Industrial sectional doors Depth 67 mm

Technical manual

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HÖRMANN

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Notice:
The size and validity tables in this document can only represent the status upon document creation.
Therefore deviations from the product configurator may occur.
All dimensions in mm.
Subject to design changes.

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

Product descriptions

Door type	Door leaf / wicket door
Sectional door SPU 67 Thermo, double-skinned steel sectional door with thermal break, Stucco-textured / Micrograin, door sections 625 and 750 mm high	
Door leaf	Door sections made of double-skinned, PU-foamed steel sections with thermal break (made of hot-galvanized steel). Door sections Stucco-textured on inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing on outside and Stucco-textured inside, 625 and 750 mm high, depth 67 mm. All door sections without finger trap protection. Surface protection with polyester-primer coating.
Wicket door	Only to be installed in the centre fields of the sectional door. **Cannot be fitted to the outer fields – note the arrangement!** Only opening outwards, LH or RH hinged. **In doors with wicket door with trip-free threshold, the clear frame dimensions (ordering size, LZ) must not exceed the clear opening width + 10 mm.** **Attention (for threshold rail): For grid heights 2000, 2125 and 2250, the clear opening height must not be lower than the door height.**
Glazing	Glazing frames made of anodised aluminium extrusions with thermal break or 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. Glazing frames are possible from FFL and compound glazing from 625 / 750 mm above FFL.
Sectional door SPU 67 Thermo, double-skinned steel sectional door with thermal break, Stucco-textured / Micrograin, door sections 375 and 500 mm high	
Door leaf	Door sections made of double-skinned, PU-foamed steel sections with thermal break (made of hot-galvanized steel). Door sections Stucco-textured on inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing on outside and Stucco-textured inside, 375 and 500 mm high, depth 67 mm. All door sections without finger trap protection. Surface protection with polyester-primer coating.
Wicket door	Only to be installed in the centre fields of the sectional door. **Cannot be fitted to the outer fields – note the arrangement!** Only opening outwards, LH or RH hinged. **In doors with wicket door with trip-free threshold, the clear frame dimensions (ordering size, LZ) must not exceed the clear opening width + 10 mm.** **Attention (for threshold rail): For grid heights 2000 and 2125, the clear opening height must not be lower than the door height.**
Glazing	Glazing frames made of anodised aluminium extrusions with thermal break or 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. Glazing frames are possible from FFL and compound glazing from 500 mm above FFL.
Sectional door APU 67 Thermo, glazed aluminium sectional door with thermal break, with steel bottom section	
Door leaf	Bottom section made of double-skinned, PU-foamed steel section with thermal break (made of hot-galvanized steel), 750 mm (standard) or 1500 mm high, Stucco-textured on inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing on outside and Stucco-textured inside. Surface protection with polyester-primer coating. Other door sections with glazing made of anodised aluminium extrusions with thermal break. Depth 67 mm. All door sections without finger trap protection. Infill: Clear synthetic triple pane, 51 mm (S 3).
Wicket door	Depending on the door type made of anodised aluminium extrusions with thermal break, installed in the centre fields of the door. **Cannot be fitted to the outer fields – note the arrangement!** Only opening outwards, LH or RH hinged. **In doors with wicket door with trip-free threshold, the clear frame dimensions (ordering size, LZ) must not exceed the clear opening width + 10 mm.** **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 67 Thermo, glazed aluminium sectional door with thermal break	
Door leaf	Door sections made of anodised aluminium extrusions with thermal break. Depth 67 mm. All door sections without finger trap protection. Bottom door section consisting of PU-foamed infill with 51 mm Stucco-textured aluminium sheet cover on both sides (FU), other door sections with 51 mm clear synthetic triple panes (S3).
Wicket door	Depending on the door type made of anodised aluminium extrusions with thermal break, installed in the centre fields of the door. **Cannot be fitted to the outer fields – note the arrangement!** Only opening outwards, LH or RH hinged. **In doors with wicket door with trip-free threshold, the clear frame dimensions (ordering size, LZ) must not exceed the clear opening width + 10 mm.** **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 67 Thermo Glazing, aluminium sectional door with large glazing and thermal break, real glass	
Door leaf	Door sections made of anodised aluminium extrusions with thermal break. Depth 67 mm. All door sections without finger trap protection. All door section infills with double panes made of single-pane safety glass 26 mm. Uniform infill heights.

Frame / track application
Enclosed, moulded angle frame, made of hot-galvanized steel with screwed safety tracks.

Product descriptions

Door lock	
Manually operated	Inside locking using a shootbolt, rotary latch (for track applications with low-mounted torsion spring shaft on request) or 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 for N, ND, NS, NK, NA, NH, GD and GS track applications are designed for at least 25,000 closing cycles and for all other track applications for at least 50,000 closing cycles.
For version with direct drive operator via the operator, shaft and carrying cables on the side.

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 * on both sides (not for version with direct drive operator)
- Power-driven doors with break-in-resistant anti-lift kit

* European patent

Information on trap guard:
To comply with the safety requirements of door product standard DIN EN 13241-1, the following door systems require an operator and a light grille HLG 550. The light grille must be fitted in the reveal to secure gaps resulting during door movement. This safeguarding must take place up to a height of 2500 mm above FFL or a different permanent access level:

Door type:	**SPU 67**	**APU 67 Thermo / ALR 67 Thermo / ALR 67 Thermo Glazing**
Door height:	RM ≤ 3000 mm	RM < 3040 mm
Track applications:	N, ND, NS, NK, NA, NH, GD, GS	
	H, HA, HD, HG, HS, HK after technical inspection	

Seals

Floor seal made of 1-chamber profile internally and 3-chamber EPDM profile externally with flexible adjustment lip, side seal, lintel seal, intermediate seal between the sections.

Note regarding surface coating

For the following colour tones, the sectional doors SPU 67 Thermo, APU 67 Thermo and ALR 67 Thermo with door widths from 5010 to 5500 mm in combination with the track applications NH, GD, GS, H, HD, HS, HK, HA, HU, RD, RS, RK, RG, V, VA, VS, VU, WS and WG are equipped with door leaf reinforcements to reduce the possibility of section deflection caused by sun exposure and require technical inspection.

RAL 3007 Black red
RAL 5003 Sapphire blue
RAL 5004 Black blue
RAL 5011 Steel blue
RAL 5013 Cobalt blue
RAL 5020 Ocean blue
RAL 5022 Night blue

RAL 6004 Blue green
RAL 6005 Moss green
RAL 6007 Bottle green
RAL 6008 Brown green
RAL 6009 Fir green
RAL 6012 Black green
RAL 6015 Black olive

RAL 6022 Olive drab
RAL 7016 Anthracite grey
RAL 7021 Black grey
RAL 7043 Traffic grey
RAL 8014 Sepia brown
RAL 8016 Mahogany brown
RAL 8017 Chocolate brown

RAL 8019 Grey brown
RAL 8022 Black brown
RAL 8028 Terra brown
RAL 9004 Signal black
RAL 9005 Jet black
RAL 9011 Graphite black
RAL 9017 Traffic black

Colour CH 703

Technical data overview

Construction and quality features

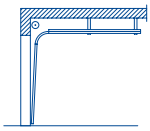
		SPU 67 Thermo	APU 67 Thermo	ALR 67 Thermo	ALR 67 Thermo Glazing
Resistance to wind load EN 12424	Door without wicket door, LZ ≤ 8000, class	3 [5) 9)]	3 [5)]	3 [5)]	3 [4.5)]
	Door without wicket door, LZ > 8000, class	2 [6) 9)]	2 [6)]	2 [6)]	–
	Door with wicket door, LZ ≤ 4000, class	3 [5) 9)]	3 [5)]	3 [5)]	–
	Door with wicket door, LZ > 4000, class	2 [6) 9)]	2 [6)]	2 [6)]	–
Water tightness EN 12425	Door without wicket door, class	3 (70 Pa)	3 (70 Pa)	3 (70 Pa)	3 (70 Pa)
Air permeability EN 12426	Door without wicket door, class	2 [7)]	2 [7)]	2 [7)]	2 [7)]
	Door with wicket door, class	1 [8)]	1 [8)]	1 [8)]	1 [8)]
Acoustic value EN 717-1	Door without wicket door R_w = . . . dB	25	23	23 (30 [1)])	30 [1)]
	Door with wicket door R_w = . . . dB	24	22	22	–
Thermal insulation value EN 13241-1, appendix B EN 12428	Door without wicket door, U = W/(m²·K) [2)]	0.62 (0.51 [3)])	2.1 (2.0 [3)])	2.2 (2.1 [3)])	–
	– Optional quadruple glazing, U = W/(m²·K) [2)]	–	1.8 (1.7 [3)])	1.9 (1.8 [3)])	–
	– Optional climatic double panes made of single-pane safety glass, U = W/(m²·K) [2)]	–	1.6 (1.5 [3)])	1.7 (1.6 [3)])	1.8 (1.7 [3)])
	– Optional double glazing made of single-pane safety glass, U = W/(m²·K) [2)]	–	2.6 (2.5 [3)])	2.7 (2.6 [3)])	3.0 (2.9 [3)])
	Door with wicket door, U = W/(m²·K) [2)]	0.82 (0.75 [3)])	2.3 (2.2 [3)])	2.4 (2.3 [3)])	–
	– Optional quadruple glazing, U = W/(m²·K) [2)]	–	2.0 (1.9 [3)])	2.1 (2.1 [3)])	–
	– Section, U = W/(m²·K)	0,33	–	–	–
Construction	Self-supporting	●	●	●	●
	Depth, mm	67	67	67	67
Door sizes	Max. width mm, LZ	10000	10000	10000	5500
	Max. height mm, RM	7500	7500	7500	4000
Space requirement	From page 36				
Material, door leaf	Steel, double-skinned, 67 mm	●	●	–	–
	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	○	●	●	●
	Aluminium coated in RAL to choose	○	○	○	○
Door leaf reinforcement	From LZ, mm	5510	5510	5510	3340
	Notice regarding surface coating, see page 5 from LZ, mm	5010	5010	5010	3340
Wicket door		○	○	○	–
Side door	Matching the door	○	○	○	○
Glazings	Type A section window	○	–	–	–
	Type D section window	○	–	–	–
	Aluminium glazing frame	○	●	●	●
Seals	All-round on 4 sides	●	●	●	●
	Intermediate seal between the door sections	●	●	●	●
ThermoFrame	UPVC hard / soft seal	○	○	○	○
Locking systems	Internal latches	●	●	●	●
	Outside / inside locking	○	○	○	–
Anti-lift kit	For doors of up to 5 m with shaft operator	●	●	●	●
Safety equipment	Side trap guards	●	●	●	●
	Spring break safeguard for manual operation	●	●	●	●
	Safety catch for doors with shaft operator	●	●	●	●
Fitting types	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) Optionally with Thermoframe
4) Door width up to 5500 mm
5) Class 3 = 0.7 kN/m² or 120 km/h
6) Class 2 = 0.45 kN/m² or 96 km/h
7) Class 2 = 12 m³/m²h
8) Class 1 = 24 m³/m²h
9) Lower class rating may apply for doors with compound glazing

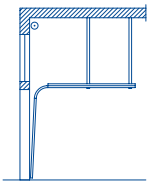
Overview of track applications

N*



Normal track application
or version
Normal track application
for direct drive operators S17.24 and S35.30
Door width LZ ≤ 4500 mm
Door height RM ≤ 4500 mm

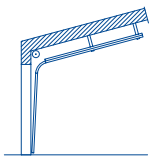
NA*



Like track application N, with high-mounted torsion spring shaft

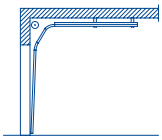
Door height RM ≤ 5000 mm

ND*



As with track application N, with inclination

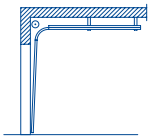
NS*



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

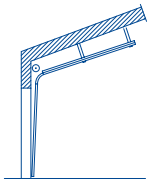
Door height RM ≤ 5000 mm

NH*



Like track application N, with minimum high-lift

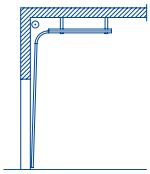
GD*



Like track application NH, with inclination (maximum 27°)

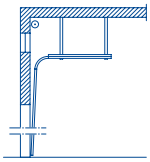
Door height RM ≤ 5000 mm

H*



High-lift track application
or version
High-lift track application
for direct drive operators S17.24 and S35.30
Door width LZ ≤ 4500 mm
Door height RM ≤ 4500 mm

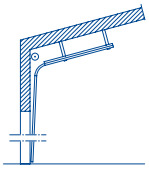
HA*



Like track application H, with high-mounted torsion spring shaft

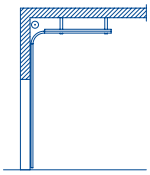
Door height RM ≤ 3500 mm

HD*



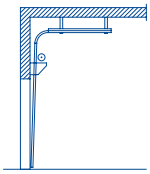
As with track application H, with inclination

HG*



Like track application H, with steep track and minimum slot width of 150 mm (for loading ramp doors)
Not possible for door type ALR 67 Thermo Glazing and doors with wicket door or real glass infill!
Door width LZ ≤ 3500 mm
Door height RM ≤ 5000 mm

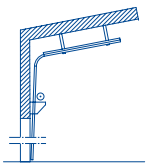
HU



Like track application H, with low-mounted torsion spring shaft

Door height RM ≤ 5000 mm

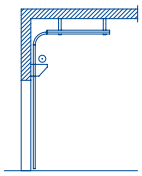
RD



Like track application HU, with inclination

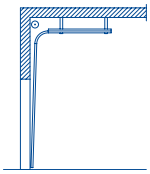
Door height RM ≤ 5000 mm

RG



Like track application HU, with steep track and minimum slot width of 150 mm (for loading ramp doors)
Not possible for door type ALR 67 Thermo Glazing and doors with wicket door or real glass infill!
Door width LZ ≤ 3500 mm
Door height RM ≤ 5000 mm

H with direct drive operator*

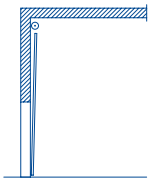


High-lift track application without torsion spring
Door width LZ ≤ 10000 mm
Door height RM ≤ 7500 mm

* For information on trap guard, see page 5

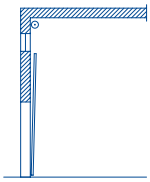
Overview of track applications

V



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

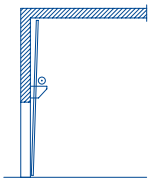
VA



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

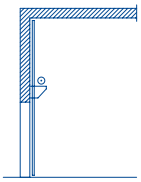
Door height RM ≤ 3500 mm

VU



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

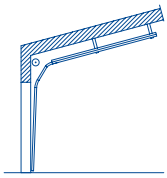
WG



Like track application VU, with steep track and minimum slot width of 150 mm
(for loading ramp doors)
(additional chain hoist required for manually operated doors!)
Not possible for door type ALR 67 Thermo Glazing and doors with wicket door or real glass infill!
Door width LZ ≤ 3500 mm
Door height RM ≤ 5000 mm

Notice:
An in-factory technical inspection is required for the following track applications!

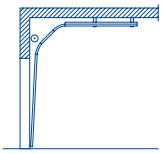
NK*



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

Door height RM ≤ 5000 mm

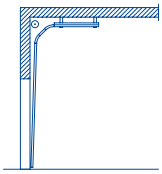
GS*



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

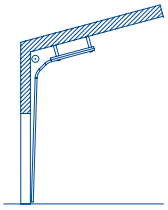
Door height RM ≤ 5000 mm

HS*



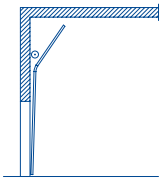
As with track application H with double radius 2 × 45°

HK*



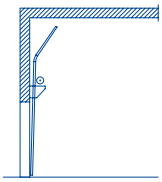
Like track application HS, but the degree values of both radii are adapted to the situation on site

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!)

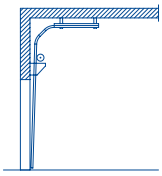
WS



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!)

Door height RM ≥ 2200 mm

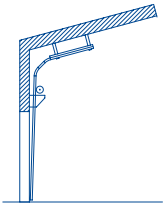
RS



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

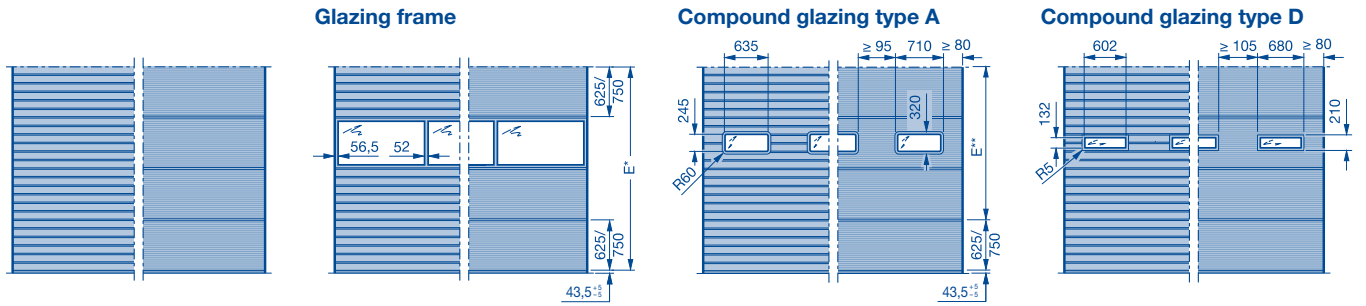
Sectional door SPU 67 Thermo

Double-skinned steel sectional door with thermal break

Stucco-textured / Micrograin

Door sections 625 and 750 mm high

External views



E* Fitting area for frames with glazing
E** Fitting area for compound glazing

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments. Intermediate heights using aluminium glazing frames or shortened top door section are possible!

RM	Range	n_1 TH 625		n_1 TH 750
7500	3	–		10
7375	3	1	+	9
7250	3	2	+	8
7125	3	3	+	7
7000	3	4	+	6
6875	3	5	+	5
6750	3	–		9
6625	3	1	+	8
6500	3	2	+	7
6375	3	3	+	6
6250	3	4	+	5
6125	3	5	+	4
6000	3	–		8
5875	3	1	+	7
5750	3	2	+	6
5625	3	3	+	5
5500	3	4	+	4
5375	3	5	+	3
5250	3	–		7
5125	3	1	+	6
5000	2	2	+	5
4875	2	3	+	4
4750	2	4	+	3
4625	2	5	+	2
4500	2	–		6
4375	2	1	+	5
4250	2	2	+	4
4125	2	3	+	3
4000	2	4	+	2
3875	2	5	+	1
3750	2	–		5
3625	2	1	+	4
3500	2	2	+	3
3375	2	3	+	2
3250	2	4	+	1
3125	2	5		–
3000	1	–		4
2875	1	1	+	3
2750	1	2	+	2
2625	1	3	+	1
2500	1	4		–
2375	1	4****		–
2250	1	–		3
2125	1	1	+	2
2000	1	2	+	1
1875	1	3		–

1	2	3	4	5	Number of infills/fields per aluminium frame
[1]	2	3	4	5	Number of compound glazings per door section

1500 2000 2250 2500 2750 3000 3250 3500 3750 4000 4250 4500 4750 5000 5250 5500 5750 6000

SPB 52

LZ

Notices:

- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For a view of the matching appearance with doors with wicket door see pages 26 – 28.
- Doors with more than 2 glazing frames on request.
- Versions with glazing S4, U4, A4, B4, M4 on request.

On request: torsion spring shaft or direct drive operator

Versions with glazing frame on request

For information on trap guard, see page 5

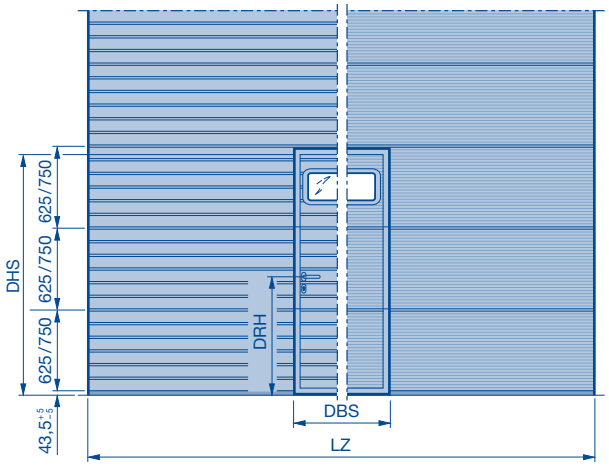
[1] **Type A** → 1670, **Type D** → 1630
n_1 No. of door sections
RM Grid height
LZ Clear frame dimensions **(from 1200)**
→ up to LZ
SPB Rail width
TH Door section height
******** Top door section 500 mm

Sectional door SPU 67 Thermo with wicket door with trip-free threshold

Double-skinned steel sectional door with thermal break

Stucco-textured / Micrograin, door sections 625 and 750 mm high

External views



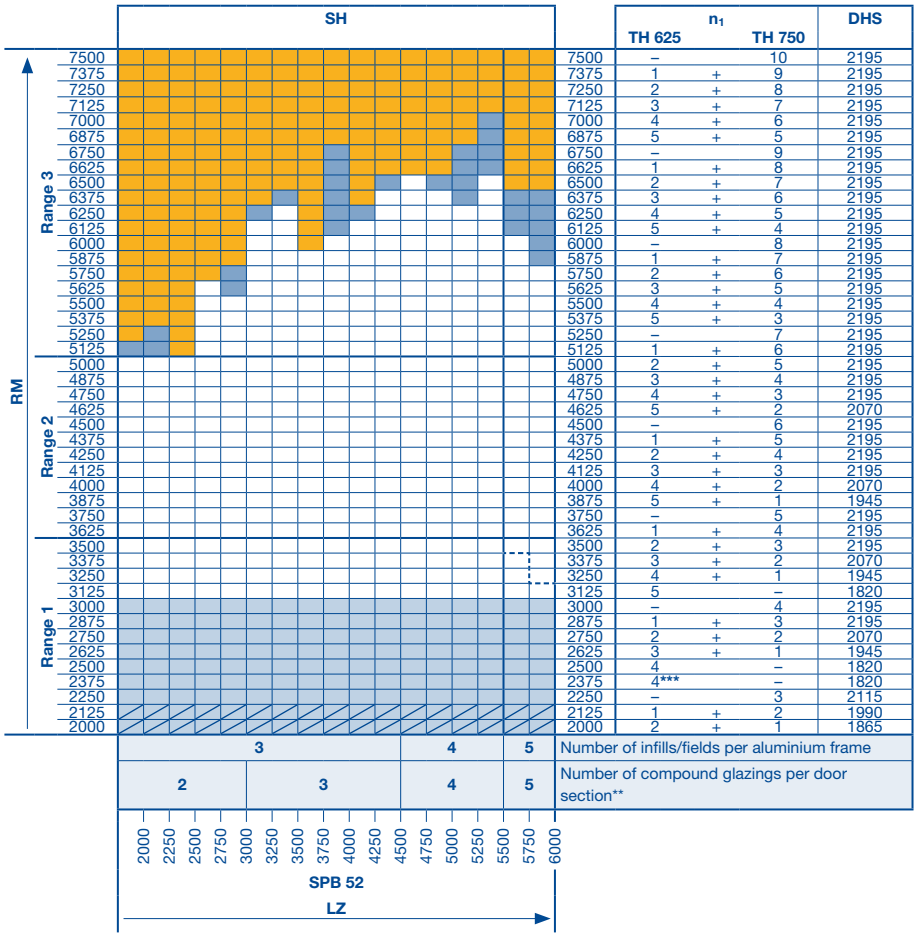
**** Note on fitting compound glazings:**
For door widths from 1750 – 3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Wicket door clear passage width (DBS) = 905 mm*
* For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Lever heights (DRH)
Bottom door section 625 = 960.5
Bottom door section 750 = 1085.5

Bottom section height 750

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments. Intermediate heights using aluminium glazing frames or shortened door section above wicket door are possible!



SH	n_1 TH 625		n_1 TH 750	DHS
7500	–		10	2195
7375	1	+	9	2195
7250	2	+	8	2195
7125	3	+	7	2195
7000	4	+	6	2195
6875	5	+	5	2195
6750	–		9	2195
6625	1	+	8	2195
6500	2	+	7	2195
6375	3	+	6	2195
6250	4	+	5	2195
6125	5	+	4	2195
6000	–		8	2195
5875	1	+	7	2195
5750	2	+	6	2195
5625	3	+	5	2195
5500	4	+	4	2195
5375	5	+	3	2195
5250	–		7	2195
5125	1	+	6	2195
5000	2	+	5	2195
4875	3	+	4	2195
4750	4	+	3	2195
4625	5	+	2	2070
4500	–		6	2195
4375	1	+	5	2195
4250	2	+	4	2195
4125	3	+	3	2195
4000	4	+	2	2070
3875	5	+	1	1945
3750	–		5	2195
3625	1	+	4	2195
3500	2	+	3	2195
3375	3	+	2	2070
3250	4	+	1	1945
3125	5		–	1820
3000	–		4	2195
2875	1	+	3	2195
2750	2	+	2	2070
2625	3	+	1	1945
2500	4		–	1820
2375	4***		–	1820
2250	–		3	2115
2125	1	+	2	1990
2000	2	+	1	1865

Notices:

- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.
- Doors with more than 2 glazing frames on request.
- Versions with glazing S4, U4, A4, B4, M4 on request.

On request: torsion spring shaft or direct drive operator
Versions with glazing frame on request
For information on trap guard, see page 5
Glazings on request
Range change
Range change with glazing frame

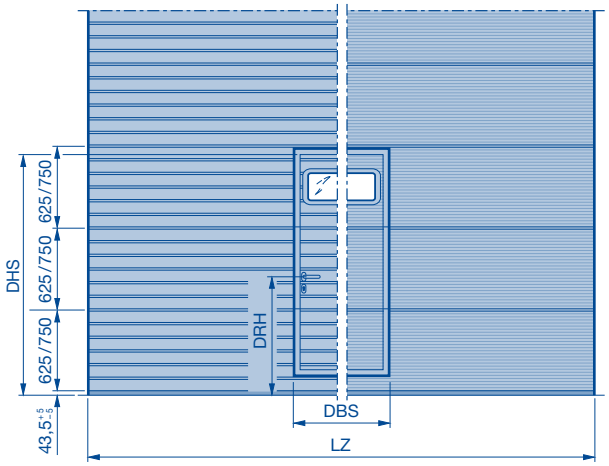
n_1	No. of door sections
DHS	Clear passage heights of wicket door to grid height
SH	Threshold height **(rising from 5 to 10)**
SPB	Rail width
TH	Door section height
DHS	Wicket door clear passage height
RM	Grid height
DBS	Wicket door clear passage width
DRH	Lever height
LZ	Clear frame dimensions **(from 1750)**
***	Top door section 500 mm

Sectional door SPU 67 Thermo with wicket door and threshold rail

Double-skinned steel sectional door with thermal break

Stucco-textured / Micrograin, door sections 625 and 750 mm high

External views



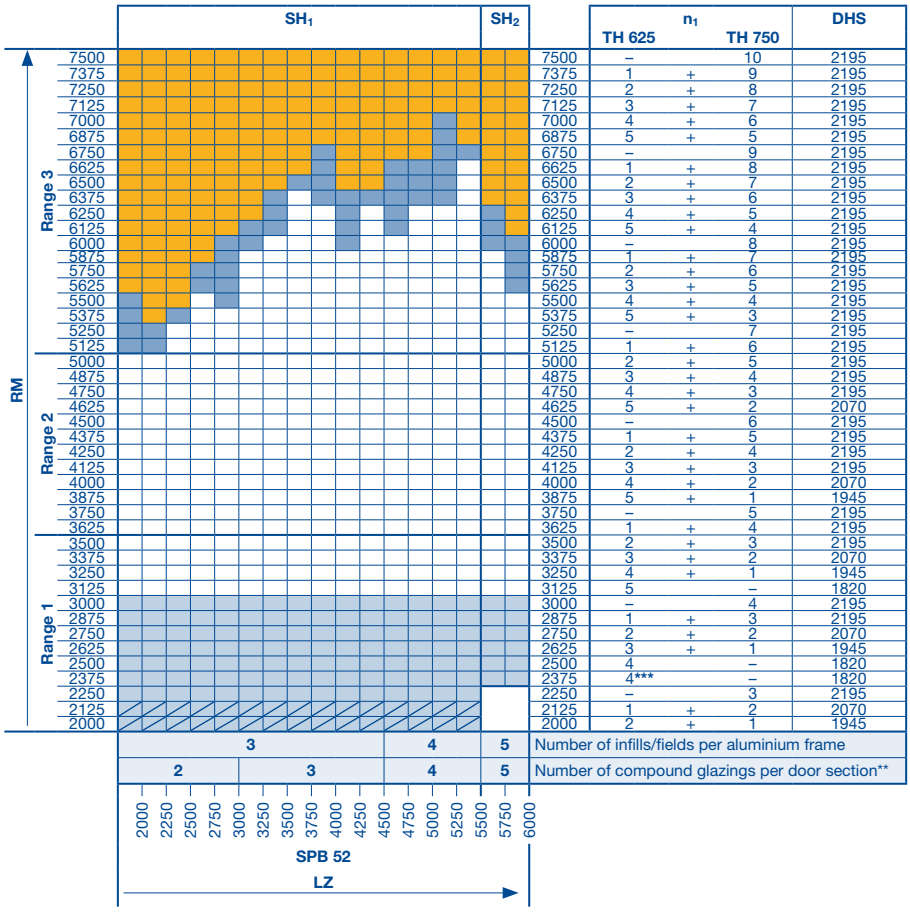
**** Note on fitting compound glazings:**
For door widths from 1750 – 3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Wicket door clear passage width (DBS) = 905 mm*
* For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Lever heights (DRH)
Bottom door section 625 = 960.5
Bottom door section 750 = 1085.5

Bottom section height 750

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments. Intermediate heights using aluminium glazing frames or shortened door section above wicket door are possible!



RM	n_1 TH 625		n_1 TH 750	DHS
7500	–		10	2195
7375	1	+	9	2195
7250	2	+	8	2195
7125	3	+	7	2195
7000	4	+	6	2195
6875	5	+	5	2195
6750	–		9	2195
6625	1	+	8	2195
6500	2	+	7	2195
6375	3	+	6	2195
6250	4	+	5	2195
6125	5	+	4	2195
6000	–		8	2195
5875	1	+	7	2195
5750	2	+	6	2195
5625	3	+	5	2195
5500	4	+	4	2195
5375	5	+	3	2195
5250	–		7	2195
5125	1	+	6	2195
5000	2	+	5	2195
4875	3	+	4	2195
4750	4	+	3	2195
4625	5	+	2	2070
4500	–		6	2195
4375	1	+	5	2195
4250	2	+	4	2195
4125	3	+	3	2195
4000	4	+	2	2070
3875	5	+	1	1945
3750	–		5	2195
3625	1	+	4	2195
3500	2	+	3	2195
3375	3	+	2	2070
3250	4	+	1	1945
3125	5		–	1820
3000	–		4	2195
2875	1	+	3	2195
2750	2	+	2	2070
2625	3	+	1	1945
2500	4		–	1820
2375	4***		–	1820
2250	–		3	2195
2125	1	+	2	2070
2000	2	+	1	1945

Notices:

- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.
- Doors with more than 2 glazing frames on request.
- Versions with glazing S4, U4, A4, B4, M4 on request.
- For versions with real glass infill in the wicket door, the threshold height SH2 begins at LZ 4510 mm.

On request: torsion spring shaft or direct drive operator
Versions with glazing frame on request
For information on trap guard, see page 5
Glazings on request

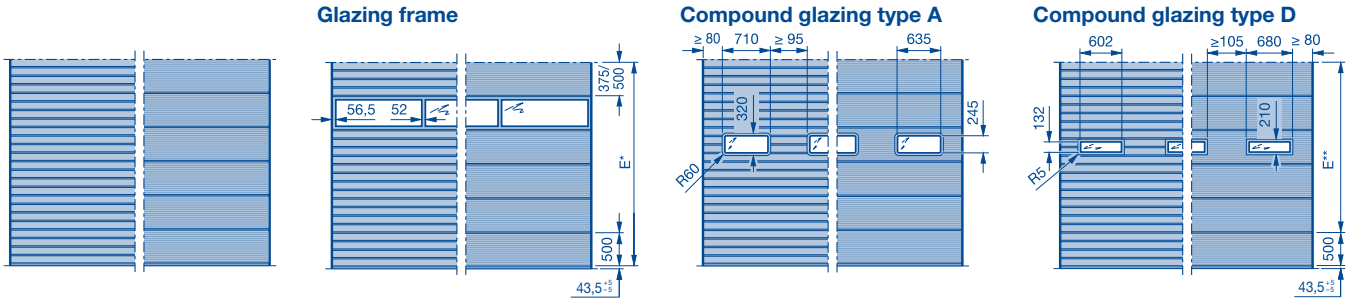
n_1	No. of door sections
DHS	Clear passage heights of wicket door to grid height
SH_1	Threshold height **(215)**
SH_2	Threshold height **(312)**, bottom door section with 250 mm aluminium bottom section,
SPB	Rail width
TH	Door section height
DHS	Wicket door clear passage height
RM	Grid height
DBS	Wicket door clear passage width
DRH	Lever height
LZ	Clear frame dimensions **(from 1750)**
***	Top door section 500 mm

Sectional door SPU 67 Thermo, double-skinned steel sections

Double-skinned steel sectional door with thermal break

Stucco-textured / Micrograin, door sections 375 and 500 mm high

External views



E* Fitting area for frame 500 with glazing
E** Fitting area for compound glazing

Size range

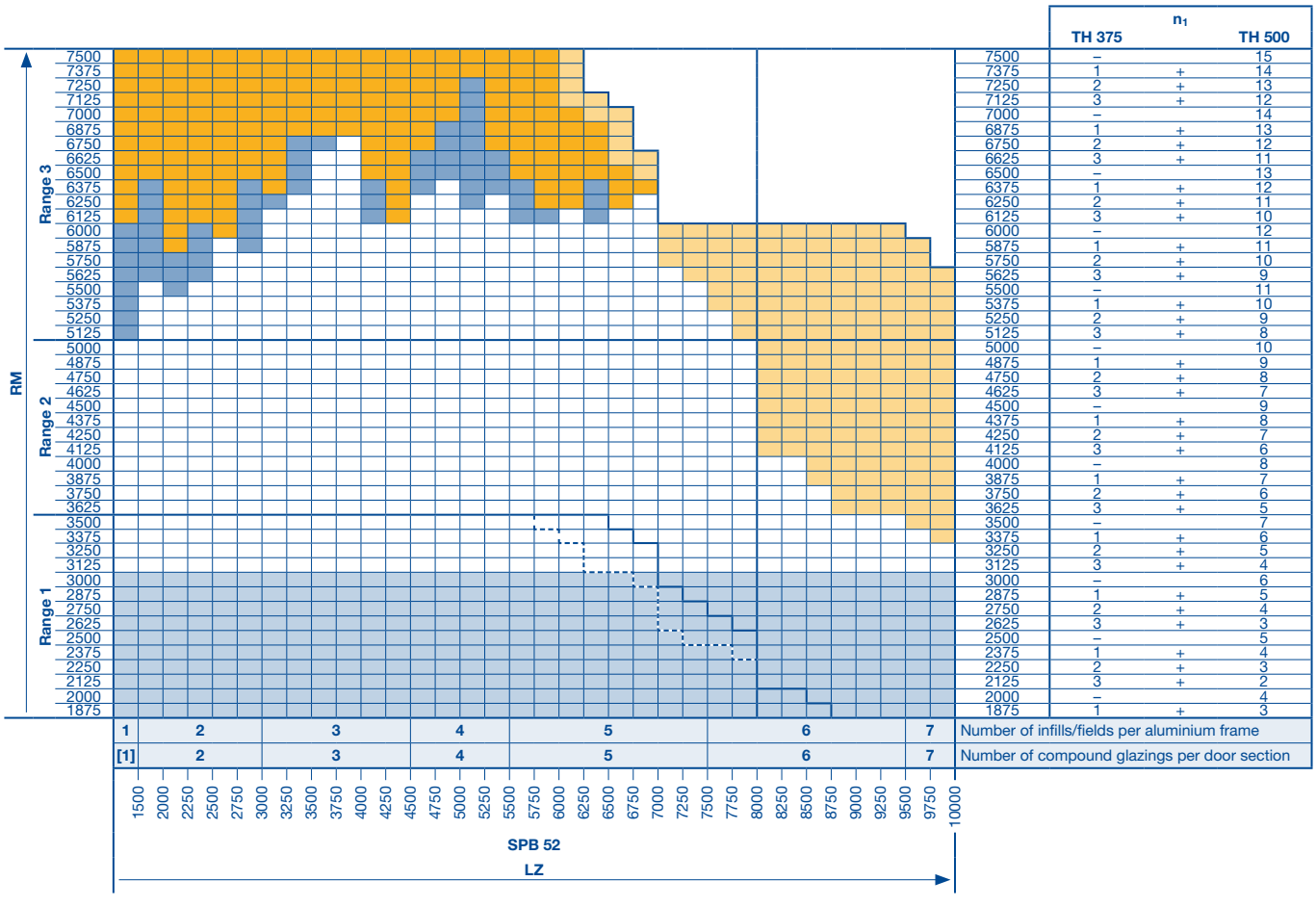
The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments. Intermediate heights using aluminium glazing frames or shortened top door section are possible!

Notices:

- For a view of the matching appearance with doors with wicket door see pages 26 – 28.
- Doors with more than 2 glazing frames on request.
- Versions with glazing S4, U4, A4, B4, M4 on request.

