

// New Series 50



Industrial Sectional Doors

Technical Manual: Issue 01.03.2013



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Detailed door leaf constructions and track applications as well as fitting examples are provided in this manual.

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All dimensions in mm.
Subject to design changes.

Product descriptions

Door type	Door leaf / wicket door
Sectional door SPU F42, double-skinned steel sections, 625 and 750 mm high, Stucco-textured / Micrograin	
Door leaf	Door sections made of polyurethane-foamed, hot-galvanized sections. Door sections Stucco-textured on inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside, 625 and 750 mm high, depth 42 mm. All door sections with finger trap protection. Surface protection with polyester-primer coating. Ventilation grilles optional. Glazing frames of anodised aluminium extrusions in the standard version or with thermal breaks or alternatively sections with compound glazing are possible within the size range shown below. Fewer compound glazings or different arrangements are possible subject to the minimum distances.
Wicket door	Installed in the centre fields of the sectional door. Cannot be installed into the outer fields – note the arrangement! Only opening outwards, LH or RH hinged. On request with window sections or alternatively compound glazing from 625 / 750 mm (not in the wicket door section housing the lock) above FFL. Ventilation grilles are not possible in wicket doors. Attention (for threshold rail): For grid heights 2000, 2125 and 2250, the clear opening height must not be lower than the door height.
Sectional door SPU F42, double-skinned steel sections, 375 and 500 mm high, Stucco-textured / Micrograin	
Door leaf	Door sections made of polyurethane-foamed, hot-galvanized sections. Door sections Stucco-textured on inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside, 375 and 500 mm high, depth 42 mm. All door sections with finger trap protection. Surface protection with polyester-primer coating. Ventilation grilles optional. Glazing frames of anodised aluminium extrusions in the standard version or with thermal breaks or alternatively sections with compound glazing are possible within the size range shown below. Fewer compound glazings or different arrangements are possible subject to the minimum distances.
Wicket door	Only to be installed in the centre fields of the sectional door. Cannot be installed into the outer fields – note the arrangement! Only opening outwards, LH or RH hinged. On request with window sections or alternatively compound glazing from 500 mm (not in the wicket door section housing the lock) above FFL. Ventilation grilles are not possible in wicket doors. Attention (for threshold rail): For grid heights 2000 and 2125, the clear opening height must not be lower than the door height.
Sectional door SPU F42, double-skinned steel sections, 500 mm high, Micrograin	
Door leaf	Door sections made of polyurethane-foamed, hot-galvanized sections. Door sections Micrograin with fine horizontal embossing outside and Stucco-textured inside, 500 mm high, depth 42 mm. All door sections with finger trap protection. Surface protection with polyester-primer coating. Ventilation grilles optional. Glazing frames of anodised aluminium extrusions in the standard version or with thermal breaks or alternatively sections with compound glazing are possible within the size range shown below. Fewer compound glazings or different arrangements are possible subject to the minimum distances.
Wicket door	Only to be installed in the centre fields of the sectional door. Cannot be installed into the outer fields – note the arrangement! Only opening outwards, LH or RH hinged. On request with window sections or alternatively compound glazing from 500 mm (not in the wicket door section housing the lock) above FFL. Ventilation grilles are not possible in wicket doors. Attention (for threshold rail): For grid heights 2000 and 2125, the clear opening height must not be lower than the door height.
Sectional door APU F42 / APU F42 Thermo, aluminium extrusions, double-skinned bottom section	
Door leaf	Bottom section of hot-galvanized sections, infilled with polyurethane foam, 750 (standard version) or 1500 mm high, Stucco-textured inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside. Surface protection with polyester-primer coating. Other door sections with glazing of anodised aluminium extrusions in the standard version (APU F42) or with thermal breaks (APU F42 Thermo). Depth 42 mm. All door sections with finger trap protection. Infill: clear synthetic double panes, 26 mm. Ventilation grilles in the bottom section optional.
Wicket door	Depending on the door type, made of anodised aluminium extrusions in the standard version or with thermal breaks, installed into the centre fields of the door. Cannot be installed into the outer fields – note the arrangement! Only opening outwards, LH or RH hinged. Ventilation grilles are not possible in wicket doors. Attention (for threshold rail): If the wicket door has the same number of sections as the sectional door, the clear opening height must not be lower than the door height (RM).
Sectional door APU F42 S-Line, aluminium extrusions, double-skinned bottom section	
Door leaf	Bottom section of hot-galvanized sections, infilled with polyurethane foam, 750 (standard version), or 1500 mm high, Stucco-textured inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside. Surface protection with polyester-primer coating. Other door sections with glazing of anodised aluminium extrusions in the standard version. Depth 48.5 mm. All door sections with finger trap protection. Infill: clear synthetic double panes, 26 mm. Ventilation grilles in the bottom section optional.
Sectional door ALR F42 / ALR F42 Thermo	
Door leaf	Door sections made of anodised aluminium extrusions in the standard version (ALR F42) or with thermal breaks (ALR F42 Thermo). Depth 42 mm. All door sections with finger trap protection. Bottom door section made of PU infill with 26 mm Stucco-textured aluminium sheet cover on both sides, 26 mm, other door sections with 26 mm clear synthetic double panes. Ventilation grilles in the bottom section optional.
Wicket door	Depending on the door type, made of anodised aluminium extrusions in the standard version or with thermal breaks, installed into the centre fields of the door. Cannot be installed into the outer fields – note the arrangement! Only opening outwards, LH or RH hinged. Ventilation grilles are not possible in wicket doors. Attention (for threshold rail): If the wicket door has the same number of sections as the sectional door, the clear opening height must not be lower than the door height (RM).
Sectional door ALR F42 S-Line, aluminium extrusions	
Door leaf	Door sections made of standard anodised aluminium extrusions, depth 48.5 mm. All door sections with finger trap protection. Bottom door section made of PU infill with 26 mm Stucco-textured aluminium sheet cover on both sides, other door sections with 26 mm clear synthetic double panes. Ventilation grilles in the bottom section optional.

Product descriptions

Door type Door leaf / wicket door

Sectional door ALR F42 Glazing

Door leaf	Door sections of standard anodised aluminium extrusions. Depth 42 mm. All door sections with finger trap protection. All door section infills in 6-mm laminated safety glass. Uniform infill heights.
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Sectional door ALR F42 Vitraplan

Door leaf	Door sections of standard polyester primer-coated aluminium extrusions. Depth 42 mm. All door sections with finger trap protection and synthetic double panes, 26 mm, clear, and 4 mm transparent synthetic glazings fitted in front, in a choice of brown or grey. Ventilation grilles are not possible in the bottom section.
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Frame / track application

Enclosed, moulded angle frame with pressed-fitted external seal, made of hot-galvanized steel with screwed safety tracks.

Door lock

Manually operated	Inside locking using a shootbolt, self-locking rotary latch (with track applications that have a low-mounted torsion spring shaft on request) or self-locking floor locking.
Power-driven	Inside locking using a shootbolt

Counterbalance

Torsion springs, with carrying cables on the side (with a low headroom track application, a combination of carrying chain and carrying cable). The torsion springs are designed for track applications N, NB, ND, NS, NK, NA, NH, GD, GS, L and LD for at least 25000 closing cycles and for all other track applications for at least 50000 closing cycles.

Safety-related equipment according to DIN EN 12604

- Manually operated doors using a torsion spring with approved catch safety device ^{*)}
 - Manually operated doors that have more than one torsion spring with approved spring safety device^{*)} over a door height of 5000 mm, additional approved catch safety devices ^{*)}
 - Power-driven doors with break-in-resistant anti-lift kit
 - Inner and outer finger trap protection
- * European patent

Seals

Floor seal made of 3-chamber EPDM profile with flexible adjustment lip, side seal, lintel seal and intermediate seal between the sections.

Technical Data Overview

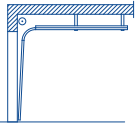
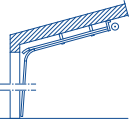
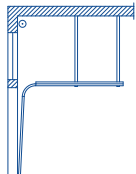
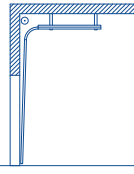
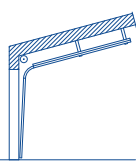
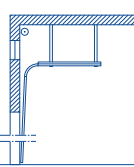
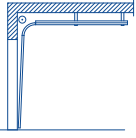
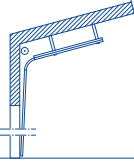
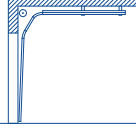
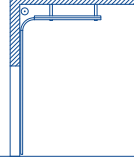
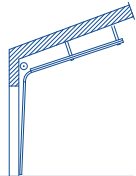
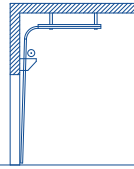
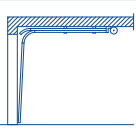
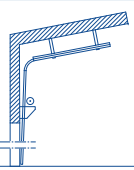
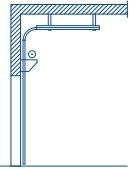
Construction and quality features		SPU F42
Resistance to wind load EN 12424	Door without wicket door, class	3 ⁴⁾
	Door with wicket door, LZ ≤ 4000, class	3 ⁴⁾
	Door with wicket door, LZ > 4000, class	2 ⁵⁾
Water tightness EN 12425	Door without wicket door, class	3 (70 Pa)
Air permeability EN 12426	Door without wicket door, class	2 ⁶⁾
	Door with wicket door, class	1 ⁷⁾
Acoustic insulation EN 717-1	Door without wicket door R = . . . dB	25
	Door with wicket door R = . . . dB	24
Thermal insulation EN 13241-1, appendix B EN 12428	Door without wicket door, U = W/(m ² ·K) ²⁾	1.0
	- Optional triple glazing, U = W/(m ² ·K) ²⁾	-
	- Optional climatic double panes (single-pane safety glass) U = W/(m ² ·K) ²⁾	-
	Door with wicket door, U = W/(m ² ·K) ²⁾	1.2
	- Optional triple glazing, U = W/(m ² ·K) ²⁾	-
	Section, U = W/(m ² ·K)	0.50
Fire protection	Class	B2
Design	Self-supporting	●
	Depth, mm	42
Door sizes	Max. width mm, LZ	8000
	Max. height mm, RM ³⁾	7000
Space requirements	From page 42	
Material, door leaf	Steel, double-skinned, 42 mm	●
	Aluminium, standard profile	-
	Aluminium, profile with thermal break	-
Surface, door leaf	Galvanized steel, coated RAL 9002	●
	Galvanized steel, coated RAL 9006	○
	Galvanized steel, coated RAL to choose	○
	Anodised aluminium E6 / C0 (previously E6 / EV 1)	○
	Aluminium coated in RAL to choose	○
		○
Wicket door	With trip-free threshold	○
Side door	Matching the door	○
Glazings	Type A section window	○
	Type D section window	○
	Type E section window	○
	Aluminium glazing frame	○
Seals	All-round on 4 sides	●
	Intermediate seal between the door sections	●
ThermoFrame	PVC hard / soft seal	○
Locking systems	Internal latches	●
	Outside / inside locking	○
Arrestor kit	For doors of up to 5 m with shaft operator	●
Safety equipment	Finger trap protection	●
	Side trap guards	●
	Spring break safeguard for manual operation	●
	Safety catch for doors with shaft operator	●
		●
Fastening options	Concrete	●
	Steel	●
	Brickwork	●
	Others on request	

● = Standard
○ = Optional

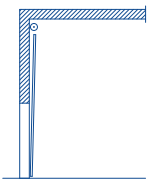
1) With optional double pane (single-pane safety glass)
2) For a door surface of 5000 × 5000 mm
3) Door height above 7000 mm on request
(not with door type ALR F42 Glazing)

4) Class 3 = 0.7 kN/m² or 120 km/h
5) Class 2 = 0.45 kN/m² or 96 km/h
6) Class 2 = 12 m³/m²h
7) Class 1 = 24 m³/m²h

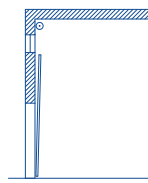
Overview of Track Applications

<p>n</p>  <p>Normal track application</p>	<p>LD</p>  <p>Like track application L, with inclination</p> <p>Door height RM ≤ 5000 mm</p>
<p>NA</p>  <p>Like track application N, with high-mounted torsion spring shaft</p> <p>Door height RM ≤ 5000 mm</p>	<p>H</p>  <p>High-lift track</p>
<p>ND</p>  <p>As with track application N, with inclination</p>	<p>HA</p>  <p>Like track application H, with high-mounted torsion spring shaft</p> <p>Door height RM ≤ 3500 mm</p>
<p>NH</p>  <p>Like track application N, with minimum high-lift</p>	<p>HD</p>  <p>Like track application H, with inclination</p>
<p>NS</p>  <p>Like track application N, with double radius $2 \times 45^\circ$</p> <p>Door height RM ≤ 5000 mm</p>	<p>HG</p>  <p>Like track application H, with steep track and minimum slot width of 120 mm (for loading ramp doors)</p> <p>Door width LZ ≤ 3500 mm</p> <p>Door height RM ≤ 5000 mm</p> <p>Not possible for door types APU F42 S-Line / ALR F42 S-Line / ALR F42 glazing and doors with wicket door and with real glass infill!</p>
<p>GD</p>  <p>Like track application NH, with inclination (maximum 27°)</p> <p>Door height RM ≤ 5000 mm</p>	<p>HU</p>  <p>Like track application H, with low-mounted torsion spring shaft</p> <p>Door height RM ≤ 5000 mm</p>
<p>L</p>  <p>Low headroom track application</p> <p>Door height RM ≤ 5000 mm</p>	<p>RD</p>  <p>Like track application HU, with inclination</p> <p>Door height RM ≤ 5000 mm</p>
<p>RG</p>  <p>Like track application HU, with steep track and minimum slot width of 120 mm (for loading ramp doors)</p> <p>Door width LZ ≤ 3500 mm</p> <p>Door height RM ≤ 5000 mm</p> <p>Not possible for door types APU F42 S-Line / ALR F42 S-Line / ALR F42 glazing and doors with wicket door and with real glass infill!</p>	

Overview of Track Applications

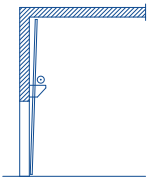
V


Vertical track application
(additional hand pulley required
for manually operated doors!)

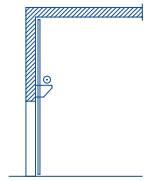
VA


Like track application V, with high-mounted
torsion spring shaft
(additional hand pulley required
for manually operated doors!)

Door height RM ≤ 3500 mm

VU


Like track application V with low-mounted
torsion spring shaft
(additional hand pulley required
for manually operated doors!)

WG


Like track application VU, with steep track
and minimum slot width of 120 mm
(for loading ramp doors)
(additional chain hoist required
for manually operated doors!)

Door width LZ ≤ 3500 mm

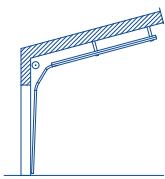
Door height RM ≤ 5000 mm

Not possible for door types APU F42

**S-Line / ALR F42 S-Line / ALR F42 glazing and
doors with wicket door and with real glass infill!**

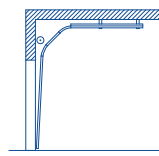
Note:

An in-factory technical inspection is required
for the following track applications.

NK


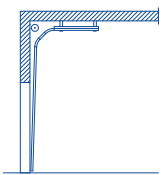
Like track application NS, but the degree values
of both radii are adapted to the situation on site

Door height RM ≤ 5000 mm

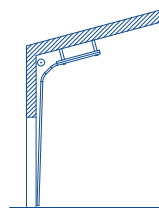
GS


Like track application NH
with 2 × 45° – double radius

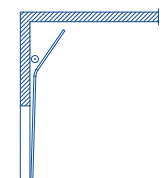
Door height RM ≤ 5000 mm

HS


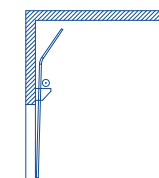
Like track application H,
with double radius 2 × 45°

HK


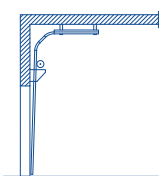
Like track application HS, but the degree values
of both radii are adapted to the situation on site

VS


Like track application V, but in the top
sections the tracks are diverted using radii
where the ceiling is too low
(additional hand pulley required for manually
operated doors!)

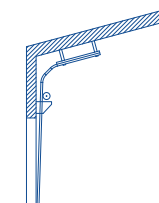
WS


Like track application VU, but in the top
sections the tracks are diverted using radii
where the ceiling is too low
(additional hand pulley required
for manually operated doors!)

RS


Like track application HU,
with 2 × 45° – double radius

Door height RM ≤ 5000 mm

RK


Like track application RS, but the degree values
of both radii are adapted to the situation on site

Door height RM ≤ 5000 mm

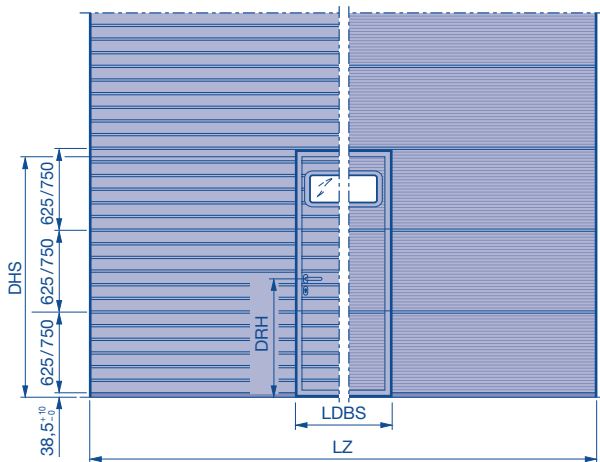
Sectional Door SPU F42

With Wicket Door with Trip-Free Threshold

Double-skinned steel sections

625 and 750 mm high, Stucco-textured / Micrograin

External views



***Note on fitting compound glazings:

For door widths from 1750–3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS) = 940 mm*

* For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Lever heights (DRH)

Bottom door section 625 = 955.5

Bottom door section 750 = 1080.5

Size range


In the size range shown, any door width can be manufactured in 10-mm increments and any door height in the 125-mm grid, taking the min. ceiling height into account. Intermediate heights using aluminium glazing frames or shortened door section above wicket door are possible.

RM	SH	[A]		[D]													
7000		4	6	2205													
6875		5	5	2205													
6750		–	9	2205													
6625		1	8	2205													
6500		2	7	2205													
6375		3	6	2205													
6250		4	5	2205													
6125		5	4	2205													
6000		–	8	2205													
5875		1	7	2205													
5750		2	6	2205													
5625		3	5	2205													
5500		4	4	2205													
5375		5	3	2205													
5250		–	7	2205													
5125		1	6	2205													
5000		2	5	2205													
4875		3	4	2205													
4750		4	3	2205													
4625		5	2	2080													
4500		–	6	2205													
4375		1	5	2205													
4250		2	4	2205													
4125		3	3	2205													
4000		4	2	2080													
3875		5	1	1955													
3750		–	5	2205													
3625		1	4	2205													
3500		2	3	2205													
3375		3	2	2080													
3250		4	1	1955													
3125		5	–	1830													
3000		–	4	2205													
2875		1	3	2205													
2750		2	2	2080													
2625		3	1	1955													
2500		4	–	1830													
2375		4	–***	1830													
2250		–	3	2125													
2125		1	2	2000													
2000		2	1	1875													
	3	4	5	Number of infills / fields per aluminium frame													
	2	3	4	5	Number of compound glazings per door section**												
	(Number of infills / fields – 1) × 2				Number of ventilation grilles, ventilation area 40 cm² per grille												
	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
	SPB 52																
	LZ																

Notes:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a view of the matching appearance with doors without wicket doors see page 33–35.
- Number of glazings, matching view to series 40, see page 36.

 On request

 Glazings on request

[A] Number of door sections TH = 625 mm and TH = 750 mm

[D] Clear passage heights (DHS) of wicket door to grid height

SH Threshold height (rising from 5 to 10)

SPB Rail width

DHS Clear passage height of wicket door

RM Grid height

LDBS Clear passage width

DRH Lever height

LZ Clear frame dimensions (from 1750)

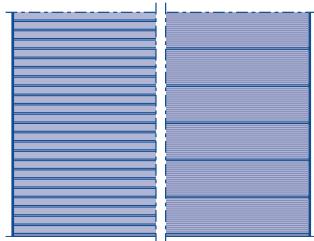
*** Top door section shortened to 500 mm

Sectional Door SPU F42 Double-Skinned Steel Sections

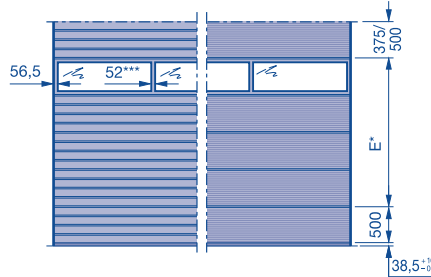
375 and 500 mm high

Stucco-textured / Micrograin

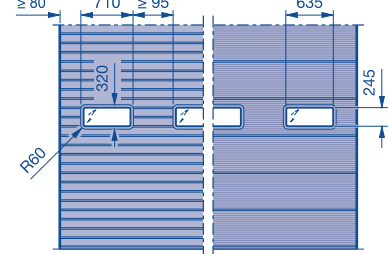
External views



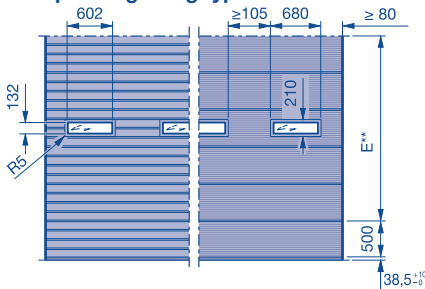
Glazing frame



Compound glazing type A



Compound glazing type D



- E* Fitting area for frame 500 with glazing
- E** Fitting area for compound glazing
- *** Optionally with wide rail extrusions (91 mm)

Size range

In the size range shown, any door width can be manufactured in 10-mm increments and any door height in the 125-mm grid, taking the min. ceiling height into account. Intermediate heights using aluminium glazing frames or shortened top door section are possible.

RM	[A]					[A]	
	1	2	3	4	5	7000	14
7000						7000	-
6875						6875	1
6750						6750	2
6625						6625	3
6500						6500	-
6375						6375	1
6250						6250	2
6125						6125	3
6000						6000	-
5875						5875	1
5750						5750	2
5625						5625	3
5500						5500	-
5375						5375	1
5250						5250	2
5125						5125	3
5000						5000	-
4875						4875	1
4750						4750	2
4625						4625	3
4500						4500	-
4375						4375	1
4250						4250	2
4125						4125	3
4000						4000	-
3875						3875	1
3750						3750	2
3625						3625	3
3500						3500	-
3375						3375	1
3250						3250	2
3125						3125	3
3000						3000	-
2875						2875	1
2750						2750	2
2625						2625	3
2500						2500	-
2375						2375	1
2250						2250	2
2125						2125	3
2000						2000	-
1875						1875	1

RM	1	2	3	4	5	Number of infills / fields per aluminium frame
7000						14
6875						13
6750						12
6625						11
6500						11
6375						12
6250						11
6125						10
6000						12
5875						11
5750						10
5625						9
5500						11
5375						10
5250						9
5125						8
5000						10
4875						9
4750						8
4625						7
4500						9
4375						8
4250						7
4125						6
4000						8
3875						7
3750						6
3625						5
3500						7
3375						6
3250						5
3125						4
3000						6
2875						5
2750						4
2625						3
2500						5
2375						4
2250						3
2125						2
2000						4
1875						3

SPB 52	LZ	Number of compound glazings per door section	Number of ventilation grilles, ventilation area 40 cm ² per grille
1500	1500	2	2
2000	2000	3	3
2250	2250	4	4
2500	2500	5	5
2750	2750	6	6
3000	3000	7	7
3250	3250	8	8
3500	3500	9	9
3750	3750	10	10
4000	4000	11	11
4250	4250	12	12
4500	4500	13	13
4750	4750	14	14
5000	5000	15	15
5250	5250	16	16
5500	5500	17	17
5750	5750	18	18
6000	6000	19	19
6250	6250	20	20
6500	6500	21	21
6750	6750	22	22
7000	7000	23	23
7250	7250	24	24
7500	7500	25	25
7750	7750	26	26
8000	8000	27	27

- Notes:**
- Glazing frame as thermo version only up to 7000 mm wide.
 - For a view of the matching appearance with doors with wicket doors see page 33–35.
 - Number of glazings, matching view to series 40, see page 36.

- On request
- [1] 1 → 1360, on request → 1740
- [A] Number of door sections TH = 375 mm and TH = 500 mm
- RM Grid height
- LZ Clear frame dimensions (from 1200)
- Up to LZ
- SPB Rail width
- **** See table 1 on page 10

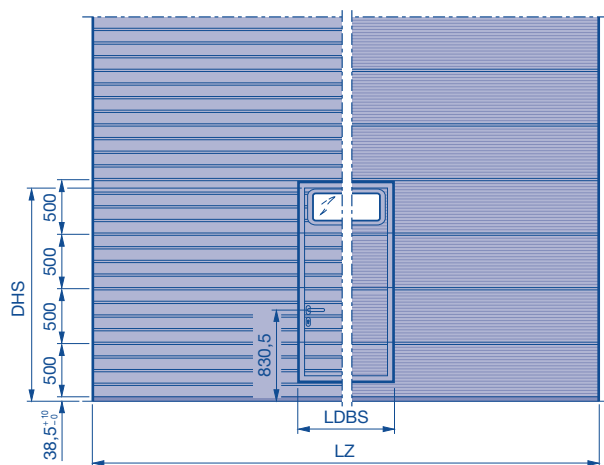
Sectional Door SPU F42

With Wicket Door and Threshold Rail

Double-skinned steel sections

375 and 500 mm high, Stucco-textured / Micrograin

External view



*****Note on fitting compound glazings:**

For door widths from 1750 – 3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

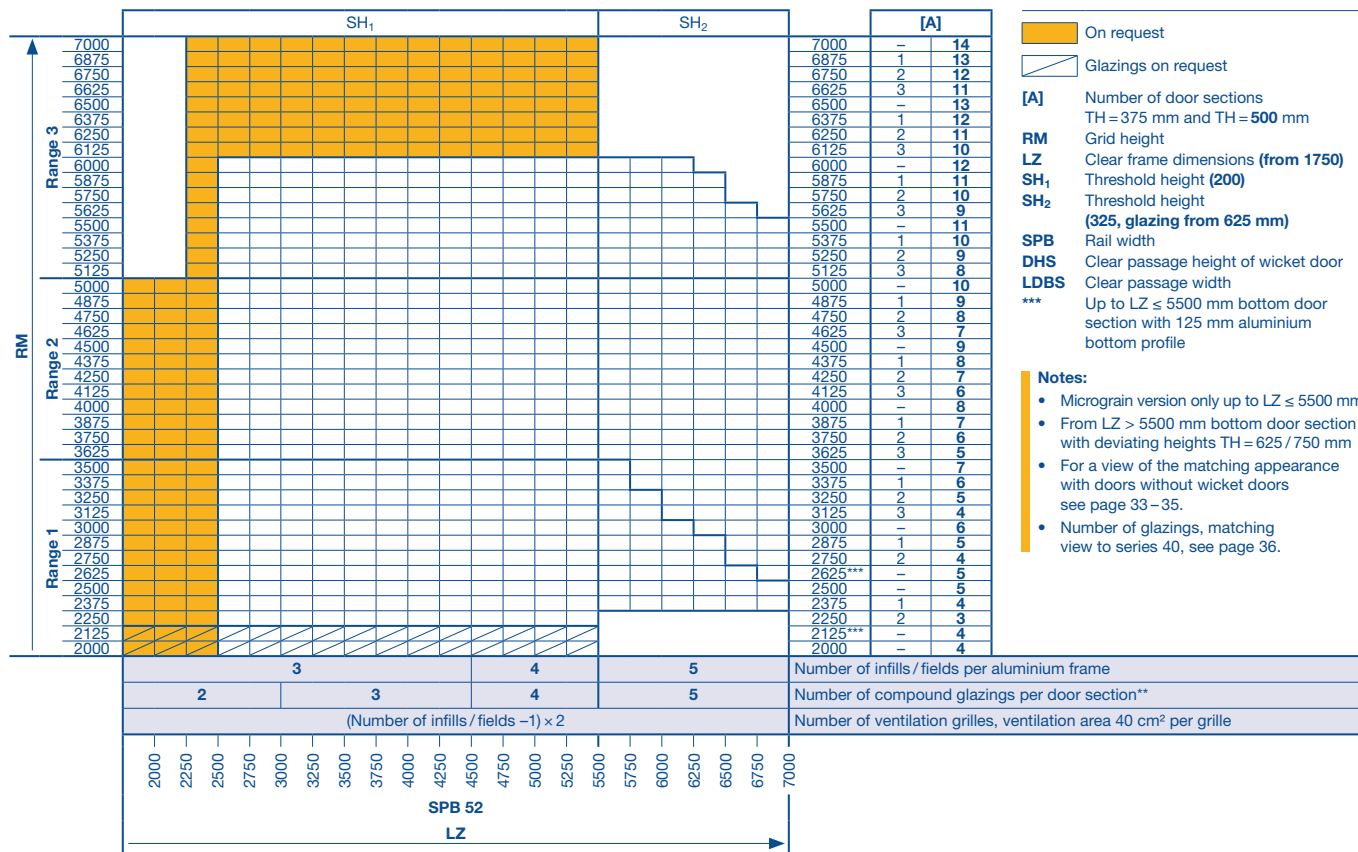
Clear passage width (LDBS) = 940 mm*

* For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Grid height	Clear passage height of wicket door (DHS)
2000	1955
2125	2080
2250	1830
2625	2080
All other grid heights	1955

Size range

In the size range shown, any door width can be manufactured in 10-mm increments and any door height in the 125-mm grid, taking the min. ceiling height into account. Intermediate heights using aluminium glazing frames or shortened door section above wicket door are possible.



- On request
- Glazings on request
- [A]** Number of door sections
TH = 375 mm and TH = 500 mm
- RM** Grid height
- LZ** Clear frame dimensions (from 1750)
- SH₁** Threshold height (200)
- SH₂** Threshold height (325, glazing from 625 mm)
- SPB** Rail width
- DHS** Clear passage height of wicket door
- LDBS** Clear passage width
- ***** Up to LZ ≤ 5500 mm bottom door section with 125 mm aluminium bottom profile

- Notes:**
- Micrograin version only up to LZ ≤ 5500 mm.
 - From LZ > 5500 mm bottom door section with deviating heights TH = 625 / 750 mm
 - For a view of the matching appearance with doors without wicket doors see page 33 – 35.
 - Number of glazings, matching view to series 40, see page 36.

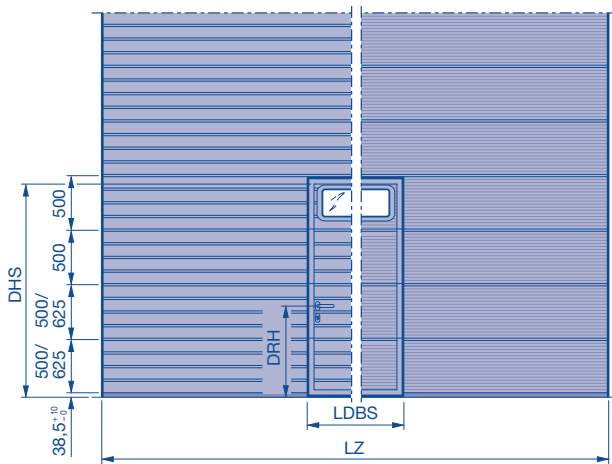
2	3	3	4	5	Number of infills / fields per aluminium frame
(Number of infills / fields - 1) × 2					Number of compound glazings per door section**
					Number of ventilation grilles, ventilation area 40 cm ² per grille

Sectional Door SPU F42 With Wicket Door with Trip-Free Threshold

Double-skinned steel sections

375 and 500 mm high, Stucco-textured / Micrograin

External view



***Note on fitting compound glazings:

For door widths from 1750–3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS) = 940 mm*

* For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Grid height	Clear passage height of wicket door (DHS)
2000	1875
2125	2000
2250	2125
2625	2080
All other grid heights	1955

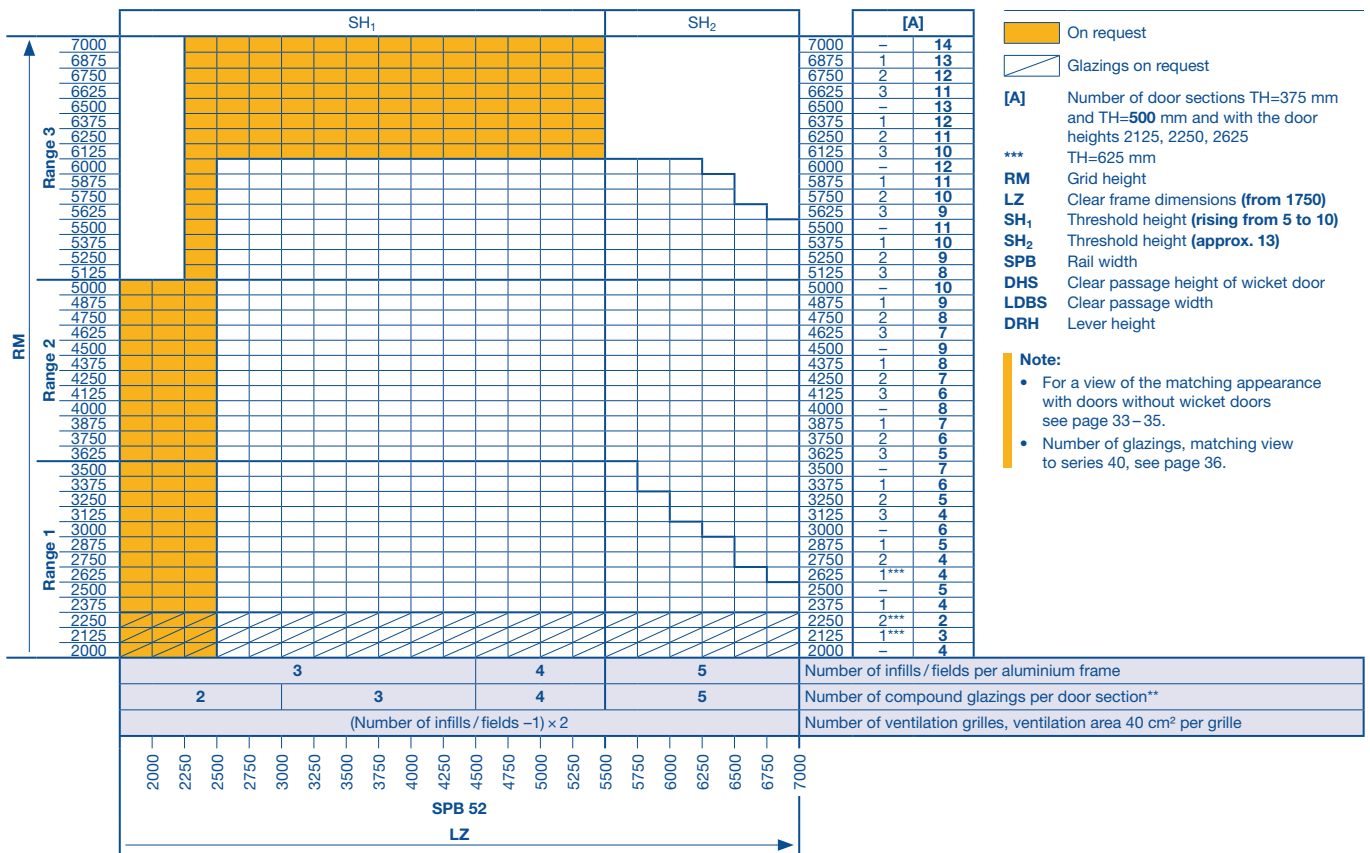
Lever heights (DRH)

Bottom door section 500 = 830.5

Bottom door section 625 = 955.5

Size range

In the size range shown, any door width can be manufactured in 10-mm increments and any door height in the 125-mm grid, taking the min. ceiling height into account. Intermediate heights using aluminium glazing frames or shortened door section above wicket door are possible.



- On request
- Glazings on request
- [A] Number of door sections TH=375 mm and TH=500 mm and with the door heights 2125, 2250, 2625
- *** TH=625 mm
- RM Grid height
- LZ Clear frame dimensions (from 1750)
- SH₁ Threshold height (rising from 5 to 10)
- SH₂ Threshold height (approx. 13)
- SPB Rail width
- DHS Clear passage height of wicket door
- LDBS Clear passage width
- DRH Lever height

Note:

- For a view of the matching appearance with doors without wicket doors see page 33–35.
- Number of glazings, matching view to series 40, see page 36.

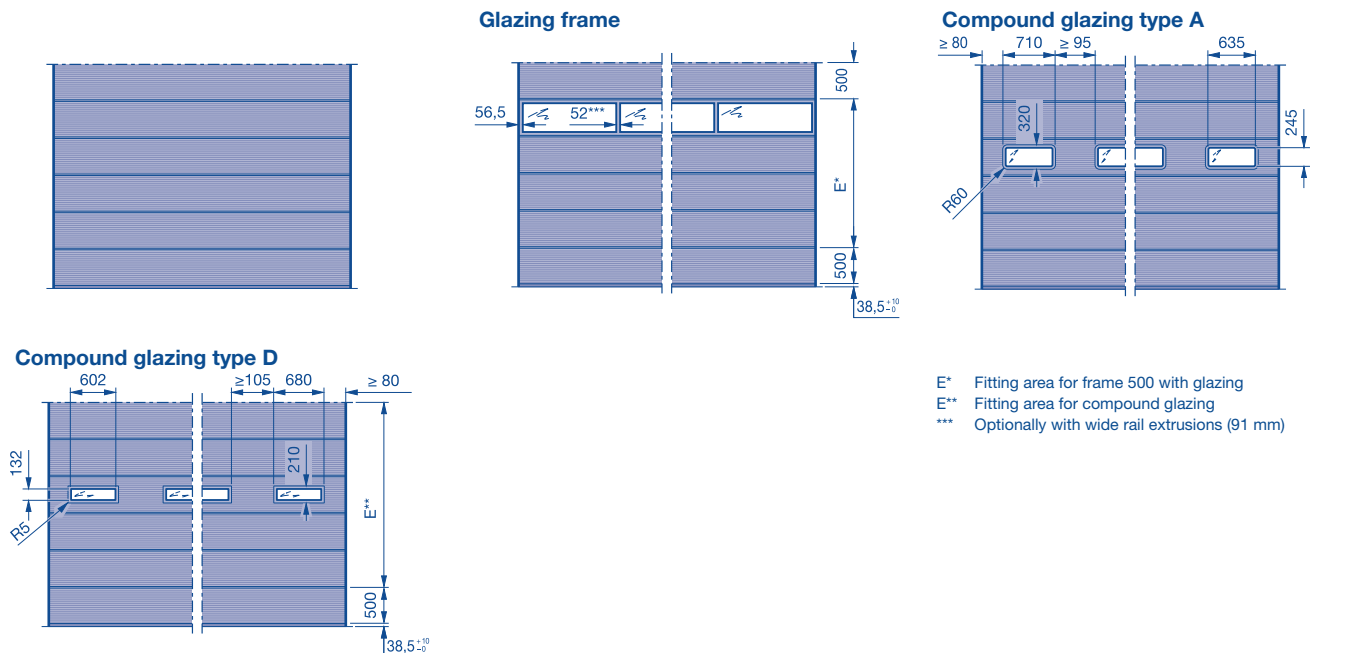
Sectional Door SPU F42

Double-Skinned Steel Sections

500 mm high

Micrograin

External views



E* Fitting area for frame 500 with glazing
 E** Fitting area for compound glazing
 *** Optionally with wide rail extrusions (91 mm)

Size range

In the size range shown, any door width can be manufactured in 10-mm increments and any door height in the 500-mm grid, taking the min. ceiling height into account. Intermediate heights using aluminium glazing frames or shortened top door section with 500-mm ribbing grid are possible.

