



# Rolling Shutters and Rolling Grilles

Technical Manual: Issue 01.07.2014



# Abbreviations Used

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

Dissemination as well as duplication of this document and the use and communication of its content are prohibited unless explicitly permitted. Noncompliance will result in damage compensation obligations. All rights reserved in the event of patent, utility model or design model registration. Subject to changes.

## Note:

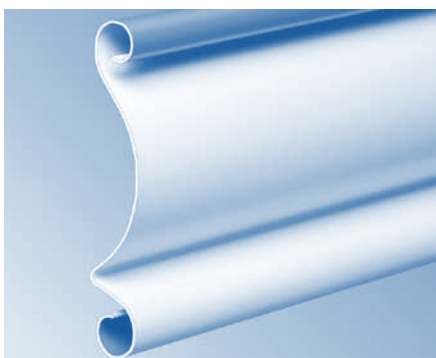
All dimensions in this document provide the minimum details in [mm] and are standard values (If necessary, please request the accurate values from Hörmann KG Dissen).

# CONTENTS

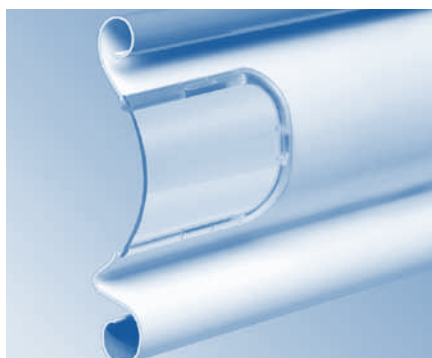
Topic	Page	Topic	Page
Abbreviations Used	2	<b>Classic Rolling Shutters / Classic Rolling Grilles</b>	
Contents	3	Fitting the side guides FS 73 S/E	46
Profile Overview	4	Fitting the side guides FS 98 S	47
Arrangement of the Windows and Ventilation Grilles	6	Standard support brackets	48
Fitting Space for Controls / Operator Data	7	Maximum loads at the fixing points of the support brackets	49
Space Requirements Behind the Lintel	8	Acoustic-rated elements	50
Location of the Support Bracket Fixing /		Lintel seals	51
Fitting in the Opening with Additional Posts	10		
Weld-on Plates/Break-in-Resistant Locks	11	<b>Tables of Standard Values</b>	
Trap Guard TES 12		<b>Classic Rolling Shutters with Direct Drive Operator</b>	52
Barrel Casing/Trap Guard ES-PV	13	HR 120 A	52
Chamfered Bottom Profile	14	HR 120 S	54
		HR 120 aero®	56
<b>Rolling Shutters SB / Rolling Grilles SB</b>		Decotherm® S	58
Space requirements	16	Decotherm® A	60
Table of standard values / side guide / lintel seal /		HR 116 A	62
support bracket / maximum load at the fixing point	17		
Actuation types	18	<b>Classic Rolling Shutters with Chain Drive Operator</b>	64
Trap guard PVSB/loss of passage height	19	HR 120 A	64
		HR 120 S	66
<b>Rolling shutters TGT / Rolling grilles TGT</b>		HR 120 aero®	68
Space requirements	20	Decotherm® S	70
Table of standard values / side guide/lintel seal / support		HR 116 A	72
bracket / maximum load at the fixing point/loss of passage height	21		
		<b>Classic Rolling Shutters with Tubular Operator</b>	74
<b>Basic Rolling Grille</b>		HR 120 A	74
Direct drive operator space requirements	22	HR 120 S	76
Tubular operator space requirements	23	HR 120 aero®	78
Side guides	24	Decotherm® S	80
Standard support brackets, maximum loads	25	Decotherm® A	82
Tables of standard values	26	HR 116 A	83
		<b>Classic Rolling Shutters with Chain Drive Operator</b>	84
<b>Space Requirements for Classic Rolling Shutters</b>		HG-A	84
Direct drive operator	28	HG-V	86
Chain drive operator	29	HG-S	88
Tubular operator	30		
		<b>Classic Rolling Grilles with Chain Drive Operator</b>	90
<b>Space Requirements for Classic Rolling Grilles</b>		HG-V	90
Direct drive operator	31	HG-S	92
Chain drive operator	32		
Tubular operator	33	<b>Classic Rolling Grilles with Tubular Operator</b>	94
		HG-A	94
<b>Space Requirements for Classic Rolling Shutters /</b>		HG-V	96
<b>Classic Rolling Grilles</b>		HG-S	98
Chain drive operator and ZAK®-XL system	34		
DMS	35		
Trestle support bracket	36		
BT support brackets	37		
Wall flange bearing	38		
Side door with transom panel	40		
Swing-aside pass door assembly	41		
SSG system			
Park position behind the opening	42		
SSG system			
Park position in the opening	43		
WPS®	44		

# Profile Overview

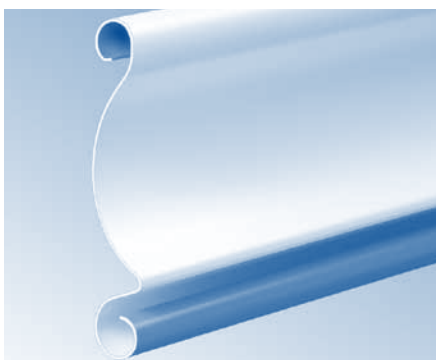
## HR 120



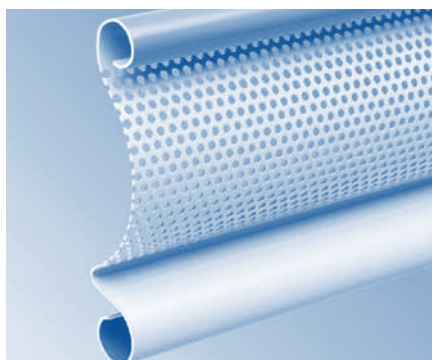
HR 120



HR 120 with window



HR 120, external rolling shutters



HR 120 aero®

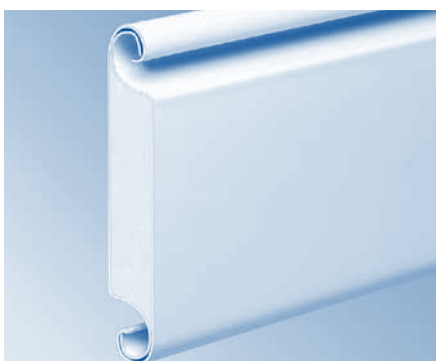
### Profile data

- 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/m<sup>2</sup>:
  - 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)

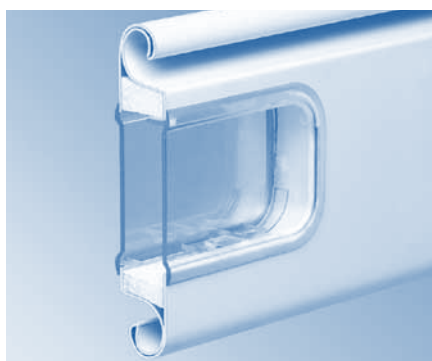
### Note for HR 120 aero®:

- 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

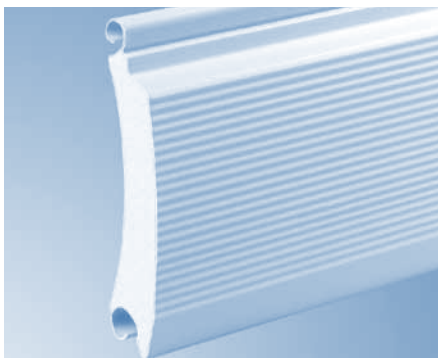


HR 116 with ventilation grille

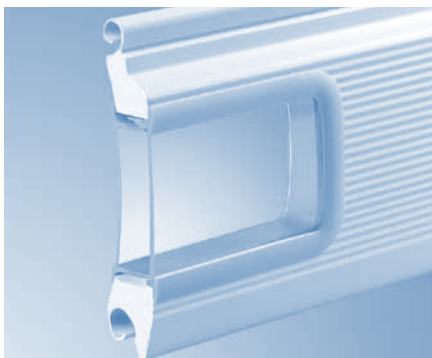
### Profile data HR 116 A

- 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/m<sup>2</sup>: 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 mm<sup>2</sup> per ventilation grille

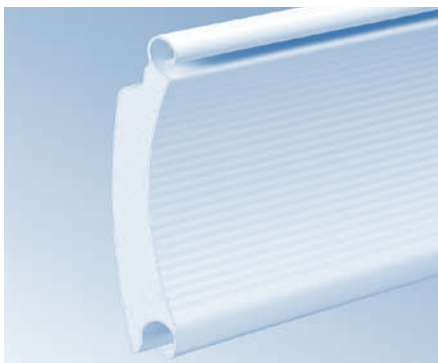


**Decotherm®**

Decotherm®



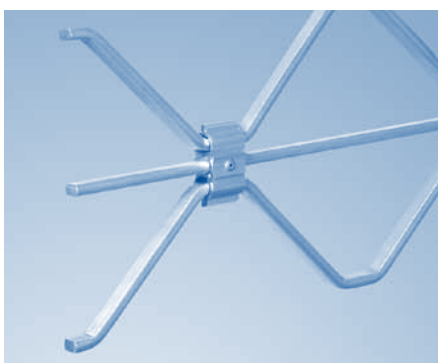
Decotherm® with rectangular window



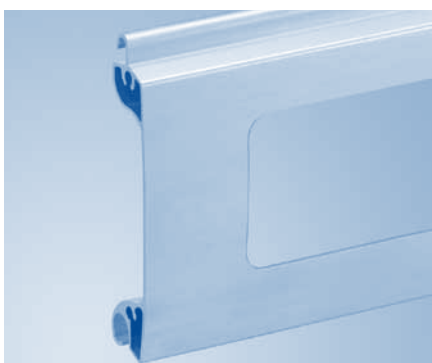
Decotherm®, external rolling shutters

**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/m<sup>2</sup>:
  - Decotherm® A Approx. 4.2 kg
  - Decotherm® S Approx. 10.3 kg
- Thermal insulation
  - Decotherm® A U = 4.6 W/(m<sup>2</sup>·K)
  - Decotherm® S U = 3.9 W/(m<sup>2</sup>·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 <sup>2</sup>                      | 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**

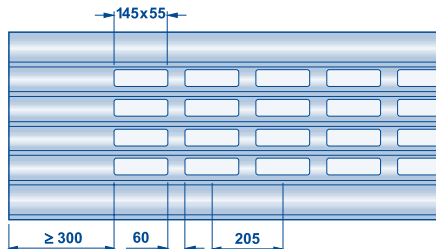
- Material:
  - HG-A Aluminium
  - HG-V Aluminium / stainless steel
  - HG-S Galvanized steel
- Profile height 60 mm
- Assembly dimensions for panels and infills:
  - 1st profile 60 mm
  - Each further profile 68.5 mm

- |        | Curtain weight/m <sup>2</sup> | Material thickness | Door width |
|--------|-------------------------------|--------------------|------------|
| – HG-A | Approx. 6 kg                  | 16 × 4             | ≤ 3000 mm  |
| – HG-V | Approx. 7 kg                  | 20 × 4             | > 3000 mm  |
| – HG-S | 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

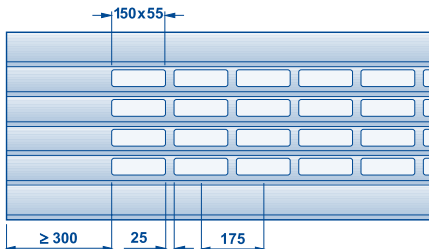


**Note:**

- Maximum 8 window profiles

## Decotherm® A / S

### Standard window version

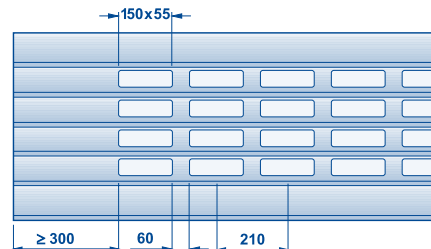


**Note:**

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

## HR 116 A

### Standard window version

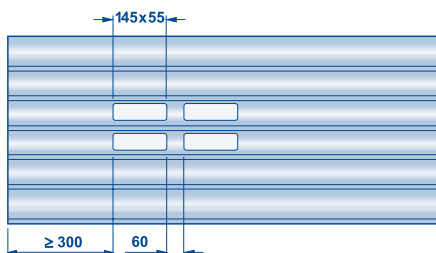


**Note:**

- 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

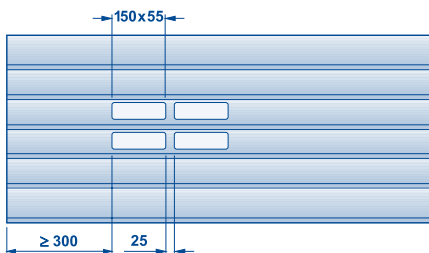
### Logistic version window



**Note:**

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

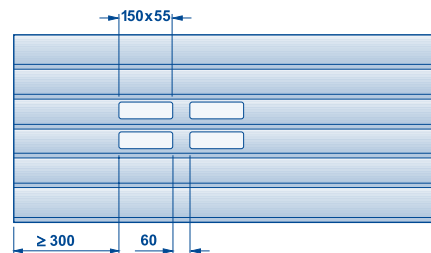
### Logistic window version



**Note:**

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

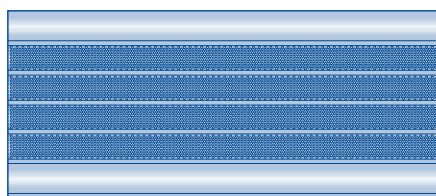
### Logistic window version



**Note:**

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

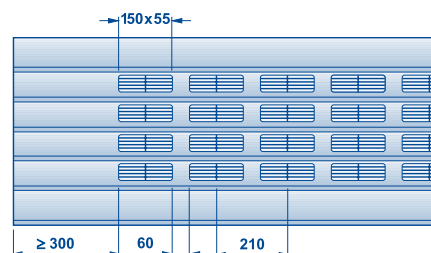
## Ventilation laths HR 120 aero®



**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



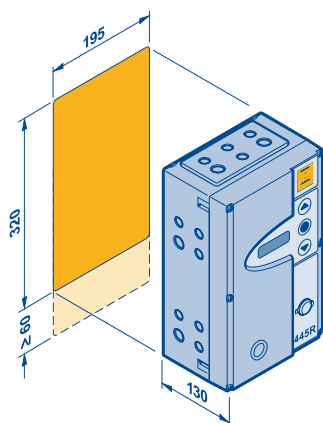
**Note:**

- Maximum number of ventilation grille profiles:

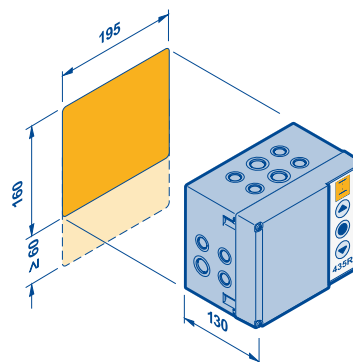
Door width	Number of window / ventilation grille profiles
≤ 4000	All profiles
> 4000	Max. 20 profiles
> 6000	Max. 15 profiles
> 8000	Max. 10 profiles
> 10000	Max. 5 profiles

# 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 <sup>-1</sup>	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 <sup>-1</sup>	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 <sup>3)</sup>	KB 6 <sup>3)</sup>	KB 4 <sup>2)</sup>	KB 4 <sup>2)</sup>

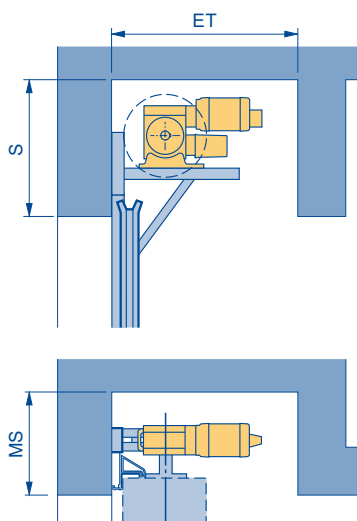
1) Maximum number of door cycles: 10 per hour (SB rolling shutters/rolling grilles), 20 per hour (TGT rolling shutters/rolling grilles).

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.

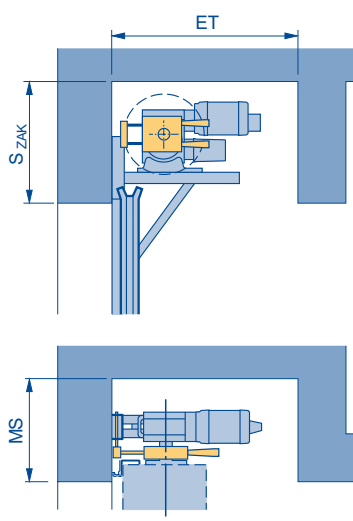
# Space Requirement Behind the Lintel

## Door with direct drive operator



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

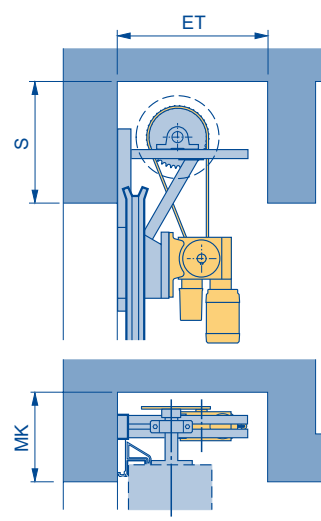
## Direct drive operator with ZAK® system



**SZAK** =  $S - 80$  mm

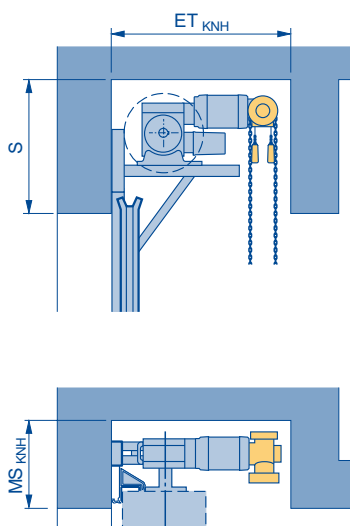
- Subject to a surcharge for classic rolling shutters
- Standard for classic rolling grilles

## Door with chain drive operator



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

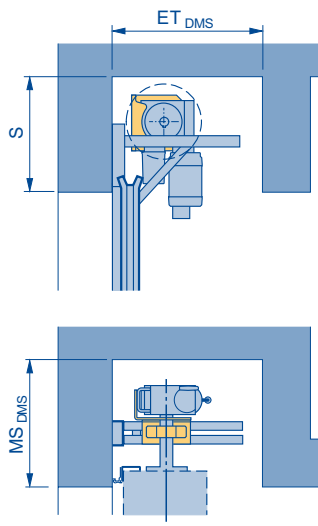
## Direct drive operator with emergency hand chain



**ET<sub>KNH</sub>** =  $ET - 70$  mm  
**MS<sub>KNH</sub>** = **MS**

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

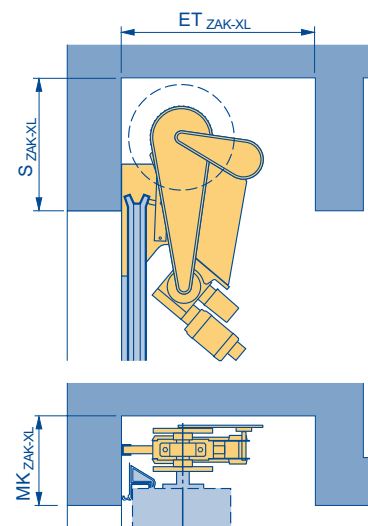
## Direct drive operator with DMS



**ET<sub>DMS</sub>** = min. 520 mm  
**MS<sub>DMS</sub>** =  $MS + 100$  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



**SZAK-XL** =  $S - 80$  mm for all rolling shutters  
 =  $S - 255$  mm for all rolling grilles

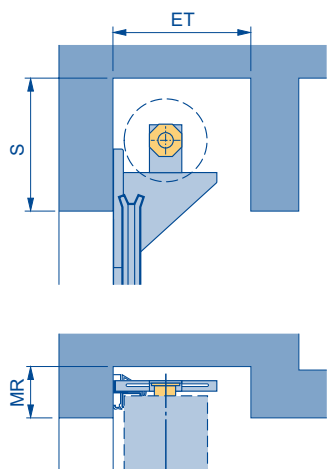
- ET<sub>ZAK-XL</sub>** = Min. 630 to max. 870 mm
- Subject to surcharge for classic rolling shutters and rolling grilles

### 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.

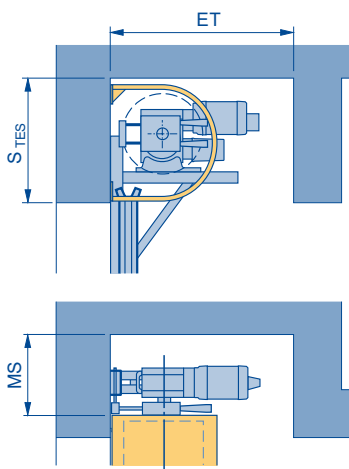


**Door with tubular operator**



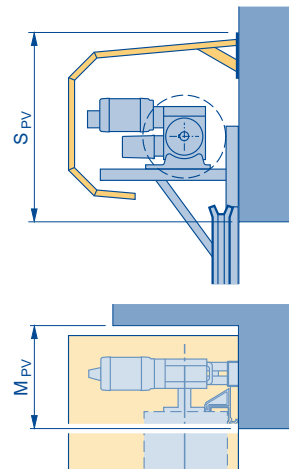
**S** = See Tables of Standard Values  
**ET** = See Tables of Standard Values