On request: torsion spring shaft or direct drive operator
On request and only direct drive operator S140 with high-lift track application
Versions with glazing frame on request
For information on trap guard, see page 5
Range change
Range change with glazing frame

[1] **Type A** → 1670, **Type D** → 1630
n_1 No. of door sections
RM Grid height
LZ Clear frame dimensions **(from 1200)**
→ up to LZ
SPB Rail width
TH Door section height



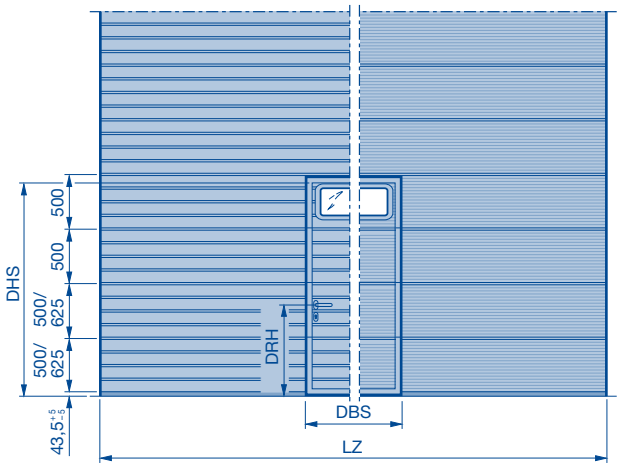
	n_1 TH 375		n_1 TH 500
7500	–		15
7375	1	+	14
7250	2	+	13
7125	3	+	12
7000	–		14
6875	1	+	13
6750	2	+	12
6625	3	+	11
6500	–		13
6375	1	+	12
6250	2	+	11
6125	3	+	10
6000	–		12
5875	1	+	11
5750	2	+	10
5625	3	+	9
5500	–		11
5375	1	+	10
5250	2	+	9
5125	3	+	8
5000	–		10
4875	1	+	9
4750	2	+	8
4625	3	+	7
4500	–		9
4375	1	+	8
4250	2	+	7
4125	3	+	6
4000	–		8
3875	1	+	7
3750	2	+	6
3625	3	+	5
3500	–		7
3375	1	+	6
3250	2	+	5
3125	3	+	4
3000	–		6
2875	1	+	5
2750	2	+	4
2625	3	+	3
2500	–		5
2375	1	+	4
2250	2	+	3
2125	3	+	2
2000	–		4
1875	1	+	3

Sectional door SPU 67 Thermo with wicket door with trip-free threshold

Double-skinned steel sectional door with thermal break

Stucco-textured / Micrograin, door sections 375 and 500 mm high

External view



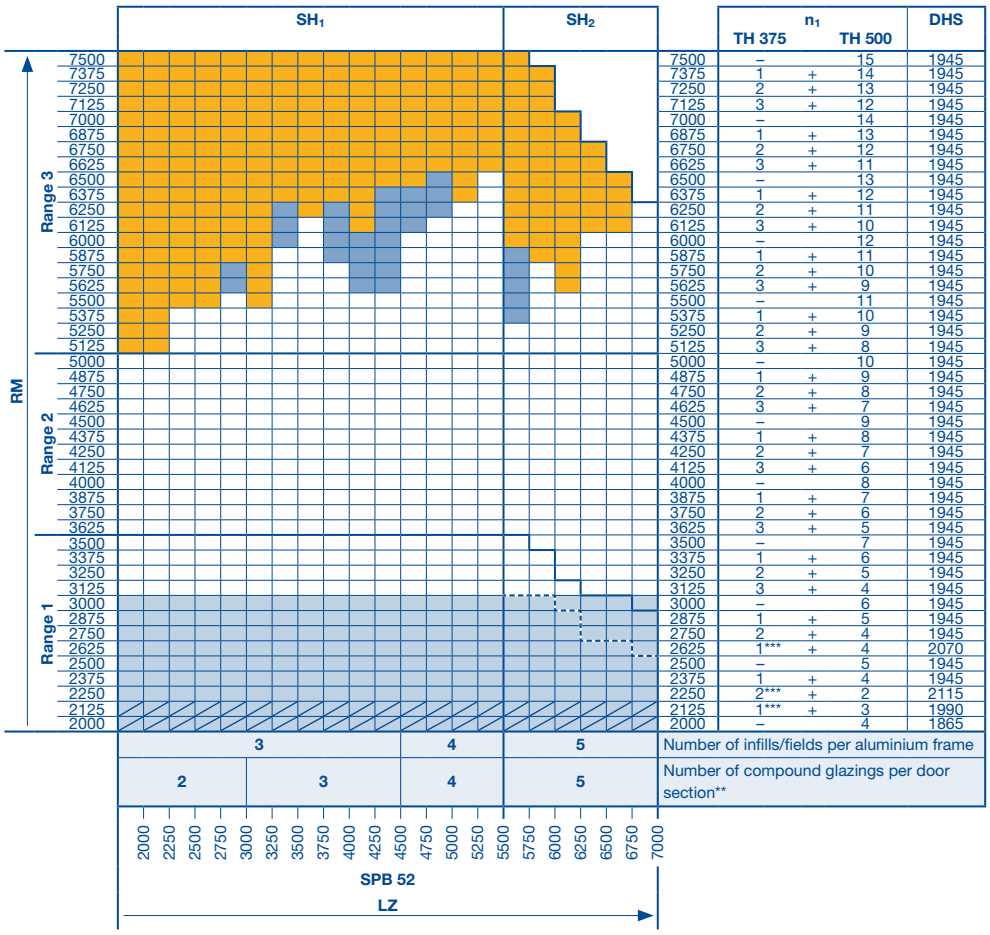
**** Note on fitting compound glazings:**
For door widths from 1750 – 3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Wicket door clear passage width (DBS) = 905 mm*
* For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Lever heights (DRH)
Bottom door section 500 = 835.5
Bottom door section 625 = 960.5

Bottom section height 750

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments. Intermediate heights using aluminium glazing frames or shortened door section above wicket door are possible!



	n1 TH 375		n1 TH 500	DHS
7500	–		15	1945
7375	1	+	14	1945
7250	2	+	13	1945
7125	3	+	12	1945
7000	–		14	1945
6875	1	+	13	1945
6750	2	+	12	1945
6625	3	+	11	1945
6500	–		13	1945
6375	1	+	12	1945
6250	2	+	11	1945
6125	3	+	10	1945
6000	–		12	1945
5875	1	+	11	1945
5750	2	+	10	1945
5625	3	+	9	1945
5500	–		11	1945
5375	1	+	10	1945
5250	2	+	9	1945
5125	3	+	8	1945
5000	–		10	1945
4875	1	+	9	1945
4750	2	+	8	1945
4625	3	+	7	1945
4500	–		9	1945
4375	1	+	8	1945
4250	2	+	7	1945
4125	3	+	6	1945
4000	–		8	1945
3875	1	+	7	1945
3750	2	+	6	1945
3625	3	+	5	1945
3500	–		7	1945
3375	1	+	6	1945
3250	2	+	5	1945
3125	3	+	4	1945
3000	–		6	1945
2875	1	+	5	1945
2750	2	+	4	1945
2625	1***	+	4	2070
2500	–		5	1945
2375	1	+	4	1945
2250	2***	+	2	2115
2125	1***	+	3	1990
2000	–		4	1865

Number of infills/fields per aluminium frame

Number of compound glazings per door section**

Notice:

- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.
- Doors with more than 2 glazing frames on request.
- For versions with real glass infill in the wicket door, the threshold height **SH2** begins at LZ 4510 mm.
- Versions with glazing S4, U4, A4, B4, M4 on request.

On request: torsion spring shaft or direct drive operator
Versions with glazing frame on request
For information on trap guard, see page 5
Glazings on request
Range change
Range change with glazing frame

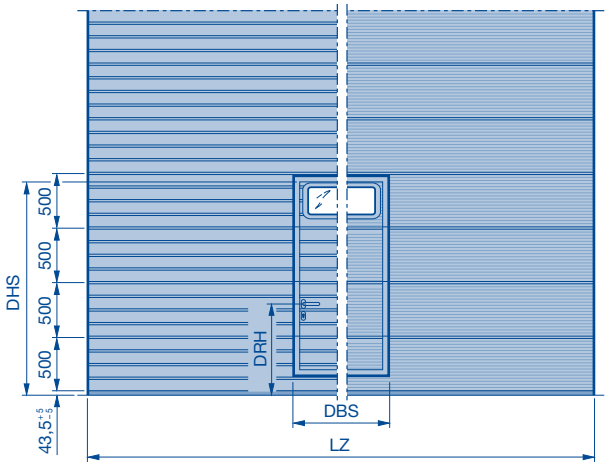
n1	No. of door sections
DHS	Clear passage heights of wicket door to grid height
RM	Grid height
LZ	Clear frame dimensions **(from 1750)**
SH1	Threshold height **(rising from 5 to 10)**
SH2	Threshold height **(approx. 13)**
SPB	Rail width
TH	Door section height
DHS	Wicket door clear passage height
DBS	Wicket door clear passage width
DRH	Lever height
***	Bottom door section TH = 625

Sectional door SPU 67 Thermo with wicket door and threshold rail

Double-skinned steel sectional door with thermal break

Stucco-textured / Micrograin, door sections 375 and 500 mm high

External view



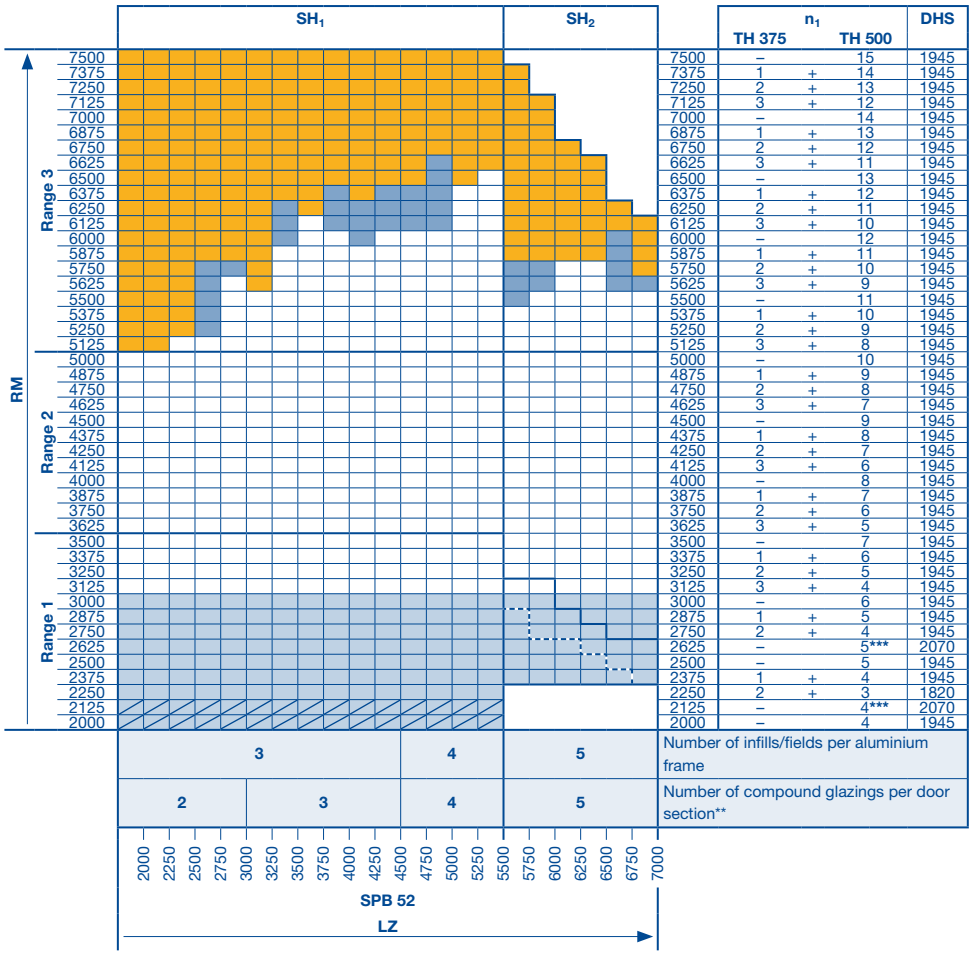
**** Note on fitting compound glazings:**
For door widths from 1750 – 3000 mm, a compound glazing can **only** be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Wicket door clear passage width (DBS) = 905 mm*
* For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Lever heights (DRH)
Bottom door section 500 = 835.5
Bottom door section 625 = 960.5 (only for SH_2)

Bottom section height 750

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments. Intermediate heights using aluminium glazing frames or shortened door section above wicket door are possible!



	n_1 TH 375		n_1 TH 500	DHS
7500	–		15	1945
7375	1	+	14	1945
7250	2	+	13	1945
7125	3	+	12	1945
7000	–		14	1945
6875	1	+	13	1945
6750	2	+	12	1945
6625	3	+	11	1945
6500	–		13	1945
6375	1	+	12	1945
6250	2	+	11	1945
6125	3	+	10	1945
6000	–		12	1945
5875	1	+	11	1945
5750	2	+	10	1945
5625	3	+	9	1945
5500	–		11	1945
5375	1	+	10	1945
5250	2	+	9	1945
5125	3	+	8	1945
5000	–		10	1945
4875	1	+	9	1945
4750	2	+	8	1945
4625	3	+	7	1945
4500	–		9	1945
4375	1	+	8	1945
4250	2	+	7	1945
4125	3	+	6	1945
4000	–		8	1945
3875	1	+	7	1945
3750	2	+	6	1945
3625	3	+	5	1945
3500	–		7	1945
3375	1	+	6	1945
3250	2	+	5	1945
3125	3	+	4	1945
3000	–		6	1945
2875	1	+	5	1945
2750	2	+	4	1945
2625	–		5***	2070
2500	–		5	1945
2375	1	+	4	1945
2250	2	+	3	1820
2125	–		4***	2070
2000	–		4	1945

Notices:

- From LZ > 5500 mm bottom door section with deviating heights TH = 625 / 750 mm (made of 375 / 500 mm sections and 2 × 125 mm aluminium bottom profile).
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.
- Doors with more than 2 glazing frames on request.
- For versions with real glass infill in the wicket door, the threshold height **SH_2** begins at LZ 4510 mm.
- Versions with glazing S4, U4, A4, B4, M4 on request.

On request: torsion spring shaft or direct drive operator
Versions with glazing frame on request
For information on trap guard, see page 5
Glazings on request
Range change
Range change with glazing frame

n_1	No. of door sections
DHS	Clear passage heights of wicket door to grid height
RM	Grid height
LZ	Clear frame dimensions **(from 1750)**
SH_1	Threshold height **(215)**
SH_2	Threshold height **(312)**, bottom door section with 250 mm aluminium bottom section, **glazing from 625 mm**
SPB	Rail width
TH	Door section height
DHS	Wicket door clear passage height
DBS	Wicket door clear passage width
***	Bottom door section TH = 625

Glazing heights for matching external appearance SPU 67 Thermo Stucco-textured / Micrograin embossing

(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)											
	1160	1285	1535	1660	1785	1910	2035	2160	2285	2410	2535	2660
7500		X			X							
7375	X	X		X	X							X
7250	X	X	X	X	X		X		X		X	X
7125	X	X	X	X	X	X	X	X	X	X	X	X
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

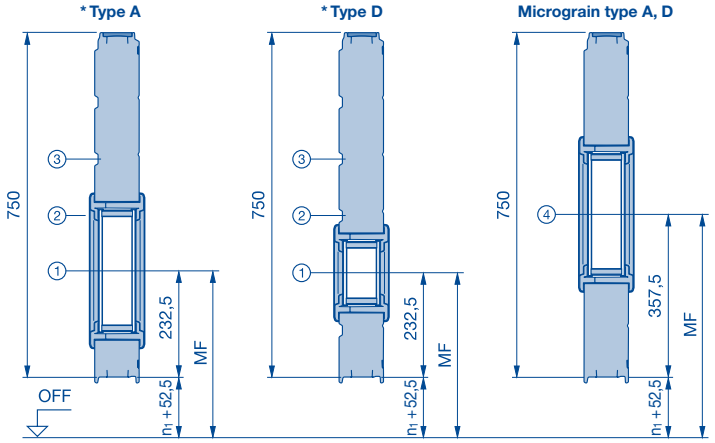
Calculating the glazing heights for SPU 67 Thermo

(Centre of window from FFL)

Door section heights 500, 625 and 750 mm

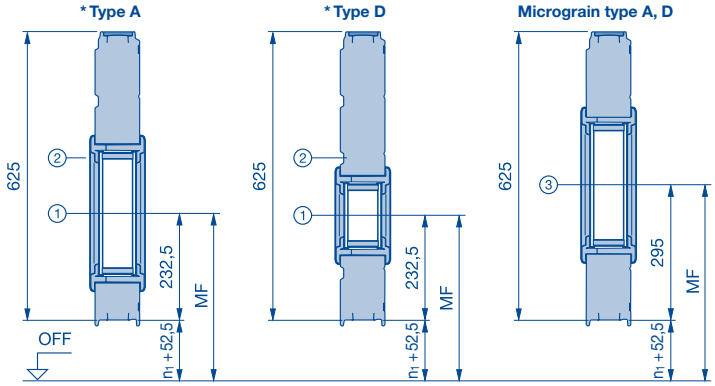
Calculating the glazing heights for compound windows type A and type D.
See door type for number of door sections and glazing areas! Depth 67 mm.

Door section height 750 mm



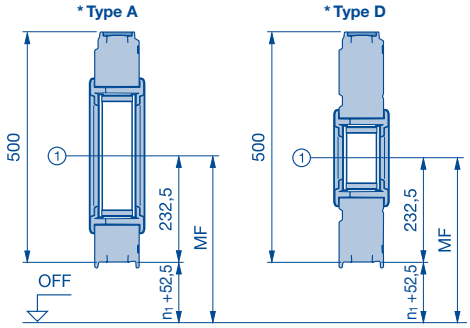
Glazing height type A and D
① = n_1 + 52.5 + 232.5
② = n_1 + 52.5 + 232.5 + 125
③ = n_1 + 52.5 + 232.5 + 250
④ = n_1 + 52.5 + 357.5

Door section height 625 mm



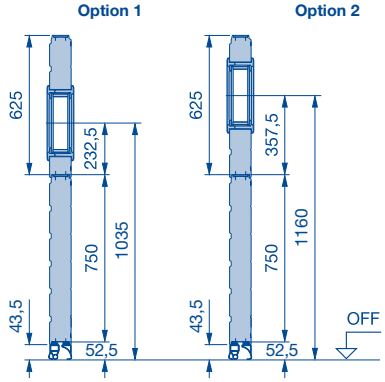
Glazing height type A and D
① = n_1 + 52.5 + 232.5
② = n_1 + 52.5 + 232.5 + 125
③ = n_1 + 52.5 + 295

Door section height 500 mm



Glazing height type A and D
① = n_1 + 52.5 + 232.5

Calculation example



Given:

- Door type SPU 67 Thermo; grid height (RM) = 3250 mm; glazing type A; for position see number of door sections below (see table of door types)
- Door section 625 mm = 4 units
- Door section 750 mm = 1 unit

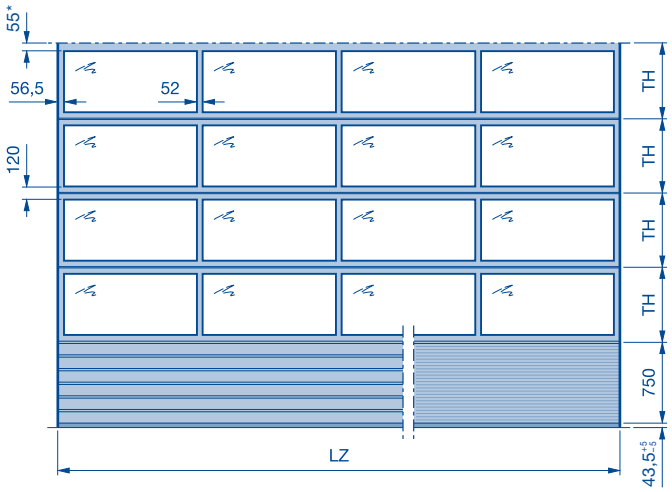
Option	Door section / position	Glazing height
1	In 2nd door section 625 mm at position 1	750 + 52.5 + 232.5 = 1035 mm from FFL
2	In 2nd door section 625 mm at position 2	750 + 52.5 + 232.5 + 125 = 1160 mm from FFL
3	In 3rd door section 625 mm at position 1	750 + 625 + 52.5 + 232.5 = 1660 mm from FFL
4	In 3rd door section 625 mm at position 2	750 + 625 + 52.5 + 232.5 + 125 = 1785 mm from FFL
etc.		

* Stucco / Micrograin
MF Centre of window from FFL
n_1 No. of door sections

Sectional door APU 67 Thermo

Glazed aluminium sectional door with thermal break, with steel bottom section

External view



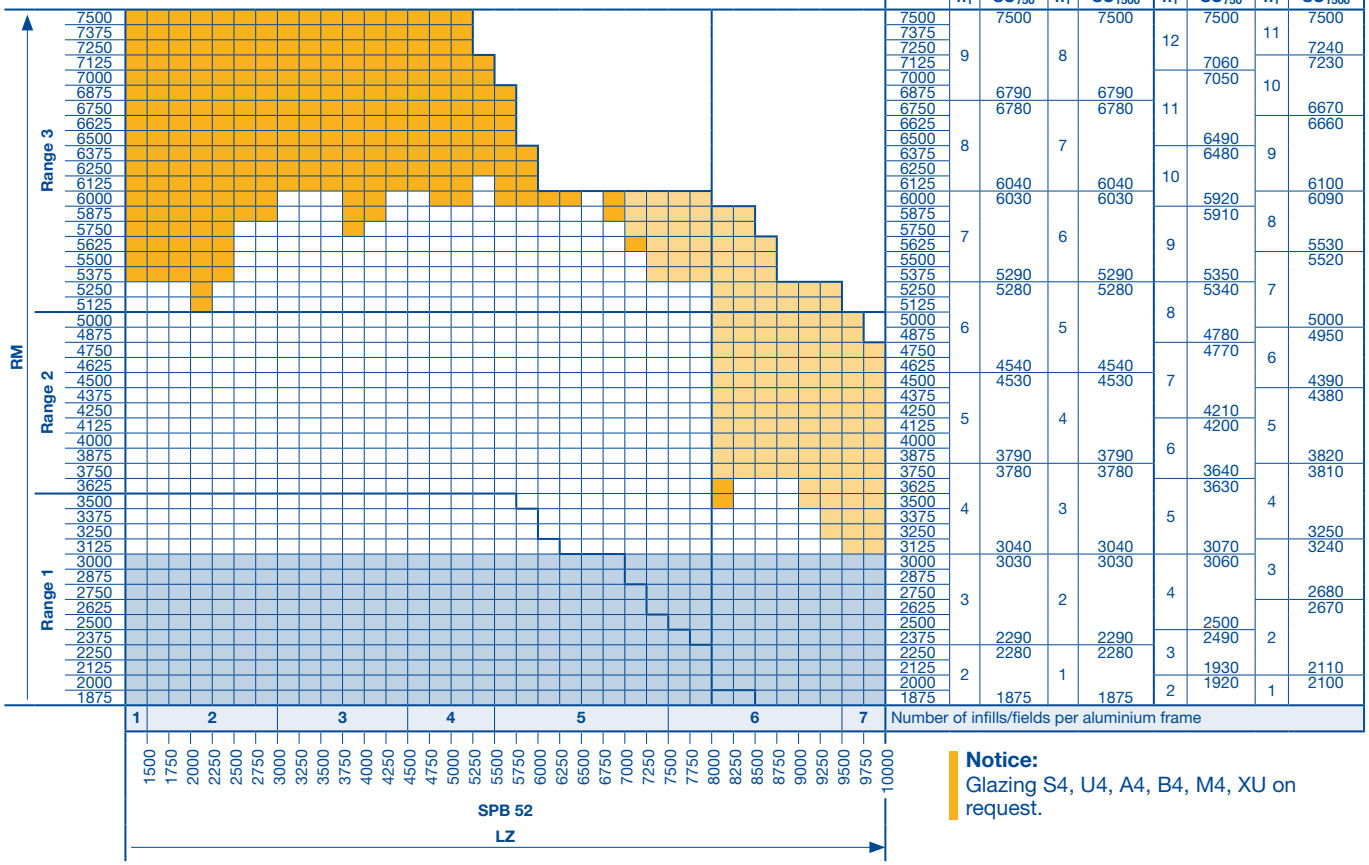
$$TH = \frac{\text{Door height} - \text{bottom section height} - 35}{\text{Number of door section frames}}$$

* On request 115 mm, in order to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.

Notice:
- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For a view of the matching appearance with doors with wicket door see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



RM	LZ ≤ 8000				LZ > 8000			
	n_1	SO_{750}	n_1	SO_{1500}	n_1	SO_{750}	n_1	SO_{1500}
7500		7500		7500		7500		7500
7375							11	
7250	9		8		12			7240
7125						7060		
7000							10	7230
6875		6790		6790		7050		
6750		6780		6780	11			6670
6625								
6500	8		7			6490		6660
6375							9	
6250					10	6480		
6125		6040		6040				6100
6000		6030		6030		5920		
5875							8	6090
5750	7		6			5910		
5625					9			5530
5500								
5375		5290		5290		5350		
5250		5280		5280			7	5520
5125						5340		
5000	6		5		8			5000
4875						4780		
4750						4770	6	4950
4625		4540		4540	7			
4500		4530		4530				4390
4375						4210		4380
4250	5		4				5	
4125					6	4200		
4000								3820
3875		3790		3790		3640		
3750		3780		3780				3810
3625						3630		
3500	4		3		5		4	
3375								3250
3250						3070		
3125		3040		3040				3240
3000		3030		3030		3060	3	
2875					4			
2750	3		2					2680
2625								2670
2500						2500		
2375		2290		2290		2490	2	
2250		2280		2280	3			
2125	2		1			1930		2110
2000						1920	1	2100
1875		1875		1875	2			

Notice:
Glazing S4, U4, A4, B4, M4, XU on request.

On request: torsion spring shaft or direct drive operator

On request and only direct drive operator S140 with high-lift track application

For information on trap guard, see page 5

Range change

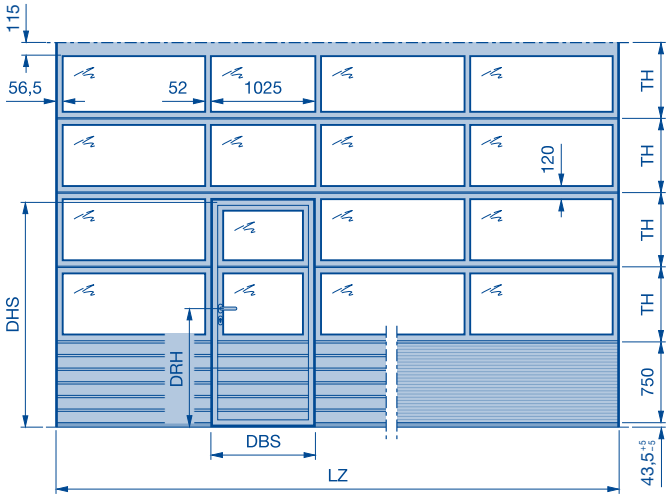
Number of door section frames:

SO_{750}	Bottom section height 750 mm (standard)
SO_{1500}	Bottom section height 1500 mm
n_1	Number of aluminium frames
RM	Grid height
LZ	Clear frame dimensions **(from 1200)**
SPB	Rail width
TH	Door section height

Sectional door APU 67 Thermo with wicket door with trip-free threshold

Glazed aluminium sectional door with thermal break, with steel bottom section, bottom section height 750

External view



Lever height on request

Wicket door clear passage width (DBS) = 905 mm*

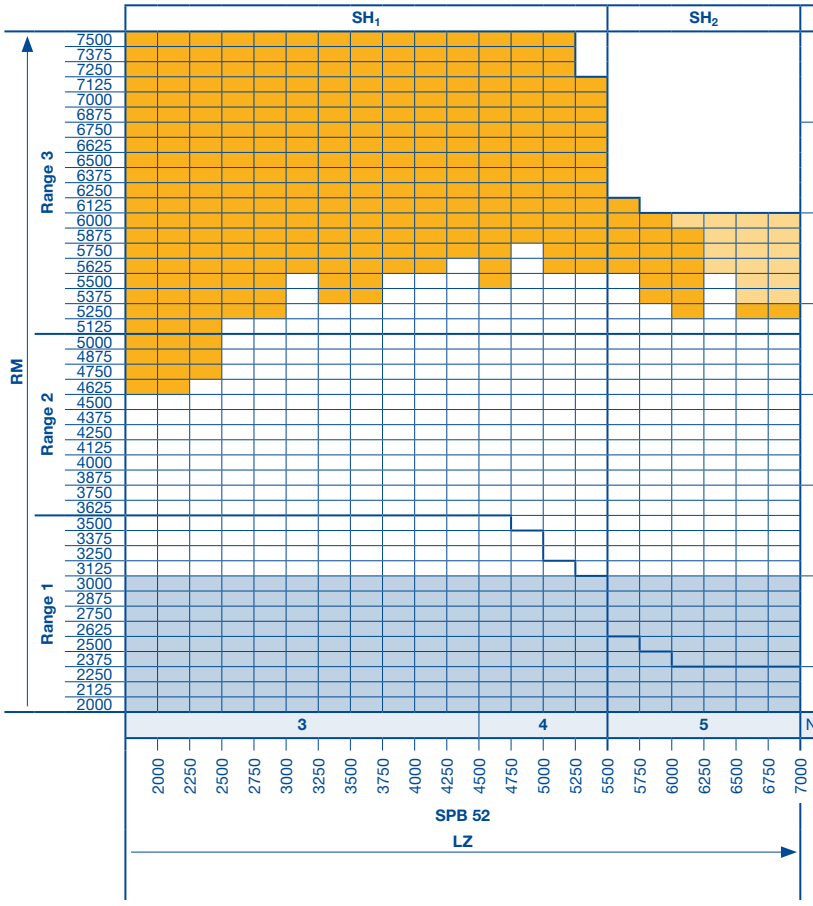
Wicket door clear passage height (DHS)
= Sn_1 × TH + (bottom section height – 55*)

Sn_1 Number of frames in the wicket door
* Attention: If there is no frame above the wicket door, then – 100 instead of – 55.
** For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Notice:
- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



n_1	Height	RM	DHS	Sn_1	Height
9	7500	7500	2187	2	
		7375	2159		
		7250	2132		
		7125	2104		
		7000	2076		
	6790	6875	2048		
8	6780	6750	2186	2	
		6625	2155		
		6500	2124		
		6375	2093		
		6250	2061		
	6040	6125	2030		
7	6030	6000	2185	2	
		5875	2149		
		5750	2114		
		5625	2078		
		5500	2042		
	5290	5375	2006		
6	5280	5250	2183	2	
		5125	2142		
		5000	2100		
		4875	2058		
		4750	2017		
	4540	4625	1975		
5	4530	4500	2181	2	
		4375	2131		
		4250	2081		
		4125	2031		
		4000	1981		
	3790	3875	1931		
4	3780	3750	2178	2	
		3625	2115		
		3500	2053		
		3375	1990		
		3250	1928		
	3040	3125	1865		
3	3030	3000	2172	2	
		2875	2088		
		2750	2005		
		2625	1922		
		2500	1838		2430
	2290	2375	2240	3	2420
2	2280	2250	2115	2	
		2125	1990		
	2000	2000	1865		2000

Number of infills/fields per aluminium frame

Notices:
- For versions with real glass infill in the wicket door, the threshold height **SH_2** begins at LZ 4510 mm.
- Glazing S4, U4, A4, B4, M4, XU on request.

On request: torsion spring shaft or direct drive operator
On request and only direct drive operator S140 with high-lift track application
For information on trap guard, see page 5
Range change

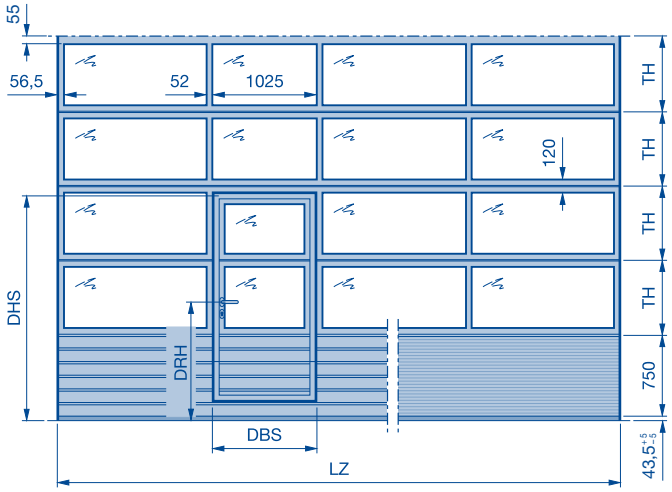
DHS Wicket door clear passage height
DBS Wicket door clear passage width

DRH Lever height
LZ Clear frame dimensions **(from 1750)**
RM Grid height
SPB Rail width
SH_1 Threshold height **(rising from 5 to 10)**
SH_2 Threshold height **(approx. 13)**
n_1 Number of aluminium frames
Sn_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional door APU 67 Thermo with wicket door and threshold rail

Glazed aluminium sectional door with thermal break, with steel bottom section, bottom section height 750

External view



Lever height on request

Wicket door clear passage width (DBS) = 905 mm*

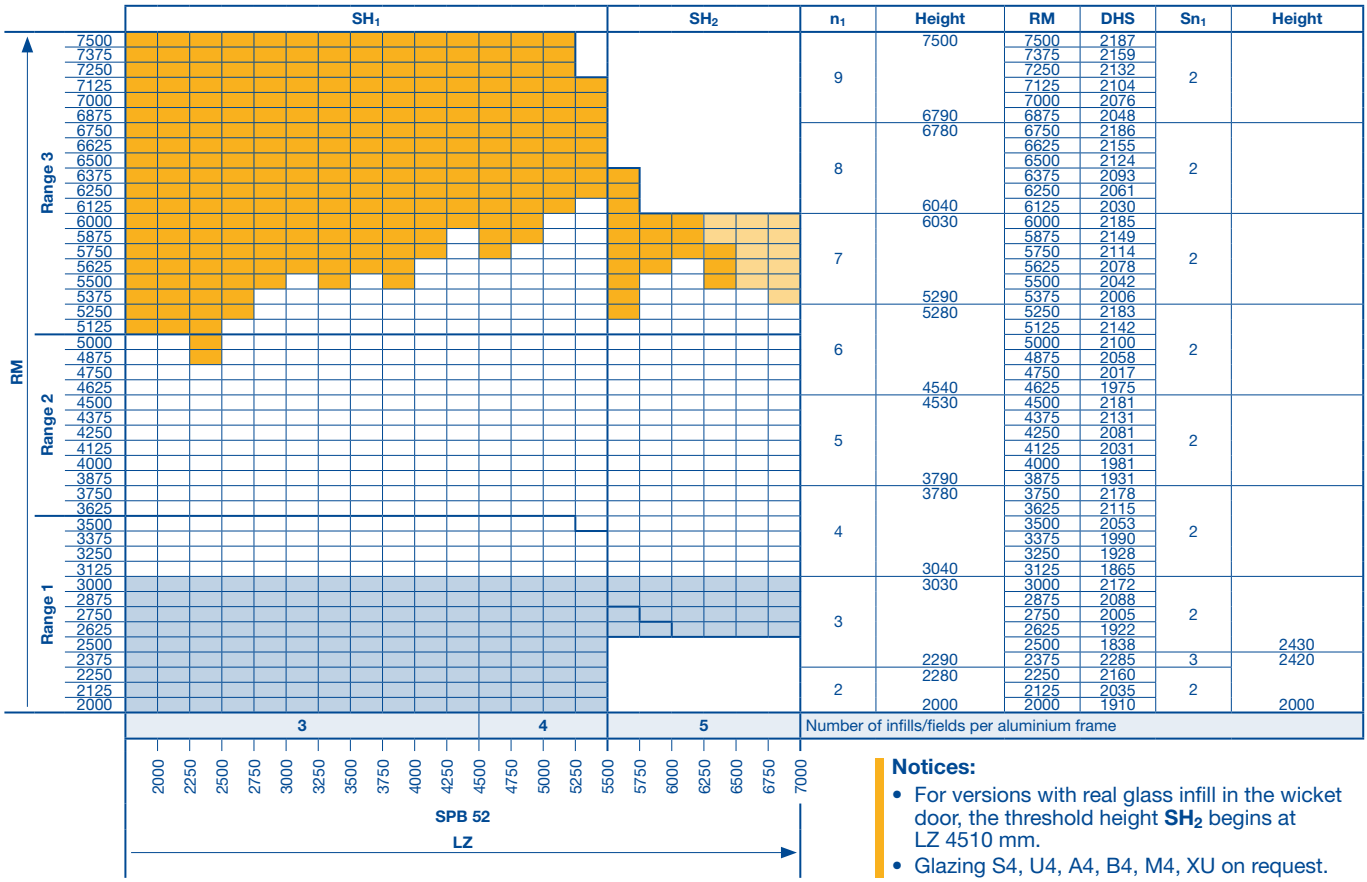
Wicket door clear passage height (DHS)
= Sn_1 × TH + (bottom section height – 55)

Sn_1 Number of frames in the wicket door
* For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Notice:
- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- Bottom door section made of 375 / 500 mm section and 2 × 125 mm aluminium bottom profile for door widths > 5500 mm.
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



n_1	Height	RM	DHS	Sn_1	Height
9	7500	7500	2187	2	
		7375	2159		
		7250	2132		
		7125	2104		
		7000	2076		
	6790	6875	2048		
8	6780	6750	2186	2	
		6625	2155		
		6500	2124		
		6375	2093		
		6250	2061		
	6040	6125	2030		
7	6030	6000	2185	2	
		5875	2149		
		5750	2114		
		5625	2078		
		5500	2042		
	5290	5375	2006		
6	5280	5250	2183	2	
		5125	2142		
		5000	2100		
		4875	2058		
		4750	2017		
	4540	4625	1975		
5	4530	4500	2181	2	
		4375	2131		
		4250	2081		
		4125	2031		
		4000	1981		
	3790	3875	1931		
4	3780	3750	2178	2	
		3625	2115		
		3500	2053		
		3375	1990		
		3250	1928		
	3040	3125	1865		
3	3030	3000	2172	2	
		2875	2088		
		2750	2005		
		2625	1922		
		2500	1838		2430
	2290	2375	2285	3	2420
2	2280	2250	2160		
		2125	2035	2	
	2000	2000	1910		2000

Number of infills/fields per aluminium frame

Notices:
- For versions with real glass infill in the wicket door, the threshold height **SH_2** begins at LZ 4510 mm.
- Glazing S4, U4, A4, B4, M4, XU on request.

On request: torsion spring shaft or direct drive operator
On request and only direct drive operator S140 with high-lift track application
For information on trap guard, see page 5
Range change

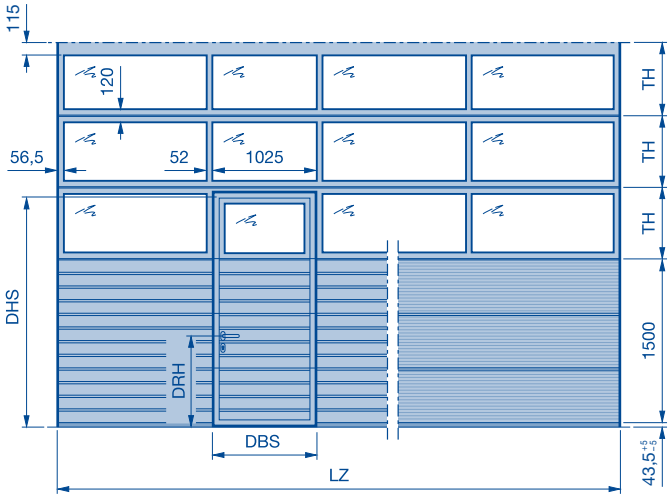
DHS Wicket door clear passage height
DBS Wicket door clear passage width

DRH Lever height
LZ Clear frame dimensions **(from 1750)**
RM Grid height
SPB Rail width
SH_1 Threshold height **(215)**
SH_2 Threshold height **(312)**
n_1 Number of aluminium frames
Sn_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional door APU 67 Thermo with wicket door with trip-free threshold

Glazed aluminium sectional door with thermal break, with steel bottom section, bottom section height 1500

External view



Lever height (DRH):

LZ ≤ 6000 = 1080,5

LZ > 6000 = 830,5

Wicket door clear passage width (DBS) = 905 mm*

Wicket door clear passage height (DHS)
= Sn_1 × TH + (bottom section height – 55*)

Sn_1 Number of frames in the wicket door

* Attention: If there is no frame above the wicket door, then – 100 instead of – 55.

