

MBM || MAB



Produktkatalog

Tandstangsmotorer LKS

Oktober 2020

OVERVIEW OF RACK AND PINION DRIVES

Type	Form	Model		Stroke	Force		Speed		Stroke in	Cut-off current	Use			Location		Functions			
		Type of cut-off	Rated voltage	Range	Pushing force	Pulling force	OPEN	CLOSE	60 s	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control	
			[VDC]	[mm]	[N]	[N]	[mm/s]	[mm/s]	[mm]	[A]									
LKS	LKS (SOLO)	S2	24	100–1000	550	550	6,0	6,0	350	0,8	●	●		●	●	○		○	
	LKS-T			300–1000	550	550				0,8	●	●		■	●		●	○	
	LKS-TV			300–1000	1100	1100				1,6	●	●		■	●		●	○	

LEGEND

- suitable ■ not recommended
- S2 internal load dependend cut-off switch
- only with external control module USKM



LKS

LKS RACK AND PINION DRIVES

- Model 24V DC, S2
- Pulling/Pushing force 550 N
- Stroke length 100 – 1000 mm
- Speed 6,0 mm/s
- Housing (WxH) 30 x 30 mm x length depending on stroke
- Motor-gear-unit 40 x 113 x 156 mm
- **Opening mechanism** Chromated stainless steel rack
- Version SOLO
- Protection rating IP54



LKS-T

LKS-T RACK AND PINION DRIVES

- Model 24V DC, S2
- Pulling/Pushing force 550 N
- Stroke length 100 – 1000 mm
- Speed 6,0 mm/s
- Housing (WxH) 30 x 30 mm x length depending on stroke
- **Opening mechanism** Chromated stainless steel rack
- Version SOLO with follower and connection shaft
- Protection rating IP54



LKS-TV

LKS-TV RACK AND PINION DRIVES

- Model 24V DC, S2
- Pulling/Pushing force 1100 N
- Stroke length 100 – 1000 mm
- Speed 6,0 mm/s
- Housing (WxH) 30 x 30 mm x length depending on stroke
- **Opening mechanism** Chromated stainless steel rack
- Version Tandem with connection shaft
- Protection rating IP54



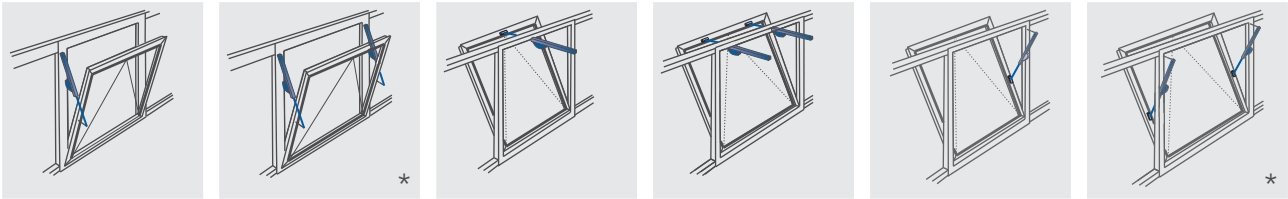
SPECIAL FEATURES LKS

- For natural ventilation and smoke and heat exhausting
- Robust corrosion-resistant design
- Slim natural anodised aluminium housing (30 x 30 mm)
- Grey plastic housing for motor-gear unit
- Easy installation due to adjustable clamp ring as well as front and rear suspension
- Chromated stainless steel rack with end position dampening

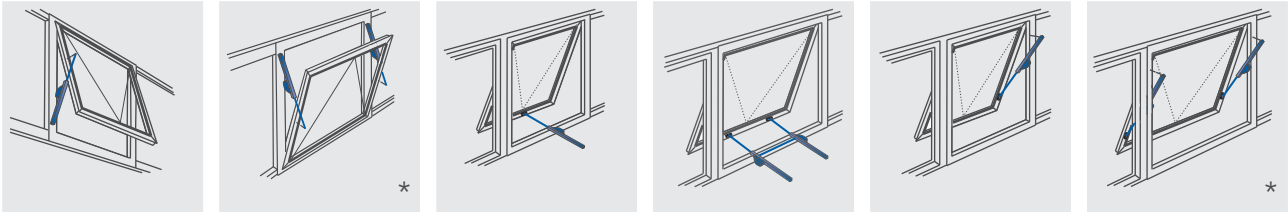
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

