// Expansion of the size range of the WA 300 shaft operator

Industrial Sectional Doors

Technical Manual: Issue 01.07.2012

HÖRMANN

Contents

Contents

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

All dimensions in mm
Subject to design changes

Product Descriptions

Door type	Door leaf / wicket door
Sectional Door SPU 40, double-skinned steel sections, 625 and 750 mm high, Stucco-textured / Micrograin	
Door leaf	Door sections made of double-skinned, hot-galvanized sections. Door sections Stucco-textured on inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside, 625 and 750 mm high, depth 42 mm. All door sections with finger trap protection. Surface protection with polyester-primer coating. Ventilation grilles optional. Glazing frames of anodised aluminium extrusions in the standard version (NF) or with thermal breaks (WF) (only with field spacing to type N) or alternatively sections with compound glazing are possible within the size range shown below. Fewer compound glazings or different arrangements are possible subject to the minimum distances. If a wicket door is included, note the position.
Wicket door	Only to be installed in the central areas of the sectional door. Cannot be installed into the side (outer) areas. Only opening outwards, LH or RH hinged. On request with areas of glazing (NF or WF) from 625 / 750 mm above FFL, or alternatively compound glazing from 625 / 750 mm (not in the wicket door section housing the lock) above FFL. Ventilation grilles are not possible in wicket doors. **Attention (for threshold rail): For grid heights 2000, 2125 and 2250, the clear opening height must not be lower than the door height.**
Sectional Door SPU 40, double-skinned steel sections, 375 and 500 mm high, Stucco-textured / Micrograin	
Door leaf	Door sections made of double-skinned, hot-galvanized sections. Door sections Stucco-textured on inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside, 375 and 500 mm high, depth 42 mm. All door sections with finger trap protection. Surface protection with polyester-primer coating. Ventilation grilles optional. Glazing frames of anodised aluminium extrusions in the standard version (NF) or with thermal breaks (WF) (only with field spacing to type N) or alternatively sections with compound glazing are possible within the size range shown below. Fewer compound glazings or different arrangements are possible subject to the minimum distances. If a wicket door is included, note the position.
Wicket door	Only to be installed in the central areas of the sectional door. Cannot be installed into the side (outer) areas. Only opening outwards, LH or RH hinged. On request with areas of glazing (NF or WF) from 500 mm above FFL, or alternatively compound glazing from 500 mm (not in the wicket door section housing the lock) above FFL. Ventilation grilles are not possible in wicket doors. **Attention (for threshold rail): For grid heights 2000 and 2125, the clear opening height must not be lower than the door height.**
Sectional door SPU 40, double-skinned steel sections, 500 mm high, Micrograin	
Door leaf	Door sections made of double-skinned, hot-galvanized sections. Door sections Micrograin with fine horizontal embossing outside and Stucco-textured inside, 500 mm high, depth 42 mm. All door sections with finger trap protection. Surface protection with polyester-primer coating. Ventilation grilles optional. Glazing frames of anodised aluminium extrusions in the standard version (NF) or with thermal breaks (WF) (only with field spacing to type N) or alternatively sections with compound glazing are possible within the size range shown below. Fewer compound glazings or different arrangements are possible subject to the minimum distances. If a wicket door is included, note the position.
Wicket door	Only to be installed in the central areas of the sectional door. Cannot be installed into the side (outer) areas. Only opening outwards, LH or RH hinged. On request with areas of glazing (NF or WF) from 500 mm above FFL, or alternatively compound glazing from 500 mm (not in the wicket door section housing the lock) above FFL. Ventilation grilles are not possible in wicket doors. **Attention (for threshold rail): For grid heights 2000 and 2125, the clear opening height must not be lower than the door height.**
Sectional door ASP 40, aluminium extrusions, double-skinned bottom section	
Door leaf	Bottom section of hot-galvanized sections, infilled with polyurethane foam, 750 (standard version), 500, 1000 or 1500 mm high, Stucco-textured inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside. Surface protection with polyester-primer coating. Other door sections with glazing of anodised aluminium extrusions in the standard version. Depth 48.5 mm. All door sections with finger trap protection. Infill: clear synthetic double panes, 26 mm. Ventilation grilles in the bottom section optional.
Sectional door APU 40 N / TAP 40, aluminium extrusions, double-skinned bottom section	
Door leaf	Bottom section of hot-galvanized sections, infilled with polyurethane foam, 750 (standard version), 500, 1000 or 1500 mm high, Stucco-textured inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside. Surface protection with polyester-primer coating. Other door sections with glazing of anodised aluminium extrusions in the standard version (APU 40 N) or with thermal breaks (TAP 40). Depth 42 mm. All door sections with finger trap protection. Infill: APU 40 N, TAP 40 clear synthetic double panes, 26 mm. Ventilation grilles in the bottom section optional.
Wicket door	Depending on the door type, made of anodised aluminium extrusions in the standard version or with thermal breaks, installed into the central areas of the door. **Cannot be installed into the side (outer) areas.** Only opening outwards, LH or RH hinged. Ventilation grilles are not possible in wicket doors. **Attention (for threshold rail): If the wicket door has the same number of sections as the sectional door, the clear opening height must not be lower than the door height (RM).**
Sectional door APU 40 B, aluminium extrusions, double-skinned bottom section	
Door leaf	Bottom section of hot-galvanized sections, infilled with polyurethane foam, 750 (standard version), 500, 1000 or 1500 mm high, Stucco-textured inside and outside with uniform horizontal ribbing, or Micrograin with fine horizontal embossing outside and Stucco-textured inside. Surface protection with polyester-primer coating. Other door sections with glazing made of standard (NF) anodised aluminium extrusions. Depth 42 mm. All door sections with finger trap protection. Infill: clear synthetic double panes, 26 mm. Ventilation grilles in the bottom section optional.
Sectional Door ASR 40, aluminium extrusions	
Door leaf	Door sections made of standard anodised aluminium extrusions, depth 48.5 mm. All door sections with finger trap protection. Bottom door section made of PU infill with 26 mm Stucco-textured aluminium sheet cover on both sides, other door sections with 26 mm clear synthetic double panes. Ventilation grilles in the bottom section optional.

Product Descriptions

Door type	Door leaf / wicket door
Sectional door ALR 40 N / TAR 40	
Door leaf	Door sections made of anodised aluminium extrusions in the standard version (NF) for door type ALR 40 N or with thermal breaks (WF) for door type TAR 40. Depth 42 mm. All door sections with finger trap protection. ALR 40 N: bottom door section consisting of PU infill with 26 mm Stucco-textured aluminium sheet cover on both sides, other door sections with 26 mm clear synthetic double panes. TAR 40: bottom door section consisting of PU infill with 26 mm Stucco-textured aluminium sheet cover on both sides, other door sections with 26 mm clear synthetic double panes. Ventilation grilles in the bottom section optional.
Wicket door	Depending on the door type, made of anodised aluminium extrusions in the standard version or with thermal breaks, installed into the central areas of the door. **Cannot be installed into the side (outer) areas.** Only opening outwards, LH or RH hinged. Ventilation grilles are not possible in wicket doors. **Attention (for threshold rail): If the wicket door has the same number of sections as the sectional door, the clear opening height must not be lower than the door height (RM).**
Sectional Door ALR 40 B	
Door leaf	Door sections of standard (NF) anodised aluminium extrusions. Depth 42 mm. All door sections with finger trap protection. Bottom door section made of PU infill with 26 mm Stucco-textured aluminium sheet cover on both sides, other door sections with 26 mm clear synthetic double panes. Ventilation grilles in the bottom section optional.
Sectional door ALR Vitraplan	
Door leaf	Door sections of standard (NF) polyester primer-coated aluminium extrusions. Depth 42 mm. All door sections with finger trap protection and synthetic double panes, 26 mm, clear, and 4 mm transparent synthetic glazings fitted in front, in a choice of brown or grey. Ventilation grilles are not possible in the bottom section.
Sectional Door ALS 40	
Door leaf	Door sections of standard (NF) anodised aluminium extrusions. Depth 42 mm. All door sections with finger trap protection. All door section infills in 6-mm laminated safety glass. Uniform infill heights.

Frame / track application

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

Door lock

Manually operated	Inside locking using a shootbolt, rotary latch (with track applications that have 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).
Size range across the door width LZ > 6000 mm or door height RM > 5000 mm.

Safety-related equipment according to DIN EN 12604

- Manually operated door 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*
- Inner and outer finger trap protection*

* European patent

Seals

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

Technical Data Overview

Construction and quality features		
		SPU
Resistance to wind load EN 12424	Class	3
Water tightness EN 12425	Door without wicket door, class	3 (70 Pa)
Air permeability EN 12426	Door without wicket door, class	2
	Door with wicket door, class	1
Acoustic insulation EN 717-1	Door without wicket door R = ...dB	25
	Door with wicket door R =...dB	24
Thermal insulation EN 13241-1, appendix B EN 12428	Door without wicket door, U_G = W/(m² K) [2]	1.0
	- Optional triple glazing, U_G=W/(m² K) [2]	–
	- Optional climatic double pane (single-pane safety glass) U_G=W/(m² K) [2]	–
	Door with wicket door, U_G=W/(m² K) [2]	1.2
	- Optional triple glazing, U_G=W/(m² K) [2]	
	Section, U_G=W/(m²K)	0.50
Design	Self-supporting	●
	Depth, mm	42
Door sizes	Max. width mm, LZ	8000
	Max. height mm, RM [3]	7000
Space requirements	From page 44	
Material, door leaf	Steel, double-skinned, 42 mm	●
	Aluminium, standard profile	–
	Aluminium, thermal profile	–
Surface, door leaf	Galvanized steel, coated RAL 9002	●
	Galvanized steel, coated RAL 9006	○
	Galvanized steel, coated RAL to choose	○
	Anodised aluminium E6 / C0 (previously E6 / EV 1)	○
	Aluminium coated in RAL to choose	○
Wicket door	With trip-free threshold	○
Side door	Matching the door	○
Glazings	Type A section window	○
	Type D section window	○
	Type E section window	○
	Aluminium glazing frame	○
Seals	All-round on 4 sides	●
	Intermediate seal between the door sections	●
ThermoFrame	PVC hard / soft seal	○
Locking systems	Internal latches	●
	Outside / inside locking	○
Arrestor kit	For doors of up to 5 m with shaft operator	●
Safety equipment	Finger trap protection	●
	Side trap guards	●
	Spring break safeguard for manual operation	●
	Safety catch for doors with shaft operator	●
Fastening options	Concrete	●
	Steel	●
	Brickwork	●
	Others on request	

● = Standard
○ = Optional

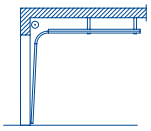
1) With optional double pane (single-pane safety glass)
2) For a door surface of 5000 × 5000 mm
3) Door height above 7000 mm on request (not with door type ALS 40)

Technical Data Overview

ASP	APU	TAP	ASR	ALR	TAR	ALR Vitraplan	ALS
3	3	3	3	3	3	3	3
3 (70 Pa)	3 (70 Pa)	3 (70 Pa)	3 (70 Pa)	3 (70 Pa)	3 (70 Pa)	3 (70 Pa)	3 (70 Pa)
2	2	2	2	2	2	2	2
–	1	1	–	1	1	–	–
23	23	23	22	23 (30 [1)])	23 (30 [1)])	23	30
–	22	22	–	22	22	–	–
3.4	3.5	2.9	3.2	3.3	2.7	3.2	6.2
2.9	2.9	2.4	2.8	3.0	2.4	3.0	–
–	2.4	2.0	–	2.6	2.1	–	2.6
–	3.7	3.1	–	3.5	2.9	–	–
–	3.1	2.6	–	3.2	2.6	–	–
–	–	–	–	–	–	–	–
●	●	●	●	●	●	●	●
42 / 48.5	42	42	48.5	42	42	42	42
5000	8000	7000	5000	8000	7000	6000	5500
7000	7000	7000	7000	7000	7000	7000	4000
●	●	●	–	–	–	–	–
●	●	–	●	●	–	●	●
–	–	●	–	–	●	–	–
○	○	○	–	–	–	–	–
●	●	●	–	–	–	–	–
○	○	○	–	–	–	–	–
●	●	●	●	●	●	●	●
○	○	○	○	○	○	○	○
–	○	○	–	○	○	–	–
○	○	○	○	○	○	○	–
–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
○	○	○	○	○	○	○	○
●	●	●	●	●	●	●	●
○	○	○	○	○	○	–	–
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●

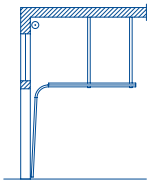
Overview of Track Applications

N



Normal track application

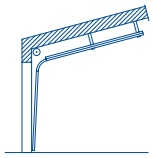
NA



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

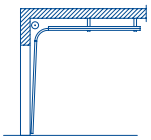
Door height RM ≤ 5000 mm

ND



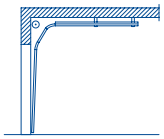
As with track application N, with inclination

NH



Like track application N, with minimum high-lift

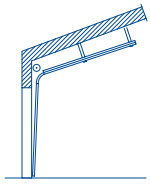
NS



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

Door height RM ≤ 5000 mm

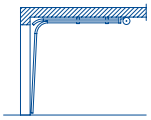
GD



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

Door height RM ≤ 5000 mm

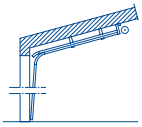
L



Low headroom track application

Door height RM ≤ 5000 mm

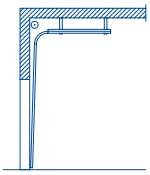
LD



Like track application L, with inclination

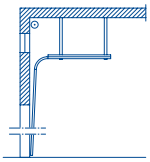
Door height RM ≤ 5000 mm

H



High-lift track

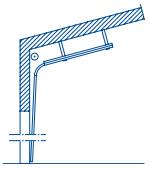
HA



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

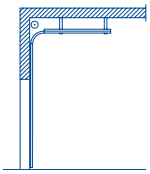
Door height RM ≤ 3500 mm

HD



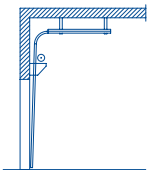
Like track application H, with inclination

HG



Like track application H, with steep track and minimum slot width of 120 mm (for loading ramp doors)
Door width LZ ≤ 3500 mm
Door height RM ≤ 5000 mm
Not possible for door types ASP 40 / ASR 40 / ALS 40 and doors with wicket door and with real glass infill!

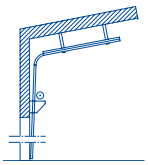
HU



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

Door height RM ≤ 5000 mm

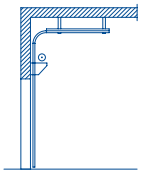
RD



Like track application HU, with inclination

Door height RM ≤ 5000 mm

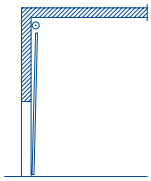
RG



Like track application HU, with steep track and minimum slot width of 120 mm (for loading ramp doors)
Door width LZ ≤ 3500 mm
Door height RM ≤ 5000 mm
Not possible for door types ASP 40 / ASR 40 / ALS 40 and doors with wicket door and with real glass infill!

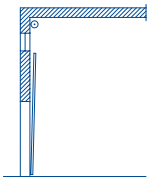
Overview of Track Applications

V



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

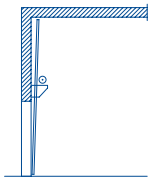
VA



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

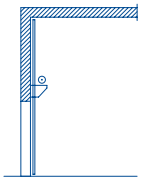
Door height RM ≤ 3500 mm

VU



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

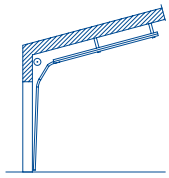
WG



Like track application VU, with steep track and minimum slot width of 120 mm
(for loading ramp doors)
(additional chain hoist required for manually operated doors!)
Door width LZ ≤ 3500 mm
Door height RM ≤ 5000 mm
Not possible for door types ASP 40 / ASR 40 / ALS 40 and doors with wicket door and with real glass infill!

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

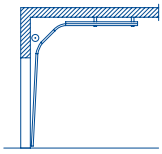
NK



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

Door height RM ≤ 5000 mm

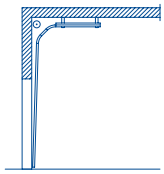
GS



Like track application NH
with 2 × 45° double radius

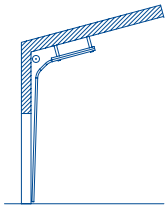
Door height RM ≤ 5000 mm

HS



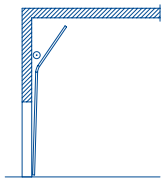
Like track application H,
with double radius 2 × 45°

HK



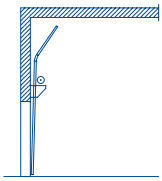
Like track application HS, but the degree values of both radii are adapted to the situation on site

VS



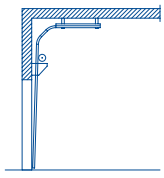
Like track application V, but in the top sections the tracks are diverted using radii where the ceiling is too low
(additional hand pulley required for manually operated doors!)

WS



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

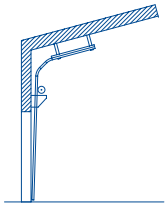
RS



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

Door height RM ≤ 5000 mm

RK



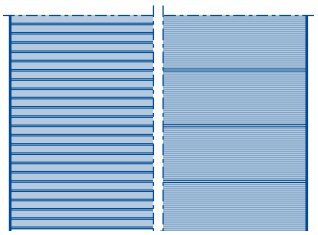
Like track application RS, but the degree values of both radii are adapted to the situation on site

Door height RM ≤ 5000 mm

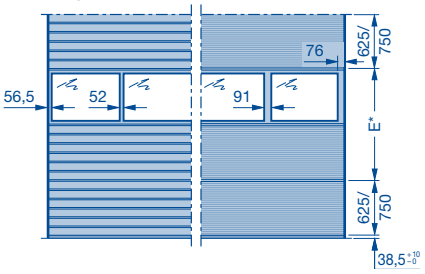
Sectional Door SPU 40

Double-skinned steel sections
625 and 750 mm high
Stucco-textured / Micrograin

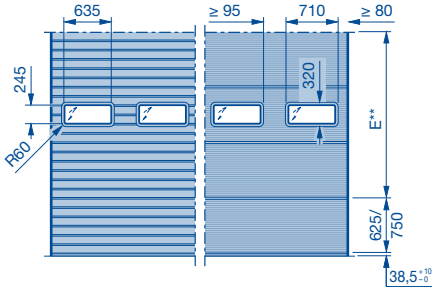
External views



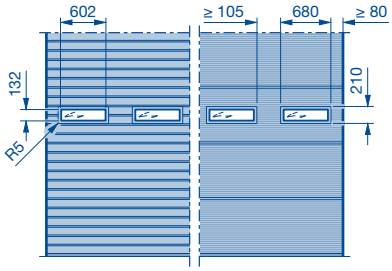
Glazing frame (NF or WF)



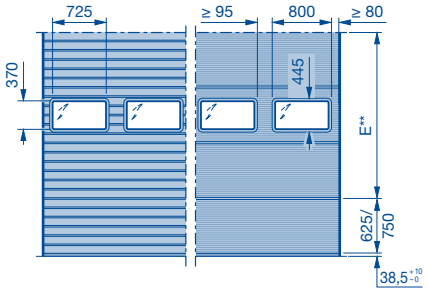
Compound glazing type A



Compound glazing type D



Compound glazing type E

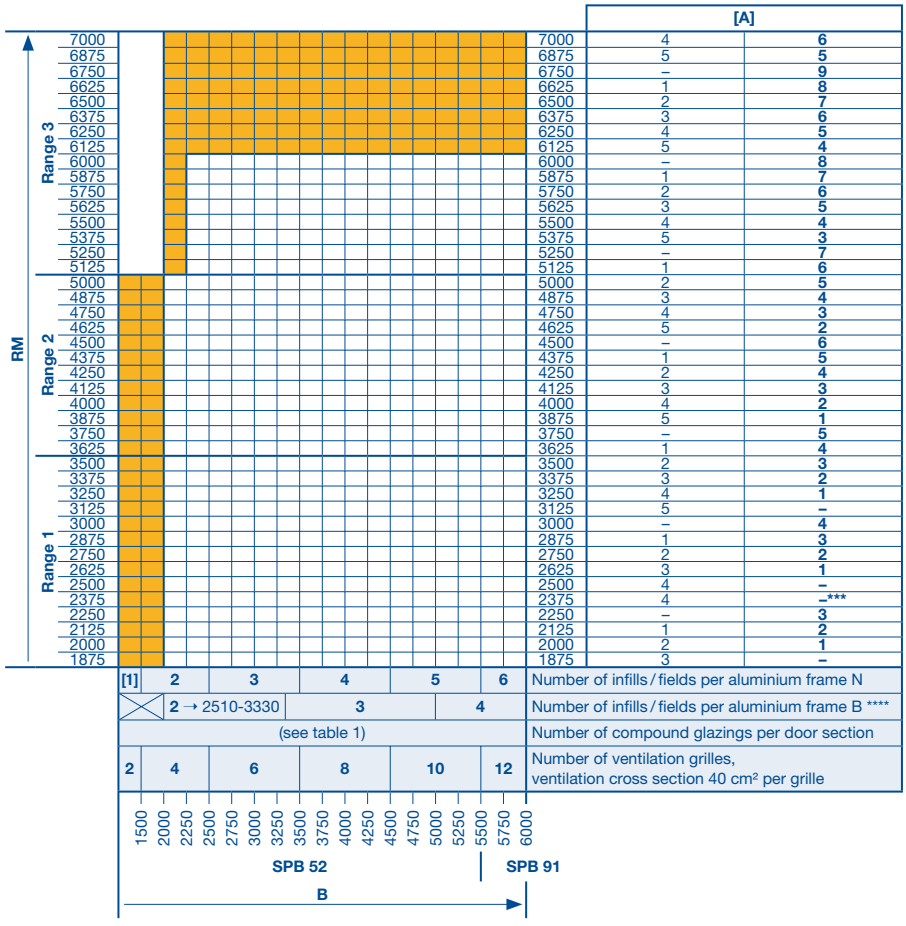


E* Fitting area for frame with glazing

E** Fitting area for compound glazings

Size range

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



Notes:

- Aluminium frames with field spacing to B are supplied with broad rails (91 mm).
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator

Table 1:
Number of compound glazings per door section

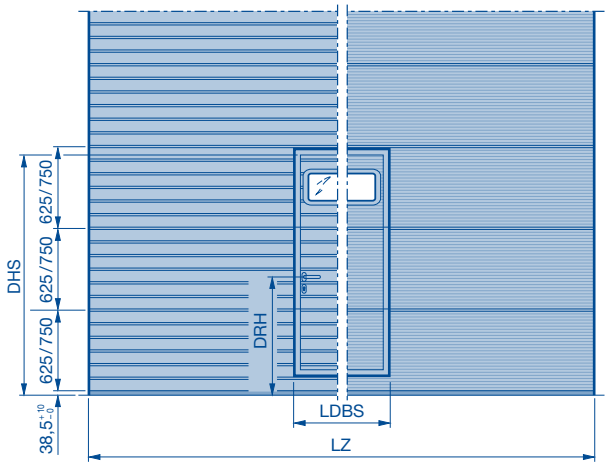
Type	Quantity	Door width
A, D	1	A = 1200 – 1670 mm D = 1200 – 1630 mm
	2	A = 1680 – 2500 mm D = 1640 – 2500 mm
	3	2510 – 3500 mm
	4	3510 – 4500 mm
	5	4510 – 5500 mm
	6	5510 – 6000 mm
E	1	1200 – 1850 mm
	2	1860 – 2740 mm
	3	2750 – 3640 mm
	4	3650 – 4530 mm
	5	4540 – 5500 mm
	6	5510 – 6000 mm

On request

[1] **1** → 1360, on request → 1500
[A] Number of door sections TH = 625 mm and TH = **750** mm
RM Grid height
B Width **(from 1200)**
LDB Clear passage width
→ Up to width
SPB Rail width
*** Top door section shortened to 500 mm
**** Only for aluminium extrusions in standard version (NF)

Sectional Door SPU 40
With wicket door and threshold rail
Double-skinned steel sections
625 and 750 mm high, Stucco-textured / Micrograin

External views



***** Note on fitting compound glazings:**
- For door widths from 1750 – 2640 mm, only **one** compound glazing can be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.
- **Type E compound glazing** inside and next to the wicket door on request!

Clear passage width (LDBS) =**

Rail **52** mm* = (Door width – 61) / Number of fields – 167

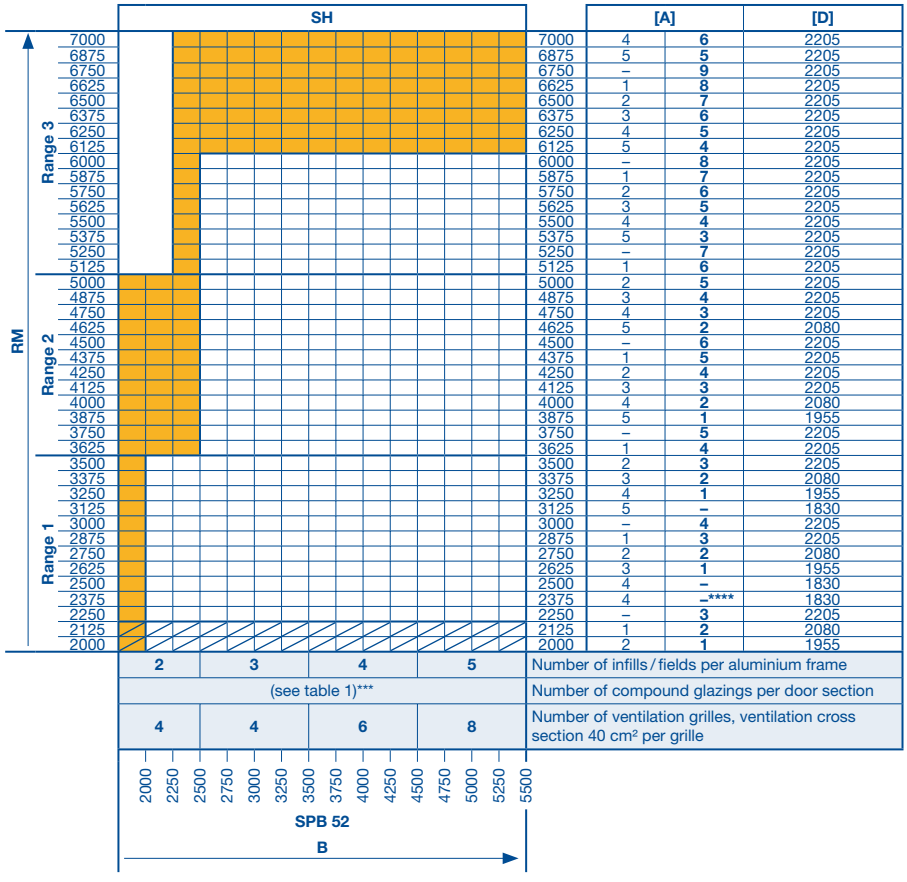
Rail **91** mm = (Door width – 61) / Number of fields – 128

* Also for doors **without** glazing frames
** For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Lever heights (DRH)
Bottom door section 625 = 955.5
Bottom door section 750 = 1080.5

Size range

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



RM	SH	[A]		[D]
7000	7000	4	6	2205
6875	6875	5	5	2205
6750	6750	–	9	2205
6625	6625	1	8	2205
6500	6500	2	7	2205
6375	6375	3	6	2205
6250	6250	4	5	2205
6125	6125	5	4	2205
6000	6000	–	8	2205
5875	5875	1	7	2205
5750	5750	2	6	2205
5625	5625	3	5	2205
5500	5500	4	4	2205
5375	5375	5	3	2205
5250	5250	–	7	2205
5125	5125	1	6	2205
5000	5000	2	5	2205
4875	4875	3	4	2205
4750	4750	4	3	2205
4625	4625	5	2	2080
4500	4500	–	6	2205
4375	4375	1	5	2205
4250	4250	2	4	2205
4125	4125	3	3	2205
4000	4000	4	2	2080
3875	3875	5	1	1955
3750	3750	–	5	2205
3625	3625	1	4	2205
3500	3500	2	3	2205
3375	3375	3	2	2080
3250	3250	4	1	1955
3125	3125	5	–	1830
3000	3000	–	4	2205
2875	2875	1	3	2205
2750	2750	2	2	2080
2625	2625	3	1	1955
2500	2500	4	–	1830
2375	2375	4	–****	1830
2250	2250	–	3	2205
2125	2125	1	2	2080
2000	2000	2	1	1955

Table 1:
Number of compound glazings per door section

Type	Quantity	Door width
A, D	2	1750 – 2500 mm
	3	2510 – 3500 mm
	4	3510 – 4500 mm
	5	4510 – 5500 mm
E	1	1750 – 1850 mm
	2	1860 – 2740 mm
	3	2750 – 3640 mm
	4	3650 – 4530 mm
	5	4540 – 5500 mm

Notes:
- Type E only possible in the door section above the wicket door.
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator

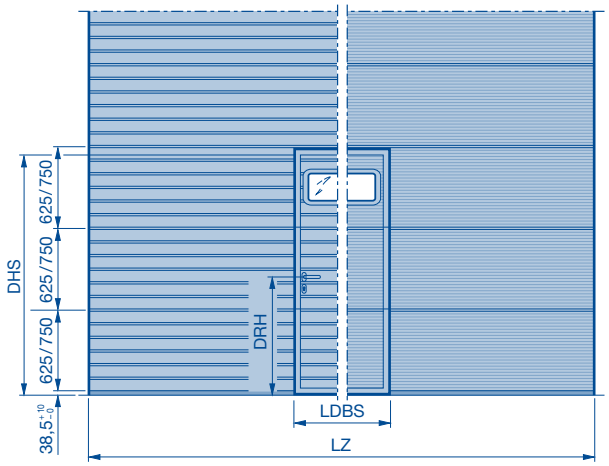
On request
Glazings on request

[A] Number of door sections TH = 625 mm and TH = **750** mm
[D] Clear passage heights (DHS) of wicket door to grid height
SH Threshold height **(200)**
SPB Rail width
DHS Clear passage height of wicket door
RM Grid height
B Width **(from 1750)**
LDBS Clear passage width
DRH Lever height
LZ Clear frame dimension
******** Top door section shortened to 500 mm

Sectional Door SPU 40
With wicket door with trip-free threshold

Double-skinned steel sections
625 and 750 mm high, Stucco-textured / Micrograin

External views



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

- For door widths from 1750 – 2640 mm, only **one** compound glazing can be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.
- **Type E compound glazing** inside and next to the wicket door on request!

Clear passage width (LDBS) =**

Rail **52** mm* = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

* Also for doors **without** glazing frames
** For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Lever heights (DRH)
Bottom door section 625 = 955.5
Bottom door section 750 = 1080.5

Size range

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

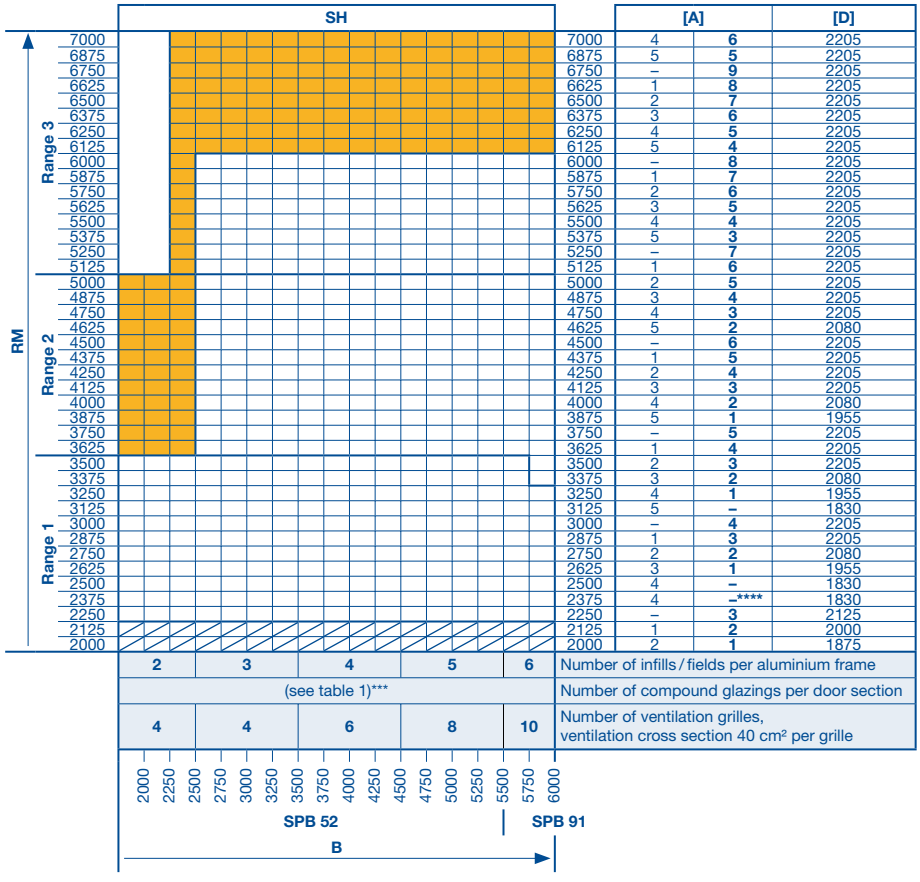


Table 1:
Number of compound glazings per door section

Type	Quantity	Door width
A, D	2	1750 – 2500 mm
	3	2510 – 3500 mm
	4	3510 – 4500 mm
	5	4510 – 5500 mm
	6	5510 – 6000 mm
E	2	1750 – 2740 mm
	3	2750 – 3640 mm
	4	3650 – 4530 mm
	5	4540 – 5500 mm
	6	5510 – 6000 mm

Notes:

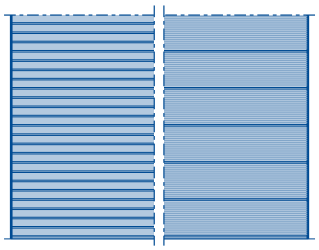
- Type E only possible in the door section above the wicket door.
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator

On request
Glazings on request

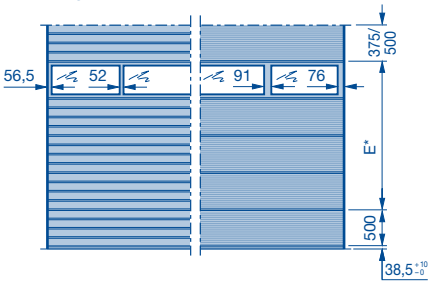
[A] Number of door sections TH = 625 mm and TH = **750** mm
[D] Clear passage heights (DHS) of wicket door to grid height
SH Threshold height **(rising from 5 to 10)**
SPB Rail width
DHS Clear passage height of wicket door
RM Grid height
B Width **(from 1750)**
LDBS Clear passage width
DRH Lever height
LZ Clear frame dimension
******** Top door section shortened to 500 mm

Sectional Door SPU 40
Double-skinned steel sections
375 and 500 mm high
Stucco-textured / Micrograin

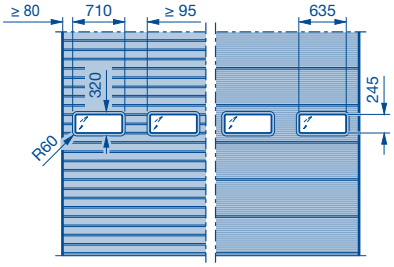
External views



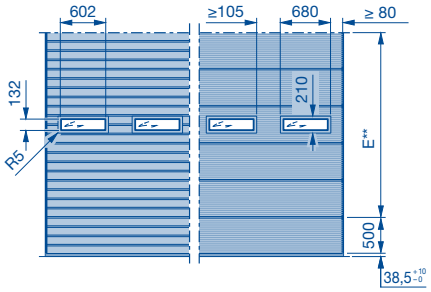
Glazing frame (NF or WF)



Compound glazing type A



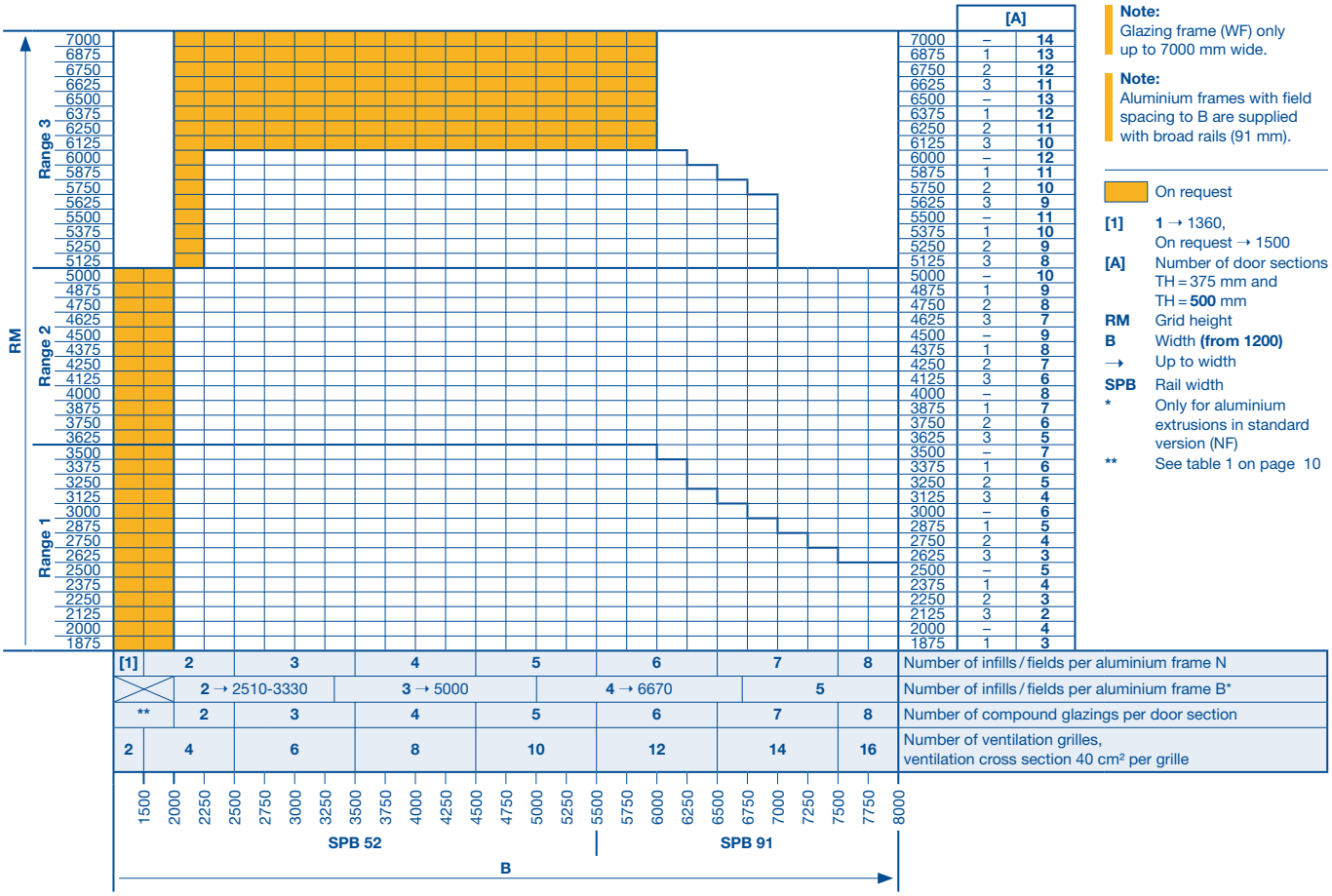
Compound glazing type D



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

Size range

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



Note:
Glazing frame (WF) only up to 7000 mm wide.

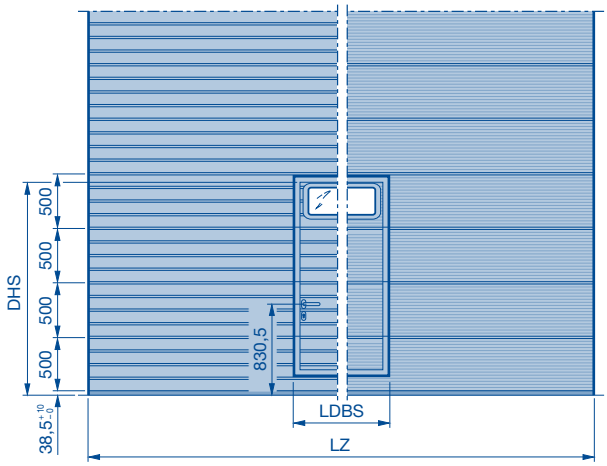
Note:
Aluminium frames with field spacing to B are supplied with broad rails (91 mm).