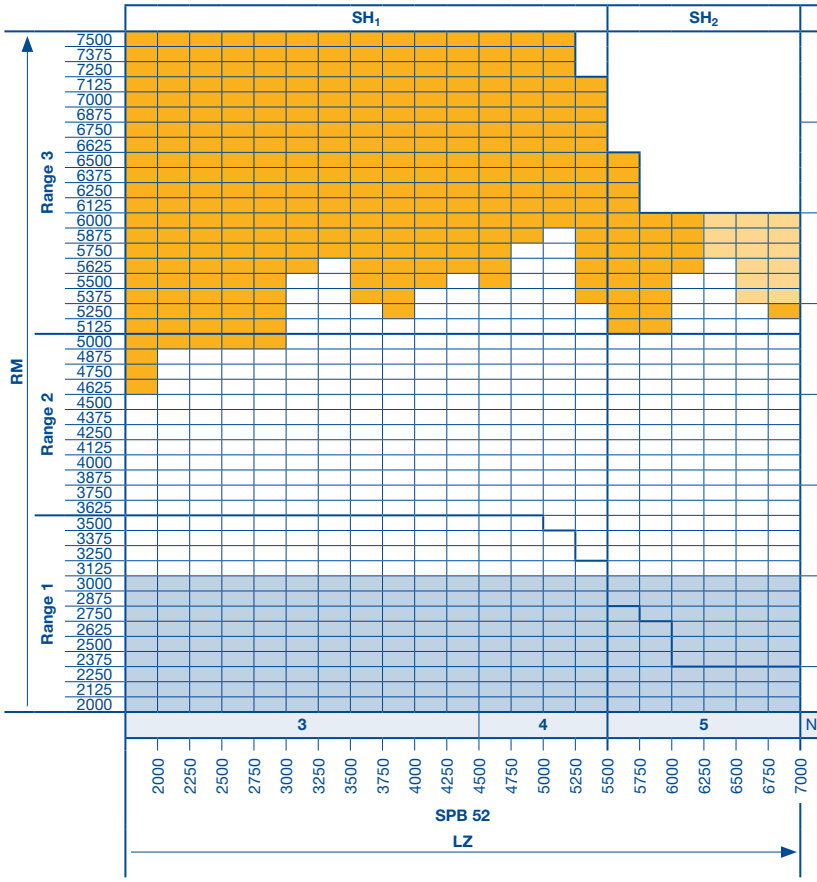
** For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Notice:

- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



n_1	Height	RM	DHS	Sn_1	Height
8	7500	7500	2191	1	
		7375	2175		
		7250	2159		
		7125	2144		
		7000	2128		
	6790	6875	2113		
7	6780	6750	2190	1	
		6625	2172		
		6500	2154		
		6375	2136		
		6250	2119		
	6040	6125	2101		
6	6030	6000	2189	1	
		5875	2168		
		5750	2148		
		5625	2127		
		5500	2106		
	5290	5375	2085		
5	5280	5250	2188	1	
		5125	2163		
		5000	2138		
		4875	2113		
		4750	2088		
	4540	4625	2063		
4	4530	4500	2186	1	
		4375	2155		
		4250	2124		
		4125	2093		
		4000	2061		
	3790	3875	2030		
3	3780	3750	2183	1	
		3625	2142		
		3500	2100		
		3375	2058		
		3250	2017		
	3040	3125	1975		
2	3030	3000	2178	1	
		2875	2115		
		2750	2053		
		2625	1990		
		2500	1928		
	2290	2375	1865		
1	2280	2250	2115		
		2125	1990		
	2000	2000	1865		

Number of infills/fields per aluminium frame

Notices:

- For versions with real glass infill in the wicket door, the threshold height **SH_2** begins at LZ 4510 mm.
- Glazing S4, U4, A4, B4, M4, XU on request.

On request: torsion spring shaft or direct drive operator

On request and only direct drive operator S140 with high-lift track application

For information on trap guard, see page 5

Range change

DHS Wicket door clear passage height

DBS Wicket door clear passage width

DRH Lever height

LZ Clear frame dimensions **(from 1750)**

RM Grid height

SPB Rail width

SH_1 Threshold height **(rising from 5 to 10)**

SH_2 Threshold height **(approx. 13)**

n_1 Number of aluminium frames

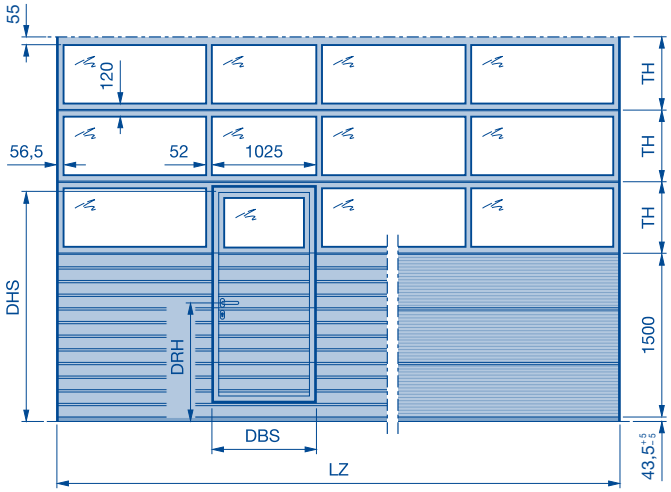
Sn_1 Number of aluminium frames in the wicket door

TH Door section height

Sectional door APU 67 Thermo with wicket door and threshold rail

Glazed aluminium sectional door with thermal break, with steel bottom section, bottom section height 1500

External view



Lever height on request

Wicket door clear passage width (DBS) = 905 mm*

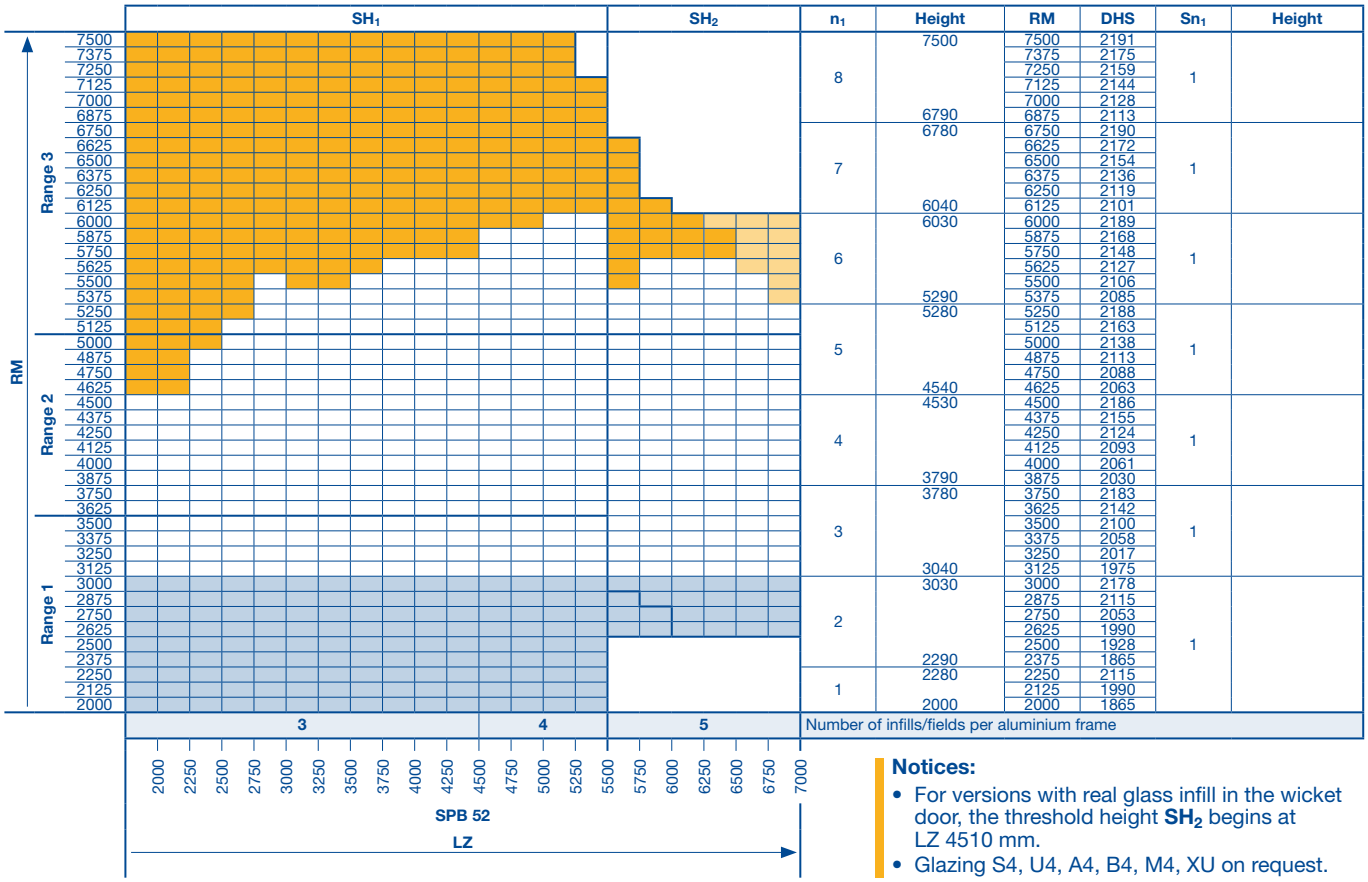
Wicket door clear passage height (DHS)
= Sn_1 × TH + (bottom section height – 55)

Sn_1 Number of frames in the wicket door
* For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Notice:
- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- Bottom door section made of 375 / 500 mm section and 2 × 125 mm aluminium bottom profile for door widths > 5500 mm.
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



n_1	Height	RM	DHS	Sn_1	Height
8	7500	7500	2191	1	
		7375	2175		
		7250	2159		
		7125	2144		
		7000	2128		
	6790	6875	2113		
7	6780	6750	2190	1	
		6625	2172		
		6500	2154		
		6375	2136		
		6250	2119		
	6040	6125	2101		
6	6030	6000	2189	1	
		5875	2168		
		5750	2148		
		5625	2127		
		5500	2106		
	5290	5375	2085		
5	5280	5250	2188	1	
		5125	2163		
		5000	2138		
		4875	2113		
		4750	2088		
	4540	4625	2063		
4	4530	4500	2186	1	
		4375	2155		
		4250	2124		
		4125	2093		
		4000	2061		
	3790	3875	2030		
3	3780	3750	2183	1	
		3625	2142		
		3500	2100		
		3375	2058		
		3250	2017		
	3040	3125	1975		
2	3030	3000	2178	1	
		2875	2115		
		2750	2053		
		2625	1990		
		2500	1928		
	2290	2375	1865		
1	2280	2250	2115		
		2125	1990		
	2000	2000	1865		

Number of infills/fields per aluminium frame

Notices:
- For versions with real glass infill in the wicket door, the threshold height **SH_2** begins at LZ 4510 mm.
- Glazing S4, U4, A4, B4, M4, XU on request.

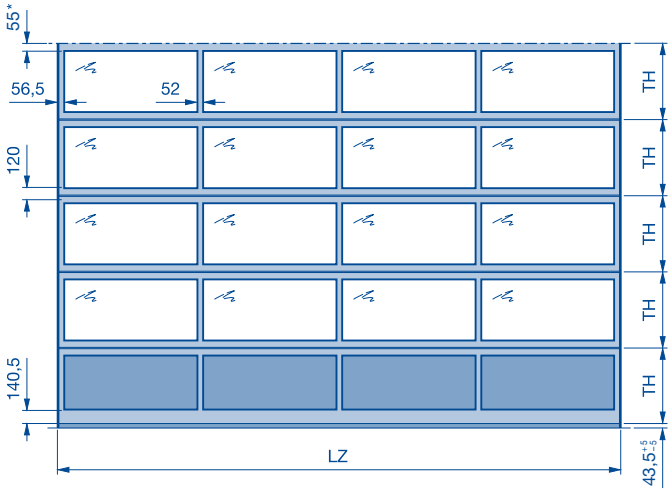
On request: torsion spring shaft or direct drive operator
On request and only direct drive operator S140 with high-lift track application
For information on trap guard, see page 5
Range change

DHS Wicket door clear passage height
DBS Wicket door clear passage width
DRH Lever height
LZ Clear frame dimensions **(from 1750)**
RM Grid height
SPB Rail width
SH_1 Threshold height **(215)**
SH_2 Threshold height **(312)**
n_1 Number of aluminium frames
Sn_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional door ALR 67 Thermo

Glazed aluminium sectional door with thermal break

External view



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

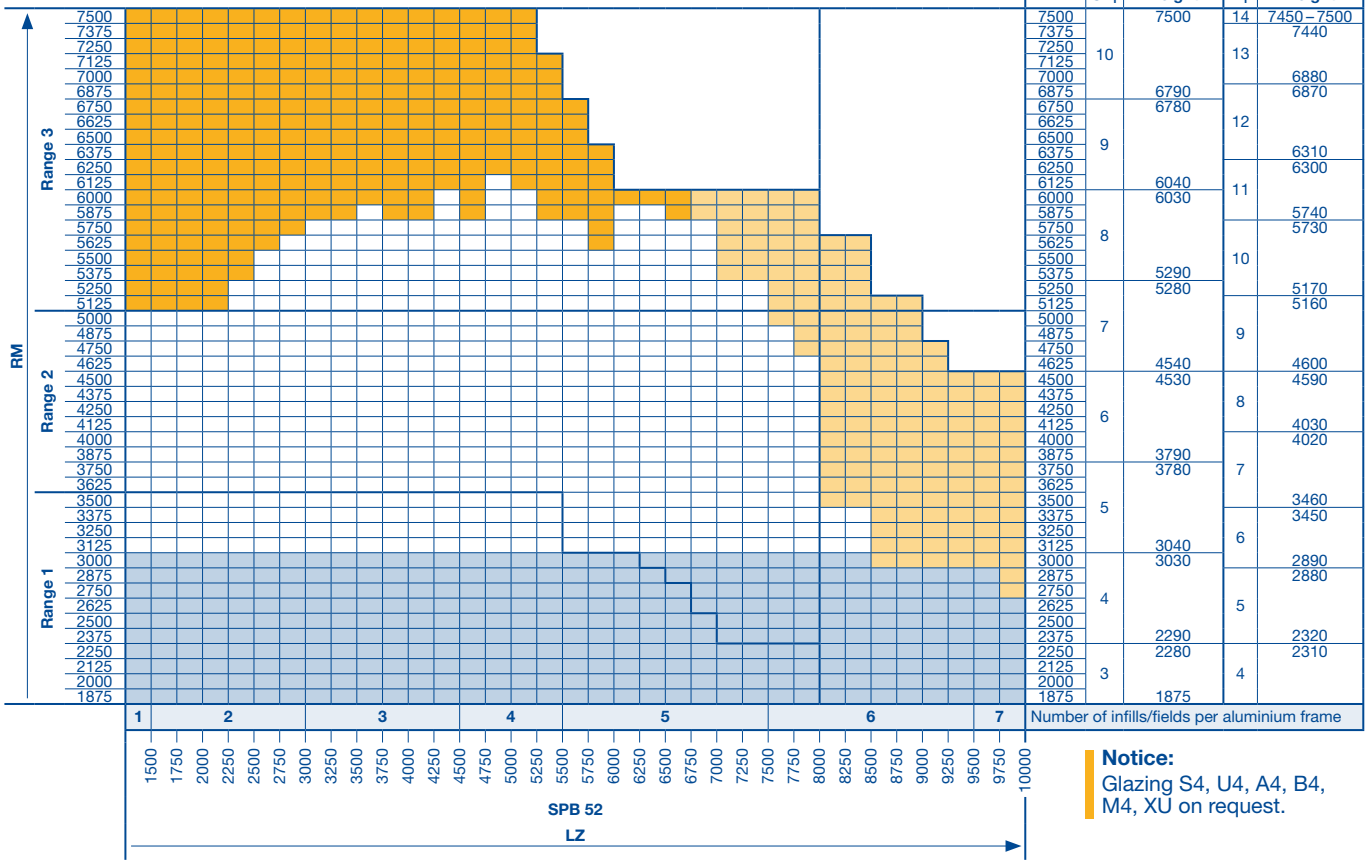
* On request 115 mm, in order to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.

Notice:

- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For door widths from 5510 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 door see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



RM	LZ ≤ 8000		LZ > 8000	
	Sn_1	Height	n_1	Height
7500	10	7500	14	7450 – 7500
7375				7440
7250			13	
7125				
7000				6880
6875		6790		6870
6750	9	6780	12	
6625				
6500				
6375				6310
6250				6300
6125		6040	11	
6000	8	6030		
5875				5740
5750				5730
5625			10	
5500				
5375		5290		
5250	7	5280		5170
5125				5160
5000			9	
4875				
4750				
4625		4540		4600
4500	6	4530		4590
4375			8	
4250				
4125				4030
4000				4020
3875		3790		
3750	5	3780	7	
3625				
3500				3460
3375				3450
3250			6	
3125		3040		
3000	4	3030		2890
2875				2880
2750			5	
2625				
2500				
2375		2290		2320
2250	3	2280		2310
2125			4	
2000				
1875		1875		

Notice:
Glazing S4, U4, A4, B4, M4, XU on request.

On request: torsion spring shaft or direct drive operator

On request and only direct drive operator S140 with high-lift track application

For information on trap guard, see page 5

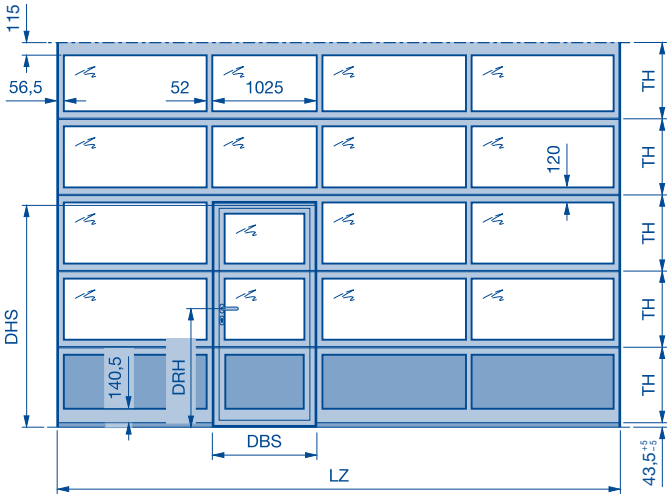
Range change

n_1	Number of aluminium frames
Sn_1	Number of aluminium frames in the wicket door
RM	Grid height
LZ	Clear frame dimensions **(from 1200)**
SPB	Rail width
TH	Door section height

Sectional door ALR 67 Thermo with wicket door with trip-free threshold

Glazed aluminium sectional door with thermal break

External view



Lever height on request

Wicket door clear passage width (DBS) = 905 mm*

Wicket door clear passage height (DHS) = $Sn_1 \times TH - 55$*

Sn_1 Number of frames in the wicket door

* Attention: If there is no frame above the wicket door, then – 100 instead of – 55.

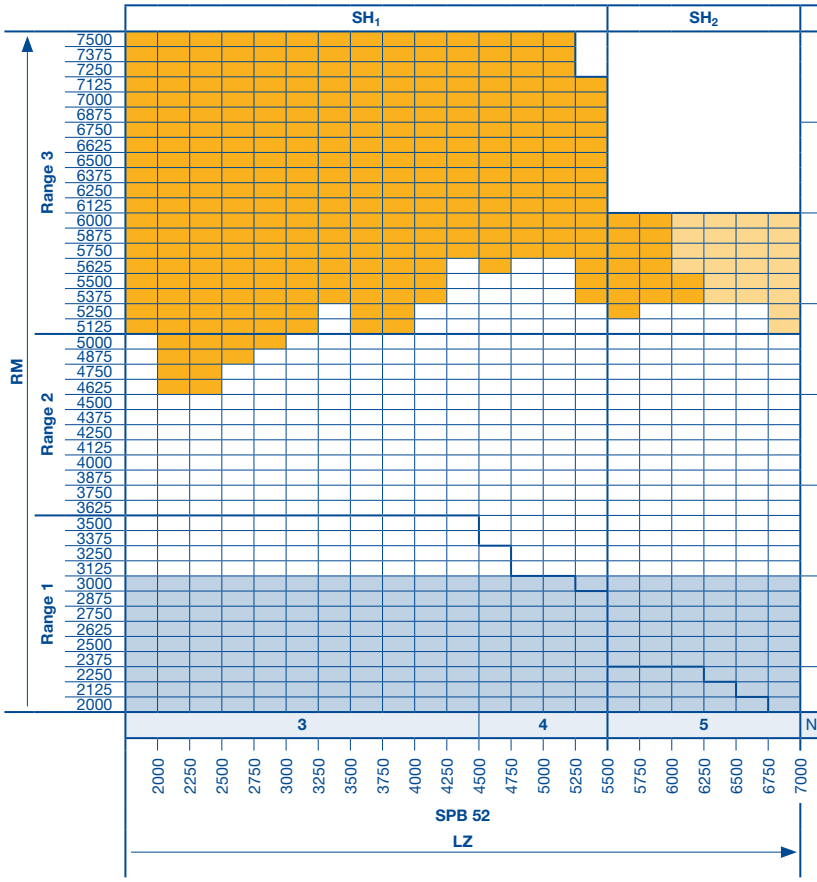
** For a door width of 1750 – 1840 mm, the clear passage width is 833 mm.

Notice:

- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For door widths from 5510 mm (from 4510 mm with real glass infill in the wicket door), 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 door, see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



n_1	Height	RM	DHS	Sn_1	Height
10	7500	7500	2185	3	
		7375	2147		
		7250	2110		
		7125	2072		
		7000	2035		
	6790	6875	1997		
9	6780	6750	2183	3	
		6625	2142		
		6500	2100		
		6375	2058		
		6250	2017		
	6040	6125	1975		
8	6030	6000	2182	3	
		5875	2135		
		5750	2088		
		5625	2041		
		5500	1994		
	5290	5375	1948		
7	5280	5250	2180	3	
		5125	2126		
		5000	2073		
		4875	2019		
		4750	1966		
	4540	4625	1912		
6	4530	4500	2178	3	
		4375	2115		
		4250	2053		
		4125	1990		
		4000	1928		
	3790	3875	1865		
5	3780	3750	2174	3	
		3625	2099		
		3500	2024		
		3375	1949		
		3250	1874		
	3040	3125	1799		
4	3030	3000	2169	3	
		2875	2075		
		2750	1981		
		2625	1888		
		2500	1794		2500
	2290	2375	2285	4	2490
3	2280	2250	2115		
		2125	1990	3	
	2000	2000	1865		

Number of infills/fields per aluminium frame

Notices:

- For versions with real glass infill in the wicket door, the threshold height **SH_2** begins at LZ 4510 mm.
- Glazing S4, U4, A4, B4, M4, XU on request.

On request: torsion spring shaft or direct drive operator

On request and only direct drive operator S140 with high-lift track application

For information on trap guard, see page 5

Range change

DHS Wicket door clear passage height

DBS Wicket door clear passage width

DRH Lever height

LZ Clear frame dimensions **(from 1750)**

RM Grid height

SPB Rail width

SH_1 Threshold height **(rising from 5 to 10)**

SH_2 Threshold height **(approx. 13)**

n_1 Number of aluminium frames

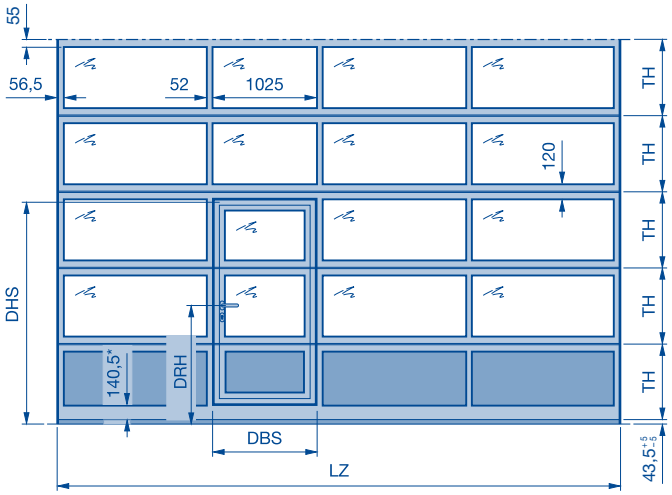
Sn_1 Number of aluminium frames in the wicket door

TH Door section height

Sectional door ALR 67 Thermo with wicket door and threshold rail

Glazed aluminium sectional door with thermal break

External view



Lever height on request

Wicket door clear passage width (DBS) = 905 mm*

Wicket door clear passage height (DHS) = $Sn_1 \times TH - 55$

Sn_1 Number of frames in the wicket door
* 265.5 with SH_2
** For a door width of 1750 – 1840 mm, the clear passage width is 798 mm.

Notice:
- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- For a view of the matching appearance with doors without wicket door, see pages 26 – 28.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.

RM	SH_1	SH_2	n_1	Height	RM	DHS	Sn_1	Height
Range 3	7500		10	7500	7500	2185	3	
	7375				7375	2147		
	7250				7250	2110		
	7125				7125	2072		
	7000				7000	2035		
	6875			6790	6875	1997		
	6750		9	6780	6750	2183	3	
	6625				6625	2142		
	6500				6500	2100		
	6375				6375	2058		
	6250				6250	2017		
	6125			6040	6125	1975		
	6000		8	6030	6000	2182	3	
	5875				5875	2135		
	5750				5750	2088		
	5625				5625	2041		
	5500				5500	1994		
	5375			5290	5375	1948		
	5250		7	5280	5250	2180	3	
	5125				5125	2126		
Range 2	5000				5000	2073		
	4875				4875	2019		
	4750				4750	1966		
	4625			4540	4625	1912		
	4500		6	4530	4500	2178	3	
	4375				4375	2115		
	4250				4250	2053		
	4125				4125	1990		
	4000				4000	1928		
	3875			3790	3875	1865		
	3750		5	3780	3750	2174	3	
	3625				3625	2099		
Range 1	3500				3500	2024		
	3375				3375	1949		
	3250				3250	1874		
	3125			3040	3125	1799		
	3000		4	3030	3000	2169	3	
	2875				2875	2075		
	2750				2750	1981		
	2625				2625	1888		
	2500				2500	1794		2500
	2375			2290	2375	2285	4	2490
	2250		3	2280	2250	2160	3	
	2125				2125	2035		
	2000			2000	2000	1910		
	3	4	5	Number of infills/fields per aluminium frame				

2000 2250 2500 2750 3000 3250 3500 3750 4000 4250 4500 4750 5000 5250 5500 5750 6000 6250 6500 6750 7000

SPB 52

LZ

Notices:
- For versions with real glass infill in the wicket door, the threshold height **SH_2** begins at LZ 4510 mm.
- Glazing S4, U4, A4, B4, M4, XU on request.

On request: torsion spring shaft or direct drive operator

On request and only direct drive operator S140 with high-lift track application

For information on trap guard, see page 5

Range change

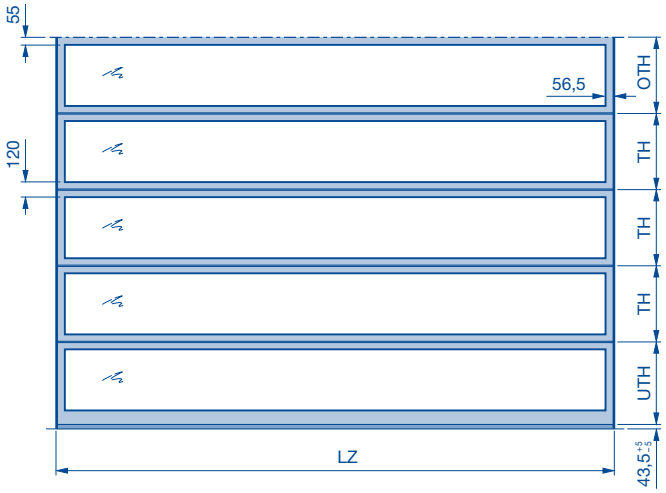
DHS Wicket door clear passage height
DBS Wicket door clear passage width

DRH Lever height
LZ Clear frame dimensions **(from 1750)**
RM Grid height
SPB Rail width
SH_1 Threshold height **(187)**
SH_2 Threshold height **(312)**
n_1 Number of aluminium frames
Sn_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional door ALR 67 Thermo Glazing

Aluminium sectional door with large glazing and thermal break, real glass

External view



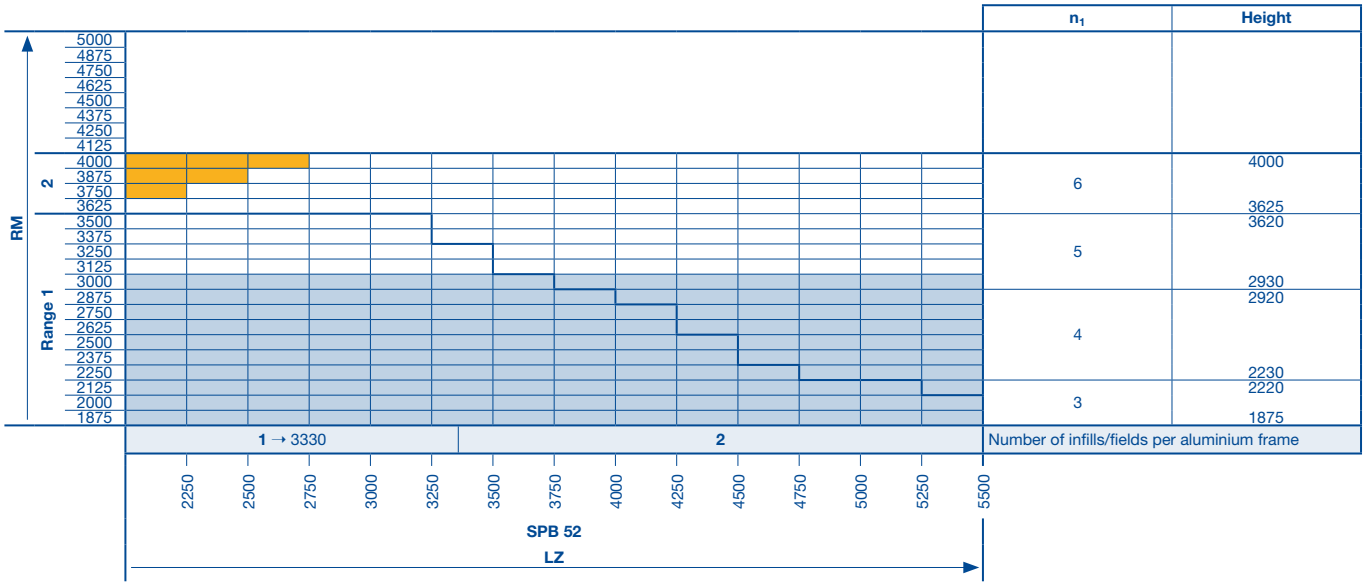
$$TH = \frac{\text{Door height} - 119}{\text{Number of door section frames}}$$

UTH = TH + 84 ≤ 785
OTH = TH 35

Notice:
- When using a shaft operator (fitting example 5), the door lock is always on the side opposite the operator.
- All track applications on request.

Size range

The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account. Possible for any door width in 10 mm increments.



on request

For information on trap guard, see page 5

Range change

RM Grid height
LZ Clear frame dimensions **(from 2000)**

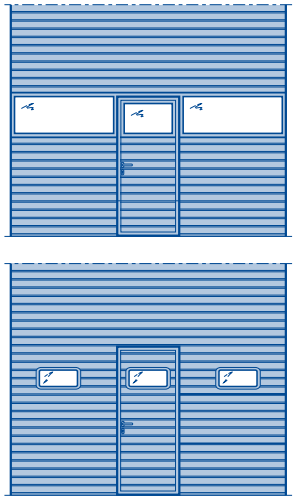
→ up to LZ
SPB Rail width
n_1 Number of aluminium frames
UTH Bottom door section height
TH Door section height
OTH Top door section height

Glazing / wicket door arrangements

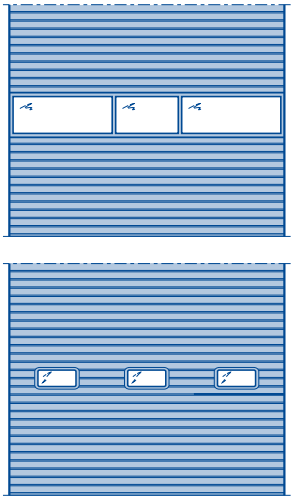
Sectional doors with 3 infills / fields

Glazing arrangements – external view

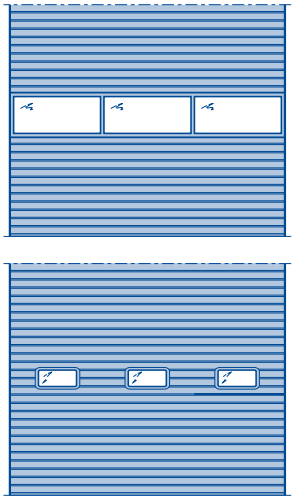
Sectional door SPU 67 Thermo
with wicket door with trip-free threshold



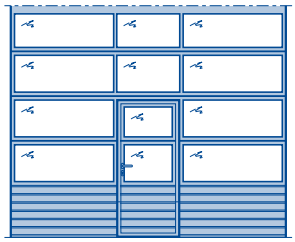
Sectional door SPU 67 Thermo,
matching doors with wicket door



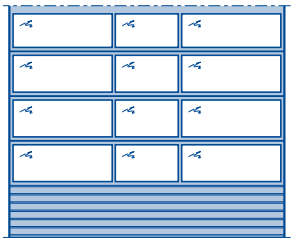
Sectional door SPU 67 Thermo
with standard window division



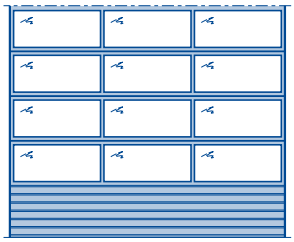
Sectional door APU 67 Thermo
with wicket door with trip-free threshold



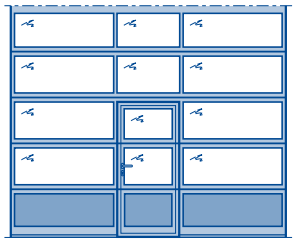
Sectional door APU 67 Thermo,
matching doors with wicket door



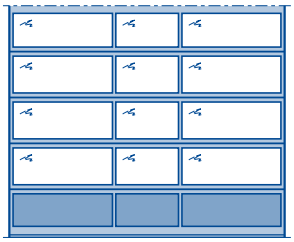
Sectional door APU 67 Thermo
with standard window division



Sectional door ALR 67 Thermo
with wicket door with trip-free threshold

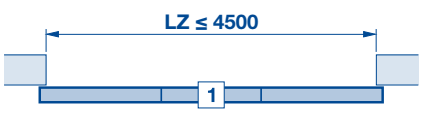


Sectional door ALR 67 Thermo,
matching doors with wicket door



Sectional door ALR 67 Thermo
with standard window division

Arrangement of the wicket door



Notices:

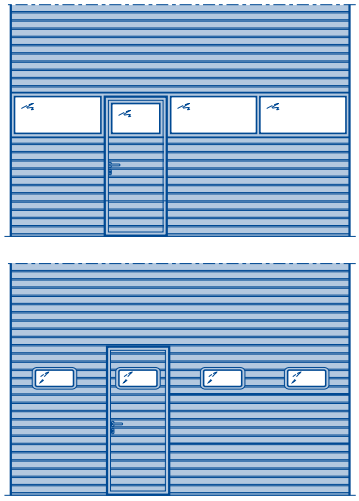
- Wicket door clear passage width (DBS) = 905 mm.
- Wicket door only opening outwards.

Glazing / wicket door arrangements

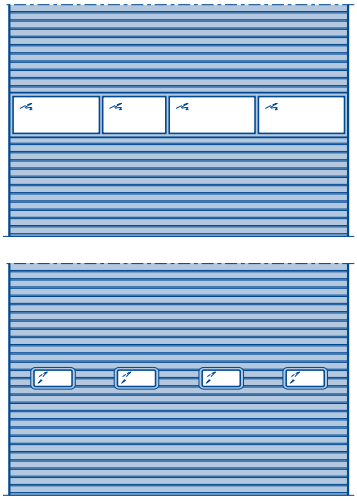
Sectional doors with 4 infills / fields

Glazing arrangements – external view

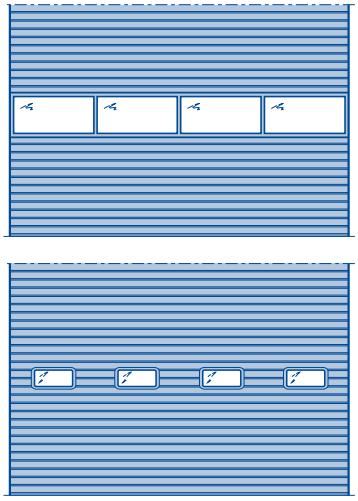
Sectional door SPU 67 Thermo
with wicket door with trip-free threshold



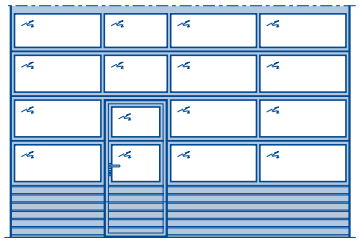
Sectional door SPU 67 Thermo,
matching doors with wicket door



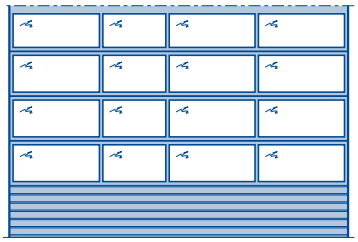
Sectional door SPU 67 Thermo
with standard window division



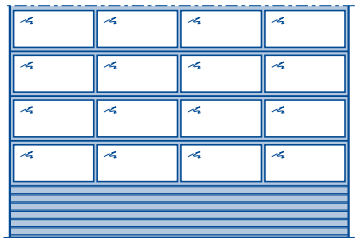
Sectional door APU 67 Thermo
with wicket door with trip-free threshold



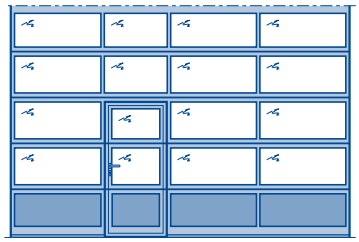
Sectional door APU 67 Thermo,
matching doors with wicket door



Sectional door APU 67 Thermo
with standard window division

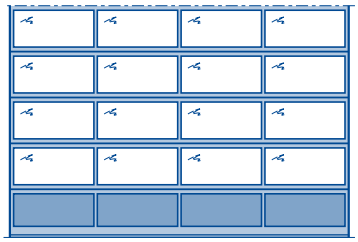


Sectional door ALR 67 Thermo
with wicket door with trip-free threshold

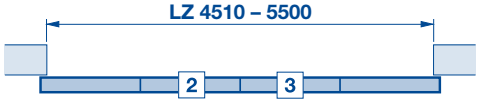


Sectional door ALR 67 Thermo,
matching doors with wicket door

Sectional door ALR 67 Thermo
with standard window division



Arrangement of the wicket door



Notices:

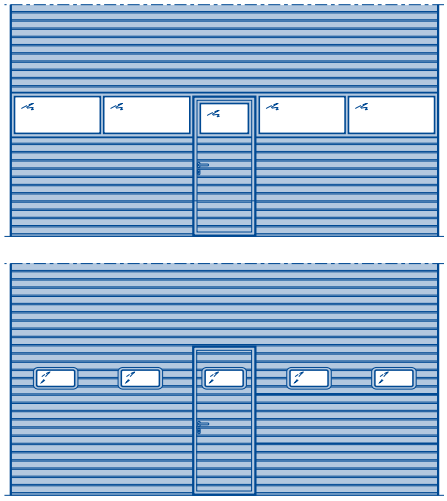
- Wicket door clear passage width (DBS) = 905 mm.
- Wicket door only opening outwards.

