



SPECIAL FEATURES PLA

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Robust corrosion-resistant design in a slim aluminium housing (D = 36 mm), optionally in RAL colors
- Easy installation due to adjustable clamp ring and rear suspension
- Spindle is ball beared with end position dampening
- Stainless steel spindle tube
- Programmable parameters of Intelligent Control Electronics S12
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- Protection rating IP 65
- With GoreTex membrane
- Suitable for operation with M-COM for the automatic configuration of synchronised run of multi drive systems and sequence control

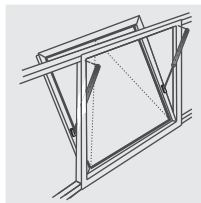
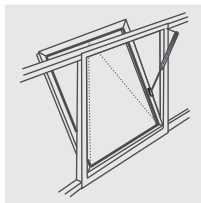
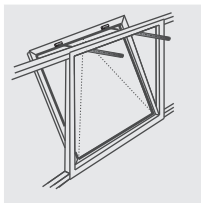
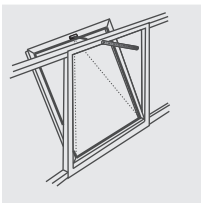
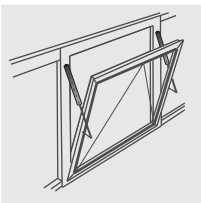
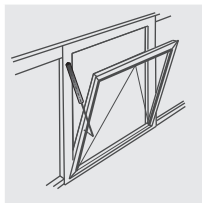
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

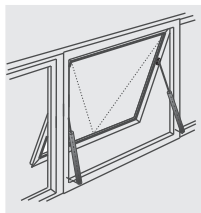
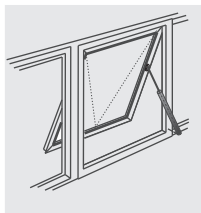
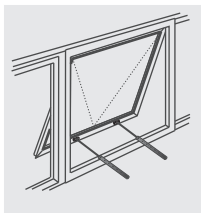
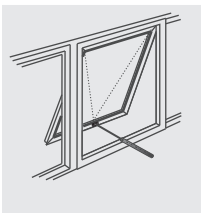
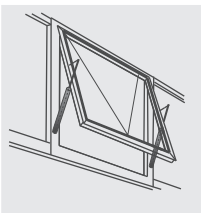
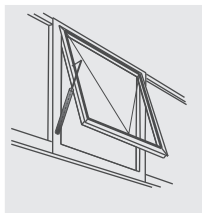
The EPD documents can be viewed or downloaded from our homepage www.aumüller-gmbh.de.

FACADE

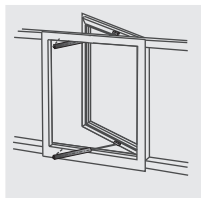
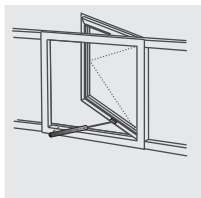
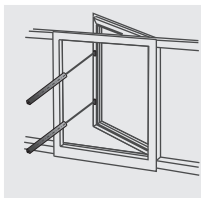
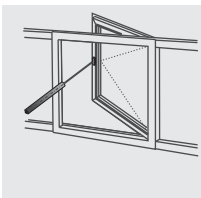
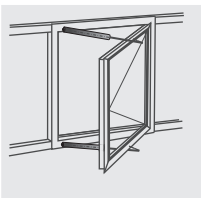
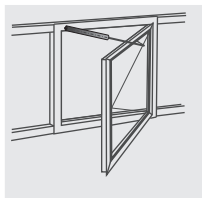
Bottom-hung



Top-hung

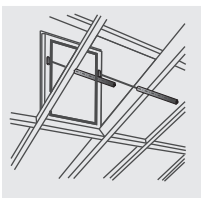
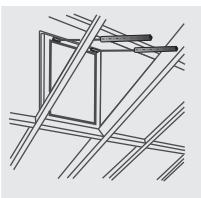
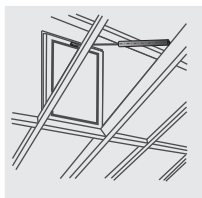


Side-hung

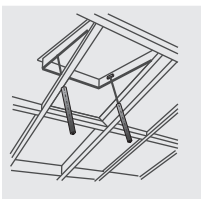
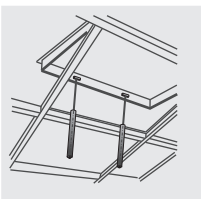
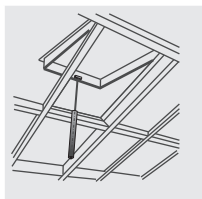


ROOF

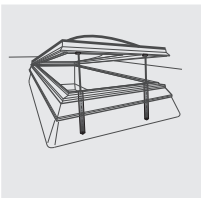
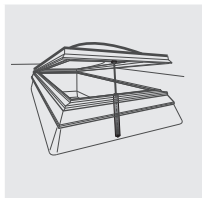
Bottom-hung



Top-hung

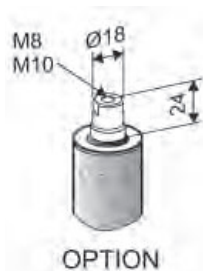


Sky light



Glass pyramid





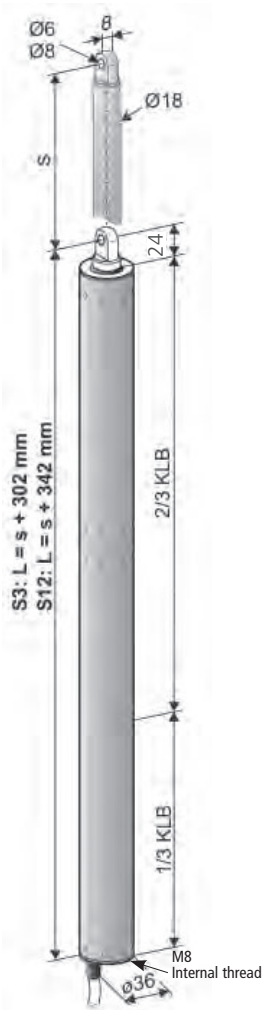
- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Options**
 - Spindle tube end with interior thread for clevis
 - Eyebolt and clevis for rear suspension

S3

- Internal load dependend cut-off switch, post cycle resistant S3
- Programmable motion monitored run (up to 300 mm stroke)
- Programmable sequence control with Locking drives (S3 / S12)

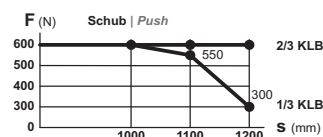
S12

- Internal Intelligent Control Electronics S12
- Options**
 - Programmable synchronised run (max. 4 drives) and special functions
 - M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

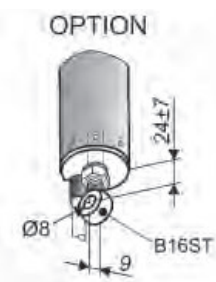


TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	600 N
F_A	Pushing force max.	

