



WINDOW TECHNOLOGY
DOOR TECHNOLOGY
AUTOMATIC ENTRANCE SYSTEMS
BUILDING MANAGEMENT SYSTEMS



WINDOW TECHNOLOGY – ORDER CATALOGUE

Smoke and heat exhaust ventilation systems Ventilation and fanlight opening systems

Edition 07/2019

- Smoke and heat exhaust ventilation systems (SHEV)
- Ventilation systems

Securing technology for you



The Gretsch-Unitas group

Opening, moving, closing, securing – under the motto "Securing technology for you", the Gretsch-Unitas group provides pioneering solutions for window technology and door technology, automatic entrance systems and building management systems. With their system brands, the group delivers solutions for burglar inhibition on doors and windows, for barrier-free building, for doors in escape and rescue routes, extending to individual facade solutions for properties.



Gretsch-Unitas GmbH Baubeschläge



GU in Ditzingen is the headquarters of the group, development, administration and the production of modern architectural hardware for window and door technology. It is equipped with different flexible assembly areas, a modern stamping shop, electroplating and anodising systems.



BKS GmbH



BKS manufactures mechanical and electronic locking cylinders, locks, locking systems and panic locks for escape and rescue routes. Mutually coordinated mechanical and electronic system solutions are offered for the access control.



FERCO International S.A.S.



Ferco is the largest production site for window hardware in France. As a subsidiary of the Gretsch-Unitas group, Ferco also offers customer support and distribution in France for all products of the group.





GU Automatic



GU Automatic offers innovative, secure and reliable solutions for automatic entrance systems and automatic door systems, revolving doors, all-glass sliding walls, security curved sliding doors and controlled physical access.

ela-soft



With the successful facility management system and organisation system GEMOS, PSS-soft is one of the market and technology leaders in the building technology branch.

Securing technology for you







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The complete SHEV system as a one-stop service

Security with a system

The smoke emitted by fires represents the greatest threat to people and the building. For this reason, it is extremely important that the smoke be extracted quickly and reliably. In this case, smoke and heat exhaust ventilation systems, as a fixed integral part of preventive fire protection, take over the most important task, namely discharging combustion gases, dangerous oxides and thermal energy outdoors in event of fire. In this way escape and rescue routes are kept virtually free from smoke, thus allowing active and passive rescue. Furthermore, this avoids the thermal load imposed on the building structure by hot fire gases leading to damage to the building. We offer you a large range of mutually coordinated system components – from electrically driven chain and spindle drives to SHEV central control systems and extending to an extensive accessory programme.





Functional principle of a SHEV system



SHEV systems essentially consist of the system components seen in the system design on the left. They cover two large areas of responsibility: emergency situations and everyday ventilation.

SHEV systems from the Gretscht-Unitas group are used for the everyday ventilation of rooms as well as smoke exhaust in the event of a fire. In this case the dissipation of smoke and heat is controlled by the electric controller (SHEV central control unit). Windows, smoke flaps and light domes are opened or closed by electric drives.

The ventilation function is controlled via a ventilation push-button, rain/wind controller or time switch, and in the event of an emergency it is controlled manually via a SHEV push-button or automatically via smoke or heat detectors. In addition, optional alarm signals can also be connected.

Fig.: Keeping escape and rescue routes clear from smoke on the basis of thermal uplift – with supply air openings in the lower wall area and exhaust air openings in the upper wall or ceiling area.

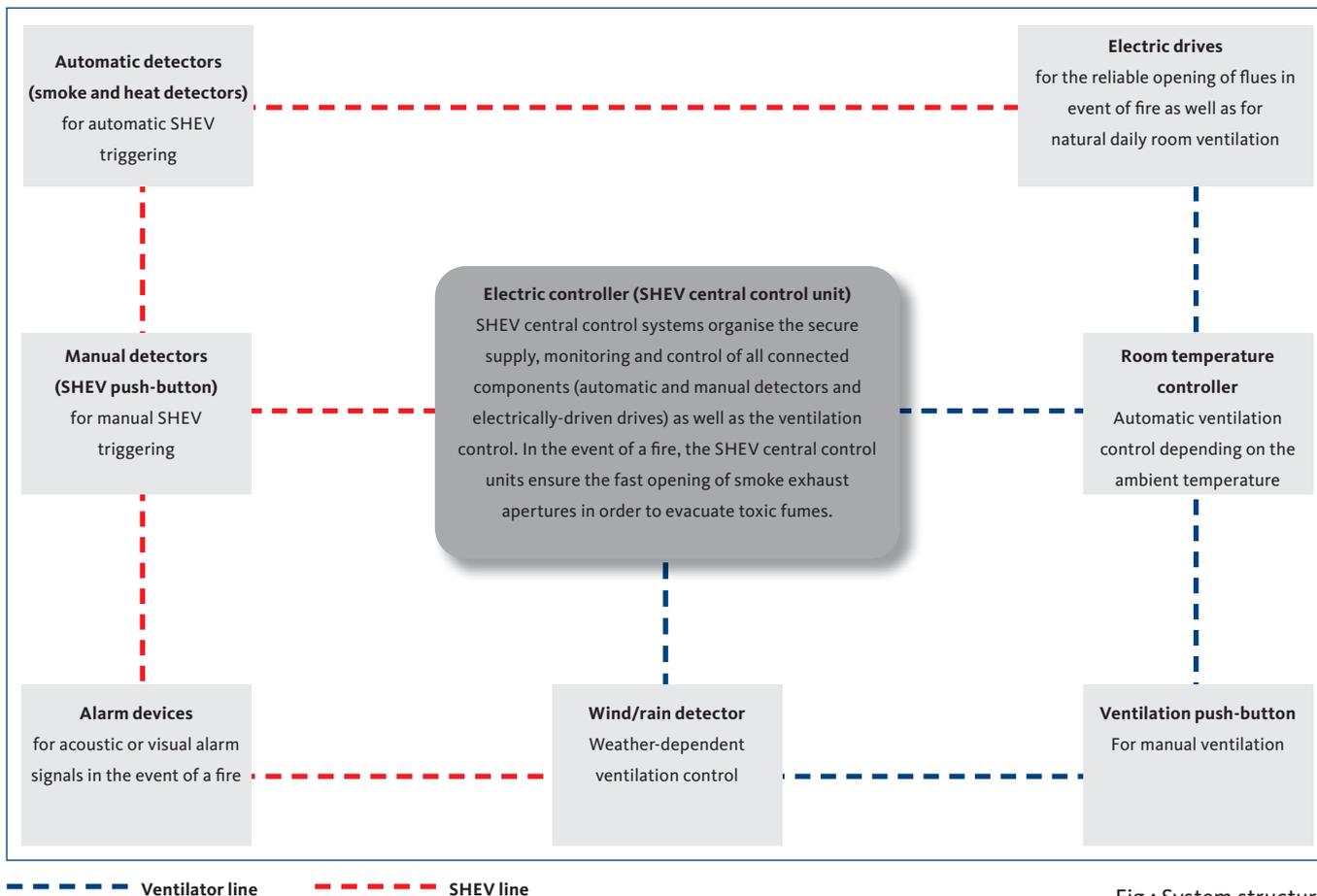


Fig.: System structure

Components of a SHEV system

- Electric control device (SHEV central control unit)
- Electromechanical drives
- SHEV push-button for manual alarm triggering
- Smoke/heat detectors for automatic alarm triggering*
- Alarm devices*

Additional components for the ventilation function

Further components should be selected if the system is also to be used for ventilation, e.g.:

- Room temperature controller
- Wind/rain detector
- Ventilation push-button

* The use of smoke or heat detectors or alarm devices is not mandatory in legislation, however we do recommend it.

Electric drive and opening systems (24 V)

Product overview



The range of different chain drives, spindle drives and rack and pinion drives for timber, PVC or metal windows offers individual solutions for comfortable everyday ventilation, when the windows are not accessible for the user.

Regardless of whether the windows are square, inward opening Bottom-Hung or Top-Hung windows, outward opening Top-Hung windows or special forms like Parallel-Vent and Projecting Top-Hung windows – virtually every application can be achieved with the solutions of the Gretsch-Unitas group.

Designation	Chain drives						Locking drives		
	ELTRAL K25	K30	KS 30/40 ^[1]	K35	K40	K60	VAN	VA25	VA35
Page	16	22	26	32	40	46	56	60	64
Suitable for use in facades	■	■	■	■	■	■	■	■	■
Bottom-Hung window, inward-opening	■	■	■	■	■	■	■	■	■
Top-Hung window, outward-opening	■	■	■	■	■	■	■	■	■
Side-Hung window, inward-opening	-	■	■	■	■	■	■	■	■
Swing door, inward-opening	-	-	-	-	-	-	-	-	-
Side-Hung window, outward-opening	-	-	-	-	-	-	-	-	-
Suitable for use with skylights	-	■ ^[2]	■ ^[2]	■ ^[2]	■ ^[2]	■ ^[2]	-	-	-
Concealed installation	■	-	-	■	■	-	■	■	-
Tested and approved in accordance with EN 12101-2	■	■	-	■	■	■	■	■	-
Nominal voltage	24 V DC ± 15%	24 V DC ± 15%	24 V DC ± 15%	24 V DC ± 15%	24 V DC ± 15%	24 V DC ± 15%	24 V DC ± 15%	24 V DC ± 15%	24 V DC ± 15%
Push force [N]	250 ^[2]	300	300 ^[2]	350 ^[2]	400 ^[2]	600 ^[2]	-	-	-
Pulling force [N]	250	300	300	350	400	600	-	-	-
Nominal force/torque [N]/[Nm]	-	-	-	-	-	-	600 / -	600 / -	600 / -
Nominal current [A]	0.7	0.9	0.9	0.9	0.9	0.8	1.5	0.6	0.6
Breaking current [A]	1.0	1.2	1.2	1.2	1.2	1.2	1.5	0.8	0.8
Travel speed [mm/s]	8.0/12.0/ 13.5 ^[2]	8.9	9.0	9.6	8.0/12.0/ 13.5 ^[2]	8.0/12.0/ 13.5 ^[2]	6.0	1.9	5.0
Opening width/travel [mm]	200 300 400 500 600 800	300-500 variable adjustment	200-400 variable adjustment	100/200/300 300/400/500 600/700/800 variable adjustment	200 250 300 400 500 600 800	200 400 500 600 800 1000	18 / 35 adjustable	17 / 36 adjustable	18
Protection type [IP]	32	32	30	32	32	32	43	32	32
Duty ratio [%]	30	30	30	30	30	30	30	30	30
Locking force/locking moment [N]/[Nm]	3000 / -	2000 / -	1000 / -	3000 / -	3000 ^[3] / -	3000 / -	850 / -	1000 / -	1000 / -
Ambient temperature [°C]	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60
Synchronous control	optional	optional	optional	optional	optional	optional	-	optional	optional
Dimensions LxHxD [mm]	Lx26x41 ^[2]	456x43x60	386x38x58	Lx35x35 ^[2]	Lx24x35 ^[2]	Lx40x56 ^[2]	353x25x25	473x25x25	420x35x35
Connecting cable	Silicone halogen-free; 3 m; 5 x 0.5 mm ²	Silicone halogen-free; 2 m; 3 x 0.5 mm ² (Solo); 2.5 m; 5 x 0.5 mm ² (Synchro)	2 m; 3 x 0.75 mm ² (Solo); 2.5 m; 5 x 0.75 mm ² (Synchro)	Silicone halogen-free; 2 m; 3 x 0.5 mm ² (Solo); 2.5 m; 5 x 0.5 mm ² (Synchro)	Silicone halogen-free; 2 m; 3 x 0.5 mm ² (Solo); 2.5 m; 5 x 0.5 mm ² (Synchro)	Silicone halogen-free; 2 m; 5 x 0.5 mm ²	Silicone halogen-free; 3 m; 5 x 0.5 mm ²	Silicone halogen-free; 2 m; 3 x 0.75 mm ²	Silicone halogen-free; 3 m; 3 x 0.5 mm ²

[1] Due to its plastic case, the ELTRAL KS 30/40 drive is not approved for SHEV use within the EU!

[2] Depending on travel / force-displacement curve | [3] Fixing-dependent | [4] Preset to travel 50 mm = 200 mm opening width

Electric drive and opening systems (24 V)



Product overview



Square spindle drive	Spindle drives			SHEV opening systems		Door drive	Window drive		Electric drive
OA m-com	S80	S100 Speed	S160	SHEV 1000 with S100	SHEV 1050 with S60	TA60 T TA60 T-SRI	TA60 DF TA60 DF-SRI	TA60 GS	S 24
66	70	72	74	80	84	98/100	104/106	108	124
■	-	-	-	■	■	■	■	■	■
■	-	-	-	■	-	-	-	-	■
■	■	■	■	-	-	-	-	-	■
■	-	-	-	■	■	-	■	-	-
-	-	-	-	-	-	■	-	-	-
-	-	-	-	-	-	-	-	■	-
-	■	■	■	-	-	-	-	-	-
-	-			-	-	-	-	-	-
■	-	-	-	■	■	-	-	-	-
24 V DC ± 15 %	24 V DC ± 15 %			24 V DC ± 15 %	24 V DC ± 15 %	24 V DC ± 15 %	24 V DC ± 15 %	24 V DC ± 15 %	24 V DC ± 10 %
-	800	1000	1600	1000	600	600	600	600	1400
-	800	1000	1600	1000	600	200	200	200	1400
- / 10	-	-	-	-	-	- / 215	- / 215	- / 215	-
0.8	1.0	1.9	1.9	0.6	0.6	1.0	1.0	1.0	1.2
1.1	1.4	2.5	2.5	0.8	0.8	1.4	1.4	1.4	-
20°/s	10.0	12.7	7.0	2.6	5.8	2 °/s	2 °/s	2 °/s	1.2
90° / 180° adjustable	300 500	750 1000	300 500 750 1000	100 200 300	100 150 200 250	93°	93°	93°	40-70 variable adjustment ^[4]
32	65			65	65	32	32	32	20
30	30			20	20	30	30	30	30
- / 22	5000 ^[3] / -			5000 ^[3] / -	5000 ^[3] / -	3000 ^[3] / -	3000 ^[3] / -	3000 ^[3] / -	-
-5 to +60	-5 to +60			-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-15 to +50
-	optional			electric	electric	optional	optional	optional	-
156x40x83.5	Ø36x(342+travel)			Ø36x (256+travel)	Ø36x (256+travel)	421x40x101	421x40x101	421x40x101	210x81.5x32.5
Silicone halogen-free; 3 m; 3 x 0.5 mm ²	Silicone halogen-free; 3 m; 3 x 1.0 mm ²			Silicone halogen-free; 3 m; 2 x 0.75 mm ²	Silicone halogen-free; 3 m; 2 x 0.75 mm ²	Silicone halogen-free; 3 m; 5 x 0.5 mm ²	Silicone halogen-free; 3 m; 5 x 0.5 mm ²	Silicone halogen-free; 3 m; 5 x 0.5 mm ²	Connector, 2-wire

Chain drives

Application ranges



With their compact design and pleasant appearance, chain drives from the Gretsch-Unitas group are an ideal solution for the fast, electromotor-driven opening of exhaust air apertures and for room ventilation.

The drives are surface-mounted and perfectly suited to any window type and style thanks to their flat design. Depending on the window profile, the drives can also be installed in a concealed manner.

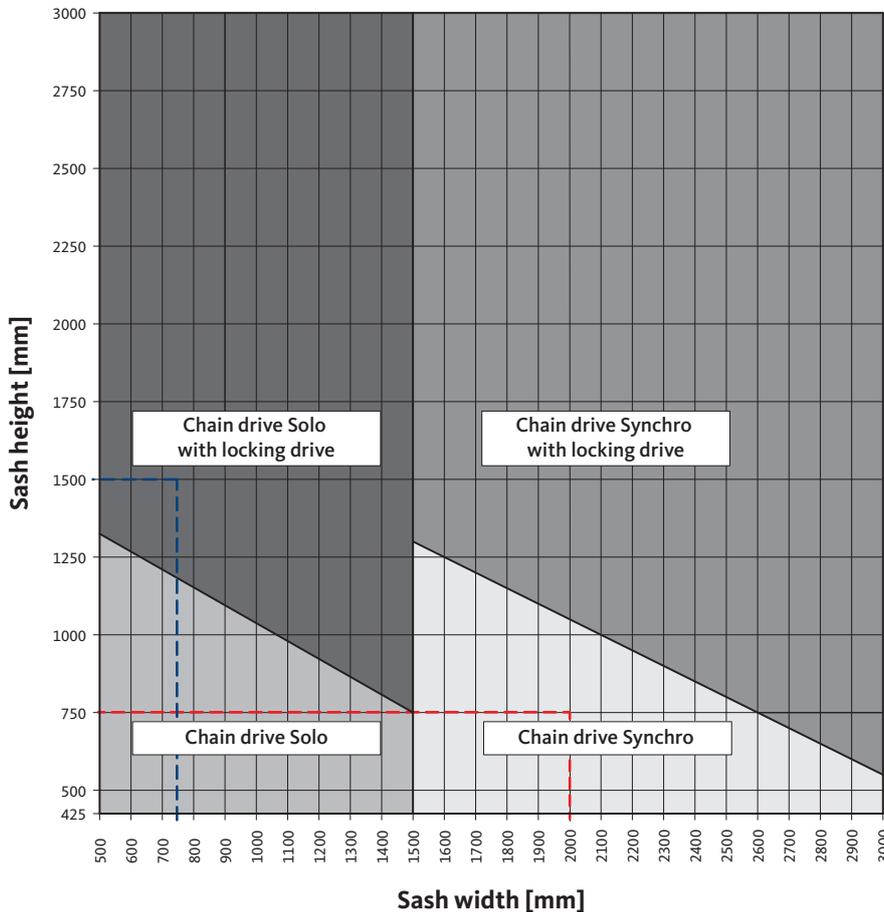
The extensive range of drives and mounting brackets allows virtually every installation situation and type of mounting. Whether surface-mounted or concealed, they can be used on inward or outward-opening Bottom-Hung, Top-Hung or Side-Hung windows or skylights.

The integrated intelligent technology enables the synchronous control of several chain drives, meaning that even large and heavy window elements can be moved easily.

The combination of chain drives and locking drives offers an added bonus with regard to security and weather protection.

Chain drives

Application ranges



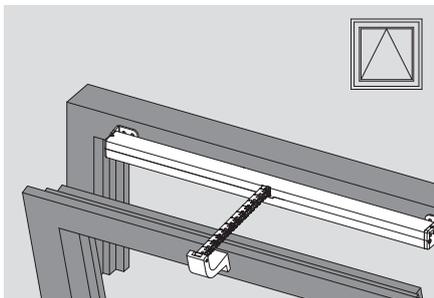
Application ranges

Determination of which drive type to use (Solo/Synchro drive, with or without locking drive) based on the sash width and sash height.

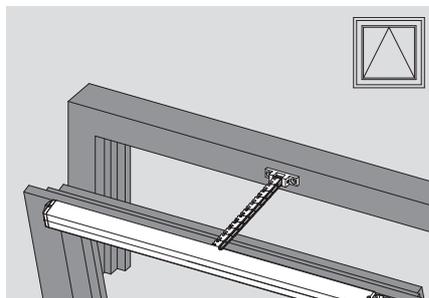
- Example 1:**
 Bottom-Hung window with the dimensions: 750 x 1500 mm (W x H)
 A chain drive Solo with locking drive must be used
- Example 2:**
 Bottom-Hung window with the dimensions: 2000 x 750 mm (W x H)
 A Synchro chain drive must be used

All values are reference values which may vary depending on the profile used and the height of the building.
 The permissible edge length and the maximum window size must be coordinated with the system provider or the window fabricator.
 The instructions of the particular profile system, hardware and glass manufacturers must be observed.
 The maximum length of unmounted profile jambs is 1500 mm.

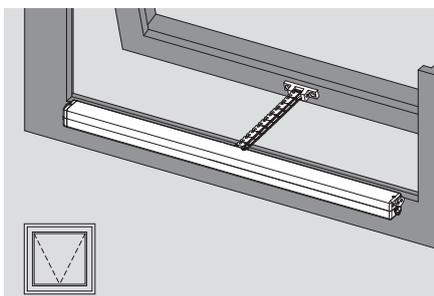
Installation types and stop variants



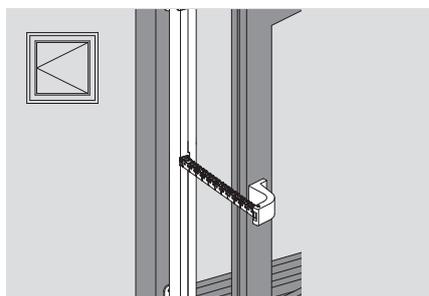
Bottom-Hung window, inward-opening, installation on frame



Bottom-Hung window, inward-opening, installation on sash



Top-Hung window, outward-opening, installation on frame

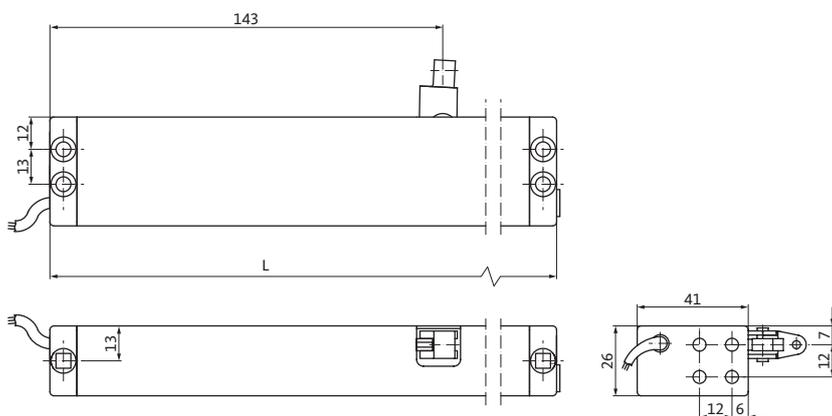


Side-Hung window, inward-opening, installation on frame

ELTRAL K25 chain drive



- Tested and certified in accordance with EN 12101-2
- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications with and without locking drives
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for small sash heights from 325 mm
- Anodised aluminium housing



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.7
Breaking current [A]	1
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	5 x 0.5

Travel [mm]	Push force [N]	Runtime [s]
200	250	25
300	250	37
400	200	50
500	100	42
600	50	50
800	50	59

ELTRAL K25 chain drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL K25	1 chain drive	200	335	EV1, silver	1	K-17646-20-0-1
		300	380	EV1, silver	1	K-17646-30-0-1
		400	430	EV1, silver	1	K-17646-40-0-1
		500	545	EV1, silver	1	K-17646-50-0-1
		600	545	EV1, silver	1	K-17646-60-0-1
		800	625	EV1, silver	1	K-17646-80-0-1

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special cable lengths on request
- Special colours on request
- Fixing sets must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 174/175)

Synchronised multiple operation

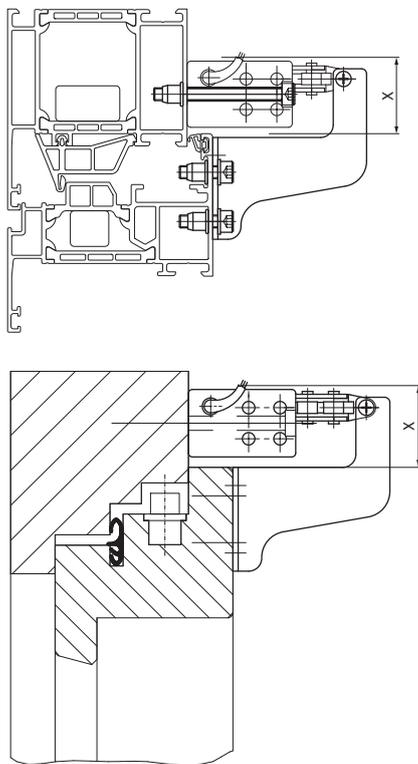
- The following combinations in multiple operation can be achieved with and without locking drive in combination with the main control element m-com (mounted board) K-19757-00-0-0:

Application range	Chain drive K25 / 24 V	Locking drives			Main control element m-com K-19757	Fixing set K25
		VA25 K-19943	VA35 K-19944	OA m-com K-19937		
	K-17646					
K25 Solo	1	-	-	-	-	1
K25 Synchro	2	-	-	-	1	2
K25 Triple	3	-	-	-	1	3
K25 Quattro	4	-	-	-	1	4
K25 Solo with VA25	1	1	-	-	1	1
K25 Synchro with VA25	2	1	-	-	1	2
K25 Solo with VA35	1	-	1	-	1	1
K25 Synchro with VA35	2	-	1	-	1	2
K25 Solo with OA	1	-	-	1	1	1
K25 Synchro with OA	2	-	-	1	1	2
max.	4	2				

- The main control element must be ordered separately. See page 110 for detailed information on m-com

ELTRAL K25 chain drive

Fixing sets – surface-mounted installation

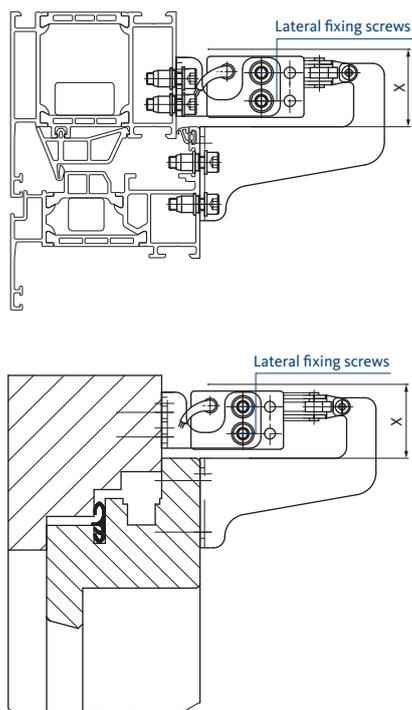


K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	direct surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	425
300	500
400 ^[3]	600
500 ^[3]	750
600 ^[3]	950
800 ^[3]	1250

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	30 - -	1	K-17593-00-0-8
Timber PVC ^[2]	- 31.5 31.5	1	K-17635-00-0-8



K25 fixing set

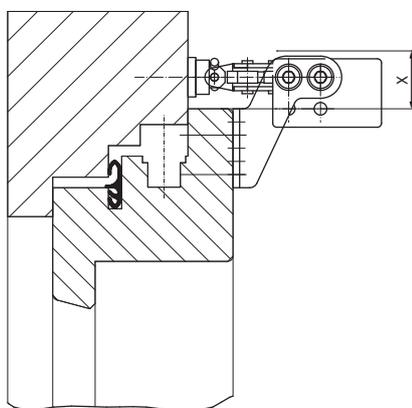
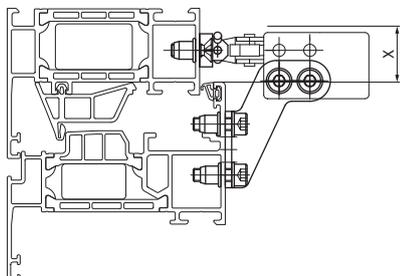
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Finish	stainless steel

Travel [mm]	Sash height min. for FI pivotable [mm]	Sash height min. for FI fixed [mm]
200	250	425
300	350	500
400 ^[3]	550	600
500 ^[3]	750	750
600 ^[3]	950	950
800 ^[3]	1300	1250

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	33 - -	1	K-17594-00-0-8
Timber PVC ^[2]	- 33 33	1	K-17636-00-0-8

ELTRAL K25 chain drive

Fixing sets – surface-mounted installation

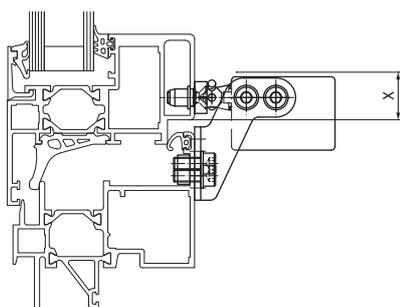


K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Finish	stainless steel

Travel [mm]	Sash height min. for SI [mm] ^[4]	Sash height min. for FI [mm]
200	325	325
300	450	450
400 ^[3]	550	–
500 ^[3]	700	–
600 ^[3]	800	–
800 ^[3]	1100	–

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	22 – –	1	K-17595-00-0-8
Timber PVC ^[2]	– 22 22	1	K-17637-00-0-8



K25 fixing set with base plate

Technical data	
Opening type	Top-Hung window
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	19.5 – –
Finish	stainless steel

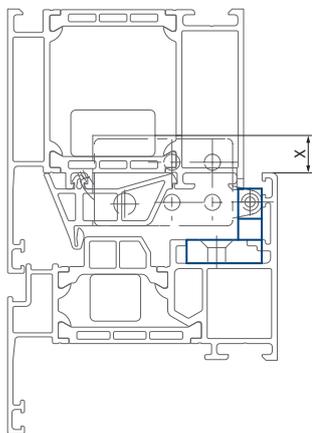
Travel [mm]	Sash height min. for FI [mm]
200	325
300	450
400	–
500	–
600	–
800	–

Frame material	PU	Order number
Aluminium ^[1]	1	K-17706-00-0-8

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)
 [4] depending on profile; see profile-related installation drawings

ELTRAL K25 chain drive

Fixing sets – concealed installation

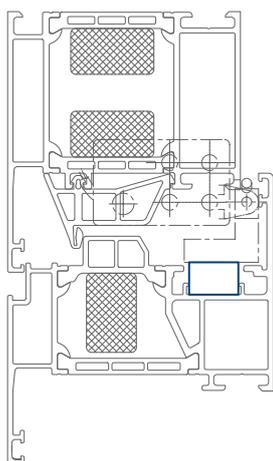


S K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	12 - -
Finish	untreated

Travel [mm]	Sash height min. for FI [mm]
200	500
300	650
400 ^[3]	800
500 ^[3]	1000
600 ^[3]	1200
800 ^[3]	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-17874-00-0-0



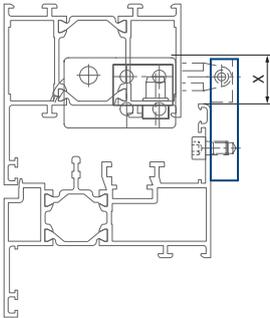
Packer for S K25 fixing set

Technical data	
Version	in combination with S K25 fixing set K-17874

	PU	Order number
	1	K-17875-00-0-0

ELTRAL K25 chain drive

Fixing sets – concealed installation

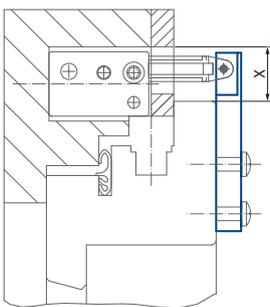


W K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	29 - -
Finish	EV1, silver

Travel [mm]	Sash height min. for FI [mm]
200	500
300	650
400 ^[3]	800
500 ^[3]	1000
600 ^[3]	1200
800 ^[3]	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-17880-00-0-1



K25 fixing set with base plate

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	- 25 -
Finish	EV1, silver

Travel [mm]	Sash height min. for FI [mm]
200	500
300	650
400	800
500	1000
600	1200
800	1400

Frame material	PU	Order number
Timber ^[2]	1	K-17909-00-0-1

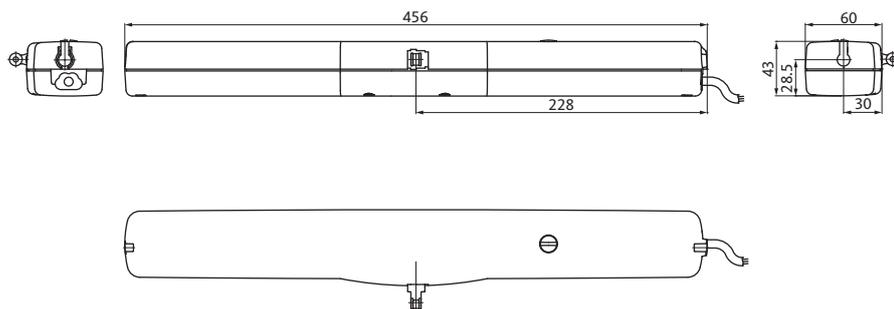
Note: further profile systems available on request

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)

ELTRAL K30 chain drive



- Tested and certified in accordance with EN 12101-2
- Compact size
- Synchronised tandem operation
- The integrated microprocessor control unit
 - ensures automatic end and overload cut-off regardless of the overlap thicknesses
 - enables automatic seal relief
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for small sash heights from 350 mm
- Travel adjustment in 3 stages:
 - 500 mm to 400 mm or 300 mm
- Painted aluminium housing



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.9
Breaking current [A]	1.2
Material of connecting cable	Silicone halogen-free

Travel [mm]	Push force [N]	Runtime [s]
300	300	34
400	300	45
500	300	56

ELTRAL K30 chain drive



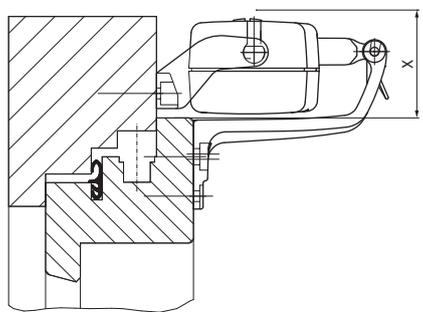
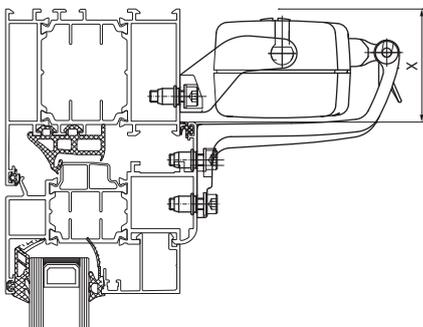
Model	Consists of	Travel max. [mm]	Length [mm]	Length of connecting cable [m]	Type of connecting cable [mm ²]	Finish	PU	Order number
ELTRAL K30 Solo	1 chain drive	500	456	2	3 x 0.5	silver (RAL 9006)	1	K-17832-00-0-1
		500	456	2	3 x 0.5	black (RAL 9005)	1	K-17832-00-0-6
		500	456	2	3 x 0.5	white (RAL 9010)	1	K-17832-00-0-7
ELTRAL K30 Synchro	2 chain drives	500	456	2.5	5 x 0.5	silver (RAL 9006)	1	K-17833-00-0-1
		500	456	2.5	5 x 0.5	black (RAL 9005)	1	K-17833-00-0-6
		500	456	2.5	5 x 0.5	white (RAL 9010)	1	K-17833-00-0-7
ELTRAL K30 Solo with VAN	1 chain drive 1 locking drive	500	456	2	3 x 0.5	silver (RAL 9006)	1	K-18023-00-0-1
		500	456	2	3 x 0.5	black (RAL 9005)	1	K-18023-00-0-6
		500	456	2	3 x 0.5	white (RAL 9010)	1	K-18023-00-0-7
ELTRAL K30 Synchro with VAN	2 chain drives 1 locking drive	500	456	2.5	5 x 0.5	silver (RAL 9006)	1	K-18024-00-0-1
		500	456	2.5	5 x 0.5	black (RAL 9005)	1	K-18024-00-0-6
		500	456	2.5	5 x 0.5	white (RAL 9010)	1	K-18024-00-0-7

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special cable lengths on request
- Special colours on request
- Fixing sets must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 174/175)

ELTRAL K30 chain drive

Fixing sets – surface-mounted installation

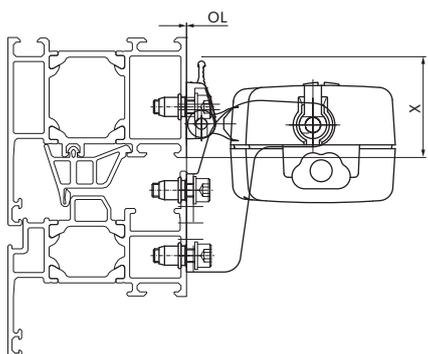


K30 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	50 50 50

Travel [mm]	Sash height min. for FI [mm]
300	350
400	550
500	700

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 9006)	1	K-18157-00-0-1
	black painted (RAL 9005)	1	K-18157-00-0-6
	white painted (RAL 9010)	1	K-18157-00-0-7



K30 fixing set

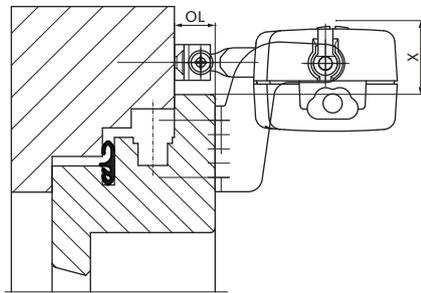
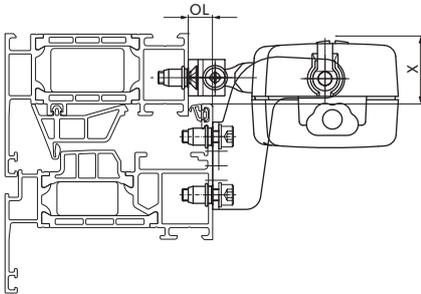
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Overlap OL [mm] ^[2]	0
Space requirement X min. Aluminium Timber PVC [mm]	37 37 37

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
300	500	350
400	700	450
500	900	600

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 9006)	1	K-17841-00-0-1
	black painted (RAL 9005)	1	K-17841-00-0-6
	white painted (RAL 9010)	1	K-17841-00-0-7

ELTRAL K30 chain drive

Fixing sets – surface-mounted installation

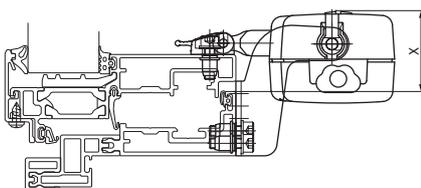


K30 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Overlap OL [mm] ^[2]	4
Space requirement X min. Aluminium Timber PVC [mm]	28 31 31

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
300	500	350
400	700	450
500	900	600

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 9006)	1	K-17843-00-0-1
	black painted (RAL 9005)	1	K-17843-00-0-6
	white painted (RAL 9010)	1	K-17843-00-0-7



K30 fixing set

Technical data	
Opening type	Projecting Top-Hung window
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	39 - -

Travel [mm]	Sash height min. for FI [mm]
300	350
400	450
500	600

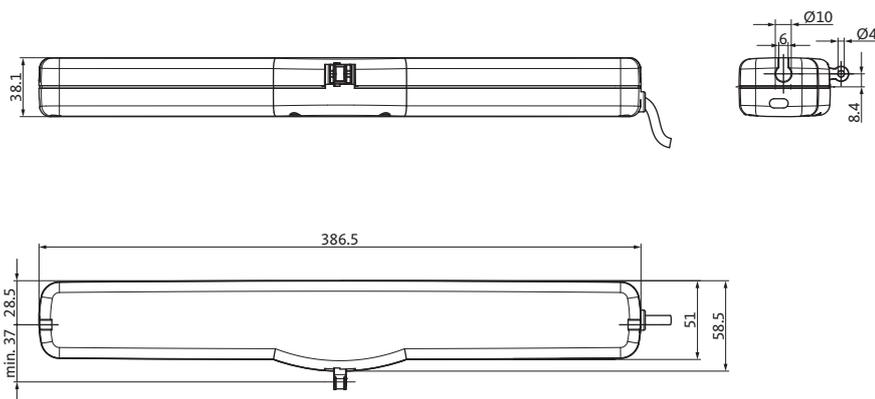
Frame material	Finish	PU	Order number
Aluminium ^[1]	silver painted (RAL 9006)	1	K-17840-00-0-1
	black painted (RAL 9005)	1	K-17840-00-0-6
	white painted (RAL 9010)	1	K-17840-00-0-7

[1] without fixing screws | [2] only for installation on frame, outward Top-Hung window

ELTRAL KS 30/40 chain drive



- Compact size
- Synchronised tandem operation
- The integrated microprocessor control unit
 - ensures automatic end and overload cut-off regardless of the overlap thicknesses
 - enables automatic seal relief
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for small sash heights from 250 mm
- Travel adjustment in 3 stages:
 - 400 mm to 300 mm or 200 mm
- Quick and simple installation with the accompanying installation template
- Painted PVC housing