Glazing / wicket door arrangements

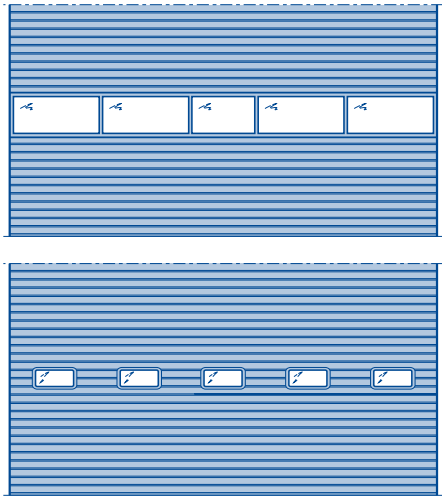
Sectional doors with 5 infills / fields

Glazing arrangements – external view

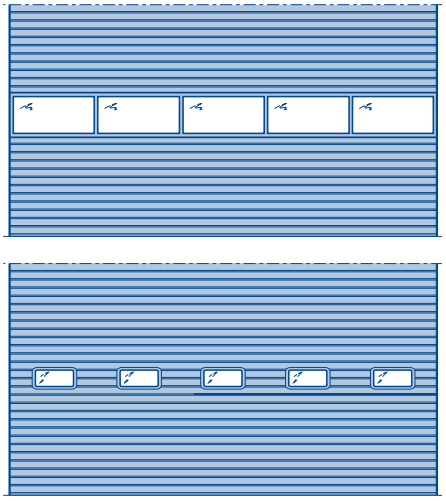
Sectional door SPU 67 Thermo
with wicket door with trip-free threshold



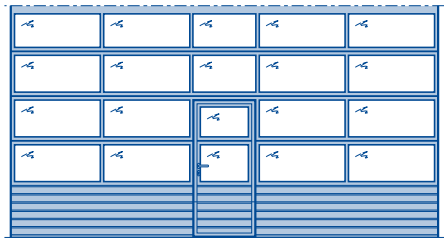
Sectional door SPU 67 Thermo,
matching doors with wicket door



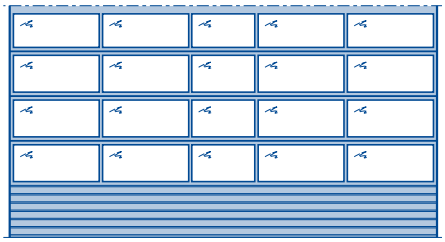
Sectional door SPU 67 Thermo
with standard window division



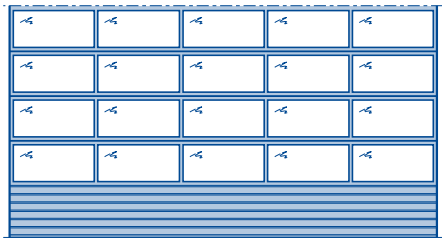
Sectional door APU 67 Thermo
with wicket door with trip-free threshold



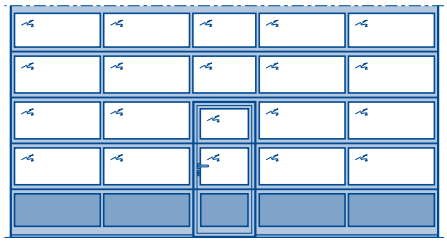
Sectional door APU 67 Thermo,
matching doors with wicket door



Sectional door APU 67 Thermo
with standard window division

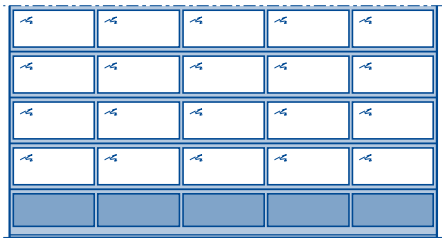


Sectional door ALR 67 Thermo
with wicket door with trip-free threshold

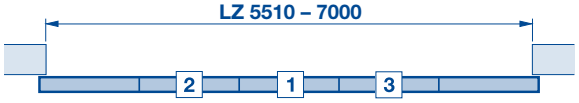


Sectional door ALR 67 Thermo,
matching doors with wicket door

Sectional door ALR 67 Thermo
with standard window division



Arrangement of the wicket door



Notices:

- Wicket door clear passage width (DBS) = 905 mm.
- Wicket door only opening ou®©®twards.

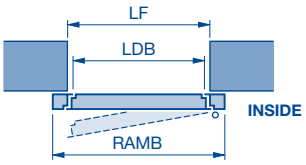
Side door NT 80 Thermo

Possible handing options

Fitting in the opening
Fitting next to the door, opening inwards or outwards, RH or LH hinged

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

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



Structural opening	Ordering size Overall frame dimensions RAMB × RAMH
875 × 2000	855 × 1990
875 × 2125	855 × 2115
1000 × 2000	980 × 1990
1000 × 2125	980 × 2115
Size range: width: RAM 770 to 1300, height: RAMH 1865 to 2525 **(state overall frame dimensions)** **Doors with multiple-point locking:** RAMH = ≥ 1920 mm	

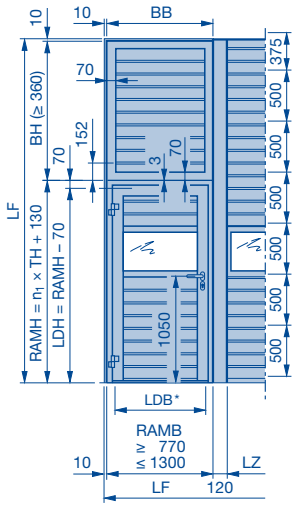
Clear passage dimensions:

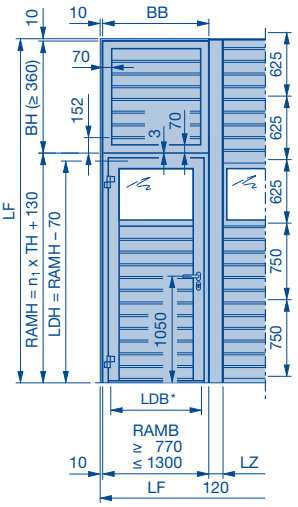
Opening angle	Width	Height
136°	RAMB – 164	RAMH – 70
90°	RAMB – 215	

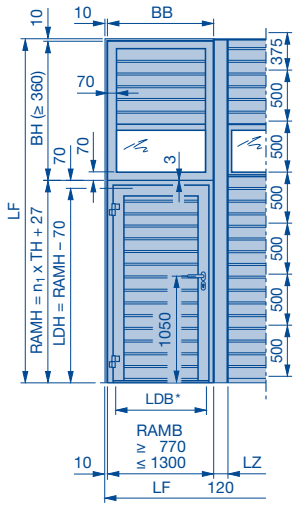
LF Structural opening
RAMB Overall frame width
RAMH Overall frame height
LDB Clear passage width
LDH Clear passage height
LZ Clear frame dimension

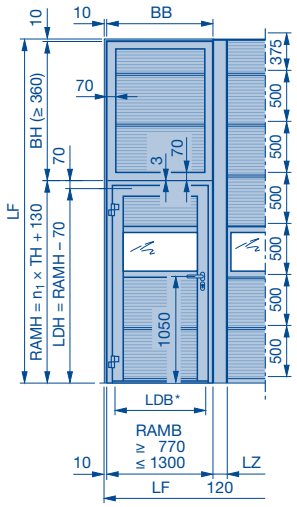
Side door NT 80 Thermo

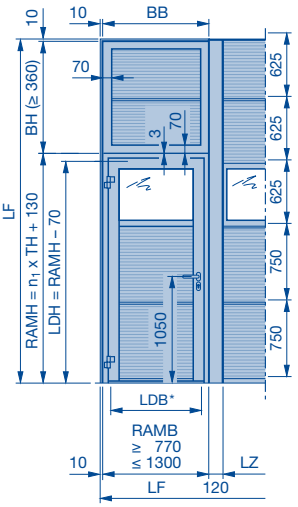
With S-ribbed Stucco-textured / L-ribbed Micrograin infills

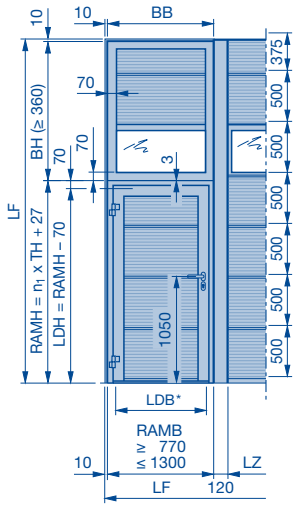






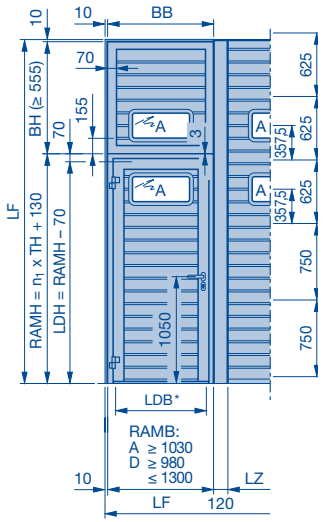


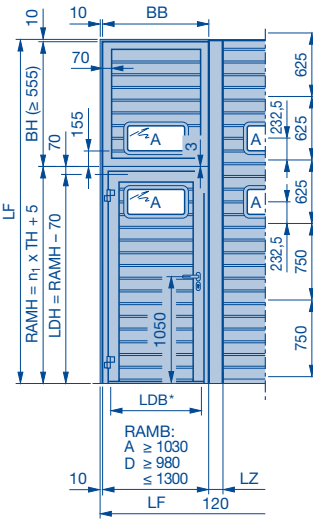


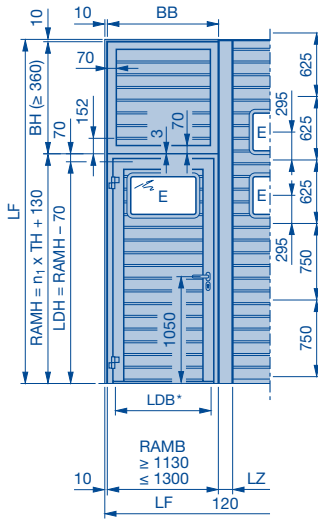


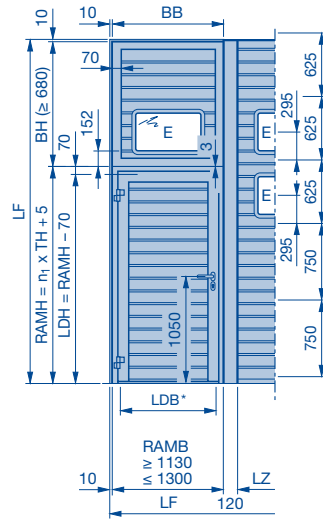
Notice:

- Compound glazing not possible with RC 2 version.







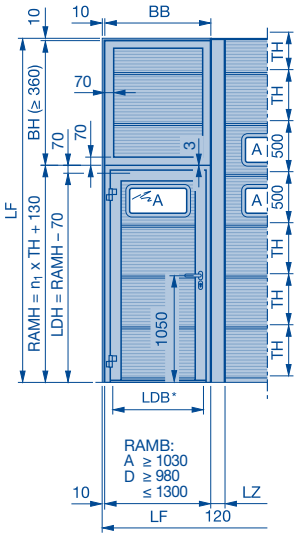


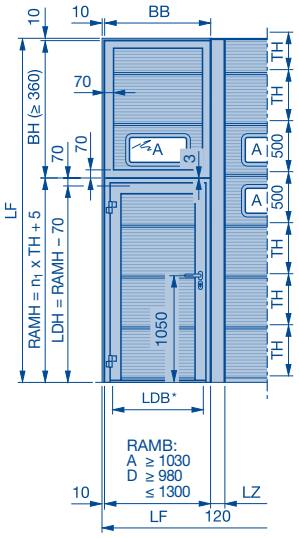
*	See page 29	**BH**	Panel height	**TH**	Door section height
LF	Structural opening	**BB**	Panel width	**SO**	Bottom section height
RAMB	Overall frame width	**LDB**	Clear passage width	**LZ**	Clear frame dimension
RAMH	Overall frame height	**LDH**	Clear passage height	n_1	Number of door sections / aluminium frames

Side door NT 80 Thermo

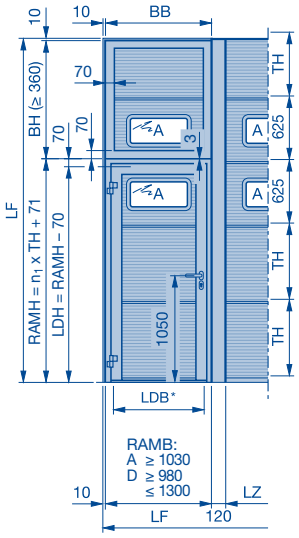
With L-ribbed Micrograin infills

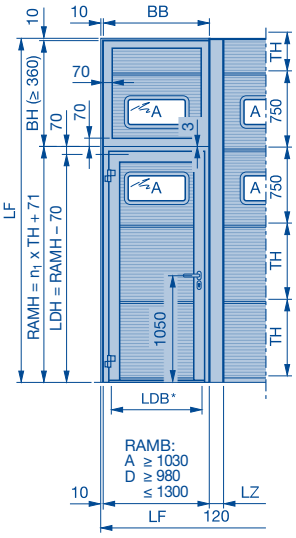
Compound glazing type A TH = 500



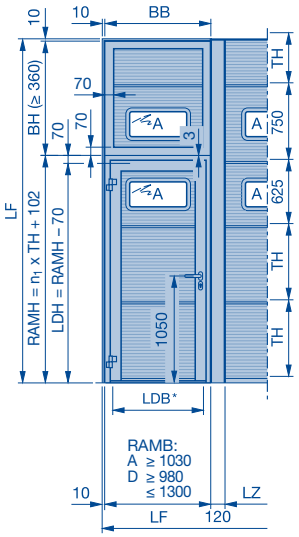


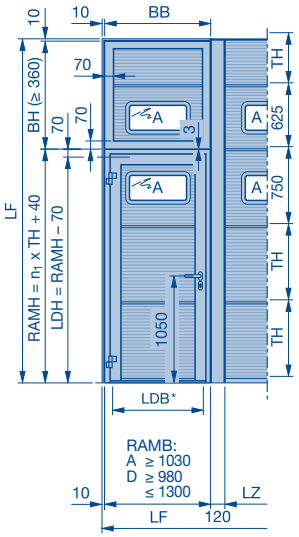
Compound glazing type A TH = 625 and 750



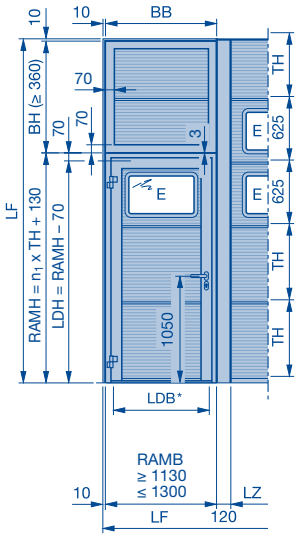


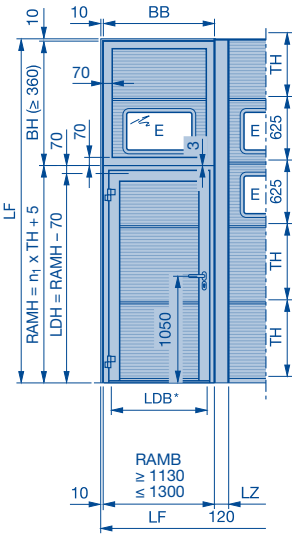
Compound glazing type A TH = 625 / 750 and 750 / 625



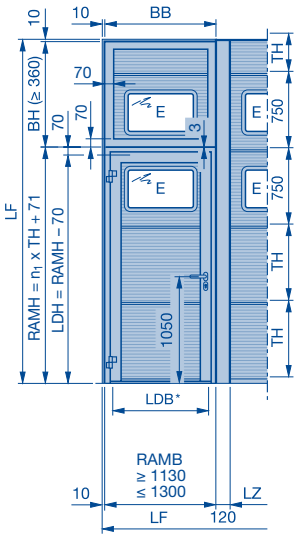


Compound glazing type E TH = 625





Compound glazing type E TH = 750



Notice:

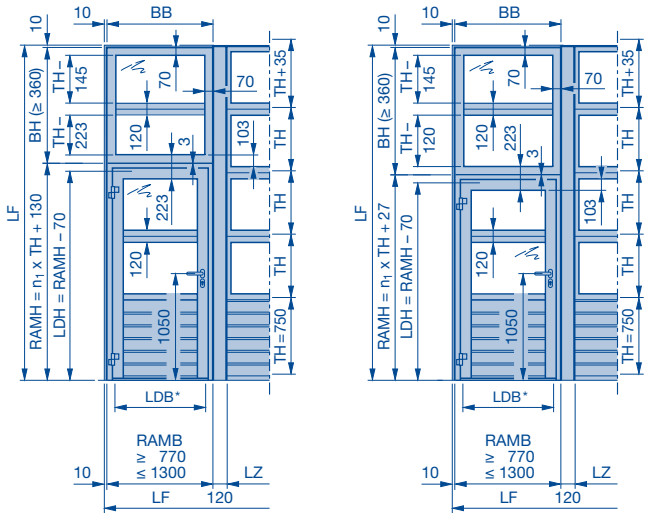
- Compound glazing not possible with RC 2 version.

(Legend see page 30)

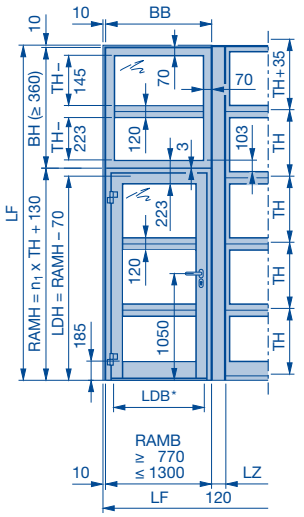
Side door NT 80 Thermo

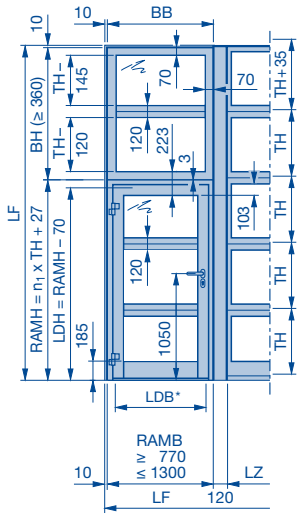
With S-ribbed Stucco-textured / L-ribbed Micrograin infills

Side door NT 80 Thermo matching door type APU 67 Thermo



Side door NT 80 Thermo matching door type ALR 67 Thermo





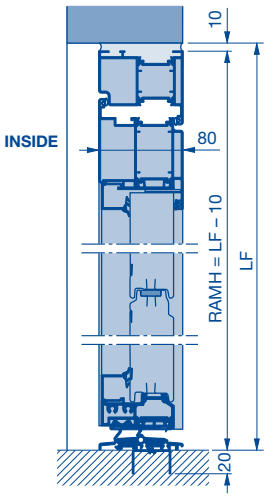
*	See page 29	**BH**	Panel height	**TH**	Door section height
LF	Structural opening	**BB**	Panel width	**SO**	Bottom section height
RAMB	Overall frame width	**LDB**	Clear passage width	**LZ**	Clear frame dimension
RAMH	Overall frame height	**LDH**	Clear passage height	n_1	Number of door sections / aluminium frames

Side door NT 80 Thermo

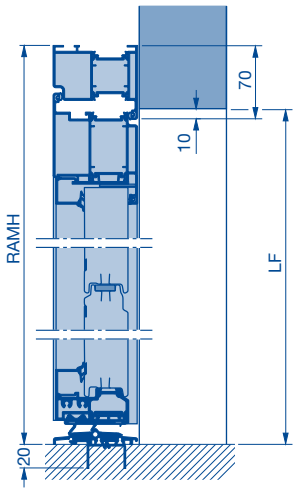
Possible fitting options

Possible fitting options

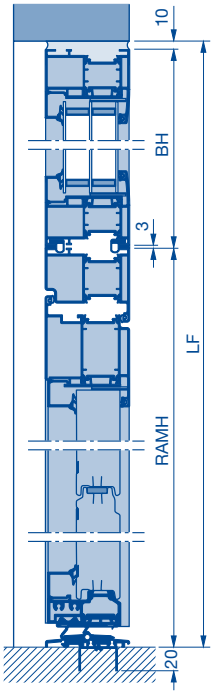
SPU in the opening
without window section,
without compound glazing



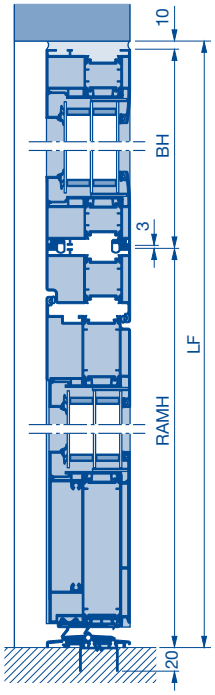
SPU behind the opening
without window section,
without compound glazing



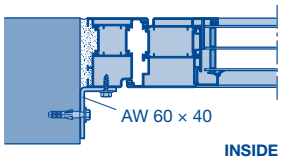
SPU, APU with fascia panel



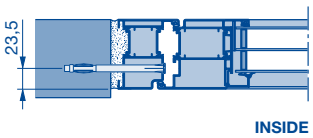
ALR with fascia panel



In the opening



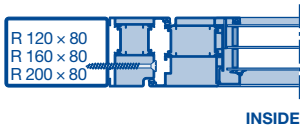
Plugs for metal frame

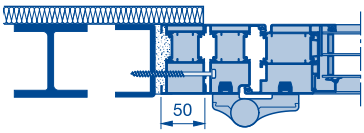


(bottom illustration with 50* mm extension profile for all-over insulation)

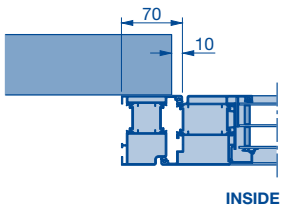
* Optionally with 25 mm

Tapping screw with countersunk head
B 6.3 × 80





Behind the opening



Notice:
Fitting with thermal break requires on-site preparations.

R	Box section	**BH**	Panel height
AW	Aluminium angle	**RAMH**	Overall frame height
SW	Steel angle	**LF**	Structural opening

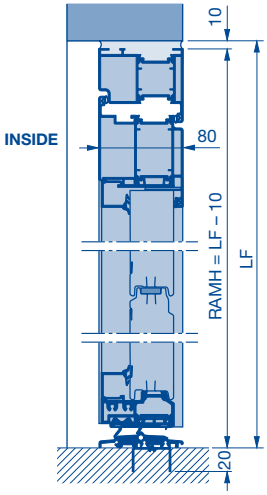
Side door NT 80 Thermo RC 2

Possible fitting options

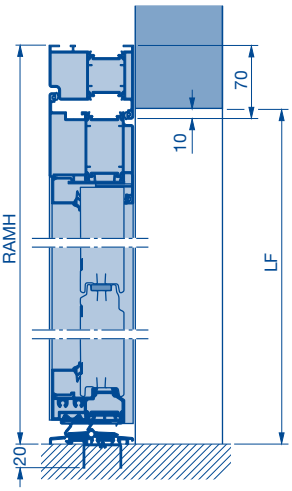
Possible fitting options

Notice:
The side door and panel must be fitted in accordance with DIN EN 1627.

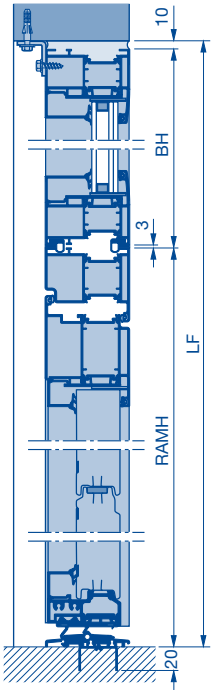
SPU in the opening
without window section,
without compound glazing



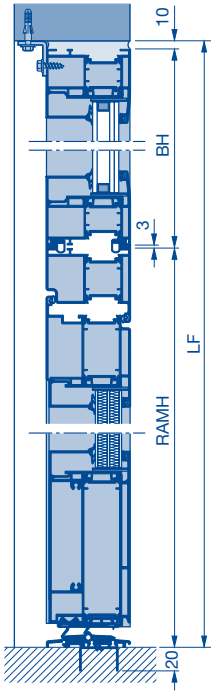
SPU behind the opening
without window section,
without compound glazing



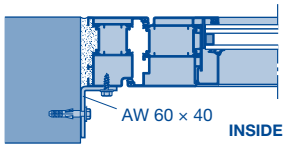
SPU, APU with fascia panel

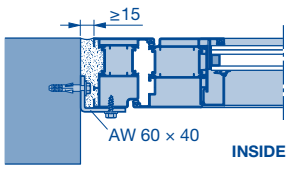


ALR with fascia panel

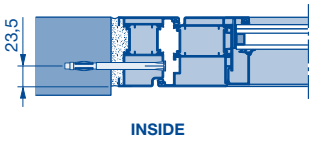


In the opening



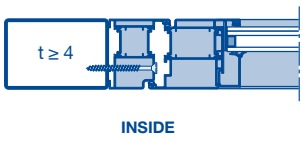


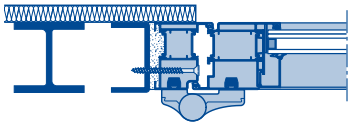
Plugs for metal frame



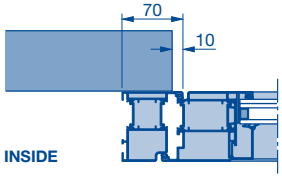
Tapping screw with countersunk head
B 6.3 × 80

Notice:
Only use metal frame dowel and tapping screw with countersunk head when fitting the side door.





Behind the opening



Notice:
Fitting with thermal break requires on-site preparations.

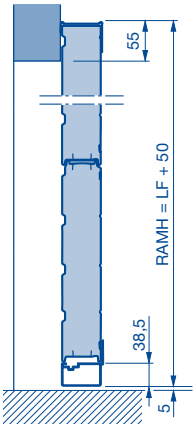
R	Box section	**BH**	Panel height	**LF**	Structural opening
AW	Aluminium angle	**RAMH**	Overall frame height		
SW	Steel angle	**LDB**	Clear passage width		

Fixed elements

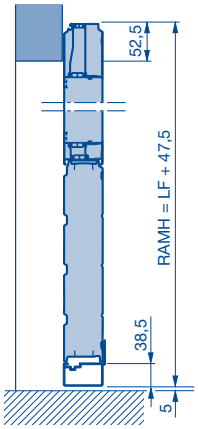
Possible fitting options and fitting examples

Possible fitting options

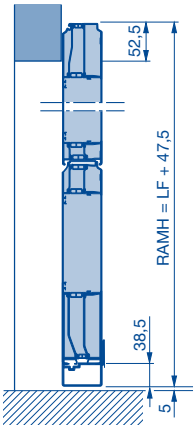
SPU 67 Thermo behind the opening
without window section,
without compound glazing



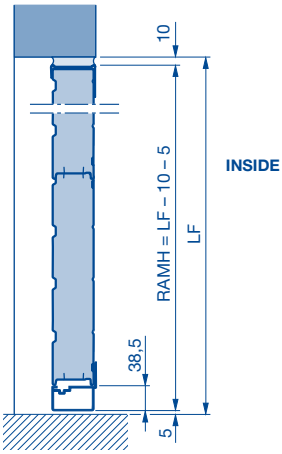
APU 67 Thermo behind the opening



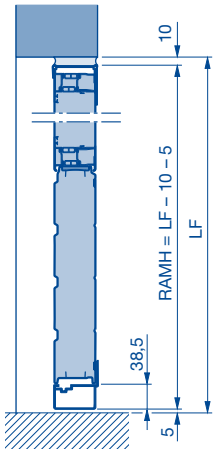
ALR 67 Thermo behind the opening



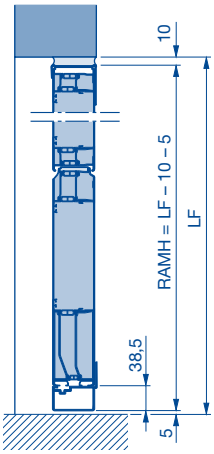
SPU 67 Thermo in the opening
without window section,
without compound glazing



APU 67 Thermo in the opening

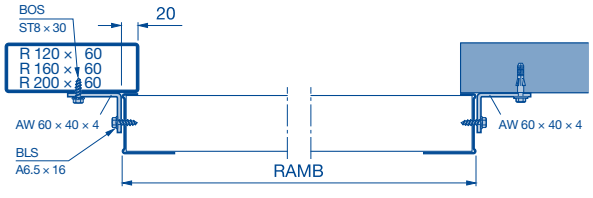


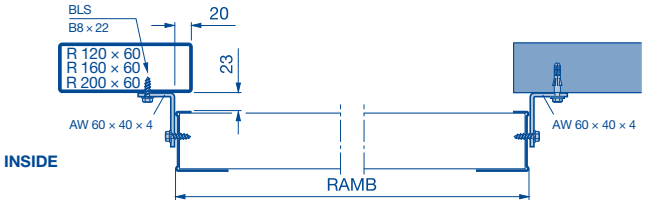
ALR 67 Thermo in the opening



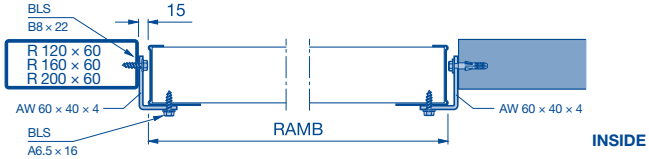
Fitting examples

Behind the opening

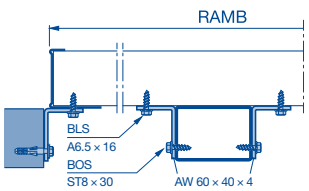




In the opening



In front of the opening

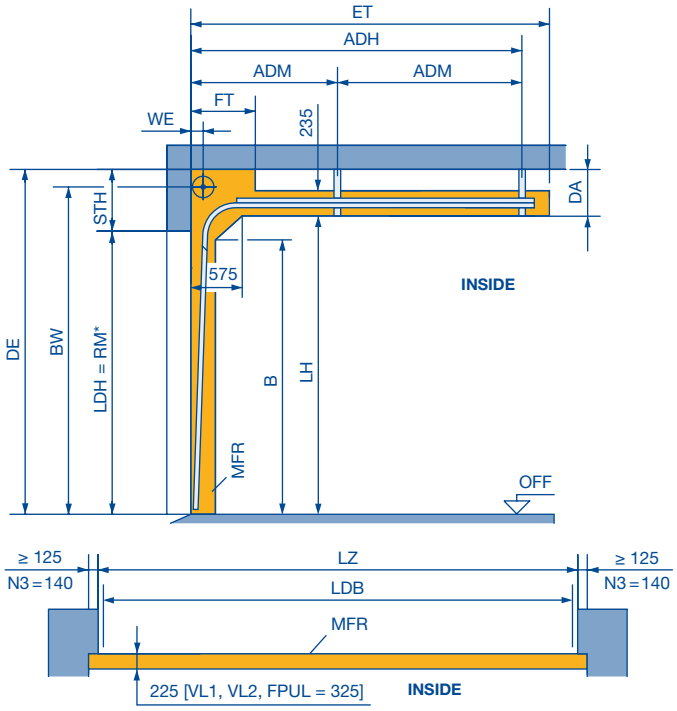


Notice:
Fitting with thermal break requires on-site preparations.

AW Aluminium angle
LF Structural opening
RAMB Overall frame width
RAMH Overall frame height

Track application: N

Normal track application



	ET = min. Distance back	
N 1 / N 2	RM + 435	For manual operation
	RM + 670	With shaft operator
	RM + 245	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track
N 3	RM + 725	For manual operation and shaft operator
	RM + 245	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track

Notices:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!

Door weights for roof loads:

SPU 67 Thermo = 450 N/m²
APU 67 Thermo / ALR 67 Thermo = 500 N/m²
ALR 67 Thermo Glazing = 600 N/m²

Observe the min. sideroom, see page 55

	STH	WE	DA	FT
N 1	425	140	300	820
N 2	475	160	350	820
N 3	585	180	460	1750
With double spring shaft	795	180	670	1750
RM > 7000	845	180	720	2750

	*Clear passage height LDH		
	Without operator	Operator	
		WA 400 **	WA 300 **
LZ ≤ 5500* **			
without wicket door	RM	RM	RM
Wicket door with threshold rail	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 rail	RM – 100	RM – 100	RM – 100
Wicket door without threshold rail	RM – 175	RM – 110	RM – 110
LZ ≥ 8000			
Without wicket door	RM – 100	RM – 100	–

** Or with chain hoist / hand pulley
*** LZ > 4500 with real glass infill in the wicket door
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
LH Track height = RM + 125
BW Position of shaft support
N 1 = RM + 345
N 2 = RM + 370
N 3 = RM + 460
ADH Distance to rear ceiling anchor
N 1 / N 2 = RM + 220
N 3 = RM + 320
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel (see table)
STH Min. headroom (see table)
DA Distance to ceiling (see table)
DE Ceiling height
LZ Clear frame dimension
MFR Space for fitting the door
FT Clearance for door operation
B Start of double radius, RM – 185
ET Min. distance back
FPUL Spring buffers below the track

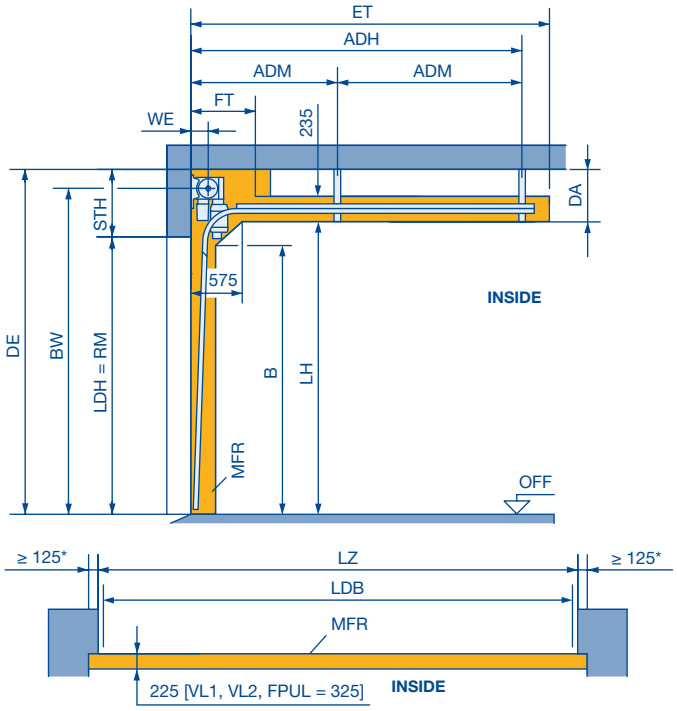
Min. headroom

Track size	Lintel height	Track size	Lintel height	Track size	Lintel height
N 1	425	GD 1	610 – 740	RG 4	1785
N 2	475	GD 2	660 – 790	RG 5	1785
N 3	585	H 4	880	V 6	RM + 500
NA 1	435	H 5	910	V 7	RM + 540
NA 2	485	H 8	950	V 9	RM + 635
ND 1	425	HA 4	890	VA 6	RM + 510
ND 2	475	HD 4	880	VU 6	RM + 350
ND 3	585	HD 5	910	VU 7	RM + 350
NH 1	610 – 740	HD 8	950	VU 9	RM + 350
NH 2	660 – 790	HU 4	1785	WG 6	RM + 350
NH 3	770 – 900	HU 5	1785	WG 7	RM + 350
NS 1	425	RD 4	1760		
NS 2	475	RD 5	1760		

Dimensions in mm

Track application: N for S17.24 and S35.30

Normal track application
for direct drive operators S17.24 and S35.30



	ET = min. Distance back	
N 2	RM + 670	With direct drive operator
	RM + 245	Direct drive operator with spring buffer below the track, with on-site adjustment of the track

Notices:

- Permissible size range LZ ≤ 4500 and RM ≤ 4500.
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- All door versions on request.

Door weights for roof loads:

SPU 67 Thermo	= 450 N/m²
APU 67 Thermo / ALR 67 Thermo	= 500 N/m²
ALR 67 Thermo Glazing	= 600 N/m²

	STH	WE	DA	FT
N 2	525	160	400	820

	Clear passage height LDH Direct drive operators S17 / S35
LZ ≤ 4500	
without wicket door	RM
Wicket door with threshold rail	RM – 50
Wicket door without threshold rail	RM – 85

LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
LH Track height = RM + 125
BW Position of shaft support
N 2 = RM + 370
ADH Distance to rear ceiling anchor
N 2 = RM + 220
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel (see table)
STH Min. headroom (see table)
DA Distance to ceiling (see table)
DE Ceiling height
LZ Clear frame dimension

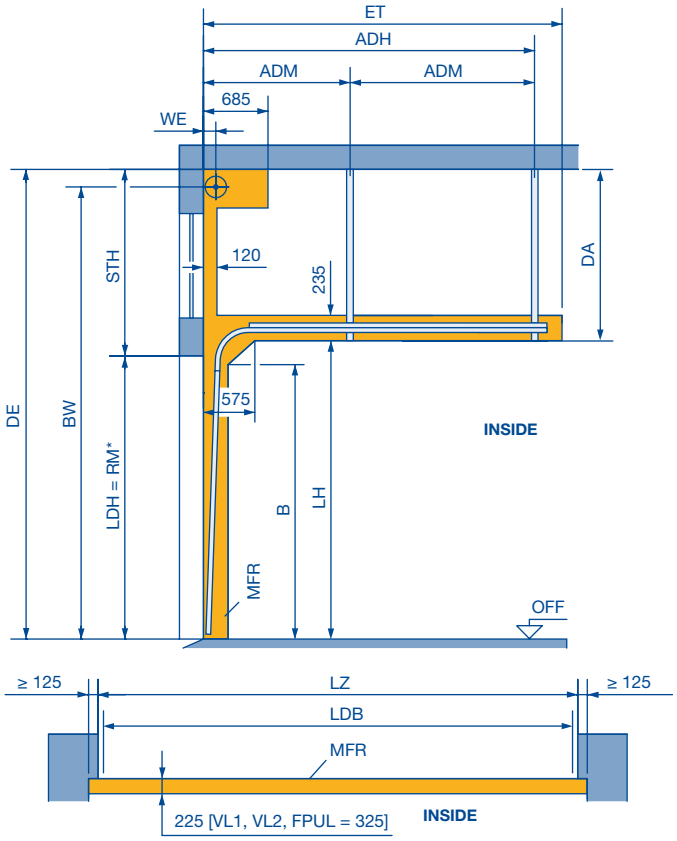
MFR Space for fitting the door
FT Clearance for door operation
B Start of double radius, RM – 185
ET Min. distance back
FPUL Spring buffers below the track

* Note the sideroom, see page 68

Dimensions in mm

Track application: NA

Normal track application with high-mounted torsion spring shaft



Door weights for roof loads:

SPU 67 Thermo	= 450 N/m²
APU 67 Thermo / ALR 67 Thermo	= 500 N/m²
ALR 67 Thermo Glazing	= 600 N/m²

Observe min. sideroom, see page 55.