On request

[1] **1** → 1360, On request → 1500
[A] Number of door sections TH = 375 mm and TH = **500** mm
RM Grid height
B Width **(from 1200)**
→ Up to width
SPB Rail width
* Only for aluminium extrusions in standard version (NF)
** See table 1 on page 10

Sectional Door SPU 40
With wicket door and threshold rail
Double-skinned steel sections
375 and 500 mm high, Stucco-textured / Micrograin

External view



***** Note on fitting compound glazings:**
For door widths from 1750 – 2640 mm, only **one** compound glazing can be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS)=**

Rail **52** mm* = (Door width – 61) / Number of fields – 167

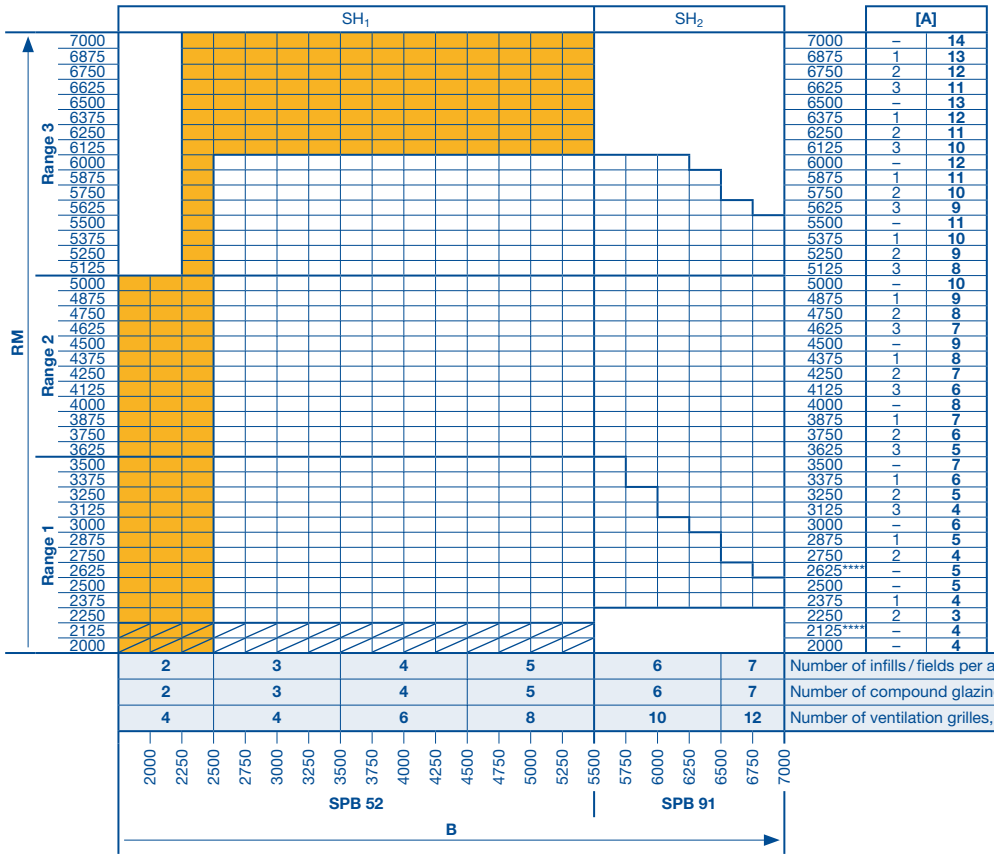
Rail **91** mm = (Door width – 61) / Number of fields – 128

* Also for doors **without** glazing frames up to door width 5500 mm
** For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

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

Size range

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



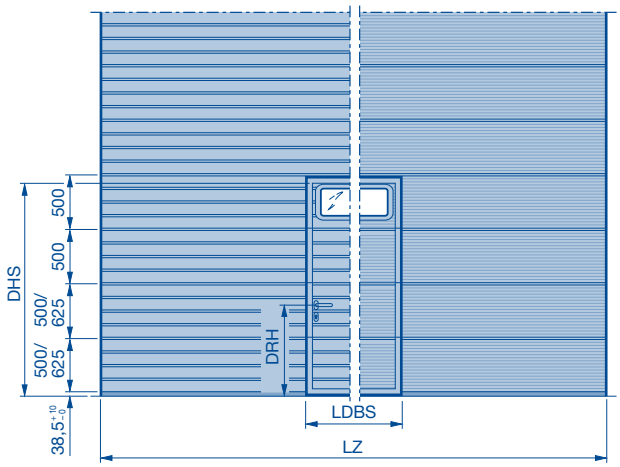
On request
Glazings on request

[A]	Number of door sections TH = 375 mm and TH = **500** mm
RM	Grid height
LZ	Clear frame dimension
B	Width **(from 1750)**
SH_1	Threshold height **(200)**
SH_2	Threshold height **(325, glazing from 625 mm)**
SPB	Rail width
DHS	Clear passage height of wicket door
LDBS	Clear passage width
********	Up to LZ ≤ 5500 mm bottom door section with 125 mm aluminium bottom profile

Note:
- Micrograin version only up to LZ ≤ 5500 mm.
- From LZ > 5500 mm bottom door section with deviating heights TH = 625 / 750 mm

Sectional Door SPU 40
With wicket door with trip-free threshold
Double-skinned steel sections
375 and 500 mm high, Stucco-textured / Micrograin

External view



***** Note on fitting compound glazings:**
For door widths from 1750 – 2640 mm, only **one** compound glazing can be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS)=**

Rail **52** mm* = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

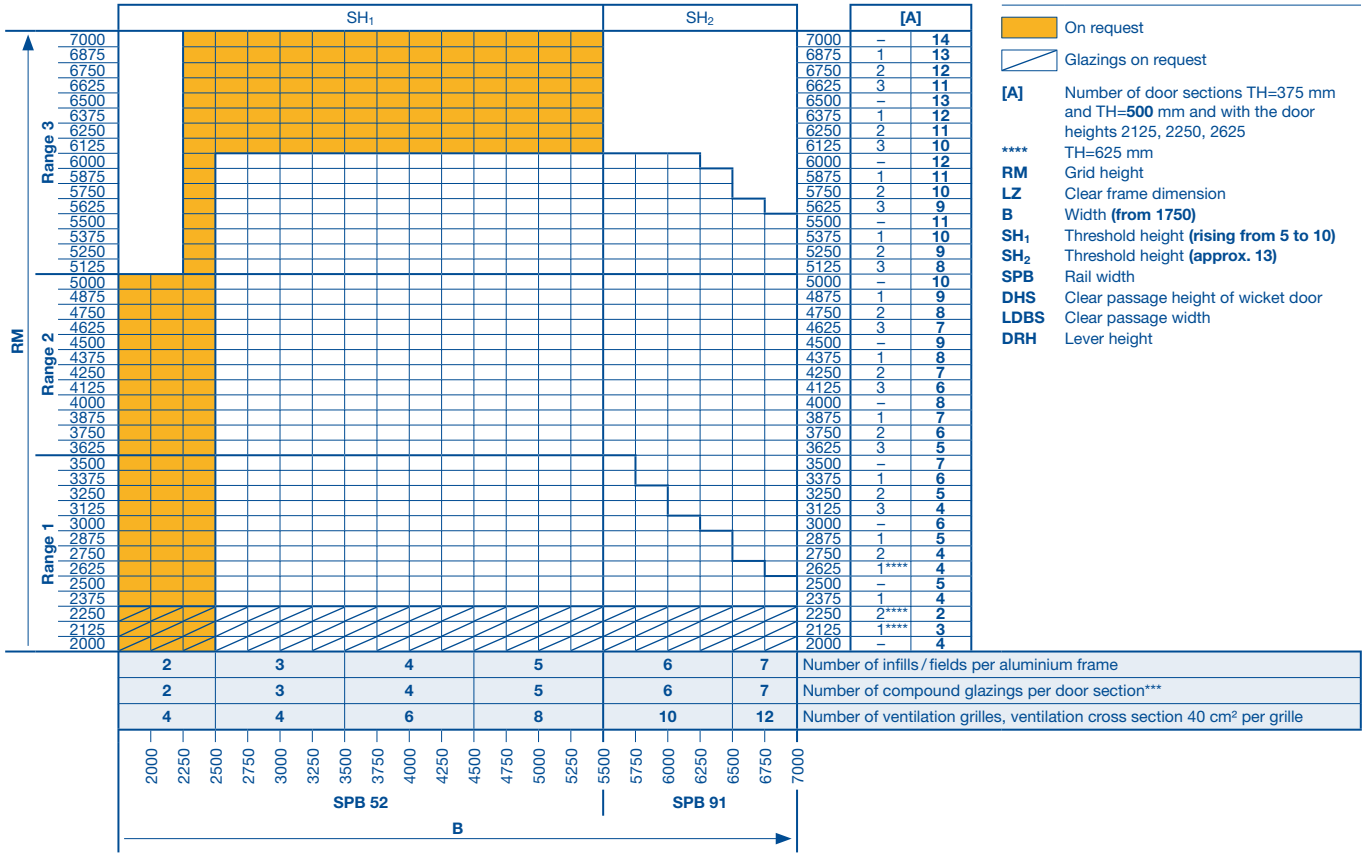
* Also for doors **without** glazing frames up to door width 5500 mm
** For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

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

Lever heights (DRH)
Bottom door section 500 = 830.5
Bottom door section 625 = 955.5

Size range

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

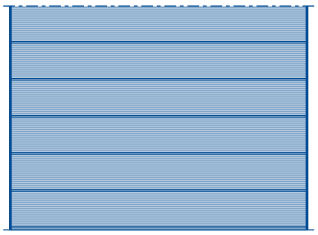


On request
Glazings on request

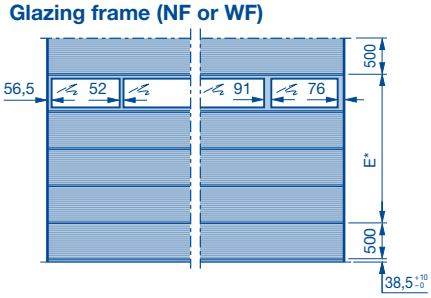
[A]	Number of door sections TH=375 mm and TH=**500** mm and with the door heights 2125, 2250, 2625
****	TH=625 mm
RM	Grid height
LZ	Clear frame dimension
B	Width **(from 1750)**
SH_1	Threshold height **(rising from 5 to 10)**
SH_2	Threshold height **(approx. 13)**
SPB	Rail width
DHS	Clear passage height of wicket door
LDBS	Clear passage width
DRH	Lever height

Sectional Door SPU 40
Double-skinned steel sections
500 mm high
Micrograin

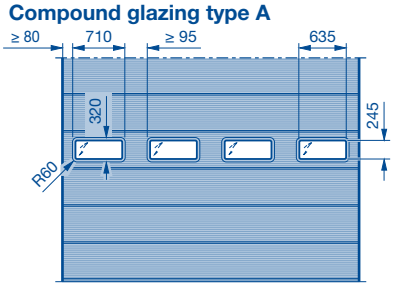
External views



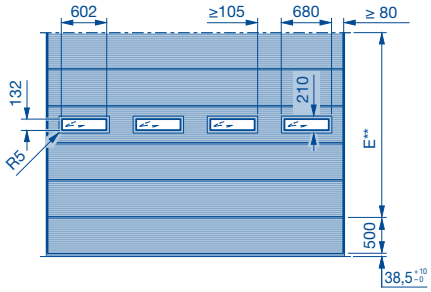
Glazing frame (NF or WF)



Compound glazing type A



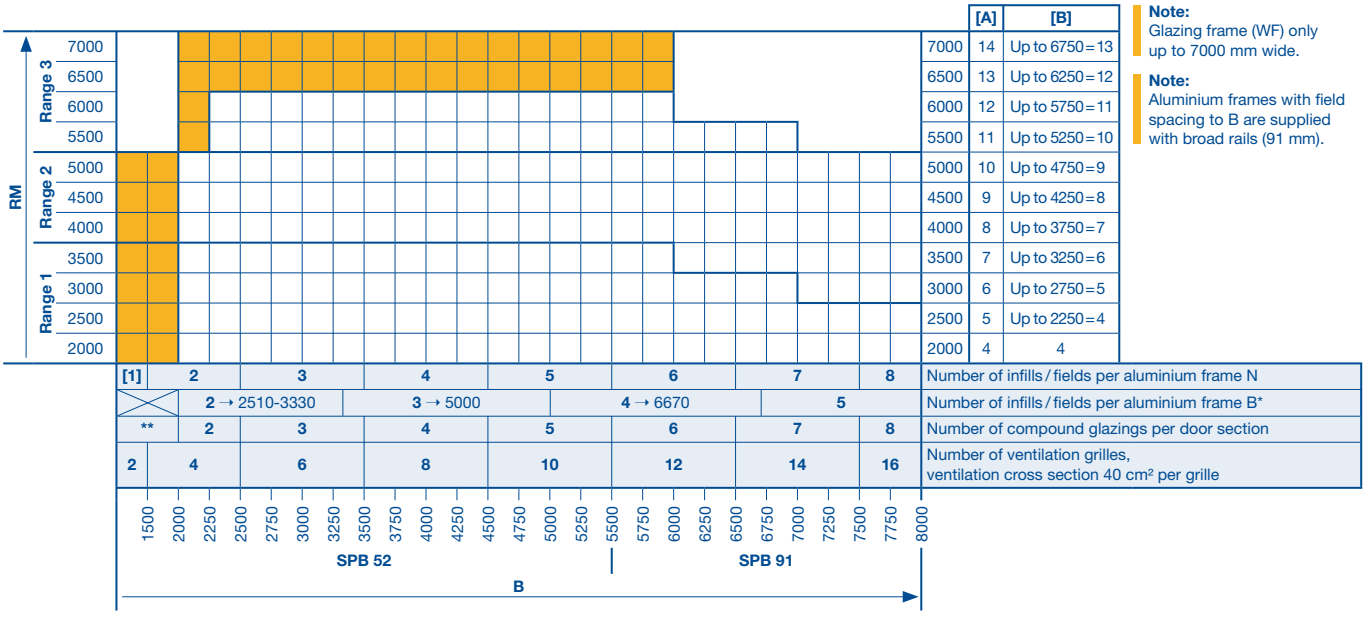
Compound glazing type D



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

Size range

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



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

Note:
Glazing frame (WF) only up to 7000 mm wide.

Note:
Aluminium frames with field spacing to B are supplied with broad rails (91 mm).

[1] 2 3 4 5 6 7 8	Number of infills / fields per aluminium frame N
2 → 2510-3330 3 → 5000 4 → 6670 5	Number of infills / fields per aluminium frame B*
** 2 3 4 5 6 7 8	Number of compound glazings per door section
2 4 6 8 10 12 14 16	Number of ventilation grilles, ventilation cross section 40 cm² per grille

On request

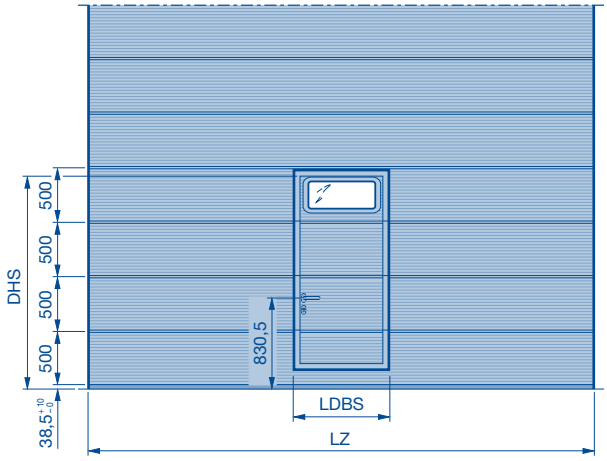
[1] 1 → 1360, on request → 1500
[A] Number of door sections TH = 500 mm
[B] Number of door sections for intermediate heights

RM Grid height
B Width **(from 1200)**
→ Up to width
SPB Rail width

* Only for aluminium extrusions in standard version (NF)
** See table 1 on page 10

Sectional Door SPU 40
With wicket door and threshold rail
Double-skinned steel sections
500 mm high, Micrograin

External view



***** Note on fitting compound glazings:**
For door widths from 1750 – 2640 mm, only **one** compound glazing can be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS)=**

Rail **52** mm* = (Door width – 61) / Number of fields – 167

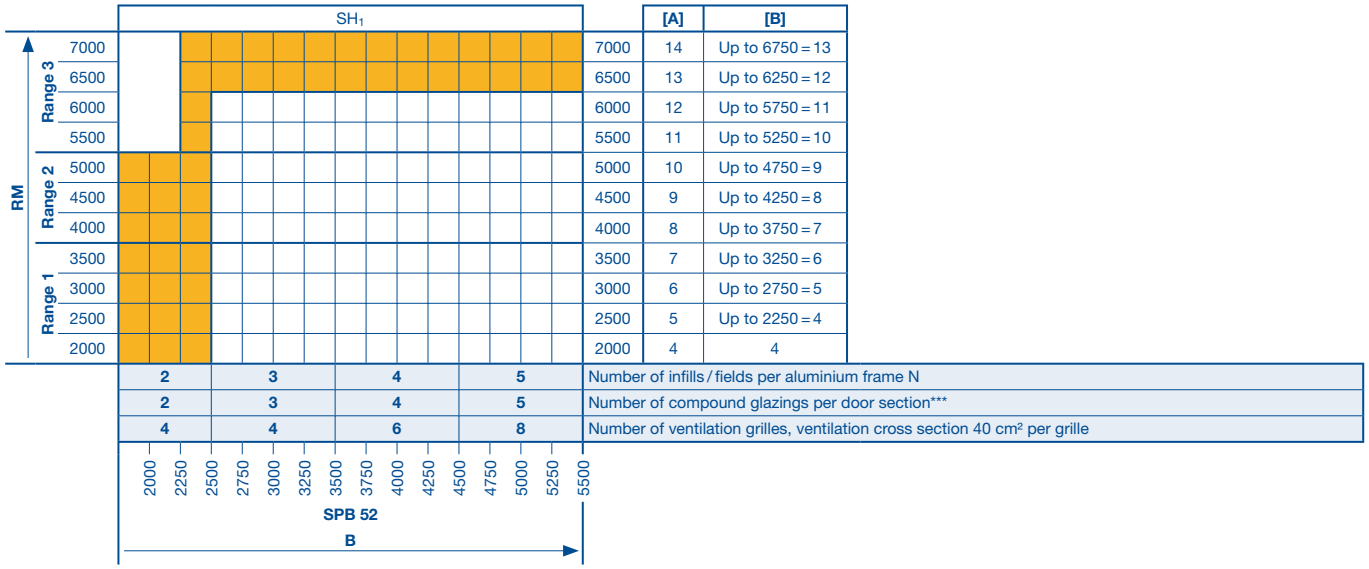
Rail **91** mm = (Door width – 61) / Number of fields – 128

* Also for doors **without** glazing frames up to door width 5500 mm
** For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

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

Size range

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



On request

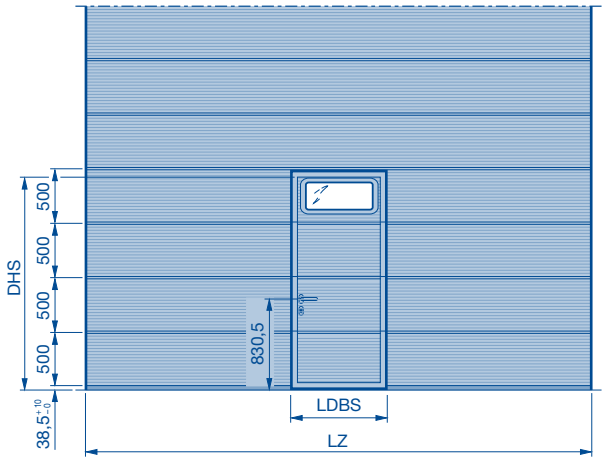
[A] Number of door sections TH = 500 mm
[B] Number of door sections for intermediate heights
RM Grid height

LZ Clear frame dimension
B Width **(from 1750)**
SH_1 Threshold height **(200)**
SPB Rail width

DHS Clear passage height of wicket door
LDBS Clear passage width

Sectional Door SPU 40
With wicket door with trip-free threshold
Double-skinned steel sections
500 mm high, Micrograin

External view



***** Note on fitting compound glazings:**
For door widths from 1750 – 2640 mm, only **one** compound glazing can be fitted into the wicket door. No compound glazing can be fitted to the left or right of the wicket door.

Clear passage width (LDBS)=**

Rail **52** mm* = (Door width – 61) / Number of fields – 167

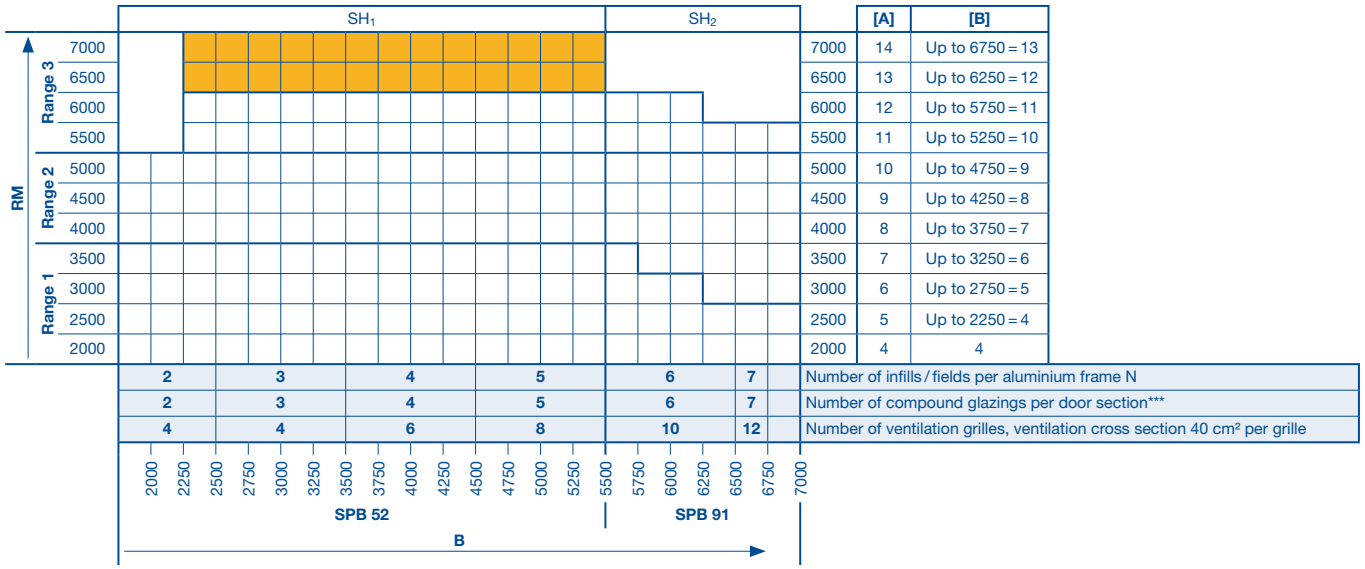
Rail **91** mm = (Door width – 61) / Number of fields – 128

* Also for doors **without** glazing frames up to door width 5500 mm
** For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

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

Size range

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



On request

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

LZ Clear frame dimension
B Width **(from 1750)**
SH_1 Threshold height **(rising from 5 to 10)**
SH_2 Threshold height **(approx. 13)**
SPB Rail width

DHS Clear passage height of wicket door
LDBS Clear passage width

Glazing Heights for Matching External Appearance SPU 40 Stucco-textured

(Centre of window from FFL)

Door section heights 500, 625 and 750 mm

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

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

RM Grid height

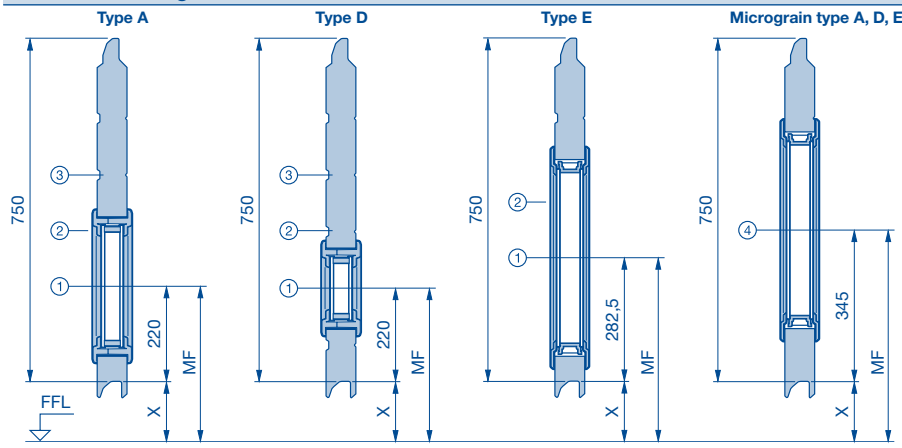
Calculating the Glazing Heights

(Centre of window from FFL)

Door section heights 500, 625 and 750 mm

Calculating the glazing heights for compound windows type A, type D and type E.
See door type for number of door sections and glazing areas. The illustrations correspond to a section depth of 42 mm.

Door section height 750 mm

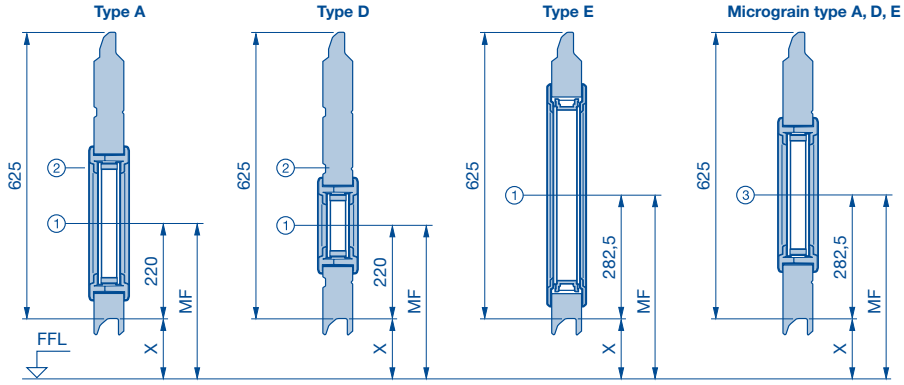


Glazing height type A and D
① = x + 220
② = x + 220 + 125
③ = x + 220 + 250
④ = x + 345

Glazing height type E
① = x + 282.5
② = x + 282.5 + 125
④ = x + 345

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

Door section height 625 mm

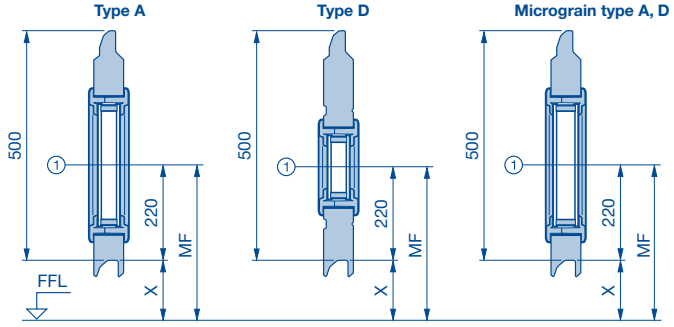


Glazing height type A and D
① = x + 220
② = x + 220 + 125
③ = x + 282.5

Glazing height type E
① = x + 282.5
③ = x + 282.5

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

Door section height 500 mm

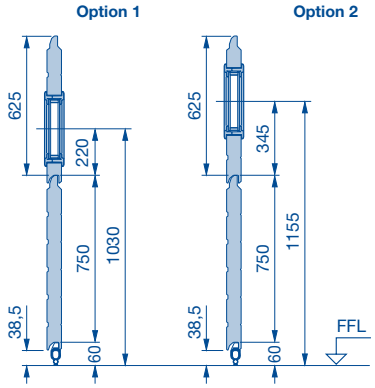


Glazing height type A and D
① = x + 220

Glazing height type E
Not possible!

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

Calculation example



Given:

- Door type SPU 40; grid height (RM) = 3250 mm; glazing type A; position see below number of door sections (see table of door types)
- Door section 625 mm = 4 units
- Door section 750 mm = 1 unit

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

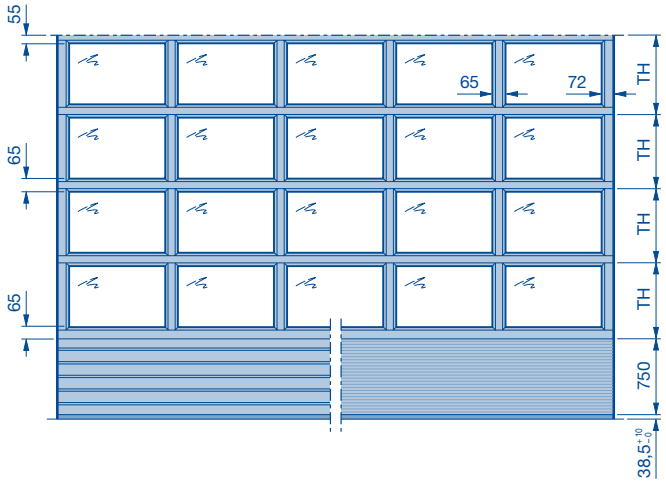
MF Centre of window from FFL

Sectional Door ASP 40

Aluminium extrusions

Double-skinned bottom section

External view

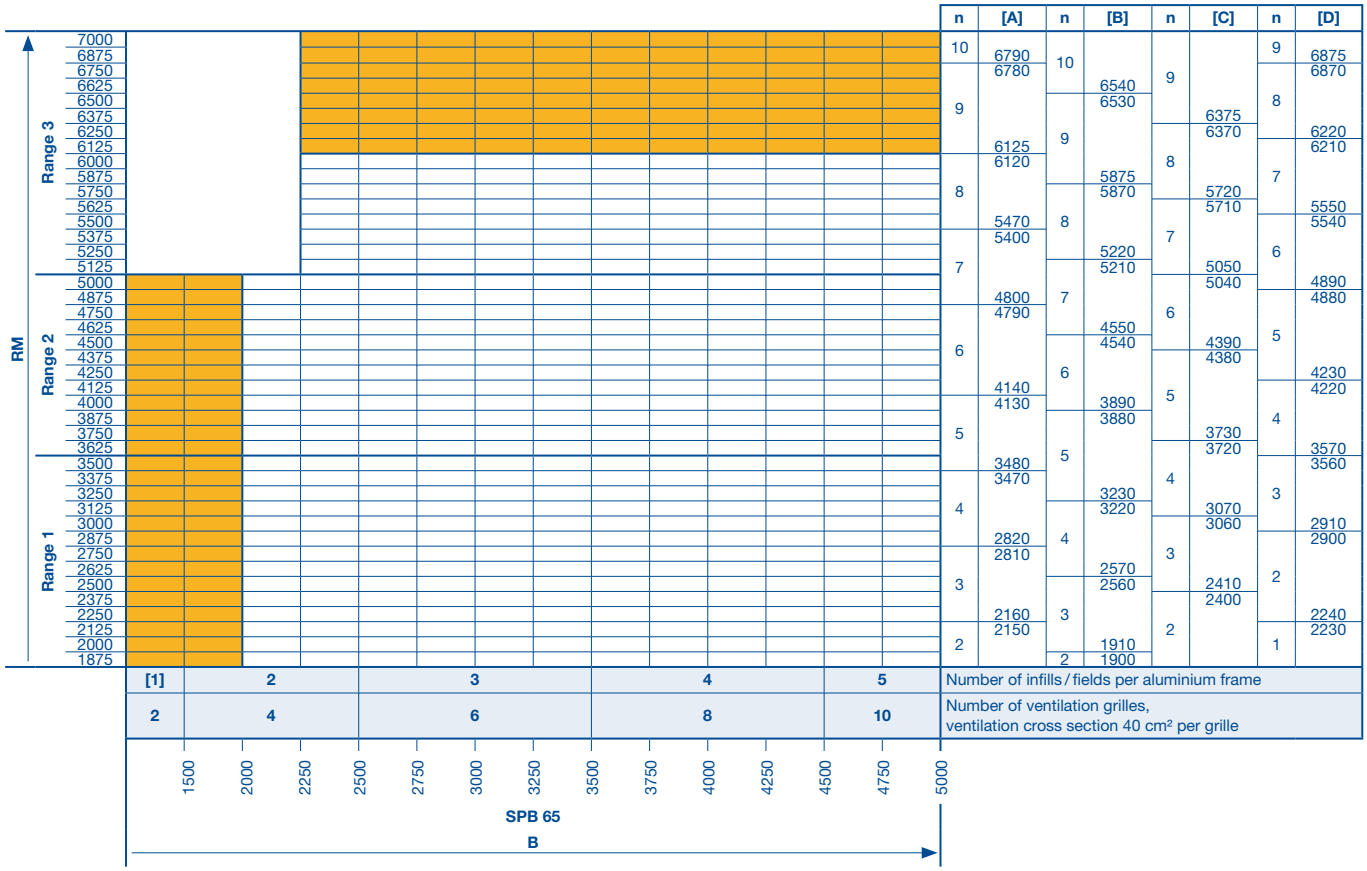


$$TH = \frac{\text{Door height} - \text{bottom section height} - 77}{\text{Number of door section frames}}$$

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

Size range

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



On request

[1] **1** → 1360, on request → 1500

Number of door section frames:

[A] Bottom section height 750 mm (standard)
[B] Bottom section height 500 mm
[C] Bottom section height 1000 mm
[D] Bottom section height 1500 mm

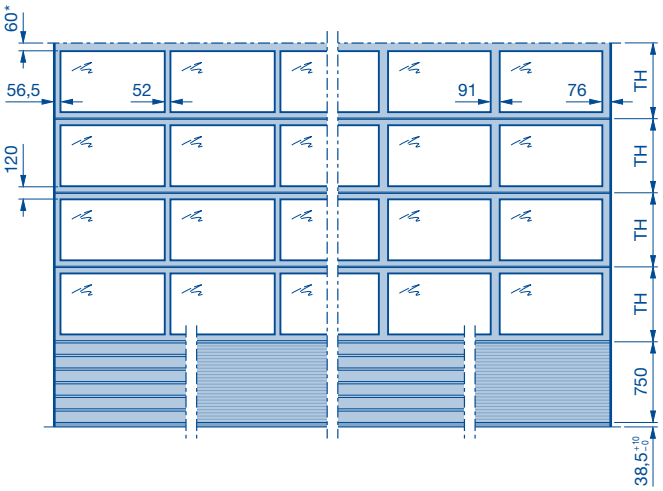
RM Grid height
B Width **(from 1200)**
SPB Rail width
n Number of aluminium frames
TH Door section height

Sectional Door APU 40 N / TAP 40

Aluminium extrusions

Double-skinned bottom section

External view



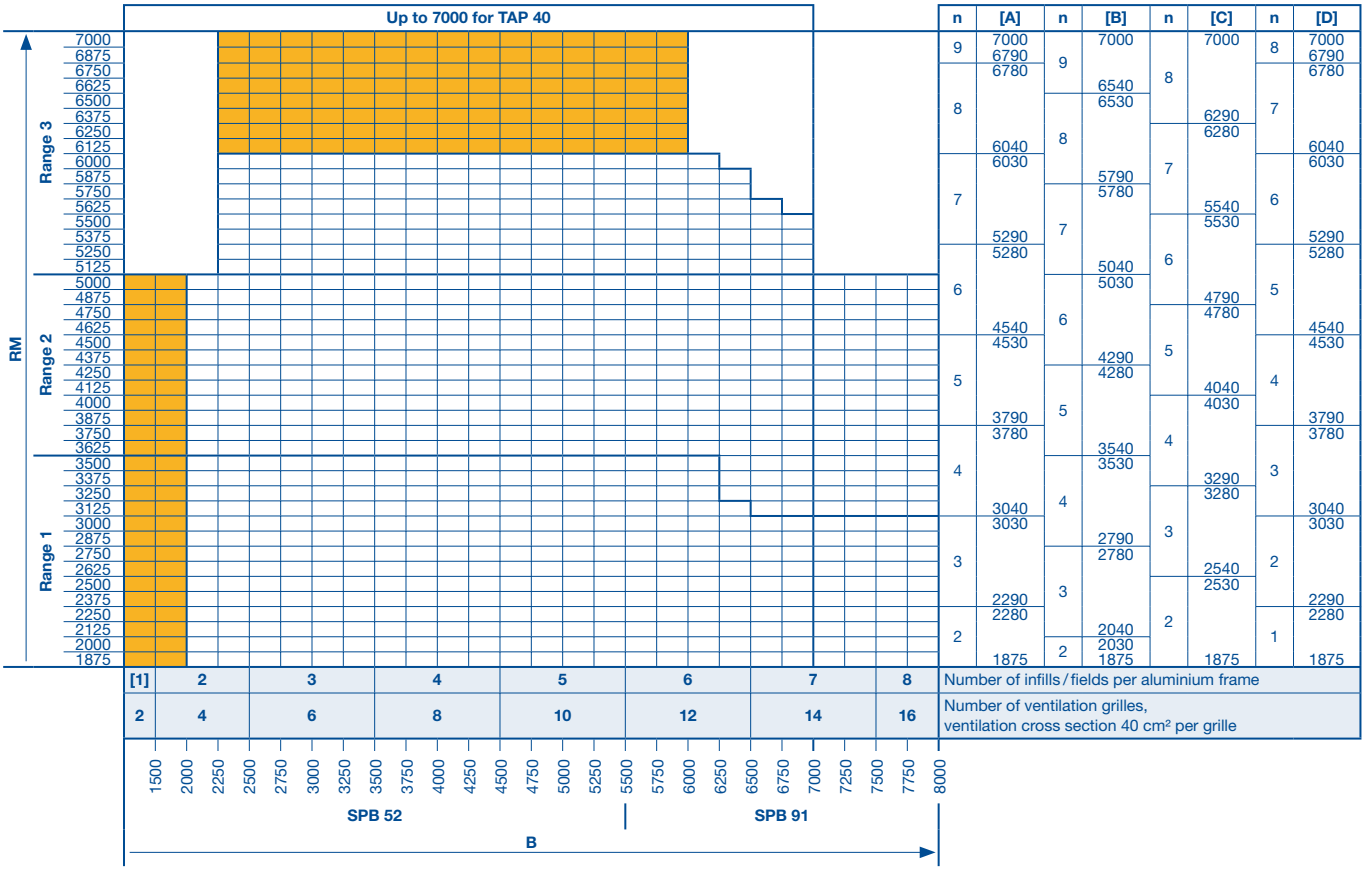
$$TH = \frac{\text{Door height} - \text{bottom section height} - 35}{\text{Number of door section frames}}$$

* On request 120 mm, so as to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.

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

Size range

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



n	[A]	n	[B]	n	[C]	n	[D]
9	7000 6790	9	7000 6540	8	7000 6290	8	7000 6790
8	6780 6040	8	6530 5790	7	6280 5540	7	6780 6040
7	6030 5290	7	5780 5040	6	5530 4790	6	6030 5290
6	5280 4540	6	5030 4290	5	4780 4040	5	5280 4540
5	4530 3790	5	4280 3540	4	4030 3290	4	4530 3790
4	3780 3040	4	3530 2790	3	3280 2540	3	3780 3040
3	3030 2290	3	2780 2040	2	2530 1875	2	3030 2290
2	2280 1875	2	2030 1875			1	2280 1875

On request

[1] **1** → 1360, on request → 1500

Number of door section frames:

[A] Bottom section height 750 mm (standard)
[B] Bottom section height 500 mm
[C] Bottom section height 1000 mm
[D] Bottom section height 1500 mm

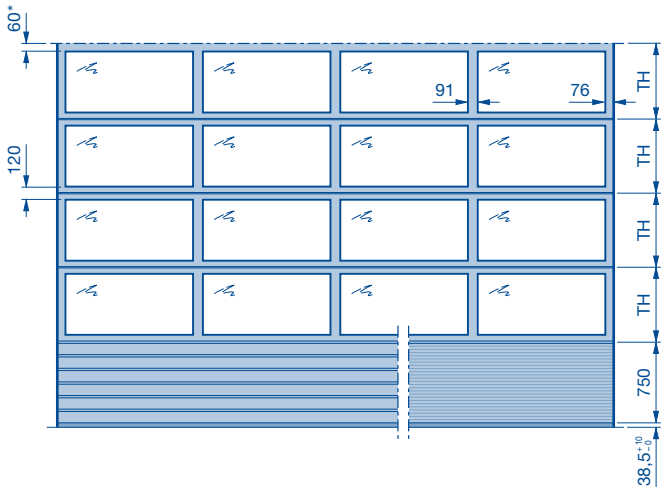
RM Grid height
B Width **(from 1200)**
SPB Rail width
n Number of aluminium frames
TH Door section height

Sectional Door APU 40 B

Aluminium extrusions

Double-skinned bottom section

External view



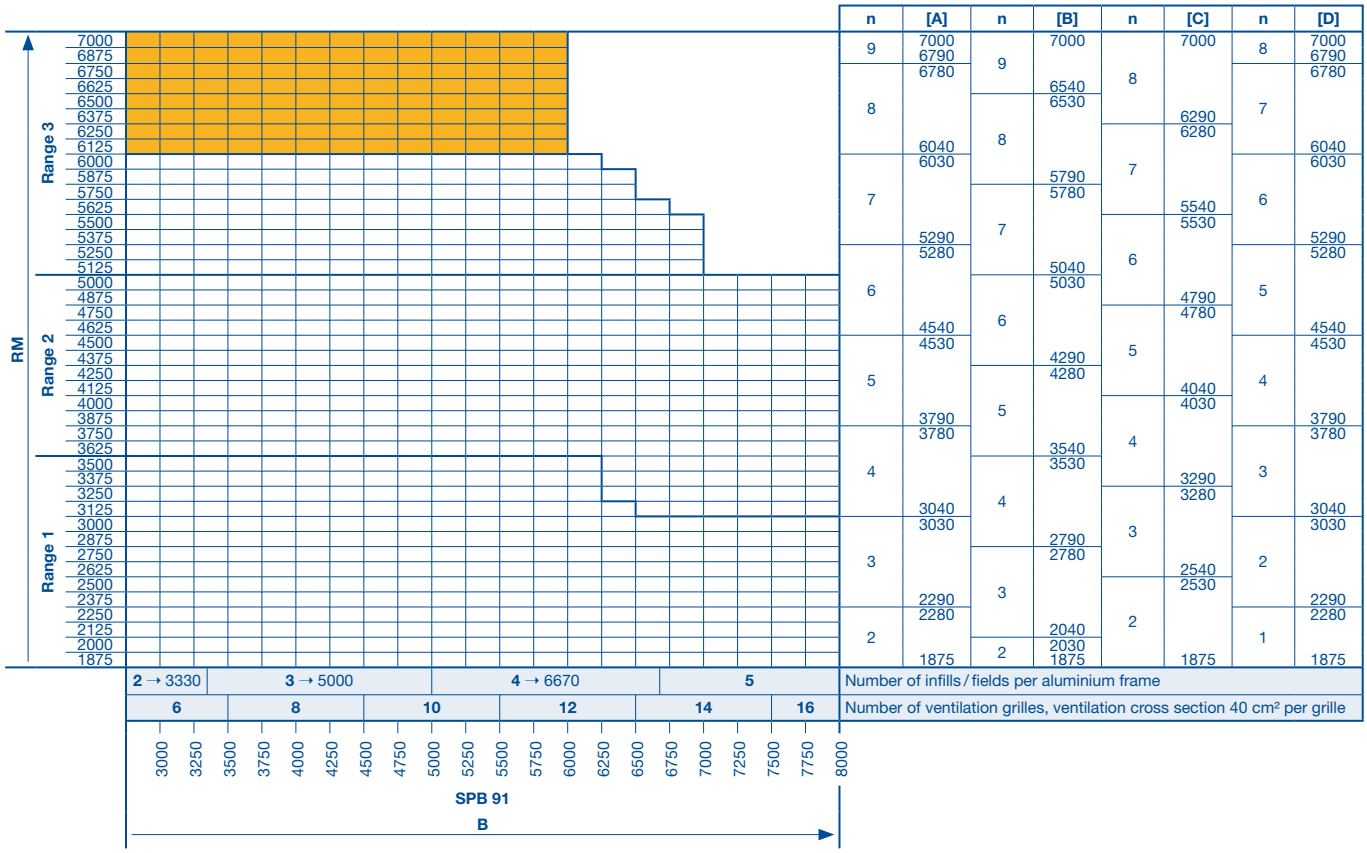
$$TH = \frac{\text{Door height} - \text{bottom section height} - 35}{\text{Number of door section frames}}$$

* On request 120 mm, so as to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.