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.9
Breaking current [A]	1.2

Travel [mm]	Push force [N]	Runtime [s]
200	300	22
300	250	33
400	200	44

ELTRAL KS 30/40 chain drive



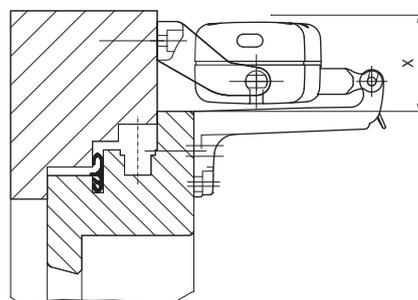
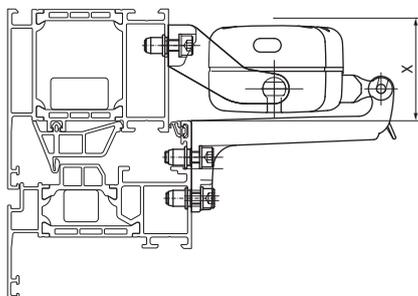
Model	Consists of	Travel max. [mm]	Length [mm]	Length of connecting cable [m]	Type of connecting cable [mm ²]	Finish	PU	Order number
ELTRAL KS 30/40 Solo	1 chain drive	400	386	2	3 x 0.75	silver (RAL 7047)	1	K-17434-00-0-1
		400	386	2	3 x 0.75	black (RAL 9004)	1	K-17434-00-0-6
		400	386	2	3 x 0.75	white (RAL 9003)	1	K-17434-00-0-7
		400	386	5	3 x 0.75	silver (RAL 7047)	1	K-17434-05-0-1
		400	386	5	3 x 0.75	black (RAL 9004)	1	K-17434-05-0-6
		400	386	5	3 x 0.75	white (RAL 9003)	1	K-17434-05-0-7
ELTRAL KS 30/40 Synchro	2 chain drives	400	386	2.5	5 x 0.75	silver (RAL 7047)	1	K-17436-02-0-1
		400	386	2.5	5 x 0.75	black (RAL 9004)	1	K-17436-02-0-6
		400	386	2.5	5 x 0.75	white (RAL 9003)	1	K-17436-02-0-7
ELTRAL KS 30/40 Solo with VAN	1 chain drive 1 locking drive	400	386	2	3 x 0.75	silver (RAL 7047)	1	K-18025-00-0-1
		400	386	2	3 x 0.75	black (RAL 9004)	1	K-18025-00-0-6
		400	386	2	3 x 0.75	white (RAL 9003)	1	K-18025-00-0-7
ELTRAL KS 30/40 Synchro with VAN	2 chain drives 1 locking drive	400	386	2.5	5 x 0.75	silver (RAL 7047)	1	K-18026-00-0-1
		400	386	2.5	5 x 0.75	black (RAL 9004)	1	K-18026-00-0-6
		400	386	2.5	5 x 0.75	white (RAL 9003)	1	K-18026-00-0-7

Note

- **As a result of the PVC body, this drive is not approved in the SHEV sector within the EU**
- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special cable lengths on request
- Special colours on request
- Fixing sets for standard applications are included in the scope of delivery
- Fixing sets for special application must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 174/175)

ELTRAL KS 30/40 chain drive

Fixing sets – surface-mounted installation



KS 30/40 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	45 45 45

Travel [mm]	Sash height min. for FI [mm]
200	600
300	1100
400	1500

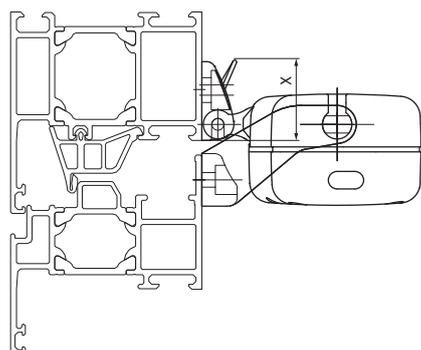
Frame material	Finish	
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	contained in the scope of delivery
	black painted (RAL 9004)	
	white painted (RAL 9016)	

KS 30/40 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	28 28 28

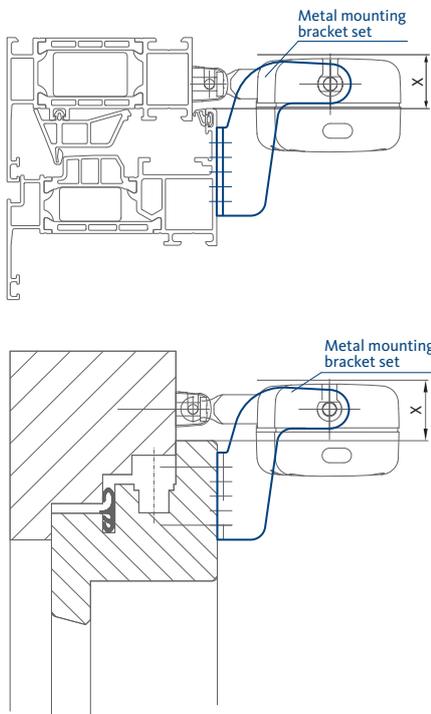
Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	400	250
300	650	350
400	900	450

Frame material	Finish	
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	contained in the scope of delivery
	black painted (RAL 9004)	
	white painted (RAL 9016)	



ELTRAL KS 30/40 chain drive

Fixing sets – surface-mounted installation



Metal mounting bracket set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	22 25 25

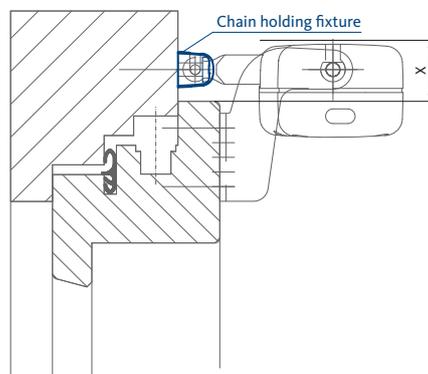
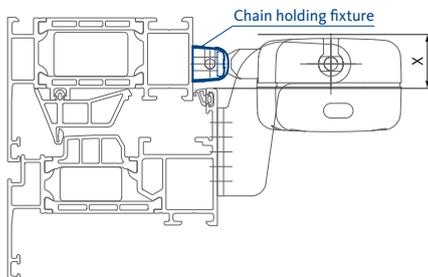
Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	400	250
300	650	350
400	900	450

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17720-00-0-1
	black painted (RAL 9004)	1	K-17720-00-0-6
	white painted (RAL 9003)	1	K-17720-00-0-7

[1] without fixing screws

ELTRAL KS 30/40 chain drive

Fixing sets – surface-mounted installation

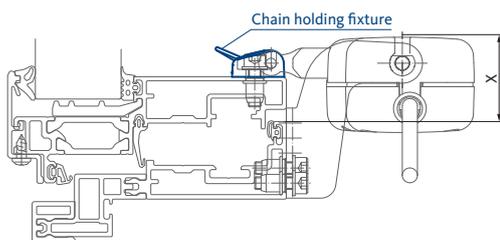


Chain holding fixture

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	22 25 25

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	400	250
300	650	350
400	900	450

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17441-00-0-1
	black painted (RAL 9004)	1	K-17441-00-0-6
	white painted (RAL 9003)	1	K-17441-00-0-7



Chain holding fixture

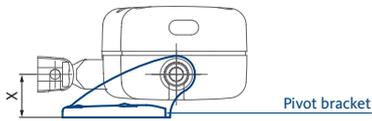
Technical data	
Opening type	Projecting Top-Hung window
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	36 36 36

Travel [mm]	Sash height min. for FI [mm]
200	250
300	350
400	450

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	9-44272-00-0-1
	black painted (RAL 9004)	1	9-44272-00-0-6
	white painted (RAL 9003)	1	9-44272-00-0-7

ELTRAL KS 30/40 chain drive

Fixing sets – surface-mounted installation

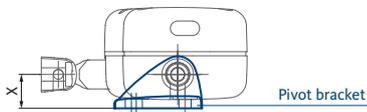


Pivot bracket for installation on reveal

Technical data	
Opening type	Top-Hung window
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	17.5 17.5 17.5

Travel [mm]	Sash height min. for FI [mm]
200	600
300	1100
400	1500

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17440-00-0-1
	black painted (RAL 9004)	1	K-17440-00-0-6
	white painted (RAL 9003)	1	K-17440-00-0-7



Pivot bracket

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Space requirement X min. Aluminium Timber PVC [mm]	14 14 14

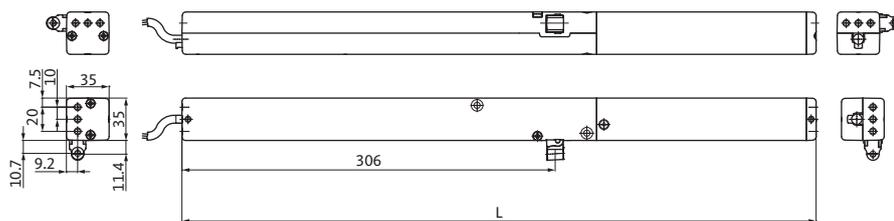
Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17735-00-0-1
	black painted (RAL 9004)	1	K-17735-00-0-6
	white painted (RAL 9003)	1	K-17735-00-0-7

[1] without fixing screws

ELTRAL K35 chain drive



- Tested and certified in accordance with EN 12101-2
- Small dimensions
- The integrated microprocessor control unit
 - ensures automatic end and overload cut-off regardless of the overlap thicknesses
 - enables automatic seal relief
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for small sash heights from 200 mm
- Travel adjustment in 3 stages:
 - 300 mm to 200 mm or 100 mm
 - 500 mm to 400 mm or 300 mm
 - 800 mm to 700 mm or 600 mm
- Painted aluminium housing
- Optional: covers for surface-mounted installation



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.9
Breaking current [A]	1.2
Material of connecting cable	Silicone halogen-free

Travel [mm]	Push force [N]	Runtime [s]
100	350	11
200	350	21
300	350	31
400	200	42
500	100	52
600	50	63
700	50	73
800	50	83

ELTRAL K35 chain drive



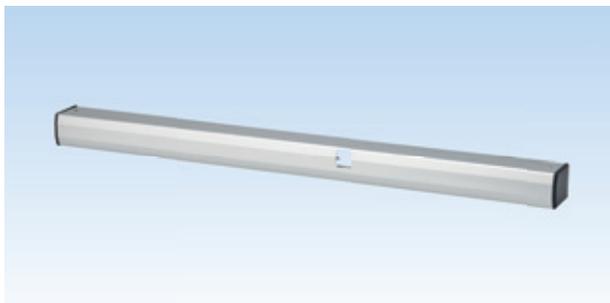
Model	Consists of	Travel max. [mm]	Length [mm]	Length of connecting cable [m]	Type of connecting cable [mm ²]	Finish	PU	Order number
ELTRAL K35 Solo	1 chain drive	300	520	2	3 x 0.5	black (RAL 9005)	1	K-18159-30-0-0
		500	611	2	3 x 0.5	black (RAL 9005)	1	K-18159-50-0-0
		800	765	2	3 x 0.5	black (RAL 9005)	1	K-18159-80-0-0
		300	520	5	3 x 0.5	black (RAL 9005)	1	K-18159-30-5-0
		500	611	5	3 x 0.5	black (RAL 9005)	1	K-18159-50-5-0
		800	765	5	3 x 0.5	black (RAL 9005)	1	K-18159-80-5-0
ELTRAL K35 Synchro	2 chain drives	300	520	2.5	5 x 0.5	black (RAL 9005)	1	K-18160-30-0-0
		500	611	2.5	5 x 0.5	black (RAL 9005)	1	K-18160-50-0-0
		800	765	2.5	5 x 0.5	black (RAL 9005)	1	K-18160-80-0-0
ELTRAL K35 Solo with VAN	1 chain drive 1 locking drive	300	520	2	3 x 0.5	black (RAL 9005)	1	K-18193-30-0-0
		500	611	2	3 x 0.5	black (RAL 9005)	1	K-18193-50-0-0
		800	765	2	3 x 0.5	black (RAL 9005)	1	K-18193-80-0-0
ELTRAL K35 Synchro with VAN	2 chain drives 1 locking drive	300	520	2.5	5 x 0.5	black (RAL 9005)	1	K-18194-30-0-0
		500	611	2.5	5 x 0.5	black (RAL 9005)	1	K-18194-50-0-0
		800	765	2.5	5 x 0.5	black (RAL 9005)	1	K-18194-80-0-0

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special cable lengths on request
- Special colours on request
- Covers must be ordered separately (see following pages)
- Fixing sets must be ordered separately (see following pages)
- Appropriate power supply units for voltage supply and control must be ordered separately (see page 235)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 174/175)

ELTRAL K35 chain drive

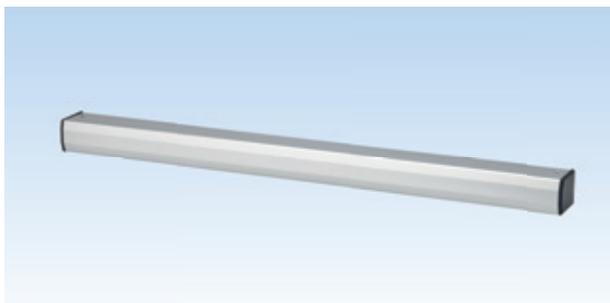
Covers



ELTRAL K35 cover

Technical data	
Version	for installation on frame (FI), inward

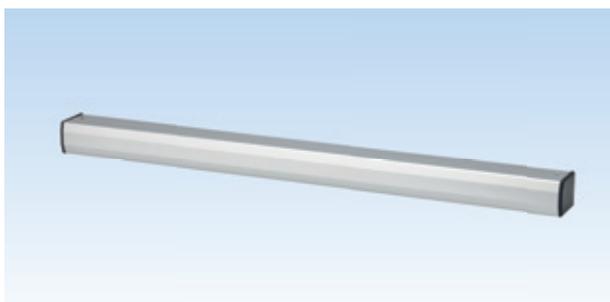
Travel max. [mm]	Finish	PU	Order number
300	EV1, silver	1	K-18323-30-0-1
	white (RAL 9016)	1	K-18323-30-0-7
500	EV1, silver	1	K-18323-50-0-1
	white (RAL 9016)	1	K-18323-50-0-7
800	EV1, silver	1	K-18323-80-0-1
	white (RAL 9016)	1	K-18323-80-0-7



ELTRAL K35 cover

Technical data	
Version	for installation on sash (SI), inward for installation on frame (FI), outward

Travel max. [mm]	Finish	PU	Order number
300	EV1, silver	1	K-18324-30-0-1
	white (RAL 9016)	1	K-18324-30-0-7
500	EV1, silver	1	K-18324-50-0-1
	white (RAL 9016)	1	K-18324-50-0-7
800	EV1, silver	1	K-18324-80-0-1
	white (RAL 9016)	1	K-18324-80-0-7



ELTRAL K35 cover

Technical data	
Version	for special lengths and Synchro applications
Length [mm]	2000

Finish	PU	Order number
EV1, silver	1	K-18325-02-0-1
white (RAL 9016)	1	K-18325-02-0-7

Note

- Lengths exceeding 2000 mm on request

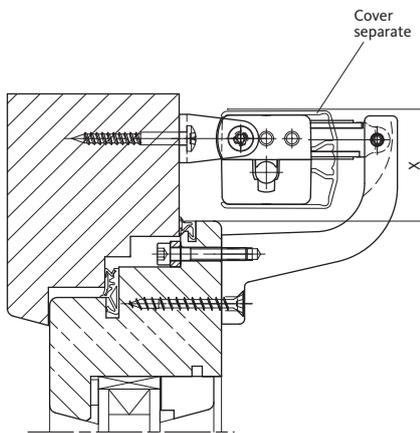
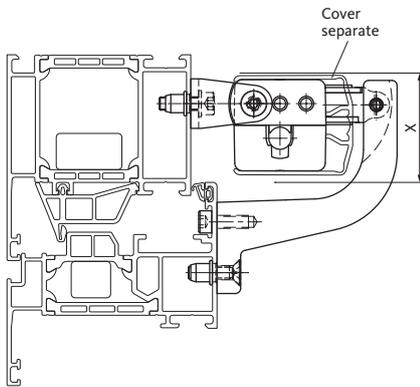
Side cover cap

Technical data	
Version	for special lengths / as spare part

Finish	PU	Order number
black	1	9-46487-00-0-6

ELTRAL K35 chain drive

Fixing sets – surface-mounted installation



K35 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward

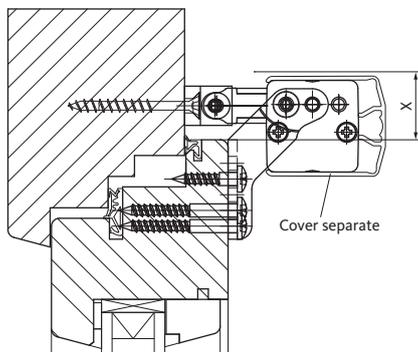
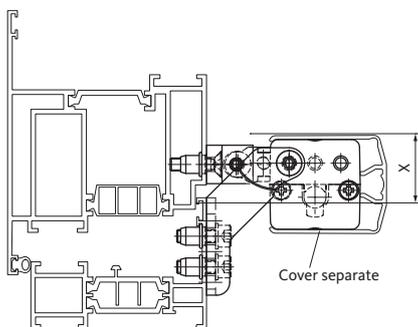
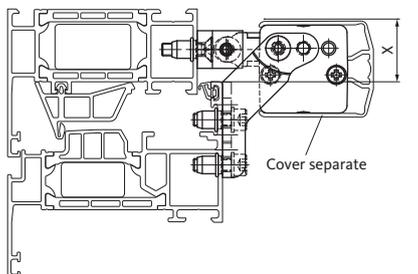
Travel [mm]	Sash height min. for FI [mm]
100	200
200	200
300	350
400	500
500	650
600	850
700	1000
800	1200

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	Finish	PU	Order number
Aluminium ^[1]	42 - -	silver painted (RAL 7047)	1	K-18205-00-0-1
		white painted (RAL 9016)	1	K-18205-00-0-7
Timber PVC ^[2]	- 44 44	silver painted (RAL 7047)	1	K-18439-00-0-1
		white painted (RAL 9016)	1	K-18439-00-0-7

[1] with fixing screws | [2] without fixing screws

ELTRAL K35 chain drive

Fixing sets – surface-mounted installation



K35 fixing set

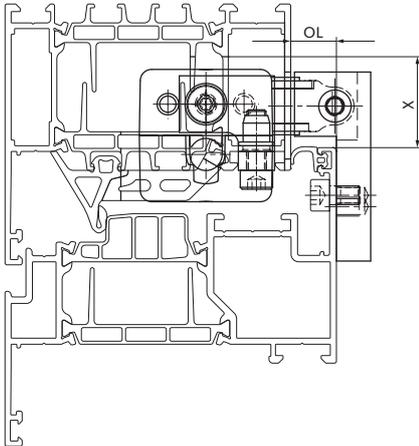
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	27 ^[3] 26 26

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
100	350	350
200	350	350
300	500	450
400	700	550
500	900	700
600	1100	900
700	1300	1000
800	1500	1100

Frame material	Finish	PU	Order number
Aluminium ^[1] Timber ^[2] PVC ^[2]	silver painted (RAL 7047)	1	K-18204-00-0-1
	white painted (RAL 9016)	1	K-18204-00-0-7

ELTRAL K35 chain drive

Fixing sets – concealed installation



K35 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Chain holding fixture	surface-mounted
Space requirement X min. Aluminium Timber PVC [mm]	24 - -

Travel [mm]	Sash height min. for FI [mm]
100	550
200	550
300	650
400	850
500	1100
600	1300
700	1450
800	1600

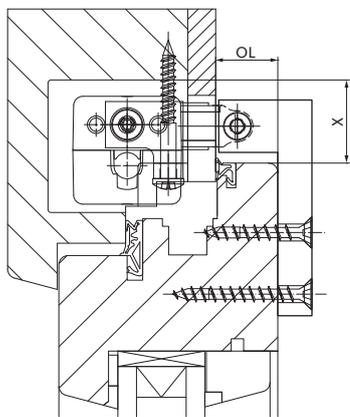
Frame material	Overlap OL [mm]	Finish	PU	Order number
Aluminium ^[1]	7.5-9	silver painted (RAL 7047)	1	K-18218-00-0-1
		white painted (RAL 9016)	1	K-18218-00-0-7
	10-11	silver painted (RAL 7047)	1	K-18217-00-0-1
		white painted (RAL 9016)	1	K-18217-00-0-7
	12	silver painted (RAL 7047)	1	K-18219-00-0-1
		white painted (RAL 9016)	1	K-18219-00-0-7

[1] with fixing screws | [2] without fixing screws

[3] space requirement X min. = 25 mm for aluminium Bottom-Hung windows and 27 mm for aluminium Top-Hung windows

ELTRAL K35 chain drive

Fixing sets – concealed installation



K35 fixing set

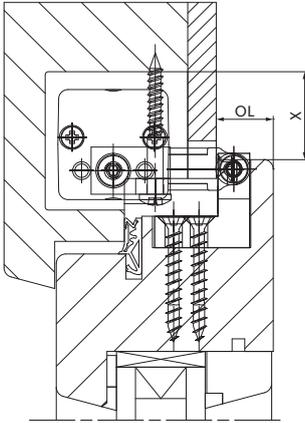
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Chain holding fixture	surface-mounted
Overlap OL [mm]	15-20
Space requirement X min. Aluminium Timber PVC [mm]	- 27 -

Travel [mm]	Sash height min. for FI [mm]
100	300
200	300
300	400
400	550
500	700
600	900
700	1100
800	1200

Frame material	Finish	PU	Order number
Timber ^[1]	silver painted (RAL 7047)	1	K-18418-00-0-1
	white painted (RAL 9016)	1	K-18418-00-0-7

ELTRAL K35 chain drive

Fixing sets – concealed installation



K35 fixing set

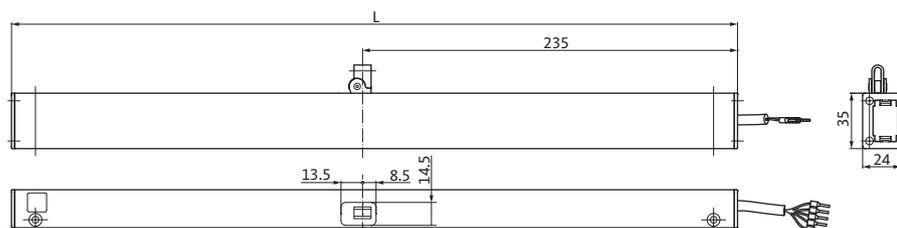
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Chain holding fixture	concealed
Overlap OL [mm]	18
Space requirement X min. Aluminium Timber PVC [mm]	- 27 -
Finish	silver painted (RAL 7047)

Travel [mm]	Sash height min. for FI [mm]
100	500
200	500
300	700
400	900
500	1100
600	1300
700	1500
800	1700

Frame material	PU	Order number
Timber ^[1]	1	K-18512-00-0-1

[1] Without fixing screws

ELTRAL K40 chain drive



- High tensile and compressive forces from 400 N in spite of minimum dimensions
- Ideally suitable for profile-integrated, concealed installation
- Tested and certified in accordance with EN 12101-2
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications with and without locking drives
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Chain of high-quality stainless steel without projecting rivet heads enables:
 - Large opening-angle even with low sash heights from 200 mm
 - Direct installation on frame without side mounting brackets
- With checkback signal end position OFF (max. 24 V, 500 mA)
- Anodised aluminium housing

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.9
Breaking current [A]	1.2
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	2
Type of connecting cable [mm ²]	5 x 0.5

Travel [mm]	Push force [N]	Runtime [s]
200	400	25
300	400	37
400	300	50
500	200	42
600	100	50
800	50	59

ELTRAL K40 chain drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL K40	1 chain drive	200	455	EV1, silver	1	K-19759-20-0-1
		300	551	EV1, silver	1	K-19759-30-0-1
		400	551	EV1, silver	1	K-19759-40-0-1
		500	665	EV1, silver	1	K-19759-50-0-1
		600	665	EV1, silver	1	K-19759-60-0-1
		800	755	EV1, silver	1	K-19759-80-0-1

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Fixing sets must be ordered separately (see following pages)
- Special colours on request
- Universal connector for multiple operation, cable connection to be provided by customer and cable extension must be ordered separately (see page 45)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 174/175)

Synchronised multiple operation

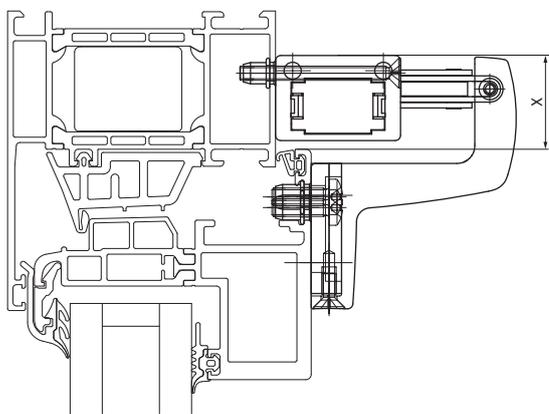
- The following combinations can be achieved in multiple operation with the main component m-com Click (connector version) K-19758
- The main control element m-com (mounted board) K-19757 is used for applications with a locking drive

Application range	Chain drive K40 / 24 V	Locking drives			Main control element		Fixing set K40
		VA25	VA35	OA m-com	m-com	m-com Click	
	K-19759	K-19943	K-19944	K-19937	K-19757	K-19758	
K40 Solo	1	-	-	-	-	-	1
K40 Synchro	2	-	-	-	-	1	2
K40 Triple	3	-	-	-	-	1	3
K40 Quattro	4	-	-	-	-	1	4
K40 Solo with VA25	1	1	-	-	1	-	1
K40 Synchro with VA25	2	1	-	-	1	-	2
K40 Solo with VA35	1	-	1	-	1	-	1
K40 Synchro with VA35	2	-	1	-	1	-	2
K40 Solo with OA	1	-	-	1	1	-	1
K40 Synchro with OA	2	-	-	1	1	-	2
max.	4	2					

- The main control element must be ordered separately. See page 110 for detailed information on m-com and m-com Click

ELTRAL K40 chain drive

Fixing sets – surface-mounted installation

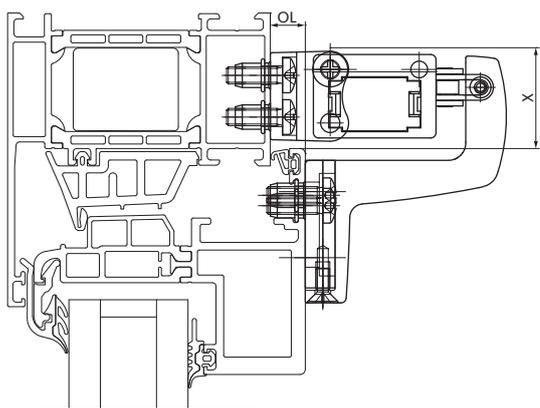


K40 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	direct surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	27 27 27
Finish	silver

Travel [mm]	Sash height min. for FI [mm]
200	425
300	475
400	500
500	600
600	800
800	1200

Frame material	PU	Order number
Aluminium ^[1] Timber ^[2] PVC ^[2]	1	K-19761-00-0-1



K40 fixing set

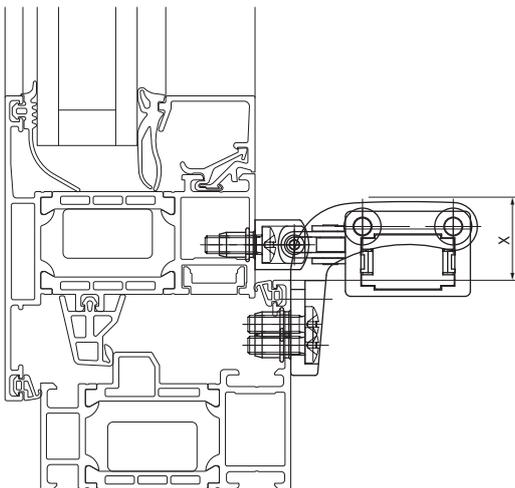
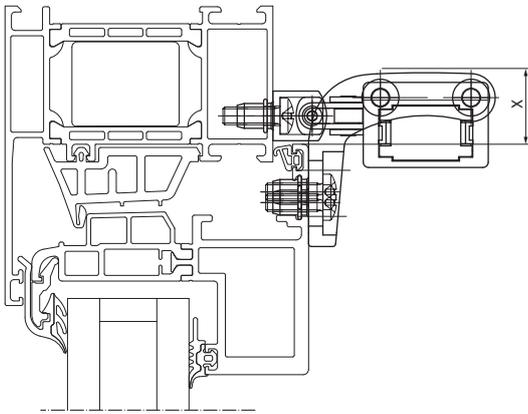
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Installation on frame, pivotable (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Overlap OL [mm]	5
Space requirement X min. Aluminium Timber PVC [mm]	28 28 28
Finish	silver

Travel [mm]	Sash height min. for FI [mm]
200	200
300	250
400	350
500	400
600	500
800	700

Frame material	PU	Order number
Aluminium ^[1] Timber ^[2] PVC ^[2]	1	K-19762-00-0-1

ELTRAL K40 chain drive

Fixing sets – surface-mounted installation



K40 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	22 22 22
Finish	silver

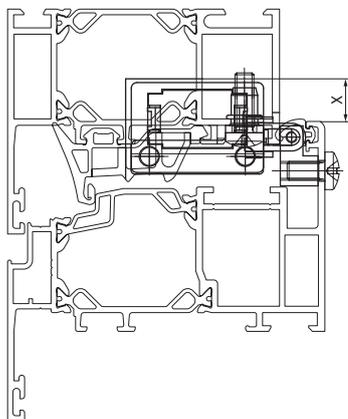
Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	350	350
300	350	350
400	400	400
500	500	500
600	600	600
800	800	800

Frame material	PU	Order number
Aluminium ^[1] Timber ^[2] PVC ^[2]	1	K-19760-00-0-1

[1] with fixing screws | [2] without fixing screws

ELTRAL K40 chain drive

Fixing sets – concealed installation

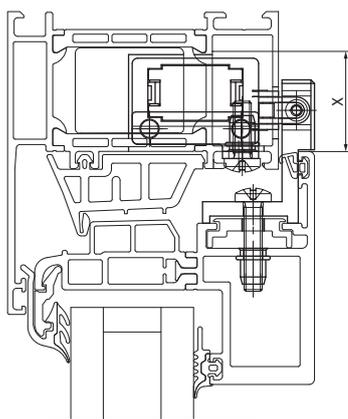


K40 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	12 - -
Finish	silver

Travel [mm]	Sash height min. for FI [mm]
200	425
300	475
400	500
500	600
600	800
800	1200

Frame material	PU	Order number
Aluminium ^[1]	1	K-19778-00-0-1



K40 fixing set

Technical data	
Opening type	Bottom-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	28 - -
Finish	silver

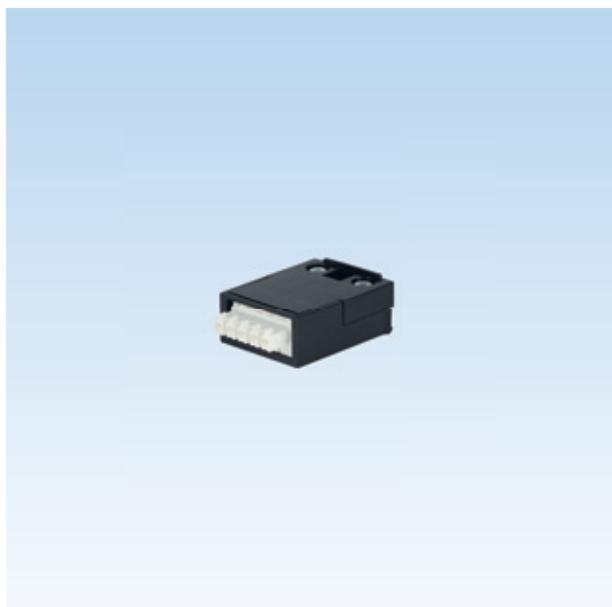
Travel [mm]	Sash height min. for FI [mm]
200	425
300	475
400	500
500	600
600	800
800	1200

Frame material	PU	Order number
Aluminium ^[1]	1	K-19763-00-0-1

[1] with fixing screws

ELTRAL K40 chain drive

Universal connector



24 V universal connector

Technical data	
Use	for multiple operation, cable connection to be provided by customer and cable extension

	PU	Order number
	1	6-39672-00-0-0

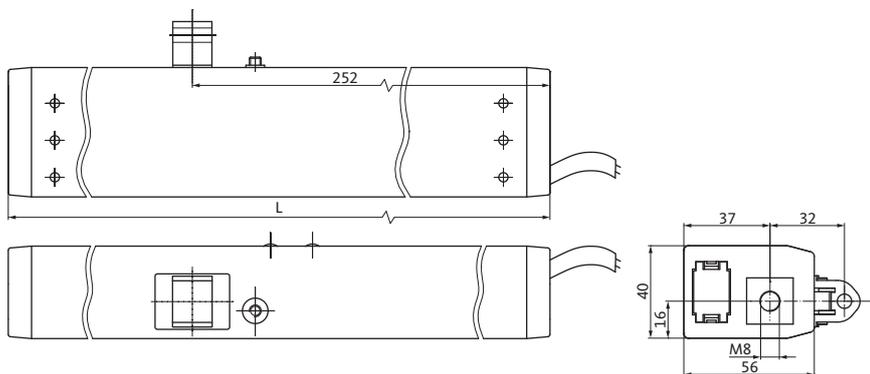
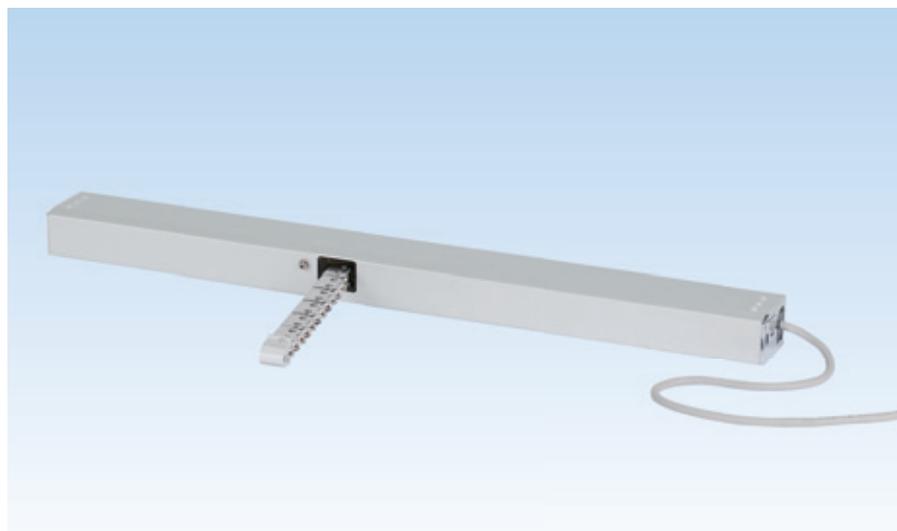


UNI-S 24 universal connector in special cable lengths

Technical data	
Use	for multiple operation, cable connection to be provided by customer and cable extension

Length [m]	PU	Order number
3	1	6-39673-03-0-0
5	1	6-39673-05-0-0
10	1	6-39673-10-0-0

ELTRAL K60 chain drive



- Tested and certified in accordance with EN 12101-2
- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications with and without locking drives
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for small sash heights from 350 mm
- Plug-in cables at both ends of the drive facilitate assembly and installation expenditure (Plug-and-Play) for synchronised multiple operation
- Anodised aluminium housing

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.8
Breaking current [A]	1.2
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	5 x 0.5

Travel [mm]	Push force [N]	Runtime [s]
200	600	25
250	600	31
400	600	50
500	600	42
600	600	50
800	300	59
1000	100	74

ELTRAL K60 chain drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL K60	1 chain drive	200	515	EV1, silver	1	K-19952-20-0-1
		250	515	EV1, silver	1	K-19952-25-0-1
		400	591	EV1, silver	1	K-19952-40-0-1
		500	693	EV1, silver	1	K-19952-50-0-1
		600	693	EV1, silver	1	K-19952-60-0-1
		800	794	EV1, silver	1	K-19952-80-0-1
		1000	896	EV1, silver	1	K-19952-01-0-1

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special colours on request
- Fixing sets must be ordered separately (see following pages)
- Universal connector for multiple operation, cable connection to be provided by customer and cable extension must be ordered separately (see page 53)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 174/175)

Synchronised multiple operation

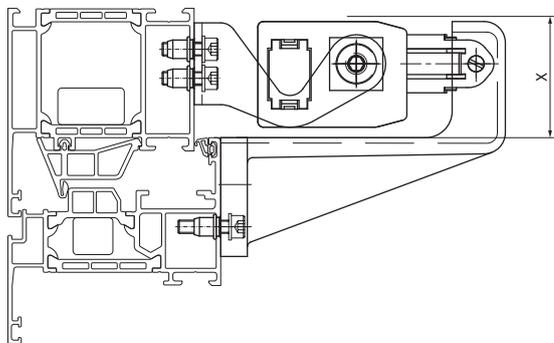
- The following combinations can be achieved in multiple operation with the main component m-com Click (connector version) K-19758
- The main control element m-com (mounted board) K-19757 is used for applications with a locking drive

Application range	Chain drive K60 / 24 V	Locking drives			Main control element		Fixing set K60
		VA25	VA35	OA m-com	m-com	m-com Click	
	K-19952	K-19943	K-19944	K-19937	K-19757	K-19758	
K60 Solo	1	-	-	-	-	-	1
K60 Synchro	2	-	-	-	-	1	2
K60 Triple	3	-	-	-	-	1	3
K60 Quattro	4	-	-	-	-	1	4
K60 Solo with VA25	1	1	-	-	1	-	1
K60 Synchro with VA25	2	1	-	-	1	-	2
K60 Solo with VA35	1	-	1	-	1	-	1
K60 Synchro with VA35	2	-	1	-	1	-	2
K60 Solo with OA	1	-	-	1	1	-	1
K60 Synchro with OA	2	-	-	1	1	-	2
max.	4		2				

- The main control element must be ordered separately. See page 110 for detailed information on m-com and m-com Click

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation

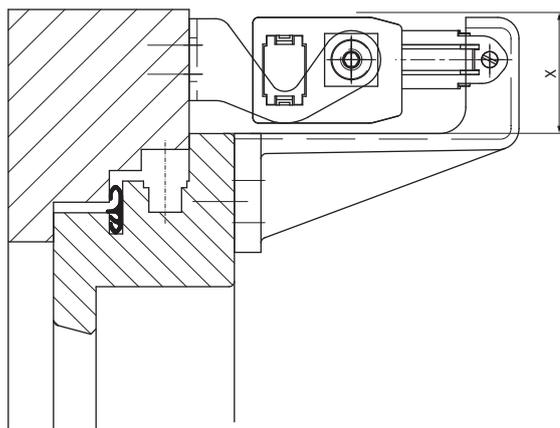


K60 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	48 - -
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	700
500	1000
600	1250
800	1800
1000	2300

Frame material	PU	Order number
Aluminium ^[1]	1	K-19935-00-0-8



K60 fixing set

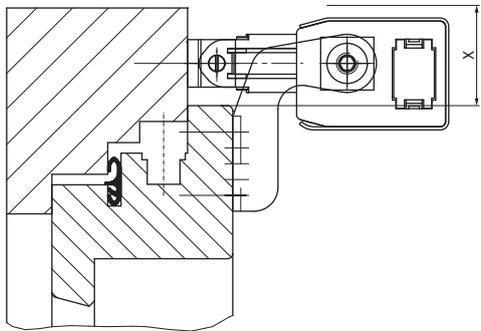
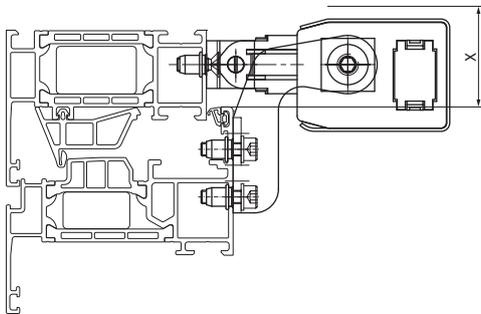
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	- 48 48
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	700
500	1000
600	1250
800	1800
1000	2300

Frame material	PU	Order number
Timber PVC ^[2]	1	K-19936-00-0-8

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation



K60 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Mounting brackets	short mounting bracket
Finish	stainless steel

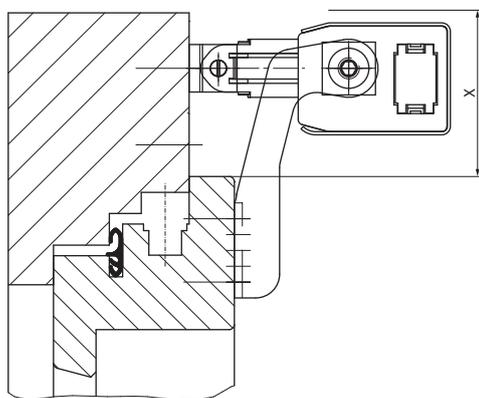
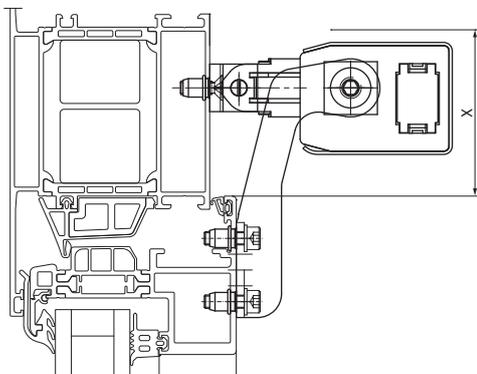
Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	450	350
250	450	350
400	750	900
500	1000	1100
600	1250	1400
800 ^[3]	1600	–
1000 ^[3]	2100	–

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	38 – –	1	K-17596-00-0-8
Timber PVC ^[2]	– 38 38	1	K-17638-00-0-8

