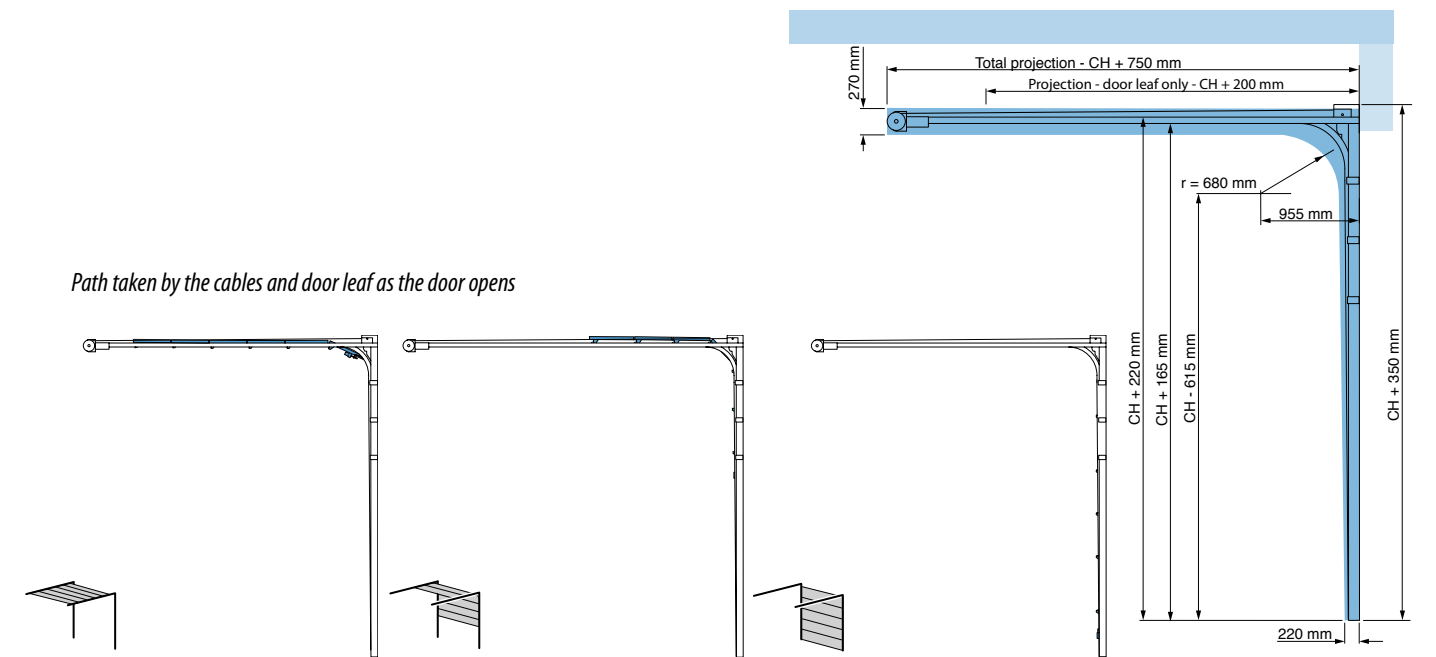
- Clear opening height ≤ 3000 mm (or door leaf area ≤ 12 m²): 1 suspension point per horizontal track as shown in arrangement **A**.
- Clear opening height > 3000 mm and ≤ 5000 mm (or door leaf area ≤ 12 m² and ≤ 20 m²): 2 suspension points per horizontal track as shown in arrangement **B**.
- Clear opening height > 5000 mm (or door leaf area > 20 m²): 3 suspension points per horizontal track as shown in arrangement **C**.

A: $CH \leq 3000$ mmB: $CH > 3000$ mm and ≤ 5000 mmC: $CH > 5000$ mm

2.6 Space requirement for unobstructed door movement, various key dimensions

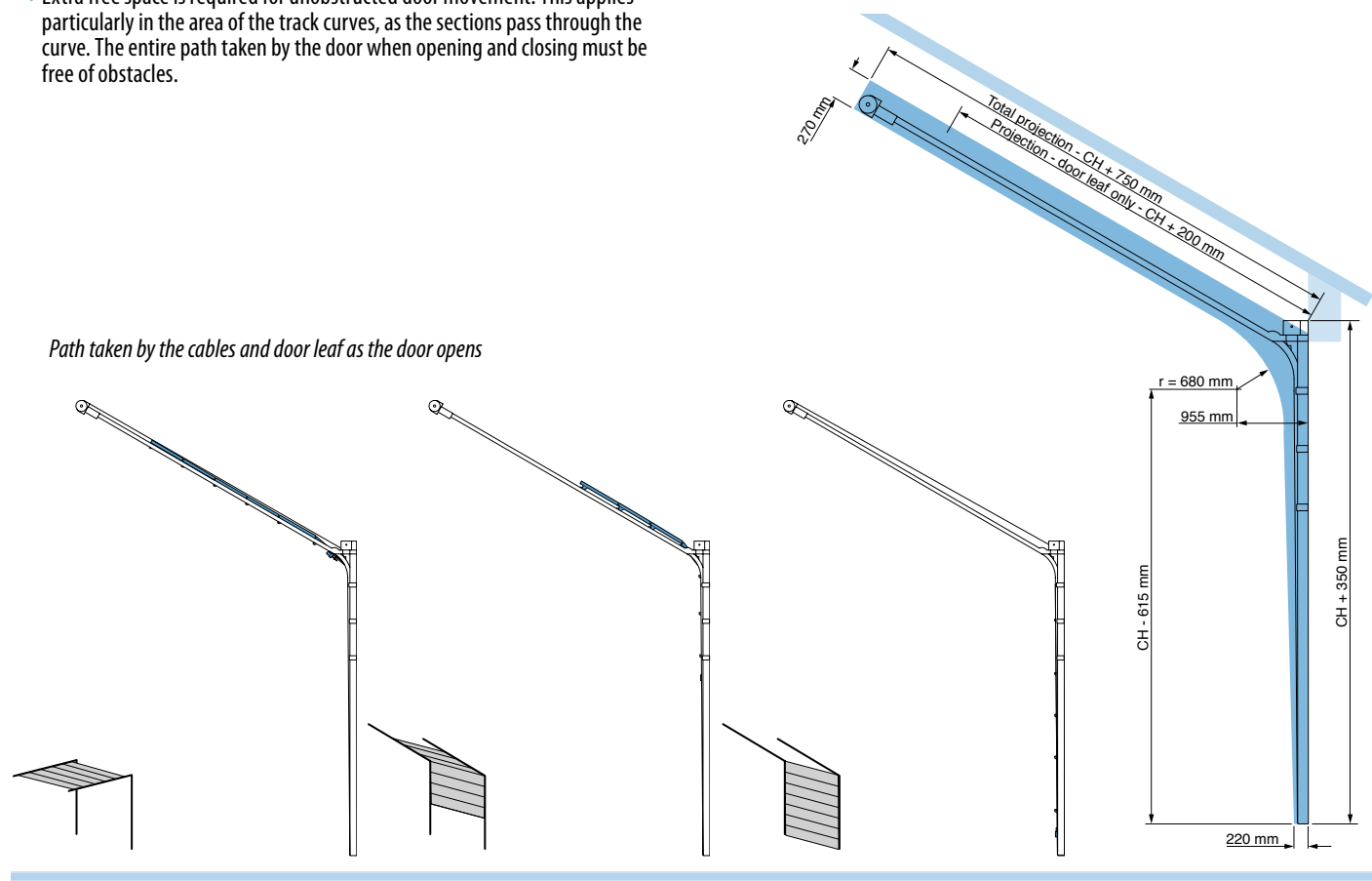
- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.

Path taken by the cables and door leaf as the door opens



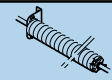
2.7 Space requirement for unobstructed door movement, various key dimensions – roof angle system

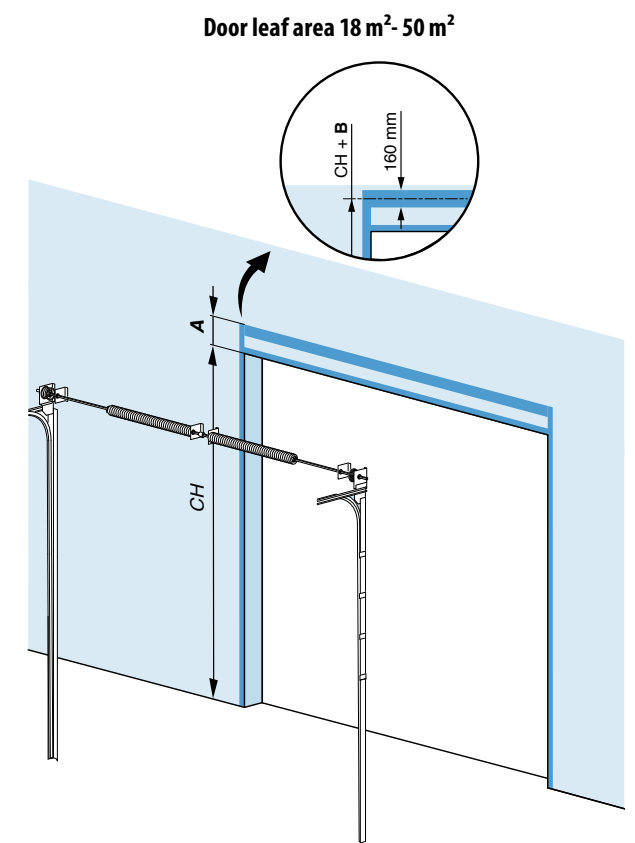
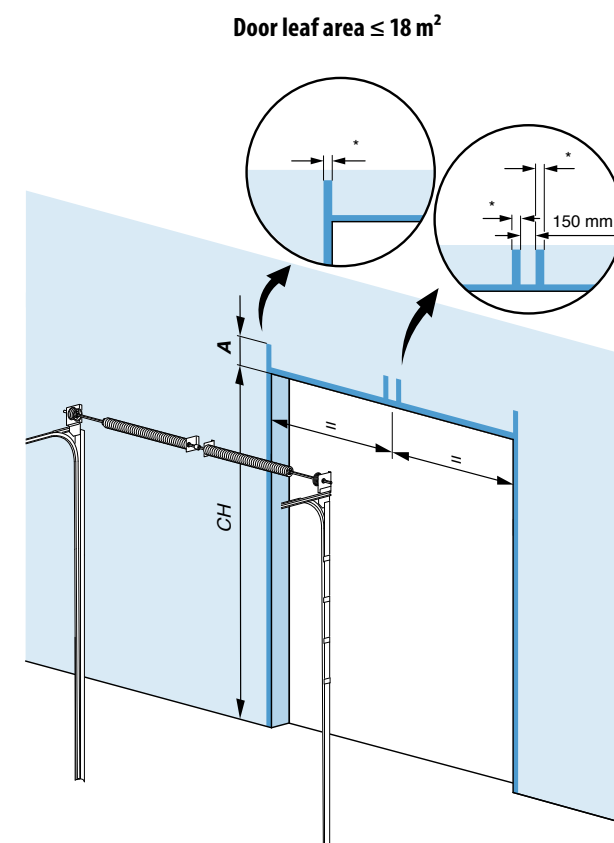
- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



3.1 Installation space requirement – vertical tracks and spring shaft assembly

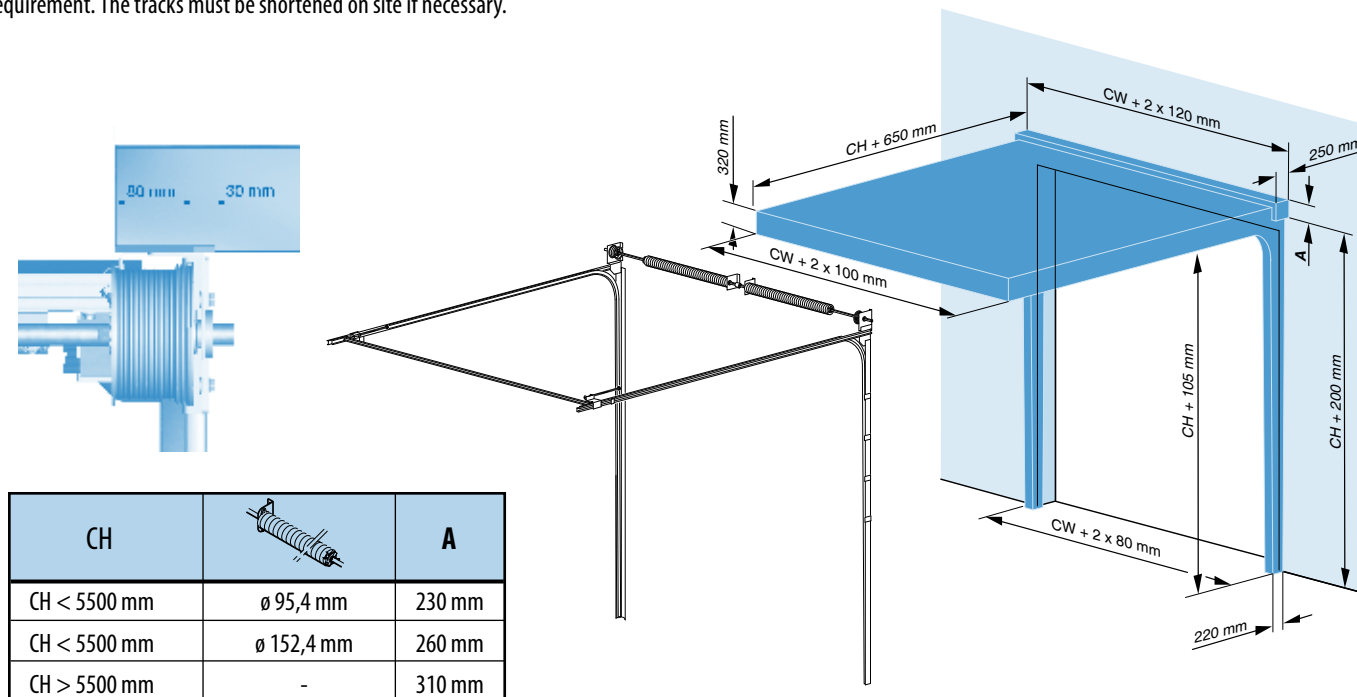
- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height (mounting frame): CH + A.
- When door leaf area > 18 m², a continuous horizontal mounting surface is required for extra bearing plates (or multiple springs): 160 mm at CH + B.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.

CH		A	B
CH < 5500 mm	ø 95,4 mm	430 mm	350 mm
CH < 5500 mm	ø 152,4 mm	460 mm	380 mm
CH > 5500 mm	-	510 mm	395 mm



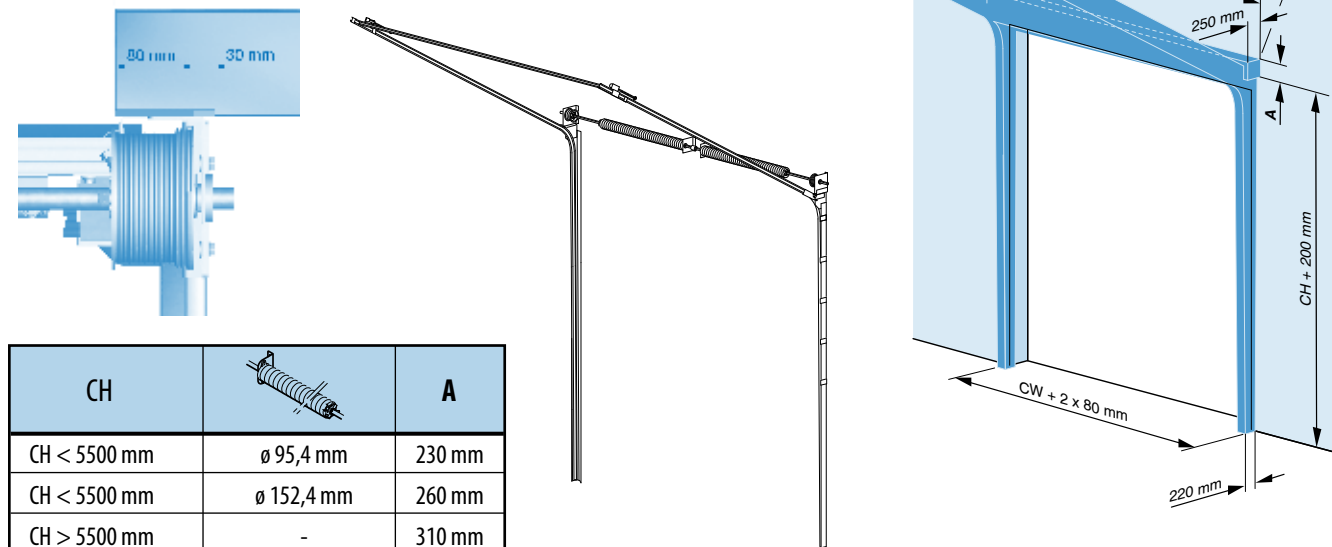
3.2 Installation space requirements – complete track system

- Minimum projection dimension (into the room): CH + 650 mm.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: CW + 2 x 120 mm.
- The horizontal tracks are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



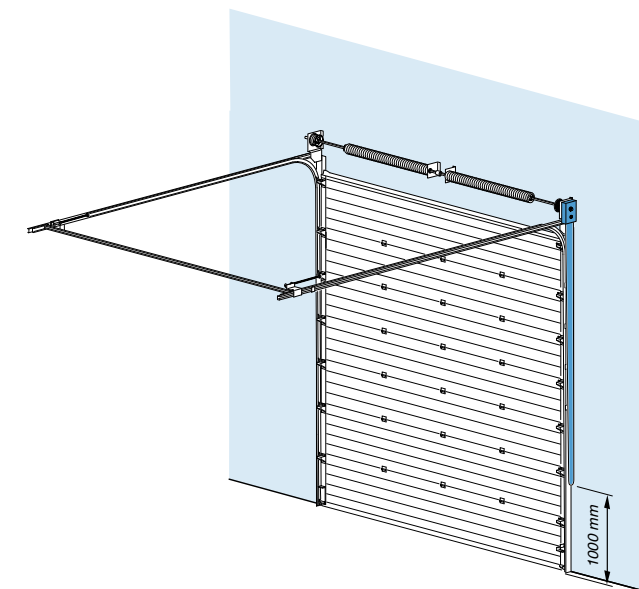
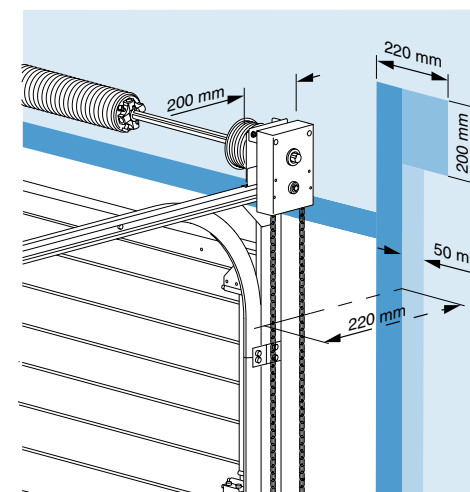
3.3 Installation space requirements – roof angle track system

- Minimum projection dimension (into the room), following the angle of the roof: CH + 650 mm.
- The installation space required for the horizontal tracks, which follow the roof angle in this case, is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: CW + 2 x 120 mm.
- The horizontal tracks, which follow the roof angle in this case, are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