FACADE

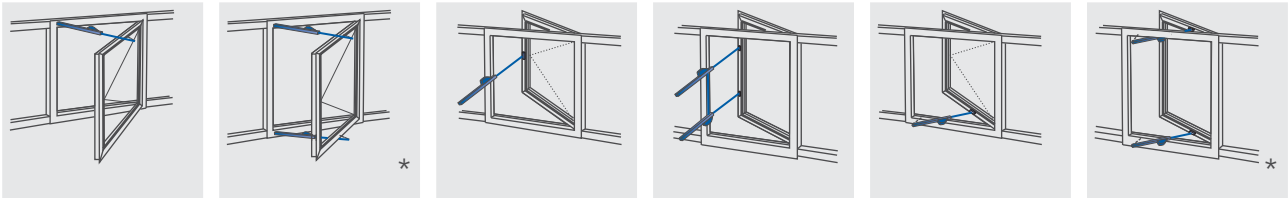
Bottom-hung



Top-hung

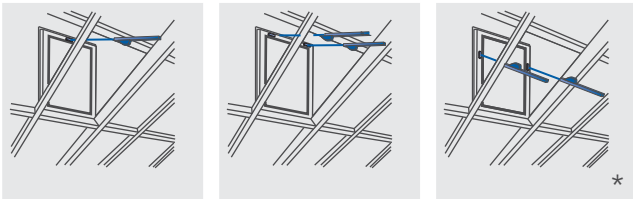


Side-hung

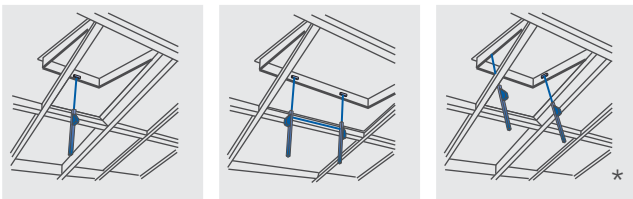


ROOF

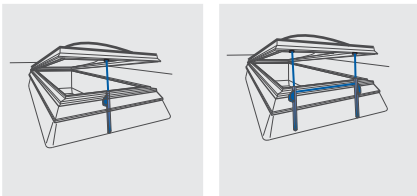
Bottom-hung



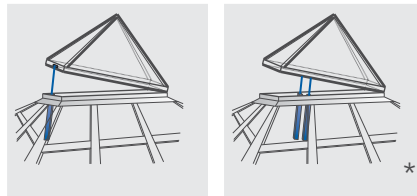
Top-hung



Sky light



Glass pyramid

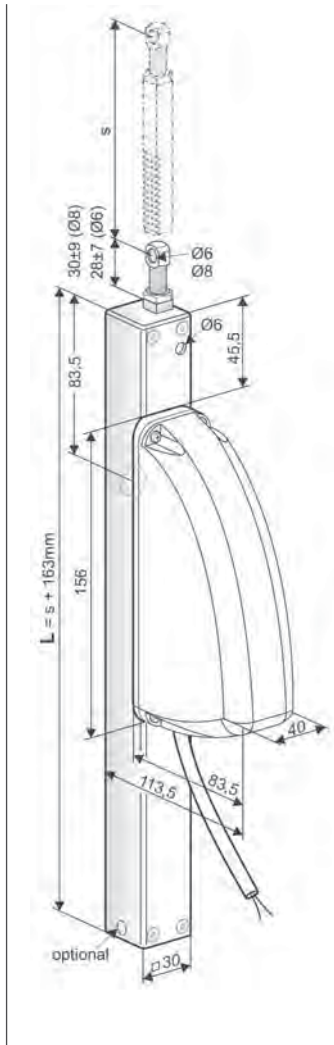


* Monitored motion run up to $s = 300$ mm with USKM (Controll modul Part.-No.: 512140)