**Door with TES**



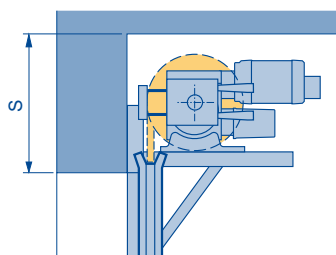
**S\_TES** = **S** + max. 100 mm  
**ET** = See Tables of Standard Values

**Door with barrel casing**



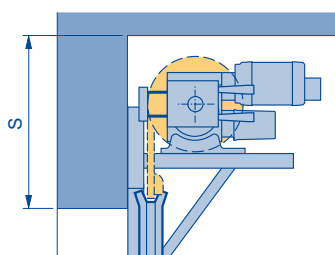
**S\_PV** = **S** + max. 150 mm  
 For details, see page 13  
**M\_PV** = See page 13

**Rolling grille with press-and-hold control**



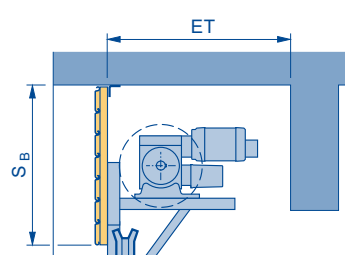
**S** = See Tables of Standard Values

**Rolling grille with impulse control**



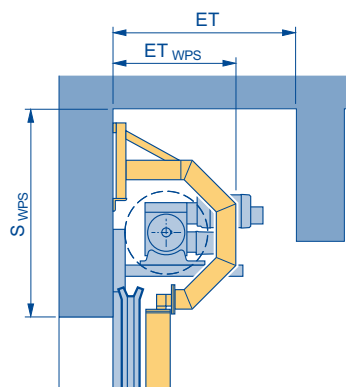
**S** = **S** + 40 mm with basic rolling grille

**Door with fascia panel**



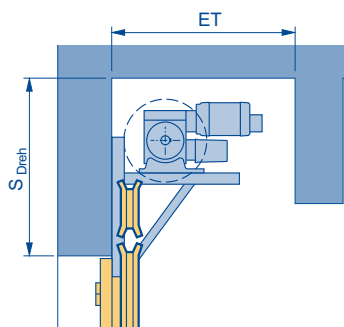
**S\_B** = Observe the assembly dimensions of the profiles (see page 4)

**Door with WPS®**



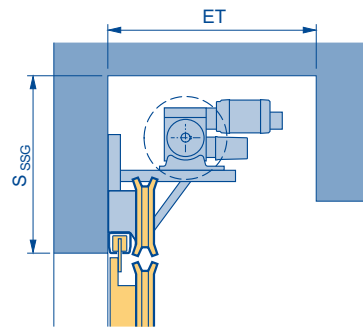
**ET** = See Tables of Standard Values  
**ET\_WPS** = See pages 44 – 45  
**S\_WPS** = See pages 44 – 45

**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

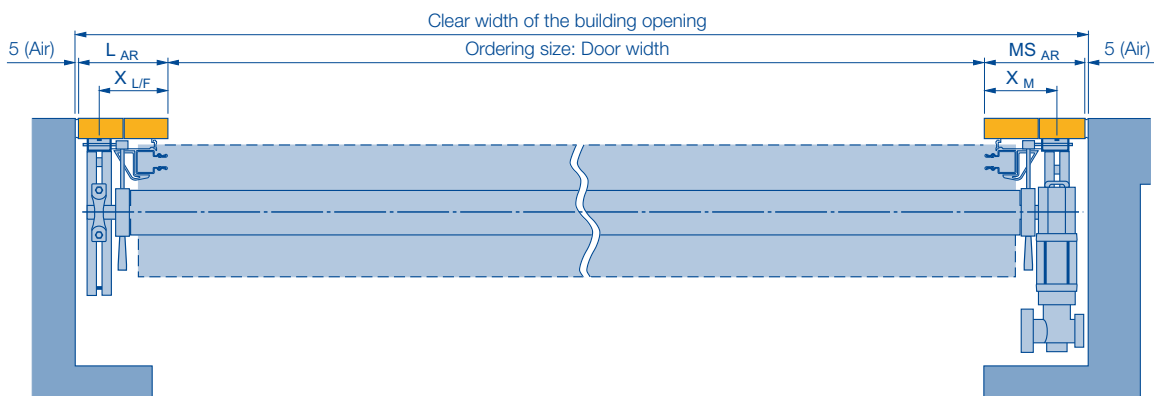
## Location of the support bracket fixing



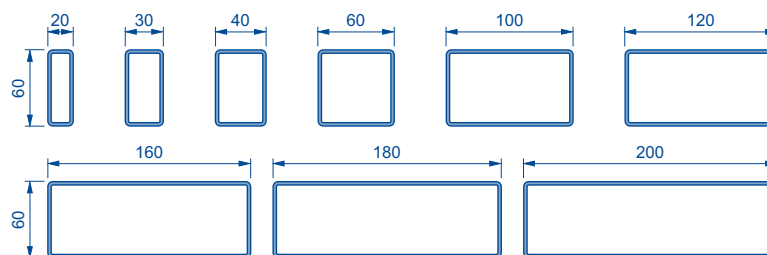
$Y_M$  and  $Y_{L/F}$  = The dimensions depend on the door size, please contact Hörmann KG Dissen.

	$X_M$	$X_{L/F}$	$X_M$	$X_{L/F}$	$V_O$	$V_U$
<b>SB rolling shutter / rolling grille</b>	<b>FS 160</b>					
For all actuation types	96 / 136	96 / 136	-	-	-	-
<b>TGT rolling shutter / rolling grille</b>	<b>FS 160</b>					
For all actuation types	96/136	96/136	-	-	-	-
<b>Basic rolling grille</b>	<b>FS70</b>		<b>FS100</b>			
Direct drive operator	140	120	170	150	-	-
Tubular operator	120	120	150	150	-	-
<b>Classic rolling shutters / rolling grilles</b>	<b>FS73</b>		<b>FS98</b>			
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

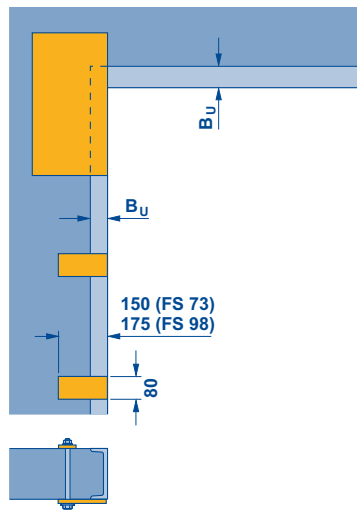
$X_{L/F}$  = Horizontal dimension for fixing the support bracket on the bearing side/catch safety device side

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

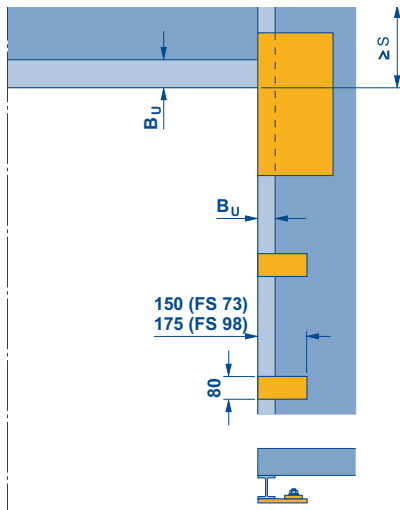
# Weld-on Plates / Break-in-Resistant Locks

## Weld-on plates

### Lightweight construction weld-on plates



### Steel construction weld-on plates



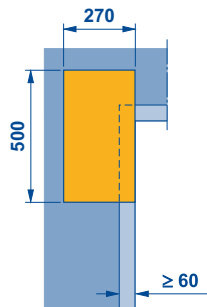
**$B_U = \text{min. } 60$**

Basic rolling grilles  
Classic rolling shutters / classic rolling grilles

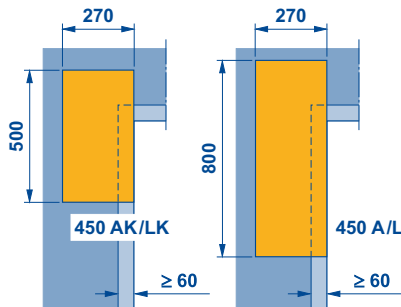
#### Notes:

- 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

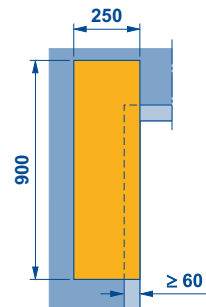
### Basic rolling grilles



### Classic rolling shutters and rolling grilles with direct drive operator

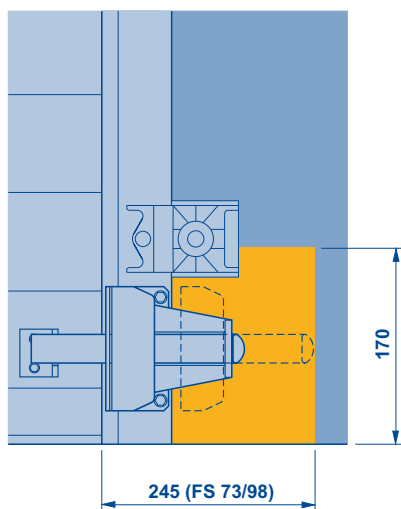


### Classic rolling shutters and rolling grilles with chain drive operator

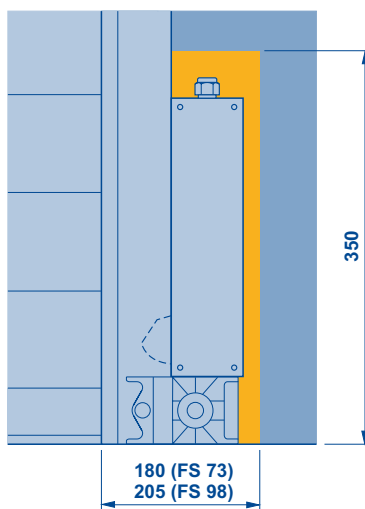


## Break-in-resistant locks

### Shootbolt



### Electromagnetic locking

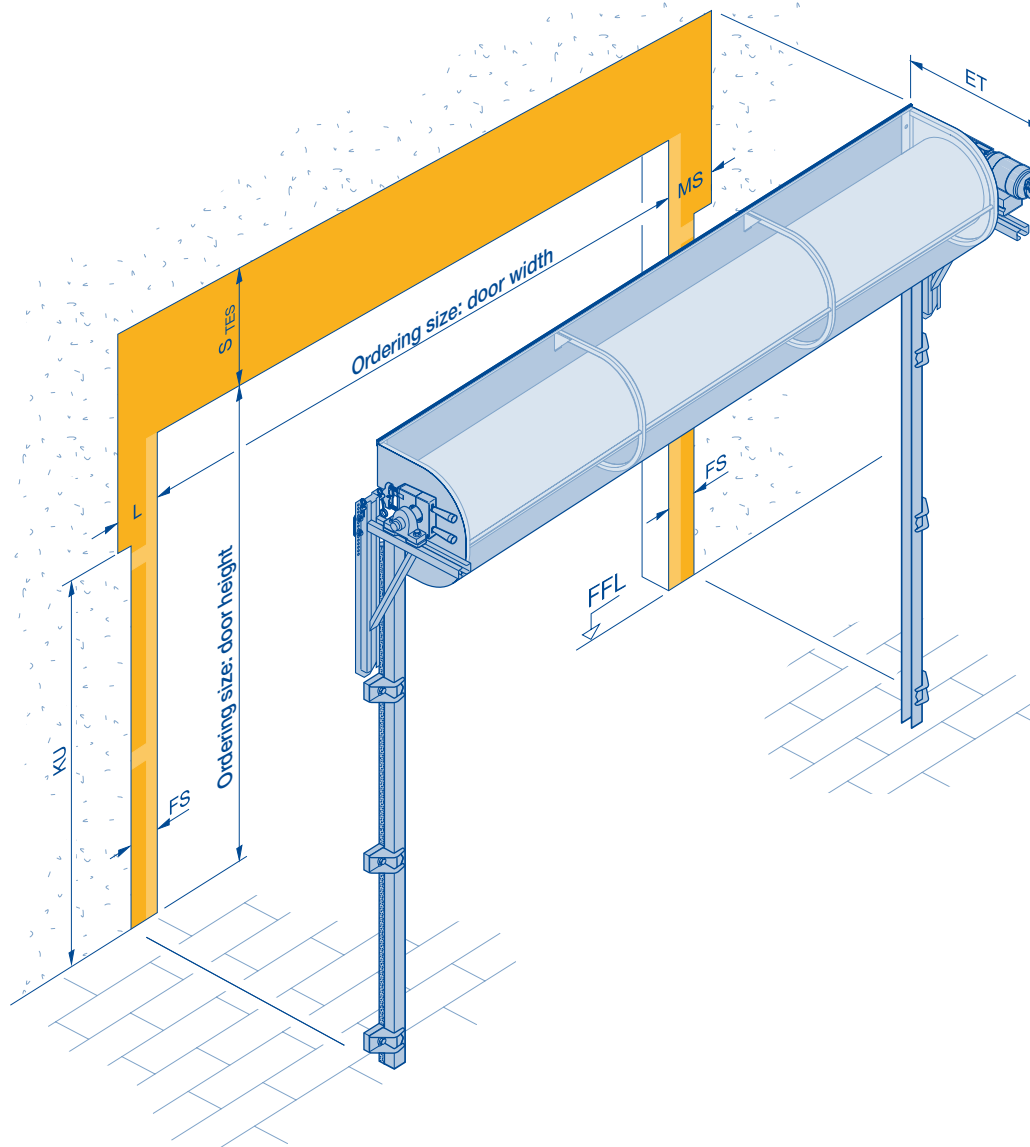


#### Notes:

- 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.

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

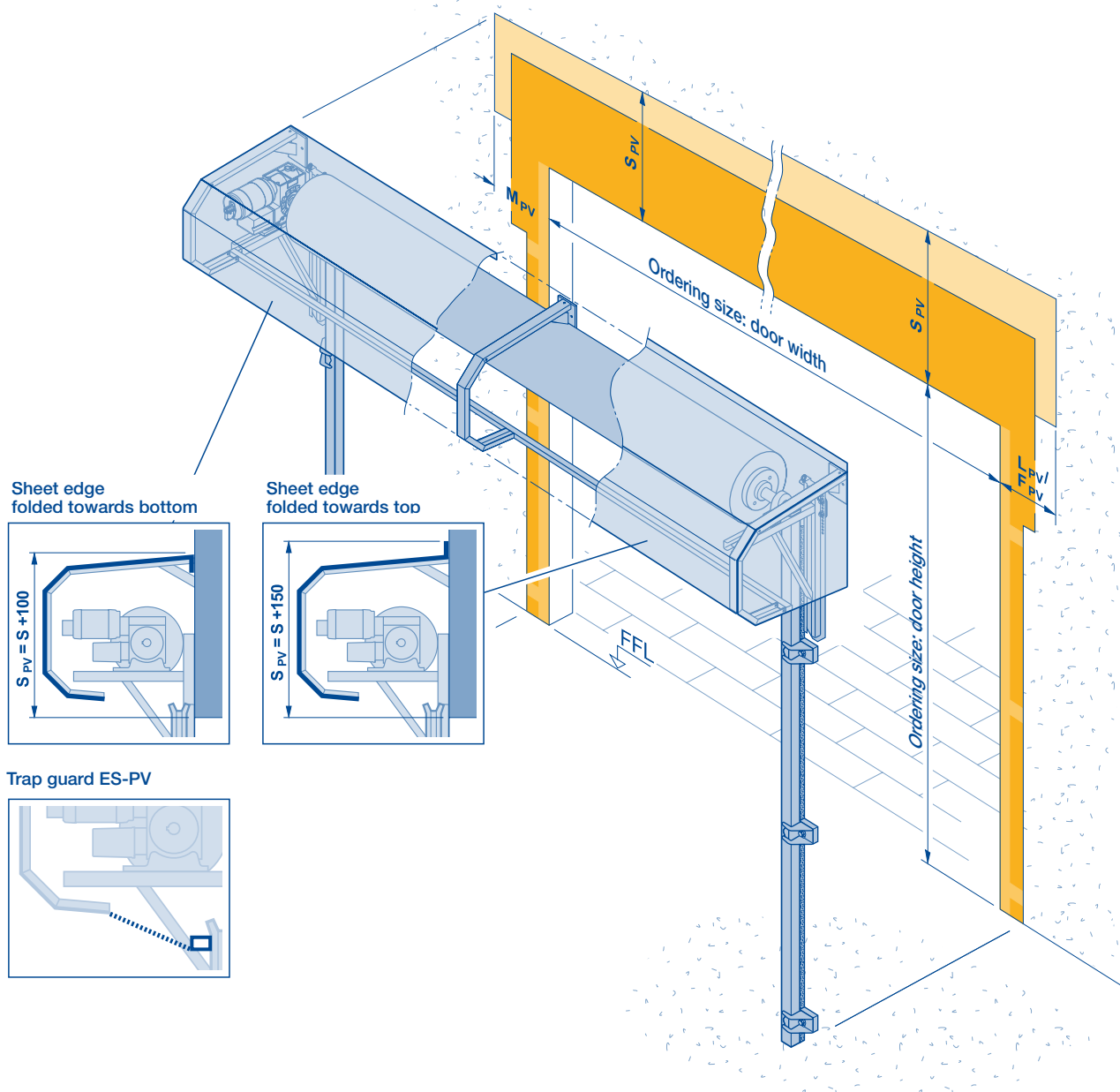
## Notes:

- **S<sub>TES</sub> = 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 <sup>1)</sup>	Max. 300
min. MS/MR <sup>1)</sup>	min. L/F
350 <sup>2)</sup>	

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<sub>PV</sub>** = Sideroom on catch safety device side for barrel casing

**L** = Sideroom on bearing side

**L<sub>PV</sub>** = Sideroom on bearing side for barrel casing

**M<sub>PV</sub>** = Sideroom on motor side for barrel casing

**MR** = Sideroom on motor side for tubular operators

**MS** = Sideroom on motor side for direct drive operators

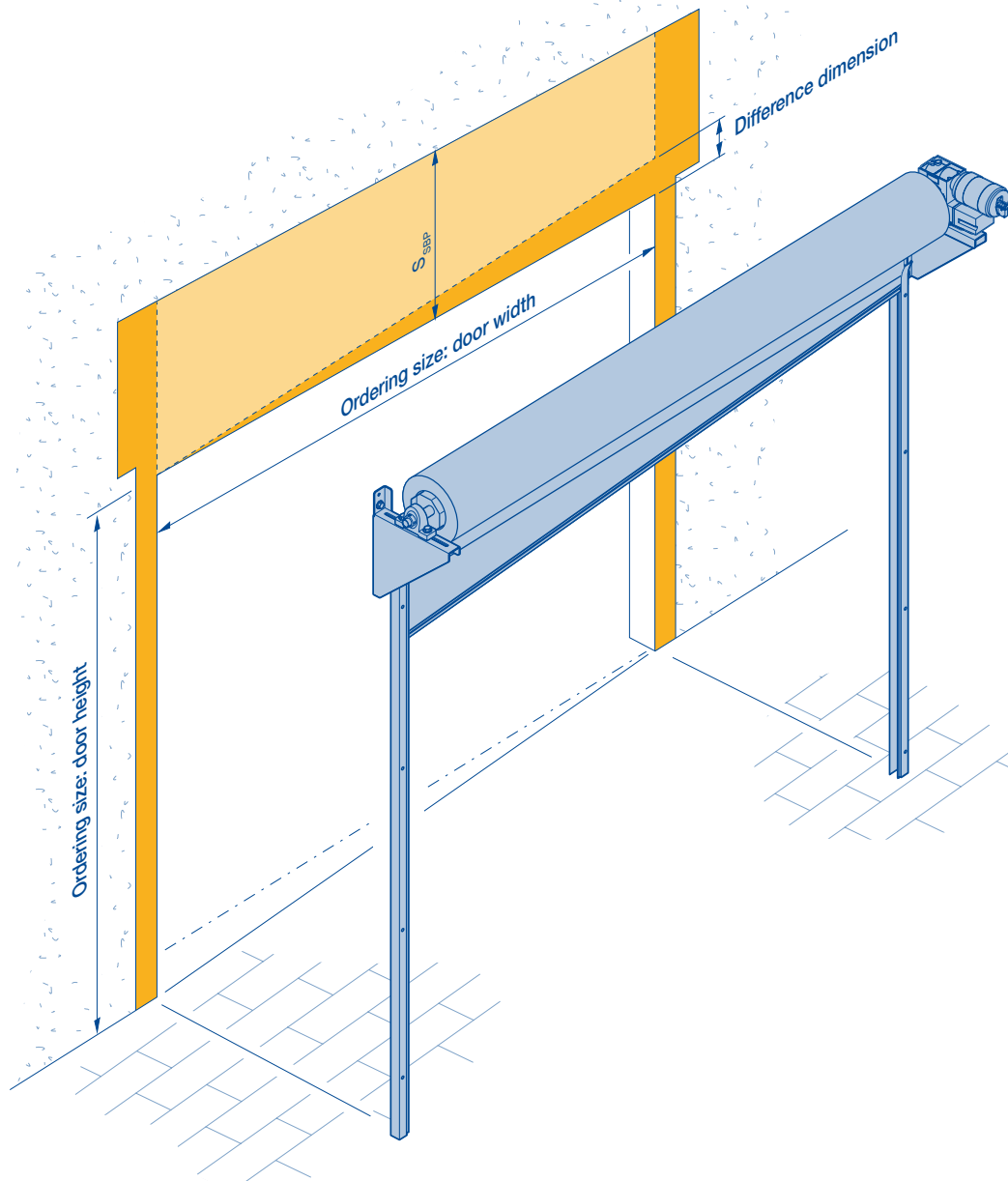
**FFL** = Finished floor level

### 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

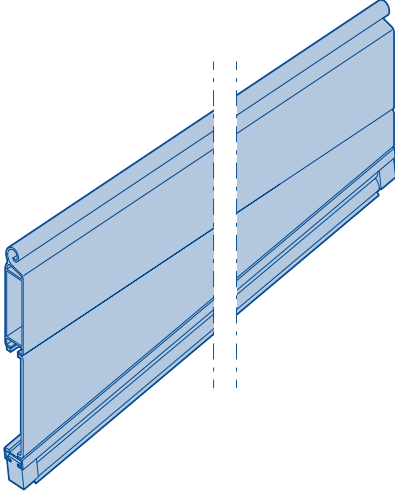
**S<sub>SBP</sub>** = Required headroom for doors with chamfered bottom profile