RM	Range 3		Range 2		Range 1		[A]	[B]
	7000	6500	6000	5500	5000	4500	4000	3500
							14	up to 6750 = 13
							13	up to 6250 = 12
							12	up to 5750 = 11
							11	up to 5250 = 10
							10	up to 4750 = 9
							9	up to 4250 = 8
							8	up to 3750 = 7
							7	up to 3250 = 6
							6	up to 2750 = 5
							5	up to 2250 = 4
							4	4

[1]	2	3	4	5	Number of infills / fields per aluminium frame
****	2	3	4	5	Number of compound glazings per door section
	Number of infills / fields × 2				Number of ventilation grilles, ventilation area 40 cm² per grille

SPB 52	LZ
1500	1500
2000	2000
2250	2250
2500	2500
2750	2750
3000	3000
3250	3250
3500	3500
3750	3750
4000	4000
4250	4250
4500	4500
4750	4750
5000	5000
5250	5250
5500	5500
5750	5750
6000	6000
6250	6250
6500	6500
6750	6750
7000	7000
7250	7250
7500	7500
7750	7750
8000	8000

- Notes:**
- Glazing frame as thermo version only up to 7000 mm wide.
 - For a view of the matching appearance with doors with wicket doors see page 33–35.
 - Number of glazings, matching view to series 40, see page 36.

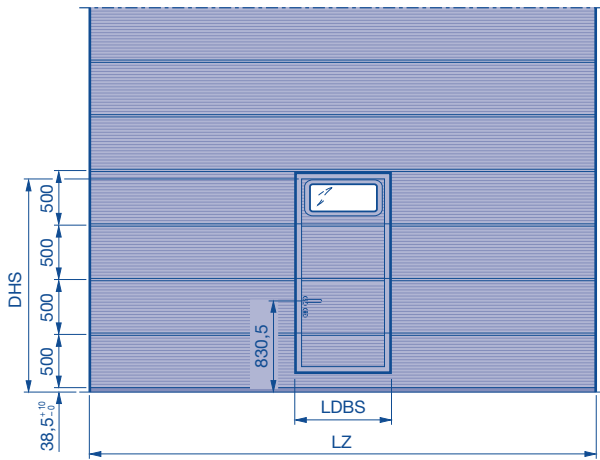
On request
 [1] 1 → 1360, on request → 1740
 [A] Number of door sections TH = 500 mm
 [B] Number of door sections for intermediate heights
 RM Grid height
 LZ Clear frame dimensions (from 1200)
 → Up to LZ
 SPB Rail width
 **** See table 1 on page 10

Sectional Door SPU F42 With Wicket Door and Threshold Rail

Double-skinned steel sections

500 mm high, Micrograin

External view



*****Note on fitting compound glazings:**

For door widths from 1750–3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS) = 940 mm*

* For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Grid height	Clear passage height of wicket door (DHS)
All grid heights	1955

Size range

In the size range shown, any door width can be manufactured in 10-mm increments and any door height in the 500-mm grid, taking the min. ceiling height into account. Intermediate heights from the fifth door section using aluminium glazing frames or adjusted top door section above wicket door are possible!

RM	SH ₁		[A]	[B]
	7000	[Grid]		7000
6500	[Grid]		6500	13 up to 6250 = 12
6000	[Grid]		6000	12 up to 5750 = 11
5500	[Grid]		5500	11 up to 5250 = 10
5000	[Grid]		5000	10 up to 4750 = 9
4500	[Grid]		4500	9 up to 4250 = 8
4000	[Grid]		4000	8 up to 3750 = 7
3500	[Grid]		3500	7 up to 3250 = 6
3000	[Grid]		3000	6 up to 2750 = 5
2500	[Grid]		2500	5 up to 2250 = 4
2000	[Grid]		2000	4 up to 1750 = 3

3		4		
2		3		Number of infills / fields per aluminium frame
(Number of infills / fields - 1) × 2		4		Number of compound glazings per door section**
				Number of ventilation grilles, ventilation area 40 cm ² per grille

LZ	SPB 52
2000	
2250	
2500	
2750	
3000	
3250	
3500	
3750	
4000	
4250	
4500	
4750	
5000	
5250	
5500	

Note:

- For a view of the matching appearance with doors without wicket doors see page 33–35.
- Number of glazings, matching view to series 40, see page 36.

On request

[A] Number of door sections TH = 500 mm
 [B] Number of door sections for intermediate heights
 RM Grid height

LZ Clear frame dimensions (from 1750)
 SH₁ Threshold height (200)
 SPB Rail width
 DHS Clear passage height of wicket door

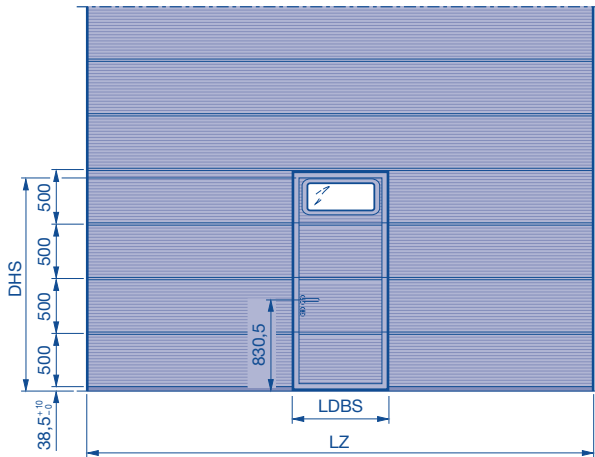
LDBS Clear passage width

Sectional Door SPU F42 With Wicket Door with Trip-Free Threshold

Double-skinned steel sections

500 mm high, Micrograin

External view



***Note on fitting compound glazings:

For door widths from 1750–3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS) = 940 mm*

* For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Grid height	Clear passage height of wicket door (DHS)
2000	1875
All other grid heights	1955

Size range

In the size range shown, any door width can be manufactured in 10-mm increments and any door height in the 500-mm grid, taking the min. ceiling height into account. Intermediate heights from the fifth door section using aluminium glazing frames or adjusted top door section above wicket door are possible!

RM	Range 3	SH ₁										SH ₂										[A]	[B]		
		7000																					7000	14	up to 6750 = 13
6500																							6500	13	up to 6250 = 12
6000																							6000	12	up to 5750 = 11
5500																							5500	11	up to 5250 = 10
5000																							5000	10	up to 4750 = 9
4500																							4500	9	up to 4250 = 8
4000																							4000	8	up to 3750 = 7
3500																							3500	7	up to 3250 = 6
3000																							3000	6	up to 2750 = 5
2500																							2500	5	up to 2250 = 4
2000																							2000	4	4
		2		3		3		4		4		5		5											

Glazing Heights for Matching External Appearance SPU F42 Stucco-Textured

(Centre of window from FFL)

Door section heights 500, 625 and 750 mm

Glazing heights for matching external appearance of compound windows type A and D.

RM	Glazing heights (centre of window from FFL)											
	1155	1280	1530	1655	1780	1905	2030	2155	2280	2405	2530	2655
7000		X			X				X			
6875	X	X		X	X			X	X			X
6750	X	X			X		X				X	X
6625	X	X		X	X	X	X			X	X	X
6500		X			X				X			
6375	X	X		X	X			X	X			X
6250	X	X	X	X	X		X	X	X		X	X
6125	X	X	X	X	X	X	X	X	X	X	X	X
6000		X			X							
5875	X	X		X	X							X
5750	X	X	X	X	X		X		X		X	X
5625	X	X	X	X	X	X	X	X	X	X	X	X
5500		X			X				X			
5375	X	X		X	X			X	X			X
5250	X	X			X		X				X	X
5125	X	X		X	X	X	X			X	X	X
5000		X			X				X			
4875	X	X		X	X			X	X			X
4750	X	X	X	X	X		X	X	X		X	X
4625	X	X	X	X	X	X		X	X	X	X	
4500		X			X							
4375	X	X		X	X							X
4250	X	X	X	X	X	X	X		X	X	X	X
4125	X	X	X	X	X	X	X	X	X	X	X	X
4000		X			X				X			
3875	X			X	X			X	X			
3750	X	X			X		X				X	X
3625	X	X		X	X	X	X			X	X	X
3500		X			X				X			
3375	X	X		X	X				X			
3250	X		X	X	X			X	X			
3125			X	X				X				
3000		X			X							
2875	X	X		X	X							X
2750	X	X	X	X	X						X	
2625	X		X	X						X		
2500									X			
2375				X				X				
2250	X	X					X					
2125	X					X						
2000					X							
1875				X								

RM Grid height

Calculating the Glazing Heights

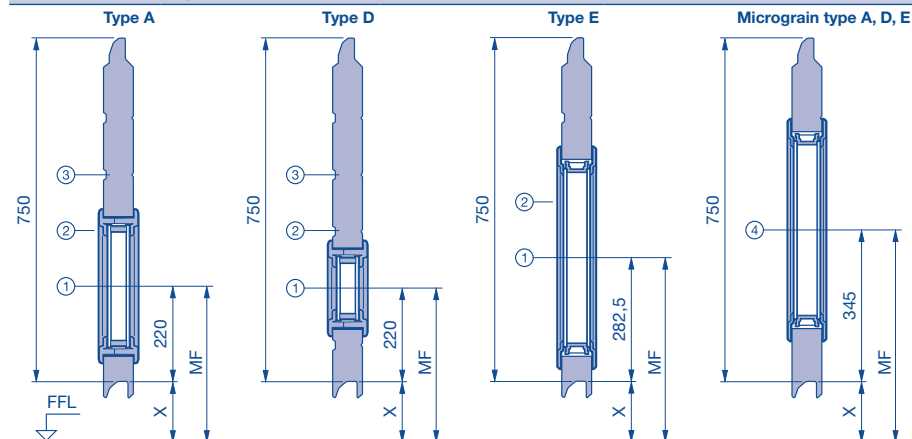
(Centre of window from FFL)

Door section heights 500, 625 and 750 mm

Calculating the glazing heights for compound windows type A, type D and type E.

See door type for number of door sections and glazing areas. The illustrations correspond to a section depth of 42 mm.

Door section height 750 mm



Glazing height type A and D

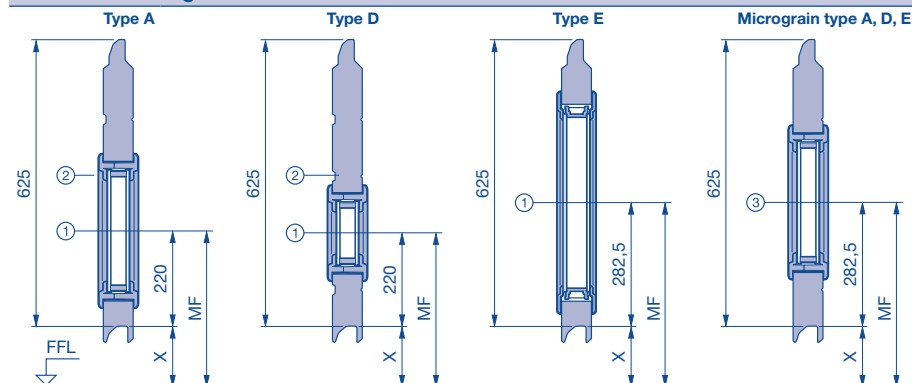
- ① = $x + 220$
- ② = $x + 220 + 125$
- ③ = $x + 220 + 250$
- ④ = $x + 345$

Glazing height type E

- ① = $x + 282.5$
- ② = $x + 282.5 + 125$
- ④ = $x + 345$

x = Sum of door section heights + 60 mm from FFL

Door section height 625 mm



Glazing height type A and D

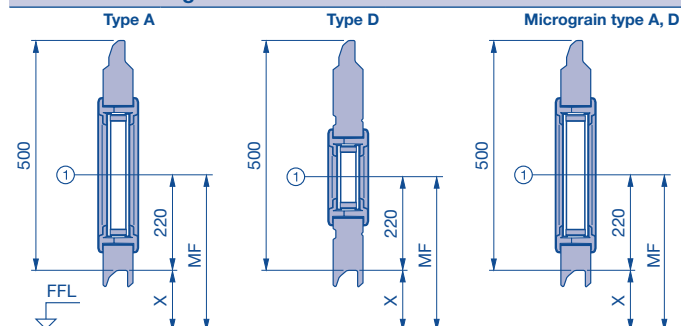
- ① = $x + 220$
- ② = $x + 220 + 125$
- ③ = $x + 282.5$

Glazing height type E

- ① = $x + 282.5$
- ③ = $x + 282.5$

x = Sum of door section heights + 60 mm from FFL

Door section height 500 mm



Glazing height type A and D

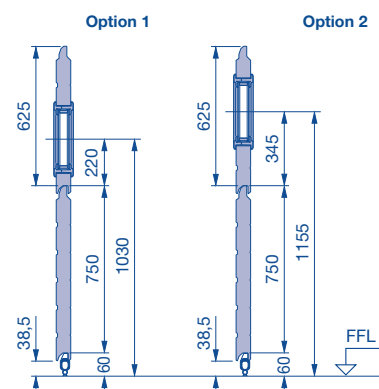
- ① = $x + 220$

Glazing height type E

Not possible!

x = Sum of door section heights + 60 mm from FFL

Calculation example



Given:

- Door type SPU F42; grid height (RM) = 3250 mm; glazing type A; position see below number of door sections (see table of door types)
- Door section 625 mm = 4 units
- Door section 750 mm = 1 unit

Option	Door section / position	Glazing height
1	in 2nd door section 625 mm at position 1	$750 + 60 + 220 = 1030$ mm from FFL
2	in 2nd door section 625 mm at position 2	$750 + 60 + 220 + 125 = 1155$ mm from FFL
3	in 3rd door section 625 mm at position 1	$750 + 625 + 60 + 220 = 1655$ mm from FFL
4	in 3rd door section 625 mm at position 2	$750 + 625 + 60 + 220 + 125 = 1780$ mm from FFL
etc.		

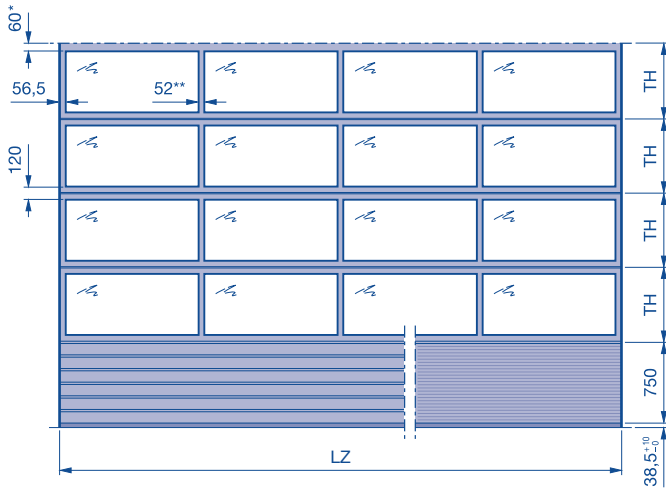
MF Centre of window from FFL

Sectional Door APU F42 / APU F42 Thermo

Aluminium extrusions

Double-skinned bottom section

External view



$$TH = \frac{\text{Door height} - \text{bottom section height} - 35}{\text{Number of door section frames}}$$

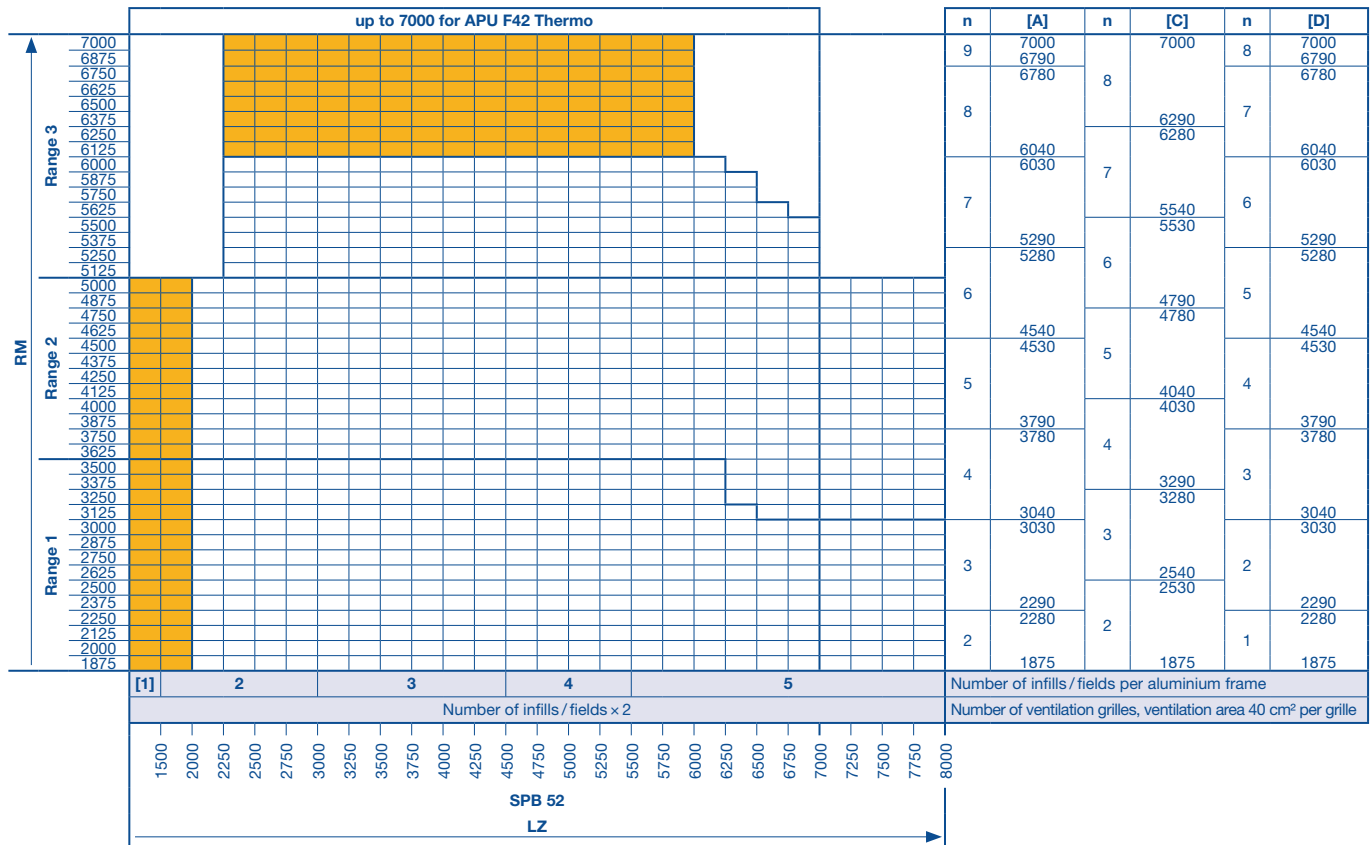
- * On request 120 mm, so as to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.
- ** Optionally with wide rail extrusions (91 mm)

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a view of the matching appearance with doors with wicket doors see page 33–35.
- Number of glazings, matching view to series 40, see page 36.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.



On request

[1] 1 → 1360, on request → 1740

Number of door section frames:

[A] Bottom section height 750 mm (standard)

[C] Bottom section height 1000 mm

[D] Bottom section height 1500 mm

RM Grid height

LZ Clear frame dimensions (from 1200)

→ Up to LZ

SPB Rail width

n Number of aluminium frames

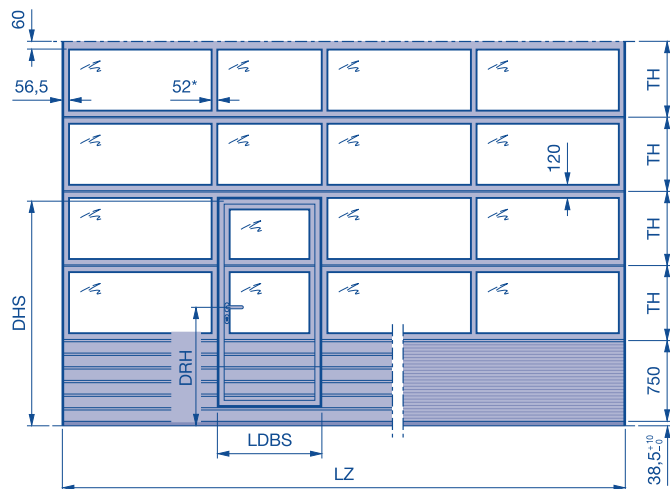
TH Door section height

Sectional Door APU F42 / APU F42 With Wicket Door and Threshold Rail

Aluminium extrusions

Bottom section height 750

External view



Lever height on request

Clear passage width (LDBS) = 940 mm**

Clear passage height of wicket door (DHS) =
 $n_1 \times TH + (\text{bottom section height} - 45)$

- n₁ Number of frames in the wicket door
- * Optionally with wide rail extrusions (91 mm)
- ** For a door width of 1750 – 1840 mm, the clear passage width is 833 mm.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- Micrograin version only up to door width ≤ 5500 mm.
- For a view of the matching appearance with doors without wicket doors see page 33 – 35.
- Number of glazings, matching view to series 40, see page 36.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

RM	SH ₁				SH ₂				n	Height	RM	DHS	n ₁	Height	
	2	3	4	5	2	3	4	5							
7000									9	7000	7000	2086			
6875									8	6790	6875	2058	2		
6750								6780		6750	2196				
6625										6625	2165				
6500								7		6500	2134	2			
6375										6375	2103				
6250										6250	2071				
6125								6	6040	6125	2040	2			
6000									6030	6000	2195				
5875										5875	2159				
5750								5		5750	2124	2			
5625										5625	2088				
5500										5500	2052				
5375								4	5290	5375	2016	2			
5250									5280	5250	2193				
5125										5125	2152				
5000								3		5000	2110	2			
4875										4875	2068				
4750										4750	2027				
4625								2	4540	4625	1985	2			
4500									4530	4500	2191				
4375										4375	2141				
4250								1		4250	2091	2			
4125										4125	2041				
4000										4000	1991				
3875								2	3790	3875	1941	2			
3750									3780	3750	2188				
3625										3625	2125				
3500								1		3500	2063	2			
3375										3375	2000				
3250										3250	1938				
3125								2	3040	3125	1875	2			
3000									3030	3000	2182				
2875										2875	2096				
2750								1		2750	2015	2			
2625										2625	1932				
2500										2500	1848				
2375								2	2290	2375	2295	3	2430		
2250									2280	2250	2170		2	2420	
2125										2125	2045				
2000									2000	1920					
										Number of infills / fields per aluminium frame					
										Number of ventilation grilles, ventilation area 40 cm ² per grille					
										(Number of infills / fields - 1) × 2					
										SPB 52					
										LZ					

On request

- DHS Clear passage height of wicket door
- DRH Lever height
- LZ Clear frame dimensions (from 1750)
- RM Grid height
- SPB Rail width

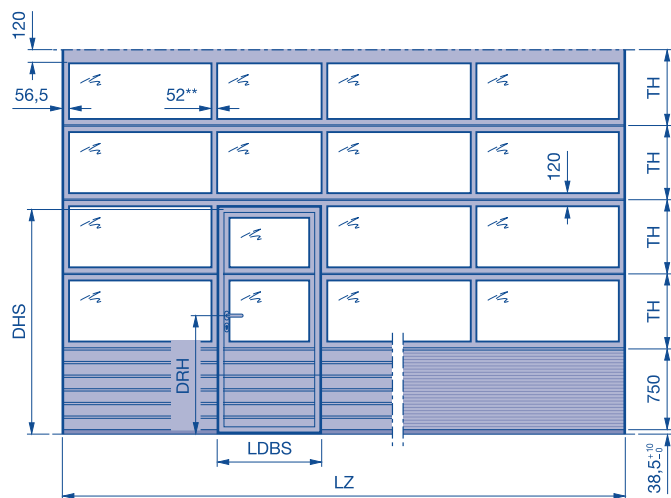
- SH₁ Threshold height (200)
- SH₂ Threshold height (325)
- n Number of aluminium frames
- n₁ Number of aluminium frames in the wicket door
- TH Door section height

Sectional Door APU F42 / APU F42 Thermo with Wicket Door with Trip-Free Threshold

Aluminium extrusions

Bottom section height 750

External view



Lever height on request

Clear passage width (LDBS) = 940 mm***

Clear passage height of wicket door (DHS) = $n_1 \times TH + (\text{bottom section height} - 45^*)$

- n_1 Number of frames in the wicket door
- * Attention: If there is no frame above the wicket door, then - 90 instead of - 45.
- ** Optionally with wide rail extrusions (91 mm)
- *** For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a view of the matching appearance with doors without wicket doors see page 33 - 35.
- Number of glazings, matching view to series 40, see page 36.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

RM	Range 3	Range 2	Range 1	SH ₁					SH ₂					n	Height	RM	DHS	n ₁	Height														
				2	3	4	5	6	7	8	9	10	11							12	13	14	15										
7000															9	7000	7000	2086															
6875																6790	6875	2058	2														
6750																6780	6750	2196															
6625																	6625	2165															
6500																	6500	2134	2														
6375																	6375	2103															
6250																	6250	2071															
6125																	6125	2040															
6000																	6000	2195															
5875																	5875	2159															
5750																	5750	2124	2														
5625																	5625	2088															
5500																	5500	2052															
5375																	5375	2016															
5250																	5250	2193															
5125																	5125	2152															
5000																	5000	2110	2														
4875																	4875	2068															
4750																	4750	2027															
4625																	4625	1985															
4500																	4500	2191															
4375																	4375	2141															
4250																	4250	2091	2														
4125																	4125	2041															
4000																	4000	1991															
3875																	3790	1941															
3750																	3780	2188															
3625																	3625	2125															
3500																	3500	2063	2														
3375																	3375	2000															
3250																	3250	1938															
3125																	3040	1875															
3000																	3030	2182															
2875																	2875	2096															
2750																	2750	2015	2														
2625																	2625	1932															
2500																	2500	1848															
2375																	2290	2375	3	2430													
2250																	2280	2250		2420													
2125																	2125	2000	2														
2000																	2000	1875															
				2					3					4					5					Number of infills / fields per aluminium frame									
				(Number of infills / fields - 1) × 2															Number of ventilation grilles, ventilation area 40 cm² per grille														
				SPB 52															LZ														

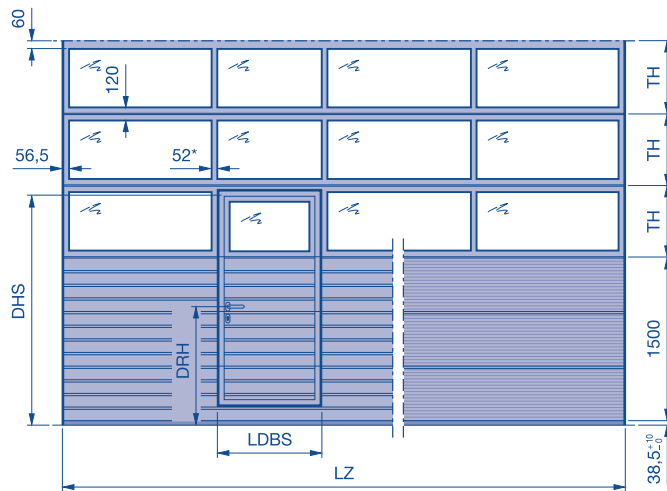
- On request
- DHS** Clear passage height of wicket door
- LZ** Clear frame dimensions (from 1750)
- DRH** Lever height
- RM** Grid height
- SPB** Rail width
- SH₁** Threshold height (rising from 5 to 10)
- SH₂** Threshold height (approx. 13)
- n** Number of aluminium frames
- n₁** Number of aluminium frames in the wicket door
- TH** Door section height

Sectional Door APU F42 / APU F42 With Wicket Door and Threshold Rail

Aluminium extrusions

Bottom section height 1500

External view



Lever height on request

Clear passage width (LDBS) = 940 mm**

Clear passage height wicket door (DHS) = $n_1 \times TH + (\text{bottom section height} - 45)$

n_1 : Number of frames in the wicket door

* Optionally with wide rail extrusions (91 mm)

** For a door width of 1750 – 1840 mm, the clear passage width is 833 mm.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- Micrograin version only up to door width ≤ 5500 mm.
- For a view of the matching appearance with doors without wicket doors see page 33 – 35.
- Number of glazings, matching view to series 40, see page 36.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

RM	SH ₁				SH ₂				n	Height	RM	DHS	n ₁
	2	3	4	5	2	3	4	5					
7000									8	7000	7000	2138	1
6875									7	6790	6875	2123	1
6750								6780		6750	2200	2182	
6625									6	6040	6625	2182	1
6500								6500			6375	2146	
6375									5	6030	6375	2111	1
6250								6125			6000	2199	
6125									4	5290	6000	2199	1
6000								5875			5750	2158	
5875									3	5280	5625	2137	1
5750								5500			5375	2095	
5625									2	4540	5500	2116	1
5500								5375			5250	2198	
5375									1	4530	5125	2173	1
5250								5000			4875	2148	
5125									4	3790	4750	2123	1
5000								4625			4500	2098	
4875									3	3780	4625	2073	1
4750								4500			4375	2196	
4625									2	3780	4375	2165	1
4500								4250			4125	2134	
4375									1	3040	4000	2071	1
4250								3875			3750	2040	
4125									3	3030	3750	2193	1
4000								3625			3500	2152	
3875									2	2290	3500	2110	1
3750								3375			3250	2068	
3625									1	2280	3250	2027	1
3500								3040			3125	1985	
3375									2	2000	3000	2188	1
3250								2875			2750	2125	
3125									1	2000	2625	2000	1
3000								2500			2375	1938	
2875									1	2000	2375	1875	1
2750								2250			2125	2170	
2625									1	2000	2125	2045	1
2500								2000			1920	1920	
2375									Number of infills / fields per aluminium frame				
2250									(Number of infills / fields - 1) × 2				
2125									Number of ventilation grilles, ventilation area 40 cm ² per grille				
2000													

On request

- DHS** Clear passage height of wicket door
- DRH** Lever height
- LZ** Clear frame dimensions (from 1750)
- RM** Grid height
- SPB** Rail width

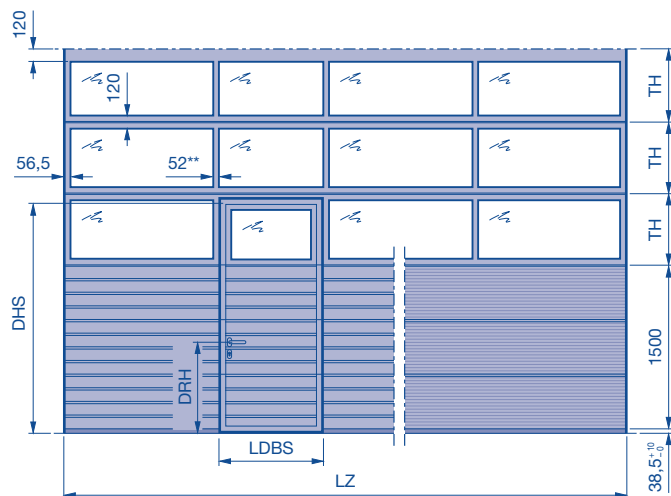
- SH₁** Threshold height (200)
- SH₂** Threshold height (325)
- n** Number of aluminium frames
- n₁** Number of aluminium frames in the wicket door
- TH** Door section height

Sectional Door APU F42 / APU F42 Thermo with Wicket Door with Trip-Free Threshold

Aluminium extrusions

Bottom section height 1500

External view



Lever height (DRH):

$LZ \leq 6000 = 1080.5$

$LZ > 6000 = 830.5$

Clear passage width (LDBS) = 940 mm***

Clear passage height of wicket door (DHS) =

$n_1 \times TH + (\text{bottom section height} - 45^*)$

n_1 Number of frames in the wicket door

* Attention: If there is no frame above the wicket door, then - 90 instead of - 45.