- Application: natural ventilation and SHEV as single-drive
- Internal load dependent cut-off switch S2

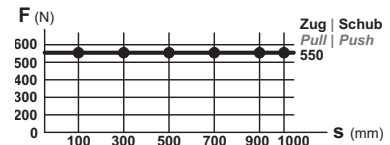
Options

- Drillings for front / rear suspension
- Monitored motion run of 2 drives up to $s = 300$ mm via USKM



TECHNICAL DATA

U_N	Rated voltage	24V DC ($\pm 20\%$), max. 2 Vpp
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	15 W
ED	Duty cycle	30 % (ON: 3 min. / OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +75 °C
F_Z	Pulling force max.	550 N
F_A	Pushing force	550 N
F_H	Pullout force	3000 N (fastening depended)
	Chain	stainless steel
	Connecting cable	non-halogen, grey 2 x 0,75 mm ² , ~ 1 m
v	Speed	$v_{\text{pull}} = 6,0$ mm/s $v_{\text{push}} = 6,0$ mm/s
s	Stroke	100 – 1000 mm ($\pm 5\%$)
L	Length	$s + 163$ mm see order data
	Sound pressure level A	≤ 70 dB (A)



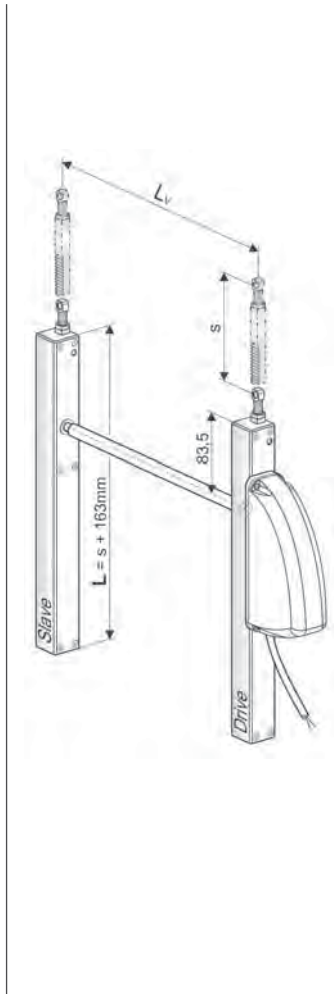
ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	263	LKS 100 S2	E6/C-0	1	513100.N	
200	363	LKS 200 S2	E6/C-0	1	513200.N	
300	463	LKS 300 S2	E6/C-0	1	513300.N	
400	563	LKS 400 S2	E6/C-0	1	513400.N	
500	663	LKS 500 S2	E6/C-0	1	513500.N	
600	763	LKS 600 S2	E6/C-0	1	513600.N	
750	913	LKS 750 S2	E6/C-0	1	513800.N	
1000	1163	LKS 1000 S2	E6/C-0	1	513805.N	

OPTIONS						
Special model			PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:			1 – 20	516004		
			21 – 50	516004		
			51 – 100	516004		
			up 101	516004		
Extra length connecting cable:						
3 m – non-halogen, grey – 2 x 0,75 mm ²					501023	
5 m – non-halogen, grey – 2 x 0,75 mm ²					501024	
10 m – non-halogen, grey – 2 x 0,75 mm ²					501039	
Accessories for fron / rear suspension						
2 additional holes Ø6 mm in the bottom of of housing for rear suspension with K28, K29				1	520901	
Mechanic stroke reduction						
Stroke reduction without construction length - mechanically				1	516000	
Other lengths available on request						
Tandem control with or without sequence control						
Connection shaft				PU/pcs.	Part.-No.	
USKM (s ≤ 300mm)				1	512140	

- Application: natural ventilation and SHEV as single-drive
- Internal load dependent cut-off switch S2
- Drive with follower operated by the connection shaft to divide the force on 2 points

Options

- Drillings for front / rear suspension
- Connection shaft with different lengths



TECHNICAL DATA

U_N Rated voltage 24V DC ($\pm 20\%$), max. 2 Vpp


I_N Rated current 0,6 A

I_A Cut-off current 0,8 A

P_N Rated power 15 W

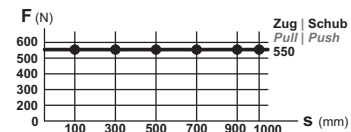
ED Duty cycle 30 % (ON: 3 min. / OFF: 7 min.)