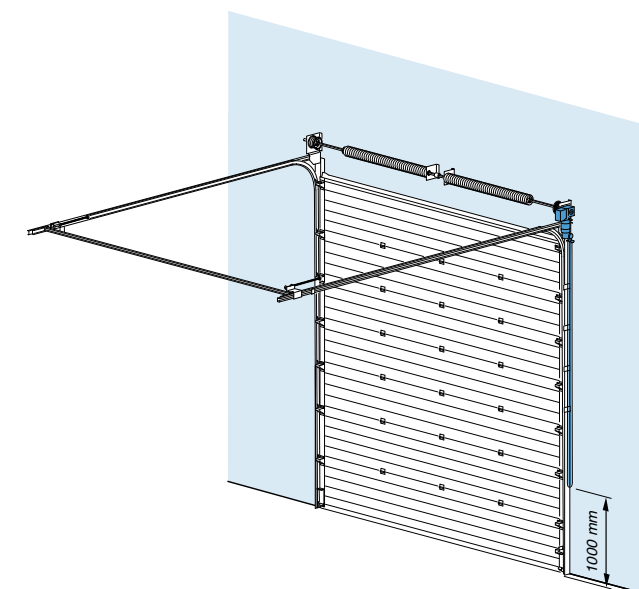
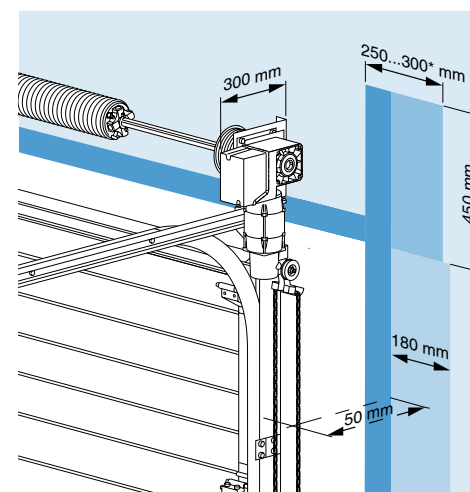
3.4 Installation space requirements for installation and operation – chain hoist

- Minimum space required for the installation of the chain hoist: approx. 200 x 220 x 200 mm, the dimension of 220 mm is the dimension required for the chain hoist when in the installed state. If a chain hoist needs to be installed on an existing door by sliding it onto the spring shaft, 300 mm is required. With some extra work (loosening and pulling back the spring shaft), it is always possible to replace or install a chain hoist, even if no more than 220 mm is available.
- Chain space requirement down to operating height: approx. 220 x 50 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



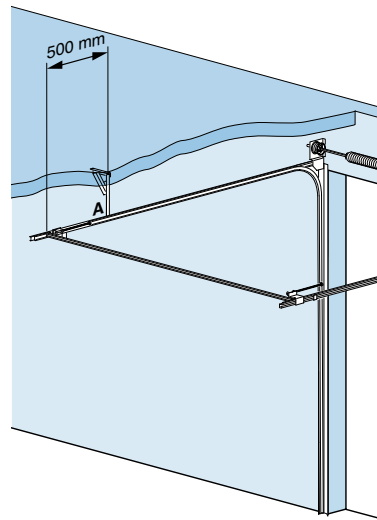
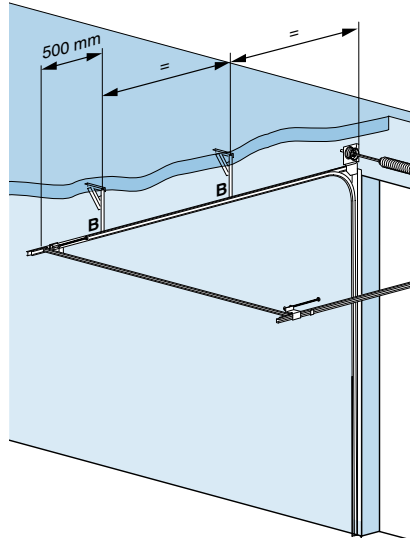
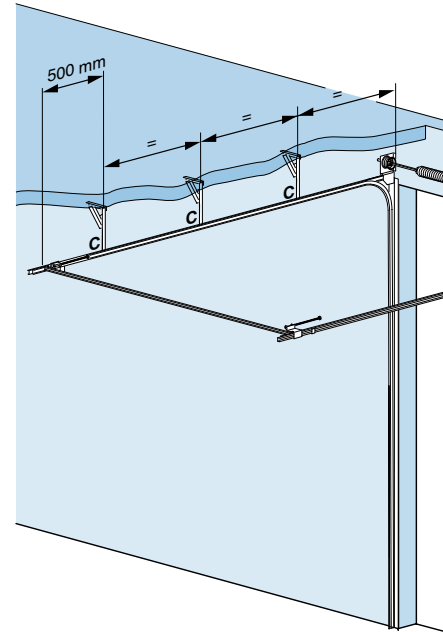
3.5 Installation space requirements for installation and operation (emergency chain) - electric drive

- Minimum space required for the installation of the electric drive: approx. 300 x 250...300* x 450 mm, the dimension of 250...300 mm is the dimension required for the electric drive when in the installed state. If an electric drive needs to be installed on an existing door by sliding it onto the spring shaft, 350 mm is required. With some extra work (loosening and pulling back the spring shaft), it is always possible to replace or install an electric drive, even if no more than 250...300 mm mm is available.
* Engine mounting width depends on engine type.
- Emergency chain space requirement down to operating height: approx. 50 x 180 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



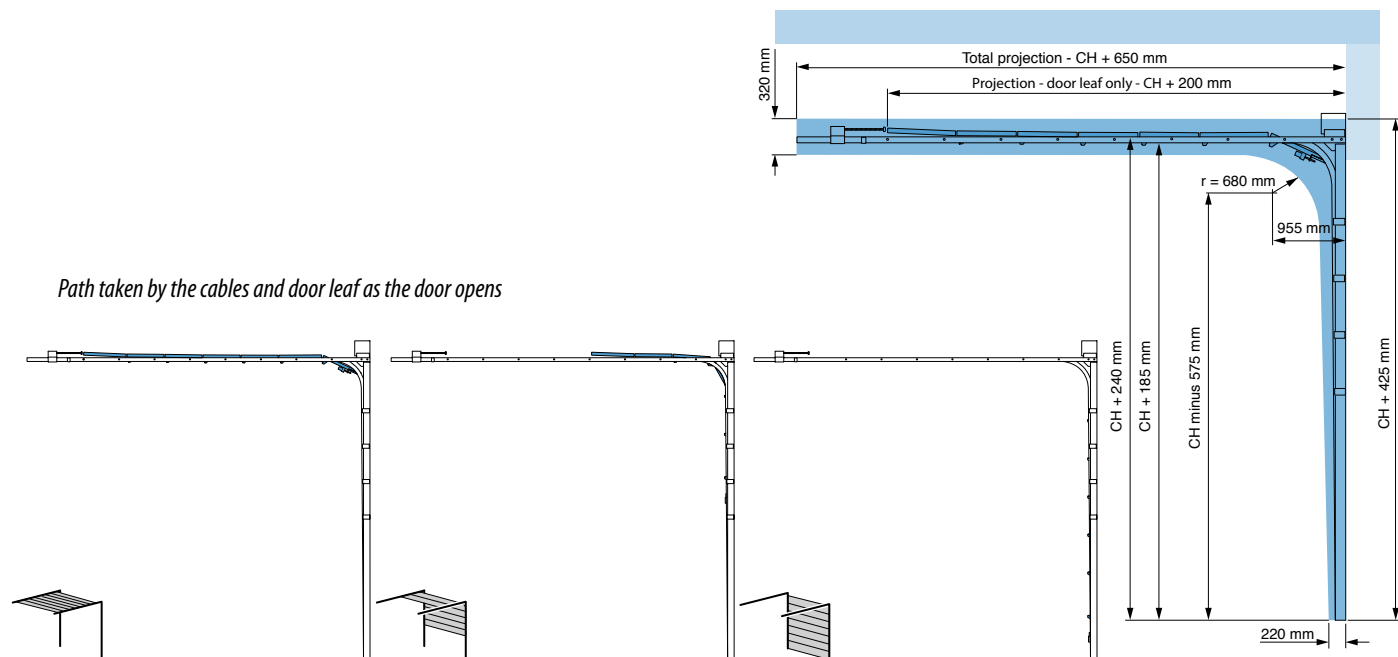
3.6 Track suspension points – quantity and position

- Clear opening height ≤ 3000 mm (or door leaf area ≤ 12 m²): 1 suspension point per horizontal track as shown in arrangement **A**.
- Clear opening height > 3000 mm and ≤ 5000 mm (or door leaf area ≤ 12 m² and ≤ 20 m²): 2 suspension points per horizontal track as shown in arrangement **B**.
- Clear opening height > 5000 mm (or door leaf area > 20 m²): 3 suspension points per horizontal track as shown in arrangement **C**.

A: CH ≤ 3000 mmB: CH > 3000 mm and ≤ 5000 mmC: CH > 5000 mm

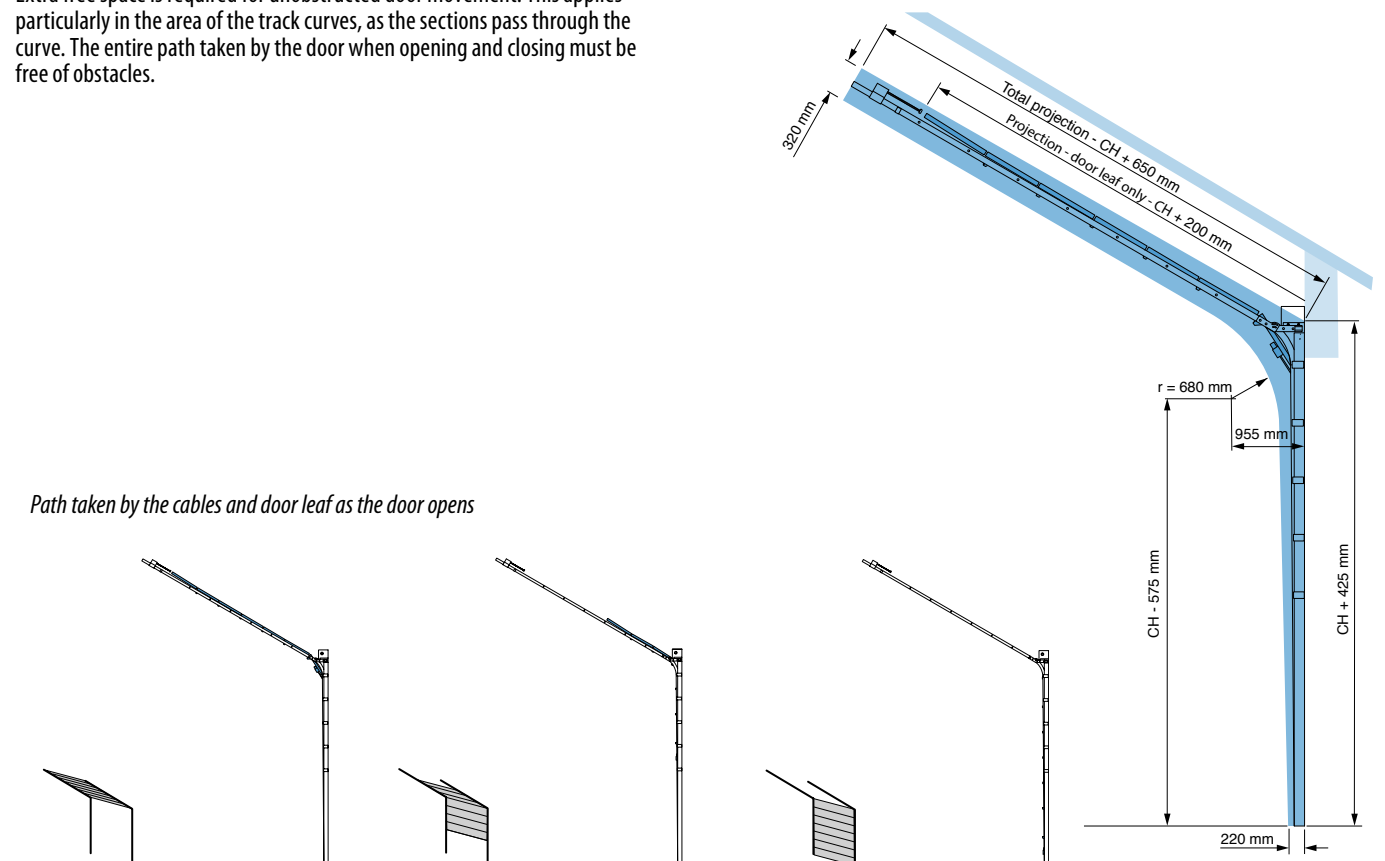
3.7 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



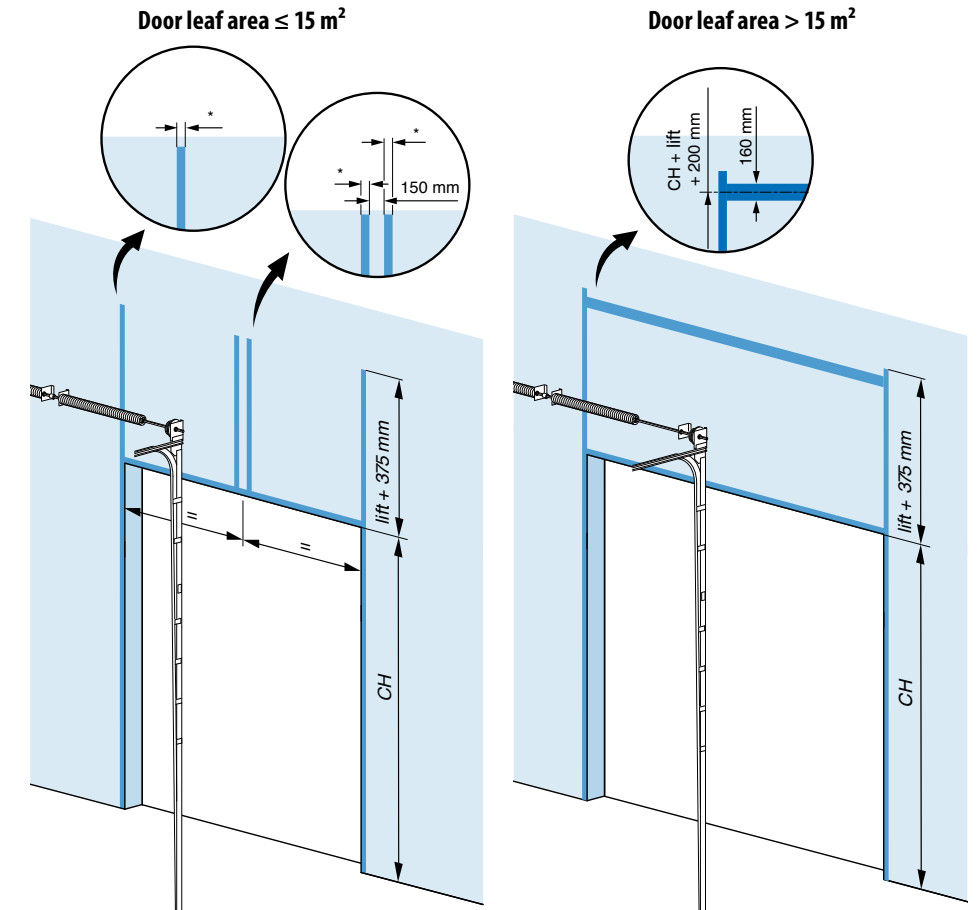
3.8 Space requirement for unobstructed door movement, various key dimensions – roof angle system

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



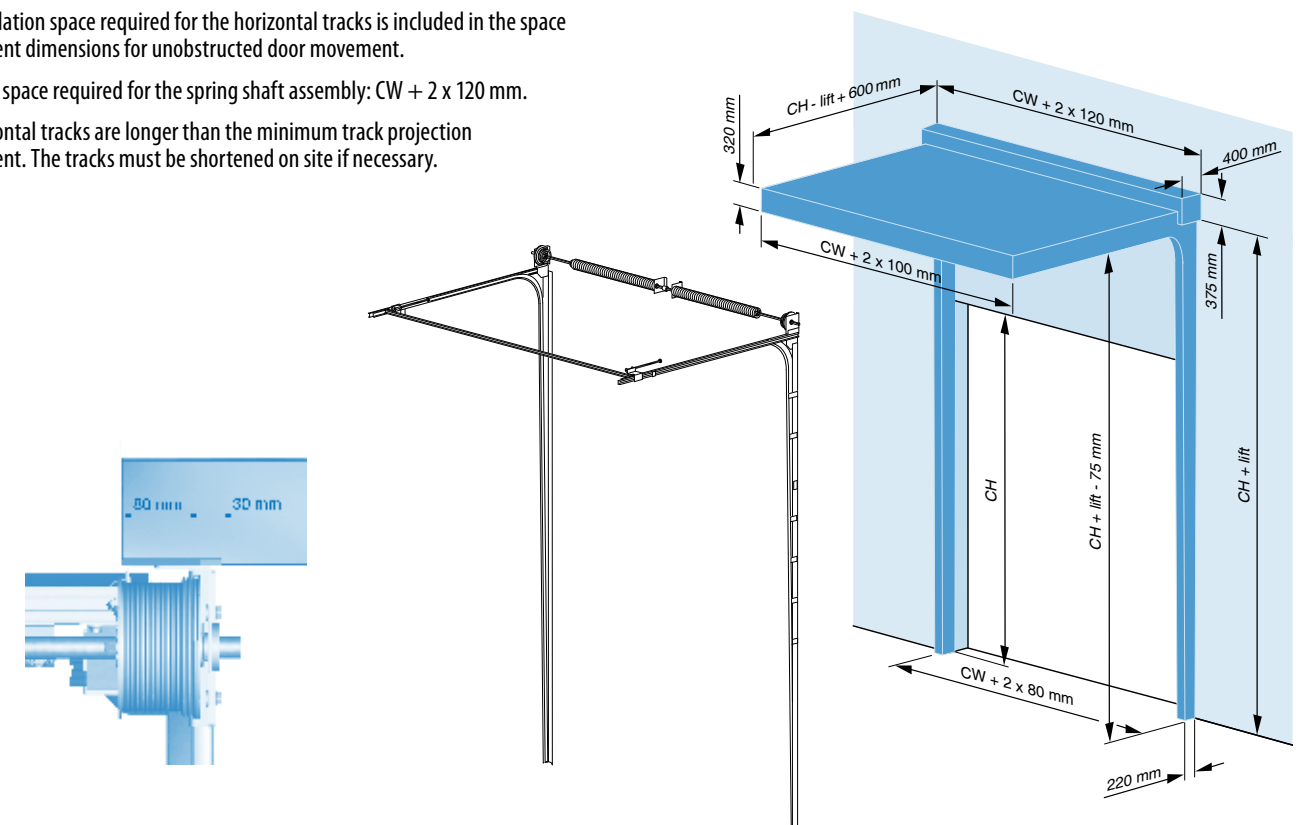
4.1 Installation space requirement – vertical tracks and spring shaft assembly

- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height: $CH + \text{lift} + 375 \text{ mm}$.
- When door leaf area $> 15 \text{ m}^2$, a continuous horizontal mounting surface is required for extra bearing plates (or multiple springs), 160 mm at $CH + \text{lift} + 200 \text{ mm}$.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.