## 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

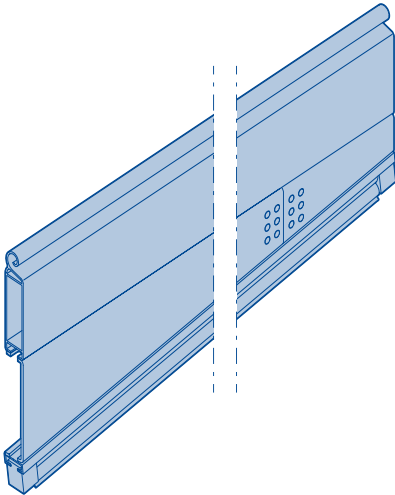
## Chamfered bottom profile, single-skinned



### Notes:

- Door width  $\leq$  5800 mm
- Max. difference dimension 525 mm
- $S_{SBP} = S +$  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

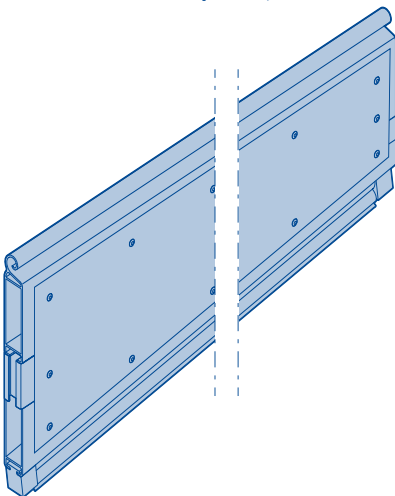
## Chamfered bottom profile, single-skinned – with butt weld



### Notes:

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

## Chamfered bottom profile, double-skinned



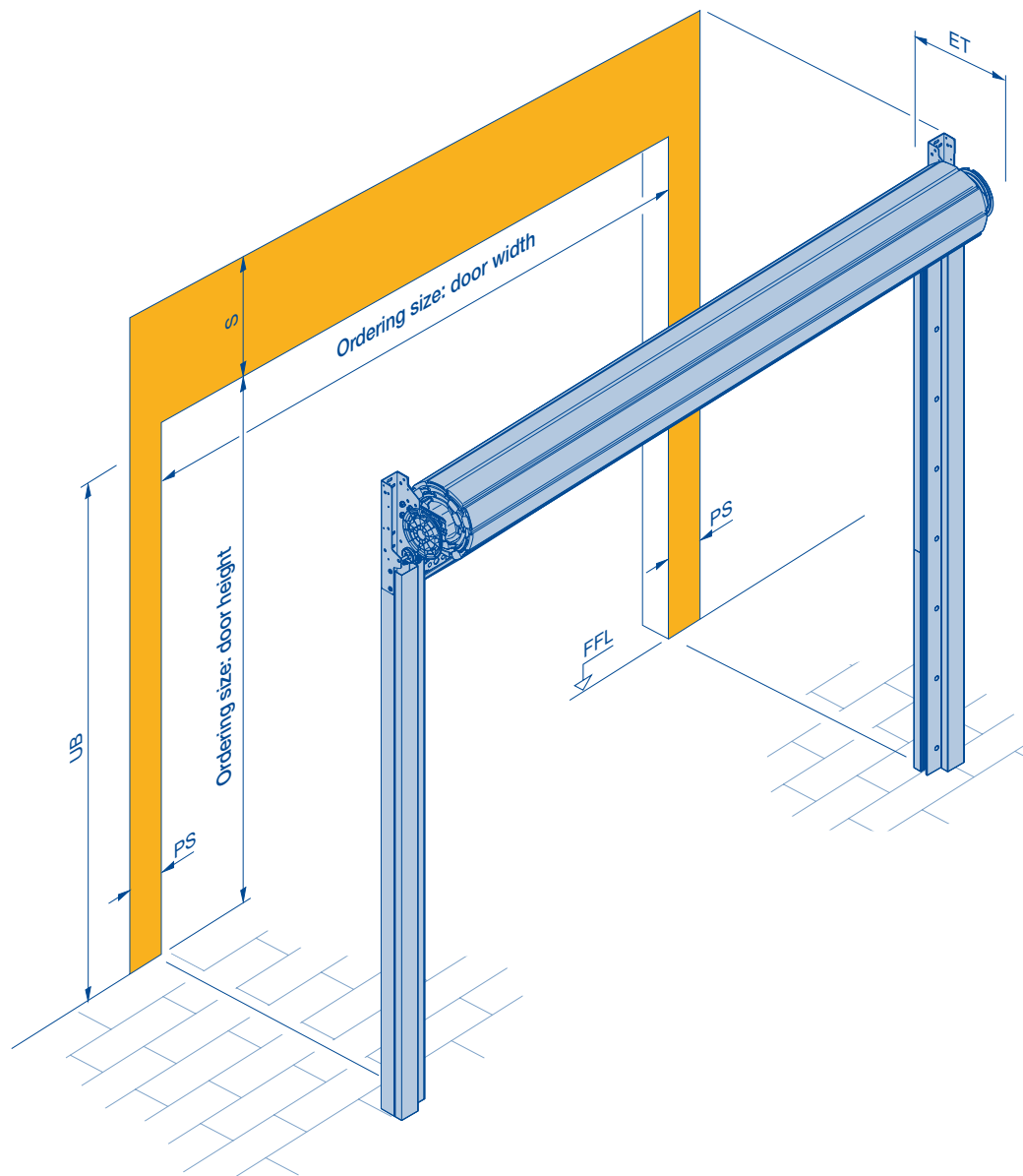
### Notes:

- For all door widths
- Difference dimension:
  - Min. 526 mm
  - Max. 1000 mm
- $S_{SBP} = S +$  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  $\leq$  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
	<b>HR 120 A</b>	<b>Decotherm A</b>					
	<b>HR 120 aero</b>	<b>Decotherm S</b>	<b>HG-L</b>	<b>HG 75</b>			

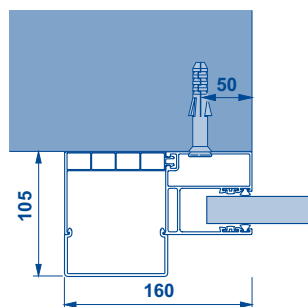
**Notes:**

- 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

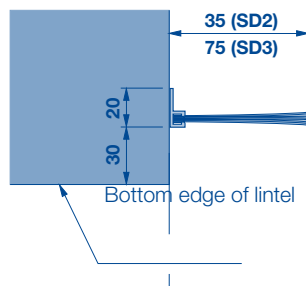
<sup>123</sup> = S (required headroom)

<sup>123</sup> = ET (minimum fitting depth)

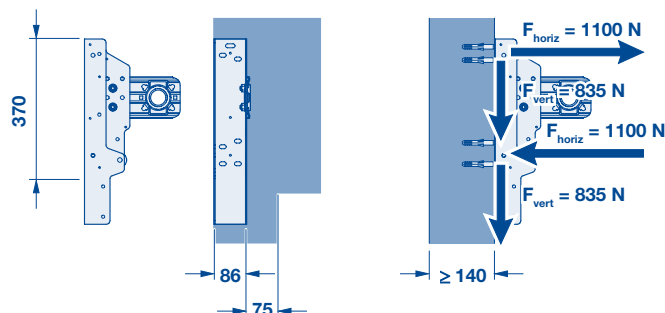
\* = Only HR 120 A

**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 × 120 mm

Standard DIN 1052 (EC5)

 $F_{horiz}$  = Horizontal force at the fixing point

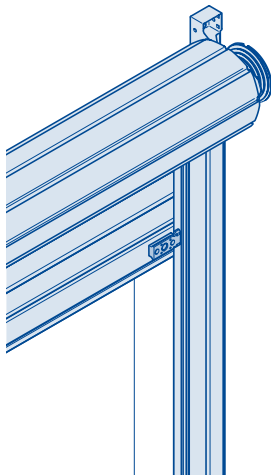
 $F_{vert}$  = Vertical force at the fixing point

# Rolling Shutters SB / Rolling Grilles SB

## Actuation types

### Actuation types

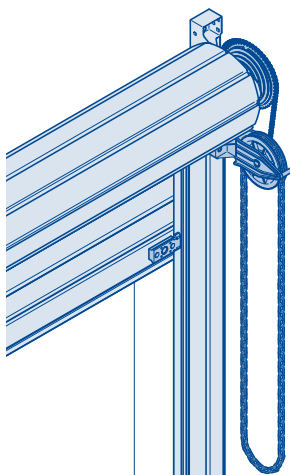
#### Grip handle



#### 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

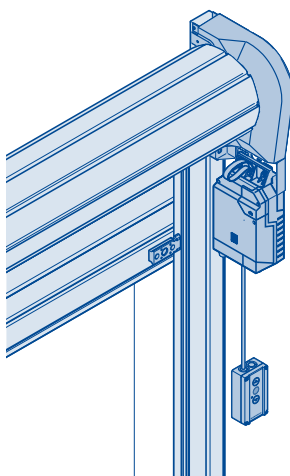
#### Chain hoist



#### Note:

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

#### Electrical operator



#### Note:

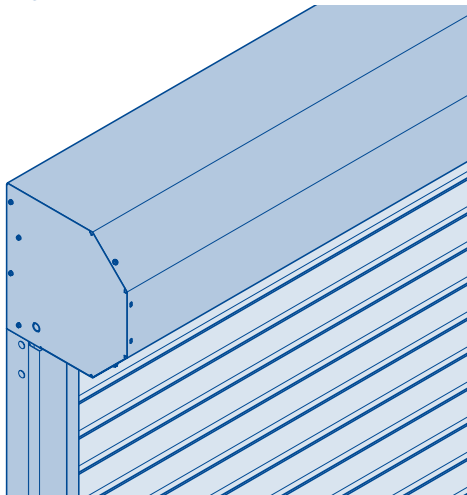
- Subject to surcharge
- No influence on
  - **PS**
  - **S**
  - Available door sizes
- Recommended for door sets with heights over 3500 mm
- A trap guard PVSB must be used with door systems with impulse operation and a door height ordering size below 2500 mm.

# Rolling Shutters SB / Rolling Grilles SB

## Trap guard PVSB / loss of passage height

### Trap guard PVSB

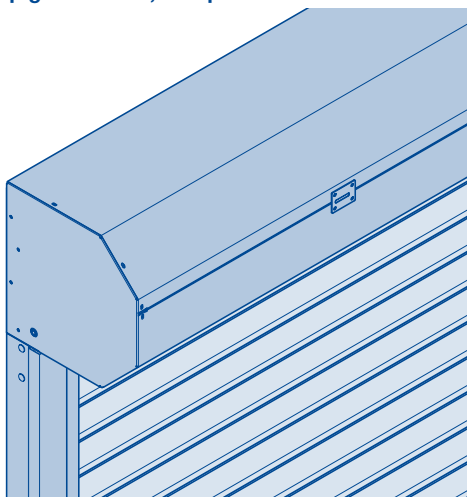
#### Trap guard PVSB, one-piece sheet cover



#### Notes:

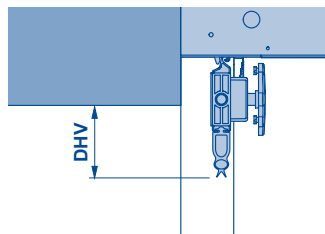
- Subject to surcharge
- The trap guard PVSB with one-piece sheet cover is used for:
  - Rolling shutters SB with door heights  $\leq 3000$  mm
  - SB rolling grille
- The trap guard PVSB with two-piece sheet cover is used for:
  - Rolling shutters SB with door heights  $> 3000$  mm
- The trap guard 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

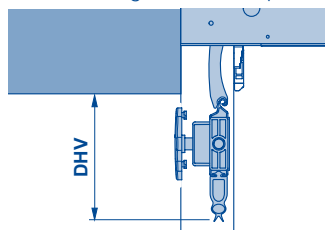


### Loss of passage height

#### Internal rolling shutter example



#### External rolling shutter example

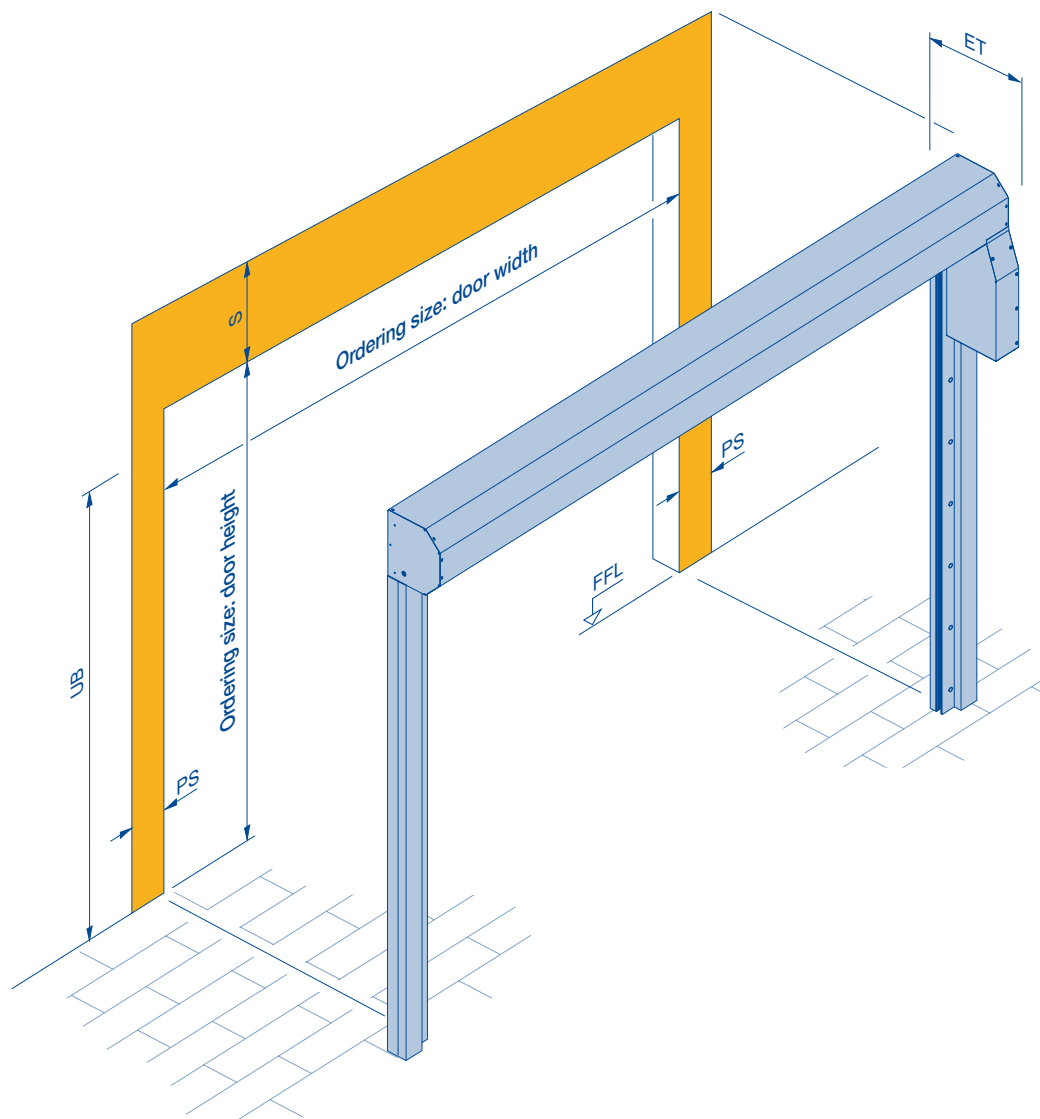


Version	Equipment	Loss of passage height (DHV)	Change of the required headroom
<b>Internal rolling shutter</b>	PVSB + shootbolt:	50	0
	PVSB + ABP1/2	50	0
	PVSB + SKS	50	0
	Chamfered bottom profile	50 + difference dimension	0
	Chamfered bottom profile + PVSB + shootbolt / ABP / SKS	100 + difference dimension	0
<b>External rolling shutter</b>	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  $\leq$  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

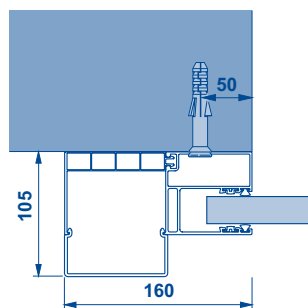
Door height				
2400	365	370	335	370
2250	360	370	330	370
2000	355	370	325	370
	Decotherm A Decotherm S		HG-L	

123 = S (Required headroom)  
123 = ET (Minimum fitting depth)

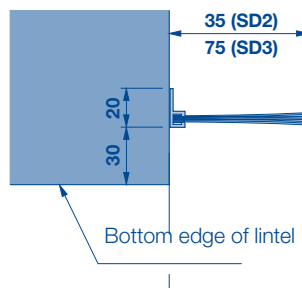
#### Notes:

- 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 Lintel seal SD2/SD3

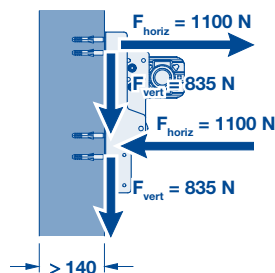
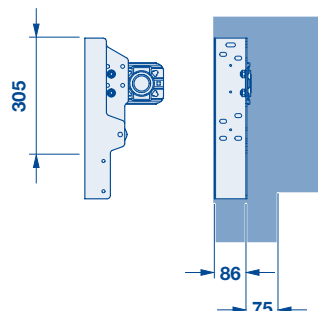


**Note:**  
• **FS 160 A:** Aluminium side guide for all rolling shutters TGT and rolling grilles TGT



**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

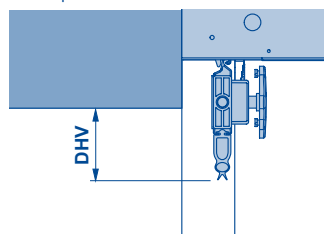
##### Timber

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

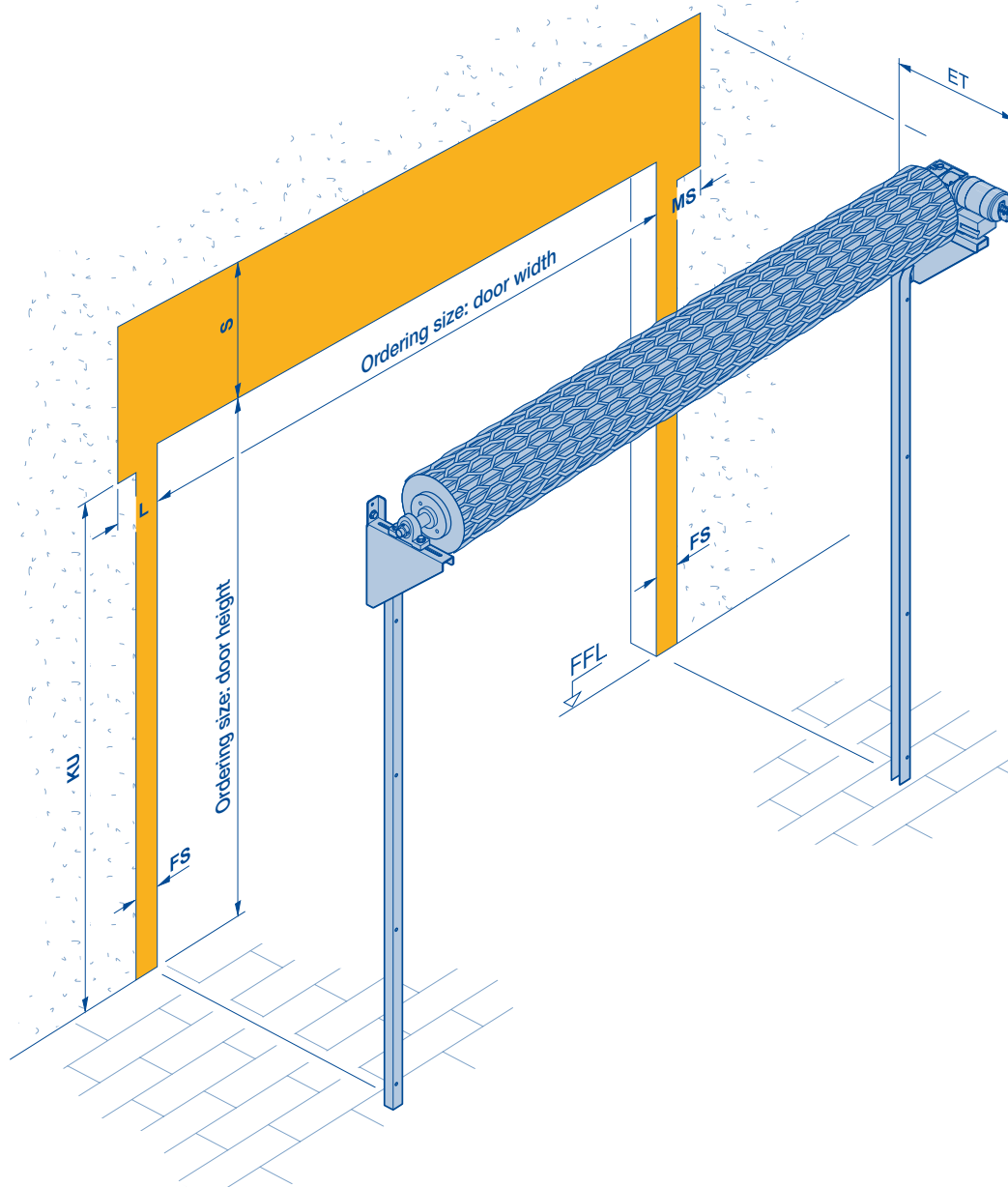
Example



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 <b>FS 70</b> Door widths <b>up to 6000</b>				Side guide <b>FS 100</b> Door widths <b>greater than 6000</b>			
170	225	70	<sup>3)</sup>	200	265	100	<sup>3)</sup>
110 <sup>1)</sup>				140 <sup>1)</sup>			
120 <sup>2)</sup>							

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.