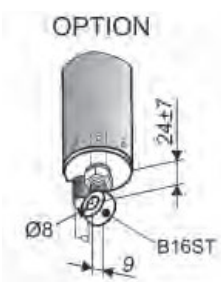
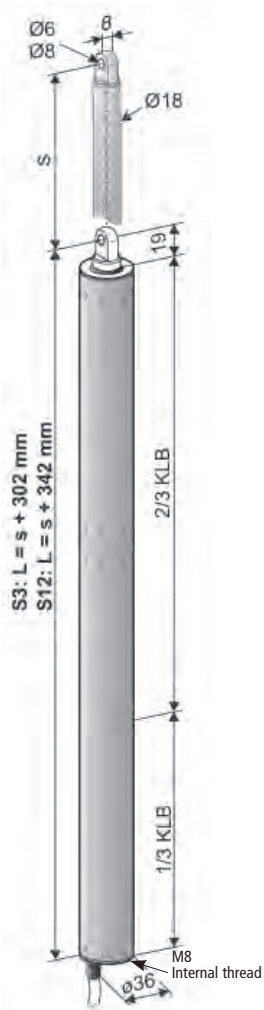
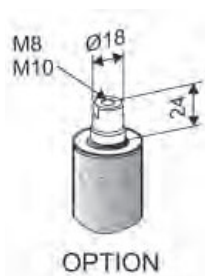


F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\times 6,0 mm/s \rightarrow 6,0 mm/s
s	Stroke	100 – 1200 mm
L	Length	(S3): s + 302 mm (S12): s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	402	PLA6 100 S3	E6/C-0	1	564110	
	442	PLA6 100 S12		1	546310	
200	502	PLA6 200 S3	E6/C-0	1	564121	
	542	PLA6 200 S12		1	546320	
300	602	PLA6 300 S3	E6/C-0	1	564130	
	642	PLA6 300 S12		1	546330	
400	702	PLA6 400 S3	E6/C-0	1	564140	
	742	PLA6 400 S12		1	546340	
500	802	PLA6 500 S3	E6/C-0	1	564150	
	842	PLA6 500 S12		1	546350	
600	902	PLA6 600 S3	E6/C-0	1	564160	
	942	PLA6 600 S12		1	546360	
750	1052	PLA6 750 S3	E6/C-0	1	564175	
	1092	PLA6 750 S12		1	546375	
1000	1302	PLA6 1000 S3	E6/C-0	1	564200	
	1342	PLA6 1000 S12		1	546400	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
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	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Options**
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

S3

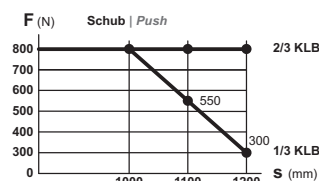
- Internal load dependend cut-off switch, post cycle resistant S3
- Programmable motion monitored run (up to 300 mm stroke)
- Programmable sequence control with locking drives (S3 / S12)

S12

- Internal Intelligent Control Electronics S12
- Options**
- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

TECHNICAL DATA

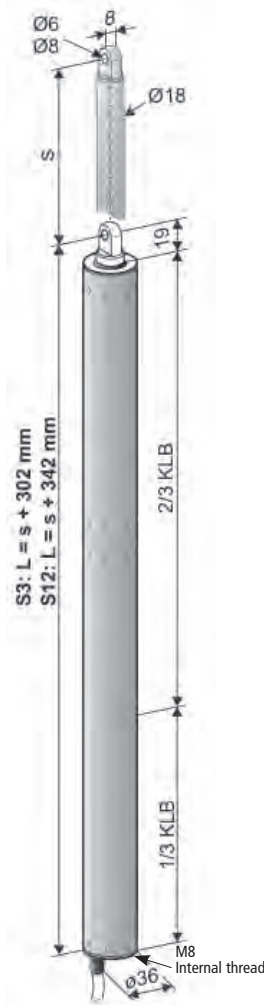
U_N	Rated voltage	24V DC (19V ... 28V)
I_N	Rated current	1,0 A
I_A	Cut-off current	1,4 A
P_N	Rated power	24 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	800 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\times 10,0 mm/s \rightarrow 10,0 mm/s
s	Stroke	100 – 1200 mm
L	Length	(S3): s + 302 mm (S12): s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	402	PLA8 100 S3	E6/C-0	1	523710	
	442	PLA8 100 S12		1	515210	
200	502	PLA8 200 S3	E6/C-0	1	523720	
	542	PLA8 200 S12		1	515220	
300	602	PLA8 300 S3	E6/C-0	1	523730	
	642	PLA8 300 S12		1	515230	
400	702	PLA8 400 S3	E6/C-0	1	523740	
	742	PLA8 400 S12		1	515240	
500	802	PLA8 500 S3	E6/C-0	1	523750	
	842	PLA8 500 S12		1	515250	
600	902	PLA8 600 S3	E6/C-0	1	523760	
	942	PLA8 600 S12		1	515260	
750	1052	PLA8 750 S3	E6/C-0	1	523775	
	1092	PLA8 750 S12		1	515275	
1000	1302	PLA8 1000 S3	E6/C-0	1	523800	
	1342	PLA8 1000 S12		1	515295	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
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	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	