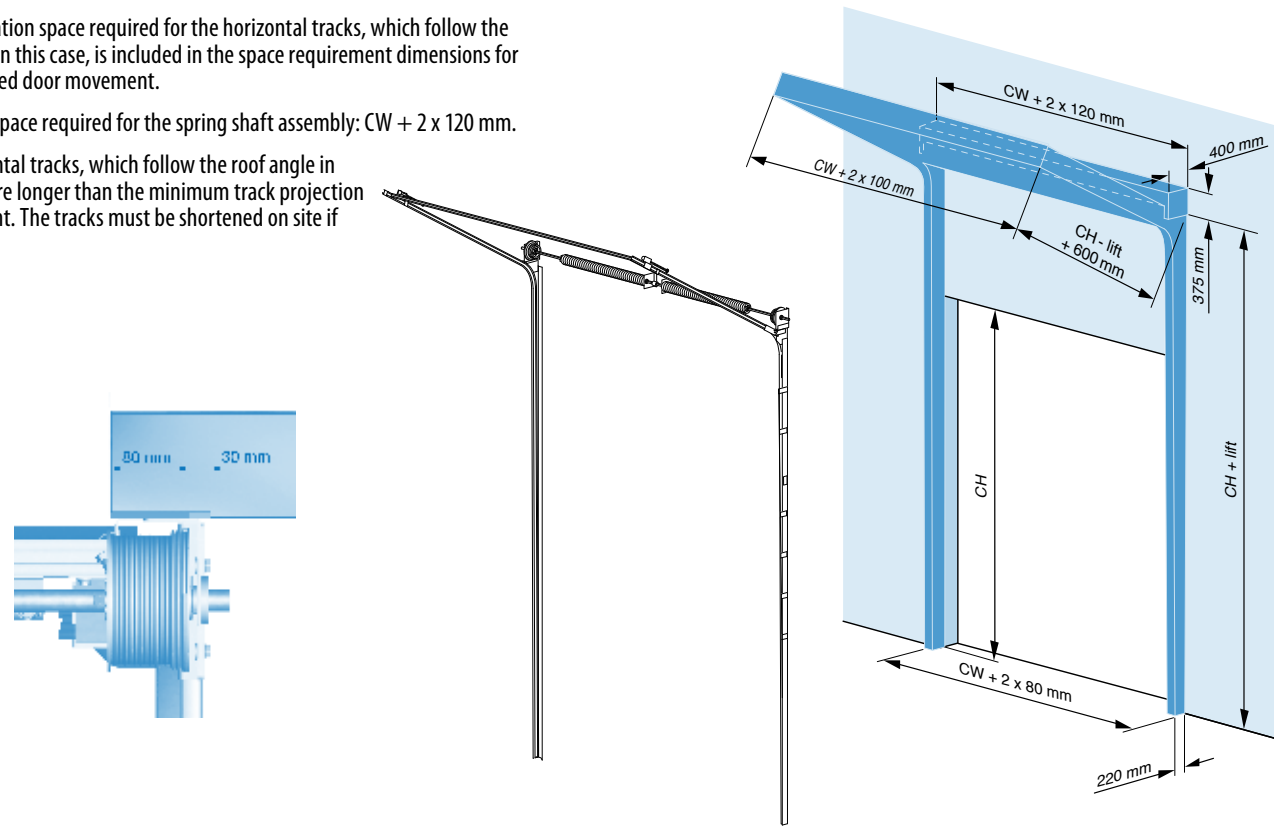
4.2 Installation space requirements – complete track system

- Minimum projection dimension (into the room): $CH - \text{lift} + 600 \text{ mm}$.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: $CW + 2 \times 120 \text{ mm}$.
- The horizontal tracks are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



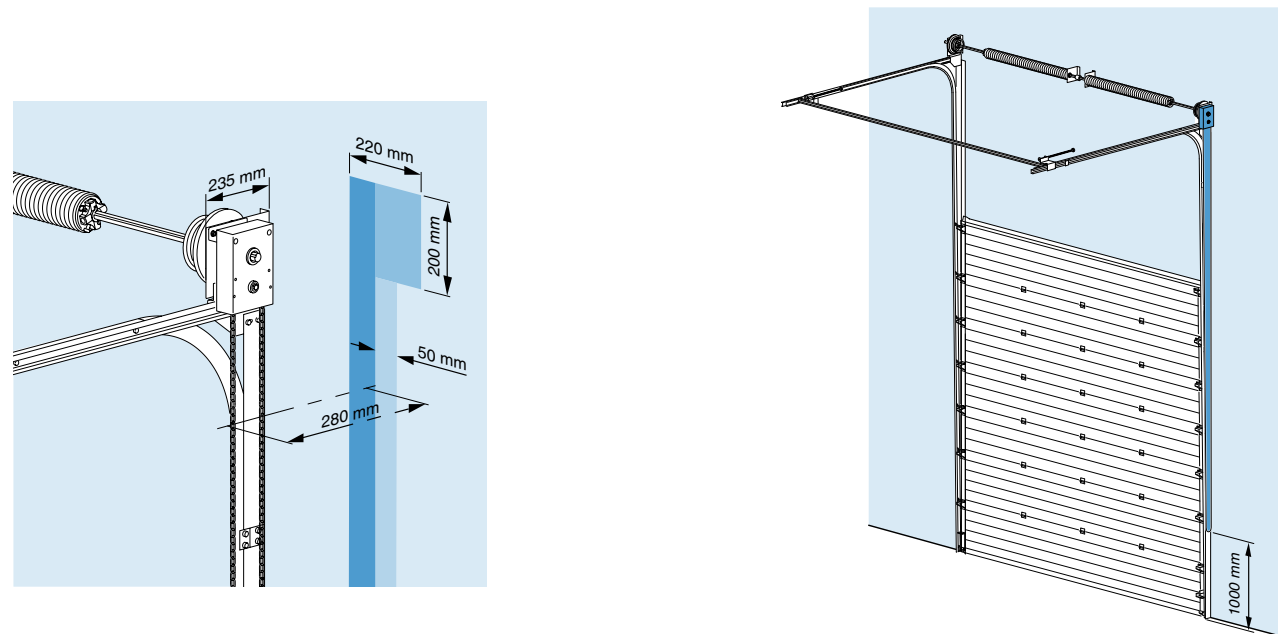
4.3 Installation space requirements – roof angle track system

- Minimum projection dimension (into the room), following the angle of the roof: CH – lift + 600 mm.
- The installation space required for the horizontal tracks, which follow the roof angle in this case, is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: CW + 2 x 120 mm.
- The horizontal tracks, which follow the roof angle in this case, are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



4.4 Installation space requirements for installation and operation – chain hoist

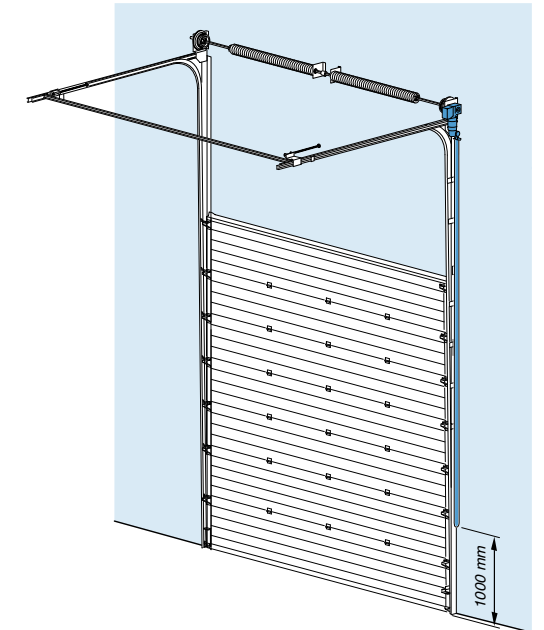
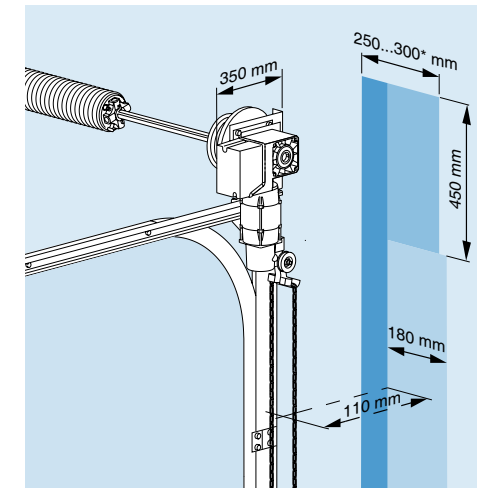
- Minimum space required for the installation of the chain hoist: approx. 235 x 220 x 200 mm, the dimension of 220 mm is the dimension required for the chain hoist when in the installed state. If a chain hoist needs to be installed on an existing door by sliding it onto the spring shaft, 300 mm is required. With some extra work (loosening and pulling back the spring shaft), it is always possible to replace or install a chain hoist, even if no more than 220 mm is available.
- Chain space requirement down to operating height: approx. 280 x 50 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



4.5 Installation space requirements for installation and operation (emergency chain) - electric drive

- Minimum space required for the installation of the electric drive: approx. 350 x 250...300* x 450 mm, the dimension of 250...300 mm is the dimension required for the electric drive when in the installed state. If an electric drive needs to be installed on an existing door by sliding it onto the spring shaft, 350 mm is required. With some extra work (loosening and pulling back the spring shaft), it is always possible to replace or install an electric drive, even if no more than 250...300 mm is available.
- * Engine mounting width depends on engine type.

- Emergency chain space requirement down to operating height: approx. 110 x 180 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



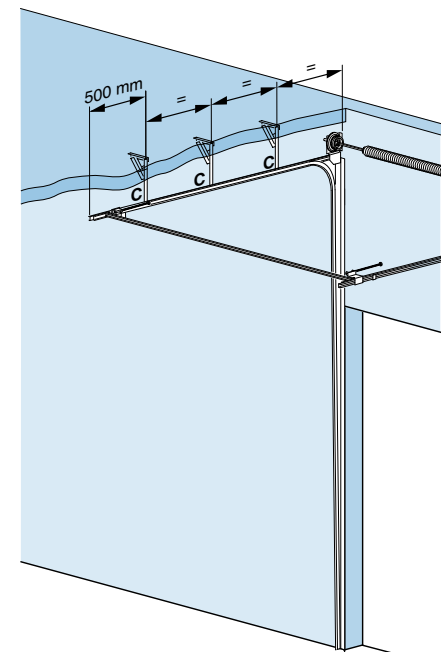
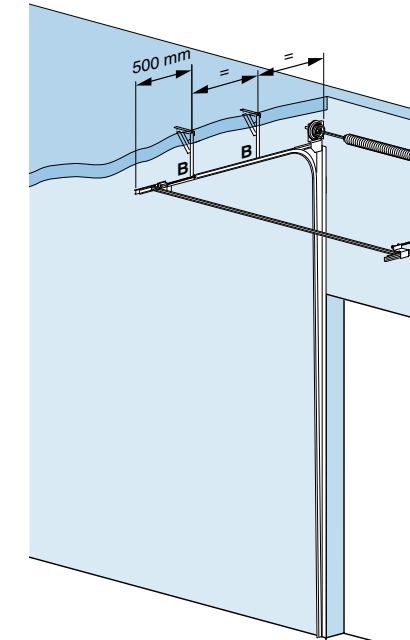
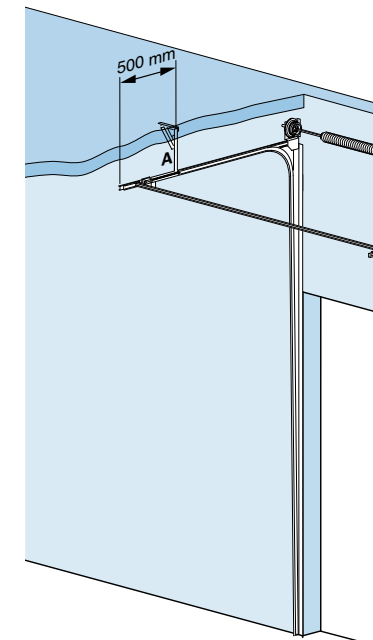
4.6 Track suspension points – quantity and position

- Projection dimension of CH – lift ≤ 3000 mm (or door leaf area ≤ 12 m²): 1 suspension point per horizontal track as shown in arrangement A.
- Projection dimension of CH – lift > 3000 mm and ≤ 5000 mm (or door leaf area ≤ 12 m² and ≤ 20 m²): 2 suspension points per horizontal track as shown in arrangement B.
- Projection dimension of CH – lift > 5000 mm (or door leaf area > 20 m²): 3 suspension points per horizontal track as shown in arrangement C.

A: CH - lift ≤ 3000 mm

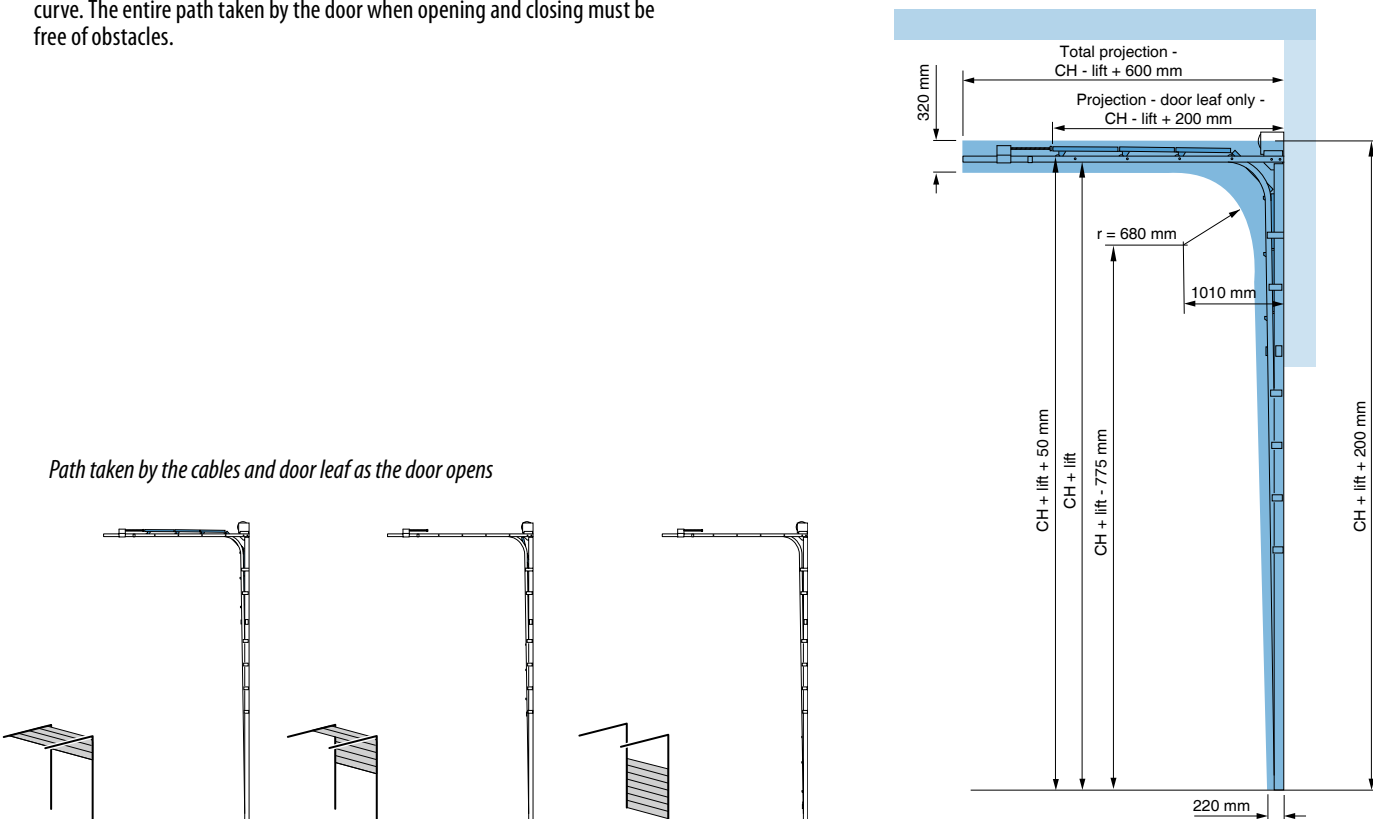
B: CH - lift > 3000 mm and ≤ 5000 mm

C: CH - lift > 5000 mm



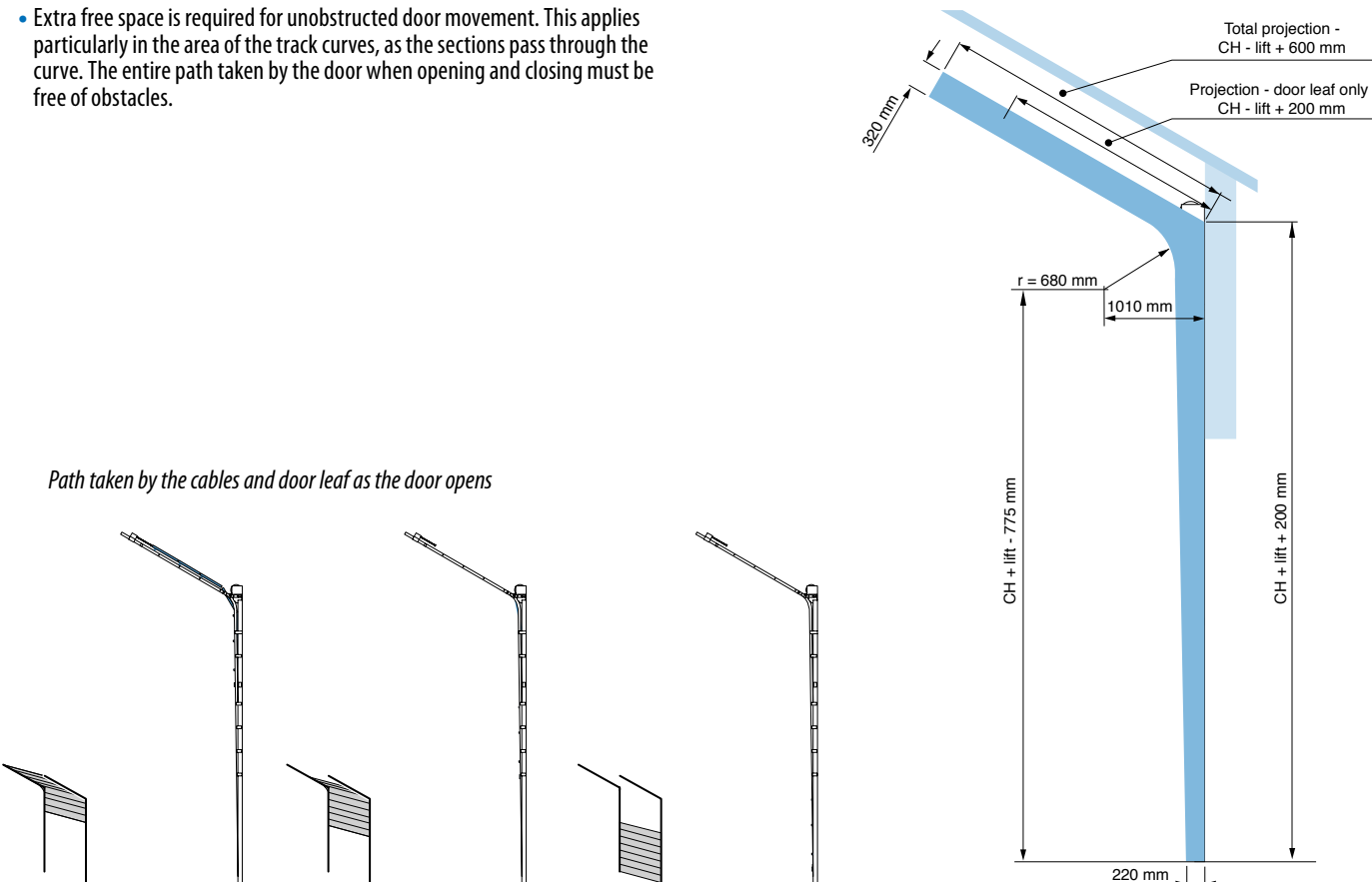
4.7 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



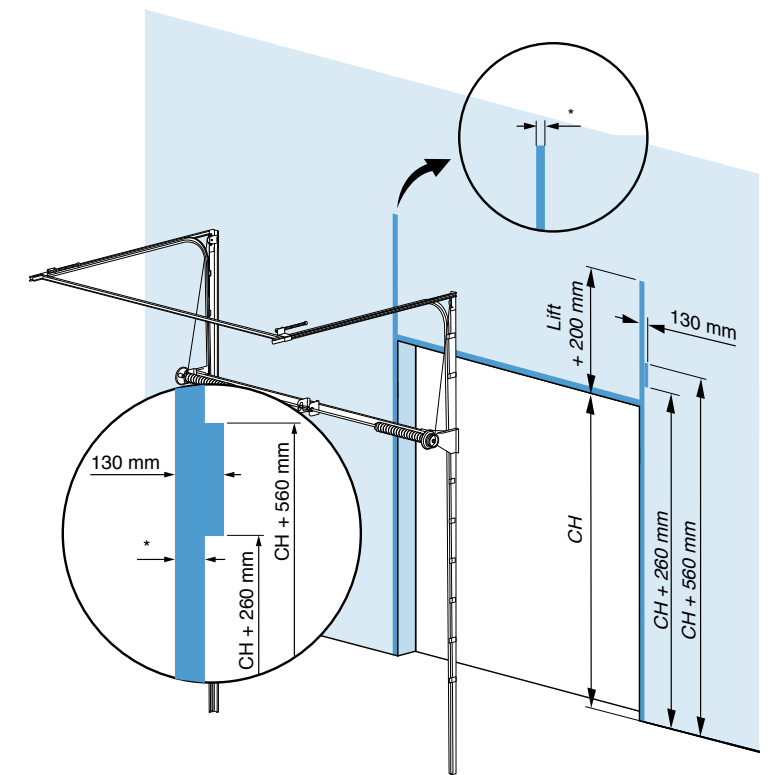
4.8 Space requirement for unobstructed door movement, various key dimensions – roof angle system

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



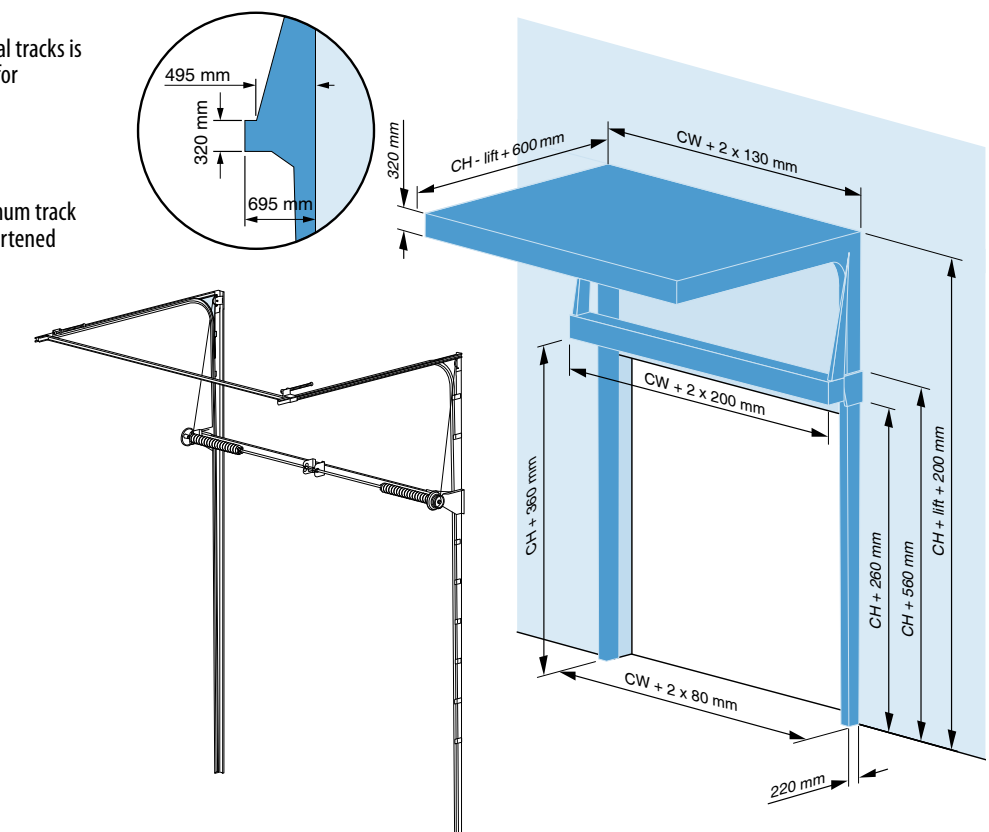
5.1 Installation space requirement – vertical tracks and spring shaft assembly

- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height: $CH + \text{lift} + 200 \text{ mm}$.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.