Protection rating IP 54

 Ambient temperature range $-5\text{ }^\circ\text{C} \dots +75\text{ }^\circ\text{C}$

F_Z Pulling force max. 550 N

F_A Pushing force



F_H Pullout force 3000 N (fastening depended)

Chain stainless steel

Connecting cable non-halogen, grey 2 x 0,75 mm², ~ 1 m

v Speed  6,0 mm/s  6,0 mm/s

s Stroke 300 – 1000 mm ($\pm 5\%$)

L Length s + 163 mm
see order data

L_V Connection shaft Standard length see order data

Sound pressure level A $\leq 70\text{ dB (A)}$

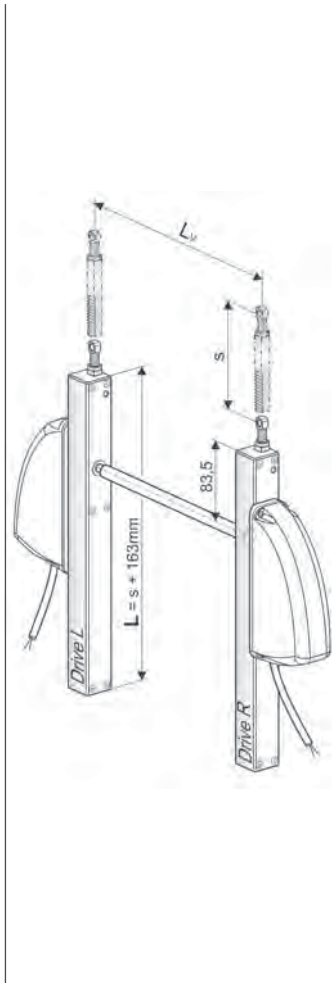
ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
300	463	LKS T 300 S2	E6/C-0	1	513300.T	
500	563	LKS T 500 S2	E6/C-0	1	513500.T	
600	663	LKS T 600 S2	E6/C-0	1	513600.T	
750	913	LKS T 750 S2	E6/C-0	1	513800.T	
1000	1163	LKS T 1000 S2	E6/C-0	1	513805.T	

OPTIONS						
Special model			PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				up 101	516004	
Extra length connecting cable:						
3 m – non-halogen, grey – 2 x 0,75 mm ²					501023	
5 m – non-halogen, grey – 2 x 0,75 mm ²					501024	
10 m – non-halogen, grey – 2 x 0,75 mm ²					501039	
Accessories for front / rear suspension						
2 additional holes Ø6 mm in the bottom of of housing for rear suspension with K28, K29				1	520901	
Mechanic stroke reduction						
Stroke reduction without construction length - mechanically				1	516000	
Other lengths available on request						
Accessories						
		Lv [mm]	PU/pcs.	Part.-No.		
Connection shaft						
B17-1		1000	1	513050		
B17-2		1500	1	513052		
B17-3		2000	1	513054		

- Application: natural ventilation and SHEV as single-drive
- Internal load dependend cut-off switch S2
- 2 drives mechanical synchronised by the connection shaft

Options

- Drillings for front / rear suspension
- Connection shaft with different lengths



TECHNICAL DATA

U_N Rated voltage 24V DC ($\pm 20\%$), max. 2 Vpp

I_N Rated current 1,2 A

I_A Cut-off current 1,6 A

P_N Rated power 30 W

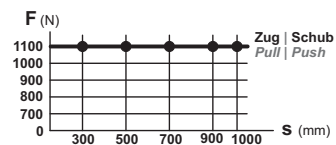
ED Duty cycle 30 % (ON: 3 min. / OFF: 7 min.)