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation

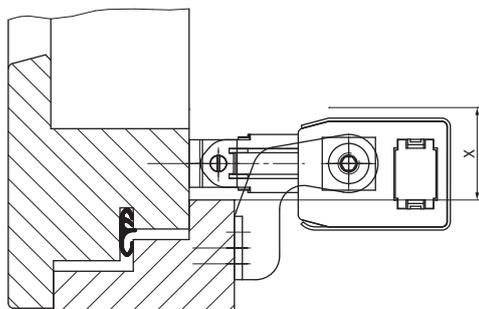
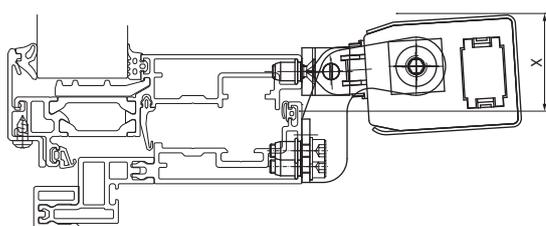


K60 fixing set

Technical data	
Opening type	Bottom-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Opening direction Bottom-Hung window	inward
Mounting brackets	long mounting bracket
Finish	stainless steel

Travel [mm]	Sash height min. for SI [mm]
200	250
250	250
400	400
500	550
600	700
800 ^[3]	900
1000 ^[3]	1200

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	63 - -	1	K-17598-00-0-8
Timber PVC ^[2]	- 63 63	1	K-17640-00-0-8



K60 fixing set

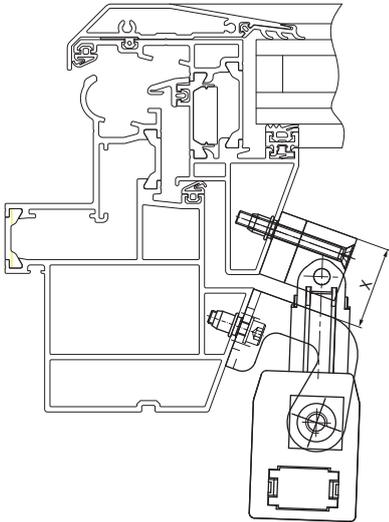
Technical data	
Opening type	Projecting Top-Hung windows
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	37 - -	1	K-17597-00-0-8
Timber ^[2]	- 35 -	1	K-17639-00-0-8

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation

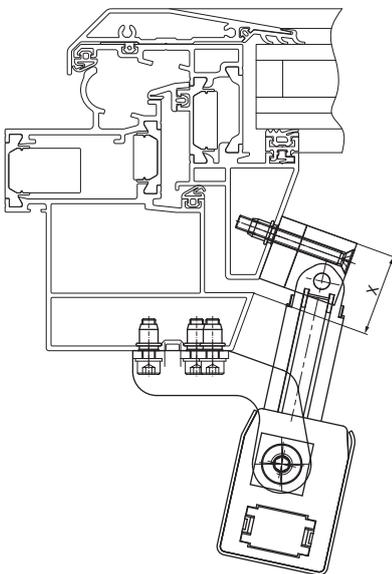


S K60 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Mounting brackets	short mounting bracket
Space requirement X min. Aluminium Timber PVC [mm]	32 - -
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-18262-00-0-8



S K60 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Mounting brackets	long mounting bracket
Space requirement X min. Aluminium Timber PVC [mm]	31 - -
Finish	stainless steel

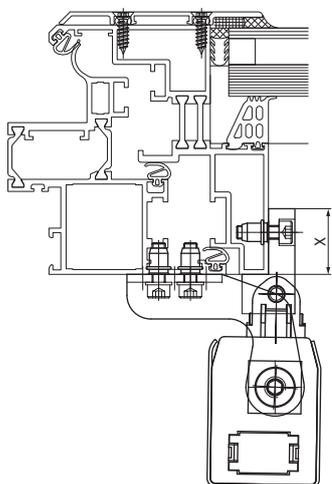
Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-18261-00-0-8

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation



W K60 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Space requirement X min. Aluminium Timber PVC [mm]	25 - -
Finish	stainless steel

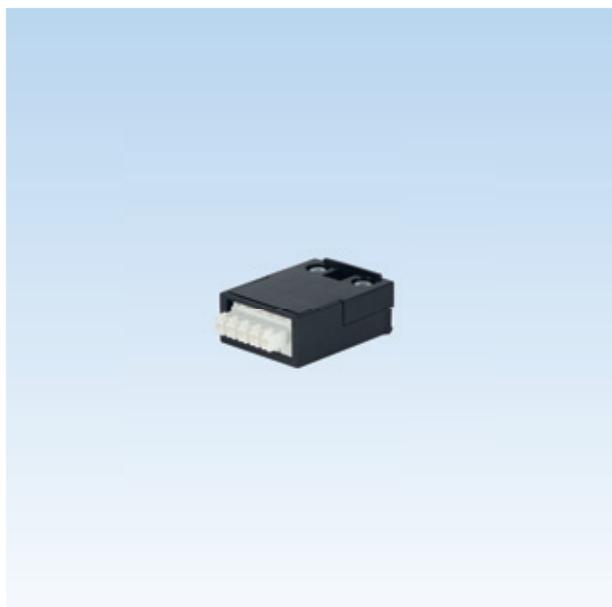
Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-17609-00-0-8

[1] with fixing screws

ELTRAL K60 chain drive

Universal connector



24 V universal connector

Technical data	
Use	for multiple operation, cable connection to be provided by customer and cable extension

	PU	Order number
	1	6-39672-00-0-0



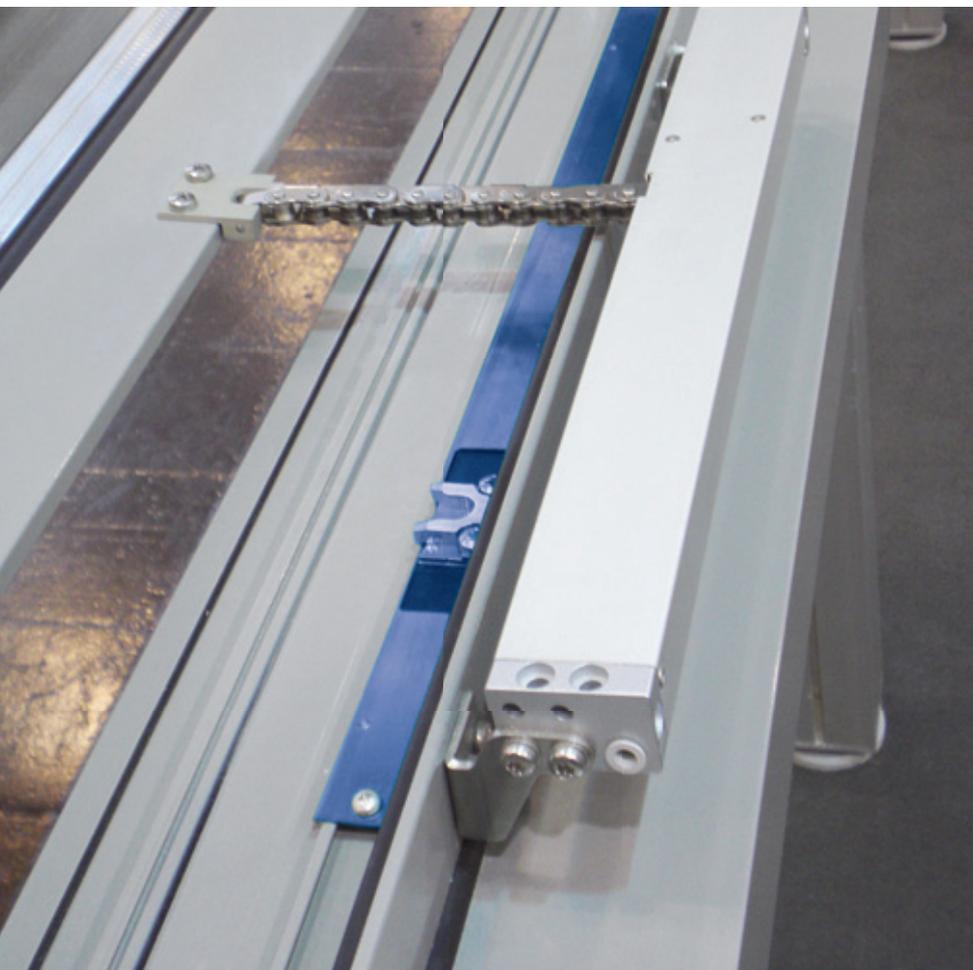
UNI-S 24 universal connector in special cable lengths

Technical data	
Use	for multiple operation, cable connection to be provided by customer and cable extension

Length [m]	PU	Order number
3	1	6-39673-03-0-0
5	1	6-39673-05-0-0
10	1	6-39673-10-0-0

Locking drives

Application ranges



When it comes to heavy window elements with large sash areas and large sash heights in particular, the drive alone is often not enough to keep the window closed.

The locking drives from the Gretsches-Unitas group offer the ideal solution for electromechanical locking and unlocking of Bottom-Hung, Top-Hung, Projecting Top-Hung, Parallel or Side-Hung windows.

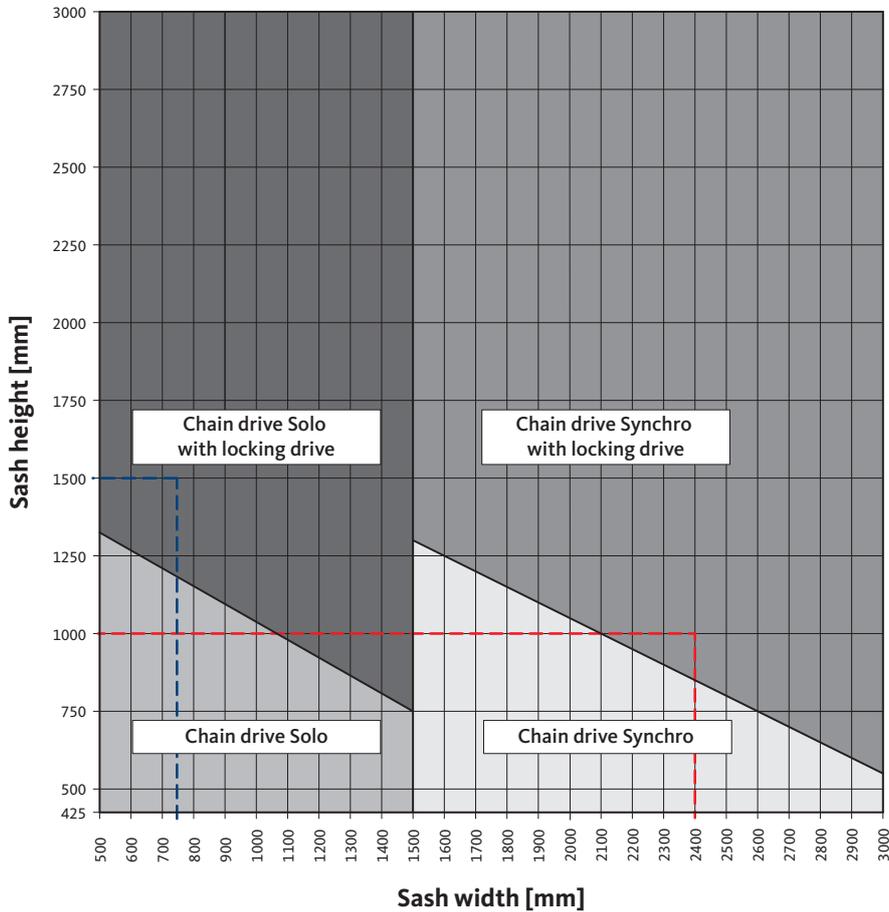
The locking is accomplished either via the interior central locking system (e.g. UNI-JET/ALU-JET) or via a surface-mounted lock. Both the tightness of the window element and the burglar protection are increased by the additional locking points.

The locking drives can be used in combination with a chain drive.

Depending on the profile system (for virtually all standard profiles) and installation situation, drives can be installed on the window or integrated in the window profile for a more sophisticated finish.

Locking drives

Application ranges



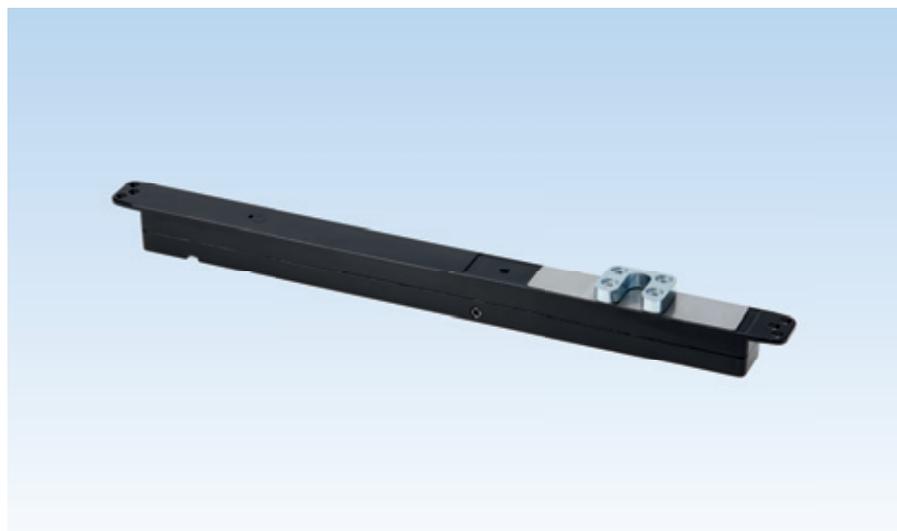
Application ranges

Determination of which drive type to use (Solo/Synchro drive, with or without locking drive) based on the sash width and sash height.

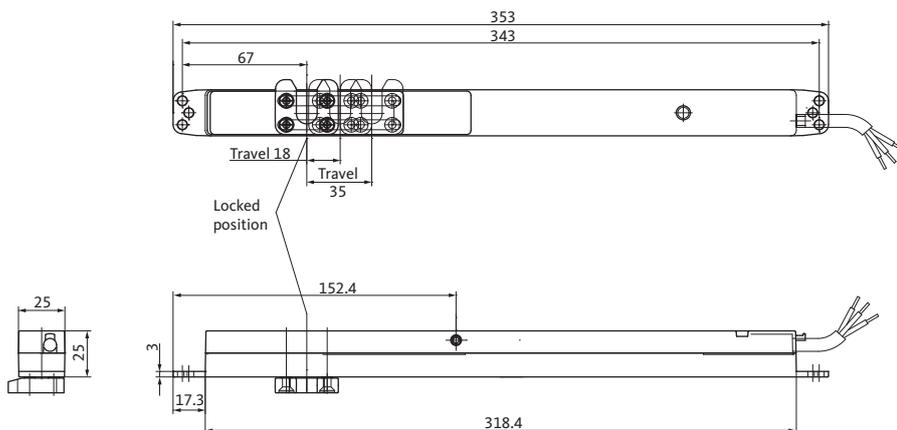
- **Example 1:**
 Bottom-Hung window with the dimensions: 750 x 1500 mm (W x H)
 A chain drive Solo with locking drive must be used
- **Example 2:**
 Bottom-Hung window with the dimensions: 2400 x 1000 mm (W x H)
 A Synchro chain drive with locking drive must be used

All values are reference values which may vary depending on the profile used and the height of the building.
 The permissible edge length and the maximum window size must be coordinated with the system provider or the window fabricator.
 The instructions of the particular profile system, hardware and glass manufacturers must be observed.
 The maximum length of unmounted profile jambs is 1500 mm.

ELTRAL VAN locking drive



- Electromotor-driven locking and unlocking by means of the internal central locking system
- Tested and certified in accordance with EN 12101-2
- Compact size
- The integrated microprocessor control ensures the
 - automatic end and overload cut-off
 - closing sequence control
- High break-away force
- Emergency unlocking for opening the central locking system
- Stroke adjustment: 18 mm or 35 mm



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1.5
Breaking current [A]	1.5
Nominal force [N]	600
Locking force [N]	850
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	2
Type of connecting cable [mm ²]	3 x 0.75

Travel [mm]	Runtime [s]
18	3
35	6

ELTRAL VAN locking drive



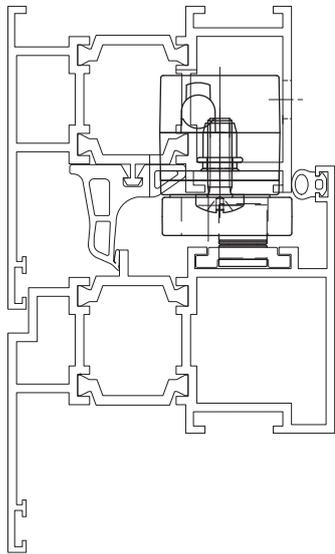
Model	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL VAN	35	353	black	1	K-17990-00-0-6

Note

- Can only be used in combination with the 24-V chain drives ELTRAL K30, KS 30/40 and K35

ELTRAL VAN locking drive

Fixing sets – concealed installation



VAN fixing set

Technical data		
Opening type	Bottom-Hung window Top-Hung window	
Type of installation	concealed	
Required space min. [mm]	26	
Finish	silver	
Frame material	PU	Order number
Aluminium ^[1] Timber ^[2]	1	K-18522-00-0-0

[1] with fixing screws | [2] without fixing screws

ELTRAL VAN locking drive

Accessories



Emergency unlocking pin

	PU	Order number
	1	9-46215-00-0-0

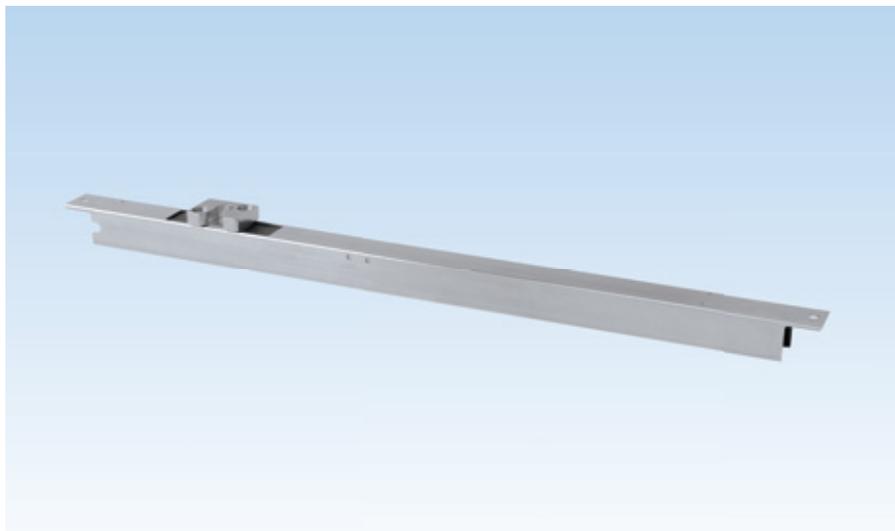
Dummy plug for emergency unlocking bore

Finish	PU	Order number
black	1	9-45806-00-0-6

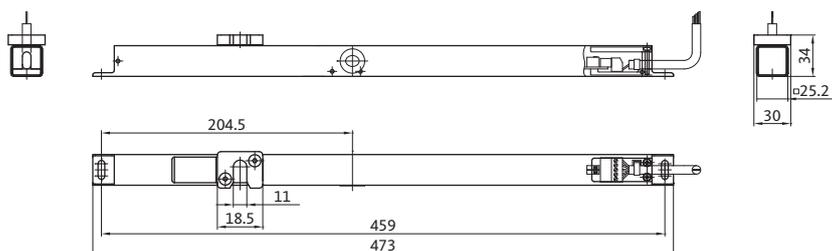
Cable sleeve

Finish	PU	Order number
black	1	9-45397-00-0-6

ELTRAL VA25 locking drive



- Electromotor-driven locking and unlocking by means of the internal central locking system
- Tested and certified in accordance with EN 12101-2
- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures closing sequence control
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications in combination with a chain drive ELTRAL K25, K40 or K60
- Emergency unlocking for opening the central locking system
- Adjustable running direction
- Stroke adjustment: 17 mm or 36 mm



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.6
Breaking current [A]	0.8
Nominal force [N]	600
Locking force [N]	1000
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	3 x 0.5

Travel [mm]	Runtime [s]
17	9
36	19

ELTRAL VA25 locking drive



Model	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL VA25	36	473	stainless steel	1	K-19943-00-0-8

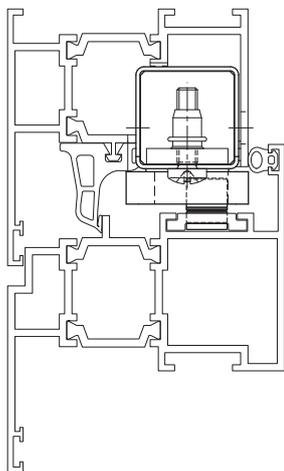
Synchronised multiple operation

- In combination with the main control element m-com (mounted board) K-19757, the locking drive ELTRAL VA25 can be combined with the chain drives ELTRAL K25, K40 and K60

See page 110 for detailed information on m-com

ELTRAL VA25 locking drive

Fixing sets – concealed installation



VA25 fixing set

Technical data		
Opening type	Bottom-Hung window Top-Hung window	
Type of installation	concealed	
Required space min. [mm]	26	
Finish	silver	
Frame material	PU	Order number
Aluminium Timber ^[2]	1	K-18124-00-0-1

[1] with fixing screws | [2] without fixing screws

ELTRAL VA25 locking drive

Accessories



Connector sets for timber profiles

	PU	Order number
	1	K-18047-00-0-8

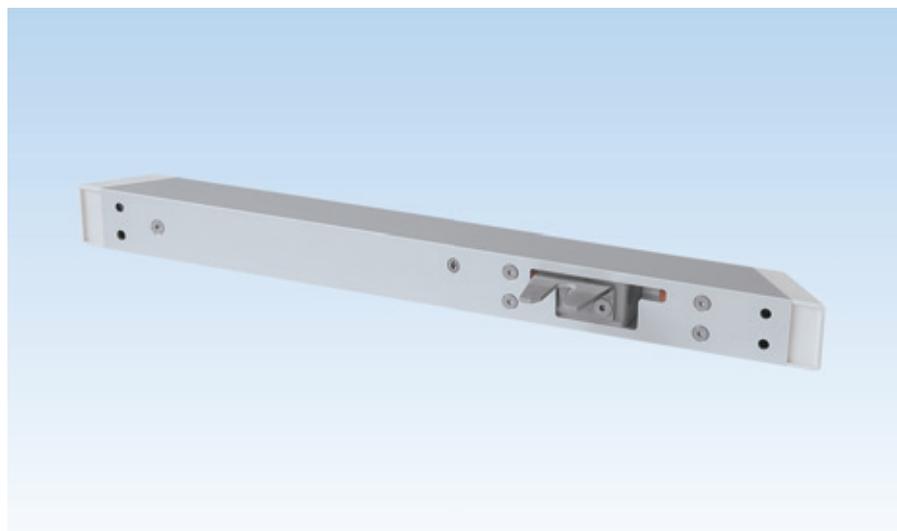
Dummy plug for emergency unlocking bore

Finish	PU	Order number
black	1	9-45806-00-0-6

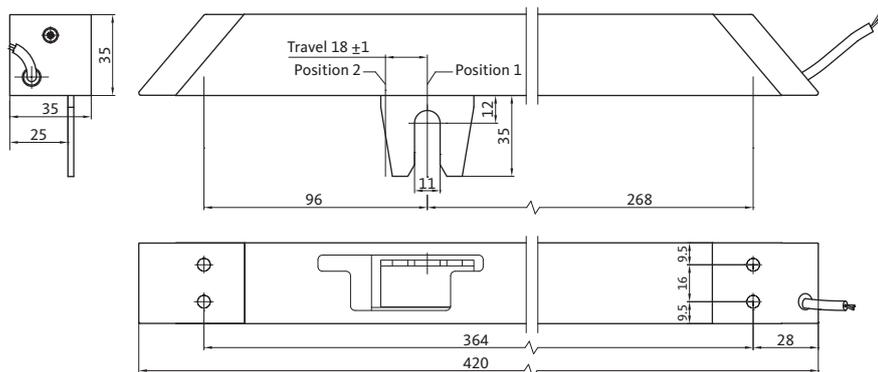
Cable sleeve

Finish	PU	Order number
black	1	9-45397-00-0-6

ELTRAL VA35 locking drive



- For electromechanical locking and unlocking via the central locking system
- Tested and certified in accordance with EN 12101-2
- Surface-mounted installation
- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures closing sequence control
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications in combination with a chain drive K25, K40 or K60
- Anodised aluminium housing



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.6
Breaking current [A]	0.8
Nominal force [N]	600
Locking force [N]	1000
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	3 x 0.5
Travel [mm]	Runtime [s]
18	4

ELTRAL VA35 locking drive



Model	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL VA35	18	420	EV1, silver	1	K-19944-00-0-1

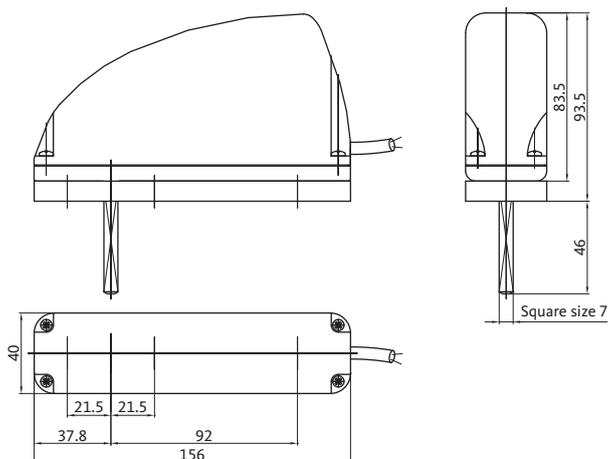
Synchronised multiple operation

- In combination with the main control element m-com (mounted board) K-19757, the ELTRAL VA35 can be combined with the chain drives ELTRAL K25, K40 and K60
See page 110 for detailed information on m-com

ELTRAL OA m-com square-spindle drive



- For locking and unlocking using the window hardware
- Tested and certified in accordance with EN 12101-2
- Surface-mounted installation on the sash
- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures closing sequence control
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications in combination with a chain drive K25, K40 or K60
- Opening-angle adjustable via DIP switch: 90° / 180°
- Selectable opening direction (left or right)



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.8
Breaking current [A]	1.1
Opening torque [Nm]	10
Retention torque [Nm]	22
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	3 x 0.5

Opening angle [°]	Runtime [s]
90	5
180	9

ELTRAL OA m-com square-spindle drive



Model	Opening-angle max. [°]	Length [mm]	Finish	PU	Order number
ELTRAL OA m-com	180	156	light grey	1	K-19937-00-0-0

Note

- Cropping of square spindle according to profile to be provided by customer
- Opening-angle preset from factory to 90°

Synchronised multiple operation

- In combination with the main control element m-com (mounted board) K-19757, the square-spindle drive ELTRAL OA m-com can be combined with the chain drives ELTRAL K25, K40 and K60

See page 110 for detailed information on m-com

Spindle drives

Application ranges



The spindle drives from the Gretsch-Unitas group are perfectly suited to opening and closing large and heavy skylights or facade openings.

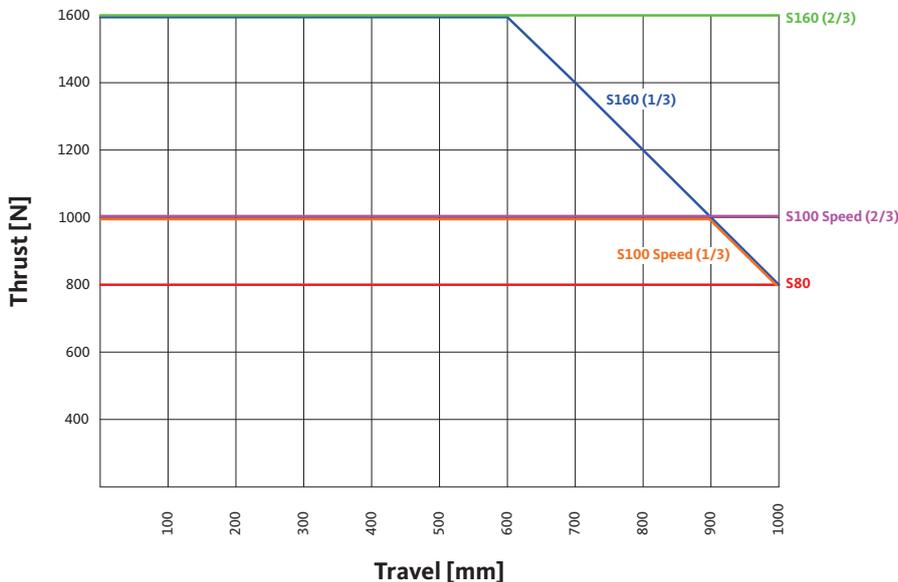
Regardless of whether the drives are used in shopping centres, theatre foyers, airport terminals or conservatories – in the event of a fire they ensure fast and natural smoke exhaust. In everyday life, the drives provide a healthy and agreeable room climate through automatic air supply and ventilation.

They are particularly important for operating heavy skylights and light domes, where strong push forces are required together with large opening widths. A further benefit lies in the high protection class and therefore weather-resistant application.

For very wide and heavy skylights, the intelligent, integrated technology also enables synchronous control of up to eight spindle drives.

Spindle drives

Application ranges



Thrust diagram

Determination of the necessary spindle drive depending on the travel, the bracket grip and depending on the calculated opening and closing force (Annex 2, page 341+342).

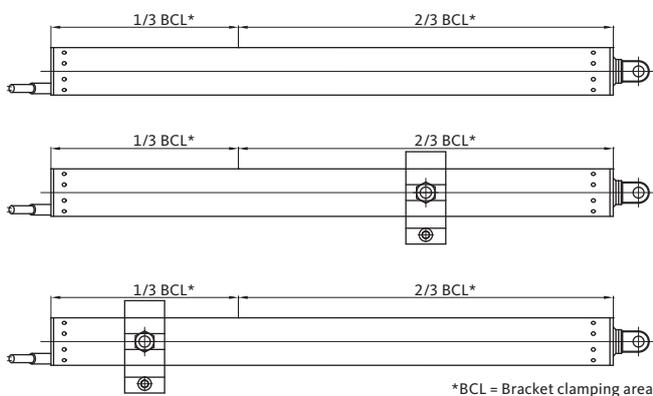
- ELTRAL S80
- ELTRAL S100 Speed (rear mounting)
- ELTRAL S100 Speed (front mounting)
- ELTRAL S160 (rear mounting)
- ELTRAL S160 (front mounting)

All values are reference values which may vary depending on the profile used and the height of the building.

The permissible edge length and the maximum window size must be coordinated with the system provider or the window fabricator.

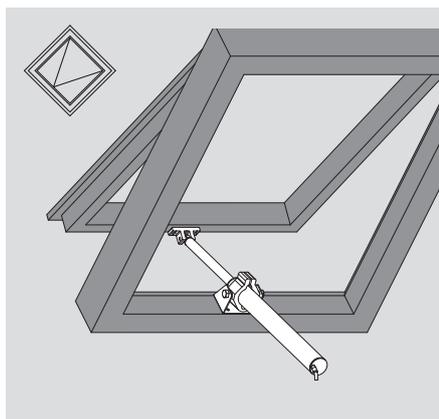
The instructions of the particular profile system, hardware and glass manufacturers must be observed.

The maximum length of unmounted profile jabs is 1500 mm.

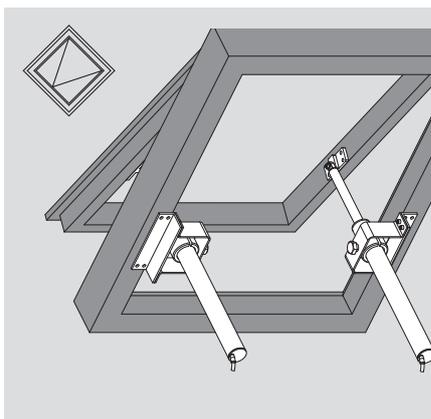


Front mounting / rear mounting

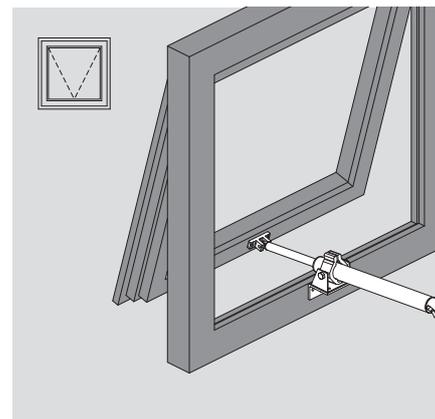
The most common stop variants



Skylight, installation of main closing edge

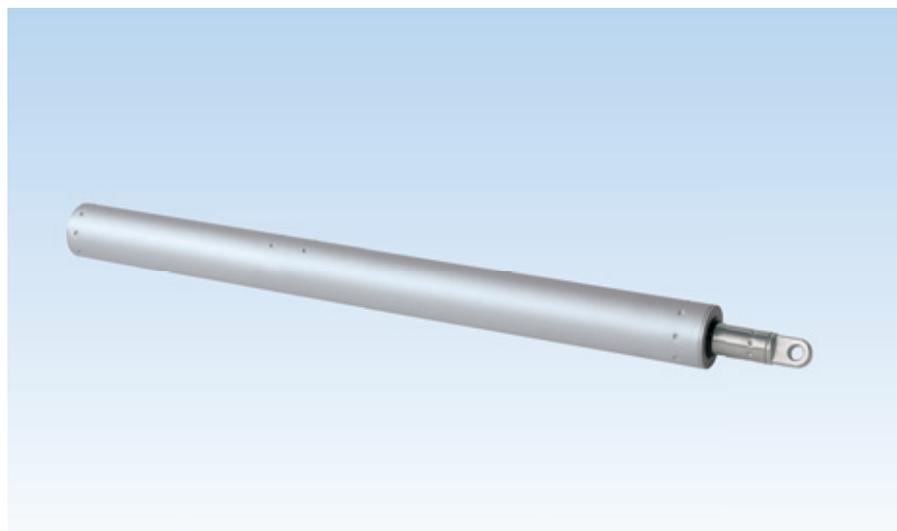


Skylight, installation of secondary closing edge

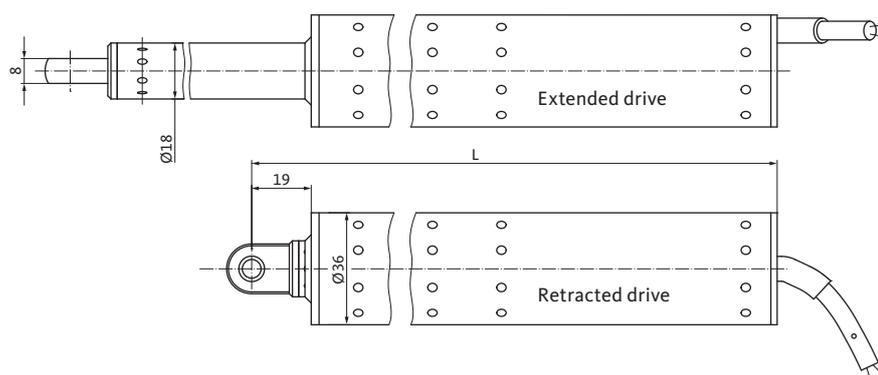


Top-Hung window, outward-opening

ELTRAL S80 spindle drive



- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications
- Stainless steel thrust tube
- Fire tested up to 300 °C
- Anodised aluminium housing



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1
Breaking current [A]	1.4
Pull force [N]	800
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	3 x 1.0

Travel [mm]	Push force [N]	Runtime [s]
300	800	30
500	800	50

ELTRAL S80 spindle drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL S80	1 spindle drive	300	642	EV1, silver	1	K-20004-30-0-1
		500	842	EV1, silver	1	K-20004-50-0-1

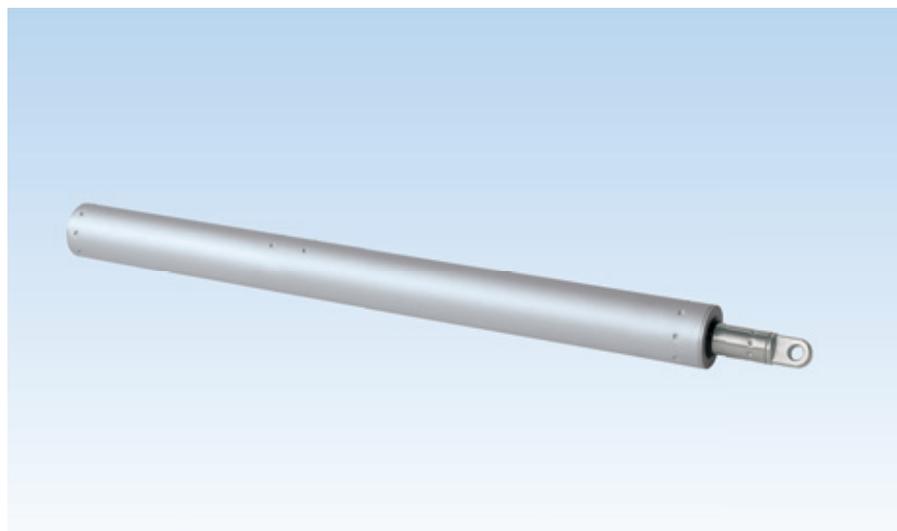
Note

- Fixing sets must be ordered separately (see following pages)

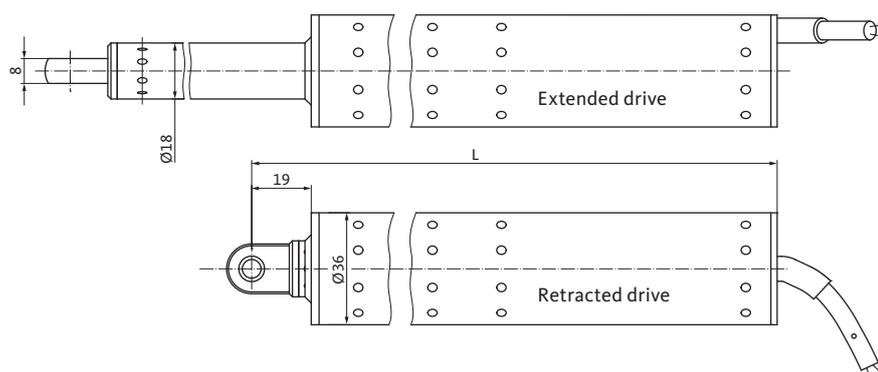
Synchronised multiple operation

- A synchronised multiple operation of e.g. two spindle drives ELTRAL S80 is achieved in combination with the main control element m-com (mounted board) K-19757
See page 110 for detailed information on m-com

ELTRAL S100 Speed spindle drive



- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications
- Stainless steel thrust tube
- Fire tested up to 300 °C
- Anodised aluminium housing



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1.9
Breaking current [A]	2.5
Pull force [N]	1000
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	3 x 1.0

Travel [mm]	Push force [N]	Runtime [s]
750	1000	59
1000	1000	79

ELTRAL S100 Speed spindle drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL S100 Speed	1 spindle drive	750	1092	EV1, silver	1	K-20005-75-0-1
		1000	1342	EV1, silver	1	K-20005-01-0-1

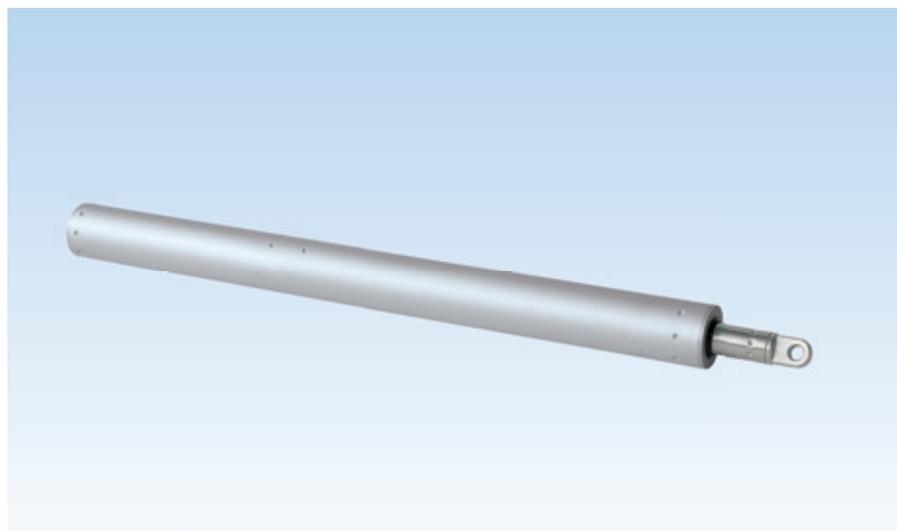
Note

- Fixing sets must be ordered separately (see following pages)

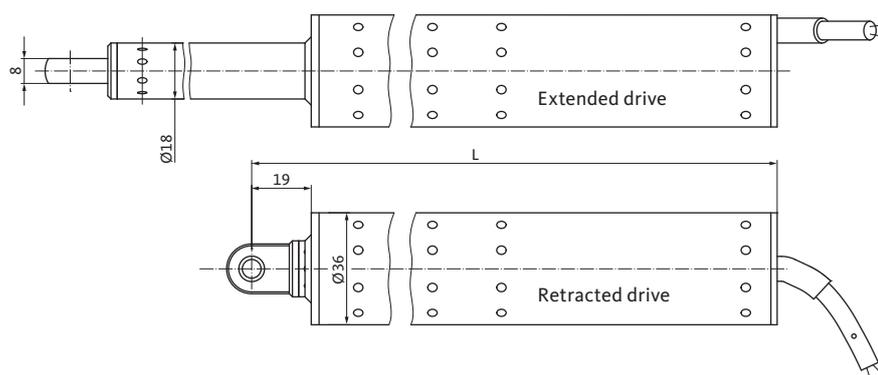
Synchronised multiple operation

- A synchronised multiple operation of e.g. two spindle drives ELTRAL S100 Speed is achieved in combination with the main control element m-com (mounted board) K-19757
See page 110 for detailed information on m-com

ELTRAL S160 spindle drive



- Compact size
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications
- Stainless steel thrust tube
- Fire tested up to 300 °C
- Anodised aluminium housing



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1.9
Breaking current [A]	2.5
Pull force [N]	1600
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	3 x 1.0

Travel [mm]	Push force [N]	Runtime [s]
300	1600	43
500	1600	72
750	1600	107
1000	1600	143

ELTRAL S160 spindle drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL S160	1 spindle drive	300	642	EV1, silver	1	K-20006-30-0-1
		500	842	EV1, silver	1	K-20006-50-0-1
		750	1092	EV1, silver	1	K-20006-75-0-1
		1000	1342	EV1, silver	1	K-20006-01-0-1

Note

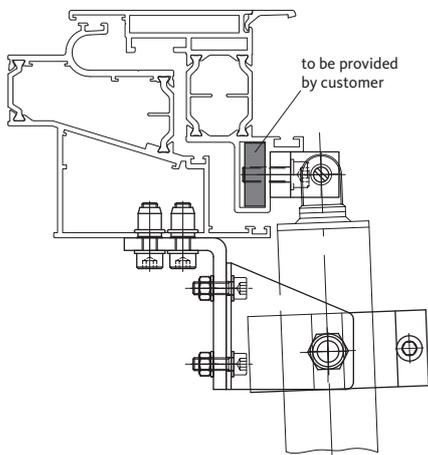
- Fixing sets must be ordered separately (see following pages)

Synchronised multiple operation

- A synchronised multiple operation of e.g. two spindle drives ELTRAL S160 is achieved in combination with the main control element m-com (mounted board) K-19757
See page 110 for detailed information on m-com

ELTRAL S80 / S100 Speed / S160 spindle drives

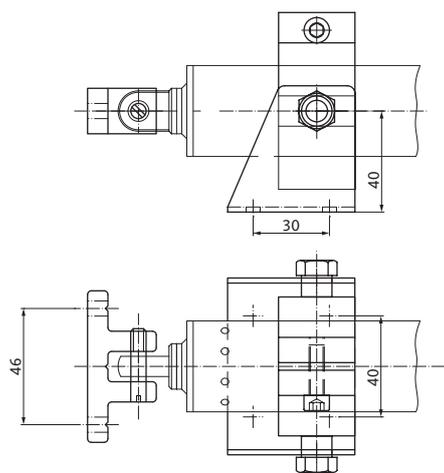
Fixing sets – surface-mounted installation



W S80 / S100 Speed / S160 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Required space min. [mm]	51
Finish	EV1, silver

Frame material	PU	Order number
Aluminium	1	K-17765-00-0-1



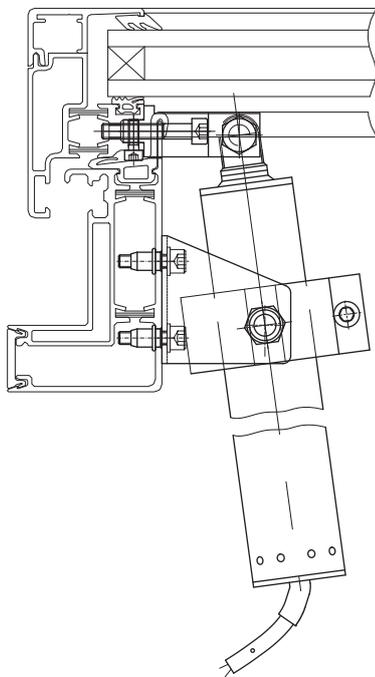
S80 / S100 Speed / S160 fixing set general

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Required space min. [mm]	50
Finish	EV1, silver

Frame material	PU	Order number
Aluminium Timber	1	K-17766-00-0-1

ELTRAL S80 / S100 Speed / S160 spindle drives

Fixing sets – surface-mounted installation



RS S80 / S100 Speed / S160 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Required space min. [mm]	50
Finish	EV1, silver

Frame material	PU	Order number
Aluminium ^[1]	1	K-18164-00-0-1

[1] without fixing screws

SHEV opening systems

System overviews



With their combined drive and locking unit, SHEV opening systems from the Gretsch-Unitas group are the ideal solution wherever there is little space on the frame side.