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

Size range

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



n	[A]	n	[B]	n	[C]	n	[D]
9	7000 6790	9	7000 6540	8	7000 6290	8	7000 6790
8	6780 6040	8	6530 5790	7	6280 5540	7	6780 6040
7	6030 5290	7	5780 5040	6	5530 4790	6	6030 5290
6	5280 4540	6	5030 4290	5	4780 4040	5	5280 4540
5	4530 3790	5	4280 3540	4	4030 3290	4	4530 3790
4	3780 3040	4	3530 2790	3	3280 2540	3	3780 3040
3	3030 2290	3	2780 2040	2	2530 1875	2	3030 2290
2	2280 1875	2	2030 1875			1	2280 1875

Number of infills / fields per aluminium frame

Number of ventilation grilles, ventilation cross section 40 cm² per grille

On request

Number of door section frames:

[A] Bottom section height 750 mm (standard)
[B] Bottom section height 500 mm
[C] Bottom section height 1000 mm
[D] Bottom section height 1500 mm
RM Grid height

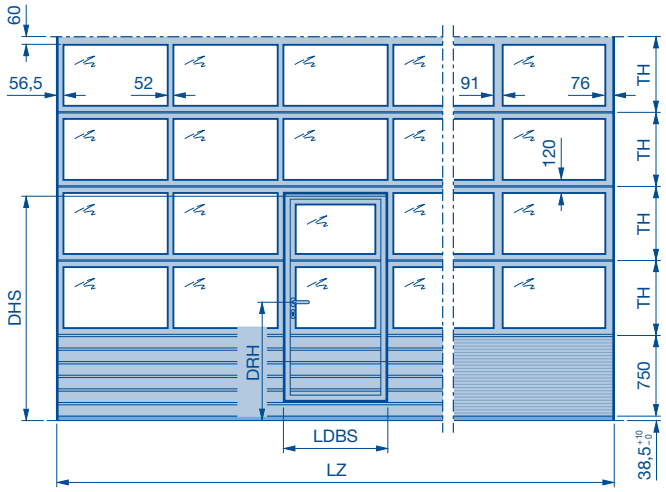
→ Up to width
B Width **(from 2510)**
SPB Rail width
n Number of aluminium frames
TH Door section height

Sectional Door APU 40 N / TAP 40
With wicket door and threshold rail

Aluminium extrusions

Bottom section height 750

External view



Lever height on request

Clear passage width (LDBS) =

Rail **52** mm = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

Clear passage height of wicket door (DHS) =

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

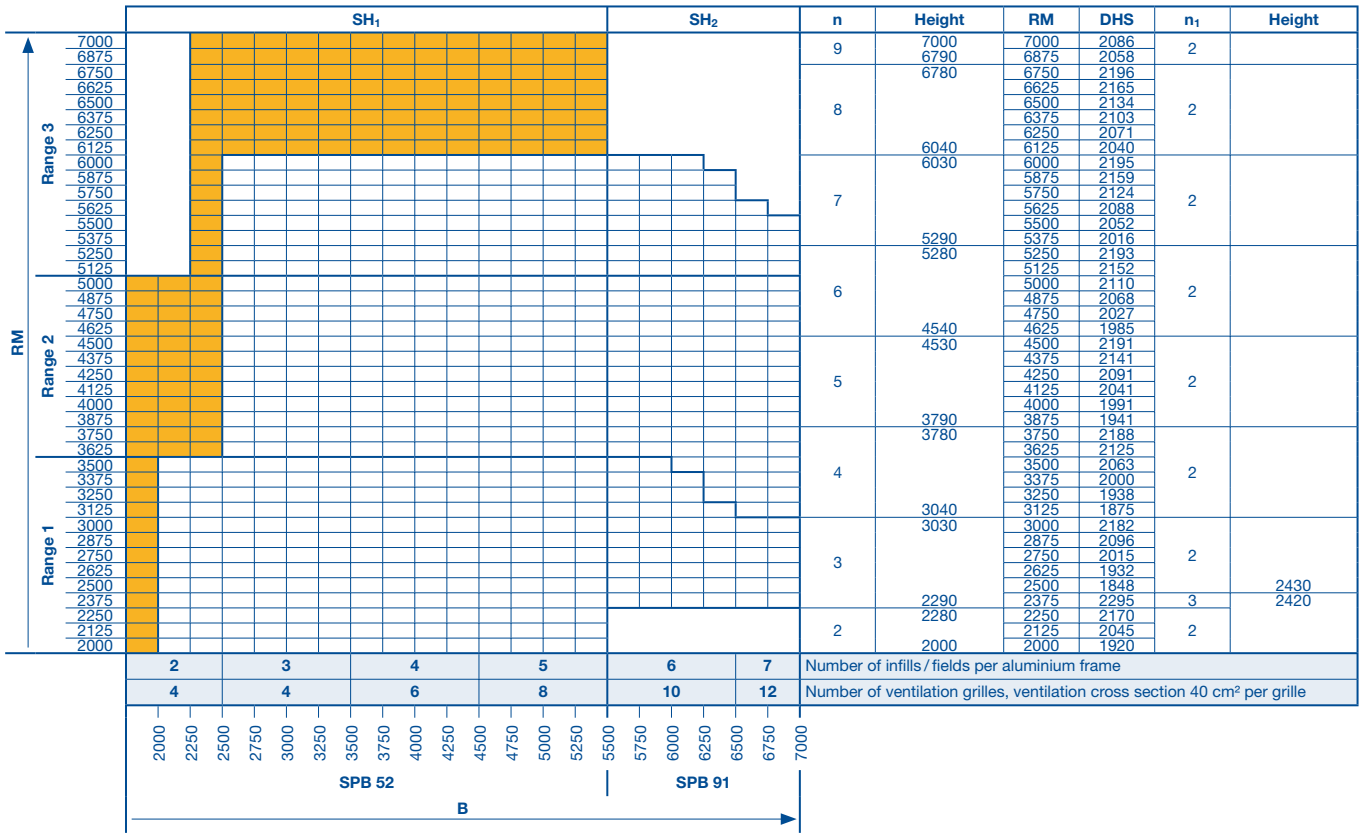
n_1 Number of frames in the wicket door

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- Micrograin version only up to door width ≤ 5500 mm.
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1	Height
9	7000	7000	2086	2	
	6790	6875	2058		
8	6780	6750	2196	2	
		6625	2165		
		6500	2134		
		6375	2103		
		6250	2071		
	6040	6125	2040		
7	6030	6000	2195	2	
		5875	2159		
		5750	2124		
		5625	2088		
		5500	2052		
	5290	5375	2016		
6	5280	5250	2193	2	
		5125	2152		
		5000	2110		
		4875	2068		
		4750	2027		
	4540	4625	1985		
5	4530	4500	2191	2	
		4375	2141		
		4250	2091		
		4125	2041		
		4000	1991		
	3790	3875	1941		
4	3780	3750	2188	2	
		3625	2125		
		3500	2063		
		3375	2000		
		3250	1938		
	3040	3125	1875		
3	3030	3000	2182	2	
		2875	2096		
		2750	2015		
		2625	1932		
		2500	1848		2430
	2290	2375	2295	3	2420
2	2280	2250	2170	2	
		2125	2045		
	2000	2000	1920		

Number of infills / fields per aluminium frame	2	3	4	5	6	7
Number of ventilation grilles, ventilation cross section 40 cm² per grille	4	4	6	8	10	12

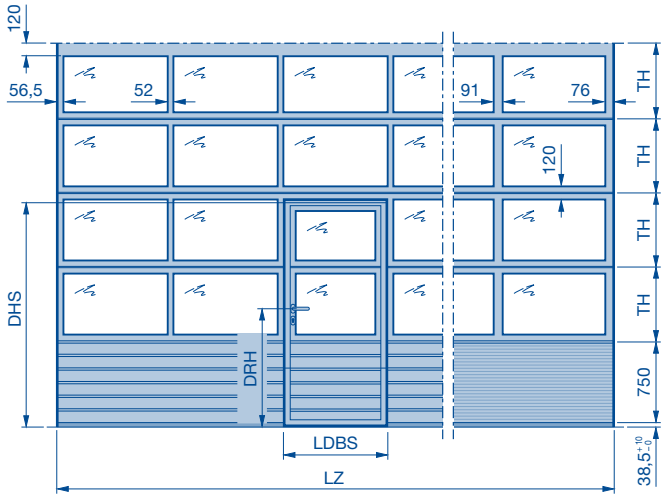
On request

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

SH_1 Threshold height **(200)**
SH_2 Threshold height **(325)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door APU 40 N / TAP 40
With wicket door with trip-free threshold
Aluminium extrusions
Bottom section height 750

External view



Lever height on request

Clear passage width (LDBS) =

Rail **52** mm = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

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

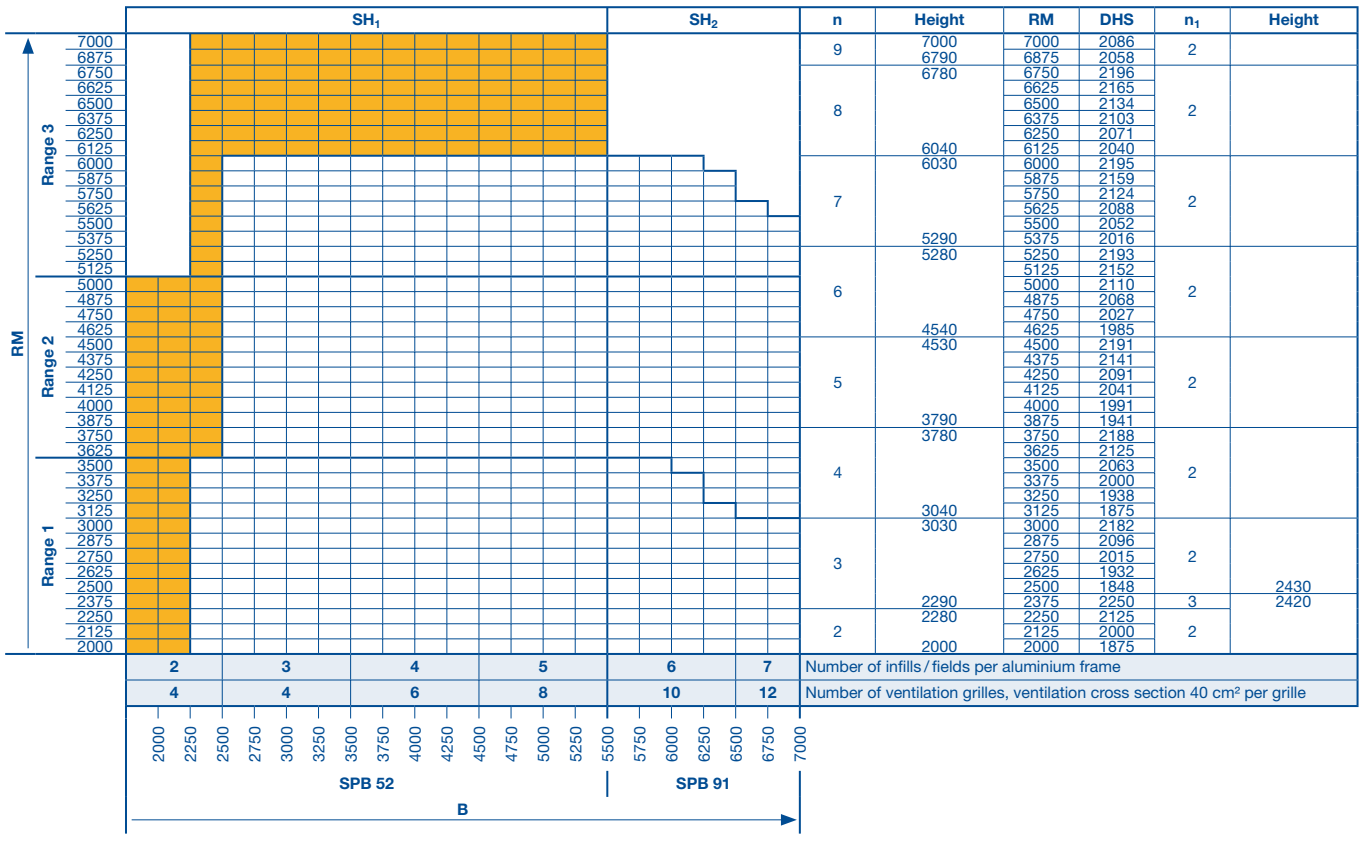
n_1 Number of frames in the wicket door

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

Note:
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1	Height
9	7000	7000	2086	2	
	6790	6875	2058		
8	6780	6750	2196	2	
		6625	2165		
		6500	2134		
		6375	2103		
		6250	2071		
	6040	6125	2040		
7	6030	6000	2195	2	
		5875	2159		
		5750	2124		
		5625	2088		
		5500	2052		
	5290	5375	2016		
6	5280	5250	2193	2	
		5125	2152		
		5000	2110		
		4875	2068		
		4750	2027		
	4540	4625	1985		
5	4530	4500	2191	2	
		4375	2141		
		4250	2091		
		4125	2041		
		4000	1991		
	3790	3875	1941		
4	3780	3750	2188	2	
		3625	2125		
		3500	2063		
		3375	2000		
		3250	1938		
	3040	3125	1875		
3	3030	3000	2182	2	
		2875	2096		
		2750	2015		
		2625	1932		
		2500	1848		2430
	2290	2375	2250	3	2420
2	2280	2250	2125	2	
		2125	2000		
	2000	2000	1875		

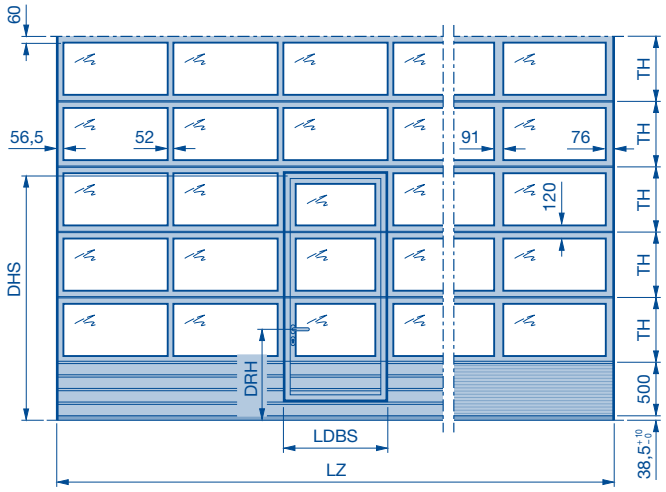
Number of infills / fields per aluminium frame	2 / 4 / 3 / 4 / 4 / 6 / 5 / 8 / 6 / 10 / 7 / 12
Number of ventilation grilles, ventilation cross section 40 cm² per grille	

On request

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

Sectional Door APU 40 N / TAP 40
With wicket door and threshold rail
Aluminium extrusions
Bottom section height 500

External view



Lever height on request

Clear passage width (LDBS) =

Rail **52** mm = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

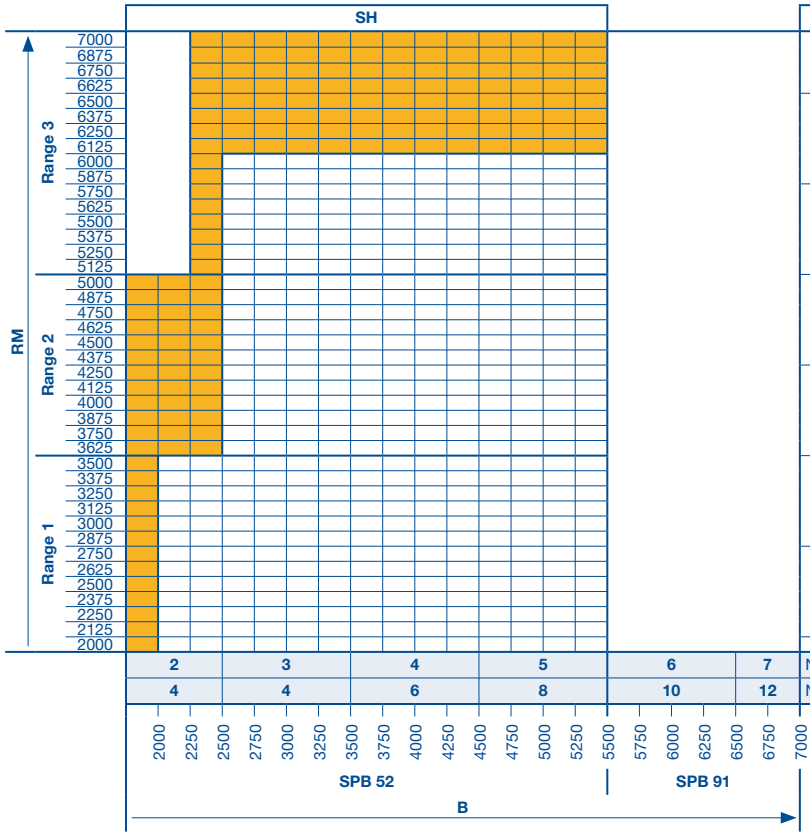
Clear passage height of wicket door (DHS) =
$n_1 \times TH + (\text{bottom section height} - 45)$

n_1 Number of frames in the wicket door

Note:
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1	Height
9	7000	7000	1892	2	
		6875	1864		
		6750	1836		
	6540	6625	1808		
8	6530	6500	1946	2	
		6375	1915		
		6250	1884		
		6125	1853		
		6000	1821		5920
	5790	5875	2458	3	5910
7	5780	5750	1945	2	
		5625	1909		
		5500	1874		
		5375	1838		
		5250	1802		5250
	5040	5125	2422	3	5240
6	5030	5000	1943	2	
		4875	1902		
		4750	1860		
		4625	1818		4580
		4500	2438	3	4570
	4290	4375	2375		
5	4280	4250	1941	2	
		4125	1891		
		4000	1841		3900
		3875	2459	3	3890
		3750	2384		
	3540	3625	2472		
4	3530	3500	1938	2	
		3375	1875		
		3250	1813		3230
		3125	2398	3	3220
		3000	2304		
	2790	2875	2210		
3	2780	2750	1932	2	
		2625	1848		2560
		2500	2420	3	2550
		2375	2295		
		2250	2170		
	2040	2125	2045		
2	2030	2000	1920	2	

2 3 4 5 6 7	Number of infills / fields per aluminium frame
4 4 6 8 10 12	Number of ventilation grilles, ventilation cross section 40 cm² per grille

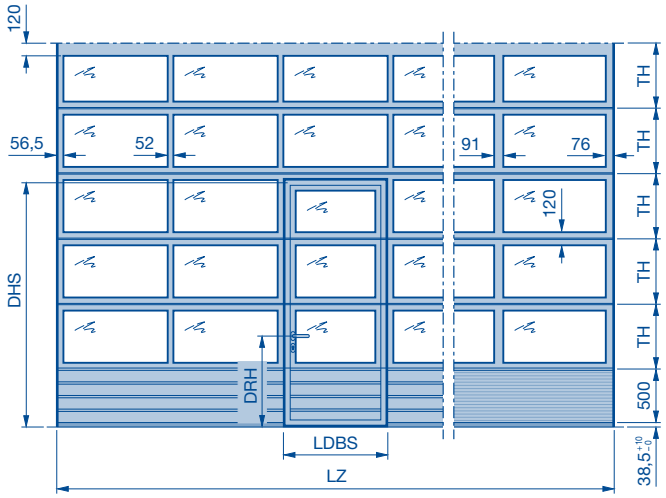
On request

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

SH Threshold height **(200)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door APU 40 N / TAP 40
With wicket door with trip-free threshold
Aluminium extrusions
Bottom section height 500

External view



Lever height on request

Clear passage width (LDBS) =

Rail **52** mm = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

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

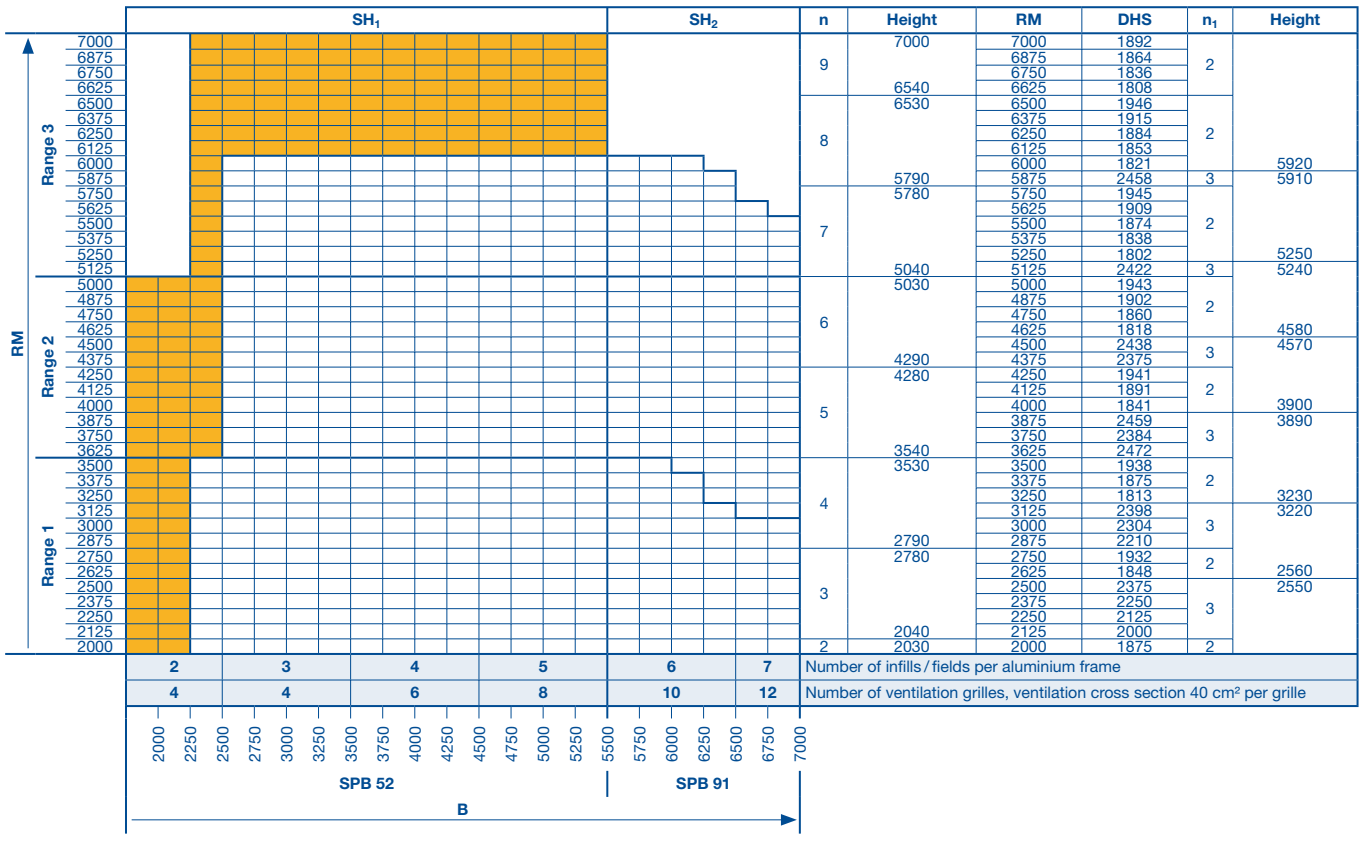
n_1 Number of frames in the wicket door

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

Note:
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1	Height
9	7000	7000	1892	2	
		6875	1864		
		6750	1836		
	6540	6625	1808		
8	6530	6500	1946	2	
		6375	1915		
		6250	1884		
		6125	1853		
		6000	1821		5920
	5790	5875	2458	3	5910
7	5780	5750	1945	2	
		5625	1909		
		5500	1874		
		5375	1838		
		5250	1802		5250
	5040	5125	2422	3	5240
6	5030	5000	1943	2	
		4875	1902		
		4750	1860		
		4625	1818		4580
		4500	2438	3	4570
	4290	4375	2375		
5	4280	4250	1941	2	
		4125	1891		
		4000	1841		3900
		3875	2459	3	3890
		3750	2384		
	3540	3625	2472		
4	3530	3500	1938	2	
		3375	1875		
		3250	1813		3230
		3125	2398	3	3220
		3000	2304		
	2790	2875	2210		
3	2780	2750	1932	2	
		2625	1848		2560
		2500	2375	3	2550
		2375	2250		
		2250	2125		
	2040	2125	2000		
2	2030	2000	1875	2	

Number of infills / fields per aluminium frame

Number of ventilation grilles, ventilation cross section 40 cm² per grille

On request

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

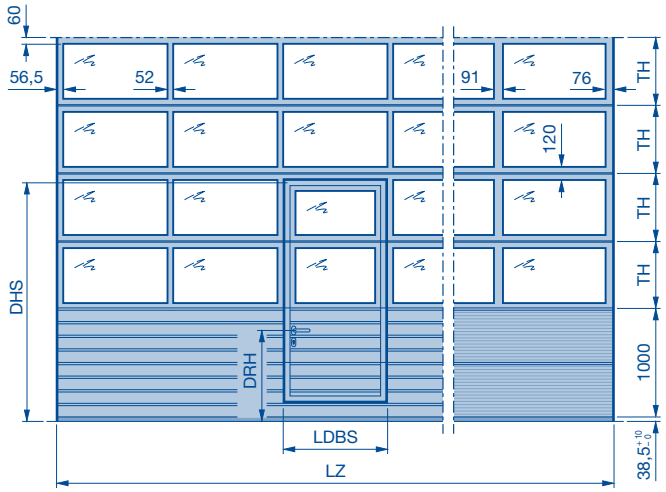
SH_1 Threshold height **(rising from 5 to 10)**
SH_2 Threshold height **(approx. 13)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door APU 40 N / TAP 40
With wicket door and threshold rail

Aluminium extrusions

Bottom section height 1000

External view



Lever height (DRH):

LZ ≤ 5500 = 830.5

LZ > 5500 = On request

Clear passage width (LDBS) =

Rail **52** mm = $\frac{\text{Door width} - 61}{\text{Number of fields}} - 167$

Rail **91** mm = $\frac{\text{Door width} - 61}{\text{Number of fields}} - 128$

Clear passage height of wicket door (DHS) =

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

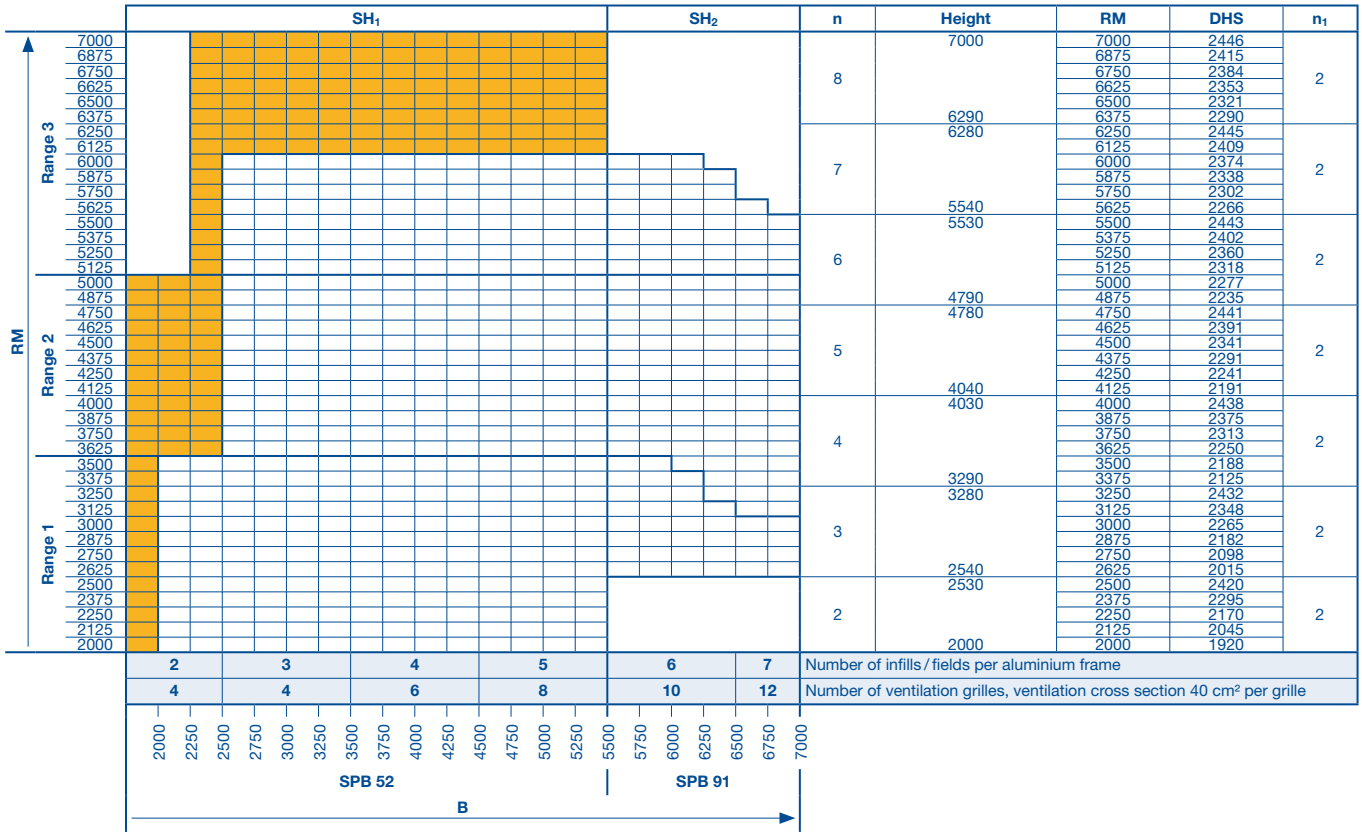
n_1 Number of frames in the wicket door

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- Micrograin version only up to door width ≤ 5500 mm.
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1
8	7000 – 6290	7000	2446	2
		6875	2415	
		6750	2384	
		6625	2353	
		6500	2321	
		6375	2290	
7	6280 – 5540	6250	2445	2
		6125	2409	
		6000	2374	
		5875	2338	
		5750	2302	
		5625	2266	
6	5530 – 4790	5500	2443	2
		5375	2402	
		5250	2360	
		5125	2318	
		5000	2277	
		4875	2235	
5	4780 – 4040	4750	2441	2
		4625	2391	
		4500	2341	
		4375	2291	
		4250	2241	
		4125	2191	
4	4030 – 3290	4000	2438	2
		3875	2375	
		3750	2313	
		3625	2250	
		3500	2188	
		3375	2125	
3	3280 – 2540	3250	2432	2
		3125	2348	
		3000	2265	
		2875	2182	
		2750	2098	
		2625	2015	
2	2530 – 2000	2500	2420	2
		2375	2295	
		2250	2170	
		2125	2045	
		2000	1920	

Number of infills / fields per aluminium frame

Number of ventilation grilles, ventilation cross section 40 cm² per grille

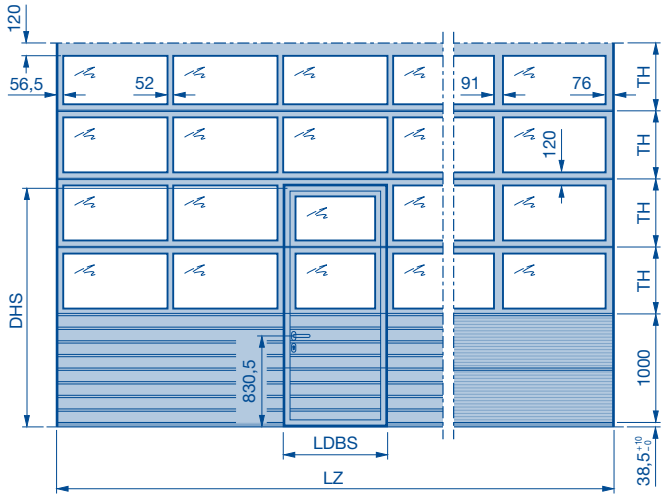
On request

DHS Clear passage height of wicket door
LZ Clear frame dimension
RM Grid height
B Width **(from 1750)**
SPB Rail width

SH_1 Threshold height **(200)**
SH_2 Threshold height **(325)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door APU 40 N / TAP 40
With wicket door with trip-free threshold
Aluminium extrusions
Bottom section height 1000

External view



Clear passage width (LDBS) =

Rail **52** mm = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

Clear passage height of wicket door (DHS) =
$n_1 \times TH$ + (bottom section height – 45*)

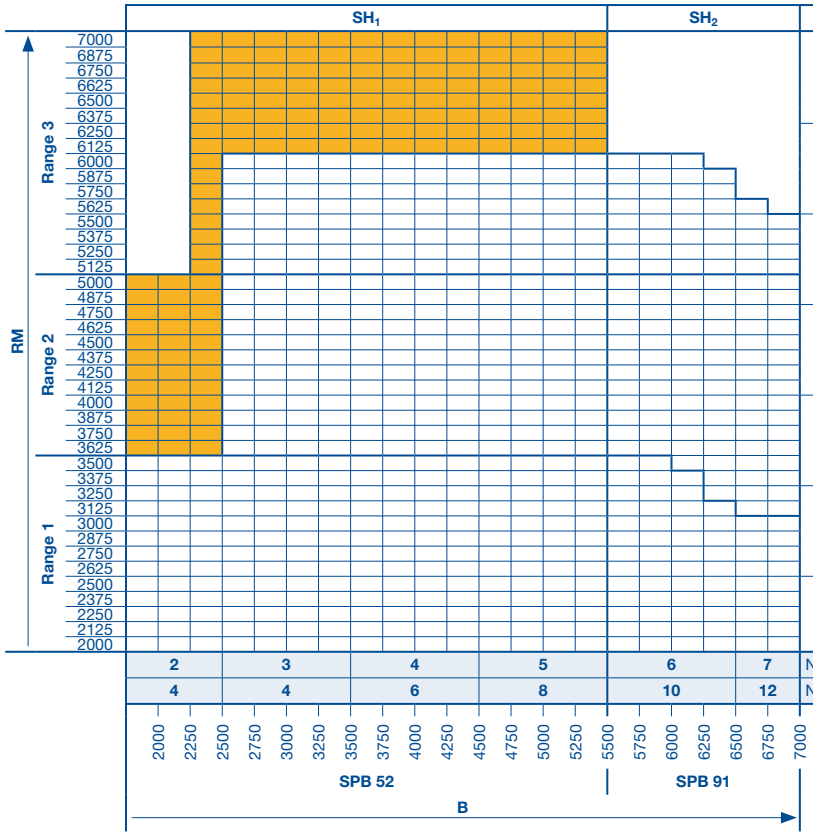
n_1 Number of frames in the wicket door

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

Note:
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1
8	7000	7000	2446	2
		6875	2415	
		6750	2384	
		6625	2353	
		6500	2321	
	6290	6375	2290	
7	6280	6250	2445	2
		6125	2409	
		6000	2374	
		5875	2338	
		5750	2302	
	5540	5625	2266	
6	5530	5500	2443	2
		5375	2402	
		5250	2360	
		5125	2318	
		5000	2277	
	4790	4875	2235	
5	4780	4750	2441	2
		4625	2391	
		4500	2341	
		4375	2291	
		4250	2241	
	4040	4125	2191	
4	4030	4000	2438	2
		3875	2375	
		3750	2313	
		3625	2250	
		3500	2188	
	3290	3375	2125	
3	3280	3250	2432	2
		3125	2348	
		3000	2265	
		2875	2182	
		2750	2098	
	2540	2625	2015	
2	2530	2500	2375	2
		2375	2250	
		2250	2125	
		2125	2000	
	2000	2000	1875	

2 3 4 5 6 7	Number of infills / fields per aluminium frame
4 4 6 8 10 12	Number of ventilation grilles, ventilation cross section 40 cm² per grille

On request

DHS Clear passage height of wicket door
LZ Clear frame dimension
RM Grid height
B Width **(from 1750)**
SPB Rail width

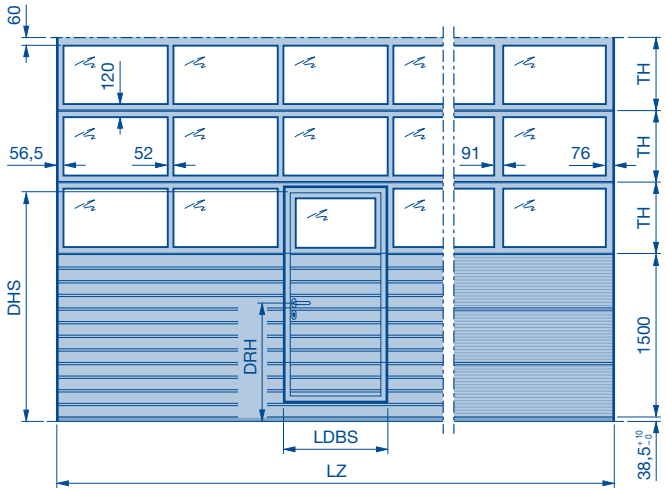
SH_1 Threshold height **(rising from 5 to 10)**
SH_2 Threshold height **(approx. 13)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door APU 40 N / TAP 40
With wicket door and threshold rail

Aluminium extrusions

Bottom section height 1500

External view



Lever height on request

Clear passage width (LDBS) =

Rail **52** mm = $\frac{\text{Door width} - 61}{\text{Number of fields}} - 167$

Rail **91** mm = $\frac{\text{Door width} - 61}{\text{Number of fields}} - 128$

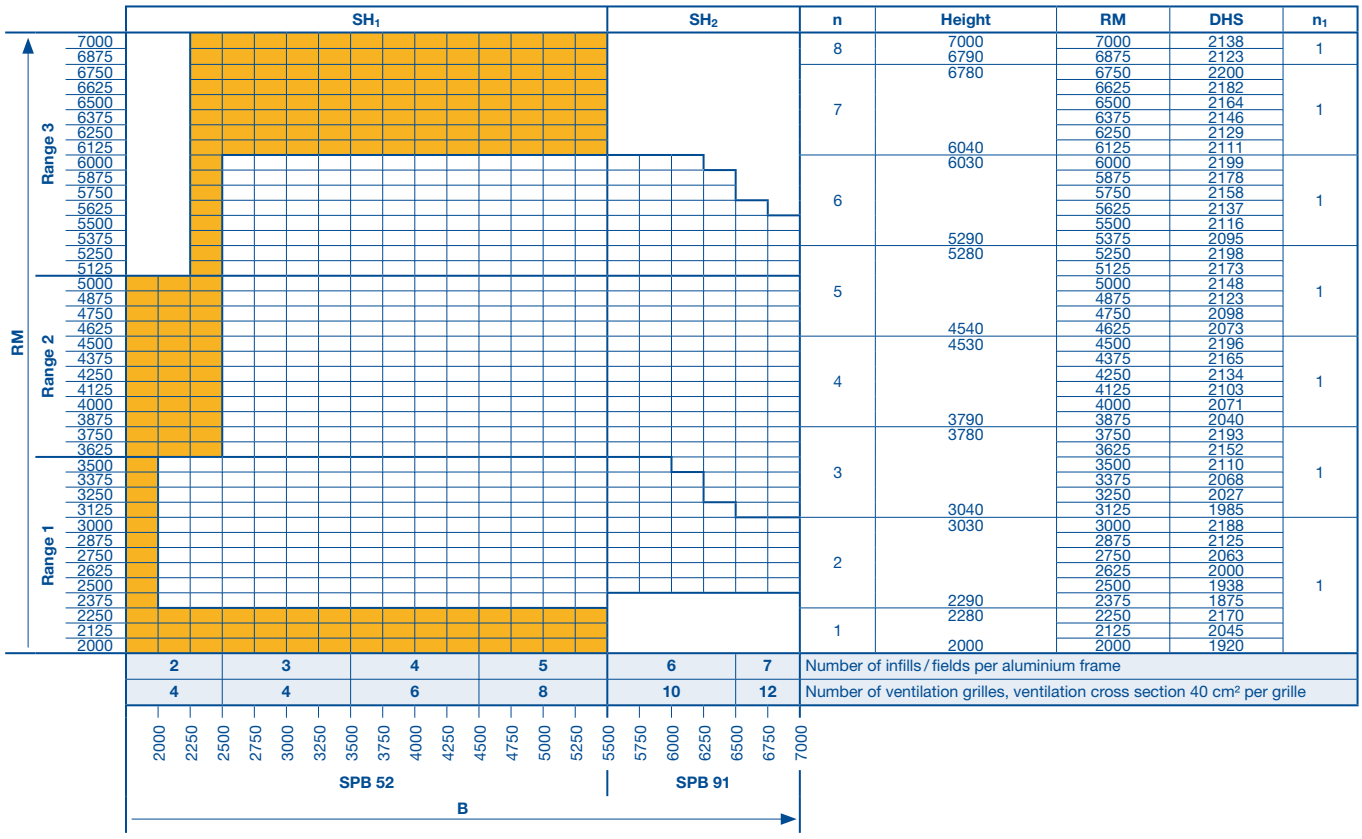
Clear passage height wicket door (DHS) =
$n_1 \times TH + (\text{bottom section height} - 45)$

n_1 Number of frames in the wicket door

Note:
- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- Micrograin version only up to door width ≤ 5500 mm.
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1
8	7000	7000	2138	1
	6790	6875	2123	
7	6780	6750	2200	1
		6625	2182	
		6500	2164	
		6375	2146	
		6250	2129	
	6040	6125	2111	
6	6030	6000	2199	1
		5875	2178	
		5750	2158	
		5625	2137	
		5500	2116	
	5290	5375	2095	
5	5280	5250	2198	1
		5125	2173	
		5000	2148	
		4875	2123	
		4750	2098	
	4540	4625	2073	
4	4530	4500	2196	1
		4375	2165	
		4250	2134	
		4125	2103	
		4000	2071	
	3790	3875	2040	
3	3780	3750	2193	1
		3625	2152	
		3500	2110	
		3375	2068	
		3250	2027	
	3040	3125	1985	
2	3030	3000	2188	1
		2875	2125	
		2750	2063	
		2625	2000	
		2500	1938	
	2290	2375	1875	
1	2280	2250	2170	
		2125	2045	
	2000	2000	1920	

Number of infills / fields per aluminium frame

Number of ventilation grilles, ventilation cross section 40 cm² per grille

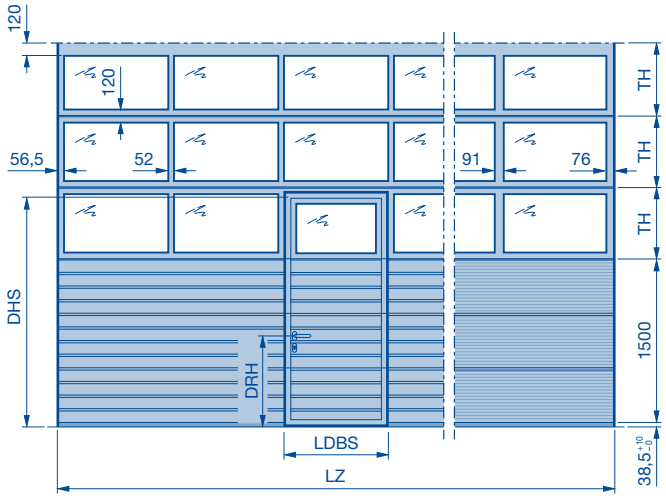
On request

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

SH_1 Threshold height **(200)**
SH_2 Threshold height **(325)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door APU 40 N / TAP 40
With wicket door with trip-free threshold
Aluminium extrusions
Bottom section height 1500

External view



Lever height (DRH):

LZ ≤ 6000 = 1080.5

LZ > 6000 = 830.5

Clear passage width (LDBS) =

Rail **52** mm = $\frac{\text{Door width} - 61}{\text{Number of fields}} - 167$

Rail **91** mm = $\frac{\text{Door width} - 61}{\text{Number of fields}} - 128$

Clear passage height of wicket door (DHS) =

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

n_1 Number of frames in the wicket door

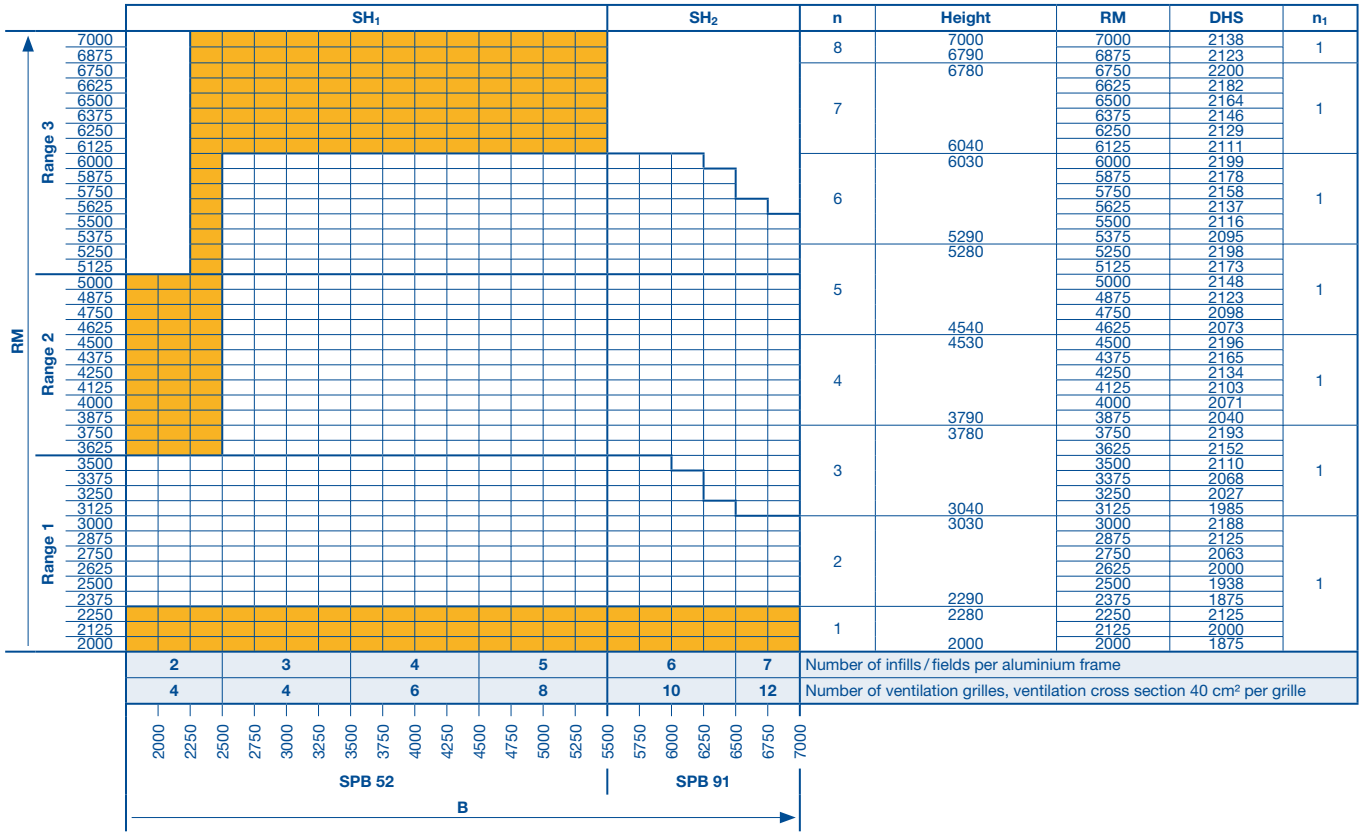
* Attention: If there is no frame above the wicket door, then –90 instead of –45.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For a door width of 1750 – 2500 mm, the wicket door width is 803 mm.

