



Rolling Shutters and Rolling Grilles

Technical Manual: Issue 01.07.2014



Abbreviations Used

B_U	= Width of the steel subframe
DHV	= Loss of passage height
ET_{DMS}	= Minimum fitting depth for doors with DMS
ET_{KNH}	= Minimum fitting depth for operator with emergency hand chain
ET	= Minimum fitting depth for operator and support brackets,
ET_{SSG}	= Fitting depth for the SSG system
ET_{WPS}	= Fitting depth for WPS® support bracket
ET_{ZAK-XL}	= Fitting depth for operator and support brackets with the ZAK®-XL system
EZS	= Lintel trap guard
F	= Sideroom on catch safety device side
F_{horiz}	= Horizontal force at the fixing point
F_{PV}	= Sideroom on catch safety device side for barrel casing
F_{res}	= Resulting force at the fixing point
F_{vert}	= Vertical force at the fixing point
F_{ZAK-XL}	= Sideroom on catch safety device side with ZAK®-XL system
FS	= Sideroom for side guide
K	= Sideroom for support bracket
KU	= Bottom support bracket dimension, different on bearing and operator sides
L	= Sideroom on bearing side
L_{AR}	= Sideroom on bearing side with additional posts
L_{PV}	= Sideroom on bearing side for barrel casing
L_{WFK}	= Sideroom WFK
LDB	= Clear passage width
LDH	= Clear passage height
M_{PV}	= Sideroom on motor side for barrel casing
MK	= Sideroom on motor side for chain drive operators
MK_{ZAK-XL}	= Sideroom on motor side for chain drive operators with ZAK®-XL system
MR	= Sideroom on motor side for tubular operators
MS	= Sideroom on motor side for direct drive operators
MS_{AR}	= Sideroom on motor side for direct drive operators with additional posts
MS_{DMS}	= Sideroom on motor side for direct drive operators with DMS
MS_{KNH}	= Sideroom on motor side for direct drive operators with emergency hand chain
OFF	= Finished floor level
PS	= Side space requirement
RAM	= Overall frame dimension
S	= Required headroom
S_B	= Height of fascia panel
S_{Dreh}	= Required headroom for doors with swing-aside pass door assembly
S_{FF}	= Required headroom for doors with fixed assembly
SKS	= Closing edge safety device
S_{PV}	= Required headroom for doors with barrel casing
S_{SBP}	= Required headroom for doors with chamfered bottom profile
S_{SSG}	= Required headroom for door systems with SSG system,
S_{TES}	= Required headroom for doors with TES
S_{WPS}	= Required headroom for doors with WPS®
S_{ZAK}	= Required headroom for doors with optional ZAK® system
S_{ZAK-XL}	= Required headroom for doors with optional ZAK®-XL system
UB	= Bottom edge actuation
V_O	= Possible height offset from the ideal fixing point towards the top
V_U	= Possible height offset from the ideal fixing point towards the bottom
WLK	= Wind load class acc. to EN 12424
X_{L/F}	= Horizontal dimension for fixing the support bracket on the bearing side / catch safety device side
X_M	= Horizontal dimension for fixing the support bracket on the motor side
Y_{L/F}	= Vertical dimension for fixing the support bracket on the bearing side/catch safety device side
Y_M	= Vertical dimension for fixing the support bracket on the motor side
ZAK®	= Precision-guided roll-on bracket

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Note:

All dimensions in this document provide the minimum details in [mm] and are standard values (If necessary, please request the accurate values from Hörmann KG Disson).

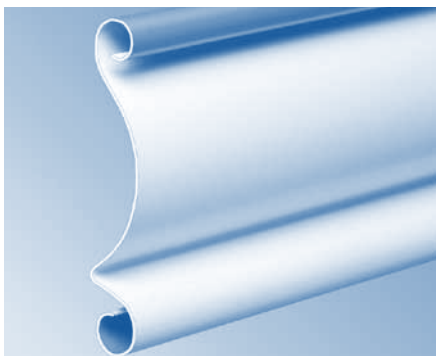
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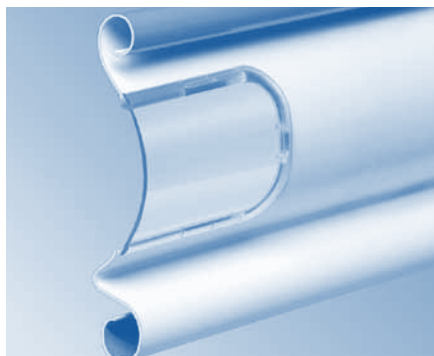
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Profile Overview

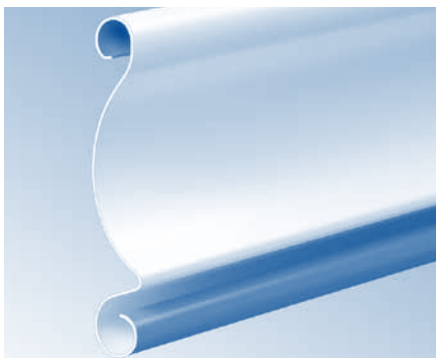
HR 120



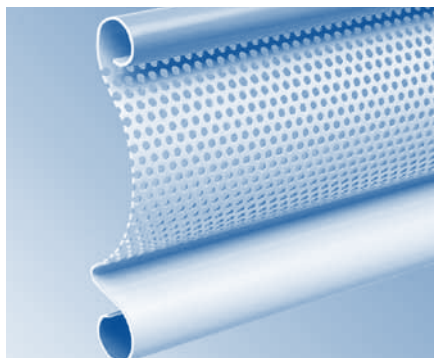
HR 120



HR 120 with window



HR 120, external rolling shutters



HR 120 aero®

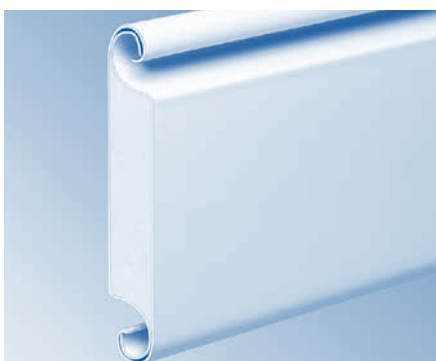
Profile data

- Material:
 - HR 120 A 1.0 mm aluminium
 - HR 120 aero® 1.0 mm aluminium
 - HR 120 S 1.0 mm steel
- Profile height 119 mm
- Assembly dimensions for panels and infills:
 - 1st profile 119 mm
 - Each further profile
 - HR 120 A 102.7 mm
 - HR 120 aero® 102.7 mm
 - HR 120 S 102.5 mm
- Profile weight/m²:
 - HR 120 A Approx. 6 kg
 - HR 120 aero® Approx. 5.5 kg
 - HR 120 S Approx. 15 kg
- Thermal insulation -
- Building materials class A2 (DIN 4102)

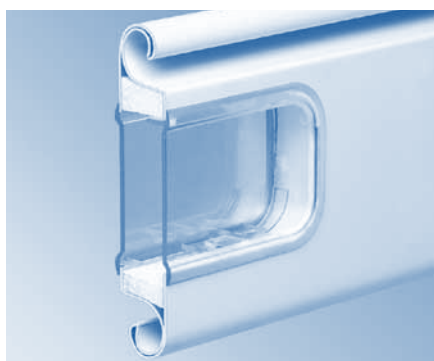
Note for HR 120 aero®:

- Free ventilation cross section approx. 30 % of the door surface
- External rolling shutter only in a bright-rolled version

HR 116



HR 116, internal and external rolling shutters



HR 116 with window

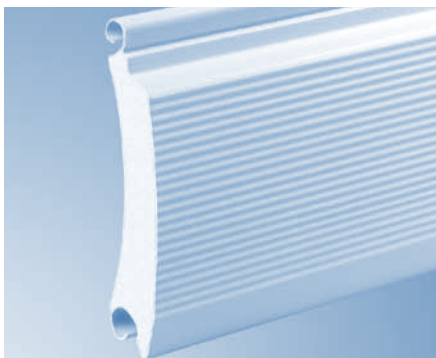


HR 116 with ventilation grille

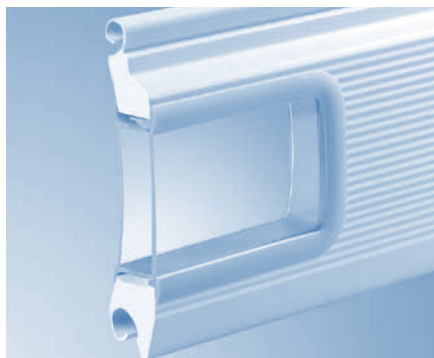
Profile data HR 116 A

- Material: 1.0 mm aluminium
- Profile height 119 mm
- Assembly dimensions for panels and infills:
 - 1st profile 119 mm
 - Each further profile 103.6 mm
- Profile weight/m²: Approx. 10 kg
- Thermal insulation $U = 5.3 \text{ W}/(\text{m}^2\cdot\text{K})$
- Building materials class B2 (DIN 4102)
- Free ventilation cross section approx. 2350 mm² per ventilation grille

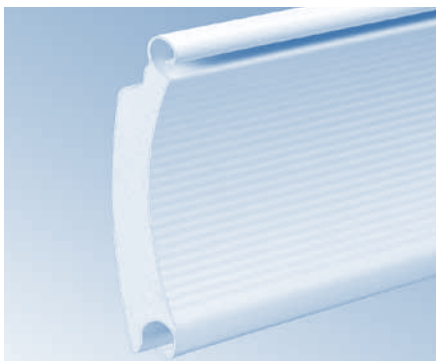
Decotherm®



Decotherm®



Decotherm® with rectangular window



Decotherm®, external rolling shutters

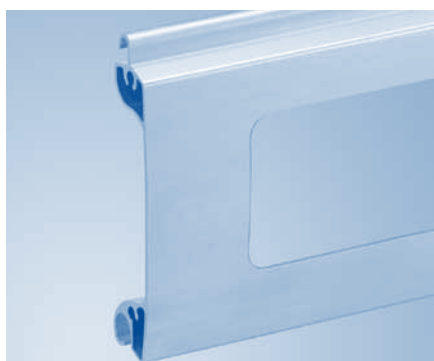
Profile data

- Material:
 - Decotherm® A 0.4 mm aluminium
 - Decotherm® S 0.34 mm steel
- Profile height 109 mm
- Assembly dimensions for panels and infills:
 - 1st profile 109 mm
 - Each further profile 96 mm
- Profile weight/m²:
 - Decotherm® A Approx. 4.2 kg
 - Decotherm® S Approx. 10.3 kg
- Thermal insulation
 - Decotherm® A $U = 4.6 \text{ W}/(\text{m}^2\cdot\text{K})$
 - Decotherm® S $U = 3.9 \text{ W}/(\text{m}^2\cdot\text{K})$
- Fire behaviour Class E (DIN EN 13501-1)

Rolling grilles



HG-L



HG75

Profile data HG-L, HG75

- | | HG-L | HG75 |
|--|-----------|--------|
| • Material | Aluminium | |
| • Profile height | 80 mm | 84 mm |
| • Assembly dimensions for panels and infills: | | |
| – 1st profile | 80 mm | 84 mm |
| – Each further profile | 97.5 | 75.0 |
| • Curtain weight/m ² | 6.5 | 6.7 |
| • Free ventilation cross section of the door surface | 77 % | 37.5 % |



HG-A, HG-V, HG-S

Profile data HG-A, HG-V, HG-S

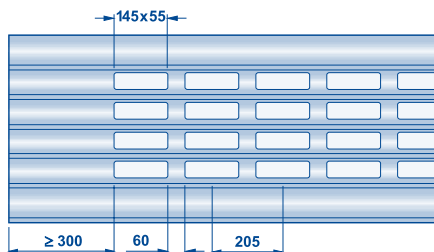
- Material:
 - HG-A Aluminium
 - HG-V Aluminium / stainless steel
 - HG-S Galvanized steel
- Profile height 60 mm
- Assembly dimensions for panels and infills:
 - 1st profile 60 mm
 - Each further profile 68.5 mm

- | | | Material thickness | Door width |
|---------------------------------|---------------|--------------------|------------|
| • Curtain weight/m ² | | | |
| – HG-A | Approx. 6 kg | 16 × 4 | ≤ 3000 mm |
| | Approx. 7 kg | 20 × 4 | > 3000 mm |
| – HG-V | Approx. 7 kg | 16 × 4 | ≤ 3500 mm |
| | Approx. 8 kg | 20 × 4 | > 3500 mm |
| – HG-S | Approx. 14 kg | 16 × 4 | ≤ 4000 mm |
| | Approx. 15 kg | 18 × 4 | ≤ 6000 mm |
| | Approx. 16 kg | 20 × 4 | > 6000 mm |
- Free ventilation cross section approx. 85 % of the door surface

Arrangement of the Windows and Ventilation Grilles

HR 120 A / S

Standard window version

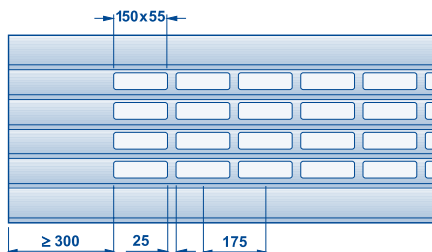


Note:

- Maximum 8 window profiles

Decotherm® A / S

Standard window version

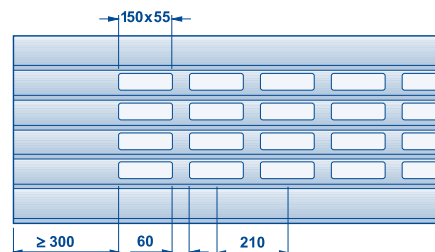


Note:

- Maximum 8 window profiles per door
- Not for Decotherm® A

HR 116 A

Standard window version

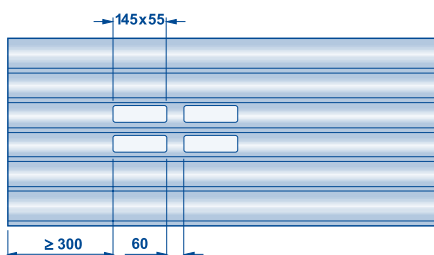


Note:

- Maximum number of window profiles:

Door width	Number of window / ventilation grille profiles
≤ 4000	All profiles
> 4000	Max. 20 profiles
> 6000	Max. 15 profiles
> 8000	Max. 10 profiles
> 10000	Max. 5 profiles

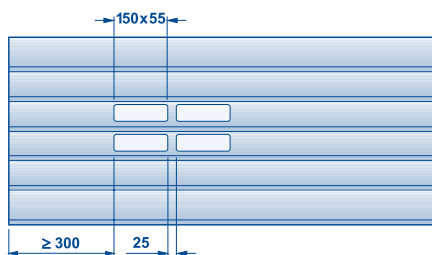
Logistic version window



Note:

- 2 profiles with 2 window elements on the left and right

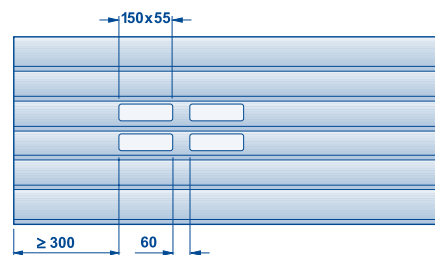
Logistic window version



Note:

- 2 profiles with 2 window elements on the left and right.

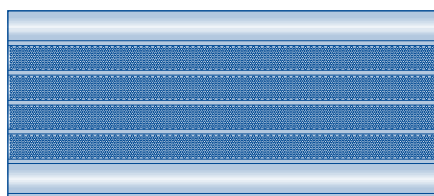
Logistic window version



Note:

- 2 profiles with 2 window elements on the left and right.

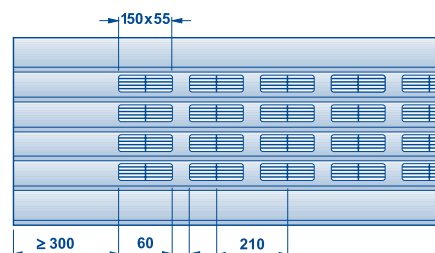
Ventilation laths HR 120 aero®



Note:

- Maximum 8 ventilation laths per door
- Arrangement with doors with wind locks on request
- Only available in bright-rolled, RAL 9002 or RAL 9006

Ventilation grilles



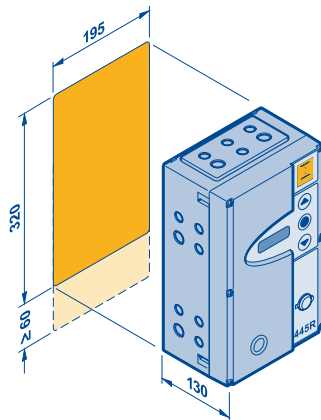
Note:

- Maximum number of ventilation grille profiles:

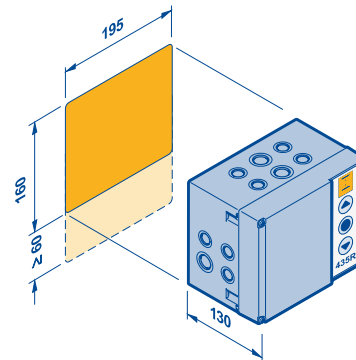
Door width	Number of window / ventilation grille profiles
≤ 4000	All profiles
> 4000	Max. 20 profiles
> 6000	Max. 15 profiles
> 8000	Max. 10 profiles
> 10000	Max. 5 profiles

Fitting Space for Controls / Operator Data

Fitting space for controls



360, 445 R, B 455 R, 460 R



435 R

Operator designation		Direct drive operators							WA	
		S14	S18	S25	S25 WS	S35	S42	S55	250 R S4	300 R S4
Output torque	Nm	140	180	250	250	350	420	550	11	11
Safety catch torque	Nm	510	510	635	635	890	1070	1400	—	—
Test no.		02191	02191	02192	02192	02192	02192	02192		
Revolutions at the barrel	min ⁻¹	15	15	15	15	15	15	15	12	15
Motor power	kW	0.40	0.55	0.85	0.75	0.85	1.10	1.10	0.25	0.25
Operating voltage	V	3 × 230 / 400	3 × 230 / 400	3 × 230 / 400	1 × 230	3 × 230 / 400	3 × 230 / 400	3 × 230 / 400	1 × 230	1 × 230
Frequency	Hz	50	50	50	50	50	50	50	50/60	50/60
Motor rated current	A	4.3 / 2.5	4.3 / 2.5	4.4 / 2.55	8.0	4.95 / 2.85	5.1 / 2.95	7.3 / 4.2	6.0	6.0
Temperature range	°C	-20 / +40	-20 / +40	-20 / +40	-20 / +40	-20 / +40	-20 / +40	-20 / +40	-20 / +60	-20 / +60
Continuous sound pressure level	dB(A)	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70
Protection category	IP	65	65	65	65	65	65	65	65	65
Motor on-time	ED	S3-60 %	S3-60 %	S3-60 %	S3-40 %	S3-60 %	S3-60 %	S3-60 %	1)	1)

Operator designation		Chain drive operators				Tubular operators			
		K20	K30	K40	K40-4	R12	R18	R23	R30
Output torque	Nm	200	300	400	400	120	180	230	300
Revolutions at the barrel	min ⁻¹	8	8	8	6	12	12	12	12
Motor power	kW	0.40	0.85	1.10	1.10	0.70	0.78	0.81	1.25
Operating voltage	V	3 × 230 / 400	3 × 230 / 400	3 × 230 / 400	3 × 230 / 400	1 × 230	1 × 230	1 × 230	1 × 230
Frequency	Hz	50	50	50	50	50	50	50	50
Motor rated current	A	3.1 / 1.8	4.4 / 2.55	4.95 / 2.85	4.95 / 2.85	3.4	3.7	3.9	5.4
Temperature range	°C	-20 / +40	-20 / +40	-20 / +40	-20 / +40	-20 / +50	-20 / +50	-20 / +50	-20 / +50
Continuous sound pressure level	dB(A)	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70
Protection category	IP	65	65	65	65	44	44	44	44
Motor on-time	ED	S3-60 %	S3-60 %	S3-60 %	S3-60 %	KB 6 ³⁾	KB 6 ³⁾	KB 4 ²⁾	KB 4 ²⁾

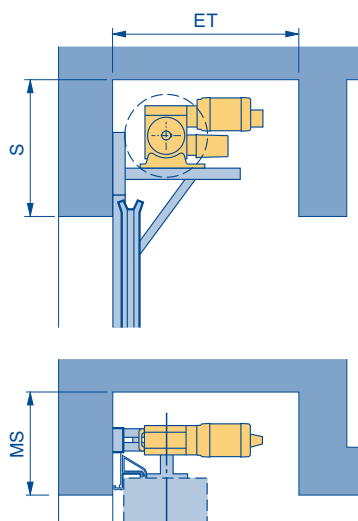
1) Maximum number of door cycles: 10 per hour (SB rolling shutters/rolling grilles), 20 per hour (TGT rolling shutters/rolling grilles).

2) Short operation 4 min at 20°C ambient temperature; Maximum number of door operations: 2 per hour at 20°C ambient temperature. Deviating applications must be requested separately.

3) Short operation 6 min at 20°C ambient temperature; Maximum number of door operations: 3 per hour at 20°C ambient temperature. Deviating applications must be requested separately.

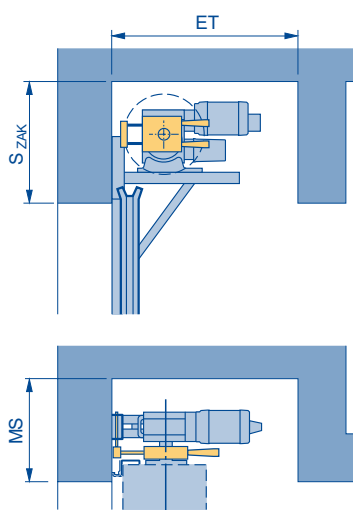
Space Requirement Behind the Lintel

Door with direct drive operator



S = See Tables of Standard Values
ET = See Tables of Standard Values

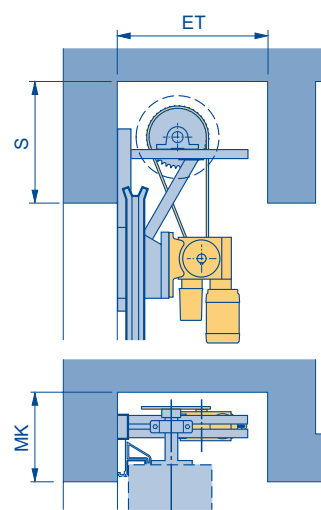
Direct drive operator with ZAK® system



S_{ZAK} = **S** - 80 mm

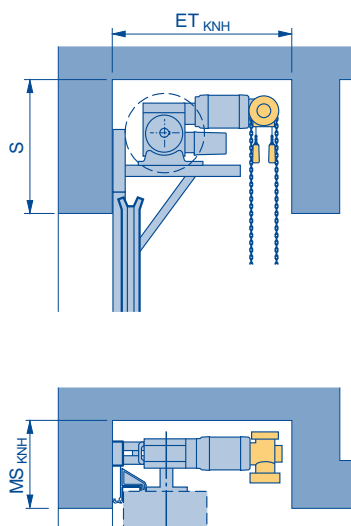
- Subject to a surcharge for classic rolling shutters
- Standard for classic rolling grilles

Door with chain drive operator



S = See Tables of Standard Values
ET = See Tables of Standard Values

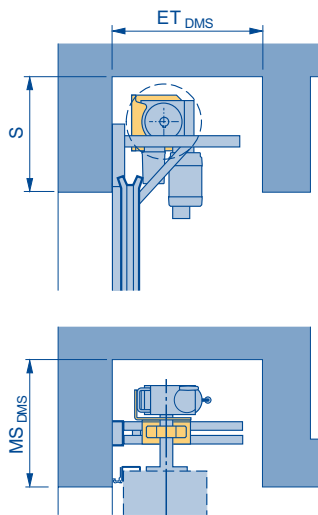
Direct drive operator with emergency hand chain



ET_{KNH} = **ET** - 70 mm
MS_{KNH} = **MS**

- Subject to surcharge
- Emergency hand chain does not have any influence on the sideroom

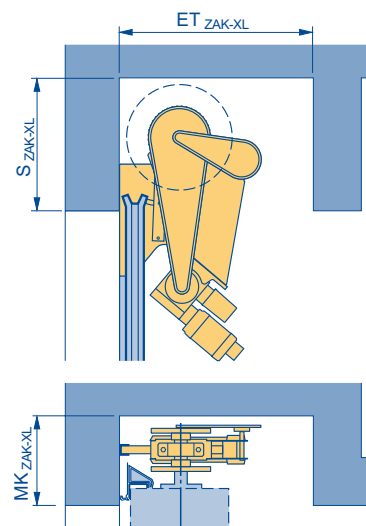
Direct drive operator with DMS



ET_{DMS} = min. 520 mm
MS_{DMS} = **MS** + 100 mm

- Subject to a surcharge for classic rolling shutters, rolling grilles and basic rolling grilles
- Classic rolling shutters with ZAK® only up to S25

Chain drive operator with ZAK®-XL system

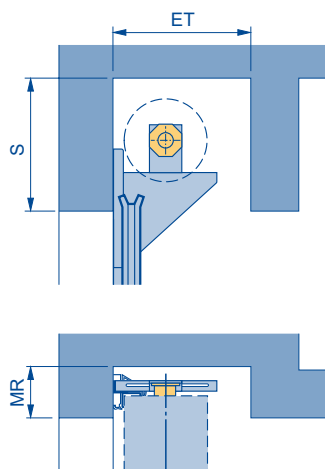


S_{ZAK-XL} = **S** - 80 mm for all rolling shutters
 = **S** - 255 mm for all rolling grilles

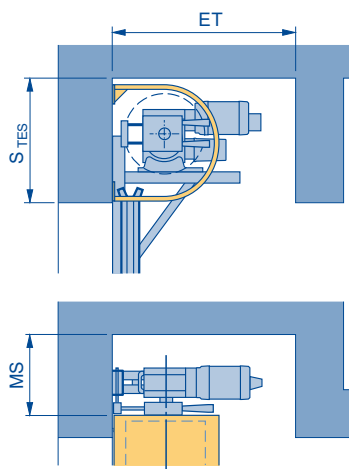
- ET_{ZAK-XL}** = Min. 630 to max. 870 mm
- Subject to surcharge for classic rolling shutters and rolling grilles

General information:

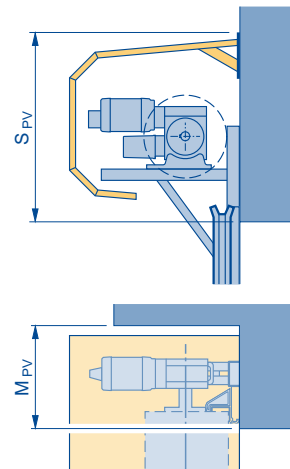
- If wind locks (not part of standard equipment) are required, the required headroom is increased by up to 100 mm. Please contact Hörmann KG Dissen.
- Please request **ET** for doors with special operators at Hörmann KG Dissen.

Door with tubular operator

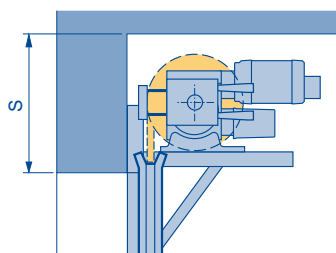
S = See Tables of Standard Values
ET = See Tables of Standard Values

Door with TES

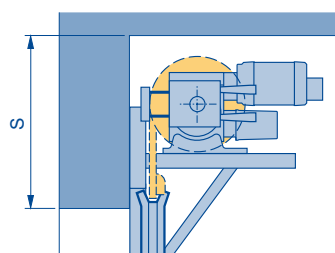
S_TES = **S** + max. 100 mm
ET = See Tables of Standard Values

Door with barrel casing

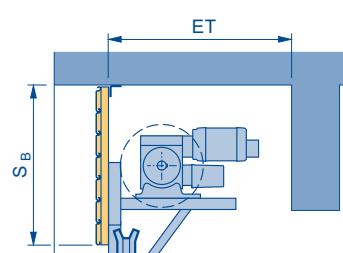
S_PV = **S** + max. 150 mm
 For details, see page 13
M_PV = See page 13

Rolling grille with press-and-hold control

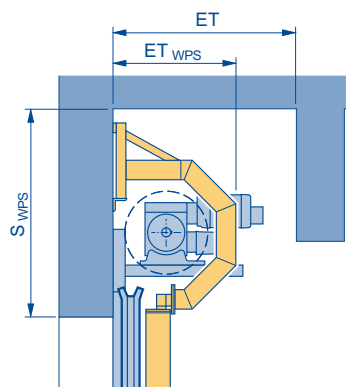
S = See Tables of Standard Values

Rolling grille with impulse control

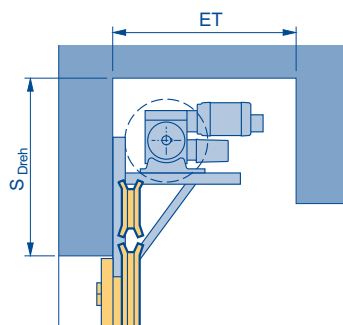
S = **S** + 40 mm with basic rolling grille

Door with fascia panel

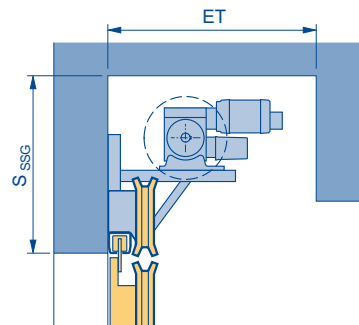
S_B = Observe the assembly dimensions of the profiles (see page 4)

Door with WPS®

ET = See Tables of Standard Values
ET_WPS = See pages 44 – 45
S_WPS = See pages 44 – 45

Door with swing-aside pass door assembly

S_turn = **S** + max. 200 mm
ET = See Tables of Standard Values

Door with SSG system

S_SSG = **S** + max. 350 mm

Location of Support Bracket Fixing / Fitting in the Opening with Additional Posts

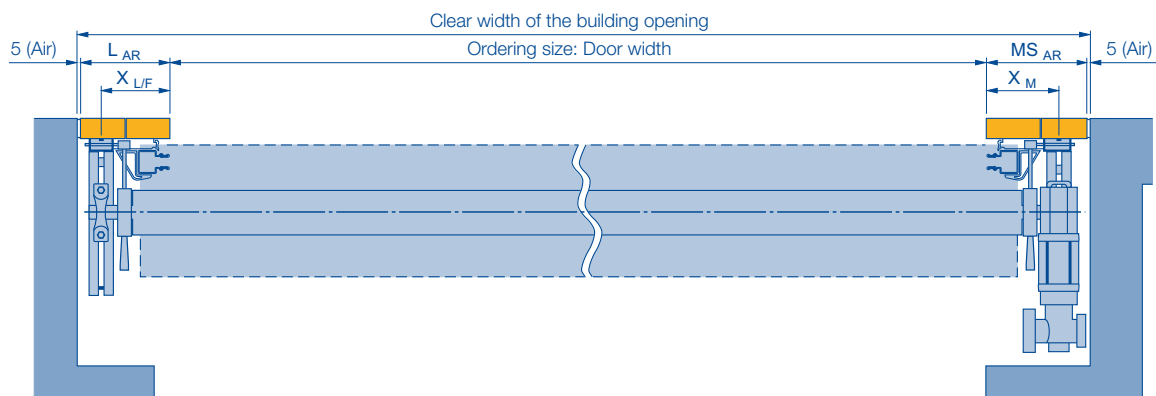
Location of the support bracket fixing



Y_M and $Y_{L/F}$ = The dimensions depend on the door size, please contact Hörmann KG Dissen.