Protection rating IP 54

Ambient temperature range -5 °C ... +75 °C

F_Z Pulling force max. 1100 N

F_A Pushing force



F_H Pullout force 3000 N (fastening depended)

Chain stainless steel

Connecting cable non-halogen, grey 2 x 0,75 mm², ~ 1 m

v Speed 6,0 mm/s 6,0 mm/s

s Stroke 300 – 1000 mm ($\pm 5\%$)

L Length s + 163 mm
see order data

L_V Connection shaft Standard length see order data

Sound pressure level A ≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
300	463	LKS TV 300 S2	E6/C-0	1	513300.TV	
500	563	LKS TV 500 S2	E6/C-0	1	513500.TV	
600	463	LKS TV 600 S2	E6/C-0	1	513600.TV	
750	913	LKS TV 750 S2	E6/C-0	1	513800.TV	
1000	1163	LKS TV 1000 S2	E6/C-0	1	513805.TV	

OPTIONS						
Special model			PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				up 101	516004	
Extra length connecting cable:						
3 m – non-halogen, grey – 2 x 0,75 mm ²					501023	
5 m – non-halogen, grey – 2 x 0,75 mm ²					501024	
10 m – non-halogen, grey – 2 x 0,75 mm ²					501039	
Accessories for fron / rear suspension						
2 additional holes Ø6 mm in the bottom of of housing for rear suspension with K28, K29				1	520901	
Mechanic stroke reduction						
Stroke reduction without construction length - mechanically				1	516000	
Other lengths available on request						
Accessories						
		Lv [mm]	PU/pcs.	Part.-No.		
Connection shaft						
B17-1		1000	1	513050		
B17-2		1500	1	513052		
B17-3		2000	1	513054		

OVERVIEW OF BRACKETS

Typical applications			1	2	3	4	5	6			
Frame bracket			K5, K82	K5	K28	K29	K29	K41			
Mounting aid				K21	K15, K16		K21				
Bracket accessories			B7		Rear holes	Front holes	Front holes	Front holes			
Casement bracket			F1, F1V, F1.1, F2, F10.6		F1, F1V, F2, F10.6			F12			
Special use								Sky light Essmann			
Space requirement		min. [mm]	50	40 – 50	40	40	40 – 50	90			
Window material		Alu	●	●	●	●	●				
		Wood	●	●	●	●	●				
		PVC	●	●	●	●	●	●			
Type of window and mounting	Bot- tom hung	in- ward	HSK	FM		■			■		
				RM							
		NSK	FM			●					
			RM								
	out- ward	HSK	RM		●			●			
			PR	●			●				
		NSK	RM			●					
			PR								
	Top hung	in- ward	HSK	FM		■				■	
				RM							
			NSK	FM				●			
				RM							
		out- ward	HSK	RM		●			●		
				PR	●			●			
			NSK	RM			●				
				PR							
Side hung	in- ward	HSK	FM		■				■		
			RM								
	NSK	FM			●						
		RM									
Roof	out- ward	HSK	RM		●			●			
			PR	●			●		●		
	NSK	RM		●				●			
		PR	●			●		●			
Sky- light	out- ward	HSK	RM	●			●		●		
		NSK	RM								
FAB*1		Solo	[mm]	700 – 1300							
FAB*1		Sync2	[mm]	1200 – 2500							
FAH*1		Solo	[mm]	450 – 1500							
FAH*1		Sync2	[mm]	450 – 2500							

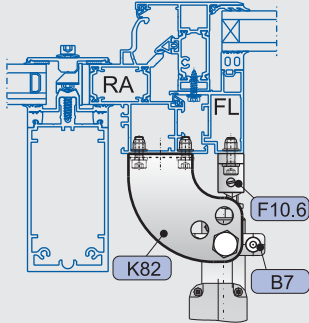
LEGEND

- suitable ■ not recommended

*1 Sample value of the casement dimensions. The actual casement dimensions depend on the stroke and the position of the drives to the hinges. The values of FAB/FAH are to be used analogue for side hung windows.