Size range

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



n	Height	RM	DHS	n_1
8	7000	7000	2138	1
	6790	6875	2123	
7	6780	6750	2200	1
		6625	2182	
		6500	2164	
		6375	2146	
		6250	2129	
	6040	6125	2111	
6	6030	6000	2199	1
		5875	2178	
		5750	2158	
		5625	2137	
		5500	2116	
	5290	5375	2095	
5	5280	5250	2198	1
		5125	2173	
		5000	2148	
		4875	2123	
		4750	2098	
	4540	4625	2073	
4	4530	4500	2196	1
		4375	2165	
		4250	2134	
		4125	2103	
		4000	2071	
	3790	3875	2040	
3	3780	3750	2193	1
		3625	2152	
		3500	2110	
		3375	2068	
		3250	2027	
	3040	3125	1985	
2	3030	3000	2188	1
		2875	2125	
		2750	2063	
		2625	2000	
		2500	1938	
	2290	2375	1875	
1	2280	2250	2125	
	2000	2125	2000	
		2000	1875	

2 3 4 5 6 7	Number of infills / fields per aluminium frame
4 4 6 8 10 12	Number of ventilation grilles, ventilation cross section 40 cm² per grille

On request

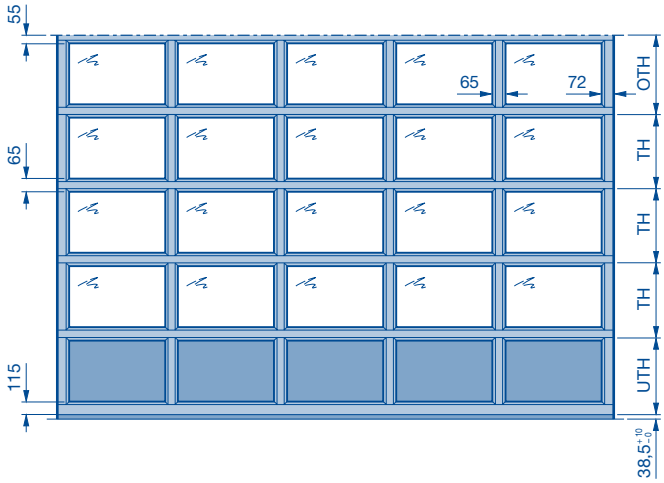
DHS Clear passage height of wicket door
LZ Clear frame dimension
RM Grid height
B Width **(from 1750)**
SPB Rail width

SH_1 Threshold height **(rising from 5 to 10)**
SH_2 Threshold height **(approx. 13)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door ASR 40

Door leaf made of aluminium extrusions

External view



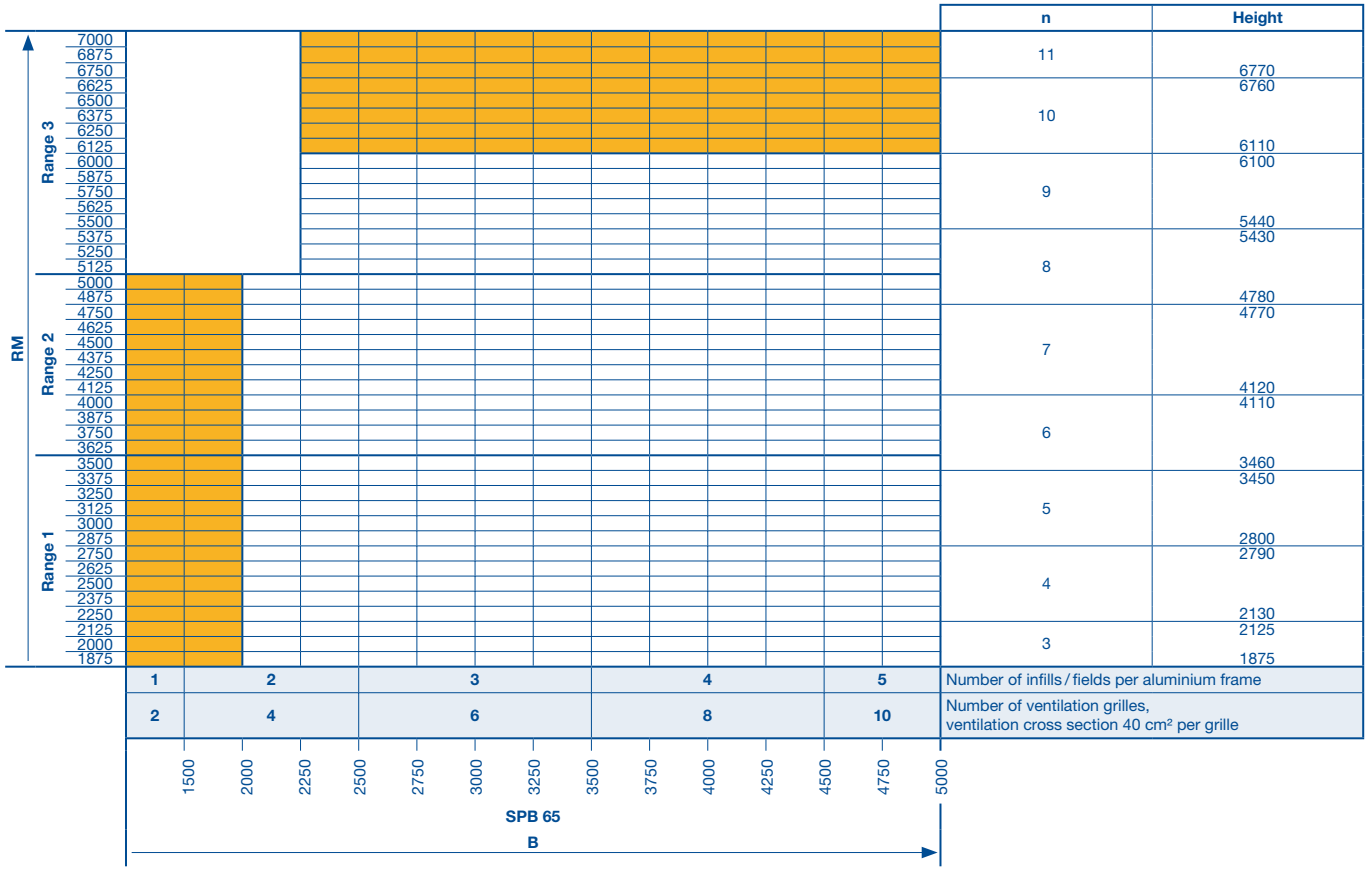
$$TH = \frac{\text{Door height} - 143.5}{\text{Number of door section frames}}$$

OTH = TH + 68
UTH = TH + 97

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

Size range

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



On request

RM Grid height
LZ Clear frame dimension
B Width **(from 1200)**

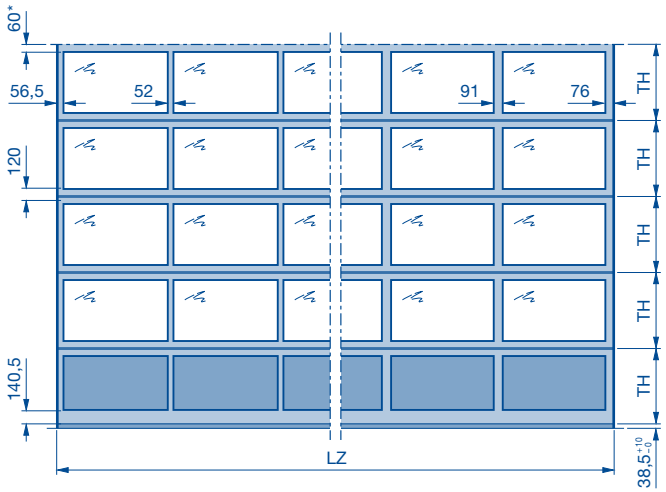
SPB Rail width
n Number of aluminium frames
UTH Bottom door section height
TH Door section height

OTH Upper door section height

Sectional Door ALR 40 N / TAR 40

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

External view



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

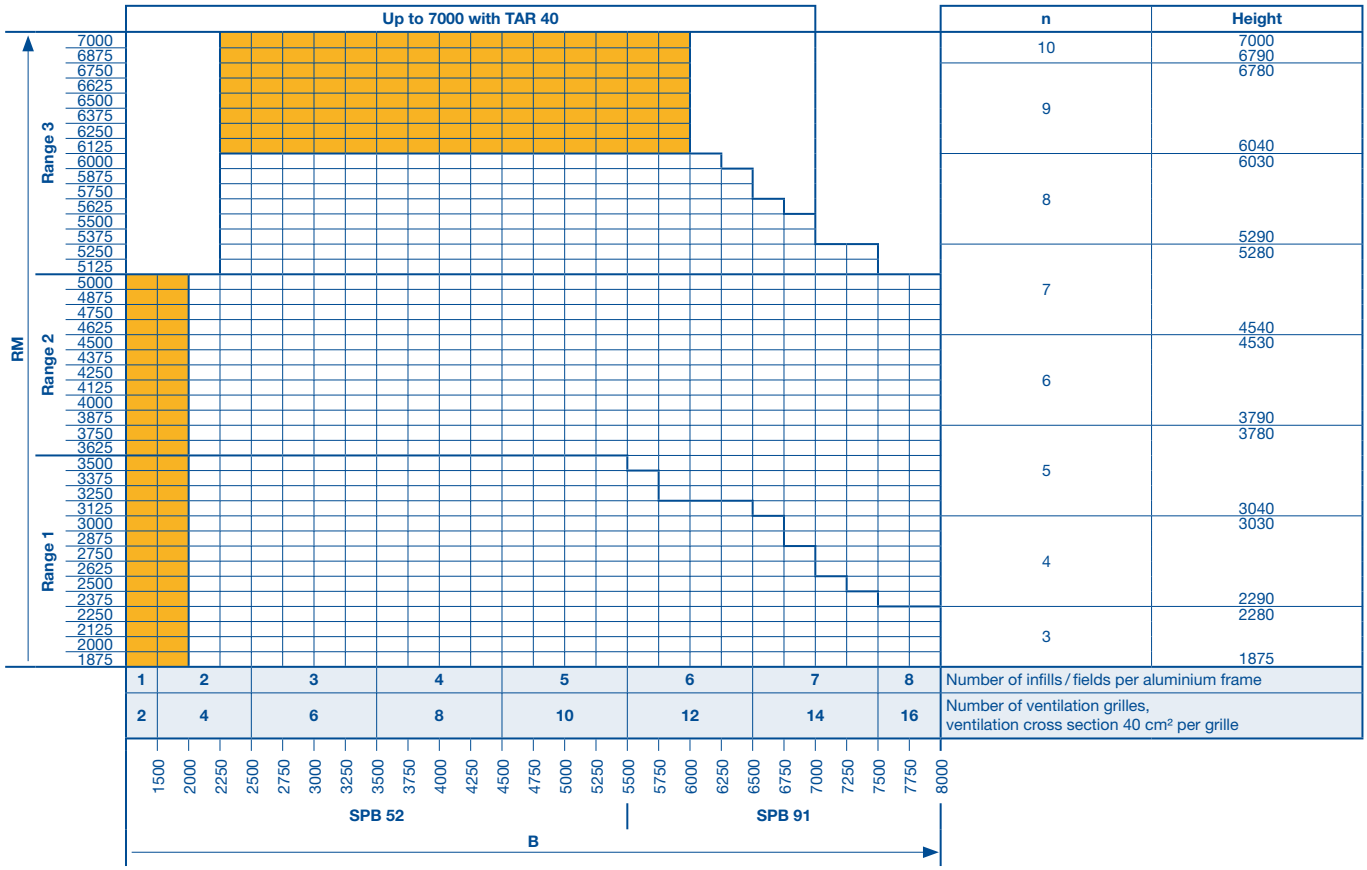
* On request 120 mm, so as to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).

Size range

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



n	Height
10	7000 6790
9	6780 6040
8	6030 5290
7	5280 4540
6	4530 3790
5	3780 3040
4	3030 2290
3	2280 1875

1	2	3	4	5	6	7	8	Number of infills / fields per aluminium frame
2	4	6	8	10	12	14	16	Number of ventilation grilles, ventilation cross section 40 cm² per grille

On request

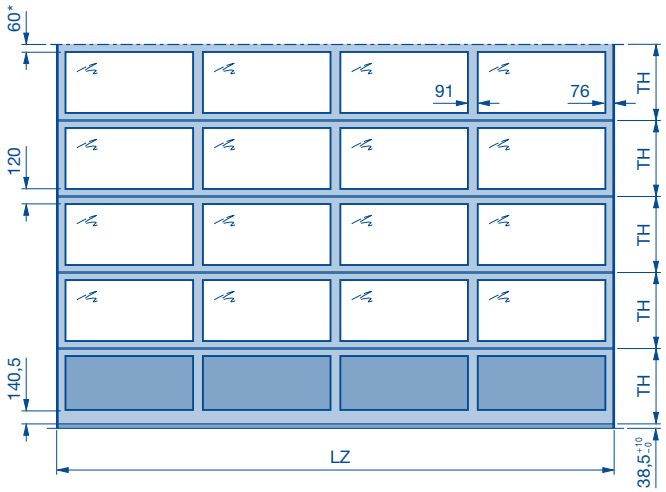
RM Grid height
LZ Clear frame dimension
B Width **(from 1200)**

SPB Rail width
n Number of aluminium frames
TH Door section height

Sectional Door ALR 40 B

Door leaf made of standard aluminium extrusions

External view



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

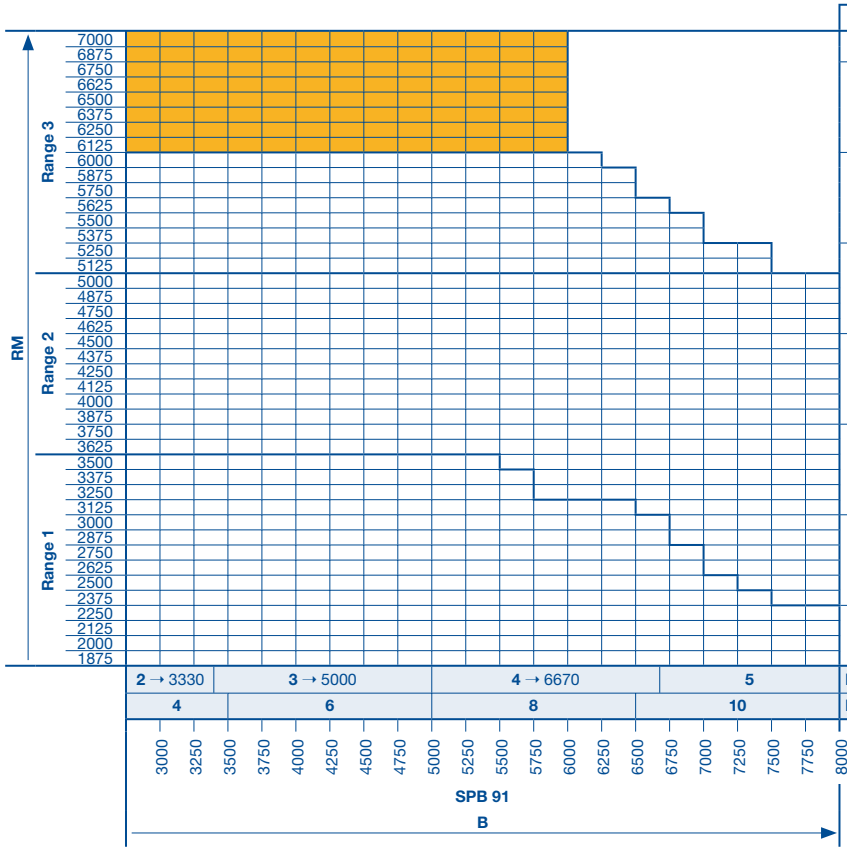
* On request 120 mm, so as to match the appearance of a sectional door with wicket door with trip-free threshold with the same door height.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).

Size range

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



n	Height
10	7000 6790
9	6780 6040
8	6030 5290
7	5280 4540
6	4530 3790
5	3780 3040
4	3030 2290
3	2280 1875

Number of infills / fields per aluminium frame

Number of ventilation grilles, ventilation cross section 40 cm² per grille

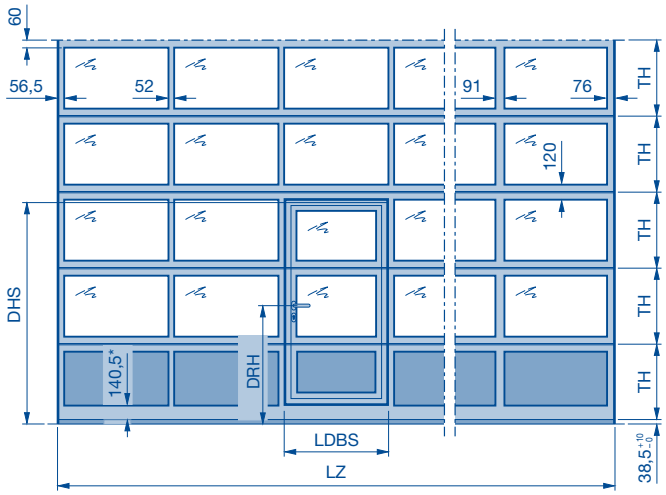
On request

RM Grid height
LZ Clear frame dimension
B Width **(from 2510)**
→ Up to width

SPB Rail width
n Number of aluminium frames
TH Door section height

Sectional Door ALR 40 N / TAR 40
With wicket door and threshold rail

External view



Lever height on request

Clear passage width (LDBS) =

Rail **52** mm $= \frac{\text{Door width} - 61}{\text{Number of fields}} - 167$

Rail **91** mm $= \frac{\text{Door width} - 61}{\text{Number of fields}} - 128$

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

n_1 Number of frames in the wicket door

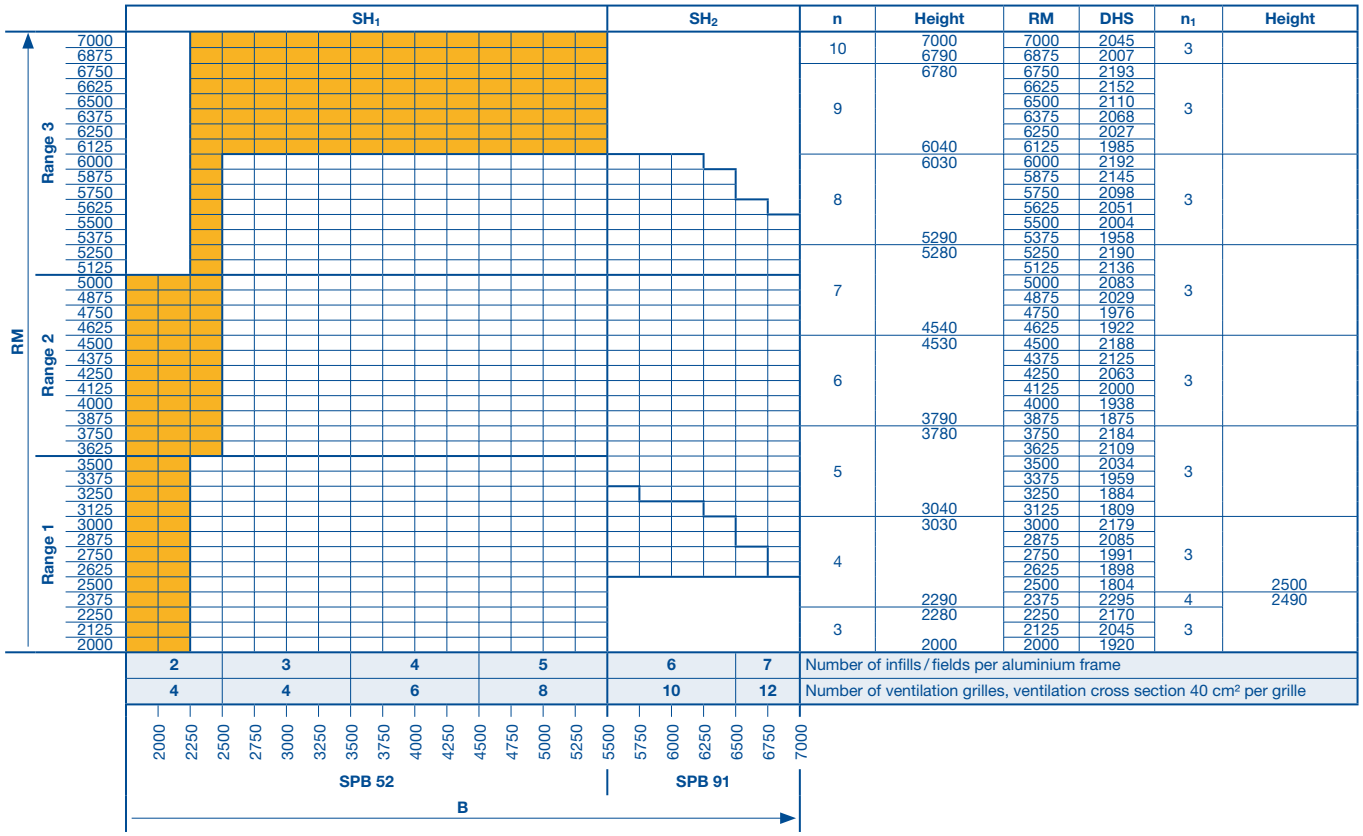
* 265.5 with SH_2

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).

Size range

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



n	Height	RM	DHS	n_1	Height
10	7000 6790	7000 6875	2045 2007	3	
9	6780 6040	6750 6625 6500 6375 6250 6125	2193 2152 2110 2068 2027 1985	3	
8	6030 5290	6000 5875 5750 5625 5500 5375	2192 2145 2098 2051 2004 1958	3	
7	5280 4540	5250 5125 5000 4875 4750 4625	2190 2136 2083 2029 1976 1922	3	
6	4530 3790	4500 4375 4250 4125 4000 3875	2188 2125 2063 2000 1938 1875	3	
5	3780 3040	3750 3625 3500 3375 3250 3125	2184 2109 2034 1959 1884 1809	3	
4	3030 2290	3000 2875 2750 2625 2500 2375	2179 2085 1991 1898 1804 2295	3 4	2500 2490
3	2280 2000	2250 2125 2000	2170 2045 1920	3	

Number of infills / fields per aluminium frame

Number of ventilation grilles, ventilation cross section 40 cm² per grille

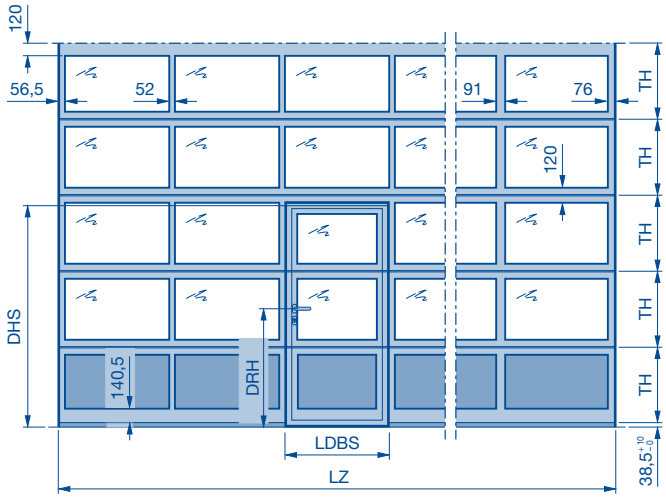
On request

DHS Clear passage height of wicket door
DRH Lever height
LZ Clear frame dimension
RM Grid height
B Width **(from 1700)**
SPB Rail width

SH_1 Threshold height **(181)**
SH_2 Threshold height **(306)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door ALR 40 N / TAR 40
With wicket door with trip-free threshold

External view



Lever height on request

Clear passage width (LDBS) =

Rail **52** mm = (Door width – 61) / Number of fields – 167

Rail **91** mm = (Door width – 61) / Number of fields – 128

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

n_1 Number of frames in the wicket door

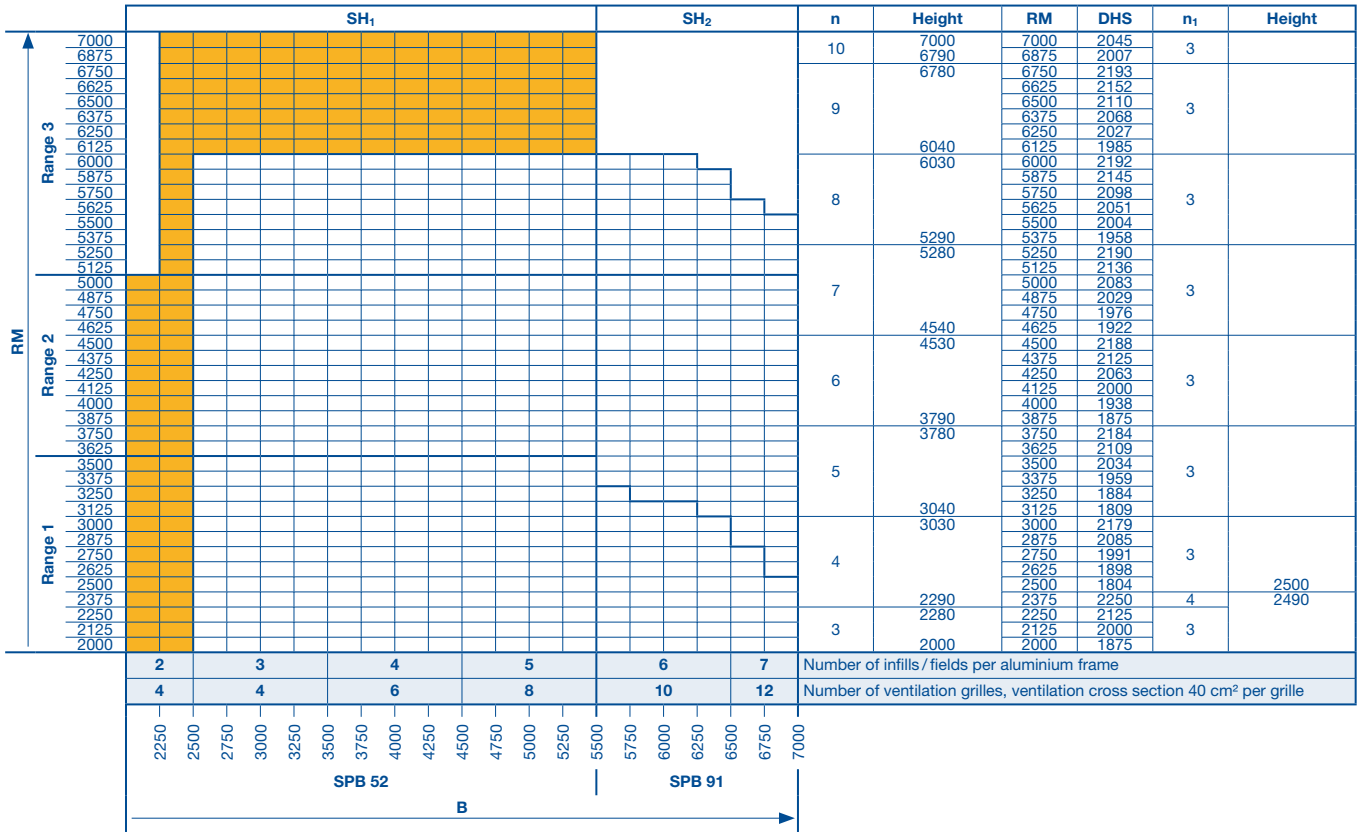
* Attention: If there is no frame above the wicket door, then –90 instead of –45.

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).

Size range

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



n	Height	RM	DHS	n_1	Height
10	7000 6790	7000 6875	2045 2007	3	
9	6780 6040	6750 6625 6500 6375 6250 6125	2193 2152 2110 2068 2027 1985	3	
8	6030 5290	6000 5875 5750 5625 5500 5375	2192 2145 2098 2051 2004 1958	3	
7	5280 4540	5250 5125 5000 4875 4750 4625	2190 2136 2083 2029 1976 1922	3	
6	4530 3790	4500 4375 4250 4125 4000 3875	2188 2125 2063 2000 1938 1875	3	
5	3780 3040	3750 3625 3500 3375 3250 3125	2184 2109 2034 1959 1884 1809	3	
4	3030 2290	3000 2875 2750 2625 2500 2375	2179 2085 1991 1898 1804 2250	3 4	2500 2490
3	2280 2000	2250 2125 2000	2125 2000 1875	3	

2	3	4	5	6	7	Number of infills / fields per aluminium frame
4	4	6	8	10	12	Number of ventilation grilles, ventilation cross section 40 cm² per grille

On request

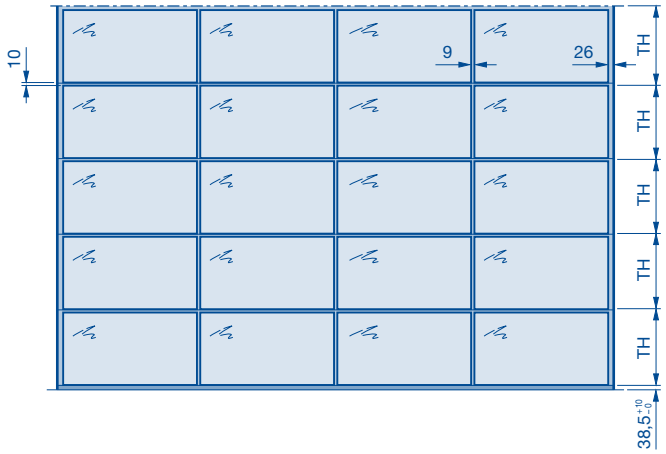
DHS Clear passage height of wicket door
DRH Lever height
LZ Clear frame dimension
RM Grid height
B Width **(from 2000)**
SPB Rail width

SH_1 Threshold height **(rising from 5 to 10)**
SH_2 Threshold height **(approx. 13)**
n Number of aluminium frames
n_1 Number of aluminium frames in the wicket door
TH Door section height

Sectional Door ALR Vitraplan

Door leaf made of standard aluminium extrusions

External view



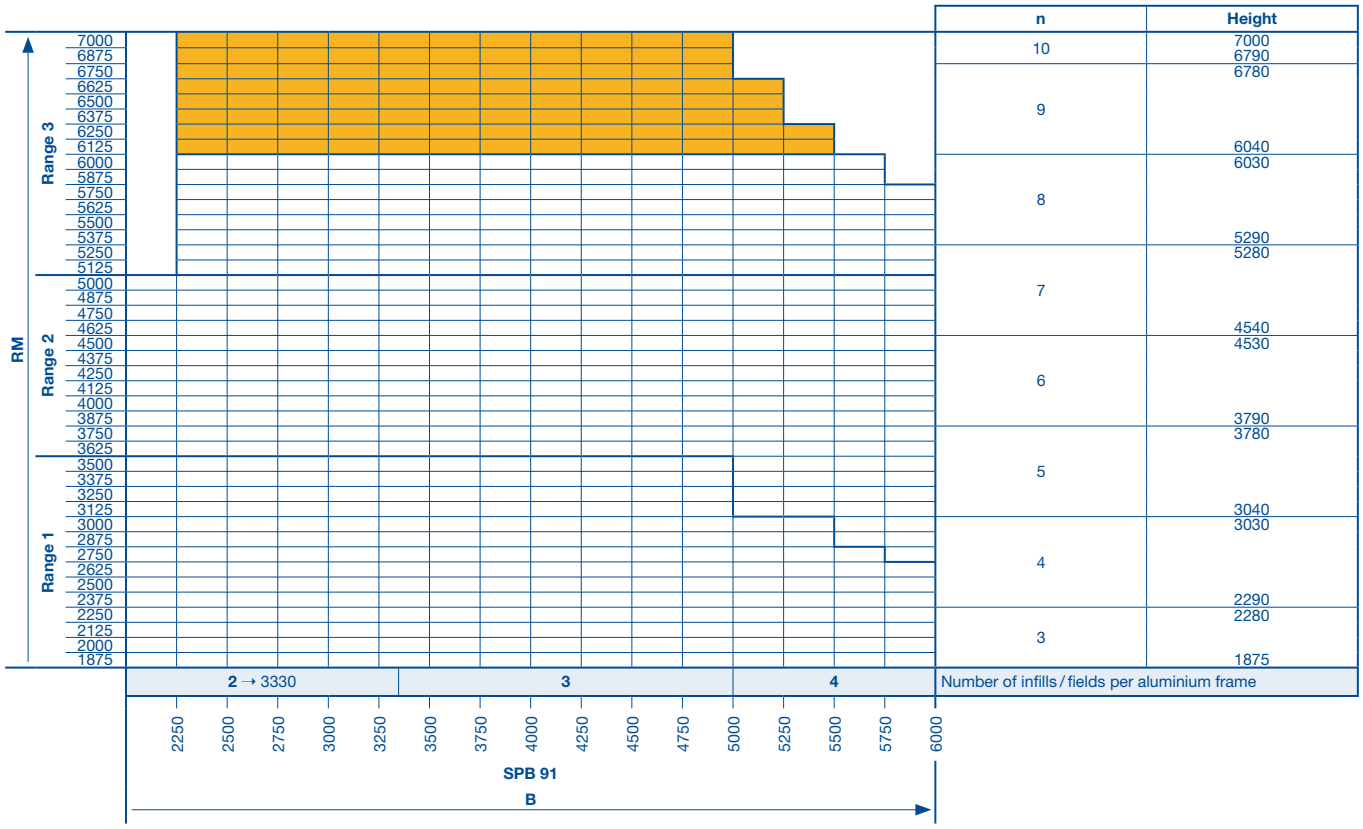
$$TH = \frac{\text{Door height} - 35}{\text{Number of door section frames}}$$

Note:

- When using a shaft operator (installation example 5), the door lock is always on the side opposite the operator
- For door widths from 5500 mm, diagonal struts are fitted into the bottom door section (not visible with closed infills).

Size range

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



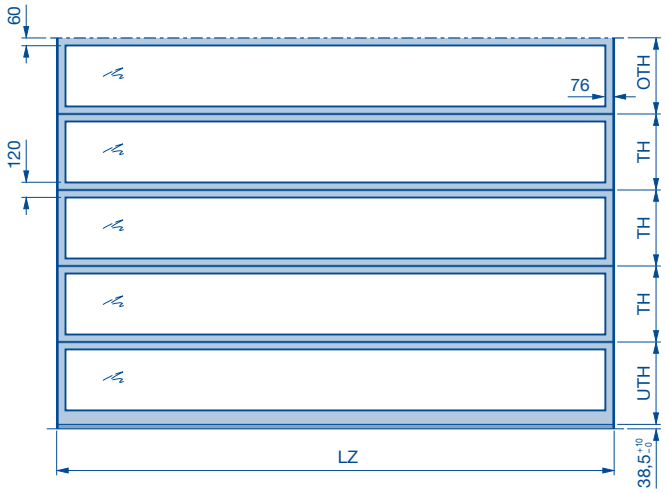
n	Height
10	7000 6790
9	6780 6040
8	6030 5290
7	5280 4540
6	4530 3790
5	3780 3040
4	3030 2290
3	2280 1875

On request	
RM	Grid height
LZ	Clear frame dimension
B	Width **(from 2000)**
→	Up to width
SPB	Rail width
n	Number of aluminium frames
TH	Door section height

Sectional Door ALS 40

Door leaf made of standard aluminium extrusions

External view



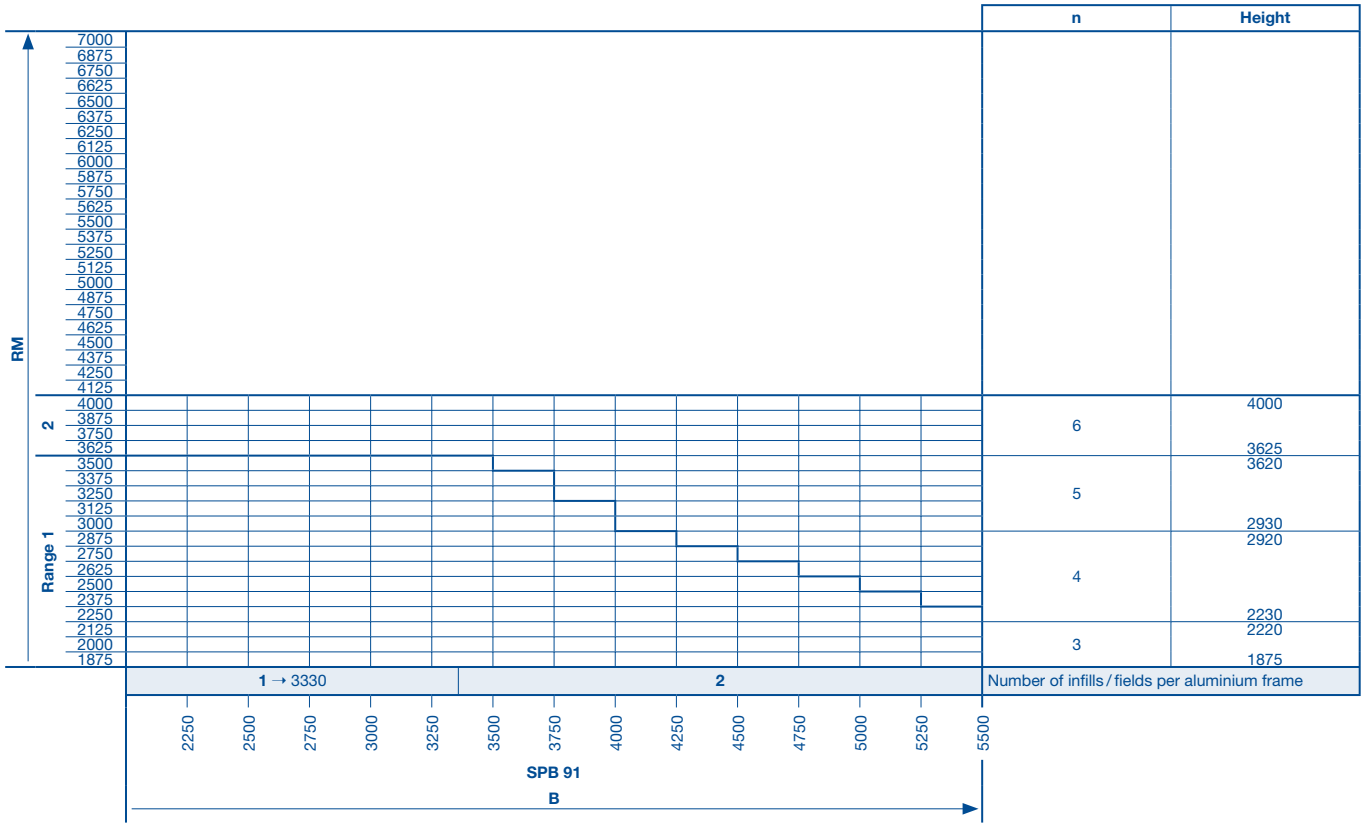
$$TH = \frac{\text{Door height} - 119}{\text{Number of door section frames}}$$

UTH = TH + 84 ≤ 785
OTH = TH + 35

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

Size range

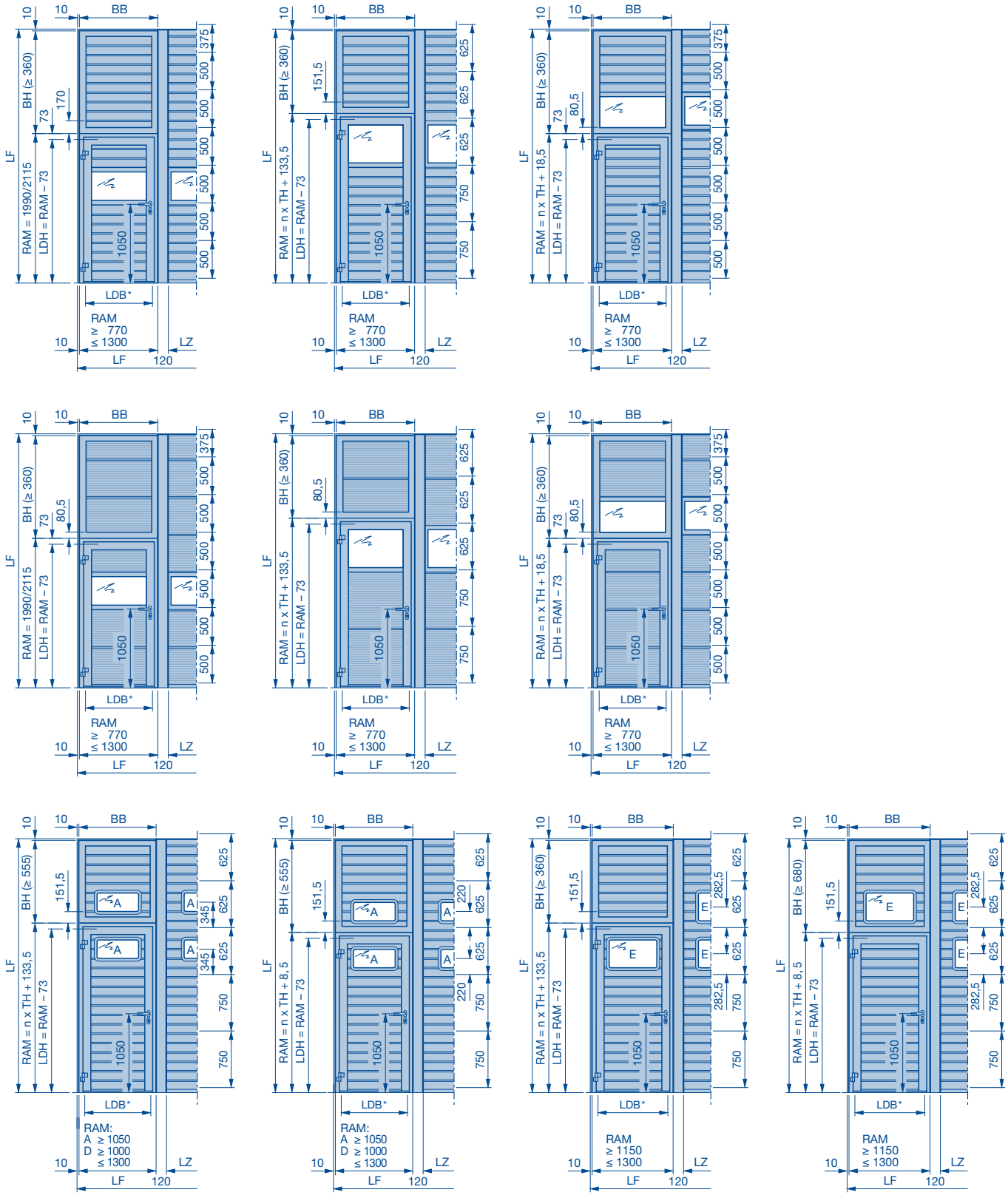
In the size range shown, any door width can be produced in 10-mm increments. Observe min. ceiling height.