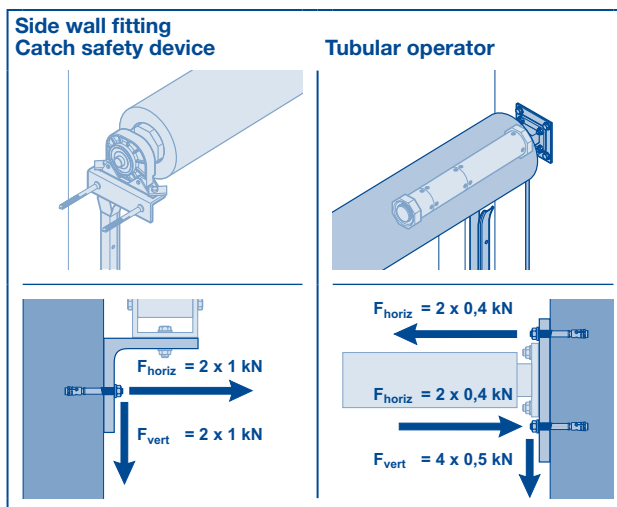
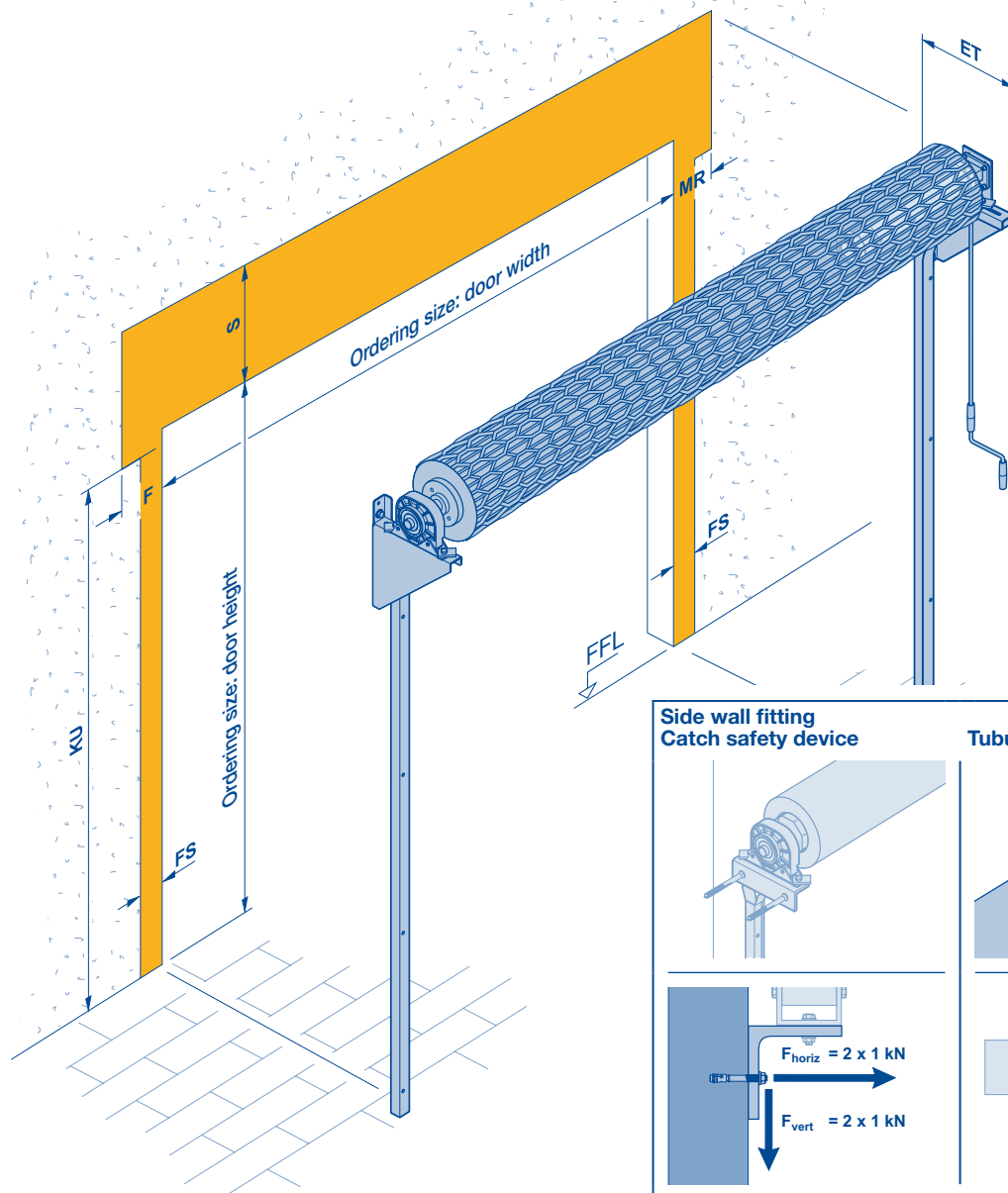
**S** = Required headroom, see tables from page 26

**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 <b>FS 70</b> Door widths <b>up to 6000</b>				Side guide <b>FS 100</b> Door widths <b>greater than 6000</b>			
160	160	70	<sup>1)</sup>	185	185	100	<sup>1)</sup>

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

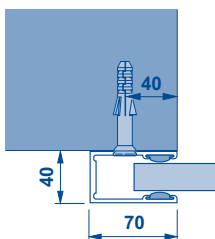
## Side guides

### FS 70 A

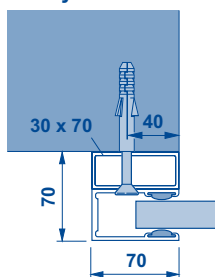
**Notes:**

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

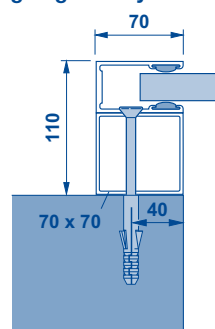
**Standard**



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



**External rolling grille with closing edge safety device**

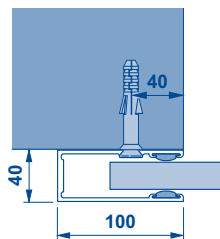


### FS 100 A

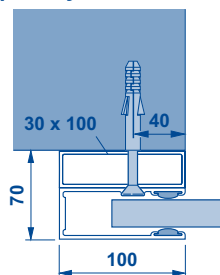
**Notes:**

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

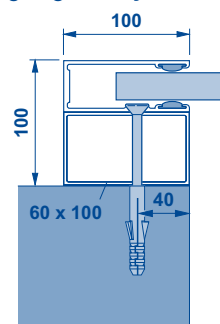
**Standard**



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



**External rolling grille with closing edge safety device**

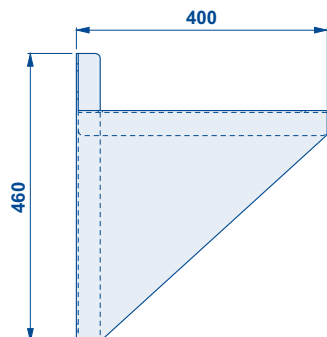


# Basic Rolling Grilles

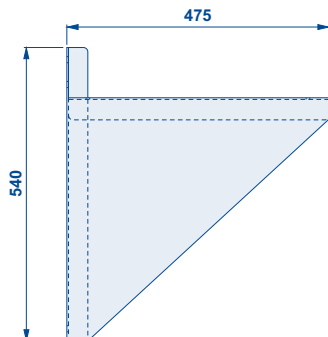
## Standard support brackets, maximum loads

### Standard support brackets

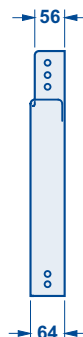
Support bracket 400



Support bracket 475



Support width

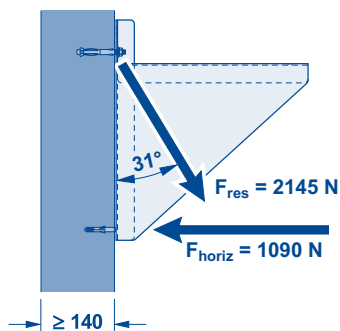


#### Notes:

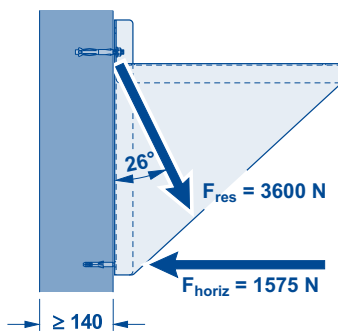
- Fitting directly to the building structure
- For basic rolling grilles:
  - With direct drive operator
  - With tubular operator
- Height cannot be adjusted

### 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	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	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	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	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	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	692	480	704	480	704	480	704	480	704	480	704	480	704	480	704	480	704
4000	480	692	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	704	480	704	480	704	480	704
3750	460	682	460	682	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	694	460	694
3500	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	452	690
3250	452	678	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
3000	452	678	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	752	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	743	452	743	452	743	452	743	452	743	452	743	452	743
452	690	452	690	452	743	452	743	452	743	452	743	452	743	452	743	452	743	452	743	452	743	452	743
430	679	430	679	430	679	430	679	434	732	434	732	434	732	434	732	434	732	434	732	434	732	434	732
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
430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679	430	679
<b>6250</b>	<b>6500</b>	<b>6750</b>	<b>7000</b>	<b>7250</b>	<b>7500</b>	<b>7750</b>	<b>8000</b>	<b>8250</b>	<b>8500</b>	<b>8750</b>	<b>9000</b>												

27
26
25
25
23
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	465	425	465	425	465	425	465	425
430	425	430	425	430	425	430	425	430	425	430	425	430	425	430	425	465	425	465	425	465	425	465	425
<b>6250</b>	<b>6500</b>	<b>6750</b>	<b>7000</b>	<b>7250</b>	<b>7500</b>	<b>7750</b>	<b>8000</b>	<b>8250</b>	<b>8500</b>	<b>8750</b>	<b>9000</b>												

34
32
32
31
29
27
27
26
24
23
22
20
18
17

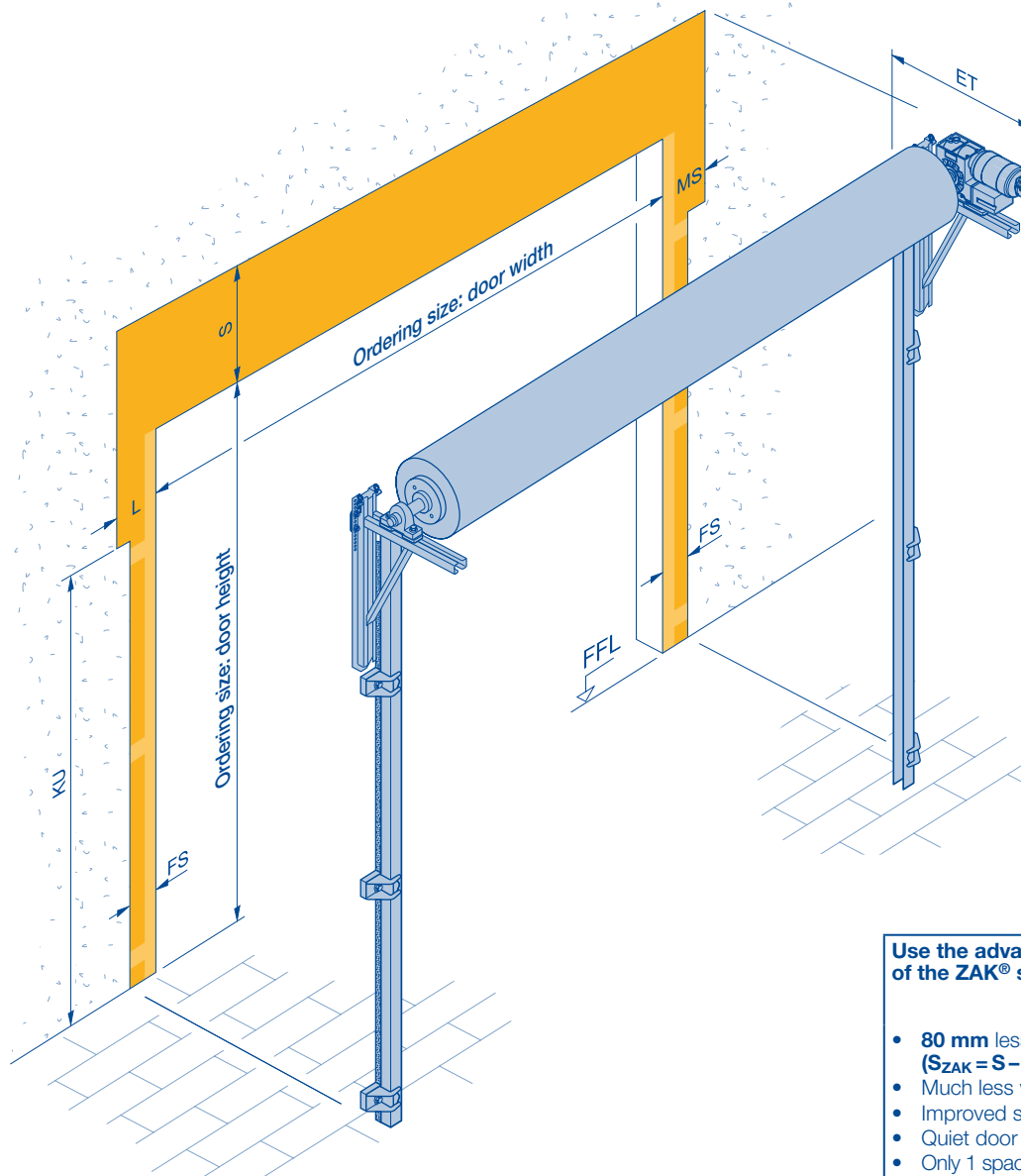
R30
R23
R18
R12

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 <b>FS 73</b>				Side guide <b>FS 98</b>			
<ul style="list-style-type: none"> <li>• Door widths <b>up to</b> 4000</li> <li>• Doors <b>without</b> wind locks</li> </ul>				<ul style="list-style-type: none"> <li>• Door widths <b>greater than</b> 4000</li> <li>• Doors <b>with</b> wind locks</li> </ul>			
215	275	155	<sup>2)</sup>	235	295	180	<sup>2)</sup>
275 <sup>1)</sup>	430 <sup>1)</sup>			295 <sup>1)</sup>	450 <sup>1)</sup>		

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:**

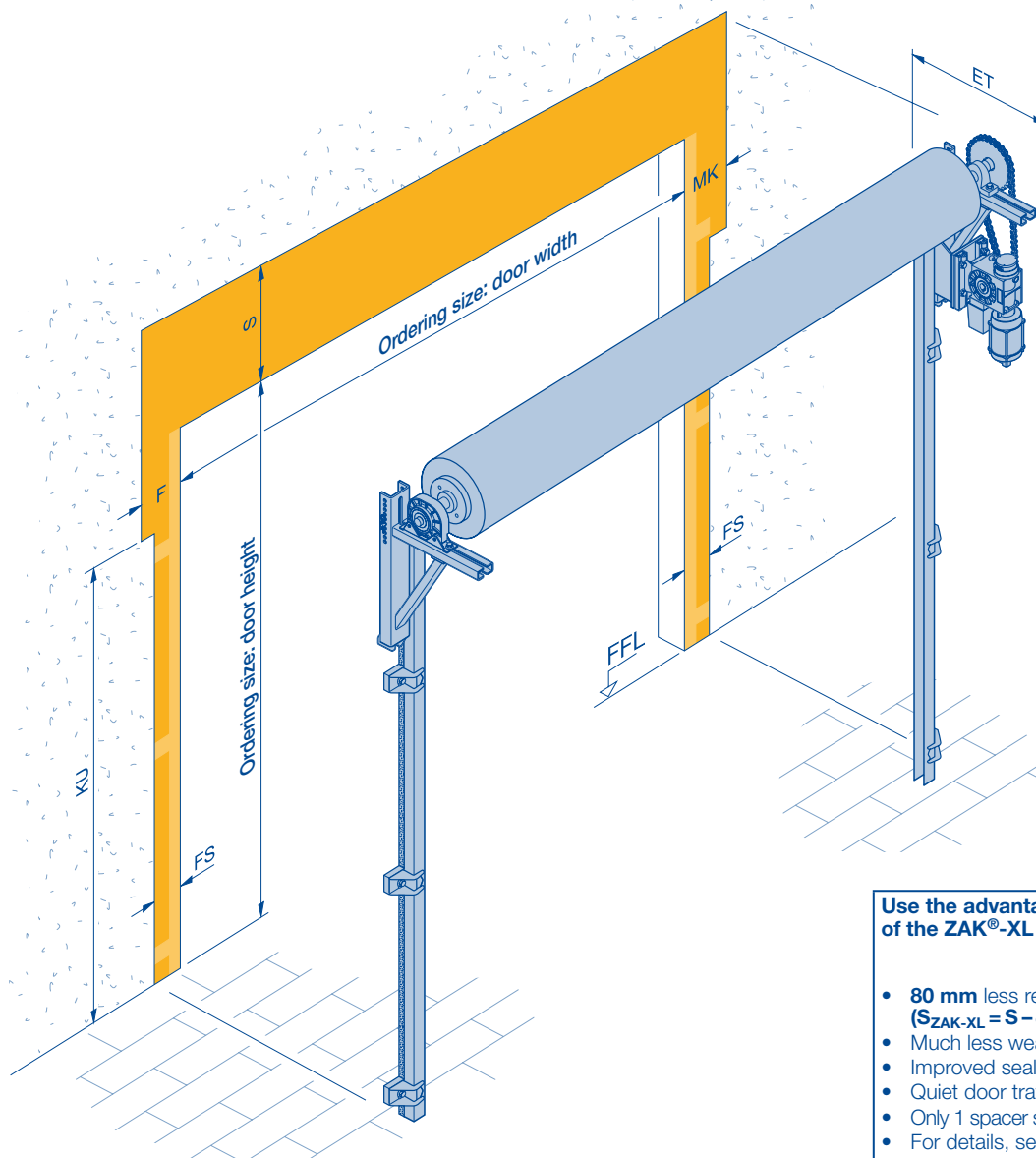
- The fitting example shows the arrangement of the operator from the right as seen from the inside. An arrangement on the left is also available on request.
- For external rolling shutters, the operator side is determined from the outside.
- The ZAK® system does not have any influence on the sideroom.