** Optionally with wide rail extrusions (91 mm)

*** For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a view of the matching appearance with doors without wicket doors see page 33-35.
- Number of glazings, matching view to series 40, see page 36.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

RM	SH ₁					SH ₂					n	Height	RM	DHS	n ₁									
	2	3	4	5	6	7	8	9	10															
7000											8	7000	7000	2138	1									
6875											6875	6875	2123											
6750											6750	6750	2200											
6625											6625	6625	2182											
6500											6500	6500	2164											
6375											6375	6375	2146											
6250											6250	6250	2129											
6125											6125	6125	2111											
6000											6000	6000	2199											
5875											5875	5875	2178											
5750											5750	5750	2158											
5625											5625	5625	2137											
5500											5500	5500	2116											
5375											5375	5375	2095											
5250											5250	5250	2198											
5125											5125	5125	2173											
5000											5000	5000	2148											
4875											4875	4875	2123											
4750											4750	4750	2098											
4625											4625	4625	2073											
4500											4500	4500	2196											
4375											4375	4375	2165											
4250											4250	4250	2134											
4125											4125	4125	2103											
4000											4000	4000	2071											
3875											3875	3875	2040											
3750											3750	3750	2193											
3625											3625	3625	2152											
3500											3500	3500	2110											
3375											3375	3375	2068											
3250											3250	3250	2027											
3125											3125	3125	1985											
3000											3000	3000	2188											
2875											2875	2875	2125											
2750											2750	2750	2063											
2625											2625	2625	2000											
2500											2500	2500	1938											
2375											2375	2375	1875											
2250											2250	2250	2125											
2125											2125	2125	2000											
2000											2000	2000	1875											
											Number of infills / fields per aluminium frame													
	(Number of infills / fields - 1) × 2										Number of ventilation grilles, ventilation area 40 cm² per grille													
	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000			
	SPB 52																							
	LZ																							

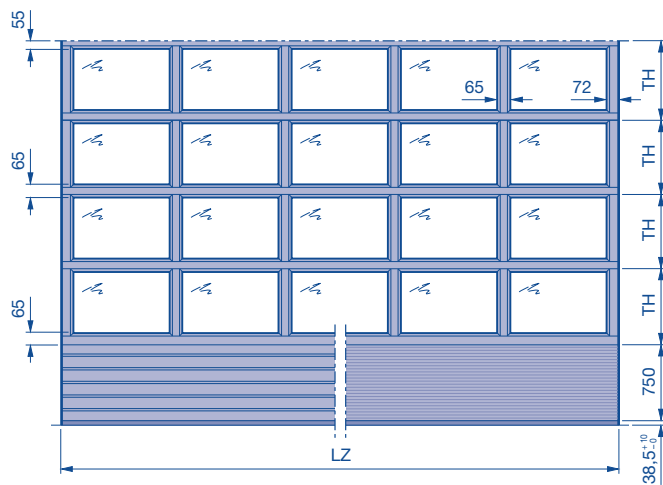
- On request
- DHS** Clear passage height of wicket door
- LZ** Clear frame dimensions (from 1750)
- RM** Grid height
- SPB** Rail width
- SH₁** Threshold height (rising from 5 to 10)
- SH₂** Threshold height (approx. 13)
- n** Number of aluminium frames
- n₁** Number of aluminium frames in the wicket door
- TH** Door section height

Sectional Door APU F42 S-Line

Aluminium extrusions

Double-skinned bottom section

External view



$$TH = \frac{\text{Door height} - \text{bottom section height} - 77}{\text{Number of door section frames}}$$

Note:

When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

RM	Range 3	Range 2	Range 1	[1]	2	3	4	5	n	[A]	n	[B]	n	[C]	n	[D]
									10	6790 6780	10	6540 6530	9	6375 6370	9	6875 6870
9	6125 6120	9	5875 5870	8	5720 5710	8	6220 6210									
8	5470 5400	8	5220 5210	7	5050 5040	7	5550 5540									
7	4800 4790	7	4550 4540	6	4390 4380	6	4890 4880									
6	4140 4130	6	3890 3880	5	3730 3720	5	4230 4220									
5	3480 3470	5	3230 3220	4	3070 3060	4	3570 3560									
4	2820 2810	4	2570 2560	3	2410 2400	3	2910 2900									
3	2160 2150	3	1910 1900	2		2	2240 2230									
2		2		1		1										

Number of infills / fields × 2		Number of infills / fields per aluminium frame		Number of ventilation grilles, ventilation area 40 cm² per grille.	
1500	2000	2	3	2	3
2250	2500	3	4	3	4
2750	3000	4	5	4	5
3250	3500	5	6	5	6
3750	4000	6	7	6	7
4250	4500	7	8	7	8
4750	5000	8	9	8	9

On request

[1] 1 → 1300

Number of door section frames:

[A] Bottom section height 750 mm (standard)

[B] Bottom section height 500 mm

[C] Bottom section height 1000 mm

[D] Bottom section height 1500 mm

RM Grid height

LZ Clear frame dimensions (from 1200)

→ Up to LZ

SPB Rail width

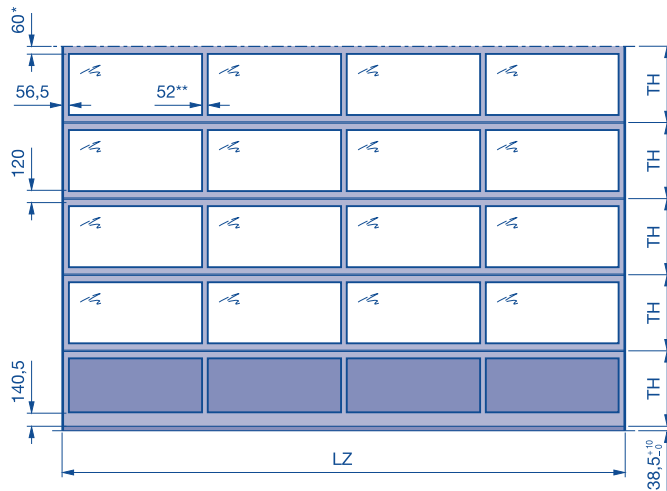
n Number of aluminium frames

TH Door section height

Sectional Door ALR F42 / ALR F42 Thermo

Door leaf made of standard aluminium extrusions or aluminium extrusions with thermal break

External view



$$TH = \frac{\text{Door height} - 35}{\text{Number of door section frames}}$$

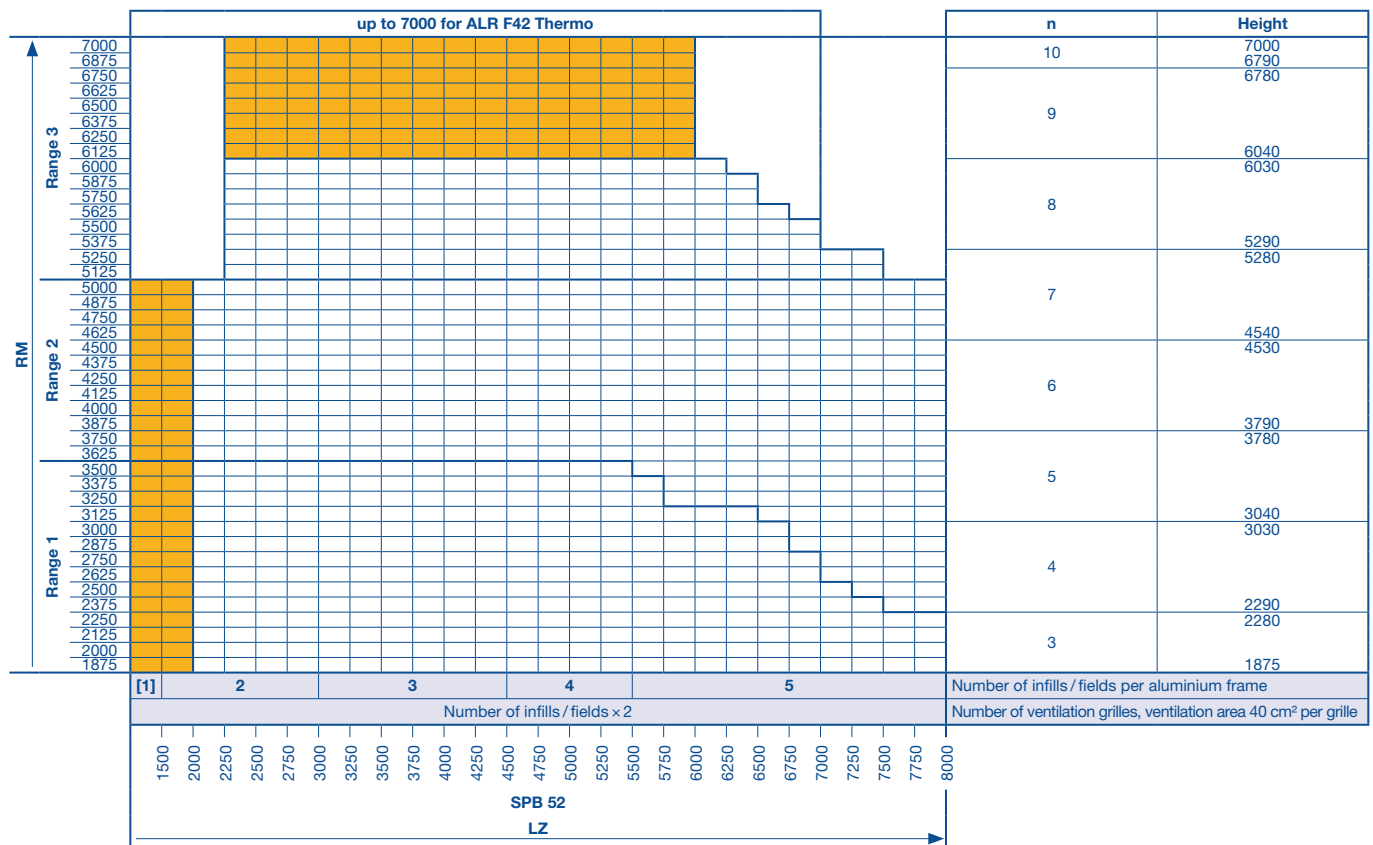
- * On request 120 mm, so as to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.
- ** Optionally with wide rail extrusions (91 mm)

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).
- For a view of the matching appearance with doors with wicket doors see page 33–35.
- Number of glazings, matching view to series 40, see page 36.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

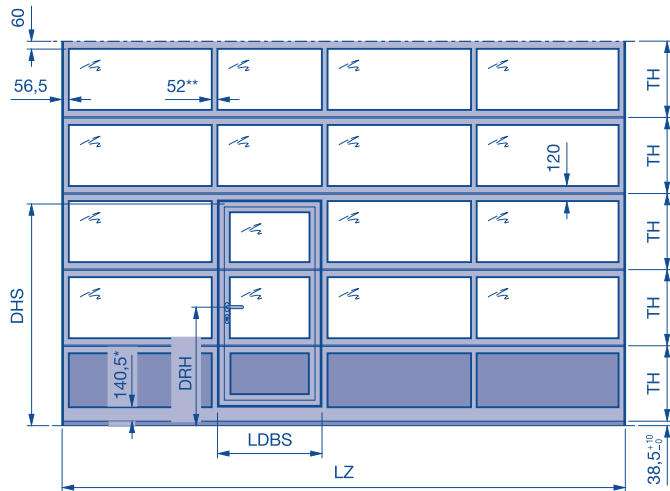


[1] 1 → 1360, on request → 1740
RM Grid height
LZ Clear frame dimensions (from 1200)

→ Up to LZ
SPB Rail width
n Number of aluminium frames
TH Door section height

Sectional Door ALR F42 / ALR F42 Thermo With Wicket Door and Threshold Rail

External view



Lever height on request

Clear passage width (LDBS) = 940 mm***

Clear passage height wicket door (DHS) = $n_1 \times TH - 45$

- n₁ Number of frames in the wicket door
- * 265.5 with SH₂
- ** Optionally with wide rail extrusions (91 mm)
- *** For a door width of 1750 – 1840 mm, the clear passage width is 833 mm.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).
- For a view of the matching appearance with doors without wicket doors see page 33 – 35.
- Number of glazings, matching view to series 40, see page 36.

Size range

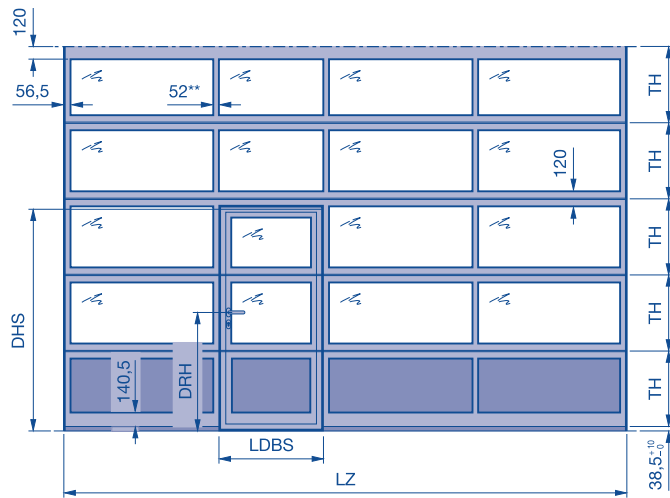
In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

RM	SH ₁				SH ₂				n	Height	RM	DHS	n ₁	Height	
	2	3	4	5	2	3	4	5							
7000									10	7000	7000	2045	3		
6875									9	6790	6875	2007	3		
6750								6750		6750	2193				
6625								6780		6625	2152				
6500								8	6500	6500	2110	3			
6375									6375	6375	2068				
6250									6250	6250	2027				
6125								7	6040	6125	1985	3			
6000									6030	6000	2192				
5875									5875	5875	2145				
5750								6	5750	5750	2098	3			
5625									5625	5625	2051				
5500									5290	5500	2004				
5375								5	5280	5375	1958	3			
5250									5250	5250	2190				
5125									5125	5125	2136				
5000								4	5000	5000	2083	3			
4875									4875	4875	2029				
4750									4750	4750	1976				
4625								3	4540	4625	1922	3			
4500									4530	4500	2188				
4375									4375	4375	2125				
4250								2	4250	4250	2063	3			
4125									4125	4125	2000				
4000									4000	4000	1938				
3875								1	3790	3875	1875	3			
3750									3780	3750	2184				
3625									3625	3625	2109				
3500								4	3500	3500	2034	3			
3375									3375	3375	1959				
3250									3250	3250	1884				
3125								3	3040	3125	1809	3			
3000									3030	3000	2179				
2875									2875	2875	2085				
2750								2	2750	2750	1991	3			
2625									2625	2625	1898				
2500									2500	2500	1804		2500		
2375								1	2290	2375	2295	4	2500		
2250									2280	2250	2170		2490		
2125									2125	2125	2045				
2000								3	2000	2000	1920	3			
										Number of infills / fields per aluminium frame					
										(Number of infills / fields - 1) × 2		Number of ventilation grilles, ventilation area 40 cm ² per grille			
										SPB 52		LZ			
										2000 2250 2500 2750 3000 3250 3500 3750 4000 4250 4500 4750 5000 5250 5500 5750 6000 6250 6500 6750 7000					

- On request
- DHS Clear passage height of wicket door
- DRH Lever height
- LZ Clear frame dimensions (from 1750)
- RM Grid height
- SPB Rail width
- SH₁ Threshold height (181)
- SH₂ Threshold height (306)
- n Number of aluminium frames
- n₁ Number of aluminium frames in the wicket door
- TH Door section height

Sectional Door ALR F42 / ALR F42 Thermo With Wicket Door with Trip-Free Threshold

External view



Lever height on request

Clear passage width (LDBS) = 940 mm***

Clear passage height wicket door (DHS) = $n_1 \times TH - 45^*$

n_1 Number of frames in the wicket door

* Attention: If there is no frame above the wicket door, then - 90 instead of - 45.

** Optionally with wide rail extrusions (91 mm)

*** For a door width of 1750 - 1840 mm, the clear passage width is 833 mm.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).
- For a view of the matching appearance with doors without wicket doors see page 33 - 35.
- Number of glazings, matching view to series 40, see page 36.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

RM	Range 3	Range 2	Range 1	SH ₁				SH ₂				n	Height	RM	DHS	n ₁	Height										
				2	3	4	5	2	3	4	5																
7000												10	7000	7000	2045												
6875													6790	6875	2007	3											
6750													6780	6750	2193												
6625														6625	2152												
6500														6500	2110	3											
6375														6375	2068												
6250														6250	2027												
6125														6125	1985												
6000														6000	2192												
5875														5875	2145												
5750														5750	2098	3											
5625														5625	2051												
5500														5500	2004												
5375														5375	1958												
5250														5280	2190												
5125														5125	2136												
5000														5000	2083	3											
4875														4875	2029												
4750														4750	1976												
4625														4625	1922												
4500														4530	2188												
4375														4375	2125												
4250														4250	2063	3											
4125														4125	2000												
4000														4000	1938												
3875														3790	1875												
3750														3780	2184												
3625														3625	2109												
3500														3500	2034	3											
3375														3375	1959												
3250														3250	1884												
3125														3040	1809												
3000														3030	2179												
2875														2875	2085												
2750														2750	1991	3											
2625														2625	1898												
2500														2500	1804		2500										
2375														2375	2250	4	2490										
2250														2280	2125												
2125														2125	2000	3											
2000														2000	1875												
				2				3				4				5				Number of infills / fields per aluminium frame							
				(Number of infills / fields - 1) × 2												Number of ventilation grilles, ventilation area 40 cm² per grille											
				2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000				
				SPB 52																							
				LZ																							

On request

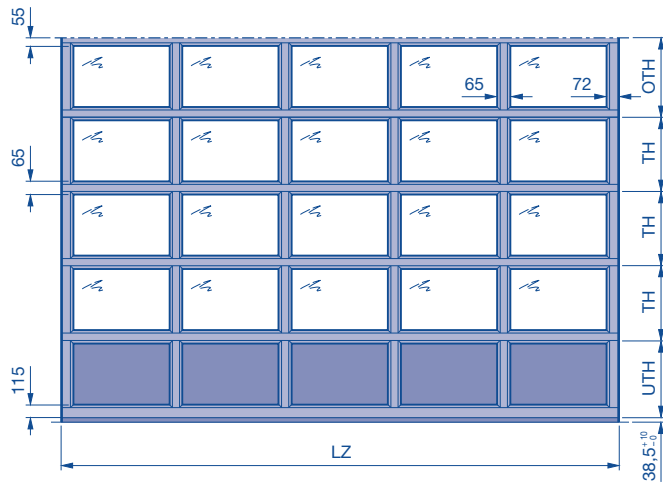
DHS Clear passage height of wicket door
DRH Lever height
LZ Clear frame dimensions (from 2000)
RM Grid height
SPB Rail width

SH₁ Threshold height (rising from 5 to 10)
SH₂ Threshold height (approx. 13)
n Number of aluminium frames
n₁ Number of aluminium frames in the wicket door
TH Door section height

Sectional Door ALR F42 S-Line

Door leaf made of aluminium extrusions

External view



$$TH = \frac{\text{Door height} - 143.5}{\text{Number of door section frames}}$$

$$OTH = TH + 68$$

$$UTH = TH + 97$$

Note:
When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

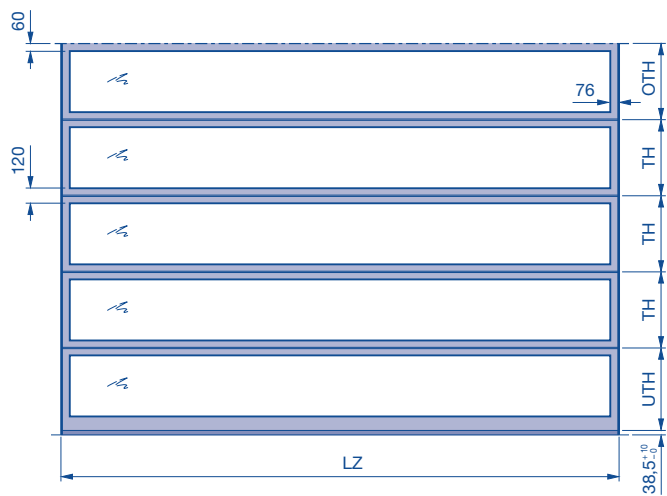
		Number of infills / fields × 2					n	Height								
RM	Range 3	7000					11	6770 6760								
		6875														
		6750					10	6110 6100								
		6625														
		6500					9	5440 5430								
		6375														
		6250					8	4780 4770								
		6125														
		6000					7	4120 4110								
		5875														
	5750					6	3460 3450									
	5625															
	5500					5	2800 2790									
	5375															
	5250					4	2130 2125									
	5125															
	5000					3	1875									
	4875															
	4750															
	4625															
	4500															
	4375															
	4250															
	4125															
	4000															
	3875															
	3750															
	3625															
	3500															
	3375															
3250																
3125																
3000																
2875																
2750																
2625																
2500																
2375																
2250																
2125																
2000																
1875																
	[1]	2	3	4	5	Number of infills / fields per aluminium frame										
	Number of ventilation grilles, ventilation area 40 cm² per grille															
	1500	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000		
	SPB 65															
	LZ															

On request	→ Up to LZ	TH Door section height
[1] 1 → 1300	SPB Rail width	OTH Upper door section height
RM Grid height	n Number of aluminium frames	
LZ Clear frame dimensions (from 1200)	UTH Bottom door section height	

Sectional Door ALR F42 Glazing

Door leaf made of standard aluminium extrusions

External view



$$TH = \frac{\text{Door height} - 119}{\text{Number of door section frames}}$$

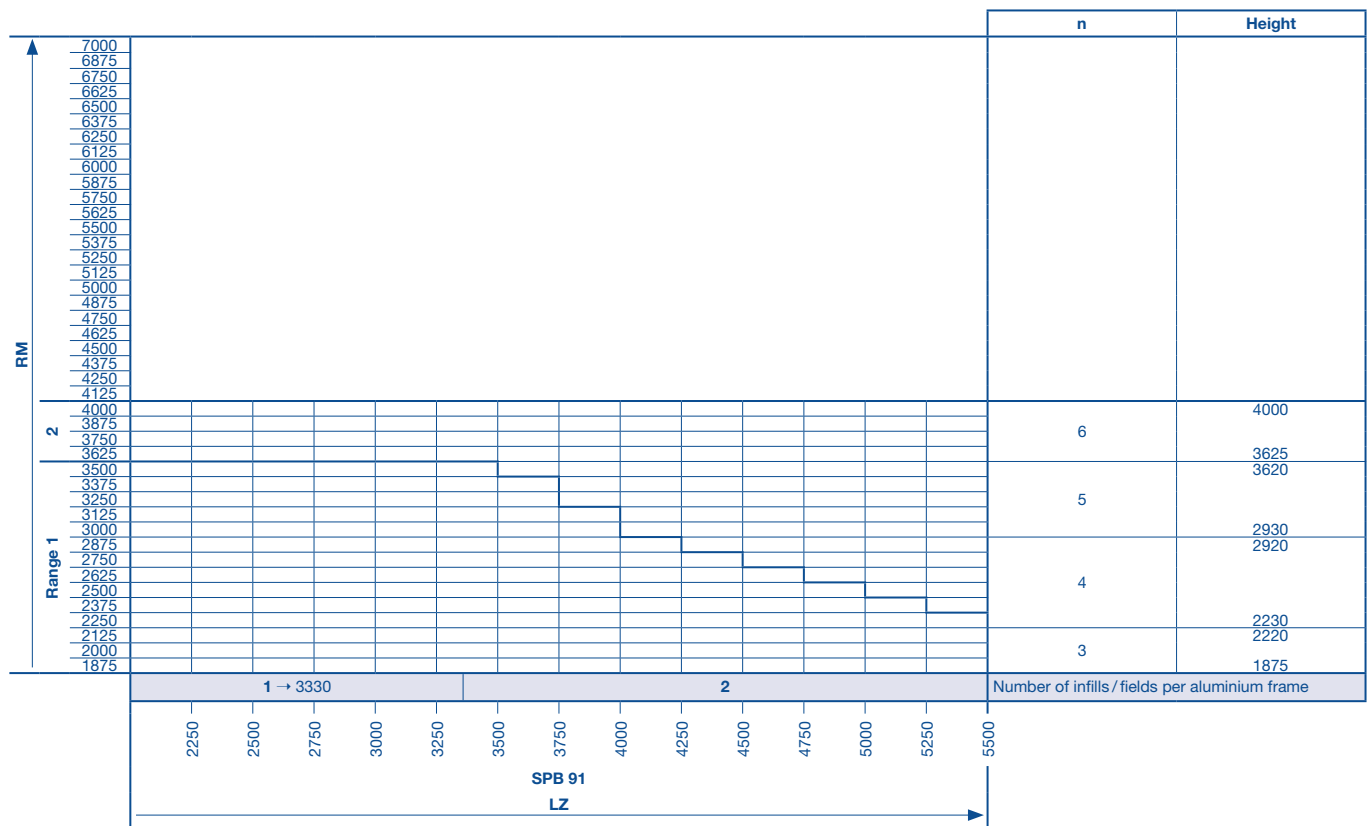
$$UTH = TH + 84 \leq 785$$

$$OTH = TH + 35$$

Note:
When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.

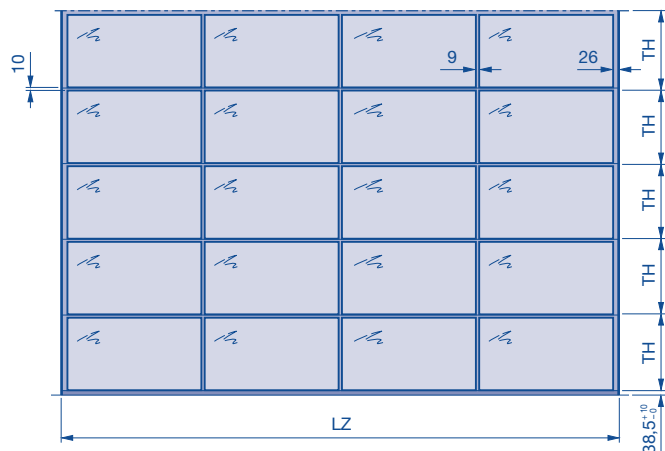


- RM** Grid height
- LZ** Clear frame dimensions (from 2000)
- Up to LZ
- SPB** Rail width
- n** Number of aluminium frames
- UTH** Bottom door section height
- TH** Door section height
- OTH** Upper door section height

Sectional Door ALR F42 Vitraplan

Door leaf made of standard aluminium extrusions

External view



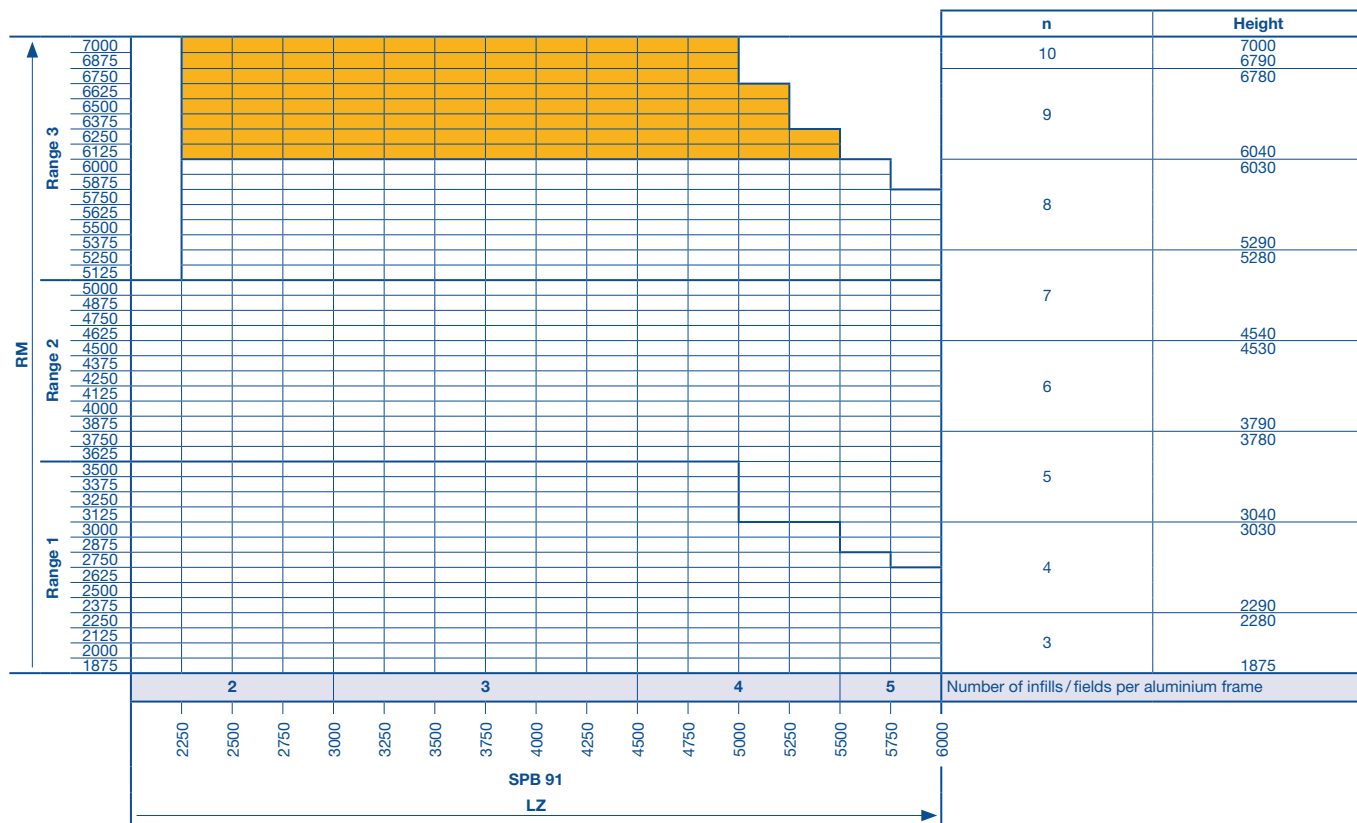
$$TH = \frac{\text{Door height} - 35}{\text{Number of door section frames}}$$

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section.

Size range

In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.



- On request
- TH** Door section height
- RM** Grid height
- LZ** Clear frame dimensions (from 2000)
- SPB** Rail width
- n** Number of aluminium frames

Glazing / Wicket Door Arrangements

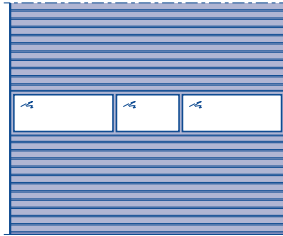
Sectional doors with 3 infills / fields

Glazing arrangements – external view

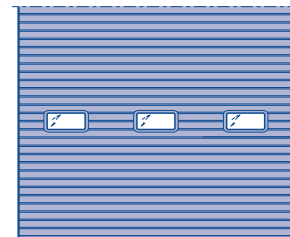
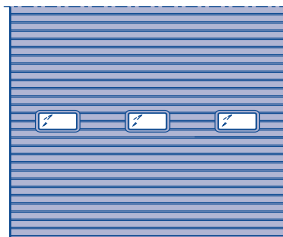
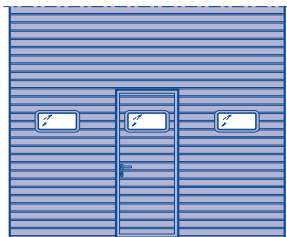
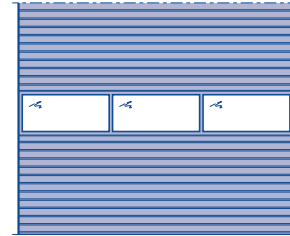
Sectional door SPU F42
with wicket door with trip-free threshold



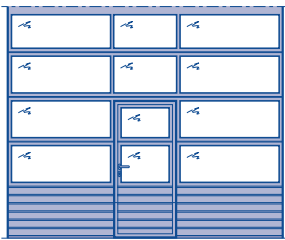
Sectional door SPU F42,
matching doors with wicket door



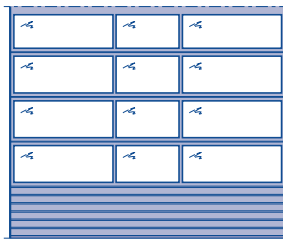
Sectional door SPU F42
with standard window division



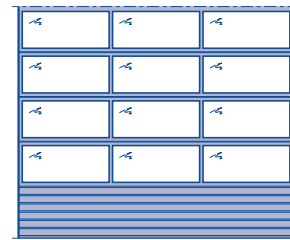
Sectional door APU F42
with wicket door with trip-free threshold



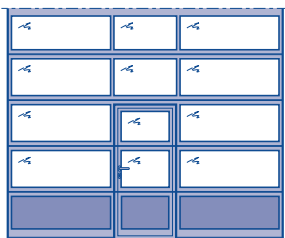
Sectional door APU F42,
matching doors with wicket door



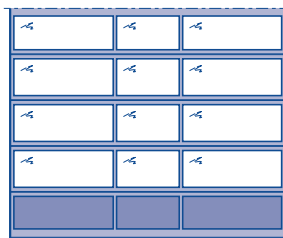
Sectional door APU F42
with standard window division



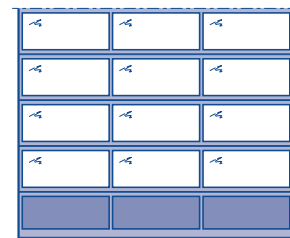
Sectional door ALR F42
with wicket door with trip-free threshold



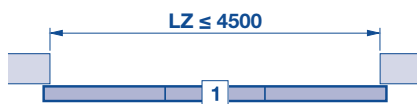
Sectional door ALR F42,
matching doors with wicket door



Sectional door ALR F42
with standard window division



Arrangement of the wicket door



Notes:

- Clear passage width (LDBS) = 940 mm.
- Wicket door only opening outwards.

Glazing / Wicket Door Arrangements

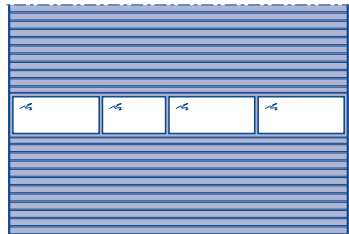
Sectional doors with 4 infills / fields

Glazing arrangements – external view

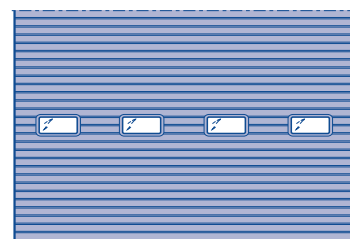
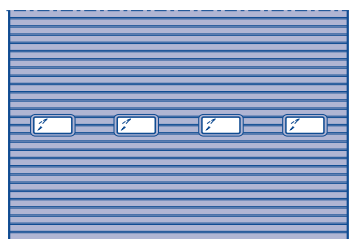
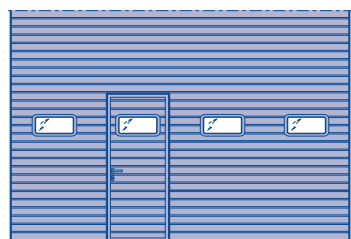
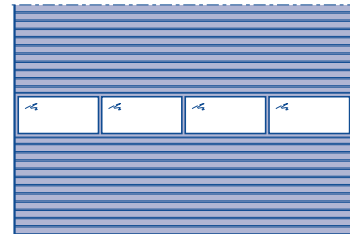
Sectional door SPU F42
with wicket door with trip-free threshold



Sectional door SPU 42,
matching doors with wicket door



Sectional door SPU F42
with standard window division



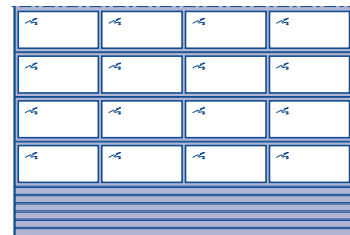
Sectional door APU F42
with wicket door with trip-free threshold



Sectional door APU F42,
matching doors with wicket door



Sectional door APU F42
with standard window division



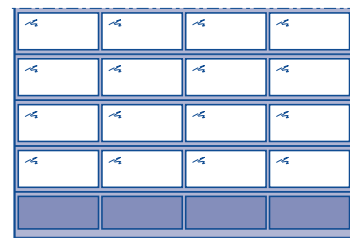
Sectional door ALR F42
with wicket door with trip-free threshold



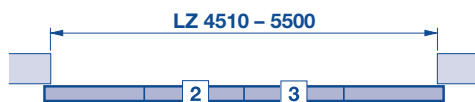
Sectional door ALR F42,
matching doors with wicket door



Sectional door ALR F42
with standard window division



Arrangement of the wicket door



Notes:

- Clear passage width (LDBS) = 940 mm.
- Wicket door only opening outwards.

Glazing / Wicket Door Arrangements

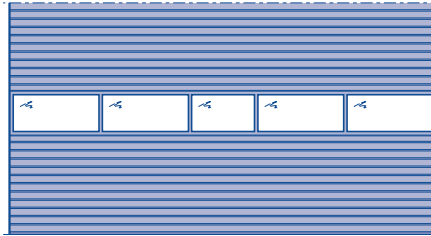
Sectional doors with 5 infills / fields

Glazing arrangements – external view

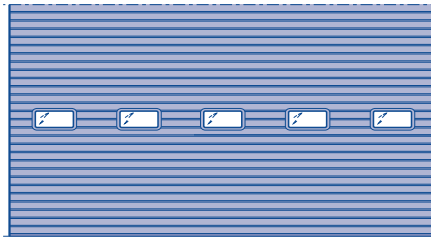
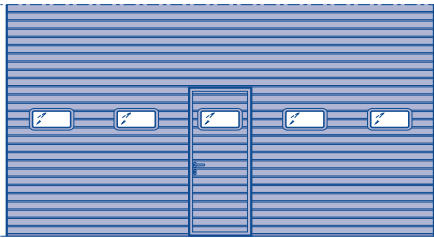
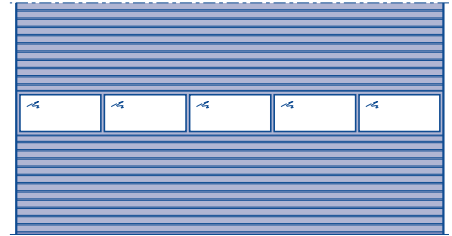
Sectional door SPU F42
with wicket door with trip-free threshold



Sectional door SPU 42,
matching doors with wicket door



Sectional door SPU F42
with standard window division



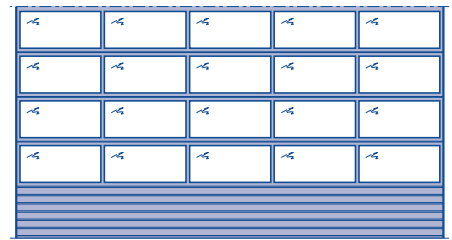
Sectional door APU F42
with wicket door with trip-free threshold



Sectional door APU F42,
matching doors with wicket door



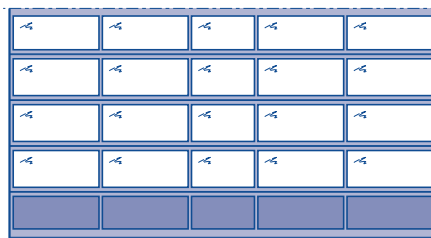
Sectional door APU F42
with standard window division



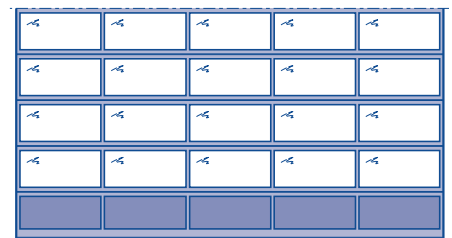
Sectional door ALR F42
with wicket door with trip-free threshold



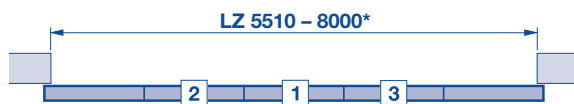
Sectional door ALR F42,
matching doors with wicket door



Sectional door ALR F42
with standard window division



Arrangement of the wicket door



Notes:

- Clear passage width (LDBS) = 940 mm.
- Wicket door only opening outwards.

* Thermo version only up to LZ 7000 mm.