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

Side Door NT 60

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

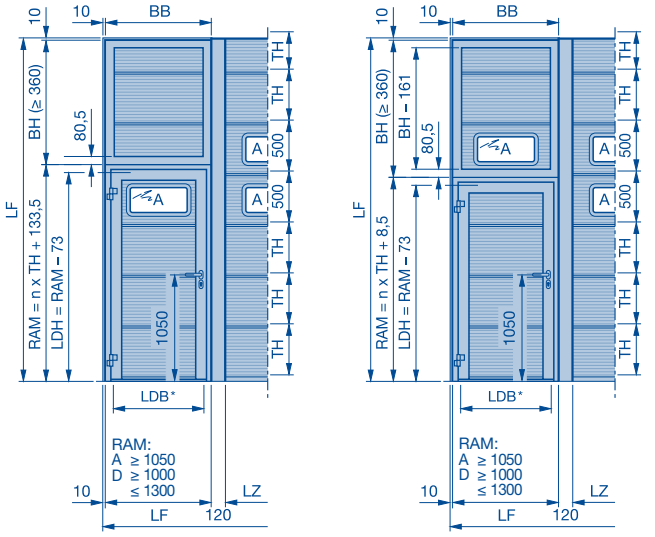


*	See page 42	**BB**	Panel width	**SO**	Bottom section height
LF	Structural opening	**LDB**	Clear passage width	**LZ**	Clear frame dimension
RAM	Overall frame dimension	**LDH**	Clear passage height	**n**	Number of door sections / aluminium frames
BH	Fascia height	**TH**	Door section height		

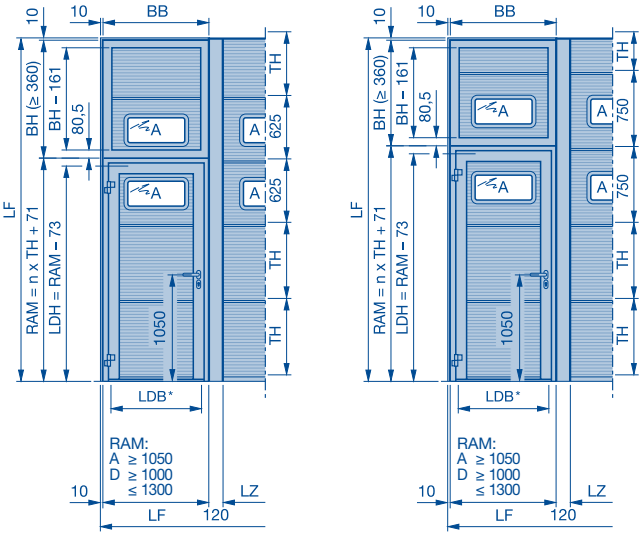
Side Door NT 60

With L-ribbed, Micrograin infills

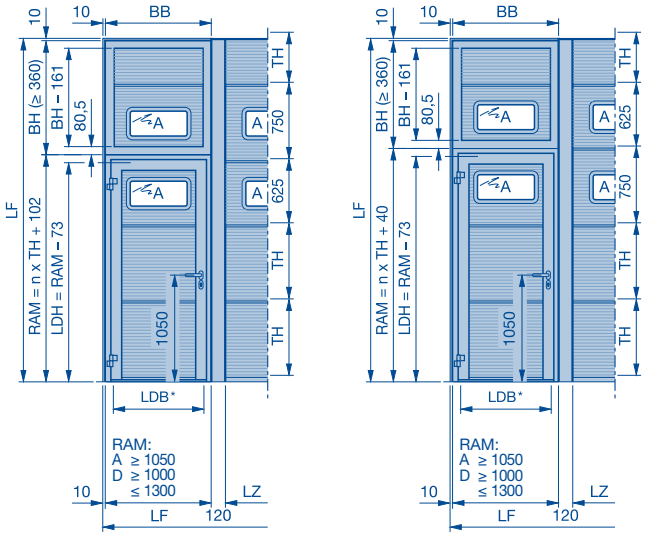
Compound glazing type A TH = 500



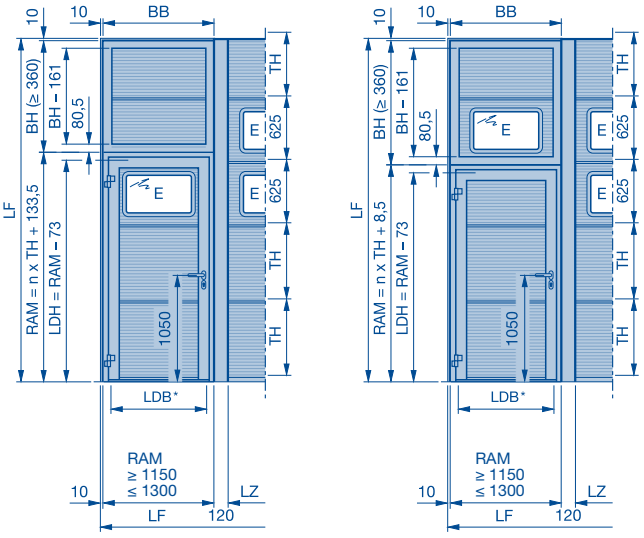
Compound glazing type A TH = 625 and 750



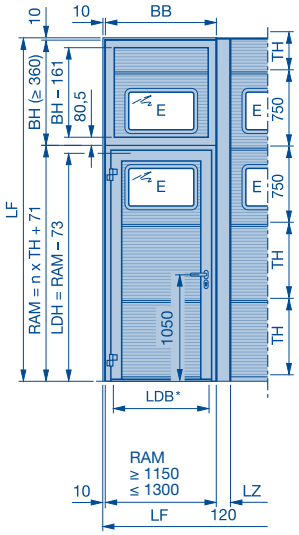
Compound glazing type A TH = 625 / 750 and 750 / 625



Compound glazing type E TH = 625



Compound glazing type E TH = 750

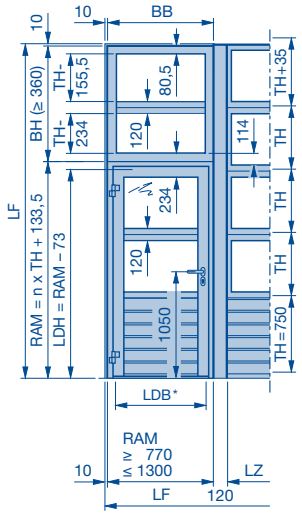


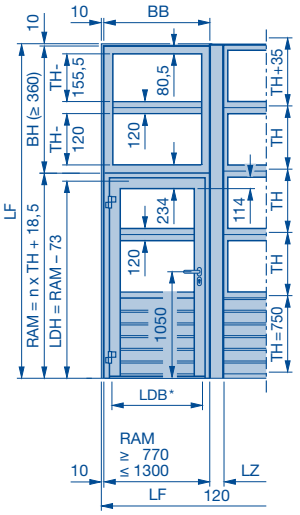
(Legend see page 39)

Side Door NT 60

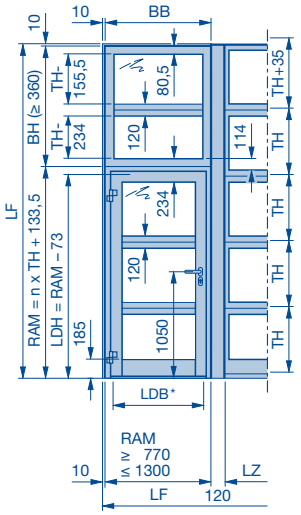
With S-ribbed, Stucco-textured / L-ribbed, Micrograin infills

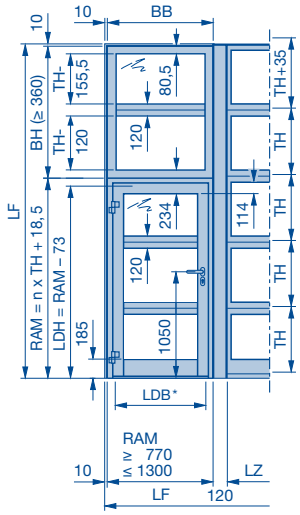
Side door NT 60 for door type APU



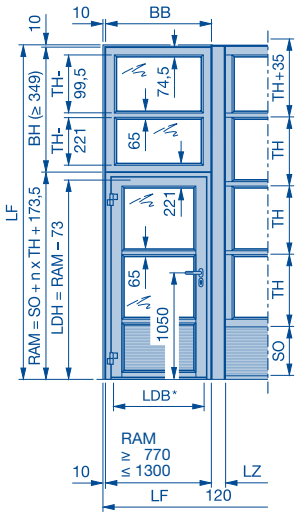


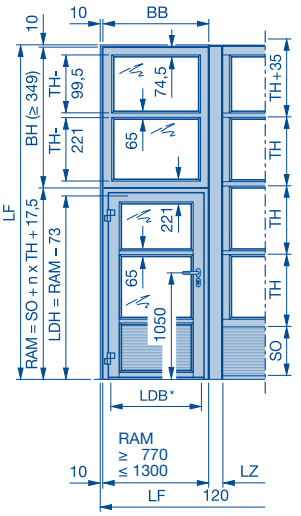
Side door NT 60 for door type ALR



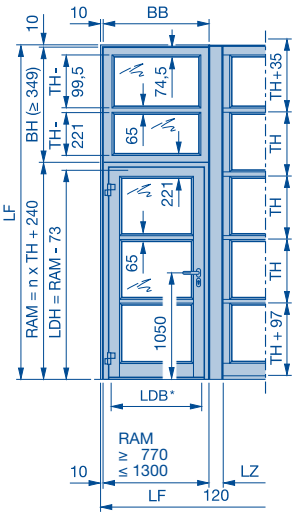


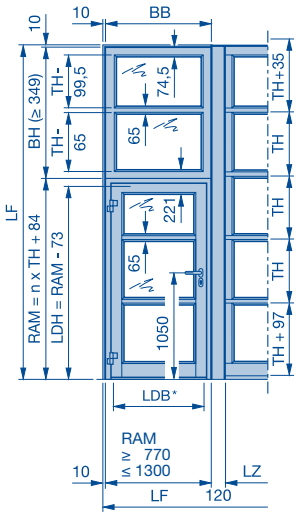
Side door NT 60 for door type ASP



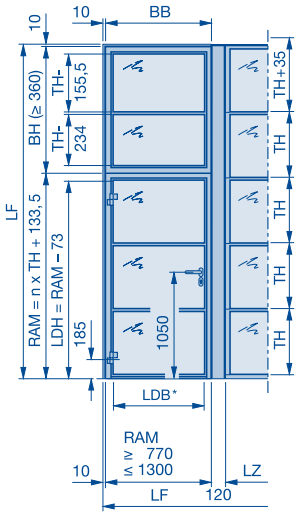


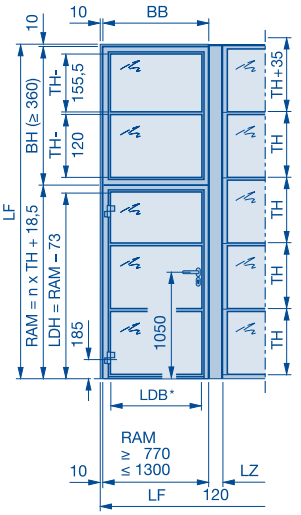
Side door NT 60 for door type ASR





Side door NT Vitraplan





(Legend see page 39)

Side Door NT 60

Arrangements

Possible handing options

Arrangements

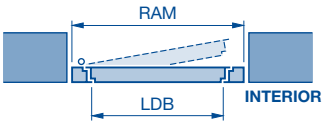
Arrangement 1
Fitting next to the door, opening outwards, RH hinged

Arrangement 2
Fitting next to the door, opening outwards, LH hinged

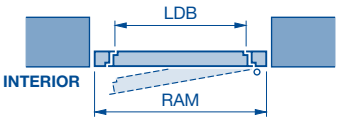
Arrangement 3
Fitting next to the door, opening inwards, LH hinged

Arrangement 4
Fitting next to the door, opening inwards, RH hinged

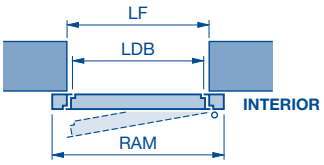
Arrangement 5
Fitting in the opening, opening outwards, RH or LH hinged



Arrangement 6
Fitting in the opening, opening inwards, RH or LH hinged



Arrangement 7
Fitting behind the opening, only opening inwards, RH or LH hinged



Structural opening	Ordering size Overall frame dimensions RAM
875 × 2000	855 × 1990
875 × 2125	855 × 2115
1000 × 2000	980 × 1990
1000 × 2125	980 × 2115
Special sizes: width: RAM 770 to 1300, height: RAM 1865 to 2525 **(state overall frame dimension)**	
Doors with 3-point locking: RAM = min. 2025 mm	

Clear passage dimensions:

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

Side Door NT 60

Arrangements

Possible handing options

Possible handing options

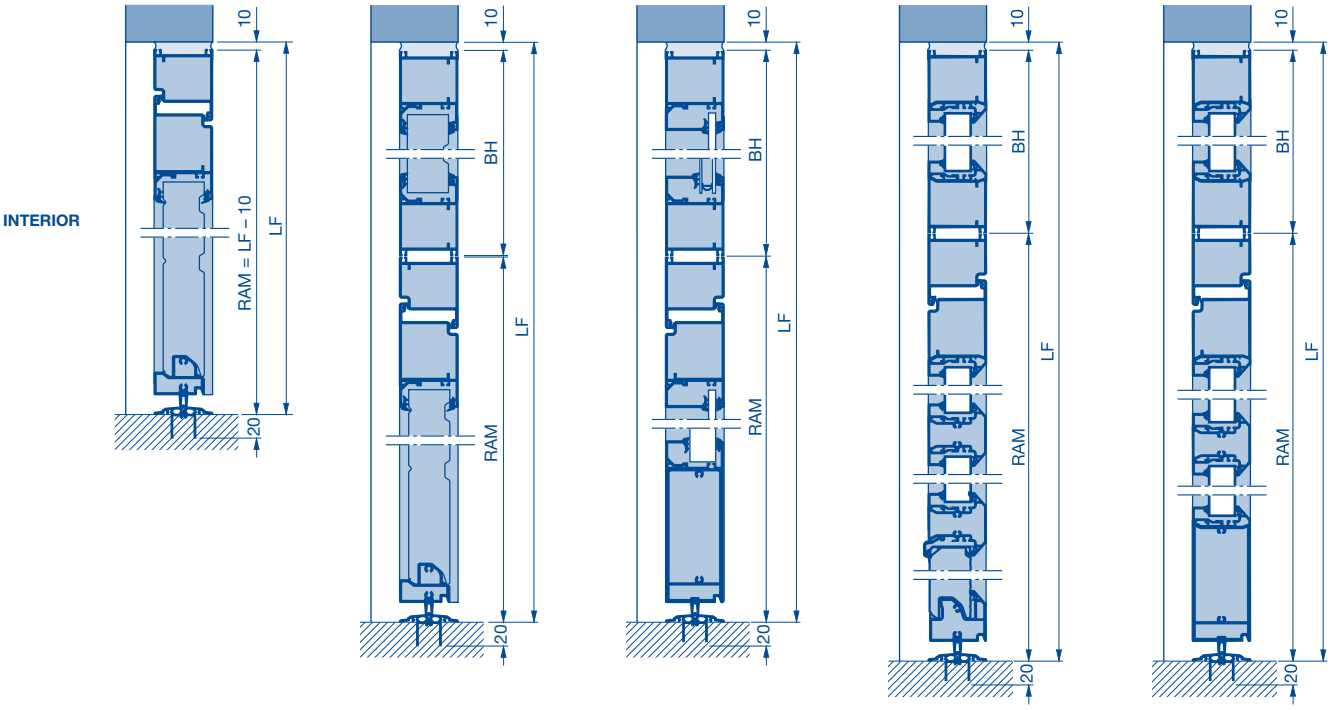
SPU 40
No window section,
no compound glazing

SPU 40, APU 40
with fascia panel

ALR 40, TAR 40
with fascia panel

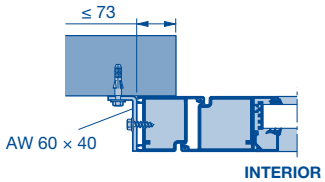
ASP 40

ASR 40

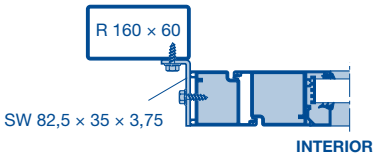


In the opening
(right illustration with 50 mm extension profile for all-over insulation)

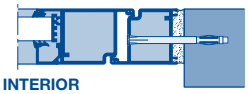
Behind the opening



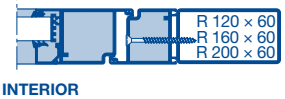
Side door NT 60 flush with sectional door



Plugs for metal frame



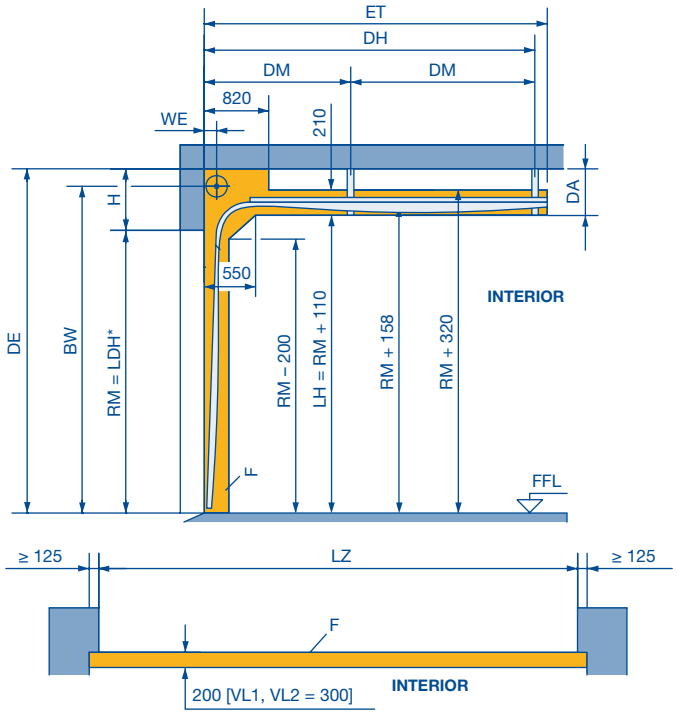
Tapping screw
with countersunk head B 6.3 × 80



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

Track Application: N

Normal track application



Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

Observe min. sideroom, see page 63.

	H	WE	DA
N1	390	140	280
N2	440	160	330
N3	550	180	440
N3	760	With double spring shaft	

LDH Clear passage height
RM Grid height
BW Position of shaft support
N1 = RM + 310
N2 = RM + 335
N3 = RM + 415
ET Min. distance back
N1 + N2 = RM + 440
N3 = RM + 700
With shaft operator
N1 + N2 = RM + 650
With shaft operator N3 = RM + 700
DH Rear ceiling anchor
N1 + N2 = RM + 195
N3 = RM + 295
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel
H Min. headroom (see table)
DA Distance to ceiling
L Anchor length = DE – RM – 125 (see page 68)
LH Track height
DE Ceiling height
F Space for fitting the door

Notes:
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- For version with wicket door, manually operated: chain hoist recommended!
- ALR 40 Vitraplan and ALS 40 on request

	* Clear passage height LDH		
	Without operator	Operator	
		WA400 **	WA300 ***
LZ ≤ 5500			
Without wicket door	RM	RM	RM
Wicket door with threshold	RM - 100	RM - 50	RM - 50
Wicket door without threshold rail	RM - 150	RM - 85	RM - 85
LZ > 5500			
Without wicket door	RM - 50	RM - 50	–
Wicket door with threshold	RM - 100	RM - 100	–
Wicket door without threshold rail	RM - 175	RM - 110	–

** Or with chain hoist / pull rope
*** Track application with inclination not possible!

Min. headroom

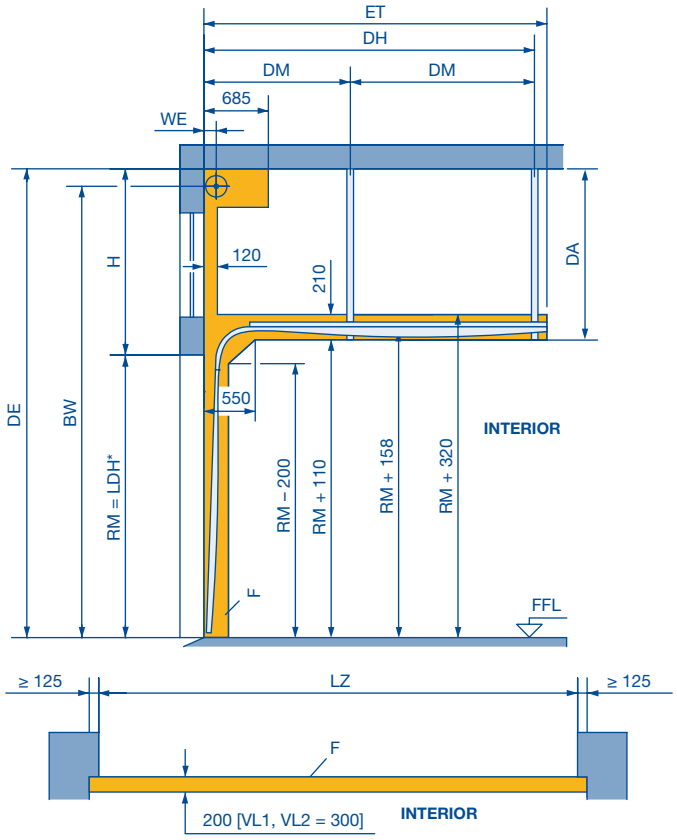
Track size	Headroom	Track size	Headroom	Track size	Headroom
N1	390	GD 2	660 – 790	RD 4	1760
N2	440	L1	200	RD 5	1760
N3	550	L2	200	RG 4	1760
NA 1	400	LD 1	200	RG 5	1760
NA 2	450	LD 2	200	V6	RM + 500
ND 1	390	H4	880	V7	RM + 540
ND 2	440	H5	910	V9	RM + 635
ND 3	550	H8	950	VA 6	RM + 510
NH 1	610 – 740	HA 4	890	VU 6	RM + 350
NH 2	660 – 790	HD 4	880	VU 7	RM + 350
NH 3	770 – 900	HD 5	910	VU 9	RM + 350
NS 1	390	HD 8	950	WG 6	RM + 350
NS 2	440	HU 4	1760	WG 7	RM + 350
GD 1	610 – 740	HU 5	1760		

Dimensions in mm

Track Application: NA

Normal track application

With high-mounted torsion spring shaft



Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

Observe min. sideroom, see page 63.

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

LDH Clear passage height
H Max. headroom (depends on order)
DA Max. distance to ceiling (depends on order)
RM Grid height
DE Ceiling height (depends on order)
BW Position of shaft support
NA 1: $BW_{min.}$ = RM + 320
NA 2: $BW_{min.}$ = RM + 345
NA 1: $BW_{max.}$ (7820) = DE – 80
NA 2: $BW_{max.}$ (7995) = DE – 105
ET Min. distance back
NA 1 + NA 2 = RM + 440
With shaft operator
NA 1 + NA 2 = RM + 650
DH Rear ceiling anchor
NA 1 + NA 2 = RM + 195
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel
L Anchor length = DE – RM – 125 (see page 68)
LZ Clear frame dimension
F Space for fitting the door

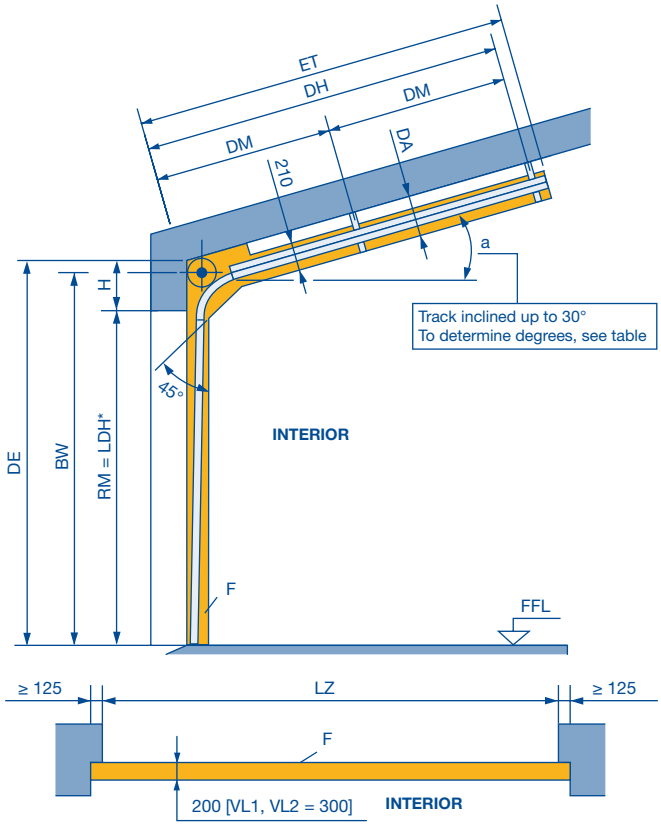
*** Note:**
Clear passage height LDH, see track application N

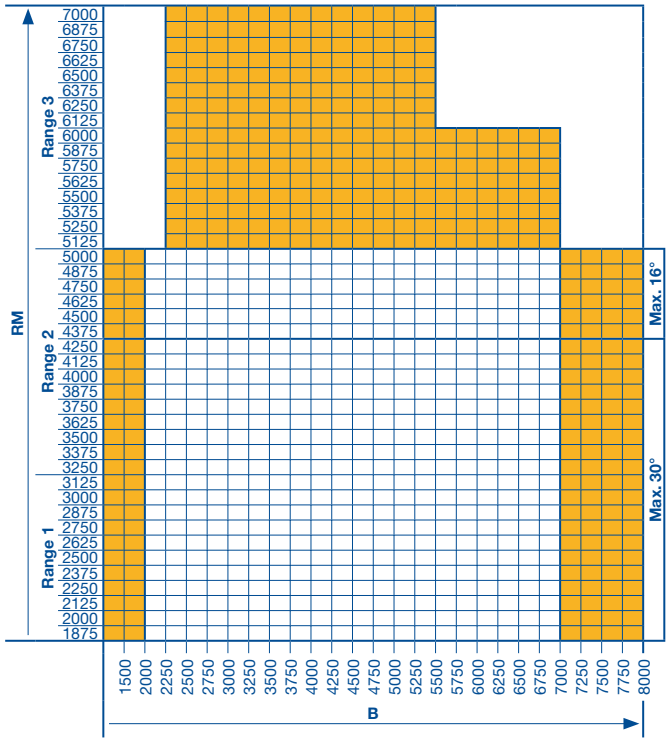
Notes:
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- ALR 40 Vitraplan and ALS 40 on request

Track Application: ND

Normal track application

With inclination up to max. 30°





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

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

Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

Observe min. sideroom, see page 63.

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

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

See the normal track application for all other fitting dimensions.

Only to determine the roof slope in degrees (a°)

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

Note:
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

LDH Clear passage height
DH Rear ceiling anchor
ND 1 + ND 2 = RM + 195 – a° × 6.5
ND 3 = RM + 295 – a° × 6.5
DM Central ceiling anchor (see page 68)
H Min. headroom (see page 44)
DA Distance to ceiling
L Anchor length = DE – RM + 25 (see page 68)
LZ Clear frame dimension
DE Ceiling height
ET Min. distance back
RM Grid height
B Width **(from 1200)**
F Space for fitting the door

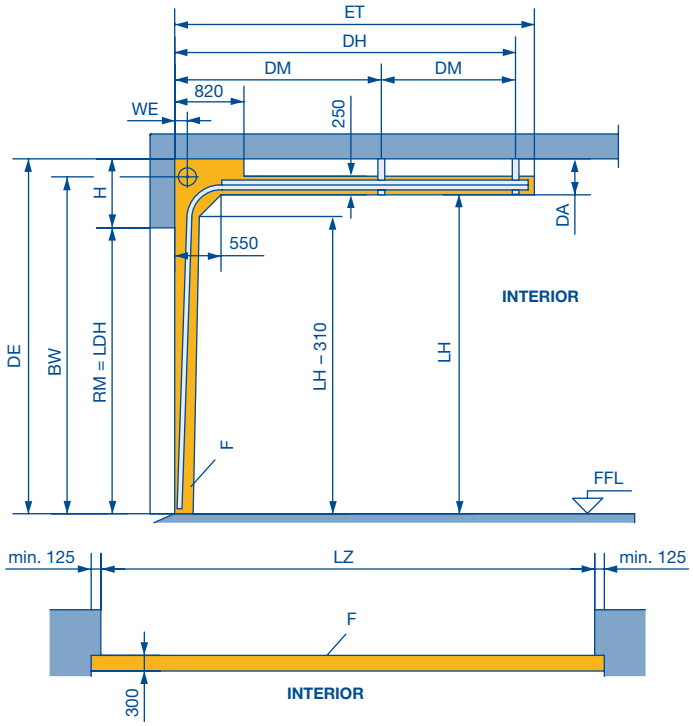
On request

Dimensions in mm

Track Application: NH

Normal track application

With minimum high-lift



Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

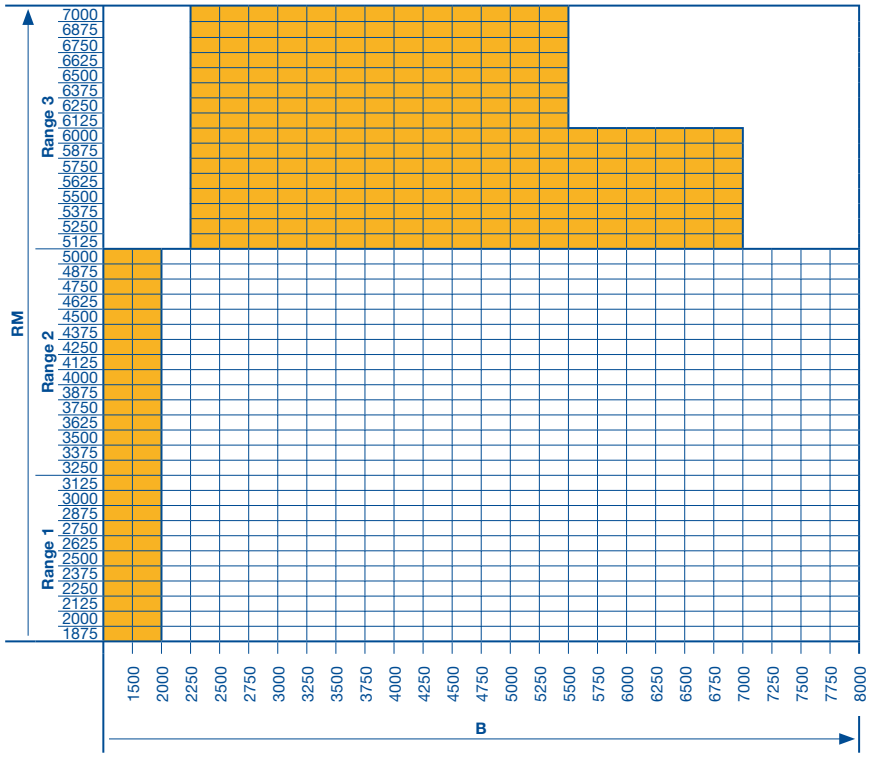
Observe min. sideroom, see page 63.

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

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

Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request



LDH	Clear passage height
RM	Grid height
BW	Position of shaft support NH 1 = LH + 200 NH 2 = LH + 225 NH 3 = LH + 305
LH	Track height Min. = RM + 330 Max. = RM + 460
DH	Rear ceiling anchor NH 1 + NH 2 = 2 × RM – LH + 645 (long spring buffer) NH 1 + NH 2 = 2 × RM – LH + 405 (short spring buffer) NH 1 + NH 2 = 2 × RM – LH + 405 (long spring buffer + operator) NH 3 = 2 × RM – LH + 485
DM	Central ceiling anchor (see page 68)
WE	Shaft centre from lintel
H	Min. headroom (see page 44)
DA	Distance to ceiling
DE	Ceiling height
L	Anchor length = DE – LH + 15 (see page 68)
LZ	Clear frame dimension
ET	Min. distance back
B	Width **(from 1200)**
F	Space for fitting the door

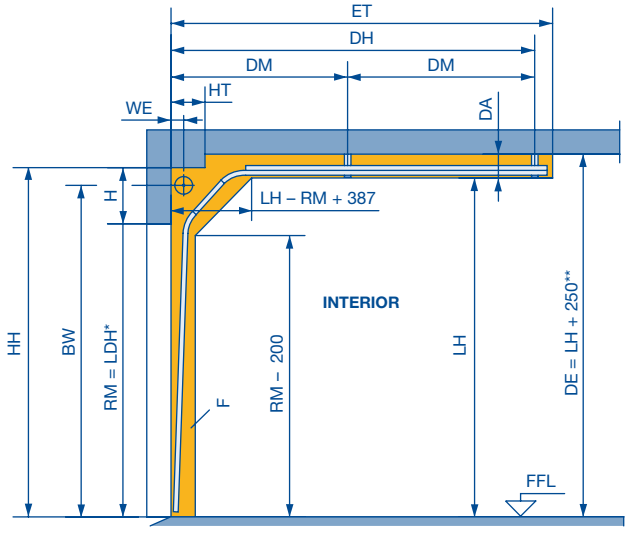
On request

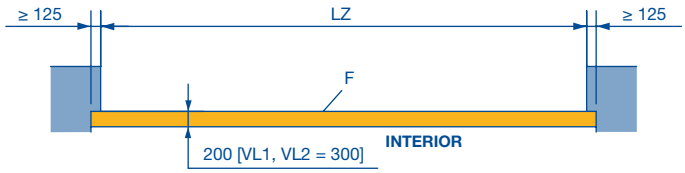
Dimensions in mm

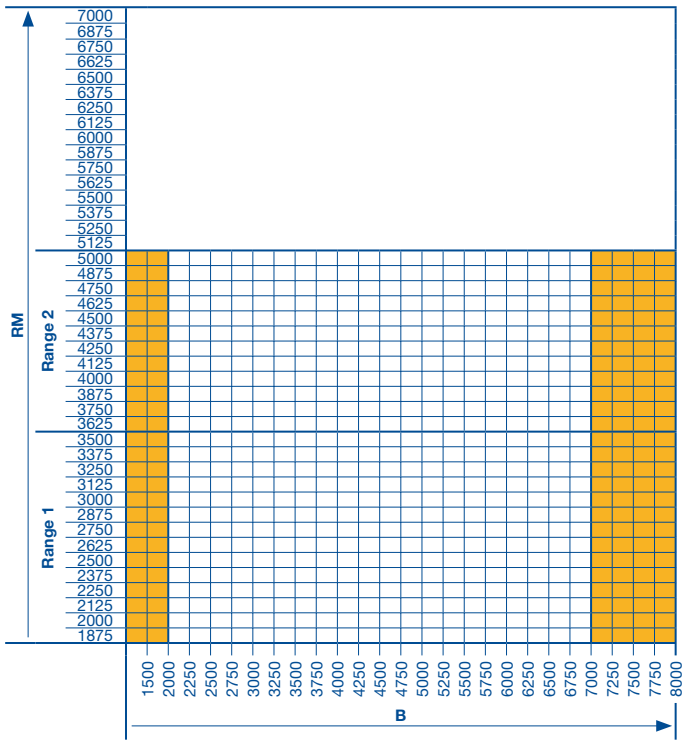
Track Application: NS

Normal track application

With double radius 2 × 45







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

*** Or with chain hoist / hand pulley

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

Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

Observe min. sideroom, see page 63.

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

Door height	Track height		
RM	Min. LH	Max. LH	
5000	5190	5810	NS 2
4875	5065	5685	
4750	4940	5560	
4625	4815	5435	
4500	4690	5310	
4375	4565	5175	
4250	4440	5030	
4125	4315	4885	
4000	4190	4730	
3875	4065	4585	
3750	3940	4440	
3625	3815	4295	
3500	3690	4150	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	

Note:
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

H	Min. headroom (see page 44)	**LH**	Track height
ET	Min. distance back on request	**LDH**	Clear passage height
DH	Rear ceiling anchor on request	**LZ**	Clear frame dimension
DM	Central ceiling anchor on request	**RM**	Grid height
DA	Min. distance to ceiling 250	**B**	Width **(from 1200)**
HT	Obstruction depth	**F**	Space for fitting the door
L	Anchor length DE – LH – 15 (see page68)	**	Min.
BW	Position of shaft support		On request
WE	Shaft centre from lintel		
HH	Obstruction height		
DE	Ceiling height		

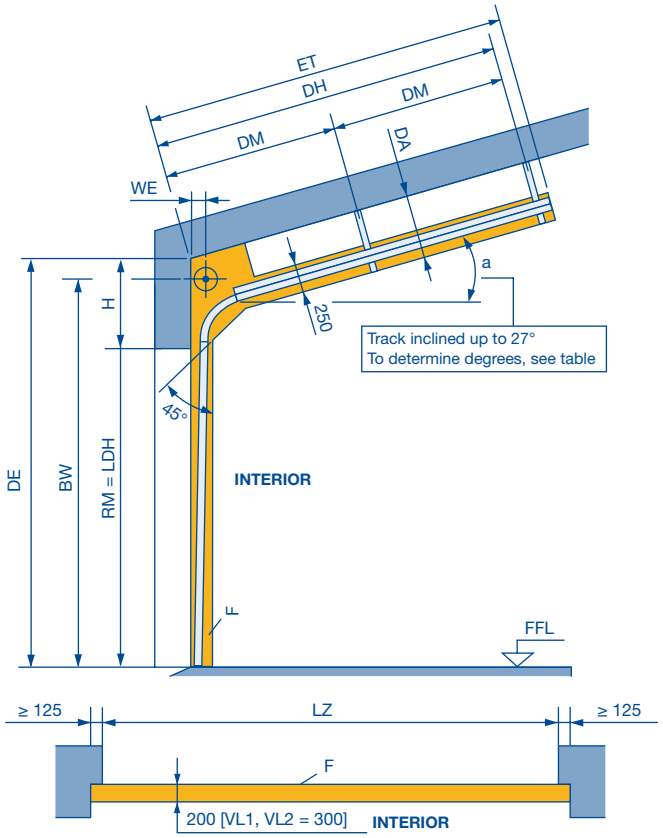
Dimensions in mm

Track Application: GD

Normal track application

With inclination up to max. 27°

Minimum high-lift



Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

Observe min. sideroom, see page 63.

	WE
GD 1	140
GD 2	160

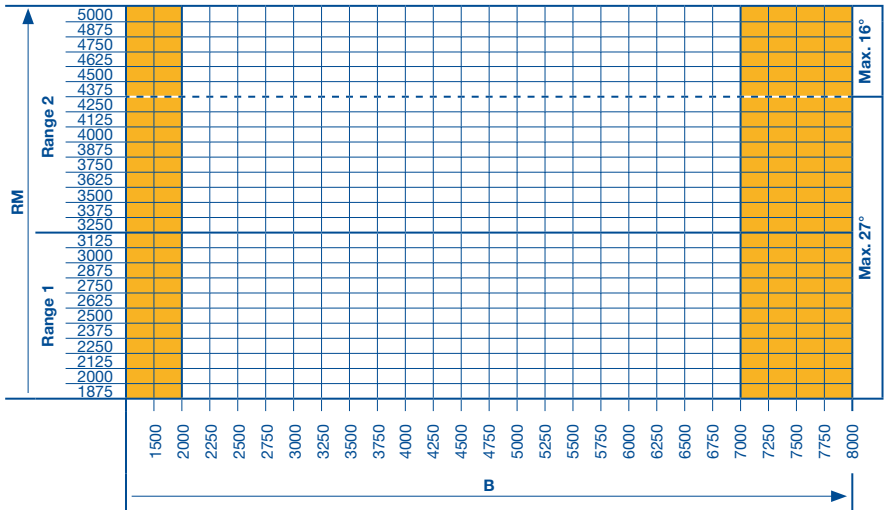
ET = min. distance back		
GD 1 + 2	2 × RM – LH + 1120 – a° × 6.5	Manual operation with long spring buffer
	2 × RM – LH + 650 – a° × 6.5	a° > 5° and with operator, with short spring buffer
	2 × RM – LH + 880 – a° × 6.5	a° ≤ 5° and operator, with long spring buffer

Only to determine the roof slope in degrees (a°)

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

Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request



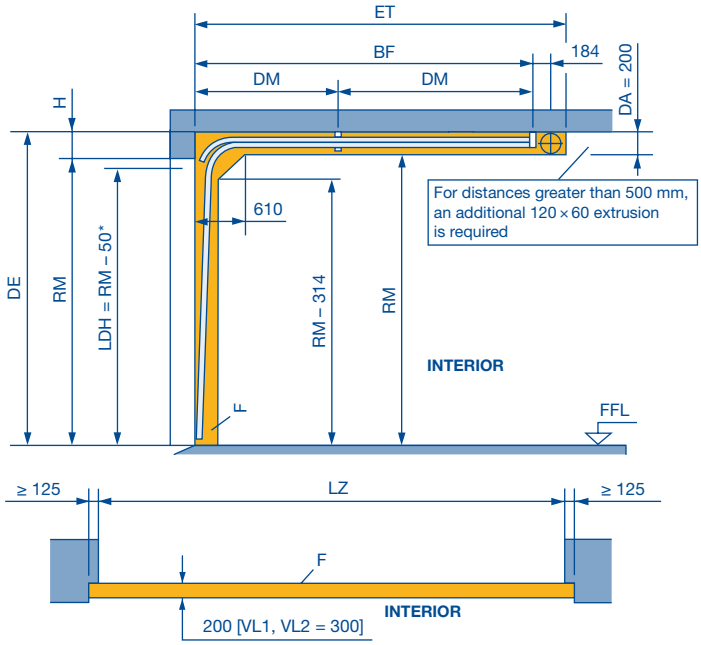
DH	Rear ceiling anchor GD 1 + GD 2 = 2 × RM – LH + 645 – a° × 6.5 (long spring buffer) GD 1 + GD 2 = 2 × RM – LH + 405 – a° × 6.5 (short spring buffer) GD 1 + GD 2 = 2 × RM – LH + 405 – a° × 6.5 (long spring buffer + operator)
DM	Central ceiling anchor (see page 68)
H	Min. headroom (see page 44)
DA	Distance to ceiling on request
DE	Ceiling height
L	Anchor length on request (see page 68)
LDH	Clear passage height
LZ	Clear frame dimension
ET	Min. distance back
RM	Grid height
B	Width **(from 1200)**
F	Space for fitting the door

On request

Dimensions in mm

Track Application: L

Low headroom track application



Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

Observe min. sideroom, see page 63.

Door operation:

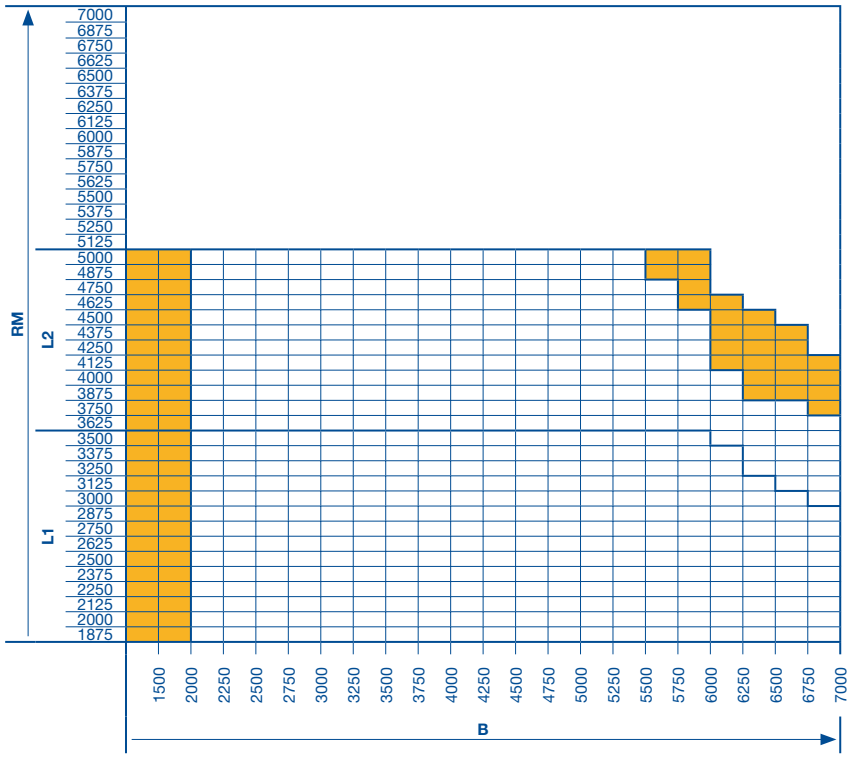
- Manually operated: with rope or chain hoist (recommended for manual operation!)
- Power-driven: WA 400 with chain box, ITO 400 or SupraMatic H

	* Clear passage height LDH		
	Without operator	Operator WA400 **	Operator WA300 ***
LZ ≤ 5500			
Without wicket door	RM – 50	RM – 50	RM – 80
Wicket door with threshold	RM – 100	RM – 100	RM – 130
Wicket door without threshold rail	RM – 165	RM – 135	RM – 165
LZ > 5500			
Without wicket door	RM – 100	RM – 100	–
Wicket door with threshold	RM – 100	RM – 100	–
Wicket door without threshold rail	RM – 195	RM – 165	–

** Or with chain hoist / pull rope
*** Track application with inclination not possible!

Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request



LDH	Clear passage height
RM	Grid height
BF	Position of spring shaft = RM + 682
DM	Central ceiling anchor Up to RM 3500 = BF / 2 From RM 3510 = BF / 3
ET	Min. distance back = RM + 990
H	Min. headroom 200 (see page 44)
DA	Distance to ceiling
DE	Ceiling height
L	Anchor length = DE – RM – 15 (see page 68)
LZ	Clear frame dimension
B	Width **(from 1200)**
F	Space for fitting the door

All door types available in any version.