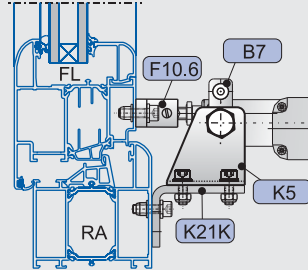
TYPICAL APPLICATIONSE

1 RM, HSK, roof



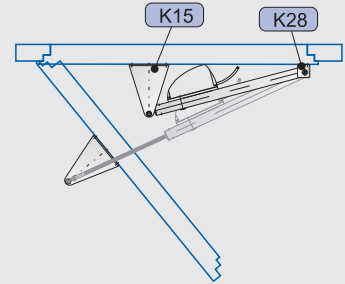
View on aluminium window

2 RM, HSK, top-hung outward opening



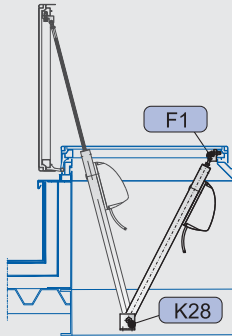
View on PVC-window

2 RM, NSK, side-hung outward opening



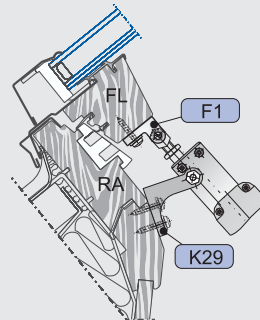
View for example

3 RM, HSK, roof



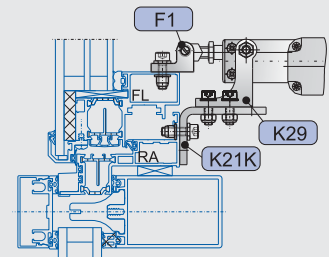
View on roof window

4 RM, HSK, roof



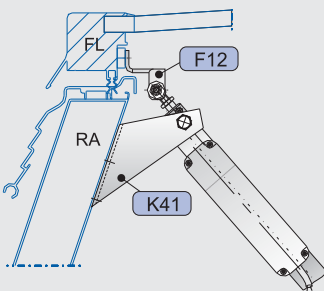
View on wooden window

5 RM, HSK, top-hung outward opening



View on aluminium window

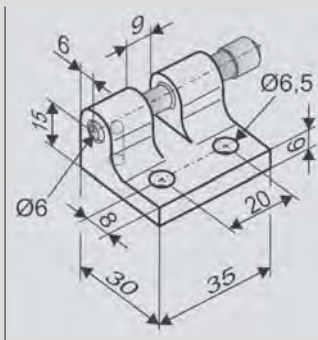
6 RM, HSK, sky light



View on sky light Essmann

CASEMENT BRACKETS

F1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of the drive is possible

Part.-No. 150102

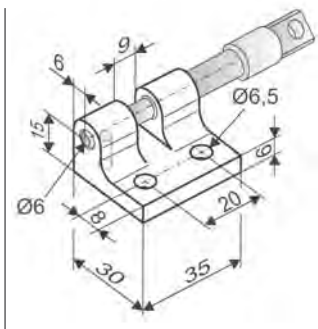
Material/Finish
aluminium, diecast

Feature/Equipment

1x Locking bolt
Ø6 mm

Load
max. 1000 N

F1.1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of the drive is possible

Part.-No. 150110

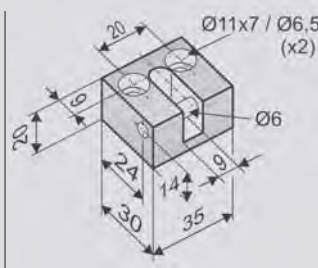
Material/Finish
aluminium, diecast

Feature/Equipment

1x Locking spring bolt
Ø6 mm

Load
max. 600 N

F1V



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**

Part.-No. 150101

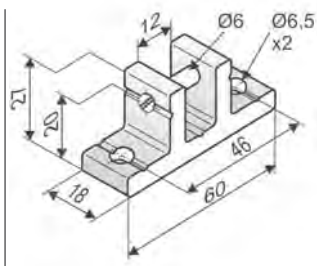
Material/Finish
aluminium

Feature/Equipment

1x grubscrew Ø 6 mm

Load
max. 1600 N

F10.6



Application

Surface mounting on **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, threaded stud bolt