	X_M	$X_{L/F}$	X_M	$X_{L/F}$	V_o	V_u
SB rolling shutter / rolling grille	FS 160					
For all actuation types	96 / 136	96 / 136	-	-	-	-
TGT rolling shutter / rolling grille	FS 160					
For all actuation types	96/136	96/136	-	-	-	-
Basic rolling grille	FS70		FS100			
Direct drive operator	140	120	170	150	-	-
Tubular operator	120	120	150	150	-	-
Classic rolling shutters / rolling grilles	FS73		FS98			
Direct drive operator	180	150	200	170	72	60
Chain drive operator	150	160	170	180	48	48
Tubular operator	120	120	145	145	-	-

Fitting in the opening with additional posts



Additional posts available

Note:

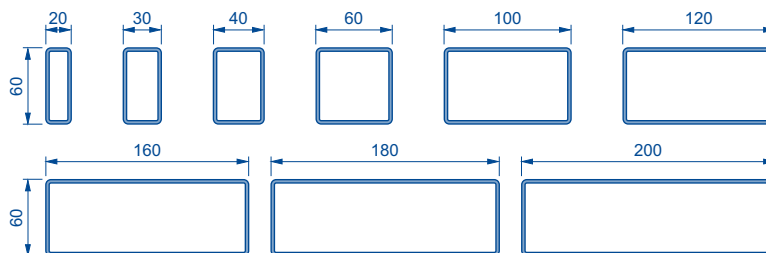
The width of the sideroom created by the additional posts must be composed of the dimensions of the additional posts fitted.

L_{AR} = Sideroom on bearing side with additional posts

MS_{AR} = Sideroom on motor side for direct drive operators with additional posts

$X_{L/F}$ = Horizontal dimension for fixing the support bracket on the bearing side/catch safety device side

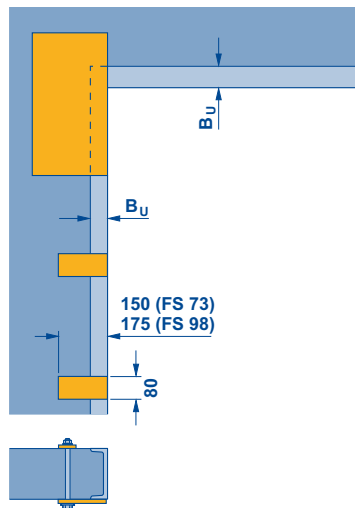
X_M = Horizontal dimension for fixing the support bracket on the motor side



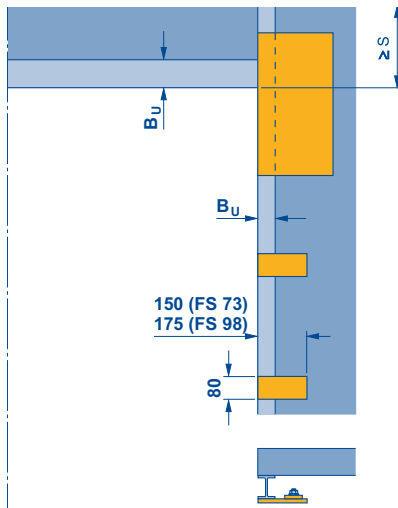
Weld-on Plates / Break-in-Resistant Locks

Weld-on plates

Lightweight construction weld-on plates



Steel construction weld-on plates



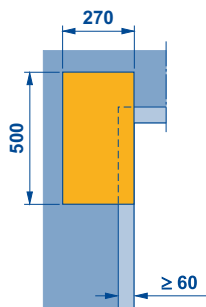
$B_U = \text{min. } 60$

Basic rolling grilles
Classic rolling shutters / classic rolling grilles

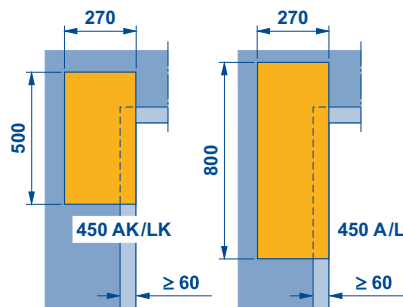
Notes:

- For fixing by using a supporting lightweight construction, a subframe made of steel is required
- Weld-on plates are subject to surcharge
- Fixing the side guides using weld-on spacers (see pgs. 46/47) or weld-on plates for spacer brackets

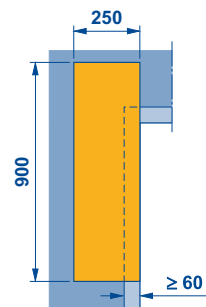
Basic rolling grilles



Classic rolling shutters and rolling grilles with direct drive operator

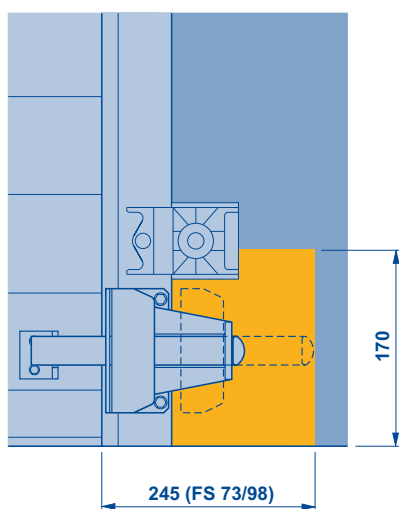


Classic rolling shutters and rolling grilles with chain drive operator

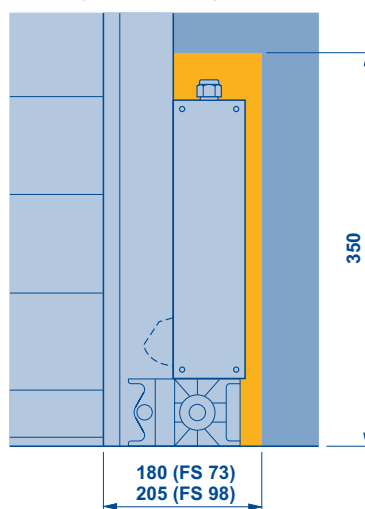


Break-in-resistant locks

Shootbolt



Electromagnetic locking

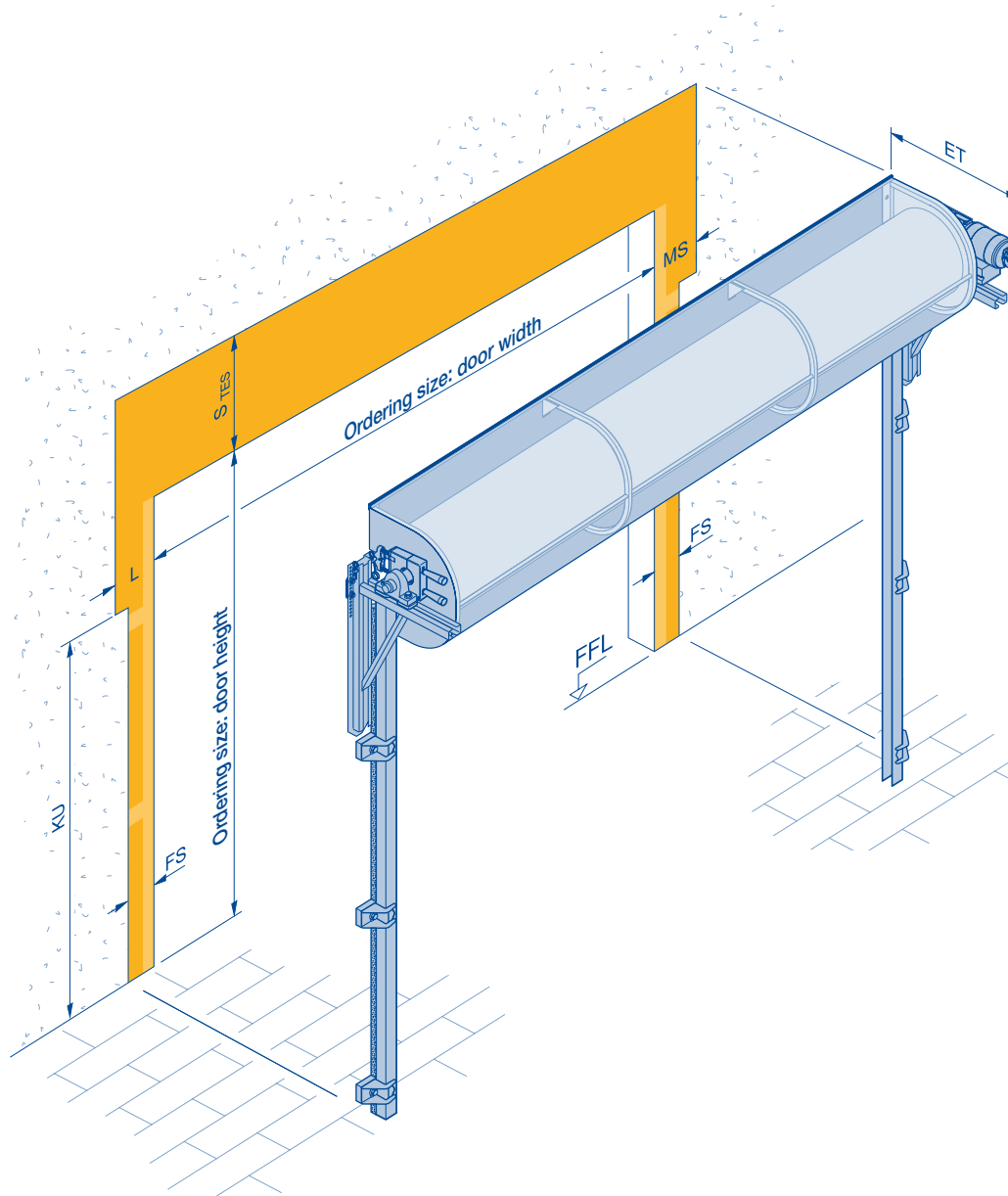


Notes:

- Break-in-resistant locks subject to surcharge
- Lockable bottom profiles do not have any influence on the fitting space at the side
- Shootbolt and electromagnetic locking are not available for rolling grilles and external rolling shutters
- Position of the shootbolt either to the left, right or on both sides
- Position of the electromagnetic locking is always to the left and right

Trap Guard TES

Fitting example: Classic rolling shutter with direct drive operator and ZAK® system



Application range:

Door systems with impulse control and door ordering height less than 2500 mm.

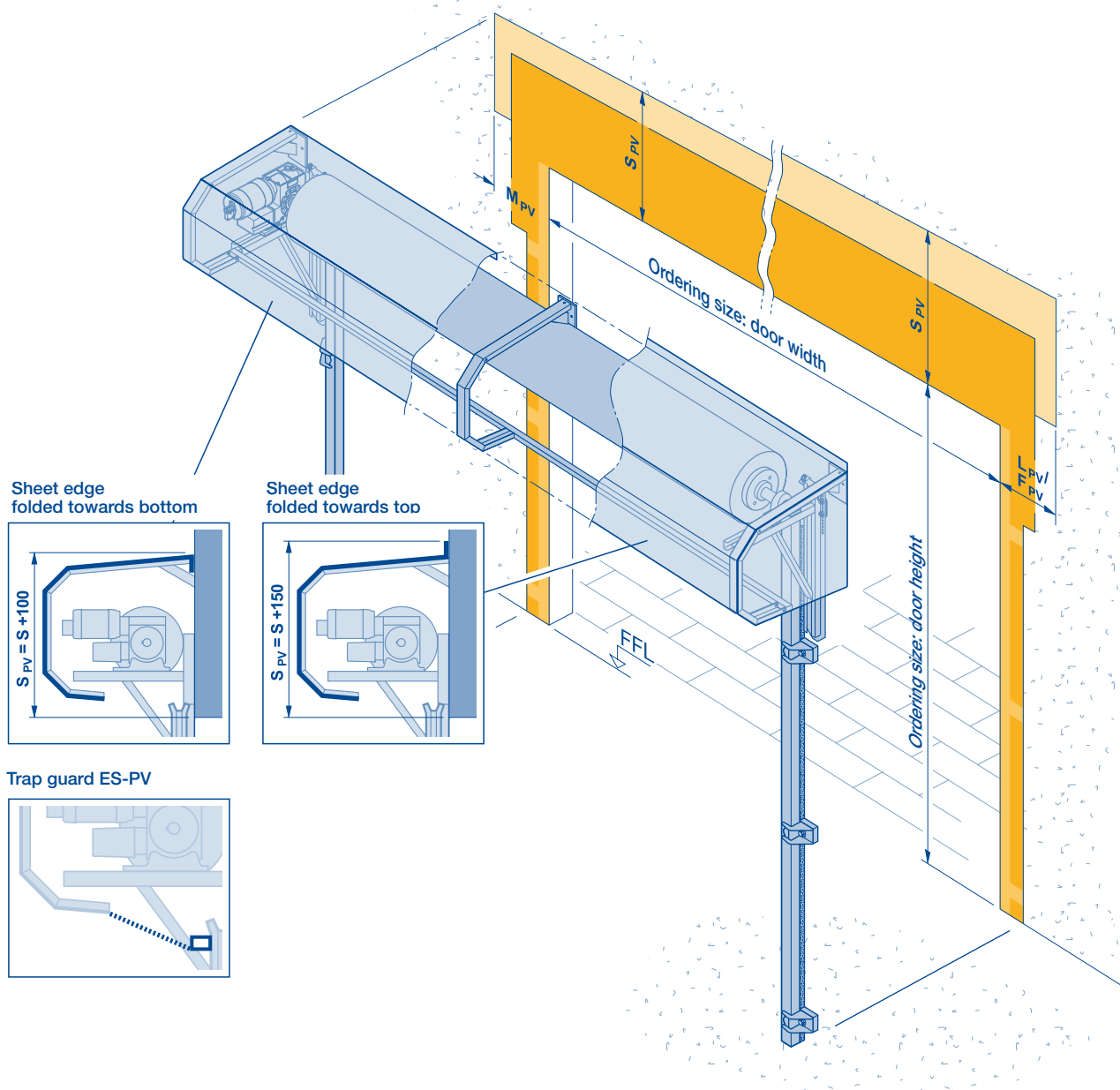
L	= Sideroom on bearing side
MS	= Sideroom on motor side for direct drive operators
FS	= Sideroom for side guide
KU	= Bottom support bracket dimension, different on bearing and operator sides
S	= Required headroom, see tables from page 52
S_{TES}	= Required headroom for doors with TES, see notes
ET	= Minimum fitting depth for operator and support brackets, see tables from page 52
FFL	= Finished floor level

Notes:

- **S_{TES} = S + max. 100**
- Dimensions for sideroom, see:
 - Basic: From page 22
 - Classic: From page 28
 - Siderooms increase for doors fitted with the ZAK® system:
 - **MS = MS + 5 mm**
 - **L = L + 5 mm**
- Not available for SB rolling shutters/rolling grilles and TGT rolling shutters/rolling grilles

Barrel Casing / Trap Guard ES-PV

Fitting example for classic rolling shutter with direct drive operator



Trap guard ES-PV

Application range:
Door system with impulse control less than 2500 mm door height ordering size.

Barrel casing

M _{PV}	L _{PV} /F _{PV}
max. 300 ¹⁾	Max. 300
min. MS/MR ¹⁾	min. L/F
350 ²⁾	

1) For doors with direct drive operator or tubular operator

2) For doors with chain drive operator

F = Sideroom on catch safety device side

F_{PV} = Sideroom on catch safety device side for barrel casing

L = Sideroom on bearing side

L_{PV} = Sideroom on bearing side for barrel casing

M_{PV} = Sideroom on motor side for barrel casing

MR = Sideroom on motor side for tubular operators

MS = Sideroom on motor side for direct drive operators

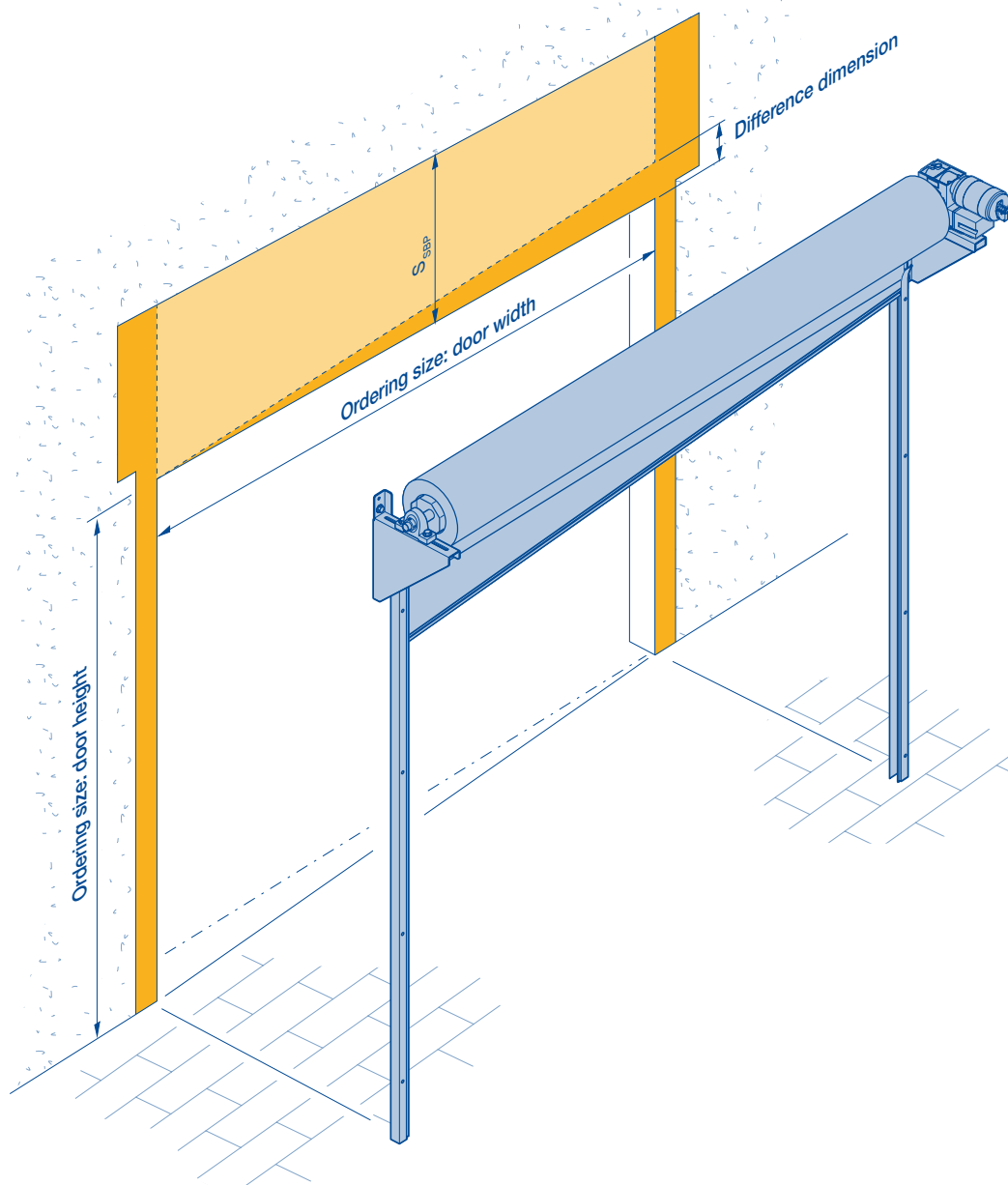
FFL = Finished floor level

Notes:

- Barrel casing can be selected with sheet edge folded up or down
- For external rolling shutters:
 - Fitting of the controller and SKS housing on the rear side of the end wall
 - For changes to the profile views, see page 4
- With trap guard ES-PV, the clear passage height is reduced:
 - For rolling shutters up to 80 mm
 - For rolling grilles up to 150 mm
 If necessary, please request the precise values from Hörmann KG Dissen.
- Not available for SB rolling shutters/rolling grilles and TGT rolling shutters/rolling grilles

Chamfered Bottom Profile

Fitting example: Basic rolling grille with direct drive operator



Application range:

All rolling shutters and rolling grilles

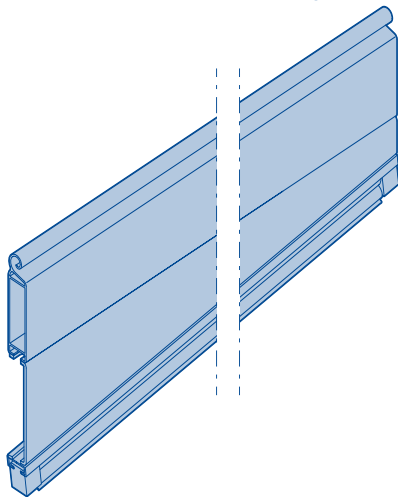
- S** = Required headroom
S_{SBP} = Required headroom for doors with chamfered bottom profile

Note:

- Chamfered bottom profile available in the following variants:
 - Single-skinned (all door types)
 - Double-skinned (classic rolling shutters and basic / classic rolling grilles)

Chamfered Bottom Profile

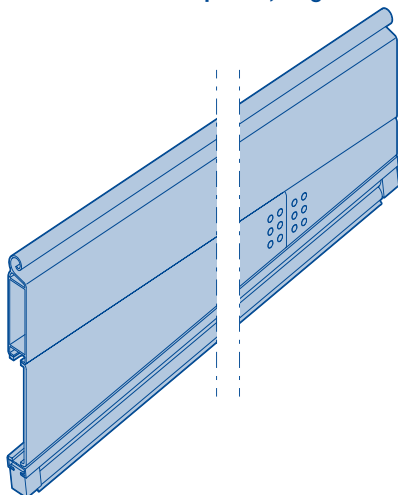
Chamfered bottom profile, single-skinned



Notes:

- Door width ≤ 5800 mm
- Max. difference dimension 525 mm
- $S_{SBP} = S + \text{difference dimension} + 50$ (observe loss of passage height for SB rolling shutter/rolling grille and TGT rolling shutter / rolling grille)
- Can be combined with lockable bottom profile ABP1 and ABP2

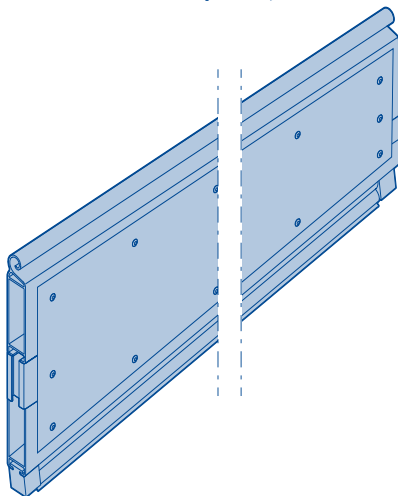
Chamfered bottom profile, single-skinned – with butt weld



Notes:

- Door width > 5800 mm
- Max. difference dimension 525 mm
- $S_{SBP} = S + \text{difference dimension} + 50$
- Can be combined with lockable bottom profile ABP1 and ABP2

Chamfered bottom profile, double-skinned



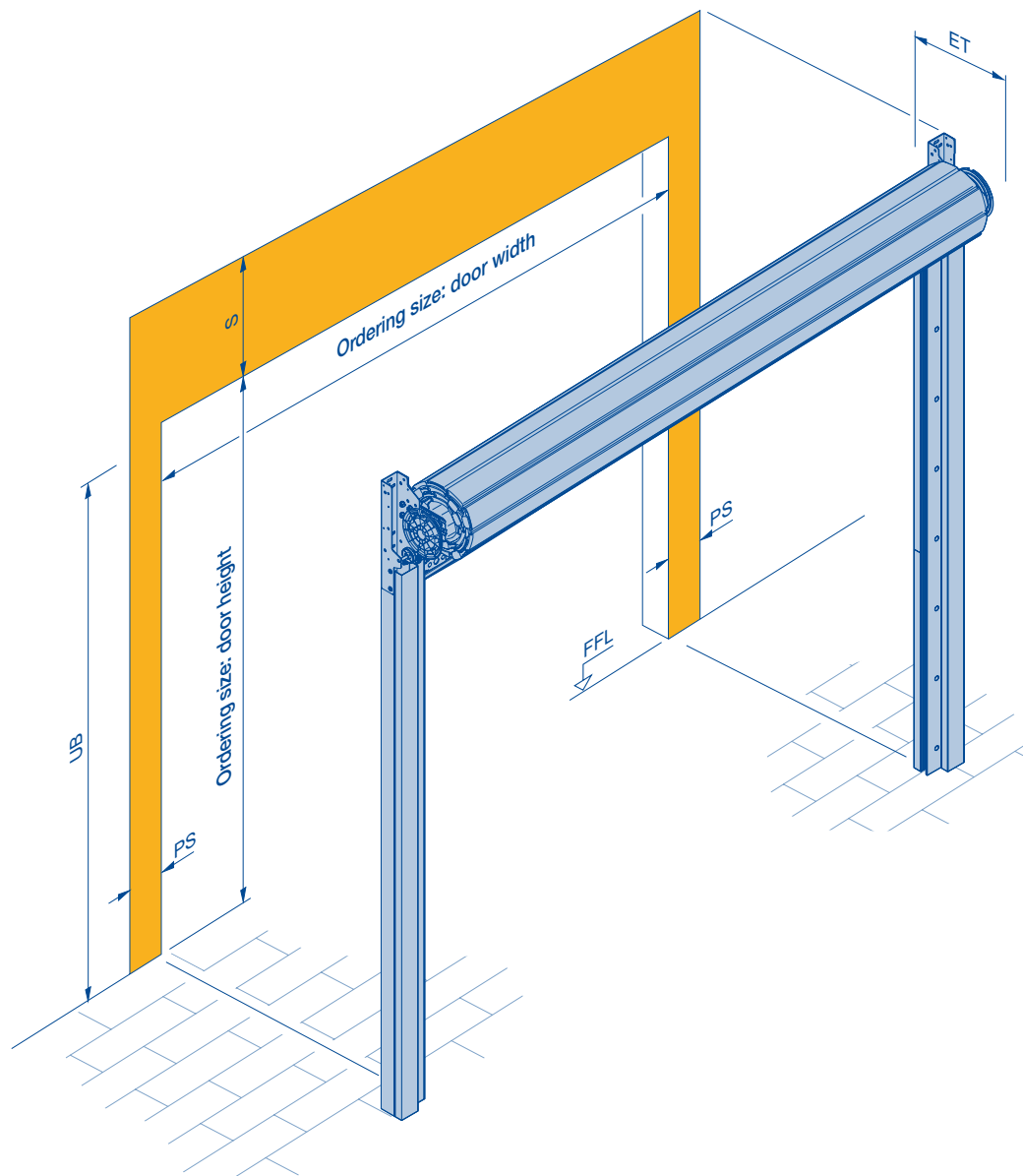
Notes:

- For all door widths
- Difference dimension:
 - Min. 526 mm
 - Max. 1000 mm
- $S_{SBP} = S + \text{difference dimension}$

Rolling Shutters SB / Rolling Grilles SB

Space requirements

Fitting example with grip handle actuation type



Actuation type	PS	UB
Grip handle	165	Door height + 75 mm
Chain Hoist	165	Door height - 60 mm
electrical operator	165	Door height - 520 mm

S = Required headroom
ET = Minimum fitting depth for operator and support brackets,
PS = Side space requirement
UB = Bottom edge actuation
FFL = Finished floor level

Notes:

- The actuation type does not affect the following values:
 - Side space requirement **PS**
 - Required headroom **S**
 - Available door sizes
- For doors with a height of more than 3,500 mm we recommend the actuation type chain hoist or electrical operator.
- Maximum number of window laths
 - 4 laths: door width ≤ 2000 mm
 - 8 laths: door width > 2000 mm
- The minimal door width for window profiles is 1200 mm.