	STH min.	WE	Min. DA
NA 1	435	140	310
NA 2	485	160	360

ET = min. Distance back		
NA 1 / NA 2	RM + 435	For manual operation
	RM + 670	With shaft operator
	RM + 245	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track

LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
STH Max. headroom (depends on order)
DA Max. distance to ceiling (depends on order)
RM Grid height
DE Ceiling height (depends on order)
LH Track height = RM + 125
BW Position of shaft support
NA 1: $BW_{min.}$ = RM + 355
NA 2: $BW_{min.}$ = RM + 380
NA 1: $BW_{max.}$ (7820) = DE – 80
NA 2: $BW_{max.}$ (7995) = DE – 105
ADH Distance to rear ceiling anchor
NA 1 / NA 2 = RM + 220
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel
DAL Anchor length = DE – RM – 125 (see page 59)
LZ Clear frame dimension
MFR Space for fitting the door
B Start of double radius, RM – 185
ET Min. distance back
FPUL Spring buffers below the track

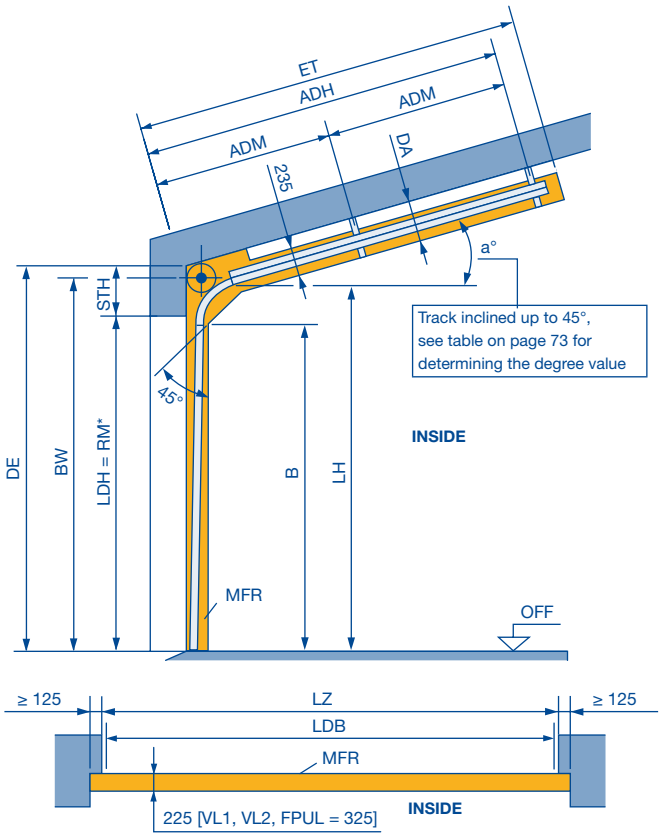
*** Notice:**
Clear passage height LDH, see track application N

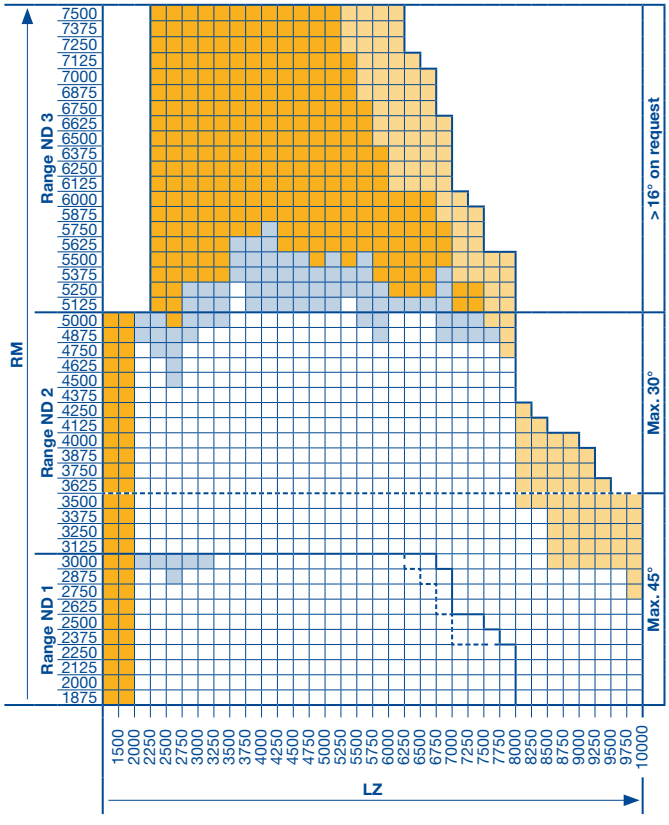
Notices:

- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.

Track application: ND

Normal track application with inclination up to max. 45°





*** Notice:**
Clear passage height LDH, see track application N

Notice:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Door weights for roof loads:

SPU 67 Thermo	= 450 N/m²
APU 67 Thermo / ALR 67 Thermo	= 500 N/m²
ALR 67 Thermo Glazing	= 600 N/m²

Observe min. sideroom, see page 55.

	STH ≤ 30°	STH > 30°
ND 1	425	525
ND 2	475	525
ND 3	585	–
With double spring shaft	795	–

	ET = min. Distance back	
ND 1 / ND 2	RM + 475 – a° × 6.5	a° > 5° and with / without operator, with short spring buffer
	RM + 725 – a° × 6.5	a ≤ 5° and with operator, with long spring buffer
	RM + 475 – a° × 6.5	a ≤ 5° and manual operation with short spring buffer
	RM + 295 – a° × 6.5	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track
ND 3	RM + 725 – a° × 6.5	All versions
	RM + 295 – a° × 6.5	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track

See the normal track application for all other fitting dimensions.

Notice:

- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request.
- To determine the roof slope see page 73.
- Roof slope on request for RM ≤ 3500 and > 30° or > 3500° and > 16°.

LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
LH Track height
B Start of double radius, RM – 185
BW Position of shaft support
ND 1 ≤ 30° = RM + 345
ND 2 ≤ 30° = RM + 370
ND 1 / ND 2, > 30° = RM + 420
ND 3 ≤ 16° = RM + 450
ADH Distance to rear ceiling anchor
ND 1 / ND 2 = RM + 220 – a° × 6.5
ND 3 = RM + 320 – a° × 6.5
ADM Distance to central ceiling anchor (see page59)
STH Min. headroom (see page 36)
DA Distance to ceiling on request
DAL Anchor length = DE – RM + 25 (see page 59)
LZ Clear frame dimensions **(from 1200)**
DE Ceiling height
ET Min. distance back

RM Grid height
MFR Space for fitting the door
FPUL Spring buffers below the track
a° Roof slope

All door types available in any version.
Door types APU 67 Thermo and ALR 67 Thermo on request.
Door type SPU 67 Thermo on request (APU 67 Thermo and ALR 67 Thermo not possible).
On request

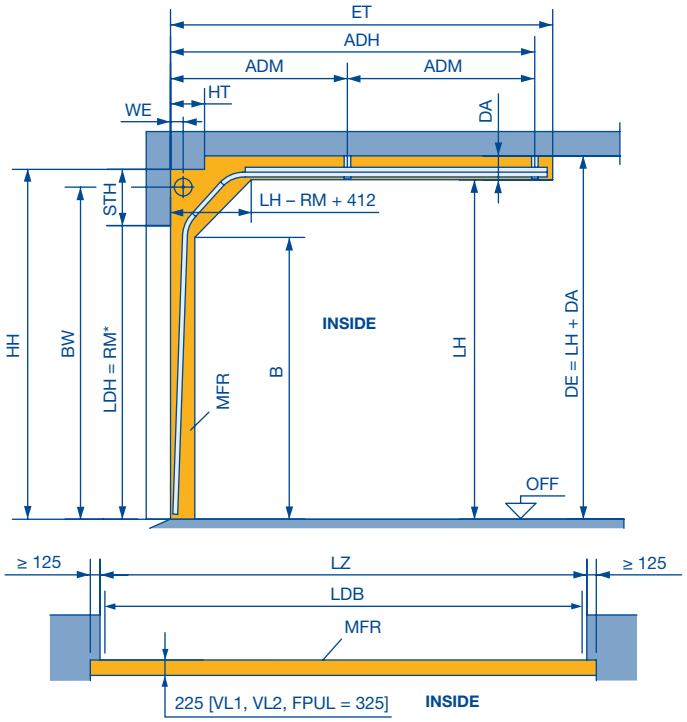
Track limit for SPU 67 Thermo

Track limit for APU 67 Thermo and ALR 67 Thermo

Dimensions in mm

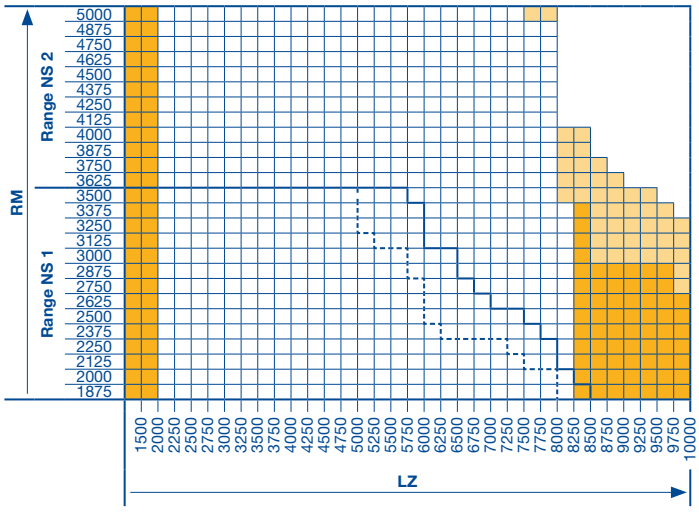
Track application: NS

Normal track application with double radius 2 × 45°



Notice:

- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request



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

Notice:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Door weights for roof loads:

SPU 67 Thermo	= 450 N/m²
APU 67 Thermo / ALR 67 Thermo	= 500 N/m²
ALR 67 Thermo Glazing	= 600 N/m²

Observe min. sideroom, see page 55.

	STH	HT	WE	BW
NS 1	≥ 425	330	140	RM + 345
NS 2	≥ 475	380	160	RM + 370

Door height RM	Track height Min. LH	Track height 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	NS 1
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	

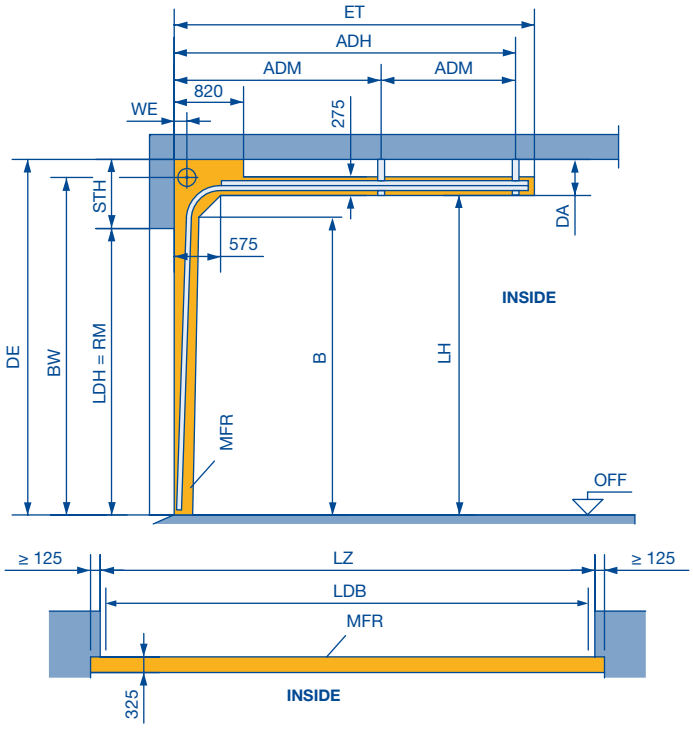
** Or with chain hoist / hand pulley
*** LZ > 4500 with real glass infill in the wicket door
STH Min. headroom (see page 36)
ET Min. distance back on request
ADH Distance to rear ceiling anchor on request
ADM Distance to central ceiling anchor on request
DA Min. distance to ceiling 275
HT Obstruction depth
DAL Anchor length = DE – LH – 15 (see page 59)
BW Position of shaft support
WE Shaft centre from lintel
HH Obstruction height
DE Ceiling height
LH Track height
LDB Clear passage width with ThermoFrame (see page 59)
LDH Clear passage height
LZ Clear frame dimensions **(from 1200)**
RM Grid height
MFR Space for fitting the door
B Start of double radius, RM – 185
FPUL Spring buffers below the track

All door types available in any version.
Door type SPU 67 Thermo on request (APU 67 Thermo and ALR 67 Thermo not possible).
On request
Track limit for SPU 67 Thermo
Track limit for APU 67 Thermo and ALR 67 Thermo

Dimensions in mm

Track application: NH

Normal track application with minimum high-lift



Door weights for roof loads:

SPU 67 Thermo	= 450 N/m²
APU 67 Thermo / ALR 67 Thermo	= 500 N/m²
ALR 67 Thermo Glazing	= 600 N/m²

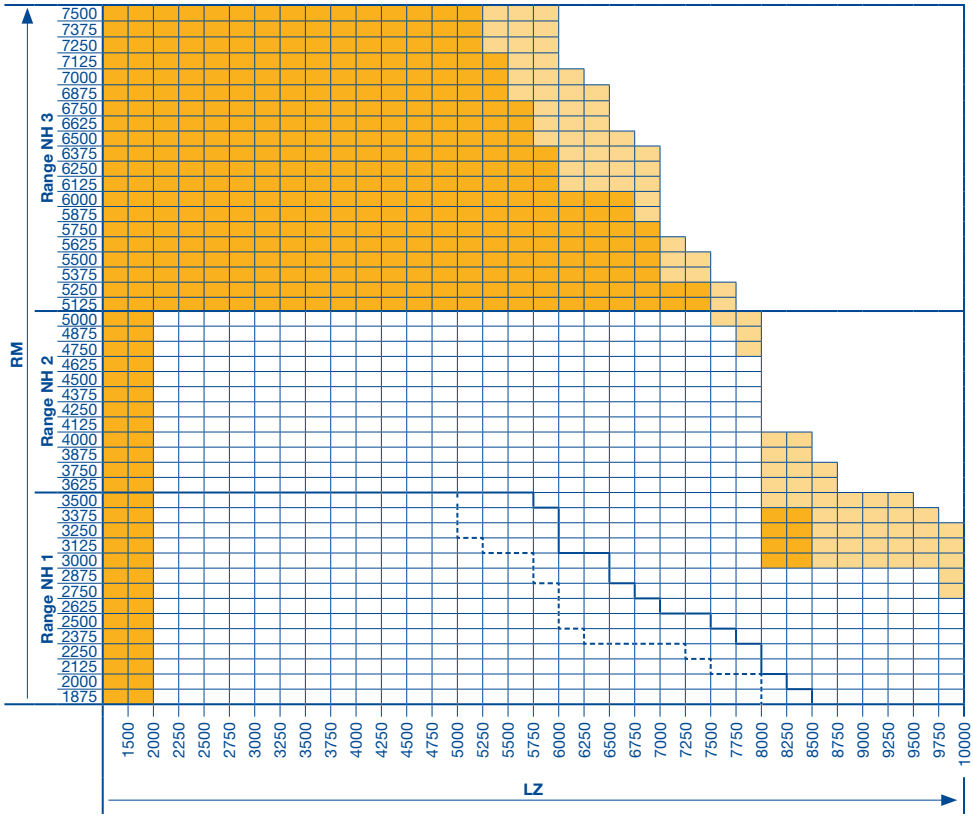
Observe min. sideroom, see page 55.

	WE	DA
NH 1	140	280
NH 2	160	330
NH 3	180	440
With double spring shaft	180	650

ET = min. Distance back		
NH 1 / NH 2	2 × RM – LH + 1145	For manual operation with long spring buffer (standard)
	2 × RM – LH + 695	For manual operation with spring buffer below the track, with on-site adjustment of the track
	2 × RM – LH + 905	For shaft operator with long spring buffer = (LH – RM) ≤ 1000
	2 × RM – LH + 455	For shaft operator with spring buffer below the track, with on-site adjustment of the track
NH 3	2 × RM – LH + 975	All versions
	2 × RM – LH + 455	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track

Notices:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.



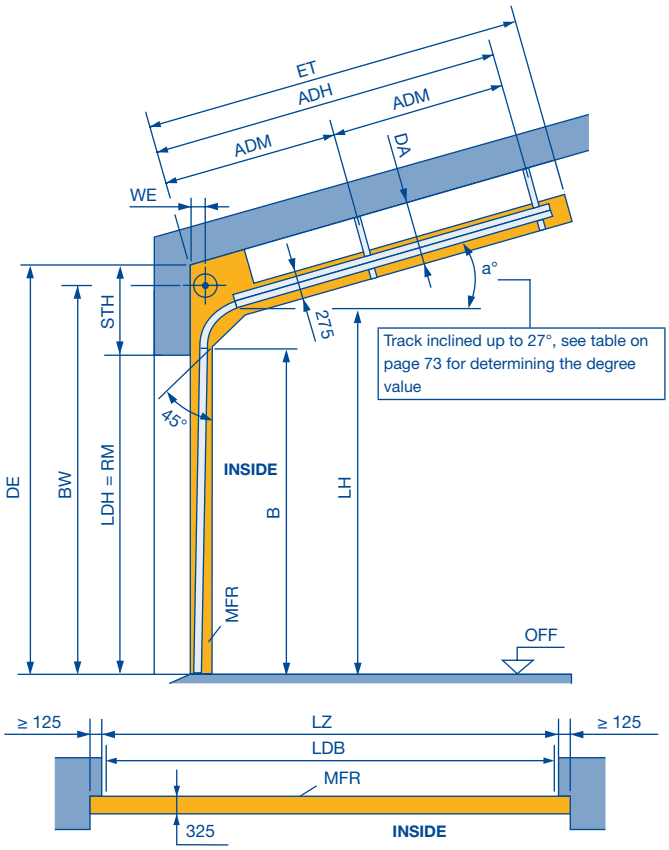
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
BW Position of shaft support
NH 1 = LH + 200
NH 2 = LH + 225
NH 3 = LH + 305
LH Track height
Min. = RM + 330
max. = RM + 460
ADH Distance to rear ceiling anchor
NH 1 / NH 2 = 2 × RM – LH + 670 (long spring buffer)
NH 1 / NH 2 = 2 × RM – LH + 430 (long and short spring buffer + operator)
NH 3 = 2 × RM – LH + 510
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel
STH Min. headroom (see page 36)
DA Distance to ceiling
DE Ceiling height
DAL Anchor length = DE – LH + 15 (see page 59)
LZ Clear frame dimensions **(from 1200)**
ET Min. distance back
MFR Space for fitting the door
B Start of double radius, LH - 310

All door types available in any version.
Door type SPU 67 Thermo on request (APU 67 Thermo and ALR 67 Thermo not possible).
On request
Track limit for SPU 67 Thermo
Track limit for APU 67 Thermo and ALR 67 Thermo

Dimensions in mm

Track application: GD

Normal track application with inclination up to max. 27° and minimum high-lift



Door weights for roof loads:

SPU 67 Thermo	= 450 N/m²
APU 67 Thermo / ALR 67 Thermo	= 500 N/m²
ALR 67 Thermo Glazing	= 600 N/m²

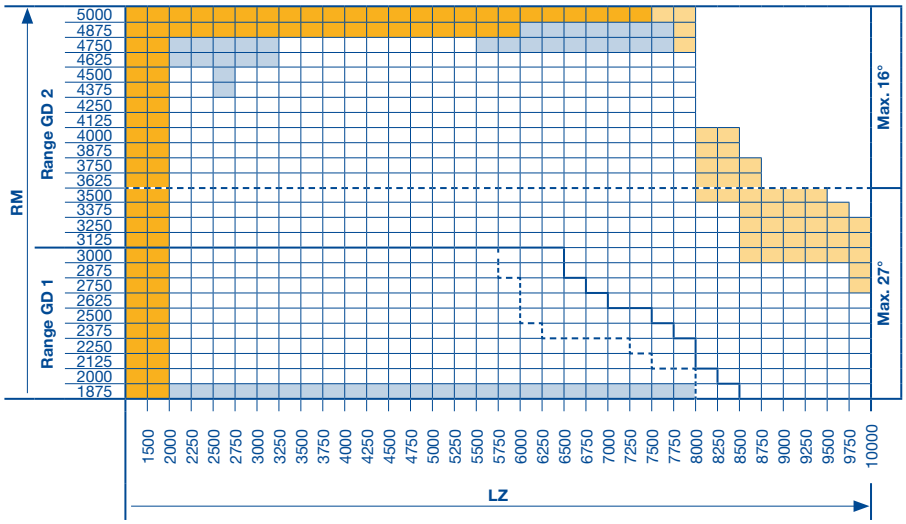
Observe min. sideroom, see page 55.

	WE
GD 1	140
GD 2	160

ET = min. Distance back		
GD 1 / GD 2	2 × RM – LH + 1145 – a° × 6.5	For manual operation with long spring buffer
	2 × RM – LH + 675 – a° × 6.5	a° > 5° and with operator, with short spring buffer
	2 × RM – LH + 905 – a° × 6.5	a ≤ 5° and with operator, with long spring buffer
	2 × RM – LH + 295 – a° × 6.5	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track

Notices:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request.
- To determine the roof slope see page 73.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.



ADH Distance to rear ceiling anchor
GD 1 / GD 2 = 2 × RM – LH + 670 – a° × 6.5 (long spring buffer)
GD 1 / GD 2 = 2 × RM – LH + 430 – a° × 6.5 (long and short spring buffer + operator)
ADM Distance to central ceiling anchor = see page 59
B Start of double radius, LH – 310
LH Track height
min. = RM + 330, max. = RM + 460
BW Position of shaft support
GD1 = LH + 200
GD2 = LH + 225
STH Min. headroom (see page 36)
DA Distance to ceiling on request
DE Ceiling height
DAL Anchor length on request (see page 59)
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
BW Position of shaft support
GD 1 = LH + 200
GD 2 = LH + 225
WE Shaft centre from lintel
LZ Clear frame dimensions **(from 1200)**
ET Min. distance back
RM Grid height
MFR Space for fitting the door
a° Roof slope

All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

Door type SPU 67 Thermo on request (APU 67 Thermo and ALR 67 Thermo not possible).

On request

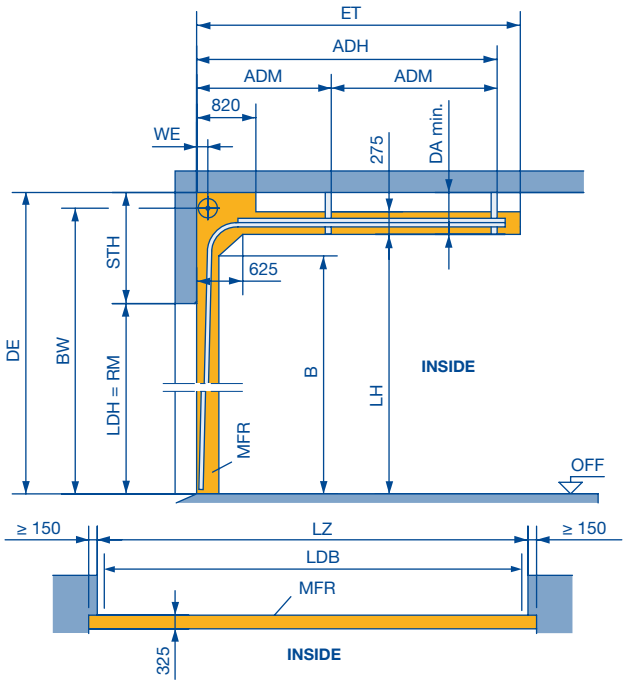
Track limit for SPU 67 Thermo

Track limit for APU 67 Thermo and ALR 67 Thermo

Dimensions in mm

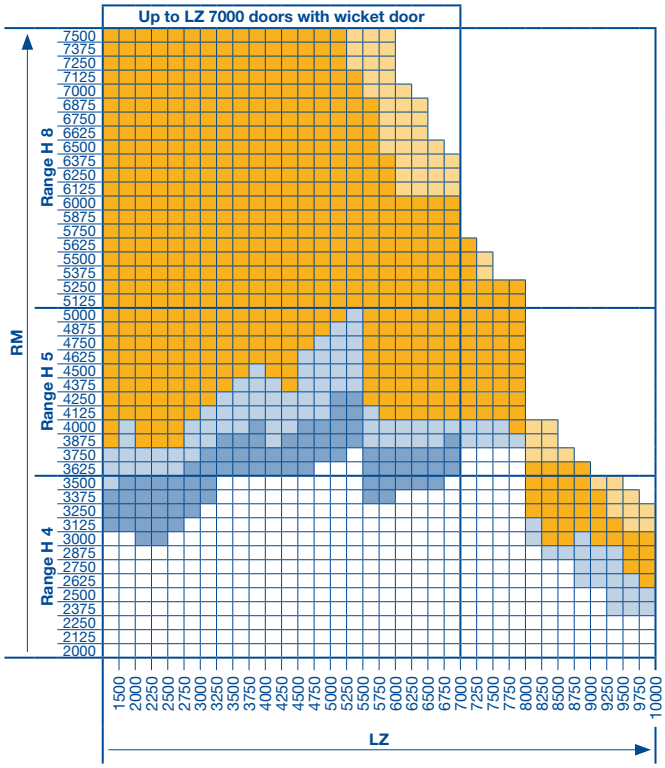
Track application: H

High-lift track application



	ET = min. Distance back	
H 4 / H 5	2 × RM – LH + 1145	For manual operation with long spring buffer
	2 × RM – LH + 695	For manual operation with spring buffer below the track, with on-site adjustment of the track
	2 × RM – LH + 905	For shaft operator with long spring buffer (LH – RM) ≤ 1000
	2 × RM – LH + 675	For shaft operator with short spring buffer (LH – RM) > 1000
	2 × RM – LH + 455	For shaft operator with spring buffer below the track, with on-site adjustment of the track
H 8	2 × RM – LH + 975	All versions
	2 × RM – LH + 455	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track

Observe min. sideroom, see page 55.



Please note:
Select required track height according to the door height in Table 1.

Notice:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Table 1: Track heights (LH)

Door height RM	Min. LH	Max. LH		Door height RM	Min. LH	Max. LH	
5000	5460	8300	H 5, WE = 180				
4875	5335	8175					
4750	5210	8050					
4625	5085	7925					
4500	4960	7800					
4375	4835	7675		7500	8565	10200	H 8, WE = 205 All door types and versions available on request
4250	4710	7550		7375	8440	10200	
4125	4585	7425		7250	8315	10200	
4000	4460	7185		7125	8190	10200	
3875	4335	6935		7000	8065	10200	
3750	4210	6685		6875	7940	10200	
3625	4085	6435		6750	7815	10150	
3500	3960	6185	H 4, WE = 160	6625	7690	10025	
3375	3835	5935		6500	7565	9900	
3250	3710	5685		6375	6835	9775	
3125	3585	5435		6250	6710	9650	
3000	3460	5185		6125	6585	9525	
2875	3335	4935		6000	6460	9400	
2750	3210	4685		5875	6335	9275	
2625	3085	4435		5750	6210	9150	
2500	2960	4185		5625	6085	9025	
2375	2835	3935		5500	5960	8900	
2250	2710	3685		5375	5835	8775	
2125	2585	3435		5250	5710	8650	
2000	2460	3185		5125	5585	8525	

Notices:

- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing on request

LDB	Clear passage width with ThermoFrame (see page 55)
LDH	Clear passage height
RM	Grid height
LH	Track height (see Table 1)
BW	Position of shaft support H 4 / 5 = LH + 280, H 8 = LH + 305
ADH	Distance to rear ceiling anchor H 4 / H 5 = 2 × RM – LH + 670 (long spring buffer) H 4 / H 5 = 2 × RM – LH + 430 (long and short spring buffer + operator) H 8 = 2 × RM – LH + 510
ADM	Distance to central ceiling anchor (see page 59)
WE	Shaft centre from lintel (see Table 1)
STH	Min. headroom (see page 36)
Min. DA	H 4 = 420 H 5 = 450, 625 with double spring shaft H 8 = 490, 650 with double spring shaft
DAL	Anchor length DE – LH – 15 (see page 59)
DE	Ceiling height
LZ	Clear frame dimensions **(from 1200)**
ET	Distance back
MFR	Space for fitting the door
B	Start of double radius, LH – 310

All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

All door types with wicket door on request.

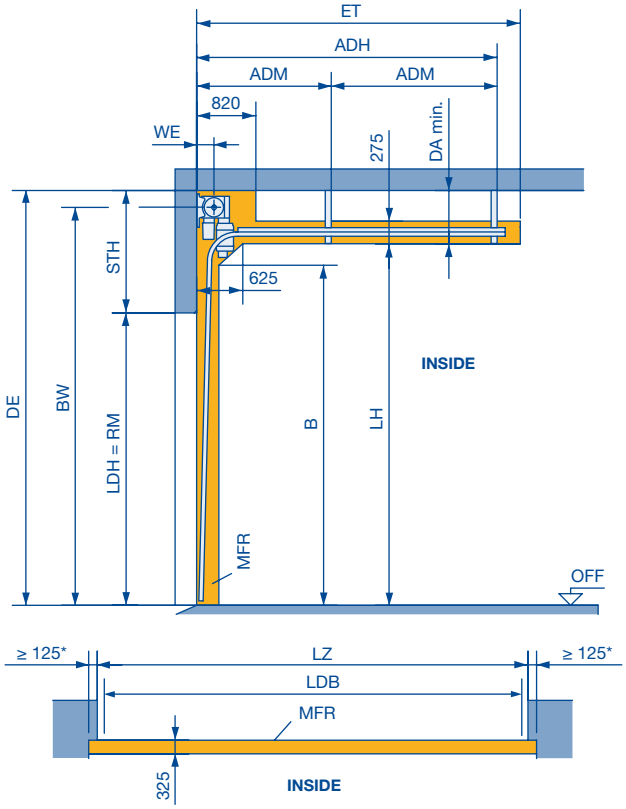
Door type SPU 67 Thermo on request (APU 67 Thermo and ALR 67 Thermo not possible).

All door types on request.

Dimensions in mm

Track application: H for S17.24 and S35.30

High-lift track application
for direct drive operators S17.24 and S35.30



	ET = min. Distance back	
H 2	2 × RM – LH + 905	For direct drive operator with long spring buffer (LH – RM) ≤ 1000
	2 × RM – LH + 675	For direct drive operator with short spring buffer (LH – RM) > 1000
	2 × RM – LH + 455	For direct drive operator with spring buffer below the track, with on-site adjustment of the track

Please note:
Select required track height according to the door height in Table 1.

Notice:
- Permissible size range LZ ≤ 4500 and RM ≤ 4500.
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.
- All door versions on request.

Table 1: Track heights (LH)

Door height RM	Min. LH	Max. LH	
4500	4960	7800	H 2, WE = 160
4375	4835	7675	
4250	4710	7550	
4125	4585	7425	
4000	4460	7185	
3875	4335	6935	
3750	4210	6685	
3625	4085	6435	
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	

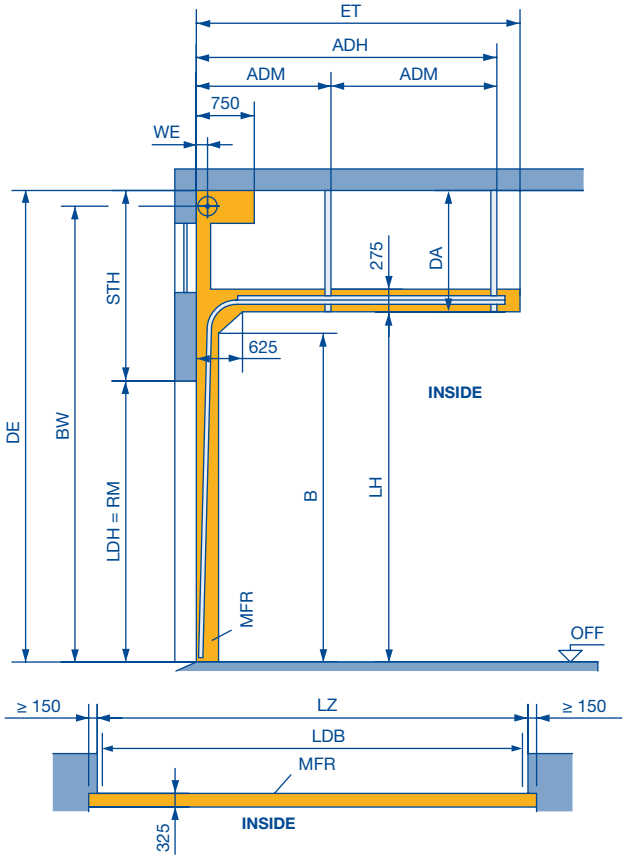
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
LH Track height (see Table 1)
BW Position of shaft support
LH + 230
ADH Distance to rear ceiling anchor
2 × RM – LH + 430 (long and short spring buffer + operator)
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel (see Table 1)
STH Min. headroom (see page 36)
B Start of double radius, LH – 310
Min. DA 400
DAL Anchor length DE – LH – 15 (see page 59)
DE Ceiling height
LZ Clear frame dimensions **(from 1200)**
ET Distance back
MFR Space for fitting the door

* Note the sideroom, see page 68

Dimensions in mm

Track application: HA

High-lift track application with high-mounted torsion spring shaft

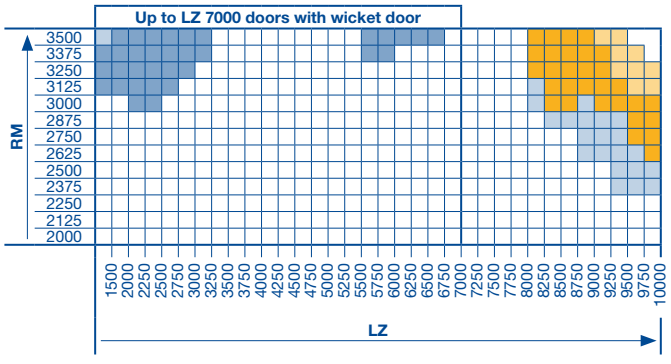


Notices:

- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing on request

	ET = min. Distance back	
HA 4	2 × RM – LH + 1145	For manual operation with long spring buffer (standard)
	2 × RM – LH + 695	For manual operation with spring buffer below the track, with on-site adjustment of the track
	2 × RM – LH + 905	For shaft operator with long spring buffer (LH – RM) ≤ 1000
	2 × RM – LH + 675	For shaft operator with short spring buffer (LH – RM) > 1000
	2 × RM – LH + 455	For shaft operator with spring buffer below the track, with on-site adjustment of the track

Observe the min. sideroom, see page 55.



Please note:
Select required track height according to the door height in Table 2.

Notice:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Table 2: Track heights (LH)

Door height RM	Min. LH	Max. LH	
3500	3960	6185	HA 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	
2250	2710	3685	
2125	2585	3435	
2000	2460	3185	

LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
LH Track height (see Table 2)
BW Position of shaft support
Min. = HA 4 = LH + 290
Max. (8120) = HA 4 = DE – 140
ADH Distance to rear ceiling anchor
HA 4 = 2 × RM – LH + 670 (long spring buffer)
HA 4 = 2 × RM – LH + 430 (long and short spring buffer + operator)
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel (see Table 2)
STH Min. headroom (see page 36)
DA Distance to ceiling = HA 4 = min. 420
DAL Anchor length DE – LH – 15 (see page 59)
DE Ceiling height
LZ Clear frame dimensions **(from 1200)**
ET Distance back
MFR Space for fitting the door
B Start of double radius, LH – 310

All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

All door types with wicket door on request.

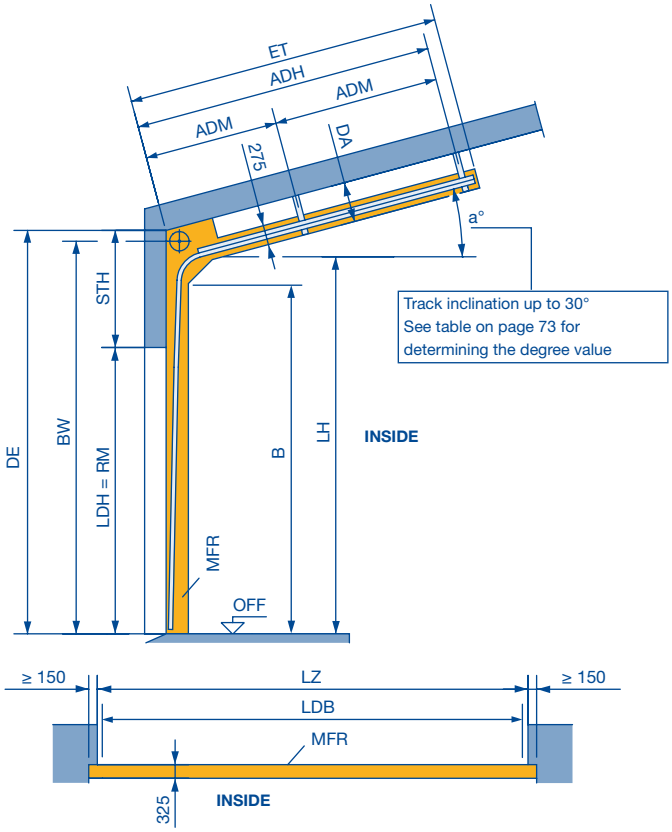
Door type SPU 67 Thermo on request (APU 67 Thermo and ALR 67 Thermo not possible).