Part.-No. 151000

Material/Finish
aluminium

Feature/Equipment

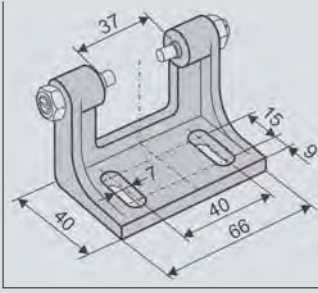
1x stud bolt Ø6 mm

Load
max. 1600 N

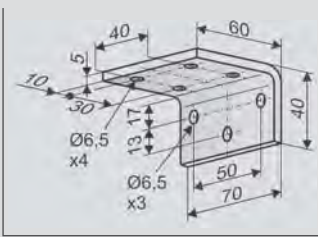
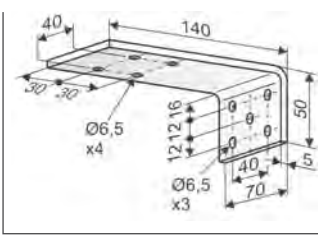
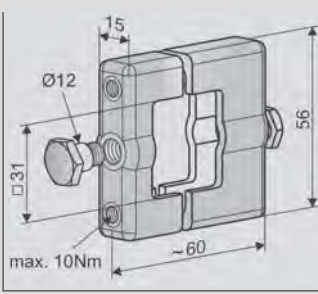
CASEMENT BRACKETS

K5		<p>Application Surface mounting on the main closing edge of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for swivelling suspension of drives PLA with B4, SP with B13, LKS with B7</p>	<p>Part.-No. 155800 Material/Finish steel, galvanized Feature/Equipment bore holes $\varnothing 12,5$ mm</p>			
Accessories						
B7 clamp ring LKS (30 x 30 mm, G1/8)		Part.-No. 513900				
K21K Frame bracket		Part.-No. 159900				
K21L Frame bracket		Part.-No. 159905				
K82		<p>Application Surface mounting on the main closing edge of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for swivelling suspension of drives PLA with B4, SP with B13, LKS with B7</p>	<p>Part.-No. 151320 Material/Finish stainless steel Feature/Equipment bore holes $\varnothing 12,5$ mm</p>			
Accessories						
B7 clamp ring LKS (30 x 30 mm, G1/8)		Part.-No. 513900				
K28		<p>Application Surface mounting on the main closing edge of window frame profiles (or on the mullion/transom) of outward opening (roof-)windows, for swivelling suspension of drives LKS with front or rear bore $\varnothing 6,0$ mm</p>	<p>Part.-No. 160800 Material/Finish aluminium, nature Feature/Equipment 2x grubscrew M8, nut M8 Load max. 600 N</p>			
Accessories						
2 rear holes $\varnothing 6$ mm		Part.-No. 520901				
K7		<p>Application Surface mounting on the main closing edge of the upstand of skylight domes Essmann 810 for swivelling suspension of drives PLA with B4, SP with B13, LKS with B7</p>	<p>Part.-No. 157500 Material/Finish steel galvanized Feature/Equipment drilled holes $\varnothing 12,5$ mm</p>			
Accessories						
B4 clamp ring PLA ($\varnothing 36$ mm, G1/8)		Part.-No. 515900				

CASEMENT BRACKETS

K29 	Application Surface mounting on the main closing edge of window frame profiles (or on the mullion/transom) of outward opening (roof-) windows, for swivelling suspension of drives LKS with front or rear bore Ø6,0 mm	Part.-No. 160900 Material/Finish aluminium, nature Feature/Equipment 2x grubscrew M8, nut M8 Load max. 600 N			
	Accessories				
	2 rear holes Ø 6 mm	Part.-No. 520901			
	K21K Frame bracket	Part.-No. 159900			
K21L Frame bracket	Part.-No. 159905				