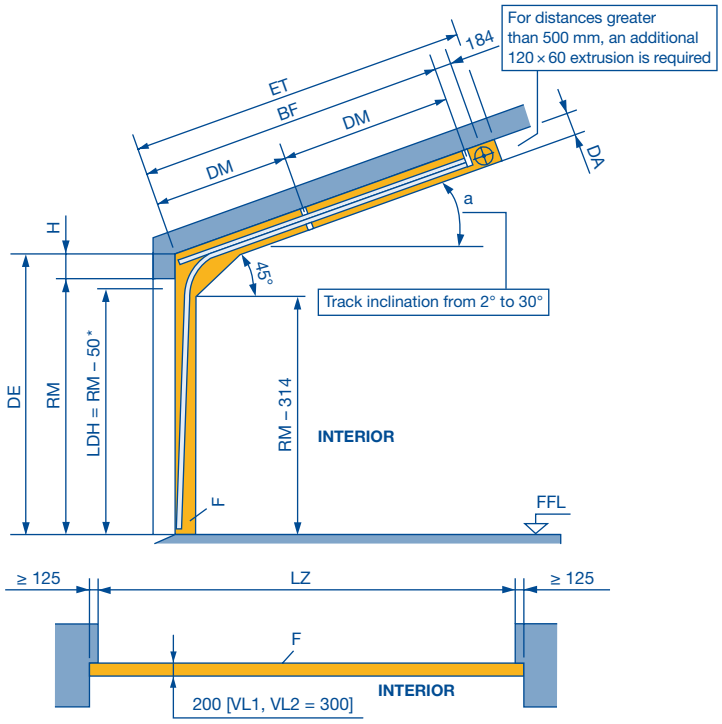
All door types in any version on request.

Dimensions in mm

Track Application: LD

Low headroom track application

With inclination



Door weights for roof loads:

SPU 40 / TAP 40 / TAR 40	= 320 N/m²
APU 40 N / APU 40 B / ALR 40 N / ALR 40 B	= 280 N/m²
ALS 40	= 560 N/m²

Observe min. sideroom, see page 63.

Only to determine the roof slope in degrees (a°)

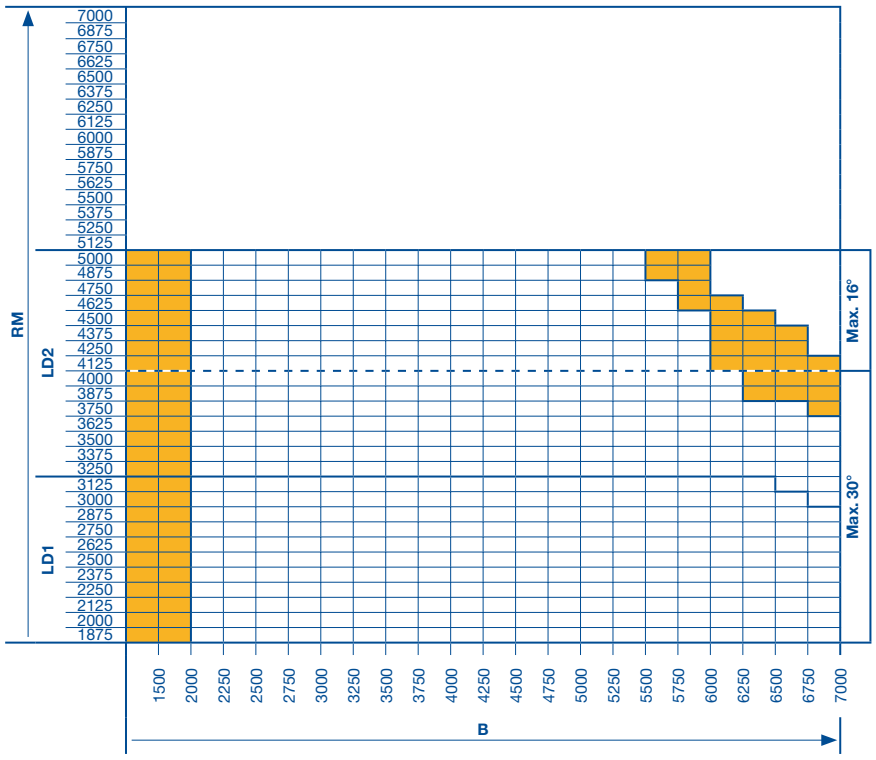
a°	%	X (mm)
2	3.49	34.9
4	6.99	69.9
6	10.51	105.1
8	14.05	140.5
10	17.63	176.3
12	21.26	212.6
14	24.93	249.3
16	28.67	286.7
18	32.49	324.9
20	36.40	364.0
22	40.40	404.0
24	44.52	445.2
26	48.77	487.7
28	53.17	531.7
30	57.74	577.4

*** Notes:**

- Clear passage height LDH, see track application L
- For door operation, see track application L

Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request



LDH	Clear passage height
RM	Grid height
ET	Min. distance back 2° – 4° = RM + 990 6° – 16° = RM + 800 18° – 30° = RM + 740
H	Min. headroom 200 (see page 44)
BF	Position of spring shaft on request
DM	Central ceiling anchor on request
DA	Distance to ceiling on request
DE	Ceiling height
L	Anchor length on request (see page 68)
LZ	Clear frame dimension
B	Width **(from 1200)**
F	Space for fitting the door

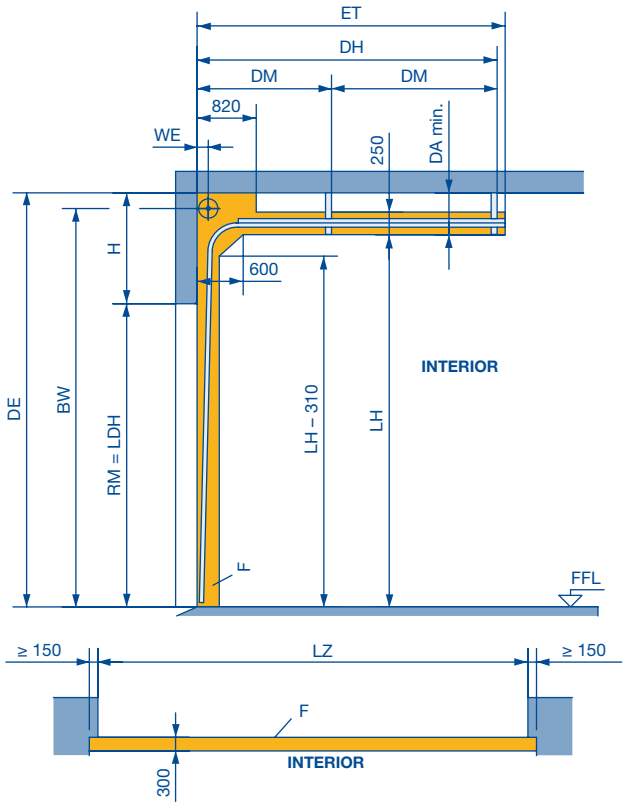
All door types available in any version.

All door types in any version on request.

Dimensions in mm

Track Application: H

High-lift track

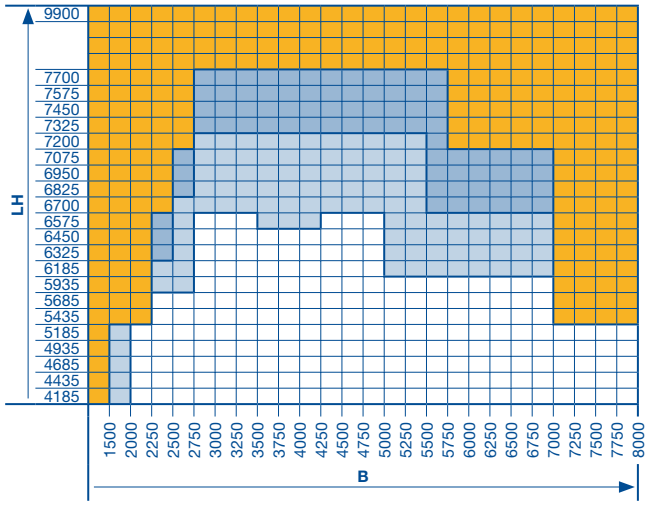


ET = min. distance back		
H4 + 5	2 × RM – LH + 1120	For manual operation with long spring buffer (standard)
	2 × RM – LH + 650	For manual operation with short spring buffer (special)
	2 × RM – LH + 880	For shaft operator with long spring buffer (LH – RM) ≤ 1000
	2 × RM – LH + 650	For shaft operator with short spring buffer (LH – RM) > 1000
H8	2 × RM – LH + 950	All versions

Observe min. sideroom, see page 63.

Table 2

Demarcation of track height for track application H



Please note:

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

Note:

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

Table 1: Track heights (LH)

For track applications H, HD

Door height RM	Min. LH	Max. LH		Door height RM	Min. LH	Max. LH	
4500	4960	7800	H5, WE = 180				
4375	4835	7675		7000	7460	9990	H8, WE = 205 All door types and versions available on request.
4250	4710	7550		6875	7335	9990	
4125	4585	7425		6750	7210	9990	
4000	4460	7185		6625	7085	9990	
3875	4335	6935		6500	6960	9990	
3750	4210	6685		6375	6835	9775	
3625	4085	6435		6250	6710	9650	
3500	3960	6185	H4, WE = 160	6125	6585	9525	
3375	3835	5935		6000	6460	9400	
3250	3710	5685		5875	6335	9275	
3125	3585	5435		5750	6210	9150	
3000	3460	5185		5625	6085	9025	
2875	3335	4935		5500	5960	8900	
2750	3210	4685		5375	5835	8775	
2625	3085	4435		5250	5710	8650	
2500	2960	4185		5125	5585	8525	
2375	2835	3935		5000	5460	8300	H5, WE = 180
2250	2710	3685		4875	5335	8175	
2125	2585	3435		4750	5210	8050	
2000	2460	3185		4625	5085	7925	

Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

LDH Clear passage height
RM Grid height
LH Track height (see tables 1 + 2)
BW Position of shaft support
H4 + 5 = LH + 280, H8 = LH + 305
DH Rear ceiling anchor
H4 + H5 = 2 × RM – LH + 645 (long spring buffer)
H4 + H5 = 2 × RM – LH + 405 (short spring buffer)
H4 + H5 = 2 × RM – LH + 405 (long spring buffer + operator)
H8 = 2 × RM – LH + 485
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel (see table 1)
H Min. headroom (see page 44)
Min. DA H4 = 420
H5 = 450, 625 with double spring shaft
H8 = 490, 650 with double spring shaft
L Anchor length DE – LH – 15 (see page 68)
DE Ceiling height
LZ Clear frame dimension
ET Distance back
B Width **(from 1200)**
F Space for fitting the door

All door types available in any version.

All door types available, versions with glazing S 3, LB, P and / or wicket door on request.

Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; TAP 40, TAR 40 and SPU 40 with WF frames as well as versions with glazing S3, LB, P and / or wicket door on request.

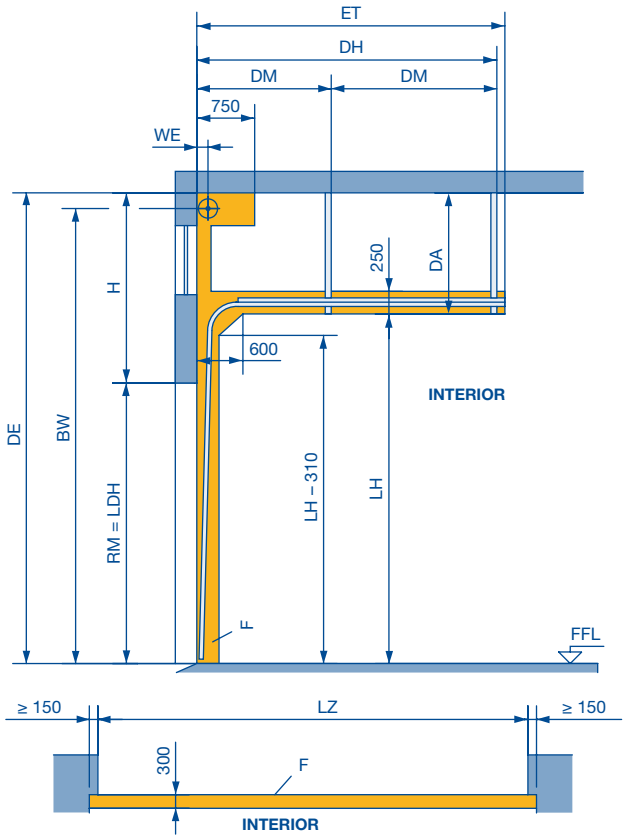
All door types in any version on request.

Dimensions in mm

Track Application: HA

High-lift track

With high-mounted torsion spring shaft

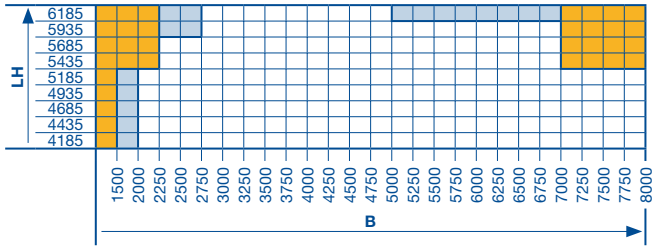


ET = min. distance back		
HA 4	2 × RM – LH + 1120	For manual operation with long spring buffer (standard)
	2 × RM – LH + 650	For manual operation with short spring buffer (special)
	2 × RM – LH + 880	For shaft operator with long spring buffer (LH – RM) ≤ 1000
	2 × RM – LH + 650	For shaft operator with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

Observe min. sideroom, see page 63.

Table 4

Demarcation of track height for track application HA



Please note:

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

Note:

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

Table 3: Track heights (LH)

For track application HA

Door height RM	Min. LH	Max. LH	
3500	3960	6185	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	

Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

LDH Clear passage height
RM Grid height
LH Track height (see tables 3 + 4)
BW Position of shaft support
Min. = HA 4 = LH + 280
Max. (8120) = HA 4 = DE – 140
DH Rear ceiling anchor
HA 4 = 2 × RM – LH + 645 (long spring buffer)
HA 4 = 2 × RM – LH + 405 (short spring buffer)
HA 4 = 2 × RM – LH + 405 (long spring buffer + operator)
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel (see table 3)
H Min. headroom (see page 44)
DA Distance to ceiling = HA 4 = min. 420
L Anchor length DE – LH – 15 (see page 68)
DE Ceiling height
LZ Clear frame dimension
ET Distance back
B Width **(from 1200)**
F Space for fitting the door

All door types available in any version.

All door types available, versions with glazing S 3, LB, P and / or wicket door on request.

Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; TAP 40, TAR 40 and SPU 40 with WF frames as well as versions with glazing S3, LB, P and / or wicket door on request.

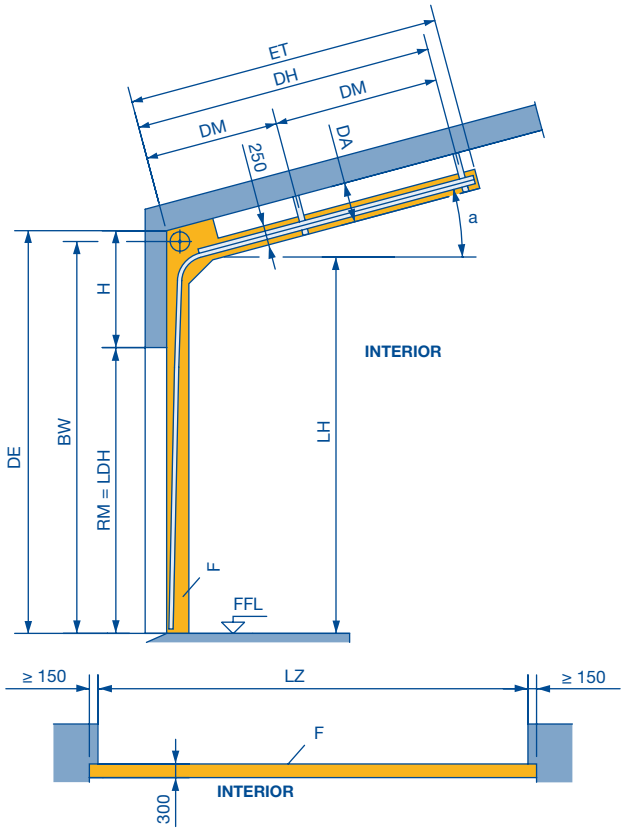
All door types in any version on request.

Dimensions in mm

Track Application: HD

High-lift track application

With inclination

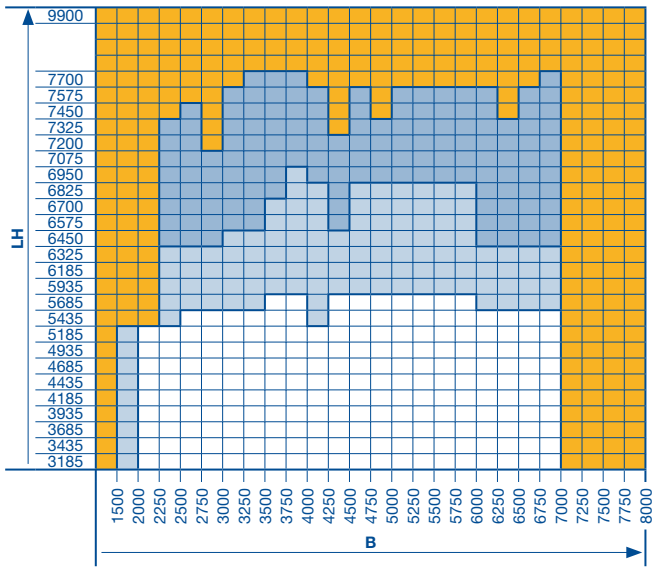


Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

Table 5

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



Please note:

1. Select required track height according to the door height in table 1 on page 52.
2. Determine the intersection of the door width and track height using table 5.
3. Please check if, acc. to the explanations, a request is necessary.

Note:

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

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

See the high-lift track application for all other fitting dimensions.
Observe min. sideroom, see page 63.

Only to determine the roof slope in degrees (a°)

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

DA Distance to ceiling on request
L Anchor length DE – L + 140 (see page 68)
LH Track height (see Table 1 on page 52 and Table 5)
H Min. headroom (see page 44)
BW Position of shaft support
HD 4 + 5 = LH + 280, HD 8 = LH + 305
DH Rear ceiling anchor
HD 4 + HD 5 = 2 × RM – LH + 645 – a° × 6.5 (long spring buffer)
HD 4 + HD 5 = 2 × RM – LH + 405 – a° × 6.5 (short spring buffer)
HD 4 + HD 5 = 2 × RM – LH + 405 – a° × 6.5 (long spring buffer + operator)
HD 8 = 2 × RM – LH + 485
DM Central ceiling anchor on request
WE Shaft centre from lintel (see Table 1 on page 52)
DE Ceiling height
LDH Clear passage height
LZ Clear frame dimension
ET Distance back:
RM Grid height
B Width **(from 1200)**
F Space for fitting the door

All door types available in any version.

All door types available, versions with glazing S 3, LB, P and / or wicket door on request.

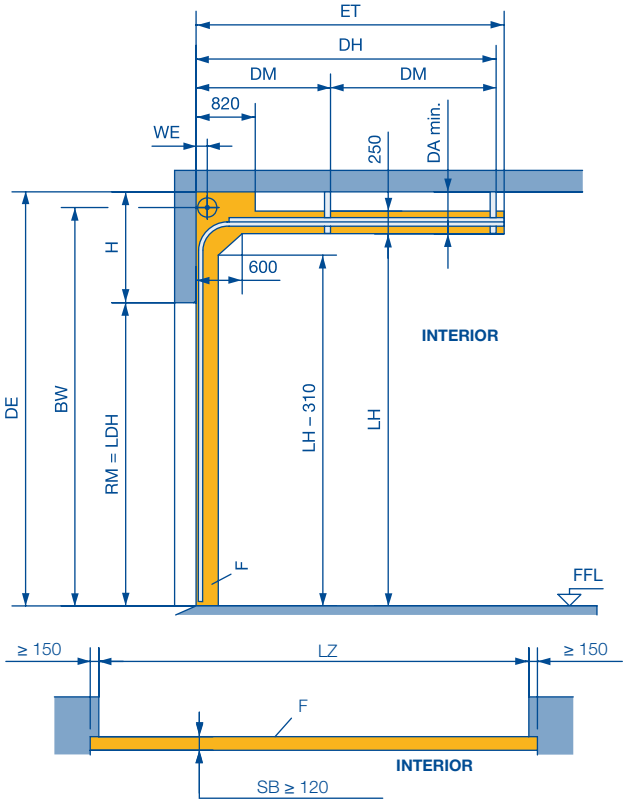
Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; SPU 40, TAP 40 and TAR 40 with WF frames as well as versions with glazing S3, LB, P and / or wicket door on request.

All door types in any version on request.

Dimensions in mm

Track Application: HG

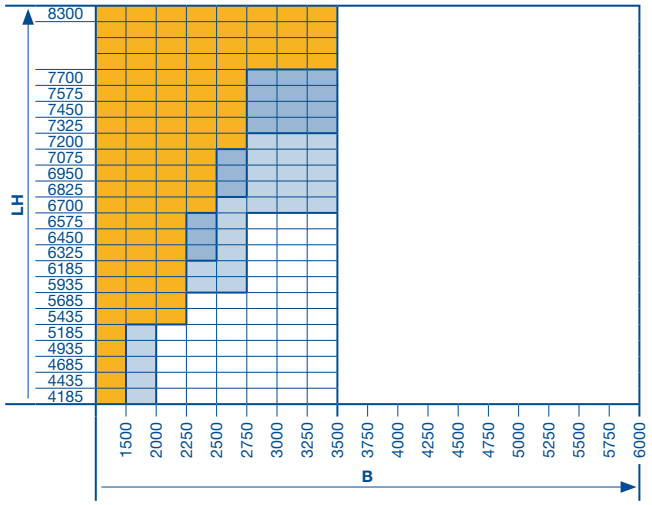
High-lift track application
With steep track
(Application for loading ramp doors)



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

Other versions on request.
Observe min. sideroom, see page 63.

Table 7
Demarcation of track height for track application HG



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

Notes:
- **Door types ASP 40 / ASR 40 / ALS 40, doors with real glass infill and wicket doors are not possible!**
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.

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

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

Notes:
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan on request

LDH Clear passage height
RM Grid height
LH Track height (see Table 6)
DH Rear ceiling anchor =
HG 4 + HG 5 = 2 × RM – LH + 645 (long spring buffer)
HG 4 + HG 5 = 2 × RM – LH + 405 (short spring buffer)
HG 4 + HG 5 = 2 × RM – LH + 405 (long spring buffer + operator)
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel (see table 6)
H Min. headroom (see page 44)
Min. DA HG 4 = 420
HG 5 = 450, 625 with double spring shaft
SB Slot width
L Anchor length DE – LH – 15 (see page 68)
ET Distance back
DE Ceiling height
LZ Clear frame dimension
B Width **(from 1200)**
F Space for fitting the door

All door types available in any version.

All door types available, versions with glazing S3, LB, P on request.

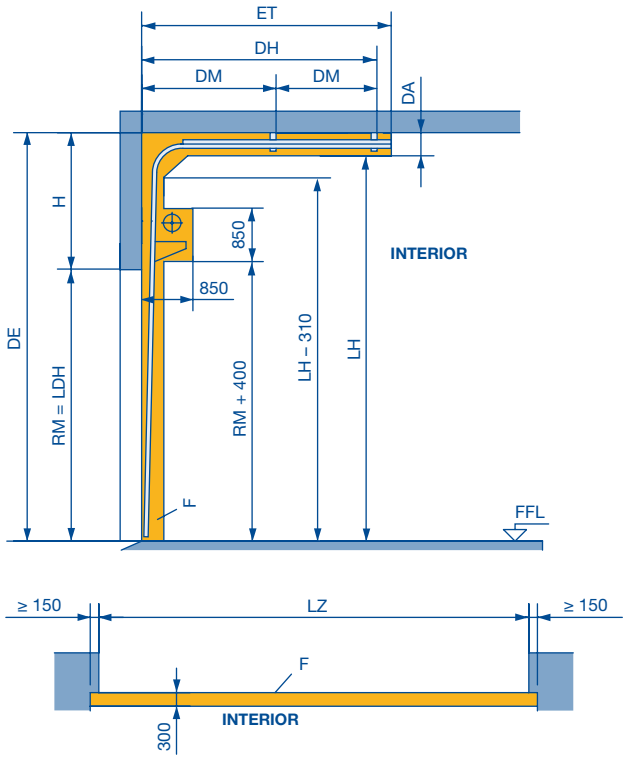
Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; SPU 40, TAP 40 and TAR 40 with WF frames as well as versions with glazing S 3, LB, P on request.

All door types in any version on request.

Dimensions in mm

Track Application: HU

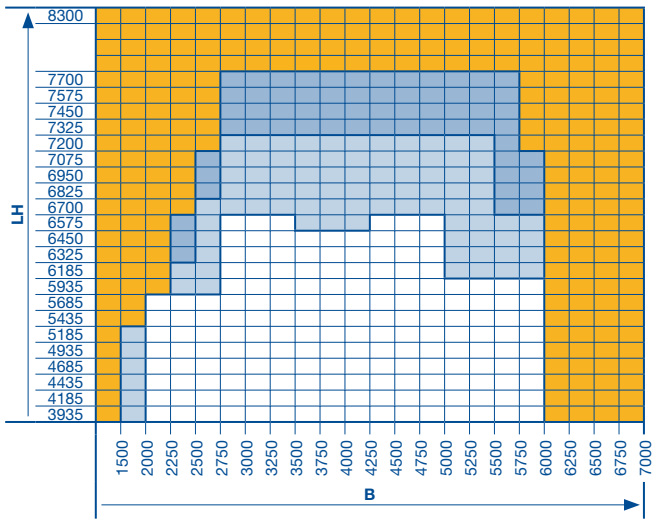
High-lift track application
With low-mounted torsion spring shaft



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

Other versions on request.
Observe min. sideroom, see page 63.

Table 7
Demarcation of track height for track application HU



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

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

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

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

Notes:
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

DE Ceiling height
LDH Clear passage height
RM Grid height
LH Track height (see Table 6)
DH Rear ceiling anchor
HU 4 + HU 5 = 2 × RM – LH + 645 (long spring buffer)
HU 4 + HU 5 = 2 × RM – LH + 405 (short spring buffer)
HU 4 + HU 5 = 2 × RM – LH + 405 (long spring buffer + operator)
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel (see table 6)
H Min. headroom (see page 44)
DA Min. distance to ceiling 250
L Anchor length DE – LH – 15 (see page 68)
LZ Clear frame dimension
ET Distance back
B Width **(from 1200)**
F Space for fitting the door

All door types available in any version.

All door types available, versions with glazing S 3, LB, P and / or wicket door on request.

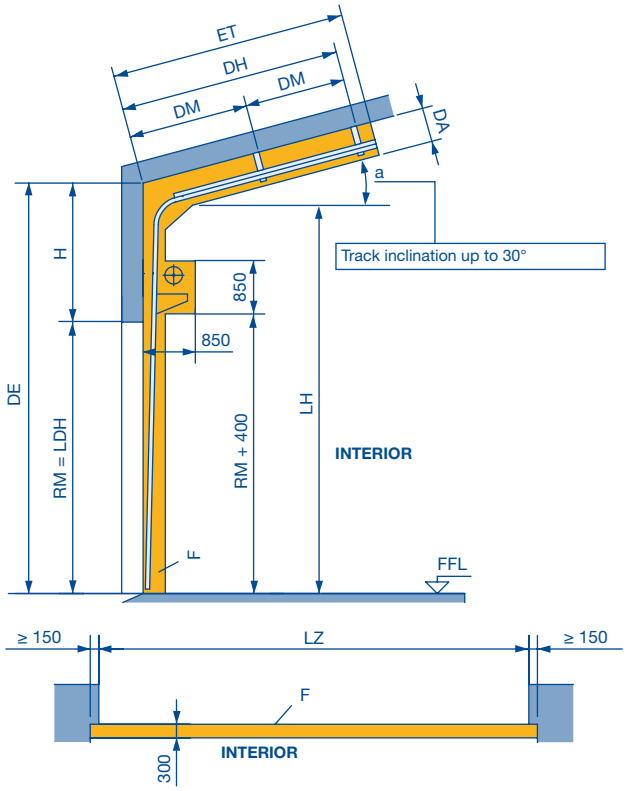
Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; SPU 40, TAP 40 and TAR 40 with WF frames as well as versions with glazing S3, LB, P and / or wicket door on request.

All door types in any version on request.

Dimensions in mm

Track Application: RD

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

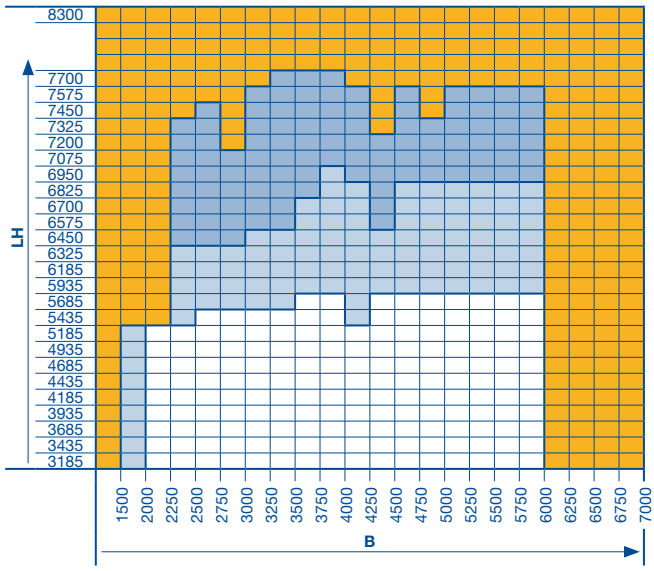


Notes:

- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

Table 8

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



Please note:

1. Select required track height according to the door height in Table 6 on page 56.
2. Determine the intersection of the door width and track height using table 8.
3. Please check if, acc. to the explanations, a request is necessary.

Note:

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

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

See the high-lift track application for all other fitting dimensions.
Observe min. sideroom, see page 63.

Only to determine the roof slope in degrees (a°)

a° — 1000 — X

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

DE Ceiling height
L Anchor length DE – L – 15 (see page 68)
LH Track height (see Table 6 on page 56)
H Min. headroom (see page 44)
DH Rear ceiling anchor =
RD 4 + RD 5 = 2 × RM – LH + 645 – a° × 6.5 (long spring buffer)
RD 4 + RD 5 = 2 × RM – LH + 405 – a° × 6.5 (short spring buffer)
RD 4 + RD 5 = 2 × RM – LH + 405 – a° × 6.5 (long spring buffer + operator)
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel (see Table 6 on page 56)
DA Distance to ceiling on request
LDH Clear passage height
LZ Clear frame dimension
RM Grid height
B Width **(from 1200)**
F Space for fitting the door

All door types available in any version.

All door types available, versions with glazing S 3, LB, P and / or wicket door on request.

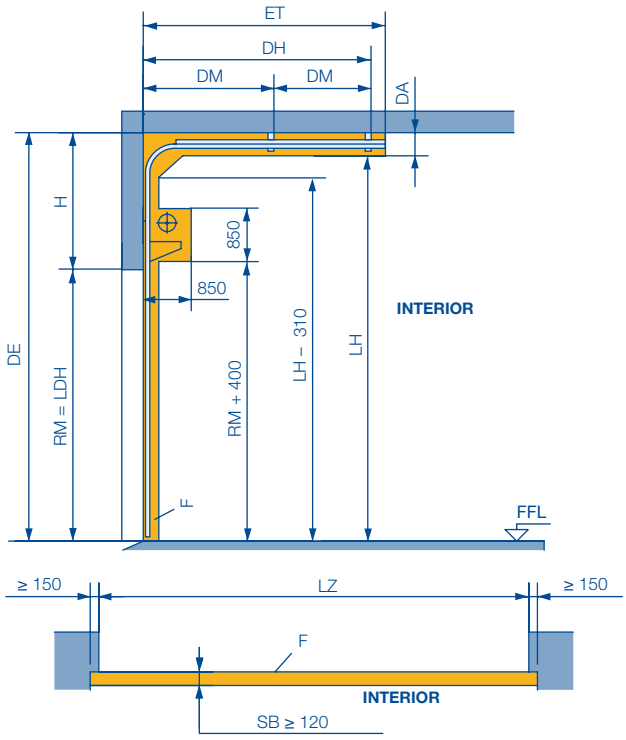
Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; SPU 40, TAP 40 and TAR 40 with WF frames as well as versions with glazing S3, LB, P and / or wicket door on request.

All door types in any version on request.

Dimensions in mm

Track Application: RG

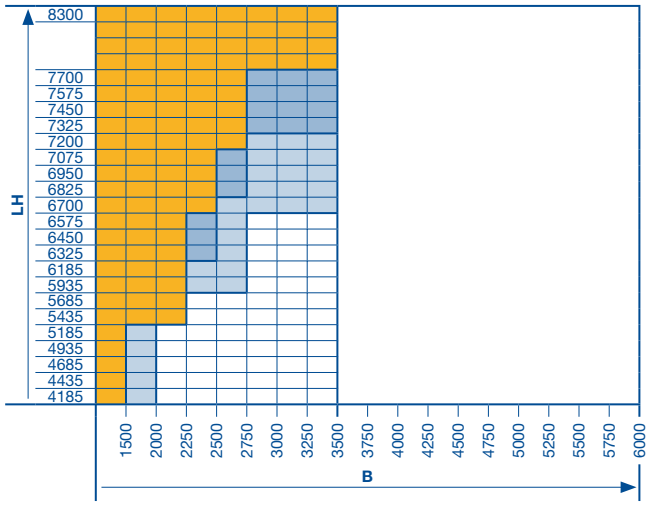
High-lift track application
With low-mounted torsion spring shaft and steep track (for loading ramp doors)



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

Other versions on request.
Observe min. sideroom, see page 63.

Table 10
Demarcation of track height for track application RG



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

Notes:
- **Door types ASP 40 / ASR 40 and wicket doors are not possible!**
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.

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

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

Notes:
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!
- ALR 40 Vitraplan and ALS 40 on request

LDH Clear passage height
RM Grid height
LH Track height (see Table 9)
DH Rear ceiling anchor =
RG 4 + RG 5 = 2 × RM – LH + 580 (long spring buffer)
RG 4 + RG 5 = 2 × RM – LH + 340 (short spring buffer)
RG 4 + RG 5 = 2 × RM – LH + 340 (long spring buffer + WA 400)
DM Central ceiling anchor (see page 68)
WE Shaft centre from lintel (see table 9)
H Min. headroom (see page 44)
DA Min. distance to ceiling 250
SB Slot width
L Anchor length DE – LH – 15 (see page 68)
ET Distance back
DE Ceiling height
LZ Clear frame dimension
B Width **(from 1200)**
F Space for fitting the door

All door types available in any version.

All door types available, versions with glazing S3, LB, P on request.

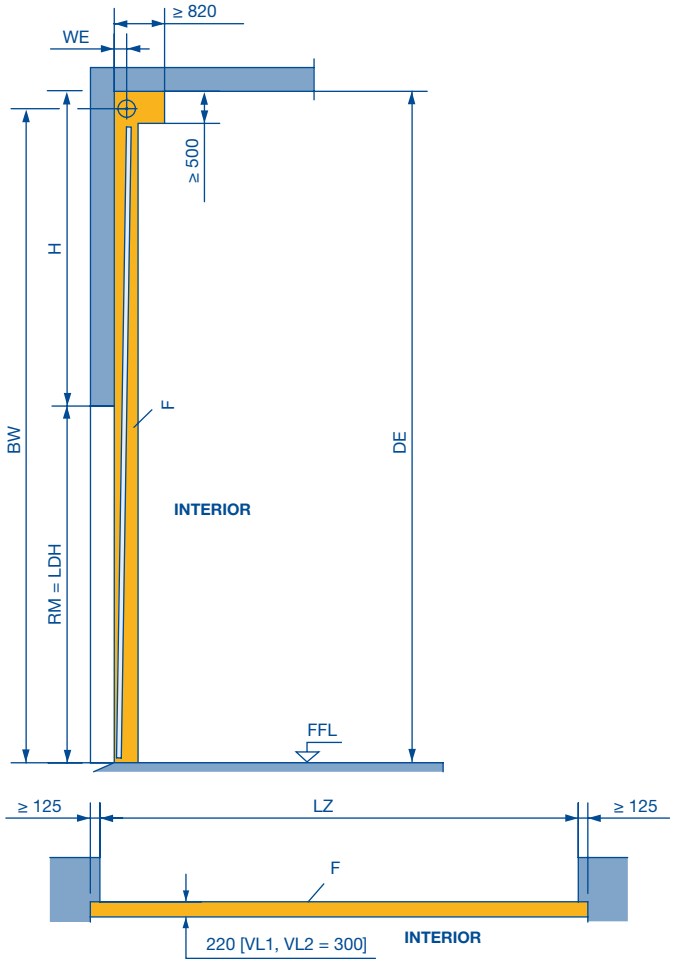
Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; SPU 40, TAP 40 and TAR 40 with WF frames as well as versions with glazing S 3, LB, P on request.

All door types in any version on request.

Dimensions in mm

Track Application: V

Vertical track application

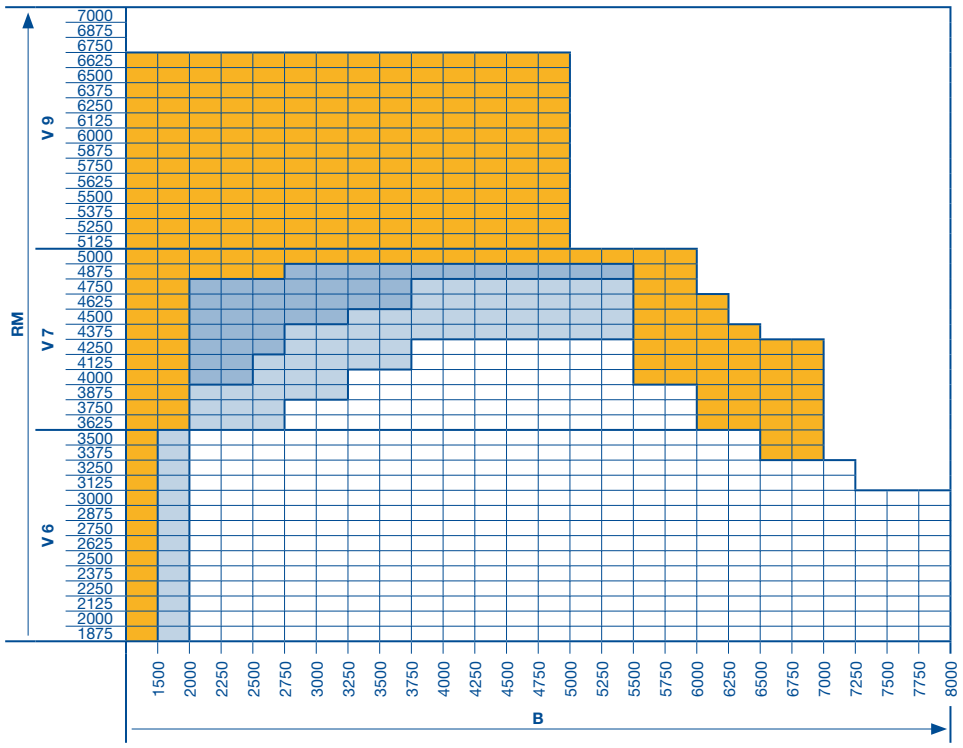


Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!

Observe min. sideroom, see page 63.

LDH	Clear passage height
RM	Grid height
WE	Shaft centre from lintel V6 = 160, V7 = 180
H	Min. headroom (see page 44)
DE	Ceiling height 2 × RM + 500 (V6) 2 × RM + 540 (V7) 2 × RM + 730 (V7 with double spring shaft) 2 × RM + 635 (V9) 2 × RM + 780 (V9 with double spring shaft)
BW	Position of shaft support 2 × RM + 360 (V6) 2 × RM + 385 (V7) 2 × RM + 435 (V9)
LZ	Clear frame dimension
F	Space for fitting the door



Note:
ALR 40 Vitraplan and ALS 40 on request

All door types available in any version.

All door types available, versions with glazing S3, LB, P and / or wicket door on request.

Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; TAP 40, TAR 40 and SPU 40 with WF frames as well as versions with glazing S3, LB, P and / or wicket door on request.

All door types in any version on request.

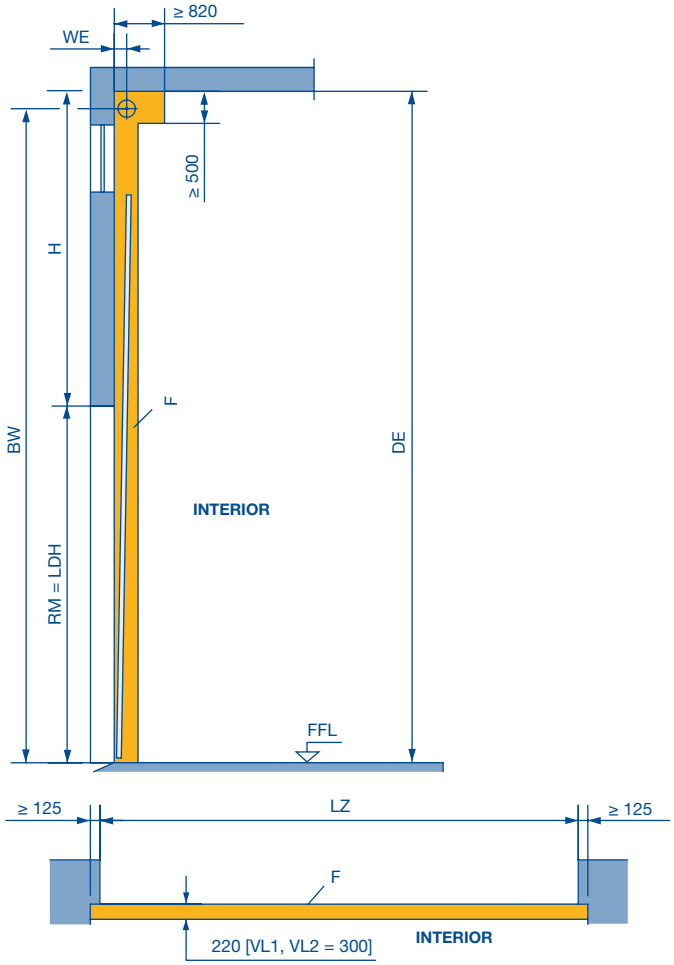
B Width **(from 1200)**

Dimensions in mm

Track Application: VA

Vertical track application

With high-mounted torsion spring shaft

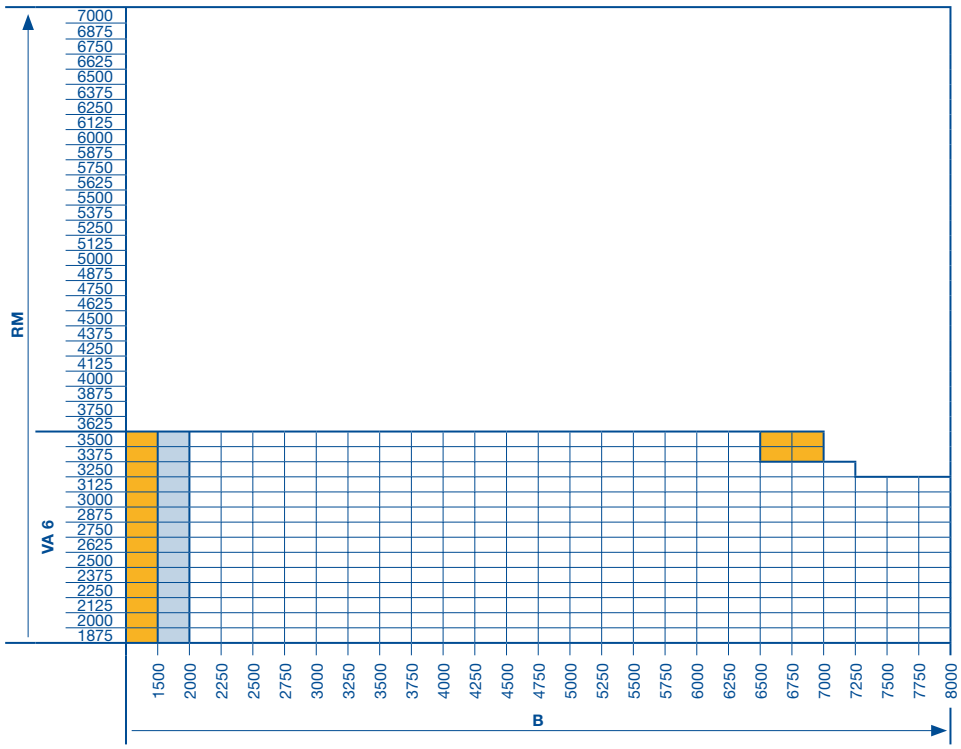


Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!