Rolling Shutters SB / Rolling Grilles SB

Table of standard value / side rail / lintel seal / support bracket / maximum load at the fixing point

Table of standard values

Door height

4500	527*	432*	532	437	470	355	
4250	527*	432*	529	434	467	352	
4000	518	423	524	429	467	341	
3750	518	423	519	424	460	341	
3500	493	398	489	394	460	341	473
3250	485	390	484	389	460	335	470
3000	485	390	482	387	460	327	460
2750	477	382	475	380	460	324	460
2500	477	382	473	378	460	324	460
2250	468	373	465	370	460	317	460
HR 120 A		Decotherm A		HG-L		HG 75	
HR 120 aero		Decotherm S					

Notes:

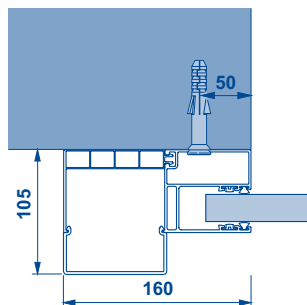
- For doors with trap guard PVSB, the required headroom **S** is increased to at least 490 mm, see page 19.
- For external rolling shutters with lockable bottom profile ABP1/2 or SKS
- Required headroom **S** is decreased by 75 mm, see page 19.
- For some equipment combinations there is a loss of passage height, see page 19.
- The fitting depth **ET** is at least
 - 356 mm for doors with hand chain
 - 370 mm for doors with electric operator
 - 620 mm for doors with PVSB, see page 19
- The required headroom **S** and the fitting depth **ET** do not depend on the door width or actuation type.
- Door widths
 - Max. 4000 mm: HR 120 aero
 - Max. 5000 mm: HR 120 A, Decotherm A, Decotherm S
 - Max. 6000 mm: HG-L, HG 75
 - Min. 1000 mm: all curtains
- Door heights:
 - Max. 3500 mm: HG 75
 - Max. 4000 mm: HR 120 aero
 - Max. 4500 mm: HR 120 A, Decotherm A, Decotherm S, HG-L
 - Min. 2000 mm: all curtains

¹²³ = S (required headroom)

¹²³ = ET (minimum fitting depth)

* = Only HR 120 A

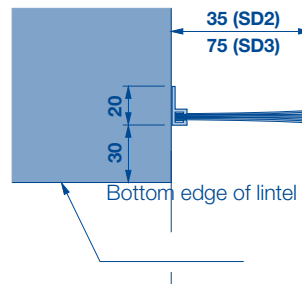
Side guide FS 160 A



Note:

- FS 160 A:** Aluminium side guide for all rolling shutters SB and rolling grilles SB

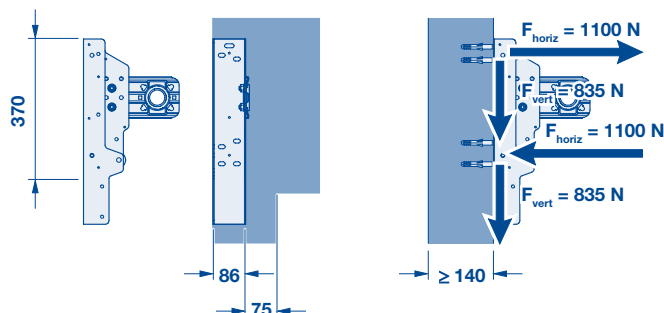
Lintel seal SD2/SD3



Note:

- Subject to a surcharge for SB rolling shutters
- SD2 for door widths ≤ 2500 mm
- SD3 for door widths > 2500 mm

Support bracket/maximum load at the fixing point



Minimum requirements for the building structure

Concrete

Strength class C 20/25

Thickness 140 mm

Standard EN 206-1

Steel

Strength class S235-JRG2

Thickness 5 mm

Standard EN 10027-1

Brickwork

Strength class 12/mortar group II

Thickness 240 mm

Standard DIN 1053-1

Timber

Coniferous wood: C24/quality category II

Thickness 120 x 120 mm

Standard DIN 1052 (EC5)

F_{horiz} = Horizontal force at the fixing point

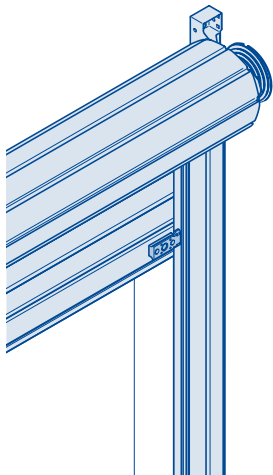
F_{vert} = Vertical force at the fixing point

Rolling Shutters SB / Rolling Grilles SB

Actuation types

Actuation types

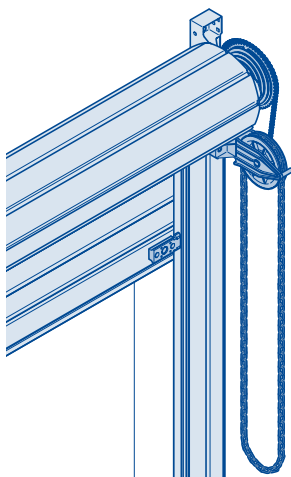
Grip handle



Note:

- No surcharge
- One handle each on the left and right of the interior bottom profile
- One handle on the left in the exterior bottom profile

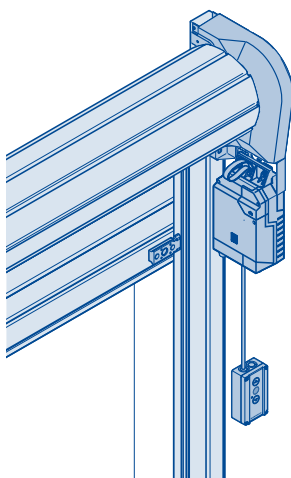
Chain hoist



Note:

- Subject to surcharge
- No influence on
 - **PS**
 - **S**
 - Available door sizes
- Recommended for door sets with heights over 3500 mm

Electrical operator



Note:

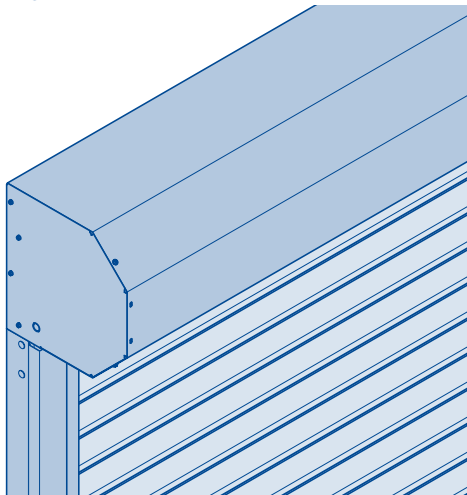
- Subject to surcharge
- No influence on
 - **PS**
 - **S**
 - Available door sizes
- Recommended for door sets with heights over 3500 mm
- A trap guard PVSB must be used with door systems with impulse operation and a door height ordering size below 2500 mm.

Rolling Shutters SB / Rolling Grilles SB

Trap guard PVSB / loss of passage height

Trap guard PVSB

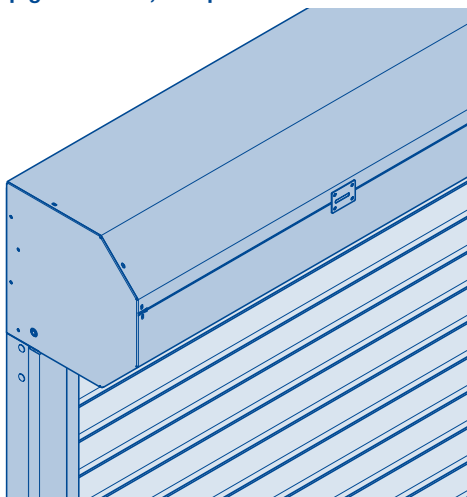
Trap guard PVSB, one-piece sheet cover



Notes:

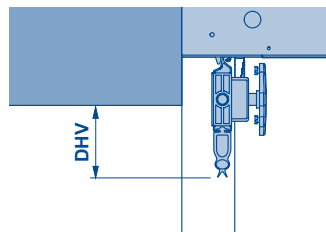
- Subject to surcharge
- The trap guard PVSB with one-piece sheet cover is used for:
 - Rolling shutters SB with door heights ≤ 3000 mm
 - SB rolling grille
- The trap guard PVSB with two-piece sheet cover is used for:
 - Rolling shutters SB with door heights > 3000 mm
- The trap guard PVSB has no effect on **PS**.
- The required headroom **S** is at least:
 - 490 mm for PVSB with one-piece sheet cover
 - 545 mm for PVSB with two-piece sheet cover
- The fitting depth **ET** is at least:
 - 620 mm for PVSB with one-piece sheet cover
 - 700 mm for PVSB with two-piece sheet cover
- The combination trap guard PVSB with lockable bottom profile ABP1/2 lowers the passage height.

Trap guard PVSB, two-piece sheet cover

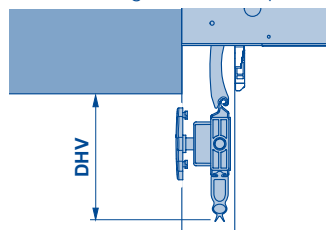


Loss of passage height

Internal rolling shutter example



External rolling shutter example

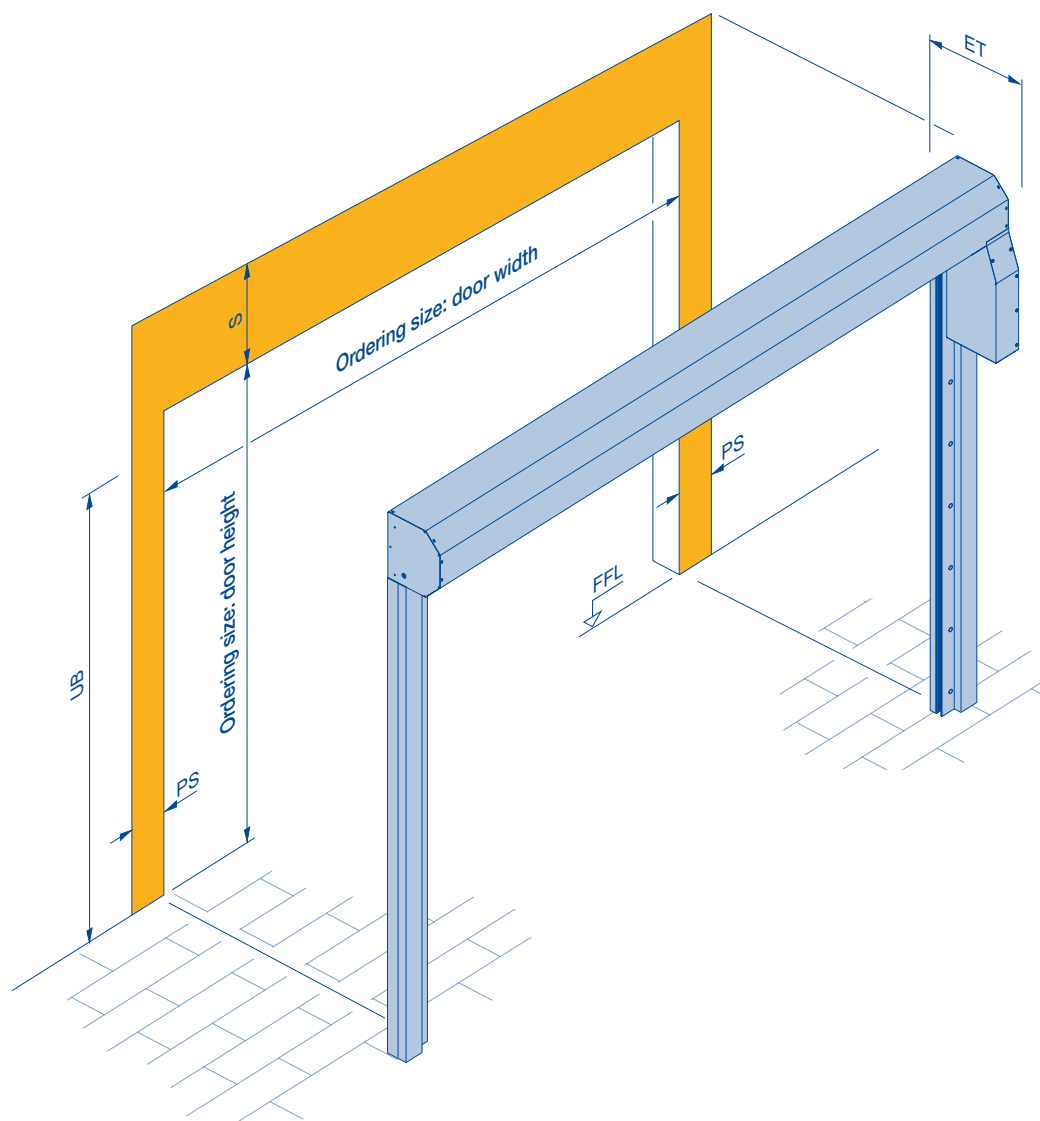


Version	Equipment	Loss of passage height (DHV)	Change of the required headroom
Internal rolling shutter	PVSB + shootbolt:	50	0
	PVSB + ABP1/2	50	0
	PVSB + SKS	50	0
	Chamfered bottom profile	50 + difference dimension	0
	Chamfered bottom profile + PVSB + shootbolt / ABP / SKS	100 + difference dimension	0
External rolling shutter	ABP1/2	125	-75
	SKS	75	-75
	Chamfered bottom profile	50 + difference dimension	0
	Chamfered bottom profile + ABP1/2	175 + difference dimension	0
	Chamfered bottom profile + SKS	125 + difference dimension	0

Rolling Shutters TGT / Rolling Grilles TGT

Space requirements

Fitting example with trap guard PVTGT



Actuation type	PS	UB
Electrical operator	165	Door height – 520 mm

S = Required headroom
ET = Minimum fitting depth for operator and support brackets,
PS = Side space requirement
UB = Bottom edge actuation
FFL = Finished floor level

Notes:

- The actuation type does not affect the following values:
 - Side space requirement **PS**
 - Required headroom **S**
 - Available door sizes
- Maximum number of window laths
 - 4 laths: door width ≤ 2000 mm
 - 8 laths: door width > 2000 mm
- The minimal door width for window profiles is 1200 mm.

Rolling Shutters TGT / Rolling Grilles TGT

Table of standard values / side guide / lintel seal / support bracket / maximum load at the fixing point / loss of passage height

Table of standard values

Door height				
2400	365	370	335	370
2250	360	370	330	370
2000	355	370	325	370
Decotherm A Decotherm S			HG-L	

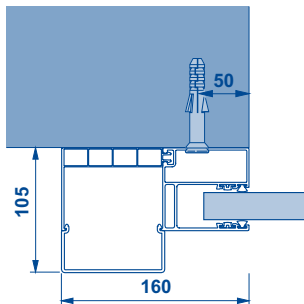
123 = S (Required headroom)

123 = ET (Minimum fitting depth)

Notes:

- For doors with trap guard PVTGT, the required headroom **S** is increased to
 - at least 380 mm: Decotherm A, Decotherm S
 - at least 350 mm: HG-L
- The fitting depth **ET** for doors with PVTGT trap guards is
 - at least 620 mm: Decotherm A, Decotherm S
 - at least 600 mm: HG-L
- Required headroom **S** and fitting depth **ET** are independent of the door width.
- Door widths for all curtains
 - Max. 5000 mm
 - Min. 1000 mm
- Door heights for all curtains:
 - Max. 2400 mm
 - Min. 2000 mm

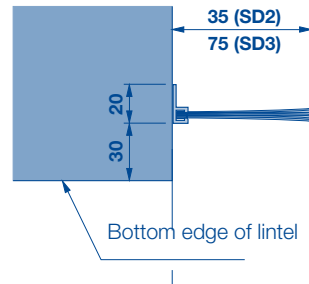
Side guide FS 160 A



Note:

- FS 160 A:** Aluminium side guide for all rolling shutters TGT and rolling grilles TGT

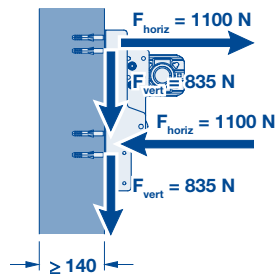
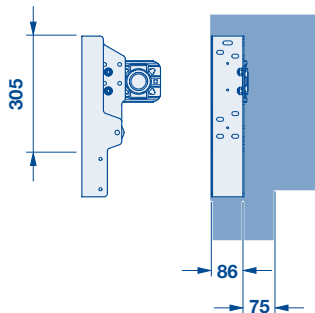
Lintel seal SD2/SD3



Note:

- Subject to a surcharge for TGT rolling shutters
- SD2 for door widths ≤ 2500 mm
- SD3 for door widths > 2500 mm

Support bracket/maximum load at the fixing point



Minimum requirements for the building structure

Concrete

Strength class C 20 / 25

Thickness 140 mm

Standard EN 206-1

Steel

Strength class S235-JRG2

Thickness 5 mm

Standard EN 10027-1

Brickwork

Strength class 12/mortar group II

Thickness 240 mm

Standard DIN 1053-1

Timber

Coniferous wood: C24/quality category II

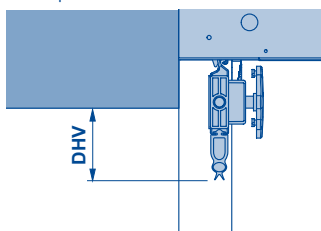
Thickness 120 × 120 mm

Standard DIN 1052 (EC5)

F_{horiz} = Horizontal force at the fixing point
 F_{vert} = Vertical force at the fixing point

Loss of passage height

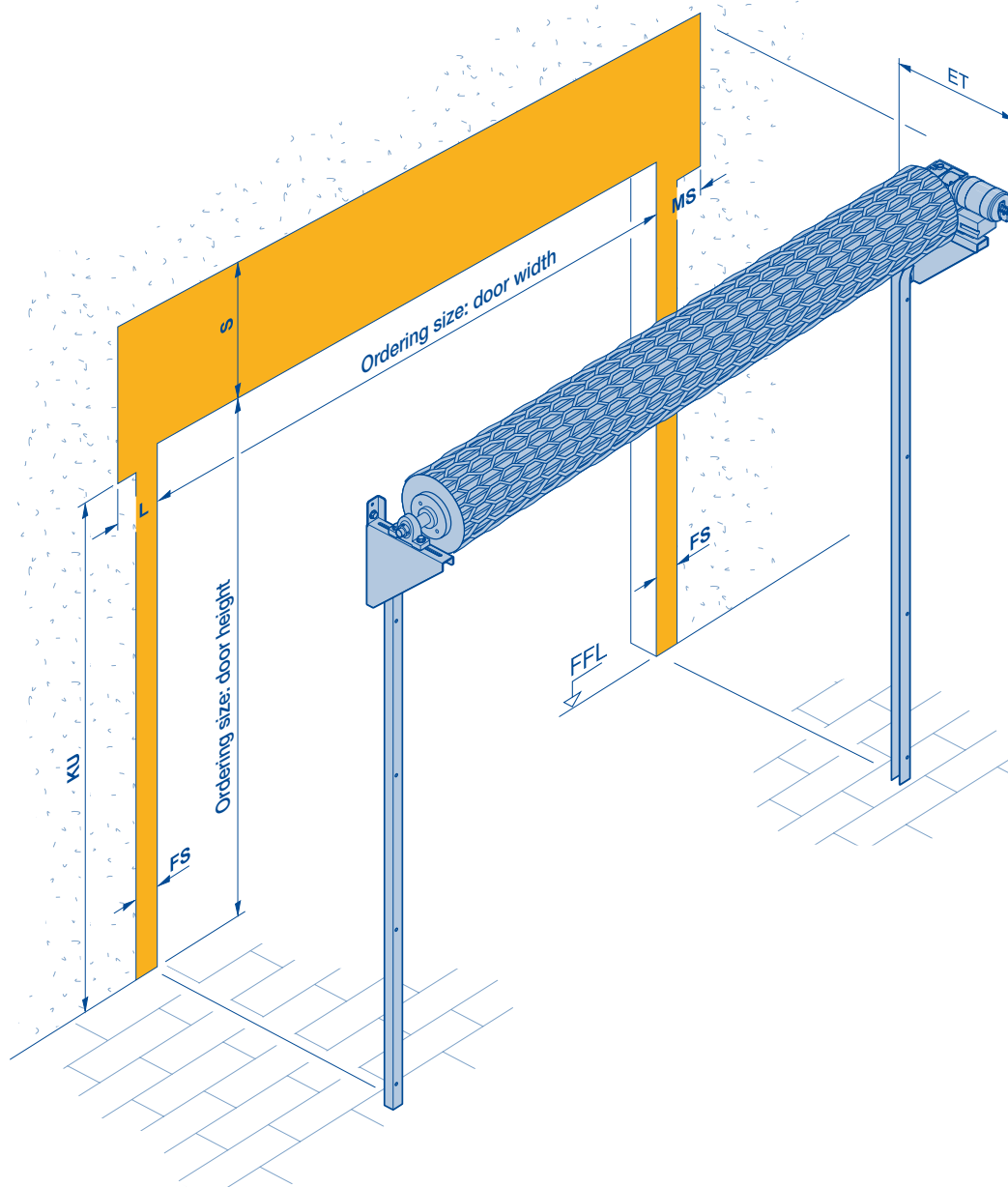
Example



Version	Equipment	Loss of passage height (DHV)	Change of the required headroom
Internal rolling shutter / external rolling shutter	ABP	125	0
	Chamfered bottom profile	50 + difference dimension	0
	Chamfered bottom profile + ABP	175 + difference dimension	0

Basic Rolling Grilles

Space requirements for direct drive operator



L	MS	FS	KU	L	MS	FS	KU
Side guide FS 70 Door widths up to 6000				Side guide FS 100 Door widths greater than 6000			
170	225	70	³⁾	200	265	100	³⁾
110 ¹⁾				140 ¹⁾			
120 ²⁾							

1) With wall flange bearing

2) With wall flange bearing and side guide with additional post

3) The dimension depends on the door size, please contact Hörmann KG Dissen.

L = Sideroom on bearing side

MS = Sideroom on motor side for direct drive operators

FS = Sideroom for side guide

KU = Bottom support bracket dimension, different on bearing and operator sides

Notes:

- For versions with closing edge safety device, the required headroom increases by 40 mm (**S** = **S** + 40 mm). If the required headroom is too low, the passage height is reduced respectively.
- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling grilles, the operator side is determined from the outside.

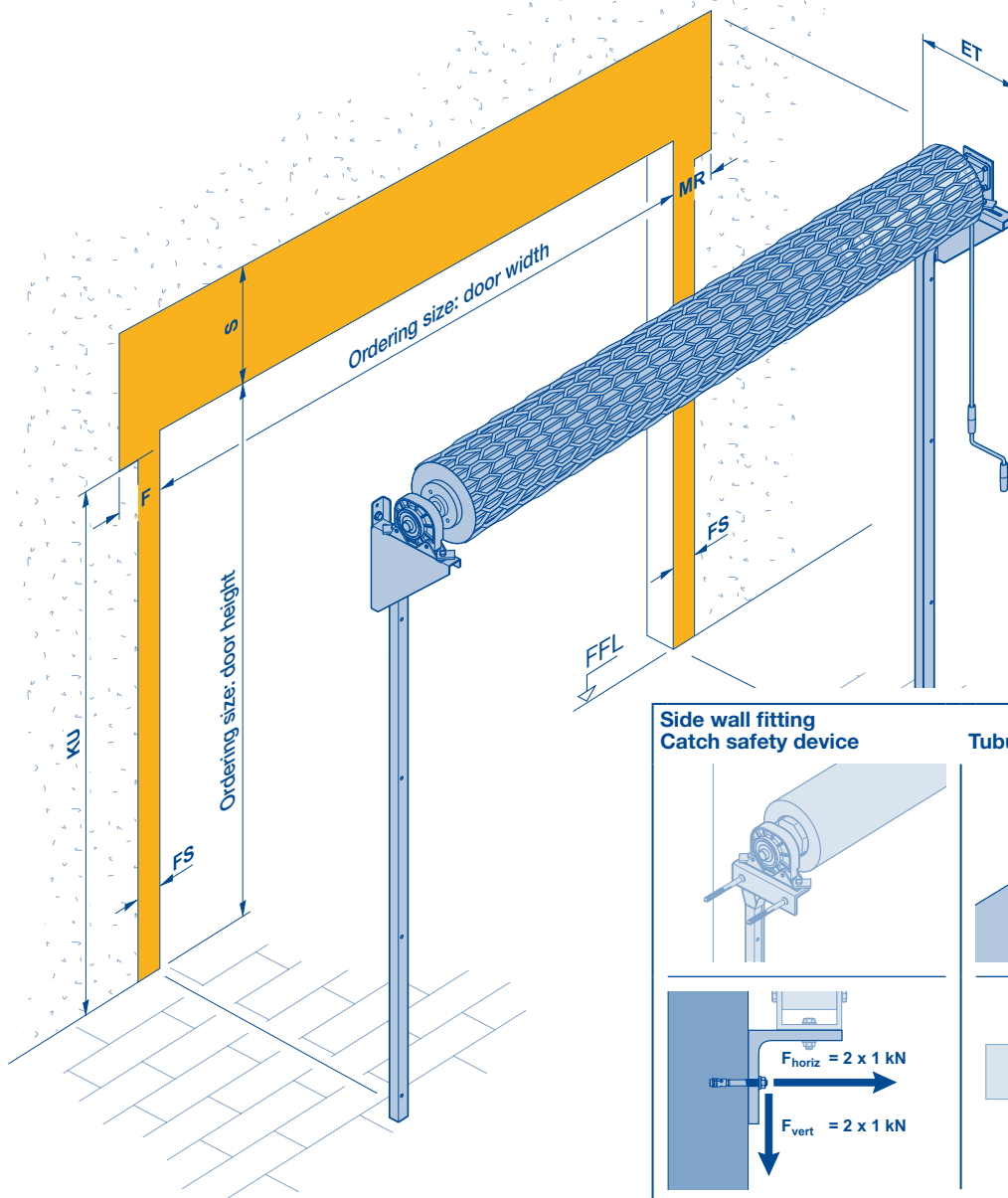
S = Required headroom, see tables from page 26

ET = Minimum fitting depth for operator and support brackets, see tables from page 26

FFL = Finished floor level

Basic Rolling Grilles

Space requirements for tubular operator



F	MR	FS	KU	F	MR	FS	KU
Side guide FS 70 Door widths up to 6000				Side guide FS 100 Door widths greater than 6000			
160	160	70	¹⁾	185	185	100	¹⁾

1) The dimension depends on the door size, please contact Hörmann KG Dissen.

F = Sideroom on catch safety device side
MR = Sideroom on motor side for tubular operators
FS = Sideroom for side guide
KU = Bottom support bracket dimension, different on bearing and operator sides

Notes:

- For versions with closing edge safety device, the required headroom increases by 40 mm ($S = S + 40$ mm). If the required headroom is too low, the passage height is reduced respectively.
- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling grilles, the operator side is determined from the outside.
- The side wall fitting does not have any influence on the sideroom.