**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<sub>ZAK-XL</sub> = 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

F	MK	FS	KU	F	MK	FS	KU
Side guide <b>FS 73</b>				Side guide <b>FS 98</b>			
<ul style="list-style-type: none"> <li>• Door widths <b>up to</b> 4000</li> <li>• Doors <b>without</b> wind locks</li> </ul>				<ul style="list-style-type: none"> <li>• Door widths <b>greater than</b> 4000</li> <li>• Doors <b>with</b> wind locks</li> </ul>			
230	300	155	<sup>2)</sup>	250	320	180	<sup>2)</sup>
270 <sup>1)</sup>	370 <sup>1)</sup>			290 <sup>1)</sup>	390 <sup>1)</sup>		

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

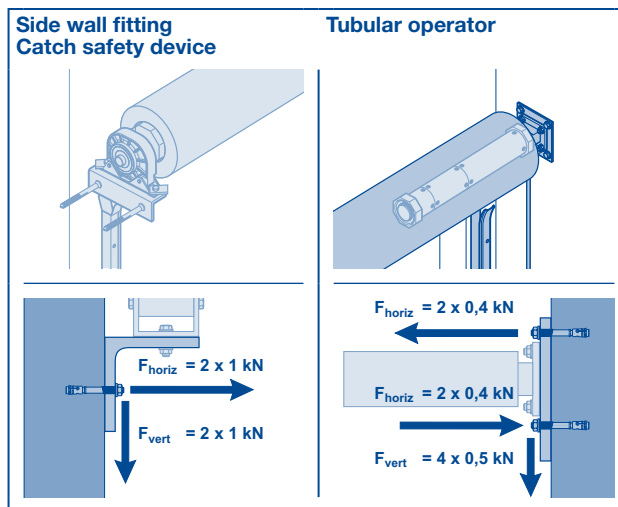
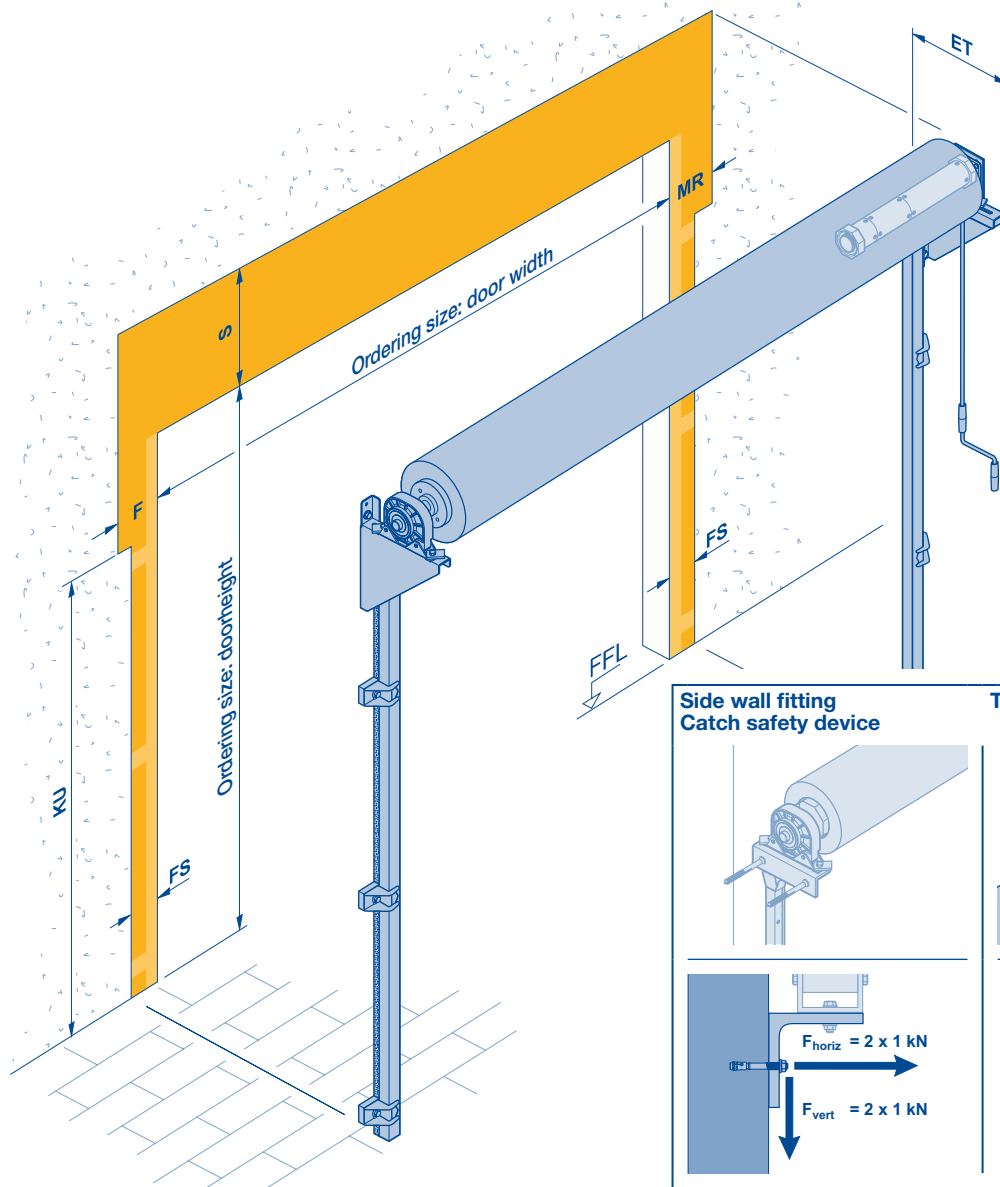
**Notes:**

- 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



F	MR	FS	KU	F	MR	FS	KU
Side guide <b>FS 73</b>				Side guide <b>FS 98</b>			
<ul style="list-style-type: none"> <li>Door widths <b>up to</b> 4000</li> <li>Doors <b>without</b> wind locks</li> </ul>				<ul style="list-style-type: none"> <li>Door widths <b>greater than</b> 4000</li> <li>Doors <b>with</b> wind locks</li> </ul>			
160	160	155	<sup>1)</sup>	185	185	180	<sup>1)</sup>

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

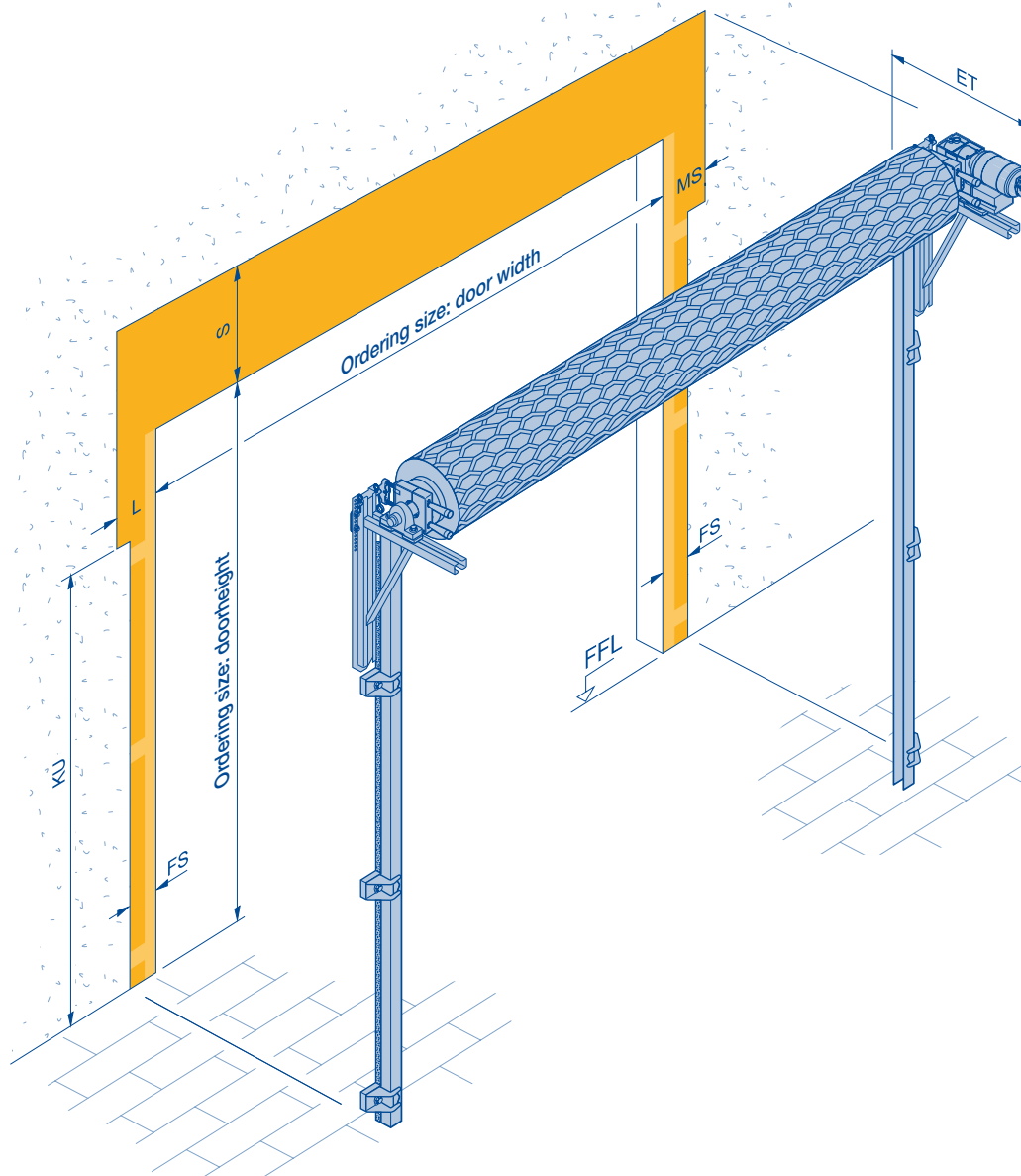
### Notes:

- 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 <b>FS 73</b> <ul style="list-style-type: none"> <li>HG-A and HG-V: Door widths <b>up to 4000</b></li> <li>HG-S: Door widths <b>up to 6000</b></li> </ul>				Side guide <b>FS 98</b> <ul style="list-style-type: none"> <li>HG-A and HG-V: Door widths <b>greater than 4000</b></li> <li>HG-S: Door widths <b>greater than 6000</b></li> </ul>			
215	275	155	<sup>2)</sup>	235	295	180	<sup>2)</sup>
275 <sup>1)</sup>	430 <sup>1)</sup>			295 <sup>1)</sup>	450 <sup>1)</sup>		

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

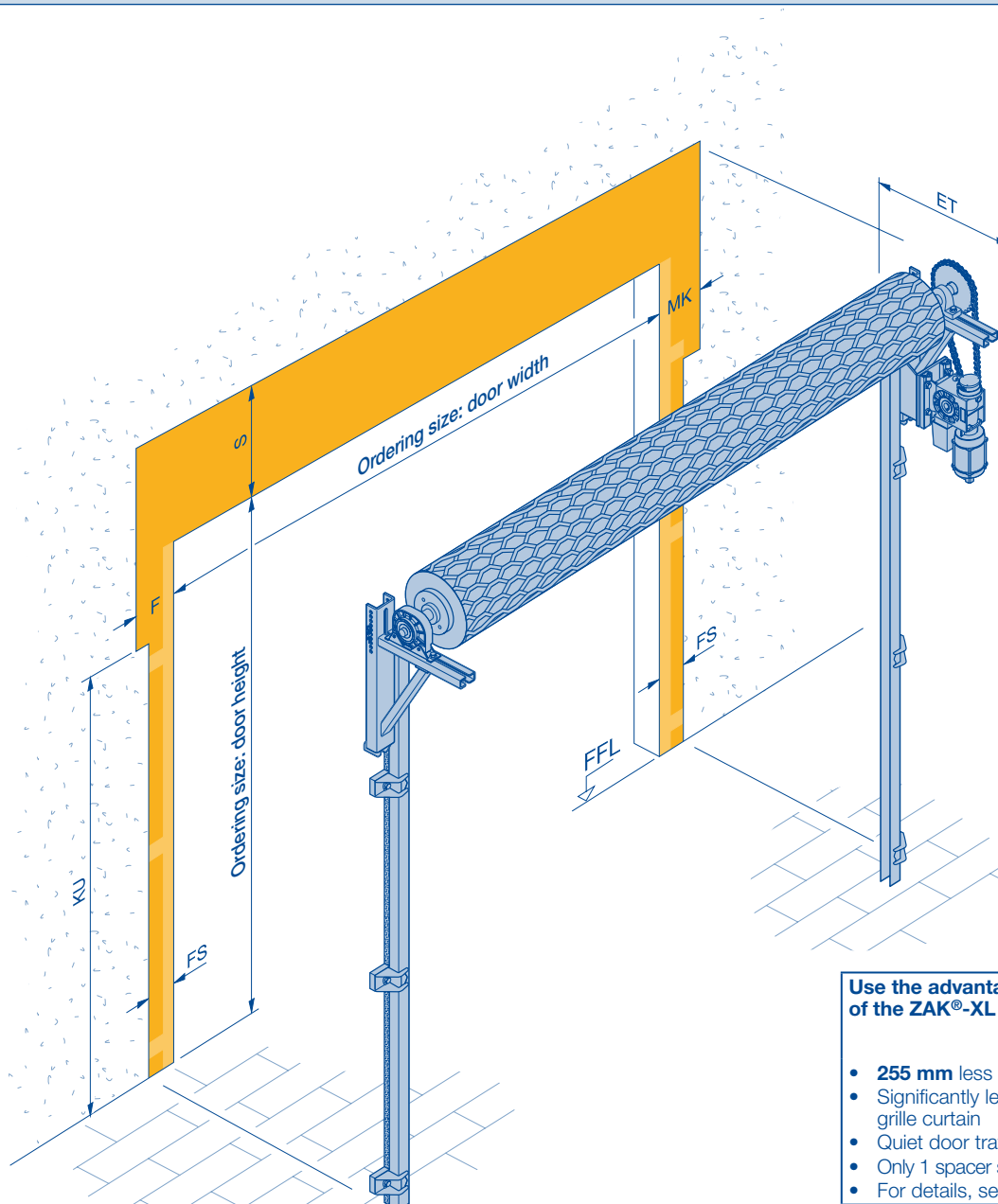
**Notes:**

- 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 <b>FS 73</b> <ul style="list-style-type: none"> <li>• HG-A and HG-V: Door widths <b>up to 4000</b></li> <li>• HG-S: Door widths <b>up to 6000</b></li> </ul>				Side guide <b>FS 98</b> <ul style="list-style-type: none"> <li>• HG-A and HG-V: Door widths <b>greater than 4000</b></li> <li>• HG-S: Door widths <b>greater than 6000</b></li> </ul>			
230	300	155	<sup>2)</sup>	250	320	180	<sup>2)</sup>
270 <sup>1)</sup>	370 <sup>1)</sup>			290 <sup>1)</sup>	390 <sup>1)</sup>		

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

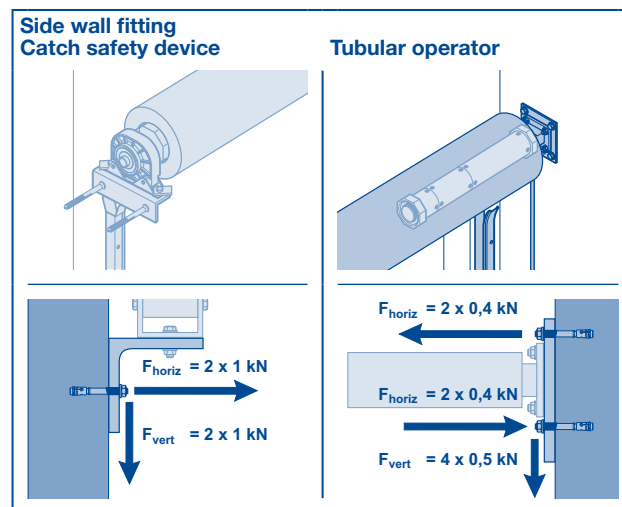
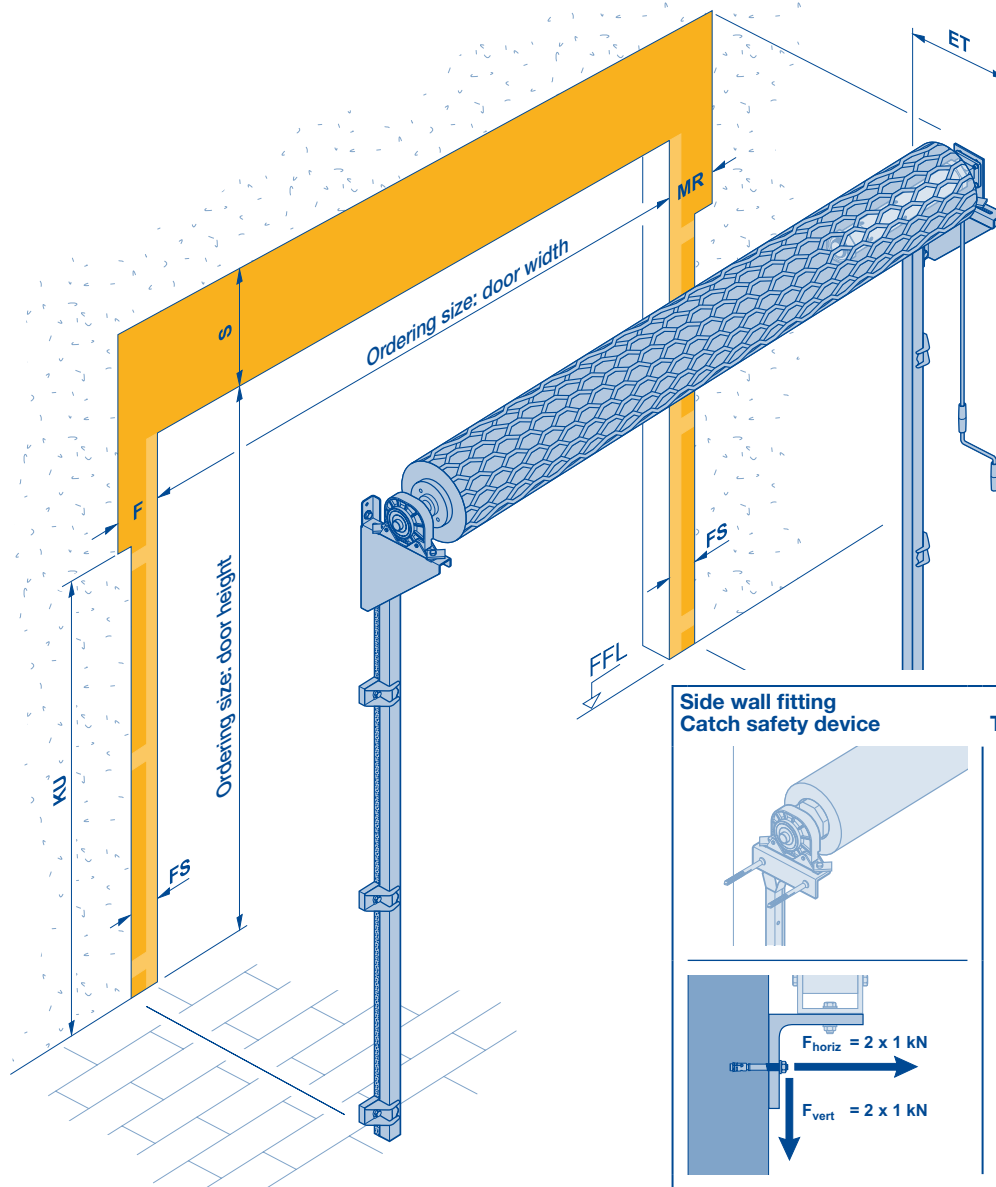
**Notes:**

- 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



F	MR	FS	KU	F	MR	FS	KU
Side guide <b>FS 73</b>				Side guide <b>FS 98</b>			
<ul style="list-style-type: none"> <li>HG-A and HG-V: Door widths <b>up to</b> 4000</li> <li>HG-S: Door widths <b>up to</b> 6000</li> </ul>				<ul style="list-style-type: none"> <li>HG-A and HG-V: Door widths <b>greater than</b> 4000</li> <li>HG-S: Door widths <b>greater than</b> 6000</li> </ul>			
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

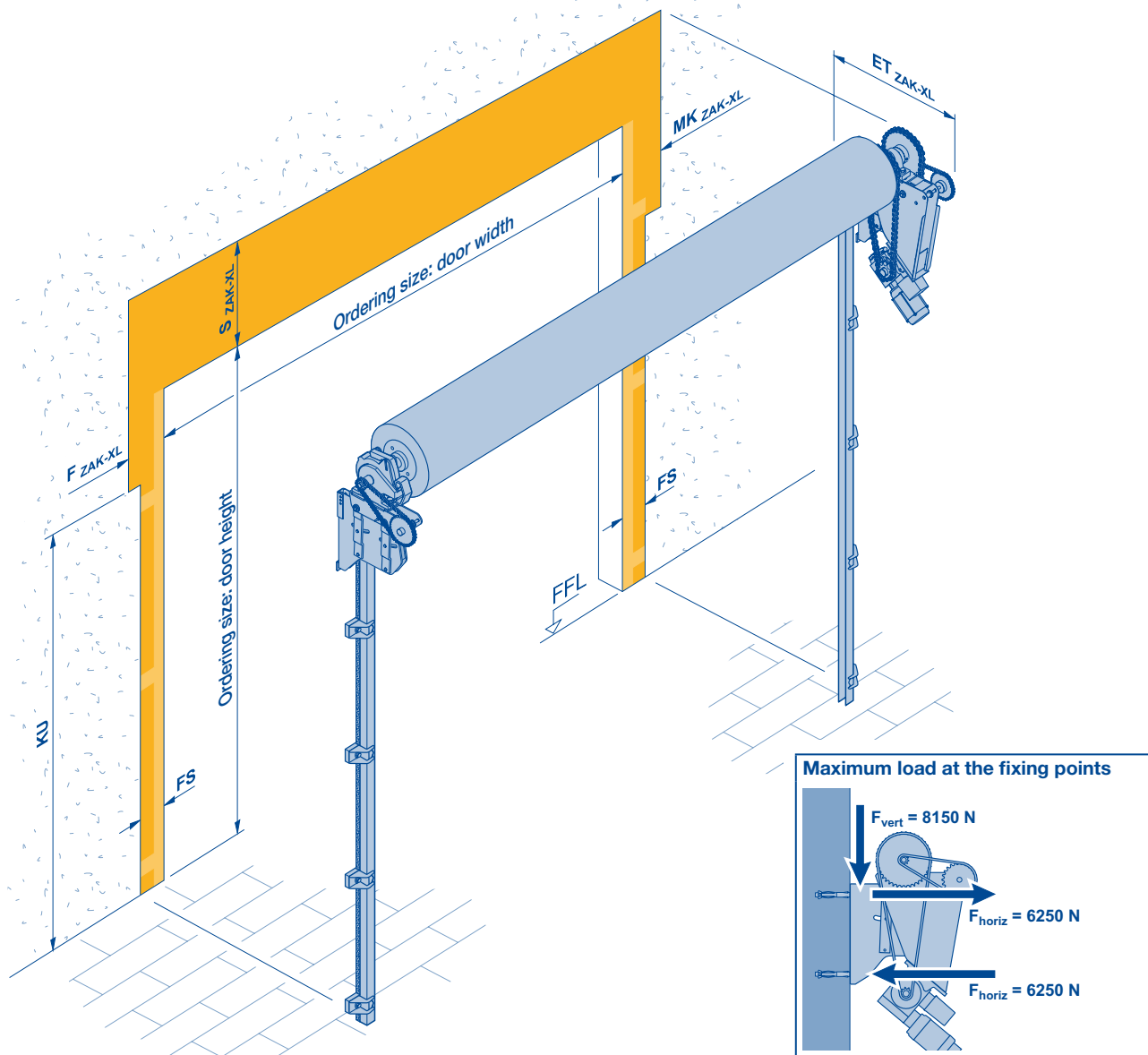
### Notes:

- 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 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 <sub>ZAK-XL</sub>	MK <sub>ZAK-XL</sub>	FS	KU	F <sub>ZAK-XL</sub>	MK <sub>ZAK-XL</sub>	FS	KU
Side guide <b>FS 73</b>				Side guide <b>FS 98</b>			
<ul style="list-style-type: none"> <li>Door widths <b>up to</b> 4000</li> <li>Doors <b>without</b> wind locks</li> </ul>				<ul style="list-style-type: none"> <li>Door widths <b>greater than</b> 4000</li> <li>Doors <b>with</b> wind locks</li> </ul>			
380	440	155	<sup>1)</sup>	400	460	180	<sup>1)</sup>

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

### Notes:

- The ZAK®-XL system reduces the required headroom:  
**S<sub>ZAK-XL</sub>** = S – 80 mm for all classic rolling shutters  
 = S – 255 mm for all classic rolling grilles
- The **ET<sub>ZAK-XL</sub>** 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 ≥ 6000 mm
  - Door height ≥ 3500 mm

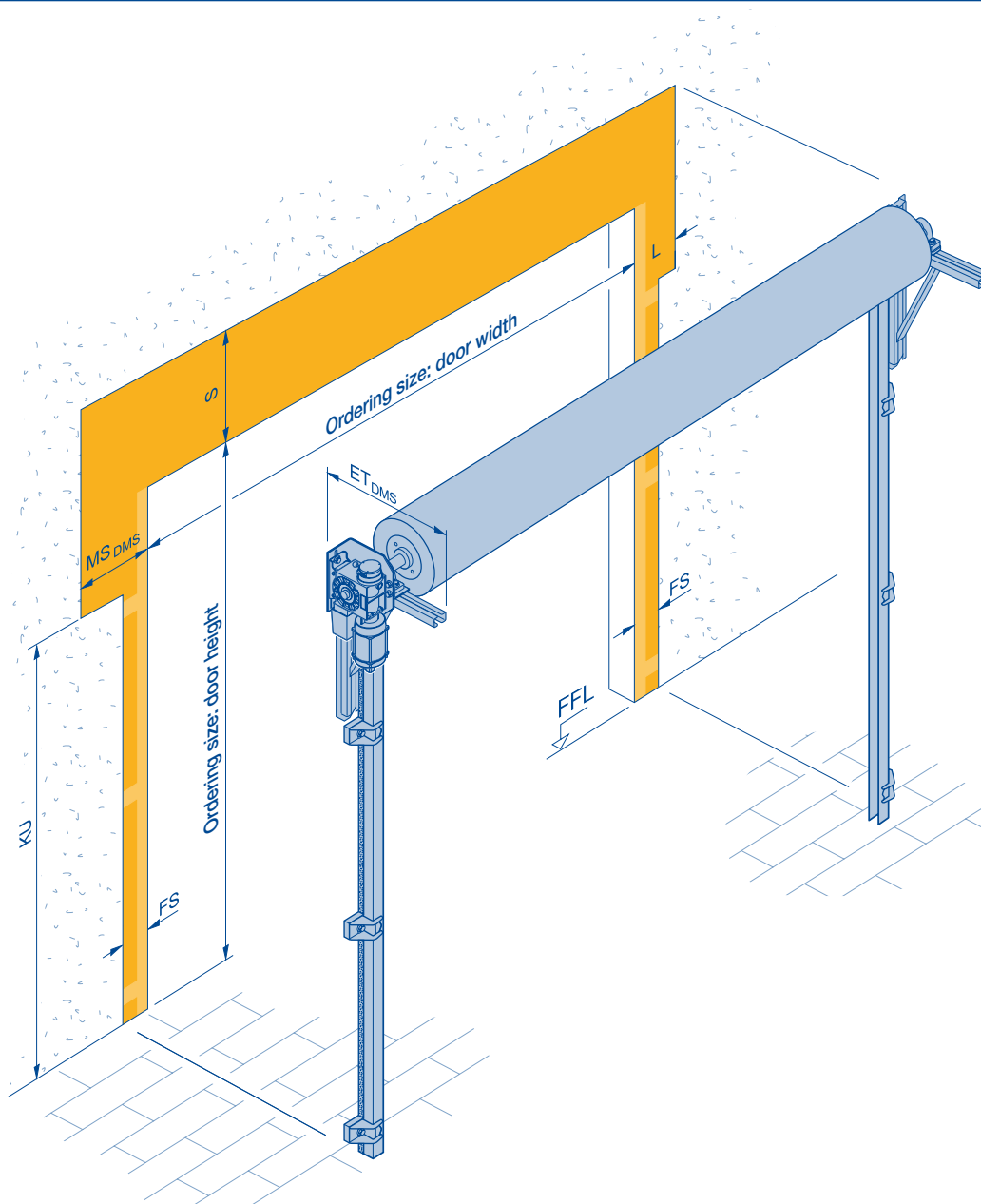
**F<sub>ZAK-XL</sub>** = Sideroom on catch safety device side with ZAK®-XL system  
**MK<sub>ZAK-XL</sub>** = Sideroom on motor side for chain drive operators with ZAK®-XL system  
**FS** = Sideroom for side guide  
**KU** = Bottom support bracket dimension, different on bearing and operator sides

**S** = Required headroom see tables from page 64  
**S<sub>ZAK-XL</sub>** = Required headroom for doors with optional ZAK®-XL system  
**ET<sub>ZAK-XL</sub>** = Fitting depth for operator and support brackets with the ZAK®-XL system  
**F<sub>FL</sub>** = 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 <sub>DMS</sub>	FS	KU	L	MS <sub>DMS</sub>	FS	KU
Side guide <b>FS 73</b>				Side guide <b>FS 98</b>			
<ul style="list-style-type: none"> <li>Door widths <b>up to</b> 4000</li> <li>Doors <b>without</b> wind locks</li> </ul>				<ul style="list-style-type: none"> <li>Door widths <b>greater than</b> 4000</li> <li>Doors <b>with</b> wind locks</li> </ul>			
215	375	155	<sup>2)</sup>	235	395	180	<sup>2)</sup>
275 <sup>1)</sup>	530 <sup>1)</sup>			295 <sup>1)</sup>	550 <sup>1)</sup>		

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<sub>DMS</sub>** = 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:

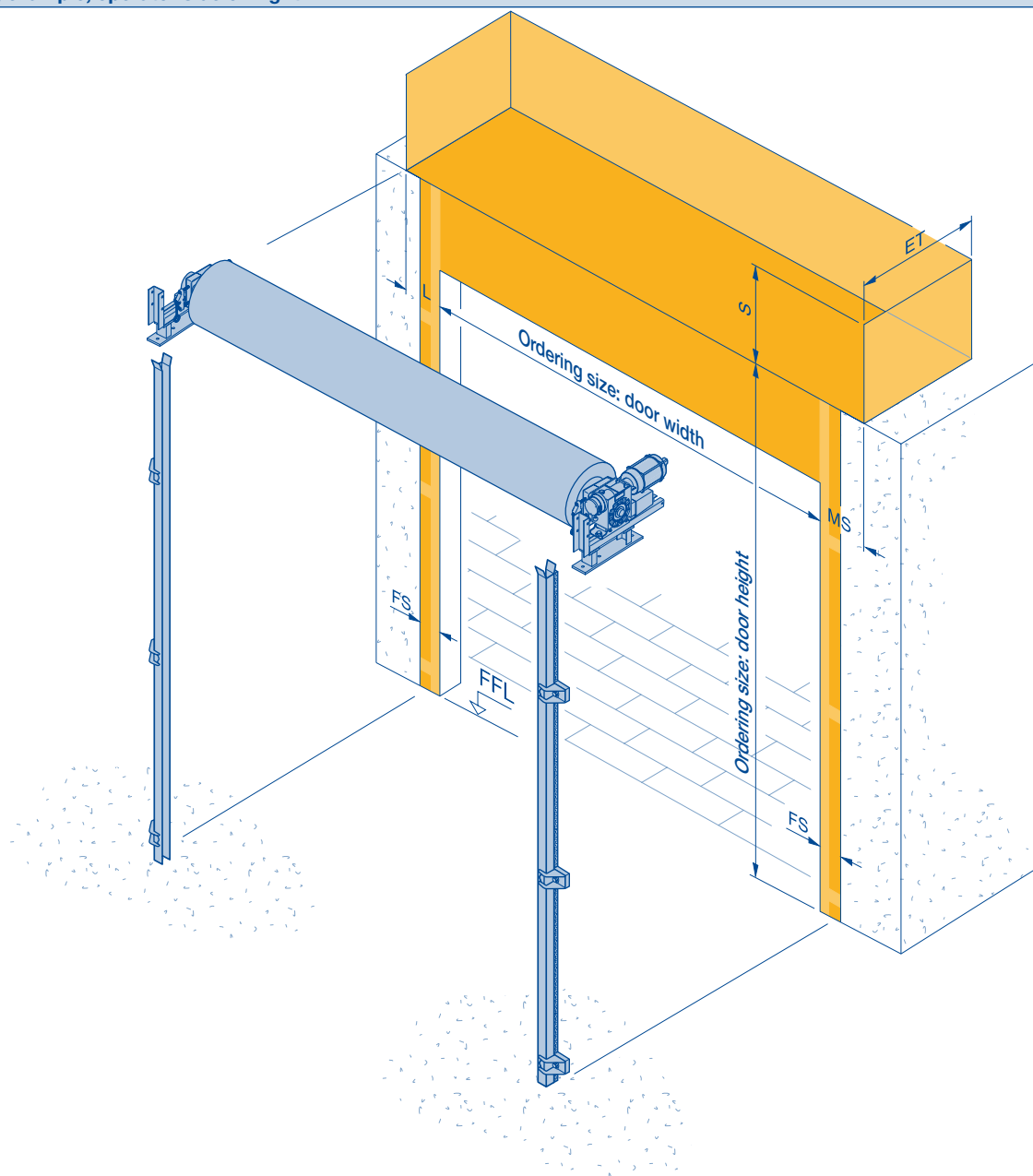
- The fitting example shows the arrangement of the operator from the left as seen from the inside. An arrangement on the right is also available on request.
- DMS can be used with all classic rolling shutters / rolling grilles with direct drive operator
- For doors with ZAK® system, only up to direct drive operator type S25.
- The **ET<sub>DMS</sub>** 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<sub>DMS</sub>** = 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 <b>FS 73</b>			Side guide <b>FS 98</b>		
<ul style="list-style-type: none"> <li>• Door widths <b>up to</b> 4000</li> <li>• Doors <b>without</b> wind locks</li> </ul>			<ul style="list-style-type: none"> <li>• Door widths <b>greater than</b> 4000</li> <li>• Doors <b>with</b> wind locks</li> </ul>		
215	275	155	235	295	180
275 <sup>1)</sup>	430 <sup>1)</sup>		295 <sup>1)</sup>	450 <sup>1)</sup>	

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.

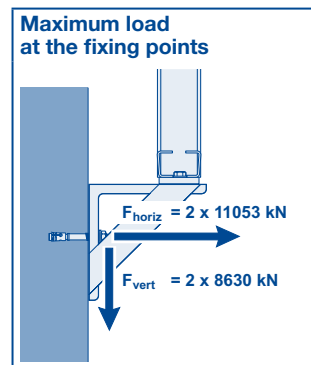
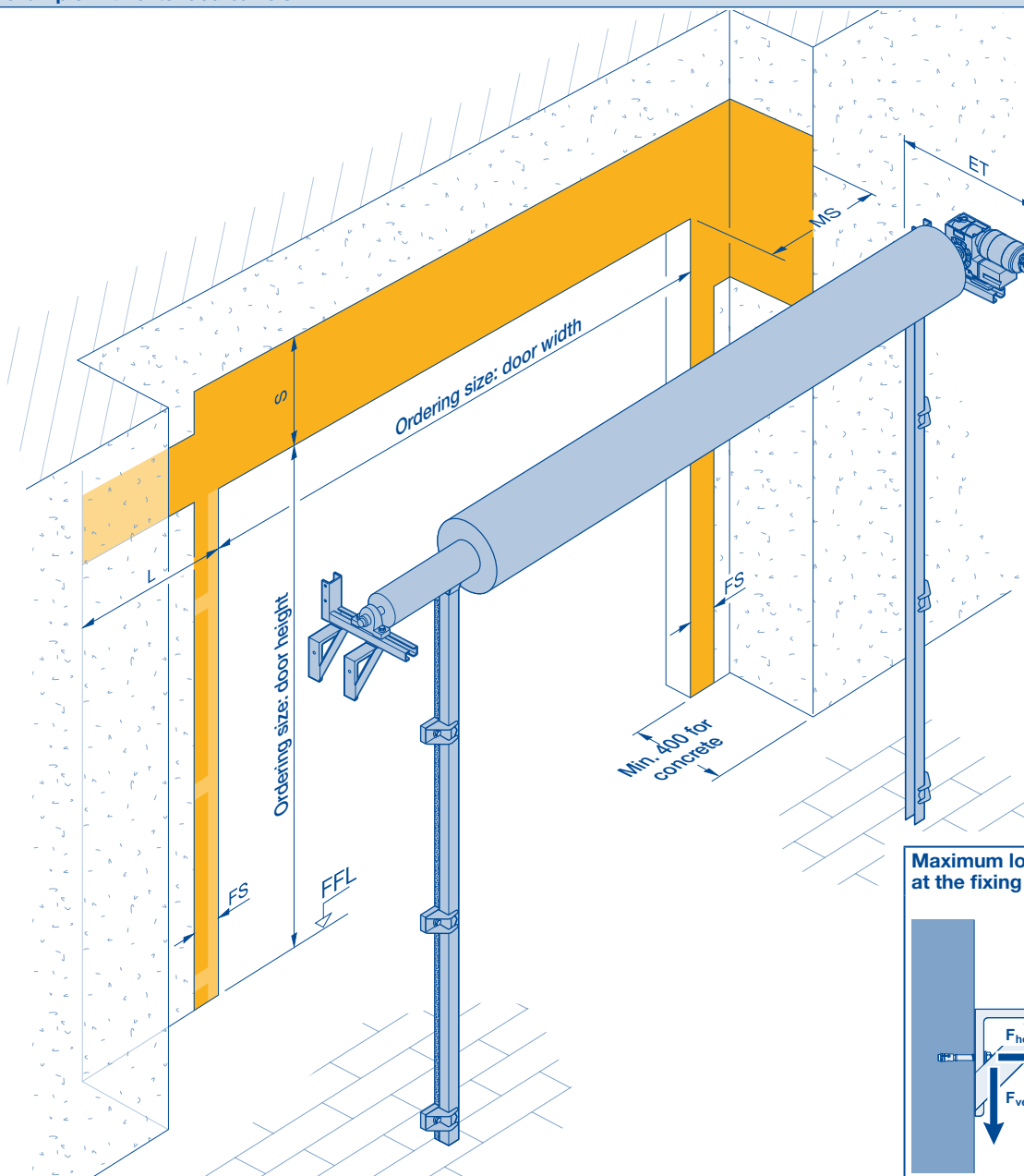
**S** = Required headroom see tables from page 52  
**ET** = Minimum fitting depth for operator and support brackets, see tables from page 52  
**FFL** = Finished floor level



# 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 <b>FS 73</b>			Side guide <b>FS 98</b>		
<ul style="list-style-type: none"> <li>Door widths <b>up to</b> 4000</li> <li>Doors <b>without</b> wind locks</li> </ul>			<ul style="list-style-type: none"> <li>Door widths <b>greater than</b> 4000</li> <li>Doors <b>with</b> wind locks</li> </ul>		
Min. 195	275	155	Min. 215	295	180

#### Notes:

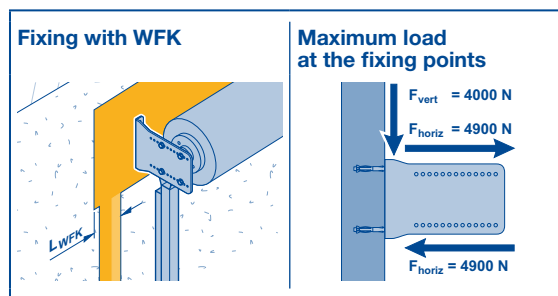
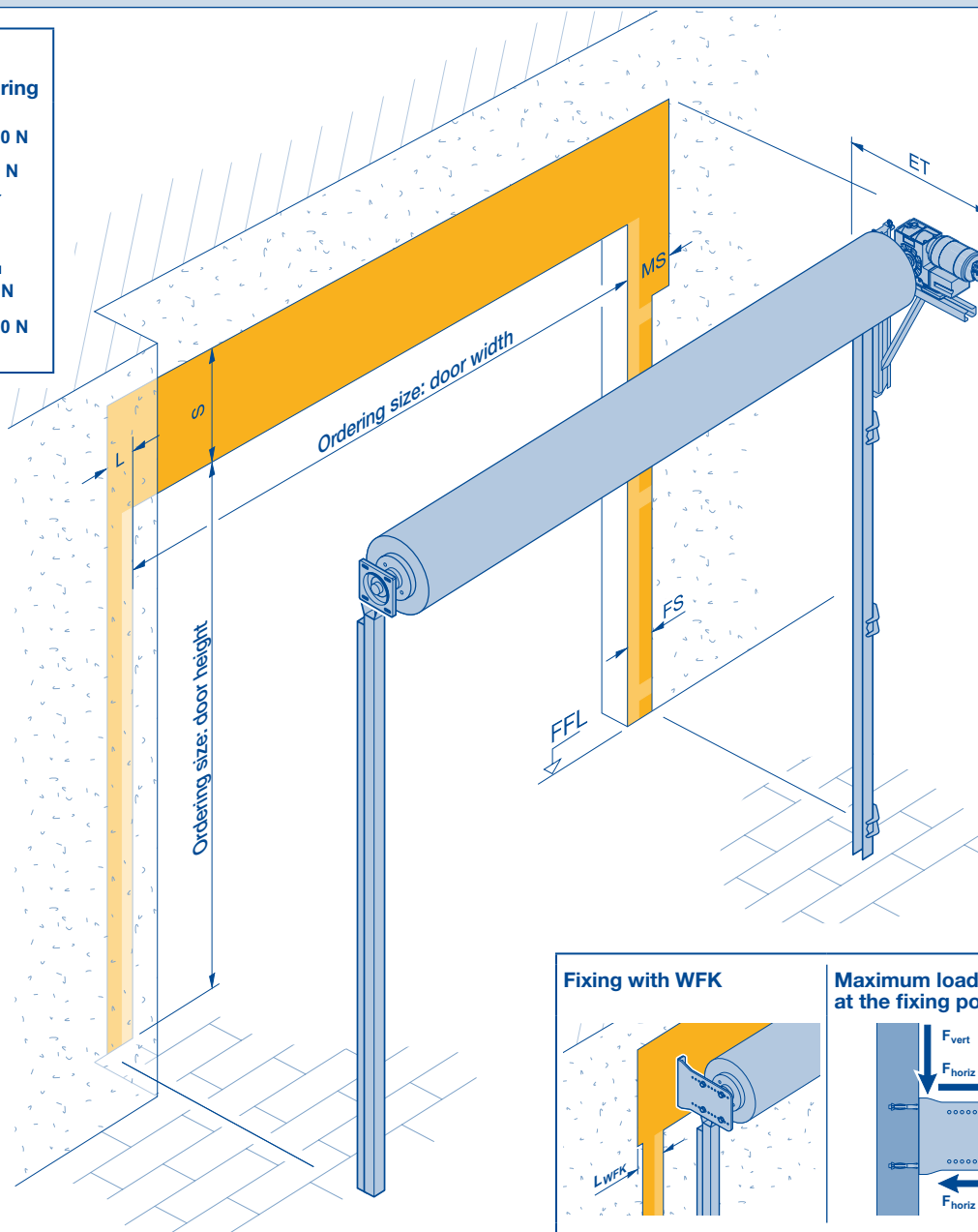
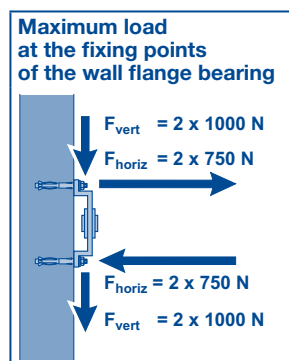
- BT support brackets can be used with classic rolling shutters and classic rolling grilles with
  - Direct drive operator
  - Direct drive operator and ZAK® system.