They automatically open and close vertically installed, inward opening Bottom-Hung, Top-Hung and Side-Hung windows everywhere where large opening widths are to be achieved with minimum travel.

The spindle drives are closely positioned on the window profile instead of projecting into the room.

The combined locking via the additional locking points increases both the tightness of the window element and the burglar protection.

The systems can also be used in synchronous mode for large and heavy window elements.

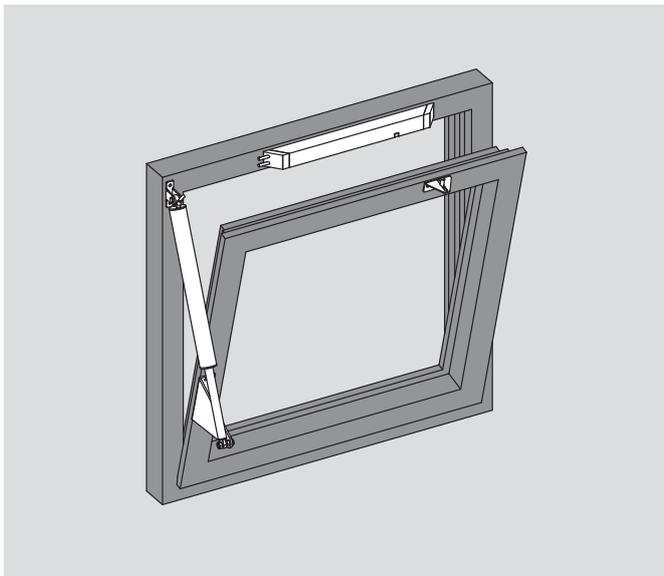
Each system consists of a drive, fixing set and electromechanical sash locking.

SHEV opening systems

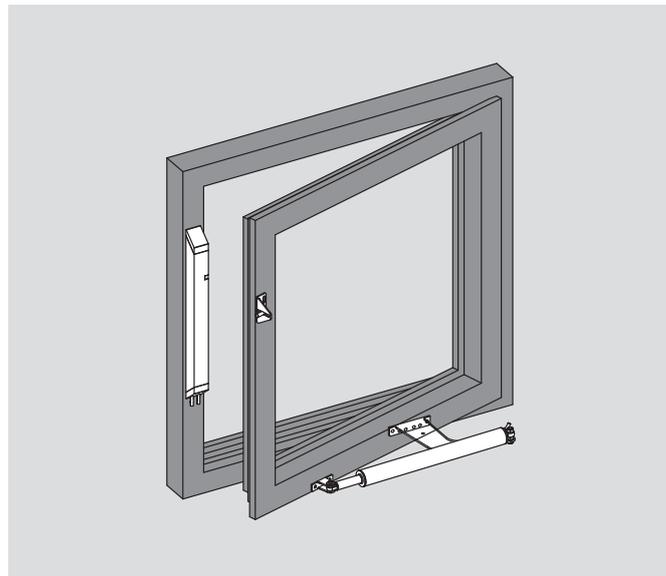
System overviews



System overviews



SHEV 1000 opening system



SHEV 1050 opening system

Technical data overview

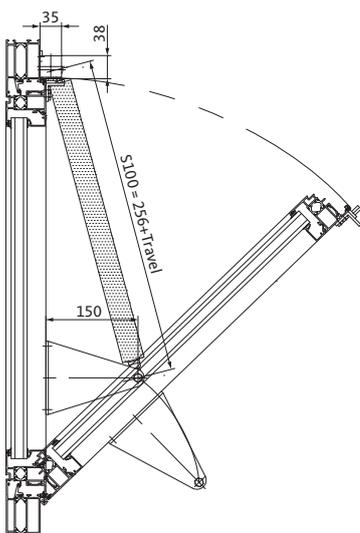
Opening system	Main application area	Sash widths [mm]		Sash heights [mm]		Opening angle
		Solo	Synchro	Solo	Synchro	
SHEV 1000	Bottom-Hung, Top-Hung and Side-Hung windows, inward-opening	450-1200	1201-2400	600-2000 ^[1]	600-2000 ^[1]	13°-56° ^[2]
SHEV 1050	Side-Hung windows, inward-opening	510-740 ^{[3][4]}	510-740 ^{[3][4]}	450-1500	1501-2000/3000 ^[5]	35°-85° ^[3]

[1] according to travel | [2] according to travel, sash height and attachment dimensions X | [3] according to travel and attachment dimensions X | [4] the minimum sash width is dependent on the profile used | [5] with square-spindle drive OA or locking drive ELTRAL VA35

SHEV 1000 opening system

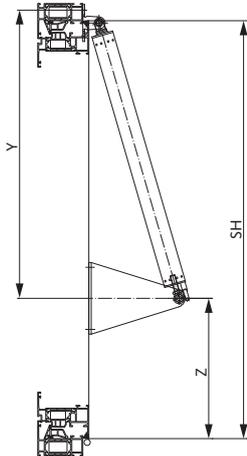


- Large opening widths with small travel distances even for small-height sashes
- Profile adjoining spindle drive ELTRAL S100
- Electromechanical sash locking 1 or 2 times via surface-mounted locking drive ELTRAL VA-1 / VA-2
- Integral closing and opening sequence control
- Synchronised tandem operation
- Automatic limit stop and overload cut-off
- Tested and approved in accordance with EN 12101-2 (aluminium systems only)
- Anodised aluminium housing



Technical data spindle drive ELTRAL S100	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.6
Breaking current [A]	0.8
Pull force [N]	1000
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	2 x 0.75

SHEV 1000 opening system



Sash heights (drive side)

Travel [mm]	Sash height SH min. [mm]	Sash height SH max. [mm]	Opening-angle max. [°]	Dim. Y [mm]	Dim. Z [mm]	Runtime [s]
100	550	600	24	377	190	43
	600	700	22	377	235	43
200	700	750	43	483	235	82
	750	810	40	483	270	82
300	810	900	37	483	300	82
	900	960	55	586	300	120
	960	1100	48	586	370	120
	1100	1290	43	586	430	120
	1290	1470	40	586	490	120
	1470	1740	35	586	580	120
	1740	2000	32	586	670	120

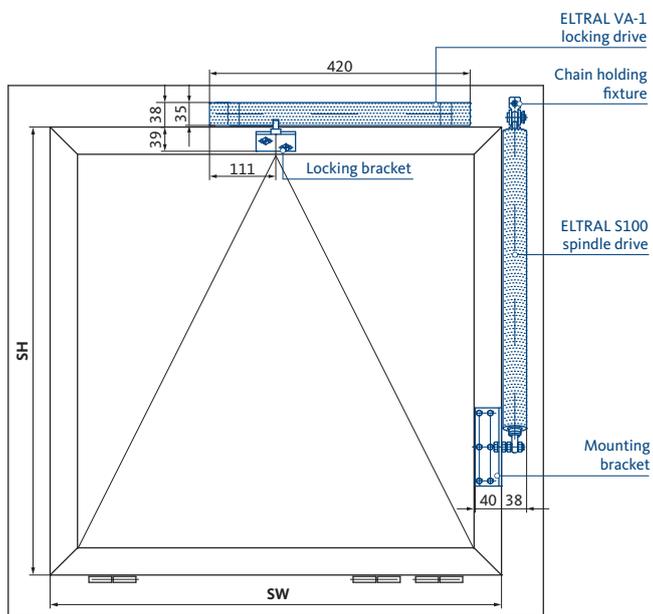
Sash widths (locking side)

Profile type	Sash width SW [mm]		
	1-point locking with VA-1		2-point locking with VA-2
	Solo (S100)	Synchro (S100)	
Timber	450-1200	-	1201-2400
Aluminium	450-1200	-	1201-2400
PVC	450-800	801-1200	1201-1800

Minimum space requirement

Drive/locking side			Required space min. [mm]
Drive side	ELTRAL S100	Frame	38
Locking side	ELTRAL VA-1 / VA-2	Frame	38
Mounting bracket	-	Sash	40

SHEV 1000 Solo opening system



SHEV 1000 Solo opening system with VA-1 locking drive

Consists of

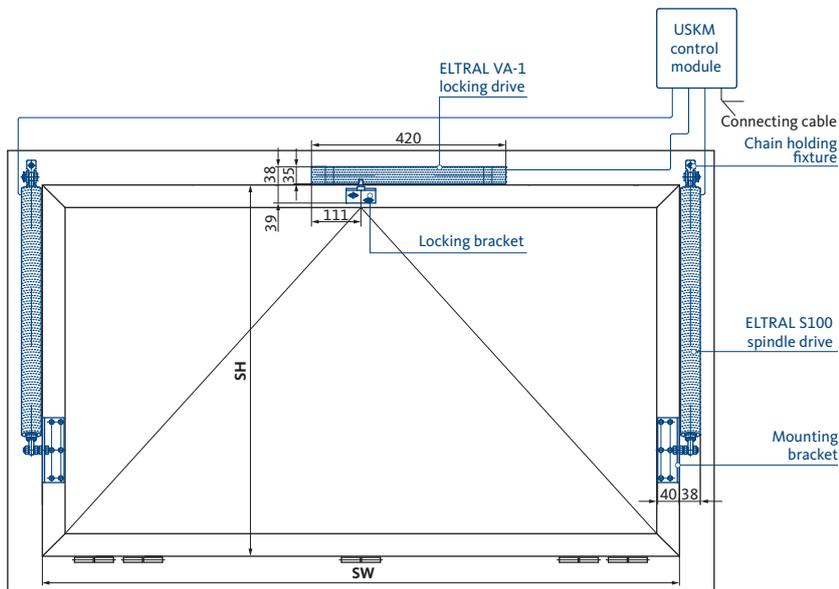
- 1 spindle drive
- 1 locking drive
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17585-10-0-1
200	1	K-17585-20-0-1
300	1	K-17585-30-0-1

Note

- The mounting bracket set Standard 9-39105 is included in the scope of delivery (see page 90)
- The locking force is dependent on fixation
- 2 hinges must always be used on the drive side

SHEV 1000 Synchro opening system

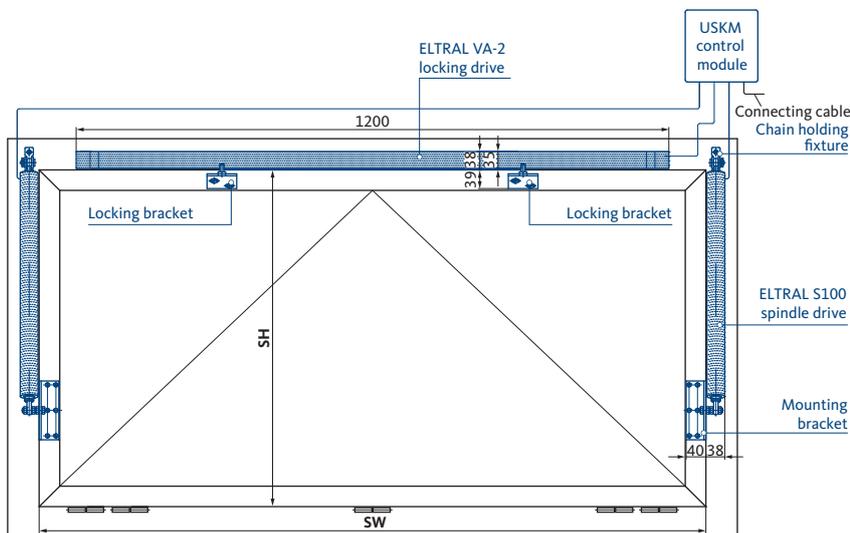


SHEV 1000 Synchro opening system with VA-1 locking drive

Consists of

- 2 spindle drives
- 1 locking drive
- 1 USKM control module
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17588-10-0-1
200	1	K-17588-20-0-1
300	1	K-17588-30-0-1



SHEV 1000 Synchro opening system with VA-2 locking drive

Consists of

- 2 spindle drives
- 1 locking drive
- 1 USKM control module
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17587-10-0-1
200	1	K-17587-20-0-1
300	1	K-17587-30-0-1

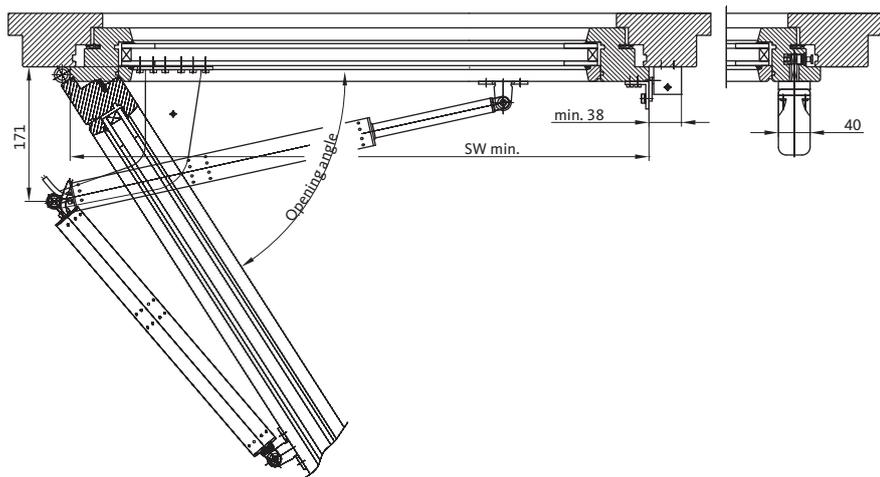
Note

- The mounting bracket set Standard 9-39105 is included in the scope of delivery (see page 90)
- The locking force is dependent on fixation
- 2 hinges must always be used on the drive side

SHEV 1050 opening system

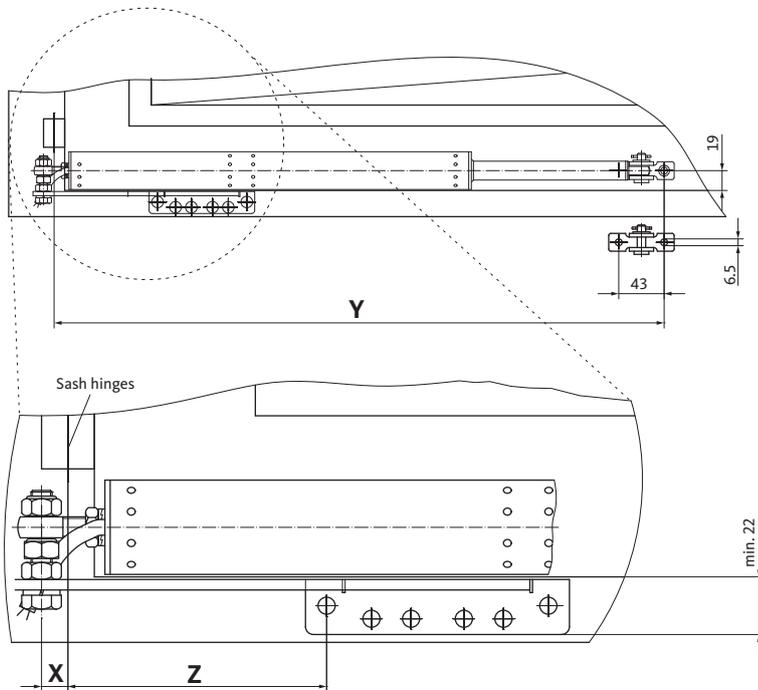


- Large opening widths up to 85°
- Ideally suited for windows offering limited mounting space: only 22 mm needed on the frame side
- Profile adjoining spindle drive ELTRAL S60
- Electromechanical sash locking
 - with square-spindle drive via the central locking system
 - 1 or 2 times via surface-mounted locking drive VA-1 / VA-2
- Integral closing and opening sequence control
- Synchronised tandem operation
- Tested and approved in accordance with EN 12101-2 (aluminium systems only)
- Anodised aluminium housing



Technical data spindle drive ELTRAL S60	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.6
Breaking current [A]	0.8
Pull force [N]	600
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	2 x 0.75

SHEV 1050 opening system



Minimum sash width

Travel [mm]	Sash width SW min. [mm]	Opening-angle max. [°]	Attachment dimensions X [mm]	Dim. Y [mm]	Dim. Z [mm]	Runtime [s]
100	510	37	0	483	108	22
150	600	57	20	566	88	31
200	680	80	40	649	68	40
250	740	92	80	710	28	48

Maximum sash height

Version	Locked status	Locking drive	Sash height max. [mm]
Solo (S60)	1-point locking	ELTRAL OA, ELTRAL VA-1	1500
Synchro (S60)	2-point locking	ELTRAL OA, ELTRAL VA-2	2000
Synchro (S60)	3-point locking	ELTRAL OA, ELTRAL VA-3	3000

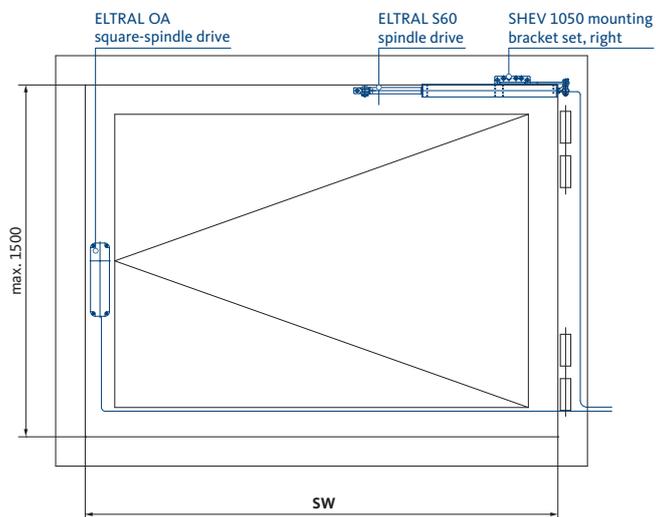
Note

- The maximum sash width is dependent on the profile used
- The locking force is dependent on fixation

Minimum space requirement

Drive/locking side			Required space min. [mm]
Drive side	ELTRAL S60	Frame	22
Locking side	ELTRAL OA	Sash	40
Locking side	ELTRAL VA-1 / VA-2 / VA-3	Frame	38

SHEV 1050 Solo opening system

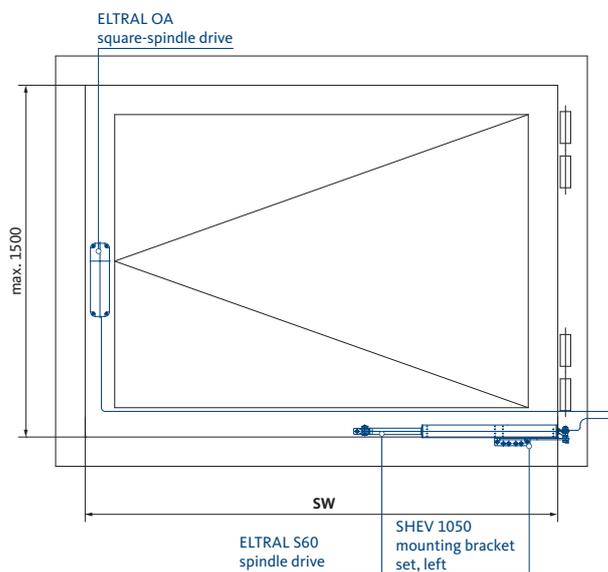


SHEV 1050 Solo opening system with square-spindle drive and mounting bracket right

Consists of

- 1 spindle drive
- 1 square spindle drive
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17799-10-R-1
150	1	K-17799-15-R-1
200	1	K-17799-20-R-1
250	1	K-17799-25-R-1



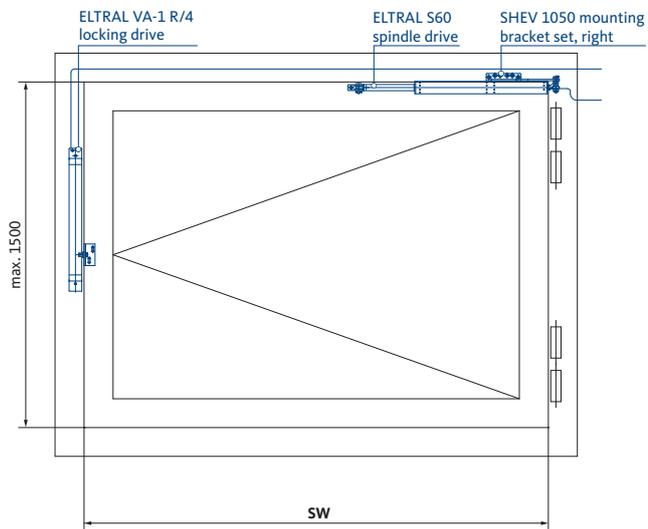
SHEV 1050 Solo opening system with square-spindle drive and mounting bracket left

Consists of

- 1 spindle drive
- 1 square spindle drive
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17799-10-L-1
150	1	K-17799-15-L-1
200	1	K-17799-20-L-1
250	1	K-17799-25-L-1

SHEV 1050 Solo opening system

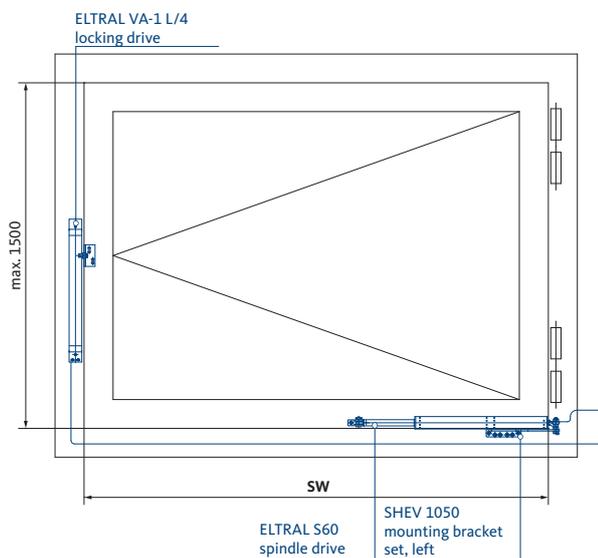


SHEV 1050 Solo opening system with locking drive VA-1 R/4 and mounting bracket right

Consists of

- 1 spindle drive
- 1 locking drive
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17801-10-R-1
150	1	K-17801-15-R-1
200	1	K-17801-20-R-1
250	1	K-17801-25-R-1



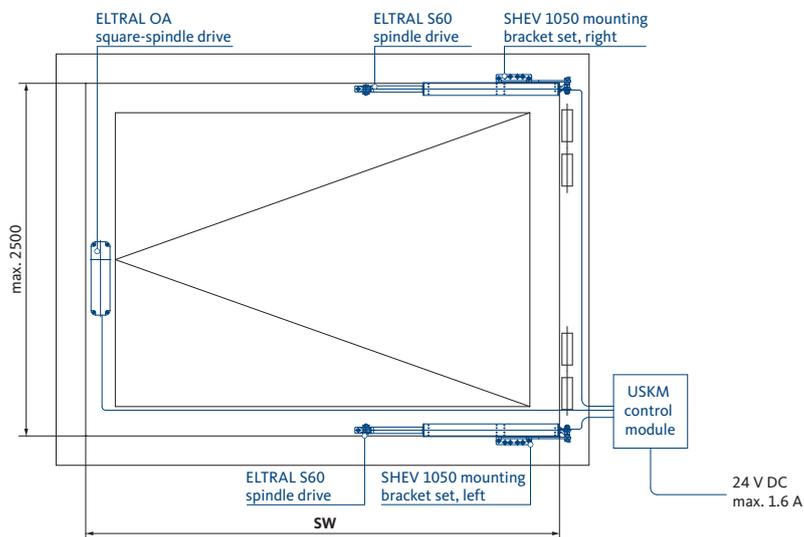
SHEV 1050 Solo opening system with locking drive VA-1 L/4 and mounting bracket left

Consists of

- 1 spindle drive
- 1 locking drive
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17801-10-L-1
150	1	K-17801-15-L-1
200	1	K-17801-20-L-1
250	1	K-17801-25-L-1

SHEV 1050 Synchro opening system

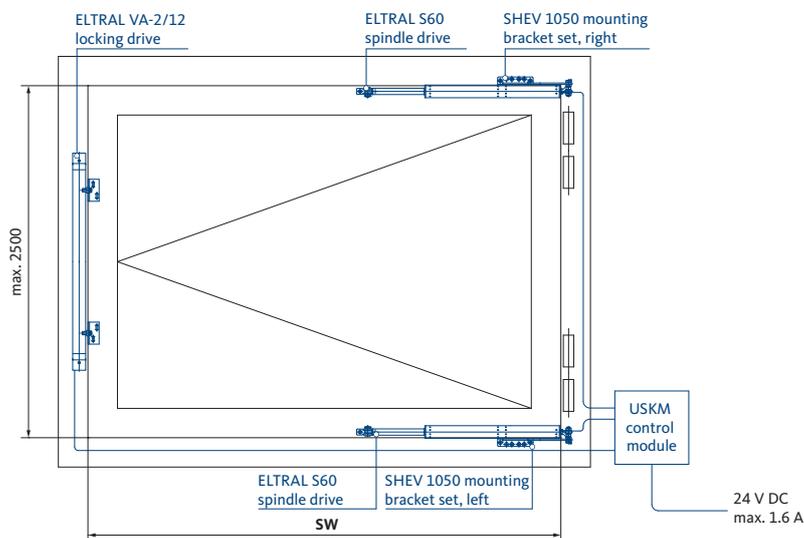


SHEV 1050 Synchro opening system with square-spindle drive

Consists of

- 2 spindle drives
- 1 square spindle drive
- 1 USKM control module
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17800-10-0-1
150	1	K-17800-15-0-1
200	1	K-17800-20-0-1
250	1	K-17800-25-0-1



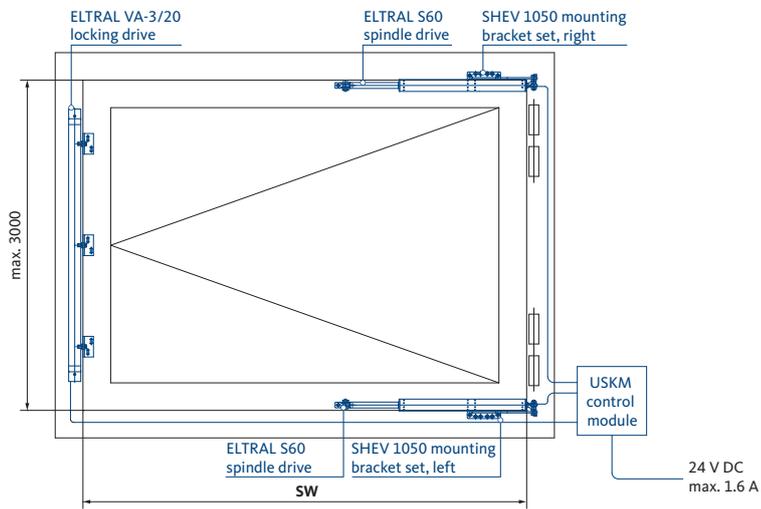
SHEV 1050 Synchro opening system with VA-2/12 locking drive

Consists of

- 2 spindle drives
- 1 locking drive
- 1 USKM control module
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17802-10-0-1
150	1	K-17802-15-0-1
200	1	K-17802-20-0-1
250	1	K-17802-25-0-1

SHEV 1050 Synchro opening system



SHEV 1050 Synchro opening system with VA-3/20 locking drive

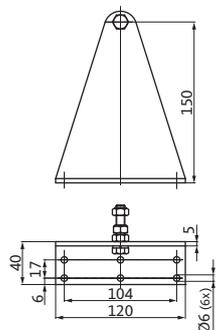
Consists of

- 2 spindle drives
- 1 locking drive
- 1 USKM control module
- Fixings

Travel max. [mm]	PU	Order number
100	1	K-17858-10-0-1
150	1	K-17858-15-0-1
200	1	K-17858-20-0-1
250	1	K-17858-25-0-1

SHEV 1000/1050 opening systems

Fixing sets for SHEV 1000

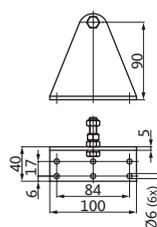


Mounting bracket set Standard for SHEV 1000 opening system

	PU	Order number
	1	9-39105-00-0-1

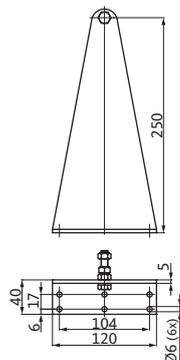
Note

- Included in the SHEV 1000 opening systems scope of supply



Mounting bracket set short for SHEV 1000 opening system

	PU	Order number
	1	9-39104-00-0-1

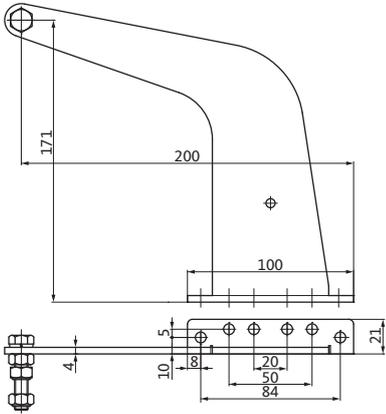


Mounting bracket set long for SHEV 1000 opening system

	PU	Order number
	1	9-39106-00-0-1

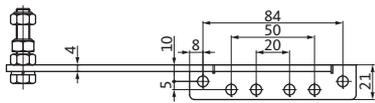
SHEV 1000/1050 opening systems

Fixing sets for SHEV 1050



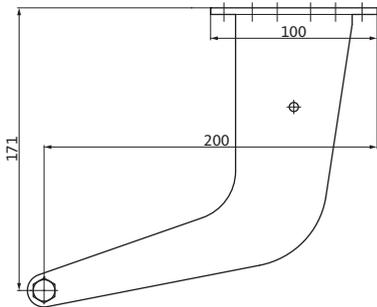
SHEV 1050 mounting bracket set, left

	PU	Order number
	1	9-42156-00-0-0



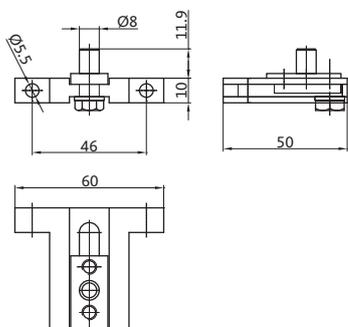
SHEV 1050 mounting bracket set, right

	PU	Order number
	1	9-42157-00-0-0



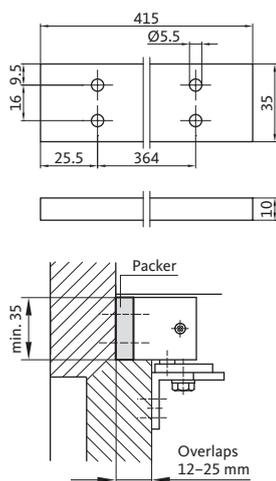
SHEV 1000/1050 opening systems

Accessories



Narrow chain holding fixture

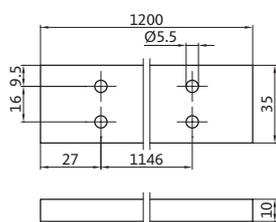
	PU	Order number
	1	9-45547-00-0-1



Packer for ELTRAL VA-1

Technical data	
Use	for Bottom-Hung windows with overlap thicknesses 12–25 mm an additional packer is required for overlap from 25 mm

Suitable for drive	PU	Order number
ELTRAL VA-1 R/4 ELTRAL VA-1 L/4	1	9-42208-00-0-0



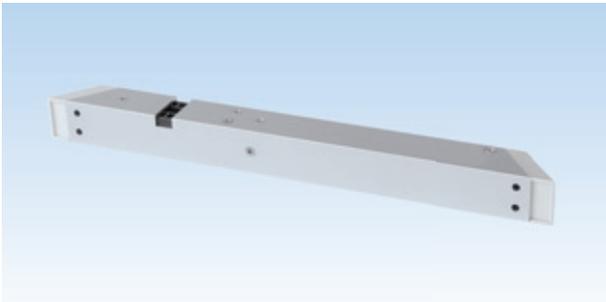
Packer for ELTRAL VA-2

Technical data	
Use	for Bottom-Hung windows with overlap thicknesses 12–25 mm an additional packer is required for overlap from 25 mm

Suitable for drive	PU	Order number
ELTRAL VA-2/12	1	9-42209-00-0-0

SHEV 1000/1050 opening systems

Spare parts



ELTRAL VA locking drives

- Replacement locking drive for SHEV 1000 and SHEV 1050

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.6
Breaking current [A]	0.8
Running time max. [s]	5
Locking force [N]	1000
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	2 x 0.75

Model	Suitable for opening system	Length [mm]	PU	Order number
ELTRAL VA-1 R/4	SHEV 1000 Solo SHEV 1050 Solo	420	1	K-17589-42-R-1
	SHEV 1000 Synchro SHEV 1050 Synchro	420	1	K-17590-42-R-1
ELTRAL VA-1 L/4	SHEV 1000 Solo SHEV 1050 Solo	420	1	K-17589-42-L-1
ELTRAL VA-2/12	SHEV 1000 Synchro SHEV 1050 Synchro	1200	1	K-17590-12-0-1
ELTRAL VA-3/20	SHEV 1050 Solo	2000	1	K-17859-20-0-1



ELTRAL OA square spindle drive

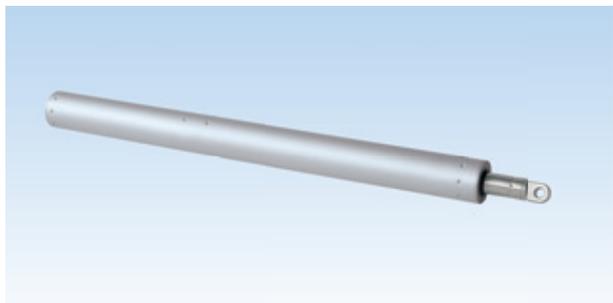
- Replacement square-spindle drive for SHEV 1000 and SHEV 1050

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.8
Breaking current [A]	1.1
Opening torque [Nm]	10
Retention torque [Nm]	22
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	4 x 0.75

Model	Opening-angle max. [°]	Length [mm]	PU	Order number
ELTRAL OA	180	156	1	9-44712-00-0-0

SHEV 1000/1050 opening systems

Spare parts



ELTRAL S100 spindle drive

- Replacement spindle drive for SHEV 1000

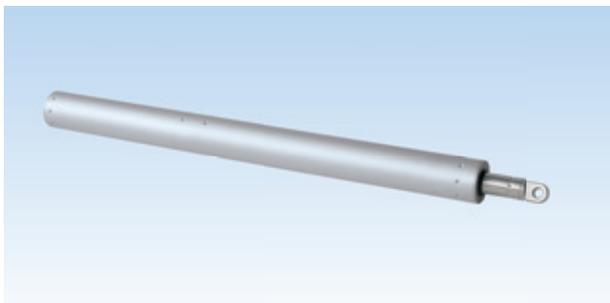
Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.8
Breaking current [A]	1.4
Pull force [N]	1000
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	2.5
Type of connecting cable [mm ²]	2 x 0.75

Travel [mm]	Push force [N]	Runtime [s]
100	1000	38
200	1000	77
300	1000	115

Model	Consists of	Finish	Travel max. [mm]	PU	Order number
ELTRAL S100	1 spindle drive	EV1, silver	100	1	K-17586-10-0-1
			200	1	K-17586-20-0-1
			300	1	K-17586-30-0-1

SHEV 1000/1050 opening systems

Spare parts



ELTRAL S60 spindle drive

- Replacement spindle drive for SHEV 1050

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.8
Breaking current [A]	1.2
Pull force [N]	600
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	2.5
Type of connecting cable [mm ²]	2 x 0.75

Travel [mm]	Push force [N]	Runtime [s]
100	600	17
150	600	26
200	600	35
250	600	43

Model	Consists of	Finish	Travel max. [mm]	PU	Order number
ELTRAL S60	1 spindle drive	EV1, silver	100	1	9-39685-10-0-1
			150	1	9-39685-15-0-1
			200	1	9-39685-20-0-1
			250	1	9-39685-25-0-1

SHEV air supply

System overviews



With the door drive ELTRAL TA60 T, you can also use swing doors as SHEV supply air and maintain the safety of the escape route at the same time.