S = Required headroom, see tables from page 26
ET = Minimum fitting depth for operator and support brackets, see tables from page 26
FFL = Finished floor level

Basic Rolling Grilles

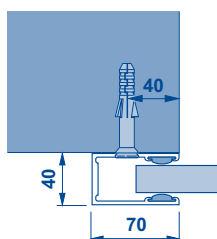
Side guides

FS 70 A

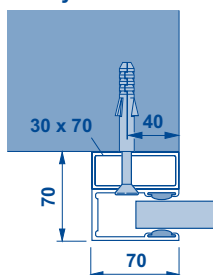
Notes:

- Aluminium side guide for basic rolling grille up to 6000 mm wide
- Maximum load at the fixing point: 1.5 kN tensile load

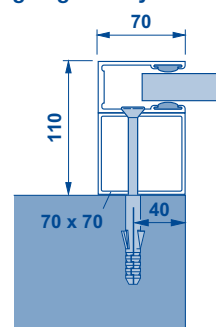
Standard



Internal rolling grille with roll-up safety device or weld-on plates



External rolling grille with closing edge safety device

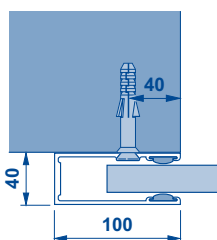


FS 100 A

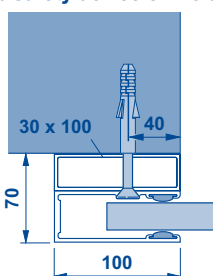
Notes:

- Aluminium side guide for basic rolling grille over 6000 mm wide
- Maximum load at the fixing point: 1.5 kN tensile load

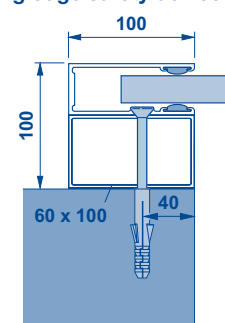
Standard



Internal rolling grille with roll-up safety device or weld-on plates



External rolling grille with closing edge safety device

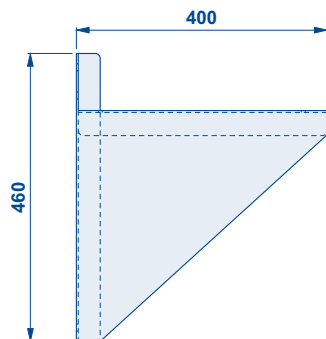


Basic Rolling Grilles

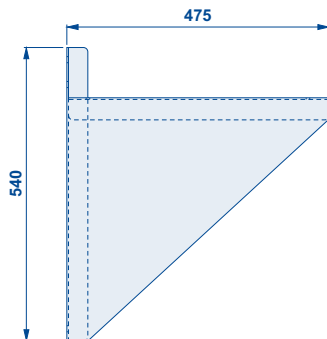
Standard support brackets, maximum loads

Standard support brackets

Support bracket 400



Support bracket 475



Support width

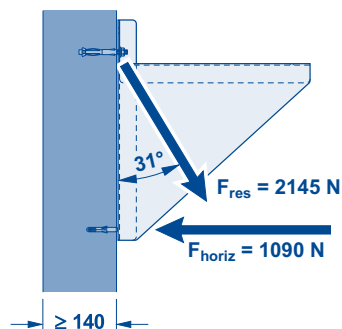


Notes:

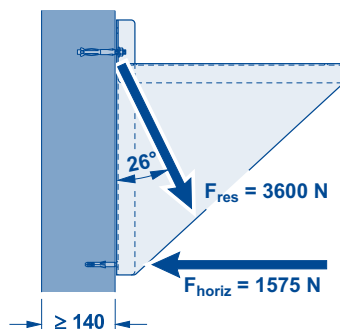
- Fitting directly to the building structure
- For basic rolling grilles:
 - With direct drive operator
 - With tubular operator
- Height cannot be adjusted

Maximum loads at the fixing points of the support brackets

Support bracket 400



Support bracket 475



Minimum requirements for the building structure

Concrete

Strength class C 20 / 25

- Thickness 140 mm
- Standard EN 206-1

Steel

Strength class S235-JRG2

- Thickness 5 mm
- Standard EN 10027-1

Brickwork

Strength class 12 / mortar group II

- Thickness 240 mm
- Standard DIN 1053-1

Timber

Coniferous wood: C24 / quality category II

- Thickness 120 x 120 mm
- Standard DIN 1052 (EC5)



Basic Rolling Grilles with Direct Drive Operator / Tubular Operator

Tables of standard values

HG-L

Direct drive operator

Door height

5500	500	702	500	702	500	702	500	702	500	714	500	714	500	714	500	714	500	767	500	767	500	767	500	767	500	767	500	747	500	747	500	747
5250	500	702	500	702	500	702	500	702	500	714	500	714	500	714	500	714	500	767	500	767	500	767	500	767	500	767	500	747	500	747	500	747
5000	500	702	500	702	500	702	500	702	500	714	500	714	500	714	500	714	500	767	500	767	500	767	500	767	500	767	500	747	500	747	500	747
4750	480	692	480	692	480	692	480	692	480	692	480	692	480	704	480	704	480	704	480	757	480	757	480	757	480	757	480	757	480	757	480	757
4500	480	692	480	692	480	692	480	692	480	692	480	692	480	704	480	704	480	704	480	757	480	757	480	757	480	757	480	757	480	757	480	757
4250	480	692	480	692	480	692	480	692	480	692	480	692	480	692	480	692	480	704	480	704	480	704	480	757	480	757	480	757	480	757	480	757
4000	480	692	480	692	480	692	480	692	480	692	480	692	480	692	480	692	480	704	480	704	480	704	480	704	480	757	480	757	480	757	480	757
3750	460	682	460	682	460	682	460	682	460	682	460	682	460	682	460	682	460	694	460	694	460	694	460	694	460	694	460	747	460	747	460	747
3500	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	690	452	690	452	690	452	690	452	690	452	690	452	743
3250	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	690	452	690	452	690	452	690	452	690	452	690
3000	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	678	452	690	452	690	452	690	452	690	452	690
2750	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667
2500	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667
2250	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667	430	667
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000																

Door width

Tubular operator

Door height

5500	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425
5250	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425
5000	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425	500	425
4750	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425
4500	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425
4250	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425
4000	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425	480	425
3750	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425	460	425
3500	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425
3250	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425
3000	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425	452	425
2750	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425
2500	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425
2250	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000																

Door width

Notes:

- All standard values only apply to standard version doors **without** closing edge safety device.
- For doors **with** closing edge safety device, the required headroom is increased: **S = S + 40 mm**

Opening time [s]

Operator

500	747	500	747	539	832	539	832	539	832	539	852	539	852	539	852	539	852	539	852	539	852	539	852
500	747	500	747	539	832	539	832	539	832	539	832	539	852	539	852	539	852	539	852	539	852	539	852
500	747	500	747	533	829	533	829	533	829	533	829	533	829	533	849	533	849	533	849	533	849	533	849
480	737	480	737	480	737	533	829	533	829	533	829	533	829	533	829	533	849	533	849	533	849	533	849
480	757	480	737	480	737	533	764	533	764	533	829	533	829	533	829	533	829	533	829	533	829	533	849
480	757	480	757	480	757	509	752	509	752	509	752	509	817	509	817	509	817	509	817	509	817	509	817
480	757	480	757	480	757	480	757	509	752	509	752	509	817	509	817	509	817	509	817	509	817	509	817
460	747	460	747	460	747	460	747	509	752	509	752	509	752	509	752	509	752	509	817	509	817	509	817
452	743	452	743	452	743	452	743	501	748	501	748	501	748	501	748	501	748	501	748	501	748	501	813
452	743	452	743	452	743	452	743	452	743	452	740	485	740	485	740	485	740	485	740	485	740	485	740
452	690	452	690	452	743	452	743	452	743	452	743	485	740	485	740	485	740	485	740	485	740	485	740
430	679	430	679	430	679	430	679	434	732	434	732	485	740	485	740	485	740	485	740	485	740	485	740
430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679
430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679
6250	6500	6750	7000	7250	7500	7750	8000	8250	8500	8750	9000												

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25
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22
21
20
19
18
17
16
15
13

S55
S42
S35
S25
S18
S14

Opening time [s]

Operator

500	425																						
500	425	500	425																				
500	425	500	425																				
480	425	480	425	480	425																		
480	425	480	425	480	425																		
480	425	480	425	480	425																		
480	425	480	425	480	425	480	425																
460	425	460	425	460	425	460	425																
452	425	452	425	452	425	452	425	501	500	501	500												
452	425	452	425	452	425	452	425	452	425	485	500	485	500										
452	425	452	425	452	425	452	425	452	425	485	425	485	500	485	500								
430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	485	500	485	500				
430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	485	500	485	500
430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425
6250	6500	6750	7000	7250	7500	7750	8000	8250	8500	8750	9000												

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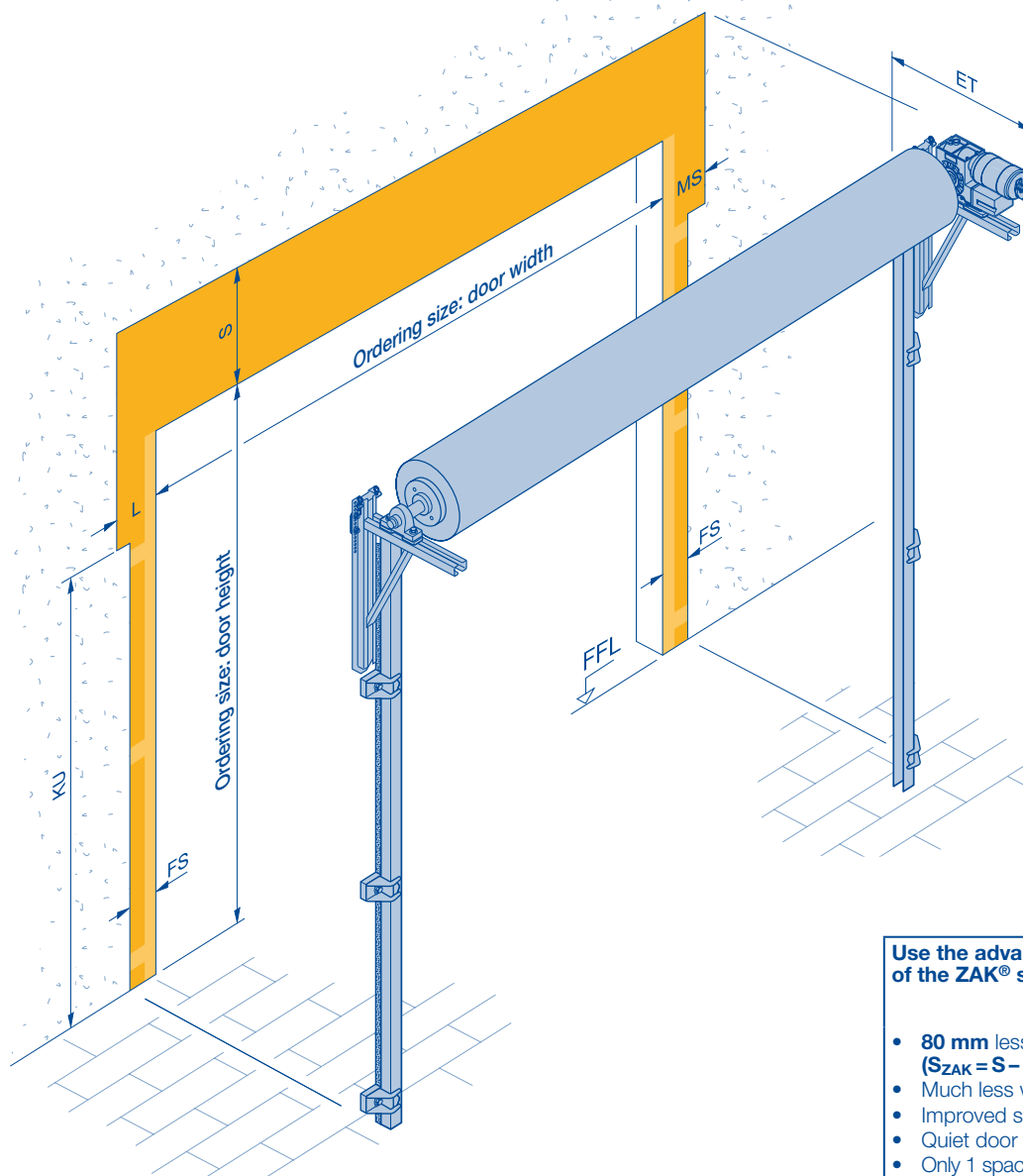
R30
R23
R18
R12

¹²³ = S (required headroom)

¹²³ = ET (minimum fitting depth)

Space Requirements for Classic Rolling Shutters

Direct drive operator



Use the advantages of the ZAK® systems



- 80 mm less required headroom ($S_{ZAK} = S - 80 \text{ mm}$)
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides

L	MS	FS	KU	L	MS	FS	KU
Side guide FS 73				Side guide FS 98			
• Door widths up to 4000 • Doors without wind locks				• Door widths greater than 4000 • Doors with wind locks			
215	275	155	²⁾	235	295	180	²⁾
275 ¹⁾	430 ¹⁾			295 ¹⁾	450 ¹⁾		

1) Space requirement for dismantling from the side

2) The dimension depends on the door size, please contact Hörmann KG Dissen.

L = Sideroom on bearing side
MS = Sideroom on motor side for direct drive operators
FS = Sideroom for side guide
KU = Bottom support bracket dimension, different on bearing and operator sides

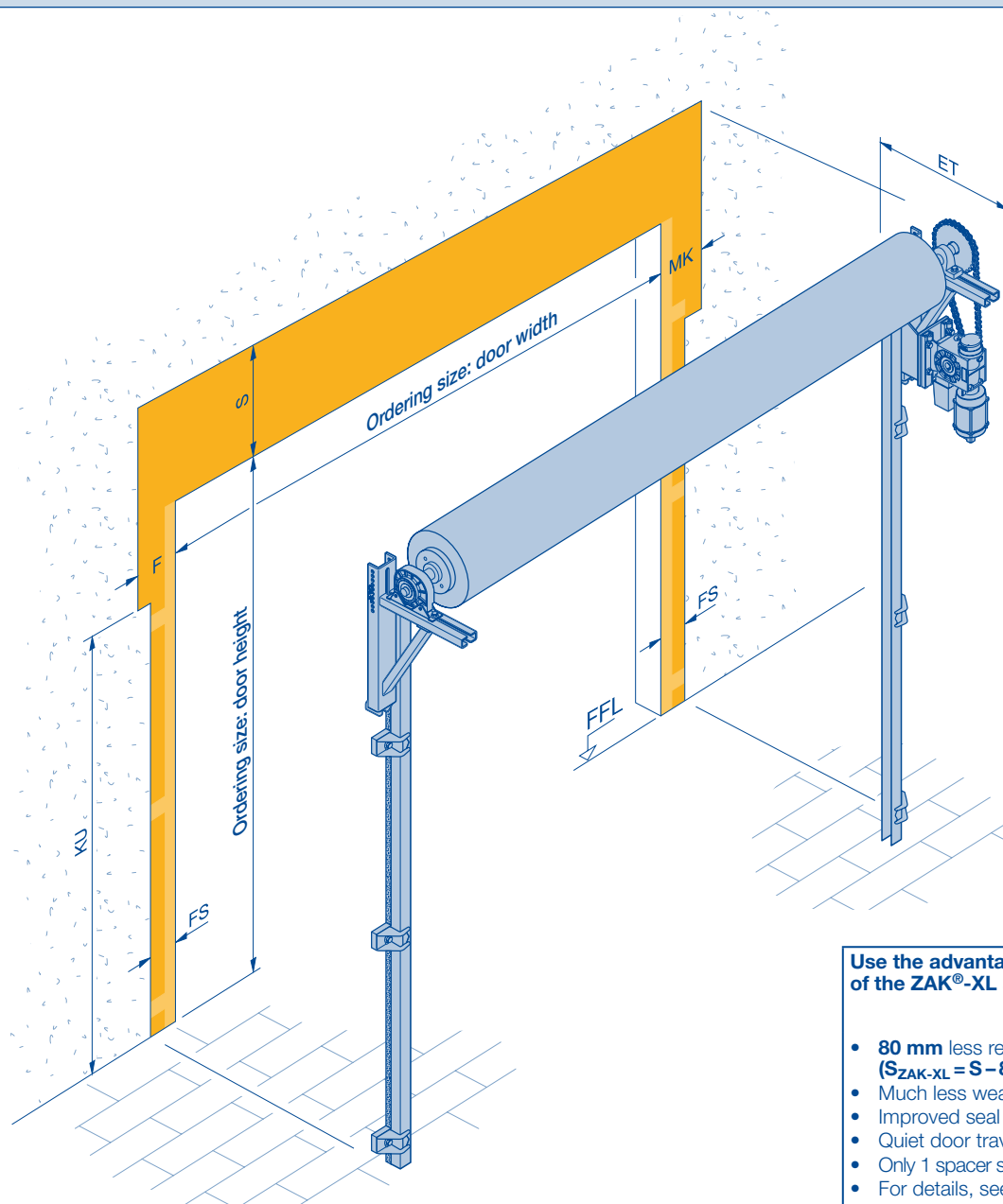
Notes:

- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling shutters, the operator side is determined from the outside.
- The ZAK® system does not have any influence on the sideroom.

S = Required headroom, see tables from page 52
ET = Minimum fitting depth for operator and support brackets, see tables from page 52
FFL = Finished floor level

Space Requirements for Classic Rolling Shutters

Chain drive operator



Use the advantages of the ZAK®-XL system



- 80 mm less required headroom ($S_{ZAK-XL} = S - 80 \text{ mm}$)
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides
- For details, see page 34

F	MK	FS	KU	F	MK	FS	KU
Side guide FS 73				Side guide FS 98			
• Door widths up to 4000 • Doors without wind locks				• Door widths greater than 4000 • Doors with wind locks			
230	300	155	²⁾	250	320	180	²⁾
270 ¹⁾	370 ¹⁾			290 ¹⁾	390 ¹⁾		

1) Space requirement for dismantling from the side

2) The dimension depends on the door size, please contact Hörmann KG Dissen.

F = Sideroom on catch safety device side

MK = Sideroom on motor side for chain drive operators

FS = Sideroom for side guide

KU = Bottom support bracket dimension, different on bearing and operator sides

Notes:

- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling shutters, the operator side is determined from the outside.

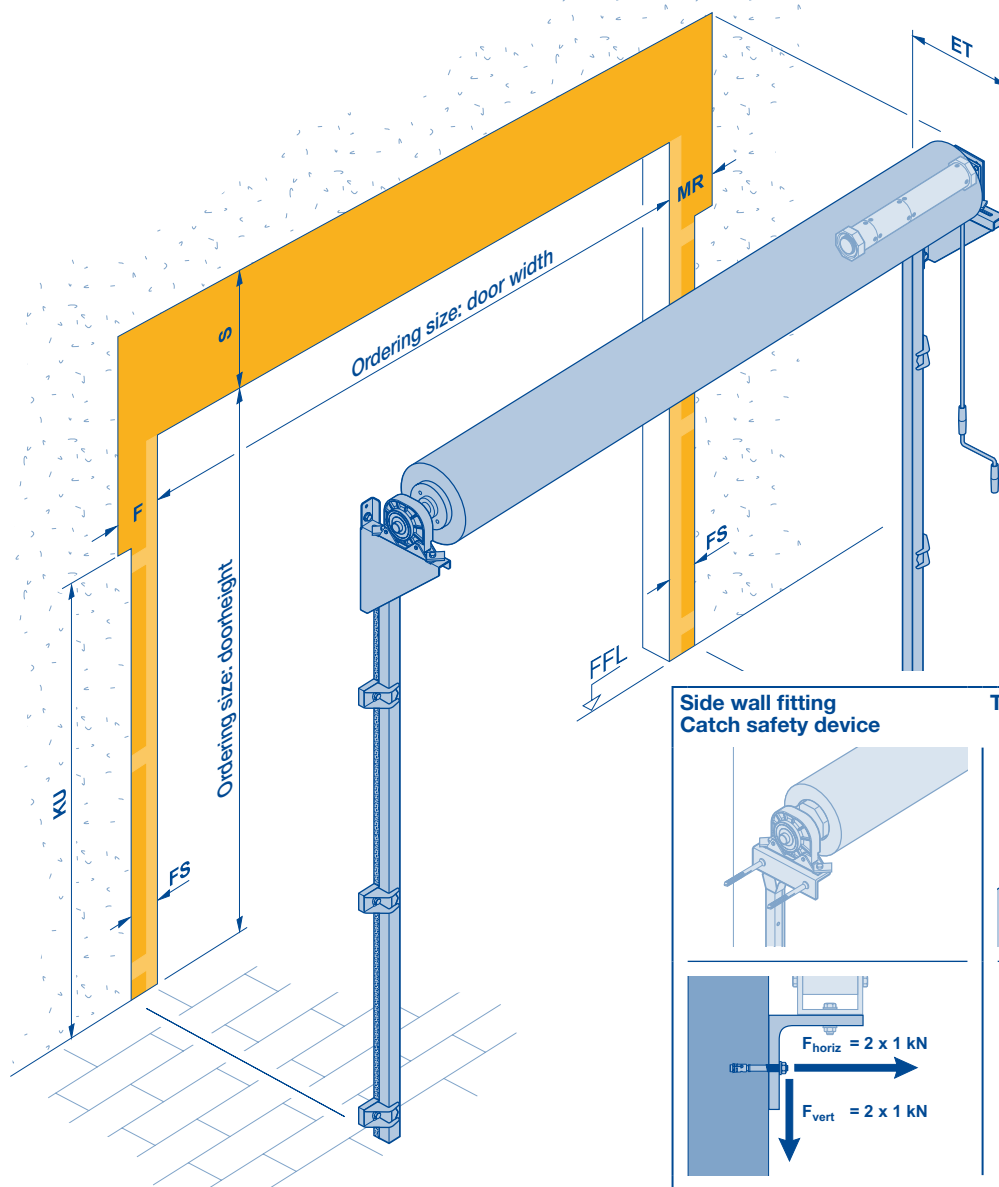
S = Required headroom, see tables from page 64

ET = Minimum fitting depth for operator and support brackets, see tables from page 64

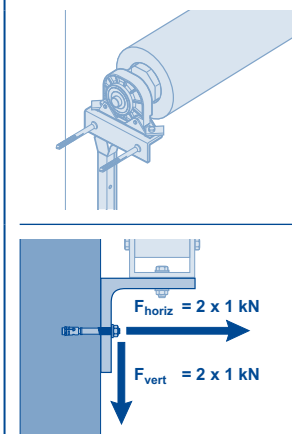
FFL = Finished floor level

Space Requirements for Classic Rolling Shutters

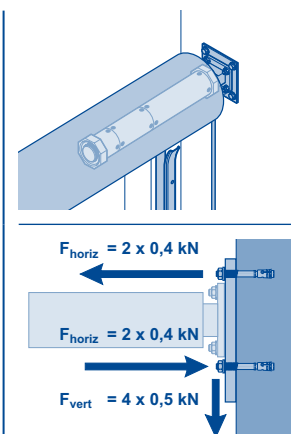
Tubular operator



Side wall fitting
Catch safety device



Tubular operator



F	MR	FS	KU	F	MR	FS	KU
Side guide FS 73				Side guide FS 98			
- Door widths up to 4000 - Doors without wind locks				- Door widths greater than 4000 - Doors with wind locks			
160	160	155	¹⁾	185	185	180	¹⁾

¹⁾ The dimension depends on the door size, please contact Hörmann KG Dissen.

F = Sideroom on catch safety device side
MR = Sideroom on motor side for tubular operators
FS = Sideroom for side guide
KU = Bottom support bracket dimension, different on bearing and operator sides

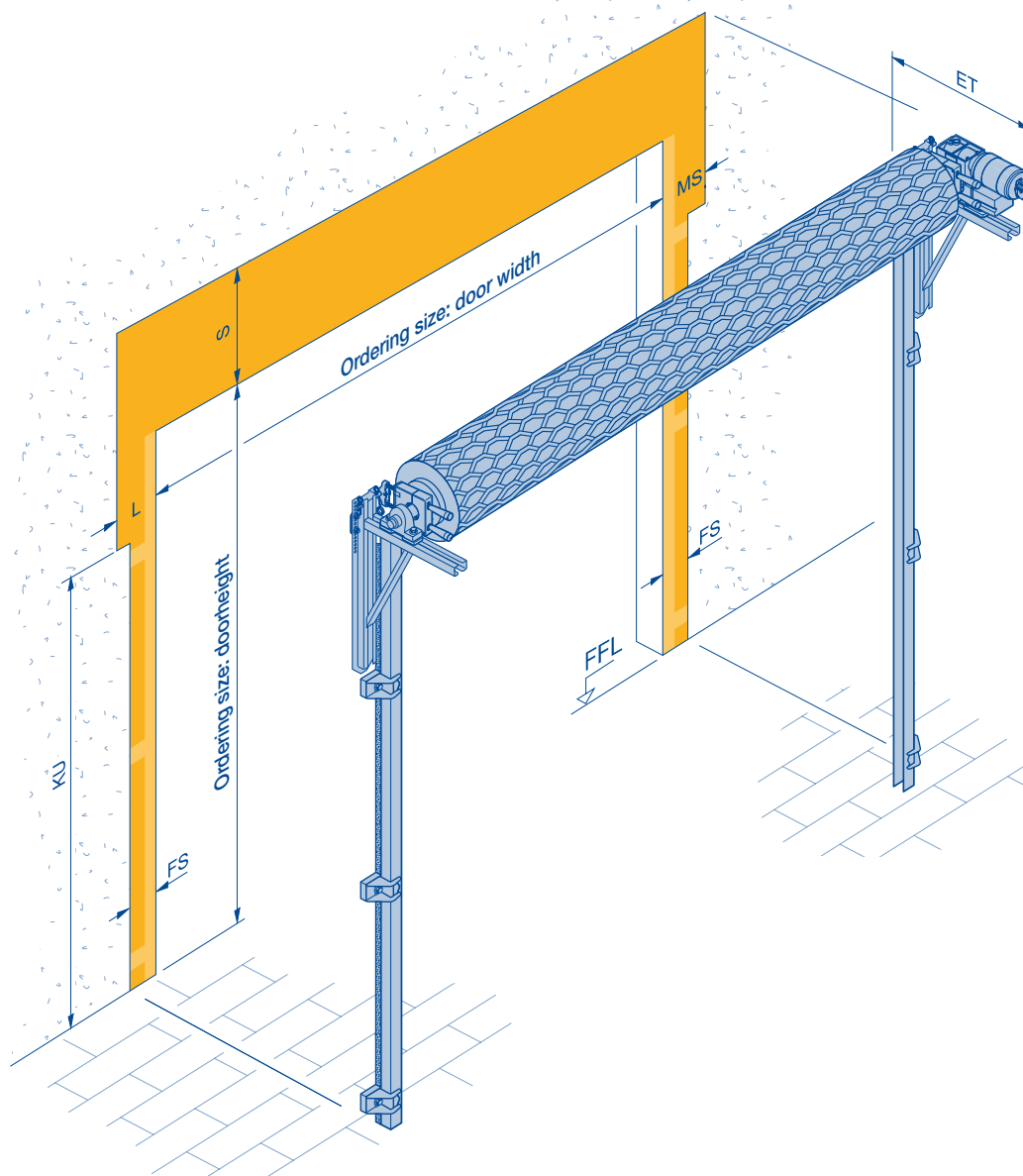
Notes:

- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling shutters, the operator side is determined from the outside.
- The side wall fitting does not have any influence on the sideroom.

S = Required headroom see tables from page 74
ET = Minimum fitting depth for operator and support brackets, see tables from page 74
FFL = Finished floor level

Space Requirements for Classic Rolling Grilles

Direct drive operator



L	MS	FS	KU	L	MS	FS	KU
Side guide FS 73				Side guide FS 98			
- HG-A and HG-V: Door widths up to 4000 - HG-S: Door widths up to 6000				- HG-A and HG-V: Door widths greater than 4000 - HG-S: Door widths greater than 6000			
215	275	155	²⁾	235	295	180	²⁾
275 ¹⁾	430 ¹⁾			295 ¹⁾	450 ¹⁾		

1) Space requirement for dismantling from the side

2) The dimension depends on the door size, please contact Hörmann KG Dissen.

L = Sideroom on bearing side

MS = Sideroom on motor side for direct drive operators

FS = Sideroom for side guide

KU = Bottom support bracket dimension, different on bearing and operator sides

Notes:

- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling grilles, the operator side is determined from the outside.
- Classic rolling grilles with direct drive operators are fitted as standard with the ZAK® system.

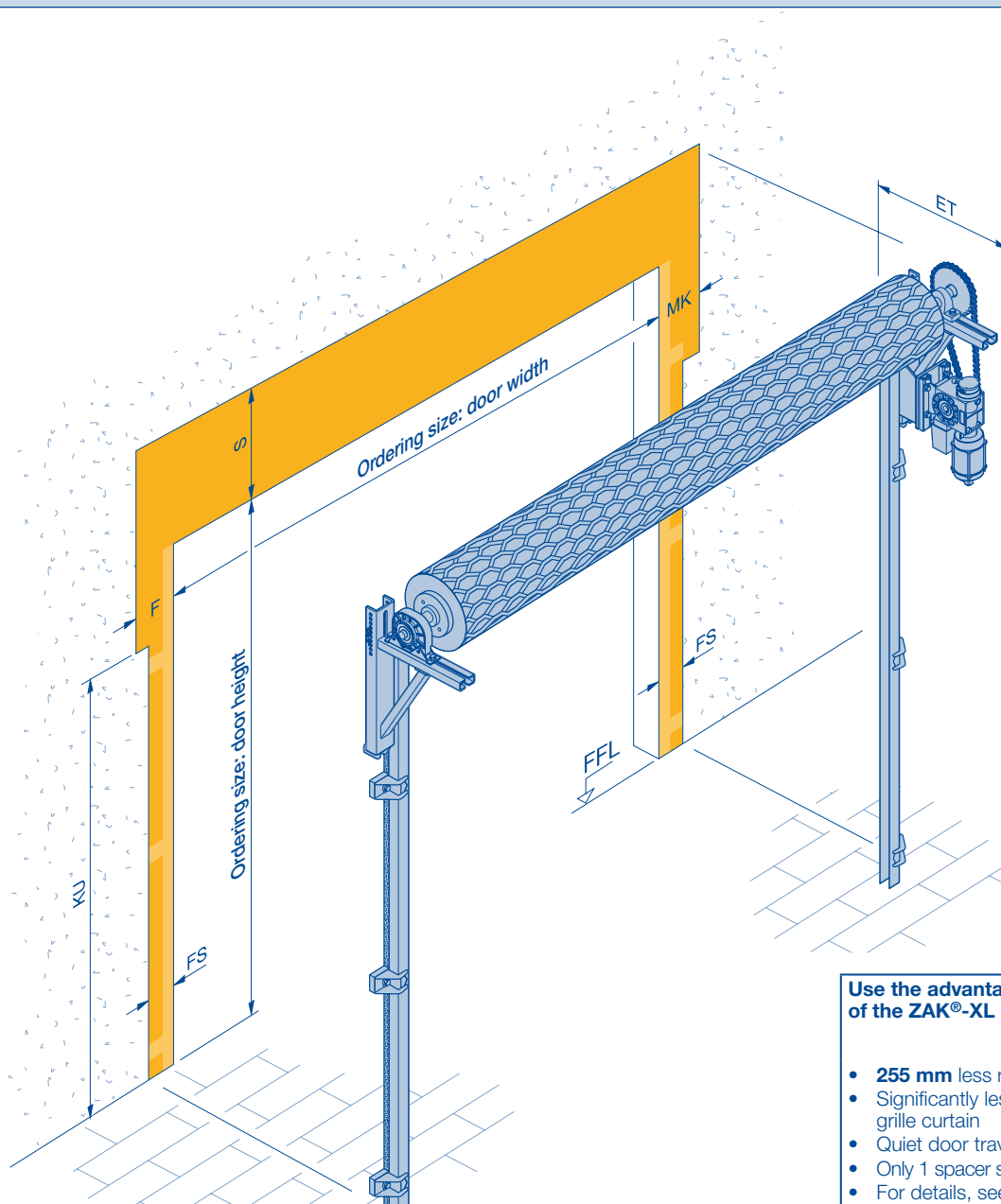
S = Required headroom see tables from page 84

ET = Minimum fitting depth for operator and support brackets, see tables from page 84

FFL = Finished floor level

Space Requirements for Classic Rolling Grilles

Chain drive operator



Use the advantages of the ZAK®-XL system



- 255 mm less required headroom
- Significantly less wear on the rolling grille curtain
- Quiet door travel
- Only 1 spacer support at the side guides
- For details, see page 34

F	MK	FS	KU	F	MK	FS	KU
Side guide FS 73				Side guide FS 98			
• HG-A and HG-V: Door widths up to 4000 • HG-S: Door widths up to 6000				• HG-A and HG-V: Door widths greater than 4000 • HG-S: Door widths greater than 6000			
230	300	155	²⁾	250	320	180	²⁾
270 ¹⁾	370 ¹⁾			290 ¹⁾	390 ¹⁾		

1) Space requirement for dismantling from the side

2) The dimension depends on the door size, please contact Hörmann KG Dissen.