Infills / Fields and Glazing Series 40

Number of infills / fields per aluminium frame

Sectional door without wicket door	
Aluminium frame type N	1 2 3 4 5 6 7 8
Aluminium frame type B	1 2 → 3330 3 4 → 6670 5
Sectional door with wicket door	
Aluminium frame type N	X 3 → 1750–3500 4 5 6 7 X

1200 1500 2000 2250 2500 2750 3000 3250 3500 3750 4000 4250 4500 4750 5000 5250 5500 5750 6000 6250 6500 6750 7000 7250 7500 7750 8000
 LZ

Number of compound glazings per door section

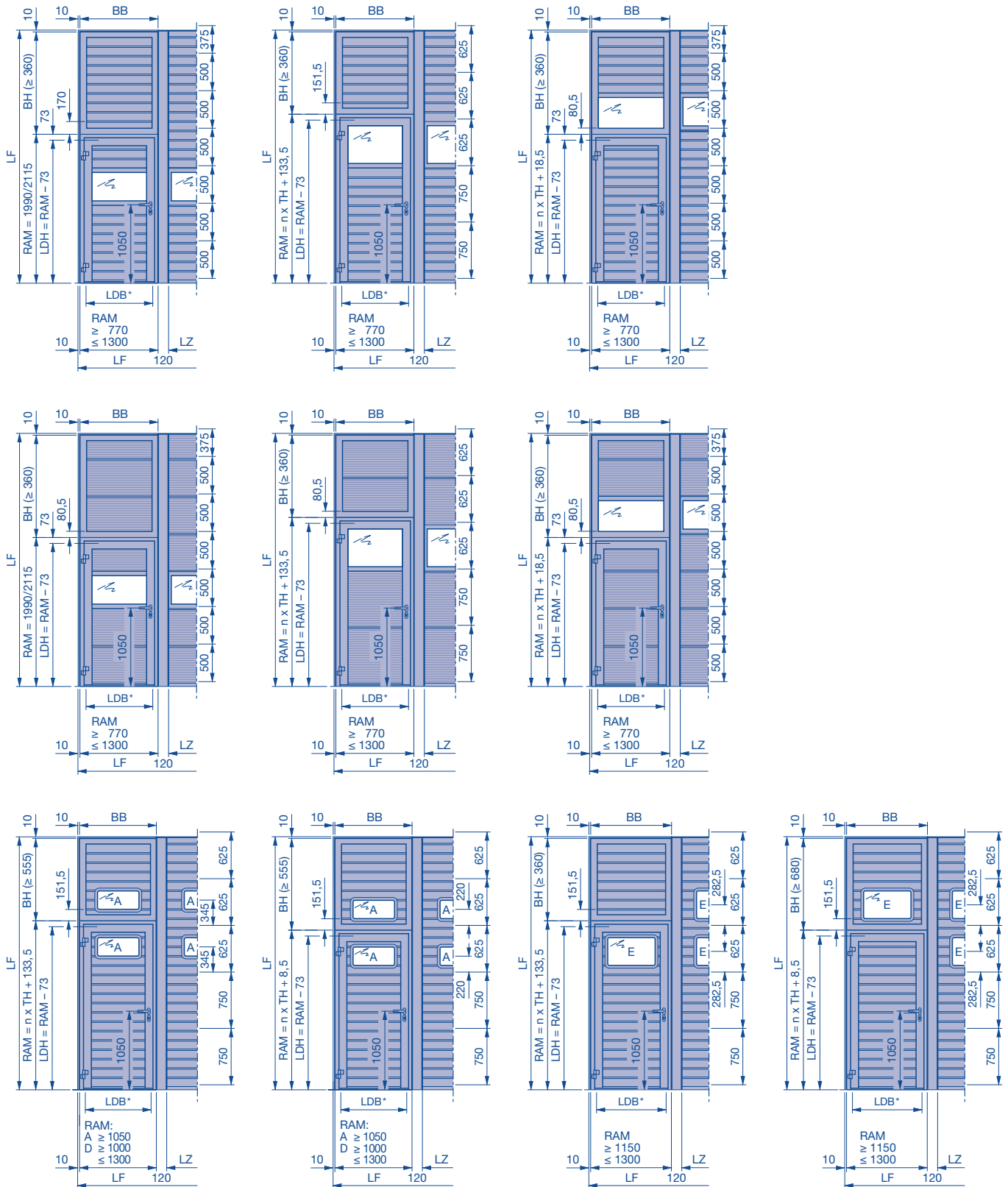
Sectional door without wicket door	
Standard type A	1 → 1680 2 3 4 5 6 7 8
Standard type D	1 → 1640 2 3 4 5 6 7 8
Standard type E	1 → 1860 2 → 2750 3 → 3650 4 → 4540 5 → 5510 6 X
Sectional door with wicket door	
Type A or type D	X 1 → 1750–2650 3 4 5 6 7 X
Type E	X 1 → 1840–2920 3 → 3880 4 → 4830 5 → 5780 6 X

1200 1500 2000 2250 2500 2750 3000 3250 3500 3750 4000 4250 4500 4750 5000 5250 5500 5750 6000 6250 6500 6750 7000 7250 7500 7750 8000
 LZ

LZ Clear frame dimensions
 → Up to LZ

Side Door NT 60

With S-ribbed, Stucco-textured / L-ribbed, Micrograin infills



* See page 40
LF Structural opening
RAM Overall frame dimension
BH Panel height

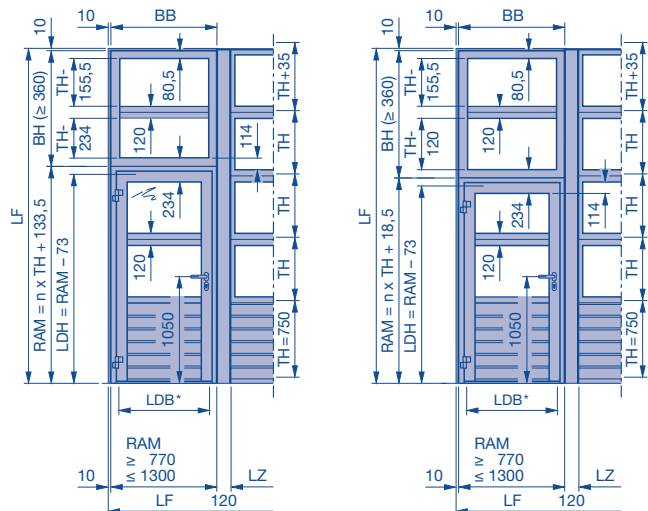
BB Panel width
LDB* Clear passage width
LDH Clear passage height
TH Door section height

SO Bottom section height
LZ Clear frame dimensions
n Number of door sections / aluminium frames

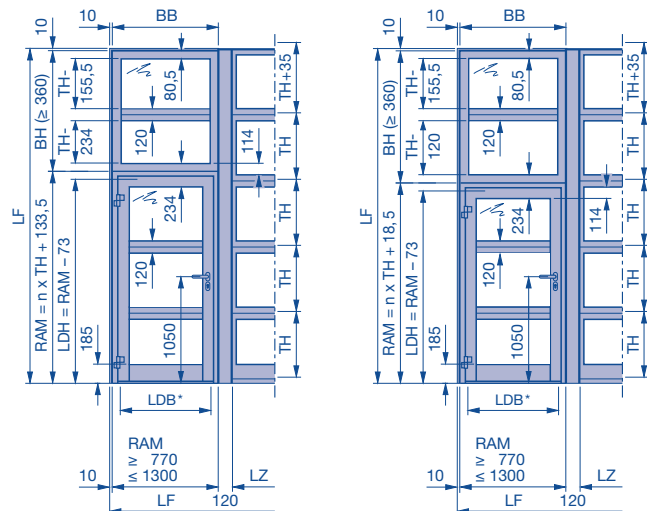
Side Door NT 60

With S-ribbed, Stucco-textured / L-ribbed, Micrograin infills

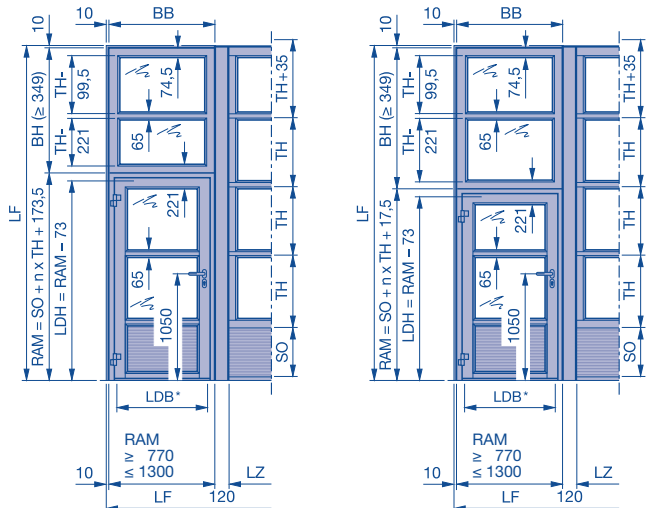
Side door NT 60 matching door type APU F42



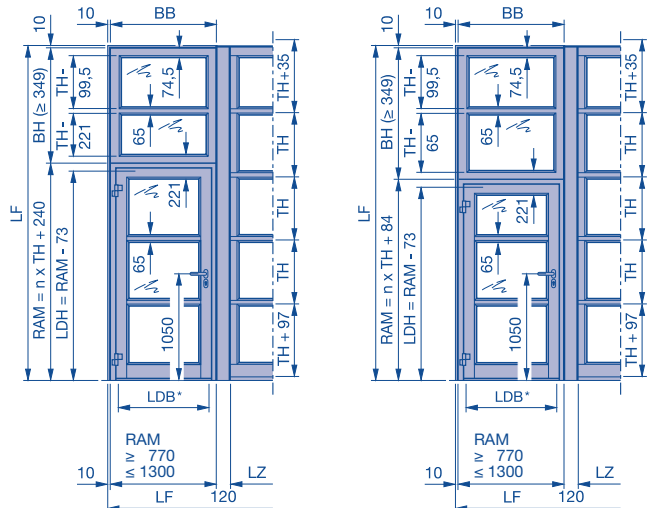
Side door NT 60 matching door type ALR F42 Thermo



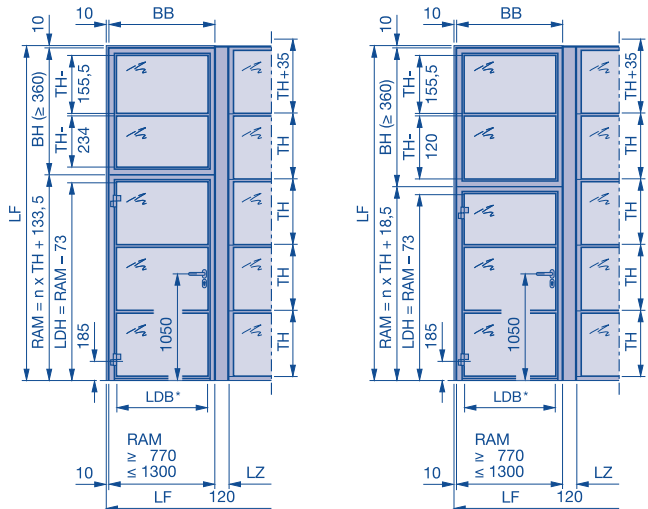
Side door NT 60 matching door type APU F42 S-Line



Side door NT 60 matching door type ALR F42 S-Line



Side door NT Vitraplan



(Legend see page 37)

Side Door NT 60

Arrangements

Possible track models

Arrangements

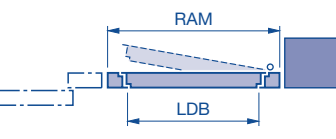
Arrangement 1

Fitting next to the door,
opening outwards,
RH hinged



Arrangement 2

Fitting next to the door,
opening outwards,
LH hinged



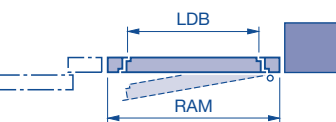
Arrangement 3

Fitting next to the door,
opening inwards,
LH hinged



Arrangement 4

Fitting next to the door,
opening inwards,
RH hinged



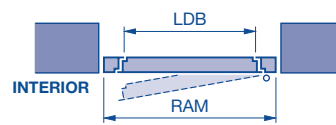
Arrangement 5

Fitting in the opening,
opening outwards,
RH or LH hinged



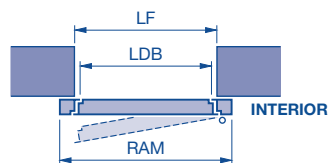
Arrangement 6

Fitting in the opening,
opening inwards,
RH or LH hinged



Arrangement 7

Fitting behind the opening,
only opening inwards,
RH or LH hinged



Structural opening	Ordering size Overall frame dimensions RAM
875 × 2000	855 × 1990
875 × 2125	855 × 2115
1000 × 2000	980 × 1990
1000 × 2125	980 × 2115

Special sizes: width: RAM 770 to 1300, height: RAM 1865 to 2525 (state overall frame dimension)

Doors with 3-point locking: RAM = min. 2025 mm

Clear passage dimensions:

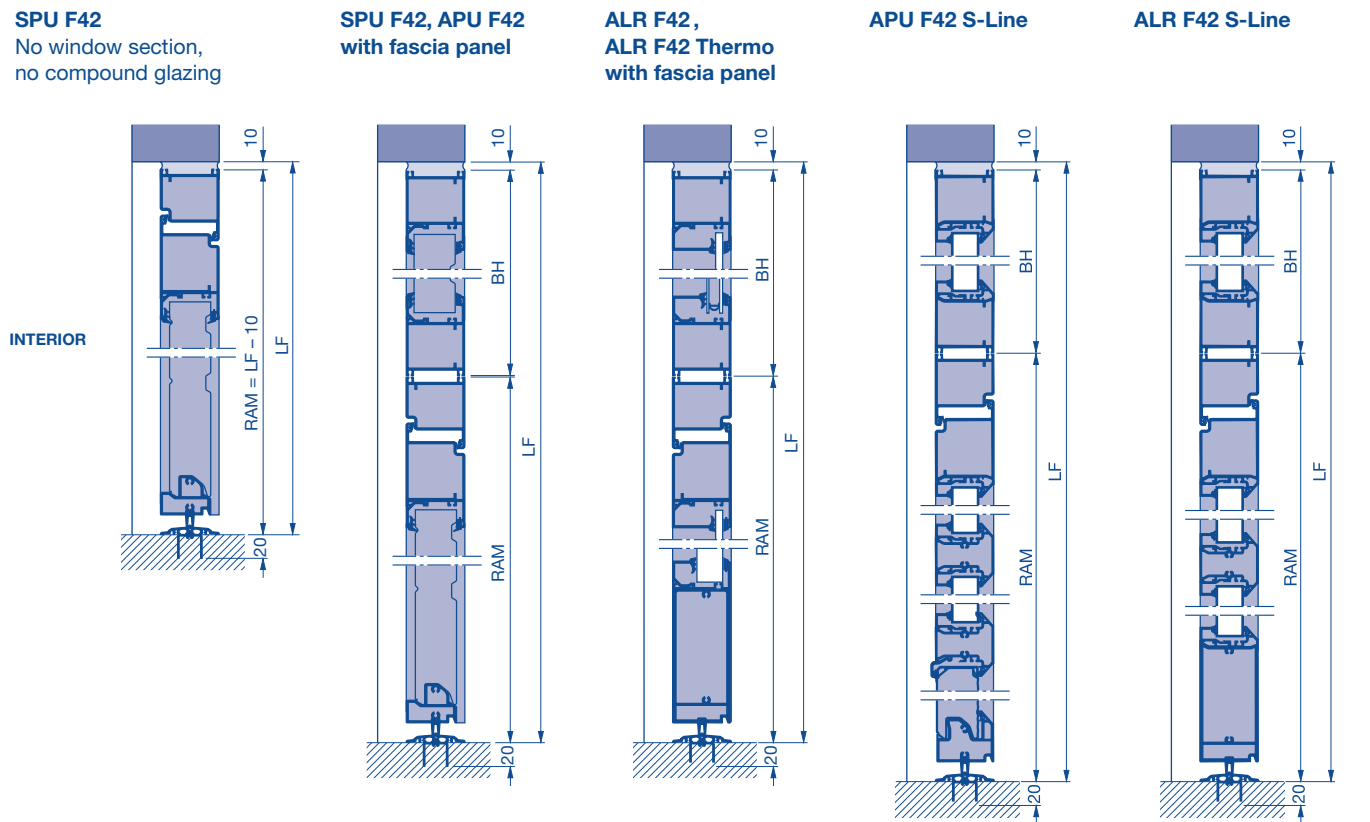
Opening angle	Width	Height
136°	RAM - 146	RAM - 73
90°	RAM - 200	

Side Door NT 60

Arrangements

Possible track models

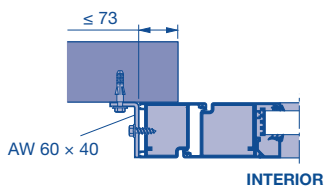
Possible handing options



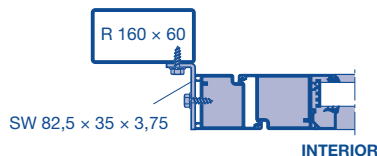
In the opening
(right illustration with 50 mm extension profile for all-over insulation)



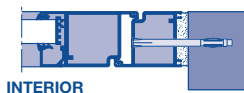
Behind the opening



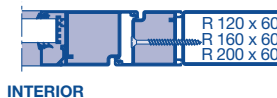
Side door NT 60 flush with sectional door



Plugs for metal frame



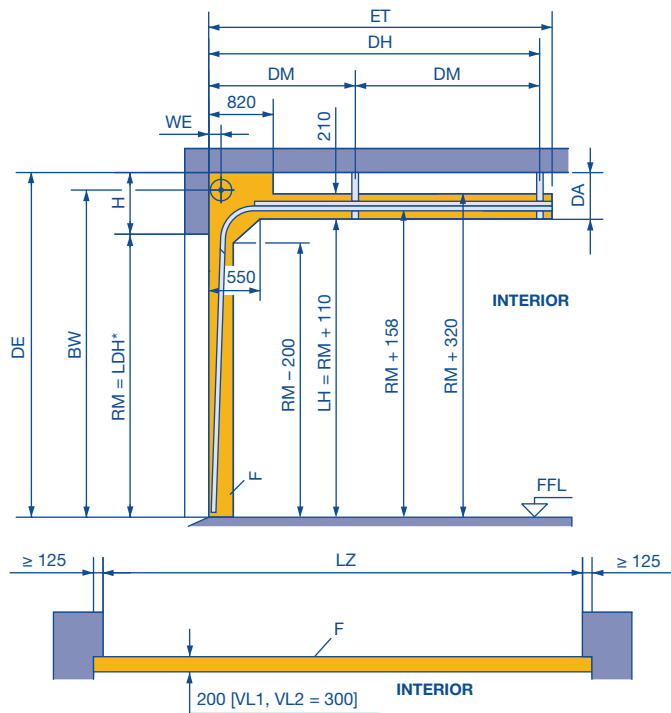
Tapping screw with countersunk head B 6.3 x 80



R	Tube	BH	Panel height	LF	Structural opening
AW	Aluminium angle	RAM	Overall frame dimension		
SW	Steel angle	LDB	Clear passage width		

Track Application: N

Normal track application



Door weights for roof loads:

SPU F42 / APU F42 Thermo / ALR F42 Thermo	= 320 N/m ²
APU F42 / ALR F42	= 280 N/m ²
ALR F42 Glazing	= 560 N/m ²

Observe min. sideroom, see page 61.

	H	WE	DA
N 1	390	140	280
N 2	440	160	330
N 3	550	180	440
N 3	760	With double spring shaft	

LDH	Clear passage height	L	Anchor length = DE - RM - 125 (see page 66)
RM	Grid height	LH	Track height
BW	Position of shaft support	LZ	Clear frame dimensions
	N 1 = RM + 310	DE	Ceiling height
	N 2 = RM + 335	F	Space for fitting the door
	N 3 = RM + 415		
ET	Min. distance back		
	N 1 + N 2 = RM + 440		
	N 3 = RM + 700		
	With shaft operator		
	N 1 + N 2 = RM + 650		
	With shaft operator N 3 = RM + 700		
DH	Rear ceiling anchor		
	N 1 + N 2 = RM + 195		
	N 3 = RM + 295		
DM	Central ceiling anchor (see page 66)		
WE	Shaft centre from lintel		
H	Min. headroom (see table)		
DA	Distance to ceiling		

Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- For version with wicket door, manually operated: chain hoist recommended!
- ALR F42 Vitraplan and ALR F42 Glazing on request

	* Clear passage height LDH		
	Without operator	Operator	
		WA 400 **	WA 300 ***
LZ ≤ 5500			
Without wicket door	RM	RM	RM
Wicket door with threshold	RM - 100	RM - 50	RM - 50
Wicket door without threshold rail	RM - 150	RM - 85	RM - 85
LZ > 5500			
Without wicket door	RM - 50	RM - 50	RM - 50
Wicket door with threshold	RM - 100	RM - 100	RM - 100
Wicket door without threshold rail	RM - 175	RM - 110	RM - 110

** Or with chain hoist / pull rope

*** Track application with inclination not possible!

Min. headroom

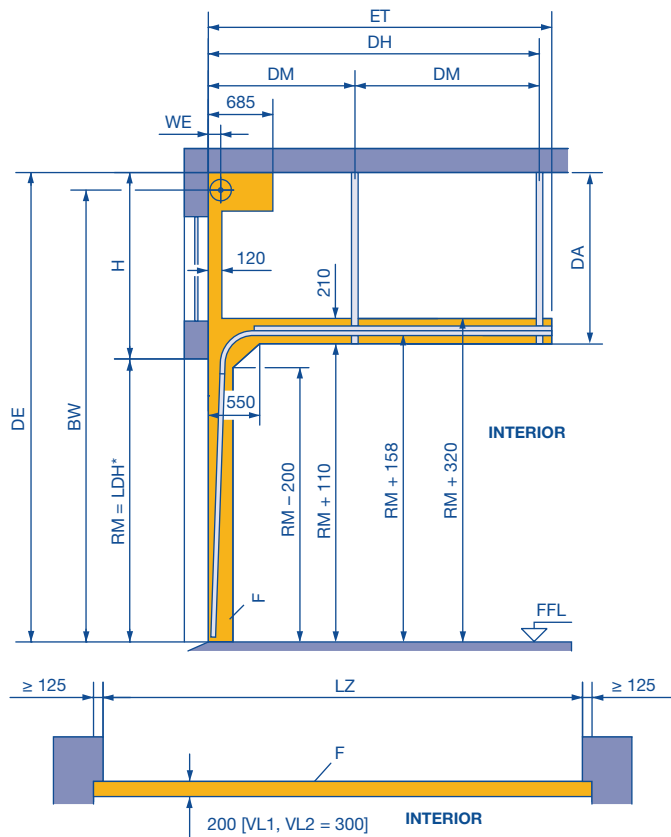
Track size	Headroom	Track size	Headroom	Track size	Headroom
N 1	390	GD 2	660 - 790	RD 4	1760
N 2	440	L 1	200	RD 5	1760
N 3	550	L 2	200	RG 4	1760
NA 1	400	LD 1	200	RG 5	1760
NA 2	450	LD 2	200	V 6	RM + 500
ND 1	390	H 4	880	V 7	RM + 540
ND 2	440	H 5	910	V 9	RM + 635
ND 3	550	H 8	950	VA 6	RM + 510
NH 1	610 - 740	HA 4	890	VU 6	RM + 350
NH 2	660 - 790	HD 4	880	VU 7	RM + 350
NH 3	770 - 900	HD 5	910	VU 9	RM + 350
NS 1	390	HD 8	950	WG 6	RM + 350
NS 2	440	HU 4	1760	WG 7	RM + 350
GD 1	610 - 740	HU 5	1760		

Dimensions in mm

Track Application: NA

Normal track application

With high-mounted torsion spring shaft



Door weights for roof loads:

SPU F42 / APU F42 Thermo / ALR F42 Thermo	= 320 N/m ²
APU F42 / ALR F42	= 280 N/m ²
ALR F42 Glazing	= 560 N/m ²

Observe min. sideroom, see page 61.

	H min.	WE	DA min.
NA 1	400	140	290
NA 2	450	160	340

LDH	Clear passage height
H	Max. headroom (depends on order)
DA	Max. distance to ceiling (depends on order)
RM	Grid height
DE	Ceiling height (depends on order)
BW	Position of shaft support
	NA 1: $BW_{min.} = RM + 320$
	NA 2: $BW_{min.} = RM + 345$
	NA 1: $BW_{max.} (7820) = DE - 80$
	NA 2: $BW_{max.} (7995) = DE - 105$
ET	Min. distance back
	NA 1 + NA 2 = $RM + 440$
	With shaft operator
	NA 1 + NA 2 = $RM + 650$
DH	Rear ceiling anchor
	NA 1 + NA 2 = $RM + 195$
DM	Central ceiling anchor (see page 66)
WE	Shaft centre from lintel
L	Anchor length = $DE - RM - 125$ (see page 66)
LZ	Clear frame dimensions
F	Space for fitting the door

* Note:

Clear passage height LDH, see track application N

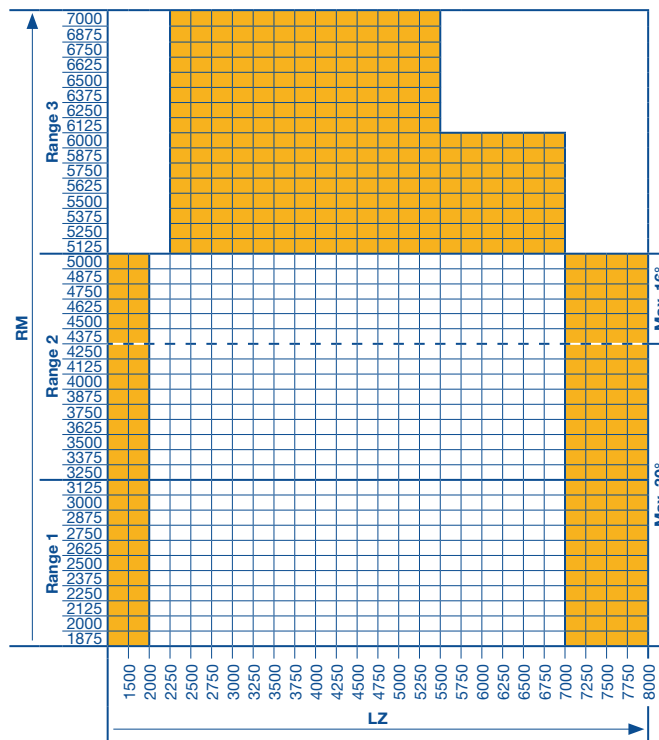
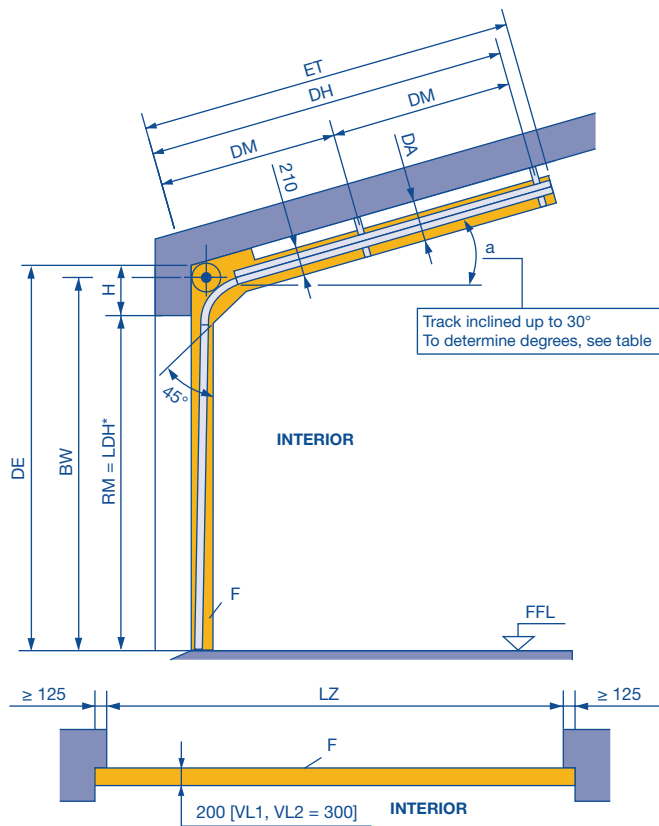
Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- ALR F42 Vitraplan and ALR F42 Glazing on request

Track Application: ND

Normal track application

With inclination up to max. 30°



*** Note:**

Clear passage height LDH, see track application N

Note:

The clearance required for fitting the door must be free of supply lines, heater fans, etc.

Door weights for roof loads:

- SPU F42 / APU F42 Thermo / ALR F42 Thermo = 320 N/m²
- APU F42 / ALR F42 = 280 N/m²
- ALR F42 Glazing = 560 N/m²

Observe min. sideroom, see page 61.

	H	DA
ND 1	390	430
ND 2	440	450
ND 3	550	580
ND 3	760	With double spring shaft

ET = min. distance back		
ND 1+2+3	RM + 450 - a° × 6.5	a° > 5° and with / without operator, with short spring buffer
ND 1+2+3	RM + 700 - a° × 6.5	a° ≤ 5° and with operator, with long spring buffer
ND 1+2+3	RM + 450 - a° × 6.5	a° ≤ 5° and manual operation with short spring buffer

See the normal track application for all other fitting dimensions.

Only to determine the roof slope in degrees (a°)					
a°	%	X (mm)	a°	%	X (mm)
1	1.75	17.5	16	28.67	286.7
2	3.49	34.9	17	30.57	305.7
3	5.24	52.4	18	32.49	324.9
4	6.99	69.9	19	34.43	344.3
5	8.75	87.5	20	36.40	364.0
6	10.51	105.1	21	38.39	383.9
7	12.28	122.8	22	40.40	404.0
8	14.05	140.5	23	42.45	424.5
9	15.84	158.4	24	44.52	445.2
10	17.63	176.3	25	46.63	466.3
11	19.44	194.4	26	48.77	487.7
12	21.26	212.6	27	50.95	509.5
13	23.09	230.9	28	53.17	531.7
14	24.93	249.3	29	55.43	554.3
15	26.79	267.9	30	57.74	577.4

Note:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

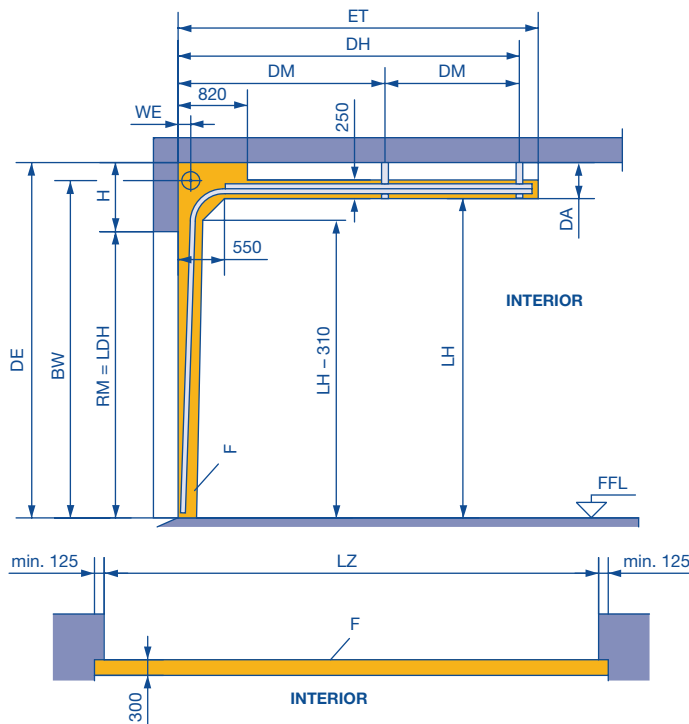
- LDH** Clear passage height
- DH** Rear ceiling anchor
ND 1 + ND 2 = RM + 195 - a° × 6.5
ND 3 = RM + 295 - a° × 6.5
- DM** Central ceiling anchor (see page 66)
- H** Min. headroom (see page 42)
- DA** Distance to ceiling
- L** Anchor length = DE - RM + 25 (see page 66)
- LZ** Clear frame dimensions (**from 1200**)
- DE** Ceiling height
- ET** Min. distance back
- RM** Grid height
- F** Space for fitting the door

On request

Dimensions in mm

Track Application: NH

Normal track application
With minimum high-lift



Door weights for roof loads:

SPU F42 / APU F42 Thermo / ALR F42 Thermo	= 320 N/m ²
APU F42 / ALR F42	= 280 N/m ²
ALR F42 Glazing	= 560 N/m ²

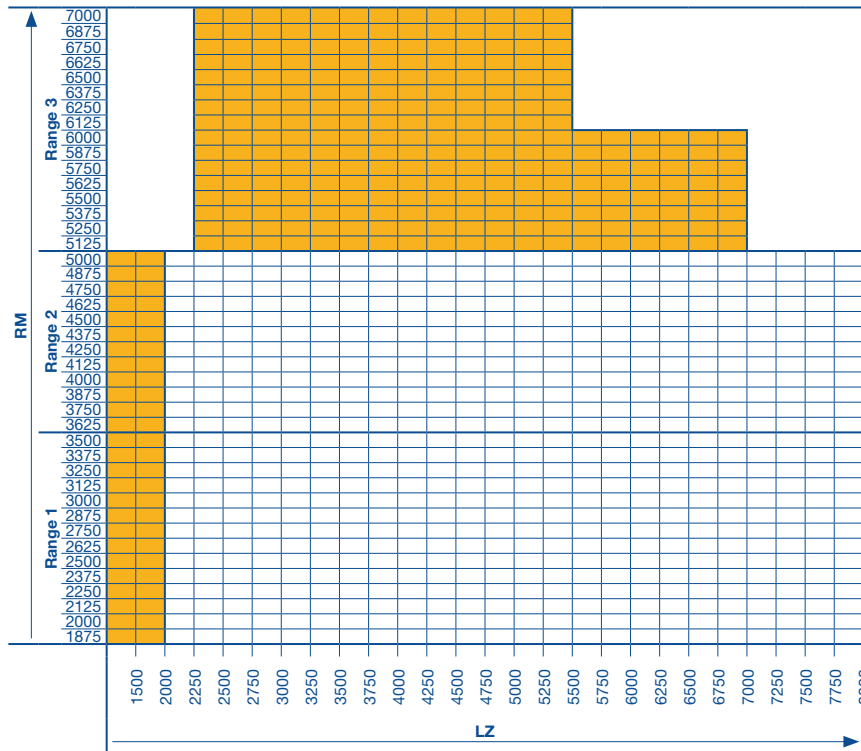
Observe min. sideroom, see page 61.

	WE	DA
NH 1	140	280
NH 2	160	330
NH 3	180	440

ET = min. distance back	
NH 1	2 x RM - LH + 1120 For manual operation with long spring buffer (standard)
NH 1 + 2	2 x RM - LH + 650 For manual operation with short spring buffer (special)
NH 2	2 x RM - LH + 880 For shaft operator with long spring buffer = (LH - RM) ≤ 1000
	2 x RM - LH + 650 For shaft operator with short spring buffer = (LH - RM) > 1000
NH 3	2 x RM - LH + 950 For manual operation and shaft operator with long spring buffer (standard)

Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

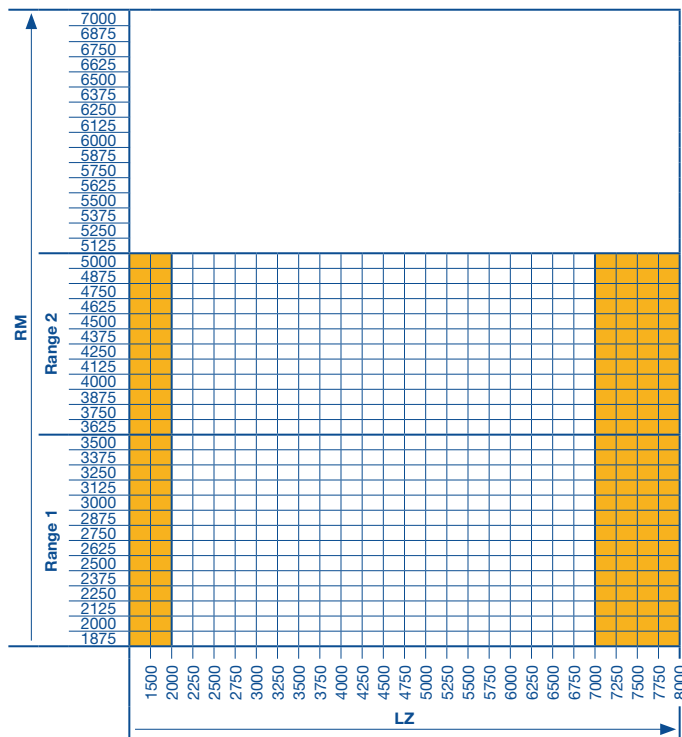
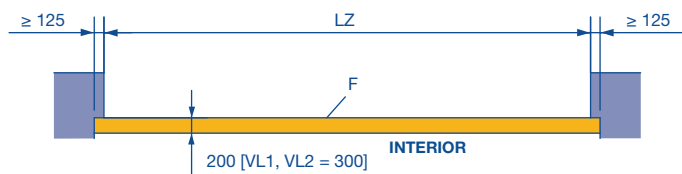
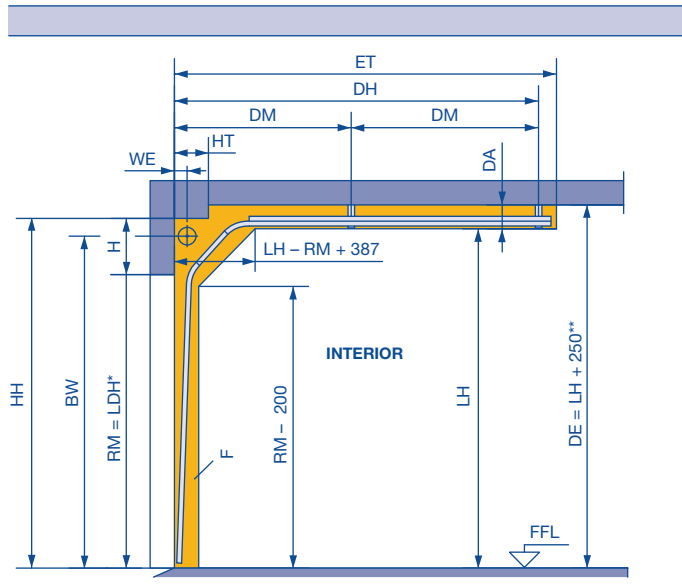


- LDH** Clear passage height
 - RM** Grid height
 - BW** Position of shaft support
NH 1 = LH + 200
NH 2 = LH + 225
NH 3 = LH + 305
 - LH** Track height
Min. = RM + 330
max. = RM + 460
 - DH** Rear ceiling anchor
NH 1 + NH 2 = 2 x RM - LH + 645 (long spring buffer)
NH 1 + NH 2 = 2 x RM - LH + 405 (short spring buffer)
NH 1 + NH 2 = 2 x RM - LH + 405 (long spring buffer + operator)
NH 3 = 2 x RM - LH + 485
 - DM** Central ceiling anchor (see page 66)
 - WE** Shaft centre from lintel
 - H** Min. headroom (see page 42)
 - DA** Distance to ceiling
 - DE** Ceiling height
 - L** Anchor length = DE - LH + 15 (see page 66)
 - LZ** Clear frame dimensions (**from 1200**)
 - ET** Min. distance back
 - F** Space for fitting the door
- On request
- Dimensions in mm

Track Application: NS

Normal track application

With double radius 2 × 45°



	* Clear passage height LDH	
	Without operator	Operator WA 400 ***
LZ ≤ 5500		
Without wicket door	RM	RM
Wicket door with threshold	RM - 100	RM - 50
Wicket door without threshold rail	RM - 150	RM - 85
LZ > 5500		
Without wicket door	RM - 50	RM - 50
Wicket door with threshold	RM - 100	RM - 100
Wicket door without threshold rail	RM - 175	RM - 110

*** Or with chain hoist / hand pulley

Note:

The clearance required for fitting the door must be free of supply lines, heater fans, etc.

Door weights for roof loads:

SPU F42 / APU F42 Thermo / ALR F42 Thermo	= 320 N/m ²
APU F42 / ALR F42	= 280 N/m ²
ALR F42 Glazing	= 560 N/m ²

Observe min. sideroom, see page 61.

	H	HT	WE	BW
NS 1	≥ 390	330	140	RM + 310
NS 2	≥ 440	380	160	RM + 335

Door height	Track height			
	RM	Min. LH		Max. LH
5000		5190	5810	NS 2
4875		5065	5685	
4750		4940	5560	
4625		4815	5435	
4500		4690	5310	
4375		4565	5175	
4250		4440	5030	
4125		4315	4885	
4000		4190	4730	
3875		4065	4585	
3750		3940	4440	
3625		3815	4295	
3500		3690	4150	
3375		3565	4005	
3250		3440	3860	
3125		3315	3715	
3000		3190	3570	
2875		3065	3425	
2750		2940	3280	
2625		2815	3135	
2500		2690	2990	
2375		2565	2845	
2250		2440	2700	
2125		2315	2555	
2000		2190	2410	
1875		2065	2265	
				NS 1

Note:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

H	Min. headroom (see page 42)	LH	Track height
ET	Min. distance back on request	LDH	Clear passage height
DH	Rear ceiling anchor on request	LZ	Clear frame dimensions (from 1200)
DM	Central ceiling anchor on request	RM	Grid height
DA	Min. distance to ceiling 250	F	Space for fitting the door
HT	Obstruction depth	**	Min.
L	Anchor length = DE - LH - 15 (see page 66)		On request
BW	Position of shaft support		
WE	Shaft centre from lintel		
HH	Obstruction height		
DE	Ceiling height		

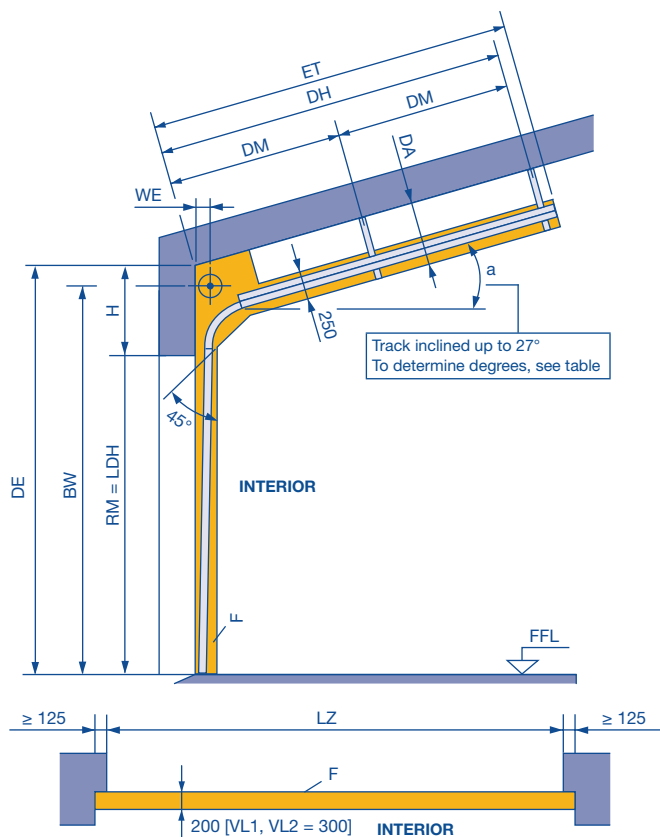
Dimensions in mm

Track Application: GD

Normal track application

With inclination up to max. 27°

Minimum high-lift



Door weights for roof loads:

- SPU F42 / APU F42 Thermo / ALR F42 Thermo = 320 N/m²
- APU F42 / ALR F42 = 280 N/m²
- ALR F42 Glazing = 560 N/m²

Observe min. sideroom, see page 61.