**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



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

- 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 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

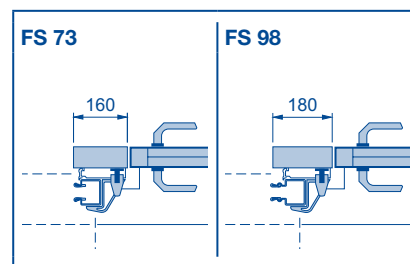
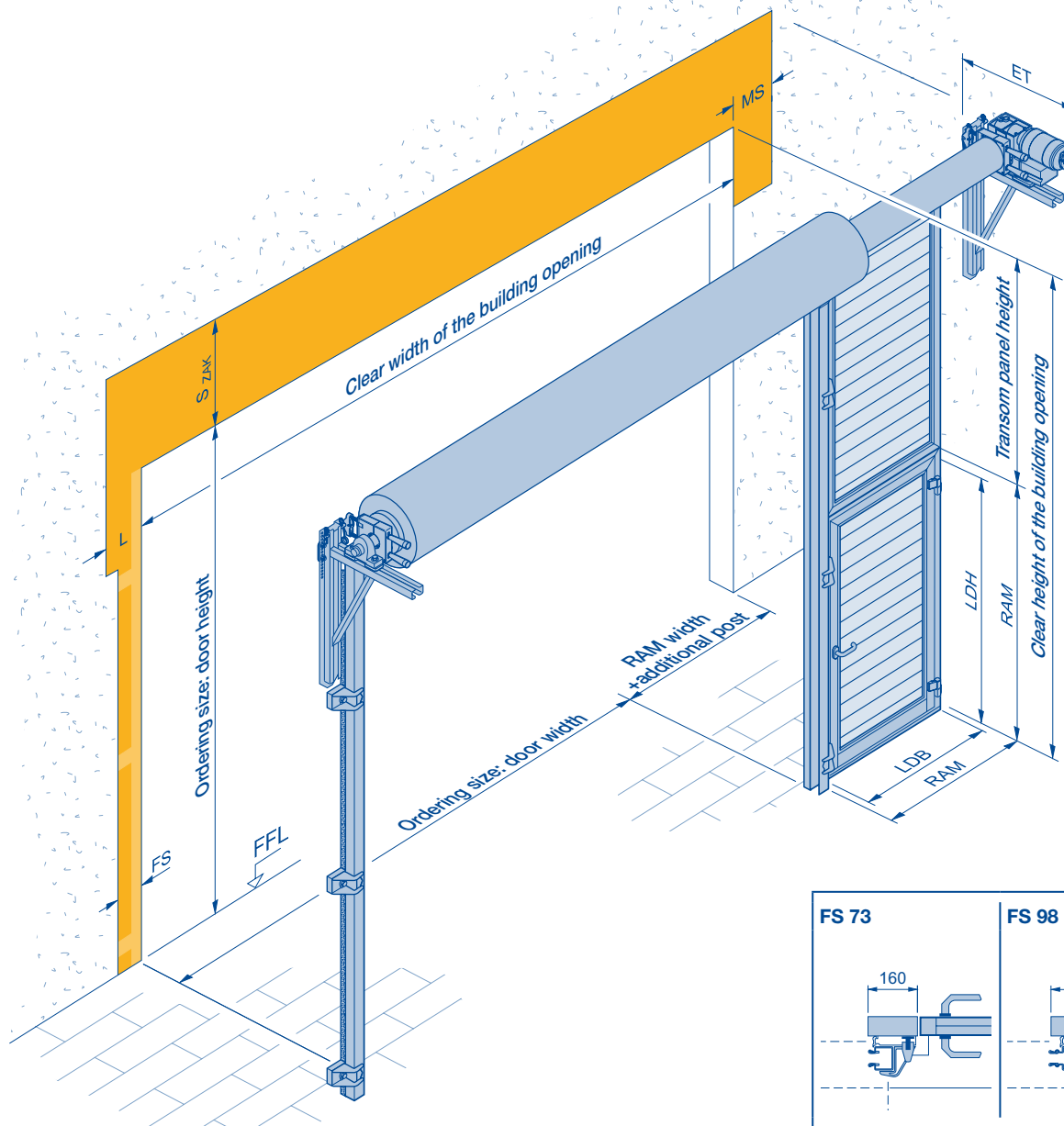
# Notes



# 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
<b>Additional post (width)</b>	160	180
<b>Door width ordering size</b>	Clear width of the building opening – RAM (width) – additional post (width)	
<b>RAM (height)</b>	Min. 1800 mm, Max. 2500	
<b>RAM (width)</b>	Min. 650 mm, max. 1300	
<b>LDB</b>	RAM (width) – 140	
<b>LDH</b>	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:**

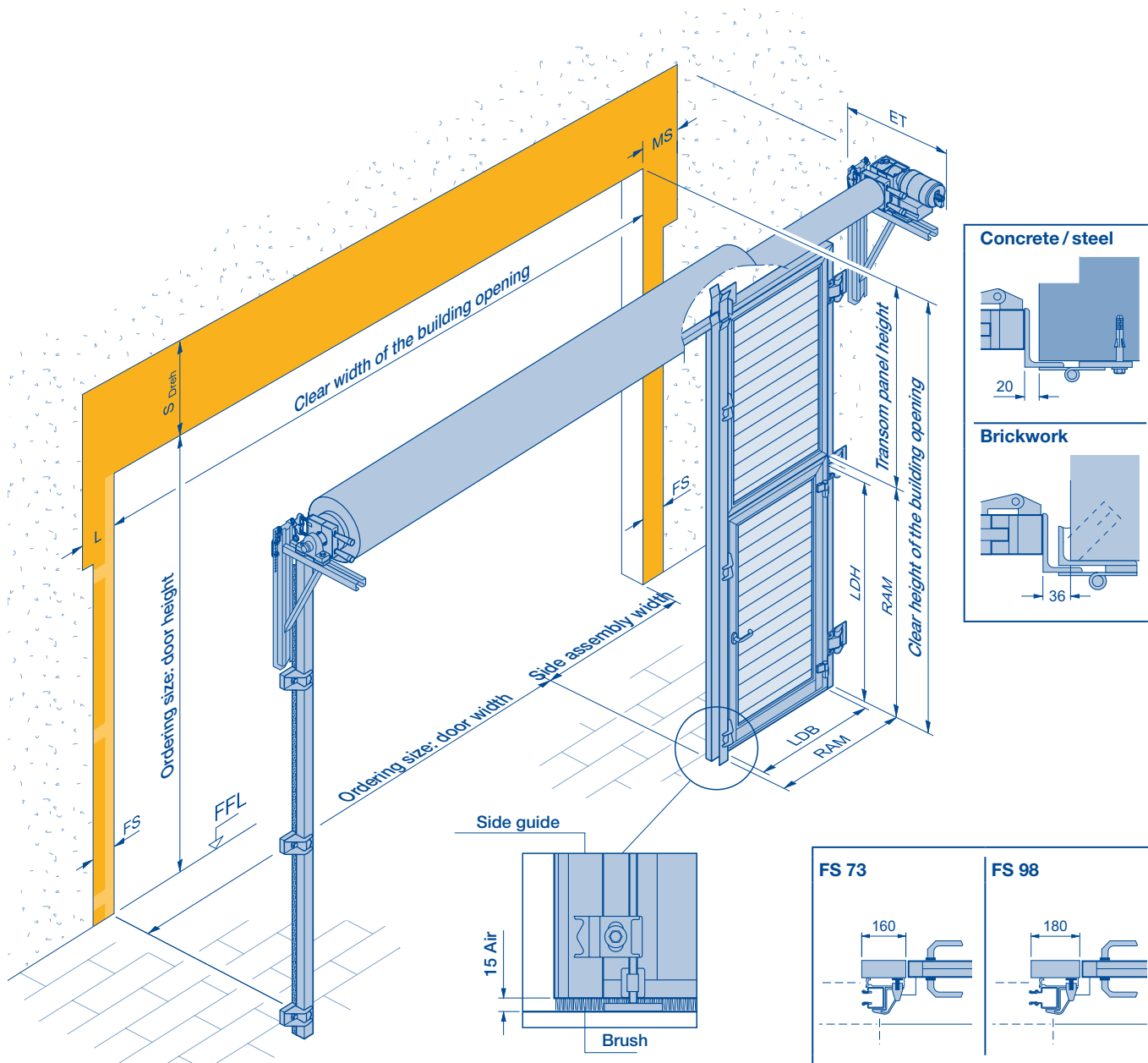
- The type of the side guide depends on the door data. For standard values, see pages 46 / 47.
- Dimensions for sideroom, see:
  - For direct drive operators, page 28
  - For chain drive operators, page 29
- Please take into consideration possible tolerances on the building structure when determining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

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

MS = Sidersroom on motor side for direct drive operators  
 S<sub>turn</sub> = 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

### Notes:

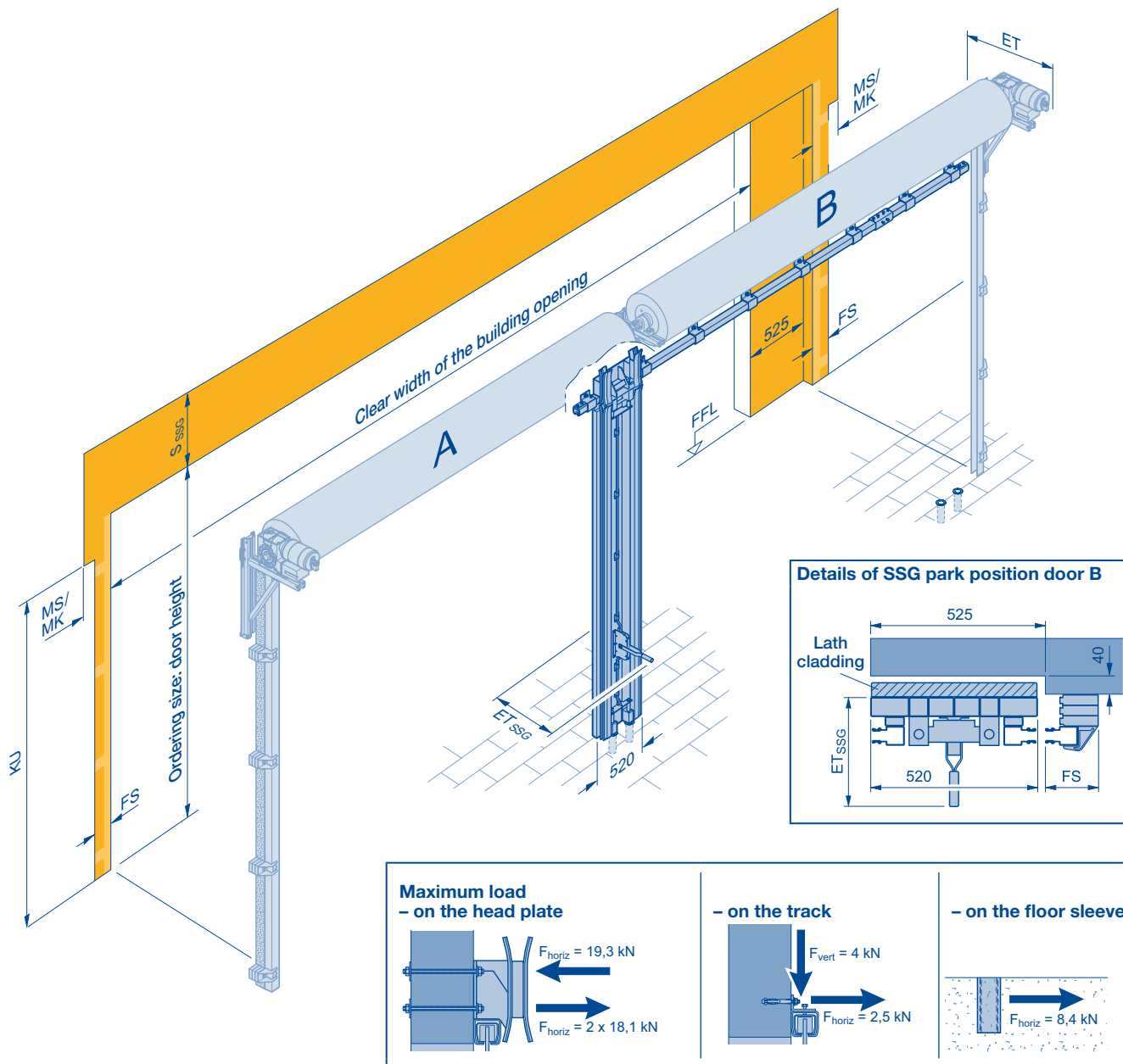
- The head room is increased by max. 200 mm (**S<sub>TURN</sub> = S + 200**).
- The type of side guide depends on the version of the door. For standard values, see pages 46 / 47.
- Dimensions for sideroom, see:
  - For direct drive operators, page 28
  - For chain drive operators, page 29
- Side door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

# 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 <sup>1)</sup> , HG-A <sup>2)</sup>
19470 mm	Decotherm S
21470 mm	HR 116 A
23470 mm	HG-V <sup>2)</sup> , HG-S <sup>2)</sup>
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<sub>SSG</sub>** = S + max. 350 mm
- **ET<sub>SSG</sub>** = 530 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).

<sup>1)</sup> Only permissible for internal doors <sup>2)</sup> Only permissible for doors with press-and-hold control

**F<sub>horiz</sub>** = Horizontal force at the fixing point  
**F<sub>vert</sub>** = 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

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

**FS** = Sideroom for side guide

**S<sub>SSG</sub>** = Required headroom for door systems with SSG system

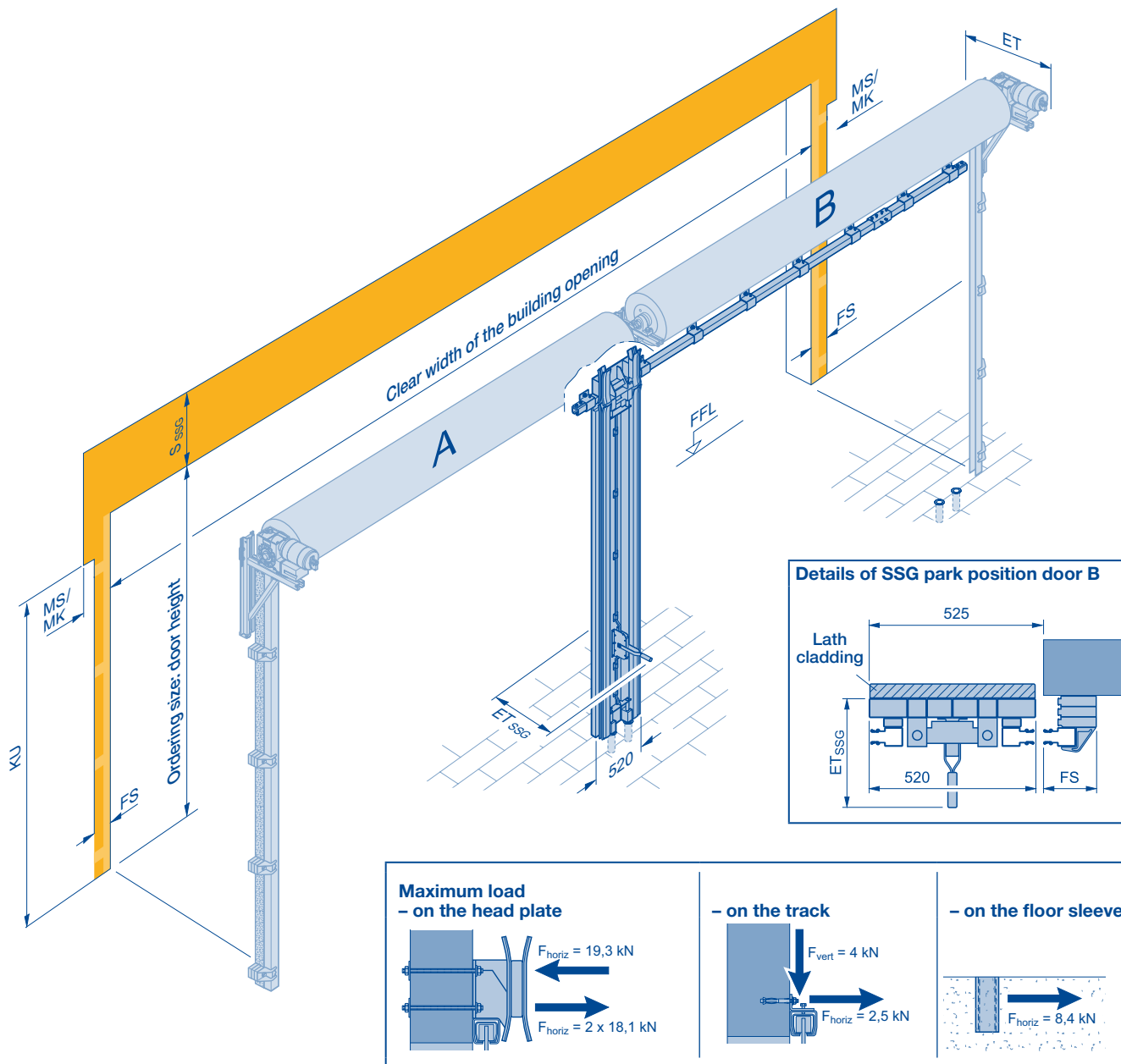
**MK** = Sideroom on motor side for chain drive operators **ET<sub>SSG</sub>** = Fitting depth for the SSG system

# 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 <sup>1)</sup> HG-A <sup>2)</sup>
20500 mm	Decotherm S
22500 mm	HR 116 A
24500 mm	HG-V <sup>2)</sup> , HG-S <sup>2)</sup>
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<sub>SSG</sub>** = S + max. 350 mm
- **ET<sub>SSG</sub>** = 530 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<sub>horiz</sub>** = Horizontal force at the fixing point

**F<sub>vert</sub>** = Vertical force at the fixing point

**FS** = Sideroom for side guide

**MK** = Sideroom on motor side for chain drive operators **ET<sub>SSG</sub>** = 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<sub>SSG</sub>** = Required headroom for door systems with SSG system

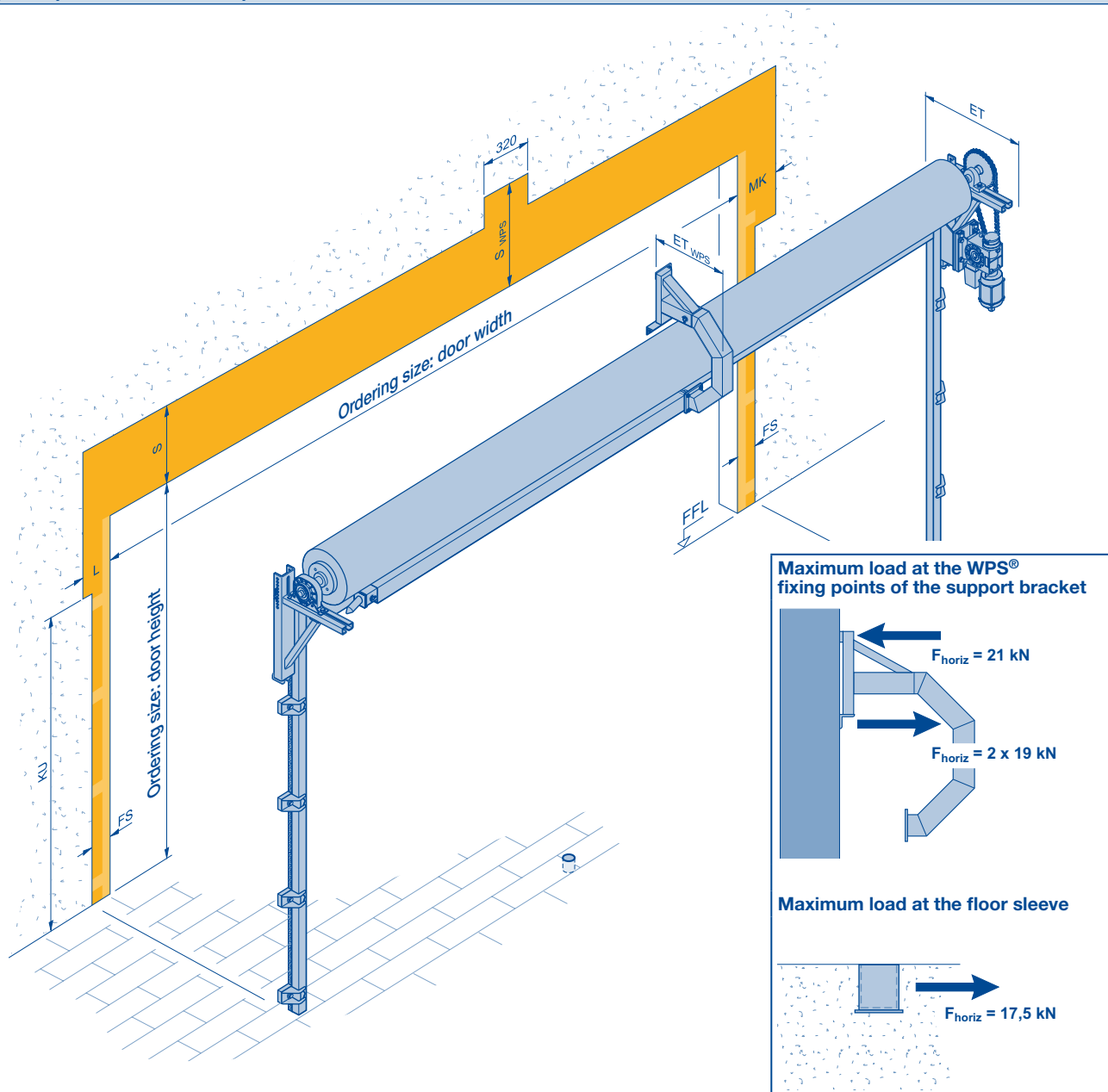
**ET** = Minimum fitting depth for operator and support brackets, see tables from page 52