F = Sideroom on catch safety device side
MK = Sideroom on motor side for chain drive operators
FS = Sideroom for side guide
KU = Bottom support bracket dimension, different on bearing and operator sides

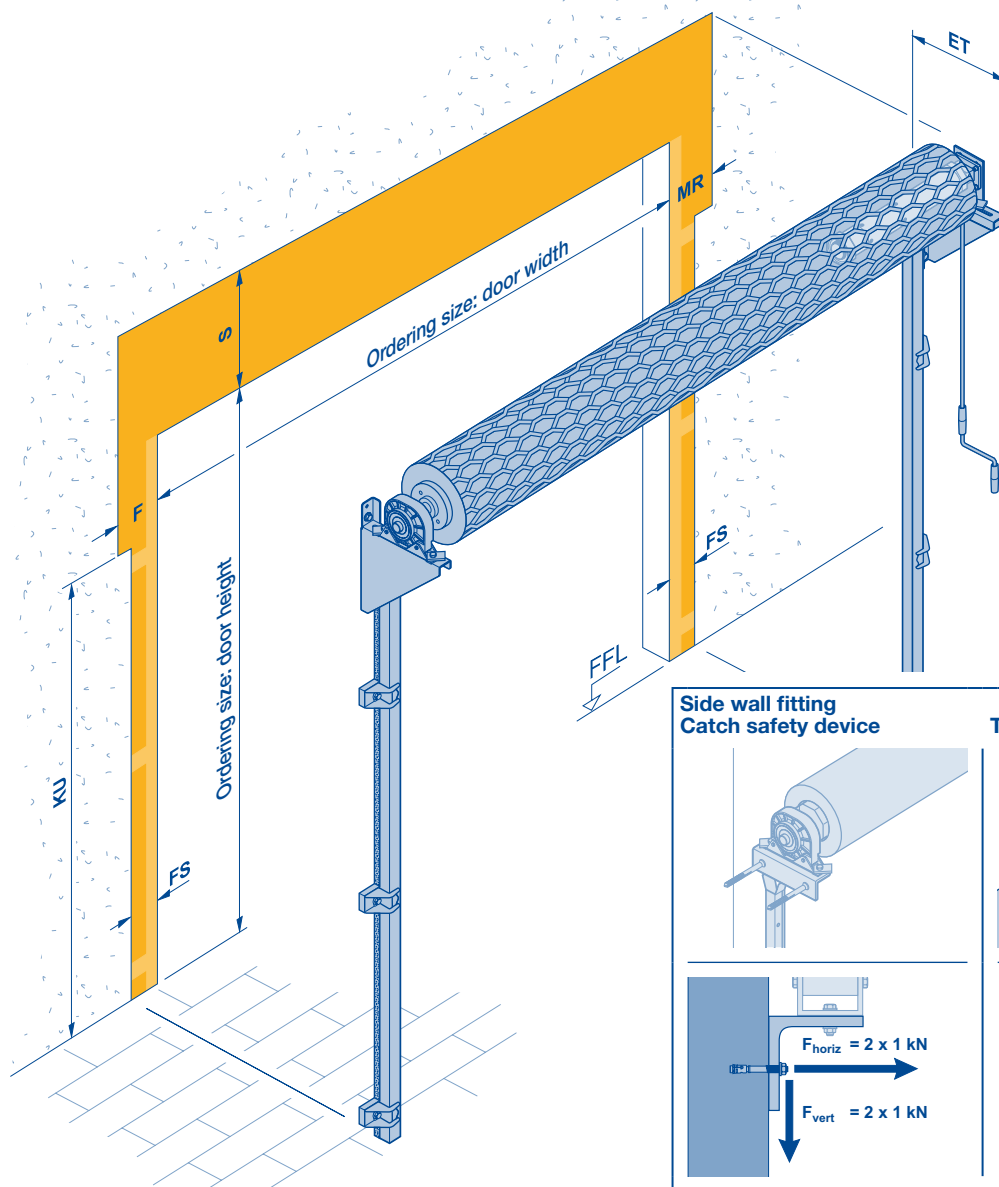
Notes:

- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling grilles, the operator side is determined from the outside.

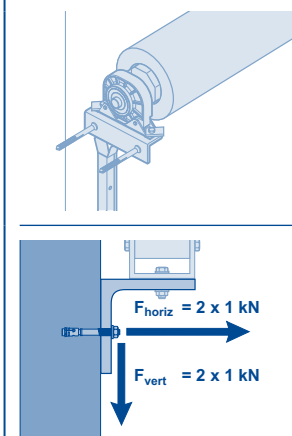
S = Required headroom see tables from page 90
ET = Minimum fitting depth for operator and support brackets, see tables from page 90
FFL = Finished floor level

Space Requirements for Classic Rolling Grilles

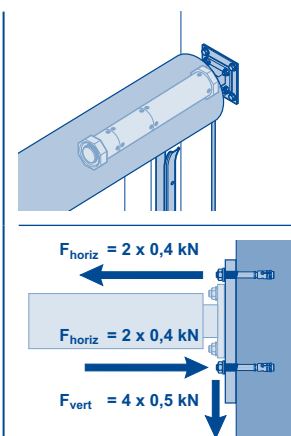
Tubular operator



Side wall fitting
Catch safety device



Tubular operator



F	MR	FS	KU	F	MR	FS	KU
Side guide FS 73				Side guide FS 98			
- HG-A and HG-V: Door widths up to 4000 - HG-S: Door widths up to 6000				- HG-A and HG-V: Door widths greater than 4000 - HG-S: Door widths greater than 6000			
160	160	155	1) ¹⁾	185	185	180	1) ¹⁾

1) The dimension depends on the door size, please contact Hörmann KG Dissen.

F = Sideroom on catch safety device side
MR = Sideroom on motor side for tubular operators
FS = Sideroom for side guide
KU = Bottom support bracket dimension, different on bearing and operator sides

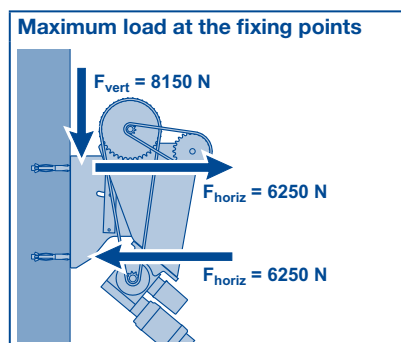
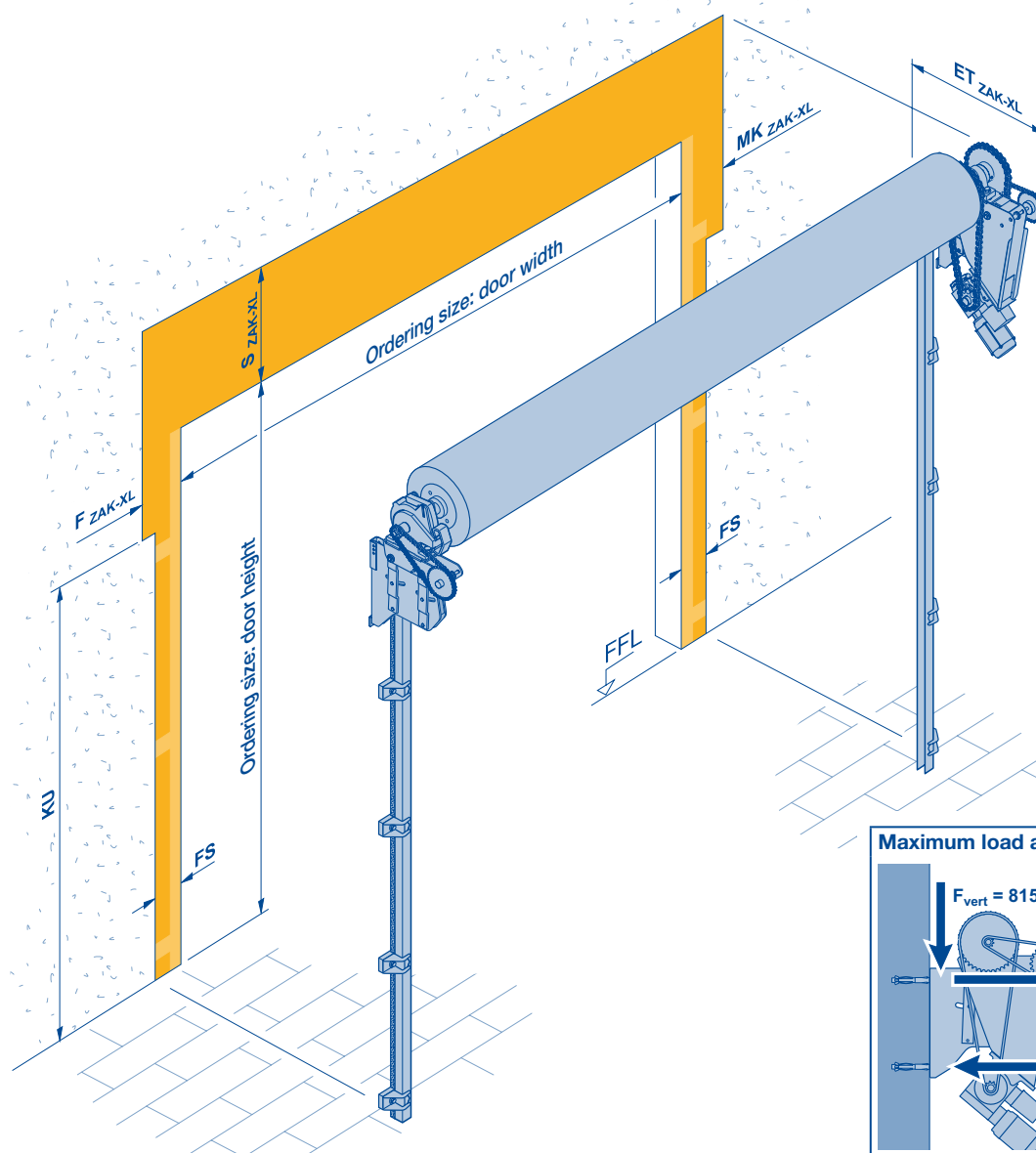
Notes:

- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling grilles, the operator side is determined from the outside.
- The side wall fitting does not have any influence on the sideroom.

S = Required headroom see tables from page 94
ET = Minimum fitting depth for operator and support brackets, see tables from page 94
FFL = Finished floor level

Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

Chain drive operator and ZAK®-XL system



F _{ZAK-XL}	MK _{ZAK-XL}	FS	KU	F _{ZAK-XL}	MK _{ZAK-XL}	FS	KU
Side guide FS 73				Side guide FS 98			
- Door widths up to 4000 - Doors without wind locks				- Door widths greater than 4000 - Doors with wind locks			
380	440	155	¹⁾	400	460	180	¹⁾

¹⁾ The dimension depends on the door size, please contact Hörmann KG Dissen.

Notes:

- The ZAK®-XL system reduces the required headroom:
 $S_{ZAK-XL} = S - 80 \text{ mm}$ for all classic rolling shutters
 $= S - 255 \text{ mm}$ for all classic rolling grilles
- The ET_{ZAK-XL} fitting depth is between 630 mm and 870 mm. If necessary, please request the precise values from Hörmann KG Dissen.
- The door system must have at least the following dimensions
 - Door width $\geq 6000 \text{ mm}$
 - Door height $\geq 3500 \text{ mm}$

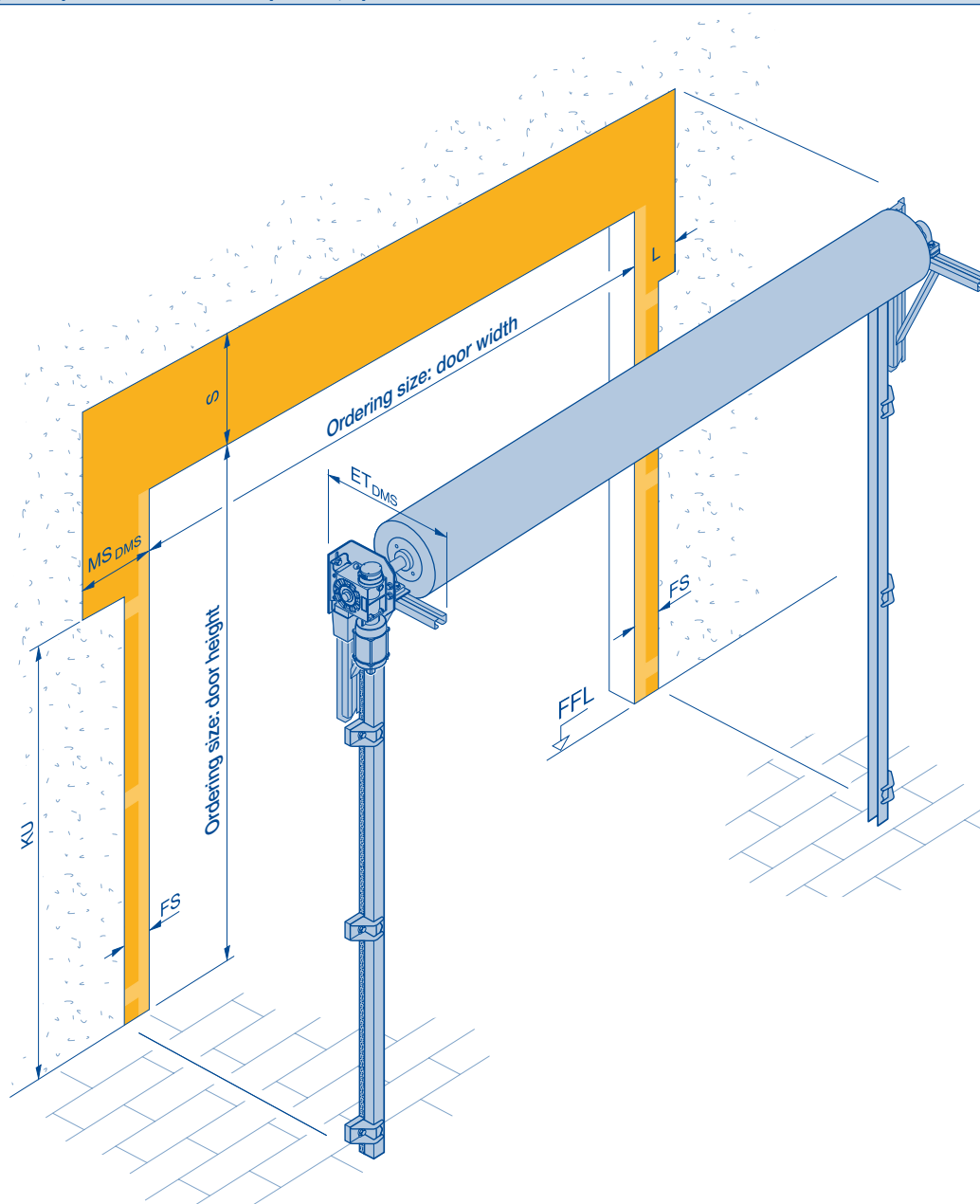
F_{ZAK-XL} = Sideroom on catch safety device side with ZAK®-XL system
MK_{ZAK-XL} = Sideroom on motor side for chain drive operators with ZAK®-XL system
FS = Sideroom for side guide
KU = Bottom support bracket dimension, different on bearing and operator sides

S = Required headroom see tables from page 64
S_{ZAK-XL} = Required headroom for doors with optional ZAK®-XL system
ET_{ZAK-XL} = Fitting depth for operator and support brackets with the ZAK®-XL system
FFL = Finished floor level

Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

DMS

Fitting example with direct drive operator, operator on left side



L	MS _{DMS}	FS	KU	L	MS _{DMS}	FS	KU
Side guide FS 73				Side guide FS 98			
- Door widths up to 4000 - Doors without wind locks				- Door widths greater than 4000 - Doors with wind locks			
215	375	155	²⁾	235	395	180	²⁾
275 ¹⁾	530 ¹⁾			295 ¹⁾	550 ¹⁾		

1) Space requirement for dismantling from the side

2) The dimension depends on the door size, please contact Hörmann KG Dissen.

L = Sideroom on bearing side

MS_{DMS} = Sideroom on motor side for direct drive operators with DMS

FS = Sideroom for side guide

KU = Bottom support bracket dimension, different on bearing and operator sides

Notes:

- The fitting example shows the arrangement of the operator from the left as seen from the inside. An arrangement on the right is also available on request.
- DMS can be used with all classic rolling shutters / rolling grilles with direct drive operator
- For doors with ZAK® system, only up to direct drive operator type S25.
- The **ET_{DMS}** fitting depth is at least 520 mm to max. 670 mm. If necessary, please request the precise values from Hörmann KG Dissen.

S = Required headroom see tables from page 52

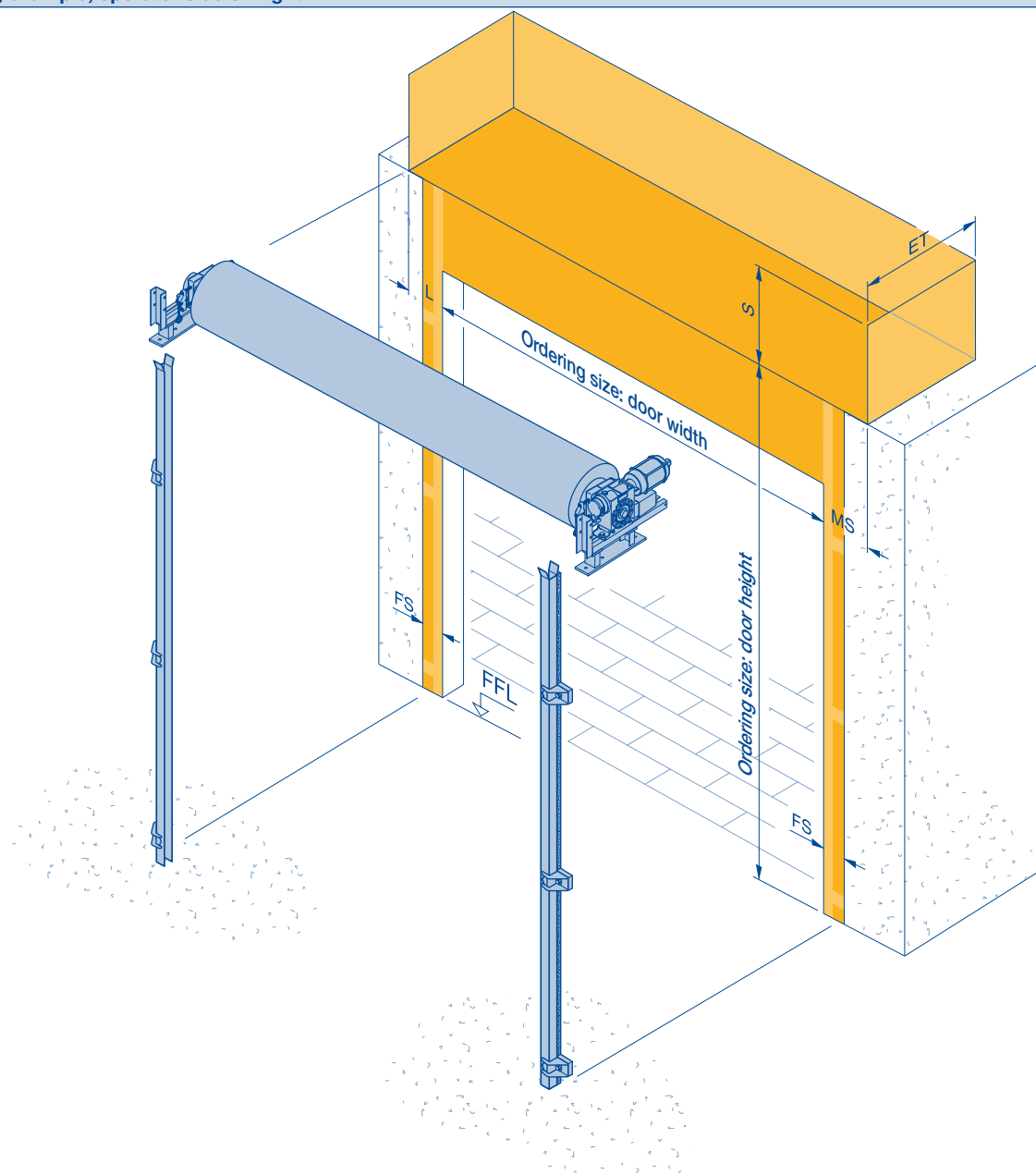
ET_{DMS} = Minimum fitting depth for doors with DMS

FFL = Finished floor level

Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

Trestle support bracket

Fitting example, operator side on right



L	MS	FS	L	MS	FS
Side guide FS 73			Side guide FS 98		
- Door widths up to 4000 - Doors without wind locks			- Door widths greater than 4000 - Doors with wind locks		
215	275	155	235	295	180
275 ¹⁾	430 ¹⁾		295 ¹⁾	450 ¹⁾	

1) Space requirement for dismantling from the side

L = Sideroom on bearing side
MS = Sideroom on motor side for direct drive operators
FS = Sideroom for side guide

Notes:

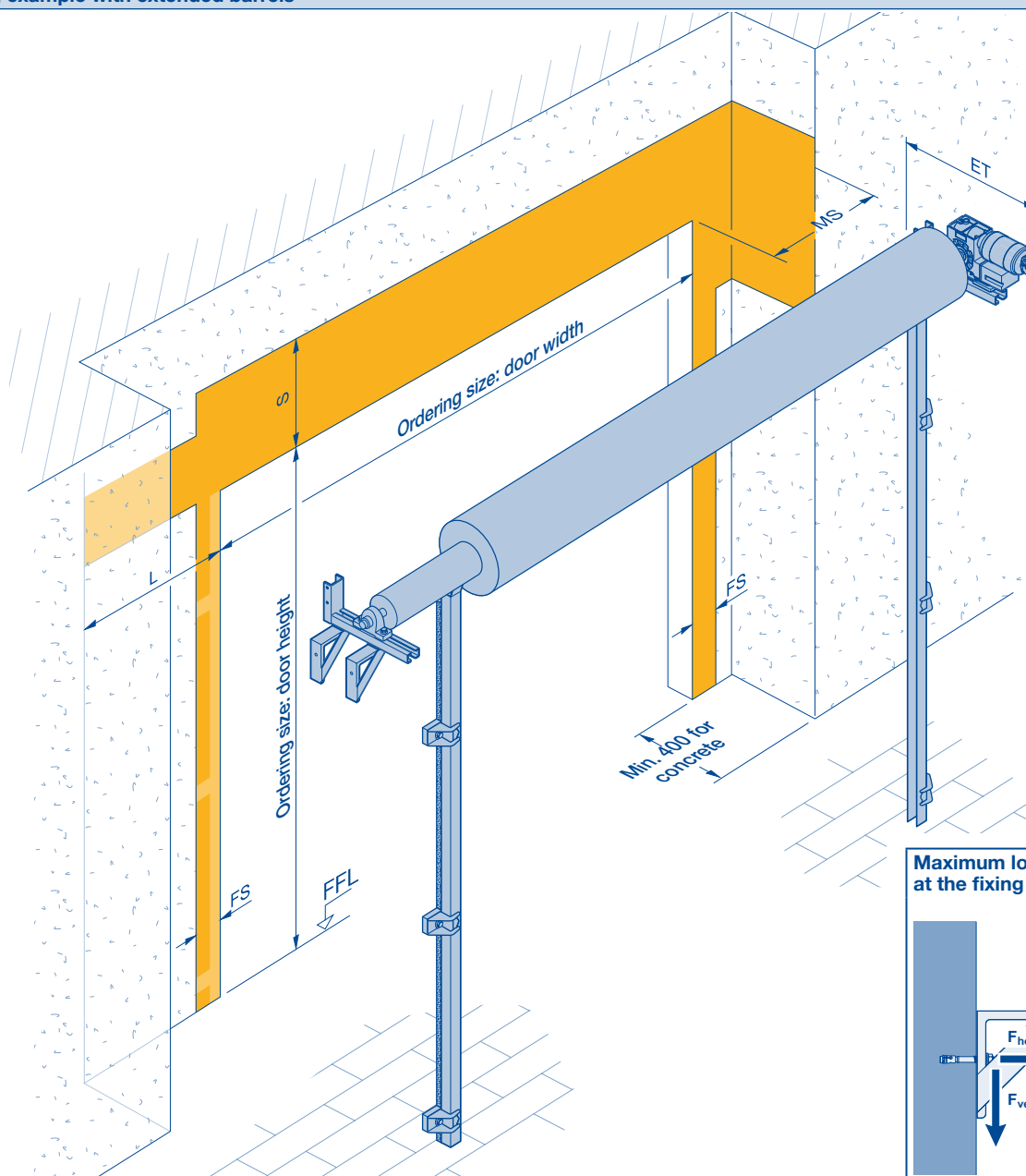
- Trestle support brackets can be used with classic rolling shutters and classic rolling grilles with
 - Direct drive operator
 - Direct drive operator and ZAK® system.
- Please contact Hörmann KG Dissen for more details on the specific version.

S = Required headroom see tables from page 52
ET = Minimum fitting depth for operator and support brackets, see tables from page 52
FFL = Finished floor level

Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

BT support brackets

Fitting example with extended barrels



L	MS	FS	L	MS	FS
Side guide FS 73			Side guide FS 98		
- Door widths up to 4000 - Doors without wind locks			- Door widths greater than 4000 - Doors with wind locks		
Min. 195	275	155	Min. 215	295	180

Notes:

- BT support brackets can be used with classic rolling shutters and classic rolling grilles with
 - Direct drive operator
 - Direct drive operator and ZAK® system.