In combination with the multi-point lock SECURY 19, GU-SECURY Automatic^[1] with A-opener or the BKS motor-driven lock, this drive solution fulfils, beside the main function "Door", also further functions like the fulfilment of safety and fire protection requirements, for example.

The door drive ELTRAL TA60 T is suitable for use in 1-leaf and 2-leaf doors – also as emergency exit or escape doors in accordance with EN 179 / EN 1125.

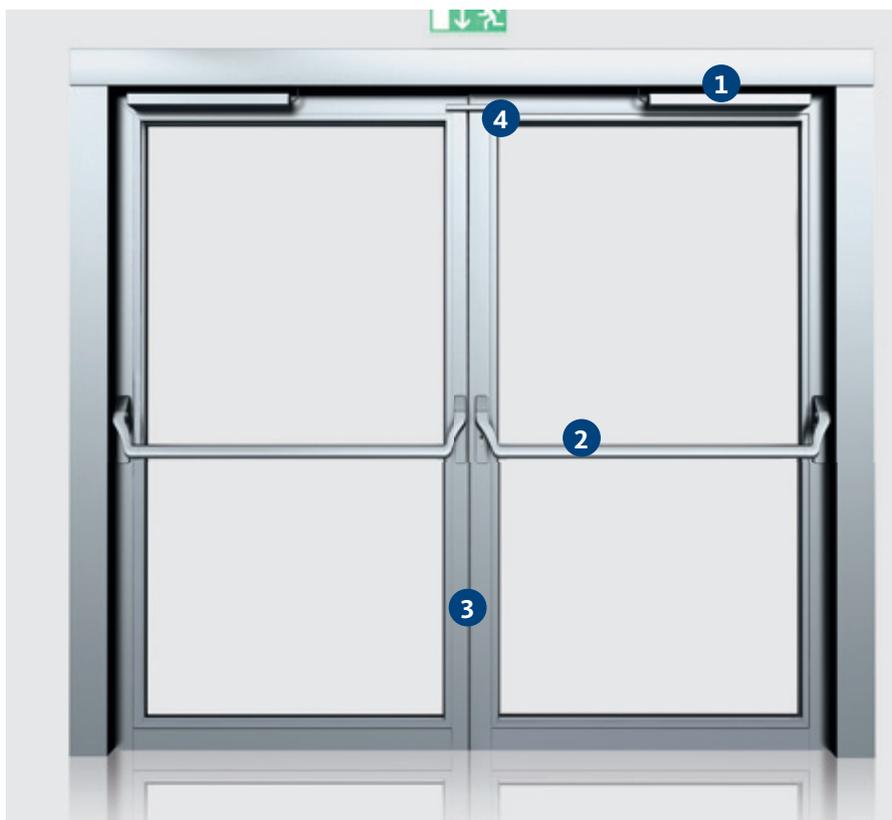
Beside the supply air application on the door, the TA60 in the versions TA60 DF or TA60 GS can also be used on automated Side-Hung windows in the facade for smoke exhaust (SHEV exhaust air) or for natural ventilation. The Side-Hung window drives are surface-mounted on frame or sash frame of the secondary closing edges.

SHEV air supply

System overview door drive



SHEV supply air with door drive ELTRAL TA60 T / TA60 T-SRI



Adequately sized supply air openings are always required to ensure that the smoke and heat extraction system functions safely and reliably. By means of a kind of "chimney effect", these boost the thermal uplift and thus ensure that smoke gases are drawn upwards and extracted more quickly.

The effective supply air area must be 1.5 times greater than the area of all exhaust air openings in the relevant room. The supply air opening must also be fully located in the low-smoke layer.

Components

- 1 ELTRAL TA60 T-SRI door drive
- 2 Push bar
- 3 SECURITY 19 / GU-SECURITY Automatic with A-opener^[1] / motor-driven shoot-bolt lock / motor-driven lock
- 4 Carrier bar

Functions

- **Smoke exhaust:** fast and reliable smoke exhaust via the extraction apertures by the automatic supply air opening in the door in case of fire
- **Passage convenience:** the doors are passable at all times without the application of counterforce in everyday life because the ELTRAL TA60 T door drive is inactive in daily operation
- **Burglar protection:** high security due to the automatic multi-point lock SECURITY 19, GU-SECURITY Automatic^[1] with A-opener, motor-driven shoot-bolt lock or motor-driven lock series 19
- **Panic function:** escaping from inside is possible at any time (emergency exit doors EN 179 / panic doors EN 1125)

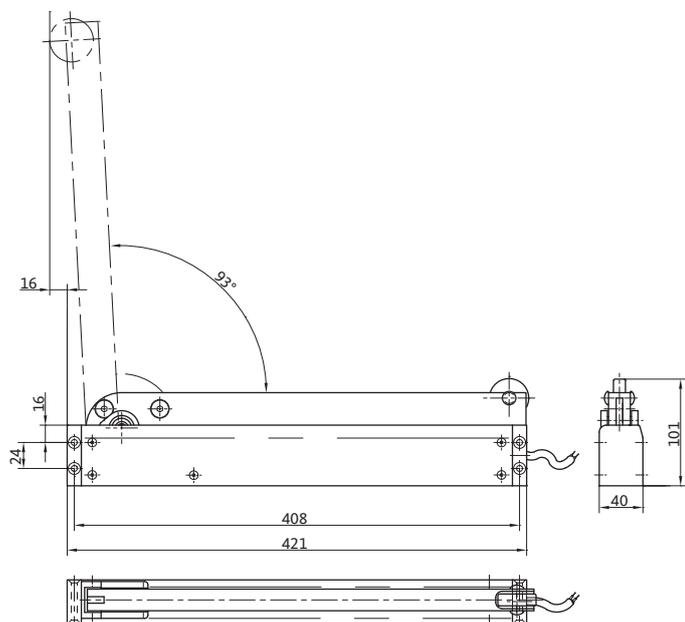
[1] The multi-point lock GU-SECURITY Automatic is not suitable for use in emergency exit doors or escape doors in accordance with EN 179 / EN 1125.

ELTRAL TA60 T door drive

For use on swing doors



- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - enables the factory, individual settings of opening-angle, closing force and speed
 - enables the programming of the potential-free contacts: „end position“ or „opening“ e. g. for the release of the A-opener or motor-driven lock
- Plug-in cable
 - simplifies the mounting and installation expenditure
 - facilitates the replacement of the drive
- Large opening widths up to 90°
- Suitable for use on emergency exit doors and escape doors in accordance with EN 179 / EN 1125
- Anodised aluminium body



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1
Breaking current [A]	1.4
Opening torque [Nm]	215
Closing torque [Nm]	215
Runtime (90°) [s]	45
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	5 x 0.5

Delayed opening and closing action, 1-leaf	
Delayed opening [s]	5
Delayed closing action [s]	0
Door lock contact ON [s]	10

ELTRAL TA60 T door drive

For use on swing doors



Model	Consists of	Finish	PU	Order number
ELTRAL TA60 T	1 door drive	EV1, silver	1	K-20011-00-0-1

Note

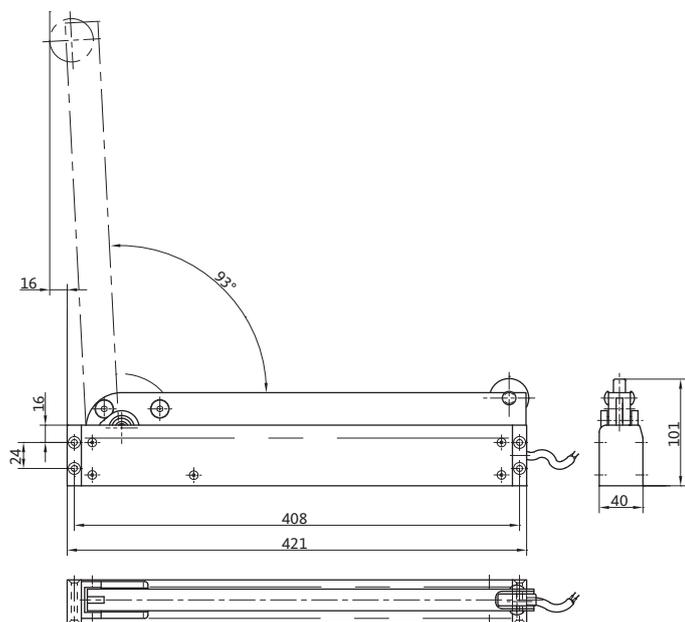
- Fixings must be ordered separately (see following pages)

ELTRAL TA60 T-SRI door drive

For use on 2-leaf swing doors



- For rebated 2-leaf doors
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - enables the factory, individual settings of opening-angle, closing force and speed
 - enables the programming of the potential-free contacts: „end position“ or „opening“ e. g. for the release of the A-opener or motor-driven lock
- Plug-in cable
 - simplifies the mounting and installation expenditure
 - facilitates the replacement of the drive
- Large opening widths up to 90°
- With integrated, time-delayed opening and closing sequence control
- Suitable for use on emergency exit doors and escape doors in accordance with EN 179 / EN 1125
- Anodised aluminium body



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1
Breaking current [A]	1.4
Opening torque [Nm]	215
Closing torque [Nm]	215
Runtime (90°) [s]	45
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	5 x 0.5

Delayed opening and closing action, 2-leaf	
Delayed opening action active sash [s]	5
Delayed closing action active sash [s]	7
Door lock contact ON active sash [s]	10
Delayed opening action passive sash [s]	7
Delayed closing action passive sash [s]	0
Door lock contact ON passive sash [s]	12

ELTRAL TA60 T-SRI door drive

For use on 2-leaf swing doors



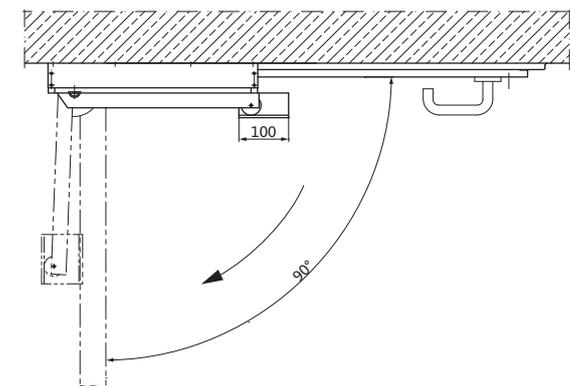
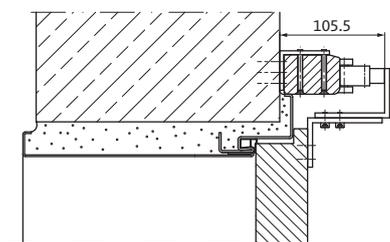
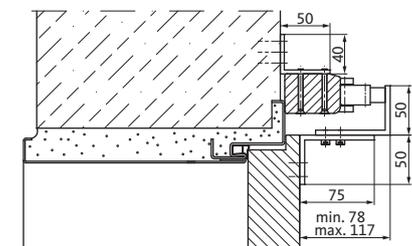
Model	Consists of	Finish	PU	Order number
ELTRAL TA60 T-SRI	2 door drives	EV1, silver	1	K-20012-00-0-1

Note

- Fixings must be ordered separately (see following pages)

ELTRAL TA60 T / T-SRI door drive

Fixings



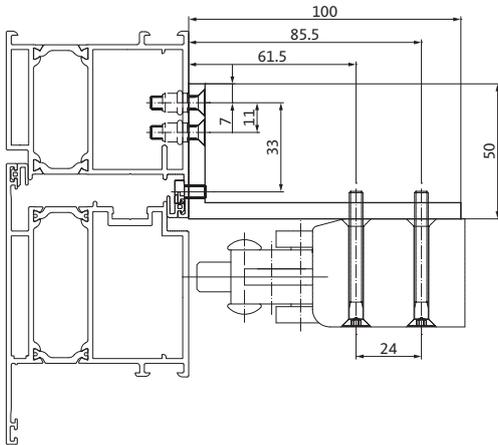
Mounting bracket set

Technical data	
Opening type	Swing door
Type of installation	indirect
Type of installation swing door	Installation on frame (FI) hinge side
Opening direction swing door	inward outward
Finish	EV1, silver

Consists of	PU	Order number
1 angle bracket 1 door angle fixing 1 door angle stop	1	K-17328-00-0-1

ELTRAL TA60 T / T-SRI door drive

Fixings



Mounting bracket ^[1]

Technical data	
Opening type	Swing door
Type of installation swing door	Installation on frame (FI) side opposite to hinges
Opening direction swing door	inward outward
Finish	EV1, silver
PU	Order number
1	9-45614-00-0-1

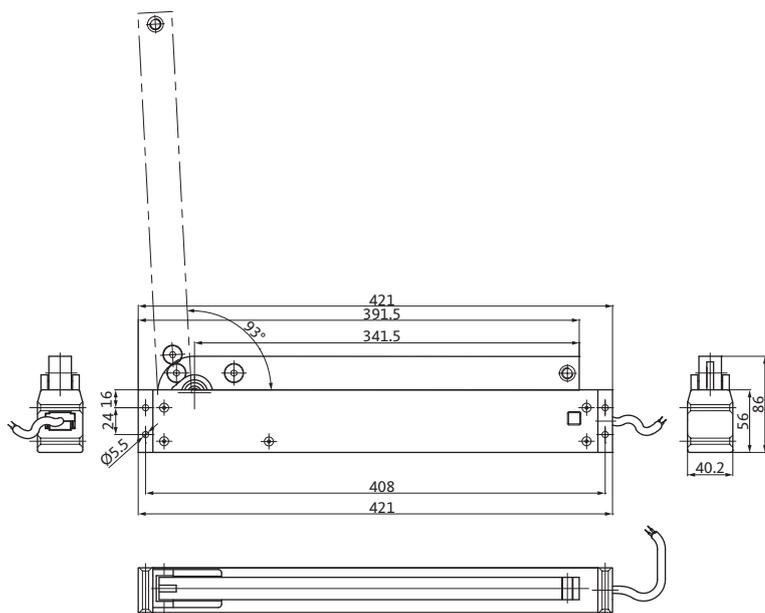
[1] without fixing screws, 2 mounting brackets are required per drive

ELTRAL TA60 DF window drive

For use on Side-Hung windows inward opening



- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - enables the factory, individual settings of opening-angle, closing force and speed
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications with and without locking drives
- Plug-in cable
 - simplifies the mounting and installation expenditure
 - facilitates the replacement of the drive
- Large opening widths up to 90°
- Anodised aluminium body



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1
Breaking current [A]	1.4
Opening torque [Nm]	215
Closing torque [Nm]	215
Runtime (90°) [s]	45
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm²]	5 x 0.5

Delayed opening and closing action, 1-leaf	
Delayed opening [s]	5
Delayed closing action [s]	0
Door lock contact ON [s]	10

ELTRAL TA60 DF window drive

For use on Side-Hung windows inward opening



Model	Consists of	Finish	PU	Order number
ELTRAL TA60 DF	1 window drive	EV1, silver	1	K-20013-00-0-1

Note

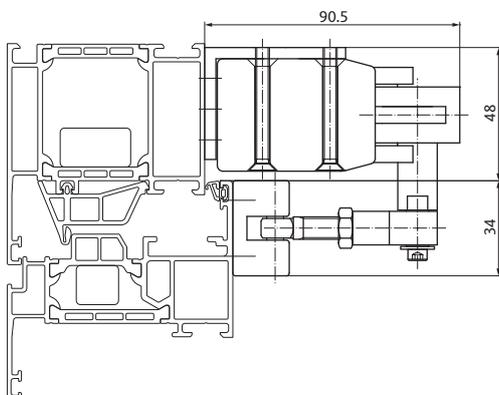
- Fixing sets must be ordered separately (see following pages)

Synchronised multiple operation

- In combination with the main control element m-com (mounted board) K-19757, the window drive ELTRAL TA60 DF can be combined with the locking drives ELTRAL VA25, VA35 and OA m-com

See page 110 for detailed information on m-com

Fixings



ELTRAL TA60 DF mounting bracket set

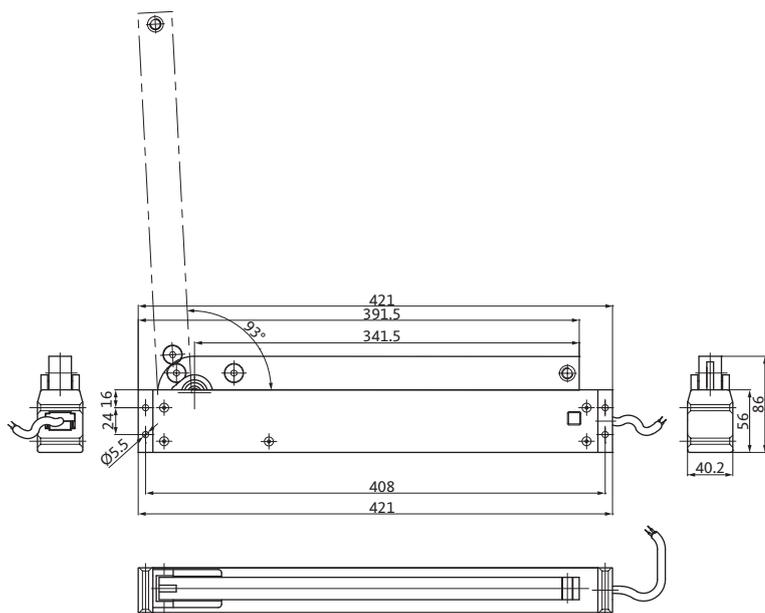
Technical data		
Opening type	Side-Hung window	
Type of installation Side-Hung window	Frame installation (FI)	
Opening direction Side-Hung window	inward	
Finish	EV1, silver	
	PU	Order number
	1	K-20014-00-0-1

ELTRAL TA60 DF-SRI window drive

For use on 2-leaf Side-Hung windows inward opening



- For rebated 2-leaf secondary sash windows
- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - enables the factory, individual settings of opening-angle, closing force and speed
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications with and without locking drives
- Plug-in cable
 - simplifies the mounting and installation expenditure
 - facilitates the replacement of the drive
- Large opening widths up to 90°
- With integrated, time-delayed opening and closing sequence control
- Anodised aluminium body



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1
Breaking current [A]	1.4
Opening torque [Nm]	215
Closing torque [Nm]	215
Runtime (90°) [s]	45
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	5 x 0.5

Delayed opening and closing action, 2-leaf	
Delayed opening action active sash [s]	5
Delayed closing action active sash [s]	7
Delayed opening action passive sash [s]	7
Delayed closing action passive sash [s]	0

ELTRAL TA60 DF-SRI window drive

For use on 2-leaf Side-Hung windows inward opening



Model	Consists of	Finish	PU	Order number
ELTRAL TA60 DF-SRI	2 window drives	EV1, silver	1	K-20068-00-0-1

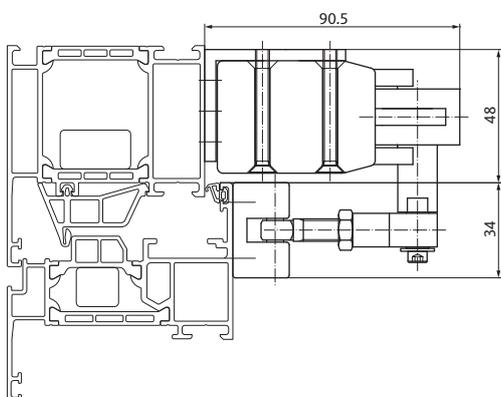
Note

- Fixing sets must be ordered separately (see following pages)

Synchronised multiple operation

- In combination with the main control element m-com (mounted board) K-19757, the window drive ELTRAL TA60 DF can be combined with the locking drives ELTRAL VA25, VA35 and OA m-com
See page 110 for detailed information on m-com

Fixings



ELTRAL TA60 DF mounting bracket set

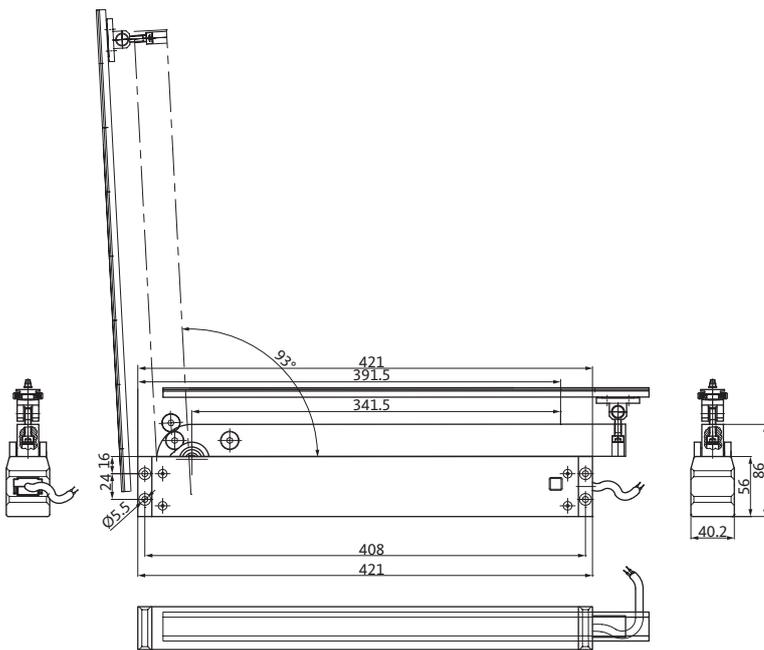
Technical data	
Opening type	Side-Hung window
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Side-Hung window	inward
Finish	EV1, silver
PU	Order number
1	K-20014-00-0-1

ELTRAL TA60 GS window drive

For use on Side-Hung windows outward opening with slide rail



- The intelligent control electronics
 - ensures automatic end and overload cut-off
 - ensures soft start-up and soft switch-off in the end positions
 - enables the factory, individual settings of opening-angle, closing force and speed
 - in combination with the main control element m-com, enables flexible combination options for Solo and Synchro applications with and without locking drives
- Plug-in cable
 - simplifies the mounting and installation expenditure
 - facilitates the replacement of the drive
- Large opening widths up to 90°
- Anodised aluminium body



Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [A]	1
Breaking current [A]	1.4
Opening torque [Nm]	215
Closing torque [Nm]	215
Runtime (90°) [s]	45
Material of connecting cable	Silicone halogen-free
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	5 x 0.5

ELTRAL TA60 GS window drive

For use on Side-Hung windows outward opening with slide rail



Model	Consists of	Finish	PU	Order number
ELTRAL TA60 GS	1 window drive	EV1, silver	1	K-20015-00-0-1

Note

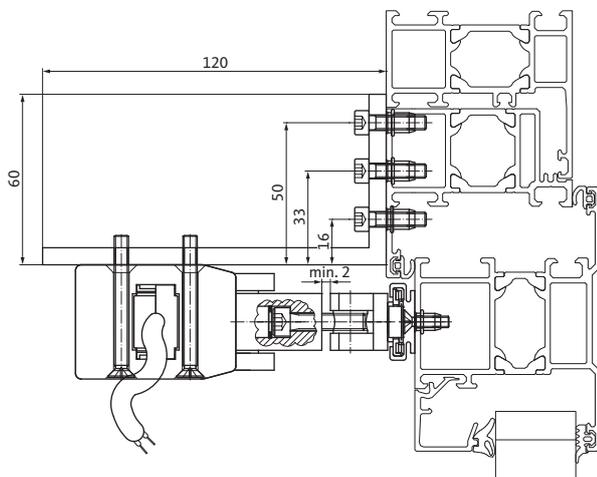
- Fixing sets must be ordered separately (see following pages)

Synchronised multiple operation

- In combination with the main control element m-com (mounted board) K-19757, the window drive ELTRAL TA60 GS can be combined with the locking drives ELTRAL VA25, VA35 and OA m-com

See page 110 for detailed information on m-com

Fixings



ELTRAL TA60 GS mounting bracket set

Technical data	
Opening type	Side-Hung window
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Side-Hung window	outward
Finish	EV1, silver

	PU	Order number
	1	K-20016-00-0-1

m-com main control element



- For the automatic configuration of 24-V drives in multiple operation and of sequence controls with locking drives
- Can be used for the following drives:
 - Chain drives ELTRAL K25, K40, K60
 - Locking drives ELTRAL VA25, VA35, OA m-com
 - Spindle drives ELTRAL S80, S100 Speed, S160
 - Window drives ELTRAL TA60 DF, TA60 GS
- For automatic detection of all connected drives and their mutual communication
- Low mounting and installation expenditure (Plug and Play)
- With optical LED indicator: green (ready for operation), red (interference)
- With RESET function for resetting multiple systems on Solo applications

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [mA]	12
Width [mm]	17
Height [mm]	6
Length [mm]	45
Protection type	IP 31
Ambient temperature [°C]	-5 to +60
Length of connecting cable [m]	0.05
Type of connecting cable [mm ²]	3 x 0.5

m-com main control element



Model	PU	Order number
m-com (mounted board)	1	K-19757-00-0-0

Note

- Up to six drives in multiple operation and as sequence control, maximum two of these may be locking drives ELTRAL VA25, VA35 or the square-spindle drive ELTRAL OA m-com

m-com Click main control element



- For the automatic configuration of 24-V drives in multiple operation
- Can be used for the following drives:
 - Chain drives ELTRAL K40, K60
- For automatic detection of all connected drives and their mutual communication
- Low mounting and installation expenditure (Plug and Play)
- With optical LED indicator: green (ready for operation), red (interference)
- With RESET function for resetting multiple systems on Solo applications

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	15
Nominal current [mA]	12
Width [mm]	26
Height [mm]	15
Length [mm]	40
Protection type	IP 32
Ambient temperature [°C]	-5 to +60
Type of connecting cable	Plug

m-com Click main control element



Model	PU	Order number
m-com Click (plug-in version)	1	K-19758-00-0-0

Note

- Up to 6 drives in multiple operation

VENTUS F200 fanlight opening system

Electrical operation with ELTRAL S 24 electric drive



The fanlight opening system, consisting of the VENTUS fanlight opener and the ELTRAL electric drive, enables a cost-effective electromechanical control of several sash units. Due to the flat design of the opening stays, the system can be used for smoke exhaust and daily ventilation on inward opening, vertically installed square Bottom-Hung windows made of timber, PVC or metal with low space conditions.

The automatic locking in the stays and the optional additional locking on the sash enable a high pressing force and therefore increase the tightness of the seal on the sash. The system is easy to install and operate.

Advantages at a glance

- Additional potential for economic savings thanks to controlling several sashes with just one drive 
- Ideally suited for windows offering limited mounting space
- Variable opening width setting



Powerful drive ELTRAL S 24

VENTUS F200 fanlight opening system

System features



System features

- Opening widths up to 200 mm for low sash heights from 300 mm
- Simple installation, horizontal or vertical (left/right)
- With position and function display
- Optional for increased security: operation of the concealed central locking system UNI-JET/ALU-JET via a connector
- Adjustable travel for variable opening widths
- Aluminium housing
- ELTRAL S electric drive can also be used on lamella windows
- Opening stay can be easily unhinged for convenient window cleaning

Technical data

VENTUS F200 | Electrical operation with ELTRAL S 24 electric drive | Bottom-Hung window

Drive	Max. sash width [mm]	Min. sash width [mm]		Min. sash height [mm]	Max. sash weight [kg]	Infill weight max. [kg/m ²]	Space required for drive [mm]	
		lateral	top				lateral	top
ELTRAL S 24	3600	410	630	300	80	40 ^[1]	39	39

[1] Depending on "dimension S" (= distance from sash centre of gravity to middle of hinge) and sash width

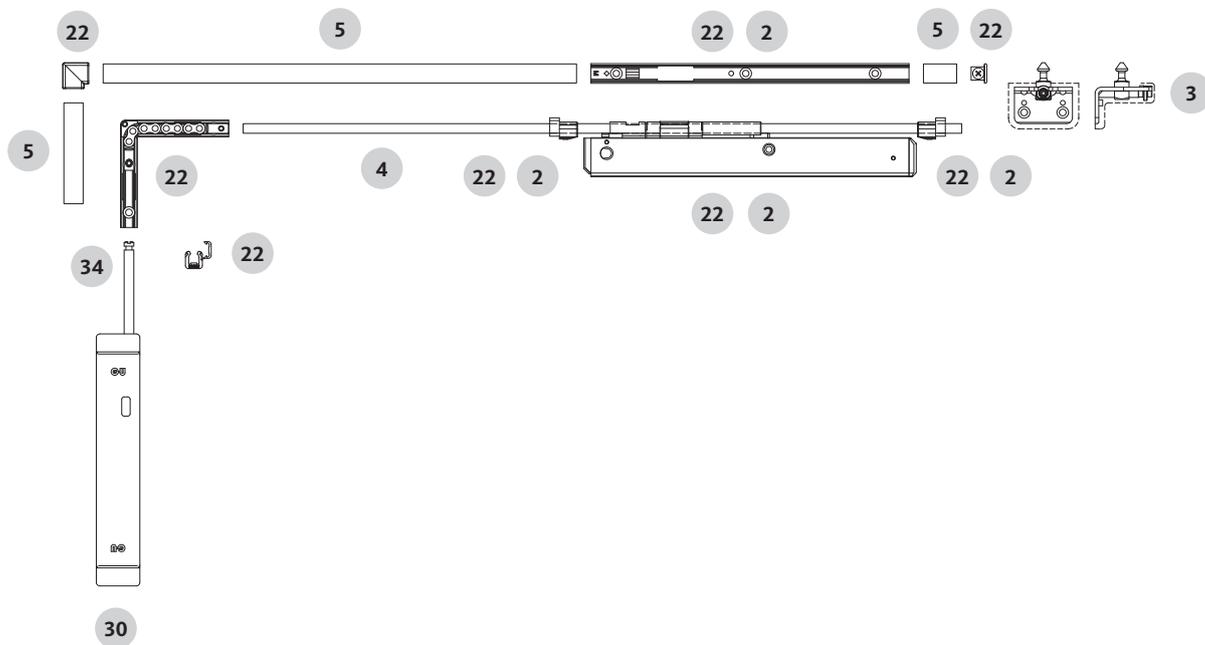
ELTRAL S 24 electric drive

Drive	Nominal voltage DC [V]	Nominal force [N]	Nominal current [A]	Stroke [mm]	Speed [mm/s]	Cut-off	Connection	Dimensions LxHxD [mm]
ELTRAL S 24	24	1400	1.2	40-70 ^[1]	1.2	Limit stop	Connector plug for 2-core connecting cable	210x81.5x32.5

[1] Variably adjustable; preset to travel 50 mm = 200 mm opening width

VENTUS F200 fanlight opening system

ELTRAL S 24 / side installation



VENTUS F200 fanlight opening system

ELTRAL S 24 / side installation



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
22	1	1	1	1	200	2	K-15012-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	3	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	4	0-25	2	K-15225-00-0-1

ELTRAL S 24 electric drive

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
30	1	1	1	1	1	6-40437-00-0-1

ELTRAL S connection coupling

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
34	1	1	1	1	1	K-20183-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	1	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	1	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

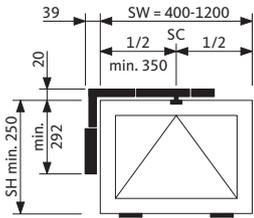
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-48801 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 124 and from page 282.

VENTUS F200 fanlight opening system

ELTRAL S 24 / side installation

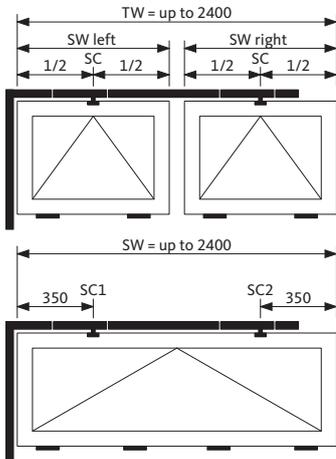


Pattern 1

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW			
	700	800	1000	1200
Horizontal rod length	530	580	680	780

[1] ELTRAL S 24

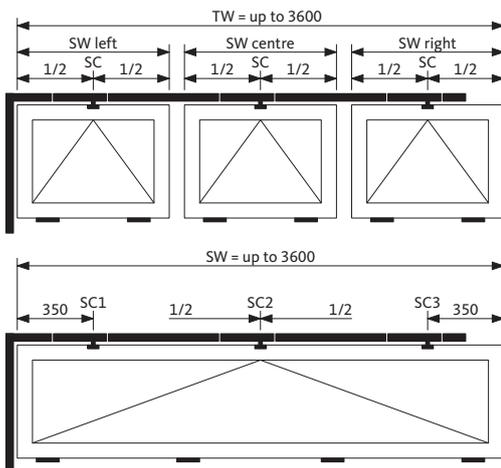


Pattern 2n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	1400	1600	1800	2000	2200	2400
Horizontal rod length	1065	1265	1465	1665	1865	2065

[1] ELTRAL S 24

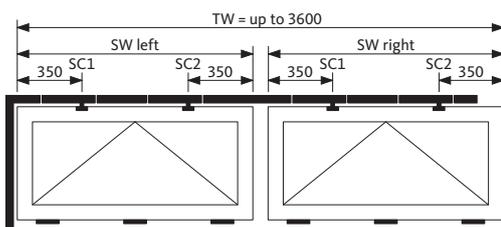


Pattern 3n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2265	2465	2665	2865	3065	3265

[1] ELTRAL S 24



Pattern 4n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2265	2465	2665	2865	3065	3265

[1] ELTRAL S 24

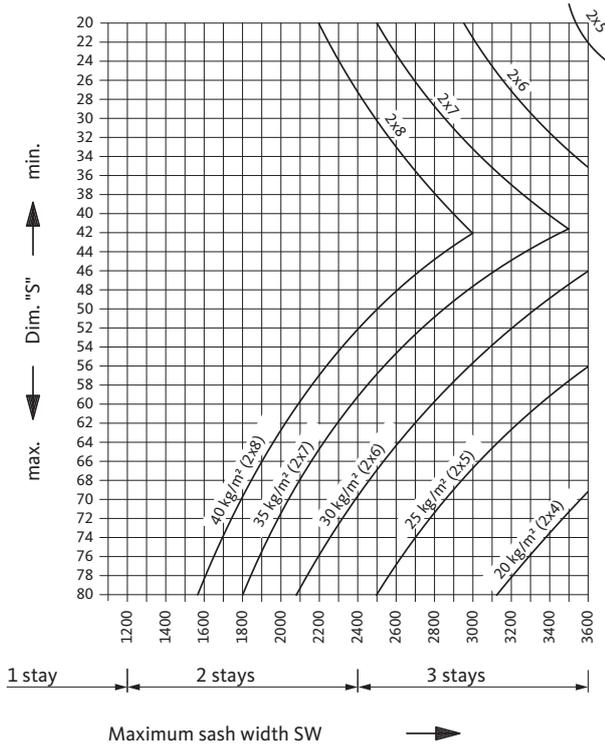
VENTUS F200 fanlight opening system

ELTRAL S 24 / side installation



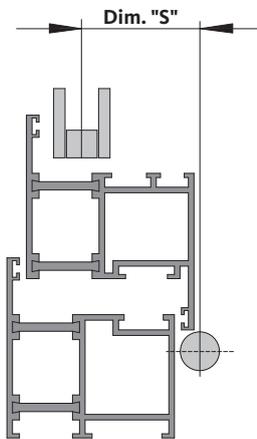
Application ranges VENTUS F200 fanlight opener

with ELTRAL S 24



Dimension "S"

(= distance from sash centre of gravity to middle of hinge)



Calculation example with ELTRAL S 24

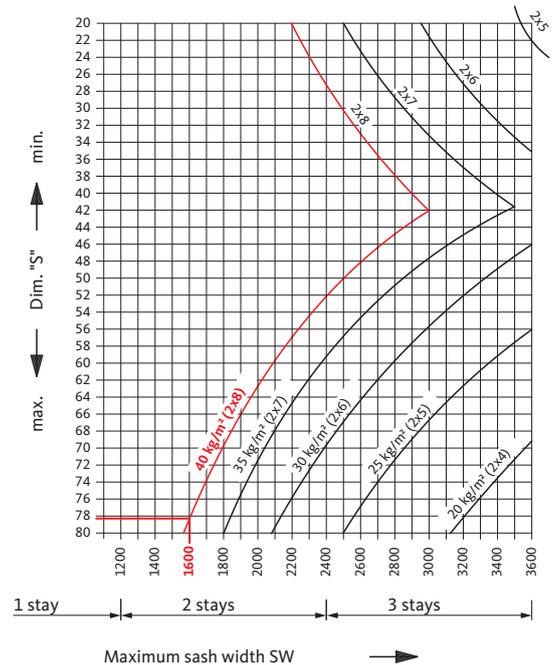
Example figures:

Glazing	2 x 8 mm
Weight of glass	40 kg/m ²
Sash width	1600 mm

Result:

Dimension "S"	20–79 mm possible
---------------	-------------------

Note: The total sash weight may not exceed max. 80 kg.



VENTUS F200 fanlight opening system

ELTRAL S 24 / top installation



VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	1	2	3	4	200	1	K-15013-00-0-1

End cap

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
28	1	1	1	1	1	9-34412-00-0-6

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	4	0-25	2	K-15225-00-0-1

ELTRAL S 24 electric drive

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
30	1	1	1	1	1	6-40437-00-0-1

ELTRAL S connection coupling

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
34	1	1	1	1	1	K-20183-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	1	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	1	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

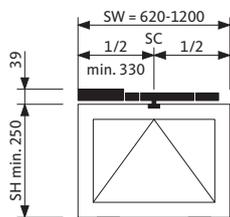
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-48801 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 124 and from page 282.

VENTUS F200 fanlight opening system

ELTRAL S 24 / top installation

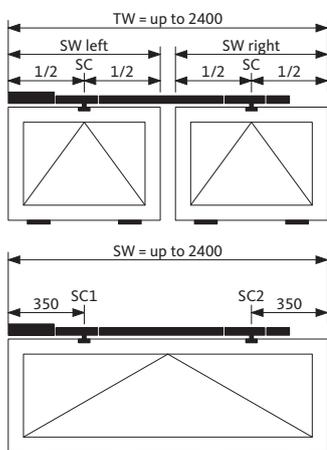


Pattern 1

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW			
	700	800	1000	1200
Horizontal rod length	372	422	522	622

[1] ELTRAL S 24

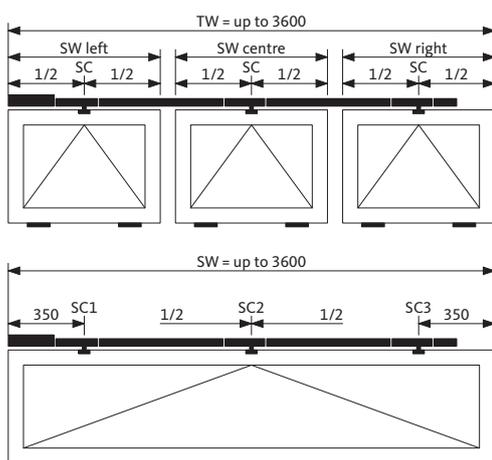


Pattern 2n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	1400	1600	1800	2000	2200	2400
Horizontal rod length	1072	1272	1472	1672	1872	2072

[1] ELTRAL S 24

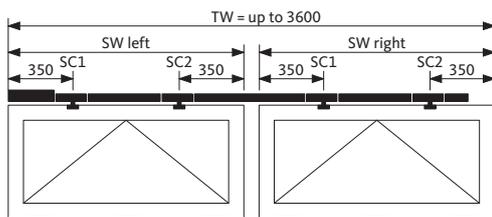


Pattern 3n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2272	2472	2672	2872	3072	3272

[1] ELTRAL S 24



Pattern 4n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2272	2472	2672	2872	3072	3272

[1] ELTRAL S 24

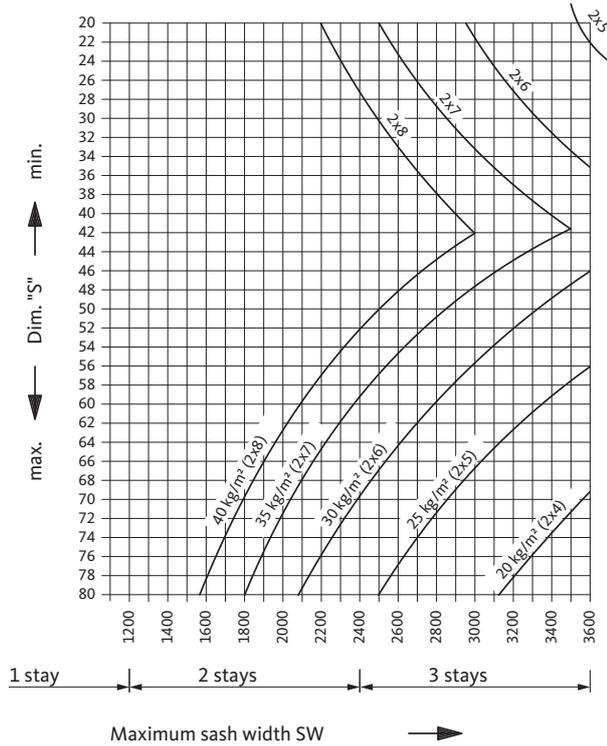
VENTUS F200 fanlight opening system

ELTRAL S 24 / top installation



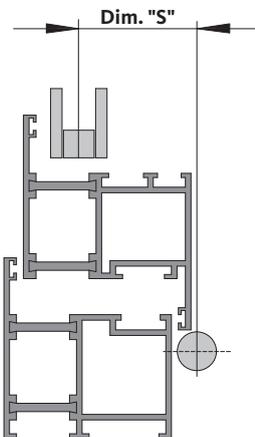
Application ranges VENTUS F200 fanlight opener

with ELTRAL S 24



Dimension "S"

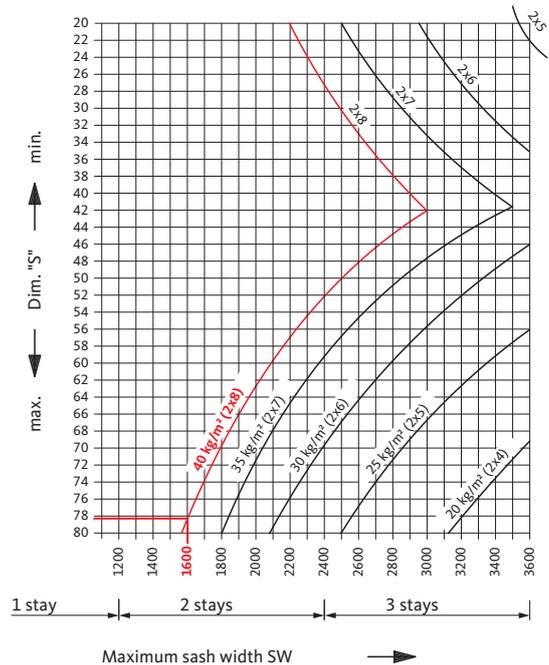
(= distance from sash centre of gravity to middle of hinge)



Calculation example with ELTRAL S 24

Example figures:	
Glazing	2 x 8 mm
Weight of glass	40 kg/m ²
Sash width	1600 mm
Result:	
Dimension "S"	20–79 mm possible

Note: The total sash weight may not exceed max. 80 kg.