ORDER DATA						
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100	402	PLA101 100 S3	E6/C-0	1	565110	
	442	PLA101 100 S12		1	564910	
200	502	PLA101 200 S3	E6/C-0	1	565120	
	542	PLA101 200 S12		1	564922	
300	602	PLA101 300 S3	E6/C-0	1	565130	
	642	PLA101 300 S12		1	564930	
400	702	PLA 01 400 S3	E6/C-0	1	565140	
	742	PLA101 400 S12		1	564940	
500	802	PLA101 500 S3	E6/C-0	1	565150	
	842	PLA101 500 S12		1	564950	
600	902	PLA101 600 S3	E6/C-0	1	565160	
	942	PLA101 600 S12		1	564960	
750	1052	PLA101 750 S3	E6/C-0	1	565175	
	1092	PLA101 750 S12		1	564975	
1000	1302	PLA101 1000 S3	E6/C-0	1	565200	
	1342	PLA101 1000 S12		1	565000	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
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	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	



- Application: natural ventilation, SHEV, ferralux®-NSHEV

Options

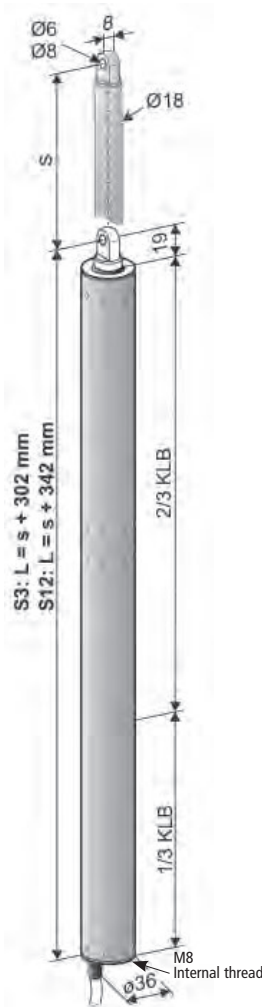
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

S3

- Internal load dependend cut-off switch, post cycle resistant S3
- Programmable motion monitored run (up to 300 mm stroke)
- Programmable sequence control with locking drives (S3 / S12)

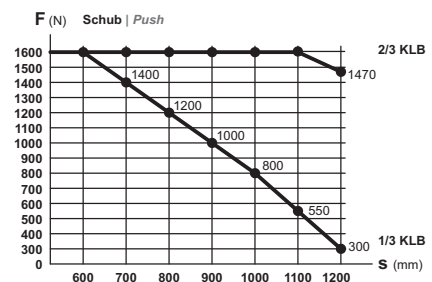
S12

- Internal Intelligent Control Electronics S12
- Options
- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

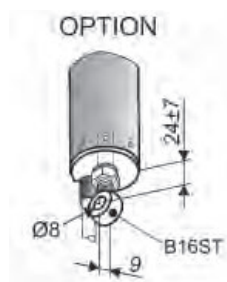


TECHNICAL DATA

U_N	Rated voltage	24V DC (19V ... 28V)
I_N	Rated current	1,0 A
I_A	Cut-off current	1,2 A
P_N	Rated power	24 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1600 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	$v_{\text{max}} = 4,0 \text{ mm/s}$ $v_{\text{min}} = 4,0 \text{ mm/s}$
s	Stroke	100 – 1200 mm
L	Length	S3: s + 302 mm S12: s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	402	PLA 116 100 S3	E6/C-0	1	565310	
	442	PLA 116 100 S12		1	565510	
200	502	PLA 116 200 S3	E6/C-0	1	565320	
	542	PLA 116 200 S12		1	565520	
300	602	PLA 116 300 S3	E6/C-0	1	565330	
	642	PLA 116 300 S12		1	565530	
400	702	PLA 116 400 S3	E6/C-0	1	565340	
	742	PLA 116 400 S12		1	565540	
500	802	PLA 116 500 S3	E6/C-0	1	565350	
	842	PLA 116 500 S12		1	565550	
600	902	PLA 116 600 S3	E6/C-0	1	565360	
	942	PLA 116 600 S12		1	565560	
750	1052	PLA 116 750 S3	E6/C-0	1	565375	
	1092	PLA 116 750 S12		1	565575	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
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	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	



- Application: natural ventilation, SHEV, ferralux®-NSHEV

- Internal Intelligent Control Electronics S12

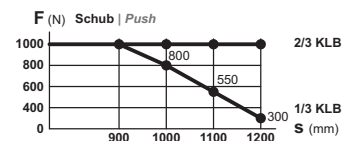
Options

- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

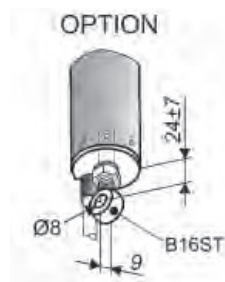


TECHNICAL DATA

U_N	Rated voltage	24V DC (19V ... 28V)
I_N	Rated current	1,9 A
I_A	Cut-off current	2,5 A
P_N	Rated power	45 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1000 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\times 12,6 mm/s \rightarrow 12,6 mm/s
s	Stroke	100 – 1200 mm
L	Length	s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
100	442	PLA 10 100 S12	E6/C-0	1	523610			
200	542	PLA 10 200 S12	E6/C-0	1	523620			
300	642	PLA 10 300 S12	E6/C-0	1	523630			
400	742	PLA 10 400 S12	E6/C-0	1	523640			
500	842	PLA 10 500 S12	E6/C-0	1	523650			
600	942	PLA 10 600 S12	E6/C-0	1	523660			
750	1092	PLA 10 750 S12	E6/C-0	1	523675			
1000	1342	PLA 10 1000 S12	E6/C-0	1	523700			

OPTIONS

Special model	PU/pcs.	Part.-No.			
Front Fixing					
Spindle tube end with interior thread M8	1	515061			
Spindle tube end with interior thread M10	1	515060			
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			
	from 101	516004			
Extra length connecting cable:					
5 m – non-halogen, grey – 3 x 1,0 mm ²		501037			
10 m – non-halogen, grey – 3 x 1,0 mm ²		501039			
Mechanic stroke reduction S3					
Stroke reduction without construction length - mechanically	1	516000			
Accessories for front / rear suspension					
B16ST Eyebolt Ø8 mm, galvanized	1	100044			
B16VA Eyebolt Ø8 mm, stainless steel	1	100144			
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm	1	105510			
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm	1	105520			
Microprocessor programming S12					
Electronic stroke reduction 24V S12	1	524190			
Programming drives 24V / 230V S12	1	524180			
Other lengths available on request					
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			