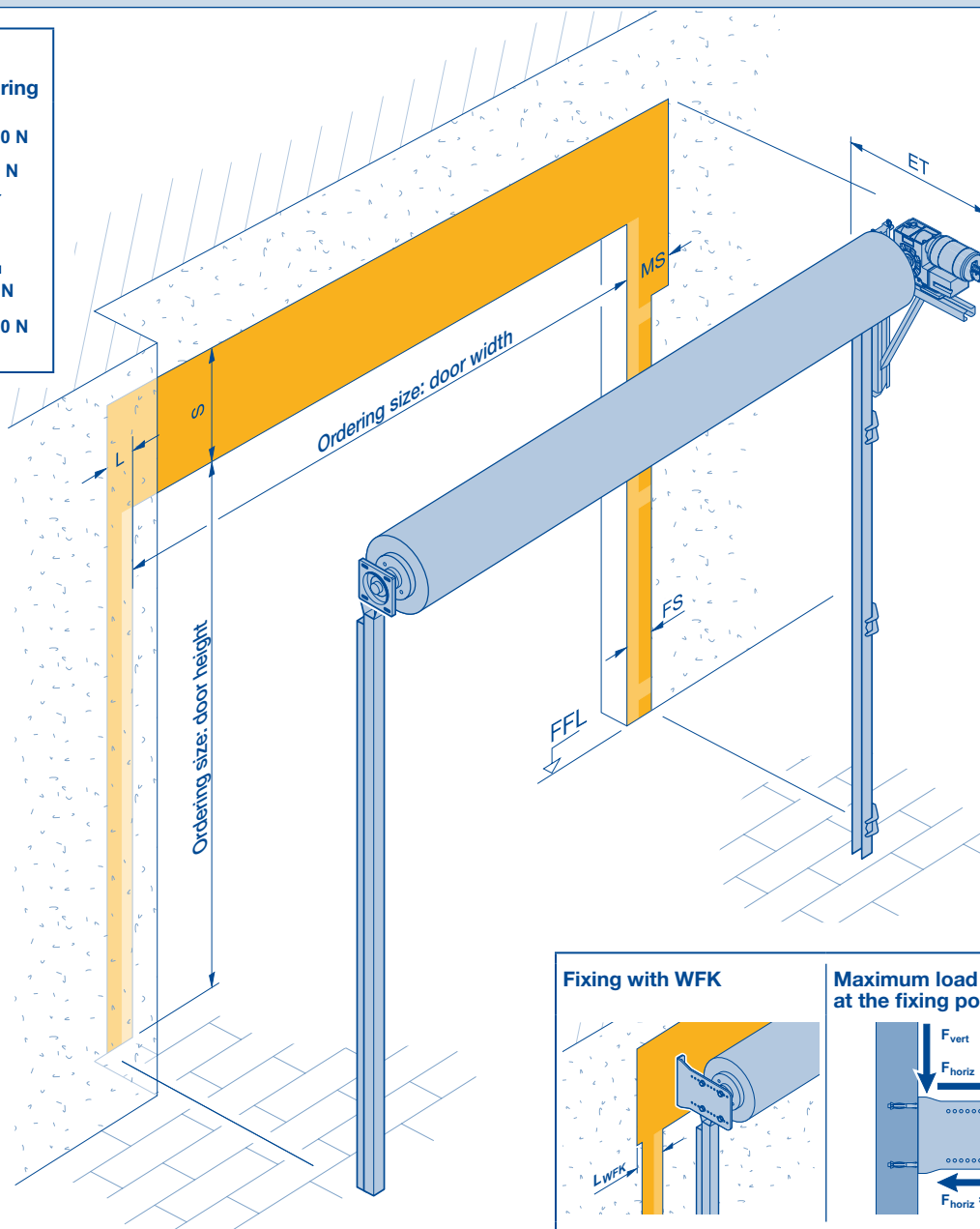
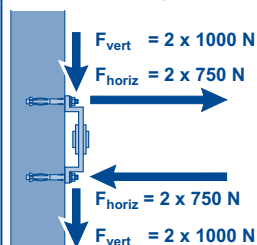
L = Sideroom on bearing side
MS = Sideroom on motor side for direct drive operators
S = Required headroom see tables from page 52

ET = Minimum fitting depth for operator and support brackets, see tables from page 52
FFL = Finished floor level
FS = Sideroom for side guide

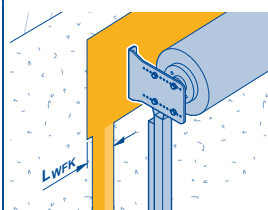
Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

Wall flange bearing

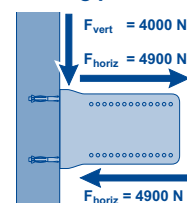
Maximum load at the fixing points of the wall flange bearing



Fixing with WFK



Maximum load at the fixing points



L	L _{WFK}	MS	FS	L	L _{WFK}	MS	FS
Side guide FS 73				Side guide FS 98			
• Door widths up to 4000				• Door widths greater than 4000			
• Doors without wind locks				• Doors with wind locks			
120 ¹⁾	145 ¹⁾	275	155	140 ¹⁾	165 ¹⁾	295	180
190 ²⁾	160 ³⁾			160 ⁴⁾	180 ^{3) 5)}		
	215 ²⁾			180 ⁵⁾	235 ²⁾		
				210 ²⁾			

1) With subframe (without wind locks)

2) Maximum value without extending the barrel

3) With additional post

4) Side guide with support and additional post (without wind locks)

5) Side guide with clamp system (with wind locks)

L = Sideroom on bearing side

L_{WFK} = Sideroom WFK

MS = Sideroom on motor side for direct drive operators

FS = Sideroom for side guide

S = Required headroom see tables from page 52

ET = Minimum fitting depth for operator and support brackets, see tables from page 52

FFL = Finished floor level

Notes:

- Wall flange bearings can only be applied to door systems fitted with direct drive operators.
- Wall flange bearings cannot be used in combination with the ZAK® system.
- For classic rolling grilles with wall flange bearing, the required headroom is increased: $S = S + 255 \text{ mm}$

Two-sided use of the WFK support bracket:

- Only possible with doors of the same version and size
- Space requirement between the doors:
 - Doors with FS 73: 248 mm
 - Doors with FS 98: 288 mm
- Double maximum load at the fixing points

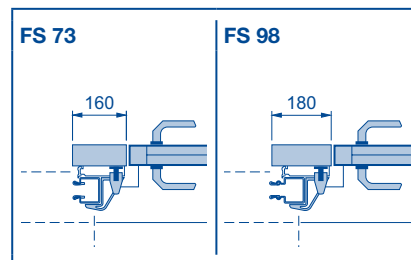
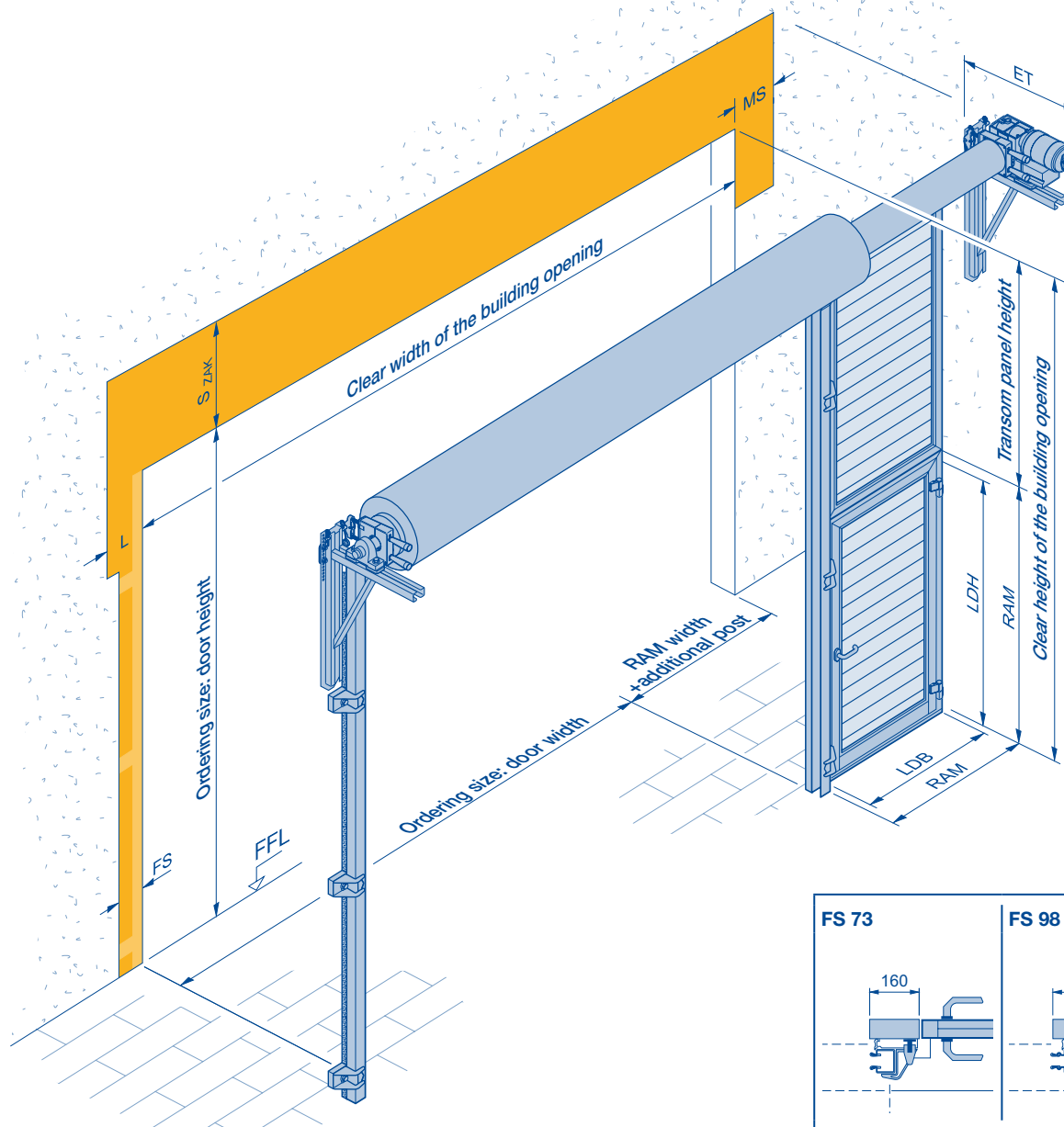
Notes



Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

Side door with transom panel

Fitting example with direct drive operator and ZAK® system



	FS 73	FS 98
Additional post (width)	160	180
Door width ordering size	Clear width of the building opening – RAM (width) – additional post (width)	
RAM (height)	Min. 1800 mm, Max. 2500	
RAM (width)	Min. 650 mm, max. 1300	
LDB	RAM (width) – 140	
LDH	RAM (height) – 70	

RAM = Overall frame dimension
LDB = Clear passage width
LDH = Clear passage height
L = Sideroom on bearing side
FS = Sideroom for side guide

Notes:

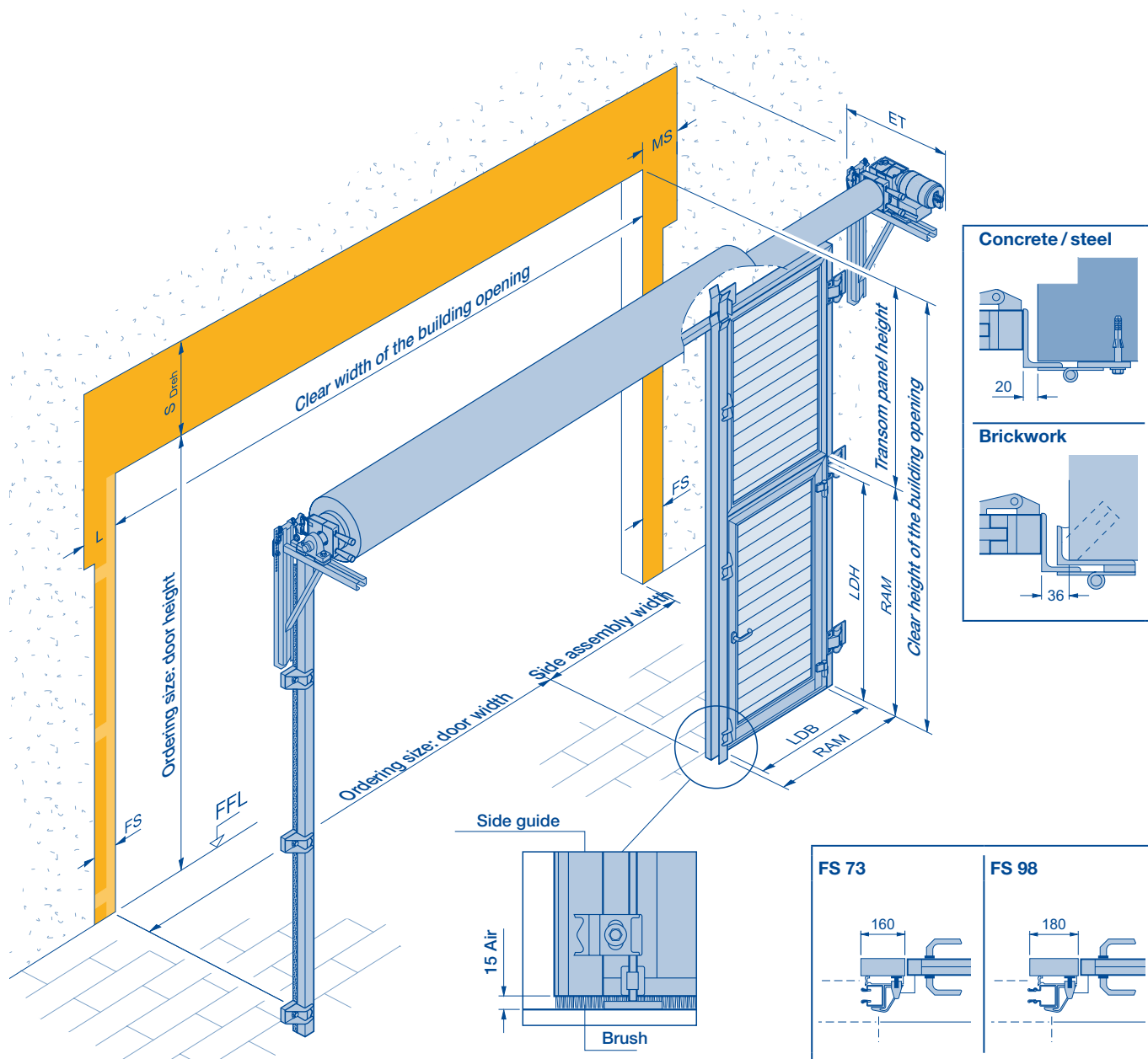
- The type of the side guide depends on the door data. For standard values, see pages 46 / 47.
- Dimensions for sideroom, see:
 - For direct drive operators, page 28
 - For chain drive operators, page 29
- Please take into consideration possible tolerances on the building structure when determining the RAM width and transom panel height.

MS = Sideroom on motor side for direct drive operators
S ZAK = Required headroom for doors with optional ZAK® system
ET = Minimum fitting depth for operator and support brackets, see tables from page 52
FFL = Finished floor level

Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

Swing-aside pass door assembly

Fitting example with direct drive operator and ZAK® system



	FS 73		FS 98	
	Brickwork	Concrete / steel	Brickwork	Concrete / steel
Side assembly width	RAM + 160 + 36	RAM + 160 + 20	RAM + 180 + 36	RAM + 180 + 20
Door width ordering size	Clear width of the building opening – side assembly width			
Transom panel height	Clear height of the building opening – RAM (height) – 75			
RAM (height)	Min. 1800 mm, max. 2300			
RAM (width)	Min. 650 mm, max. 1300			
LDB	RAM (width) – 140			
LDH	RAM (height) – 70			

Notes:

- The head room is increased by max. 200 mm ($S_{TURN} = S + 200$).
- The type of side guide depends on the version of the door. For standard values, see pages 46 / 47.
- Dimensions for sideroom, see:
 - For direct drive operators, page 28
 - For chain drive operators, page 29
- Side door with threshold rail, not approved as escape door.

RAM = overall frame dimension
LDB = Clear passage width
LDH = Clear passage height
L = Sideroom on bearing side
FS = Sideroom for side guide

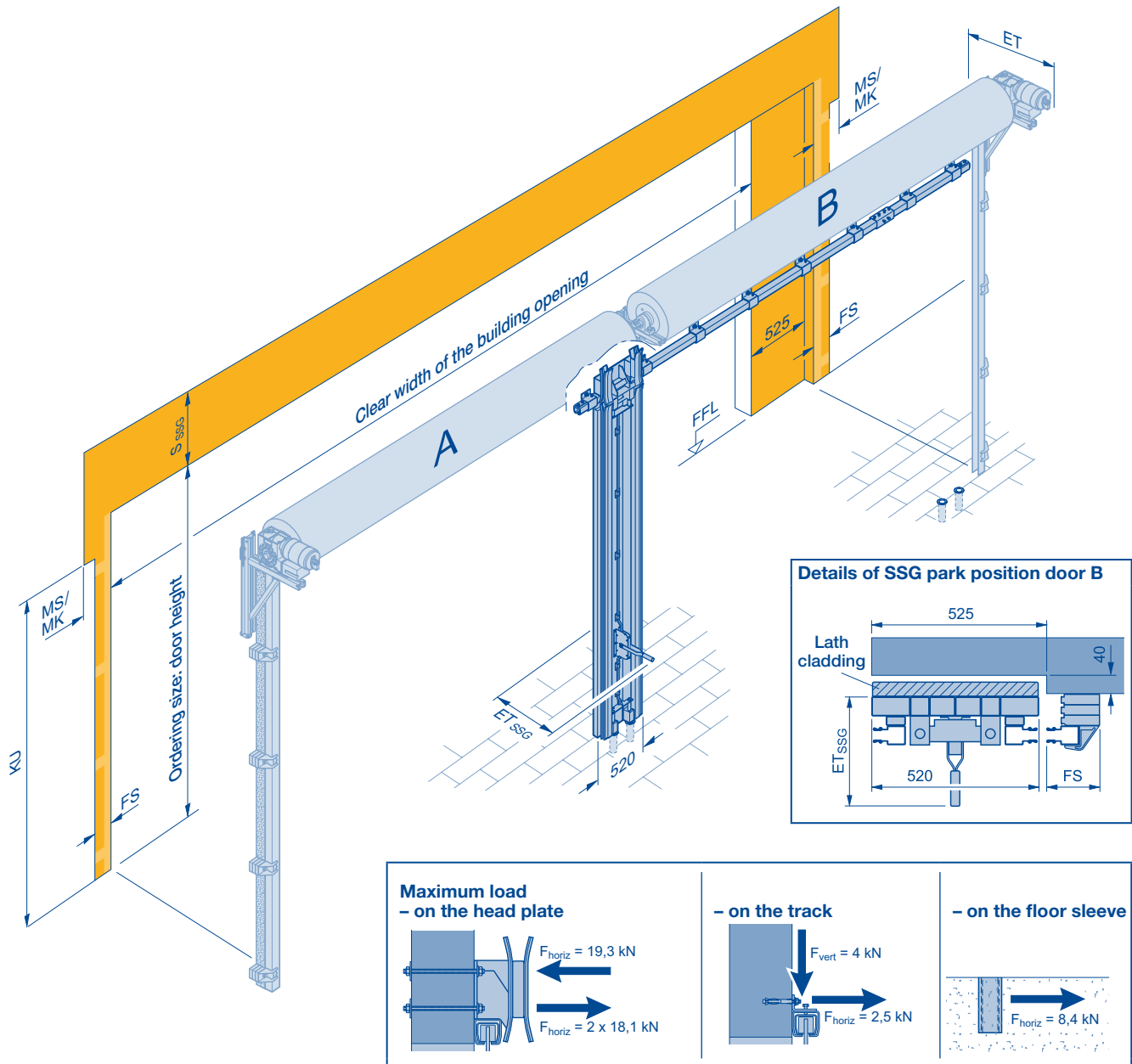
MS = Sideroom on motor side for direct drive operators
 S_{TURN} = Required headroom for doors with swing-aside pass door assembly
ET = Minimum fitting depth for operator and support brackets, see tables from page 52
FFL = Finished floor level

Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

SSG system

Park position behind the opening

Fitting example with direct drive operator and park position to the right



Max. clear width of the building opening	Profile types Curtain types
16470 mm	HR 120 S
15470 mm	HR 120 A, HR 120 aero ¹⁾ , HG-A ²⁾
19470 mm	Decotherm S
21470 mm	HR 116 A
23470 mm	HG-V ²⁾ , HG-S ²⁾
Calculating the ordering sizes	
Ordering size width door A (Door without SSG travel)	(Clear width/2) – 260
Ordering size width door B (Door with SSG travel)	(Clear width/2) + 265
Ordering size height	Clear height of the building opening (maximum 6000 mm)

Notes:

- Available for classic rolling shutters/rolling grilles with direct drive operator or chain drive operator
- Symmetrical view from the outside
- Same operator type and profile version for door A and B
- The park position can be selected either to the right or left behind the building opening
- Not available as external rolling shutter in combination with ZAK®-XL, WPS or fascia panels
- The required headroom cannot be reduced with the ZAK® system
- Doors less than 2200 mm and rolling grille only with press-and-hold control
- $S_{\text{SSG}} = S + \text{max. } 350 \text{ mm}$
- $ET_{\text{SSG}} = 530 \text{ mm}$
- Side guides always FS 98
- The siderooms (FS, MS, MK) increase by 525 mm each for door B (for dimensions, see pages 28 / 29).

1) Only permissible for internal doors 2) Only permissible for doors with press-and-hold control

F_{horiz} = Horizontal force at the fixing point

F_{vert} = Vertical force at the fixing point

MS

= Sideroom on motor side for direct drive operators

KU

= Bottom support bracket dimension, different on bearing and operator sides

FS

= Sideroom for side guide

MK

= Sideroom on motor side for chain drive operators

S_{SSG}

= Required headroom for door systems with SSG system

ET_{SSG}

= Fitting depth for the SSG system

FFL

= Finished floor level

ET

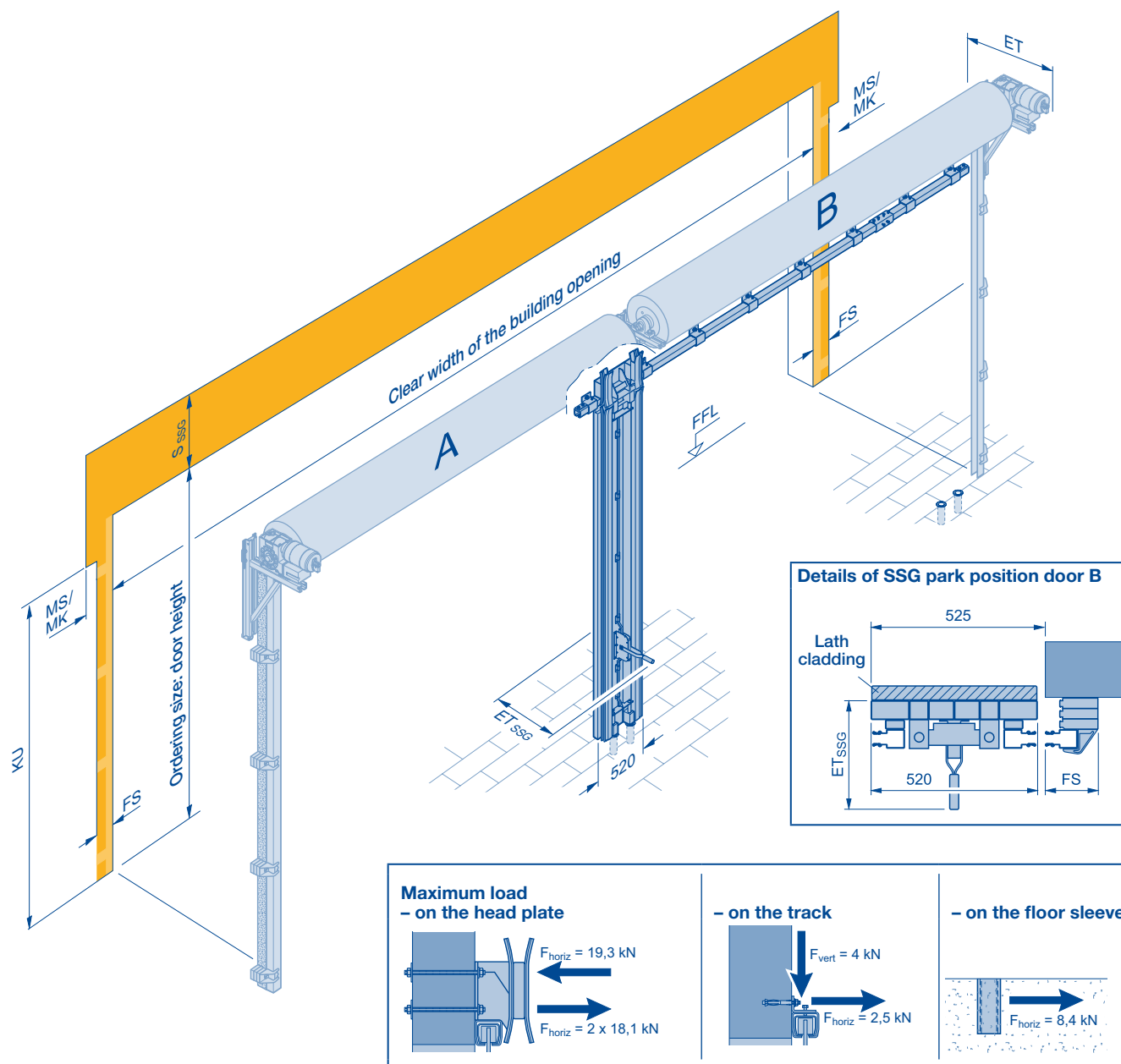
= Minimum fitting depth for operator and support brackets, see tables from page 52

Space Requirements for Classic Rolling Shutters / Classic Rolling Grilles

SSG system

Park position in the opening

Fitting example with direct drive operator and park position to the right



Max. clear width of the building opening	Profile types Curtain types
17500 mm	HR 120 S
16500 mm	HR 120 A, HR 120 aero ¹⁾ HG-A ²⁾
20500 mm	Decotherm S
22500 mm	HR 116 A
24500 mm	HG-V ²⁾ , HG-S ²⁾
Calculating the ordering sizes	
Ordering size width door A/B	(Clear width/2) – 260
Ordering size height	Clear height of the building opening (maximum 6000 mm)

1) Only permissible for internal doors 2) Only permissible for doors with press-and-hold control

Notes:

- Available for classic rolling shutters / rolling grilles with direct drive operator or chain drive operator
- Symmetrical view from the outside
- Same operator type and profile version for door A and B
- The park position can be selected either to the right or left
- Not available as external rolling shutter in combination with ZAK®-XL, WPS or fascia panels
- The required headroom cannot be reduced with the ZAK® system
- Doors less than 2200 mm and rolling grille only with press-and-hold control
- $S_{SSG} = S + \text{max. } 350 \text{ mm}$
- $ET_{SSG} = 530 \text{ mm}$
- Side guides always FS 98
- Does not have any influence on the lateral siderooms (FS, MS, MK) (for dimensions, see pages 28 / 29).