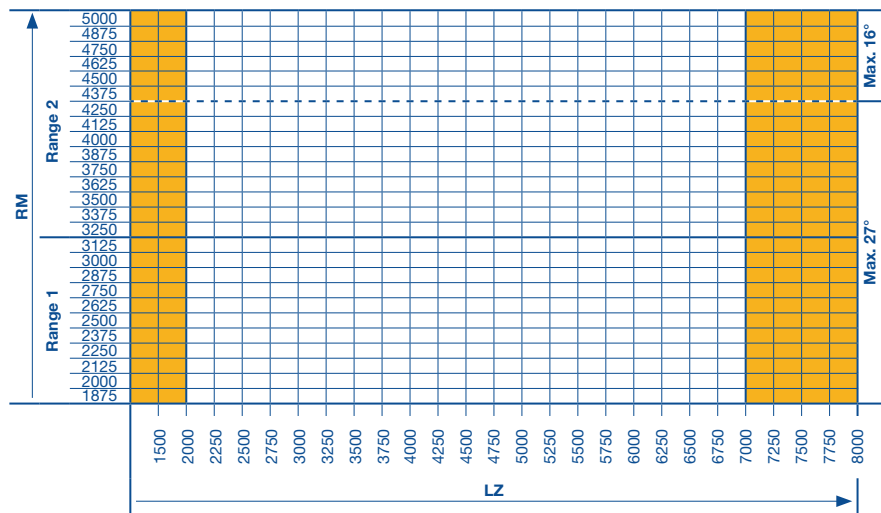
	WE
GD 1	140
GD 2	160

ET = min. distance back	
GD 1 + 2	2 x RM - LH + 1120 - a° x 6.5
GD 1 + 2	2 x RM - LH + 650 - a° x 6.5
GD 1 + 2	2 x RM - LH + 880 - a° x 6.5

Only to determine the roof slope in degrees (a°)					
a°	%	X (mm)	a°	%	X (mm)
1	1.75	17.5	15	26.79	267.9
2	3.49	34.9	16	28.67	286.7
3	5.24	52.4	17	30.57	305.7
4	6.99	69.9	18	32.49	324.9
5	8.75	87.5	19	34.43	344.3
6	10.51	105.1	20	36.40	364.0
7	12.28	122.8	21	38.39	383.9
8	14.05	140.5	22	40.40	404.0
9	15.84	158.4	23	42.45	424.5
10	17.63	176.3	24	44.52	445.2
11	19.44	194.4	25	46.63	466.3
12	21.26	212.6	26	48.77	487.7
13	23.09	230.9	27	50.95	509.5
14	24.93	249.3			

Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request



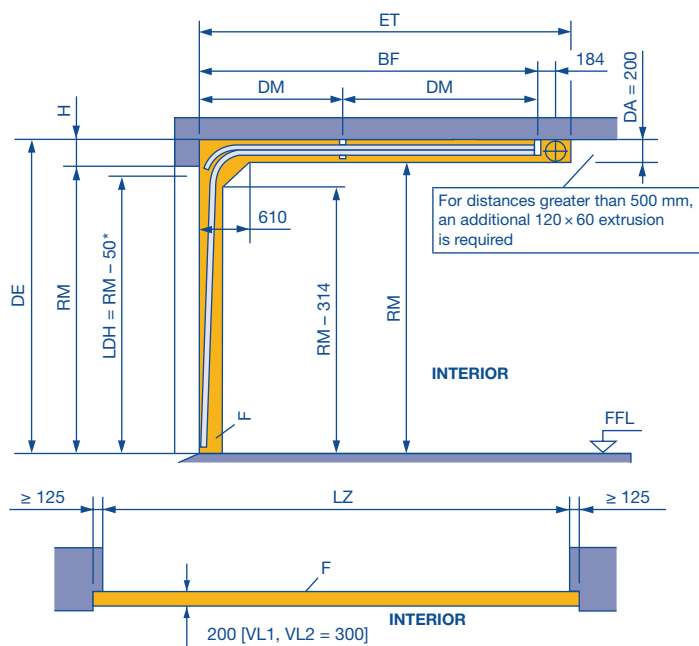
- DH** Rear ceiling anchor
GD 1 + GD 2 = 2 x RM - LH + 645 - a° x 6.5 (long spring buffer)
GD 1 + GD 2 = 2 x RM - LH + 405 - a° x 6.5 (short spring buffer)
GD 1 + GD 2 = 2 x RM - LH + 405 - a° x 6.5 (long spring buffer + operator)
- DM** Central ceiling anchor = see page 66
- H** Min. headroom (see page 42)
- DA** Distance to ceiling on request
- DE** Ceiling height
- L** Anchor length on request (see page 66)
- LDH** Clear passage height
- LZ** Clear frame dimensions (from 1200)
- ET** Min. distance back
- RM** Grid height
- F** Space for fitting the door

On request

Dimensions in mm

Track Application: L

Low headroom track application



Door weights for roof loads:

SPU F42 / APU F42 Thermo / ALR F42 Thermo	= 320 N/m ²
APU F42 / ALR F42	= 280 N/m ²
ALR F42 Glazing	= 560 N/m ²

Observe min. sideroom, see page 61.

Door operation:

- Manually operated: with rope or chain hoist (recommended for manual operation!)
- Power-driven: WA 400 with chain box, ITO 400 or SupraMatic H

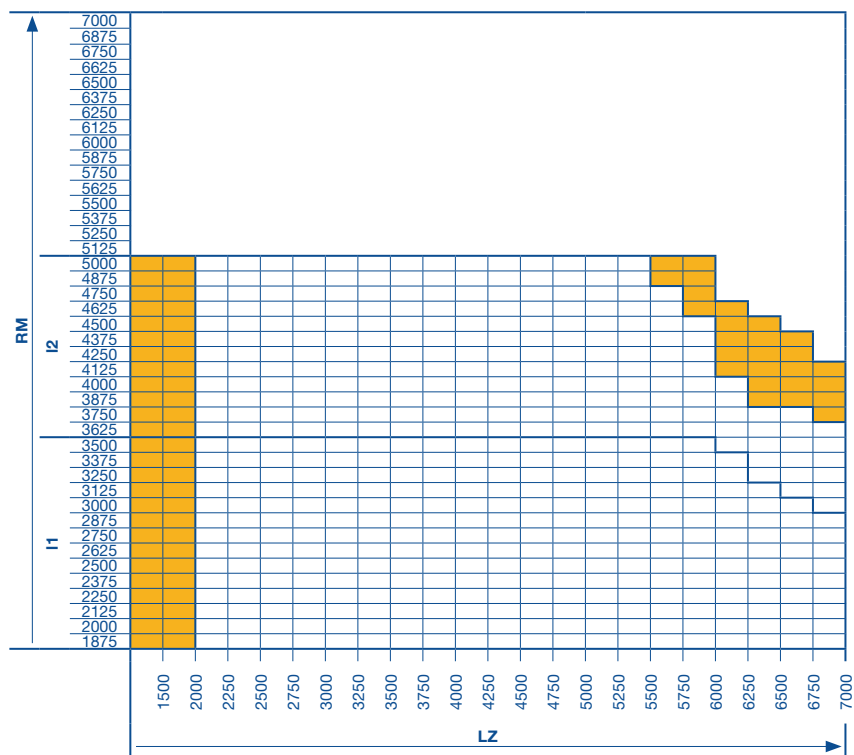
	* Clear passage height LDH		
	Without operator	Operator	
		WA 400 **	WA 300 ***
LZ ≤ 5500			
Without wicket door	RM - 50	RM - 50	RM - 80
Wicket door with threshold	RM - 100	RM - 100	RM - 130
Wicket door without threshold rail	RM - 165	RM - 135	RM - 165
LZ > 5500			
Without wicket door	RM - 100	RM - 100	RM - 130
Wicket door with threshold	RM - 100	RM - 100	RM - 130
Wicket door without threshold rail	RM - 195	RM - 165	RM - 195

** Or with chain hoist / pull rope

*** Track application with inclination not possible!

Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 - 18 and 21 - 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request



- LDH** Clear passage height
- RM** Grid height
- BF** Position of spring shaft = RM + 682
- DM** Central ceiling anchor
Up to RM 3500 = BF / 2
From RM 3510 = BF / 3
- ET** Min. distance back = RM + 990
- H** Min. headroom 200 (see page 42)
- DA** Distance to ceiling
- DE** Ceiling height
- L** Anchor length = DE - RM - 15 (see page 66)
- LZ** Clear frame dimensions (from 1200)
- F** Space for fitting the door

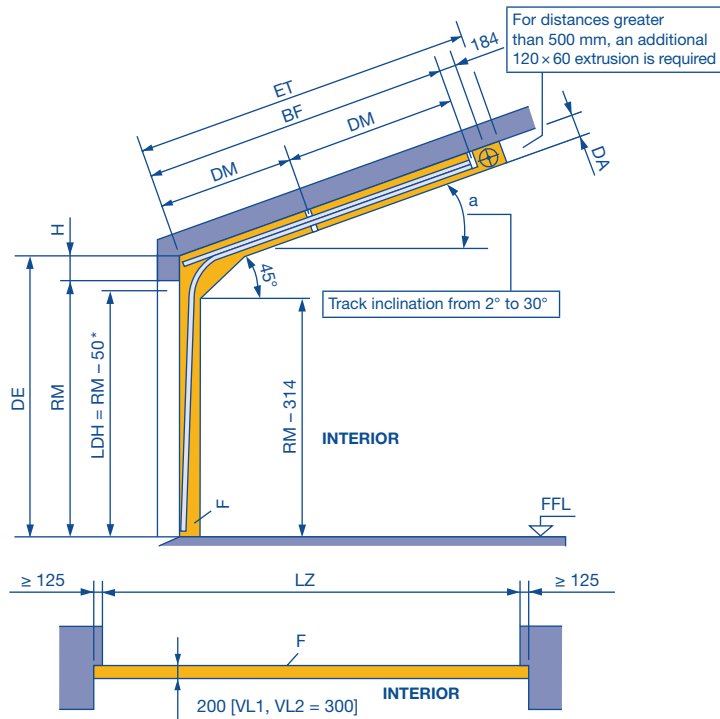
- All door types available in any version.
- All door types in any version on request.

Dimensions in mm

Track Application: LD

Low headroom track application

With inclination



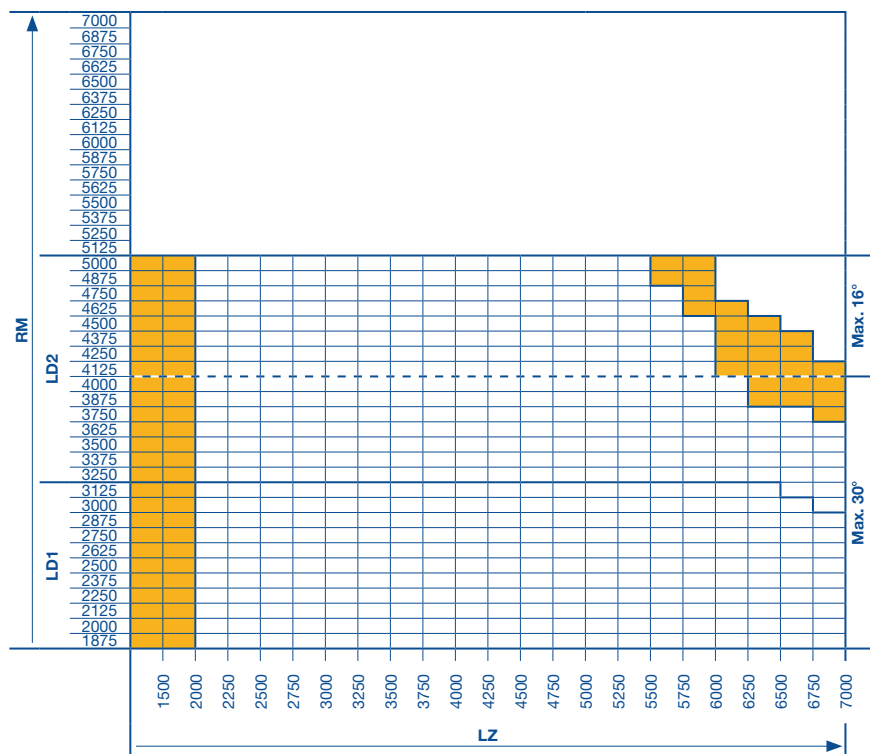
Door weights for roof loads:

- SPU F42 / APU F42 Thermo / ALR F42 Thermo = 320 N/m²
- APU F42 / ALR F42 = 280 N/m²
- ALR F42 Glazing = 560 N/m²

Observe min. sideroom, see page 61.

Only to determine the roof slope in degrees (a°)		
a°	%	X (mm)
2	3.49	34.9
4	6.99	69.9
6	10.51	105.1
8	14.05	140.5
10	17.63	176.3
12	21.26	212.6
14	24.93	249.3
16	28.67	286.7
18	32.49	324.9
20	36.40	364.0
22	40.40	404.0
24	44.52	445.2
26	48.77	487.7
28	53.17	531.7
30	57.74	577.4

- * Notes:**
- Clear passage height LDH, see track application L
 - For door operation, see track application L
- Notes:**
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
 - Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
 - ALR F42 Vitraplan and ALR F42 Glazing on request



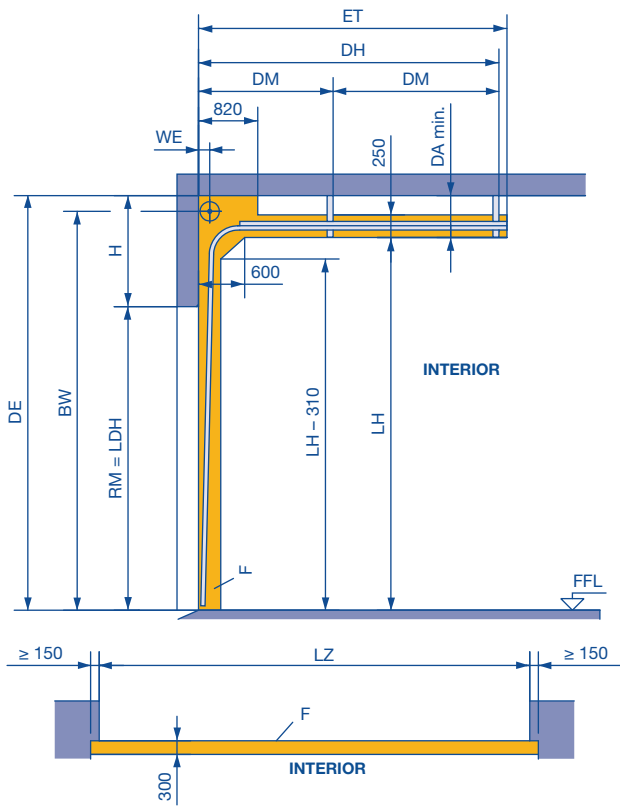
- LDH** Clear passage height
- RM** Grid height
- ET** Min. distance back
 - 2° – 4° = RM + 990
 - 6° – 16° = RM + 800
 - 18° – 30° = RM + 740
- H** Min. headroom 200 (see page 42)
- BF** Position of spring shaft on request
- DM** Central ceiling anchor on request
- DA** Distance to ceiling on request
- DE** Ceiling height
- L** Anchor length on request (see page 66)
- LZ** Clear frame dimensions (from 1200)
- F** Space for fitting the door

□ All door types available in any version.
 ■ All door types in any version on request.

Dimensions in mm

Track Application: H

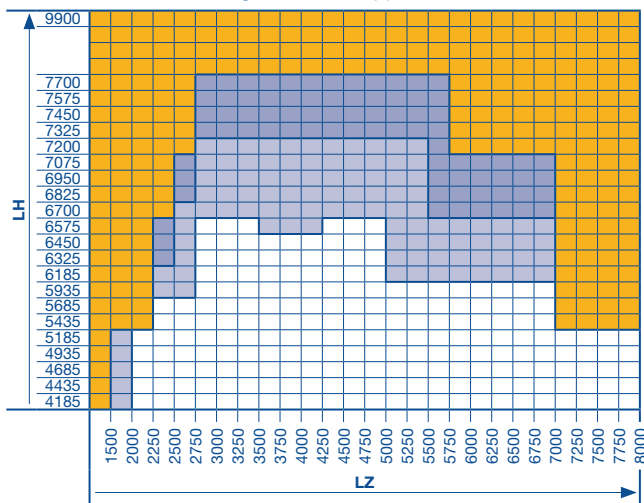
High-lift track application



ET = min. distance back	
H 4+5	2 x RM - LH + 1120 For manual operation with long spring buffer (standard)
	2 x RM - LH + 650 For manual operation with short spring buffer (special)
	2 x RM - LH + 880 For shaft operator with long spring buffer (LH - RM) ≤ 1000
	2 x RM - LH + 650 For shaft operator with short spring buffer (LH - RM) > 1000
H 8	2 x RM - LH + 950 All versions

Observe min. sideroom, see page 61.

Table 2
Demarcation of track height for track application H



Please note:

1. Select required track height according to the door height in table 1.
2. Determine the intersection of the door width and track height using table 2.
3. Please check if, acc. to the explanations, a request is necessary.

Note:

The clearance required for fitting the door must be free of supply lines, heater fans, etc.

Table 1: Track heights (LH)
For track applications H, HD

Door height RM	Min. LH	Max. LH		Door height RM	Min. LH	Max. LH	
4500	4960	7800	H 5, WE = 180	7000	7460	9990	H 8, WE = 205 All door types and versions available on request.
4375	4835	7675		6875	7335	9990	
4250	4710	7550		6750	7210	9990	
4125	4585	7425		6625	7085	9990	
4000	4460	7185		6500	6960	9990	
3875	4335	6935		6375	6835	9775	
3750	4210	6685		6250	6710	9650	
3625	4085	6435		6125	6585	9525	
3500	3960	6185		6000	6460	9400	
3375	3835	5935		5875	6335	9275	
3250	3710	5685	5750	6210	9150		
3125	3585	5435	5625	6085	9025		
3000	3460	5185	5500	5960	8900		
2875	3335	4935	5375	5835	8775		
2750	3210	4685	5250	5710	8650		
2625	3085	4435	5125	5585	8525		
2500	2960	4185	5000	5460	8300		
2375	2835	3935	4875	5335	8175		
2250	2710	3685	4750	5210	8050		
2125	2585	3435	4625	5085	7925		
2000	2460	3185				H 5, WE = 180	

Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

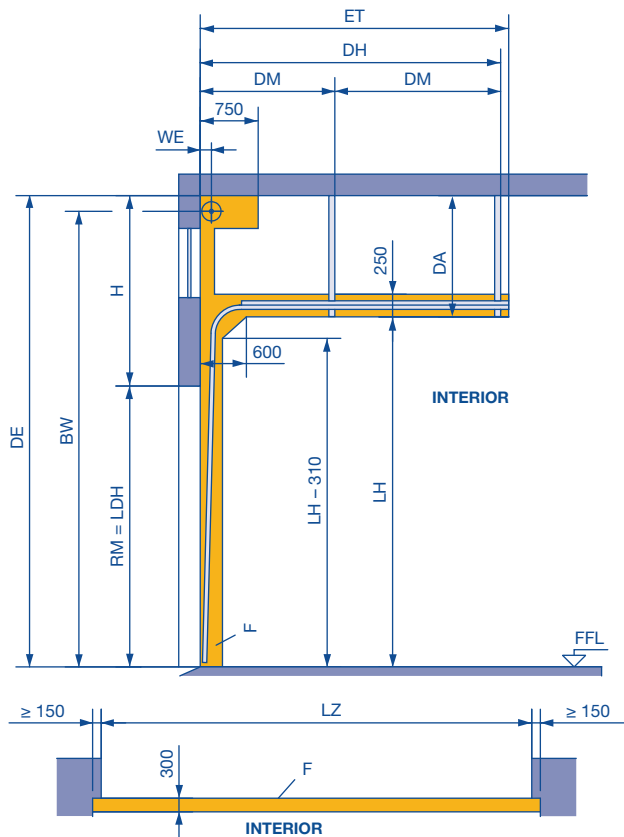
- LDH** Clear passage height
 - RM** Grid height
 - LH** Track height (see Table 1+2)
 - BW** Position of shaft support
H 4 + 5 = LH + 280, H 8 = LH + 305
 - DH** Rear ceiling anchor
H 4 + H 5 = 2 x RM - LH + 645 (long spring buffer)
H 4 + H 5 = 2 x RM - LH + 405 (short spring buffer)
H 4 + H 5 = 2 x RM - LH + 405 (long spring buffer + operator)
H 8 = 2 x RM - LH + 485
 - DM** Central ceiling anchor (see page 66)
 - WE** Shaft centre from lintel (see table 1)
 - H** Min. headroom (see page 42)
 - Min. DA** H 4 = 420
H 5 = 450, 625 with double spring shaft
H 8 = 490, 650 with double spring shaft
 - L** Anchor length DE - LH - 15 (see page 66)
 - DE** Ceiling height
 - LZ** Clear frame dimensions (from 1200)
 - ET** Distance back
 - F** Space for fitting the door
- All door types available in any version.
 All door types available, versions with glazing A3, B3, M3, S3, LB, P and / or wicket door on request.
 Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P and / or wicket door on request.
 All door types in any version on request.

Dimensions in mm

Track Application: HA

High-lift track application

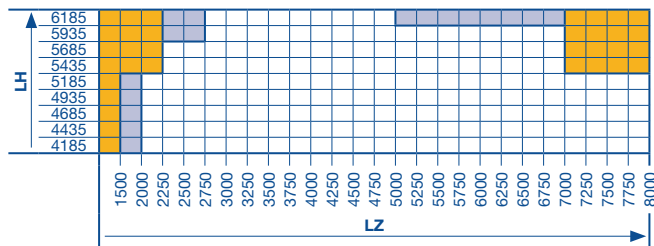
With high-mounted torsion spring shaft



ET = min. distance back	
HA 4	2 x RM - LH + 1120 For manual operation with long spring buffer (standard)
HA 4	2 x RM - LH + 650 For manual operation with short spring buffer (special)
HA 4	2 x RM - LH + 880 For shaft operator with long spring buffer (LH - RM) ≤ 1000
HA 4	2 x RM - LH + 650 For shaft operator with short spring buffer (LH - RM) > 1000

Observe min. sideroom, see page 61.

Table 4
Demarcation of track height for track application HA



Please note:

1. Select required track height according to the door height in table 3.
2. Determine the intersection of the door width and track height using table 4.
3. Please check if, acc. to the explanations, a request is necessary.

Note:

The clearance required for fitting the door must be free of supply lines, heater fans, etc.

Table 3: Track heights (LH)
for track application HA

Door height	RM	Min. LH	Max. LH
3500		3960	6185
3375		3835	5935
3250		3710	5685
3125		3585	5435
3000		3460	5185
2875		3335	4935
2750		3210	4685
2625		3085	4435
2500		2960	4185
2375		2835	3935
2250		2710	3685
2125		2585	3435
2000		2460	3185

HA 4, WE = 160

Notes:

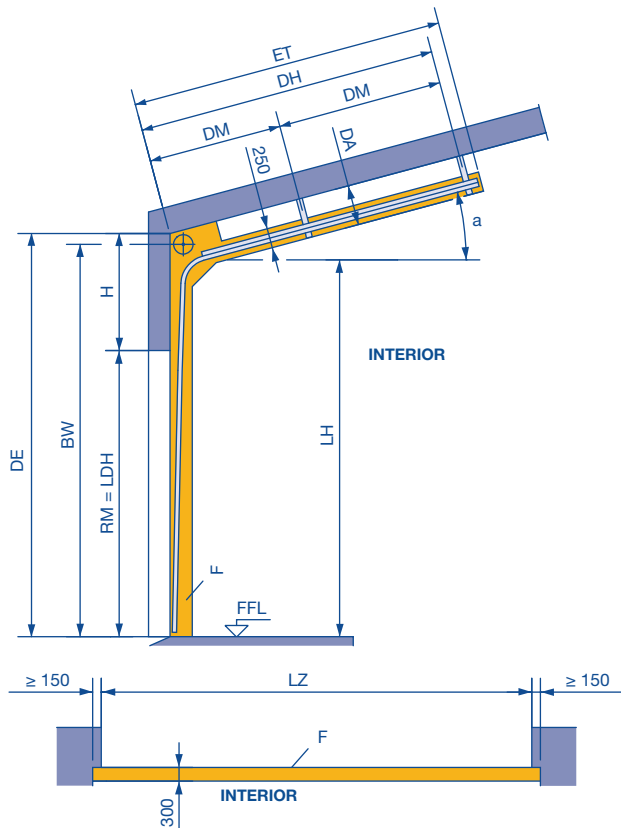
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

- LDH** Clear passage height
 - RM** Grid height
 - LH** Track height (see Table 3+4)
 - BW** Position of shaft support
Min. = HA 4 = LH + 280
Max. (Ø120) = HA 4 = DE - 140
 - DH** Rear ceiling anchor
HA 4 = 2 x RM - LH + 645 (long spring buffer)
HA 4 = 2 x RM - LH + 405 (short spring buffer)
HA 4 = 2 x RM - LH + 405 (long spring buffer + operator)
 - DM** Central ceiling anchor (see page 66)
 - WE** Shaft centre from lintel (see table 3)
 - H** Min. headroom (see page 42)
 - DA** Distance to ceiling = HA 4 = min. 420
 - L** Anchor length DE - LH - 15 (see page 66)
 - DE** Ceiling height
 - LZ** Clear frame dimensions (from 1200)
 - ET** Distance back
 - F** Space for fitting the door
- All door types available in any version.
 - All door types available, versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - All door types in any version on request.

Dimensions in mm

Track Application: HD

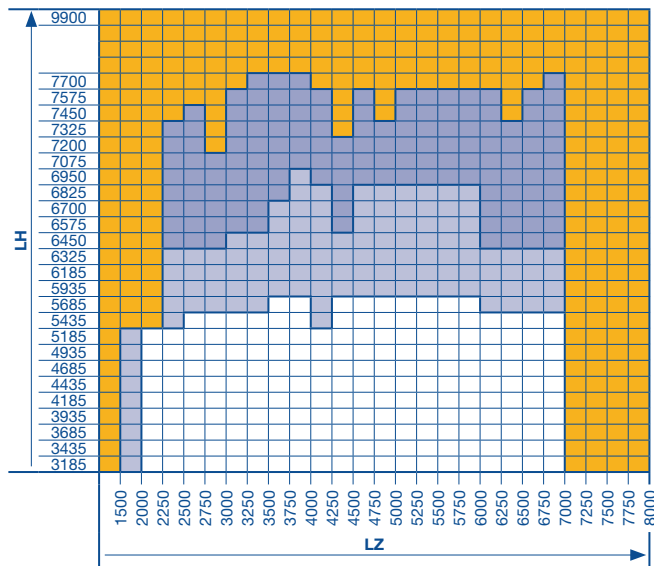
High-lift track application With inclination



Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

Table 5
Demarcation of track height for track application HD to 10°,
Track application HD 11° to 30° on request!



Please note:

1. Select required track height according to the door height in Table 1 on page 50.
2. Determine the intersection of the door width and track height using table 5.
3. Please check if, acc. to the explanations, a request is necessary.

Note:

The clearance required for fitting the door must be free of supply lines, heater fans, etc.

ET = min. distance back		
HD 4 + 5	2 x RM – LH + 1120 – a° x 6.5	For manual operation with long spring buffer (standard)
	2 x RM – LH + 650 – a° x 6.5	For manual operation with short spring buffer (special)
	2 x RM – LH + 880 – a° x 6.5	For shaft operator with long spring buffer (LH – RM) ≤ 1000 and a° ≤ 5°
	2 x RM – LH + 650 – a° x 6.5	For shaft operator with short spring buffer (LH – RM) > 1000 or a° > 5°
HD 8	2 x RM – LH + 950 – a° x 6.5	All versions

See the high-lift track application for all other fitting dimensions.
Observe min. sideroom, see page 61.

Only to determine the roof slope in degrees (a°)					
a°	%	X (mm)	a°	%	X (mm)
1	1.75	17.5	16	28.67	286.7
2	3.49	34.9	17	30.57	305.7
3	5.24	52.4	18	32.49	324.9
4	6.99	69.9	19	34.43	344.3
5	8.75	87.5	20	36.40	364.0
6	10.51	105.1	21	38.39	383.9
7	12.28	122.8	22	40.40	404.0
8	14.05	140.5	23	42.45	424.5
9	15.84	158.4	24	44.52	445.2
10	17.63	176.3	25	46.63	466.3
11	19.44	194.4	26	48.77	487.7
12	21.26	212.6	27	50.95	509.5
13	23.09	230.9	28	53.17	531.7
14	24.93	249.3	29	55.43	554.3
15	26.79	267.9	30	57.74	577.4

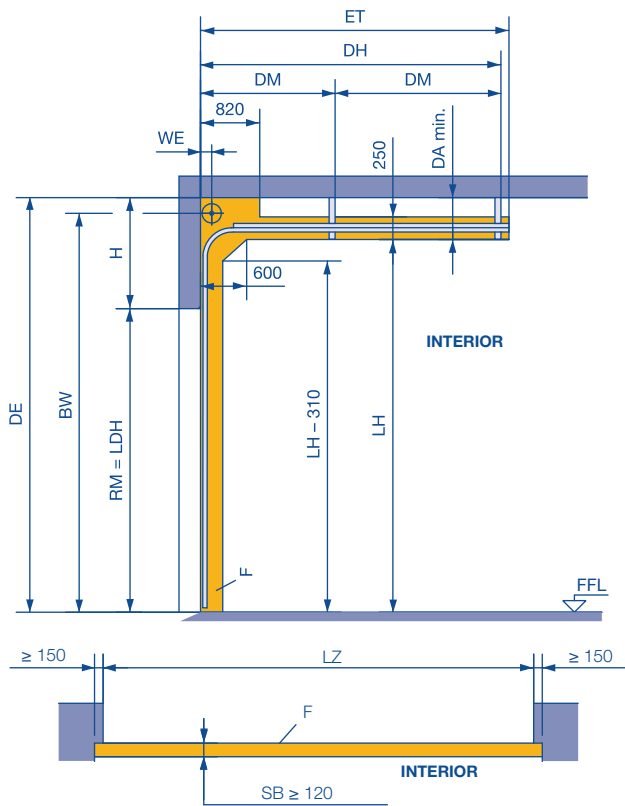
- DA** Distance to ceiling on request
 - L** Anchor length DE – L + 140 (see page 66)
 - LH** Track height (see Table 1 on page 50 and Table 5)
 - H** Min. headroom (see page 42)
 - BW** Position of shaft support
HD 4 + 5 = LH + 280, HD 8 = LH + 305
 - DH** Rear ceiling anchor
HD 4 + HD 5 = 2 x RM – LH + 645 – a° x 6.5 (long spring buffer)
HD 4 + HD 5 = 2 x RM – LH + 405 – a° x 6.5 (short spring buffer)
HD 4 + HD 5 = 2 x RM – LH + 405 – a° x 6.5 (long spring buffer + operator)
HD 8 = 2 x RM – LH + 485
 - DM** Central ceiling anchor on request
 - WE** Shaft centre from lintel (see Table 1 on page 50)
 - DE** Ceiling height
 - LDH** Clear passage height
 - LZ** Clear frame dimensions (**from 1200**)
 - ET** Distance back
 - RM** Grid height
 - F** Space for fitting the door
- All door types available in any version.
 All door types available, versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 All door types available on request.
- Dimensions in mm

Track Application: HG

High-lift application

With steep track

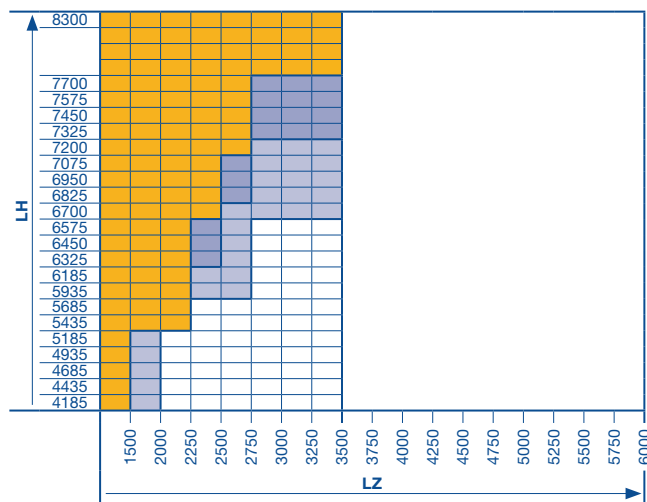
(Application for loading ramp doors)



ET = min. distance back	
HG 4 + 5	2 x RM - LH + 1120 For manual operation with long spring buffer (standard)
	2 x RM - LH + 650 For manual operation with short spring buffer (special)
	2 x RM - LH + 880 For shaft operator with long spring buffer (LH - RM) ≤ 1000
	2 x RM - LH + 650 For shaft operator with short spring buffer (LH - RM) > 1000

Other versions on request.
Observe min. sideroom, see page 61.

Table 7
Demarcation of track height for track application HG



- Please note:**
1. Select required track height according to the door height in table 6.
 2. Determine the intersection of the door width and track height using table 7.
 3. Please check if, acc. to the explanations, a request is necessary.

- Notes:**
- Door types APU F42 S-Line / ALR F42 S-Line / ALR F42 Glazing, doors with real glass infill and wicket doors are not possible!
 - The clearance required for fitting the door must be free of supply lines, heater fans, etc.

Table 6: Track heights (LH)
For track application HG

Door height	RM	Min. LH	Max. LH	
5000		5460	8300	HG 5, WE = 180
4875		5335	8175	
4750		5210	8050	
4625		5085	7925	
4500		4960	7800	
4375		4835	7675	
4250		4710	7550	
4125		4585	7425	
4000		4460	7185	
3875		4335	6935	
3750		4210	6685	
3625		4085	6435	
3500		3960	6185	HG 4, WE = 160
3375		3835	5935	
3250		3710	5685	
3125		3585	5435	
3000		3460	5185	
2875		3335	4935	
2750		3210	4685	
2625		3085	4435	
2500		2960	4185	
2375		2835	3935	

- Notes:**
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
 - ALR F42 Vitraplan on request

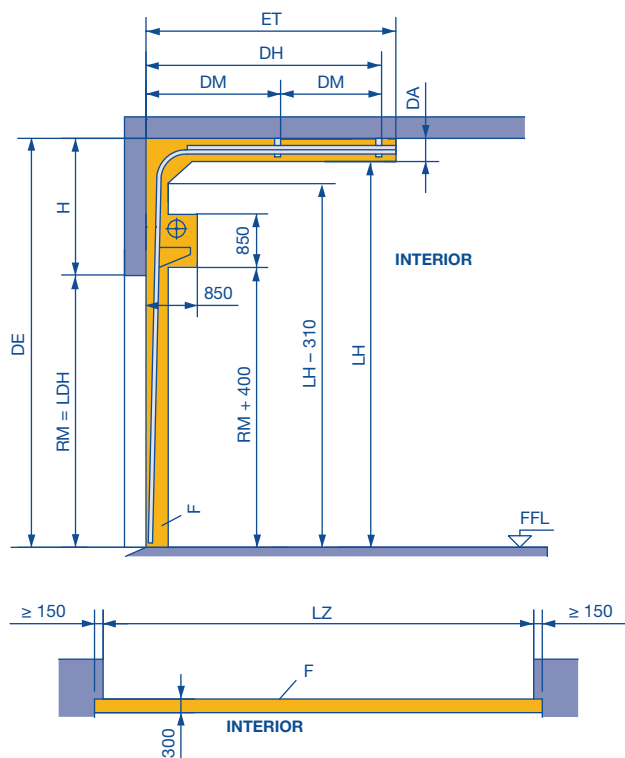
- LDH** Clear passage height
 - RM** Grid height
 - LH** Track height (see Table 6)
 - DH** Rear ceiling anchor =
HG 4 + HG 5 = 2 x RM - LH + 645 (long spring buffer)
HG 4 + HG 5 = 2 x RM - LH + 405 (short spring buffer)
HG 4 + HG 5 = 2 x RM - LH + 405 (long spring buffer + operator)
 - DM** Central ceiling anchor (see page 66)
 - WE** Shaft centre from lintel (see table 6)
 - H** Min. headroom (see page 42)
 - Min. DA** HG 4 = 420
HG 5 = 450, 625 with double spring shaft
 - SB** Slot width
 - L** Anchor length DE - LH - 15 (see page 66)
 - ET** Distance back
 - DE** Ceiling height
 - LZ** Clear frame dimensions (from 1200)
 - F** Space for fitting the door
- All door types available in any version.
 All door types available, versions with glazing A3, B3, M3, S3, LB, P on request.
 Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P must be requested.
 All door types in any version on request.

Dimensions in mm

Track Application: HU

High-lift track application

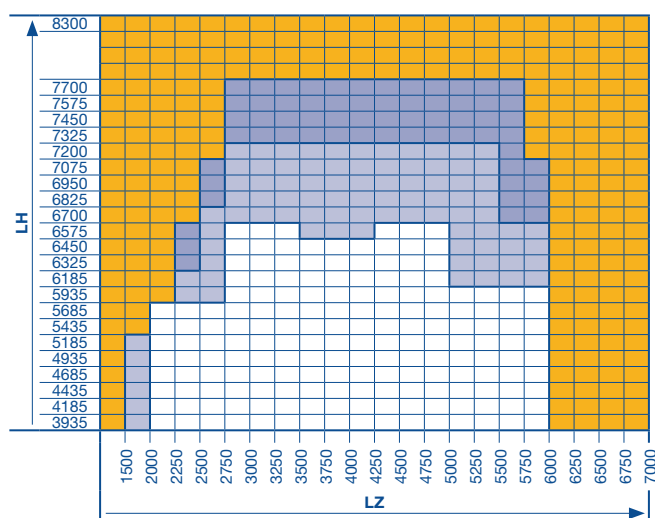
With low-mounted torsion spring shaft



ET = min. distance back		
HU 4 + 5	2 x RM - LH + 1120	For manual operation with long spring buffer (standard)
	2 x RM - LH + 650	For manual operation with short spring buffer (special)
	2 x RM - LH + 650	For shaft operator with short spring buffer = (LH - RM ≥ 1510)

Other versions on request.
Observe min. sideroom, see page 61.