VENTUS F200 fanlight opening system

Individual parts – electric drive



ELTRAL S 24 electric drive

- Simple installation, horizontal or vertical (left/right)
- Adjustable travel for variable opening widths
- Limit stop
- Aluminium housing

Technical data	
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	10
Nominal current [A]	1.2
Pull force [N]	1400
Push force [N]	1400
Travel [mm]	40–70 ^[1]
Travel speed [mm/s]	1.2
Connection	connector, 2-wire
Depth [mm]	32.5
Height [mm]	81.5
Length [mm]	210

Finish	PU	Order number
EV1, silver	1	6-40437-00-0-1
UC5 brown	1	6-40437-00-0-5
white (RAL 9016)	1	6-40437-00-0-7

[1] Variably adjustable; preset to travel 50 mm = 200 mm opening width

VENTUS F200 fanlight opening system

Individual parts – accessories



ELTRAL S connection coupling

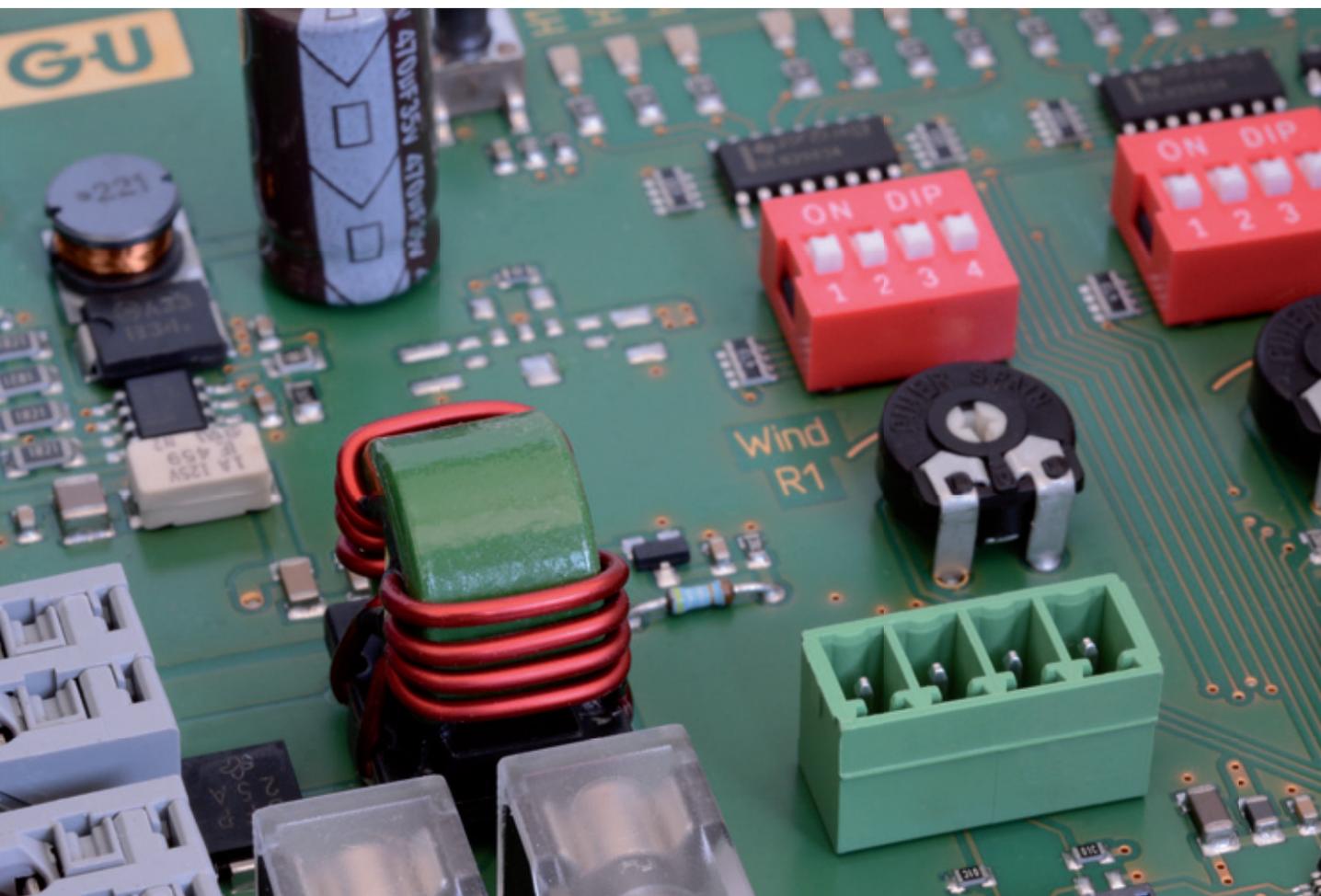
Integral parts

- Guide
- Coupling

Finish	PU	Order number
ferGUard*silver	1	K-20183-00-0-1

Electric control units (24 V)

Product overview



SHEV central control units reliably control and monitor all connected ventilation and fire protection components (e.g. automatic detectors, manual alarms, electric drives) and supply them with power.

In the event of a fire, the central control units ensure the fast opening of smoke exhaust apertures in order to evacuate toxic fumes. They are therefore of central importance in preventative fire protection.

The GU group offers a wide range of SHEV central control units, from compact control units to expandable modular control units. Accessories and enhancements offer a high degree of planning flexibility.

The basic benefits are:

- Can be simultaneously used as smoke exhaust and for daily ventilation operation
- In event of power failure exceeding 72 hours, stand by due to integrated batteries
- Electronic monitoring of cables leading to drives and alarm devices
- Extension of alarm and ventilation lines if required
- Optional alarm forwarding to central building control system via potential-free contacts
- Wide range of extension options such as wind/rain detectors
- Simple, cost-efficient coupling of several central control units
- Comfortable and clear status, fault and disturbance signally via LED indicators
- Simple and service-friendly installation, commissioning and maintenance
- Extensive setting and application functions

Electric control units (24 V)

Product overview



Designation		Compact control units					Modular control units	
Control unit		RZ25	RZ50	RZ75	RZ100	RZ 200	RZM240	RZM480
Page		128	130	132	136	138	142	144
VdS-tested		-	-	-	■	■	■	■
Output current [A]		3.2	6.5	8.4	10	20	24	48
Max. number of SHEV groups		1	1	1	1	1	8	8
Max. number of ventilation groups		1	1	1	2	2	8	8
Connection of several central control units		up to 5 ^[1]	up to 5 ^[1]	up to 5 ^[1]	-	-	optional	optional
Alarm line 1: manual triggering	max. number of SHEV push-buttons HSE	10	10	10	10	10	10 per line, max. 60	10 per line, max. 60
Alarm line 2: automatic triggering	max. number of smoke / heat detectors	10	10	10	10	10	10 per line, max. 60	10 per line, max. 60
	triggered via FAS ^[5]	optional	optional	optional	optional	optional	-	-
Alarm line 3: external signals	e.g. triggered via FAS	-	-	-	-	-	1xBMZ signal (external fire alarm system)	1xBMZ signal (external fire alarm system)
Ventilation control	Ventilation push-button	any (without LED) 10 (with LED)	any (without LED) 10 (with LED)					
	Connection of wind/rain detector	- ^[3]	■ ^[4]	■ ^[4]	■ ^[4]	■ ^[4]	■ ^[7]	■ ^[7]
Potential free signal contacts (alarm and interference)		-	■	■	■	■	■	■
Automatic ventilation OFF		■	■	■	■	■	■	■
Dead man's function in ON and OFF direction		■	■	■	■	■	optional ^[2]	optional ^[2]
Runtime limitation for ventilation (adjustable)		■	■	■	■	■	■	■
Automatic closing of windows in case of power failure		■	■	■	optional ^[2]	optional ^[2]	optional ^[2]	optional ^[2]
Backup batteries		included	included	included	included	included	must be ordered separately	must be ordered separately
Protection type		IP 20 / IP 54 ^[6]	IP 20 / IP 54 ^[6]	IP 20 / IP 54 ^[6]	IP 40	IP 40	IP 54	IP 54
Dimensions WxHxD [mm]		296x296x112	296x296x112	296x296x112	400x300x150	400x400x200	600x600x250	600x600x250
Dimensions with IP 54 installation kit WxHxD [mm]		335x296x116	335x296x116	335x296x116	-	-	-	-
Surface-mounted housing		sheet-steel, RAL 9010	sheet-steel, RAL 9010	sheet-steel, RAL 9010	sheet-steel, RAL 7035	sheet-steel, RAL 7035	sheet-steel, RAL 7032	sheet-steel, RAL 7032
Ambient temperature [°C]		-5 to +40	-5 to +40					

[1] 1 SHEV group and 5 ventilation groups | [2] via licence software | [3] rain detectors only

[4] without additional module, with integrated evaluation and wind measurement (adjustable wind speed)

[5] via line termination module/interface module for BMA | [6] with protection class IP 54 set | [7] via weather module (WM)

RZ25 compact control unit



Technical data	
Operating voltage AC [V]	100–240
Nominal voltage [V]	26
Output current [A]	3.2
Frequency [Hz]	50–60
Capacity of the emergency power supply of the batteries [Ah]	2.3
Connection cross section for mains power line [mm ²]	2.5
Connection cross section for drive line [mm ²] ^[1]	4

- Compact, robust steel housing
- Regulated output voltage
- Linking of up to 5 central control units with real-time line monitoring
 - Up to 5 locally disconnected ventilation groups
 - Central ventilation push-button function for the linked central control units
- Comfortable and clear status, error and fault signalling via LED indicators
- Extensive setting and application functions:
 - Automatic ventilation OFF: with pre-adjustable time selection
 - Dead man's function in ON and OFF direction
 - Runtime restriction for ventilation, adjustable
 - Integrated disconnectable acoustic alarm signalling device
 - Automatic closing of windows in case of power failure
 - Selection of running direction of drives in case of alarm
- Connection of rain detector without additional module
- Simple and service-friendly installation, commissioning and maintenance
- Maintenance interval: signal for yearly maintenance/inspection
- Connection to BKS-NET bus (via the IO-module IO10)
- Connection to a FACP (via the interface module)
- TÜV-tested and according to EN 12101-9/10

[1] with plug-in terminals

RZ25 compact control unit



Model	Consists of	Number of SHEV groups max. [piece]	Number of ventilation groups max. [piece]	Finish	PU	Order number
RZ25	1 compact control unit 2 batteries 2.3 Ah	1	1	white (RAL 9010)	1	K-18328-00-0-7
	1 compact control unit (without batteries)	1	1	white (RAL 9010)	1	K-19817-00-0-7

Note

- Up to 5 compact control units (RZ25, RZ50 and RZ75) can be mutually linked in arbitrary combination

RZ50 compact control unit



- Compact, robust steel housing
- Regulated output voltage
- Linking of up to 5 central control units with real-time line monitoring
 - Up to 5 locally disconnected ventilation groups
 - Central ventilation push-button function for the linked central control units
- Comfortable and clear status, error and fault signalling via LED indicators
- Extensive setting and application functions:
 - Automatic ventilation OFF: with pre-adjustable time selection
 - Dead man's function in ON and OFF direction
 - Runtime restriction for ventilation, adjustable
 - Integrated disconnectable acoustic alarm signalling device
 - Automatic closing of windows in case of power failure
 - Selection of running direction of drives in case of alarm
- Relay outputs for alarm and faults
- Connection of anemometer / rain detector without additional module, with integrated evaluation and wind measurement (adjustable wind speed)
- Simple and service-friendly installation, commissioning and maintenance
- Maintenance interval: signal for yearly maintenance/inspection
- Connection to BKS-NET bus (via the IO-module IO10)
- Connection to a FACP (via the interface module)
- TÜV-tested and according to EN 12101-9/10

Technical data	
Operating voltage AC [V]	100–240
Nominal voltage [V]	26
Output current [A]	6.5
Frequency [Hz]	50–60
Capacity of the emergency power supply of the batteries [Ah]	3.2
Connection cross section for mains power line [mm ²]	2.5
Connection cross section for drive line [mm ²] ^[1]	4

[1] with plug-in terminals

RZ50 compact control unit



Model	Consists of	Number of SHEV groups max. [piece]	Number of ventilation groups max. [piece]	Finish	PU	Order number
RZ50	1 compact control unit 2 batteries 3.2 Ah	1	1	white (RAL 9010)	1	K-18329-00-0-7
	1 compact control unit (without batteries)	1	1	white (RAL 9010)	1	K-19818-00-0-7

Note

- Up to 5 compact control units (RZ25, RZ50 and RZ75) can be mutually linked in arbitrary combination

RZ75 compact control unit



- Compact, robust steel housing
- Regulated output voltage
- Linking of up to 5 central control units with real-time line monitoring
 - Up to 5 locally disconnected ventilation groups
 - Central ventilation push-button function for the linked central control units
- Comfortable and clear status, error and fault signalling via LED indicators
- Extensive setting and application functions:
 - Automatic ventilation OFF: with pre-adjustable time selection
 - Dead man's function in ON and OFF direction
 - Runtime restriction for ventilation, adjustable
 - Integrated disconnectable acoustic alarm signalling device
 - Automatic closing of windows in case of power failure
 - Selection of running direction of drives in case of alarm
- Relay outputs for alarm and faults
- Connection of anemometer / rain detector without additional module, with integrated evaluation and wind measurement (adjustable wind speed)
- Simple and service-friendly installation, commissioning and maintenance
- Maintenance interval: signal for yearly maintenance/inspection
- Connection to BKS-NET bus (via the IO-module IO10)
- Connection to a FACP (via the interface module)
- TÜV-tested and according to EN 12101-9/10

Technical data	
Operating voltage AC [V]	100–240
Nominal voltage [V]	26
Output current [A]	8.4
Frequency [Hz]	50–60
Capacity of the emergency power supply of the batteries [Ah]	3.2
Connection cross section for mains power line [mm ²]	2.5
Connection cross section for drive line [mm ²] ^[1]	4

[1] with plug-in terminals

RZ75 compact control unit



Model	Consists of	Number of SHEV groups max. [piece]	Number of ventilation groups max. [piece]	Finish	PU	Order number
RZ75	1 compact control unit 2 batteries 3.2 Ah	1	1	white (RAL 9010)	1	K-18433-00-0-7
	1 compact control unit (without batteries)	1	1	white (RAL 9010)	1	K-19819-00-0-7

Note

- Up to 5 compact control units (RZ25, RZ50 and RZ75) can be mutually linked in arbitrary combination

RZ25 / RZ50 / RZ75 compact control units

Accessories



Line termination module/interface module for FAS

Technical data	
Use	Line termination module: for monitoring the drive line Interface module: for triggering an alarm via a fire alarm control panel

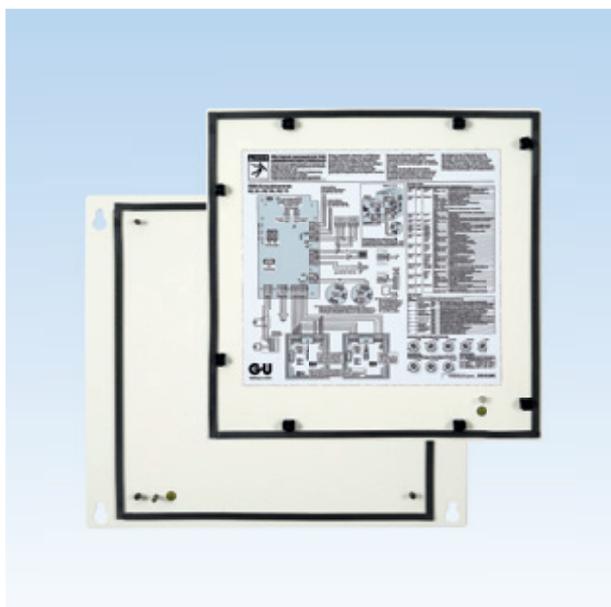
	PU	Order number
	1	9-48836-00-0-0



BKS-NET coupling module

Technical data	
Use	for the linking of several control units (installation only in the slave device control unit)

	PU	Order number
	1	9-48897-00-0-0



IP installation kit

Technical data	
Use	for achievement of IP 54 protection type
Consists of	1 wall mounting plate 1 cover

	PU	Order number
	1	K-18830-00-0-7

RZ25 / RZ50 / RZ75 compact control units

Accessories



Backup batteries

Technical data	
Use	to secure the stand by in event of power failure exceeding 72 hours
Operating voltage min. [V]	12

Suitable control units	Nominal capacity [Ah]	PU	Order number
RZ25	2.3	1	9-47475-00-0-0
RZ50 RZ75	3.2	1	9-48529-00-0-0

Note

- The batteries must always be ordered in pairs

RZ100 compact control unit



- VdS-tested according to EN 12101 Part 9 and 10
- Compact, robust steel housing
- Comfortable and clear status, error and fault signalling via LED indicators
- Wide range of adjustment and application functions via DIP switch:
 - Automatic ventilation OFF: with pre-adjustable time selection
 - Dead man's function in ON and OFF direction
 - Running time restriction for ventilation, adjustable
 - Selection of running direction in case of alarm
- Slots for relay cards for further transmission of alarm and interference
- Connection of anemometer / rain detector without additional module, with integrated evaluation and wind measurement (adjustable wind speed)
- Simple and service-friendly installation, commissioning and maintenance
- Extended functions and configuration options via licensed software
- Optional: integration in external BUS system (LON/KNX)
- Optional: housing cover with integrated SHEV push-button HSE and ventilation push-button (on request)

Technical data	
Operating voltage AC [V]	195–250
Nominal voltage [V]	24
Output current [A]	10
Frequency [Hz]	50–60
Capacity of the emergency power supply of the batteries [Ah]	7
Connection cross section for mains power line [mm ²]	1.5
Connection cross section for drive line [mm ²]	6

RZ100 compact control unit



Model	Consists of	Number of SHEV groups max. [piece]	Number of ventilation groups max. [piece]	Finish	PU	Order number
RZ100 1/1	1 compact control unit	1	1	light grey (RAL 7035)	1	K-18838-11-0-0
RZ100 1/2	2 batteries 7.0 Ah	1	2	light grey (RAL 7035)	1	K-18838-12-0-0

RZ200 compact control unit



- VdS-tested according to EN 12101 Part 9 and 10
- Compact, robust steel housing
- Comfortable and clear status, error and fault signalling via LED indicators
- Wide range of adjustment and application functions via DIP switch:
 - Automatic ventilation OFF: with pre-adjustable time selection
 - Dead man's function in ON and OFF direction
 - Running time restriction for ventilation, adjustable
 - Selection of running direction in case of alarm
- Slots for relay cards for further transmission of alarm and interference
- Connection of anemometer / rain detector without additional module, with integrated evaluation and wind measurement (adjustable wind speed)
- Simple and service-friendly installation, commissioning and maintenance
- Extended functions and configuration options via licensed software
- Optional: integration in external BUS system (LON/KNX)
- Optional: housing cover with integrated SHEV push-button HSE and ventilation push-button (on request)

Technical data	
Operating voltage AC [V]	195–250
Nominal voltage [V]	24
Output current [A]	20
Frequency [Hz]	50–60
Capacity of the emergency power supply of the batteries [Ah]	7
Connection cross section for mains power line [mm ²]	1.5
Connection cross section for drive line [mm ²]	6

RZ200 compact control unit



Model	Consists of	Number of SHEV groups [piece]	Number of ventilation groups max. [piece]	Finish	PU	Order number
RZ200 1/2	1 compact control unit 2 batteries 7.0 Ah	1	2	light grey (RAL 7035)	1	K-18839-12-0-0

RZ100 / RZ200 compact control units

Accessories



REL 65 plug-in card

Technical data	
Use	for the transmission of alarm and fault signalling, e.g. on the building control system or fire alarm system
Nominal voltage [V]	24
Potential-free contact	1 x Um, max. 48 V / 1 A
Connection	Terminal 3 x 1.5 mm ²
PU	Order number
1	9-42000-00-0-0



PSB plug-in card

Technical data	
Use	for voltage supply to external devices
Nominal voltage [V]	24
Output current [A]	0.5
Connection	Terminal 4 x 1.5 mm ²
PU	Order number
1	9-49402-00-0-0



Line termination module/interface module for FAS

Technical data	
Use	Line termination module: for monitoring the drive line Interface module: for triggering an alarm via a fire alarm control panel
PU	Order number
1	9-48836-00-0-0

RZ100 / RZ200 compact control units

Accessories



USB cable

Technical data	
Use	for the configuration of standard and service functions
Length [m]	3

	PU	Order number
	1	9-48547-00-0-0



Backup batteries

Technical data	
Use	to secure the stand by in event of power failure exceeding 72 hours
Operating voltage min. [V]	12
Suitable control units	RZ100 RZ200
Nominal capacity [Ah]	7

	PU	Order number
	1	9-40285-00-0-0

RZM240 modular control unit



- Simple and flexible structure according to modular principle
- All modules are connected to one another by means of modern, internal BUS technology.
- Variable expansion options for alarm and ventilation groups through top-hat rail installation
- Quick and simple configuration using the software
- Comfortable and clear status, fault and disturbance signalling via LED indicators
- Extensive setting and application functions:
 - Automatic ventilation OFF: with pre-adjustable time selection
 - Dead man's function in ON and OFF direction
 - Running time restriction for ventilation, adjustable
 - Selection of running direction in case of alarm
- Simple option of linking several central control systems into a comprehensive control system via BUS
- Connection of anemometer / rain detector, with integrated evaluation and wind measurement (adjustable wind speed)
- Simple and service-friendly installation, commissioning and maintenance
- Control device VdS-tested in accordance with EN 12101-9
- Power supply VdS-tested in accordance with EN 12101-10

Technical data	
Operating voltage AC [V]	195–250
Nominal voltage [V]	24
Output current [A]	24
Frequency [Hz]	50–60
Capacity of the emergency power supply of the batteries [Ah]	17 Ah for 2–4 groups 24 Ah for 4–6 groups 38 Ah for 6–8 groups
Connection cross section for mains power line [mm ²]	1
Connection cross section for drive line [mm ²] ^[1]	2.5

[1] Additional connecting terminals are required for each module for the connection of larger cable cross-sections

RZM240 modular control unit



Model	Number of SHEV groups max. [piece]	Number of ventilation groups max. [piece]	Finish	PU	Order number
RZM240 1/3	1	3	gravel grey (RAL 7032)	1	K-18840-13-0-0
RZM240 1/4		4	gravel grey (RAL 7032)	1	K-18840-14-0-0
RZM240 1/5		5	gravel grey (RAL 7032)	1	K-18840-15-0-0
RZM240 1/6		6	gravel grey (RAL 7032)	1	K-18840-16-0-0
RZM240 2/2	2	2	gravel grey (RAL 7032)	1	K-18840-22-0-0
RZM240 2/4		4	gravel grey (RAL 7032)	1	K-18840-24-0-0

Note

- A drive module (DM) is required for every drive line (ventilation group)
- The first fire section is monitored by the control module (CM). A separate sensor module (SM) is required for each additional fire section
- 8 SHEV and 8 ventilation groups (RZM240 and RZM480) can be mutually linked in arbitrary combination, total of max. 64 modules
- The batteries are not included in the scope of delivery, please order separately

RZM480 modular control unit



- Simple and flexible structure according to modular principle
- All modules are connected to one another by means of modern, internal BUS technology.
- Variable expansion options for alarm and ventilation groups through top-hat rail installation
- Quick and simple configuration using the software
- Comfortable and clear status, fault and disturbance signalling via LED indicators
- Extensive setting and application functions:
 - Automatic ventilation OFF: with pre-adjustable time selection
 - Dead man's function in ON and OFF direction
 - Running time restriction for ventilation, adjustable
 - Selection of running direction in case of alarm
- Simple option of linking several central control systems into a comprehensive control system via asurement (adjustable wind speed)
- Connection of anemometer / rain detector, with integrated evaluation and wind measurement (adjustable wind speed)
- Simple and service-friendly installation, commissioning and maintenance
- Control device VdS-tested in accordance with EN 12101-9
- Power supply VdS-tested in accordance with EN 12101-10

Technical data	
Operating voltage AC [V]	195–250
Nominal voltage [V]	24
Output current [A]	48
Frequency [Hz]	50–60
Capacity of the emergency power supply of the batteries [Ah]	24 Ah for 4–6 groups 38 Ah for 6–8 groups
Connection cross section for mains power line [mm ²]	1
Connection cross section for drive line [mm ²] [1]	2.5

[1] Additional connecting terminals are required for each module for the connection of larger cable cross-sections

RZM480 modular control unit



Model	Number of SHEV groups max. [piece]	Number of ventilation groups max. [piece]	Finish	PU	Order number
RZM480 1/4	1	4	gravel grey (RAL 7032)	1	K-18841-14-0-0
RZM480 1/7		7	gravel grey (RAL 7032)	1	K-18841-17-0-0
RZM480 2/6	2	6	gravel grey (RAL 7032)	1	K-18841-26-0-0

Note

- A drive module (DM) is required for every drive line (ventilation group)
- The first fire section is monitored by the control module (CM). A separate sensor module (SM) is required for each additional fire section
- 8 SHEV and 8 ventilation groups (RZM240 and RZM480) can be mutually linked in arbitrary combination, total of max. 64 modules
- The batteries are not included in the scope of delivery, please order separately

RZM240 / RZM480 modular control units

Accessories



Weather module (WM)

Technical data	
Use	for the connection of wind/rain detectors
Nominal voltage [V]	24
Potential-free contact	Relay 1 x Um, max. 42 V / 0.5 A
Connection	Plug-in terminal 1.5 mm ²

	PU	Order number
	1	9-48555-00-0-0



Sensor module (SM)

- Connection of up to 3 alarm lines (manual and automatic detectors, external signals)
- The use of a sensor module (SM) requires the presence of a control module (CM)

Technical data	
Use	for the monitoring and coordination of further fire compartments for the connection of a central push-button (e.g. key switch) for all ventilation groups
Nominal voltage [V]	24

	PU	Order number
	1	9-49396-00-0-0

RZM240 / RZM480 modular control units

Accessories



Relay module RM 6

Technical data	
Use	for the transmission of alarm and fault signalling, e.g. on the building control system or fire alarm system
Nominal voltage [V]	24
Potential-free contact	6 relays 1 x Um, max. 42 V / 0.5 A
Connection	Plug-in terminal 1 mm ²

	PU	Order number
	1	9-48554-00-0-0



CAN module

Technical data	
Use	for the networking of several modular control units one module is required for each cross-linked central control system for plugging into the control module (CM)
Nominal voltage [V]	24
Connection	Plug-in terminal 6 x 1 mm ²

	PU	Order number
	1	9-49397-00-0-0

RZM240 / RZM480 modular control units

Accessories



Power module (PM)

- Control and monitoring of mains and battery voltage

Technical data		
Use	for the connection of the switched-mode power supply and the batteries	
	PU	Order number
	1	contained in the scope of delivery



Control module (CM)

- Control module for monitoring the first fire section
- Connection of up to 3 alarm lines (manual and automatic detectors, external signals)
- Signal extension line (operation, alarm, interference) to external signals
- Alarm reset function

Technical data		
Use	for connection of a central push-button (e.g. spring-operated key switch) for all ventilation groups	
	PU	Order number
	1	contained in the scope of delivery

RZM240 / RZM480 modular control units

Accessories



Drive module (DM/DMX)

- Drive module for monitoring and administration of all functions of a drive line (ventilation group)
- Maximum current consumption per drive line
 - Drive module DM = 10 A
 - Drive module DMX = 20 A

Technical data	
Use	for the connection of ventilation push-buttons

	PU	Order number
	1	contained in the scope of delivery

Software licence RZM

Technical data	
Use	for function extension and for further adjustment options

	PU	Order number
	1	9-49398-00-0-0

RZM240 / RZM480 modular control units

Accessories



USB cable

Technical data	
Use	for the configuration of standard and service functions
Length [m]	3

	PU	Order number
	1	9-48547-00-0-0



Backup batteries

Technical data	
Use	to secure the stand by in event of power failure exceeding 72 hours
Operating voltage min. [V]	12
Suitable control units	RZM240 RZM480

Nominal capacity [Ah]	Number of ventilation groups [piece]	PU	Order number
17	2-4	1	9-45327-00-0-0
24	4-6	1	9-40287-00-0-0
38	6-8	1	9-40288-00-0-0



Manual control devices

SHEV push-button 'HSE'



SHEV push-button HSE with PVC housing

- Alarm triggered manually via the SHEV central control unit in the event of fire
- Push-button: EMERGENCY OPEN and reset: CLOSE
- LED status indication for EMERGENCY OFF (red), operation (green), interference (yellow)
- Removable glass pane
- Including keys
- Installation: in escape routes and hallways, easily visible and freely accessible, installation height 1.4 m ± 20 cm above the floor

Technical data	
Protection type	IP 50
Width [mm]	125
Height [mm]	125
Depth [mm]	36

Material of the body	Finish	PU	Order number
PVC	orange (similar to RAL 2004)	1	6-37311-00-0-9x
	red (similar to RAL 3000)	1	6-37311-00-0-9
	yellow (similar to RAL 1018)	1	6-37311-00-0-3
	grey (similar to RAL 7040)	1	6-37311-00-0-1
	blue (similar to RAL 5005)	1	6-37311-00-0-0

Manual control devices

SHEV push-button 'HSE'



SHEV push-button HSE with metal housing

- Alarm triggered manually via the SHEV central control unit in the event of fire
- Push-button: EMERGENCY OPEN and reset: CLOSE
- LED status indication for EMERGENCY OFF (red), operation (green), interference (yellow)
- Removable glass pane
- Including keys
- Installation: in escape routes and hallways, easily visible and freely accessible, installation height 1.4 m ± 20 cm above the floor

Technical data	
Protection type	IP 50
Width [mm]	125
Height [mm]	125
Depth [mm]	36

Material of the body	Finish	PU	Order number
Metal	orange (similar to RAL 2004)	1	6-37312-00-0-9x
	red (similar to RAL 3000)	1	6-37312-00-0-9
	yellow (similar to RAL 1018)	1	6-37312-00-0-3
	grey (similar to RAL 7040)	1	6-37312-00-0-1
	blue (similar to RAL 5005)	1	6-37312-00-0-0

Manual control devices

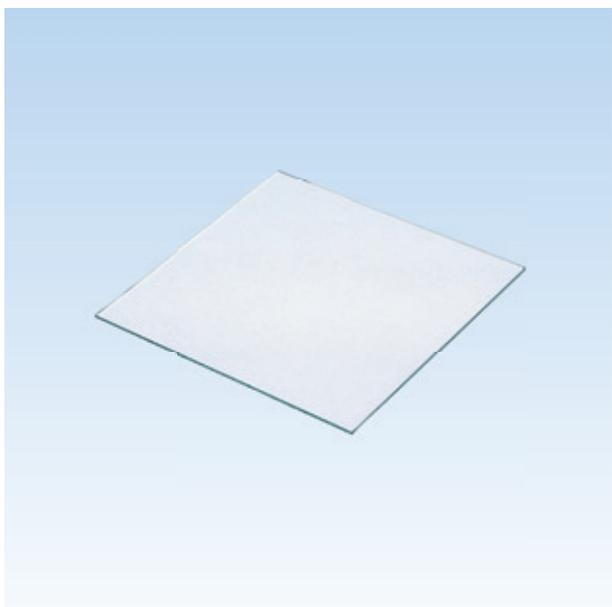
Accessories



Replacement key

Technical data	
Use	SHEV push-button 'HSE'
Material	PVC

Finish	PU	Order number
black	1	9-48552-00-0-6



Replacement glass

Technical data	
Use	SHEV push-button 'HSE'

	PU	Order number
	1	9-42235-00-0-0

Manual control devices

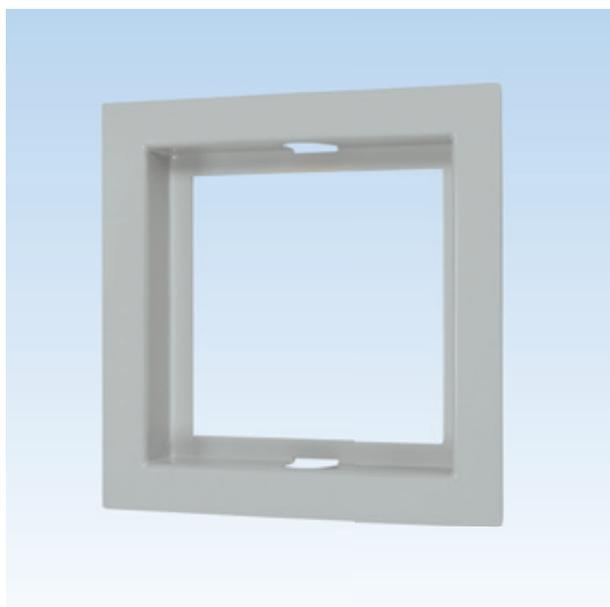
Accessories



Sticker "Smoke exhaust" – language versions

Technical data	
Use	SHEV push-button 'HSE'
Consists of	5 sheets with 5 stickers each (25 stickers)

Language	PU	Order number
English	1	K-19015-01-0-0
French	1	K-19015-02-0-0
Spanish	1	K-19015-03-0-0
Italian	1	K-19015-04-0-0
Dutch	1	K-19015-05-0-0
Polish	1	K-19015-06-0-0
Russian	1	K-19015-07-0-0
Czech	1	K-19015-08-0-0
Turkish	1	K-19015-09-0-0
Chinese	1	K-19015-10-0-0
Croatian	1	K-19015-11-0-0
Serbian	1	K-19015-12-0-0
Romanian	1	K-19015-13-0-0



Frame for flush-mounted installation

- Wall recess dimensions: 140 x 140 x 30 mm (W x H x D)

Technical data	
Use	SHEV push-button 'HSE'
Width [mm]	171
Height [mm]	171
Depth [mm]	26

Finish	PU	Order number
light grey (RAL 7035)	1	9-42236-00-0-0

Smoke detector



RMD3 smoke detector

- For automatic early fire detections and alarm triggering via the SHEV central control system in event of fire
- Intelligent evaluation and suppression mode for disturbance variables for the prevention of false alarms
- Tested and DIBt-approved according to EN 54-7
- Including mounting base
- Important: do not use in spaces with high build-up of dust, smoke or vapour

Technical data	
Nominal voltage [V]	24
Operating voltage DC [V]	9-33
Protection type	IP 40
Fail-safe [μ A]	100
Alarm current [mA]	20
Height [mm]	44
Diameter [mm]	100
Material of the body	PVC

Finish	PU	Order number
white	1	K-18883-00-0-0



Test gas for smoke detectors

- To spray directly in the smoke chamber
- Non-inflammable

Technical data	
Use	for the fast functional check of smoke switches

Content [ml]	PU	Order number
250	1	K-17497-00-0-0

Heat detector



WMD3 heat detector

- For automatic early fire detections and alarm triggering via the SHEV central control system in event of fire
- Intelligent evaluation and suppression mode for disturbance variables for the prevention of false alarms
- Tested in accordance with EN 54-5
- Multi-coloured LED for alarm (red) and fault display (yellow)
- Including mounting base
- Thermal measuring unit with evaluation according to the differential and maximal procedure
- Important: do not use in spaces with high build-up of dust, smoke or vapour

Technical data	
Nominal voltage [V]	24
Operating voltage DC [V]	9-33
Protection type	IP 40
Fail-safe [μ A]	100
Alarm current [mA]	20
Height [mm]	44
Diameter [mm]	100
Material of the body	PVC

Finish	PU	Order number
white	1	K-18884-00-0-0

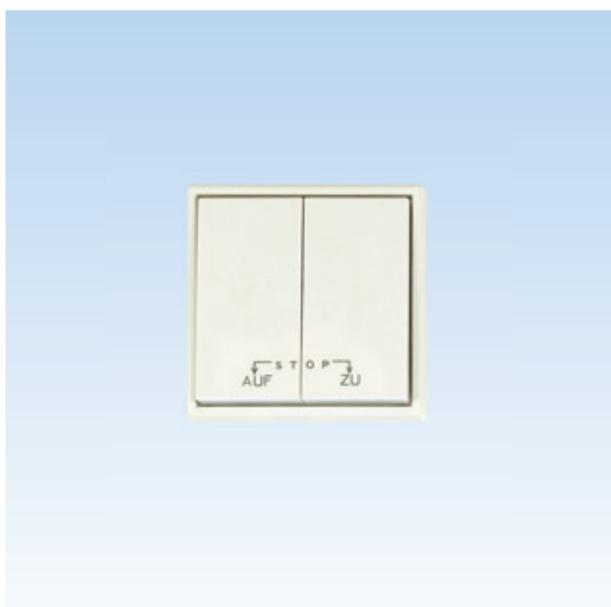
Ventilation push-button



Ventilation spring-operated key switch ON – STOP – OFF

- Prepared for profile half cylinder

Technical data		
Version	flush-mounted	
Width [mm]	80	
Height [mm]	152	
Depth [mm]	35	
	PU	Order number
	1	6-25838-00-0-0

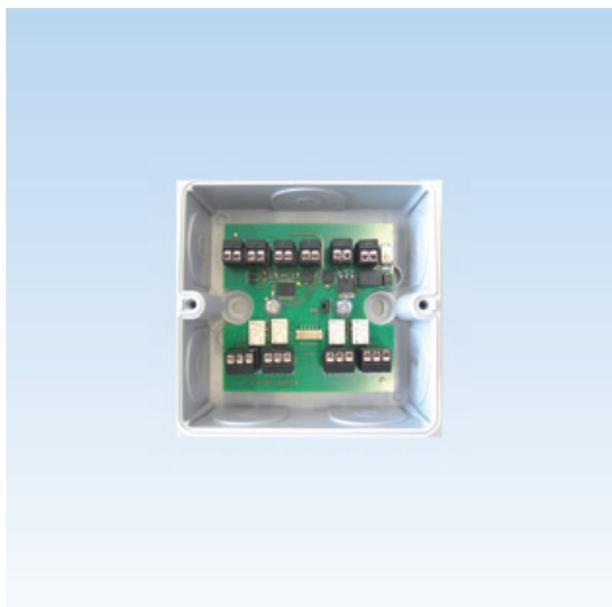


Ventilation push button ON - OFF

Technical data	
Width [mm]	80
Height [mm]	80
Finish	pearl white (RAL 1013)

Version	Use	Depth [mm]	PU	Order number
On-wall version	-	44	1	6-24372-00-0-0
In-wall version	for installation in flush-mounted cans Ø 60 mm	35	1	6-24373-00-0-0

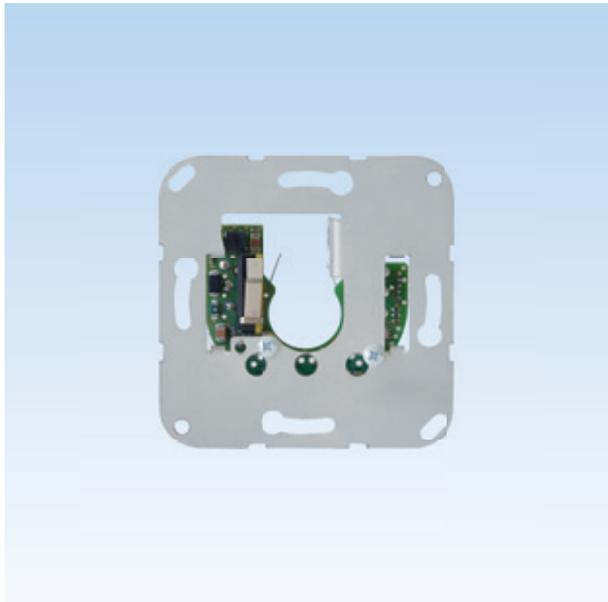
Input / Output module



Input/output module IO10

Technical data		
Use	provides inputs and outputs for central control	
	PU	Order number
	1	B 5580 0321