**FFL** = Finished floor level

# Space Requirements for Classic Rolling Shutters

WPS®

## Fitting example with chain drive operator



<b>F<sub>horiz</sub></b>	= Horizontal force at the fixing point
<b>L</b>	= Sideroom on bearing side
<b>MK</b>	= Sideroom on motor side for chain drive operators
<b>FS</b>	= Sideroom for side guide
<b>KU</b>	= Bottom support bracket dimension, different on bearing and operator sides
<b>S</b>	= Required headroom see tables from page 52
<b>S<sub>WPS</sub></b>	= Required headroom for door with WPS®, see tables from page 45
<b>ET</b>	= Minimum fitting depth for operator and support brackets, see tables from page 52
<b>ET<sub>WPS</sub></b>	= Fitting depth for WPS® support bracket, see tables from page 45
<b>FFL</b>	= 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<sub>WPS</sub>** and **S<sub>WPS</sub>**, 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
			<p><b>Side guide FS 70 A</b></p>

### 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:

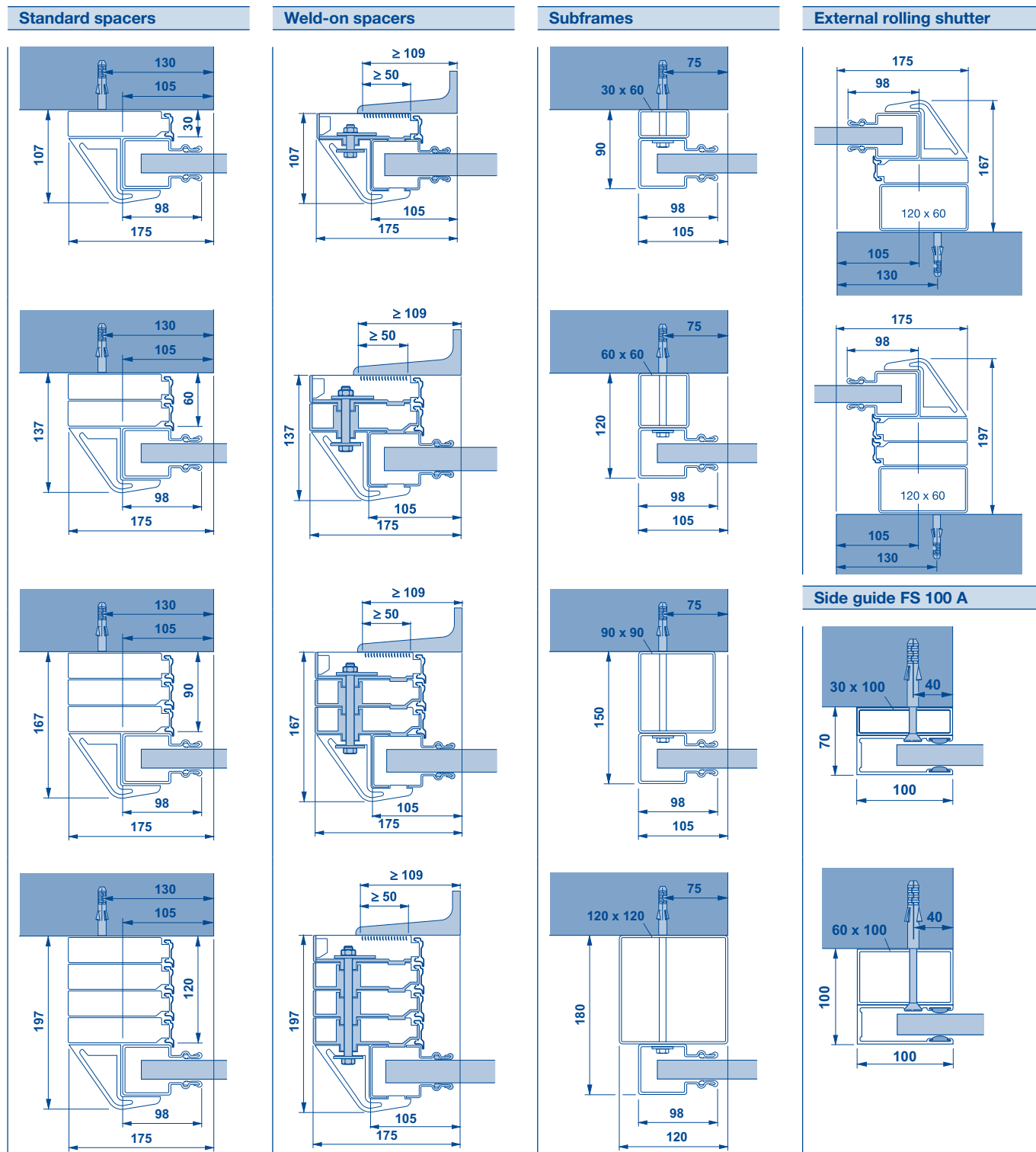
- Steel: Steel supports directly on the building opening
- Concrete, brickwork, lightweight construction: On-site U frame made of steel

### 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



### 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:

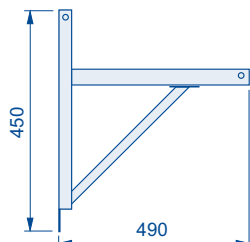
- For the number of spacers required, see tables from page 52
- At least 2 spacers for external rolling shutters and SKS
- Assembly height of the side guide = 60 mm
- Support height for each spacer = 30 mm
- Maximum load at the fixing point: 1.5 kN tensile load
- No wind locks with subframes
- FS 100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

# Classic Rolling Shutters / Classic Rolling Grilles

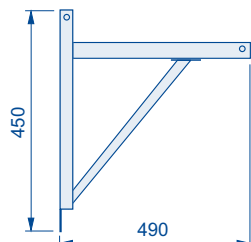
## Standard support brackets

### Doors with direct drive operator

Operator side



Bearing side



Support width



#### Support bracket N 450 AK/N 450 LK

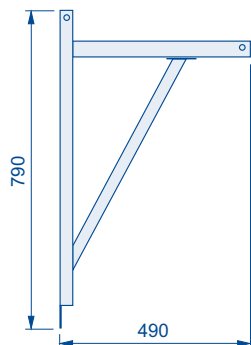
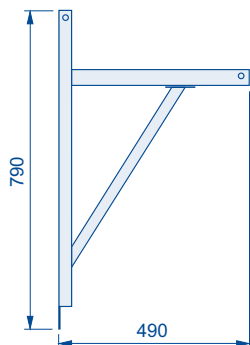
**Note:**

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

#### Support bracket N 450 A / N 450 L

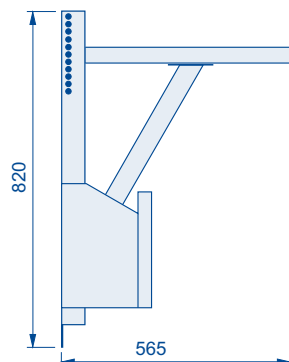
**Note:**

- From a door curtain and barrel weight of 300 kg

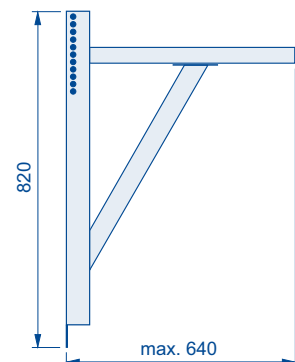


### Doors with chain drive operator

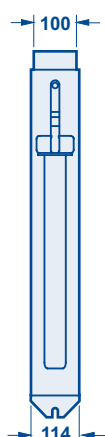
Operator side



Catch safety device side



Support width



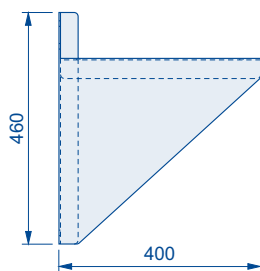
#### Support bracket K / support bracket M 500/F

**Note:**

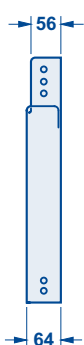
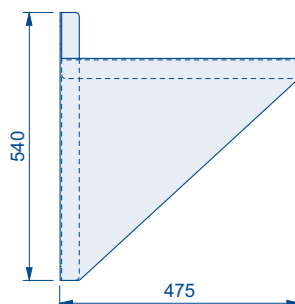
- The support surface is the same on the operator side and the catch safety device side

### Doors with tubular operator

Operator and catch safety device side



Support width



#### Support bracket 400 / support bracket 475

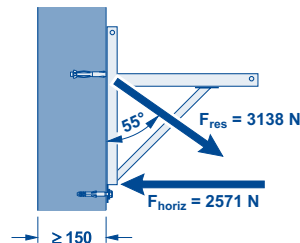
# Classic Rolling Shutters / Classic Rolling Grilles

## Maximum loads at the fixing points of the support brackets

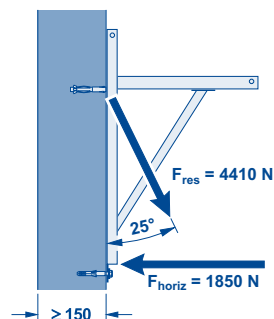
### Doors with direct drive operator

#### 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

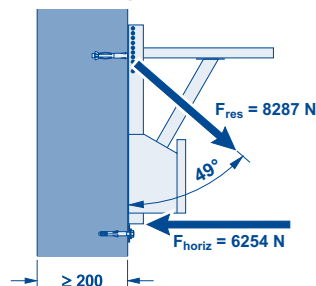
##### Timber

Coniferous wood: C24 / quality category II  
 Thickness  $120 \times 120 \text{ mm}$   
 Standard DIN 1052 (EC5)

$F_{res}$  = Resulting force at the fixing point  
 $F_{horiz}$  = Horizontal force at the fixing point

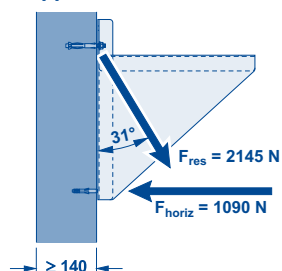
### Doors with chain drive operator

#### Load during operation

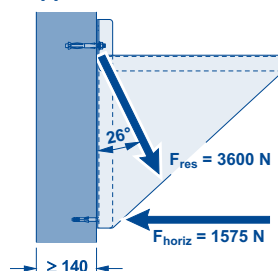


### Doors with tubular operator

#### Support bracket 400



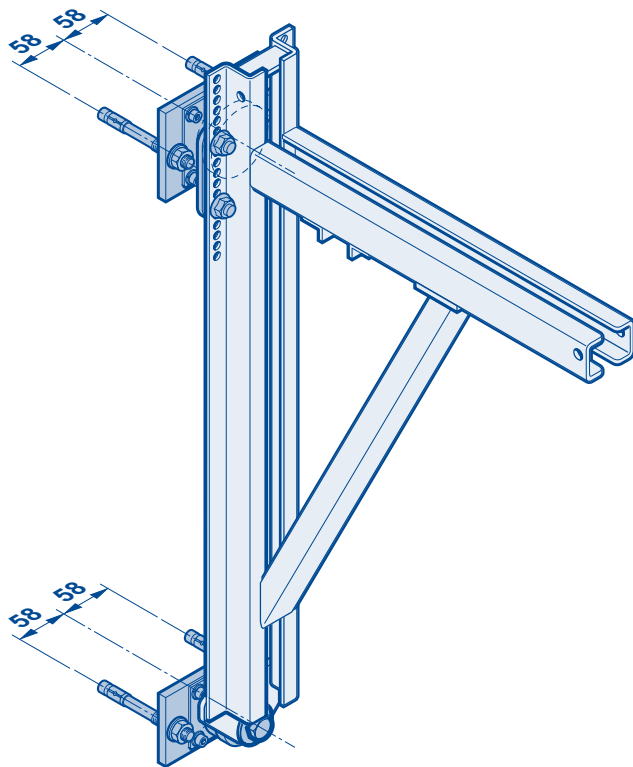
#### Support bracket 475



# Classic Rolling Shutters / Classic Rolling Grilles

## Acoustic-rated elements

### Acoustic-rated elements



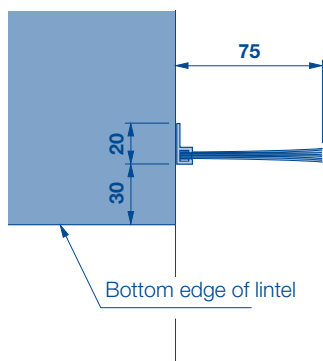
#### Notes:

- 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

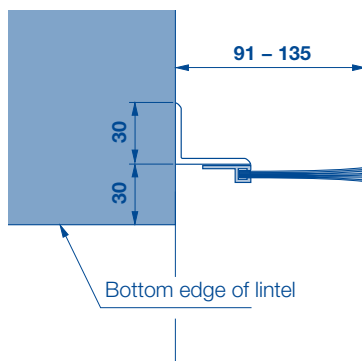
## Lintel seals

SD3

**Note:**

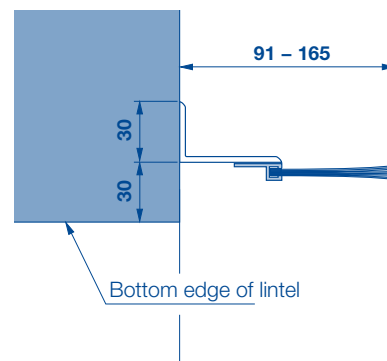
- Support height is 30 mm or one spacer

SD4

**Note:**

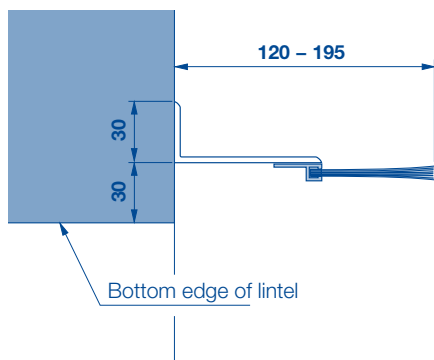
- Support height is 60 mm or two spacers
- Cover width adjustable

SD5

**Note:**

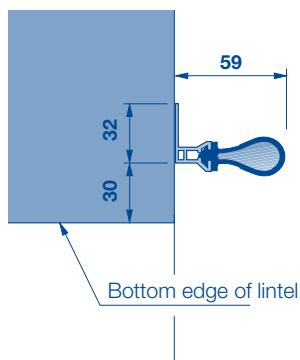
- Support height is 90 mm or three spacers
- Cover width adjustable

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																																									
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000																						
8000	750	809	750	809	750	809	750	862	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	862	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	938	846	938	846	938		
7500	710	777	710	789	710	789	710	842	710	842	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	835	806	835	806	835	806	835
7250	710	777	710	777	710	789	710	789	710	789	710	789	710	842	710	842	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835
7000	710	777	710	777	710	789	710	789	710	789	710	789	710	842	710	842	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835
6750	710	777	710	777	710	777	710	789	710	789	710	789	710	842	710	842	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835
6500	710	777	710	777	710	777	710	789	710	789	710	789	710	842	710	842	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835
6250	710	777	710	777	710	777	710	777	710	789	710	789	710	842	710	842	806	855	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835	806	835
6000	680	762	680	762	680	762	680	762	680	774	680	774	680	774	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	840	776	840
5750	680	762	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	840	776	840	776	840	776	840	776	840	776	840
5500	680	762	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	840	776	840	776	840	776	840	776	840
5250	680	762	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	840	776	840	776	840	776	840	776	840
5000	680	762	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	840	776	840	776	840	776	840	776	840
4750	634	739	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	730	764
4500	634	739	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	730	764
4250	634	739	634	739	634	739	634	739	634	739	634	739	634	739	634	739	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752
4000	634	739	634	739	634	739	634	739	634	739	634	739	634	739	634	739	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752	730	752
3750	600	722	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	735	696	735	696	735	696	735	696	735	696	735
3500	600	722	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	735	696	735	696	735	696	735	696	735	696	735
3250	600	722	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	735	696	735	696	735	696	735	696	735	696	735
3000	600	722	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	735	696	735	696	735	696	735	696	735	696	735
2750	554	699	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	650	712
2500	554	699	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	650	712
2250	554	699	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	650	712

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 without ZAK® system.















**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	673	834	1	15							
673	769	673	769	673	769	673	769	673	769	673	769	673	769	673	834	689	862	689	862	1	14			
613	706	635	750	635	750	635	750	635	750	635	750	635	750	635	750	635	750	635	750	681	858	1	13	
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



Door height

<b>4000</b>	583 714	583 714	583 714	583 714	583 714	583 714	583 714	583 714	583 714
<b>3750</b>	549 697	549 697	549 697	549 697	549 697	549 697	549 697	549 697	549 697
<b>3500</b>	543 694	543 694	543 694	543 694	543 694	543 694	543 694	543 694	543 694
<b>3250</b>	543 694	543 694	543 694	543 694	543 694	543 694	543 694	543 694	543 694
<b>3000</b>	543 694	543 694	543 694	543 694	543 694	543 694	543 694	543 694	543 694
<b>2750</b>	513 679	513 679	513 679	513 679	513 679	513 679	513 679	513 679	513 679
<b>2500</b>	509 677	509 677	509 677	509 677	509 677	509 677	509 677	509 677	509 677
<b>2250</b>	509 677	509 677	509 677	509 677	509 677	509 677	509 677	509 677	509 677
	<b>2250</b>	<b>2500</b>	<b>2750</b>	<b>3000</b>	<b>3250</b>	<b>3500</b>	<b>3750</b>	<b>4000</b>	

Door width

Opening time [s]

Spacers

1	19
1	19
1	18
1	16
1	15
1	15
1	14
1	13

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































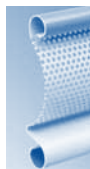






Opening time [s]  
Spacers

																			-	-
																			-	-
																			-	-
																			-	-
																			-	-
																			-	-
																			-	-
																			3	32
																			3	32
																			3	32
																			3	30
																			3	29
																			3	29
																			2	28
																			2	28
																			2	27
																			2	25
																			2	24
																			1	24
																			1	22
																			1	21
																			1	20
																			1	19
																			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 aero<sup>®</sup>

Door height	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000	7250	7500	7750	8000	
2250	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
2500	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
2750	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
3000	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
3250	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
3500	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
3750	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
4000	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
4250	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
4500	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
4750	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
5000	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
5250	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
5500	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
5750	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
6000	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
6250	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
6500	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
6750	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425
7000	550	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425

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 Shutters with Tubular Operator

### Decotherm® A

Door height

Opening time [s]

4000	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			
3500	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			
3000	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			
2500	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			
	2250		2500		2750		3000		3250		3500		3750		4000

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:

All standard values only apply to standard version doors.











# 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	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	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	906	622	906	622	906	622	926	622	926													
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	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	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	885	580	885	580	885	580	885	580	885	580	885	580	885	580	885	
6500	580	775	580	787	580	787	580	787	580	840	580	840	580	840	580	820	580	820	580	820	580	820	580	885	580	885	580	885	580	885	580	885	580	885	580	885	580	885	
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	885	580	885	580	885	580	885	580	885	580	885	580	885	
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	885	580	885	580	885	580	885	580	885	580	885	580	885	
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	885	580	885	580	885	580	885	580	885	580	885	580	885	
5500	538	754	538	754	538	754	538	754	538	766	538	766	538	819	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	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	766	538	766	538	819	538	819	538	819	538	819	538	819	538	799	538	799	538	799	538	799	538	799	538	799	538	799	538	799	
4750	538	754	538	754	538	754	538	754	538	766	538	766	538	819	538	819	538	819	538	819	538	819	538	799	538	799	538	799	538	799	538	799	538	799	538	799	538	799	
4500	538	754	538	754	538	754	538	754	538	766	538	766	538	819	538	819	538	819	538	819	538	819	538	799	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	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	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	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	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	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	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	724	454	724	454	724	454	724	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	724	454	724	454	724	454	724	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	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]				
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
7250	7500	7750	8000	
709   709	728   728	728   728	728   728	
425   425	500   500	500   500	500   500	
770   770	770   770	770   770	770   770	
500   500	500   500	500   500	500   500	



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			
	500		728	500	
		728	500		
			728	500	
				728	500
7250					
7500					
7750					
8000					



# 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 Ichtshausen, 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**

07.2014\_HF 84 773 EN / PDF [www.hoermann.com](http://www.hoermann.com)