Table 7
Demarcation of track height for track application HU



Please note:

1. Select required track height according to the door height in table 6.
2. Determine the intersection of the door width and track height using table 7.
3. Please check if, acc. to the explanations, a request is necessary.

Note:

The clearance required for fitting the door must be free of supply lines, heater fans, etc.

Table 6: Track heights (LH)
For track application HU

Door height	Min. LH	Max. LH	
5000	6510	8300	HU 5, WE = 335
4875	6385	8175	
4750	6260	8050	
4625	6135	7925	
4500	6010	7800	
4375	5885	7675	
4250	5760	7550	
4125	5635	7425	
4000	5510	7185	
3875	5385	6935	
3750	5260	6685	
3625	5135	6435	
3500	5010	6185	
3375	4885	5935	HU 4, WE = 315
3250	4760	5685	
3125	4635	5435	
3000	4510	5185	
2875	4385	4935	
2750	4260	4685	
2625	4135	4435	
2500	4010	4185	
2375	3885	3935	

Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

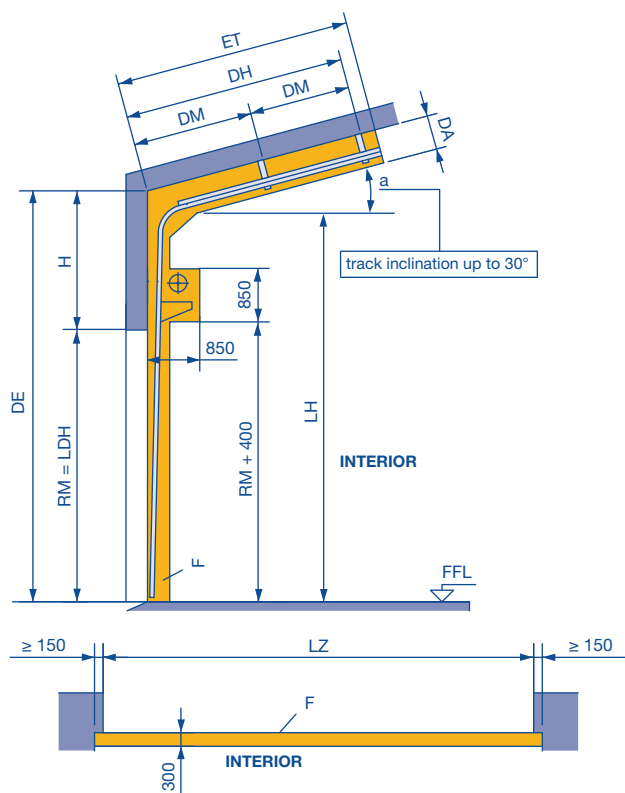
- DE** Ceiling height
 - LDH** Clear passage height
 - RM** Grid height
 - LH** Track height (see Table 6)
 - DH** Rear ceiling anchor
HU 4 + HU 5 = 2 x RM - LH + 645 (long spring buffer)
HU 4 + HU 5 = 2 x RM - LH + 405 (short spring buffer)
HU 4 + HU 5 = 2 x RM - LH + 405 (long spring buffer + operator)
 - DM** Central ceiling anchor (see page 66)
 - WE** Shaft centre from lintel (see table 6)
 - H** Min. headroom (see page 42)
 - DA** Min. distance to ceiling 250
 - L** Anchor length DE - LH - 15 (see page 66)
 - LZ** Clear frame dimensions (**from 1200**)
 - ET** Distance back
 - F** Space for fitting the door
- All door types available in any version.
 - All door types available, versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - All door types in any version on request.

Dimensions in mm

Track Application: RD

High-lift track application

With low-mounted torsion spring shaft and inclination

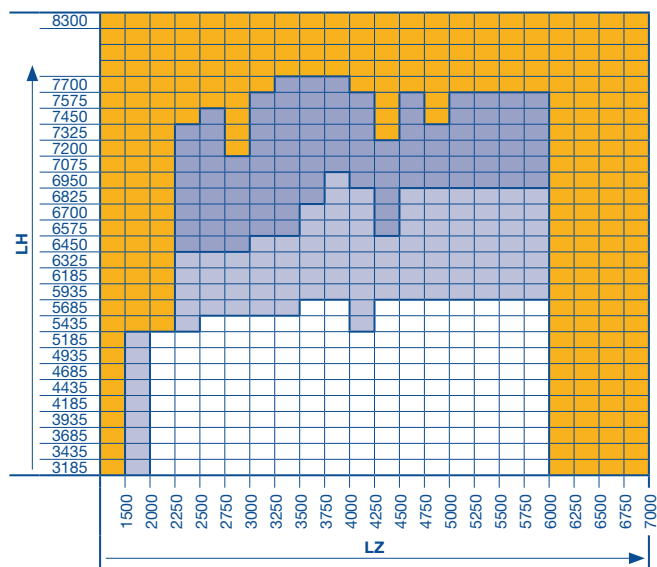


Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request request

Table 8

Demarcation of track height for track application RD to 10°, Track application RD 11° to 30° on request!



Please note:

1. Select required track height according to the door height in Table 6 on page 54.
2. Determine the intersection of the door width and track height using table 8.
3. Please check if, acc. to the explanations, a request is necessary.

Note:

The clearance required for fitting the door must be free of supply lines, heater fans, etc.

ET = min. distance back		
RD 4 + 5	2 x RM - LH + 1120 - a° x 6.5	For manual operation with long spring buffer (standard)
	2 x RM - LH + 650 - a° x 6.5	For manual operation with short spring buffer (special)
	2 x RM - LH + 880 - a° x 6.5	For shaft operator with long spring buffer = (LH - RM) ≤ 1000 and a° ≤ 5°
	2 x RM - LH + 650 - a° x 6.5	For shaft operator with short spring buffer = (LH - RM) > 1000 or a° > 5°

See the high-lift track application with inclination for all other fitting dimensions. Observe min. sideroom, see page 61.

Only to determine the roof slope in degrees (a°)					
a°	%	X (mm)	a°	%	X (mm)
1	1.75	17.5	16	28.67	286.7
2	3.49	34.9	17	30.57	305.7
3	5.24	52.4	18	32.49	324.9
4	6.99	69.9	19	34.43	344.3
5	8.75	87.5	20	36.40	364.0
6	10.51	105.1	21	38.39	383.9
7	12.28	122.8	22	40.40	404.0
8	14.05	140.5	23	42.45	424.5
9	15.84	158.4	24	44.52	445.2
10	17.63	176.3	25	46.63	466.3
11	19.44	194.4	26	48.77	487.7
12	21.26	212.6	27	50.95	509.5
13	23.09	230.9	28	53.17	531.7
14	24.93	249.3	29	55.43	554.3
15	26.79	267.9	30	57.74	577.4

- DE** Ceiling height
- L** Anchor length DE - L - 15 (see page 66)
- LH** Track height (see Table 6 on page 54)
- H** Min. headroom (see page 42)
- DH** Rear ceiling anchor=
 - RD 4 + RD 5 = 2 x RM - LH + 645 - a° x 6.5 (long spring buffer)
 - RD 4 + RD 5 = 2 x RM - LH + 405 - a° x 6.5 (short spring buffer)
 - RD 4 + RD 5 = 2 x RM - LH + 405 - a° x 6.5 (long spring buffer + operator)
- DM** Central ceiling anchor (see page 66)
- WE** Shaft centre from lintel (see Table 6 on page 54)
- DA** Distance to ceiling on request
- LDH** Clear passage height
- LZ** Clear frame dimensions (from 1200)
- RM** Grid height
- F** Space for fitting the door

- All door types available in any version.
- All door types available, versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
- Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P and/or wicket door must be requested.
- All door types in any version on request.

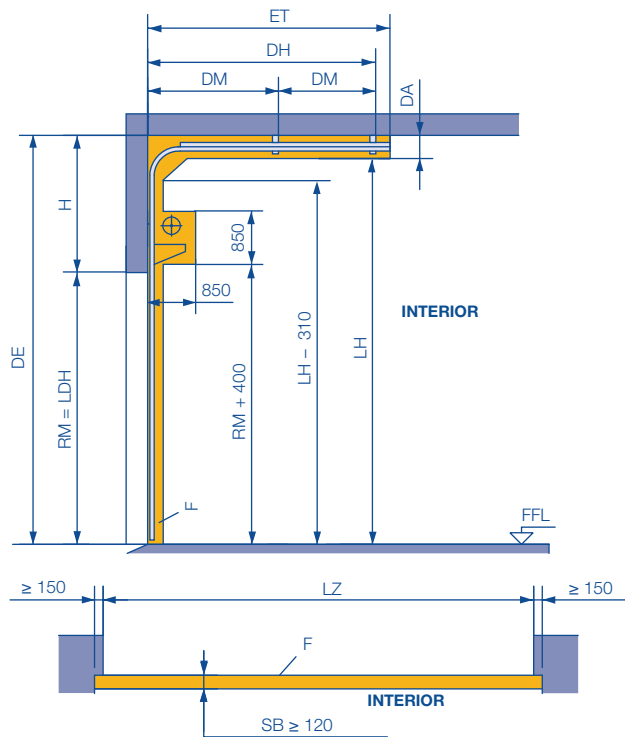
Dimensions in mm

Track Application: RG

High-lift track application

With low-mounted torsion spring shaft and steep track

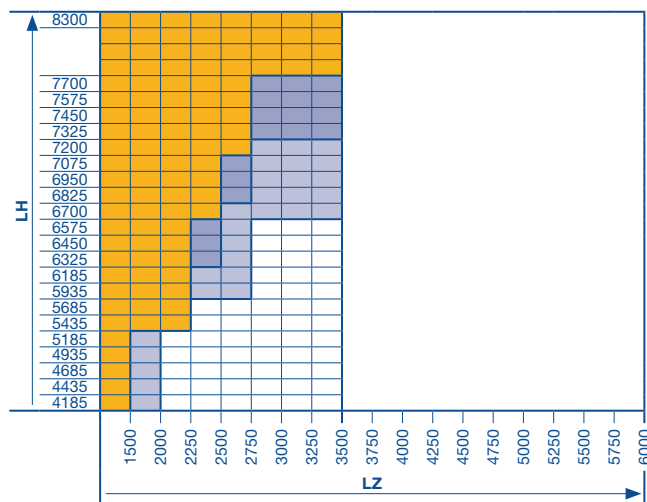
(Application for loading ramp doors)



ET = min. distance back	
RG 4 + 5	2 x RM - LH + 1120 For manual operation with long spring buffer (standard)
	2 x RM - LH + 650 For manual operation with short spring buffer (special)
	2 x RM - LH + 650 For shaft operator with short spring buffer = (LH - RM ≥ 1510)

Other versions on request.
Observe min. sideroom, see page 61.

Table 10
Demarcation of track height for track application RG



Please note:

1. Select required track height according to the door height in table 9.
2. Determine the intersection of the door width and track height using table 10.
3. Please check if, acc. to the explanations, a request is necessary.

Notes:

- Door types APU F42 S-Line / ALR F42 S-Line and wicket doors are not possible!
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.

Table 9: Track heights (LH)
For track application RG

Door height	Min. LH	Max. LH	
5000	6510	8300	RG 5, WE = 276
4875	6385	8175	
4750	6260	8050	
4625	6135	7925	
4500	6010	7800	
4375	5885	7675	
4250	5760	7550	
4125	5635	7425	
4000	5510	7185	
3875	5385	6935	
3750	5260	6685	
3625	5135	6435	
3500	5010	6185	RG 4, WE = 246
3375	4885	5935	
3250	4760	5685	
3125	4635	5435	
3000	4510	5185	
2875	4385	4935	
2750	4260	4685	
2625	4135	4435	
2500	4010	4185	
2375	3885	3935	

Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!
- ALR F42 Vitraplan and ALR F42 Glazing on request

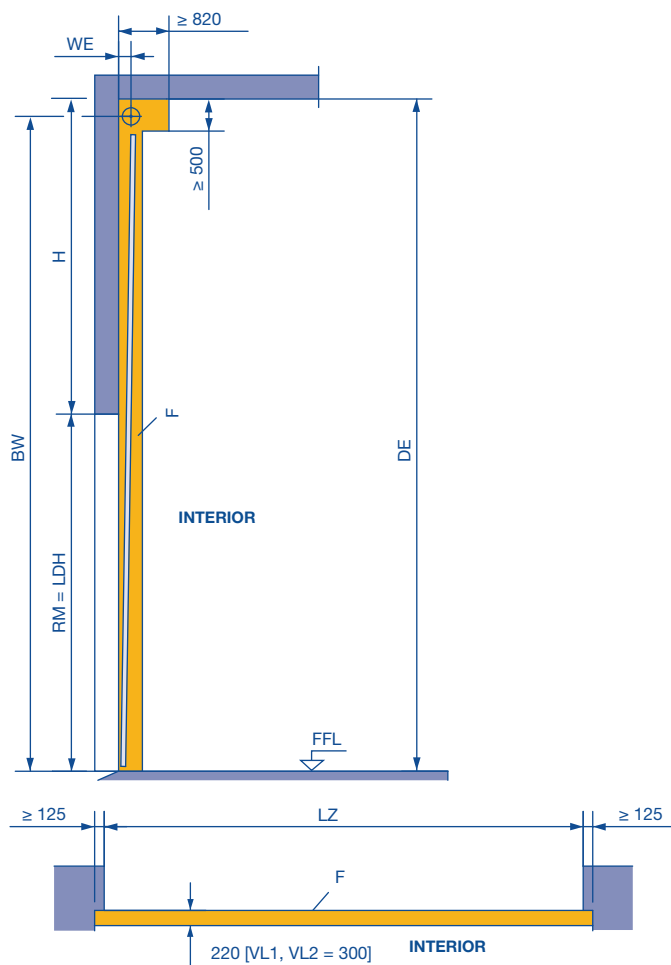
- LDH** Clear passage height
- RM** Grid height
- LH** Track height (see Table 9)
- DH** Rear ceiling anchor =
RG 4 + RG 5 = 2 x RM - LH + 580 (long spring buffer)
RG 4 + RG 5 = 2 x RM - LH + 340 (short spring buffer)
RG 4 + RG 5 = 2 x RM - LH + 340 (long spring buffer + WA 400)
- DM** Central ceiling anchor (see page 66)
- WE** Shaft centre from lintel (see table 9)
- H** Min. headroom (see page 42)
- DA** Min. distance to ceiling 250
- SB** Slot width
- L** Anchor length DE - LH - 15 (see page 66)
- ET** Distance back
- DE** Ceiling height
- LZ** Clear frame dimensions (from 1200)
- F** Space for fitting the door

- All door types available in any version.
- All door types available, versions with glazing A3, B3, M3, S3, LB, P on request.
- Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P must be requested.
- All door types in any version on request.

Dimensions in mm

Track Application: V

Vertical track application

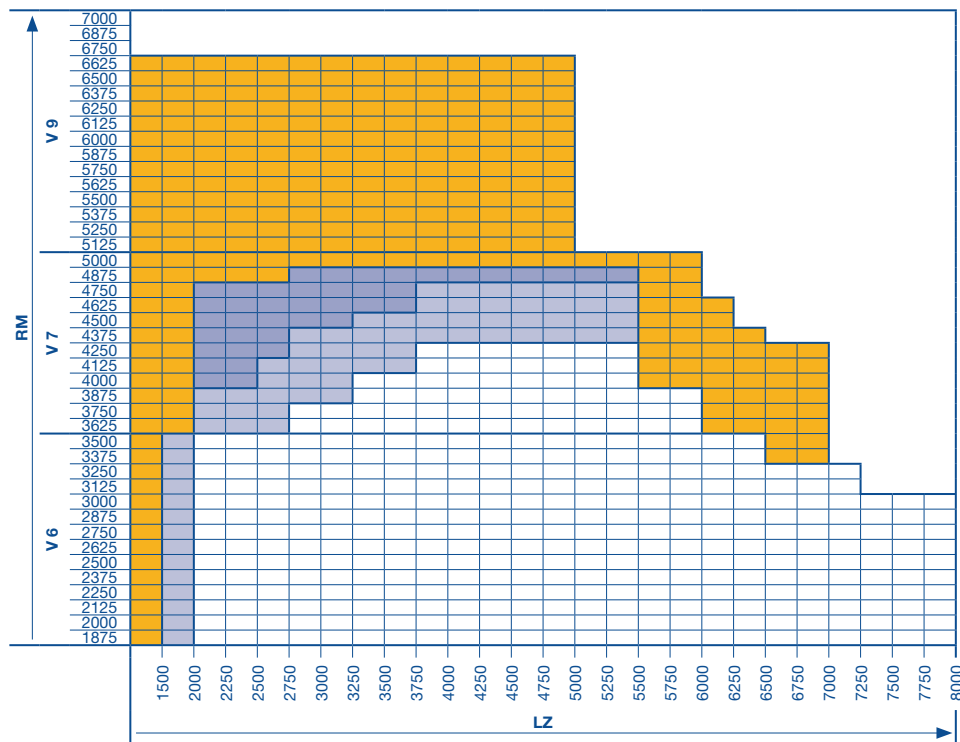


Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!

Observe min. sideroom, see page 61.

- LDH** Clear passage height
- RM** Grid height
- WE** Shaft centre from lintel
V 6 = 160, V 7 = 180
- H** Min. headroom (see page 42)
- DE** Ceiling height
2 × RM + 500 (V 6)
2 × RM + 540 (V 7)
2 × RM + 730 (V 7 with double spring shaft)
2 × RM + 635 (V 9)
2 × RM + 780 (V 9 with double spring shaft)
- BW** Position of shaft support
2 × RM + 360 (V 6)
2 × RM + 385 (V 7)
2 × RM + 435 (V 9)
- LZ** Clear frame dimensions (from 1200)
- F** Space for fitting the door



Note:

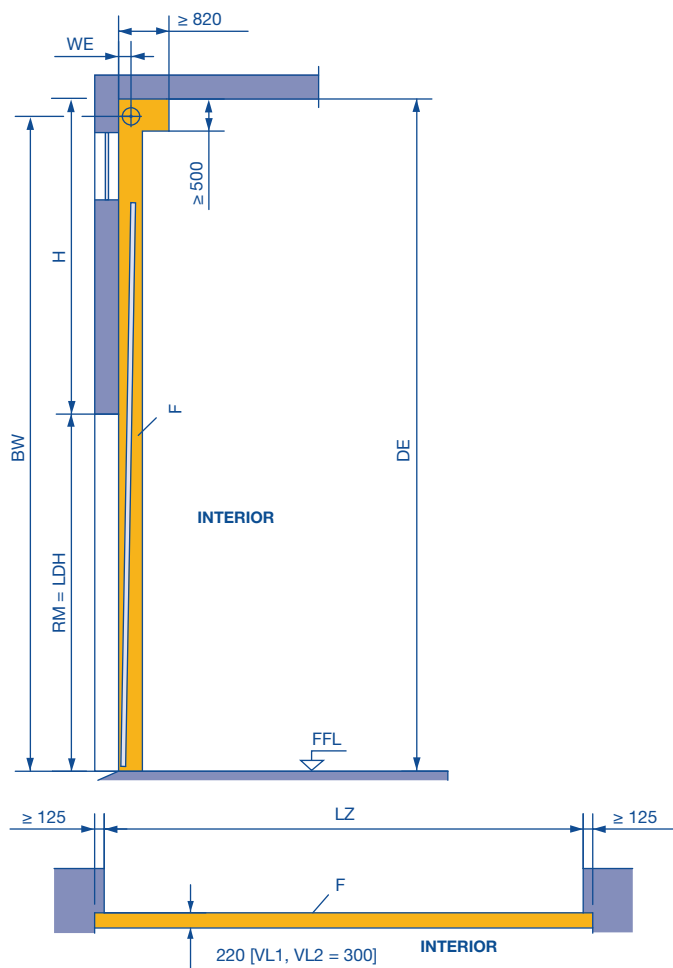
ALR F42 Vitraplan and ALR F42 Glazing on request

- All door types available in any version.
 - All door types available, versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 Thermo with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - All door types in any version on request.
- Dimensions in mm

Track Application: VA

Vertical track application

With high-mounted torsion spring shaft

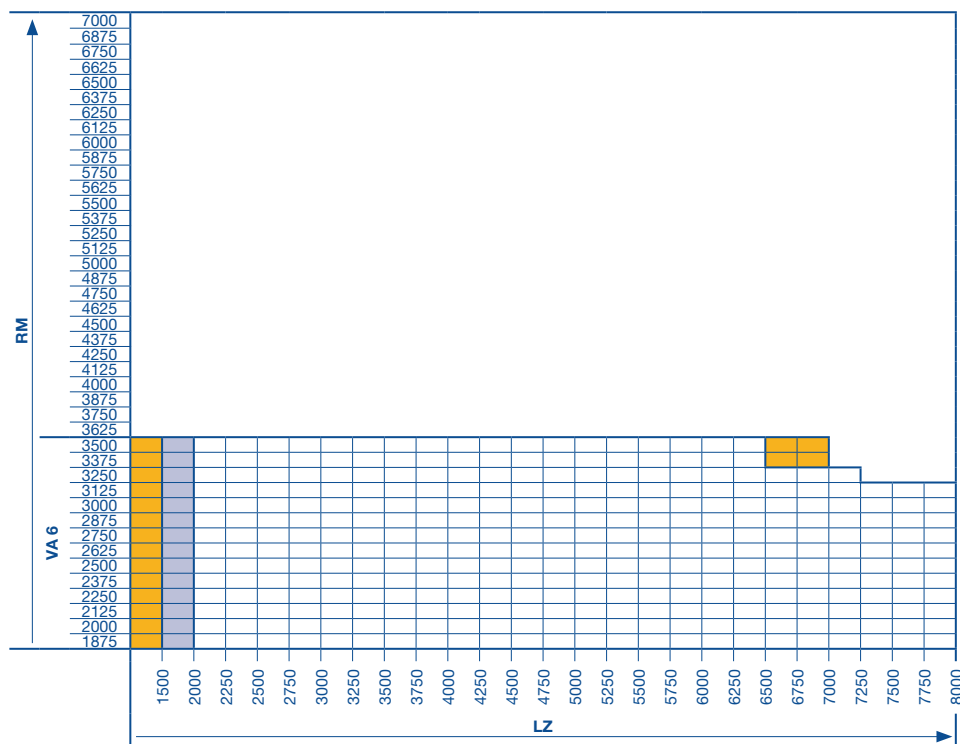


Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!

Observe min. sideroom, see page 61.

- LDH** Clear passage height
- RM** Grid height
- WE** Shaft centre from lintel
VA 6 = 160
- H** Min. headroom (see page 42)
- DE** Ceiling height
Min.: $2 \times RM + 510$ (VA 6)
Max.: depends on order
- BW** Position of shaft support=
Min.: $2 \times RM + 370$ (VA 6)
Max.: $7895 = DE - 140$
- LZ** Clear frame dimensions (**from 1200**)
- F** Space for fitting the door



Note:

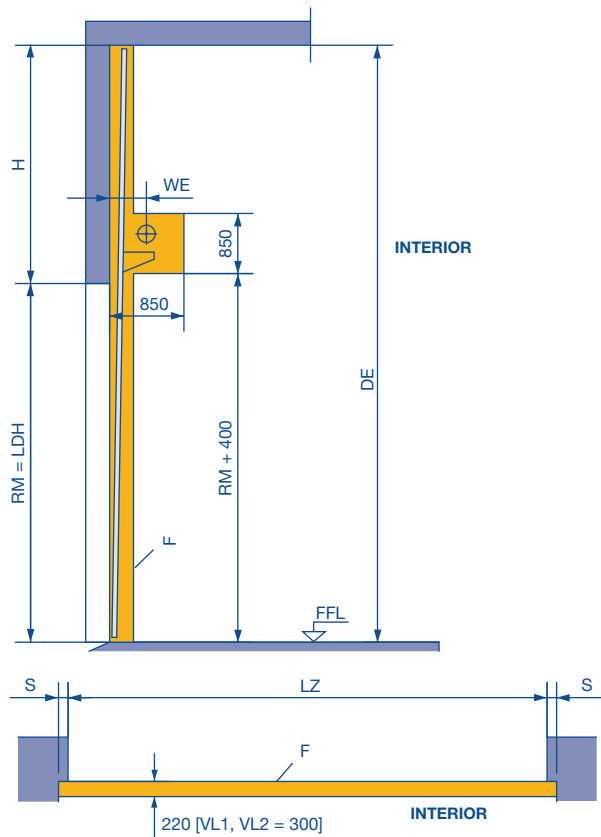
ALR F42 Vitraplan and
ALR F42 Glazing on request

- All door types available in any version.
 - All door types available, versions with glazing A3, B3, M3, S3, LB, P and / or wicket door on request.
 - All door types in any version on request.
- Dimensions in mm

Track Application: VU

Vertical track application

With low-mounted torsion spring shaft



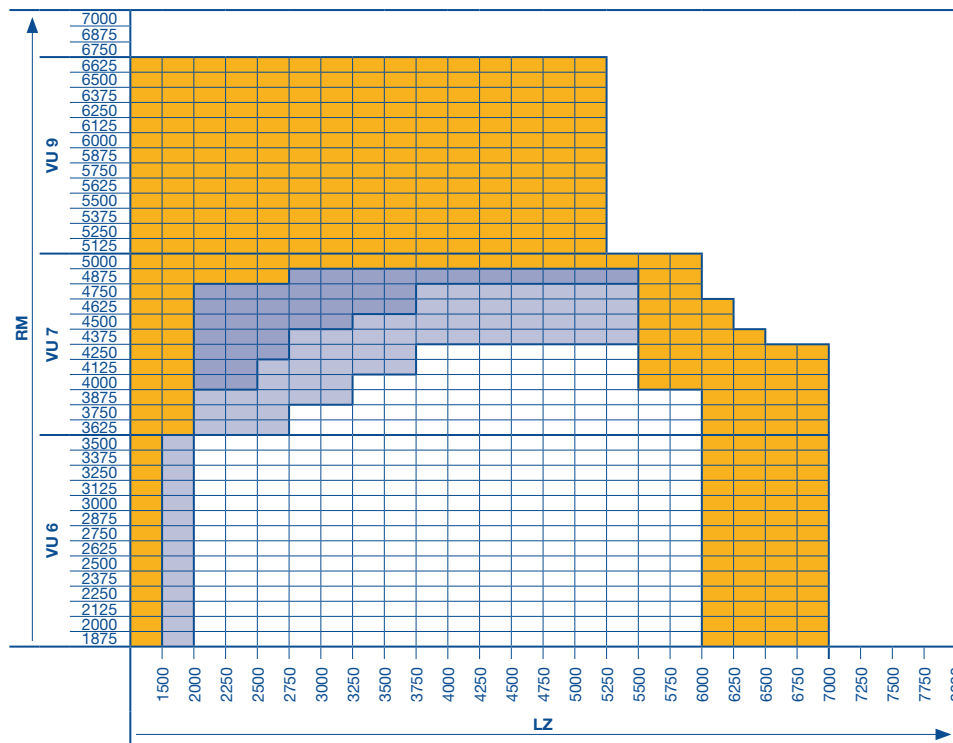
Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!

Track application	S
VU 6	125
VU 7, VU 9	140

Observe min. sideroom, see page 61.

- DE** Ceiling height = 2 × RM + 350
- WE** Shaft centre from lintel
VU 6 = 315
VU 7 = 335
VU 9 = 375
- H** Min. headroom (see page 42)
- LDH** Clear passage height
- RM** Grid height
- LZ** Clear frame dimensions (from 1200)
- F** Space for fitting the door
- S** Min. sideroom



Note:

ALR F42 Vitraplan and ALR F42 Glazing on request

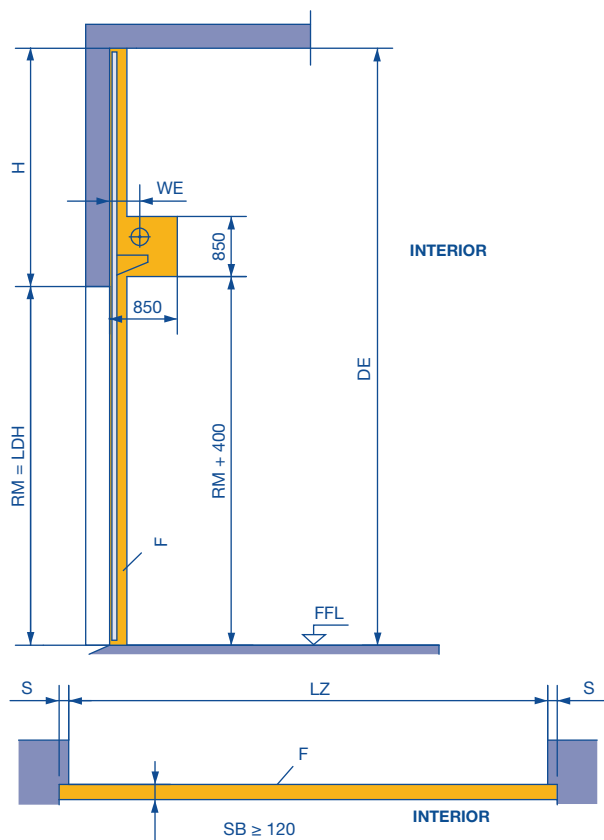
- All door types available in any version.
 - All door types available, versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P and/or wicket door on request.
 - All door types in any version on request.
- Dimensions in mm

Track Application: WG

Vertical track application

With low-mounted torsion spring shaft and steep track

(Application for loading ramp doors)



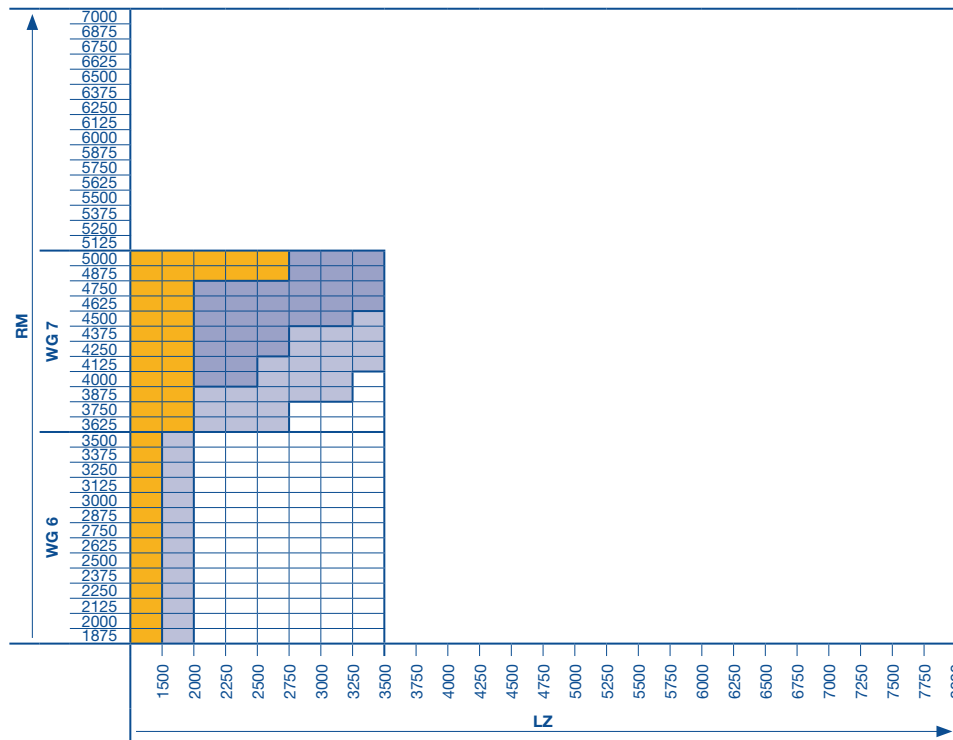
Notes:

- Door types APU F42 S-Line / ALR F42 S-Line and wicket doors are not possible!
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 32 under all circumstances!

Track application	S
WG 6	125
WG 7	140

Observe min. sideroom, see page 61.

- DE** Ceiling height = 2 × RM + 350
- WE** Shaft centre from lintel
WG 6 = 246
WG 7 = 276
- H** Min. headroom (see page 42)
- SB** Slot width
- LDH** Clear passage height
- RM** Grid height
- LZ** Clear frame dimensions (from 1200)
- F** Space for fitting the door
- S** Min. sideroom



Note:

ALR F42 Vitraplan and ALR F42 Glazing on request

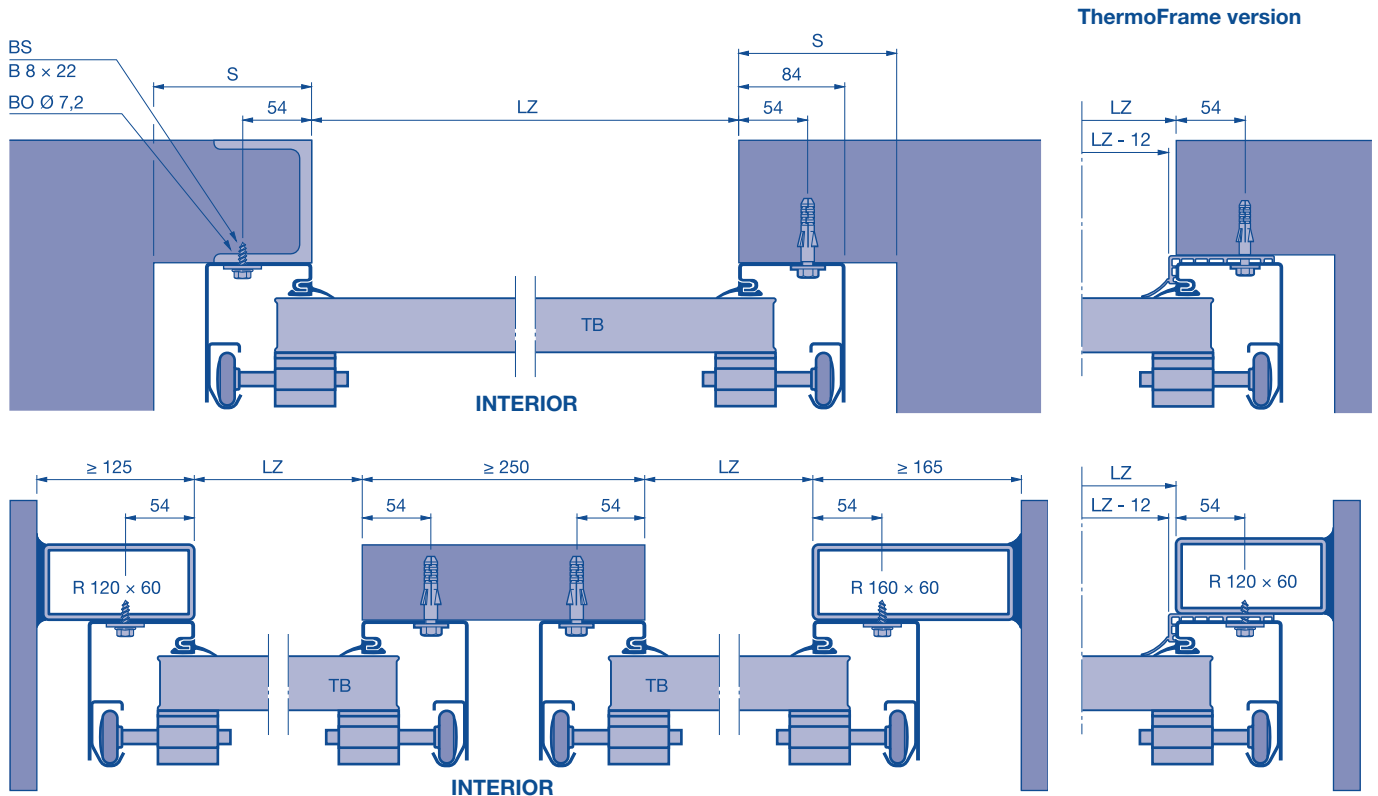
- All door types available in any version.
 - All door types available, versions with glazing A3, B3, M3, S3, LB, P on request.
 - Door types APU F42 S-Line, ALR F42 S-Line, APU F42 and ALR F42 are possible; APU F42 Thermo, ALR F42 Thermo and SPU F42 with thermo frames as well as versions with glazing A3, B3, M3, S3, LB, P must be requested.
 - All door types in any version on request.
- Dimensions in mm

Sideroom

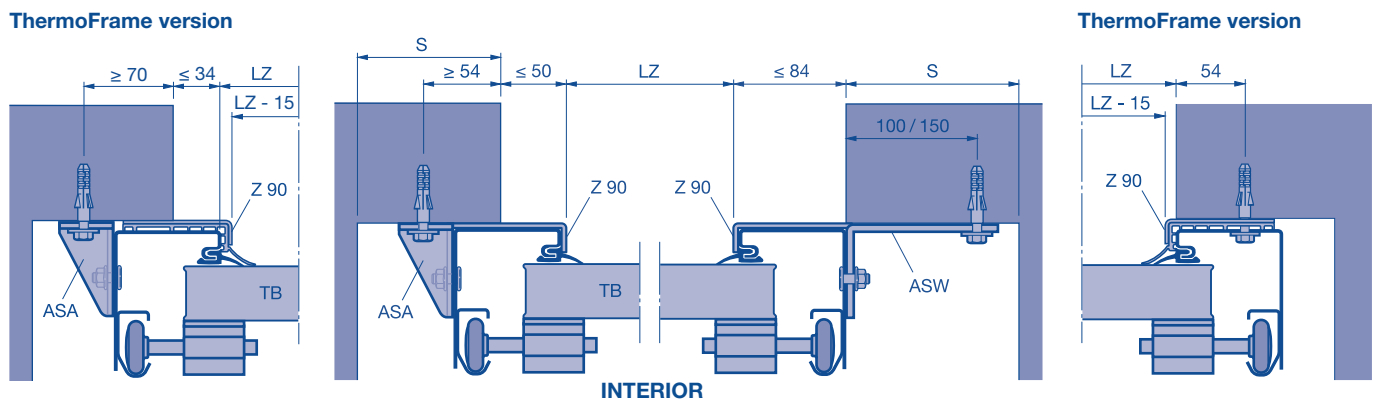
Required sideroom S

Track application / designation	S	Track application / designation	S
N, NA, ND, NH, NS, GD, V, VA, VU, WG	125	Hand pulley	N, NA, ND, NH, NS, GD
H, HA, HD, HG, HU, RD, RG	150		H, HA, HD, HG, HU, RD, RG
L, LD	125		V, VA, VU, WG
		Chain hoist	Page 64
		Shaft operators	Pages 67 - 73