Spring-operated key switch



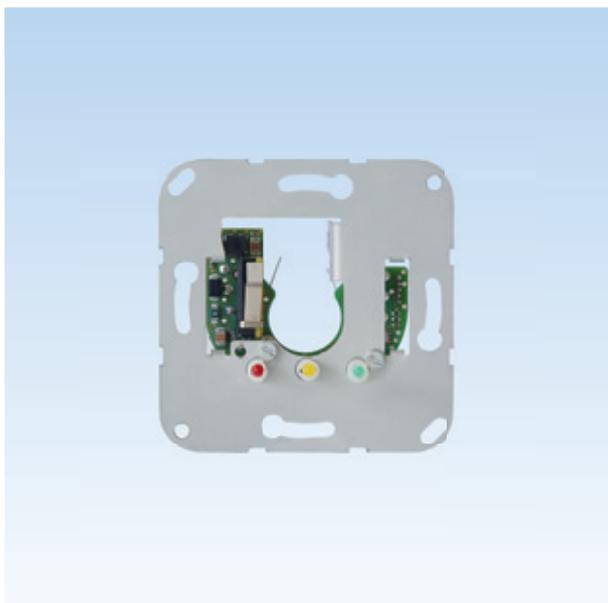
ST10 spring-operated key switch

Technical data	
Use	Central operating unit for the central control systems networked via the BKS-NET interface
Version	without LEDs

	PU	Order number
	1	B 5580 0311

Note

- Locking cylinder, frame and covers must be ordered separately (see following pages)



ST20 spring-operated key switch

Technical data	
Use	Central operating unit for the central control systems networked via the BKS-NET interface
Version	with LEDs

	PU	Order number
	1	B 5580 0312

Note

- Locking cylinder, frame and covers must be ordered separately (see following pages)

Locking cylinder

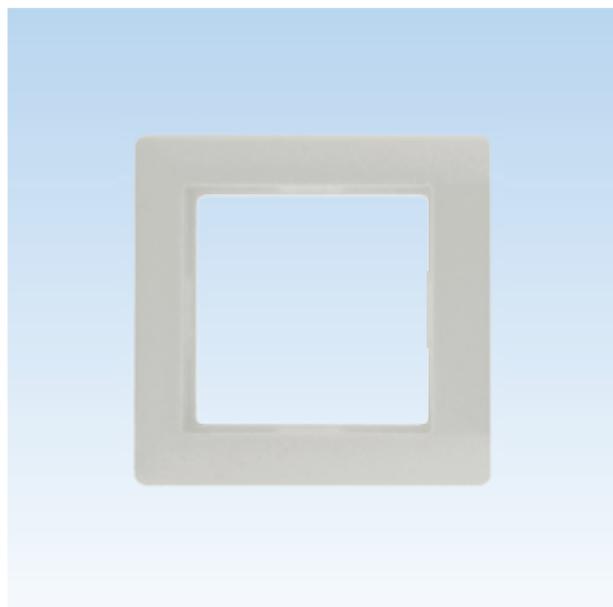


Locking half cylinder series 88

Technical data	
Use	Spring-operated key switch ST10, ST20
Version	31 mm including 3 keys

	PU	Order number
	1	B 8900 0101

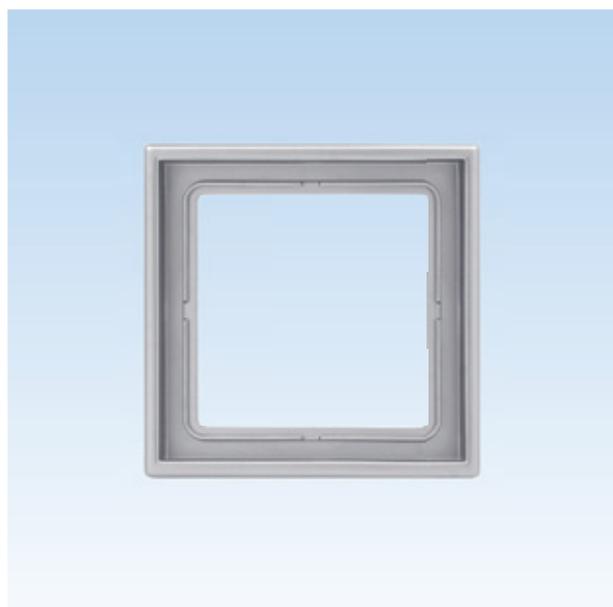
Frame



Frame AS500 (55 mm)

Technical data	
Use	Spring-operated key switch ST10, ST20

Version	Finish	PU	Order number
1-fold	alpine white	1	B 5858 1071
2-fold	alpine white	1	B 5858 1072



Frame LS990 (70 mm)

Technical data	
Use	Spring-operated key switch ST10, ST20

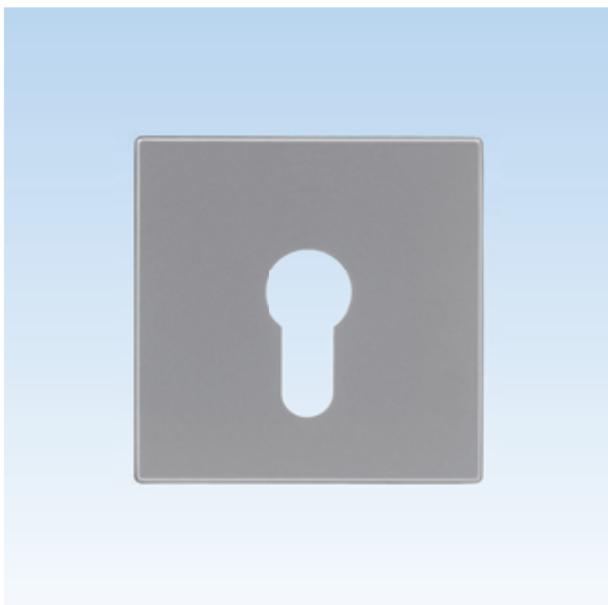
Version	Finish	PU	Order number
1-fold	stainless steel look	1	B 5858 0481
1-fold	alpine white	1	B 5858 0471
2-fold	stainless steel look	1	B 5858 0482
2-fold	alpine white	1	B 5858 0472



Cover AS500 (55 mm)

Technical data	
Use	Spring-operated key switch ST10, ST20

Version	Finish	PU	Order number
ST10	alpine white	1	B 5858 0873
ST20	alpine white	1	B 5858 0874



Cover LS990 (70 mm)

Technical data	
Use	Spring-operated key switch ST10, ST20

Version	Finish	PU	Order number
ST10	stainless steel look	1	B 5858 0981
ST10	alpine white	1	B 5858 0971
ST20	stainless steel look	1	B 5858 0982
ST20	alpine white	1	B 5858 0972

Wind/rain detector, rain sensor



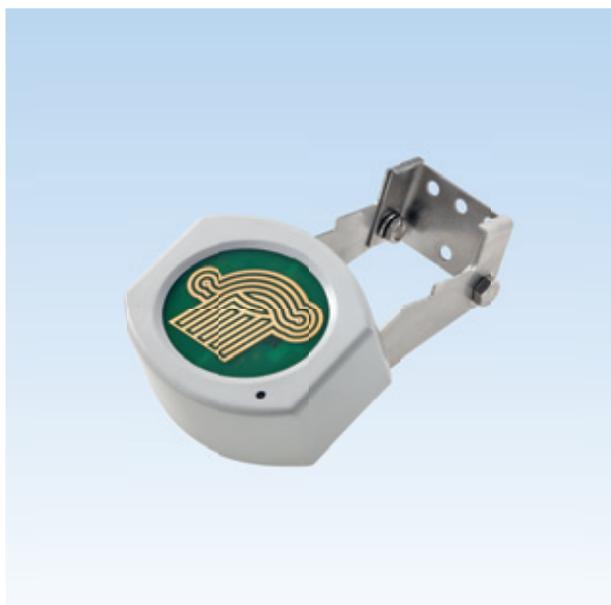
Wind/rain detector

Integral parts

- Wind sensor
- Rain sensor
- Bracket for mast or wall mounting
- Clamping ring

Technical data	
Use	for recording and transmission of the wind speed and rain detection to an analysis unit or SHEV central control unit to close the windows and block the ventilation push-button function
Operating voltage AC [V]	230
Operating voltage DC [V]	24
Length of connecting cable [m]	4
Width [mm]	250
Height [mm]	250
Depth [mm]	80

	PU	Order number
	1	K-15331-00-0-0



Rain sensor

- Rain sensor according to the conductance measurement principle with heated sensor surface and integrated electronic evaluation unit with potential-free contact to signal transmission
- Status display
- Installed heating
- Rating approx. 150 mA

Technical data	
Use	for recording and transmission of the rain detection to an analysis unit or SHEV central control unit to close the windows and block the ventilation push-button function
Operating voltage AC [V]	230
Operating voltage DC [V]	24
Protection type	IP 65
Length of connecting cable [m]	4
Width [mm]	100
Height [mm]	85
Depth [mm]	172

	PU	Order number
	1	9-39062-00-0-0

Wind/rain evaluation unit



WRAG 2 wind/rain evaluator

- With separate connection possibility of a closing contact (e.g. ventilation push-button, time switch)
- 4 adjustable DIP switches for signal transmission via relay outputs (2 x 1 Um)
- Adjustable switching point for wind speeds of 2.5 to 20 m/s
- Activity display indicating wind, rain, operating status
- Surface-mounted housing for top-hat rail 35 mm (6 TE)

Technical data	
Use	for switch-on delay in event of wind and rain as well as for switch-off delay in event of wind for the prevention of frequent switching
Operating voltage AC [V]	230
Switching current max. [A]	5
Protection type	IP 40
Frequency [Hz]	50
Width [mm]	105
Height [mm]	86
Depth [mm]	58
Finish	light grey (RAL 7035)
Material of the body	PVC

	PU	Order number
	1	9-42268-00-0-0

Relay for WRAG 2 contact contact multiplication

	PU	Order number
	1	9-42269-00-0-0

Timer switch



Timer switch

- With daily/weekly program and power reserve
- Potential-free changeover contact for connection to SHEV central control units
- Option of combination with temperature-dependent control units, e.g. for night cooling down (consideration of summer / winter time)
- Housing for top hat rail 35 mm

Technical data	
Use	for time-related opening and closing of ventilation sashes/leaves/flaps
Operating voltage AC [V]	230
Contact load max. [A]	16
Frequency [Hz]	50–60
Finish	white
Material of the body	PVC

	PU	Order number
	1	9-45612-00-0-0

CO₂ sensor, room temperature controller



CO₂ sensor MF

- Contact version: 2 x NO contact, max. 230 V, 0.5 A
- Surface-mounted PVC housing

Technical data	
Use	For measuring the concentration of carbon dioxide in the air (air quality) and to control the ventilation function in case of requirement
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	5
Switching current max. [A]	0.5
Measuring range CO2 [ppm]	0–3000
Protection type	IP 30
Pulse duration [s]	3.5
Width [mm]	78
Height [mm]	78
Depth [mm]	35
Finish	white
Material of the body	PVC

	PU	Order number
	1	K-19041-00-0-0



Room temperature controller

- For connection to the ventilation push-button input of SHEV and ventilation control units
- Switch capacity: 230 V AC, 5 A

Technical data	
Use	for automatic ventilation control depending on the ambient temperature (via integrated thermostat)
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	5
Protection type	IP 30
Adjustment range [°C]	5–30
Width [mm]	74.5
Height [mm]	74.5
Depth [mm]	25
Finish	white
Material of the body	PVC

	PU	Order number
	1	K-19040-00-0-0

Information signs



Sign "Smoke exhaust"

- According to DIN 4066

Technical data	
Material	Aluminium
Width [mm]	210
Height [mm]	75
Depth [mm]	1

	PU	Order number
	1	9-22277-00-0-0



Sign "Ventilation"

Technical data	
Material	Aluminium
Width [mm]	210
Height [mm]	75
Depth [mm]	1

	PU	Order number
	1	9-25546-00-0-0

Backup batteries



Backup batteries

Technical data	
Use	to secure the stand by in event of power failure exceeding 72 hours
Operating voltage min. [V]	12

Note

- The batteries must always be ordered in pairs

Suitable control units	Nominal capacity [Ah]	Number of ventilation groups [piece]	PU	Order number
RZ25	2.3	-	1	9-47475-00-0-0
RZ50 RZ75	3.2	-	1	9-48529-00-0-0
RZ100 RZ200	7	-	1	9-40285-00-0-0
RZM240 RZM480	17	2-4	1	9-45327-00-0-0
	24	4-6	1	9-40287-00-0-0
	38	6-8	1	9-40288-00-0-0

Portable test set, log book



Portable test set

- For operating 24 V DC/230 V AC drives
- Digital display of maximum and instantaneous current
- Separate 24 V and 230 V power connections
- Push-to-lock switch and dead man's switch
- Integrated battery pack
- With deep discharge protection/automatic switch-off after 30 minutes without actuation for protection of the batteries
- Switching capacity: 24-V drives up to 5 A / 230-V drives up to 4 A

Technical data	
Width [mm]	250
Height [mm]	250
Depth [mm]	210
Material of the body	PVC

Weight [kg]	PU	Order number
3.6	1	K-17736-00-0-6



Log book

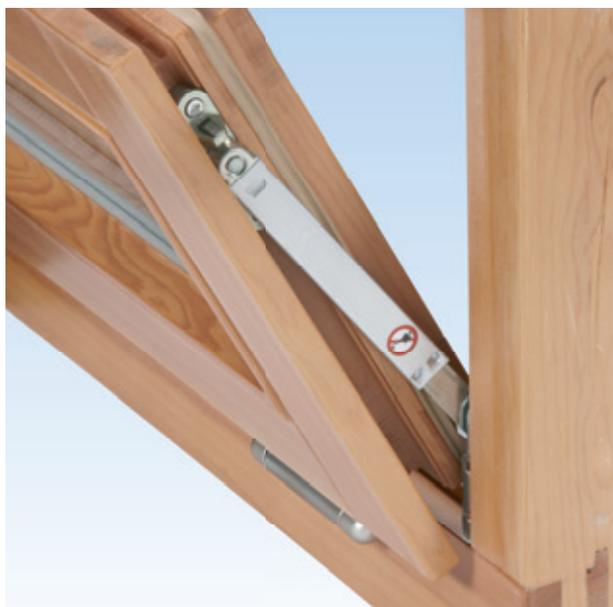
- Acceptance report
- Documentation for smoke and heat exhaust ventilation systems
- Verification of maintenance carried out
- Checklists for the function test and commissioning

	PU	Order number
	1	K-18165-00-0-0



EURO-SOLID GU restrictor and cleaning stay

For timber, PVC and metal windows



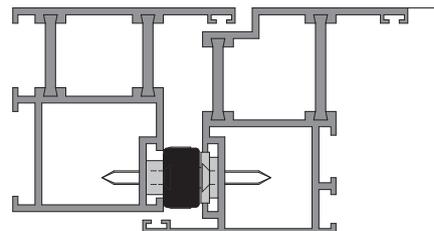
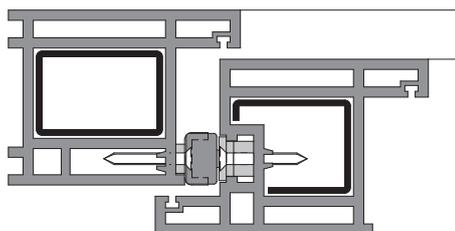
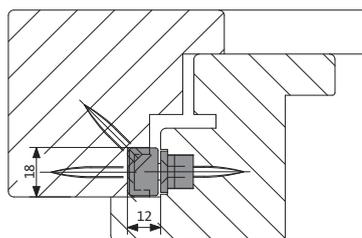
EURO-SOLID GU restrictor and cleaning stay

- The RAL directives stipulate: Bottom-Hung sashes must be equipped with restrictor stays in addition to the fanlight hardware.
- The GU restrictor and cleaning stays prevent damage that could occur due to improper hinging of the opening stays. Moreover, they provide ideal convenience for cleaning because the sash is held in the required position.

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Frame material	Timber PVC Metal

Size	PU	Order number
01	10	6-27995-01-0-8
02	20	6-27995-02-0-8
03	20	6-27995-03-0-8
04	20	6-27995-04-0-8

Size	Sash height min. [mm]	Sash height max. [mm]	Opening-angle with restrictor position min. [°]	Opening-angle with restrictor position max. [°]	Max. sash weight per stay [kg]
01	270	350	-	30	15
02	351	500	40	45	15
03	501	800	25	30	30
04	801	1500	15	20	30





Drilling jig set for frame and sash

Technical data		
Use	EURO-SOLID restrictor and cleaning stay	
	PU	Order number
	1	K-14788-00-0-0

Packer for Euro-groove 7/8 x 4, 6/8 x 4 / timber

	PU	Order number
	20	9-38819-00-0-1

Profile accessories for timber Bottom-Hung windows

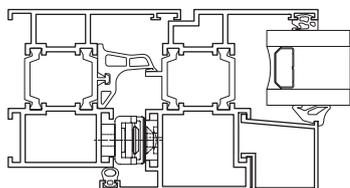
	PU	Order number
	20	K-14681-00-0-1

Note

- For PVC and metal Bottom-Hung windows on request

GU restrictor stays

For metal windows



GU restrictor stays

- The RAL directives and the technical rules of the ASR A 1.6 workplaces stipulate: Bottom-Hung sashes must be equipped with restrictor stays in addition to the drive system.
- The GU restrictor stays prevent damage that could occur due to improper hinging of the chain drives on the sash. They permanently connect the sash to the frame and therefore provide additional operating safety, whilst also preventing the sash from falling.
- Use on large and heavy Bottom-Hung windows up to 250 kg
- Safety catch function only (no cleaning function)
- Can be used together with locking drives ^[1]

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward

Without vertical locking

Size	Travel [mm]	Sash height min. [mm]
01	300	320
	400	400
00	500	500
	600	800

Size	PU	Order number
01	1	K-17915-01-0-8
00	1	K-17915-00-0-8

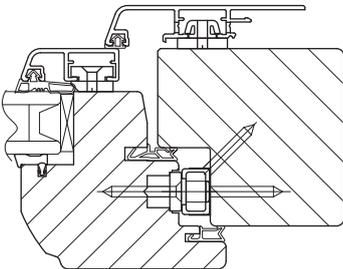
With vertical locking

Size	Travel [mm]	Sash height min. [mm]
01	300	900
	400	650
00	400	2000
	500	1100

Size	PU	Order number
01	1	K-17915-01-0-8
00	1	K-17915-00-0-8

GU restrictor stays

For timber windows



GU restrictor stays

- The RAL directives and the technical rules of the ASR A 1.6 workplaces stipulate: Bottom-Hung sashes must be equipped with restrictor stays in addition to the drive system.
- The GU restrictor stays prevent damage that could occur due to improper hinging of the chain drives on the sash. They permanently connect the sash to the frame and therefore provide additional operating safety, whilst also preventing the sash from falling.
- Use on large and heavy Bottom-Hung windows up to 250 kg
- Safety catch function only (no cleaning function)
- Can be used together with locking drives ^[1]

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward

Without vertical locking

Size	Travel [mm]	Sash height min. [mm]
01	300	550
	400	770
00	500	690
	600	700

Size	PU	Order number
01	1	K-17915-01-0-8
00	1	K-17915-00-0-8

With vertical locking

Size	Travel [mm]	Sash height min. [mm]
00	400	1101
	500	1001

Size	PU	Order number
00	1	K-18046-00-0-8

[1] The application information for use with locking drives can be found in the respective installation instructions





Electric drive and opening systems (230 V)

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Accessories

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Manual opening systems

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Ventilation systems

Controlling the climate conveniently

Statutory measures regarding thermal insulation (e.g. the German Energy Saving Ordinance – EnEV) are leading to increasingly well-insulated building shells, thus largely preventing a climatic exchange through diffusion between the internal and external environments. Sophisticated and effective ventilation systems are therefore extremely important in creating a climate that is as natural as possible and that supports health, even in energy-efficient buildings. The Gretsch-Unitas group offers you individual solutions for convenient, everyday room ventilation. Whether it be an inward or outward-opening Top-Hung or Bottom-Hung sash, pitched, triangular, round or segmental arched windows – the ventilation systems from the GU group leave nothing to be desired.





Electric drive and opening systems (230 V)

Product overview



With a programme of different fanlight opening systems as well as chain and spindle drives, the Gretsche-Unitas group offers individual solutions for convenient daily ventilation.

The window type does not matter: whether rectangular, inward-opening Top-Hung or Bottom-Hung sashes, outward-opening Top-Hung windows, pitched, triangular, round or segmental arched windows – virtually any application is possible with the solutions from the GU group.

Modern chain drives from Gretsche-Unitas allow for automatic and convenient room ventilation. Thanks to their appealing, compact and flat design, they are perfectly suited to windows of any type and architectural style.

An array of mounting styles enable virtually any installation situation on a variety of inward or outward-opening window types – Top-Hung, Bottom-Hung, Side-Hung, Parallel-Projecting, Projecting Top-Hung, Horizontal- or Vertical-Pivot, as well as skylights.

The intelligent, integrated electronics also enables the synchronous control of several drives.

Spindle drives ensure convenient, electro-motor-driven room ventilation on heavy and large skylights and facade openings.

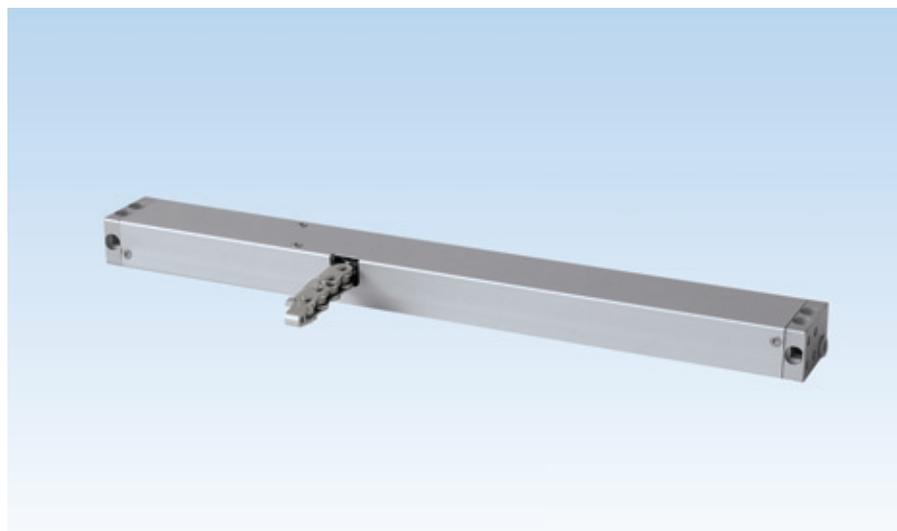
Electric drive and opening systems (230 V)

Product overview

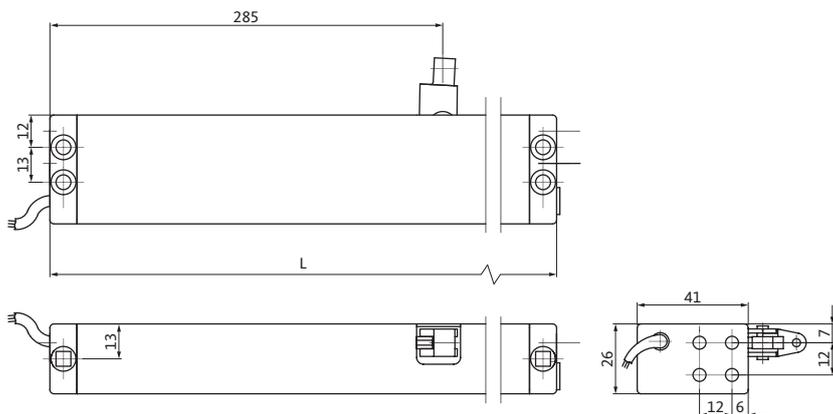


Designation	Chain drives					Spindle drives / rack and pinion drives		Electric drive
	K25	K30	KS 30/40	KS 30/40 radio	K60	S80	Z45	
ELTRAL	K25	K30	KS 30/40	KS 30/40 radio	K60	S80	Z45	S 230
Page	182	188	192	194	200	208	212	226
Nominal voltage	230 V AC ± 15%	110/230 V AC ± 15%	110/230 V AC ± 15%	110/230 V AC ± 15%	230 V AC ± 15%	230 V AC ± 15%	230 V AC ± 15%	230 V AC ± 10%
Push/pull force [N]	250 ^[1]	300	300	300	600 ^[1]	800	450	1400
Nominal current [A]	0.2	0.16	0.12	0.16	0.2	0.12	0.25	0.4
Travel speed [mm/s]	8.0	8.9	9.0	10.0	8.0	7.0	5.5	1.2
Opening width/travel [mm]	200 300 400	300–500 variable adjustment	200–400 variable adjustment	200–400 variable adjustment	250 400 600	300 500 750	230 350 550 ^[2]	40–70 variable adjustment ^[3]
Protection type [IP]	32	32	30	30	32	54	44	20
Duty ratio [%]	30	30	30	30	30	30	20	25
Locking force [N]	1800	2000	1000	1000	3000	3000	2000	–
Ambient temperature [°C]	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-15 to +70
Suitable for skylights	–	■ ^[1]	■ ^[1]	■ ^[1]	■ ^[1]	■	■	–
Synchronous control	optional	optional	optional	–	optional	–	–	–
Concealed installation	■	–	–	–	–	–	–	–
Dimensions LxHxD [mm]	Lx26x41	456x43x60	386x38x58	386x38x58	Lx40x56	Lx43x76	Lx54x115	210x81.5x32.5
Connecting cable	3 m; 6 x 0.75 mm ²	2 m; 3 x 0.5 mm ² (Solo) 2.5 m; 5 x 0.5 mm ² (Synchro)	2 m; 3 x 0.75 mm ² (Solo) 2.5 m; 5 x 0.75 mm ² (Synchro)	2 m; 3 x 0.75 mm ²	3 m; 6 x 0.75 mm ²	1 m; 6 x 0.75 mm ²	2 m; 3 x 0.75 mm ²	Connection plug for 4-wire connecting cable
<p>[1] Depending on travel / force-displacement curve [2] Larger travel widths available on request [3] Preset to travel 50 mm = 200 mm opening width</p>								

ELTRAL K25 chain drive



- Compact size
- The integrated microprocessor control ensures automatic and and overload cut-off
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for small sash heights from 325 mm
- Anodised aluminium housing



Technical data	
Nominal voltage [V]	230
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.2
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	6 x 0.75

Travel [mm]	Push force [N]	Runtime [s]
200	250	25
300	250	38
400	200	50

ELTRAL K25 chain drive



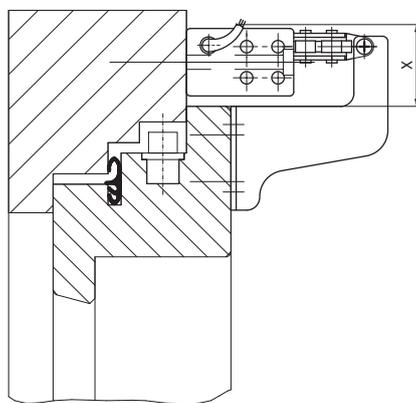
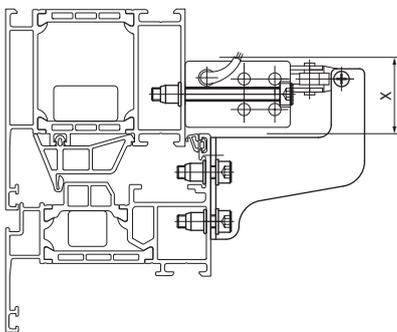
Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL K25 Solo	1 chain drive	200	475	EV1, silver	1	K-18310-20-0-1
		300	520	EV1, silver	1	K-18310-30-0-1
		400	570	EV1, silver	1	K-18310-40-0-1
ELTRAL K25 Synchro	2 chain drives	200	475	EV1, silver	1	K-18311-20-0-1
		300	520	EV1, silver	1	K-18311-30-0-1
		400	570	EV1, silver	1	K-18311-40-0-1

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special cable lengths on request
- Special colours on request
- Fixing sets must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 238/239)

ELTRAL K25 chain drive

Fixing sets – surface-mounted installation



K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	direct surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	425
300	500
400 ^[3]	600
500 ^[3]	750
600 ^[3]	950
800 ^[3]	1250

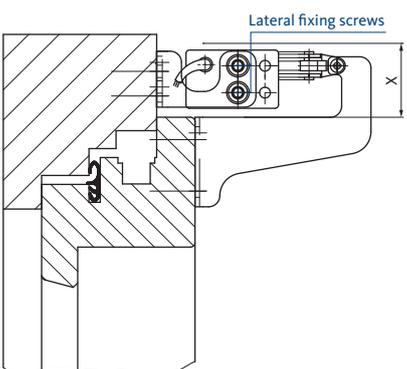
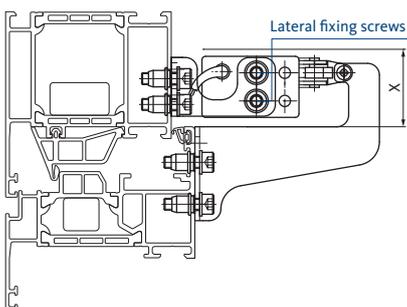
Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	30 - -	1	K-17593-00-0-8
Timber PVC ^[2]	- 31.5 31.5	1	K-17635-00-0-8

K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Finish	stainless steel

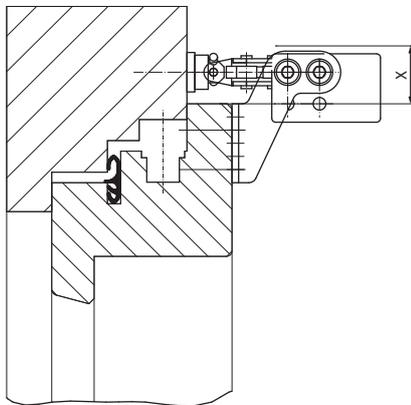
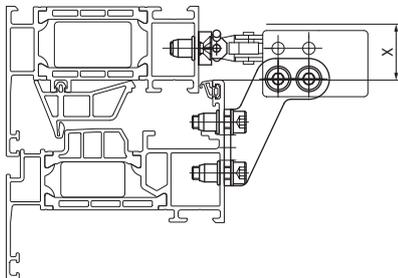
Travel [mm]	Sash height min. for FI pivotable [mm]	Sash height min. for FI fixed [mm]
200	250	425
300	350	500
400 ^[3]	550	600
500 ^[3]	750	750
600 ^[3]	950	950
800 ^[3]	1300	1250

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	33 - -	1	K-17594-00-0-8
Timber PVC ^[2]	- 33 33	1	K-17636-00-0-8



ELTRAL K25 chain drive

Fixing sets – surface-mounted installation

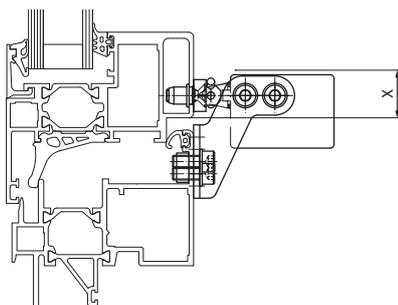


K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Finish	stainless steel

Travel [mm]	Sash height min. for SI [mm] ^[4]	Sash height min. for FI [mm]
200	325	325
300	450	450
400 ^[3]	550	–
500 ^[3]	700	–
600 ^[3]	800	–
800 ^[3]	1100	–

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	22 – –	1	K-17595-00-0-8
Timber PVC ^[2]	– 22 22	1	K-17637-00-0-8



K25 fixing set with base plate

Technical data	
Opening type	Top-Hung window
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	19.5 – –
Finish	stainless steel

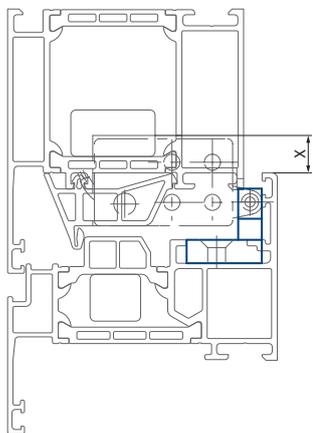
Travel [mm]	Sash height min. for FI [mm]
200	325
300	450
400	–
500	–
600	–
800	–

Frame material	PU	Order number
Aluminium ^[1]	1	K-17706-00-0-8

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)
 [4] depending on profile; see profile-related installation drawings

ELTRAL K25 chain drive

Fixing sets – concealed installation

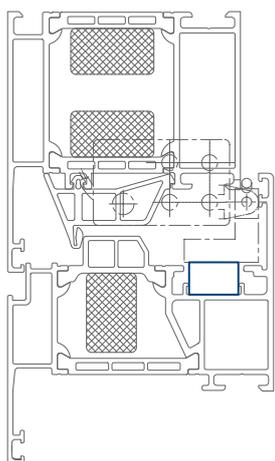


S K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	12 - -
Finish	untreated

Travel [mm]	Sash height min. for FI [mm]
200	500
300	650
400 ^[3]	800
500 ^[3]	1000
600 ^[3]	1200
800 ^[3]	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-17874-00-0-0



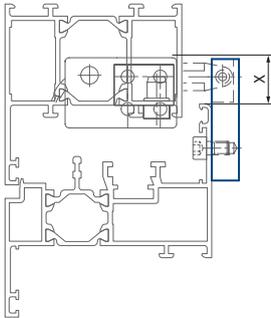
Packer for S K25 fixing set

Technical data	
Version	in combination with S K25 fixing set K-17874

	PU	Order number
	1	K-17875-00-0-0

ELTRAL K25 chain drive

Fixing sets – concealed installation

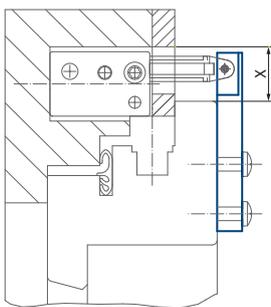


W K25 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	29 - -
Finish	EV1, silver

Travel [mm]	Sash height min. for FI [mm]
200	500
300	650
400 ^[3]	800
500 ^[3]	1000
600 ^[3]	1200
800 ^[3]	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-17880-00-0-1



K25 fixing set with base plate

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	concealed
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	- 25 -
Finish	EV1, silver

Travel [mm]	Sash height min. for FI [mm]
200	500
300	650
400	800
500	1000
600	1200
800	1400

Frame material	PU	Order number
Timber ^[2]	1	K-17909-00-0-1

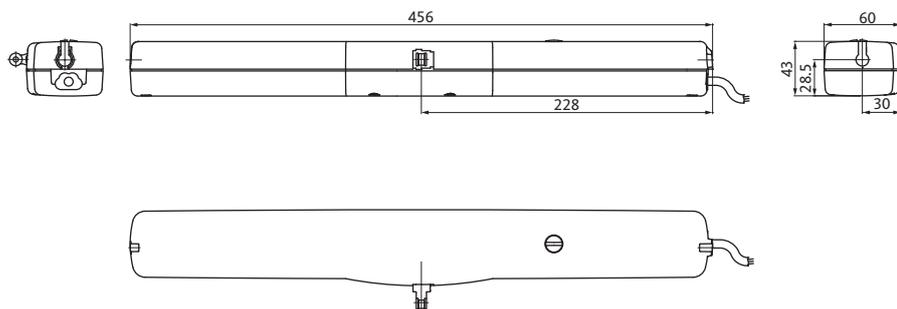
Note: additional profile systems available on request

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)

ELTRAL K30 chain drive



- Compact size
- Synchronised tandem operation
- The integrated microprocessor control unit
 - ensures automatic end and overload cut-off regardless of the overlap thicknesses
 - enables automatic seal relief
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for small sash heights from 350 mm
- Travel adjustment in 3 stages:
 - 500 mm to 400 mm or 300 mm
- Painted aluminium housing



Technical data	
Nominal voltage [V]	110 / 230
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.16

Travel [mm]	Push force [N]	Runtime [s]
300	300	34
400	300	45
500	300	56

ELTRAL K30 chain drive



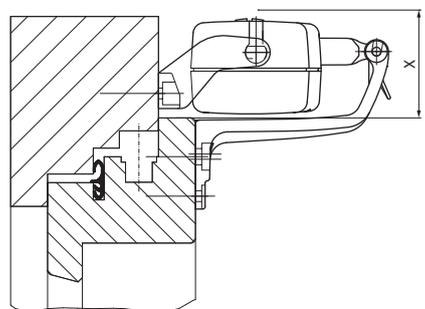
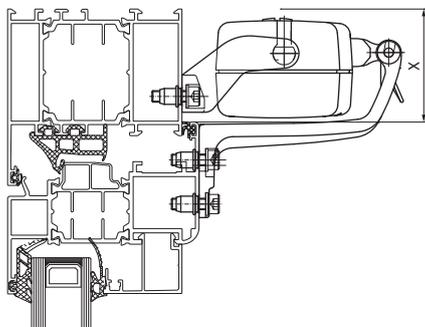
Model	Consists of	Travel max. [mm]	Length [mm]	Length of connecting cable [m]	Type of connecting cable [mm ²]	Finish	PU	Order number
ELTRAL K30 Solo	1 chain drive	500	456	2	3 x 0.5	silver (RAL 9006)	1	K-17834-00-0-1
		500	456	2	3 x 0.5	black (RAL 9005)	1	K-17834-00-0-6
		500	456	2	3 x 0.5	white (RAL 9010)	1	K-17834-00-0-7
ELTRAL K30 Synchro	2 chain drives	500	456	2.5	5 x 0.5	silver (RAL 9006)	1	K-17835-00-0-1
		500	456	2.5	5 x 0.5	black (RAL 9005)	1	K-17835-00-0-6
		500	456	2.5	5 x 0.5	white (RAL 9010)	1	K-17835-00-0-7

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special cable lengths on request
- Special colours on request
- Fixing sets must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 238/239)

ELTRAL K30 chain drive

Fixing sets – surface-mounted installation

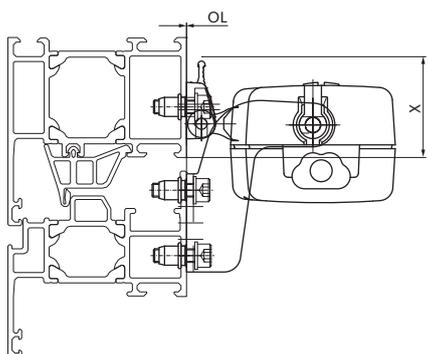


K30 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	50 50 50

Travel [mm]	Sash height min. for FI [mm]
300	350
400	550
500	700

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 9006)	1	K-18157-00-0-1
	black painted (RAL 9005)	1	K-18157-00-0-6
	white painted (RAL 9010)	1	K-18157-00-0-7



K30 fixing set

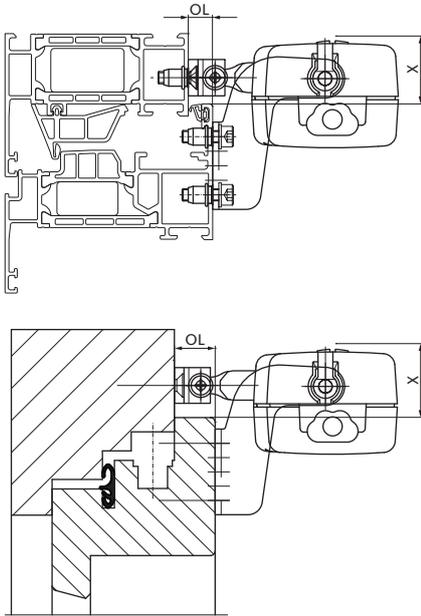
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Overlap OL [mm] ^[2]	0
Space requirement X min. Aluminium Timber PVC [mm]	37 37 37

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
300	500	350
400	700	450
500	900	600

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 9006)	1	K-17841-00-0-1
	black painted (RAL 9005)	1	K-17841-00-0-6
	white painted (RAL 9010)	1	K-17841-00-0-7

ELTRAL K30 chain drive

Fixing sets – surface-mounted installation

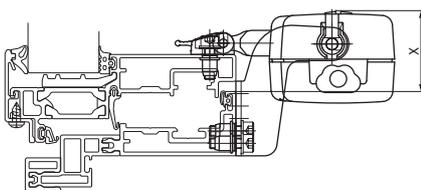


K30 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Overlap OL [mm] ^[2]	4
Space requirement X min. Aluminium Timber PVC [mm]	28 31 31

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
300	500	350
400	700	450
500	900	600

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 9006)	1	K-17843-00-0-1
	black painted (RAL 9005)	1	K-17843-00-0-6
	white painted (RAL 9010)	1	K-17843-00-0-7