F_{horiz} = Horizontal force at the fixing point

F_{vert} = Vertical force at the fixing point

FS = Sideroom for side guide

MK = Sideroom on motor side for chain drive operators ET_{SSG} = Fitting depth for the SSG system

MS = Sideroom on motor side for direct drive operators

KU = Bottom support bracket dimension, different on bearing and operator sides

S_{SSG} = Required headroom for door systems with SSG system

ET_{SSG} = Fitting depth for the SSG system

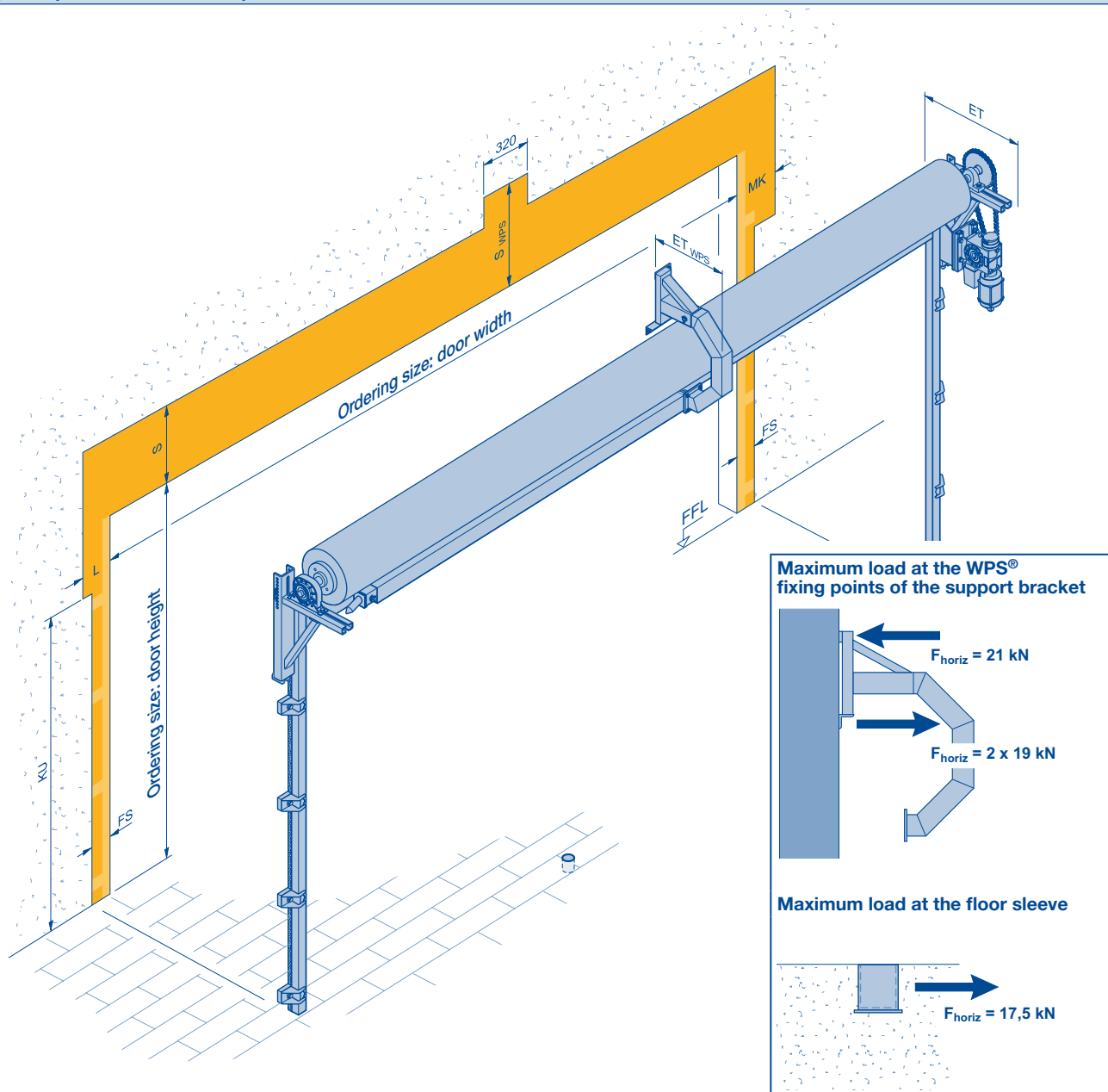
ET = Minimum fitting depth for operator and support brackets, see tables from page 52

FFL = Finished floor level

Space Requirements for Classic Rolling Shutters

WPS®

Fitting example with chain drive operator



F_{horiz}	= Horizontal force at the fixing point
L	= Sideroom on bearing side
MK	= Sideroom on motor side for chain drive operators
FS	= Sideroom for side guide
KU	= Bottom support bracket dimension, different on bearing and operator sides
S	= Required headroom see tables from page 52
S_{WPS}	= Required headroom for door with WPS®, see tables from page 45
ET	= Minimum fitting depth for operator and support brackets, see tables from page 52
ET_{WPS}	= Fitting depth for WPS® support bracket, see tables from page 45
FFL	= Finished floor level

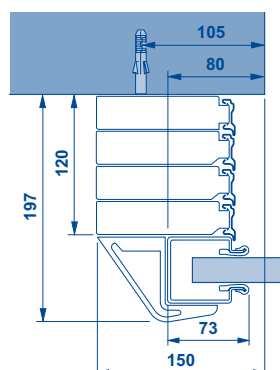
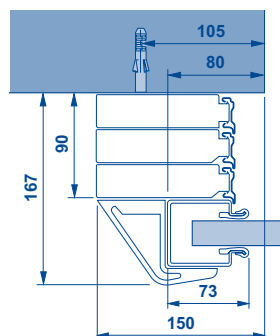
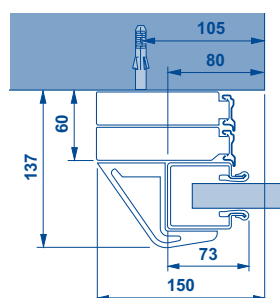
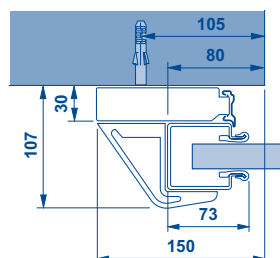
Notes:

- The minimum door width must be 6200 mm.
- The WPS® is only approved for doors with press-and-hold operation.
- The WPS® does not have any influence on the sideroom.
- Dimensions for sideroom, see:
 - For direct drive operators, page 28
 - For chain drive operators, page 29
- For dimensions for ET_{WPS} and S_{WPS} , see the tables on page 45

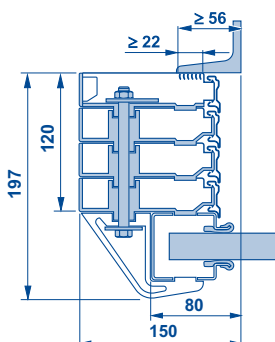
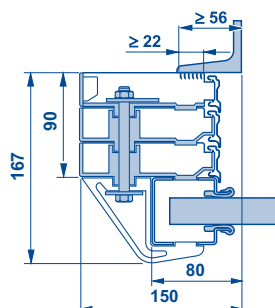
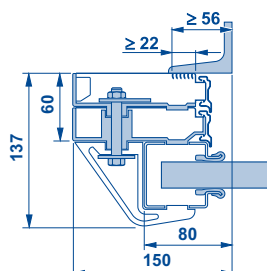
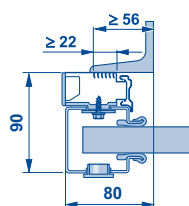
Classic Rolling Shutters / Classic Rolling Grilles

Fitting the side guides FS 73 S/E

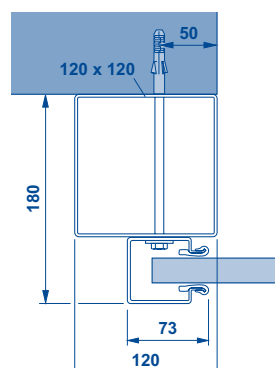
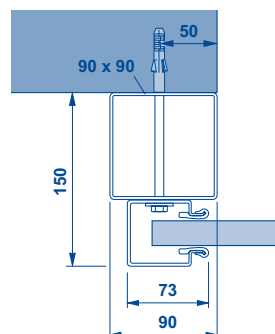
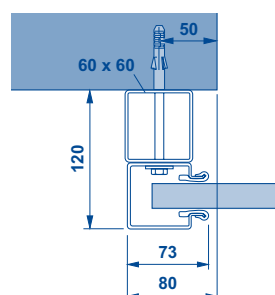
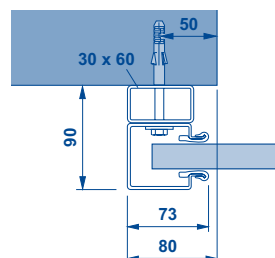
Standard spacers



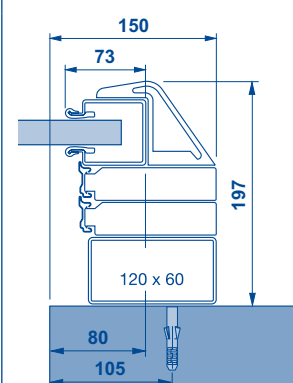
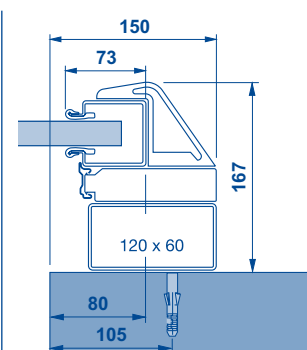
Weld-on spacers



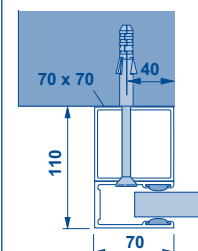
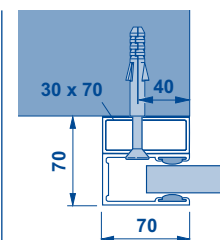
Subframes



External rolling shutter



Side guide FS 70 A



Application range:

- Rolling shutters without wind locks up to 4000 mm door width
- Rolling grilles HG-A/HG-V up to 4000 mm door width
- Rolling grilles HG-S up to 6000 mm door width

Weld-on spacers

Conditions on the building structure:

- Steel: Steel supports directly on the building opening
- Concrete, brickwork, lightweight construction: On-site U frame made of steel

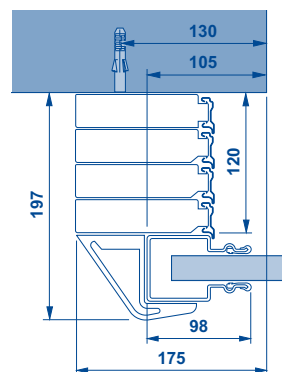
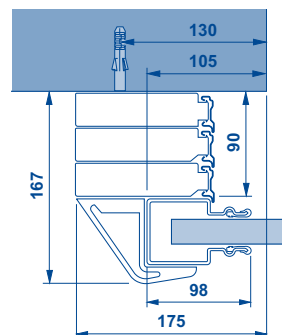
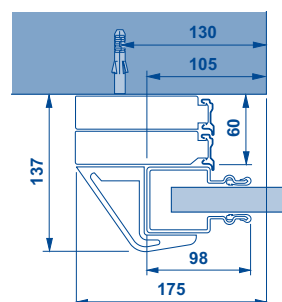
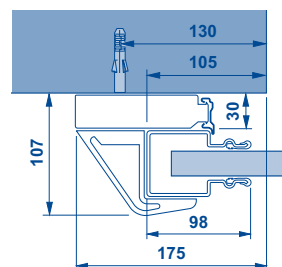
Notes:

- For the number of spacers required, see tables from page 52
- At least 2 spacers for external rolling shutters and SKS
- Assembly height of the side guide = 60 mm
- Support height for each spacer = 30 mm
- Maximum load at the fixing point: 1.5 kN tensile load
- FS 70 A only for rolling shutters with profile version HR 120, HR 120 aero® or for classic rolling grilles

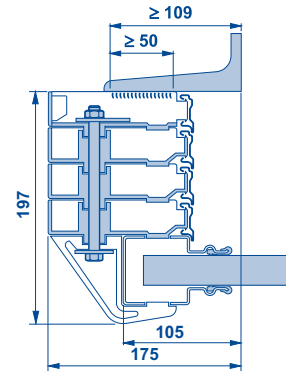
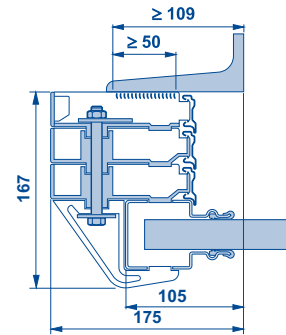
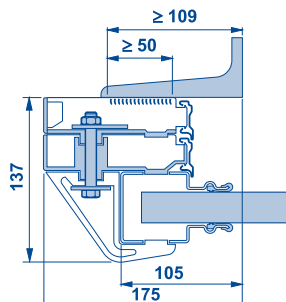
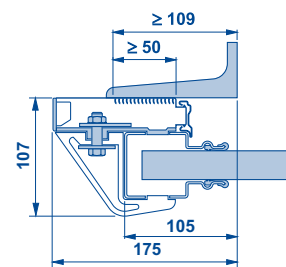
Classic Rolling Shutters / Classic Rolling Grilles

Fitting the side guides FS 98 S

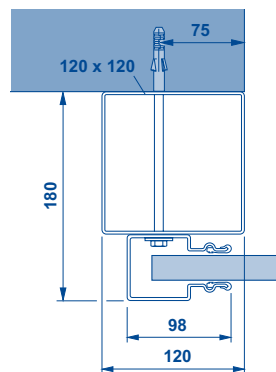
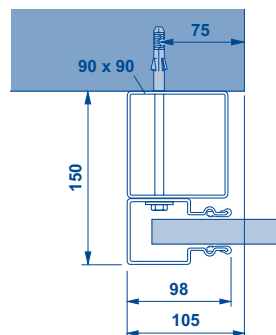
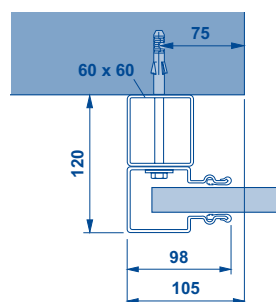
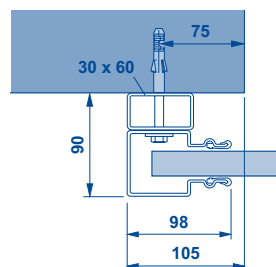
Standard spacers



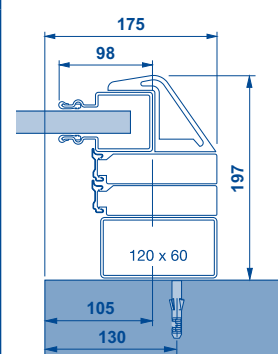
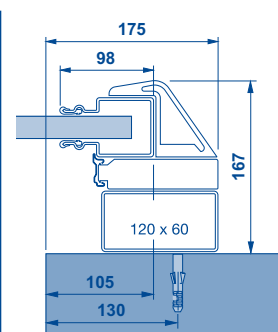
Weld-on spacers



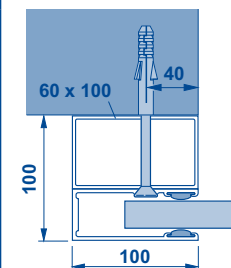
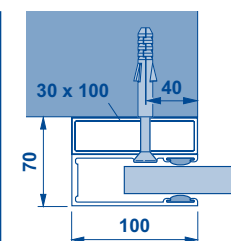
Subframes



External rolling shutter



Side guide FS 100 A



Application range:

- Rolling shutters with wind locks
- Rolling shutters with door widths greater than 4000 mm
- Rolling grilles HG-A/HG-V with door widths greater than 4000 mm
- Rolling grilles HG-S with door widths greater than 6000 mm

Weld-on spacers

Conditions on the building structure:

- Steel: Steel supports directly on the building opening
- Concrete, brickwork, lightweight construction: On-site U frame made of steel

Notes:

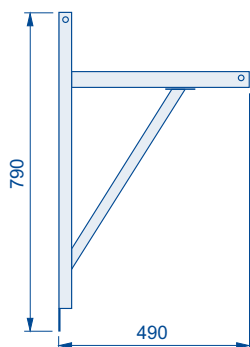
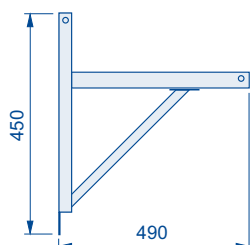
- For the number of spacers required, see tables from page 52
- At least 2 spacers for external rolling shutters and SKS
- Assembly height of the side guide = 60 mm
- Support height for each spacer = 30 mm
- Maximum load at the fixing point: 1.5 kN tensile load
- No wind locks with subframes
- FS 100 A only for rolling shutters with profile version HR 120, HR 120 aero® or for classic rolling grilles

Classic Rolling Shutters / Classic Rolling Grilles

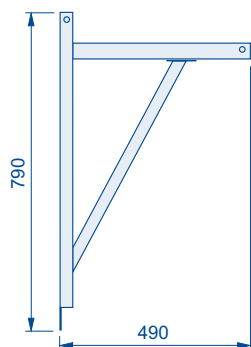
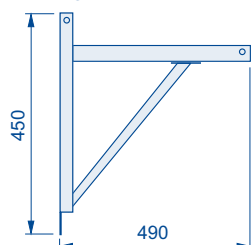
Standard support brackets

Doors with direct drive operator

Operator side



Bearing side



Support width



Support bracket N 450 AK/N 450 LK

Note:

- Up to a door curtain and barrel weight of 300 kg

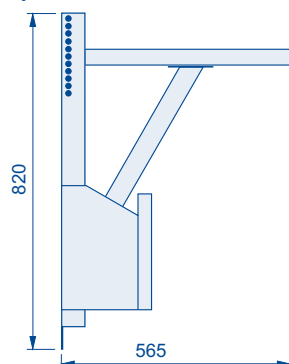
Support bracket N 450 A/N 450 L

Note:

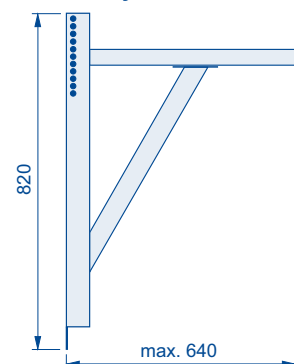
- From a door curtain and barrel weight of 300 kg

Doors with chain drive operator

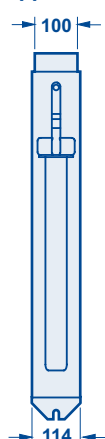
Operator side



Catch safety device side



Support width



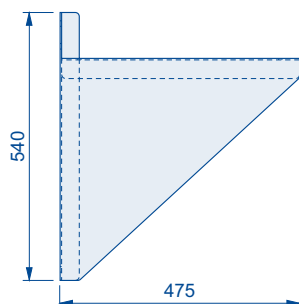
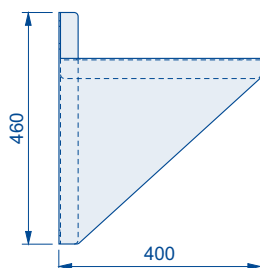
Support bracket K / support bracket M 500/F

Note:

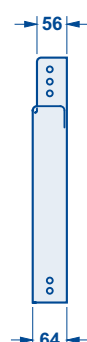
- The support surface is the same on the operator side and the catch safety device side

Doors with tubular operator

Operator and catch safety device side



Support width



Support bracket 400 / support bracket 475

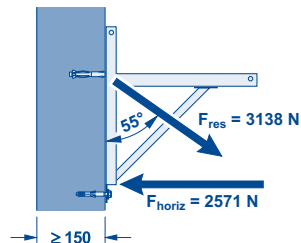
Classic Rolling Shutters / Classic Rolling Grilles

Maximum loads at the fixing points of the support brackets

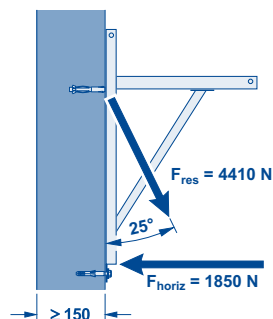
Doors with direct drive operator

Load during operation

Support bracket N 450 K



Support bracket N 450



Minimum requirements for the building structure

Concrete

Strength class C 20 / 25

Thickness 140 mm

Standard EN 206-1

Steel

Strength class S235-JRG2

Thickness 5 mm

Standard EN 10027-1

Brickwork

Strength class 12 / mortar group II

Thickness 240 mm

Standard DIN 1053-1

Timber

Coniferous wood: C24 / quality category II

Thickness 120×120 mm

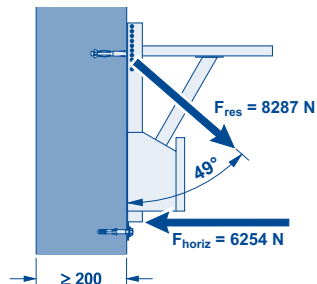
Standard DIN 1052 (EC5)

F_{res} = Resulting force at the fixing point

F_{horiz} = Horizontal force at the fixing point

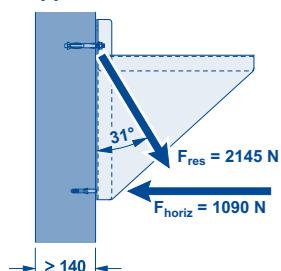
Doors with chain drive operator

Load during operation

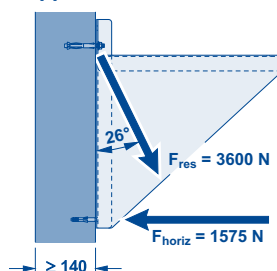


Doors with tubular operator

Support bracket 400



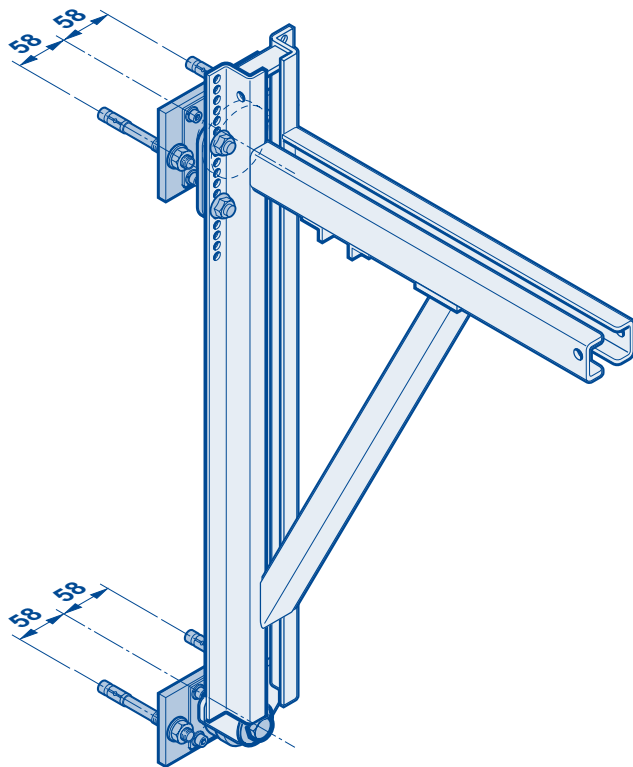
Support bracket 475



Classic Rolling Shutters / Classic Rolling Grilles

Acoustic-rated elements

Acoustic-rated elements



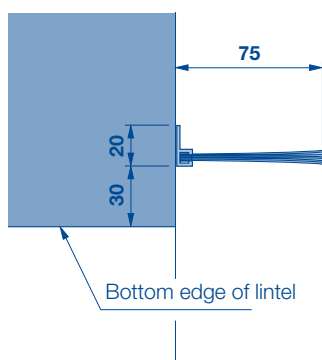
Notes:

- Acoustic-rated elements can be used with:
 - Classic rolling grilles with direct drive operator
 - Classic rolling shutters with direct drive operator and ZAK® system
- The acoustic-rated elements are mounted between the support bracket and the building structure.
- The acoustic-rated elements reduce the transmission of the operator vibrations to the building structure.
- The acoustic-rated elements do not have any influence on:
 - Siderooms
 - Required headroom
 - ZAK® adjustment dimensions
- The number of spacers increases to 2.
- The number of fixing points for the support brackets on the building structure doubles.
- The fitting depth (**ET**) increases by 50 mm.

Classic Rolling Shutters

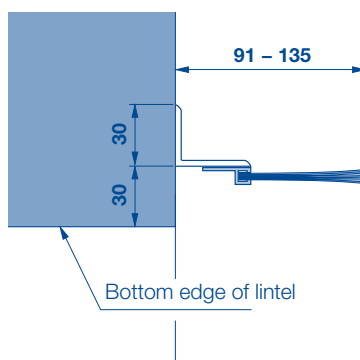
Lintel seals

SD3

**Note:**

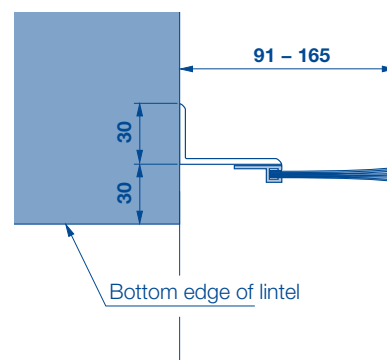
- Support height is 30 mm or one spacer

SD4

**Note:**

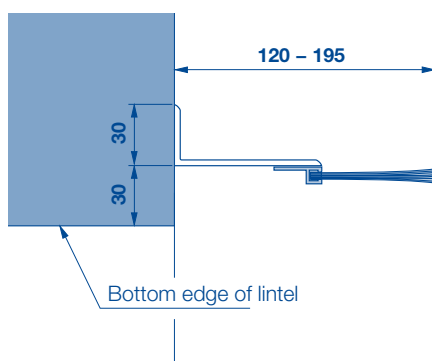
- Support height is 60 mm or two spacers
- Cover width adjustable

SD5

**Note:**

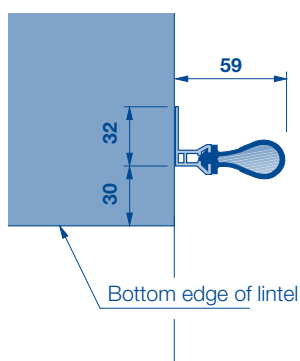
- Support height is 90 mm or three spacers
- Cover width adjustable

SD6

**Note:**

- Support height is 120 mm or four spacers
- Cover width adjustable

BF 50

**Notes:**

- For classic rolling shutters with ZAK system and
 - Decotherm®
 - HR 116
- Support height is 30 mm or one spacer



Tables of Standard Values

Classic Rolling Shutters with Direct Drive Operator

HR 120 A

Door height														Door with wind locks as standard																																																																																																																																																									
8000	750	809	750	809	750	809	750	862	750	862	750	862	750	862	846	855	846	855	846	855	846	855	846	855	846	855	846	920	846	920	846	920	846	940	846	940	846	940																																																																																																																																	
7750	750	797	750	809	750	809	750	809	750	862	750	862	750	862	846	855	846	855	846	855	846	855	846	855	846	855	846	855	846	920	846	920	846	938	846	938	846	938																																																																																																																																	
7500	710	777	710	789	710	789	710	789	710	842	710	842	710	842	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	900	806	920	806	920																																																																																																																																	
7250	710	777	710	777	710	789	710	789	710	789	710	842	710	842	806	855	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	900	806	920	806	920																																																																																																																																	
7000	710	777	710	777	710	789	710	789	710	789	710	842	710	842	806	855	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	900	806	900	806	920																																																																																																																																	
6750	710	777	710	777	710	777	710	789	710	789	710	789	710	842	806	855	806	855	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	900	806	900																																																																																																																																	
6500	710	777	710	777	710	777	710	777	710	789	710	789	710	842	806	855	806	855	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	900	806	900																																																																																																																																	
6250	710	777	710	777	710	777	710	777	710	789	710	789	710	842	806	855	806	855	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	900	806	900																																																																																																																																	
6000	680	762	680	762	680	762	680	762	680	774	680	774	680	774	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	820	776	820	776	820	776	886	776	886																																																																																																																																	
5750	680	762	680	762	680	762	680	762	680	762	680	774	680	774	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	820	776	820	776	820	776	821																																																																																																																																	
5500	680	762	680	762	680	762	680	762	680	762	680	762	680	774	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	820	776	820	776	821																																																																																																																																	
5250	680	762	680	762	680	762	680	762	680	762	680	762	680	774	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	820	776	821																																																																																																																																	
5000	680	762	680	762	680	762	680	762	680	762	680	762	680	774	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	840	776	821																																																																																																																																	
4750	634	739	634	739	634	739	634	739	634	739	634	739	634	739	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764																																																																																																																																	
4500	634	739	634	739	634	739	634	739	634	739	634	739	634	739	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764																																																																																																																																	
4250	634	739	634	739	634	739	634	739	634	739	634	739	634	739	730	752	730	752	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764																																																																																																																																	
4000	634	739	634	739	634	739	634	739	634	739	634	739	634	739	730	752	730	752	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764	730	764																																																																																																																																	
3750	600	722	600	722	600	722	600	722	600	722	600	722	600	722	696	735	696	735	696	735	696	735	696	735	696	735	696	735	696	747	696	747	696	747	696	800	696	800																																																																																																																																	
3500	600	722	600	722	600	722	600	722	600	722	600	722	600	722	696	735	696	735	696	735	696	735	696	735	696	735	696	735	696	747	696	747	696	747	696	747	696	800																																																																																																																																	
3250	600	722	600	722	600	722	600	722	600	722	600	722	600	722	696	735	696	735	696	735	696	735	696	735	696	735	696	735	696	747	696	747	696	747	696	747	696	747																																																																																																																																	
3000	600	722	600	722	600	722	600	722	600	722	600	722	600	722	696	735	696	735	696	735	696	735	696	735	696	735	696	735	696	747	696	747	696	747	696	747	696	747																																																																																																																																	
2750	554	699	554	699	554	699	554	699	554	699	554	699	554	699	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712																																																																																																																																	
2500	554	699	554	699	554	699	554	699	554	699	554	699	554	699	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712																																																																																																																																	
2250	554	699	554	699	554	699	554	699	554	699	554	699	554	699	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712	650	712																																																																																																																																	
Door width																																																																																																																																																																							
2250														2500														2750														3000														3250														3500														3750														4000																																																																					
4250														4500														4750														5000														5250														5500														5750														6000														6250														6500														6750														7000													

Operator

S55
S42
S35
S25
S18
S14

123 = S (required headroom)

123 = ET (minimum fitting depth)

Note:

All standard values only apply to standard version doors without ZAK® system.

- **80 mm** less required headroom (**$S_{ZAK} = S - 80 \text{ mm}$**)
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides

																Opening time [s]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Door no longer fulfils wind load class 2 (EN 12424)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
846	940	846	940	846	940	846	940																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				</



HR 120 S

Door width

Operator
S55
S42
S35
S25
S18
S14

123 = S (required headroom)

Note:

All standard values only apply to standard version doors **without** ZAK® system.