Sideroom



Sideroom with frame covering



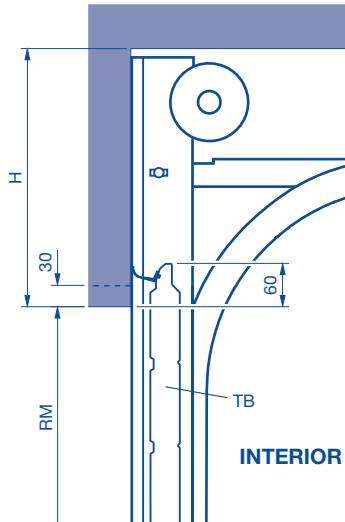
LZ Clear frame dimensions
BO Hole
HS Self-tapping screw

TB Door leaf
R Tube
ASA Screw-on anchor 70 x 40

ASW Screw-on bracket 70 x 120 / 170

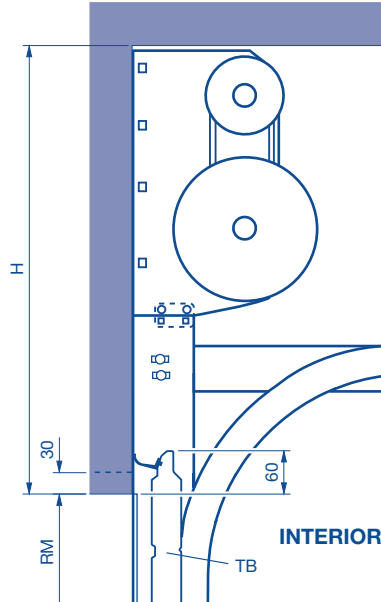
Lintel Fitting

Normal lintel fitting
Lintel variation up to 30 mm high



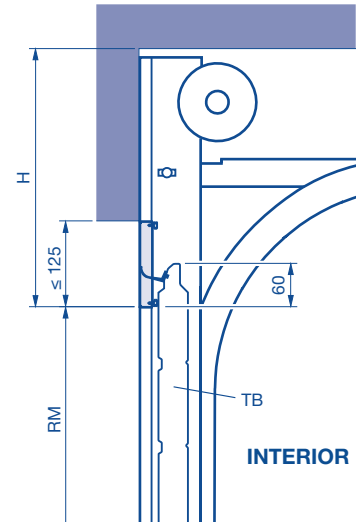
Smooth panel, anodised for APU F42, ALR F42, ALR F42 Glazing, ALR F42 Vitraplan to make up for insufficient headroom from 31 to 190 mm (only for track applications N and L)

Normal lintel fitting
Double spring shaft

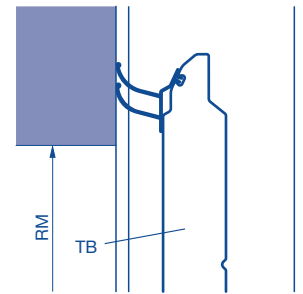
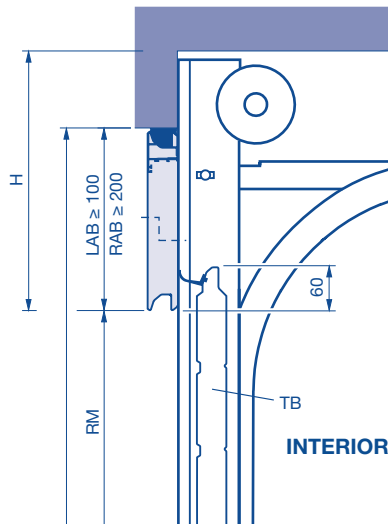
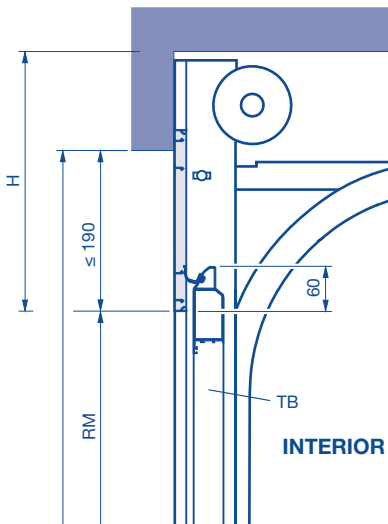


PU fascia panel to make up for insufficient headroom from 100 mm Aluminium fascia profile to make up for insufficient headroom (see table)

Single-skinned steel fascia for SPU F42 to make up for insufficient headroom up to 125 mm (only for track applications N and L)



Lintel fitting with ThermoFrame



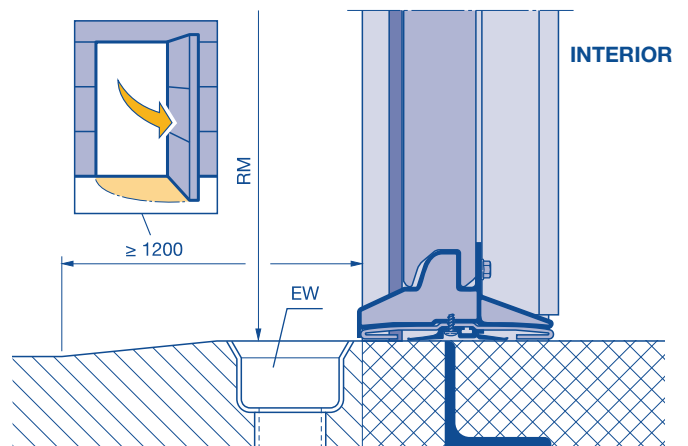
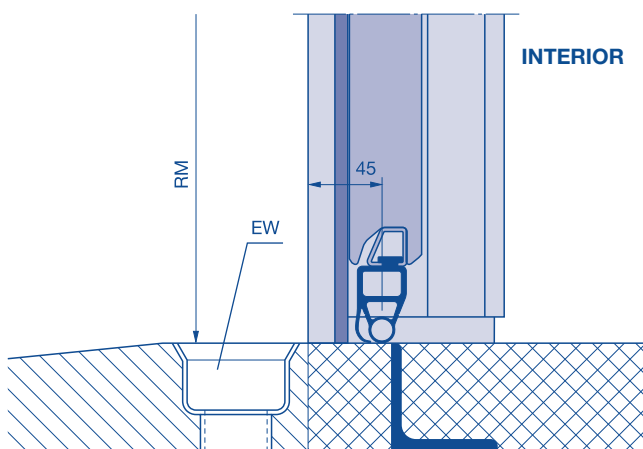
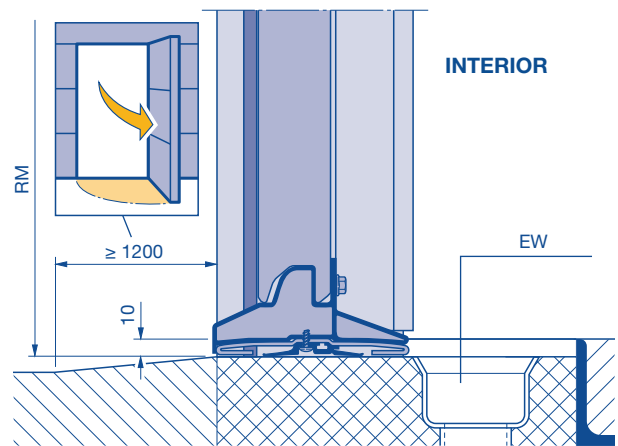
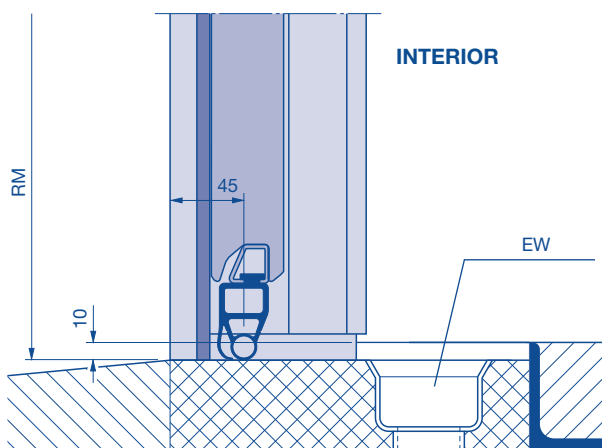
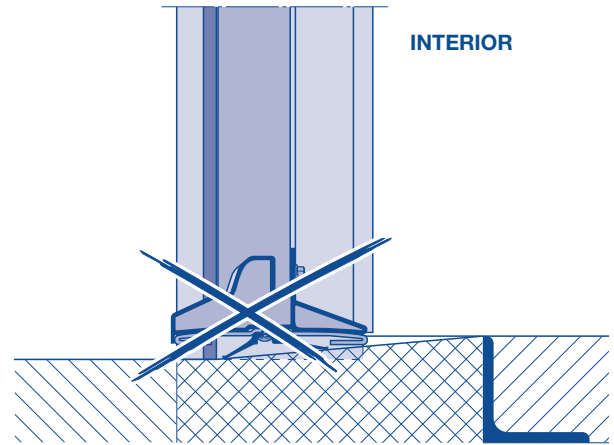
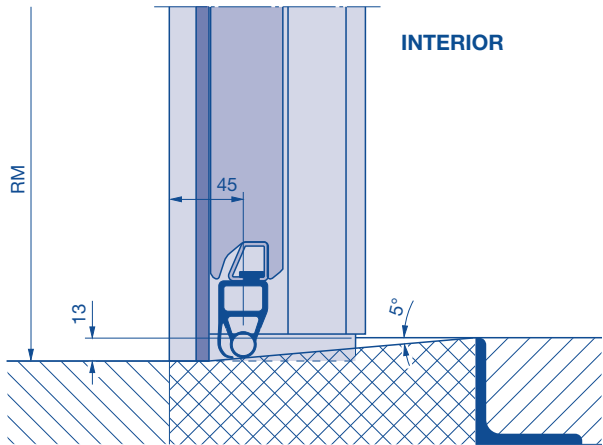
Aluminium frame fascia panel	
Height	Infill type
≥ 200	FU, LB, S, SE, XU, FK, KR
≥ 245	S2, S3, R2, C2, A2, A3, B2, B3, M2, M3
≥ 230 – 692	S2, S3, R2, C2, A2, A3, B2, B3, M2, M3 for APU F42 S-Line / ALR F42 S-Line

- H** Min. headroom (see page 42)
- RM** Grid
- TB** Door leaf
- LAB** Fascia panel
- RAB** Frame fascia panel

- Aluminium frame fascia panel with real glass infill VG, E2 and G2 on request.

Bottom Edge

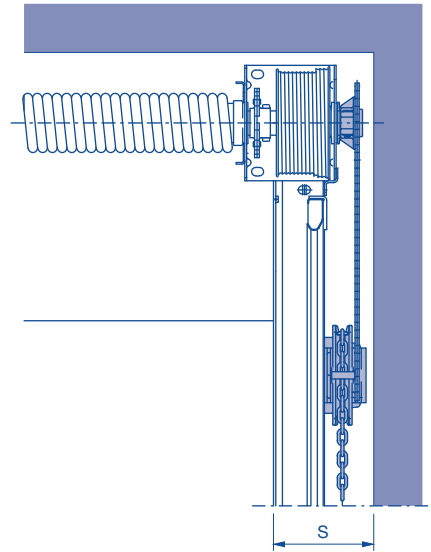
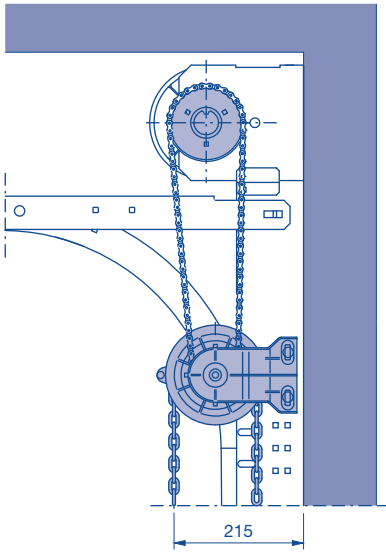
Without wicket door / with wicket door and threshold rail With wicket door with trip-free threshold



EW Drainage
RM Grid

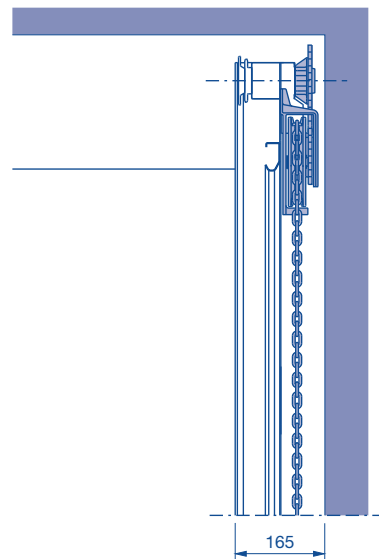
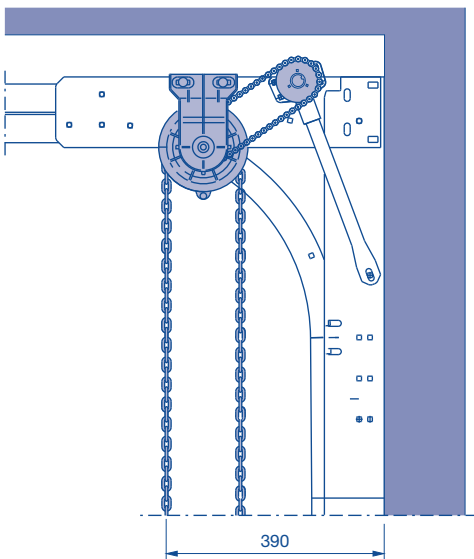
Chain Hoist

Track applications N, NA, ND, NH, NS, GD, H, HA, HD, HG, HU, RD, RG, VU, WG



Track application	N	NA	ND	NH	NS	GD	H	HA	HD	HG	HU	RD	RG	VU	WG
S	165	165	165	165	165	165	185	185	185	185	185	185	185	165	165

Track applications L and LD

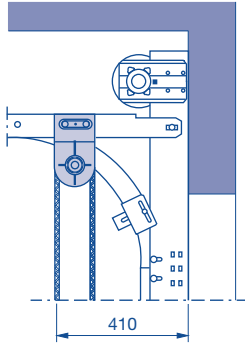


Hand Pulley

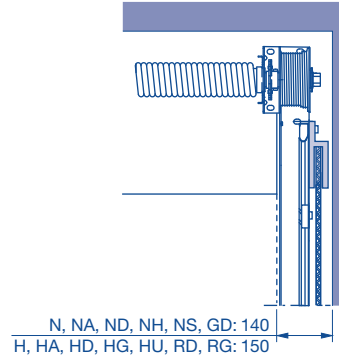
With rope or link steel chain

Track applications up to 20 m² door surface

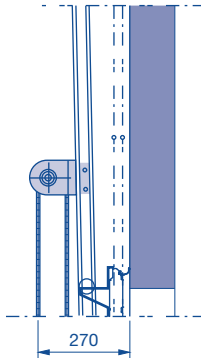
With rope or link steel chain



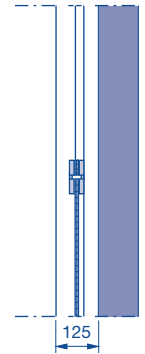
N, NA, ND, NH, NS, GD, H, HA, HD, HG, HU, RD, RG



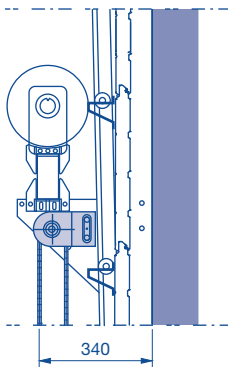
With rope or link steel chain



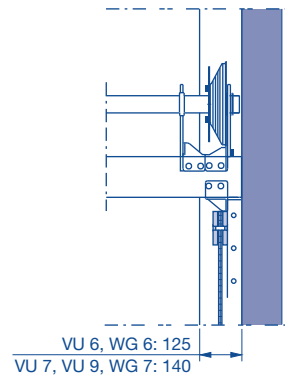
V, VA



With rope or link steel chain



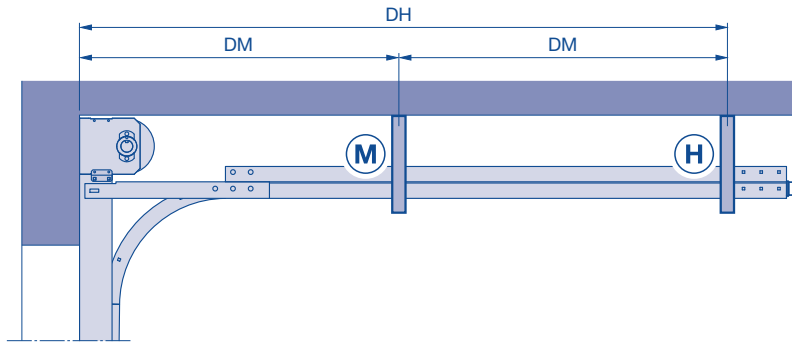
VU, WG



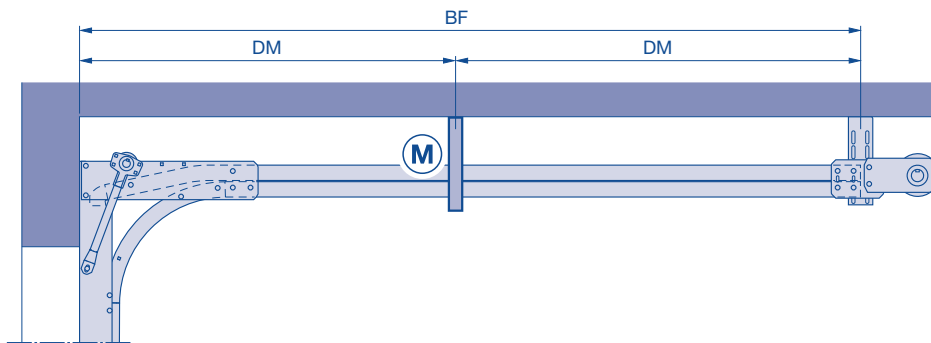
Ceiling Anchors

Track suspensions for all track applications except V, VA, VU and WG

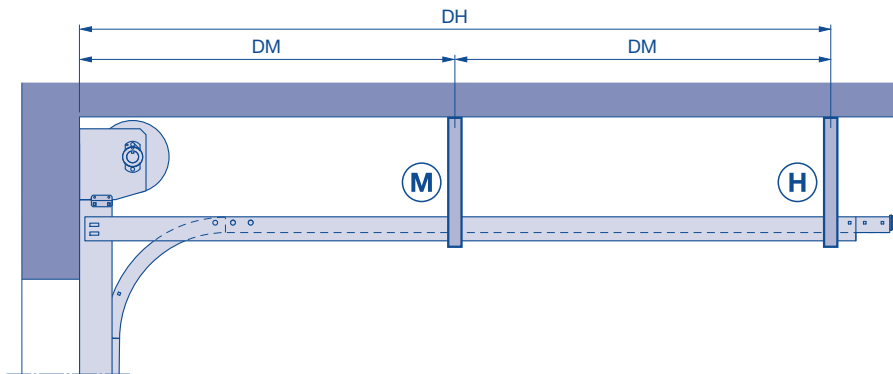
Track suspensions as ceiling anchors in five lengths, standard length 469 mm.
 DH = Rear ceiling anchor (see pages 42 – 56), door weights for roof loads (see pages 42 – 49).



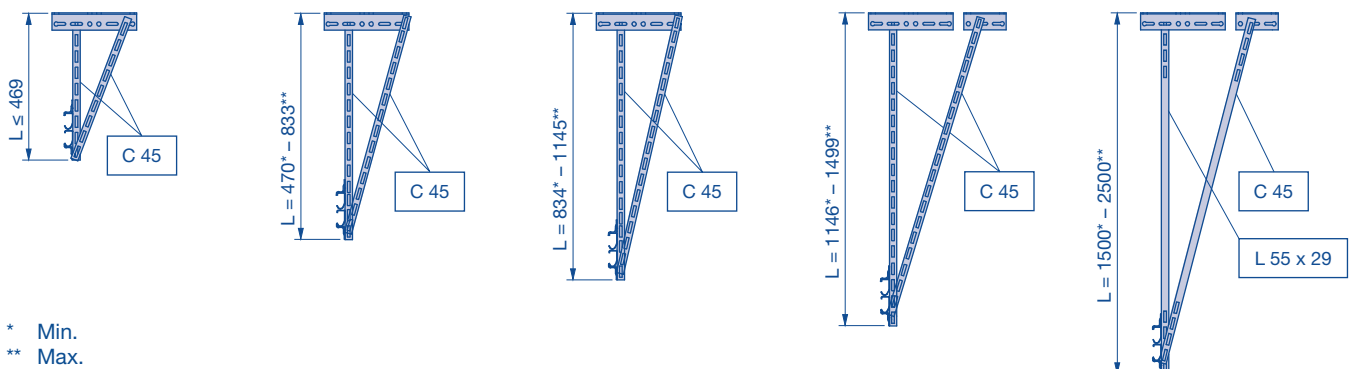
Double track (suspensions), Door heights RM ≤ 5000			
DH	M	H	DM
- 1555	-	1	-
1560 – 3720	1	1	DH/2
3730 – 5195	2	1	DH/3



Double track (suspensions), L			
BF	M	H	DM
≤ 4182	1		BF/2
> 4182	2		BF/3



C-rail (suspensions) all track sizes, Door heights RM > 5000			
DH	M	H	DM
	1	1	DH/2



* Min.
 ** Max.

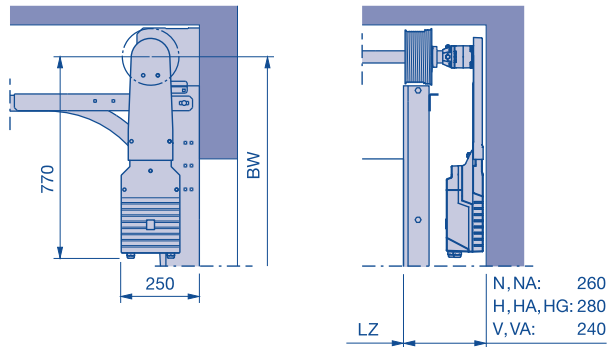
BF Position of spring shaft
 DH Rear ceiling anchor
 DM Centre ceiling anchor

Shaft Operator WA 300

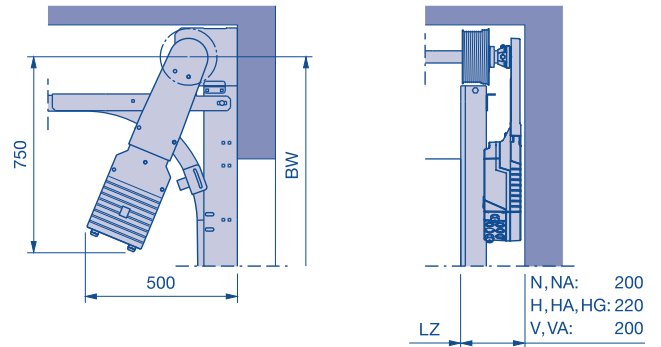
Shaft operator WA 300 for track applications N, NA, H, HA, HG, V and VA

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.

Fitting example ⑧ right



Fitting example ⑨ right

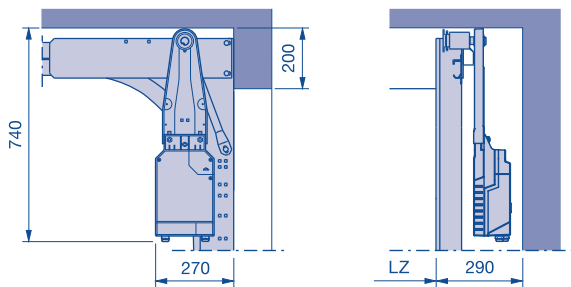


Shaft operator WA 300 for track application L

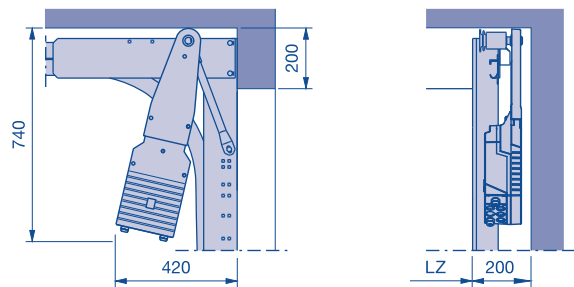
As shown in the figure, the operator can be fitted either left or right, viewed from the inside.

In fitting example 9: on the side opposite the door lock.

Fitting example ⑧ right



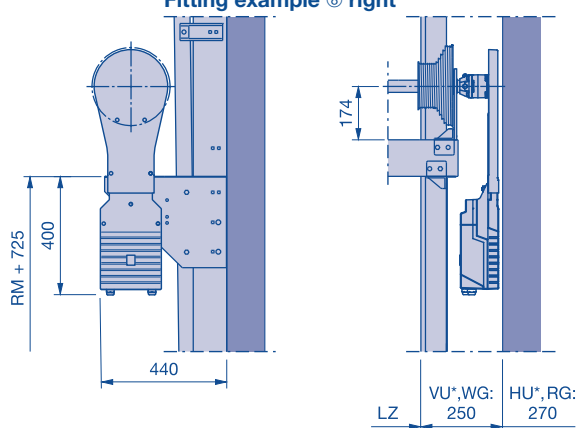
Fitting example ⑨ right



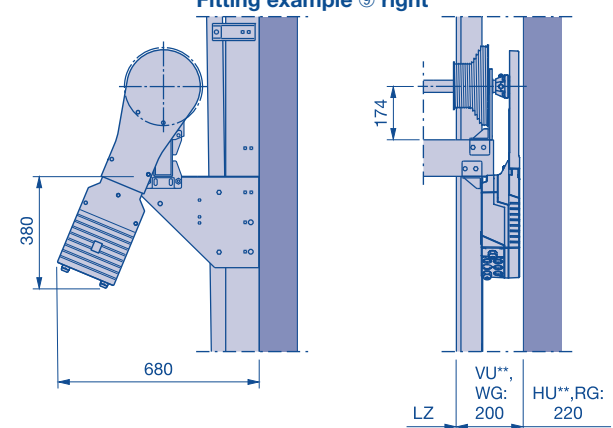
Shaft operator WA 300 for track applications HU, RG, VU and WG

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.

Fitting example ⑧ right



Fitting example ⑨ right



* In the door range LZ ≤ 3000 and RM ≤ 3500 a sideroom from 200 is possible

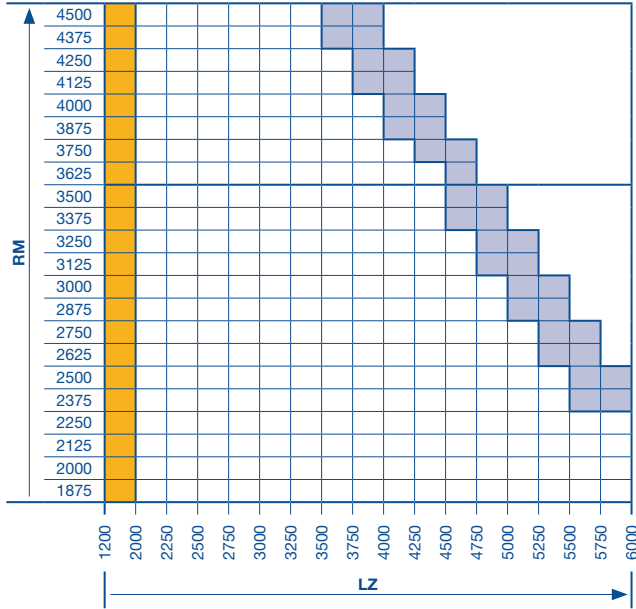
LZ Clear frame dimensions
BW Position of shaft support

** In the door range LZ ≤ 3000 and RM ≤ 3500 the track applications VU and HU are not possible

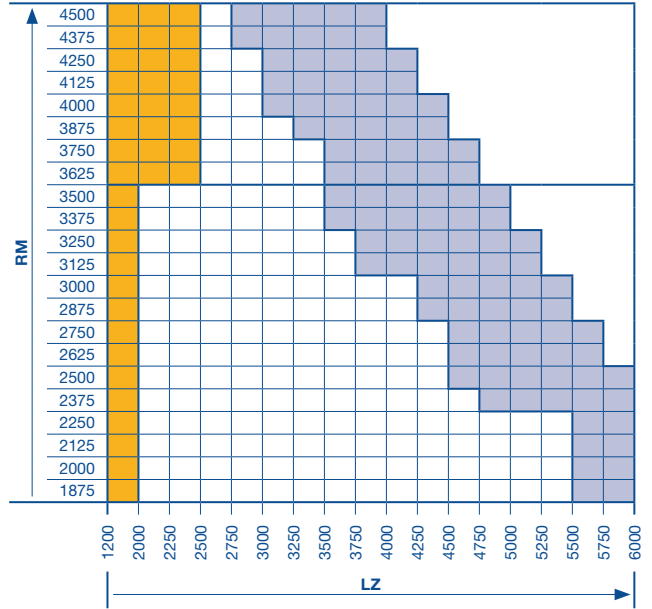
Shaft Operator WA 300

Shaft operator WA 300 for track applications N, NA and L

Without wicket door

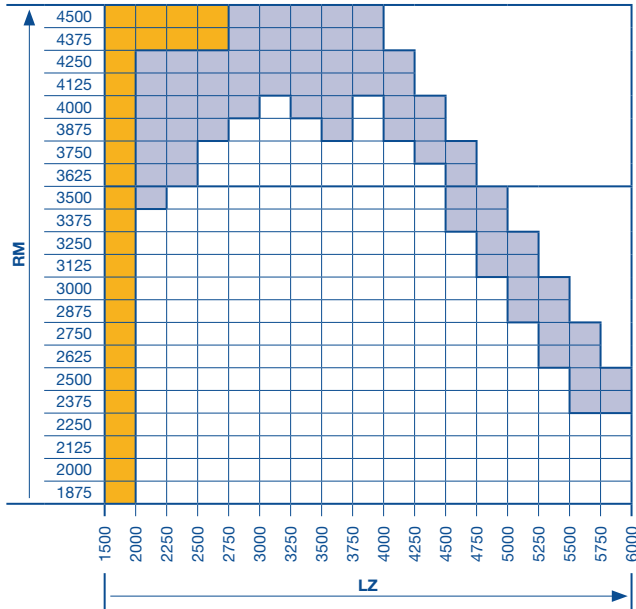


With wicket door

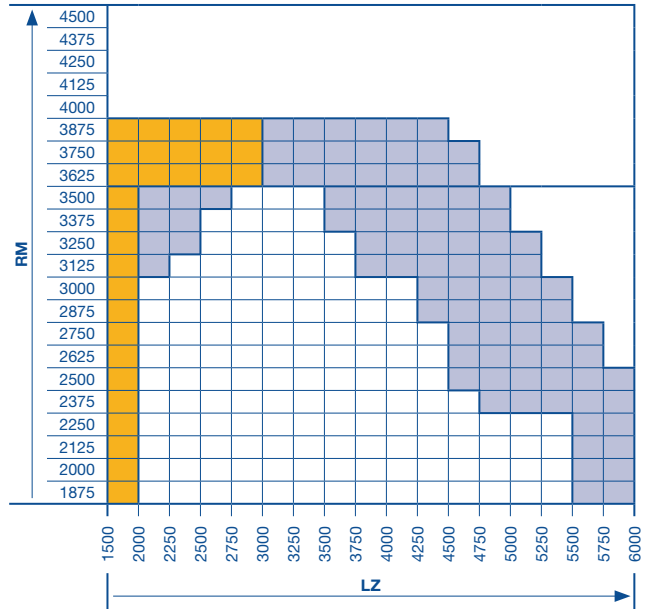


Shaft operator WA 300 for track applications H, HA, HG, HU, RG, V, VA, VU and WG

Without wicket door



With wicket door



- WA 300 possible.
- WA 300 possible, versions with glazing S3, LB and P on request.
- WA 300 on request.

LZ Clear frame dimensions
RM Grid height

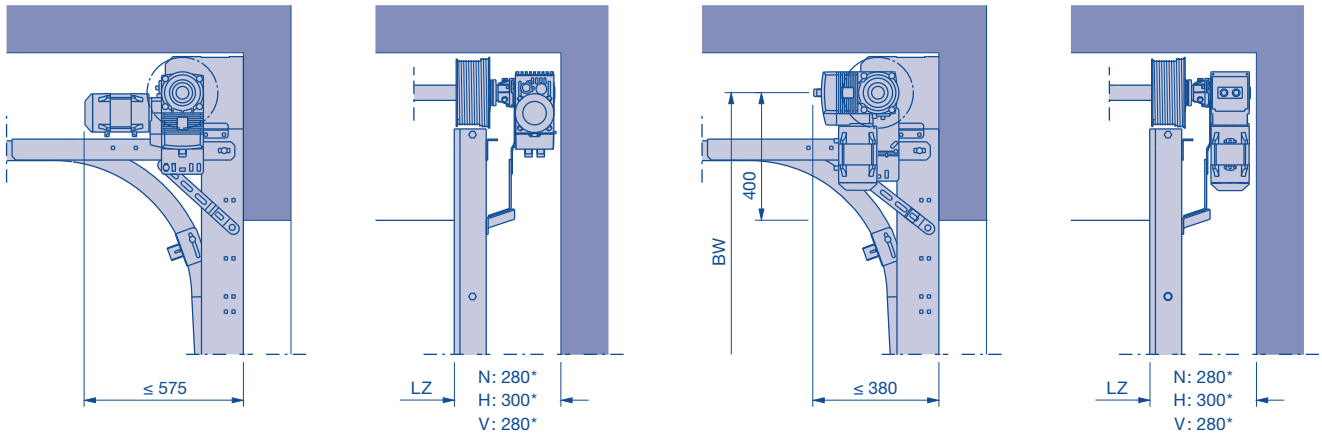
Dimensions in mm

Shaft Operator WA 400

As a frame-mounted operator

Shaft operator WA 400 for all track applications, except for L, LD, HU, RD, RG, VU and WG

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.

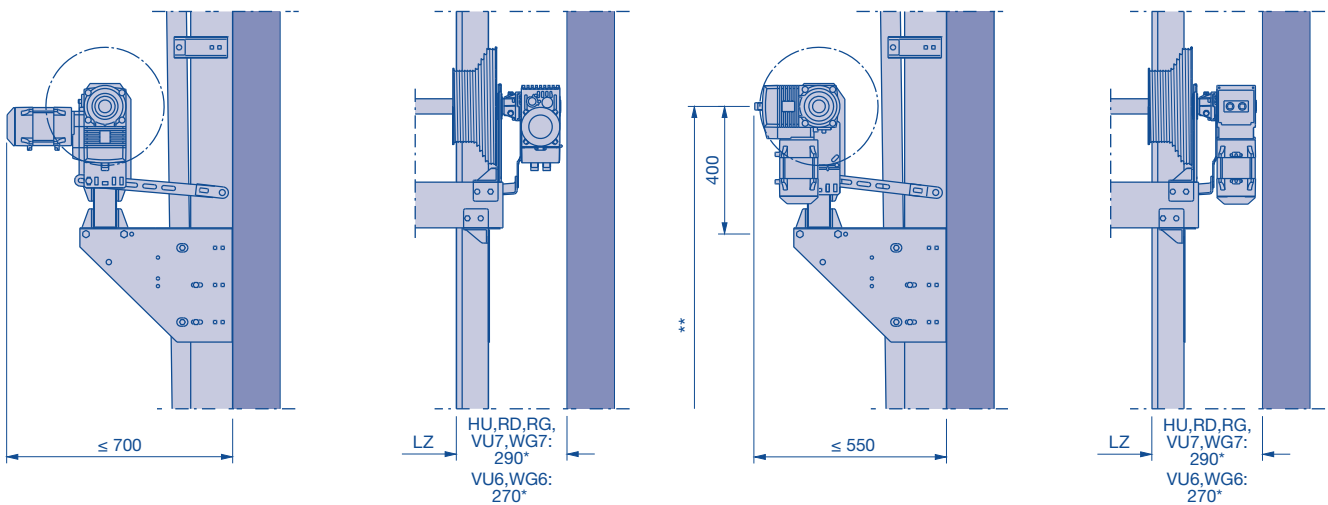


*** Note:**

Dimension + 75 mm if using a non-jointed emergency crank handle

Shaft operator WA 400 for track applications HU, RD, RG, VU and WG

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.



*** Note:**

Dimension + 75 mm if using a non-jointed emergency crank handle

** On request

LZ Clear frame dimensions
 BW Position of shaft support

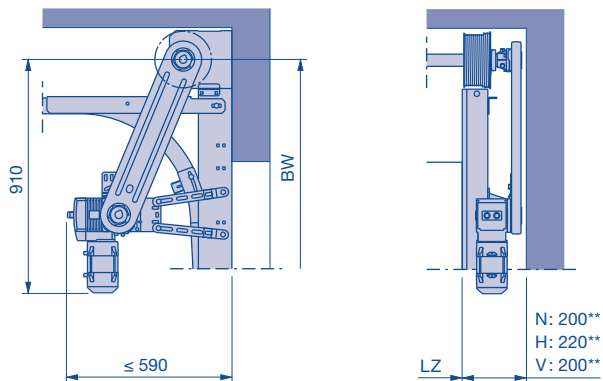
Shaft Operator WA 400

With chain box

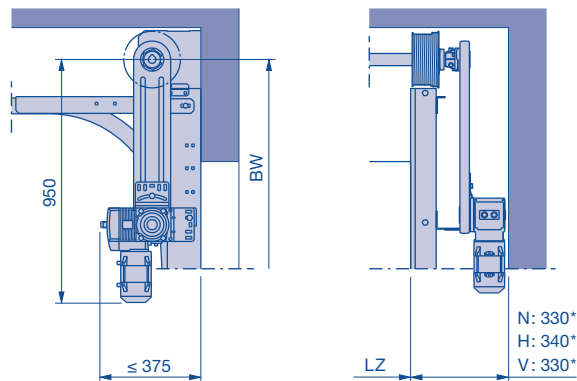
Shaft operator WA 400 for all track applications, except for L, LD, HU, RD, RG, VU and WG

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.
In fitting example 5: on the side opposite the door lock.