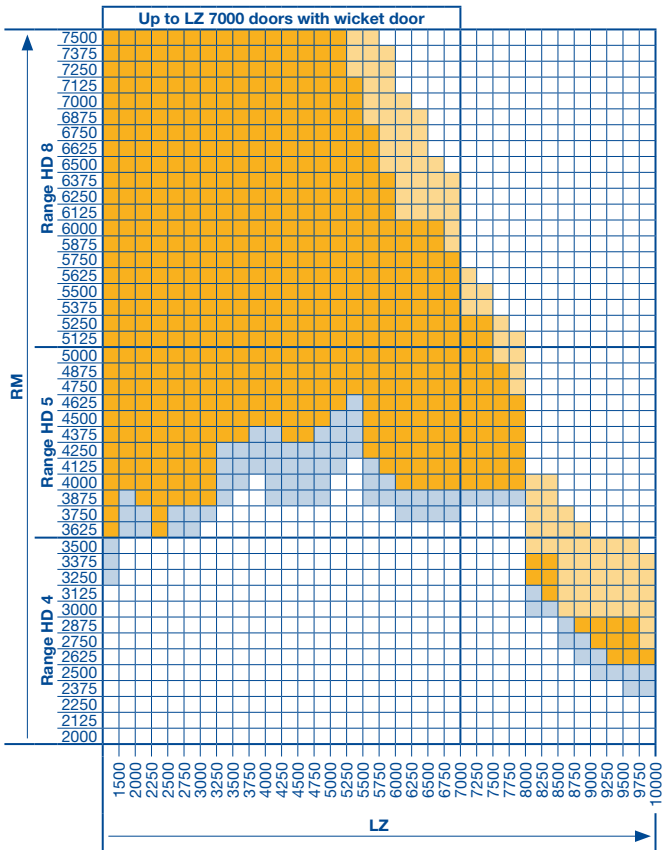
All door types on request.

Dimensions in mm

Track application: HD

High-lift track application with inclination





Please note:
Select required track height according to the door height in Table 1 on page 43.

	ET = min. Distance back	
HD 4 / HD 5	2 × RM – LH + 1145 – a° × 6.5	For manual operation with long spring buffer (standard)
	2 × RM – LH + 695 – a° × 6.5	For manual operation with spring buffer below the track, with on-site adjustment of the track
	2 × RM – LH + 905 – a° × 6.5	For shaft operator with long spring buffer (LH – RM) ≤ 1000 and a° ≤ 5°
	2 × RM – LH + 675 – a° × 6.5	For shaft operator with short spring buffer (LH – RM) > 1000 or a° > 5°
	2 × RM – LH + 455 – a° × 6.5	For shaft operator with spring buffer below the track, with on-site adjustment of the track
HD 8	2 × RM – LH + 975 – a° × 6.5	All versions
	2 × RM – LH + 455 – a° × 6.5	For manual operation and shaft operator with spring buffer below the track, with on-site adjustment of the track

See the high-lift track application for all other fitting dimensions.
Observe the min. sideroom, see page 55.

Notices:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request.
- To determine the roof slope see page 73.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.
- Roof slope > 10° to 30° on request.

DA Distance to ceiling on request
DAL Anchor length DE – LH + 140 (see page 59)
LH Track height (see Table 1 on page 43)
STH Min. headroom (see page 36)
BW Position of shaft support
HD 4 / 5 = LH + 280, HD 8 = LH + 305
ADH Distance to rear ceiling anchor
HD 4 / HD 5 = 2 × RM – LH + 670 – a° × 6.5 (long spring buffer)
HD 4 / HD 5 = 2 × RM – LH + 430 – a° × 6.5 (long and short spring buffer + operator)
HD 8 = 2 × RM – LH + 510
ADM Distance to central ceiling anchor on request
WE Shaft centre from lintel (see Table 1 on page 43)
DE Ceiling height
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
LZ Clear frame dimensions **(from 1200)**
ET Distance back
RM Grid height
MFR Space for fitting the door
B Start of double radius, LH – 310
a° Roof slope

All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

Door type SPU 67 Thermo on request
(APU 67 Thermo and ALR 67 Thermo not possible).

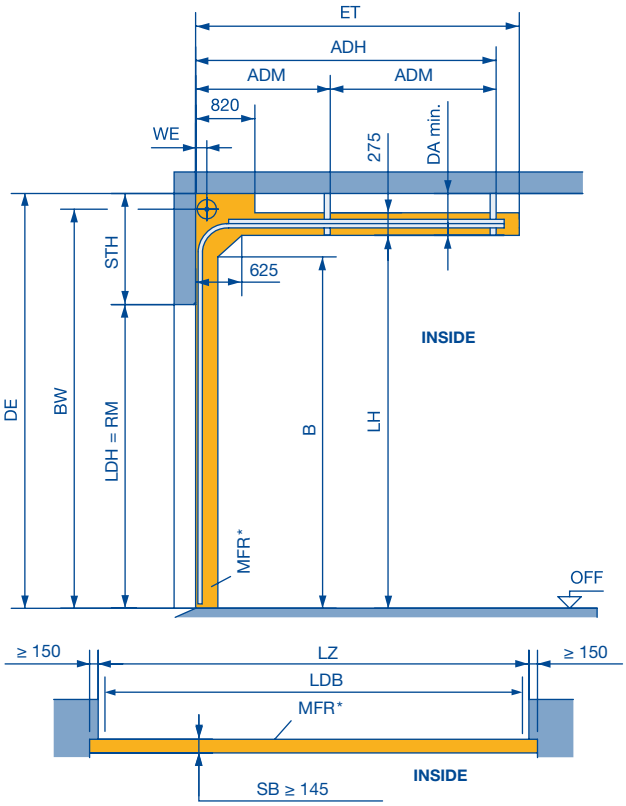
All door types on request.

Dimensions in mm

Track application: HG

High-lift track application with steep track

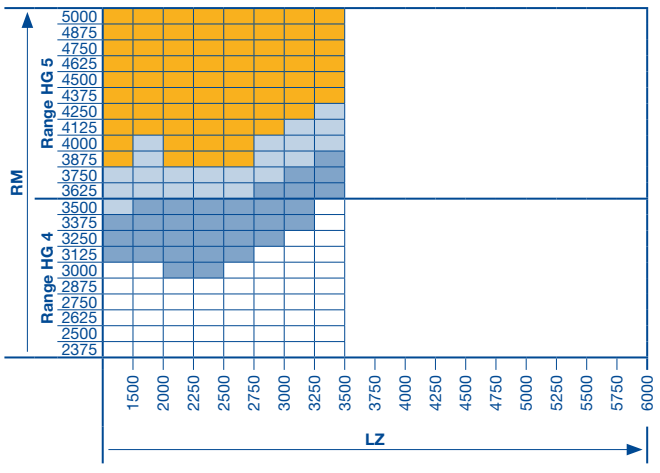
(Application for loading ramp doors)



	ET = min. Distance back	
HG 4 / HG 5	2 × RM – LH + 1145	For manual operation with long spring buffer
	2 × RM – LH + 695	For manual operation with spring buffer below the track, with on-site adjustment of the track
	2 × RM – LH + 905	For shaft operator with long spring buffer (LH – RM) ≤ 1000
	2 × RM – LH + 675	For shaft operator with short spring buffer (LH – RM) > 1000
	2 × RM – LH + 455	For shaft operator with spring buffer below the track, with on-site adjustment of the track

Other versions on request.

Observe min. sideroom, see page 55.



Please note:
Select required track height according to the door height in Table 3.

Notices:

- **Door type ALR 67 Thermo 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.
- When using the spring buffer below the track, the clear height below the track in the area of the spring buffer is reduced by 70 mm.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Table 3: Track heights (LH)

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	

Notice:
Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!

*	265 with FPUL
LDB	Clear passage width with ThermoFrame (see page 55)
LDH	Clear passage height
RM	Grid height
LH	Track height (see Table 3)
BW	Position of shaft support HG 4 / HG 5 = LH + 280
ADH	Distance to rear ceiling anchor = HG 4 / HG 5 = 2 × RM – LH + 605 (long spring buffer) HG 4 / HG 5 = 2 × RM – LH + 365 (long and short spring buffer + operator)
ADM	Distance to central ceiling anchor (see page 59)
WE	Shaft centre from lintel (see Table 3)
STH	Min. headroom (see page 36)
Min. DA	HG 4 = 420 HG 5 = 450, 625 with double spring shaft
SB	Slot width
DAL	Anchor length DE – LH – 15 (see page 59)
ET	Distance back
DE	Ceiling height
LZ	Clear frame dimensions **(from 1200)**
MFR	Space for fitting the door
B	Start of double radius, LH – 310
FPUL	Spring buffers below the track

All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

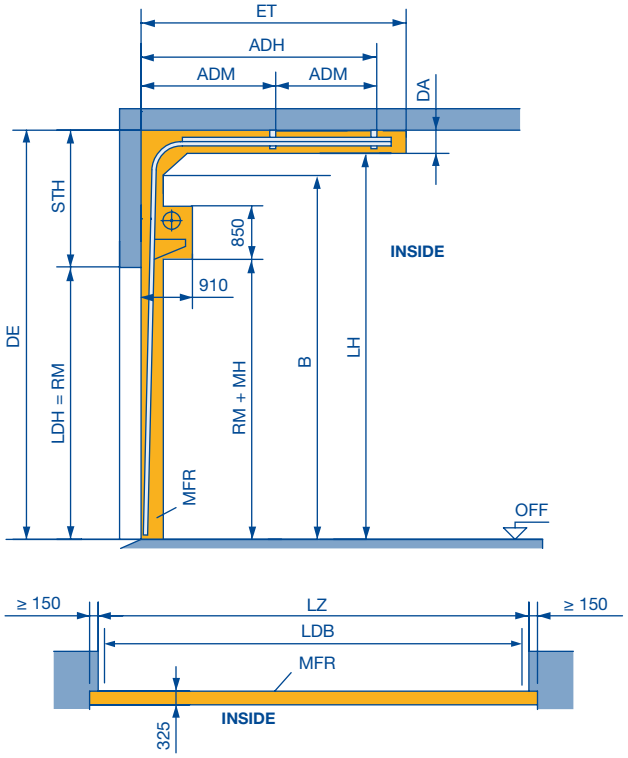
All door types with wicket door on request.

All door types on request.

Dimensions in mm

Track application: HU

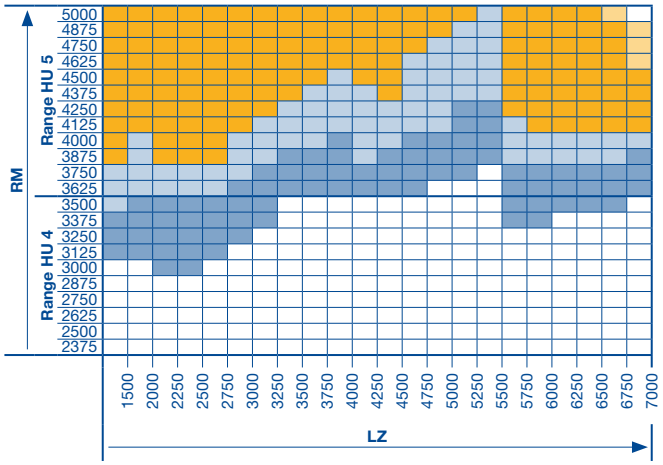
High-lift track application with low-mounted torsion spring shaft



ET = min. Distance back		
HU 4/HU 5	2 × RM – LH + 1145	For manual operation with long spring buffer
	2 × RM – LH + 675	For shaft operator with short spring buffer (LH – RM > 1510)

Other versions on request.

Observe min. sideroom, see page 55.



Please note:
Select required track height according to the door height in Table 4.

Notice:
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Table 4: Track heights (LH)

Door height RM	Min. LH	Max. LH	
5000	6510	8300	HU 5, WE = 355
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	HU 4, WE = 335
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	

Notices:
- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing on request

LDB Clear passage width with ThermoFrame (see page 55)
DE Ceiling height
LDH Clear passage height
RM Grid height
LH Track height (see Table 4)
ADH Distance to rear ceiling anchor
HU 4 / HU 5 = 2 × RM – LH + 670 (long spring buffer)
HU 4 / HU 5 = 2 × RM – LH + 430 (long and short spring buffer + operator)
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel (see Table 4)
STH Min. headroom (see page 36)
DA Min. distance to ceiling 275
DAL Anchor length DE – LH – 15 (see page 59)
LZ Clear frame dimensions **(from 1200)**
ET Distance back
MFR Space for fitting the door
B Start of double radius, LH – 310
MH Fitting height 400

All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

All door types with wicket door on request.

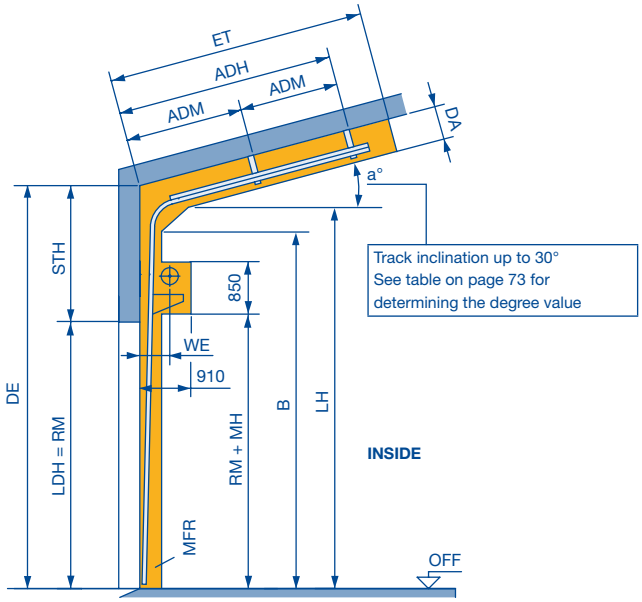
Door type SPU 67 Thermo on request (APU 67 Thermo and ALR 67 Thermo not possible).

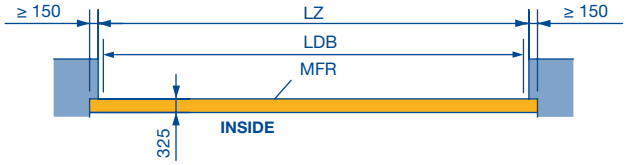
All door types on request.

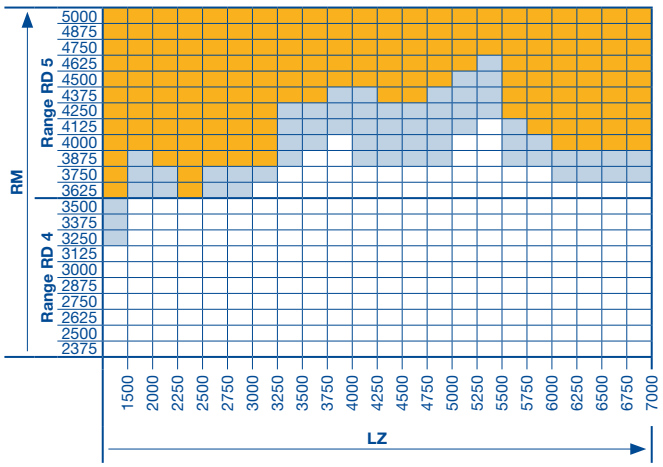
Dimensions in mm

Track application: RD

High-lift track application
with low-mounted torsion spring shaft and inclination







Please note:
Select required track height according to the door height in Table 4 on page 48.

Notice:
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

	ET = min. Distance back	
RD 4 / RD 5	2 × RM – LH + 1185 – a° × 6.5	For manual operation with long spring buffer (standard)
	2 × RM – LH + 715 – a° × 6.5	For shaft operator with short spring buffer = (LH – RM) ≥ 1510

See the high-lift track application for all other fitting dimensions.
Observe min. sideroom, see page 55.

Notices:
- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request.
- To determine the roof slope see page 73.
- Roof slope > 10° to 30° on request.

DE Ceiling height
DAL Anchor length DE – L – 15 (see page 59)
LH Track height (see Table 4 on page 48)
STH Min. headroom (see page 36)
ADH Distance to rear ceiling anchor =
RD 4 / RD 5 = 2 × RM – LH + 670 – a° × 6.5 (long spring buffer)
RD 4 / RD 5 = 2 × RM – LH + 430 – a° × 6.5 (long and short spring buffer + operator)
ADM Distance to central ceiling anchor (see page59)
WE Shaft centre from lintel (see Table 4 on page 48)
DA Distance to ceiling on request
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
LZ Clear frame dimensions **(from 1200)**
RM Grid height
MFR Space for fitting the door
B Start of double radius, LH – 310
a° Roof slope
MH Fitting height 400

All door types available in any version.

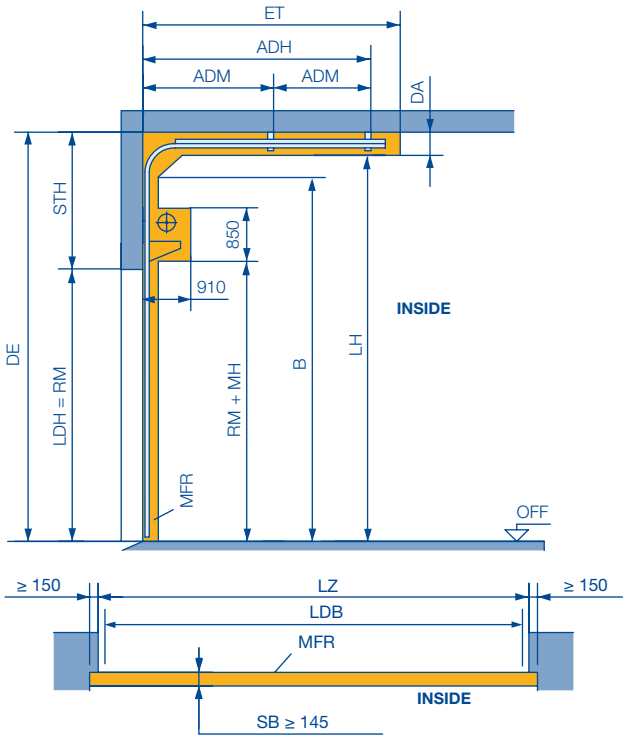
Door types APU 67 Thermo and ALR 67 Thermo on request.

All door types on request.

Dimensions in mm

Track application: RG

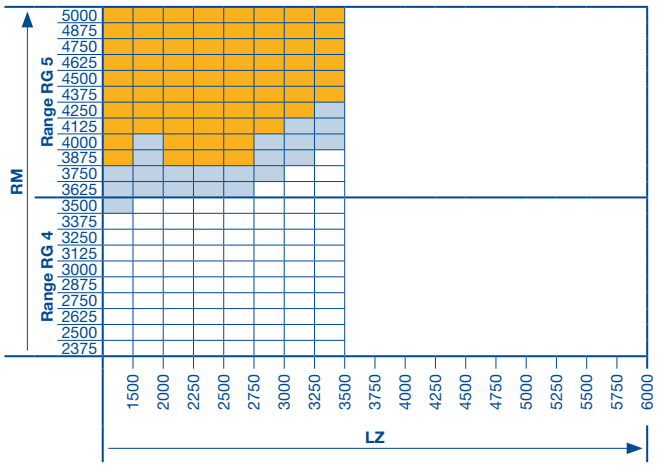
High-lift track application with low-mounted torsion spring shaft and steep track (Application for loading ramp doors)



ET = min. Distance back		
RG 4 / RG 5	2 × RM – LH + 1145	For manual operation with long spring buffer
	2 × RM – LH + 675	For shaft operator with short spring buffer (LH – RM > 1510)

Other versions on request.

Observe min. sideroom, see page 55.



Please note:
Select required track height according to the door height in Table 5.

Notices:
- **Door type ALR 67 Thermo 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.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Table 5: Track heights (LH)

Door height RM	Min. LH	Max. LH	
5000	6510	8300	RG 5, WE = 315
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 = 295
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	

Notice:
Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!

LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
LH Track height (see Table 5)
ADH Distance to rear ceiling anchor =
RG 4 / RG 5 = 2 × RM – LH + 605 (long spring buffer)
RG 4 / RG 5 = 2 × RM – LH + 365 (long and short spring buffer + WA 400)
ADM Distance to central ceiling anchor (see page 59)
WE Shaft centre from lintel (see Table 5)
STH Min. headroom (see page 36)
DA Min. distance to ceiling 275
SB Slot width
DAL Anchor length DE – LH – 15 (see page 59)
ET Distance back
DE Ceiling height
LZ Clear frame dimensions **(from 1200)**
MFR Space for fitting the door
B Start of double radius, LH – 310
MH Fitting height 400

All door types available in any version.

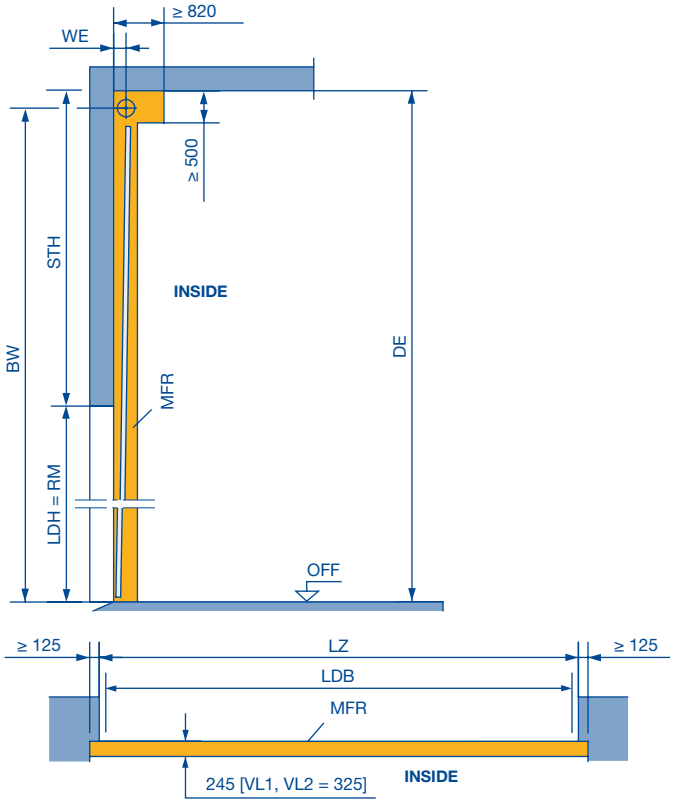
Door types APU 67 Thermo and ALR 67 Thermo on request.

All door types on request.

Dimensions in mm

Track application: V

Vertical track application

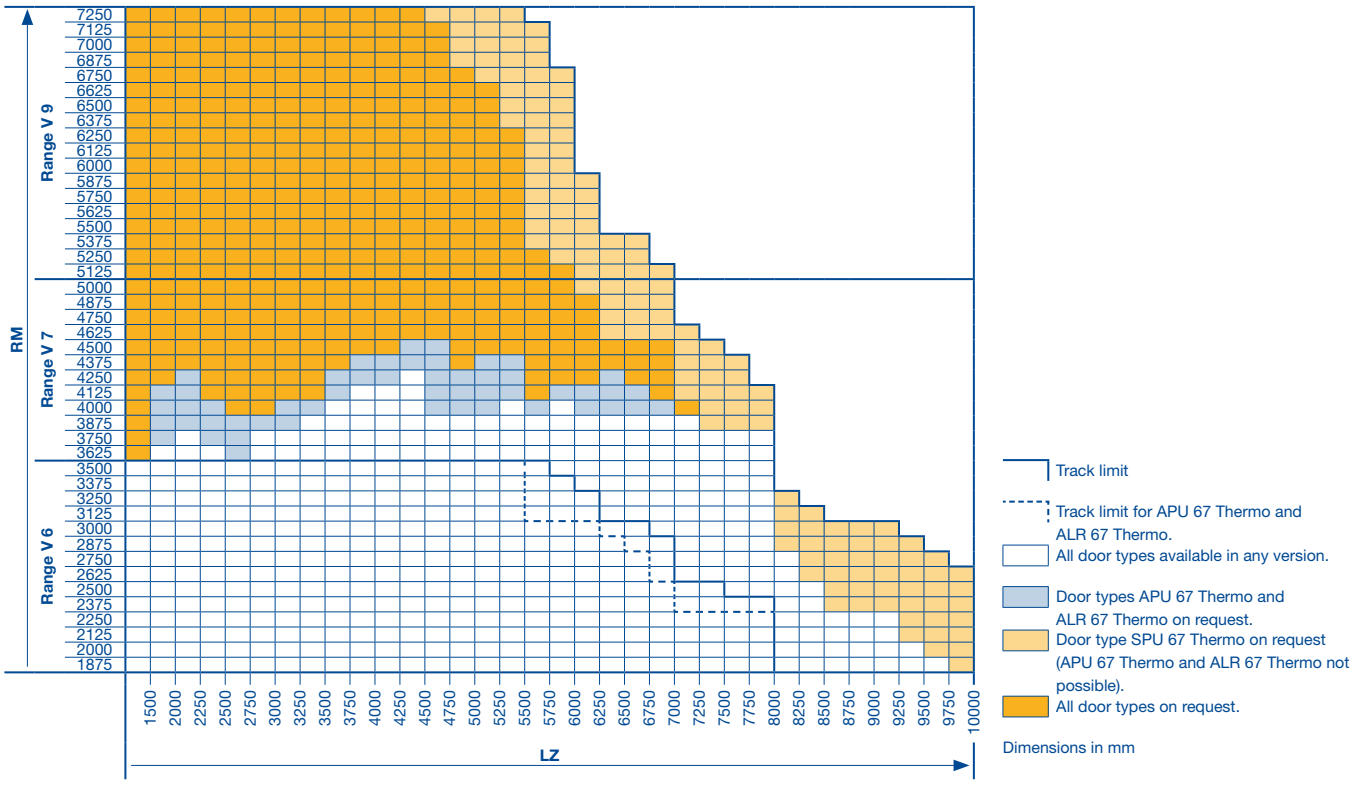


Notices:

- 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 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Observe min. sideroom, see page 55.

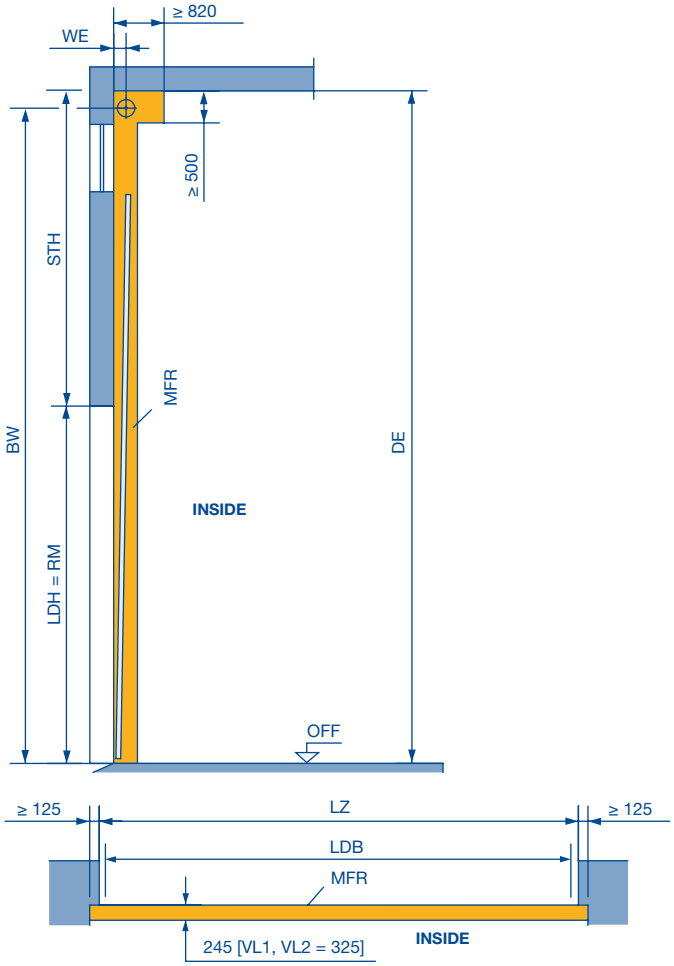
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
WE Shaft centre from lintel
V 6 = 160, V 7 = 180, V 9 = 205
STH Min. headroom (see page 36)
DE Ceiling height
2 × RM + 500 (V 6)
2 × RM + 540 (V 7)
2 × RM + 730 (V 7 with double spring shaft)
2 × RM + 635 (V 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)**
MFR Space for fitting the door



Dimensions in mm

Track application: VA

Vertical track application with high-mounted torsion spring shaft

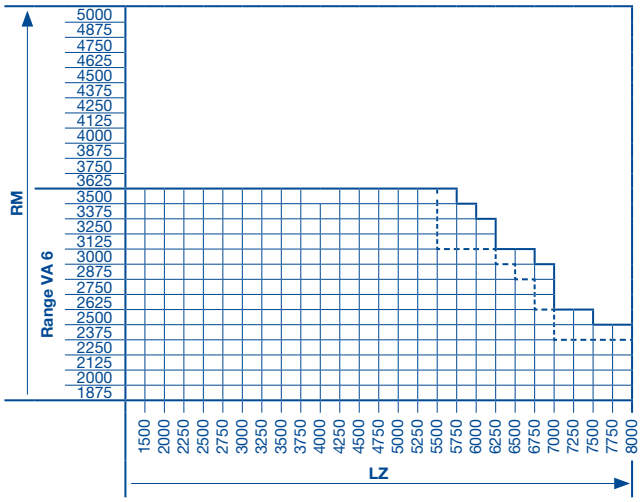


Notices:

- 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 9 – 14 and 17 – 25 under all circumstances!
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Observe min. sideroom, see page 55.

LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
WE Shaft centre from lintel
VA 6 = 160
STH Min. headroom (see page 36)
DE Ceiling height
Min.: 2 × RM + 510 (VA 6)
Max.: depends on order
BW Position of shaft support =
Min.: 2 × RM + 370 (VA 6)
Max.: 7895 = DE – 140
LZ Clear frame dimensions **(from 1200)**
MFR Space for fitting the door



Notice:
ALR 67 Thermo Glazing and doors with wicket door on request.

Track limit

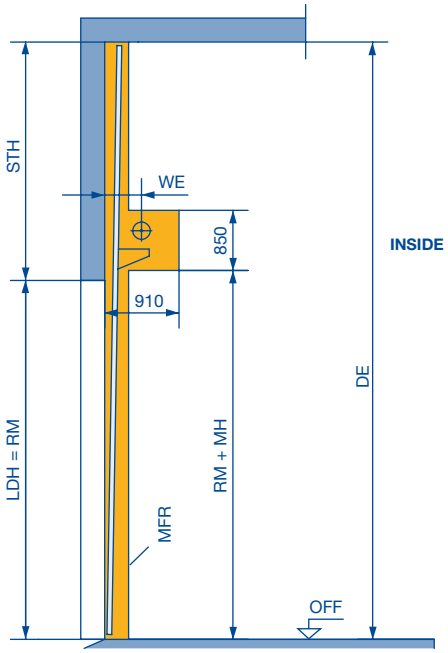
Track limit for APU 67 Thermo and ALR 67 Thermo.

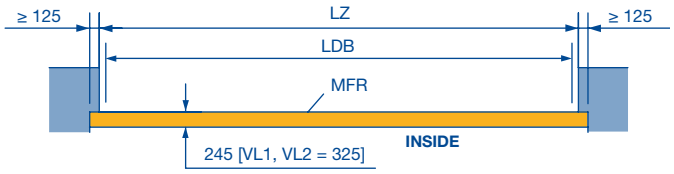
All door types available in any version.

Dimensions in mm

Track application: VU

Vertical track application
with low-mounted torsion spring shaft



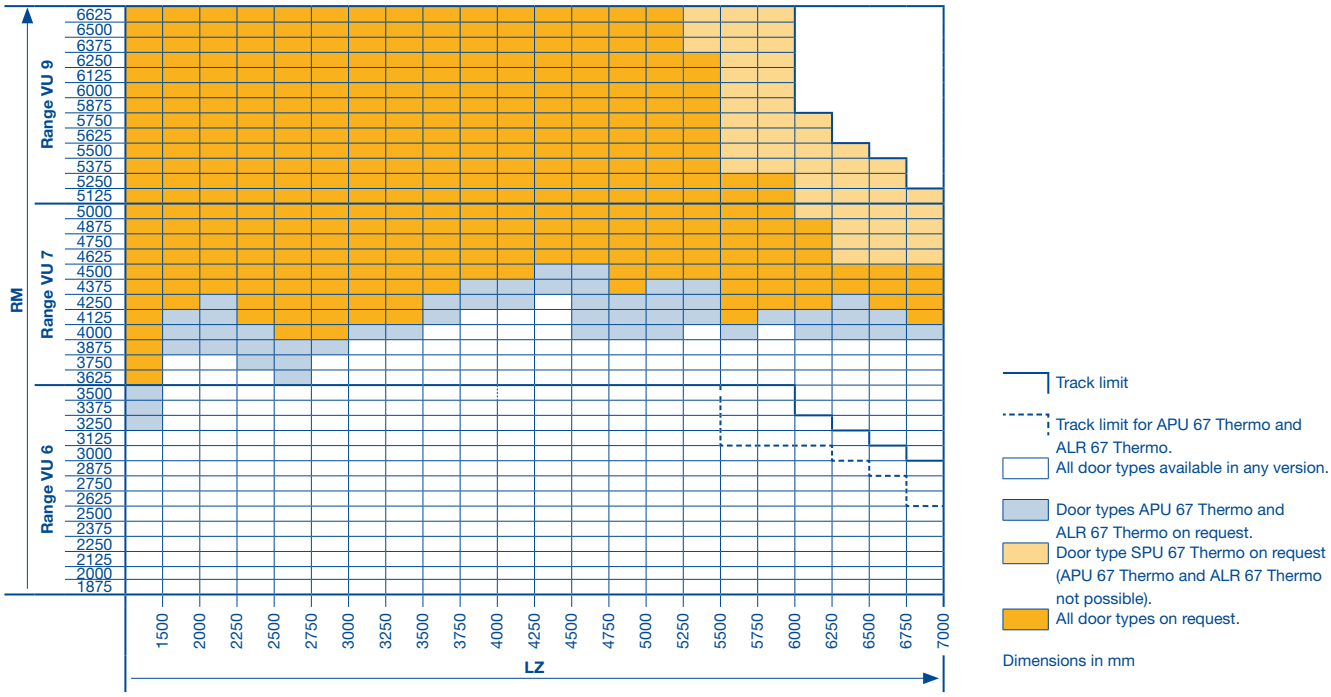


Notices:

- 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 9 – 14 and 17 – 25 under all circumstances!
- ALR 67 Thermo Glazing and doors with wicket door on request.
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Observe min. sideroom, see page 55.

DE Ceiling height = 2 × RM + 350
WE Shaft centre from lintel
VU 6 = 335
VU 7 = 355
VU 9 = 395
STH Min. headroom (see page 36)
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
LZ Clear frame dimensions **(from 1200)**
MFR Space for fitting the door
MH Fitting height 400

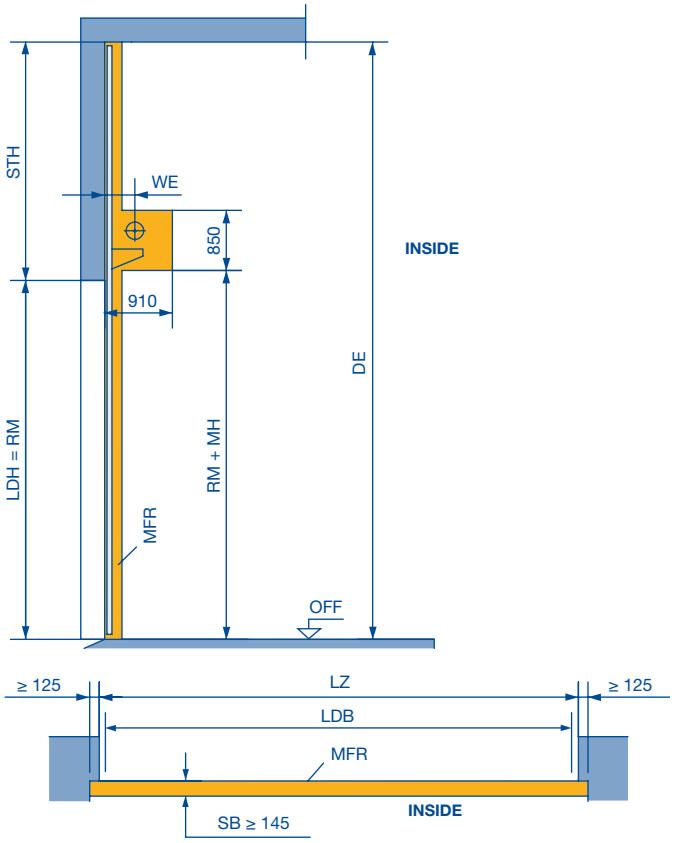


Dimensions in mm

Track application: WG

Vertical track application with low-mounted torsion spring shaft and steep track

(Application for loading ramp doors)

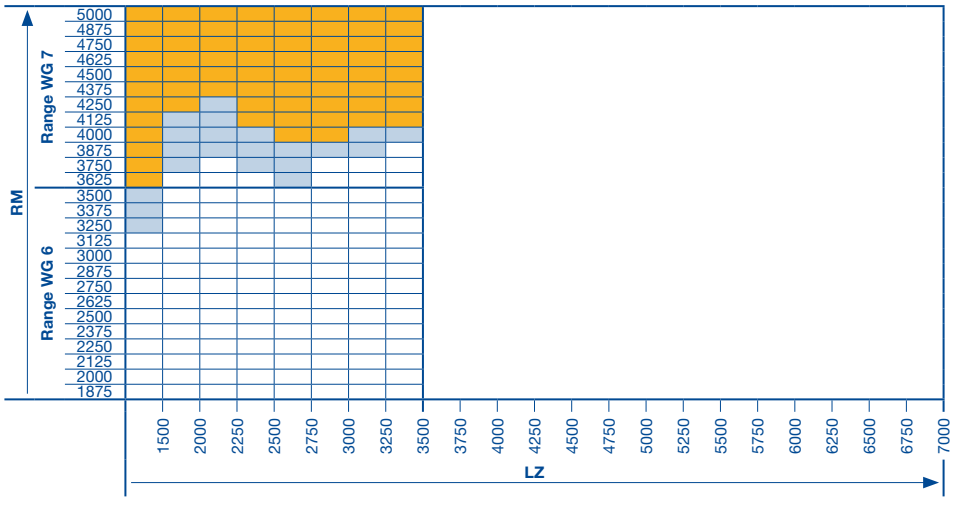


Notices:

- **Door type ALR 67 Thermo 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.
- Observe the permissible size ranges of the door types on pages 9 – 14 and 17 – 25 under all circumstances!
- The validity tables with the size range shown are based on the standard door type version (see product description). In case of deviations, the valid size ranges in the product configurator must be taken into account.

Observe min. sideroom, see page 55.

DE Ceiling height = 2 × RM + 350
WE Shaft centre from lintel
WG 6 = 295
WG 7 = 315
STH Min. headroom (see page 36)
SB Slot width
LDB Clear passage width with ThermoFrame (see page 55)
LDH Clear passage height
RM Grid height
LZ Clear frame dimensions **(from 1200)**
MFR Space for fitting the door
MH Fitting height 400



All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

All door types on request.