Observe min. sideroom, see page 63.

LDH	Clear passage height
RM	Grid height
WE	Shaft centre from lintel VA 6 = 160
H	Min. headroom (see page 44)
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 dimension
F	Space for fitting the door



Note:
ALR 40 Vitraplan and ALS 40 on request

All door types available in any version.

All door types available, versions with glazing S 3, LB, P and / or wicket door on request.

All door types in any version on request.

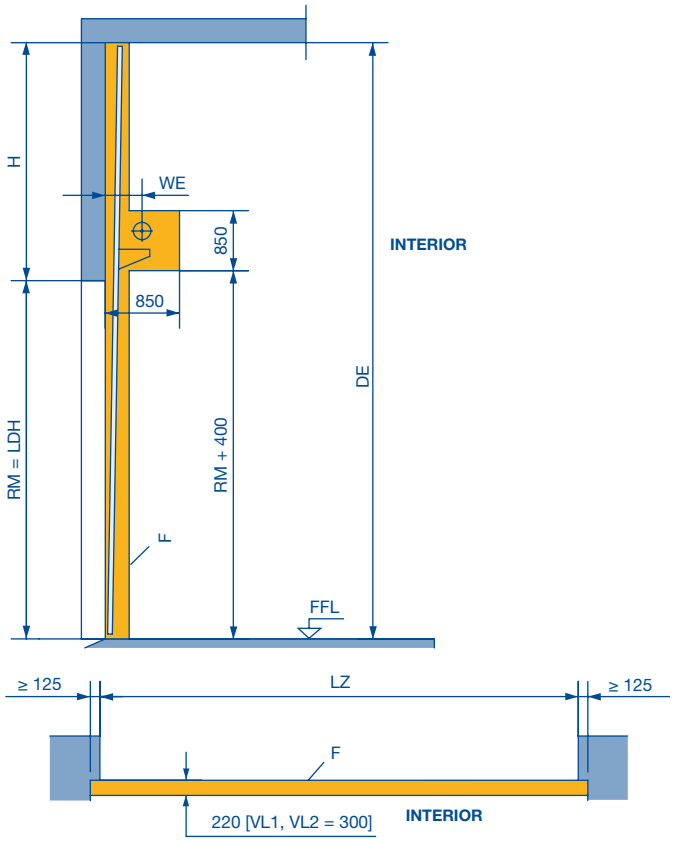
B Width **(from 1200)**

Dimensions in mm

Track Application: VU

Vertical track application

With low-mounted torsion spring shaft

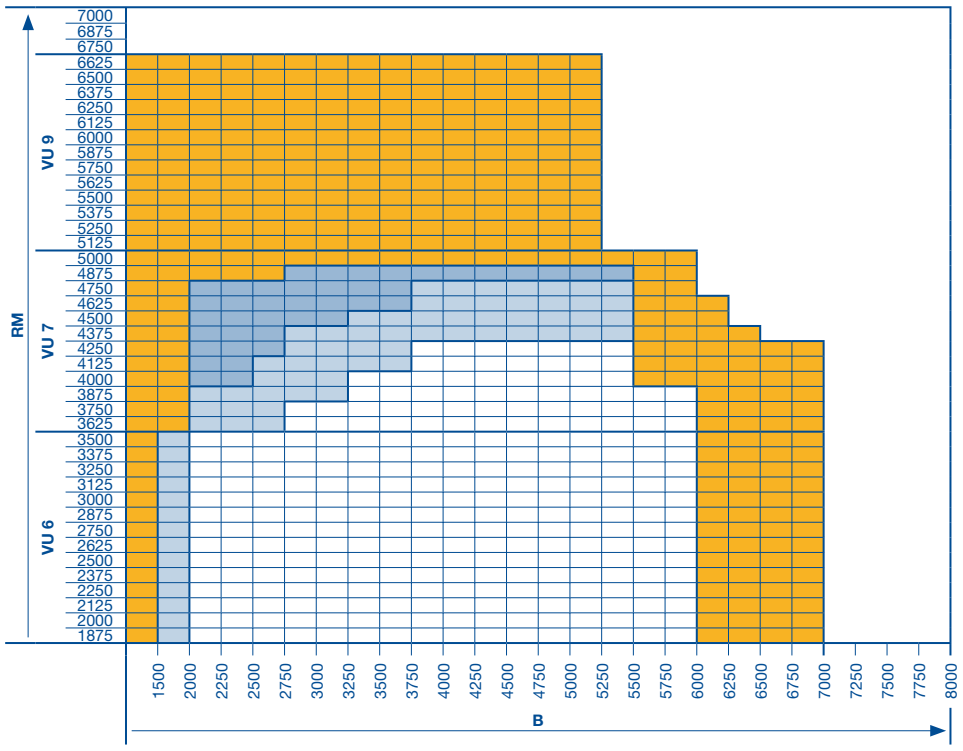


Notes:

- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!

Observe min. sideroom, see page 63.

DE	Ceiling height = 2 × RM + 350
WE	Shaft centre from lintel
	VU 6 = 315
	VU 7 = 335
	VU 9 = 375
H	Min. headroom (see page 44)
LDH	Clear passage height
RM	Grid height
LZ	Clear frame dimension
F	Space for fitting the door



Note:
ALR 40 Vitraplan and ALS 40 on request

All door types available in any version.

All door types available, versions with glazing S3, LB, P and / or wicket door on request.

Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; TAP 40, TAR 40 and SPU 40 with WF frames as well as versions with glazing S3, LB, P and / or wicket door on request.

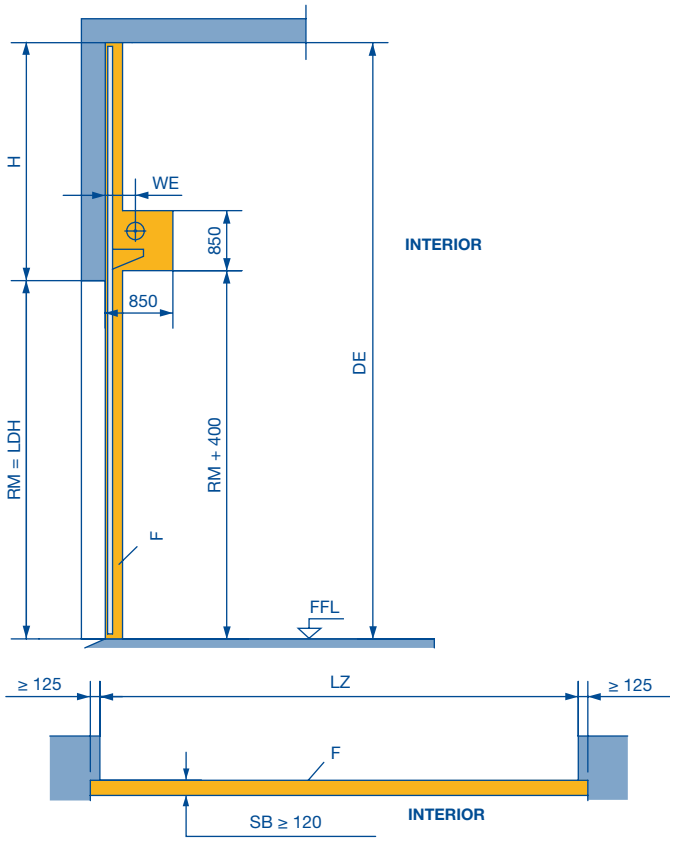
All door types in any version on request.

B Width **(from 1200)**

Dimensions in mm

Track Application: WG

Vertical track application with low-mounted Torsion spring shaft and steep track (Application for loading ramp doors)

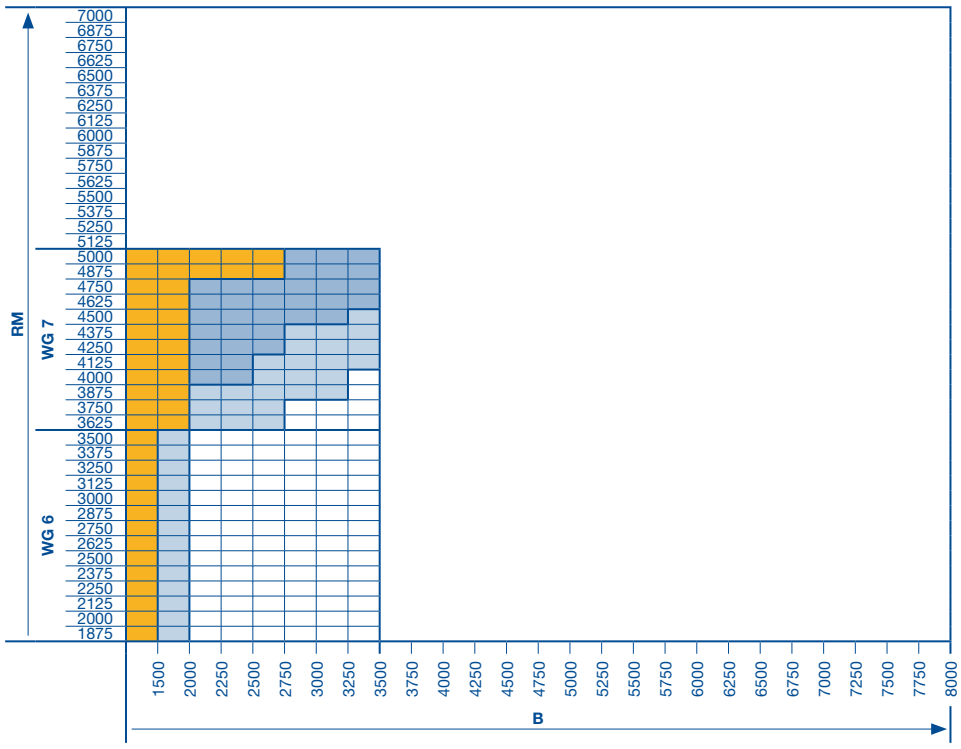


Notes:

- **Door types ASP 40 / ASR 40 and wicket doors are not possible!**
- The clearance required for fitting the door must be free of supply lines, heater fans, etc.
- Observe the permissible size ranges of the door types on pages 10 – 18 and 21 – 38 under all circumstances!

Observe min. sideroom, see page 63.

DE	Ceiling height = 2 × RM + 350
WE	Shaft centre from lintel WG 6 = 246 WG 7 = 276
H	Min. headroom (see page 44)
SB	Slot width
LDH	Clear passage height
RM	Grid height
LZ	Clear frame dimension
F	Space for fitting the door



Note:
ALR 40 Vitraplan and ALS 40 on request

All door types available in any version.

All door types available, versions with glazing S3, LB, P on request.

Door types ASP, ASR, APU 40 N / -B and ALR 40 N / -B are possible; SPU 40, TAP 40 and TAR 40 with WF frames as well as versions with glazing S 3, LB, P on request.

All door types in any version on request.

B Width **(from 1200)**

Dimensions in mm

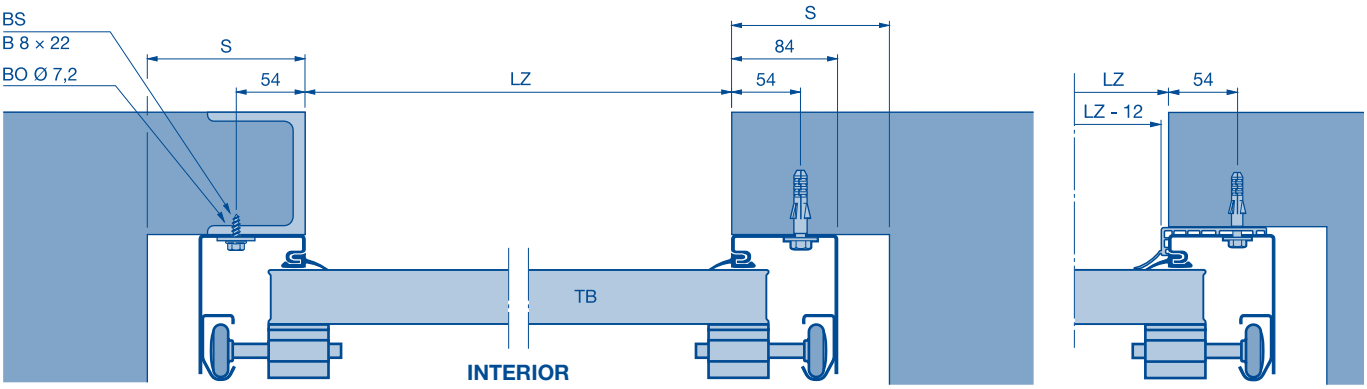
Sideroom

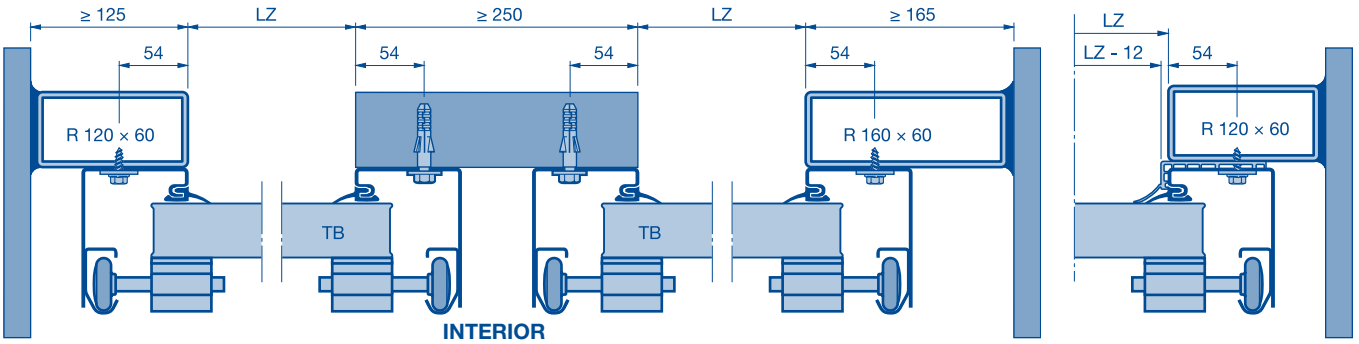
Required sideroom S

Track application / designation	S	Track application / designation		S
N, NA, ND, NH, NS, GD, V, VA, VU, WG	125	Hand pulley	N, NA, ND, NH, NS, GD	140
H, HA, HD, HG, HU, RD, RG	150		H, HA, HD, HG, HU, RD, RG	150
L, LD	125		V, VA, VU, WG	125
		Chain hoist		Page 66
		Shaft operators		Pages 72 – 78

Sideroom

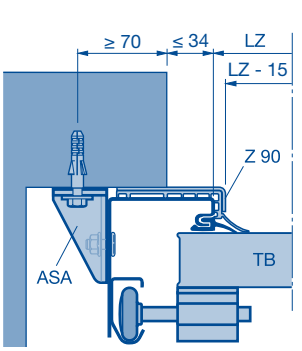
ThermoFrame version

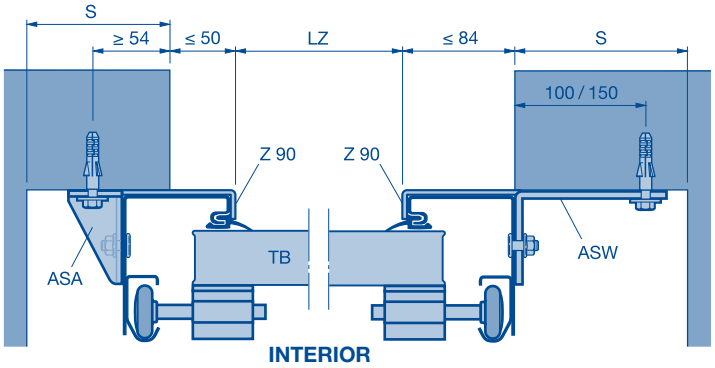




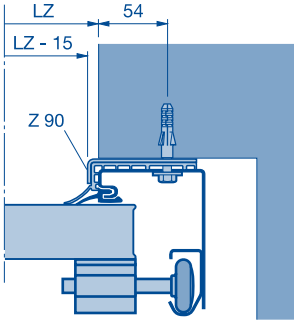
Sideroom with frame covering

ThermoFrame version





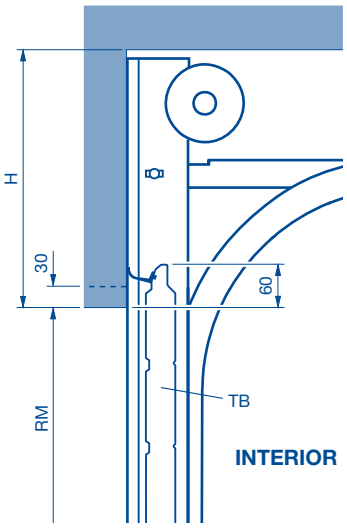
ThermoFrame version



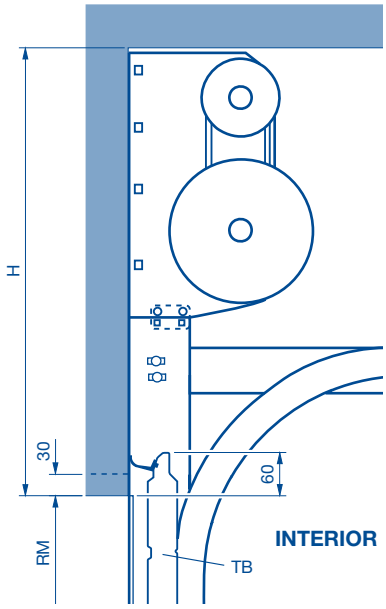
LZ	Clear frame dimension	**TB**	Door leaf	**ASW**	Screw-on bracket 70 × 120 / 170
BO	Hole	**R**	Box section		
HS	Self-tapping screw	**ASA**	Screw-on anchor 70 × 40		

Lintel Fitting

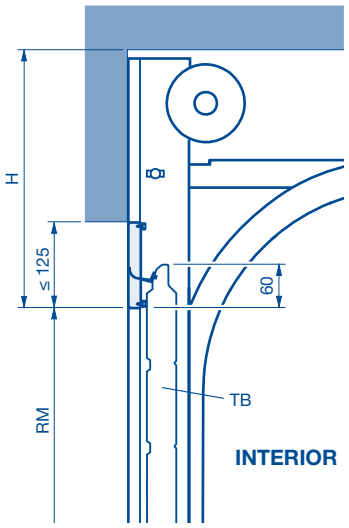
Normal lintel fitting
Lintel variation up to 30 mm high



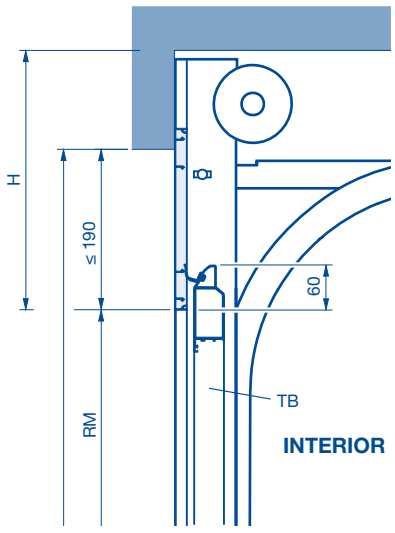
Normal lintel fitting
Double spring shaft



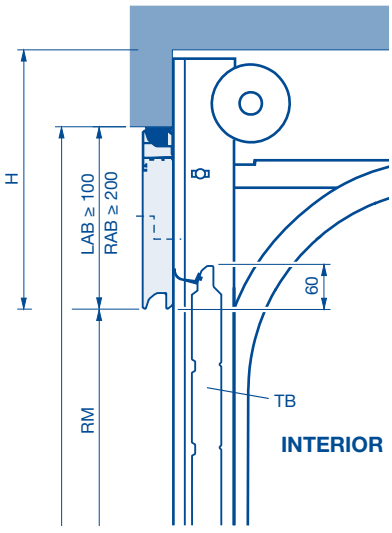
Single-skinned steel fascia for SPU 40 to make up for insufficient headroom up to 125 mm
(only for track applications N and L)



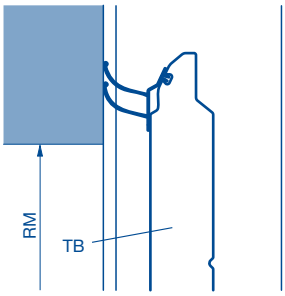
Smooth panel, anodised for APU 40 N, APU 40 B, ALR 40 N, ALR 40 B, ALS 40 to make up for insufficient headroom from 31 to 190 mm
(only for track applications N and L)



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



Lintel fitting with ThermoFrame



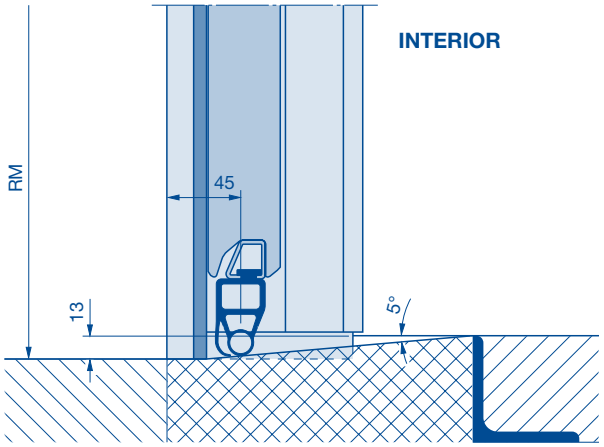
Aluminium frame fascia panel	
Height	**Infill type**
≥ 200	FU, LB, S, SE, XU, FK, KR
≥ 245	S2, S3, R2, C2
≥ 230 – 692	S2, S3, R2, C2 with ASP / ASR

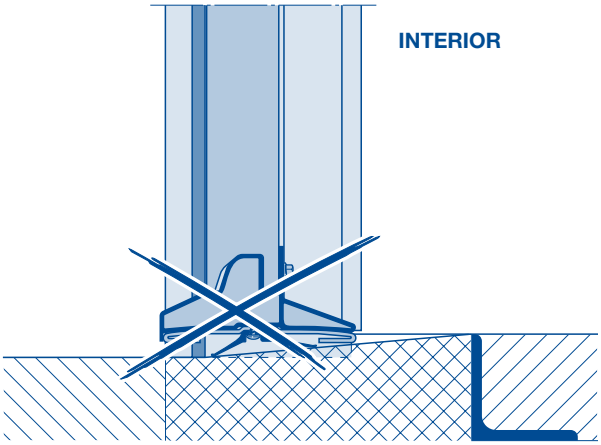
- Aluminium frame fascia panel with real glass infill VG, E2 and G2 on request.

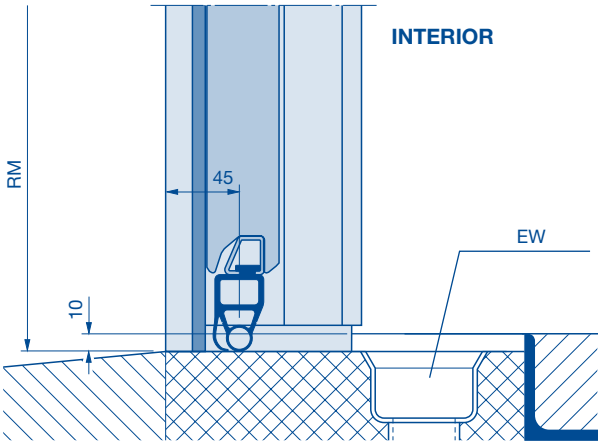
H Min. headroom, see page 44
RM Grid
TB Door leaf
LAB Fascia panel
RAB Frame fascia panel

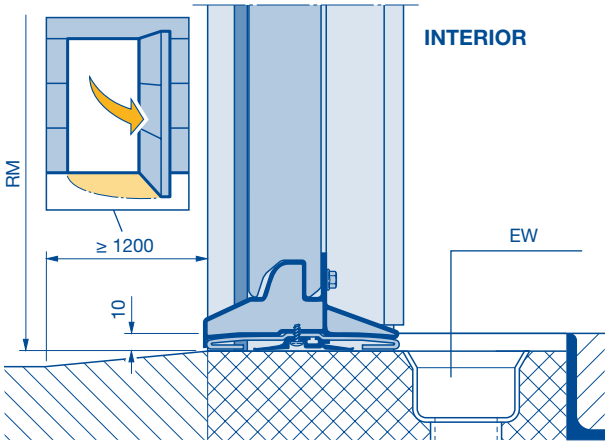
Bottom Edge

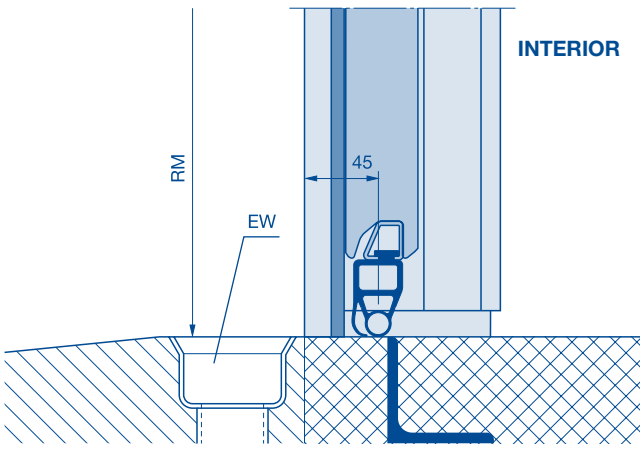
Without wicket door / with wicket door and threshold rail	With wicket door with trip-free threshold

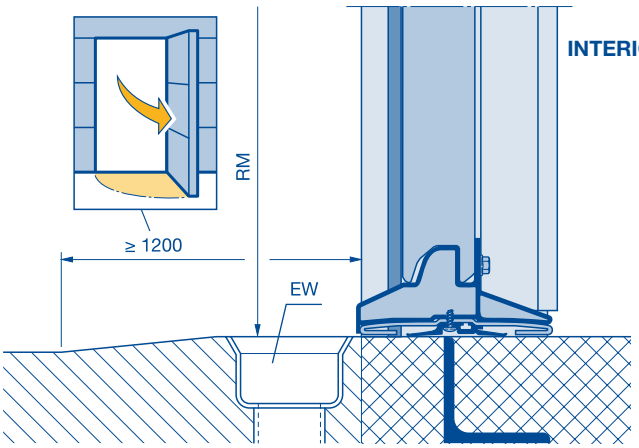








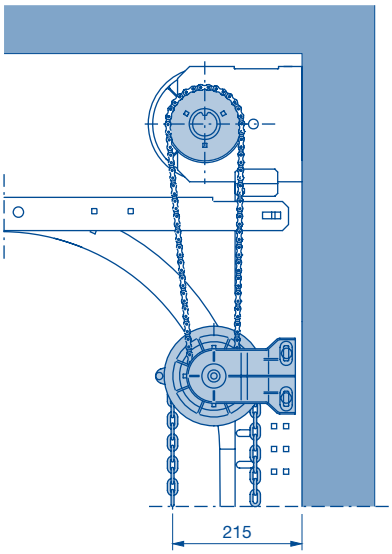


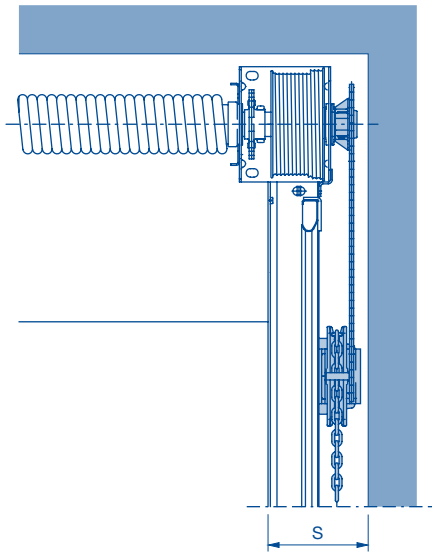


EW Drainage
RM Grid

Chain Hoist

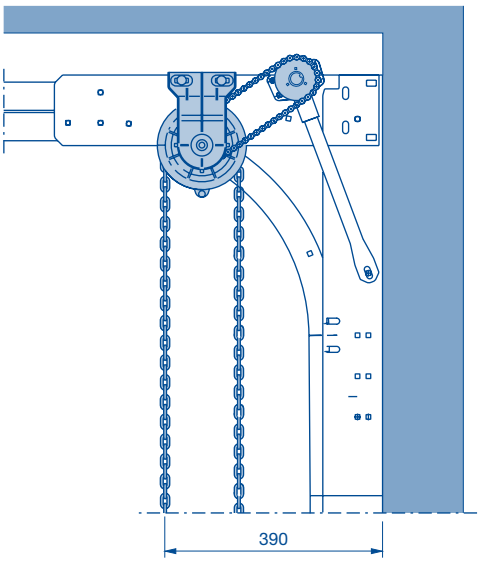
Track applications N, NA, ND, NH, NS, GD, H, HA, HD, HG, HU, RD, RG, VU, WG

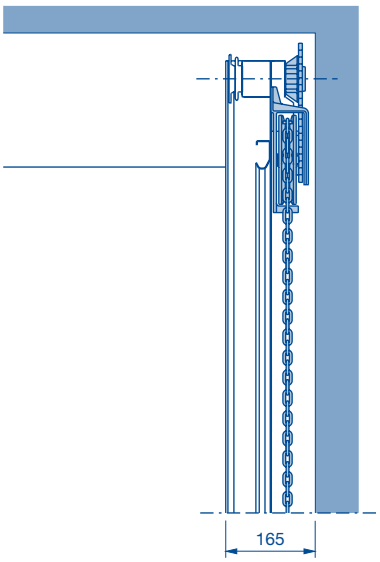




Track application	N	NA	ND	NH	NS	GD	H	HA	HD	HG	HU	RD	RG	VU	WG
S	165	165	165	165	165	165	185	185	185	185	185	185	185	165	165

Track applications L and LD



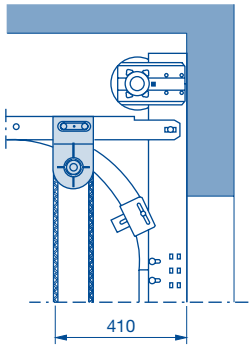


Hand Pulley

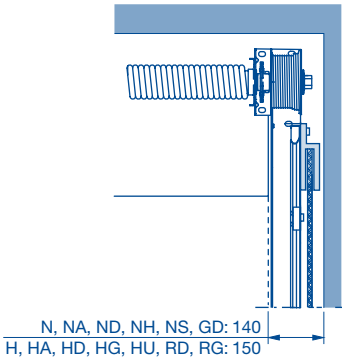
With rope or link steel chain

Track applications up to 20 m² door surface

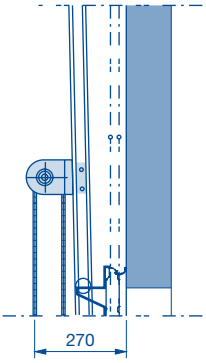
With rope or link steel chain



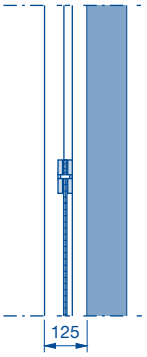
N, NA, ND, NH, NS, GD, H, HA, HD, HG, HU, RD, RG



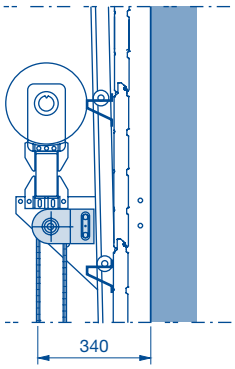
With rope or link steel chain



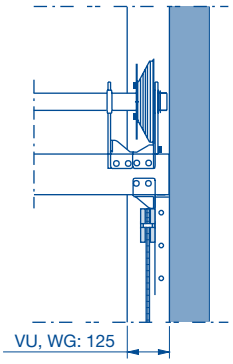
V, VA



With rope or link steel chain



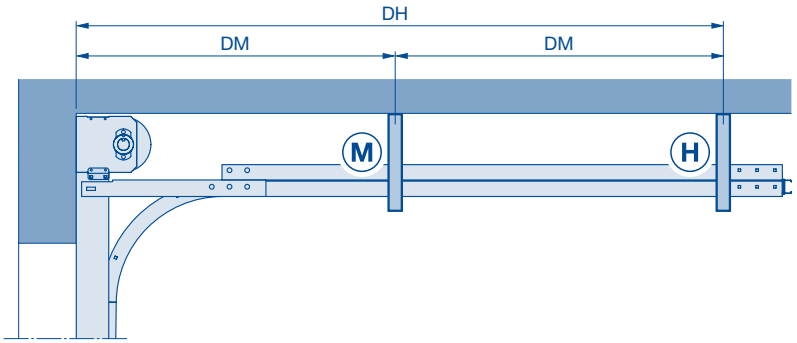
VU, WG



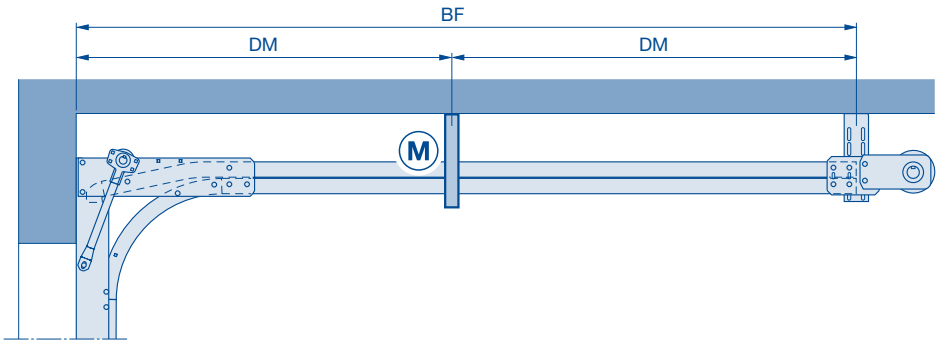
Ceiling Anchor

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

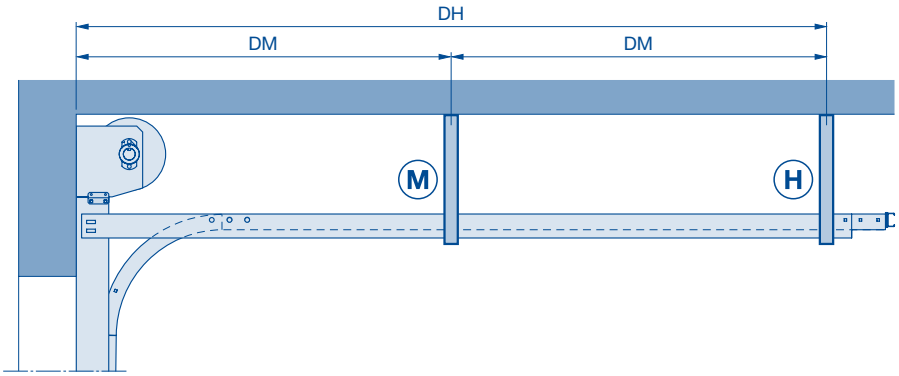
Track suspensions as ceiling anchors in five lengths, standard length 469 mm.
DH = Rear ceiling anchor (see pages 44 – 58), door weights for roof loads (see pages 44 – 58).



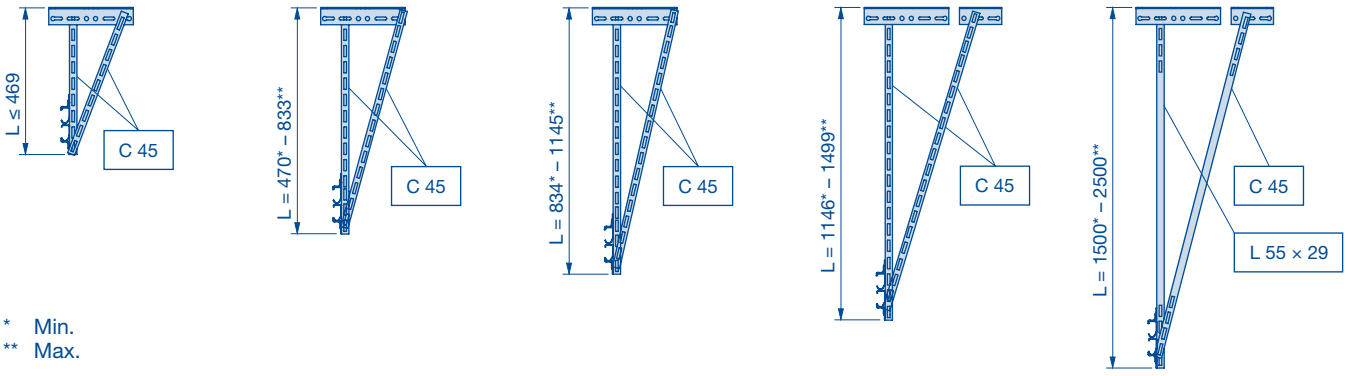
Double track (suspensions), Door heights RM ≤ 5000			
DH	M	H	DM
– 1555	–	1	–
1560 – 3720	1	1	DH / 2
3730 – 5195	2	1	DH / 3



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



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

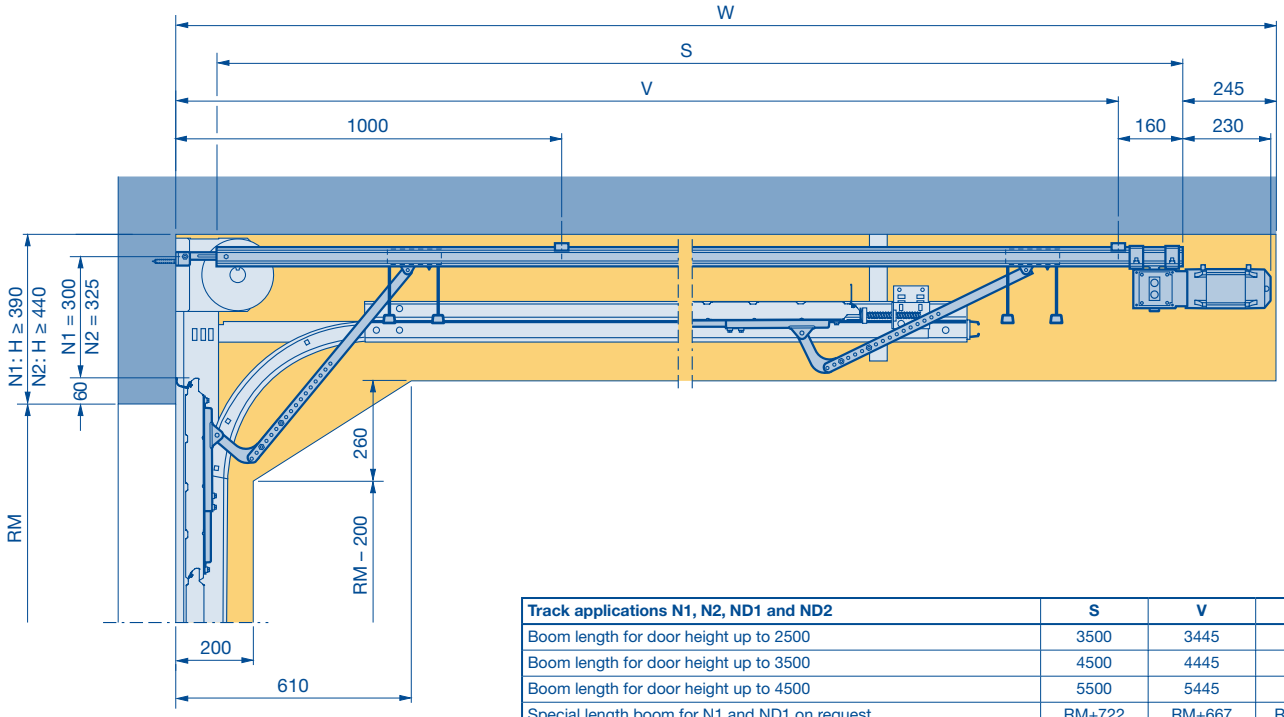


* Min.
** Max.