Fitting example ⑤ right



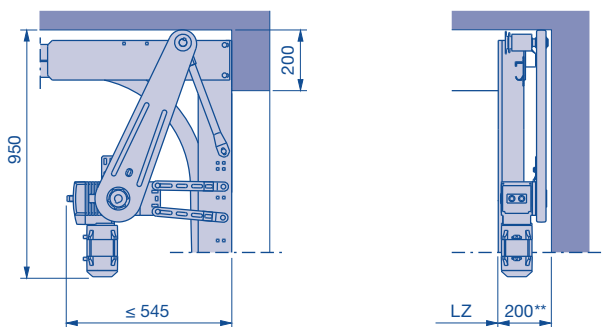
Fitting example ⑥ right



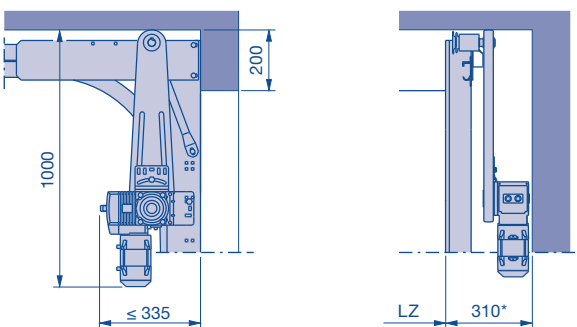
Shaft operator WA 400 for the track applications L and LD

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.
In fitting example 5: on the side opposite the door lock.

Fitting example ⑤ right



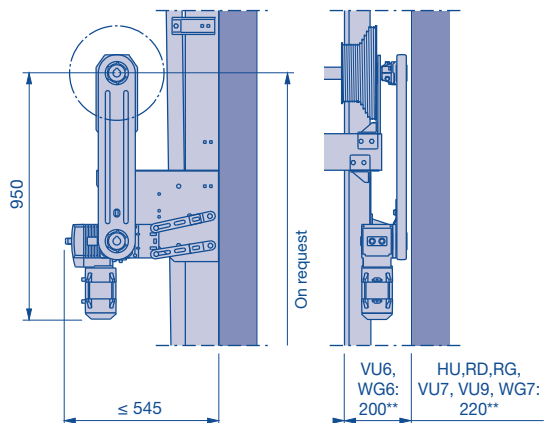
Fitting example ⑥ right



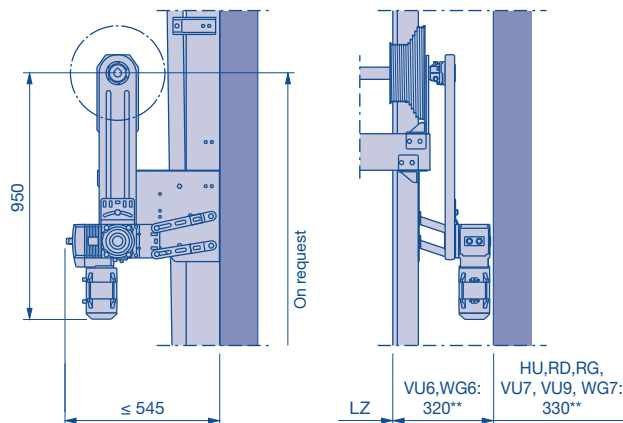
Shaft operator WA 400 for track applications HU, RD, RG, VU and WG

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.
In fitting example 5: on the side opposite the door lock.

Fitting example ⑤ right



Fitting example ⑥ right



*** Note:**

Dimension + 75 mm if using a non-jointed emergency crank handle

LZ Clear frame dimensions

**** Note:**

Dimension + 40 mm if using a non-jointed emergency crank handle

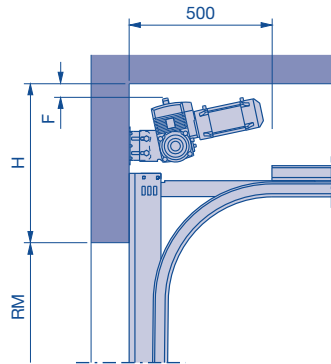
BW Position of shaft support

Shaft Operator WA 400

For central mounting

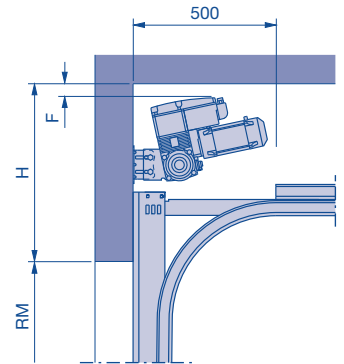
Shaft operator WA 400 for track applications N and ND

Control A / B 445, 460



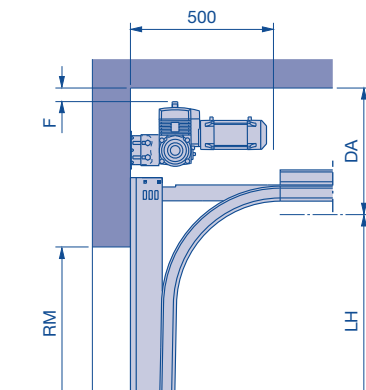
Track application	A / B 445, 460		B 460 FU	
	H min.	F min.	H min.	F min.
N 1	520	45	590	45
N 2	550	50	615	45
N 3	-	-	675	45
ND 1	520	65	550	48
ND 2	550	75	570	48
ND 3	-	-	650	48

Control B 460 FU



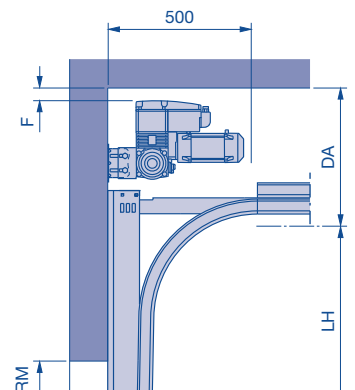
Shaft operator WA 400 for the track applications NH and GD

Control A / B 445, 460



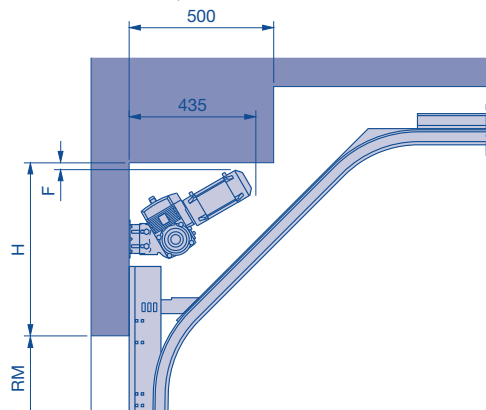
Track application	A / B 445, 460		B 460 FU	
	DA min.	F min.	DA min.	F min.
NH 1 / GD 1	415	50	480	45
NH 2 / GD 2	440	50	485	45
NH 3	-	-	565	45

Control B 460 FU

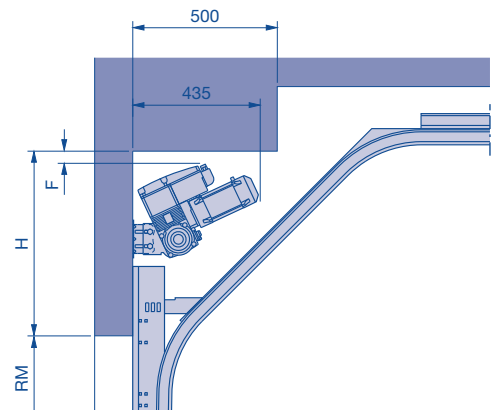


Shaft operator WA 400 for track application NS

Control A / B 445, 460



Control B 460 FU



Track application	A / B 445, 460		B 460 FU	
	H min.	F min.	H min.	F min.
NS 1	570	20	615	45
NS 2	600	25	640	45

Note:

WA 400 as a centre motor in conjunction with double spring shaft on request!

H Headroom
RM Grid height

DA Distance to ceiling
LH Track height

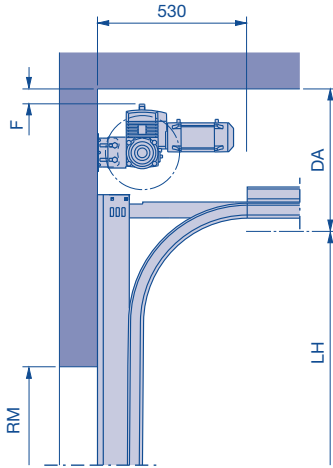
F Clearance ceiling / shaft operator

Shaft Operator WA 400

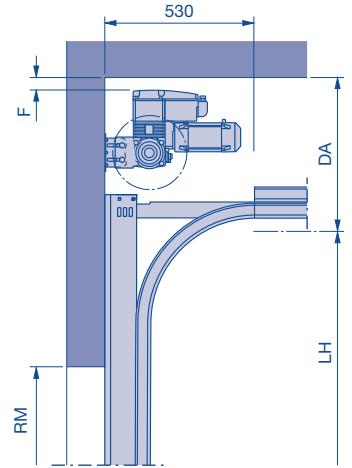
For central mounting

Shaft operator WA 400 for track applications H, HG and HD

Control A / B 445, 460



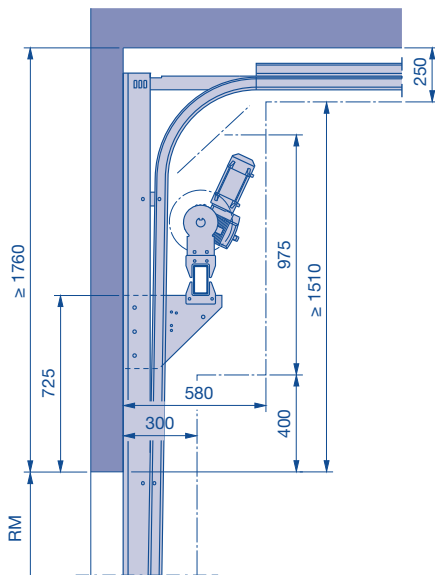
Control B 460 FU



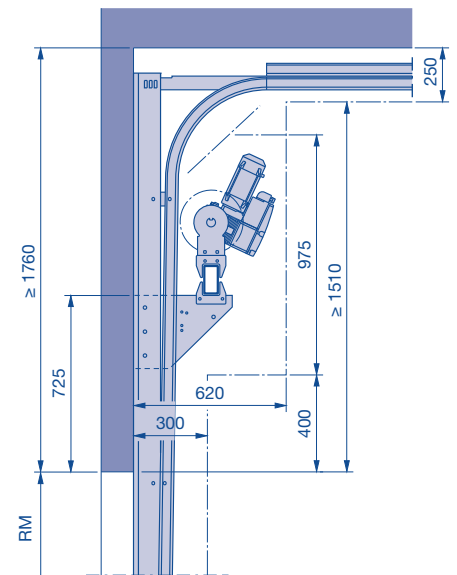
Track application	A / B 445, 460		B 460 FU	
	DA min.	F min.	DA min.	F min.
H 4, HG 4	500	55	540	45
H 5, HG 5	500	55	540	45
H 8	-	-	565	45
HD	On request			

Shaft operator WA 400 for the track applications HU, RD and RG

Control A / B 445, 460



Control B 460 FU



Note:

WA 400 as a centre motor in conjunction with double spring shaft on request!

RM Grid height
DA Distance to ceiling

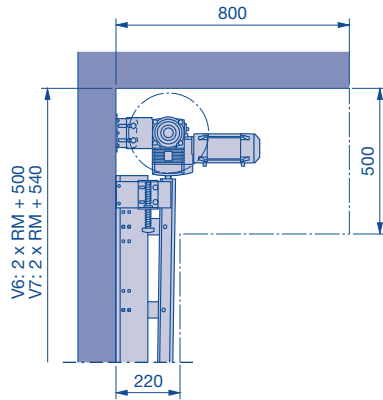
LH Track height
F Clearance ceiling / shaft operator

Shaft Operator WA 400

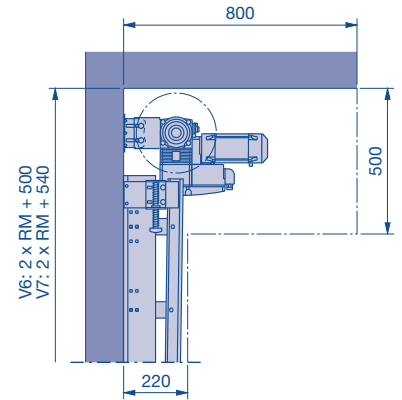
For central mounting

Shaft operator WA 400 for track application V

Control A / B 445, 460

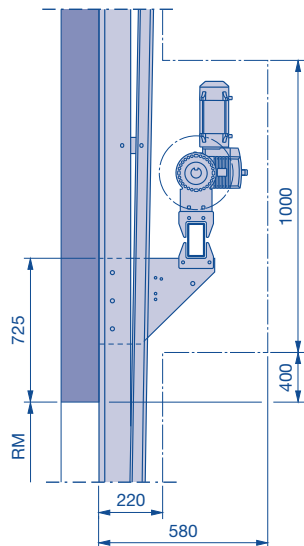


Control B 460 FU

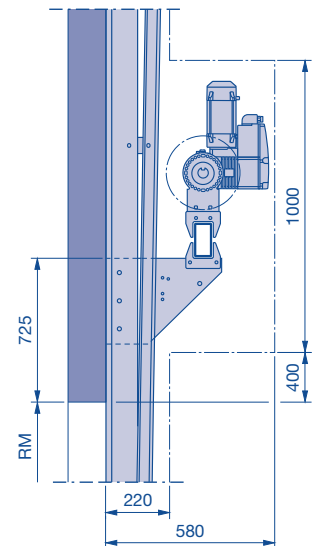


Shaft operator WA 400 for track applications VU and WG

Control A / B 445, 460



Control B 460 FU



Note:

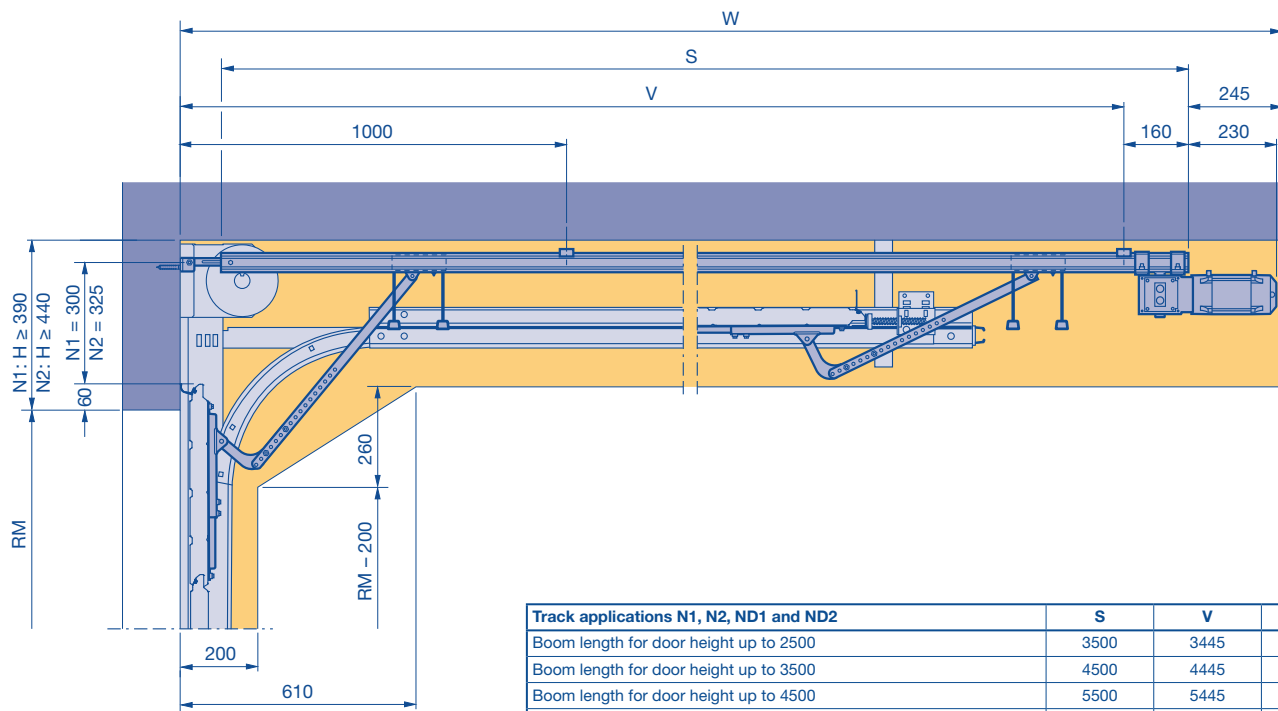
WA 400 as a centre motor in conjunction with double spring shaft on request!

RM Grid height
DA Distance to ceiling

LH Track height

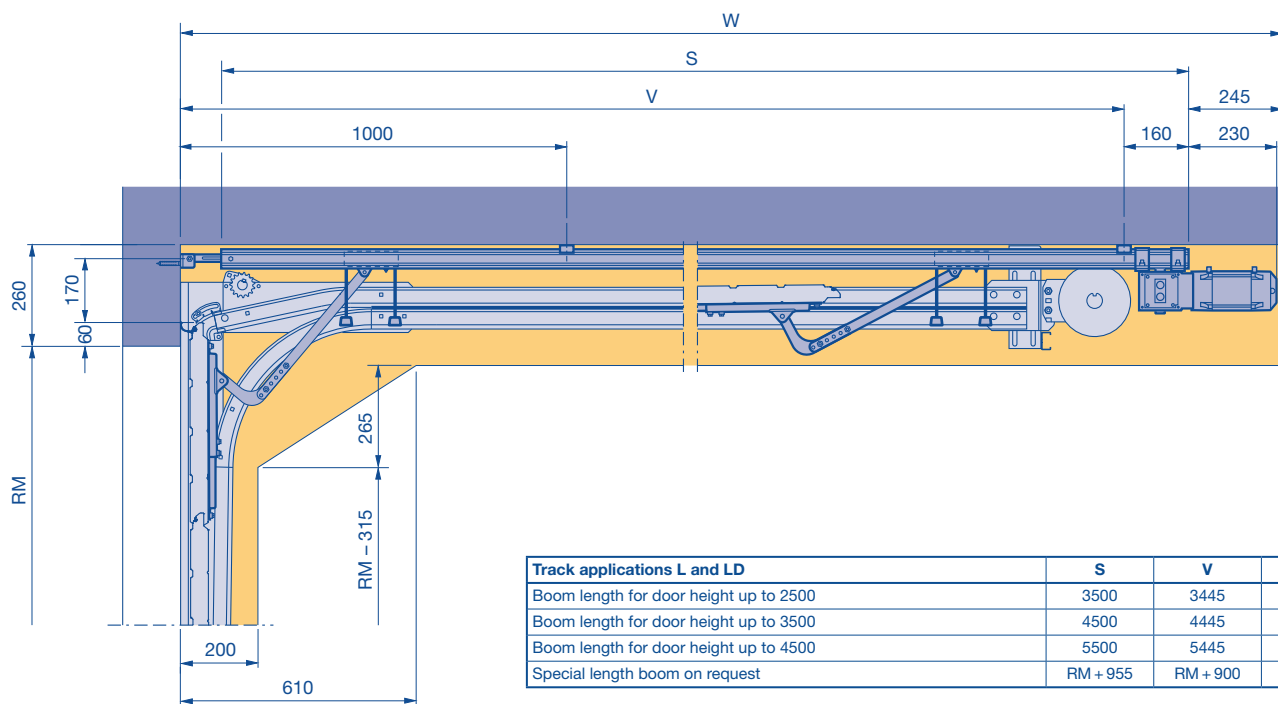
Chain Drive Operator ITO 400

ITO 400 track applications N and ND (doors with wicket doors on request)



Track applications N1, N2, ND1 and ND2	S	V	W
Boom length for door height up to 2500	3500	3445	3850
Boom length for door height up to 3500	4500	4445	4850
Boom length for door height up to 4500	5500	5445	5850
Special length boom for N1 and ND1 on request	RM + 722	RM + 667	RM + 1072
Special length boom for N2 and ND2 on request	RM + 829	RM + 774	RM + 1179

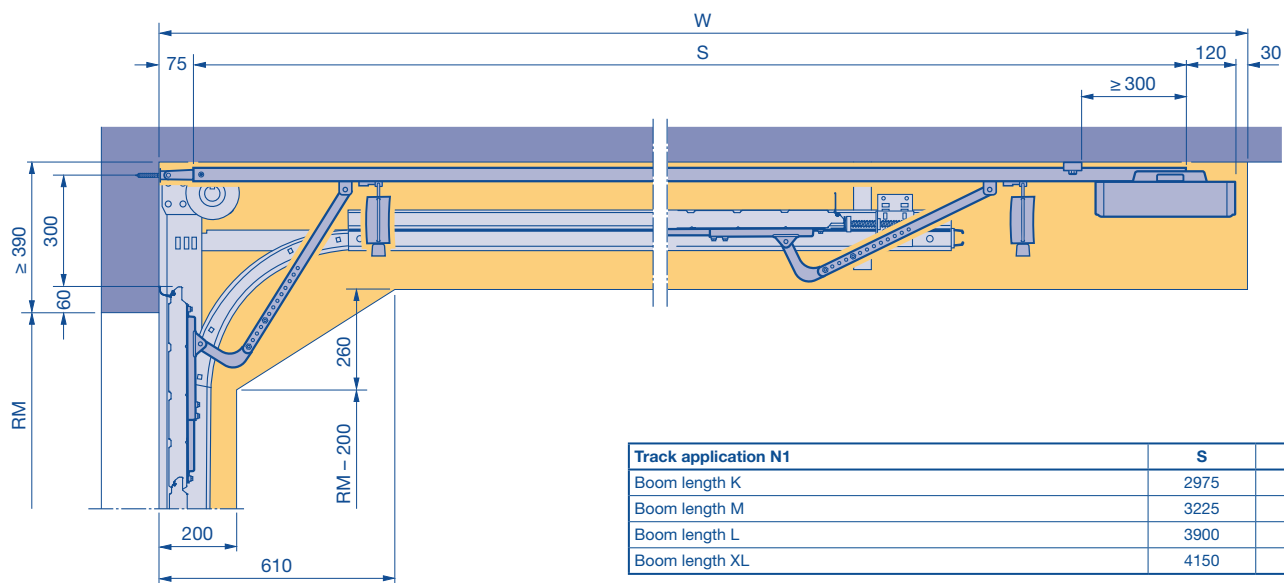
ITO 400 track applications L and LD (doors with wicket doors on request)



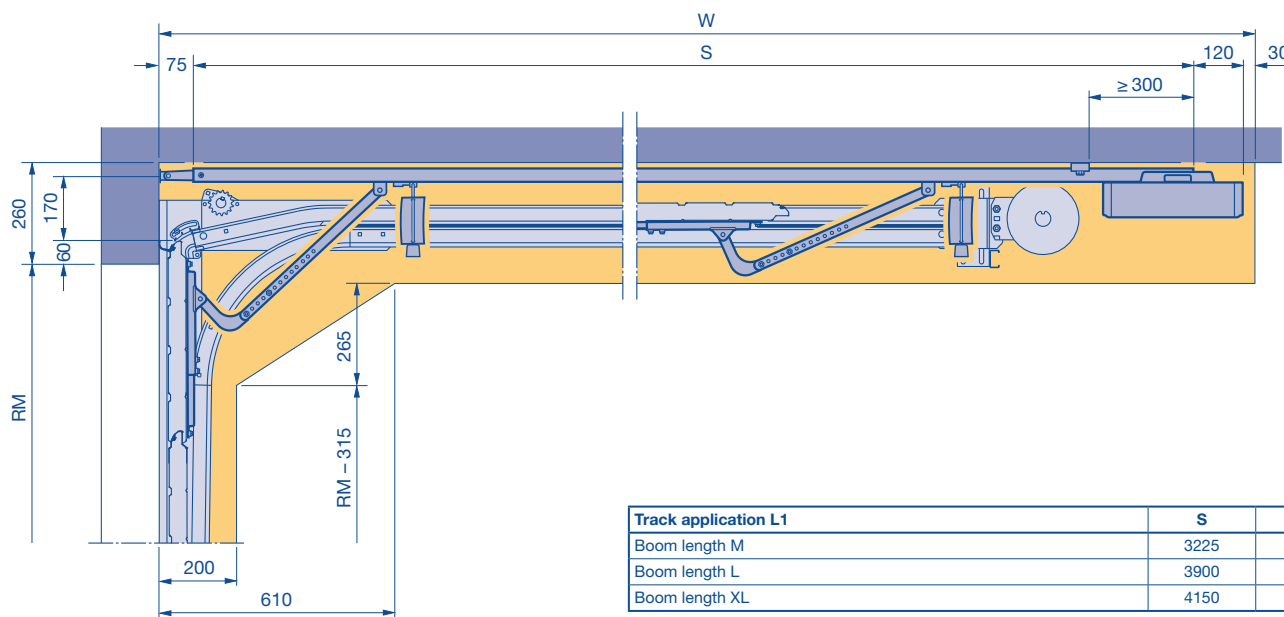
Track applications L and LD	S	V	W
Boom length for door height up to 2500	3500	3445	3850
Boom length for door height up to 3500	4500	4445	4850
Boom length for door height up to 4500	5500	5445	5850
Special length boom on request	RM + 955	RM + 900	RM + 1305

Operator SupraMatic H / HD

SupraMatic H track application N (doors with wicket doors, ALR F42 Glazing and doors with real glass infill on request)*



SupraMatic H track application L (doors with wicket doors, ALR F42 Glazing and doors with real glass infill on request)*



(See the next page for the size range for SupraMatic H / HD)

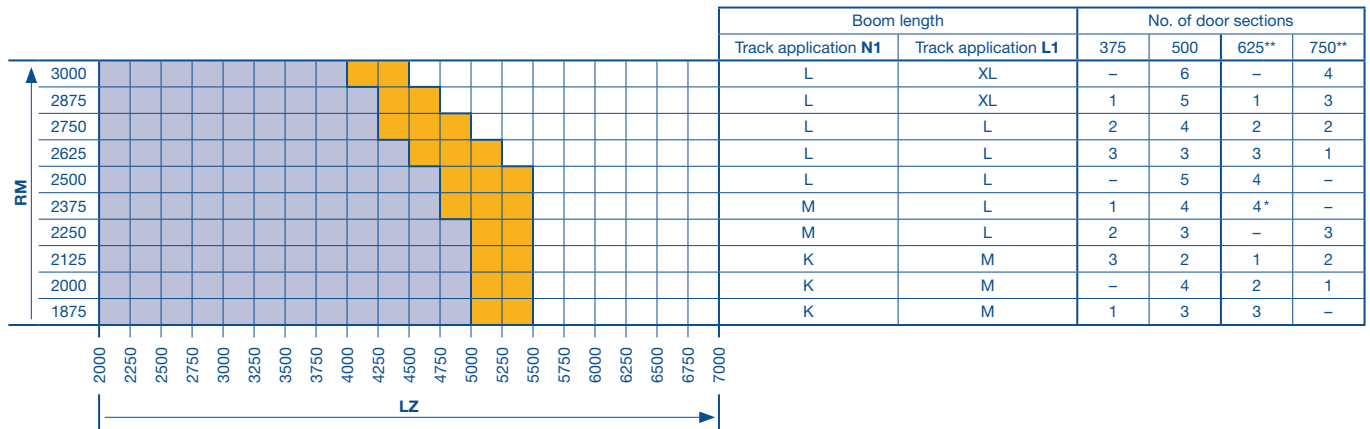
*** Note:**

This operator is not possible with DPU doors!

RM Grid height

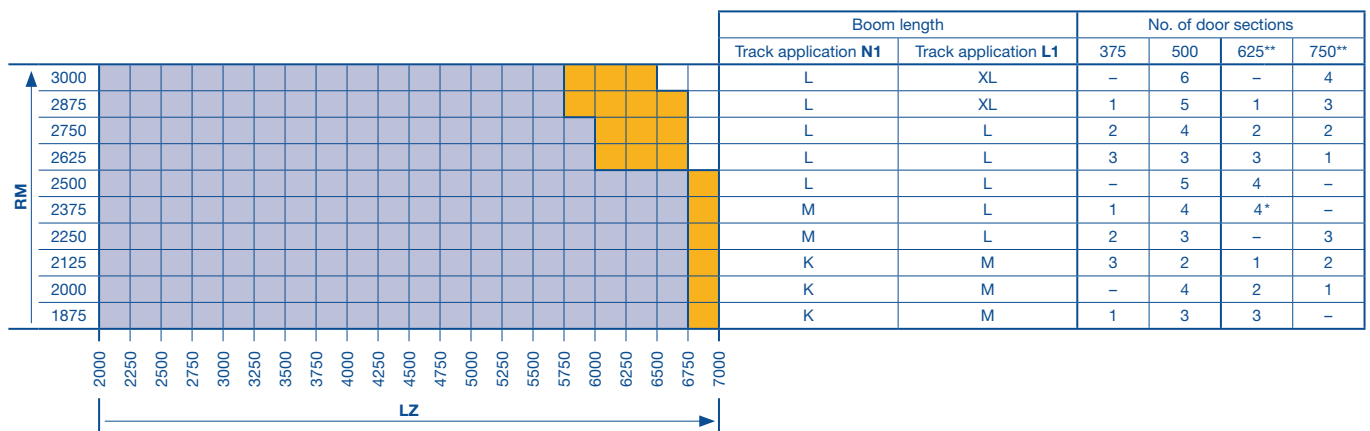
Operator SupraMatic H / HD

SupraMatic H size range



- SupraMatic H not possible.
- SupraMatic H possible.
- SupraMatic H on request.

SupraMatic HD size range



- SupraMatic HD not possible.
- SupraMatic HD possible.
- SupraMatic HD on request.

LZ Clear frame dimensions
RM Grid height
 * Top door section shortened to 500 mm
 ** Only without wicket door

Dimensions in mm

Door Leaf Speeds

Door leaf speeds WA 300 / WA 400

(ATTENTION! The stated speeds can **only be achieved under optimum conditions** regarding door size and track size. More detailed information on request, as it is dependent on door heights and track heights.)

Track application	WA 300 S4			WA 400							
	Integrated / external control 360			Control A / B 445 and 460				Control B 460 FU		Without twin roller	With twin roller
	Chain box operator [1]	Max. speed in mm/s, open / close [5]	Max. speed in mm/s, open / close [6]	Frame-mounted operator rpm	Max. speed in mm/s, open / close	Chain box operator rpm	Max. speed in mm/s, open / close	Frame-mounted operator [1]	Chain box operator [1]	Max. speed in mm/s, open / close	Max. speed in mm/s, open / close
N1	yes	190	95	30	190	30	190	yes	yes	300/200	300/200
N 2	yes	210	105	24	210	24	210	yes	yes	300/200	470/200
N 3	-	-	-	-	-	16	190	yes	yes	300/200	540/200
NA1	yes	190	95	30	190	30	190	yes	yes	300/200	300/200
NA2	yes	210	105	24	210	24	210	yes	yes	300/200	470/200
ND1	-	-	-	30	190	30	190	yes	yes	300/200	300/200
ND2	-	-	-	24	210	24	210	yes	yes	300/200	470/200
ND3	-	-	-	-	-	16	190	yes	yes	300/200	540/200
NH1	-	-	-	30	190	30	190	yes	yes	300/200	300/200
NH2	-	-	-	24	210	24	210	yes	yes	300/200	470/200
NH3	-	-	-	-	-	16	190	yes	yes	300/200	540/200
NS1	-	-	-	30	190	30	190	yes	yes	300/200	300/200
NS2	-	-	-	24	210	24	210	yes	yes	300/200	470/200
GD1	-	-	-	30	190	30	190	yes	yes	300/200	300/200
GD2	-	-	-	24	210	24	210	yes	yes	300/200	470/200
I1	yes	210	105	-	-	24	150	-	yes	300/200	300/200
I2	yes	210	105	-	-	24	150	-	yes	300/200	300/200
LD1	-	-	-	-	-	24	150	-	yes	300/200	300/200
LD2	-	-	-	-	-	24	150	-	yes	300/200	300/200
H4	yes	160/190 [4]	80/95 [4]	24/19 [1]	190	24/19 [1]	190	yes	yes	300/200	400/200
H5	yes	210	105	19/16 [1]	210	19/16 [1]	210	yes	yes	300/200	520/200
H 8	-	-	-	-	-	16 [2]	250 [2]	yes	yes	300/200	540/200
HA4	yes	160/190 [4]	80/95 [4]	24/19 [1]	190	24/19 [1]	190	yes	yes	300/200	400/200
HA5	yes	210	105	19/16 [1]	210	19/16 [1]	210	yes	yes	300/200	520/200
HD4	-	-	-	24/19 [1]	190	24/19 [1]	190	yes	yes	300/200	400/200
HD5	-	-	-	19/16 [1]	210	19/16 [1]	210	yes	yes	300/200	520/200
HD8	-	-	-	-	-	16 [2]	250 [2]	yes	yes	300/200	540/200
HG4	yes	160/190 [4]	80/95 [4]	24/19 [1]	190	24/19 [1]	190	yes	yes	300/200	400/200
HG5	yes	210	105	19/16 [1]	210	19/16 [1]	210	yes	yes	300/200	520/200
HU4	yes	160/190 [4]	80/95 [4]	24/19 [1]	190	24/19 [1]	190	yes	yes	300/200	400/200
HU5	yes	210	105	19/16 [1]	210	19/16 [1]	210	yes	yes	300/200	520/200
RD4	-	-	-	24/19 [1]	190	24/19 [1]	190	yes	yes	300/200	400/200
RD5	-	-	-	19/16 [1]	210	19/16 [1]	210	yes	yes	300/200	520/200
RG4	yes	160/190 [4]	80/95 [4]	24/19 [1]	190	24/19 [1]	190	yes	yes	300/200	400/200
RG5	yes	210	105	19/16 [1]	210	19/16 [1]	210	yes	yes	300/200	520/200
V6	yes	160/190 [4]	80/95 [4]	19	190	19	190	yes	yes	440/200 [3]	
V7	yes	190	95	16	190	16	190	yes	yes	440/200 [3]	
V9	-	-	-	-	-	16 [2]	250	yes	yes	440/200 [3]	
VA6	yes	160/190 [4]	80/95 [4]	19	190	19	190	yes	yes	440/200 [3]	
VU6	yes	160/190 [4]	80/95 [4]	19	190	19	190	yes	yes	440/200 [3]	
VU7	yes	190	95	16	190	16	190	yes	yes	440/200 [3]	
VU9	-	-	-	-	-	16 [2]	250	yes	yes	440/200 [3]	
WG6	yes	160/190 [4]	80/95 [4]	19	190	19	190	yes	yes	440/200 [3]	
WG7	yes	190	95	16	190	16	190	yes	yes	440/200 [3]	

[1] Speed corresponding to high-lift / door height (RM)

[2] For impulse controls, the leading photocell VL 1/2 is required!

[3] Twin rollers not necessary with track applications V and VU!

[4] Max speed depending on the door size, not applicable for doors with wicket doors

[5] With closing edge safety device

(optosensors, VL 1 or VL 2)

[6] From 2500 mm (above FFL) to FFL without closing edge safety device to comply with EN 13241-1

Note

Double spring shaft only possible in conjunction with control B 460 FU!

Infill Overview

Infill Overview	SPU F42	APU F42 S-Line	APU F42	APU F42 Thermo	ALR F42 S-Line	ALR F42	ALR F42 Thermo	ALR F42 Vitraplan	ALR F42 Glazing
Infill type	Abbreviation								
Clear synthetic pane, 3 mm [1] [3]	FK	-	FK	-	-	FK	-	-	-
Crystal structure synthetic pane, 3 mm [1] [3]	KR	-	KR	-	-	KR	-	-	-
Clear polycarbonate pane, 6 mm [3]	P	-	P	-	-	P	-	-	-
Multiple moulded pane, (7-fold), 16 mm, $U_g = 1.9 \text{ W}/(\text{m}^2\cdot\text{K})$ [3]	S	-	S	S	-	S	S	-	-
PU insulation, 26 mm with Stucco-textured aluminium sheet cover on both sides	-	-	-	-	FU	FU	FU	-	-
PU insulation, 26 mm with smooth, anodised aluminium sheet cover on both sides	-	-	-	-	XU	XU	XU	-	-
Clear synthetic double pane, 26 mm, $U_g = 2.6 \text{ W}/(\text{m}^2\cdot\text{K})$	S2	S2	S2	S2	S2	S2	S2	S2	-
Synthetic double pane, crystal structure, 26 mm, $U_g = 2.6 \text{ W}/(\text{m}^2\cdot\text{K})$	R2	R2	R2	R2	R2	R2	R2	R2	-
Synthetic double pane, grey tinted, 26 mm, $U_g = 2.6 \text{ W}/(\text{m}^2\cdot\text{K})$	A2	A2	A2	A2	A2	A2	A2	-	-
Synthetic double pane, brown tinted, 26 mm, $U_g = 2.6 \text{ W}/(\text{m}^2\cdot\text{K})$	B2	B2	B2	B2	B2	B2	B2	-	-
Synthetic double pane, white tinted (opal), 26 mm, $U_g = 2.6 \text{ W}/(\text{m}^2\cdot\text{K})$	M2	M2	M2	M2	M2	M2	M2	-	-
Clear synthetic triple pane, 26 mm, $U_g = 1.9 \text{ W}/(\text{m}^2\cdot\text{K})$	S3	S3	S3	S3	S3	S3	S3	S3	-
Synthetic triple pane, grey tinted, 26 mm, $U_g = 1.9 \text{ W}/(\text{m}^2\cdot\text{K})$	A3	A3	A3	A3	A3	A3	A3	-	-
Synthetic triple pane, brown tinted, 26 mm, $U_g = 1.9 \text{ W}/(\text{m}^2\cdot\text{K})$	B3	B3	B3	B3	B3	B3	B3	-	-
Synthetic triple pane, white tinted (opal), 26 mm, $U_g = 1.9 \text{ W}/(\text{m}^2\cdot\text{K})$	M3	M3	M3	M3	M3	M3	M3	-	-
Clear polycarbonate double pane, 26 mm, $U_g = 2.6 \text{ W}/(\text{m}^2\cdot\text{K})$	C2	C2	C2	C2	C2	C2	C2	C2	-
Single pane of laminated safety glass, 6 mm [2] [3]	VG	-	VG	-	-	VG	-	-	VG
Double pane made of single-pane safety glass, 26 mm, $U_g = 2.7 \text{ W}/(\text{m}^2\cdot\text{K})$ [2]	E2	-	E2	E2	-	E2	E2	-	E2
Climatic double pane made of single-pane safety glass, 26 mm, $U_g = 1.1 \text{ W}/(\text{m}^2\cdot\text{K})$ [2]	G2	-	G2	G2	-	G2	G2	-	G2
Stainless steel expanded mesh [1] [3] [4]	SE	-	SE	-	-	SE	-	-	-
Perforated stainless steel sheet, perforation 8 mm [1] [3] [4]	LB	-	LB	-	-	LB	-	-	-
Prepared for on-site infill [5]	BS	BS	BS	BS	BS	BS	BS	BS	-

[1] **Note:** max. field width 1230 mm, if required add an additional field

[2] Only for door width up to 6000 mm, on request, and not in conjunction with wicket door

[3] Not possible for aluminium frames in Thermo version

[4] No colour coating possible

[5] On request; infill weight and thickness must be specified