- **80 mm less required headroom ($S_{ZAK} = S - 80 \text{ mm}$)**
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides

		Opening time [s]	
		Spacers	
		3	32
		3	31
		3	31
		3	30
		3	29
		3	28
		3	27
		3	26
		2	27
		2	26
		2	25
		2	24
		2	23
		2	23
		2	21
		2	20
		2	19
		1	19
		1	18
		1	17
		1	16
		1	15
		1	14
		1	12



- **80 mm** less required headroom (**S_{ZAK} = S – 80 mm**)
- Much less wear on the door curtain
- Quiet door travel
- Only 1 spacer support at the side guides

																		Opening time [s]																		
																		Spacers																		
Door no longer fulfils wind load class 2 (EN 12424)																																				
742	923	742	923	742	923	742	923	742	923	742	923	742	923						3	31																
742	903	742	923	742	923	742	923	742	923	742	923	742	923						3	30																
706	885	706	885	706	905	706	905	706	905	706	905	706	905	706	905				3	30																
706	885	706	885	706	885	706	905	706	905	706	905	706	905	706	905				3	29																
706	885	706	885	706	885	706	905	706	905	706	905	706	905	706	905				3	28																
706	885	706	885	706	885	706	885	706	885	706	905	706	905	706	905				3	28																
706	820	706	885	706	885	706	885	706	885	706	885	706	905	706	905	722	913		3	27																
706	820	706	820	706	885	706	885	706	885	706	885	706	885	706	885	706	905	714	909	3	26															
690	812	690	812	690	812	690	812	690	877	690	877	690	877	690	877	690	877	700	902	3	25															
690	812	690	812	690	812	690	812	690	812	690	877	690	877	690	877	690	877	690	897	3	24															
690	812	690	812	690	812	690	812	690	812	690	812	690	877	690	877	690	877	690	897	3	23															
690	812	690	812	690	812	690	812	690	812	690	812	690	812	690	877	690	877	690	897	2	24															
690	812	690	812	690	812	690	812	690	812	690	812	690	812	690	812	690	877	690	897	2	23															
626	800	626	781	626	781	626	781	626	781	626	781	626	781	626	781	626	781	688	886	2	21															
626	800	626	781	626	781	626	781	626	781	626	781	626	781	626	781	626	781	650	877	2	20															
626	800	626	801	626	801	626	781	626	781	626	781	626	781	626	781	626	781	650	857	2	19															
626	747	626	800	626	801	626	801	626	801	626	781	626	781	626	781	626	781	650	857	2	19															
588	728	588	728	588	728	588	728	588	728	588	728	588	728	588	728	588	728	650	857	2	18															
588	728	588	728	588	728	588	728	588	728	588	728	588	728	588	728	588	728	650	857	2	17															
588	728	588	728	588	728	588	728	588	728	588	728	588	728	588	728	588	728	650	857	2	16															
588	716	588	728	588	728	588	728	588	728	588	728	588	728	588	728	588	728	650	857	1	16															
550	697	550	697	550	697	550	697	550	697	550	697	550	697	550	697	550	697	610	772	1	15															
550	697	550	697	550	697	550	697	550	697	550	697	550	697	550	697	550	697	610	772	1	13															
550	697	550	697	550	697	550	697	550	697	550	697	550	697	550	697	550	697	610	772	1	12															
7250		7500		7750		8000		8250		8500		8750		9000		9250		9500		9750		10000		10250		10500		10750		11000		11250		11500		11750



Use the advantages of the ZAK® systems

- 80 mm less required headroom ($S_{ZAK} = S - 80 \text{ mm}$)
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides



												Opening time [s]					
												Spacers					
												3	32				
												3	31				
												3	30				
												3	30				
												3	32				
												3	31				
												3	30				
												3	30				
												3	29				
												3	28				
												3	27				
												3	27				
												2	26				
												2	25				
												2	24				
753	894											2	23				
753	894	753	894	753	894							2	23				
753	894	753	894	753	894	753	894					2	23				
741	888	741	888	741	888	741	888	741	888			2	22				
715	875	715	875	715	875	715	875	715	875	715	875	2	21				
715	875	715	875	715	875	715	875	715	875	715	875	2	20				
715	855	715	855	715	875	715	875	715	875	715	875	2	19				
715	855	715	855	715	855	715	855	715	875	715	875	1	19				
701	848	701	848	701	848	701	848	701	868	701	868	1	18				
673	769	673	769	673	769	673	834	673	834	673	834	1	17				
673	769	673	769	673	769	673	769	673	834	673	834	673	834	1	16		
673	769	673	769	673	769	673	769	673	769	673	834	673	834	689	862	689	862
673	769	673	769	673	769	673	769	673	769	673	769	673	834	681	858	681	858
613	706	635	750	635	750	635	750	635	750	635	750	635	750	635	750	681	858
7250	7500	7750	8000	8250	8500	8750	9000	9250	9500	9750	10000						



Tables of Standard Values

Classic Rolling Shutters with Direct Drive Operator

Decotherm® A

Use the advantages of the ZAK® systems

- 80 mm less required headroom ($S_{ZAK} = S - 80$ mm)
- Much less wear on the door curtain
- Quiet door travel
- Only 1 spacer support at the side guides



										Opening time [s]		
										Spacers		
Door height												
4000	583	714	583	714	583	714	583	714	583	714	1	19
3750	549	697	549	697	549	697	549	697	549	697	1	19
3500	543	694	543	694	543	694	543	694	543	694	1	18
3250	543	694	543	694	543	694	543	694	543	694	1	16
3000	543	694	543	694	543	694	543	694	543	694	1	15
2750	513	679	513	679	513	679	513	679	513	679	1	15
2500	509	677	509	677	509	677	509	677	509	677	1	14
2250	509	677	509	677	509	677	509	677	509	677	1	13
Door width												
	2250	2500	2750	3000	3250	3500	3750	4000				

Operator

S14

123 = S (required headroom)

123 = ET (minimum fitting depth)

Note:

All standard values only apply to standard version doors without ZAK® system.

Notes





HR 116 A

Door width

123 = S (required headroom)

Note:

All standard values only apply to standard version doors **without** ZAK® system.

S55
S42
S35
S25
S18
S14

- **80 mm** less required headroom (**$S_{ZAK} = S - 80 \text{ mm}$**)
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides

Opening time [s]																				
Spacers																				
																			4	30
																			4	30
																			4	29
																			4	28
																			4	28
																			4	28
																			4	27
																			4	26
																			4	26
																			4	25
																			4	25
																			3	25
																			3	24
																			3	23
																			3	22
																			3	21
																			3	20
																			3	20
792	913																		3	19
792	913	792	913																3	18
752	893	752	893	752	893														3	17
748	891	748	891	748	891	748	891												3	16
748	891	748	891	748	891	748	891	748	891										2	16
748	871	748	871	748	891	748	891	748	891										2	15
742	868	742	868	742	868	742	888	742	888										2	14
726	860	726	860	726	860	726	860	726	880	726	880								2	13
694	779	694	779	694	844	694	844	694	844	694	844								2	12
694	779	694	779	694	779	694	844	748	891	748	891								1	12
7250	7500	7750	8000	8250	8500	8750	9000	9250	9500	9750	10000	10250	10500	10750	11000	11250	11500	11750		



HR 120 A

Door width

K40
K30
K20

123 = S (required headroom)

123 = **ET** (minimum fitting depth)

All standard values only apply to standard version doors **without** the ZAK®-XL system.

- | Opening time [s] |
|------------------|
| Spacers |

Spacers

65



- **80 mm** less required headroom (**S_{ZAK-XL} = S – 80 mm**)
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides
- For details, see page 34

[illegible]

* For doors fitted with the chain drive operator K40-4, the door opening time increases by 33%



Tables of Standard Values

Classic Rolling Shutters with Chain Drive Operator

HR 120 aero®

Door height																				
8000	732	595	732	595	732	595	732	595	732	595	732	595	732	595	732	595	732	595	732	595
7750	732	595	732	595	732	595	732	595	732	595	732	595	732	595	732	595	732	595	732	595
7500	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595
7250	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595
7000	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595
6750	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595
6500	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595	696	595
6250	684	595	684	595	684	595	684	595	684	595	684	595	684	595	684	595	684	595	684	595
6000	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595
5750	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595
5500	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595
5250	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595
5000	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595	654	595
4750	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595
4500	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595
4250	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595
4000	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595	626	595
3750	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595
3500	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595
3250	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595
3000	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595	588	595
2750	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595
2500	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595
2250	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595	550	595
											2250	2500	2750	3000	3250	3500	3750	4000	4250	4500

Door width

Operator

K30
K20

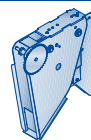
123 = S (Required headroom)

123 = ET (Minimum fitting depth)

Note:

All standard values only apply to standard version doors without the ZAK®-XL system.

- Much less wear on the door curtain
- Quiet door travel
- Only 1 spacer support at the side guides
- For details, see page 34

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Tables of Standard Values

Classic Rolling Shutters with Chain Drive Operator

Decotherm® S

Door height													Door with wind locks as standard												
9000	721	595	721	595	721	595	721	595	721	595	721	595	817	602	849	634	849	634	849	634	849	634	849	634	849
8750	719	595	719	595	719	595	719	595	719	595	719	595	815	600	837	622	837	622	837	622	837	622	837	622	837
8500	719	595	719	595	719	595	719	595	719	595	719	595	815	600	837	622	837	622	837	622	837	622	837	622	837
8250	719	595	719	595	719	595	719	595	719	595	719	595	815	600	833	618	833	618	833	618	833	618	833	618	833
8000	719	595	719	595	719	595	719	595	719	595	719	595	815	600	833	618	833	618	833	618	833	618	833	618	833
7750	713	595	713	595	713	595	713	595	713	595	713	595	809	595	833	618	833	618	833	618	833	618	833	618	833
7500	681	595	681	595	681	595	681	595	681	595	681	595	777	595	807	595	807	595	807	595	807	595	807	595	807
7250	679	595	679	595	679	595	679	595	679	595	679	595	775	595	795	595	795	595	795	595	795	595	795	595	795
7000	679	595	679	595	679	595	679	595	679	595	679	595	775	595	795	595	795	595	795	595	795	595	795	595	795
6750	679	595	679	595	679	595	679	595	679	595	679	595	775	595	795	595	795	595	795	595	795	595	795	595	795
6500	679	595	679	595	679	595	679	595	679	595	679	595	775	595	795	595	795	595	795	595	795	595	795	595	795
6250	659	595	659	595	659	595	659	595	659	595	659	595	755	595	755	595	755	595	755	595	755	595	755	595	755
6000	637	595	637	595	637	595	637	595	637	595	637	595	733	595	733	595	733	595	733	595	733	595	733	595	733
5750	637	595	637	595	637	595	637	595	637	595	637	595	733	595	733	595	733	595	733	595	733	595	733	595	733
5500	637	595	637	595	637	595	637	595	637	595	637	595	733	595	733	595	733	595	733	595	733	595	733	595	733
5250	637	595	637	595	637	595	637	595	637	595	637	595	733	595	733	595	733	595	733	595	733	595	733	595	733
5000	605	595	605	595	605	595	605	595	605	595	605	595	701	595	701	595	701	595	701	595	701	595	701	595	701
4750	593	595	593	595	593	595	593	595	593	595	593	595	689	595	689	595	689	595	689	595	689	595	689	595	689
4500	593	595	593	595	593	595	593	595	593	595	593	595	689	595	689	595	689	595	689	595	689	595	689	595	689
4250	593	595	593	595	593	595	593	595	593	595	593	595	689	595	689	595	689	595	689	595	689	595	689	595	689
4000	593	595	593	595	593	595	593	595	593	595	593	595	689	595	689	595	689	595	689	595	689	595	689	595	689
3750	557	595	557	595	557	595	557	595	557	595	557	595	653	595	653	595	653	595	653	595	653	595	653	595	653
3500	557	595	557	595	557	595	557	595	557	595	557	595	653	595	653	595	653	595	653	595	653	595	653	595	653
3250	557	595	557	595	557	595	557	595	557	595	557	595	653	595	653	595	653	595	653	595	653	595	653	595	653
3000	557	595	557	595	557	595	557	595	557	595	557	595	653	595	653	595	653	595	653	595	653	595	653	595	653
2750	519	595	519	595	519	595	519	595	519	595	519	595	615	595	615	595	615	595	615	595	615	595	615	595	615
2500	517	595	517	595	517	595	517	595	517	595	517	595	613	595	613	595	613	595	613	595	613	595	613	595	613
2250	517	595	517	595	517	595	517	595	517	595	517	595	613	595	613	595	613	595	613	595	613	595	613	595	613
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000					
Door width																									

Operator

K40-4
K40
K30
K20

123 = S (required headroom)

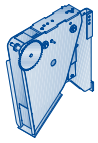
123 = ET (minimum fitting depth)

Note:

All standard values only apply to standard version doors **without** the ZAK®-XL system.

Use the advantages of the ZAK®-XL system

- 80 mm less required headroom (**S_{ZAK-XL} = S – 80 mm**)
- Much less wear on the door curtain
- Improved seal at the lintel
- Quiet door travel
- Only 1 spacer support at the side guides
- For details, see page 34

**Opening time [s]****Spacers**

849	634	849	634	889	674	889	674	889	674	889	674	889	674	889	674	889	674	3	32
837	622	837	622	889	674	889	674	889	674	889	674	889	674	889	674	889	674	3	31
837	622	837	622	863	670	863	670	863	670	863	670	863	670	863	670	863	670	3	30
837	622	837	622	853	670	853	670	853	670	853	670	853	670	853	670	853	670	3	30
833	618	833	618	853	670	853	670	853	670	853	670	853	670	853	670	853	670	3	32
833	618	833	618	853	670	853	670	853	670	853	670	853	670	853	670	853	670	3	31
807	595	807	595	853	638	853	670	853	670	853	670	853	670	853	670	853	670	3	30
795	595	795	595	847	632	847	632	847	670	847	670	847	670	847	670	847	670	3	30
795	595	795	595	839	624	839	624	839	624	839	670	839	670	839	670	839	670	3	29
795	595	795	595	809	595	809	595	809	595	809	595	809	670	809	670	809	670	3	28
795	595	795	595	809	595	809	595	809	595	809	595	809	595	809	670	809	670	3	27
795	595	795	595	809	595	809	595	809	595	809	595	809	595	809	595	809	670	3	27
769	595	769	595	769	595	769	595	769	595	769	595	769	595	769	595	769	595	2	26
753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	2	25
753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	2	24
753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	2	23
753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	753	595	2	23
741	595	741	595	741	595	741	595	741	595	741	595	741	595	741	595	741	595	2	22
715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	2	21
715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	2	20
715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	2	19
715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	715	595	1	19
701	595	701	595	701	595	701	595	701	595	701	595	701	595	701	595	701	595	1	18
673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	1	17
673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	1	16
673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	1	15
673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	673	595	1	14
613	595	635	595	635	595	635	595	635	595	635	595	635	595	635	595	635	595	1	13
7250	7500	7750	8000	8250	8500	8750	9000	9250	9500	9750	10000								



HR 116 A

Door with wind locks as standard

[illegible]

Operator

K40-4
K40
K30
K20

123 = **ET** (minimum fitting depth)

All standard values only apply to standard version doors **without** the ZAK®-XL system.

- ## Spacers



Tables of Standard Values

Classic Rolling Shutters with Tubular Operator

HR 120 A

Door height												Door with wind locks as standard											
8000	750	590	750	590	750	590	750	590	750	590	750	846	616	846	616	846	616						
7750	750	590	750	590	750	590	750	590	750	590	750	846	616	846	616	846	616						
7500	710	550	710	550	710	550	710	550	710	550	710	806	576	806	576	806	576	806	576				
7250	710	550	710	550	710	550	710	550	710	550	710	806	576	806	576	806	576	806	576	806	576		
7000	710	550	710	550	710	550	710	550	710	550	710	806	576	806	576	806	576	806	576	806	576		
6750	710	550	710	550	710	550	710	550	710	550	710	806	576	806	576	806	576	806	576	806	576	806	576
6500	710	550	710	550	710	550	710	550	710	550	710	806	576	806	576	806	576	806	576	806	576	806	576
6250	710	550	710	550	710	550	710	550	710	550	710	806	576	806	576	806	576	806	576	806	576	806	576
6000	680	520	680	520	680	520	680	520	680	520	680	776	546	776	546	776	546	776	546	776	546	776	546
5750	680	520	680	520	680	520	680	520	680	520	680	776	546	776	546	776	546	776	546	776	546	776	546
5500	680	520	680	520	680	520	680	520	680	520	680	776	546	776	546	776	546	776	546	776	546	776	546
5250	680	520	680	520	680	520	680	520	680	520	680	776	546	776	546	776	546	776	546	776	546	776	546
5000	680	520	680	520	680	520	680	520	680	520	680	776	546	776	546	776	546	776	546	776	546	776	546
4750	634	500	634	500	634	500	634	500	634	500	634	730	500	730	500	730	500	730	500	730	500	730	500
4500	634	500	634	500	634	500	634	500	634	500	634	730	500	730	500	730	500	730	500	730	500	730	500
4250	634	500	634	500	634	500	634	500	634	500	634	730	500	730	500	730	500	730	500	730	500	730	500
4000	634	500	634	500	634	500	634	500	634	500	634	730	500	730	500	730	500	730	500	730	500	730	500
3750	600	500	600	500	600	500	600	500	600	500	600	696	500	696	500	696	500	696	500	696	500	696	500
3500	600	500	600	500	600	500	600	500	600	500	600	696	500	696	500	696	500	696	500	696	500	696	500
3250	600	500	600	500	600	500	600	500	600	500	600	696	500	696	500	696	500	696	500	696	500	696	500
3000	600	500	600	500	600	500	600	500	600	500	600	696	500	696	500	696	500	696	500	696	500	696	500
2750	554	425	554	425	554	425	554	425	554	425	554	650	425	650	425	650	425	650	425	650	425	650	425
2500	554	425	554	425	554	425	554	425	554	425	554	650	425	650	425	650	425	650	425	650	425	650	425
2250	554	425	554	425	554	425	554	425	554	425	554	650	425	650	425	650	425	650	425	650	425	650	425
												2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000

Door width

Operator

R30
R23
R18
R12

123 = S (required headroom)

123 = ET (minimum fitting depth)

Note:

All standard values only apply to standard version doors.

																	Opening time [s]	
																	Spacers	
																	3	39
																	3	38
																	3	37
																	3	36
																	3	35
																	3	35
																	3	34
																	3	33
																	3	31
																	3	30
																	3	29
																	2	29
																	2	28
																	2	27
																	2	25
																	2	24
																	2	24
																	2	23
																	2	21
																	2	20
																	1	20
																	1	18
																	1	17
																	1	15
7250	7500	7750	8000	8250	8500	8750	9000	9250	9500	9750	10000	10250	10500	10750	11000	11250	11500	11750



Tables of Standard Values

Classic Rolling Shutters with Tubular Operator

HR 120 S

Door height

8000																				
7750																				
7500																				
7250																				
7000																				
6750																				
6500	696	536																		
6250	684	524																		
6000	654	500	654	500																
5750	654	500	654	500																
5500	654	500	654	500	654	500														
5250	654	500	654	500	654	500	654	500												
5000	654	500	654	500	654	500	654	500												
4750	626	500	626	500	626	500	626	500	626	500										
4500	626	500	626	500	626	500	626	500	626	500	626	500								
4250	626	500	626	500	626	500	626	500	626	500	626	500	626	500						
4000	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500				
3750	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428				
3500	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428		
3250	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428
3000	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428
2750	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425
2500	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425
2250	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000

Door width

Operator

R30
R23
R18
R12

123 = S (required headroom)

123 = ET (minimum fitting depth)

Note:

All standard values only apply to standard version doors.

HÖRMANN Technical Manual: Rolling Shutters and Rolling Grilles / 07.2014 77
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Tables of Standard Values

Classic Rolling Shutters with Tubular Operator

HR 120 aero®

Door height																													
8000	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732
7750	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732	572	732
7500	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696
7250	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696
7000	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696
6750	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696
6500	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696	536	696
6250	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684	524	684
6000	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654
5750	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654
5500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654
5250	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654
5000	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654	500	654
4750	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626
4500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626
4250	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626
4000	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626	500	626
3750	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588
3500	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588
3250	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588
3000	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588	428	588
2750	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550
2500	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550
2250	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550	425	550
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000									

Door width

Operator

R30
R23
R18
R12

123 = S (required headroom)

123 = ET (minimum fitting depth)

Note:

All standard values only apply to standard version doors.

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Opening time [s]								
Spacers								
							3	32
							3	31
							3	30
							3	30
							3	32
							3	31
							3	30
							3	30
							3	29
							3	28
							3	27
							3	27
							2	26
							2	25
							2	24
							2	23
							2	23
							2	22
							2	21
							2	20
							2	19
							1	19
							1	18
							1	17
							1	16
							1	15
							1	14
							1	13
7250	613 425	635 500	635 500	635 500	635 500	635 500		
7500	635 500	673 500	673 500	673 500	673 500	673 500		
7750	635 500	673 500	673 500	673 500	673 500	673 500		
8000	635 500	673 500	673 500	673 500	673 500	673 500		
8250	635 500	673 500	673 500	673 500	673 500	673 500		
8500	635 500	673 500	673 500	673 500	673 500	673 500		
8750	635 500	673 500	673 500	673 500	673 500	673 500		



Tables of Standard Values

Classic Rolling Shutters with Tubular Operator

Decotherm® A

Door height

4000	583	425	583	425	583	425	583	425	583	425	583	425	583	425	583	425	583	425	583	425
3750	549	425	549	425	549	425	549	425	549	425	549	425	549	425	549	425	549	425	549	425
3500	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425
3250	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425
3000	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425	543	425
2750	513	425	513	425	513	425	513	425	513	425	513	425	513	425	513	425	513	425	513	425
2500	509	425	509	425	509	425	509	425	509	425	509	425	509	425	509	425	509	425	509	425
2250	509	425	509	425	509	425	509	425	509	425	509	425	509	425	509	425	509	425	509	425
	2250		2500		2750		3000		3250		3500		3750		4000					

Opening time [s]

24
23
22
20
19
19
17
16

Door width

Operator
R30
R23
R18
R12

123 = S (required headroom)

123 =ET (minimum fitting depth)

Note:

Note:
All standard values only apply to standard version doors.



HR 116 A

Door width

Operator
R30
R23
R18
R12

$^{123} = S$ (required headroom)

123 = **ET** (minimum fitting depth)

Note:

All standard values only apply to standard version doors.



Tables of standard values

Classic Rolling Grilles with Direct Drive Operator

HG-A

Door height

Max. 10 door cycles per day

[illegible]

Door width

Operator

S55
S42
S35
S25
S18
S14

123 = S (required headroom)

123 = **ET** (minimum fitting depth)

Note:

- All standard values only apply to standard version doors.
- For doors **without** ZAK[®] system, the required headroom is increased: **S** = **S** + 255 mm.

Opening time [s]

[illegible]



Tables of Standard Values

Classic Rolling Grilles with Direct Drive Operator

HG-V

Door height

8000	622	808	622	861	622	861	622	861	622	861	622	841	622	841	622	841	622	906	622	906	622	906	622	926	622	926	641	936								
7750	622	808	622	808	622	861	622	861	622	861	622	861	622	841	622	841	622	841	622	906	622	906	622	906	622	926	622	926	641	936						
7500	622	808	622	808	622	861	622	861	622	861	622	861	622	841	622	841	622	841	622	906	622	906	622	906	622	906	622	926	641	936						
7250	622	808	622	808	622	808	622	861	622	861	622	861	622	841	622	841	622	841	622	906	622	906	622	906	622	906	622	906	599	915	599	915				
7000	622	796	622	808	622	808	622	861	622	861	622	861	622	841	622	841	622	841	622	906	622	906	622	906	622	906	622	906	599	915	599	915	599	915		
6750	580	775	580	787	580	787	580	787	580	840	580	840	580	820	580	820	580	820	580	820	580	820	580	820	580	885	580	885	599	915	599	915	599	915		
6500	580	775	580	787	580	787	580	787	580	840	580	840	580	840	580	820	580	820	580	820	580	820	580	820	580	820	580	885	580	885	599	915	599	915	599	915
6250	580	775	580	775	580	787	580	787	580	787	580	840	580	840	580	840	580	820	580	820	580	820	580	820	580	820	580	885	580	885	599	915	599	915	599	915
6000	580	775	580	775	580	787	580	787	580	787	580	840	580	840	580	840	580	820	580	820	580	820	580	820	580	820	580	820	580	820	599	915	599	915	599	915
5750	580	775	580	775	580	775	580	787	580	787	580	787	580	840	580	840	580	840	580	820	580	820	580	820	580	820	580	820	580	820	599	915	599	915	599	915
5500	538	754	538	754	538	754	538	754	538	766	538	766	538	819	538	819	538	819	538	819	538	799	538	799	538	799	538	799	538	799	538	799	538	799	538	799
5250	538	754	538	754	538	754	538	754	538	766	538	766	538	819	538	819	538	819	538	819	538	799	538	799	538	799	538	799	538	799	538	799	538	799	538	799
5000	538	754	538	754	538	754	538	754	538	754	538	766	538	766	538	819	538	819	538	819	538	819	538	799	538	799	538	799	538	799	538	799	538	799	538	799
4750	538	754	538	754	538	754	538	754	538	754	538	754	538	819	538	819	538	819	538	819	538	819	538	799	538	799	538	799	538	799	538	799	538	799	538	799
4500	538	754	538	754	538	754	538	754	538	754	538	754	538	819	538	819	538	819	538	819	538	819	538	799	538	799	538	799	538	799	538	799	538	799	538	799
4250	496	733	496	733	496	733	496	733	496	733	496	733	496	745	496	745	496	745	496	745	496	798	496	798	496	798	496	798	496	798	496	798	496	798	496	798
4000	496	733	496	733	496	733	496	733	496	733	496	733	496	745	496	745	496	745	496	745	496	798	496	798	496	798	496	798	496	798	496	798	496	798	496	798
3750	496	733	496	733	496	733	496	733	496	733	496	733	496	745	496	745	496	745	496	745	496	798	496	798	496	798	496	798	496	798	496	798	496	798	496	798
3500	496	733	496	733	496	733	496	733	496	733	496	733	496	745	496	745	496	745	496	745	496	798	496	798	496	798	496	798	496	798	496	798	496	798	496	798
3250	496	733	496	733	496	733	496	733	496	733	496	733	496	745	496	745	496	745	496	745	496	798	496	798	496	798	496	798	496	798	496	798	496	798	496	798
3000	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	724	454	724	454	724	454	724	454	724	454	724	454	724	454	724
2750	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	724	454	724	454	724	454	724
2500	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	712	454	724	454	724	454	724	454	724
2250	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703	412	703
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000																

Door width

Operator

S55
S42
S35
S25
S18
S14

123 = S (required headroom)

123 = ET (minimum fitting depth)

Note:

- All standard values only apply to standard version doors.
- For doors **without** ZAK® system, the required headroom is increased: **S = S + 255 mm.**

Opening time [s]

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HG-S

[illegible]

Operator

S55
S42
S35
S25
S18
S14

123 = S (required headroom)

123 = **ET** (minimum fitting depth)

- All standard values only apply to standard version doors.
- For doors **without** ZAK® system, the required headroom is increased: **S = S + 255 mm**.

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HG-V

[illegible]

Operator

K40-4
K40
K30
K20

123 = S (required headroom)

123 = **ET** (minimum fitting depth)

- All standard values only apply to standard version doors **without** the ZAK®-XL system.

- | Opening time* [s] |
|-------------------|
| Spacers |

* For doors fitted with the chain drive operator K40-4, the door opening time increases by 33%



HG-S

[illegible]

Operator

K40-4
K40
K30
K20

123 = S (required headroom)

123 = **ET** (minimum fitting depth)

- All standard values only apply to standard version doors **without** the ZAK®-XL system.

- Up to **255 mm** less required headroom (**S_{ZAK-XL} = S – 255 mm**)
- Much less wear on the door curtain
- Quiet door travel
- Only 1 spacer support at the side guides
- For details, see page 34

[illegible]

* For doors fitted with the chain drive operator K40-4, the door opening time increases by 33%.



[illegible]



HG-V

[illegible]

Operator

R30
R23
R18
R12

$^{123} = S$ (required headroom)

123 = **ET** (minimum fitting depth)

Note:

All standard values only apply to standard version doors.

Opening time [s]					
Spacers					
				3	40
				3	39
				3	38
				3	37
				3	35
				2	36
				2	35
				2	34
				2	32
				2	31
				2	30
				2	31
				2	29
				2	28
				2	26
				2	25
				1	25
				1	24
				1	22
				1	21
				1	21
				1	19
				1	17
				1	16
728	728	728	728		
500	500	500	500		
728	728	728	728		
500	500	500	500		
7250	7500	7750	8000		



Tables of Standard Values

Classic Rolling Grilles with Tubular Operator

HG-S

Opening times [s]

Spacers

Door height

8000																				
7750																				
7500																				
7250																				
7000	877	522																		
6750	835	500																		
6500	835	500	835	500																
6250	835	500	835	500																
6000	835	500	835	500	835	500														
5750	835	500	835	500	835	500														
5500	835	500	835	500	835	500	835	500												
5250	793	500	793	500	793	500	793	500	793	500										
5000	793	500	793	500	793	500	793	500	793	500										
4750	793	500	793	500	793	500	793	500	793	500	793	500								
4500	793	500	793	500	793	500	793	500	793	500	793	500	793	500						
4250	793	500	793	500	793	500	793	500	793	500	793	500	793	500	793	500				
4000	751	425	751	425	751	425	751	425	751	425	751	425	751	425						
3750	751	425	751	425	751	425	751	425	751	425	751	425	751	425	751	425				
3500	751	425	751	425	751	425	751	425	751	425	751	425	751	425	751	425	751	425		
3250	751	425	751	425	751	425	751	425	751	425	751	425	751	425	751	425	751	425	751	425
3000	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425
2750	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425
2500	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425
2250	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425	709	425
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000

Door width

-	-
-	-
-	-
-	-
3	37
2	36
2	35
2	34
2	33
2	32
2	31
2	31
2	29
2	28
2	26
2	25
1	25
1	24
1	22
1	21
1	21
1	19
1	17
1	16

Operator

R30
R23
R18
R12

123 = S (required headroom)

123 = ET (minimum fitting depth)

Note:

All standard values only apply to standard version doors.

Notes



Hörmann: Quality without Compromise



Hörmann KG Amshausen, Germany



Hörmann KG Antriebstechnik, Germany



Hörmann KG Brandis, Germany



Hörmann KG Brockhagen, Germany



Hörmann KG Dissen, Germany



Hörmann KG Eckelhausen, Germany



Hörmann KG Freisen, Germany



Hörmann KG Ichtershausen, Germany



Hörmann KG Werne, Germany



Hörmann Genk NV, Belgium



Hörmann Alkmaar B.V., Netherlands



Hörmann Legnica Sp. z o.o., Poland



Hörmann Beijing, China



Hörmann Tianjin, China



Hörmann LLC, Montgomery IL, USA



Hörmann Flexon LLC, Burgettstown PA, USA

Hörmann is the only manufacturer worldwide that offers you a complete range of all major building products from one source. We manufacture in highly-specialised factories using the latest production technologies. The close-meshed network of sales and service companies throughout Europe, and activities in the USA and China, make Hörmann your strong partner for first-class building products, offering “Quality without Compromise”.

GARAGE DOORS
OPERATORS
INDUSTRIAL DOORS
LOADING EQUIPMENT
HINGED DOORS
DOOR FRAMES