■ Application: natural ventilation, SHEV, ferralux®-NSHEV

■ Internal Intelligent Control Electronics S12

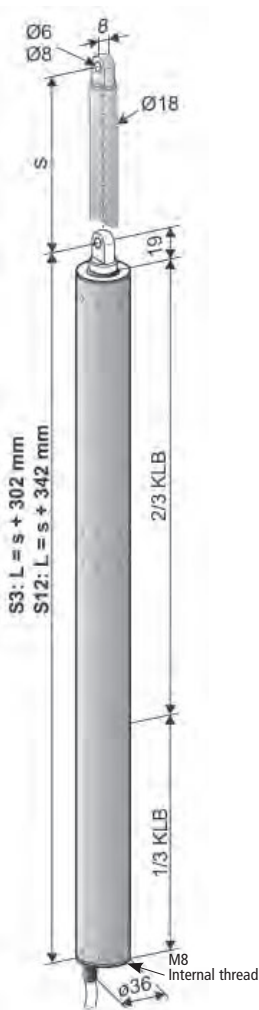
Options

■ Programmable synchronised run (max. 4 drives) and special functions

■ M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

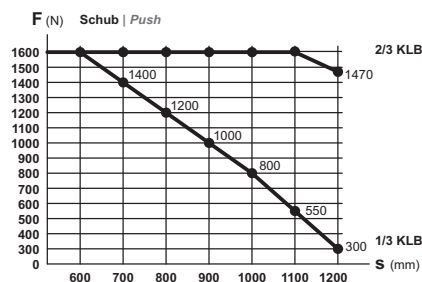
■ Spindle tube end with interior thread for clevis

■ Eyebolt and clevis for rear suspension

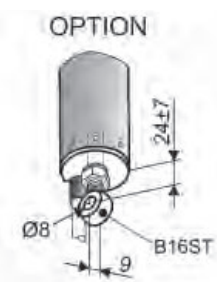


TECHNICAL DATA

U_N	Rated voltage	24V DC (19V ... 28V)
I_N	Rated current	1,9 A
I_A	Cut-off current	2,5 A
P_N	Rated power	45 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1600 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	7,0 mm/s 7,0 mm/s
s	Stroke	100 – 1200 mm
L	Length	s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
100	442	PLA16 100 S12	E6/C-0	1	565710			
200	542	PLA16 200 S12	E6/C-0	1	565720			
300	642	PLA16 300 S12	E6/C-0	1	565730			
400	742	PLA16 400 S12	E6/C-0	1	565740			
500	842	PLA16 500 S12	E6/C-0	1	565750			
600	942	PLA16 600 S12	E6/C-0	1	565760			
750	1092	PLA16 750 S12	E6/C-0	1	565775			
1000	1342	PLA16 1000 S12	E6/C-0	1	565800			

OPTIONS

Special model	PU/pcs.	Part.-No.			
Front Fixing					
Spindle tube end with interior thread M8	1	515061			
Spindle tube end with interior thread M10	1	515060			
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			
	from 101	516004			
Extra length connecting cable:					
5 m – non-halogen, grey – 3 x 1,0 mm ²		501037			
10 m – non-halogen, grey – 3 x 1,0 mm ²		501039			
Mechanic stroke reduction S3					
Stroke reduction without construction length - mechanically	1	516000			
Accessories for front / rear suspension					
B16ST Eyebolt Ø8 mm, galvanized	1	100044			
B16VA Eyebolt Ø8 mm, stainless steel	1	100144			
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm	1	105510			
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm	1	105520			
Microprocessor programming S12					
Electronic stroke reduction 24V S12	1	524190			
Programming drives 24V / 230V S12	1	524180			
Other lengths available on request					
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

OVERVIEW OF BRACKETS

Typical applications				1	2	3	4	5	6	7	8	9	10
Frame bracket				K5	K5	K5	K17	K82	K122	K127	K122-1	K122-1	K7
Mounting aid						K21							
Bracket accessories				clamping ring B4 (36 mm-G1/8)									
Casement bracket				F29-1	F1, F1V, F1.1, F10.6, F10.8S, F11, F13, F40				F29	F11	F36	F30	F12
Special application				Heroal 085D					Heroal 085 D	Wing 105D	AWS 57RO	Witect 50	Sky light Essmann
Space requirement	min.	[mm]		50	50	40 – 50	70	45	60	35	68	68	120
Window material	Alu			●	●	●	●	●	●	●	●	●	
	Wood				●	●	●	●					
	PVC				●	●	●	●					●
Type of window and mounting	Bottom 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]						450 – 1300					600 – 1200
	Sync2	[mm]						1200 – 2400					1200 – 2400
FAH(*1)	Solo	[mm]						450 – 1500					600 – 1200
	Sync2	[mm]						450 – 2500					1200 – 1500

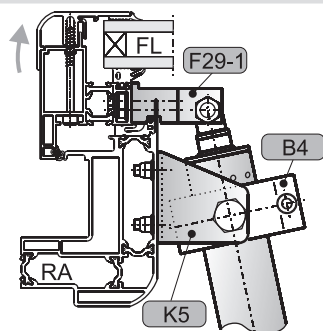
LEGEND

● 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.