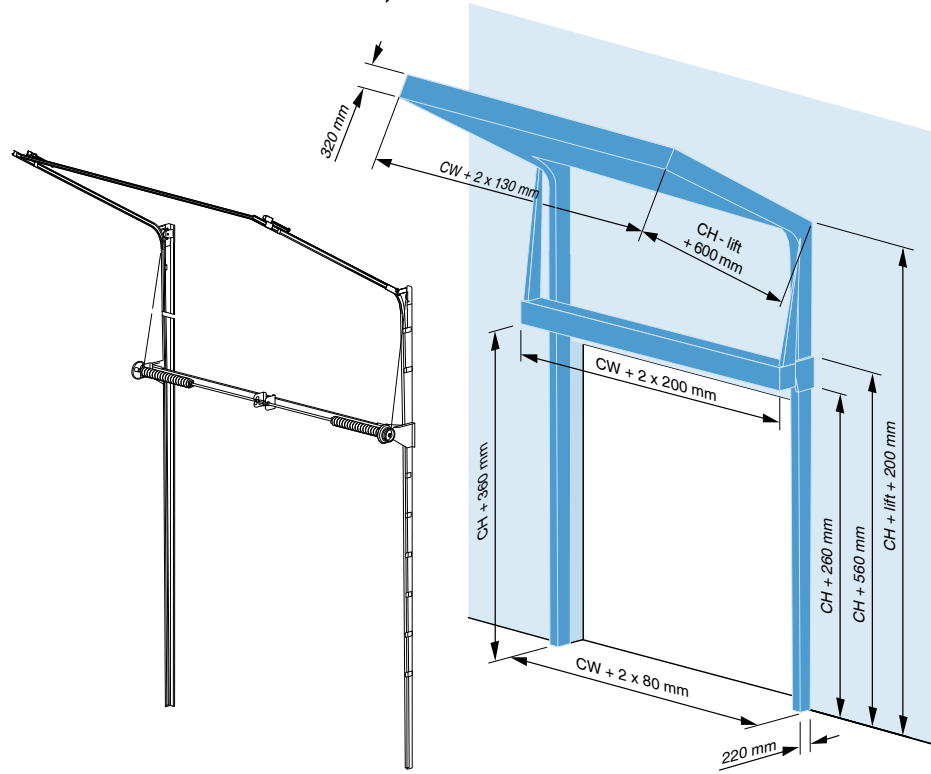
5.2 Installation space requirements – complete track system

- Minimum projection dimension (into the room): $CH - \text{lift} + 600 \text{ mm}$.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: $CW + 2 \times 200 \text{ mm}$.
- The horizontal tracks are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



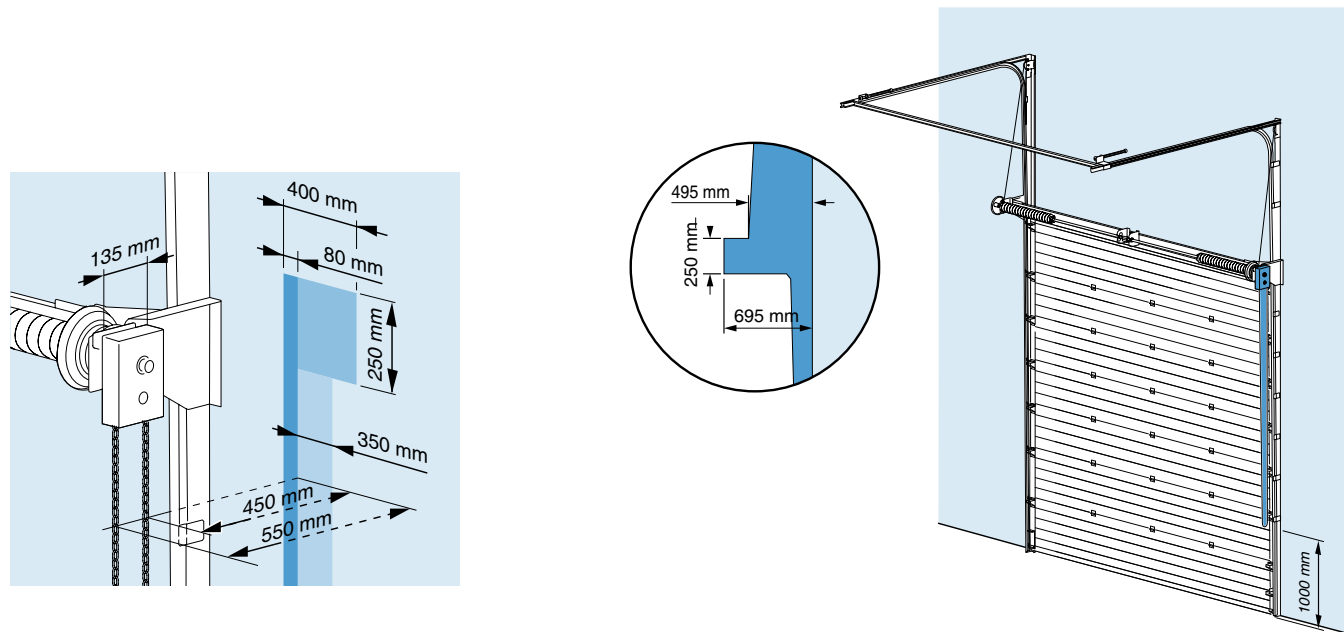
5.3 Installation space requirements – roof angle track system

- Minimum projection dimension (into the room), following the angle of the roof: CH – lift + 600 mm.
- The installation space required for the horizontal tracks, which follow the roof angle in this case, is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: CW + 2 x 200 mm.
- The horizontal tracks, which follow the roof angle in this case, are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



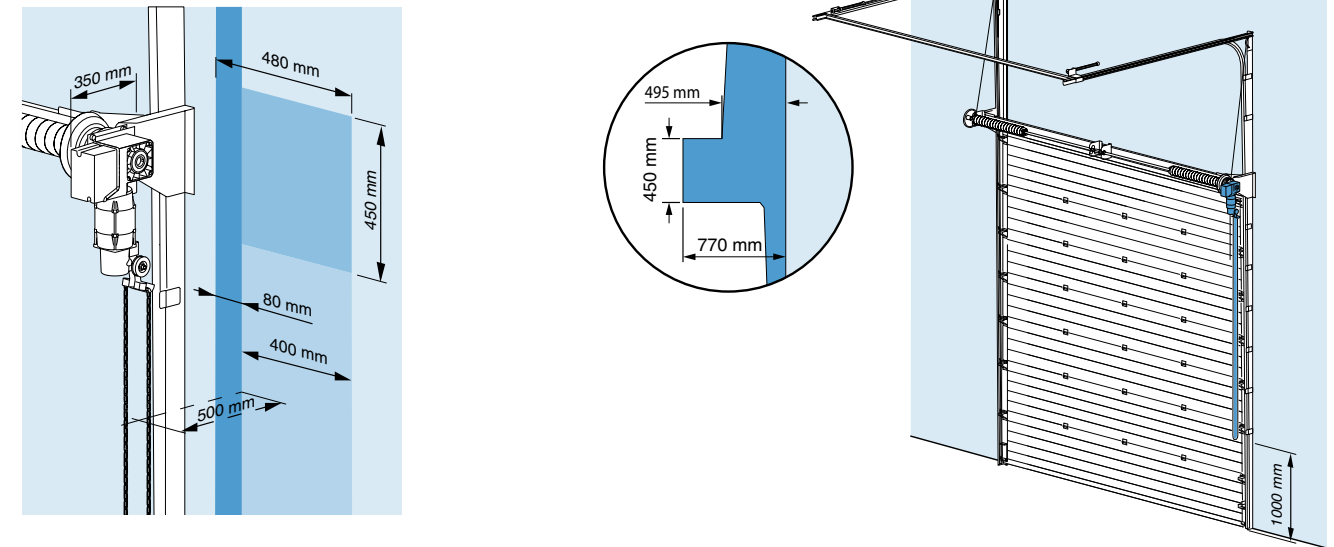
5.4 Installation space requirements for installation and operation – chain hoist

- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 175 mm to 450 mm.
- Minimum space required for the installation of the chain hoist: approx. 135 x 400 x 250 mm.
- Chain space requirement down to operating height: 350 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



5.5 Installation space requirements for installation and operation (emergency chain) - electric drive

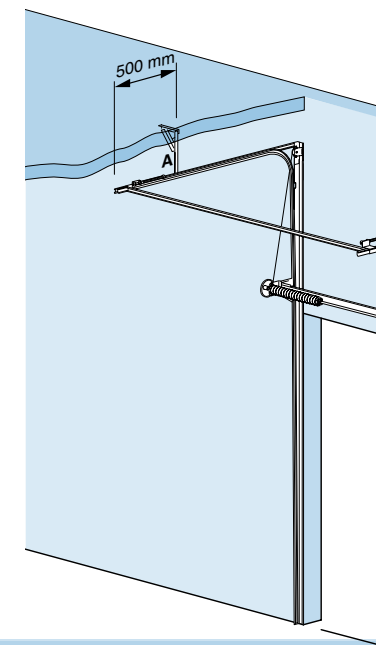
- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 175 mm to 450 mm.
- Minimum space required for the installation of the electric drive: approx. 350 x 480 x 450 mm.
- Emergency chain space requirement down to operating height: 400 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



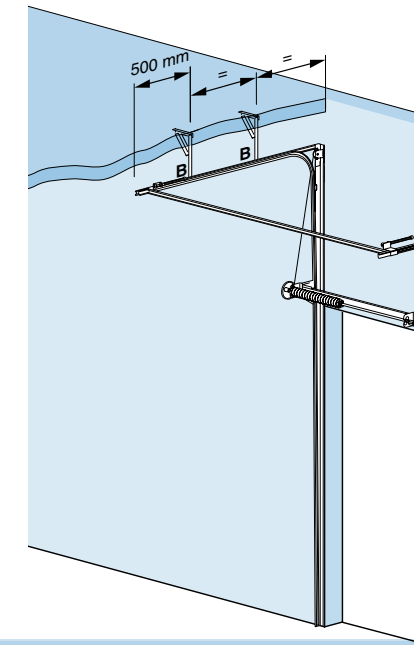
5.6 Track suspension points – quantity and position

- Projection dimension of CH – lift ≤ 3000 mm (or door leaf area ≤ 12 m²): 1 suspension point per horizontal track as shown in arrangement A.
- Projection dimension of CH – lift > 3000 mm and ≤ 5000 mm (or door leaf area ≤ 12 m² and ≤ 20 m²): 2 suspension points per horizontal track as shown in arrangement B.
- Projection dimension of CH – lift > 5000 mm (or door leaf area > 20 m²): 3 suspension points per horizontal track as shown in arrangement C.

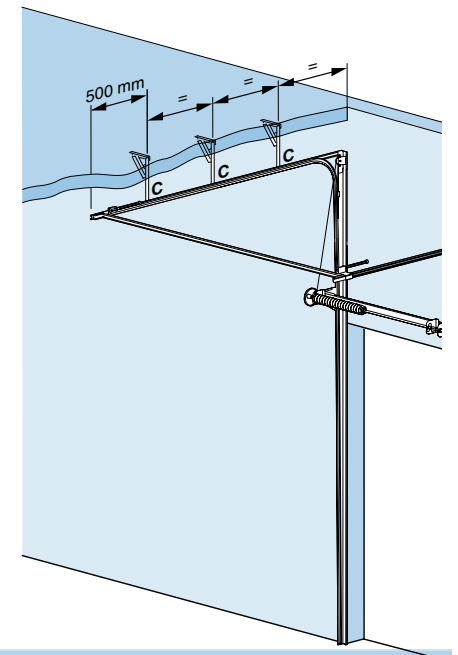
A: CH - lift ≤ 3000 mm



B: CH - lift > 3000 mm and ≤ 5000 mm

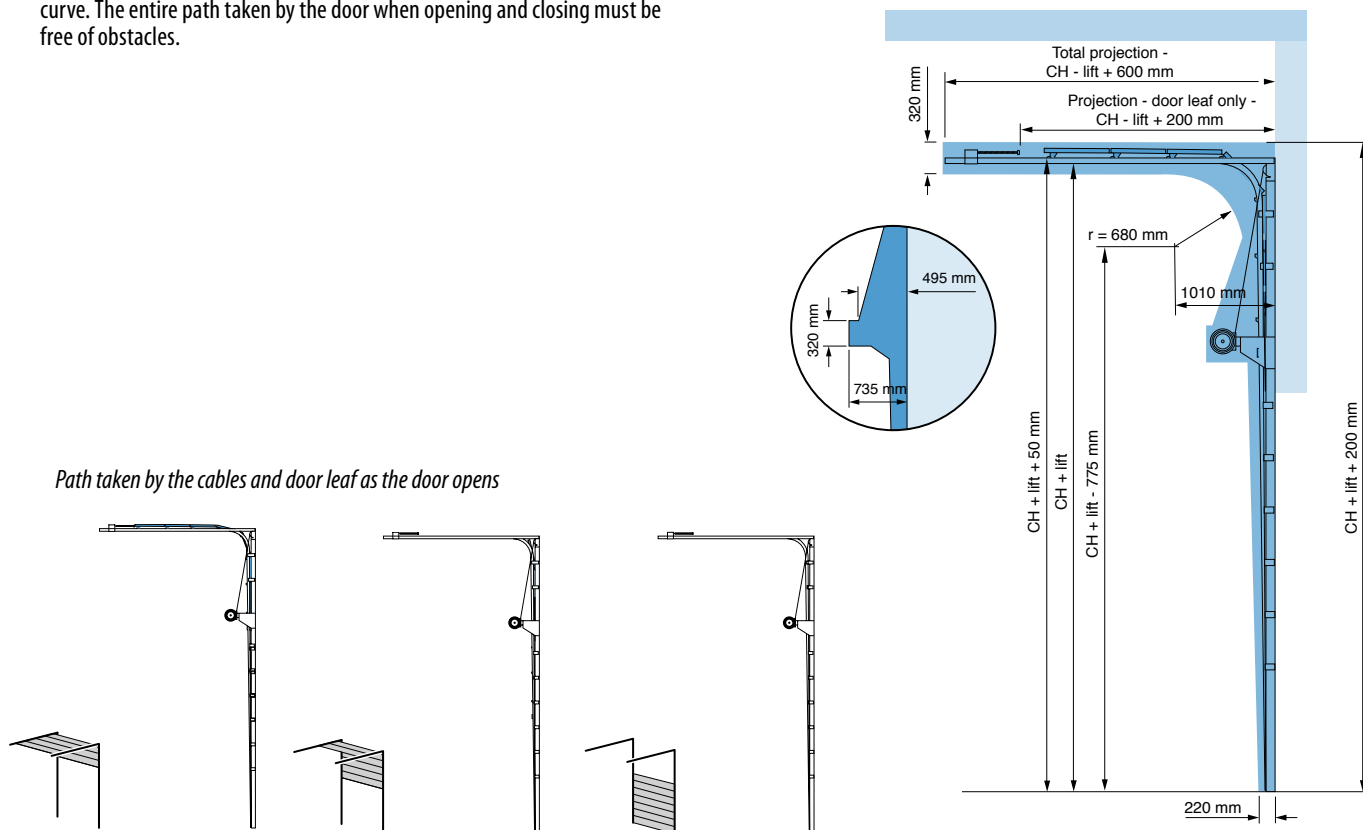


C: CH - lift > 5000 mm



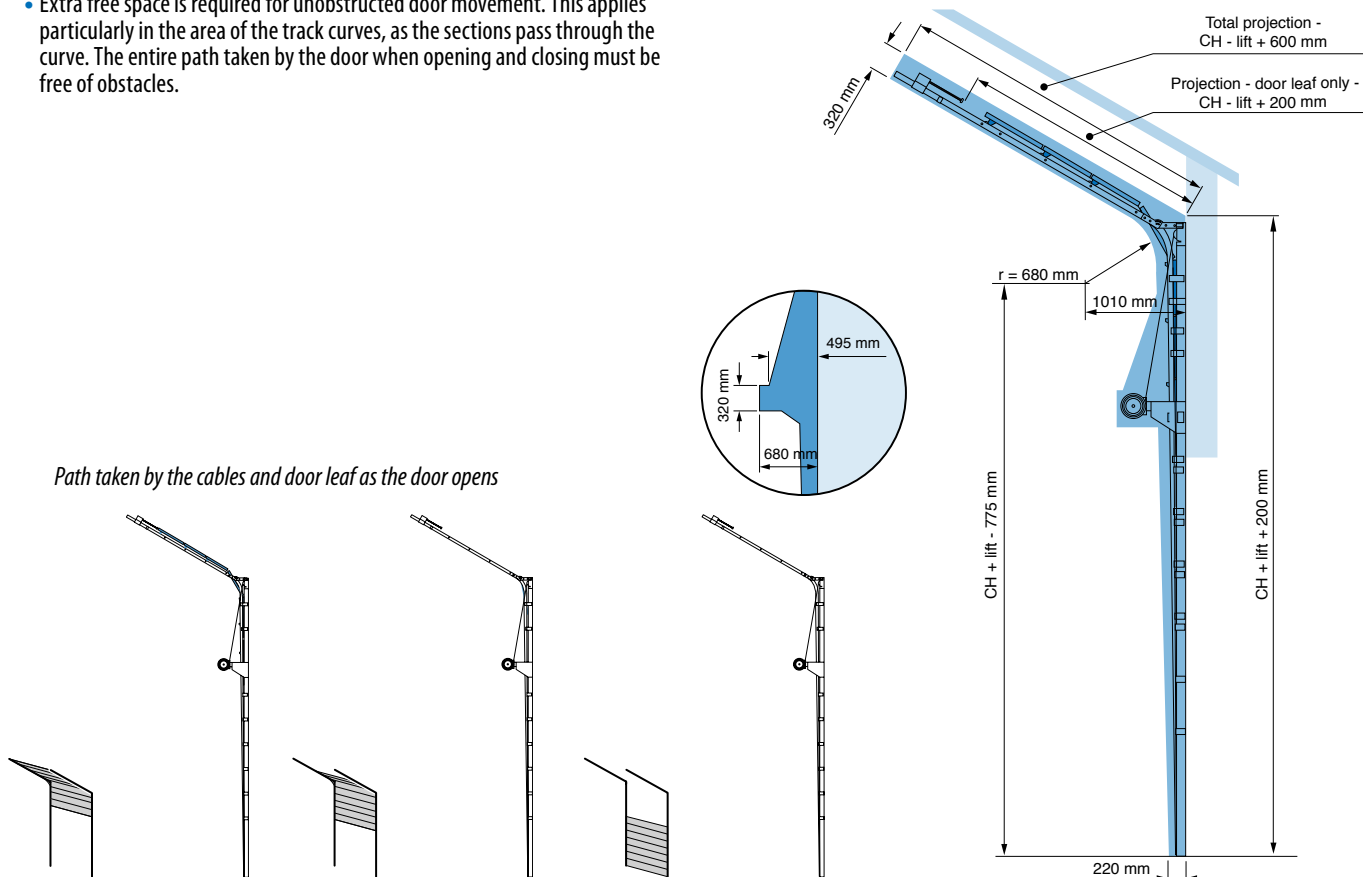
5.7 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