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

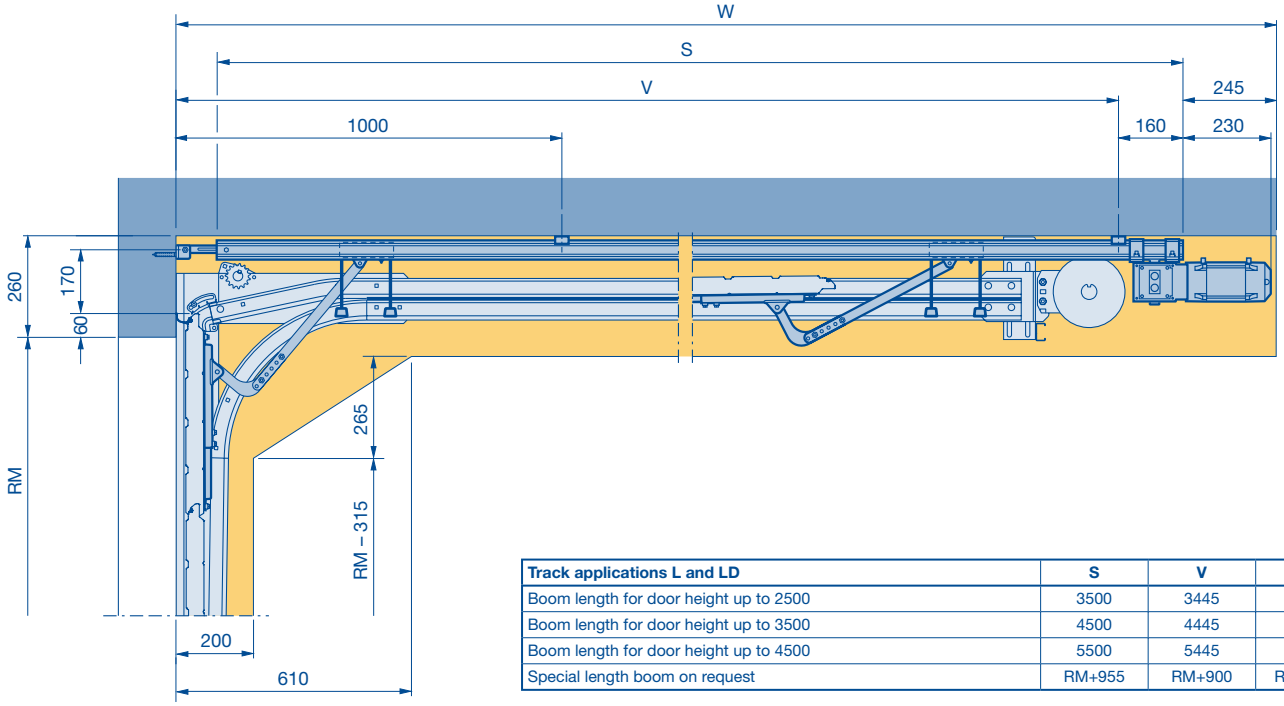
Chain Drive Operator ITO 400

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



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

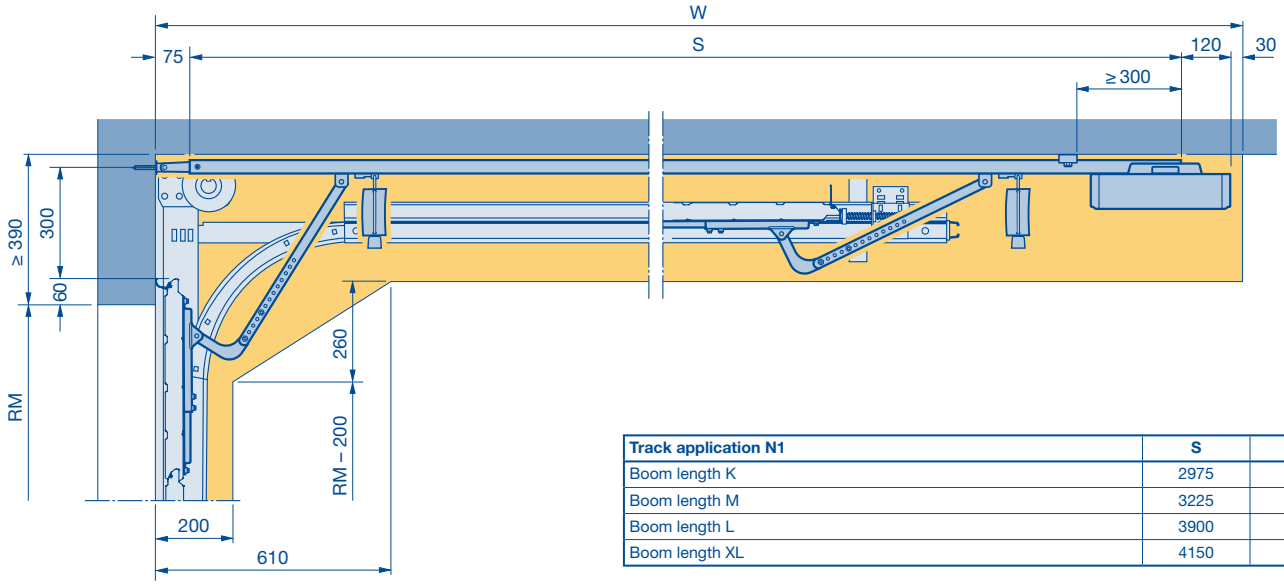
ITO 400 track applications L and LD (doors with wicket doors on request)



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

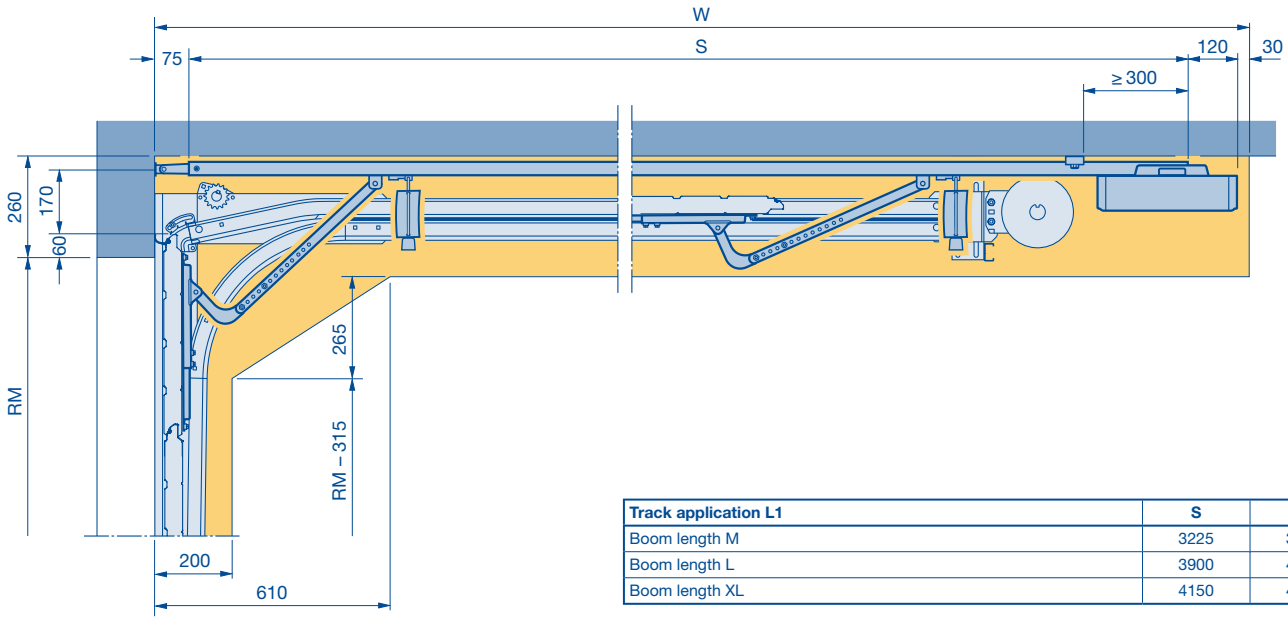
Operator SupraMatic H / HD

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



Track application N1	S	W
Boom length K	2975	3200
Boom length M	3225	3450
Boom length L	3900	4125
Boom length XL	4150	4375

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



Track application L1	S	W
Boom length M	3225	3450
Boom length L	3900	4125
Boom length XL	4150	4375

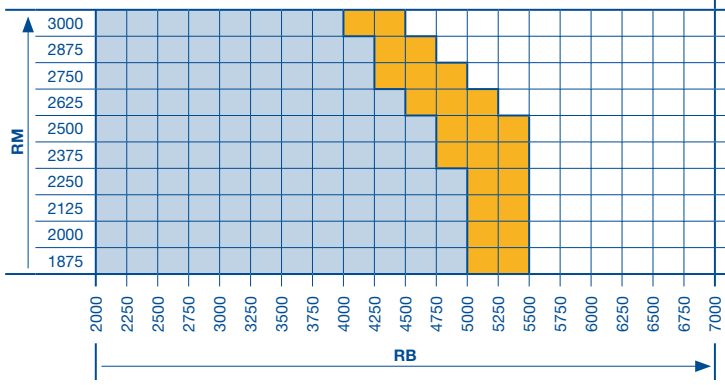
(See the next page for the size range for SupraMatic H / HD)

*** Note:**
This operator is not possible with DPU doors!

RM Grid height

Operator SupraMatic H / HD

SupraMatic H size range



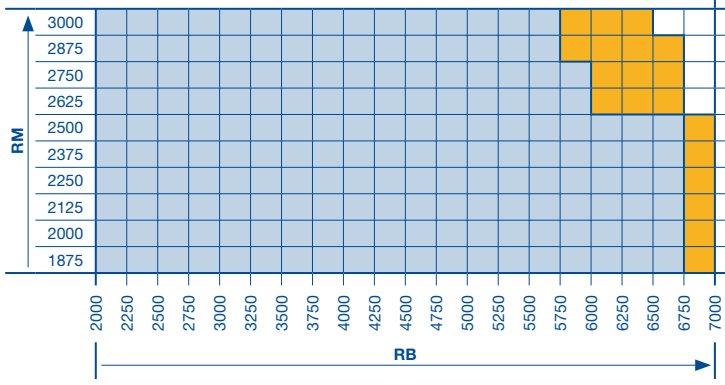
Boom length		No. of door sections			
Track application **N1**	Track application **L1**	375	500	625**	750**
L	XL	–	6	–	4
L	XL	1	5	1	3
L	L	2	4	2	2
L	L	3	3	3	1
L	L	–	5	4	–
M	L	1	4	4*	–
M	L	2	3	–	3
K	M	3	2	1	2
K	M	–	4	2	1
K	M	1	3	3	–

SupraMatic H not possible

SupraMatic H possible

SupraMatic H on request

SupraMatic HD size range



Boom length		No. of door sections			
Track application **N1**	Track application **L1**	375	500	625**	750**
L	XL	–	6	–	4
L	XL	1	5	1	3
L	L	2	4	2	2
L	L	3	3	3	1
L	L	–	5	4	–
M	L	1	4	4*	–
M	L	2	3	–	3
K	M	3	2	1	2
K	M	–	4	2	1
K	M	1	3	3	–

SupraMatic HD not possible

SupraMatic HD possible

SupraMatic HD on request

RB Grid width
RM Grid height
* Top door section shortened to 500 mm
** Without wicket door

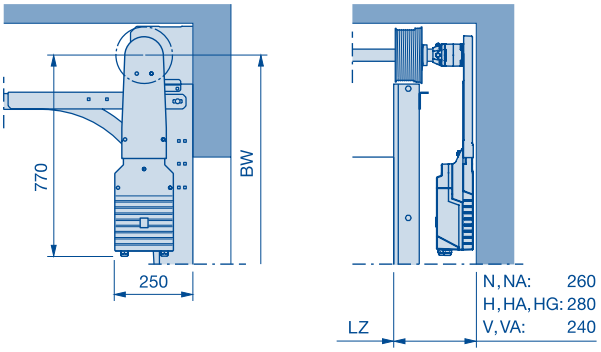
Dimensions in mm

Shaft Operator WA 300

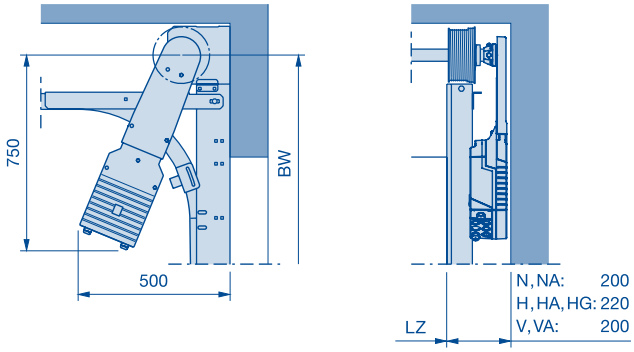
Shaft operator WA 300 for track applications N, NA, H, HA, HG, V and VA

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

Fitting example ⑧ right



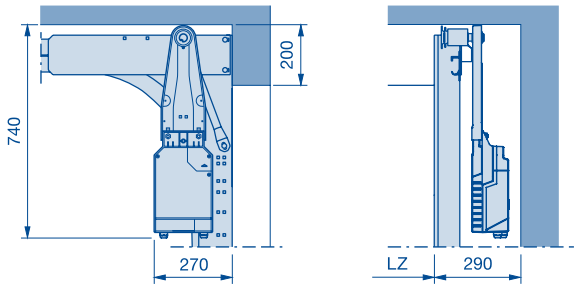
Fitting example ⑨ right



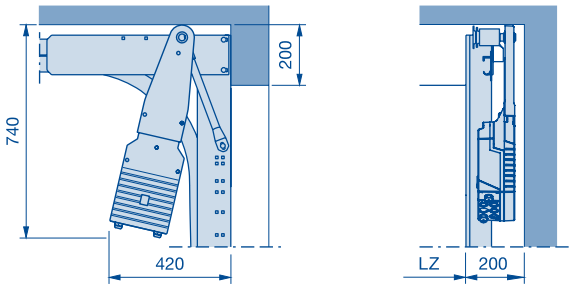
Shaft operator WA 300 for track application L

As shown in the figure, the operator can be fitted either left or right, viewed from the inside.
In fitting example 9: on the side opposite the door lock.

Fitting example ⑧ right



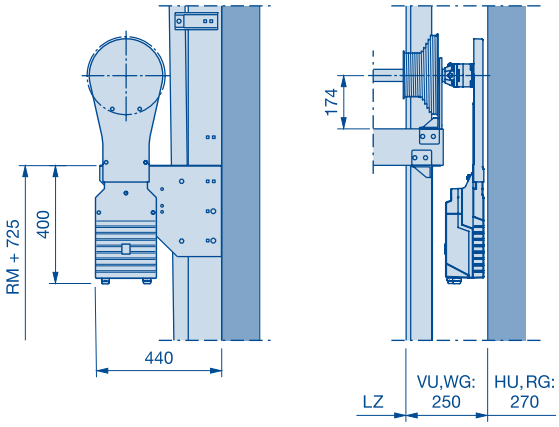
Fitting example ⑨ right



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

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

Fitting example ⑧ right

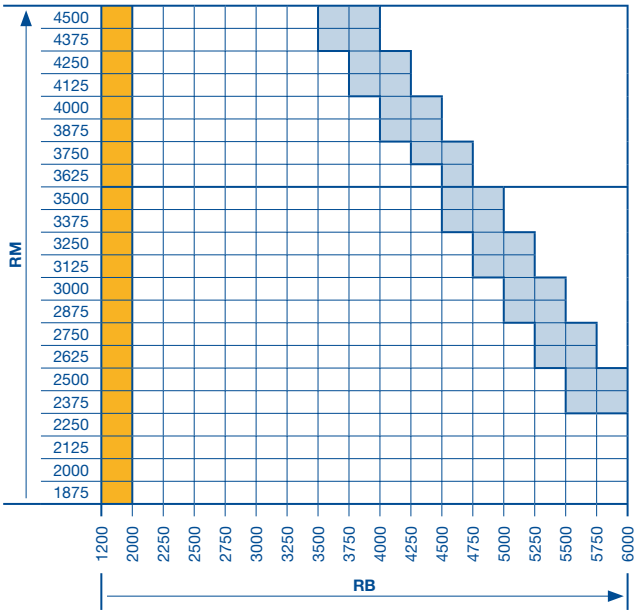


LZ Clear frame dimension
BW Position of shaft support

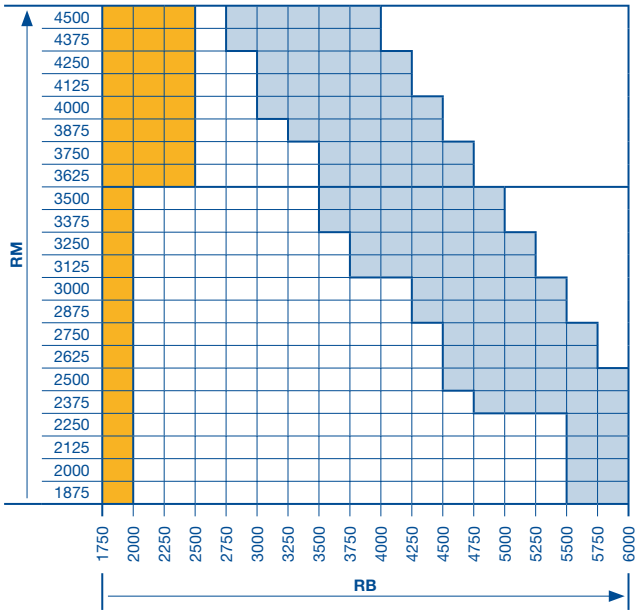
Shaft Operator WA 300

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

Without wicket door

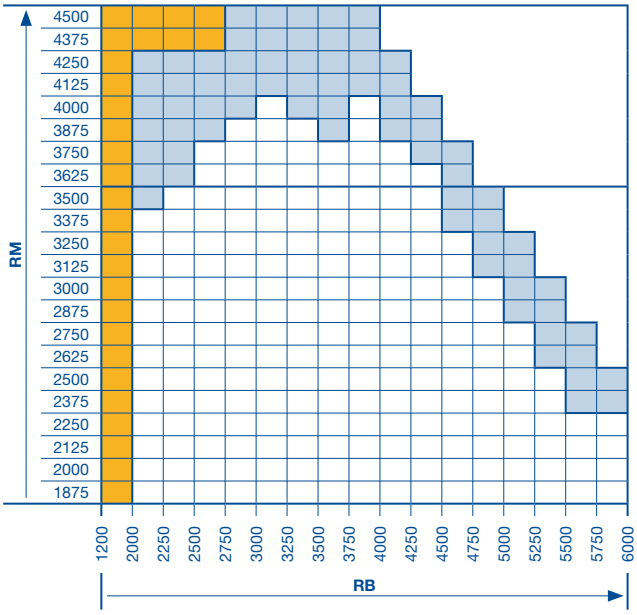


Door with wicket door R = .

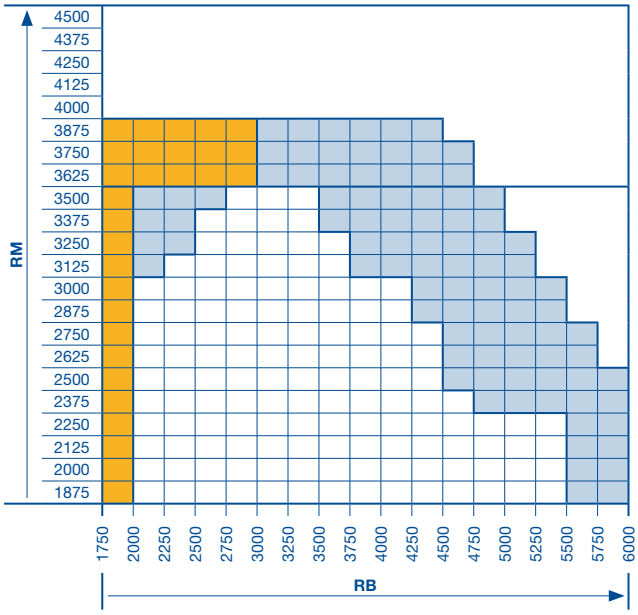


Shaft operator WA 300 for track applications HU, RG, VU and WG

Without wicket door



Door with wicket door R = .



WA 300 not possible.

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

WA 300 on request.

RB Grid width
RM Grid height

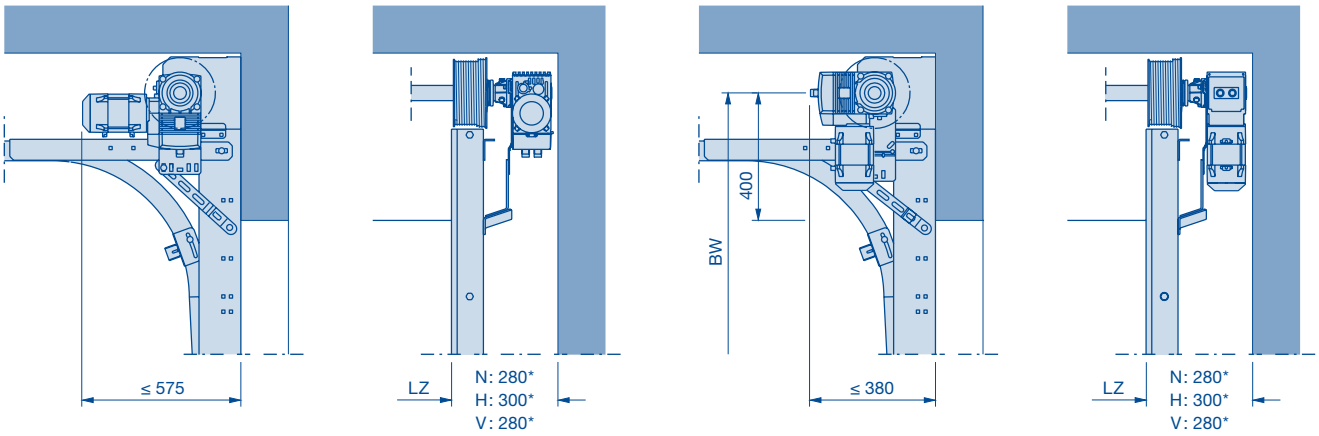
Dimensions in mm

Shaft Operator WA 400

As a frame-mounted operator

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

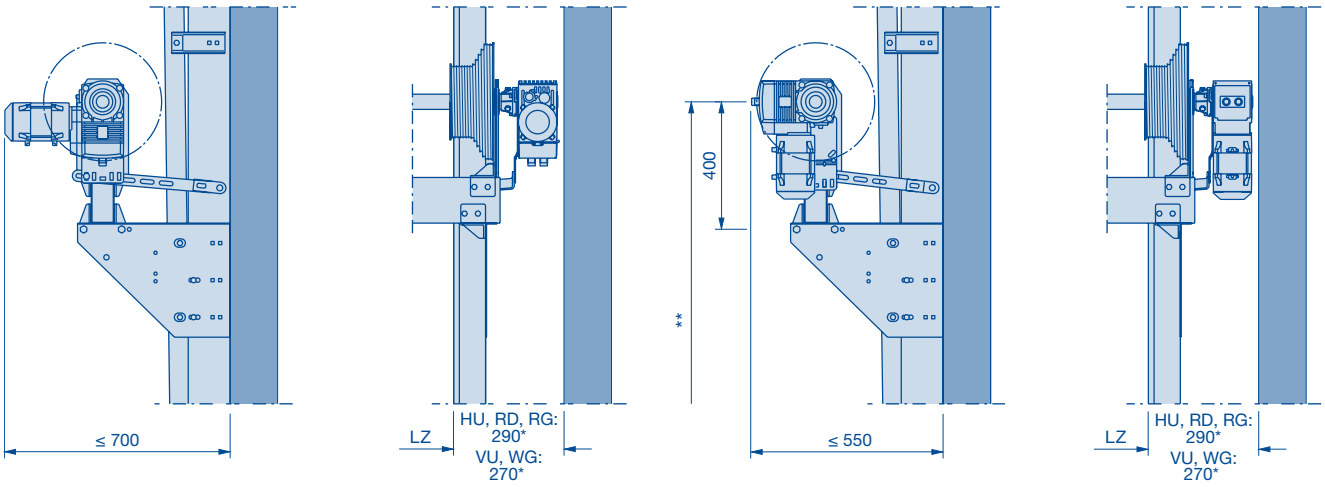
As shown in the figure, the operator can be fitted either left or right, viewed from the inside.



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

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

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



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

** On request

LZ Clear frame dimension
BW Position of shaft support

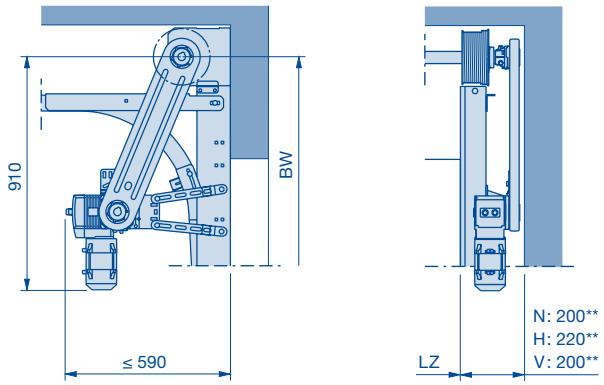
Shaft Operator WA 400

With chain box

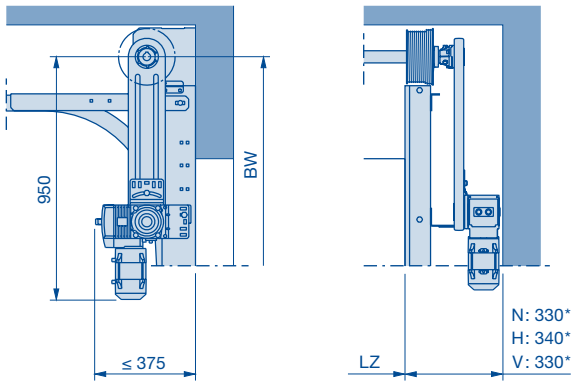
Shaft operator WA 400 for all track applications, except for L, LD, HU, RD, RG, VU and WG

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

Fitting example ⑤ right



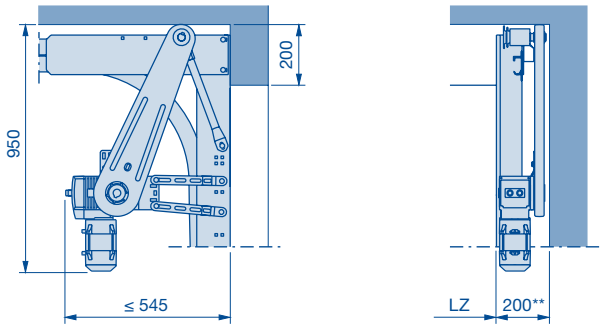
Fitting example ⑥ right



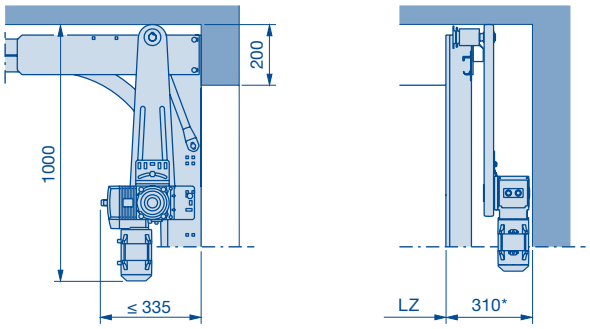
Shaft operator WA 400 for the track applications L and LD

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

Fitting example ⑤ right



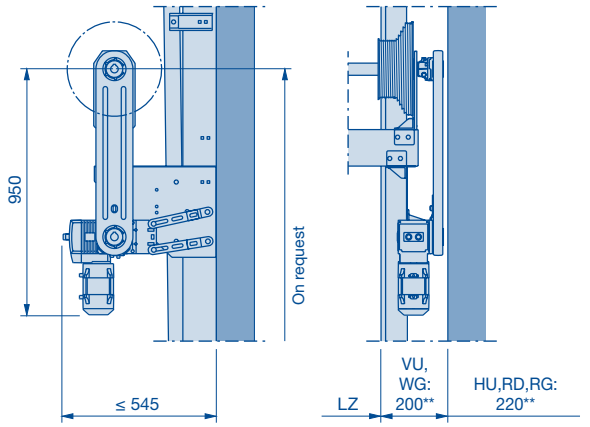
Fitting example ⑥ right



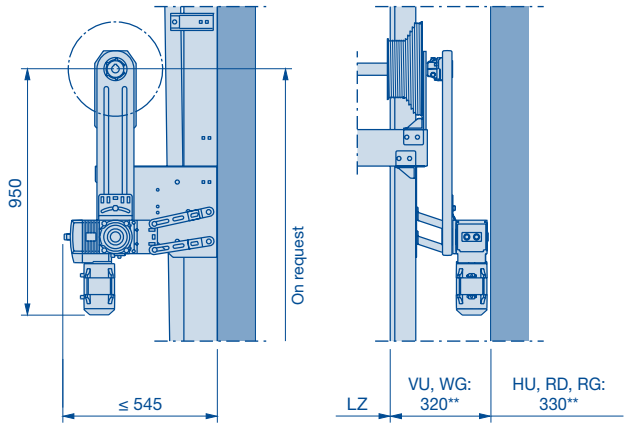
Shaft operator WA 400 for track applications HU, RD, RG, VU and WG

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

Fitting example ⑤ right



Fitting example ⑥ right



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

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

LZ Clear frame dimension

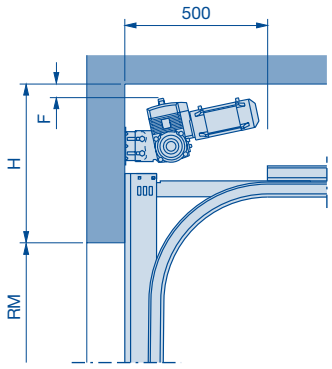
BW Position of shaft support

Shaft Operator WA 400

For central mounting

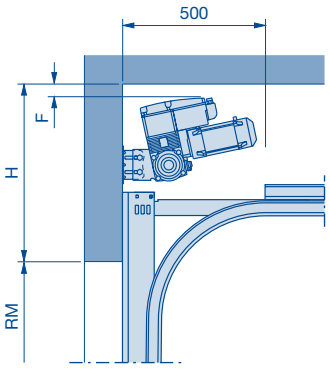
Shaft operator WA 400 for track applications N and ND

Control A / B 445, 460



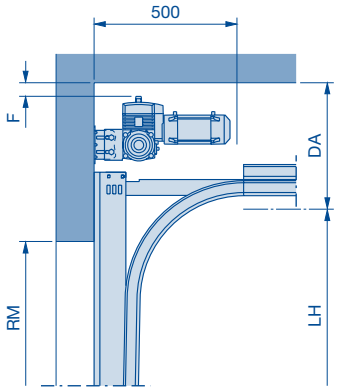
Track application	A / B 445, 460		B 460 FU	
	H min.	F min.	H min.	F min.
N1	520	45	590	45
N2	550	50	615	45
N3	–	–	675	45
ND 1	520	65	550	48
ND 2	550	75	570	48
ND 3	–	–	650	48

Control B 460 FU



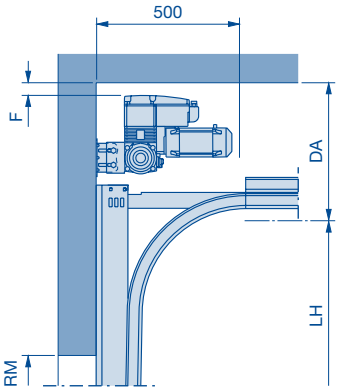
Shaft operator WA 400 for the track applications NH and GD

Control A / B 445, 460



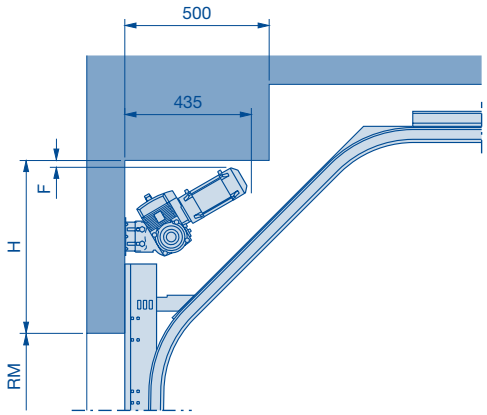
Track application	A / B 445, 460		B 460 FU	
	DA min.	F min.	DA min.	F min.
NH 1 / GD 1	415	50	480	45
NH 2 / GD 2	440	50	485	45
NH 3	–	–	565	45

Control B 460 FU

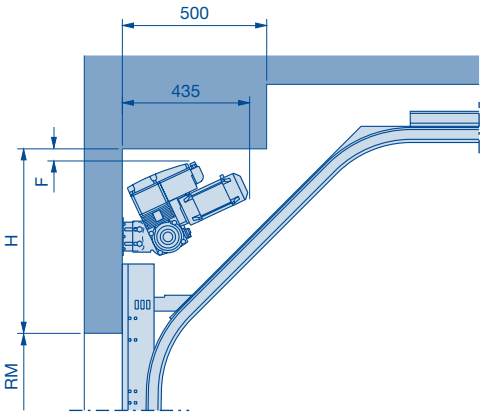


Shaft operator WA 400 for track application NS

Control A / B 445, 460



Control B 460 FU



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

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

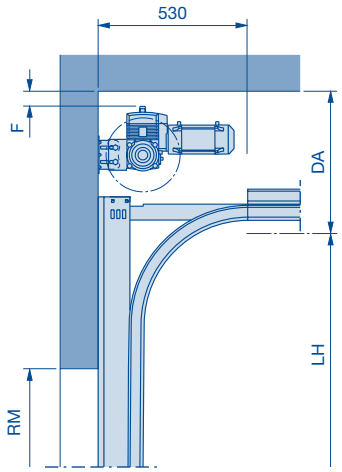
H	Headroom	**DA**	Distance to ceiling	**F**	Clearance ceiling / shaft operator
RM	Grid height	**LH**	Track height		

Shaft Operator WA 400

For central mounting

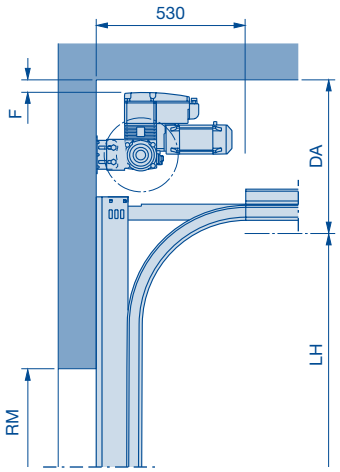
Shaft operator WA 400 for track applications H, HG and HD

Control A / B 445, 460



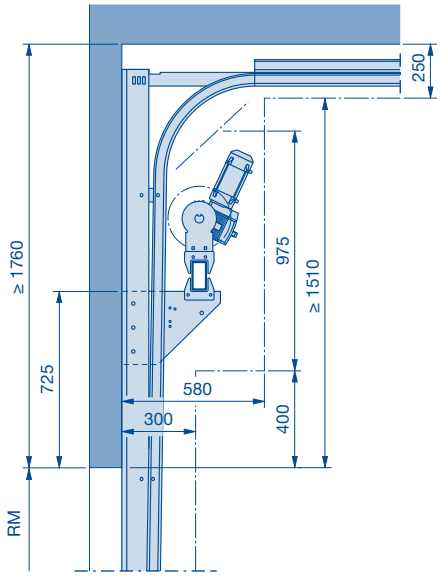
Track application	A / B 445, 460		B 460 FU	
	DA min.	F min.	DA min.	F min.
H4, HG 4	500	55	540	45
H5, HG 5	500	55	540	45
H8	–	–	565	45
HD	On request			

Control B 460 FU

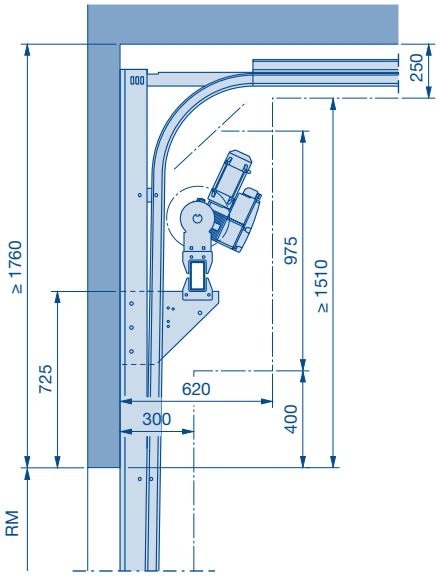


Shaft operator WA 400 for the track applications HU, RD and RG

Control A / B 445, 460



Control B 460 FU



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

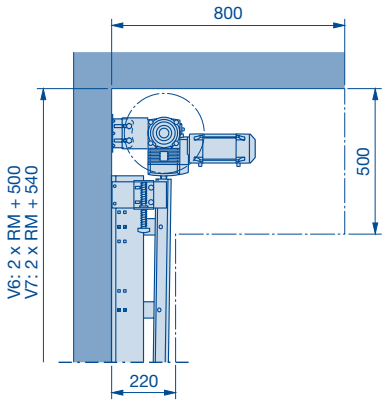
RM	Grid height	**LH**	Track height
DA	Distance to ceiling	**F**	Clearance ceiling / shaft operator

Shaft Operator WA 400

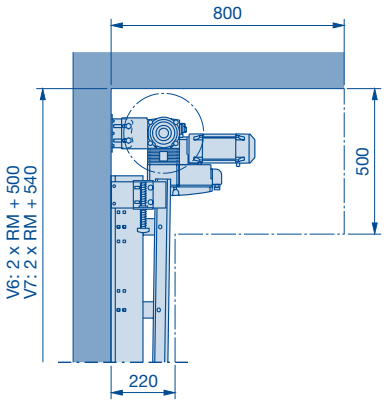
For central mounting

Shaft operator WA 400 for track application V

Control A / B 445, 460

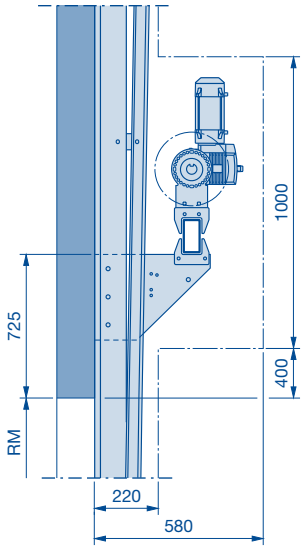


Control B 460 FU

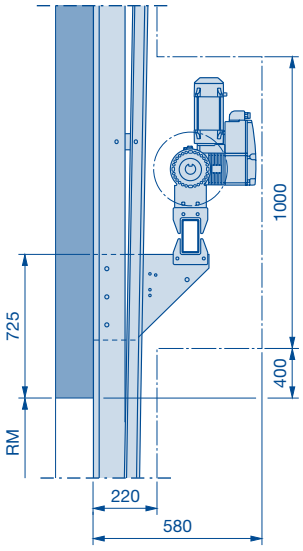


Shaft operator WA 400 for track applications VU and WG

Control A / B 445, 460



Control B 460 FU



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

RM	Grid height	**LH**	Track height
DA	Distance to ceiling		

Door Leaf speeds
Infill overview

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 A / B 445 and 460				Control B 460 FU		Without twin roller	With twin roller
	Chain box operator [1]	Max. speed in mm/s, open and close	Frame-mounted operator	Max. speed in mm/s, open and close	Chain box operator	Max. speed in mm/s, open and close	Frame-mounted operator [1]	Chain box operator [1]	Max. speed in mm/s, open and close	Max. speed in mm/s, open and close
N1	Yes	190	30 rpm	190	30 rpm	190	Yes	Yes	300/200	300/200
N2	Yes	190	24 rpm	210	24 rpm	210	Yes	Yes	300/200	470/200
N3	–	–	–	–	16 rpm	190	Yes	Yes	300/200	540/200
NA 1	Yes	190	30 rpm	190	30 rpm	190	Yes	Yes	300/200	300/200
NA 2	Yes	190	24 rpm	210	24 rpm	210	Yes	Yes	300/200	470/200
ND 1	–	–	30 rpm	190	30 rpm	190	Yes	Yes	300/200	300/200
ND 2	–	–	24 rpm	210	24 rpm	210	Yes	Yes	300/200	470/200
ND 3	–	–	–	–	16 rpm	190	Yes	Yes	300/200	540/200
NH 1	–	–	30 rpm	190	30 rpm	190	Yes	Yes	300/200	300/200
NH 2	–	–	24 rpm	210	24 rpm	210	Yes	Yes	300/200	470/200
NH 3	–	–	–	–	16 rpm	190	Yes	Yes	300/200	540/200
NS 1	–	–	30 rpm	190	30 rpm	190	Yes	Yes	300/200	300/200
NS 2	–	–	24 rpm	210	24 rpm	210	Yes	Yes	300/200	470/200
GD 1	–	–	30 rpm	190	30 rpm	190	Yes	Yes	300/200	300/200
GD 2	–	–	24 rpm	210	24 rpm	210	Yes	Yes	300/200	470/200
L1	Yes	190	–	–	24 rpm	150	–	Yes	300/200	300/200
L2	Yes	190	–	–	24 rpm	150	–	Yes	300/200	300/200
LD 1	–	–	–	–	24 rpm	150	–	Yes	300/200	300/200
LD 2	–	–	–	–	24 rpm	150	–	Yes	300/200	300/200
H4	Yes	190	24/19 rpm [1]	230	24/19 rpm [1]	230	Yes	Yes	300/200	400/200
H5	Yes	190	19/16 rpm [1]	230	19/16 rpm [1]	230	Yes	Yes	300/200	520/200
H8	–	–	–	–	16 rpm [2]	250 [2]	Yes	Yes	300/200	540/200
HA 4	Yes	190	24/19 rpm [1]	230	24/19 rpm [1]	230	Yes	Yes	300/200	400/200
HA 5	Yes	190	19/16 rpm [1]	230	19/16 rpm [1]	230	Yes	Yes	300/200	520/200
HD 4	–	–	24/19 rpm [1]	230	24/19 rpm [1]	230	Yes	Yes	300/200	400/200
HD 5	–	–	19/16 rpm [1]	230	19/16 rpm [1]	230	Yes	Yes	300/200	520/200
HD 8	–	–	–	–	16 rpm [2]	250 [2]	Yes	Yes	300/200	540/200
HG 4	Yes	190	24/19 rpm [1]	230	24/19 rpm [1]	230	Yes	Yes	300/200	400/200
HG 5	Yes	190	19/16 rpm [1]	230	19/16 rpm [1]	230	Yes	Yes	300/200	520/200
HU 4	Yes	190	24/19 rpm [1]	230	24/19 rpm [1]	230	Yes	Yes	300/200	400/200
HU 5	Yes	190	19/16 rpm [1]	230	19/16 rpm [1]	230	Yes	Yes	300/200	520/200
RD 4	–	–	24/19 rpm [1]	230	24/19 rpm [1]	230	Yes	Yes	300/200	400/200
RD 5	–	–	19/16 rpm [1]	230	19/16 rpm [1]	230	Yes	Yes	300/200	520/200
RG 4	Yes	190	24/19 rpm [1]	230	24/19 rpm [1]	230	Yes	Yes	300/200	400/200
RG 5	Yes	190	19/16 rpm [1]	230	19/16 rpm [1]	230	Yes	Yes	300/200	520/200
V6	Yes	190	19 rpm	230	19 rpm	230	Yes	Yes	440/200 [3]	
V7	Yes	190	16 rpm	230	16 rpm	230	Yes	Yes	480/200 [3]	
V9	–	–	–	–	16 rpm [2]	250	Yes	Yes	470/200 [3]	
VA 6	Yes	190	19 rpm	230	19 rpm	230	Yes	Yes	440/200 [3]	
VU 6	Yes	190	19 rpm	230	19 rpm	230	Yes	Yes	440/200 [3]	
VU 7	Yes	190	16 rpm	230	16 rpm	230	Yes	Yes	480/200 [3]	
VU 9	–	–	–	–	16 rpm [2]	250	Yes	Yes	470/200 [3]	
WG 6	Yes	190	19 rpm	230	19 rpm	230	Yes	Yes	440/200 [3]	
WG 7	Yes	190	16 rpm	230	16 rpm	230	Yes	Yes	480/200 [3]	

[1] Speed corresponding to high-lift / door height (RM)
[2] For impulse controls, the leading photocell VL 1 / 2 is required!
[3] Twin rollers are not necessary with track applications V and VU!

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

Infill overview

Infill overview	SPU 40	ASP 40	APU 40	TAP 40	ALR 40	TAR 40	ASR 40	ALR Vitraplan	ALS 40
Infill type	**Abbreviation**								
Synthetic pane, 3 mm, version: clear [4] [6]	FK	–	FK	–	FK	–	–	–	–
Synthetic pane, 3 mm, version: crystal structure [4] [6]	KR	–	KR	–	KR	–	–	–	–
Polycarbonate pane, 6 mm, version: clear [6]	P	–	P	–	P	–	–	–	–
PU insulation, 26 mm with Stucco-textured aluminium sheet cover on both sides	–	–	–	–	FU	FU	FU	–	–
PU insulation, 26 mm with smooth, anodised aluminium sheet cover on both sides	–	–	–	–	XU	XU	XU	–	–
Synthetic double pane, 26 mm, version: clear, $U_g = 2.6$ W/(m²·K)	S2	S2	S2	S2	S2	S2	S2	S2	–
Synthetic double pane, 26 mm, version: crystal structure, $U_g = 2.6$ W/(m²·K)	R2	R2	R2	R2	R2	R2	R2	R2	–
Synthetic triple pane, 26 mm, version: clear, $U_g = 1.9$ W/(m²·K)	S3	S3	S3	S3	S3	S3	S3	S3	–
Polycarbonate double pane, 26 mm, version: clear, $U_g = 2.6$ W/(m²·K)	C2	C2	C2	C2	C2	C2	C2	C2	–
Double-moulded pane, 16 mm [6]	S	–	S	–	S	–	–	–	–
Single pane of laminated safety glass, 6 mm [5] [6]	VG	–	VG	–	VG	–	–	–	VG
Double pane made of single-pane safety glass, 26 mm, $U_g = 2.7$ W/(m²·K) [5]	E2	–	E2	E2	E2	E2	–	–	E2
Climatic double pane made of single-pane safety glass, 26 mm, $U_g = 1.1$ W/(m²·K) [5]	G2	–	G2	G2	G2	G2	–	–	G2
Expanded mesh [4] [6]	SE	–	SE	–	SE	–	–	–	–
Perforated stainless steel sheet, perforation 8 mm [4] [6] [7]	LB	–	LB	–	LB	–	–	–	–

[4] Not possible for aluminium frames with field division acc. to type B
[5] Only for door width up to 6000 mm, on request, and not in conjunction with wicket door
[6] Not possible for aluminium frames in WF version
[7] No colour coating possible

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