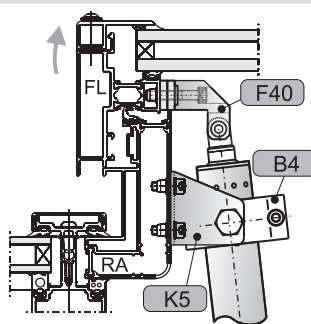
TYPICAL APPLICATIONS

1 RM, HSK, roof



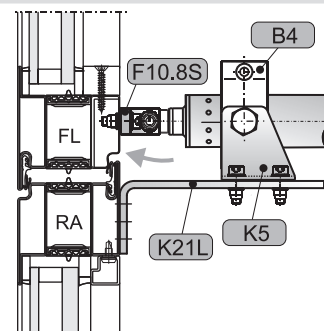
View on aluminium window

2 RM, HSK, roof



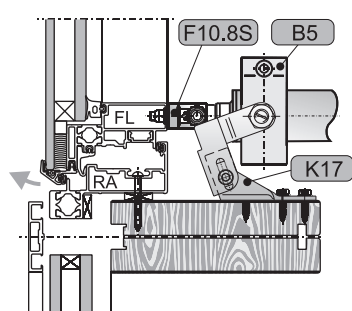
View on aluminium window

3 RM, HSK, top hung outward opening



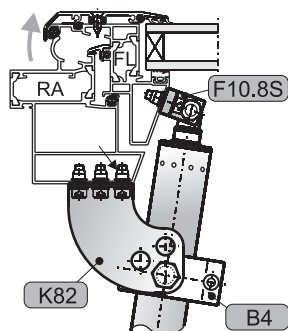
View on steel window

4 RM, HSK, top hung outward opening



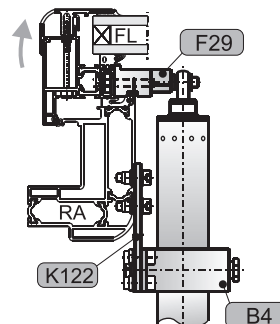
View on aluminium window

5 RM, HSK, roof



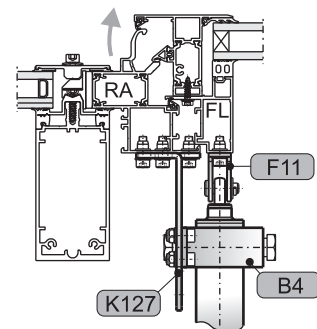
View on aluminium window

6 RM, NSK, roof



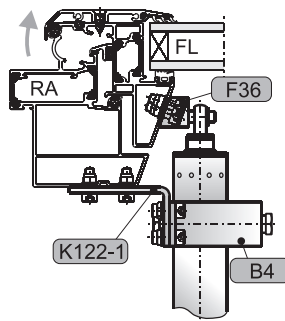
View on aluminium window

7 RM, NSK, roof



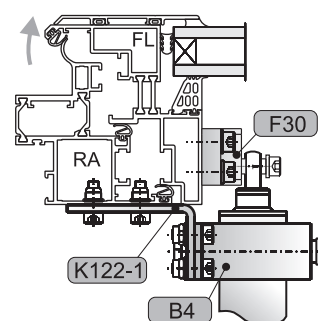
View on aluminium window

8 RM, NSK, roof



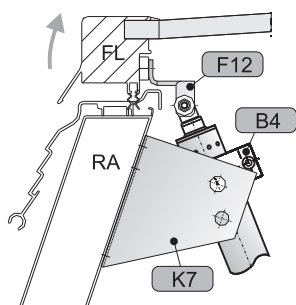
View on aluminium window

9 RM, NSK, roof



View on aluminium window

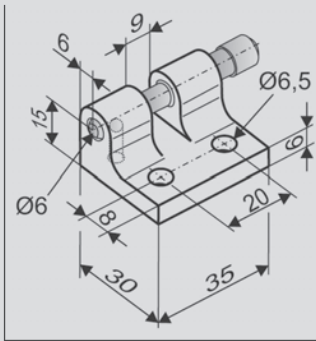
10 RM, HSK, sky-light



View on sky light

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 drive possible

Part.-No. 150102

Material/Finish
aluminium, diecast

Feature/Equipment

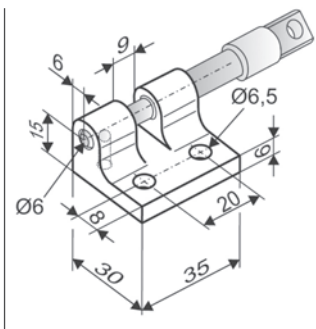
1x locking bolt

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 drive possible

Part.-No. 150110

Material/Finish
aluminium, diecast

Feature/Equipment

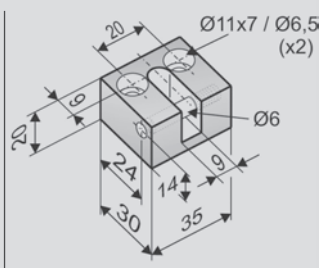
1x locking spring bolt

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

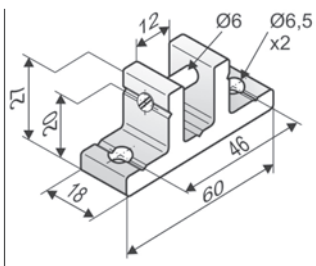
Feature/Equipment

1x grubscrew Ø6 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

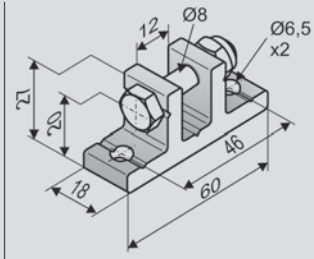
1x stud bolt Ø6 mm

Load

max. 1600 N

CASEMENT BRACKETS

F10.8S

**Application**

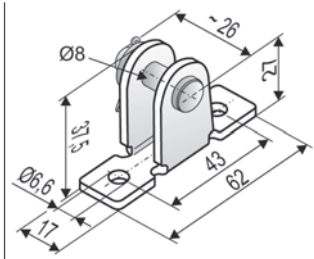
Surface mounting on the **main closing edge** of casement profiles of outward opening windows, for drives with **front or rear suspension** with bore **Ø8 mm**

Part.-No. 151105

Material/Finish
aluminium**Feature/Equipment**1x nut M8,
1x screw M8x35**Load**

max. 3000 N

F11ST

**Application**

Surface mounting on the **side closing edge** of casement/ window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore **Ø8 mm**, mounting holes aligned with central axis of drive

Part.-No. 151400

Material/Finish
steel galvanized**Feature/Equipment**1x bolt Ø8 mm,
washer,
cotter pin**Load**