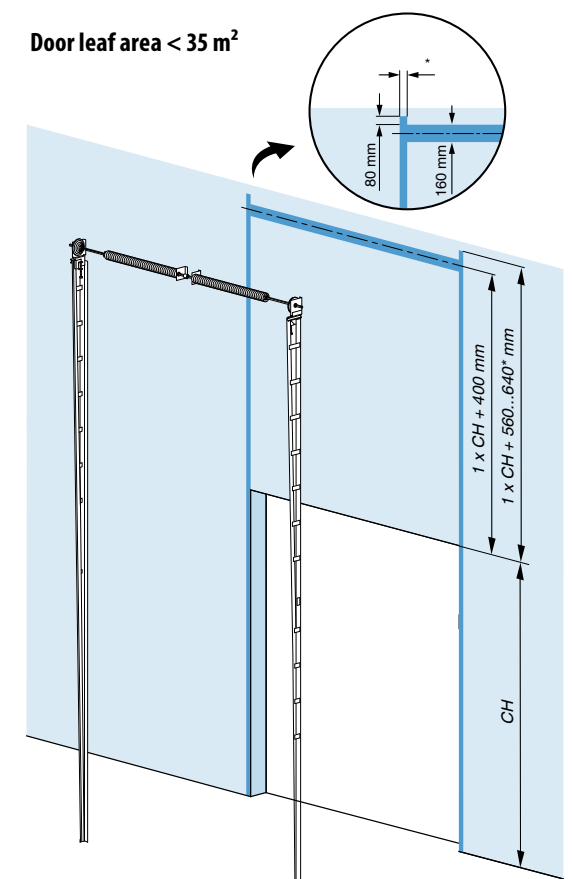
5.8 Space requirement for unobstructed door movement, various key dimensions – roof angle system

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



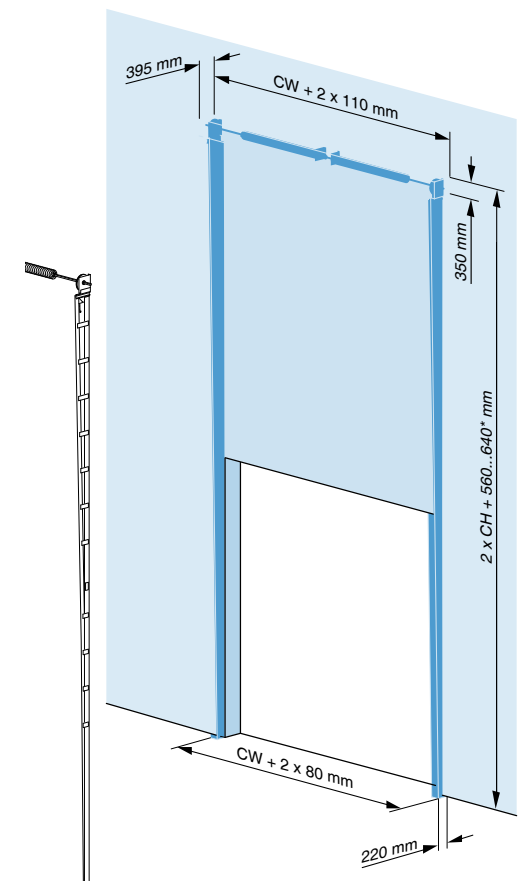
6.1 Installation space requirement – vertical tracks and spring shaft assembly

- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height (mounting frame): $2 \times CH + 560 \dots 640^*$ mm.
* Engine mounting width depends on engine type.
- When door leaf area $> 15 \text{ m}^2$, mounting surfaces for extra bearing plates are required on the left and the right at 150 mm.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.



6.2 Installation space requirements – complete track system

- Minimum space required for the spring shaft assembly: $CW + 2 \times 110 \text{ mm}$.
- Minimum mounting surface height (mounting frame): $2 \times CH + 560 \dots 640^*$ mm.
* Engine mounting width depends on engine type.

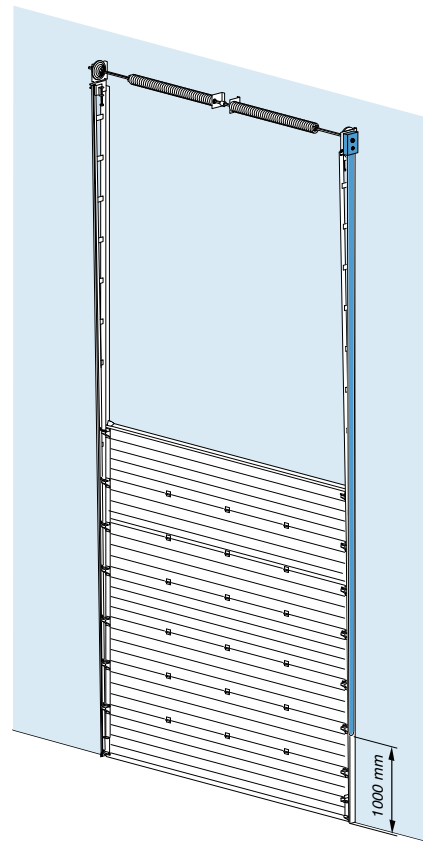
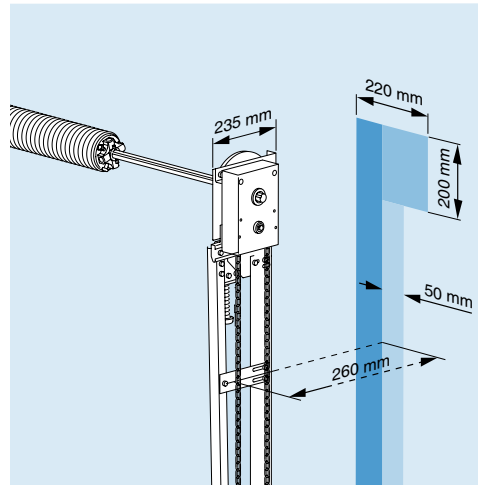


6.3 Installation space requirements for installation and operation – chain hoist

- Minimum space required for the installation of the chain hoist: approx. 235 x 220 x 200 mm, the dimension of 220 mm is the dimension required for the chain hoist when in the installed state. If a chain hoist needs to be installed on an existing door by sliding it onto the spring shaft, 300 mm is required. With some extra work (loosening and pulling back the spring shaft), it is always possible to replace or install a chain hoist, even if no more than 220 mm is available.

* Engine mounting width depends on engine type.

- Chain space requirement down to operating height: approx. 260 x 50 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.

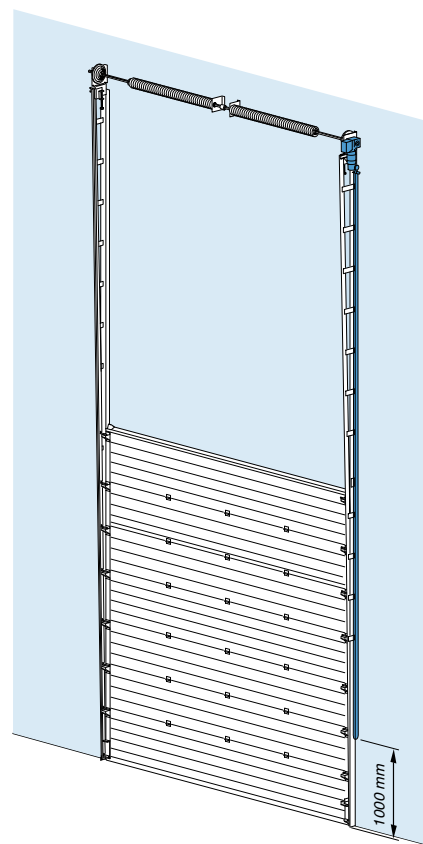
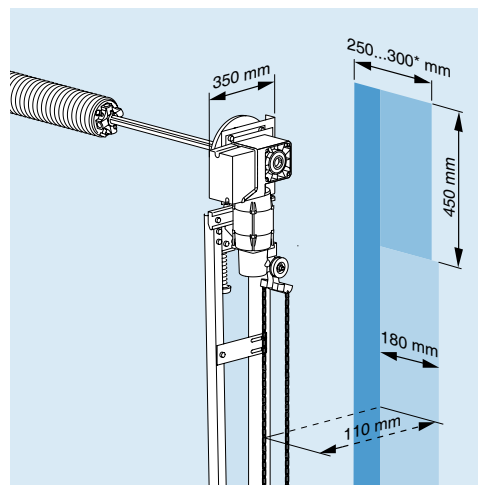


6.4 Installation space requirements for installation and operation (emergency chain) - electric drive

- Minimum space required for the installation of the electric drive: approx. 350 x 250...300 x 450 mm, the dimension of 250 mm is the dimension required for the electric drive when in the installed state. If an electric drive needs to be installed on an existing door by sliding it onto the spring shaft, 350 mm is required. With some extra work (loosening and pulling back the spring shaft), it is always possible to replace or install an electric drive, even if no more than 250...300 mm is available.

- Emergency chain space requirement down to operating height: approx. 110 x 180 mm.

- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.

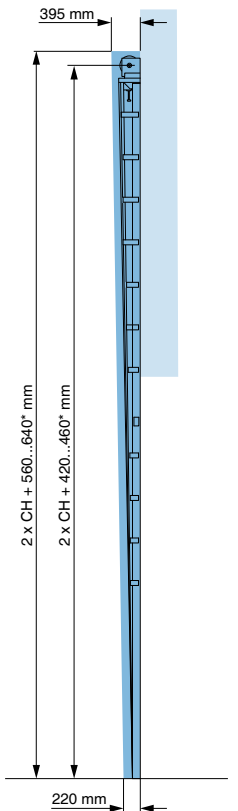
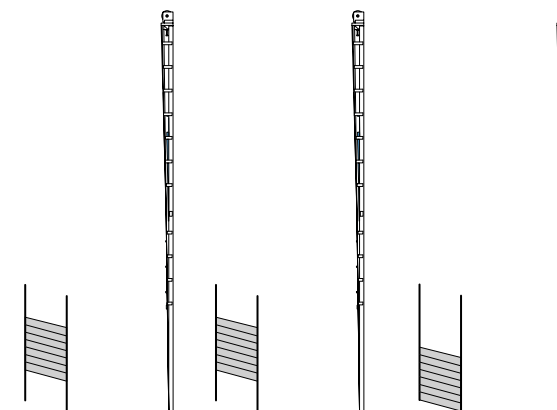


6.5 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. The entire path taken by the door when opening and closing must be free of obstacles.

* Installation height depends on door height.

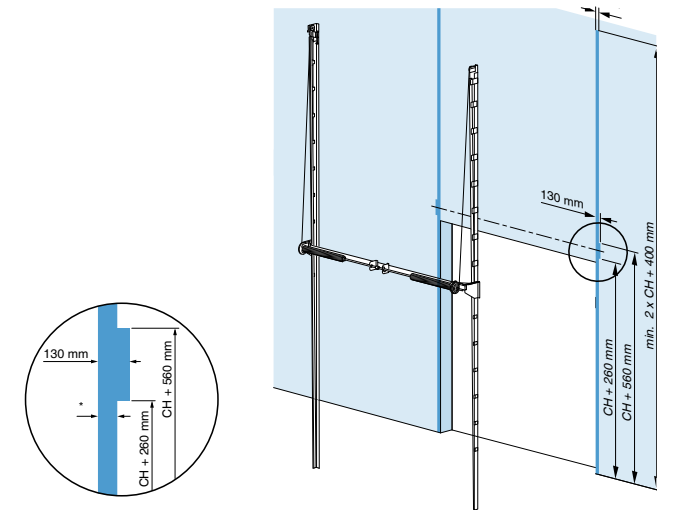
Verloop kabel en deurblad in verschillende openingsstadia



7.1 Installation space requirements – vertical tracks

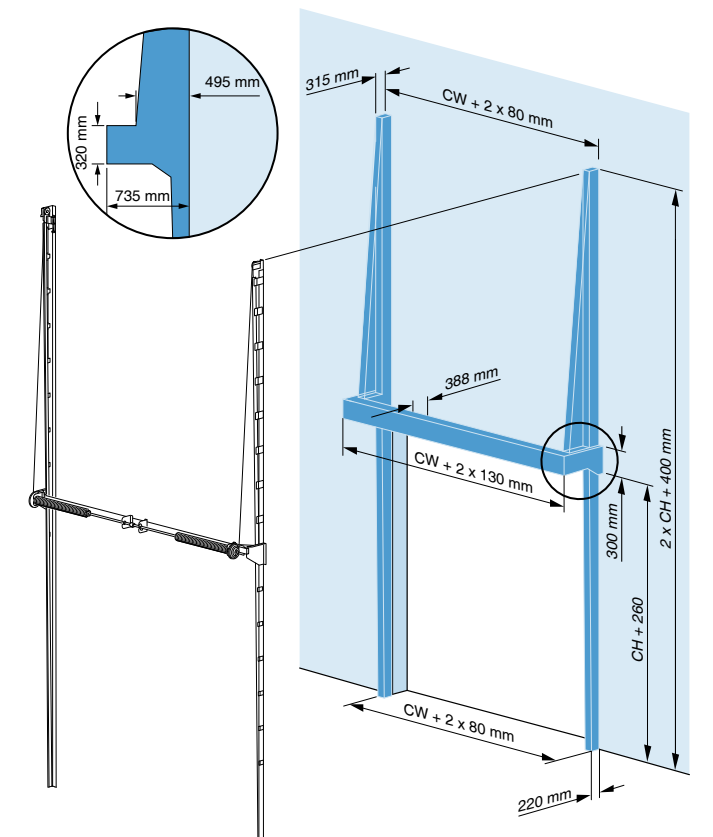
- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height (mounting frame): $2 \times CH + 400 \text{ mm}$
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.

Door leaf area $\leq 16 \text{ m}^2$ and $CW < 4000 \text{ mm}$



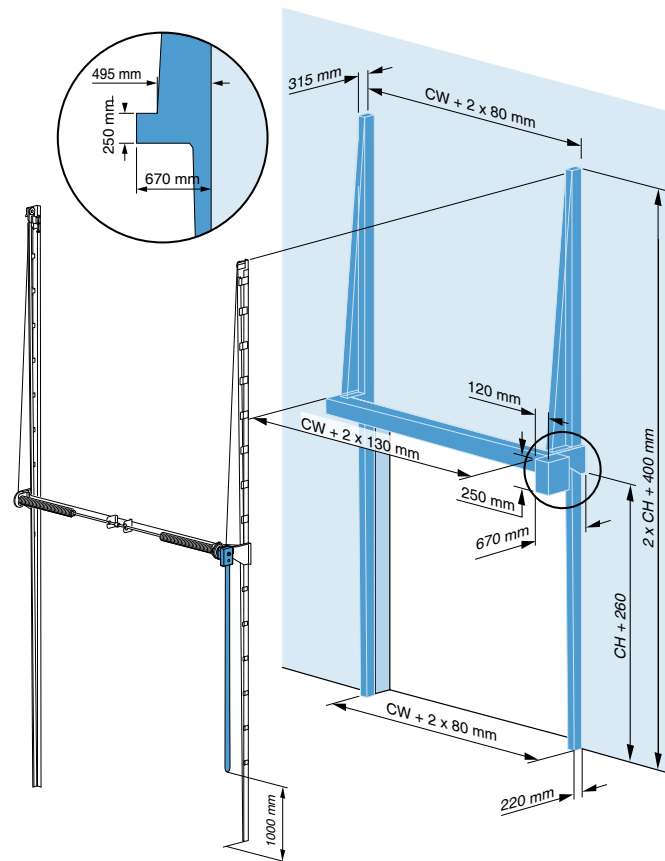
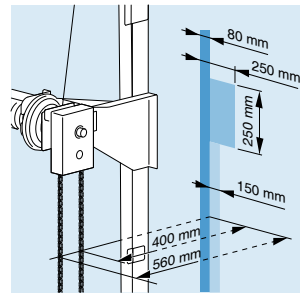
7.2 Installation space requirements – complete track system, cable guides and spring shaft assembly

- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 270 mm to 450 mm.
- The spring shaft assembly requires an installation space of 735 x 320 mm.
- Minimum space required for the spring shaft assembly: $CW + 2 \times 130 \text{ mm}$.