Dimensions in mm

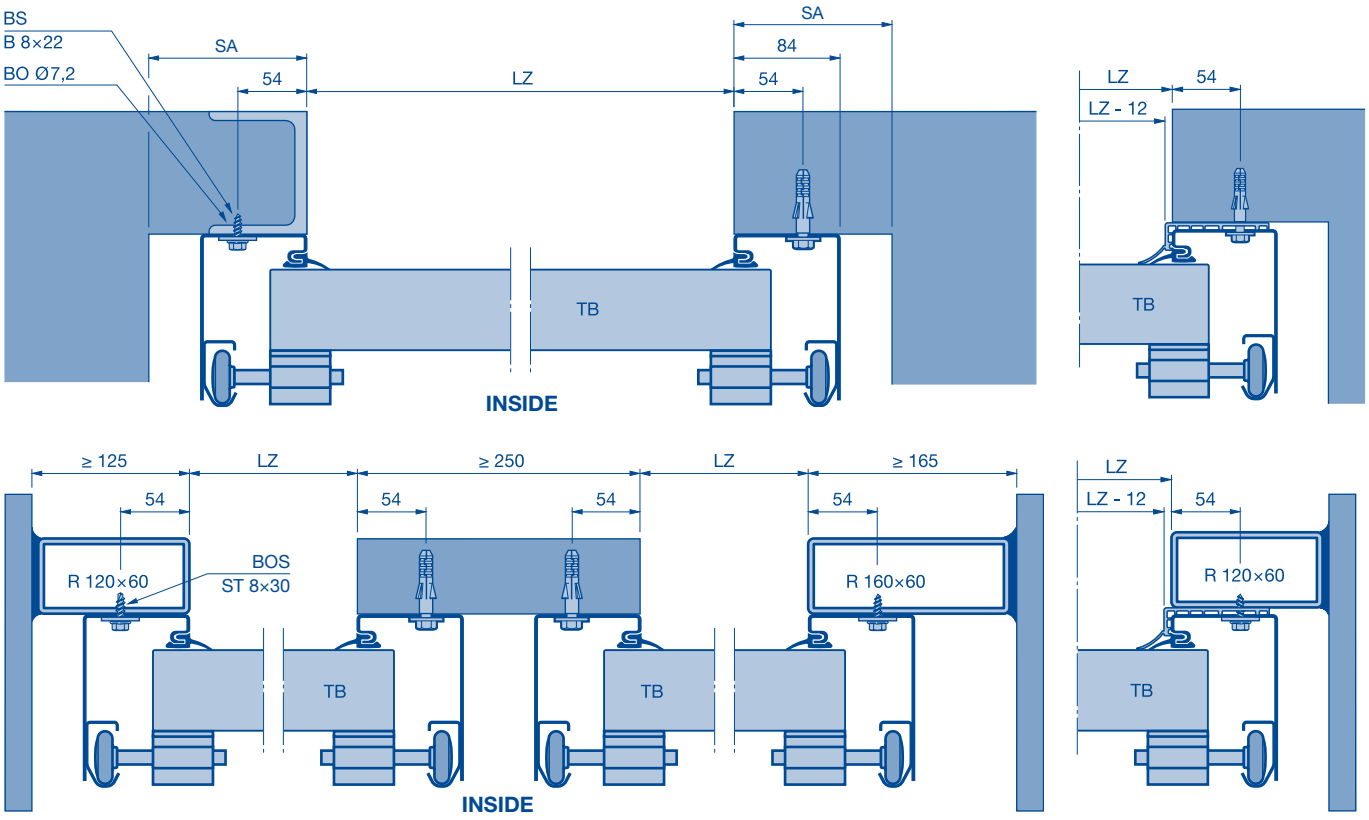
Sideroom

Required sideroom

Track application / designation		SA	Track application / designation	SA
N, NA, ND, NH, NS, GD, V, VA, VU, WG		125	Chain hoist	Page 58
H, HA, HD, HG, HU, RD, RG		150	Shaft operators	Page 60 – 67
Hand pulley	N, NA, ND, NH, NS, GD	140	Direct drive operators	Page 72
	H, HA, HD, HG, HU, RD, RG	150		
	V, VA, VU, WG	125		

Sideroom

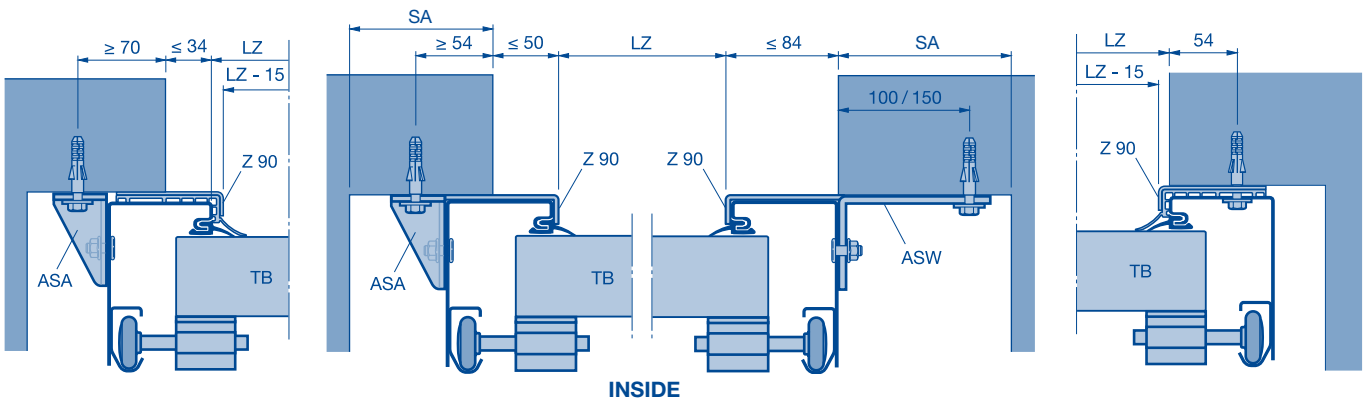
ThermoFrame version



Sideroom with frame covering

ThermoFrame version

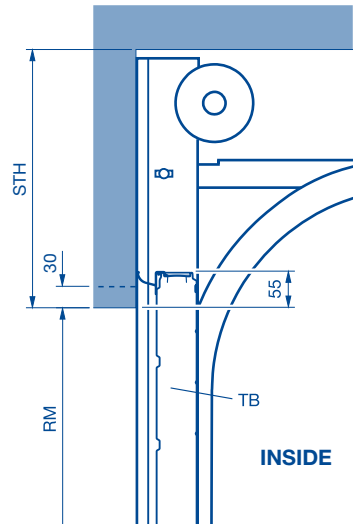
ThermoFrame version



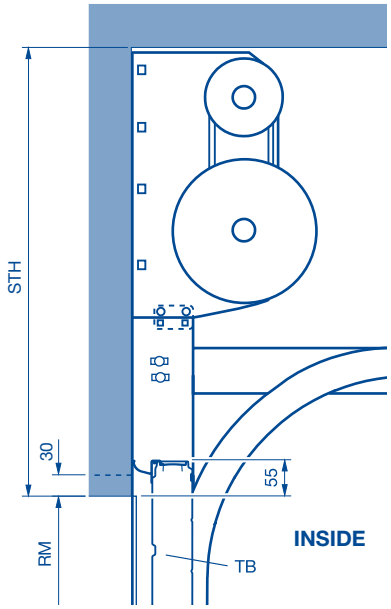
LZ	Clear frame dimension	**BS**	Self-tapping screw	**SA**	Sideroom
BO	Hole	**TB**	Door leaf	**ASA**	Screw-on anchor 70 × 40
BOS	Drilling screw	**R**	Box section	**ASW**	Screw-on bracket 70 × 120 / 170

Lintel fitting

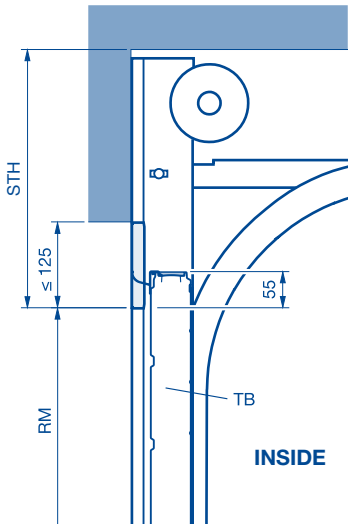
Normal lintel fitting
Lintel variation up to 30 mm high



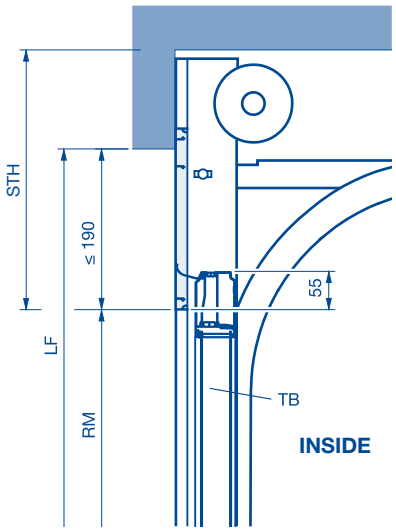
Normal lintel fitting
Double spring shaft



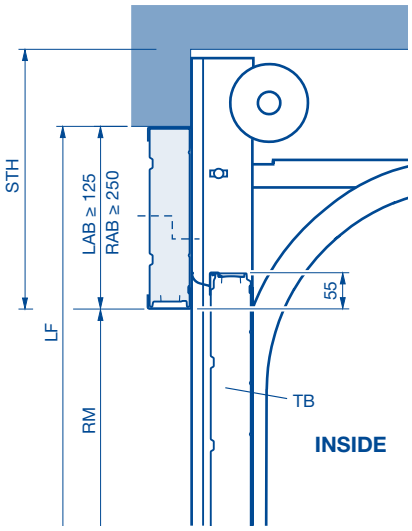
Single-skinned steel fascia for SPU 67 Thermo to make up for insufficient headroom up to 125 mm height and LZ ≤ 8000 mm
(only for track application N)



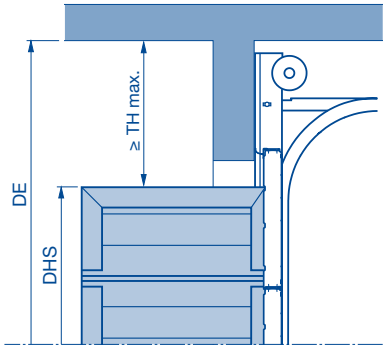
Smooth panel, anodised, for APU 67 Thermo, ALR 67 Thermo and ALR 67 Thermo Glazing to make up for insufficient headroom from 31 to 190 mm and LZ ≤ 7000 mm
(only for track application N)



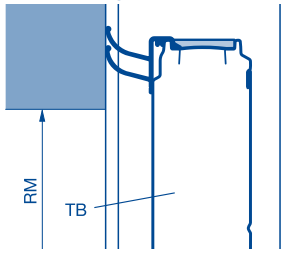
PU fascia panel to make up for insufficient headroom from 125 mm
Aluminium fascia panel to make up for insufficient headroom (see table)



Fitting clearance for multiple-point locking



Lintel fitting with ThermoFrame



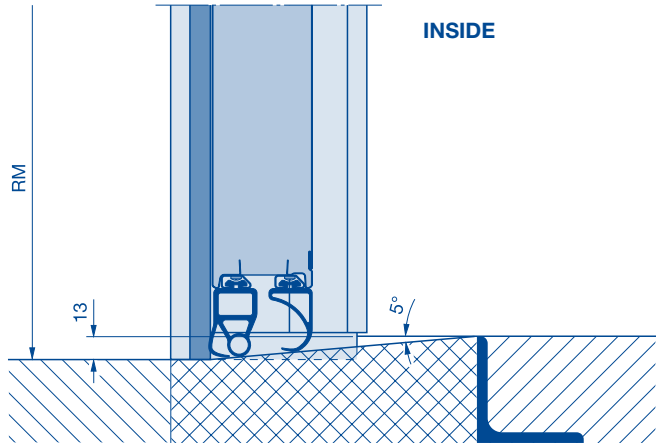
Aluminium fascia panels	
Height	**Infill type**
≥ 250	FU, XU, S3, S4, U3, U4, A3, A4, B3, B4, M3, M4

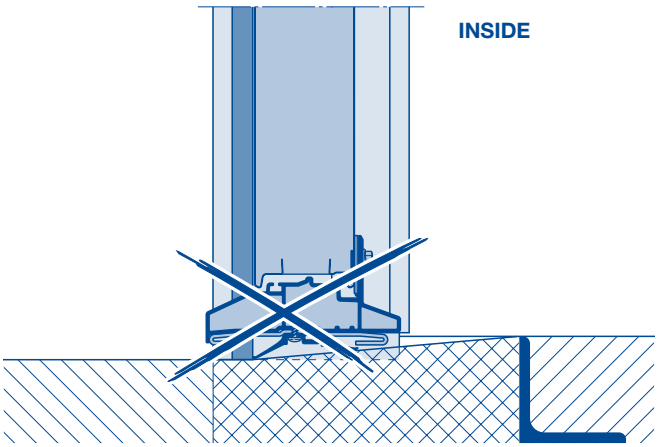
- Aluminium fascia panel with real glass infill E2 and G2 on request.

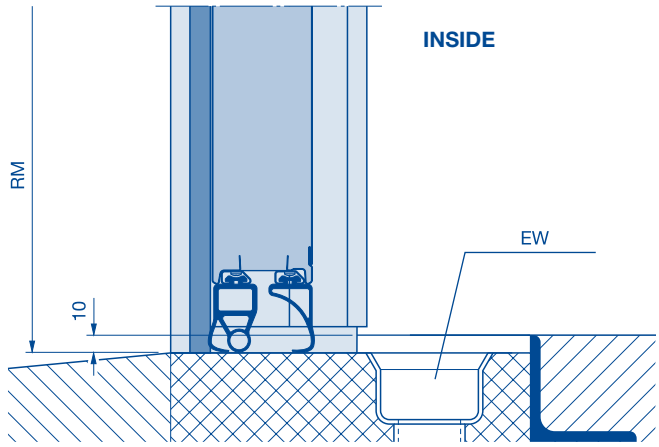
STH	Min. headroom (see page 36)
DHS	Wicket door clear passage height
RM	Grid height
TB	Door leaf
TH	Door section height
LAB	Fascia panel
RAB	Fascia panel
LF	Structural opening
LZ	Clear frame dimension

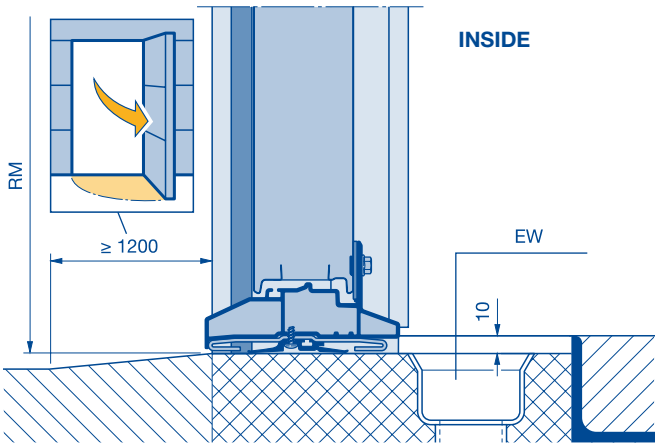
Bottom edge

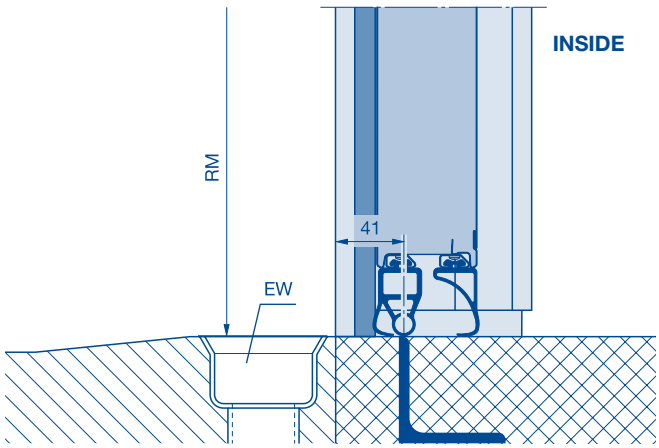
Without wicket door / with wicket door and threshold rail	With wicket door with trip-free threshold

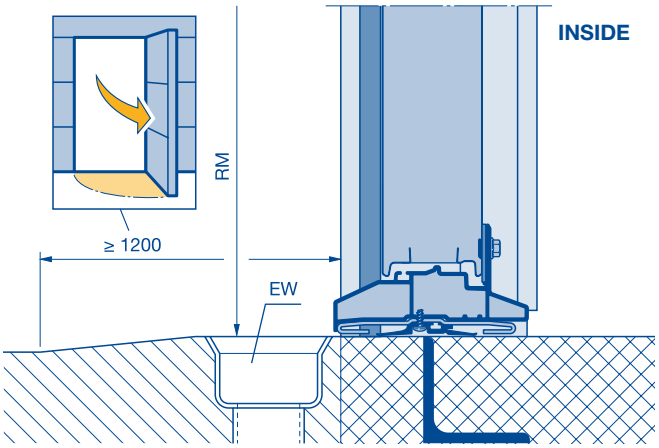










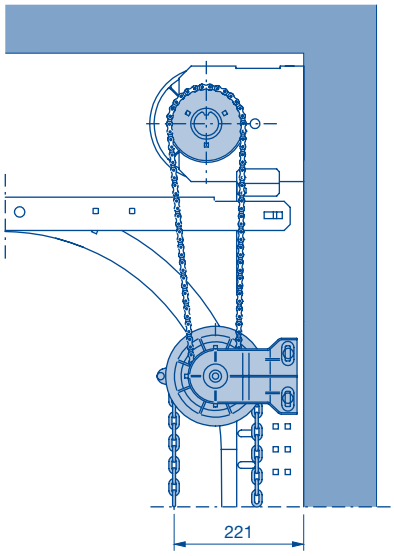


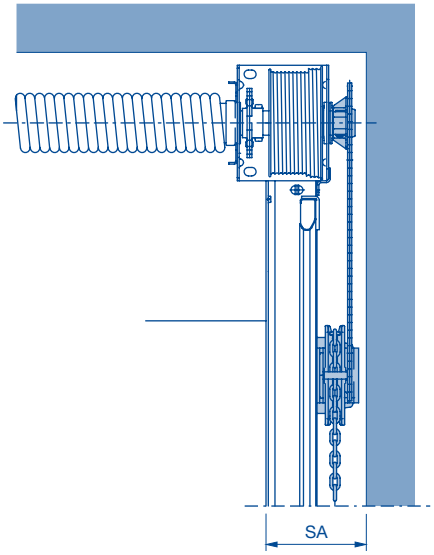
EW Drainage
RM Grid height

Chain hoist
Hand pulley
With rope or link steel chain

Chain hoist

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



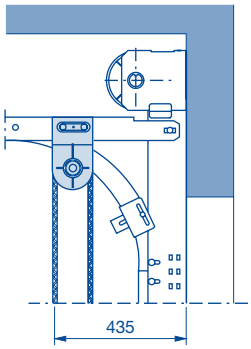


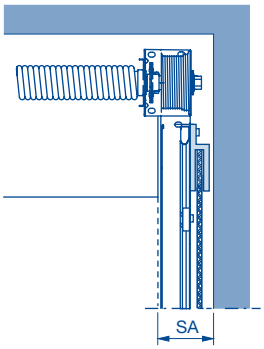
Track application	SA
N*, NA*, ND*, NH, NS*, GD*, V, VU, WG	165
H*, HA*, HD*, HG*, HU, RD, RG	185

Hand pulley with rope or link steel chain

Track applications up to 20 m² door surface

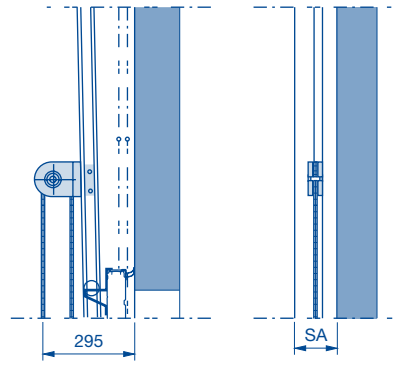
N*, NA*, ND*, NH, NS*, GD*, H*, HA*, HD*, HG*, HU, RD, RG
With rope or link steel chain



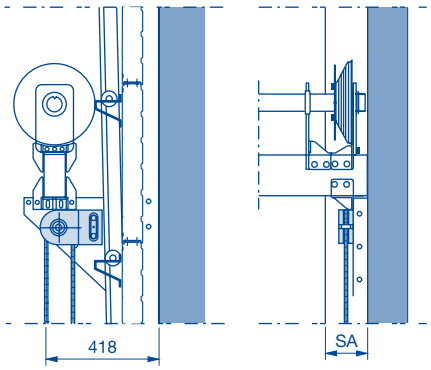


Track application	SA
N*, NA*, ND*, NH, NS*, GD*	140
H*, HA*, HD*, HG*, HU, RD, RG	150

V, VA
With rope or link steel chain



HU, RG, RD, VU, WG
With rope or link steel chain



Track application	SA
V, VA, VU, WG	125
HU, RG, RD	150

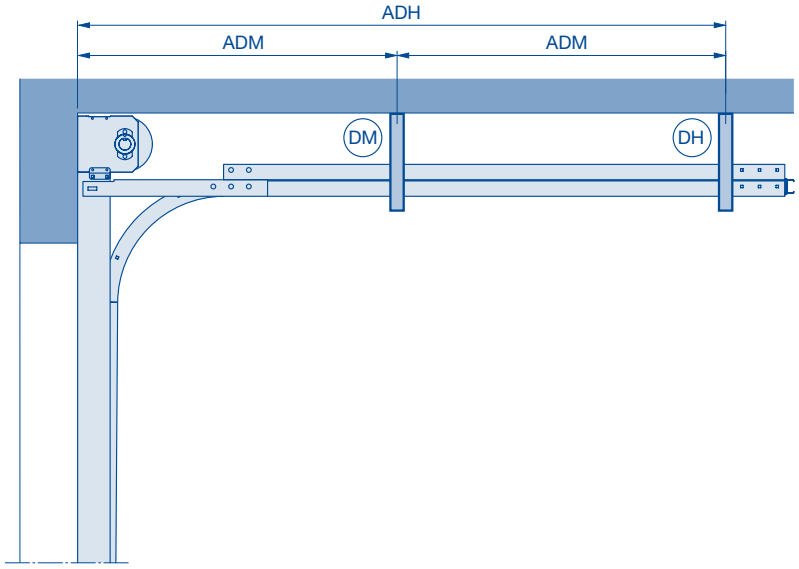
* For information on trap guard, see page 5
SA Sideroom

Ceiling anchors

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

DH = rear ceiling anchor (see pages 36 – 54), door weights for roof loads (see page 36).

Double track (suspensions), door heights RM ≤ 5000



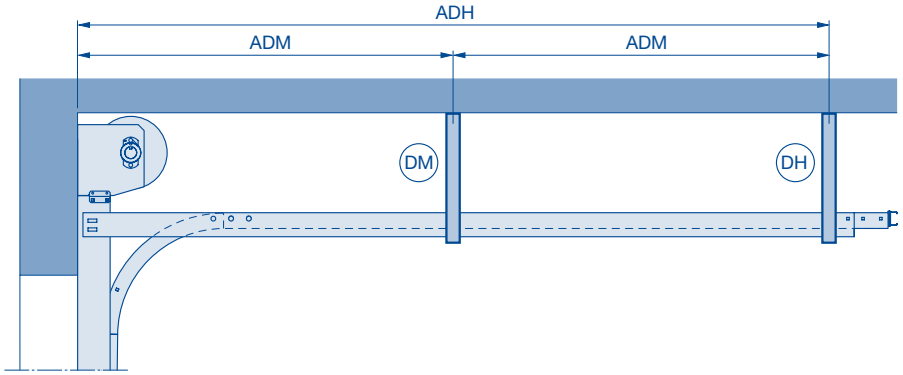
Double track (suspensions), door heights RM ≤ 5000				
LZ	ADH	DM	DH	ADM
≤ 7000	– 1580	–	1	–
	1585 – 3745	1	1	ADH/2
	3755 – 5220	2	1	ADH/3
> 7000	– 1320	–	1	–
	1325 – 2220	1	–	ADH/2
	2225 – 3470	2	1	ADH/3
	3475 – 5220	3	1	ADH/4

Max. distance of suspensions (ADM) (Door height RM ≤ 5000)	
LZ	Max. ADM ***
≤ 3000	2300
3010 – 4000	2200
4010 – 5000	2100
5010 – 7000	1875
7010 – 8000	1310

Notices:

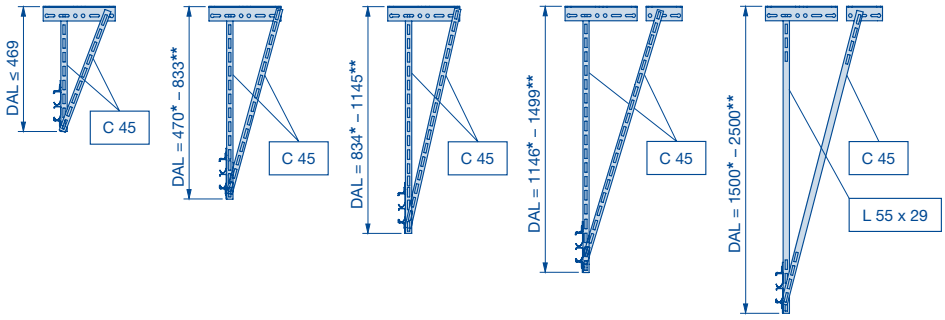
- On-site fastening elements must be able to absorb forces up to 1.5 kN per fixing point!
- Always obtain the permission of the structural engineer before fastening the door system to supporting structural elements.

C-rail (suspensions) all track sizes, door height RM > 5000



C-rail (suspensions) all track sizes, door heights RM > 5000			
ADH	DM	DH	ADM
≤ 6320	1	1	ADH/2
> 6320	2	1	ADH/2

Track suspensions as ceiling anchors in five lengths, standard length 469 mm



* Min.
** Max.
*** Except for doors with wicket door, real glass infill, Vitraplan, facade doors, ALR / APU 67 Thermo. For LZ ≤ 7000 mm max. ADM = 1875 mm and for LZ > 7000 mm max. ADM = 1310 mm applies.

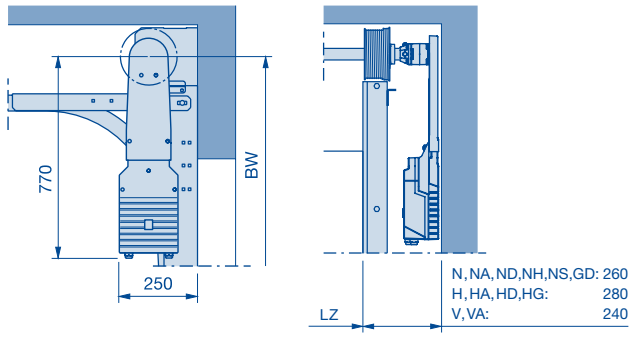
DH Rear ceiling anchor
DM Central ceiling anchor
DAL Ceiling anchor length
ADH Distance to rear ceiling anchor
ADM Distance to central ceiling anchor

Shaft operator WA 300

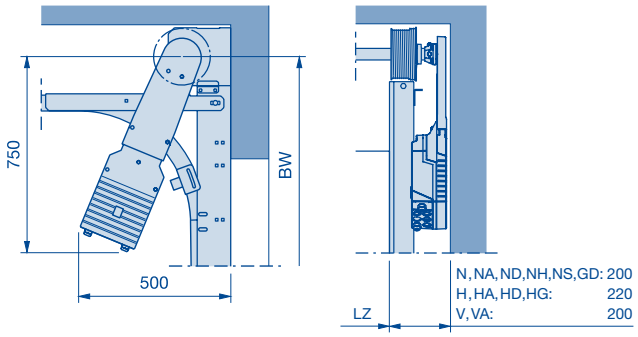
Shaft operator WA 300 for track applications N, NA, ND, NH, NS, GD, H, HA, HD, HG, V and VA

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

Fitting example ⑧ right



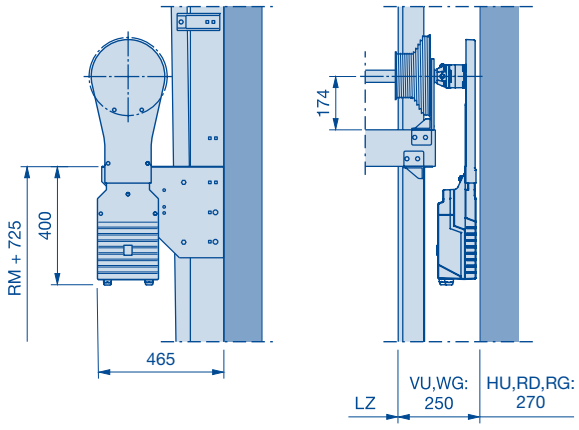
Fitting example ⑨ right



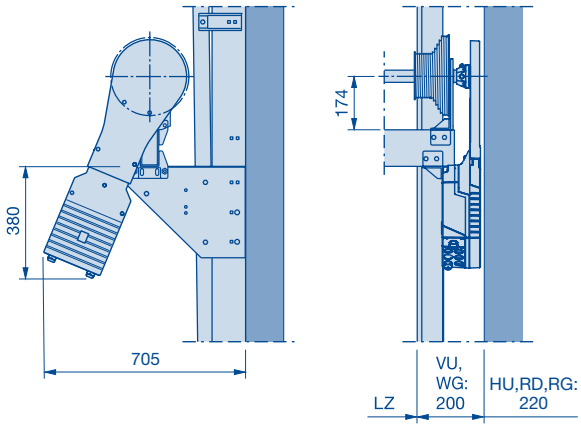
Shaft operator WA 300 for track applications HU, RD, RG, VU and WG

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

Fitting example ⑧ right



Fitting example ⑨ right



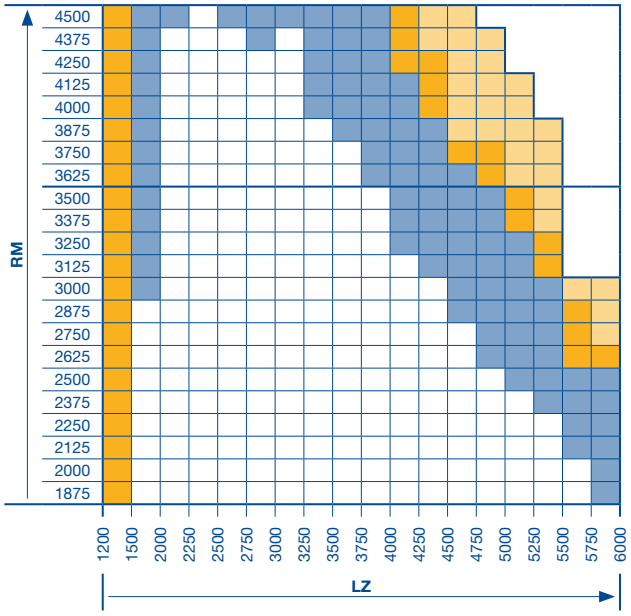
*** Notice:**
ALR 67 Thermo Glazing and doors with real glass infill are not possible!

LZ Clear frame dimension
BW Position of shaft support

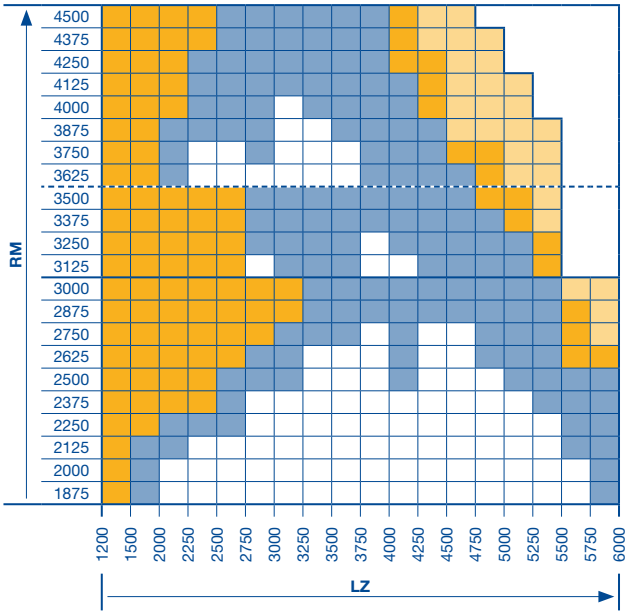
Shaft operator WA 300

Size range WA 300

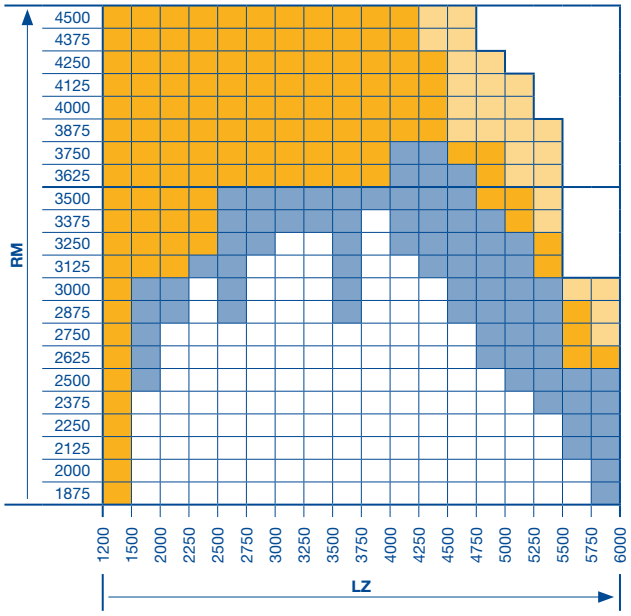
Track applications: N, NA and NH



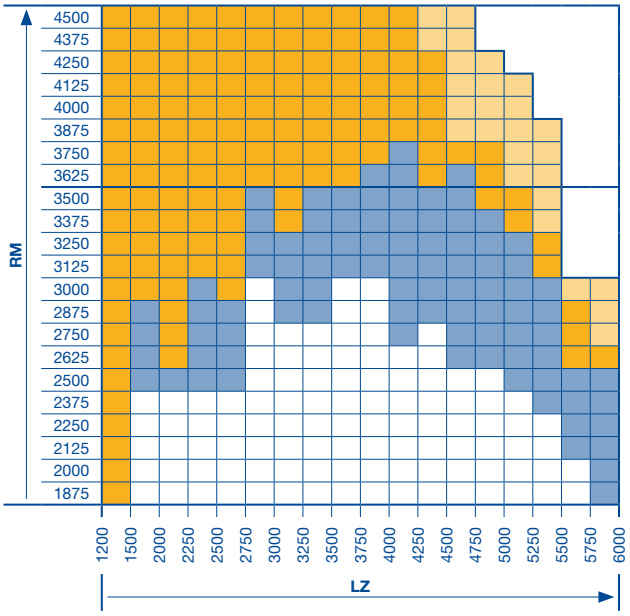
Track applications: ND and GD



Track application: H, HA, HG, HU and RG



Track application: HD and RD



All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

Only door type SPU 67 Thermo on request.
Door type APU 67 Thermo and ALR 67 Thermo not possible.
All door types and versions on request.

Notice:
Track application NS on request!

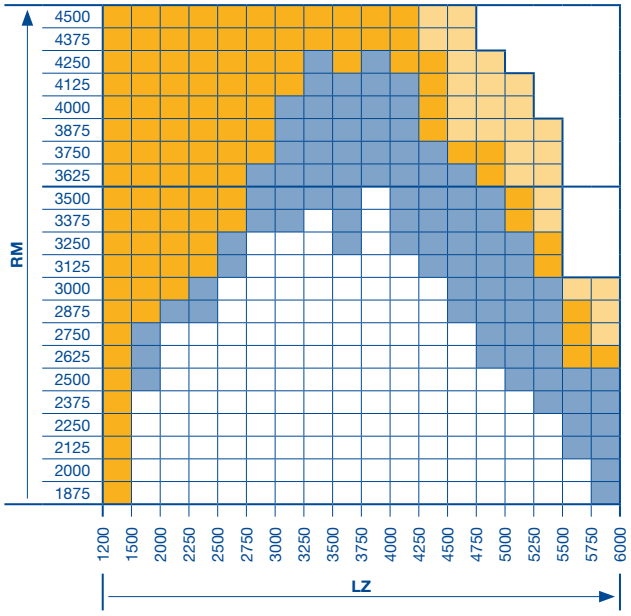
LZ Clear frame dimension
RM Grid height

Dimensions in mm

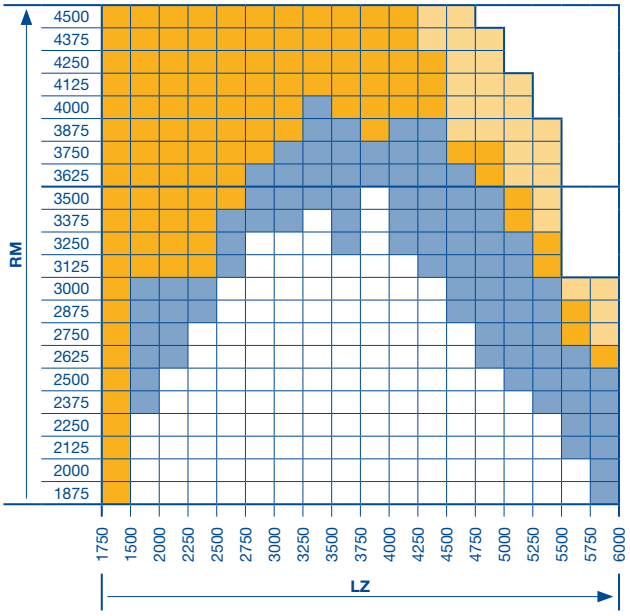
Shaft operator WA 300

Size range WA 300

Track application: V and VA



Track application: VU and WG



All door types available in any version.

Door types APU 67 Thermo and ALR 67 Thermo on request.

Only door type SPU 67 Thermo on request.
Door type APU 67 Thermo and ALR 67 Thermo not possible.
All door types and versions on request.