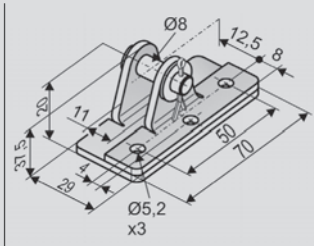
max. 3000 N

F11VA

Part.-No. 151401

Material/Finish
stainless steel

F13

**Application**

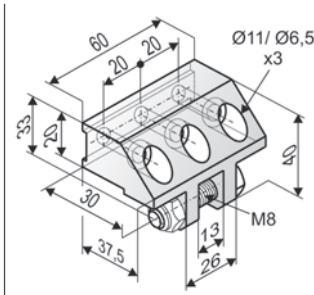
Surface mounting on the **side closing edge** of casement/ window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore **Ø8 mm**, mounting holes not aligned with the central axis of drive

Part.-No. 151405

Material/Finish
steel galvanized**Feature/Equipment**1x bolt Ø8 mm,
washer,
cotter pin**Load**

max. 1600 N

F40

**Application**

Surface mounting on the **main closing edge** of the casement profiles of outward opening roof windows, for drives with **front or rear suspension** with bore **Ø8 mm**

Part.-No. 155172

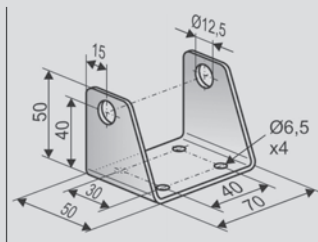
Material/Finish
aluminium**Feature/Equipment**1x screw M8x35,
nut M8**Optional accessories**

B2 Base Plate F39/F40

Part.-No. 155173

FRAME BRACKETS

K5



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,
SP8 with B13,
LKS with B7

Part.-No. 155800

Material/Finish

steel galvanized

Feature/Equipment
drilled holes Ø12,5 mm

Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

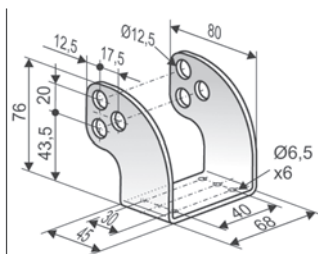
K21K Frame bracket

Part.-No. 159900

K21L Frame bracket

Part.-No. 159905

K82



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,
SP8 with B13,
LKS with B7

Part.-No. 151320

Material/Finish

stainless steel

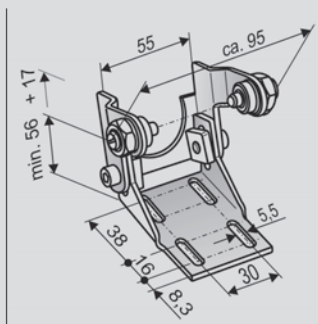
Feature/Equipment
drilled holes Ø12,5 mm

Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

K17



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 B5,
SP with B12

Part.-No. 159200

Material/Finish

steel galvanized

Feature/Equipment
adjustable height

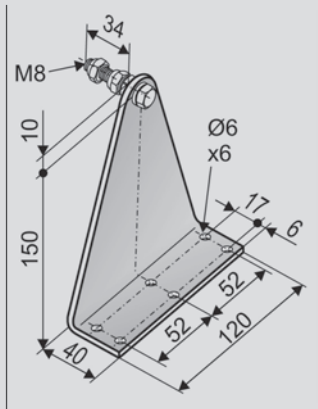
Accessories

B5 clamp ring PLA
(Ø36 mm, Ø8 mm)

Part.-No. 515825

FRAME BRACKETS

K15

**Application**

Surface mounting on the **side closing edge** of window frame profiles of in-/outward opening windows, by obliquely arranged drives with **rear suspension** with bore **Ø8 mm**

Required space on the frame
40 mm

Part.-No. 307000

Material/Finish

steel galvanized

Feature/Equipment

H=150 mm, t=4 mm

Optional accessories

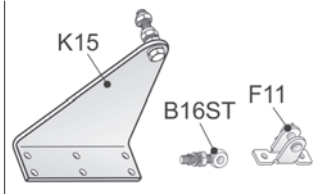
B16ST Eyebolt
(Ø8 x 40 mm ST)

Part.-No. 100044

B16VA Eyebolt
(Ø8 x 40 mm VA)

Part.-No. 100144

K15-Set

**Application**

Surface mounting on the **side closing edge** like RWA-1000/1100 hardware sets

Required space on the frame
40 mm

Part.-No. 517590

Material/Finish

steel galvanized

Feature/Equipment

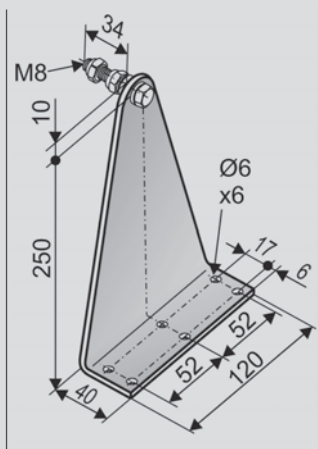
Set:

1x K15

1x F11ST

1x B16ST

K37

**Application**

Surface mounting on the **side closing edge** of window frame profiles of in-/outward opening windows, by obliquely arranged drives with rear suspension with bore **Ø8 mm**

Required space on the frame
40 mm

Part.-No. 307500

Material/Finish

steel galvanized

Feature/Equipment

H=250 mm, t=5 mm

Optional accessories

B16ST Eyebolt
(Ø8 x 40 mm ST)

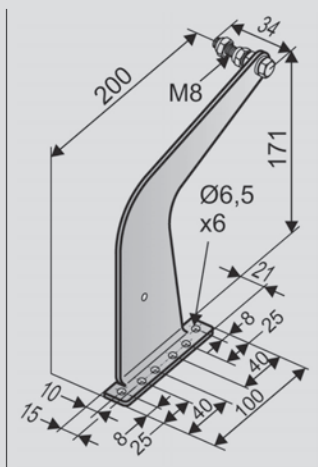
Part.-No. 100044

B16VA Eyebolt
(Ø8 x 40 mm VA)

Part.-No. 100144

FRAME BRACKETS

K97L



Application

Surface mounting on the side closing edge of window frame profiles of inward opening side hung windows, by obliquely arranged drives with rear suspension with bore Ø8 mm. Required space on the frame 20 mm