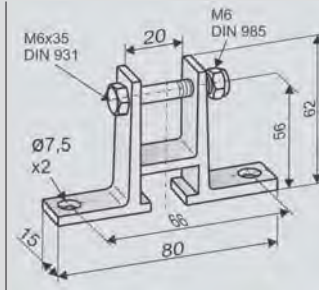
ACCESSORIES

Frame bracket					
K21K 	Application Shift the fastening level of the frame brackets K5 , K29 from the horizontal to the vertical position of the main closing edge of window frame profiles	Part.-No. 159900 Material/Finish steel, galvanized			
	K21L 		Application Shift the fastening level of the frame brackets K5 , K29 from the horizontal to the vertical position of the main closing edge of window frame profiles	Part.-No. 159905 Material/Finish steel, galvanized	
Clamp ring					
B7 	Application Adjustable clamping of the LKS drive housing, for surface mounting with swivelling suspension on K5 , K7 , K82 , (preferably on outward opening windows)	Part.-No. 513900 Material/Finish aluminium (E6/C-0), stainless steel Feature/Equipment 2x B8 collar screw Ø12mm, G1/8 2x cylinder head screw M6x50			

SPECIFIC APPLICATIONS

SKY LIGHT ETERNIT

F2



Application

Surface mounting on the main closing edge of skylight domes **Eternit**, for drives with front suspension with bore $\text{Ø}6$ mm

Part.-No. 150303

Material/Finish
aluminium

Feature/Equipment

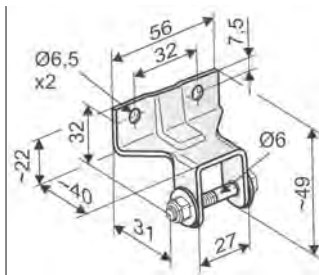
1x nut M6,
1x screw M6x35

Load

max. 800 N

SKY-LIGHT ESSMANN TYP 810

F12



Application

Surface mounting on the main closing edge of the casement profiles of skylight domes **Essmann 810** for drives with front suspension with bore $\text{Ø}6$ mm

Part.-No. 151500

Material/Finish
steel, galvanized

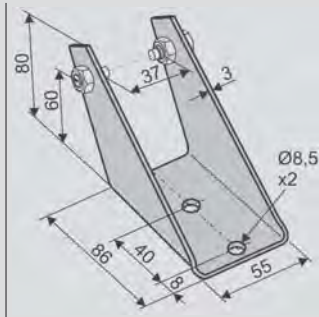
Feature/Equipment

1x screw M6,
washer,
nut

Load

max. 800 N

K41



Application

Finish mounting on the main closing edge (**HSK**) of the upstand of skylight domes **Essmann 810** for swivelling suspension of drives **LKS**

Part.-No. 160910

Material/Finish
steel, galvanized

Feature/Equipment

2x grubscrew M8,
nut M8

OPTIONAL ACCESSORIES

Collar screw			
B8		<p>Application</p> <p>Swivelling suspensin of the clamp rings B4 for PLA B7 for LKS or of the clamping blocks B11, B13 for SP for U-shaped frame brackets with bore Ø12 mm</p>	<p>Part.-No. 172800</p> <p>Material/Finish stainless steel (1.4305) Feature/Equipment collar Ø12 mm, G1/8"</p>

Special model	PU/pcs.	Part.-No.		
Casement brackets painted / powder coated in other RAL colours				
Lump sum for coating		516030		
Specify at order stage:	1 – 20	516032		
	21 – 50	516032		
	51 – 100	516032		
	up 101	516032		
Frame brackets painted / powder coated in other RAL colours				
Lump sum for coating		516030		
Specify at order stage:	1 – 20	516031		
	21 – 50	516031		
	51 – 100	516031		
	up 101	516031		

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