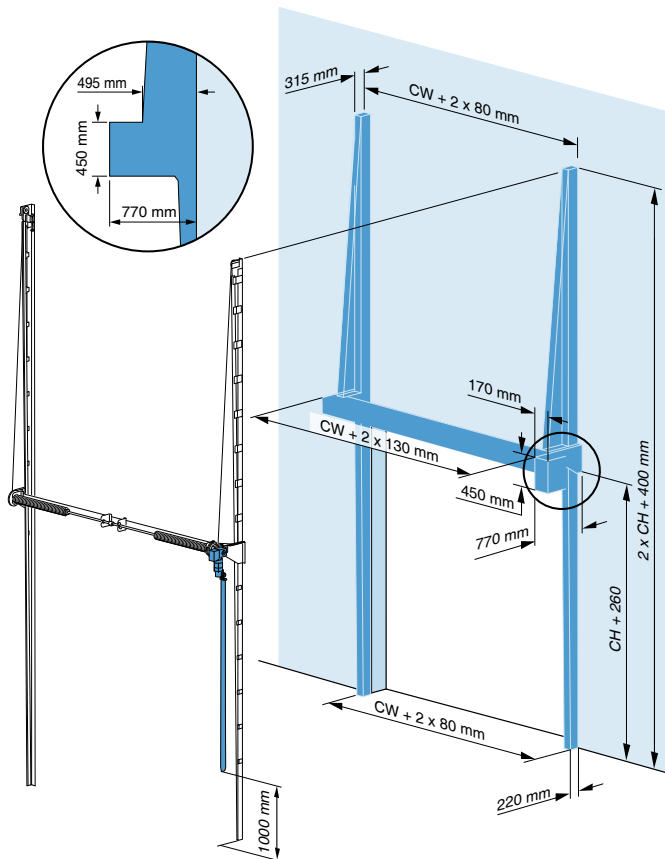
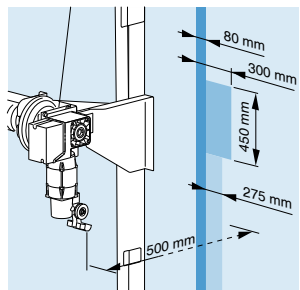
7.3 Installation space requirements for installation and operation – chain hoist

- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 270 mm to 450 mm.
- Minimum space required for the installation of the chain hoist: approx. 250 x 250 x 250 mm.
- Chain space requirement down to operating height: 150 x 560 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



7.4 Installation space requirements for installation and operation (emergency chain) - electric drive

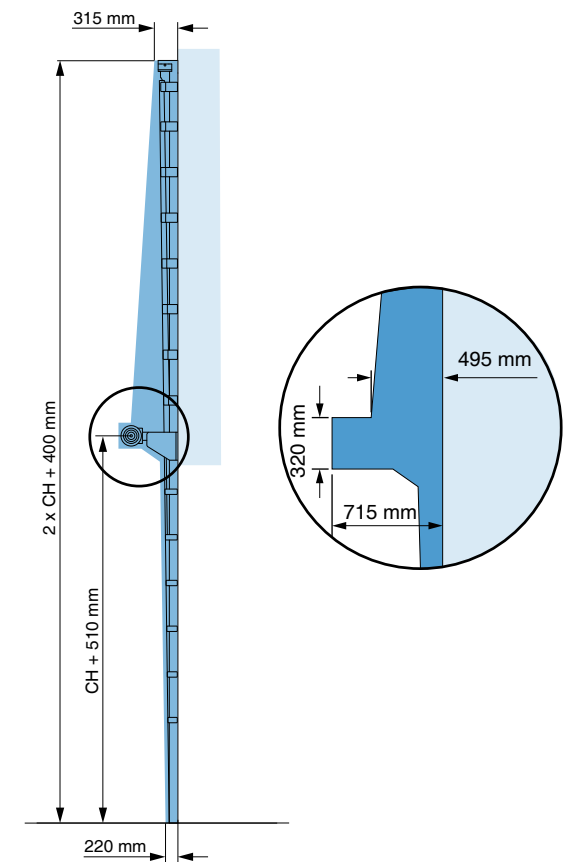
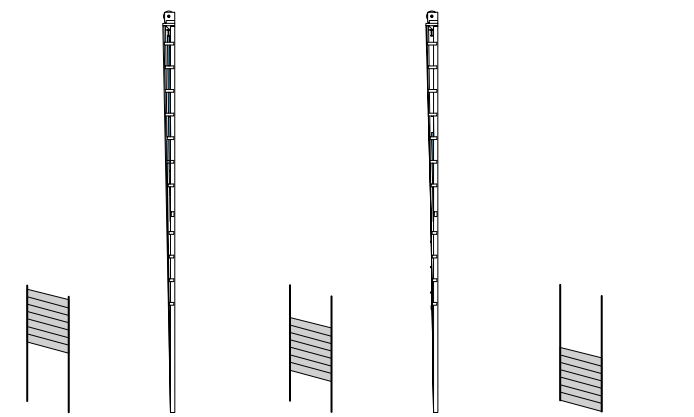
- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 270 mm to 450 mm.
- Minimum space required for the installation of the electric drive: approx. 300 x 300 x 450 mm.
- Emergency chain space requirement down to operating height: 275 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



7.5 Space requirement for unobstructed door movement, various key dimensions

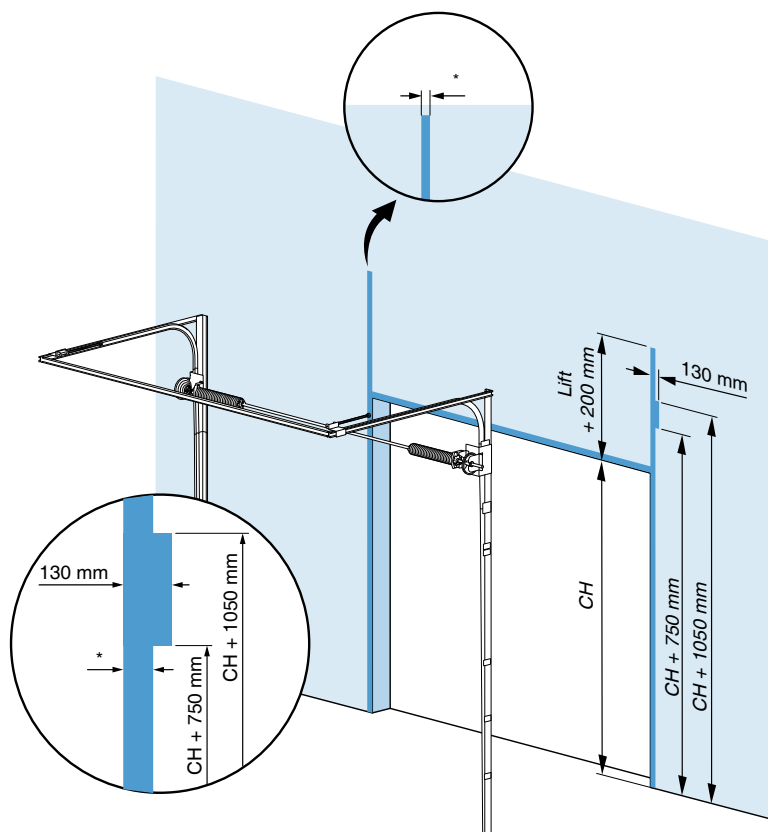
- Extra free space is required for unobstructed door movement. The entire path taken by the door when opening and closing must be free of obstacles.

Path taken by the cables and door leaf as the door opens



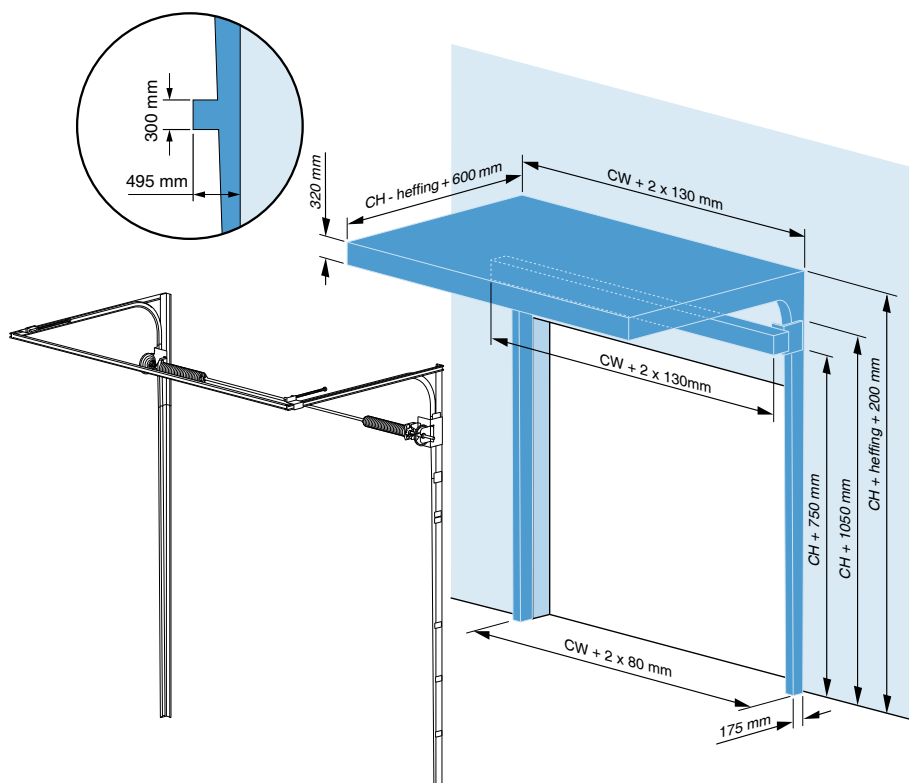
8.1 Installation space requirement – vertical tracks and spring shaft assembly

- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height: $CH + \text{lift} + 200 \text{ mm}$.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.



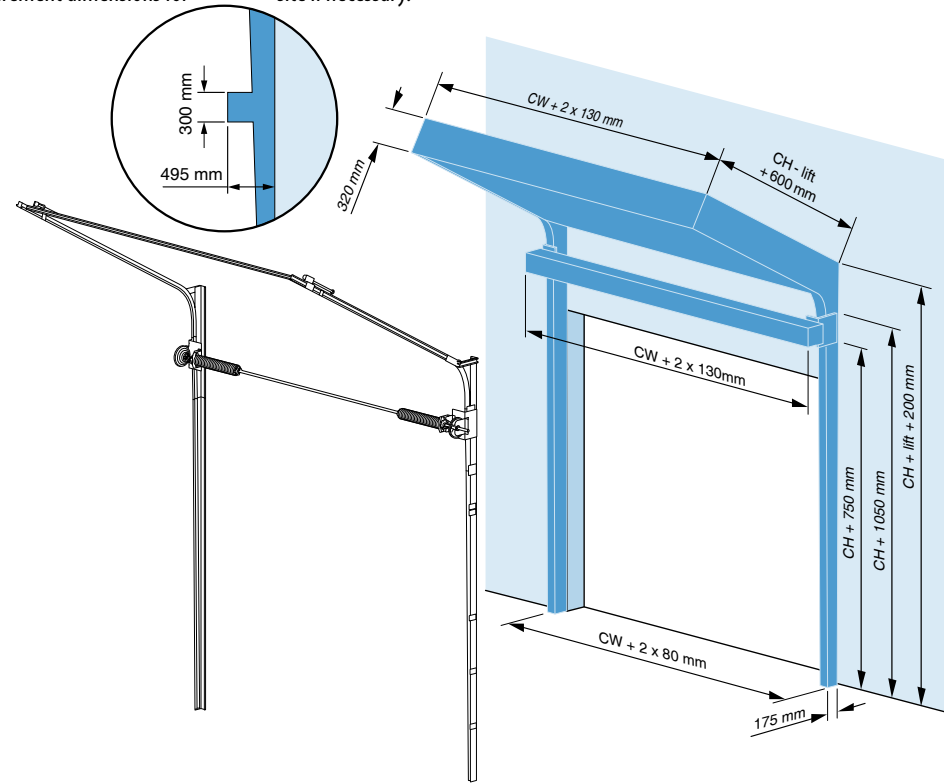
8.2 Installation space requirements – complete track system

- Minimum projection dimension (into the room): $CH - \text{lift} + 600 \text{ mm}$.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: $CW + 2 \times 130 \text{ mm}$.
- The horizontal tracks are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



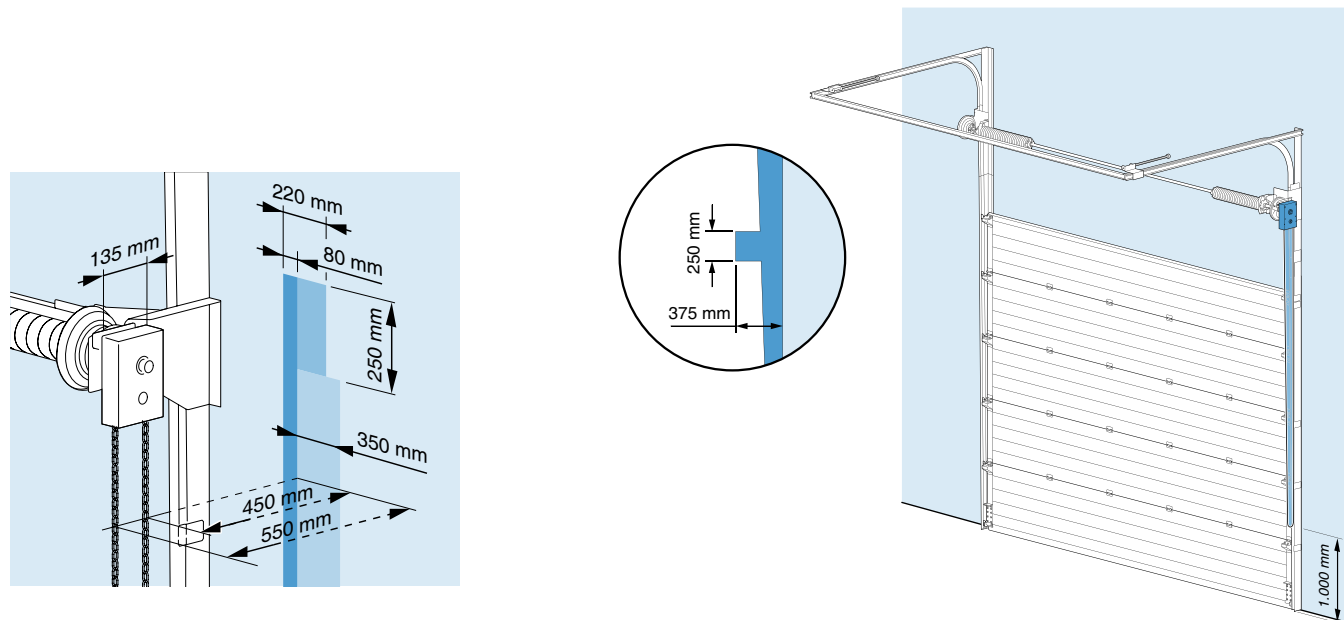
8.3 Installation space requirements – roof angle track system

- Minimum projection dimension (into the room), following the angle of the roof: CH – lift + 600 mm.
- The installation space required for the horizontal tracks, which follow the roof angle in this case, is included in the space requirement dimensions for unobstructed door movement.
- Minimum space required for the spring shaft assembly: CW + 2 x 130 mm.
- The horizontal tracks, which follow the roof angle in this case, are longer than the minimum track projection requirement. The tracks must be shortened on site if necessary.



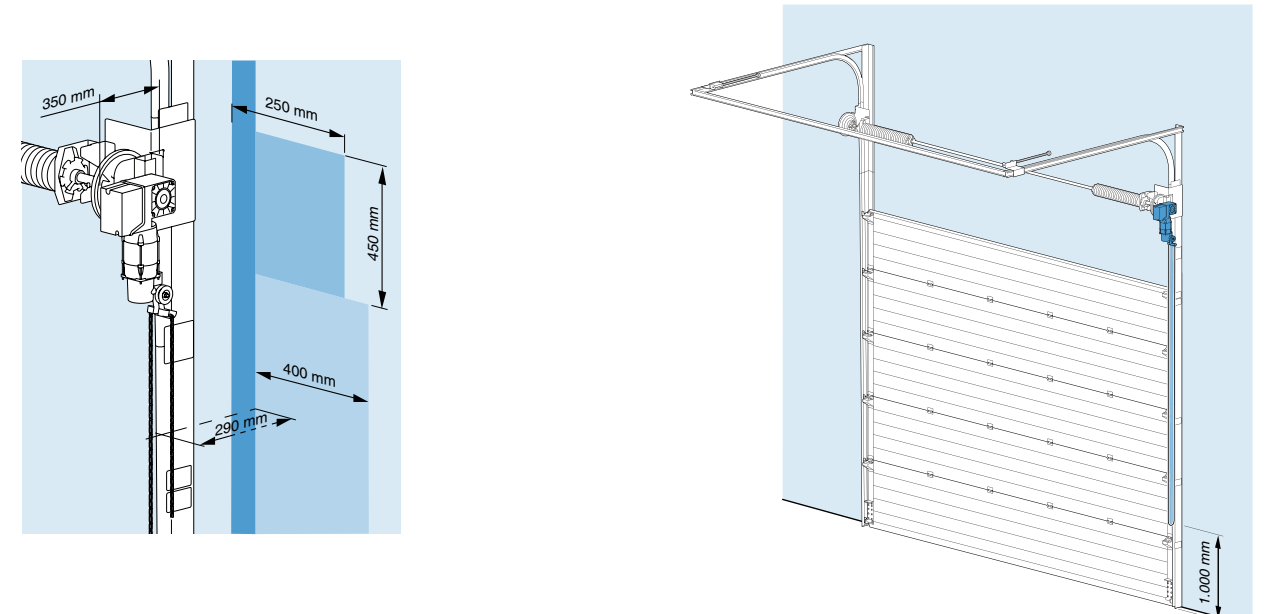
8.4 Installation space requirements for installation and operation – chain hoist

- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 175 mm to 450 mm.
- Emergency chain space requirement down to operating height: approx. 135 x 220x250 mm.
- Chain space requirement down to operating height: approx. 350 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



8.5 Installation space requirements for installation and operation (emergency chain) - electric drive

- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 175 mm to 450 mm.
- Emergency chain space requirement down to operating height: approx. 350 x 250x450 mm.
- Chain space requirement down to operating height: approx. 250 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.

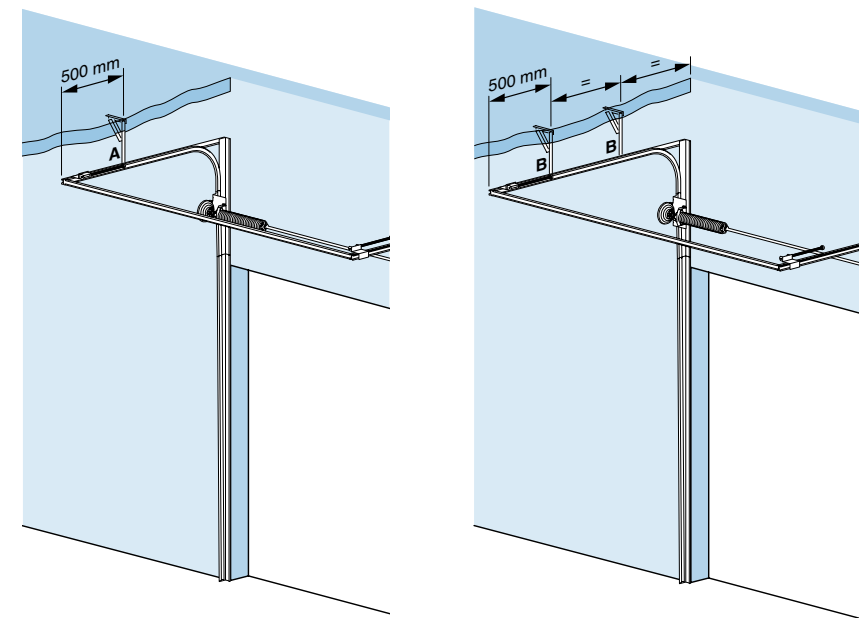


8.6 Track suspension points – quantity and position

- Projection dimension of CH – lift ≤ 3000 mm (or door leaf area ≤ 12 m²): 1 suspension point per horizontal track as shown in arrangement A.
- Projection dimension of CH – lift > 3000 mm and ≤ 3200 mm (or door leaf area ≤ 12 m²): 2 suspension points per horizontal track as shown in arrangement B.