Part.-No. 160938

Material/Finish

stainless steel, vibratory grinding

Feature/Equipment

left hand

Optional accessories

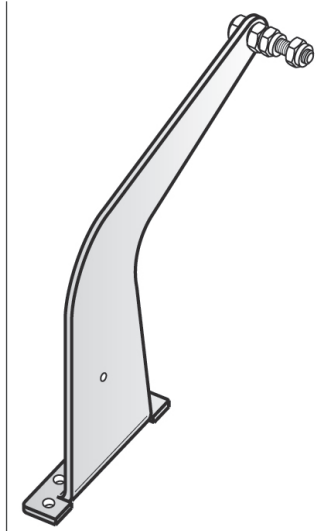
B16ST Eyebolt (Ø8 x 40 mm ST)

Part.-No. 100044

B16VA Eyebolt (Ø8 x 40 mm VA)

Part.-No. 100144

K97R



Application

Surface mounting on the side closing edge of window frame profiles of inward opening side hung windows, by obliquely arranged drives with rear suspension with bore Ø8 mm. Required space on the frame 20 mm

Part.-No. 160939

Material/Finish

stainless steel, vibratory grinding

Feature/Equipment

right hand

Accessories

B16ST Eyebolt (Ø 8 x 40 mm ST)

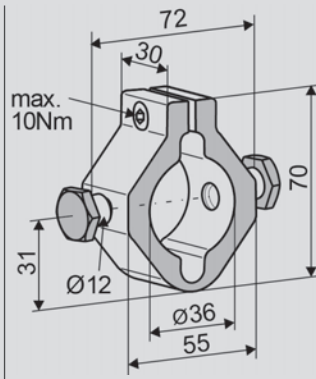
Part.-No. 100044

B16VA Eyebolt (Ø8 x 40 mm VA)

Part.-No. 100144

OPTIONAL ACCESSORIES

B4

**Application**

Adjustable clamping of the PLA drive housing, for surface mounting with **swivelling suspension** on **K5, K7, K82, K22, K22-1, K127** (preferably on outward opening windows)

Part.-No. 515900

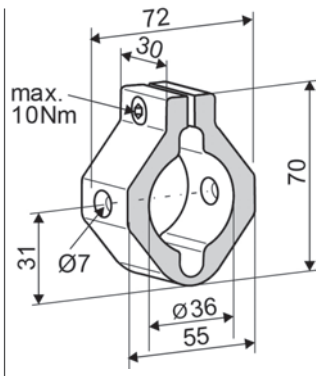
Material/Finish

aluminium (antreated), stainless steel

Feature/Equipment

2x B8 collar screw Ø12mm, G1/8
1x cylinder head screw M6x16m

B5

**Application**

Adjustable clamping of the PLA drive housing, for surface mounting with **swivelling suspension** on **K17** (preferably on outward opening windows)

Part.-No. 515825

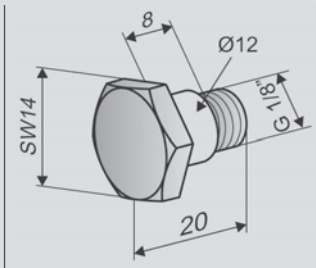
Material/Finish

aluminium (antreated), stainless steel

Feature/Equipment

2x Holes Ø7 mm
1x cylinder head screw M6x16

B8

**Application**

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 Ø12,5 mm

Part.-No. 172800

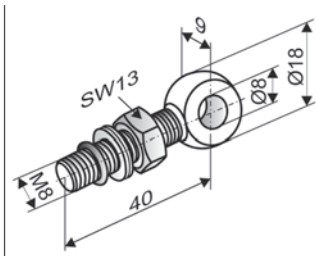
Material/Finish

stainless steel

Feature/Equipment

Collar Ø12 mm, G1/8"

B16ST

**Application**

Eye bolt for rear or front suspension of spindle drives with **M8** thread in the rear base cap or in the spindle tube

Part.-No. 100044

Material/Finish

steel galvanized

Feature/Equipment

M8x40 (Eye Ø8 mm),
1 x nut M8 + Nordlock-safety-washer + O-ring
max. screw-in depth in the drive 25 mm

B16VA

Part.-No. 100144

Material/Finish

stainless steel (V2A)

Technical drawing of a mechanical part with dimensions:

- Overall length: 50
- Length of the threaded section: 10
- Length of the unthreaded section: 40
- Overall width: 52
- Width of the base: 40
- Width of the top flange: 10
- Width of the side flange: 20
- Inner diameter of the hole: $\varnothing 10$

Technical drawing of a bent metal plate. The plate has a total length of 140 and a total width of 50. It is bent at a 90-degree angle. The flange (horizontal part) has a width of 40 and a thickness of 5. The leg (vertical part) has a width of 70 and a thickness of 5. There are four holes in the flange, each with a diameter of Ø6.5, arranged in a 2x2 grid. The distance between the centers of the holes is 30. There are three holes in the leg, each with a diameter of Ø6.5, arranged in a vertical line. The distance between the center of the top hole and the center of the bottom hole is 12. The distance from the top edge of the leg to the center of the top hole is 12. The distance from the bottom edge of the leg to the center of the bottom hole is 12. The distance from the center of the middle hole to the vertical centerline of the leg is 40.