LZ Clear frame dimension
RM Grid height

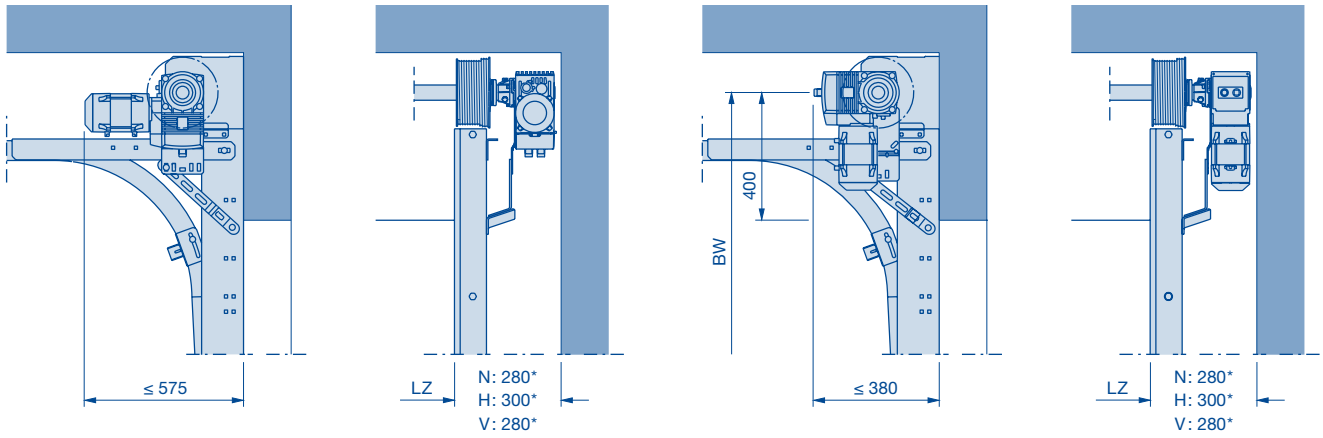
Dimensions in mm

Shaft operator WA 400

As a frame-mounted operator

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

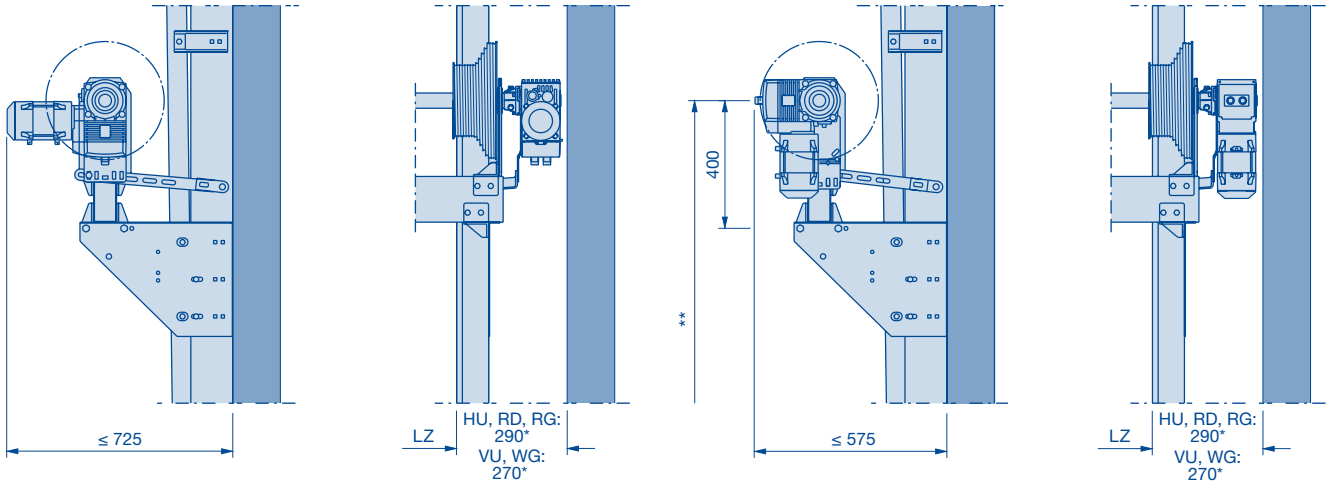
As shown in the figure, the operator can be fitted either left or right, viewed from the inside.



*** Notice:**
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.



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

** On request

LZ Clear frame dimension

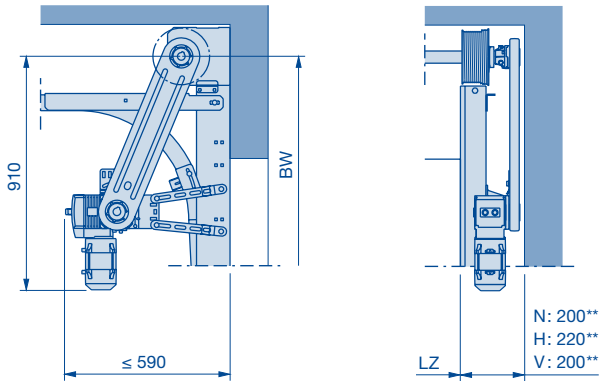
Shaft operator WA 400

With chain box

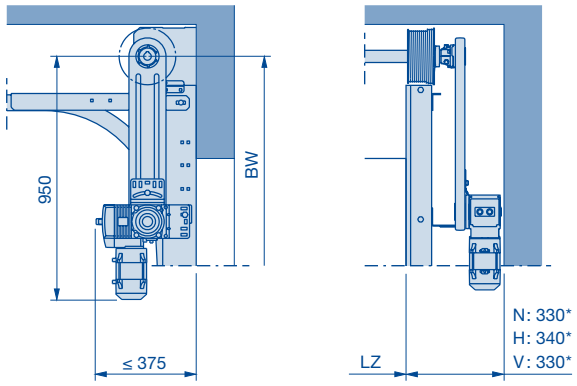
Shaft operator WA 400 for all track applications, except HU, RD, RG, VU and WG

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



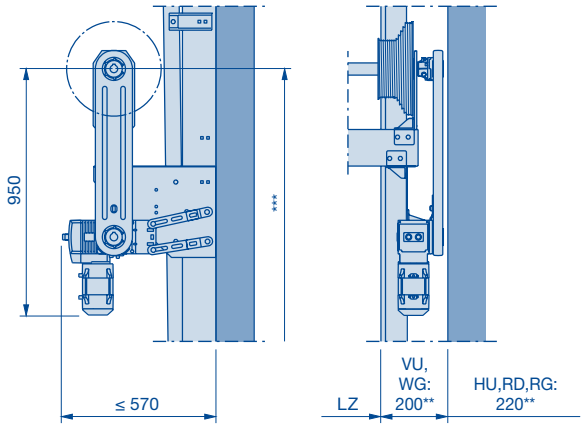
Fitting example ⑥ right



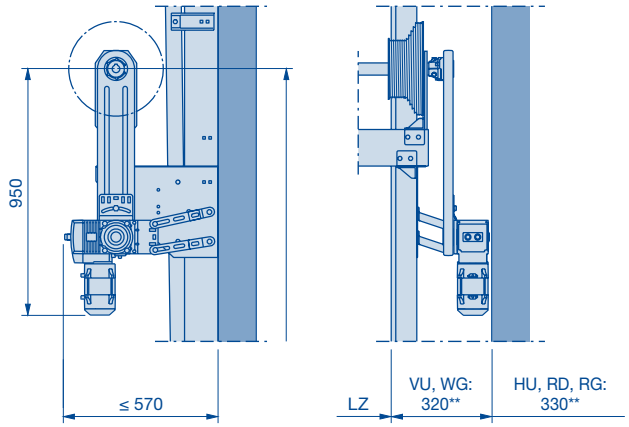
Shaft operator WA 400 for track applications HU, RD, RG, VU and WG

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



Notice:
* Dimension + 75 mm if using a non-jointed emergency crank handle
** Dimension + 40 mm if using a non-jointed emergency crank handle

*** On request

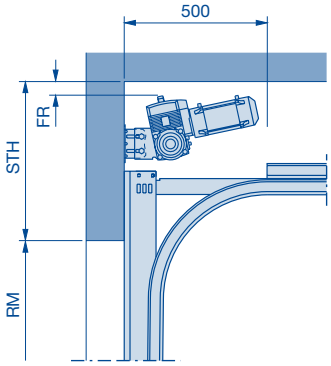
BW Position of shaft support
LZ Clear frame dimension

Shaft operator WA 400

For central mounting

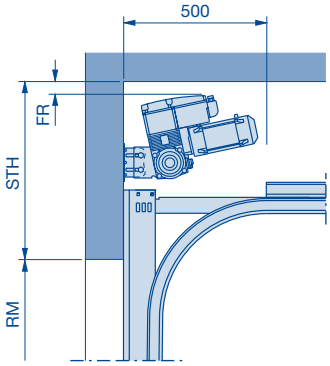
Shaft operator WA 400 for track applications N and ND

Control A / B 445, 460



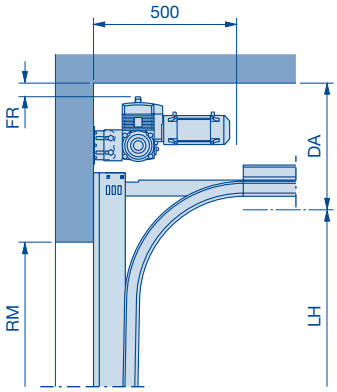
Track application	A / B 445, 460		B 460 FU	
	STH min.	FR min.	STH min.	FR min.
N 1	555	45	625	45
N 2	585	50	650	45
N 3 (RM > 7000)	–	–	710 (810)	45
ND 1	555	65	585	48
ND 2	585	75	605	48
ND 3 (RM > 7000)	–	–	710 (810)	48

Control B 460 FU



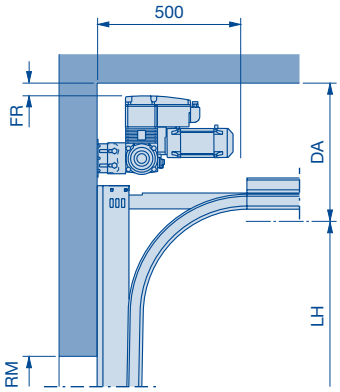
Shaft operator WA 400 for the track applications NH and GD

Control A / B 445, 460



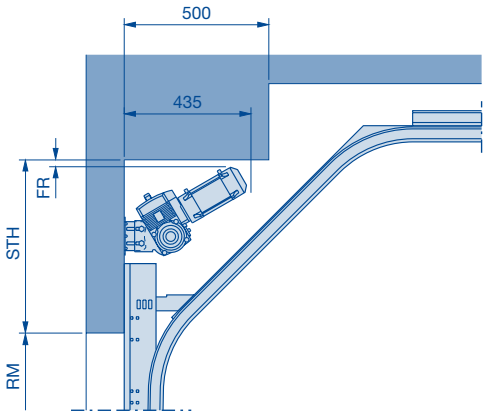
Track application	A / B 445, 460		B 460 FU	
	Min. DA	FR min.	Min. DA	FR min.
NH 1 / GD 1	415	50	480	45
NH 2 / GD 2	440	50	485	45
NH 3	–	–	565	45

Control B 460 FU

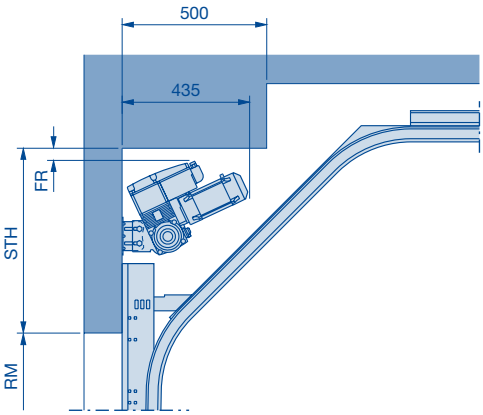


Shaft operator WA 400 for track application NS

Control A / B 445, 460



Control B 460 FU



Track application	A / B 445, 460		B 460 FU	
	STH min.	FR min.	STH min.	FR min.
NS 1	605	20	650	45
NS 2	635	25	675	45

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

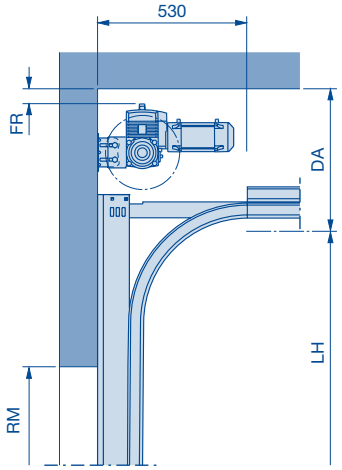
STH Lintel height
RM Grid height
DA Distance to ceiling
LH Track height
FR Clearance ceiling / shaft operator

Shaft operator WA 400

For central mounting

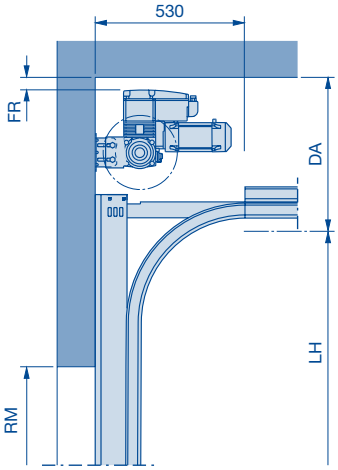
Shaft operator WA 400 for track applications H, HG and HD

Control A / B 445, 460



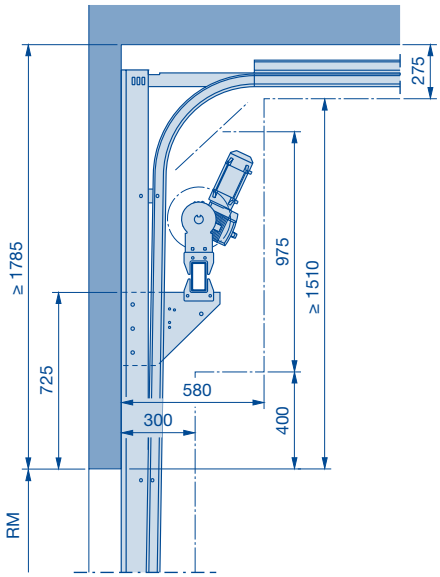
Track application	A / B 445, 460		B 460 FU	
	Min. DA	FR min.	Min. DA	FR min.
H 4, HG 4	500	55	540	45
H 5, HG 5	500	55	540	45
H 8	–	–	565	45
HD	on request			

Control B 460 FU

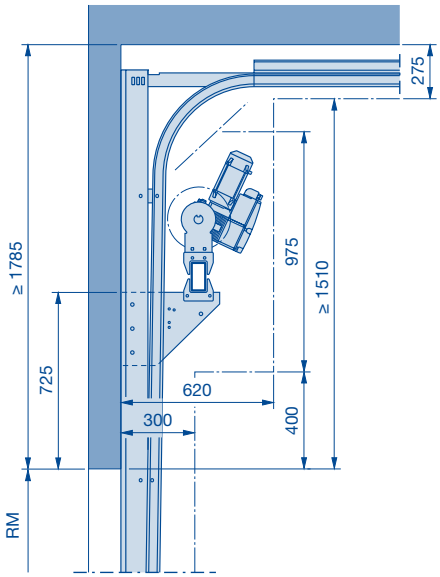


Shaft operator WA 400 for track applications HU, RD and RG

Control A / B 445, 460



Control B 460 FU



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

RM Grid height
DA Distance to ceiling
LH Track height
FR Clearance ceiling / shaft operator

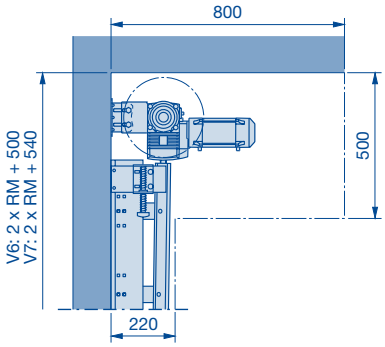
Shaft operator WA 400

For central mounting

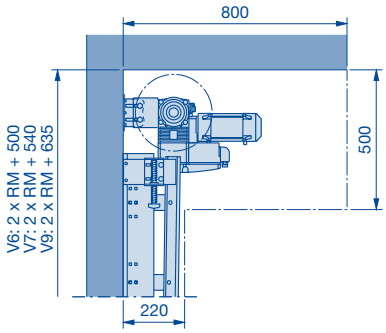
Chain drive operator ITO 400

Shaft operator WA 400 for track application V

Control A / B 445, 460

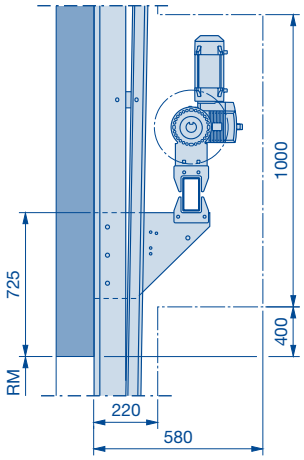


Control B 460 FU

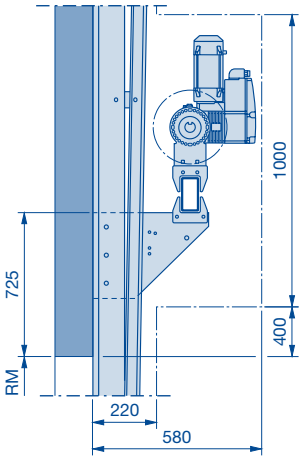


Shaft operator WA 400 for track applications VU and WG

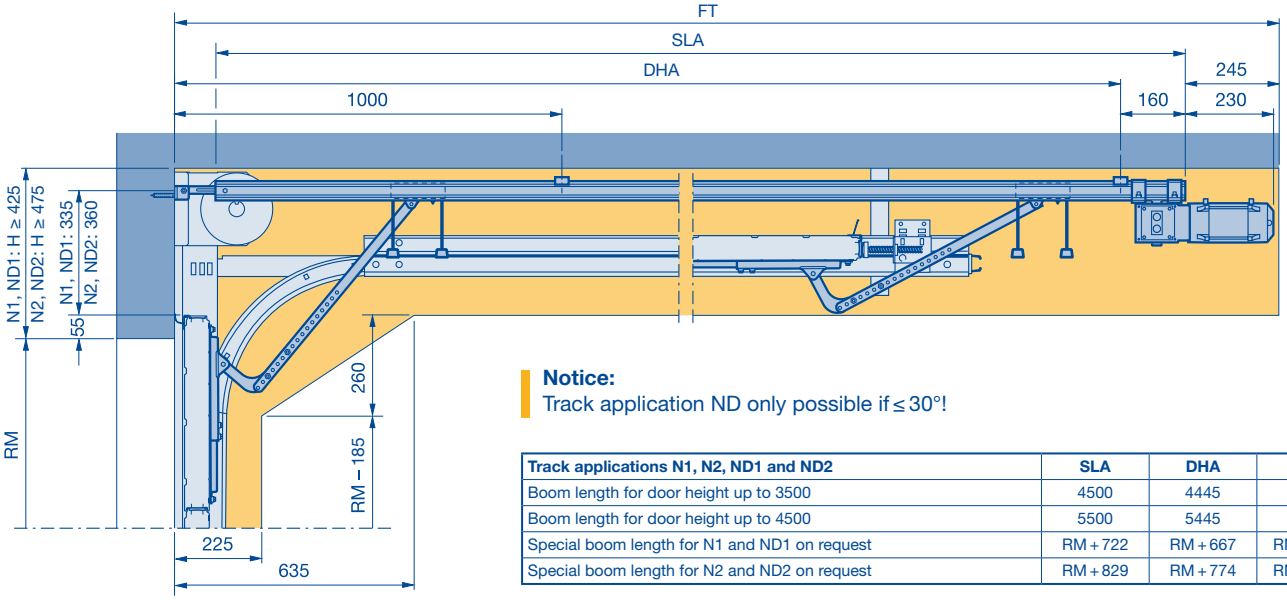
Control A / B 445, 460



Control B 460 FU



ITO 400 track application N and ND up to LZ ≤ 8000 (doors with wicket door on request)



Notice:
Track application ND only possible if ≤ 30°!

Track applications N1, N2, ND1 and ND2	SLA	DHA	FT
Boom length for door height up to 3500	4500	4445	4850
Boom length for door height up to 4500	5500	5445	5850
Special boom length for N1 and ND1 on request	RM + 722	RM + 667	RM + 1072
Special boom length for N2 and ND2 on request	RM + 829	RM + 774	RM + 1179

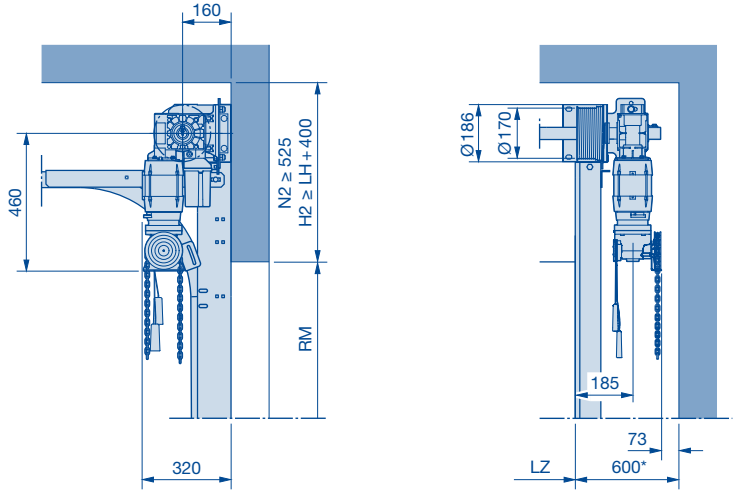
Notice:
WA 400 as a centre motor in conjunction with double spring shaft on request!

H	Lintel height	**LH**	Track height	**SLA**	Operator boom length
RM	Grid height	**F**	Clearance ceiling / shaft operator	**DHA**	Operator rear ceiling anchor
DA	Distance to ceiling	**FT**	Clearance for door operator		

Direct drive operators S17.24 and S35.30

With door leaf speeds

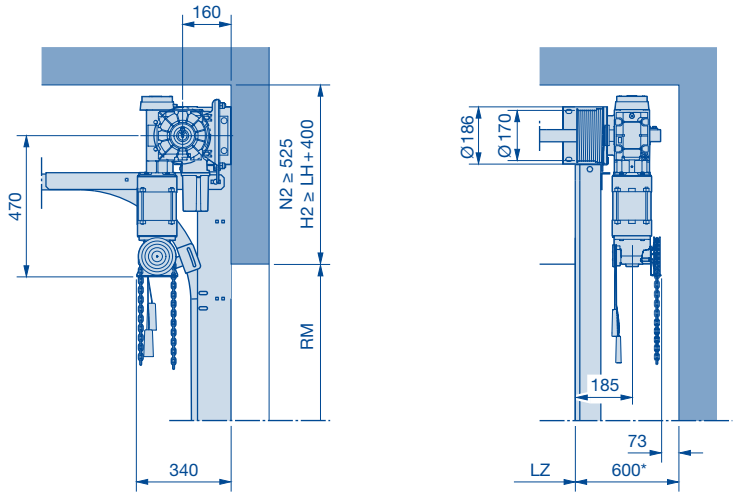
Direct drive operator S17.24



Door leaf speeds – Control 445 R and 460 R

Direct drive operator	Cable drum diameter in mm	Max. speed in mm/s – Open / Close
S17.24	170	210

Direct drive operator S35.30



Door leaf speeds – Control 445 R and 460 R

Direct drive operator	Cable drum diameter in mm	Max. speed in mm/s – Open / Close
S35.30	170	265

LZ Clear frame dimension
RM Grid height
* 355 mm for complete assembly with operator shaft

Shaft operator WA 300 / WA 400
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.)

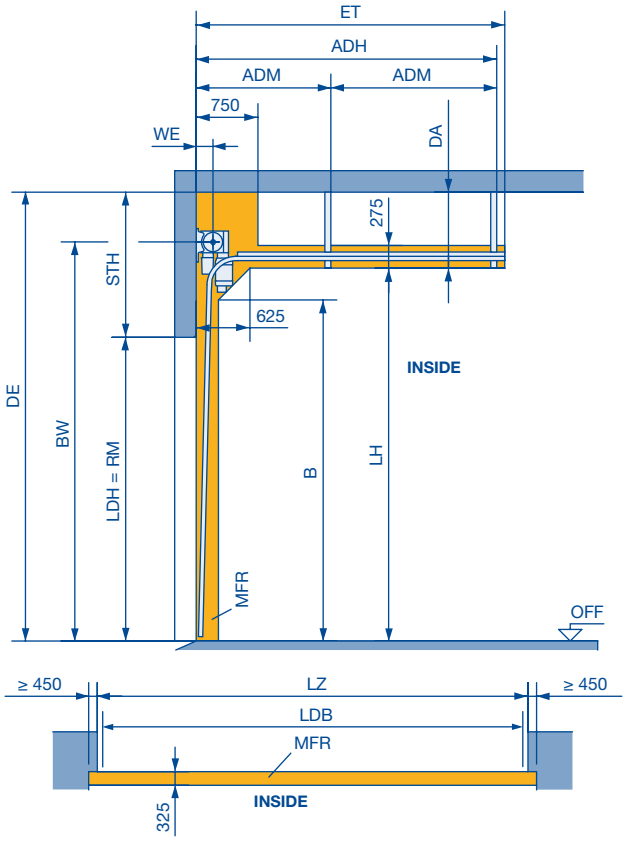
Fitting	WA 300 S4		WA 400													
	Integrated / external control 360		Control 445 and 460								Control B 460 FU					
	Control with optosensors VL 1, VL 2, HLG	Control with power limit	Frame-mounted operator				Chain box operator				Frame-mounted operator [1]	Chain box operator [1]	Without twin roller	With twin roller	Without twin roller	With twin roller
			A control with optosensors B control with optosensors or VL 1 / 2; HLG		A control VL 1, VL 2; HLG		A control with optosensors B control with optosensors or VL 1 / 2; HLG		A control VL 1, VL 2; HLG				Optosensors		VL 1, VL 2 (HLG)	
	Max. speed in mm/s, Open / Close	Max. speed in mm/s, Open / Close [5]	rpm [1]	Max. speed in mm/s, Open / Close	rpm [1]	Max. speed in mm/s, Open / Close	rpm [1]	Max. speed in mm/s, Open / Close	rpm [1]	Max. speed in mm/s, Open / Close			Max. speed in mm/s, Open / Close	Max. speed in mm/s, Open / Close	Max. speed in mm/s, Open / Close	Max. speed in mm/s, Open / Close
N1, NA1, NH1, NS1, GD1, ND1 ≤ 30°	190	95	24	150	30	190	24	190	30	190	Yes	Yes	300 / 200	375 / 200	300 / 300	375 / 300 (375)
N2, NA2, NH2, NS2, GD2, ND2 ≤ 30°	210	105	19	170		265	19	210		265				450 / 200		450 / 300 (450)
N3, NH3, ND3	–	–	–	–	–	–	16	190	16	190				450 / 200		
ND1 > 30°	160 / 190	80 / 95	19	190	24	300	19		24	300				450 / 200		
ND2 > 30°	190	95	16		19	275	16		19	275				375 / 200		375 / 300 (375)
H4, HA4, HG4, HU4, HD4, RD4, RG4	160 / 190 [1;4]	80 / 95 [1;4]	19 / 16	180	30 / 24	290	19 / 16	180	30 / 24	290				450 / 200		450 / 300 (450)
H5, HG5, HU5, HD5, RD5, RG5	210	105	19 / 16 [2]	210 [2]	24 / 19		19 / 16	210	24 / 19					440 / 200		440 / 300 (440)
H8, HD8	–	–	–	–	–	–	16 [2]	250 [2]	16	250				450 / 200	300 / 300	450 / 300 (450)
V6, VA6, VU6, WG6	160 / 190 [1;4]	80 / 95 [1;4]	16	180	24	300	16	180	24	300			450 / 200 [3]		450 / 200 (450) [3]	
V7, VU7, WG7	190	95	16	190	19	275	13	170	19	275			440 / 200 [3]		440 / 200 (440) [3]	
V9, VU9	–	–	–	–	–	–	16 [2]	250 [2]	16	250						

[1] Speed corresponding to high-lift / door height (RM)
[2] Only possible with press-and-hold operation
[3] Twin rollers not required with track applications V and VU!
[4] Max. speed depending on the clear frame dimensions
[5] From 2500 mm above FFL to FFL without closing edge safety device to comply with EN 13241-1

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

Track application: H with direct drive operator S75 / S140

High-lift track application



Notices:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- The direct drive operator is generally available on request.

Door weights for roof loads:

SPU 67 Thermo	= 450 N/m²
APU 67 Thermo / ALR 67 Thermo	= 500 N/m²
ALR 67 Thermo Glazing	= 600 N/m²

- Other versions on request
- Observe the min. sideroom, see page 55

LDH Clear passage height
RM Grid height
LH Track height = ceiling height – 740
Max. LH = 2 × RM – 815 (max. LH ≤ 10200)
BW Position of shaft support = LH + 350
ET Min. distance back = 2 × RM – LH + 785
ADH Distance to rear ceiling anchor = 2 × RM – LH + 419
ADM Distance to central ceiling anchor (see page71)
WE Shaft centre from lintel

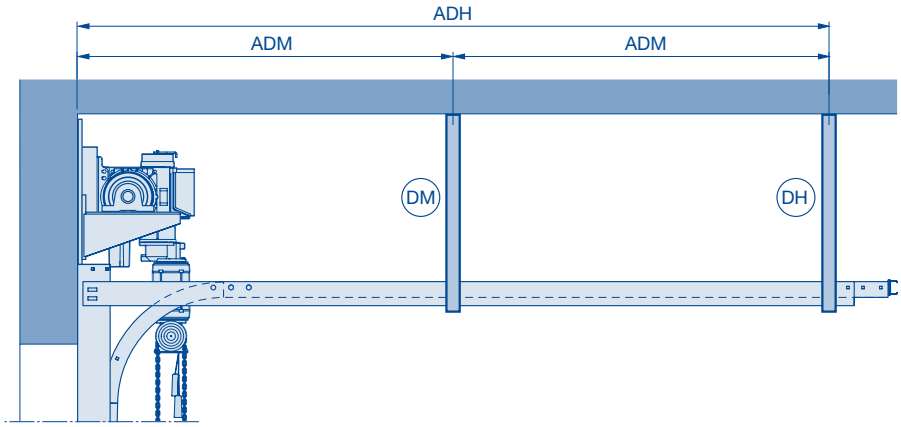
WE	RM	Cable drum
145	≤ 6000	Ø 250
205	> 6000	Ø 355

STH Min. headroom = 1200
DA Min. distance to ceiling = 740
DE Ceiling height
LZ Clear frame dimension
LDB Clear passage width with ThermoFrame (see page 55)
MFR Space for fitting the door
B Start of double radius, LH – 325

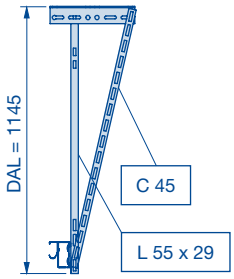
Ceiling anchors

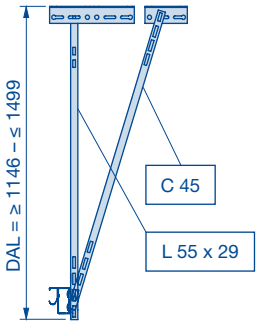
Track suspensions for track application H with direct drive operator

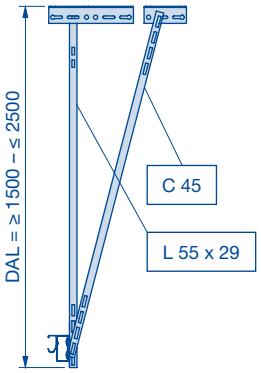
Track suspensions as ceiling anchors in five lengths, standard length 1145 mm.
DH = rear ceiling anchor (see page 70), door weights for roof loads (see page 70).



C-rail (suspensions) only track application size H 10, H 11				
LZ	**ADH**	**DM**	**DH**	**ADM**
≤ 6000	1234 ≤ 1561	–	1	–
	1562 ≤ 7976	1	1	ADH/2
> 6000	1234 ≤ 1561	–	1	–
	1562 ≤ 3726	1	1	ADH/2
	3727 ≤ 5976	2	1	ADH/3





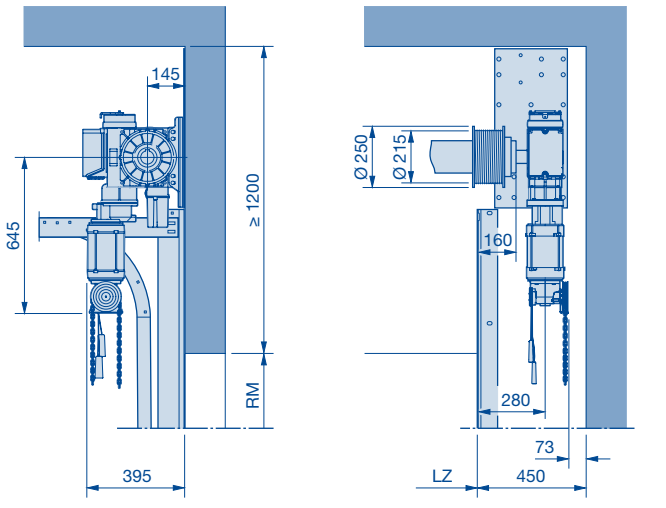


DH Rear ceiling anchor
DM Central ceiling anchor
LZ Clear frame dimension
DAL Ceiling anchor length
ADH Distance to rear ceiling anchor
ADM Distance to central ceiling anchor

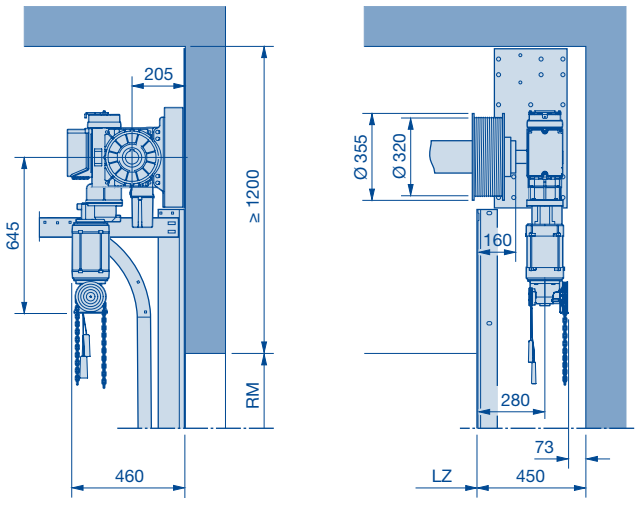
Direct drive operators S75 and S140

Direct drive operators S75 and S140 for track application H

RM ≤ 6000



RM > 6000



Door leaf speeds – Control 445 R and 460 R

Direct drive operator	Cable drum diameter in mm	Max. speed in mm/s – Open / Close
S75	215	110
S75	320	170
S140	215	80
S140	320	120

LZ Clear frame dimension
RM Grid height

Infill overview
Determination of the roof slope

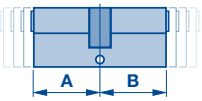
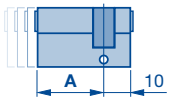
Infill overview	SPU 67 Thermo	APU 67 Thermo	ALR 67 Thermo	ALR 67 Thermo Glazing
Infill type	**Abbreviation**			
PU infill, 51 mm with Stucco-textured aluminium sheet cover on both sides, $U_g = 0.54$ W/(m²·K)	–	FC	FC	–
PU infill, 51 mm with anodised smooth aluminium sheet cover on both sides, $U_g = 0.54$ W/(m²·K)	–	XU	XU	–
PU infill, 26 mm with anodised smooth aluminium sheet cover on both sides, $U_g = 1.2$ W/(m²·K) [3]	TU	TU	TU	–
Synthetic triple pane, clear, 51 mm, $U_g = 1.8$ W/(m²·K)	S3	S3	S3	–
Synthetic triple pane, crystal structure, 51 mm, $U_g = 1.6$ W/(m²·K)	U3	U3	U3	–
Synthetic triple pane, grey tinted, 51 mm, $U_g = 1.6$ W/(m²·K)	A3	A3	A3	–
Synthetic triple pane, brown tinted, 51 mm, $U_g = 1.6$ W/(m²·K)	B3	B3	B3	–
Synthetic triple pane, white tinted (opal), 51 mm, $U_g = 1.6$ W/(m²·K)	M3	M3	M3	–
Synthetic quadruple pane, clear, 51 mm, $U_g = 1.3$ W/(m²·K)	S4	S4	S4	–
Synthetic quadruple pane, crystal structure, 51 mm, $U_g = 1.3$ W/(m²·K)	U4	U4	U4	–
Synthetic quadruple pane, grey tinted, 51 mm, $U_g = 1.3$ W/(m²·K)	A4	A4	A4	–
Synthetic quadruple pane, brown tinted, 51 mm, $U_g = 1.3$ W/(m²·K)	B4	B4	B4	–
Synthetic quadruple pane, white tinted (opal), 51 mm, $U_g = 1.3$ W/(m²·K)	M4	M4	M4	–
Double pane made of single-pane safety glass, 26 mm, $U_g = 2.6$ W/(m²·K) [1]	E2	E2	E2	E2
Double pane made of laminated safety glass P4A, 26 mm, $U_g = 1.3$ W/(m²·K) [3]	W2	W2	W2	–
Climatic double pane made of single-pane safety glass, 26 mm, $U_g = 1.1$ W/(m²·K) [1]	G2	G2	G2	G2
Prepared for on-site infill [2]	BS	BS	BS	–

[1] Only for door width up to 6000 mm on request
[2] On request; infill weight and thickness must be specified (anodised glazing beads required)
[3] Only NT80 Thermo with RC 2 version

Determining the roof slope in degrees (a°)

a°	%	X (mm)	a°	%	X (mm)	a°	%	X (mm)
1	1,75	17,5	16	28,67	286,7	31	60,09	600,9
2	3,49	34,9	17	30,57	305,7	32	62,49	624,9
3	5,24	52,4	18	32,49	324,9	33	64,95	649,5
4	6,99	69,9	19	34,43	344,3	34	67,46	674,6
5	8,75	87,5	20	36,40	364,0	35	70,03	700,3
6	10,51	105,1	21	38,39	383,9	36	72,66	726,6
7	12,28	122,8	22	40,40	404,0	37	75,36	753,6
8	14,05	140,5	23	42,45	424,5	38	78,13	781,3
9	15,84	158,4	24	44,52	445,2	39	80,98	809,8
10	17,63	176,3	25	46,63	466,3	40	83,91	839,1
11	19,44	194,4	26	48,77	487,7	41	86,93	869,3
12	21,26	212,6	27	50,95	509,5	42	90,05	900,5
13	23,09	230,9	28	53,17	531,7	43	93,26	932,6
14	24,93	249,3	29	55,43	554,3	44	96,57	965,7
15	26,79	267,9	30	57,74	577,4	45	100	1000

Overview
Profile cylinder

Product type	 Double cylinder PC length (L): Interior (A) + exterior (B)	 Half cylinder PC length (L): Closing side (A) + blind side	Aluminium frames Infill	Door lock Standard	Door lock Recessed	Wicket door	Optional extra Bolt lock	Operator accessories Key switches
SPU 67 Thermo **APU 67 Thermo**	L = 35 + 55	–	–	–	–	●	●	–
	–	L = 55 + 10	–	–	●	●	●	●
	–	L = 95 + 10	–	●	–	–	–	–
ALR 67 Thermo	L = 35 + 55	–	–	–	–	●	●	–
	–	L = 55 + 10	–	–	–	●	–	●
	–	L = 80 + 10	FU and XU	●	–	–	–	–
NT 80	L = 35 + 70	L = 35 + 10	–	–	–	–	–	–
NT 80 RC 2	L = 35 + 60*	–	–	–	–	–	–	–

* Profile cylinder in acc. with DIN 1303 (point 7 = class 5, point 8 = class 1)

Notices

Hörmann: Quality without Compromise


Hörmann KG Amshausen, Germany


Hörmann KG Antriebstechnik, Germany


Hörmann KG Brandis, Germany


Hörmann KG Brockhagen, Germany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