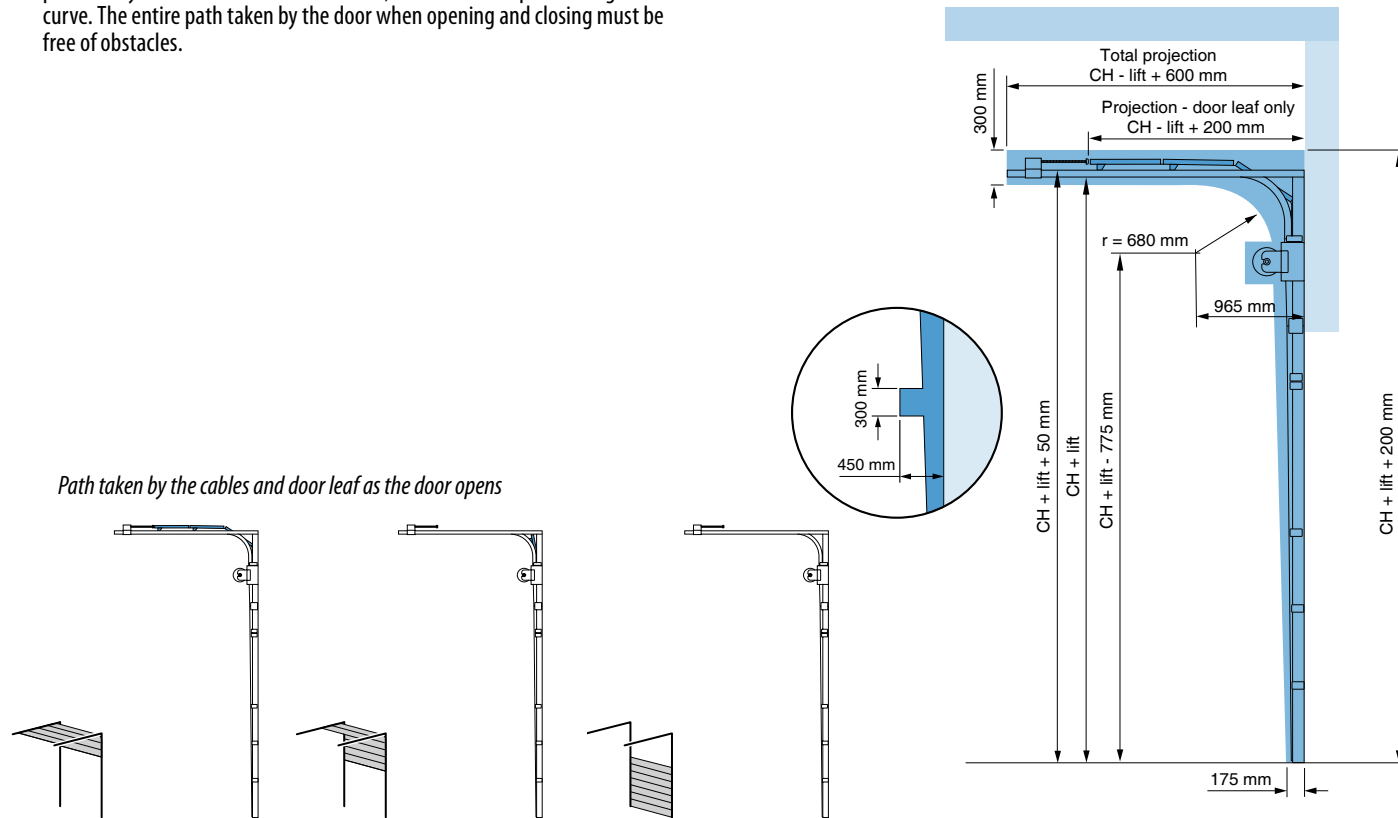
A: CH - lift ≤ 3000 mm

B: CH - lift > 3000 mm and ≤ 3200 mm



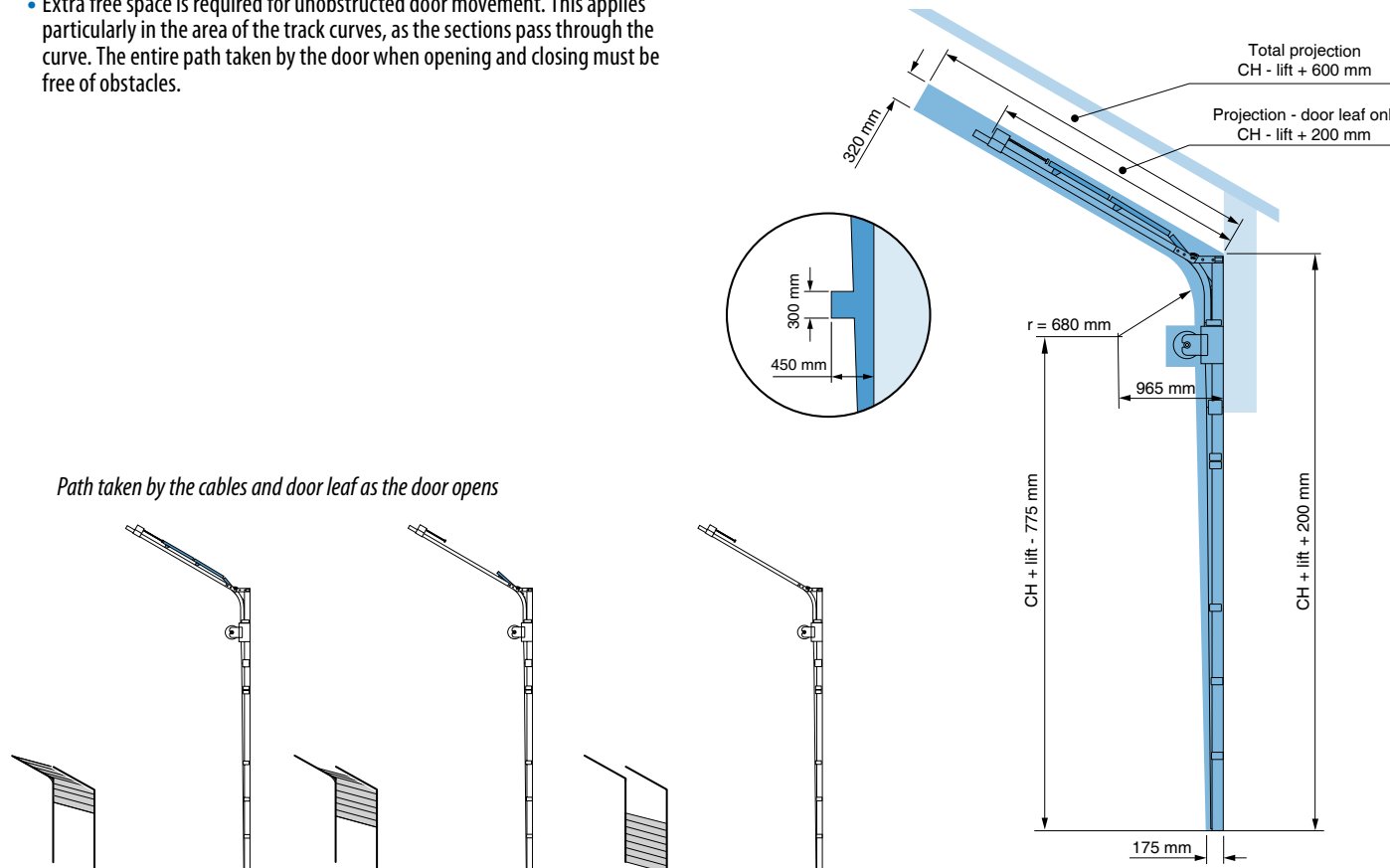
8.7 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



8.8 Space requirement for unobstructed door movement, various key dimensions – roof angle system

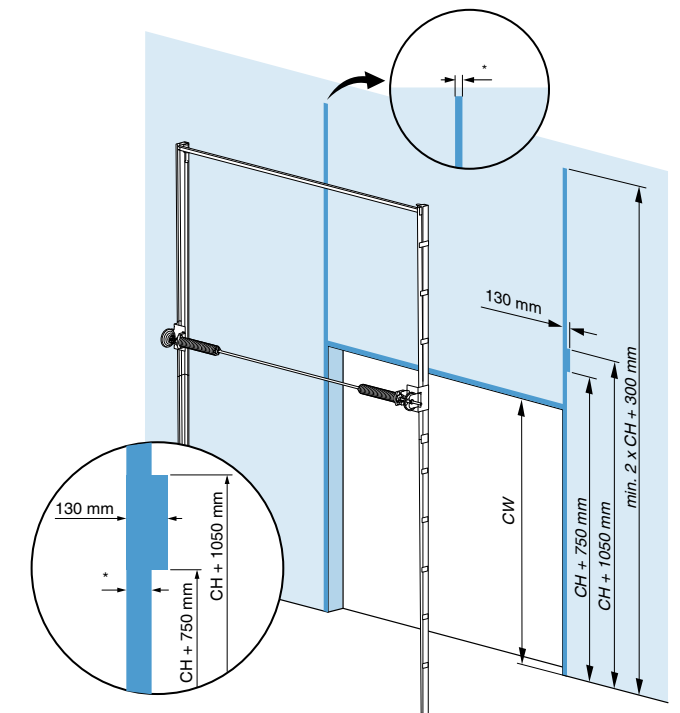
- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



9.1 Installation space requirement – vertical tracks

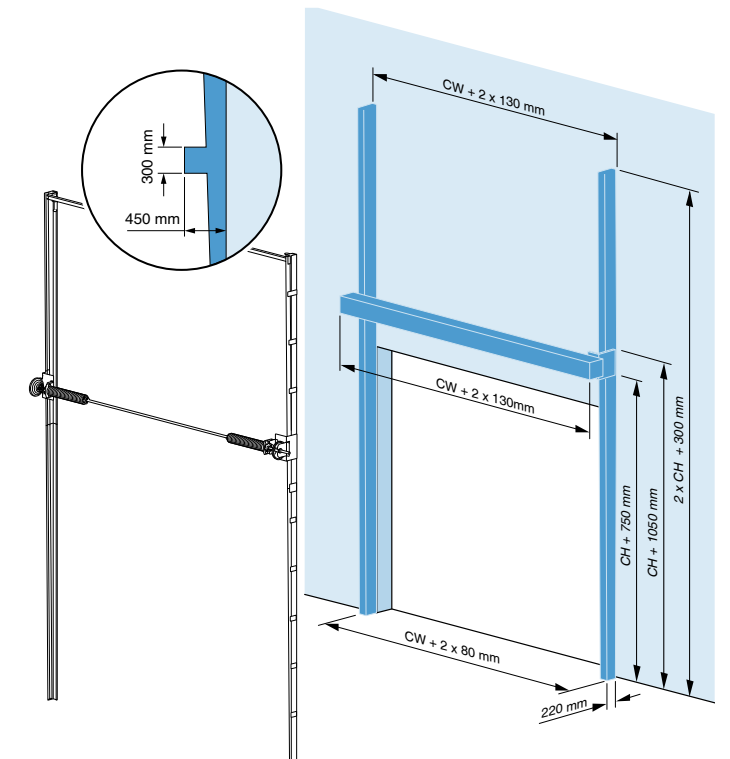
- Minimum width of the mounting surface (frame) *, see General information page.
- Minimum mounting surface height: $2 \times CH + 300 \text{ mm}$.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.

Door leaf area $\leq 16 \text{ m}^2$ and $DB < 4000 \text{ mm}$



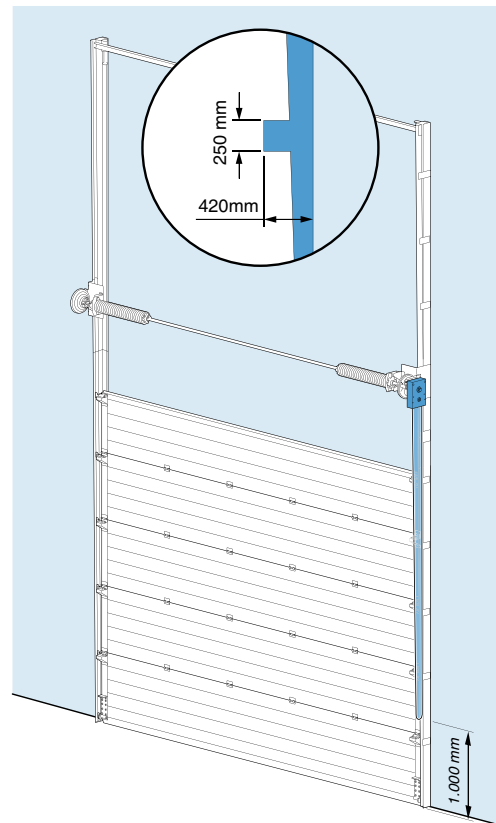
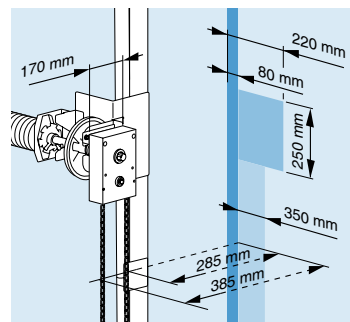
9.2 Installation space requirements – complete track system

- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 270 mm to 450 mm.
- The spring shaft assembly requires an installation space of 300 x 450 mm.
- Minimum space required for the spring shaft assembly: $CW + 2 \times 130 \text{ mm}$.



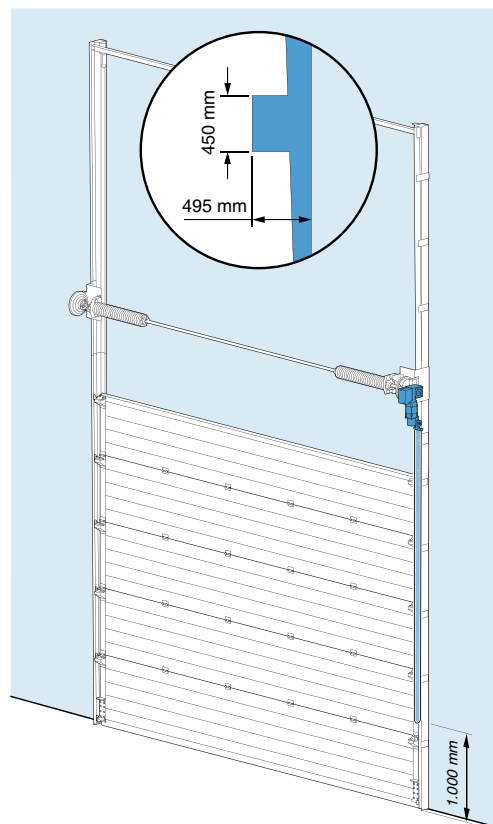
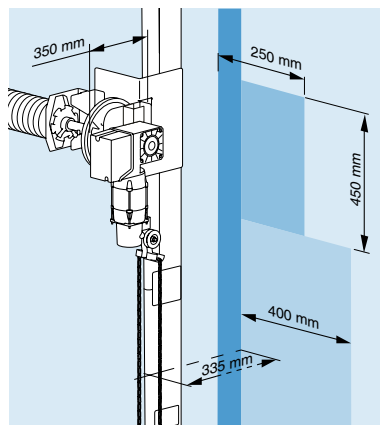
9.3 Installation space requirements for installation and operation – chain hoist

- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 270 mm to 450 mm.
- Minimum space required for the installation of the chain hoist: approx. 170 x 220 x 250 mm.
- Chain space requirement down to operating height: 350 x 385 mm.
- The chain hoist can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



9.4 Installation space requirements for installation and operation (emergency chain) - electric drive

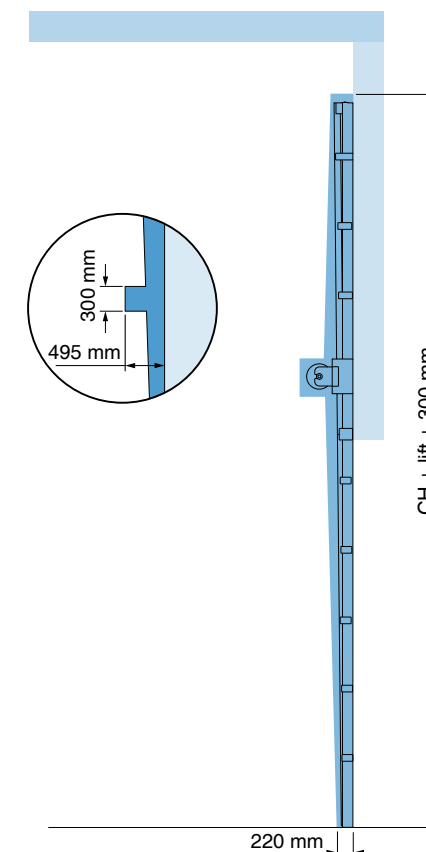
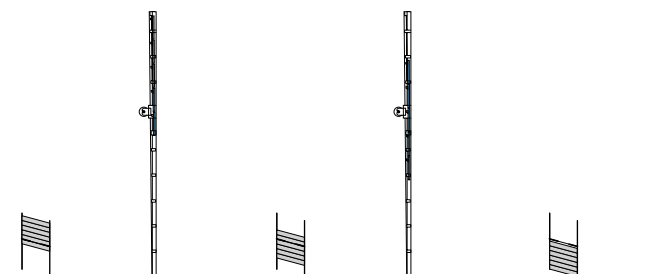
- Space requirement for the cable guides left and right: width 80 mm, from top to bottom, 270 mm to 450 mm.
- Minimum space required for the installation of the electric drive: approx. 350 x 250 x 450 mm.
- Emergency chain space requirement down to operating height: 400 x 335 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



9.5 Space requirement for unobstructed door movement, various key dimensions

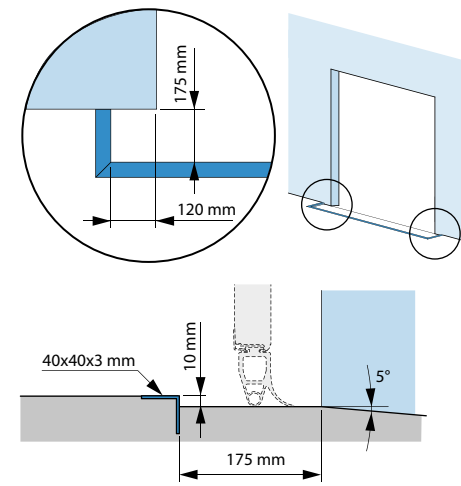
- Extra free space is required for unobstructed door movement. The entire path taken by the door when opening and closing must be free of obstacles.

Path taken by the cables and door leaf as the door opens

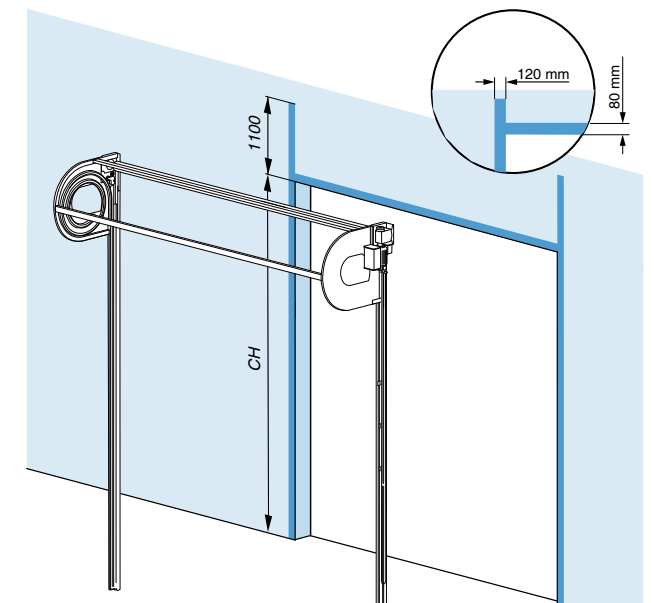


10.1 Installation space requirements – vertical tracks

- Minimum mounting surface width (mounting frame): 120 mm.
- Minimum mounting surface height (mounting frame): CH + 1100 mm.
- The mounting surfaces (mounting frame) must be smooth and perfectly flush (if necessary, compensate for irregularities using angle profiles, flat strip, rectangular tube, etc.).
- The mounting surface (mounting frame) must be sufficiently stable in itself, or be securely fixed to the wall/structure of the building.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.