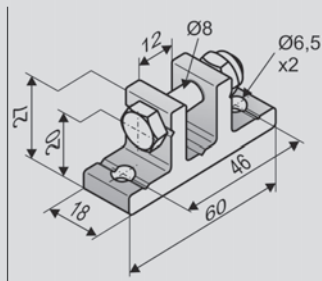
Feature/Equipment
60 x 20 x 5 mm

SKY-LIGHT ESSMANN TYP 810					
F12		Application Surface mounting on the main closing edge of the case-ment profiles of skylight domes Essmann 810 for drives with front suspension with bore Ø6 mm	Part.-No. 151500 Material/Finish steel galvanized Feature/Equipment 1x screw M6, washer, nut Load max. 800 N		
K7		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	Part.-No. 157500 Material/Finish steel galvanized Feature/Equipment drilled holes Ø12,5 mm		
			Accessories		
			B4 clamp ring PLA (Ø36 mm, G1/8)	Part.-No. 515900	
SKY-LIGHT ETERNIT					
F2		Application Surface mounting on the main closing edge of skylight domes Eternit , for drives with front suspension with bore Ø6 mm	Part.-No. 150303 Material/Finish aluminium Feature/Equipment 1x nut M6, 1x screw M6x35		
K4-L		Application Surface mounting on the main closing edge of the upstand of skylight domes Eternit for swivelling suspension of drives PLA with B4, SP with B11,	Part.-No. 155610 Material/Finish steel galvanized Feature/Equipment 2x screw Tap-tite M4x10, 1x nut M4, 1x screw M4x65		
			Accessories		
			B4 clamp ring PLA (Ø36 mm, G1/8)	Part.-No. 515900	

SPECIFIC APPLICATIONS

SCHÜCO AWS 57RO, WICONA WICTEC 50, RAICO WING 105D – HSK

F10.8S



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows, for drives with **front or rear suspension** with bore **Ø8 mm**

Part.-No. 151105

Material/Finish
aluminium

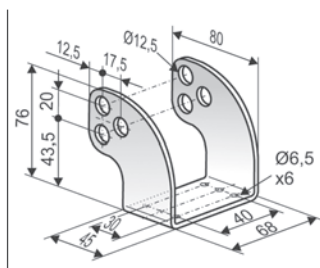
Feature/Equipment

1x nut M8,
1x screw M8x35

Load

max. 3000 N

K82



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**,
SP8 with **B13**,
LKS with **B7**

Part.-No. 151320

Material/Finish

stainless steel

Feature/Equipment

drilled holes Ø12,5 mm

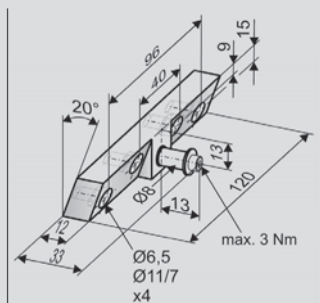
Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

SCHÜCO AWS 57R – NSK

F36



Application

Surface mounting on the **side closing edge** of outward opening casement profiles of roof windows **Schüco AWS 57RO**, for drives with **front suspension** with bore **Ø8 mm**

Part.-No. 155170

Material/Finish

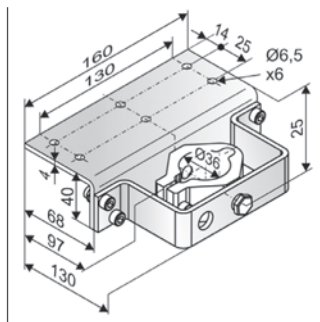
aluminium,

stainless steel

Feature/Equipment

1x bolt Ø8 mm,
screw M4,
washer A4,3

K122-1



Application

Surface mounting on the **side closing edge** of window frame profiles of outward opening roof windows **Schüco AWS 57RO**, **Wicona Wictec 50** for **swivelling suspension** of drives
PLA with **B4**

Part.-No. 155116

Material/Finish

stainless steel

Feature/Equipment

without clamping ring B4

Accessories

B4 clamp ring PLA
(Ø 36 mm, G1/8)

Part.-No. 515900

WICONA WICTEC 50 – NSK					
F30		Application Surface mounting on the side closing edge of the outward opening casement profiles of roof windows Wicona Witect 50 , for drives with front suspension with bore Ø8 mm	Part.-No. 155160 Material/Finish aluminium, stainless steel Feature/Equipment 1x bolt Ø8 mm, screw M4, washer A4,3		
K122-1		Application Surface mounting on the side closing edge of window frame profiles of outward opening roof windows Schüco AWS 57RO , Wicona Witect 50 for swivelling suspension of drives PLA with B4	Part.-No. 155116 Material/Finish stainless steel Feature/Equipment without clamping ring B4		
			Accessories		
B4 clamp ring PLA (Ø36 mm, G1/8)			Part.-No. 515900		
RAICO WING 105D – NSK					
F11ST		Application Surface mounting on the side closing edge of casement/window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore Ø8 mm, mounting holes aligned with central axis of drive	Part.-No. 151400 Material/Finish steel galvanized Feature/Equipment 1x bolt Ø8 mm, washer, cotter pin Load max. 3000 N		
F11VA			Part.-No. 151401 Material/Finish stainless steel		
K127		Application Surface mounting on the side closing edge of window frame profiles of outward opening roof windows Raico Wing 105D for swivelling suspension of drives PLA with B4	Part.-No. 155119 Material/Finish stainless steel Feature/Equipment without clamping ring B4		
			Accessories		
B4 clamp ring PLA (Ø36 mm, G1/8)			Part.-No. 515900		

Technical drawing of a 3D bracket. Dimensions include: 70, 40, 22, 10, 15, 42, 50, 12, 8A, M8, Ø6,5, Ø11/7, x4. The drawing shows a bracket with four holes and a central slot.

Material/Finish
aluminium
(natural anodized),
stainless steel

Feature/Equipment
1x screw M8x35,
nut M8

Material/Finish
steel galvanized

Feature/Equipment
drilled holes Ø12,5 mm

Part.-No. 515900

Material/Finish
aluminium
(natural anodized),
stainless steel

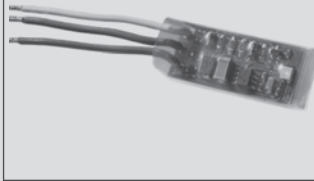
Feature/Equipment
1x bolt Ø8 mm,
screw M4,
washer A4,3

Material/Finish
stainless steel

Feature/Equipment
without clamping ring B4
(#515900)

Part.-No. 515900

OPTIONAL ACCESSORIES

Main control unit			
M-COM		Application	Part.-No. 524177
		Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems Rated voltage: 24V DC (19V ... 28V) Current consumption: <12 mA Drive type: S12	Protection rating IP30 rubber envelope Ambient temperature range 0 °C ... + 70 °C Dimensions 45 x 17 x 6 mm Connecting wires 3 wires 0,5 mm ² x 50 mm Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site.

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		
	from 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		
	from 101	516031		