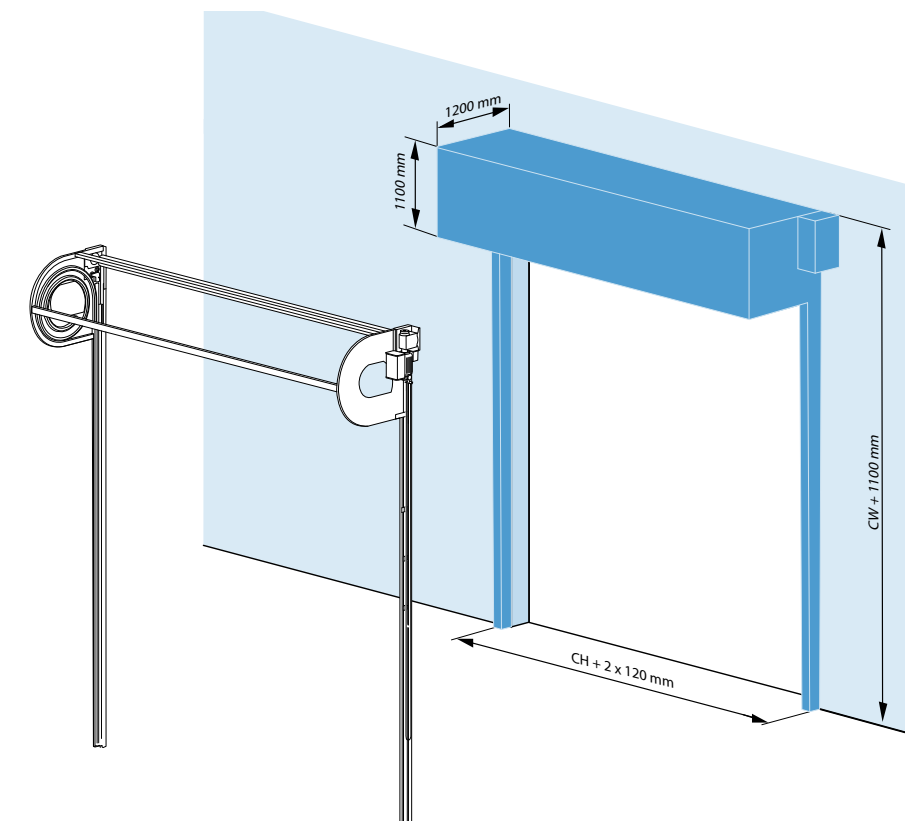


Door leaf area max 25 m²



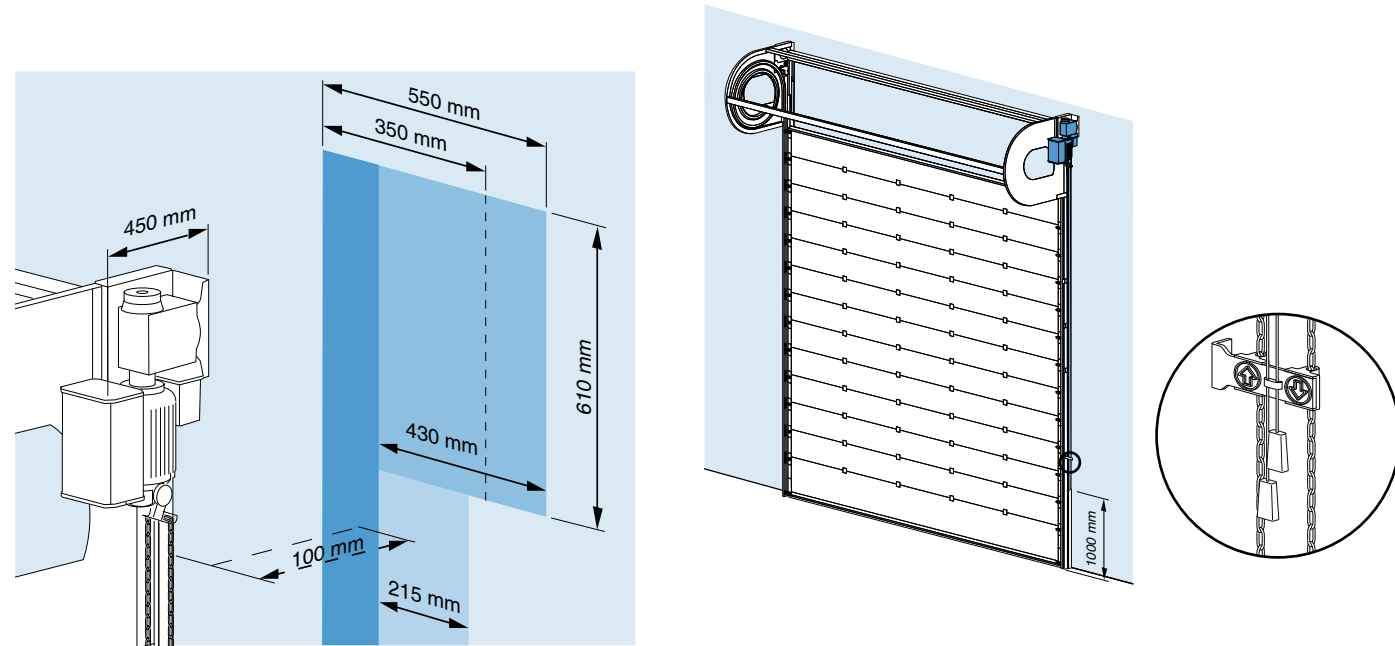
10.2 Installation space requirements – complete track system

- Maximal projection dimension: 1200 mm.



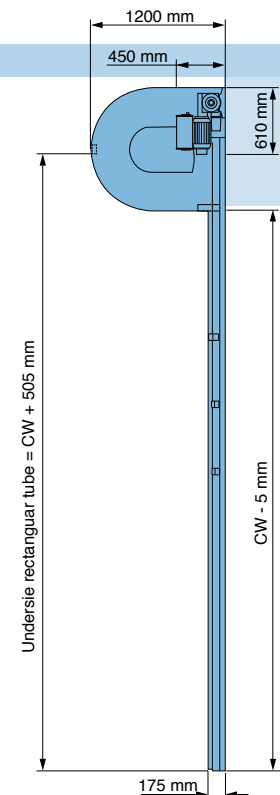
10.3 Installation space requirements for installation and operation (emergency chain) - electric drive

- Minimum space required for the installation of the electric drive: approx. 450 x 550 x 610 mm, the dimension of 550 mm is the dimension required for the electric drive when in the installed state. If an electric drive needs to be installed on an existing door by sliding it onto the spring shaft, 350 mm is required.
- Emergency chain space requirement down to operating height: approx. 100 x 215 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



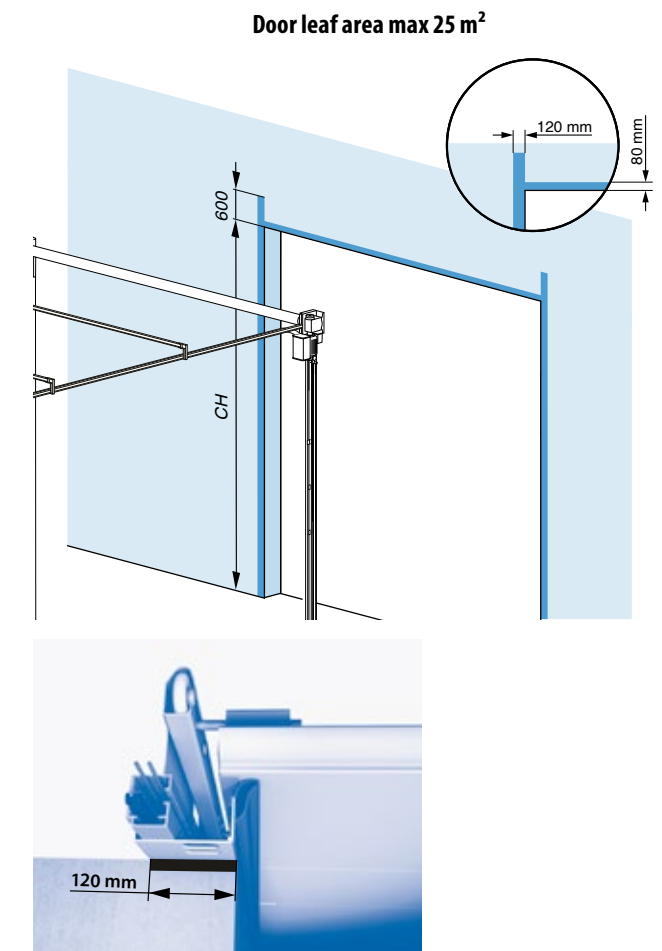
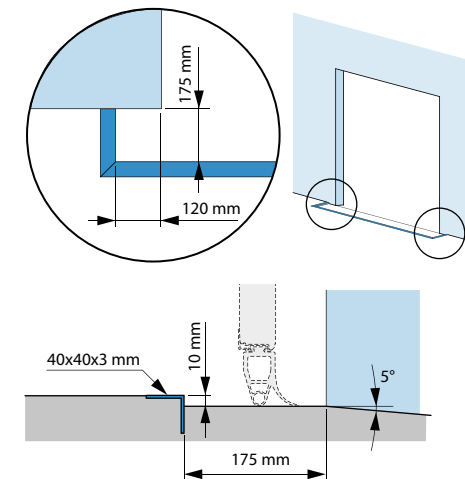
10.4 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.



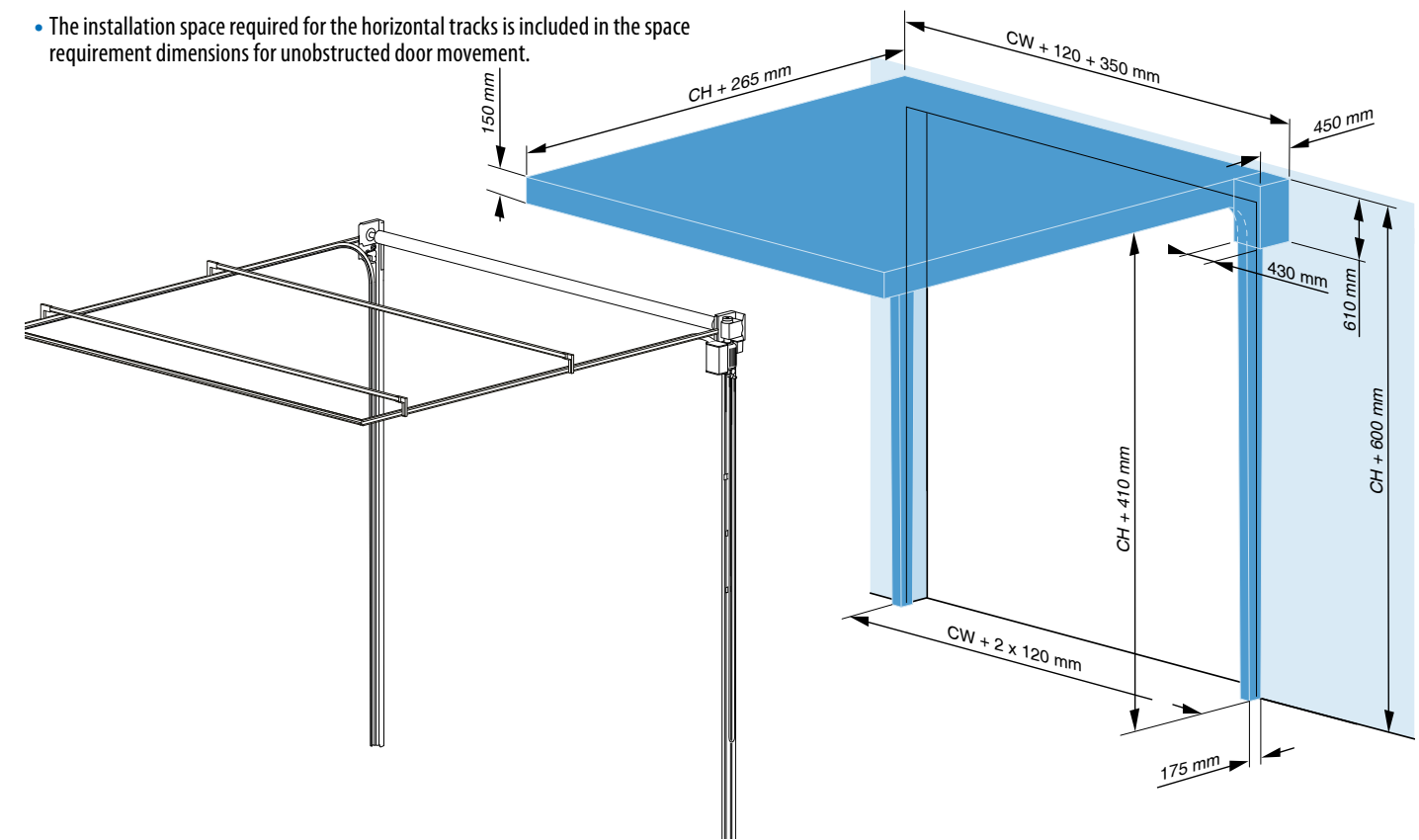
11.1 Installation space requirements – vertical tracks

- Minimum mounting surface width (mounting frame): 120 mm.
- Minimum mounting surface height (mounting frame): CH + 600 mm.
- The mounting surfaces (mounting frame) must be smooth and perfectly flush (if necessary, compensate for irregularities using angle profiles, flat strip, rectangular tube, etc.).
- The mounting surface (mounting frame) must be sufficiently stable in itself, or be securely fixed to the wall/structure of the building.
- A horizontal surface of approx 80 mm high immediately above the clear opening (sealing surface for the top seal) is required. This surface must be smooth and flush with the other mounting surfaces. If a mounting frame is used, the simplest solution is to insert a cross member in this area.



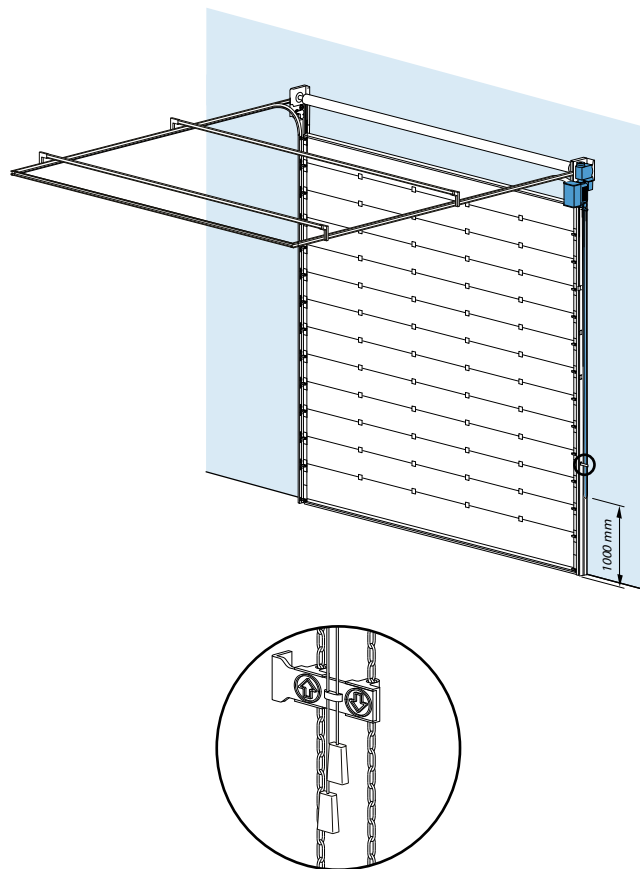
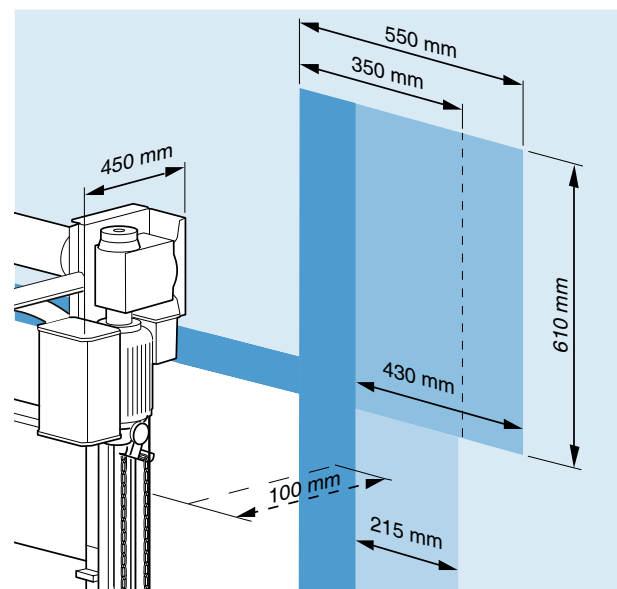
11.2 Installation space requirements – complete track system

- Minimum projection dimension (into the room): CH + 265 mm.
- The installation space required for the horizontal tracks is included in the space requirement dimensions for unobstructed door movement.



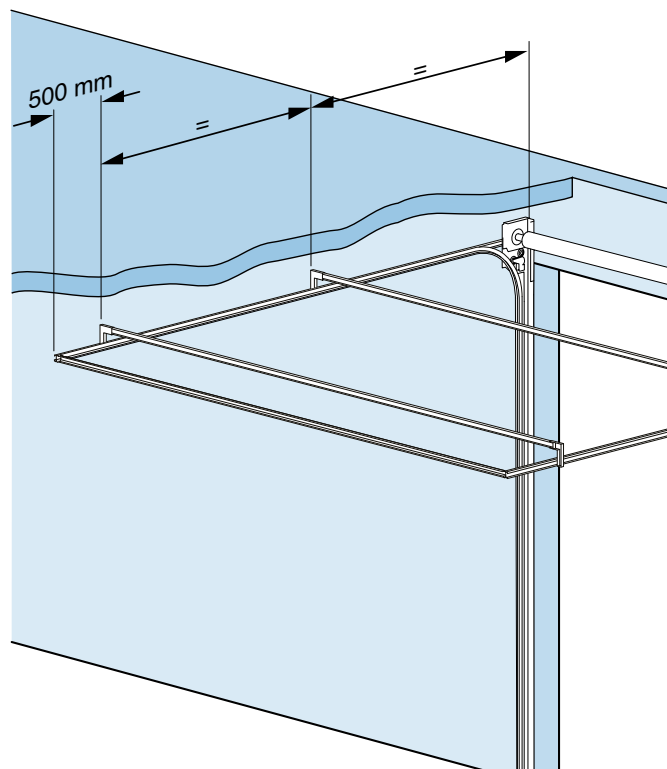
11.3 Installation space requirements for installation and operation (emergency chain) - electric drive

- Minimum space required for the installation of the electric drive: approx. 450 x 550 x 610 mm, the dimension of 550 mm is the dimension required for the electric drive when in the installed state. If an electric drive needs to be installed on an existing door by sliding it onto the spring shaft, 350 mm is required.
- Emergency chain space requirement down to operating height: approx. 100 x 210 mm.
- The electric drive can be installed on the right-hand side or the left-hand side, as long as there is adequate space.



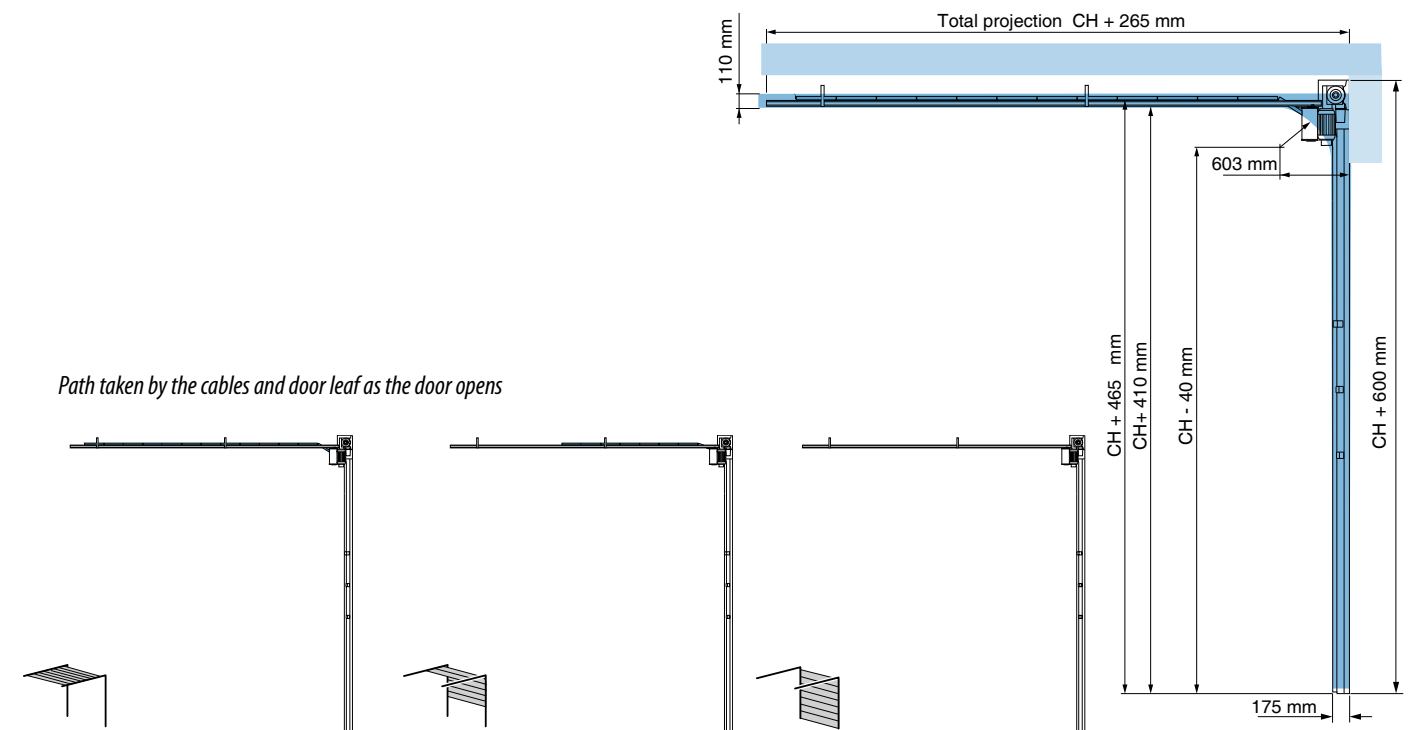
11.4 Track suspension points – quantity and position

- Two suspension points



11.5 Space requirement for unobstructed door movement, various key dimensions

- Extra free space is required for unobstructed door movement. This applies particularly in the area of the track curves, as the sections pass through the curve. The entire path taken by the door when opening and closing must be free of obstacles.





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