K30 fixing set

Technical data	
Opening type	Projecting Top-Hung windows
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	39 - -

Travel [mm]	Sash height min. for FI [mm]
300	350
400	450
500	600

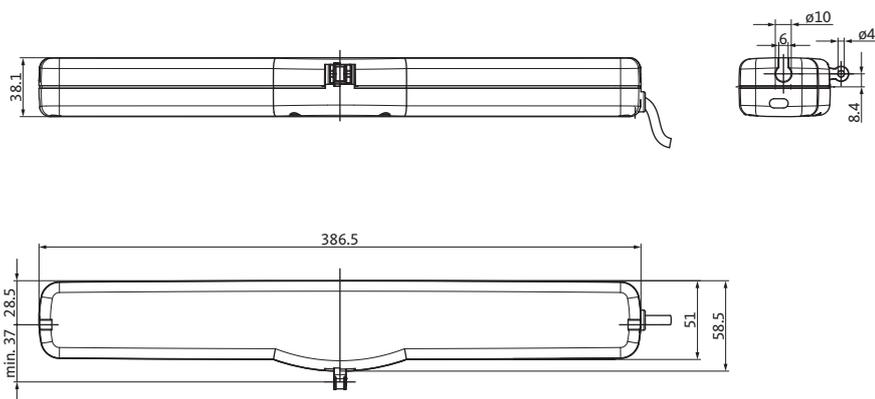
Frame material	Finish	PU	Order number
Aluminium ^[1]	silver painted (RAL 9006)	1	K-17840-00-0-1
	black painted (RAL 9005)	1	K-17840-00-0-6
	white painted (RAL 9010)	1	K-17840-00-0-7

[1] without fixing screws | [2] only for installation on frame, outward Top-Hung window

ELTRAL KS 30/40 chain drive



- Cost-effective and efficient entry model
- Compact size
- Synchronised tandem operation
- The integrated microprocessor control unit
 - ensures automatic end and overload cut-off regardless of the overlap thicknesses
 - enables automatic seal relief
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class PC3
- Suitable for sash heights from 250 mm
- Travel adjustment in 3 stages:
 - 400 mm to 300 mm or 200 mm
- Quick and simple installation with the accompanying installation template
- Painted PVC housing



Technical data	
Nominal voltage [V]	110 / 230
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.12

Travel [mm]	Push force [N]	Runtime [s]
200	300	22
300	250	33
400	200	44

ELTRAL KS 30/40 chain drive



Model	Consists of	Travel max. [mm]	Length [mm]	Length of connecting cable [m]	Type of connecting cable [mm ²]	Finish	PU	Order number
ELTRAL KS 30/40 Solo	1 chain drive	400	386	2	3 x 0.75	silver (RAL 7047)	1	K-17433-00-0-1
		400	386	2	3 x 0.75	black (RAL 9004)	1	K-17433-00-0-6
		400	386	2	3 x 0.75	white (RAL 9003)	1	K-17433-00-0-7
		400	386	5	3 x 0.75	silver (RAL 7047)	1	K-17433-05-0-1
		400	386	5	3 x 0.75	black (RAL 9004)	1	K-17433-05-0-6
		400	386	5	3 x 0.75	white (RAL 9003)	1	K-17433-05-0-7
ELTRAL KS 30/40 Synchro	2 chain drives	400	386	2.5	5 x 0.75	silver (RAL 7047)	1	K-17435-02-0-1
		400	386	2.5	5 x 0.75	black (RAL 9004)	1	K-17435-02-0-6
		400	386	2.5	5 x 0.75	white (RAL 9003)	1	K-17435-02-0-7

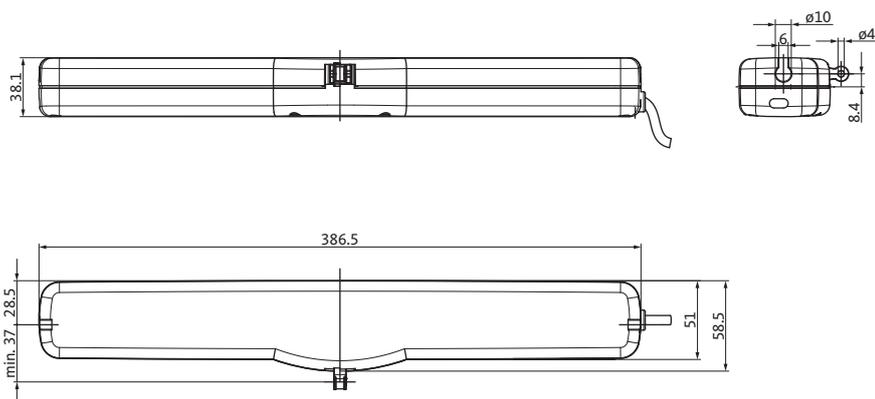
Note

- See page 343 for information on protection class PC3 (Evaluation of risks for power-operated windows in accordance with Machine Directive 2006/42/EC)
- Special cable lengths on request
- Special colours on request
- Fixing sets for standard applications are included in the scope of delivery
- Fixing sets for special application must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 238/239)

ELTRAL KS 30/40 radio chain drive



- With integrated radio receiver
- Radio remote control and/or ventilation push-button
- Compact size
- The integrated microprocessor control unit
 - ensures automatic end and overload cut-off regardless of the overlap thicknesses
 - enables automatic seal relief
- Suitable for small sash heights from 250 mm
- Travel adjustment in 3 stages:
 - 400 mm to 300 mm or 200 mm
- Quick and simple installation with the accompanying installation template
- Painted PVC housing



Technical data	
Nominal voltage [V]	110 / 230
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.16
Length of connecting cable [m]	2
Type of connecting cable [mm ²]	3 x 0.75

Travel [mm]	Push force [N]	Runtime [s]
200	300	20
300	250	30
400	200	40

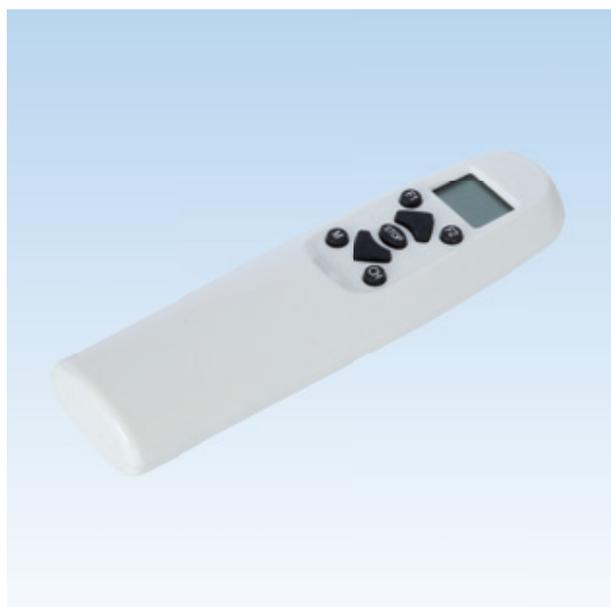
ELTRAL KS 30/40 radio chain drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL KS 30/40 radio	1 chain drive	400	386	silver (RAL 7047)	1	K-19045-00-0-1
		400	386	black (RAL 9004)	1	K-19045-00-0-6
		400	386	white (RAL 9003)	1	K-19045-00-0-7

Note

- Special cable lengths on request
- Special colours on request
- Fixing sets for standard applications are included in the scope of delivery
- Fixing sets for special application must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 238/239)
- The radio remote control must be ordered separately



Radio remote control

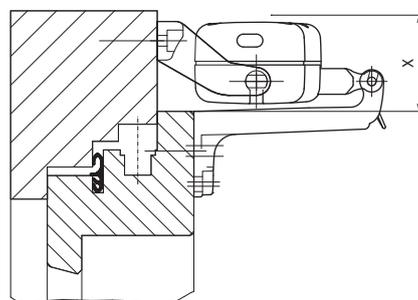
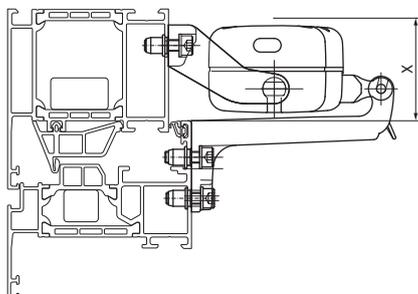
- Multichannel radio remote control for individual and group control of ELTRAL KS 30/40 radio chain drives
- Microprocessor-controlled
- With display indicator for
 - Functions
 - Transmission status
 - Battery charging status

Technical data	
Width [mm]	38.5
Height [mm]	145
Depth [mm]	22.5
Transmission range approx. [m]	50

	PU	Order number
	1	K-19046-00-0-0

ELTRAL KS 30/40, KS 30/40 radio chain drives

Fixing sets – surface-mounted installation

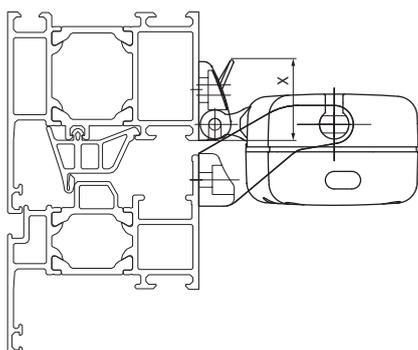


KS 30/40 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	45 45 45

Travel [mm]	Sash height min. for FI [mm]
200	600
300	1100
400	1500

Frame material	Finish	
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	contained in the scope of delivery
	black painted (RAL 9004)	
	white painted (RAL 9016)	



KS 30/40 fixing set

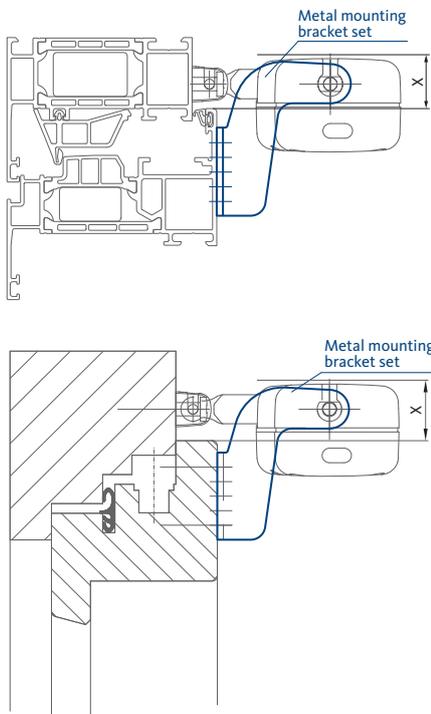
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	28 28 28

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	400	250
300	650	350
400	900	450

Frame material	Finish	
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	contained in the scope of delivery
	black painted (RAL 9004)	
	white painted (RAL 9016)	

ELTRAL KS 30/40, KS 30/40 radio chain drives

Fixing sets – surface-mounted installation



Metal mounting bracket set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	22 25 25

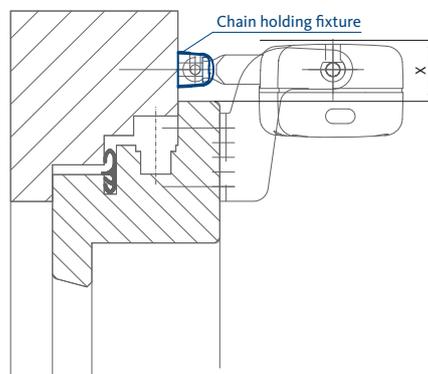
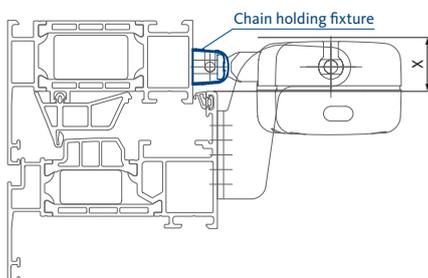
Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	400	250
300	650	350
400	900	450

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17720-00-0-1
	black painted (RAL 9004)	1	K-17720-00-0-6
	white painted (RAL 9003)	1	K-17720-00-0-7

[1] without fixing screws

ELTRAL KS 30/40, KS 30/40 radio chain drives

Fixing sets – surface-mounted installation

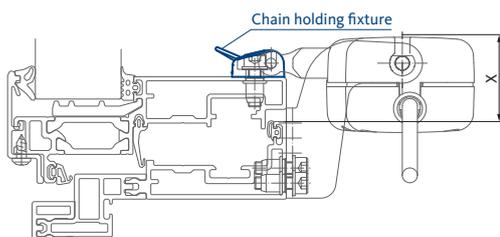


Chain holding fixture

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	22 25 25

Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	400	250
300	650	350
400	900	450

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17441-00-0-1
	black painted (RAL 9004)	1	K-17441-00-0-6
	white painted (RAL 9003)	1	K-17441-00-0-7



Chain holding fixture

Technical data	
Opening type	Projecting Top-Hung windows
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	36 36 36

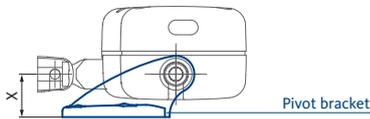
Travel [mm]	Sash height min. for FI [mm]
200	250
300	350
400	450

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	9-44272-00-0-1
	black painted (RAL 9004)	1	9-44272-00-0-6
	white painted (RAL 9003)	1	9-44272-00-0-7

ELTRAL KS 30/40, KS 30/40 radio chain drives



Fixing sets – surface-mounted installation

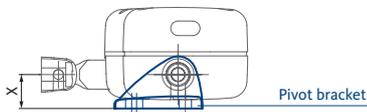


Pivot bracket for installation on reveal

Technical data	
Opening type	Top-Hung window
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Space requirement X min. Aluminium Timber PVC [mm]	17.5 17.5 17.5

Travel [mm]	Sash height min. for FI [mm]
200	600
300	1100
400	1500

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17440-00-0-1
	black painted (RAL 9004)	1	K-17440-00-0-6
	white painted (RAL 9003)	1	K-17440-00-0-7



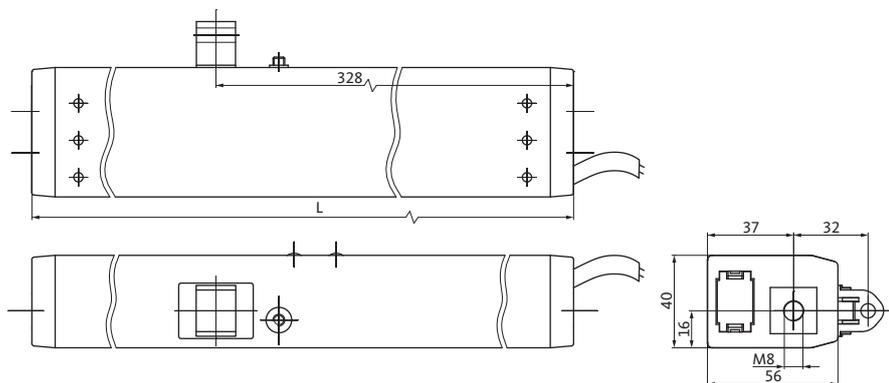
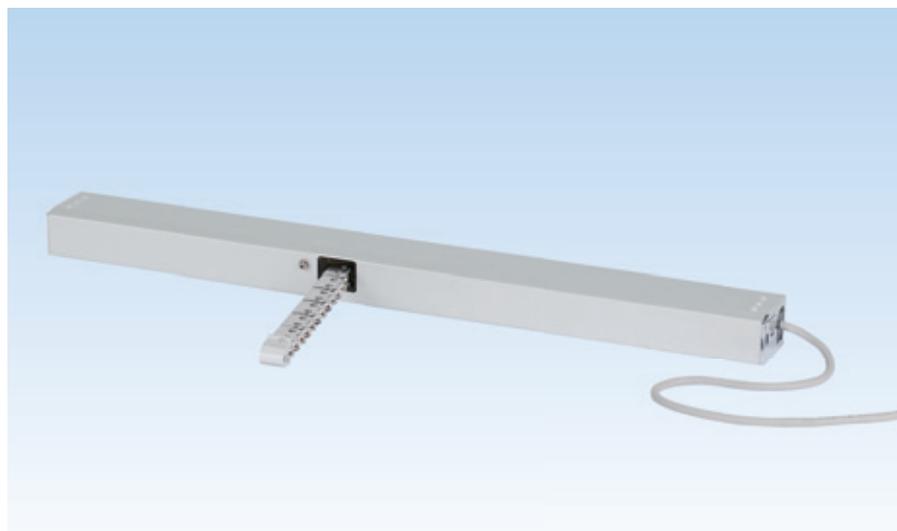
Pivot bracket

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Space requirement X min. Aluminium Timber PVC [mm]	14 14 14

Frame material	Finish	PU	Order number
Aluminium Timber PVC ^[1]	silver painted (RAL 7047)	1	K-17735-00-0-1
	black painted (RAL 9004)	1	K-17735-00-0-6
	white painted (RAL 9003)	1	K-17735-00-0-7

[1] without fixing screws

ELTRAL K60 chain drive



- Compact size
- The intelligent control electronics with m-com/m-com Click and with integrated 3A power supply unit
 - enables an additional 24 V connection so that an ELTRAL K60 (24 V) can be installed in Synchro operation
 - ensures automatic end and overload cut-off
 - enables the combination with a locking drive (24 V) for ventilation purpose without the need to install a power supply unit upstream
 - ensures soft start-up and soft switch-off in the end positions
- Reduced closing speed (max. 5 mm/s) along the final 50 mm is compliant with protection class PC3
- Pivotal fixings allow for small sash heights from 350 mm
- Plug-in cables at both ends of the drive facilitate assembly and installation expenditure (Plug-and-Play) for synchronised multiple operation
- Anodised aluminium housing

Technical data	
Nominal voltage [V]	230
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.2
Length of connecting cable [m]	3
Type of connecting cable [mm ²]	6 x 0.75

Travel [mm]	Push force [N]	Runtime [s]
250	600	50
400	600	50
600	300	75

ELTRAL K60 chain drive



Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL K60	1 chain drive	250	591	EV1, silver	1	K-19953-25-0-1
		400	667	EV1, silver	1	K-19953-40-0-1
		600	769	EV1, silver	1	K-19953-60-0-1

Note

- See page 343 for information on protection class PC3 (evaluation of risks for power-operated windows in accordance with Machinery Directive 2006/42/EC)
- Special colours on request
- Fixing sets must be ordered separately (see following pages)
- Universal connector for multiple operation, cable connection to be provided by customer and cable extension must be ordered separately (see following pages)
- In addition to the drive system, the Bottom-Hung sash must be equipped with restrictor stays (see pages 238/239)

Synchronised multiple operation

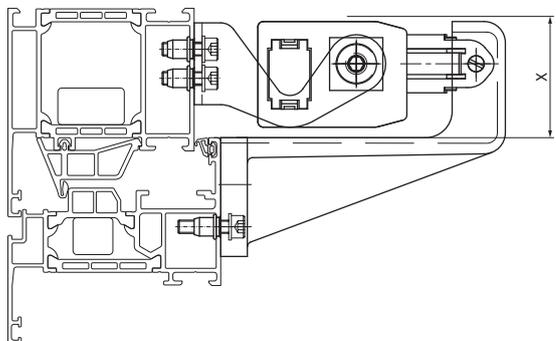
- The following combinations can be achieved in multiple operation with the main component m-com Click (connector version) K-19758
- The main control element m-com (mounted board) K-19757 is used for applications with a locking drive

Application range	Chain drive		Locking drives			Main control element		Fixing set K60
	K60 / 230 V	K60 / 24 V	VA25	VA35	OA m-com	m-com	m-com Click	
	K-19953	K-19952	K-19943	K-19944	K-19937	K-19757	K-19758	
K60 Solo	1	-	-	-	-	-	-	1
K60 Synchro	1	1	-	-	-	-	1	2
K60 Solo with VA25	1	-	1	-	-	1	-	1
K60 Synchro with VA25	1	1	1	-	-	1	-	2
K60 Solo with VA35	1	-	-	1	-	1	-	1
K60 Synchro with VA35	1	1	-	1	-	1	-	2
K60 Solo with OA	1	-	-	-	1	1	-	1
K60 Synchro with OA	1	1	-	-	1	1	-	2

- The main control element must be ordered separately. See page 110 for detailed information on m-com and m-com Click

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation

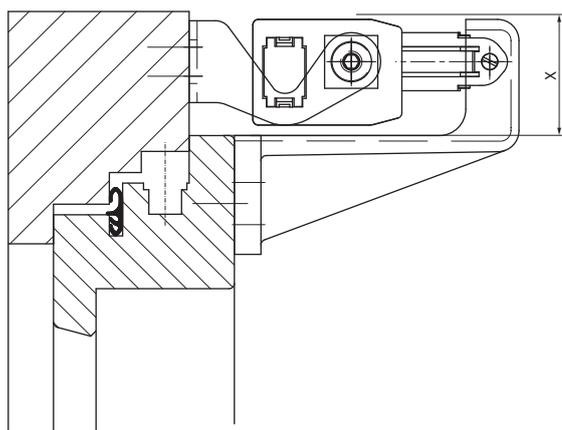


K60 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	48 - -
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	700
500	1000
600	1250
800	1800
1000	2300

Frame material	PU	Order number
Aluminium ^[1]	1	K-19935-00-0-8



K60 fixing set

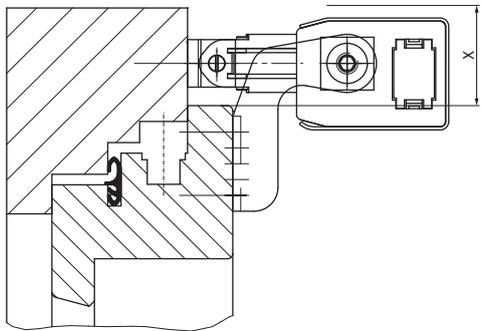
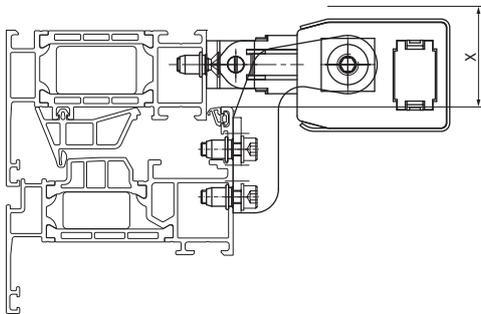
Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	- 48 48
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	700
500	1000
600	1250
800	1800
1000	2300

Frame material	PU	Order number
Timber PVC ^[2]	1	K-19936-00-0-8

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation



K60 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward outward
Opening direction Side-Hung window	inward
Mounting brackets	short mounting bracket
Finish	stainless steel

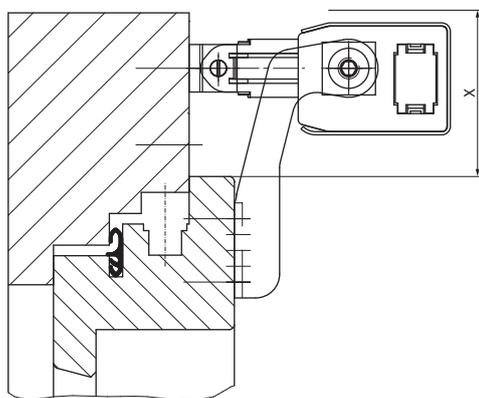
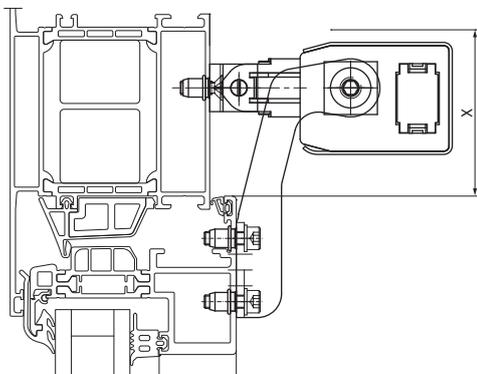
Travel [mm]	Sash height min. for SI [mm]	Sash height min. for FI [mm]
200	450	350
250	450	350
400	750	900
500	1000	1100
600	1250	1400
800 ^[3]	1600	–
1000 ^[3]	2100	–

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	38 – –	1	K-17596-00-0-8
Timber PVC ^[2]	– 38 38	1	K-17638-00-0-8

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation

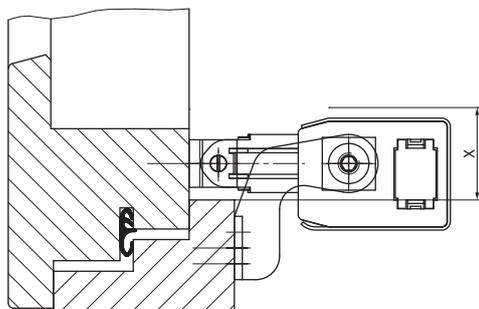
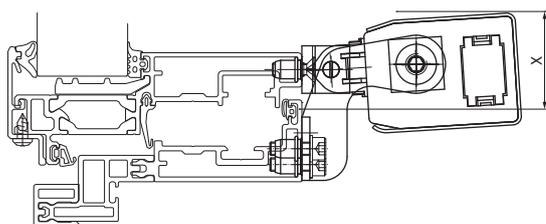


K60 fixing set

Technical data	
Opening type	Bottom-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Sash installation (SI)
Opening direction Bottom-Hung window	inward
Mounting brackets	long mounting bracket
Finish	stainless steel

Travel [mm]	Sash height min. for SI [mm]
200	250
250	250
400	400
500	550
600	700
800 ^[3]	900
1000 ^[3]	1200

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	63 - -	1	K-17598-00-0-8
Timber PVC ^[2]	- 63 63	1	K-17640-00-0-8



K60 fixing set

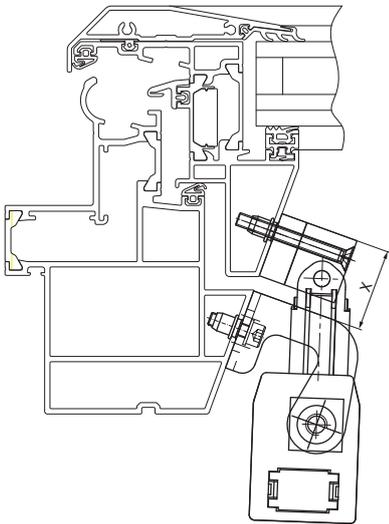
Technical data	
Opening type	Projecting Top-Hung windows
Type of installation	surface-mounted
Type of installation Top-Hung window	Frame installation (FI)
Opening direction Top-Hung window	outward
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	Space requirement X min. Aluminium Timber PVC [mm]	PU	Order number
Aluminium ^[1]	37 - -	1	K-17597-00-0-8
Timber ^[2]	- 35 -	1	K-17639-00-0-8

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation

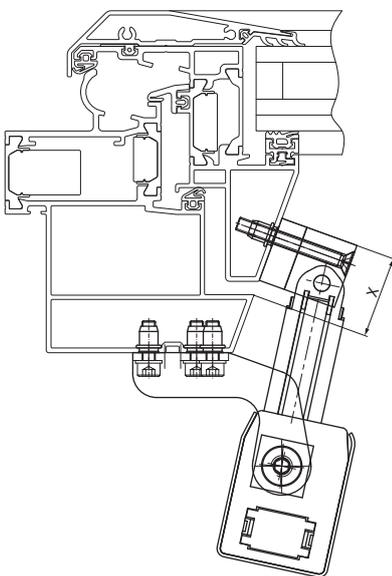


S K60 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Mounting brackets	Short mounting bracket
Space requirement X min. Aluminium Timber PVC [mm]	32 - -
Finish	stainless steel

Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-18262-00-0-8



S K60 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Mounting brackets	long mounting bracket
Space requirement X min. Aluminium Timber PVC [mm]	31 - -
Finish	stainless steel

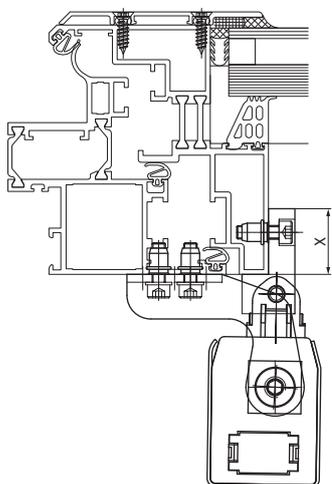
Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-18261-00-0-8

[1] with fixing screws | [2] without fixing screws | [3] only for Bottom-Hung window, inward (tensile load)

ELTRAL K60 chain drive

Fixing sets – surface-mounted installation



W K60 fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Type of installation skylight (drive)	Frame installation (FI)
Opening direction skylight	outward
Space requirement X min. Aluminium Timber PVC [mm]	25 - -
Finish	stainless steel

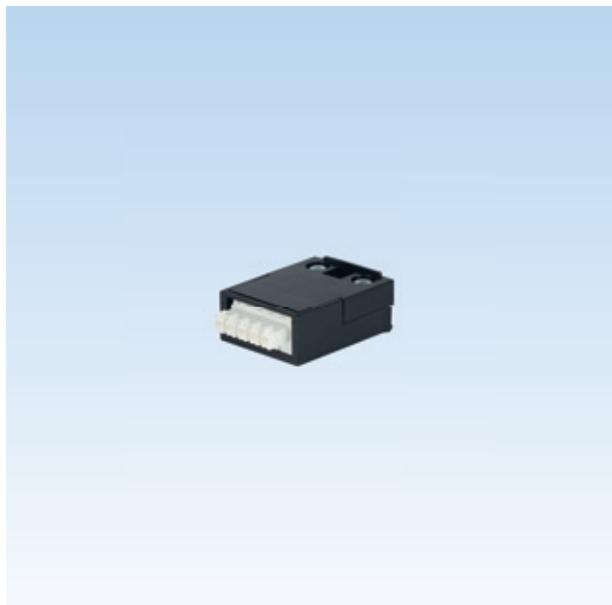
Travel [mm]	Sash height min. for FI [mm]
200	350
250	350
400	900
500	1100
600	1400

Frame material	PU	Order number
Aluminium ^[1]	1	K-17609-00-0-8

[1] with fixing screws

ELTRAL K60 chain drive

Universal connector



24 V universal connector

Technical data	
Use	for multiple operation, cable connection to be provided by customer and cable extension

	PU	Order number
	1	6-39672-00-0-0

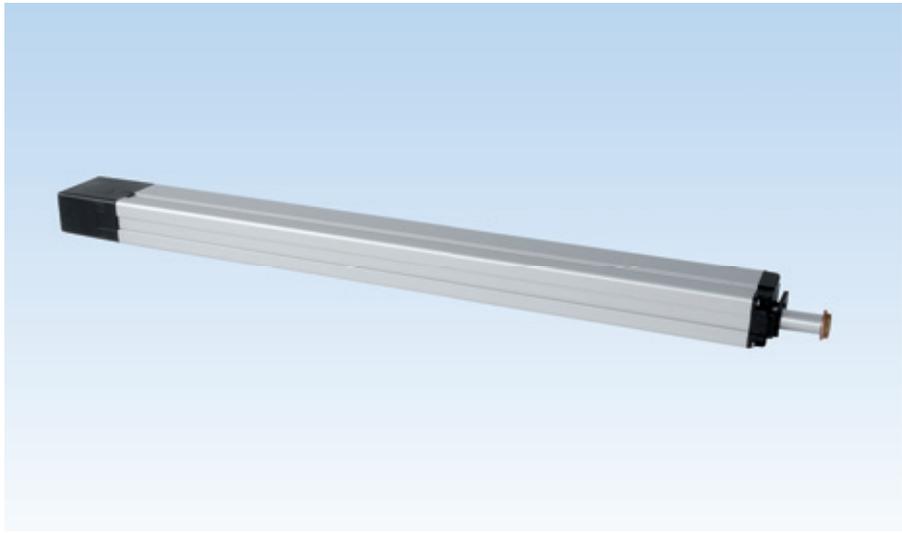


UNI-S 230 universal connector in special cable lengths

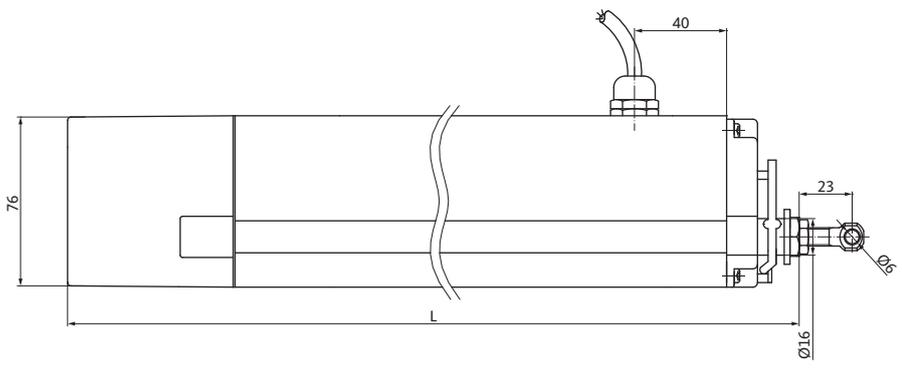
Technical data	
Use	for multiple operation, cable connection to be provided by customer and cable extension

Length [m]	PU	Order number
3	1	6-39810-03-0-0
5	1	6-39810-05-0-0
10	1	6-39810-10-0-0

ELTRAL S80 spindle drive



- Compact size
- Automatic limit stop switch
- Integrated overload cut-off
- Anodised aluminium housing



Technical data	
Nominal voltage [V]	230
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.12
Pull force [N]	800
Length of connecting cable [m]	1
Type of connecting cable [mm ²]	6 x 0.75

Travel [mm]	Push force [N]	Runtime [s]
300	800	43
500	800	71
750	800	107

ELTRAL S80 spindle drive



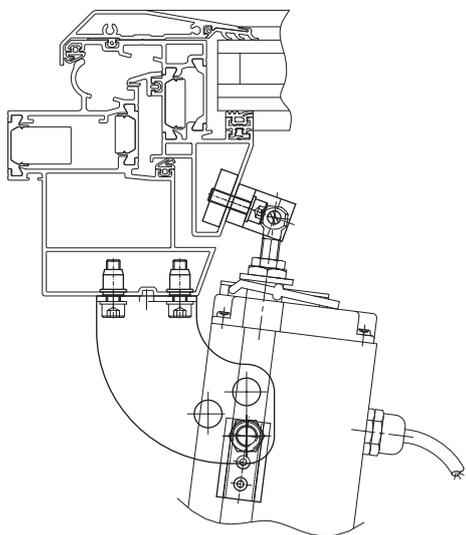
Model	Consists of	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL S80	1 spindle drive	300	490	EV1, silver	1	9-42094-30-0-1
		500	690	EV1, silver	1	9-42094-50-0-1
		750	940	EV1, silver	1	9-42094-75-0-1

Note

- Fixing sets must be ordered separately (see following pages)

ELTRAL S80 spindle drive

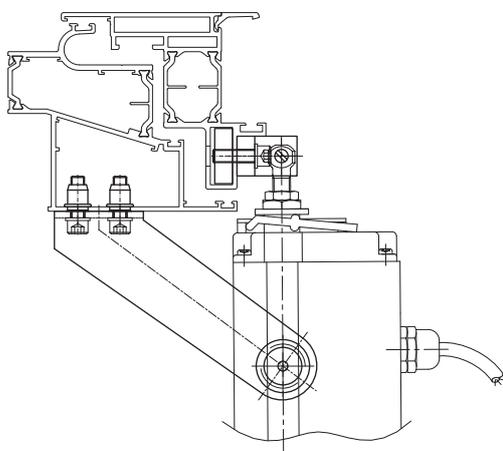
Fixing sets – surface-mounted installation



S/230 V fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Required space min. [mm]	45
Finish	EV1, silver

Frame material	PU	Order number
Aluminium ^[1]	1	K-17770-00-0-1



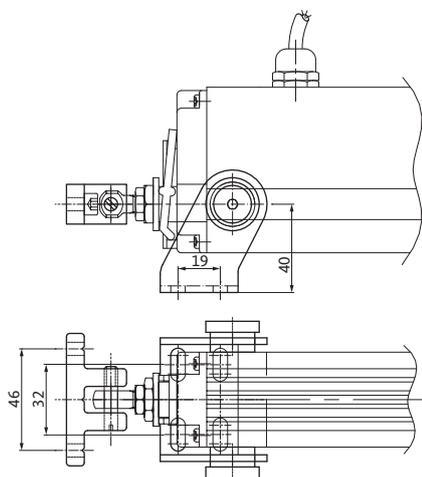
W/230 V fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Required space min. [mm]	40
Finish	EV1, silver

Frame material	PU	Order number
Aluminium ^[1]	1	K-17773-00-0-1

ELTRAL S80 spindle drive

Fixing sets – surface-mounted installation



Fixing set

Technical data	
Opening type	Skylight
Type of installation	surface-mounted
Required space min. [mm]	35
Finish	EV1, silver

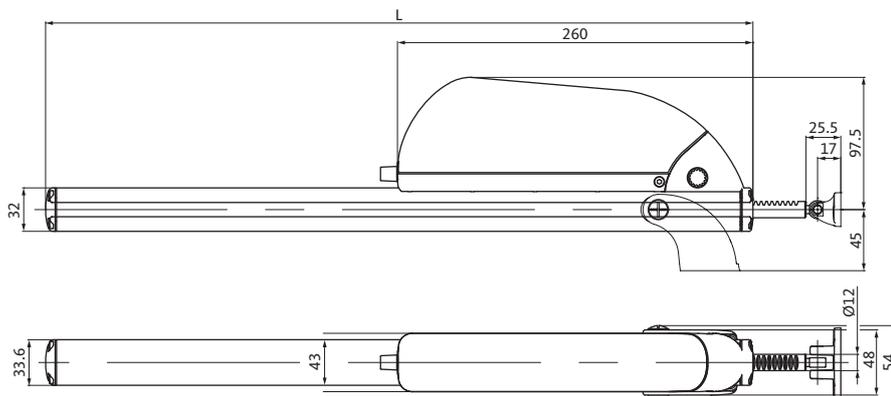
Frame material	PU	Order number
Aluminium ^[1]	1	K-17774-00-0-1

[1] without fixing screws

ELTRAL Z45 rack and pinion drive



- Compact size
- Galvanised thrust tube
- Electronic limit stop
- Integrated overload cut-off



Technical data	
Nominal voltage [V]	230
Tolerance of nominal voltage [%]	15
Nominal current [A]	0.25
Length of connecting cable [m]	2
Type of connecting cable [mm ²]	3 x 0.75

Travel [mm]	Push force [N]	Runtime [s]
230	450	42
350	450	64
550	450	100

ELTRAL Z45 rack and pinion drive



Model	Travel max. [mm]	Length [mm]	Finish	PU	Order number
ELTRAL Z45	230	365	silver	1	K-18417-23-0-1
	350	485	silver	1	K-18417-35-0-1
	550	685	silver	1	K-18417-55-0-1

Note

- An additional locking point is required for wide leaves. This can be achieved by the combination of the drive with the connector by means of a mechanical connecting rod.
- Additional travels on request

ELTRAL Z45 rack and pinion drive

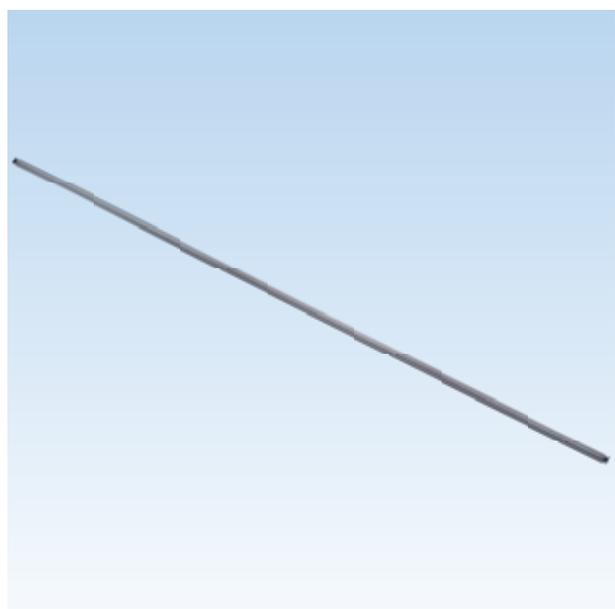
Accessories



ELTRAL Z45 rack and pinion follower

Technical data	
Use	for connection with the drive via the connecting rod for load distribution on 2 locking points

	PU	Order number
	1	K-17844-23-0-1
	1	K-17844-35-0-1
	1	K-17844-55-0-1



Connecting rod

Length [mm]	PU	Order number
1000	1	9-45469-10-0-1
1500	1	9-45469-15-0-1
2000	1	9-45469-20-0-1
2500	1	9-45469-25-0-1



VENTUS F200 fanlight opening system

Electrical operation with ELTRAL S 230 electric drive



Rooms can be ventilated conveniently and cost-effectively with the VENTUS F200 fanlight opening system and the ELTRAL electric drive.

Ideal for vertically installed, inwards and outward opening square Bottom-Hung, Top-Hung and pitched windows made of timber, PVC or metal.

The steplessly adjustable tilt position guarantees perfectly adjusted room ventilation.

The control of several sashes with just one drive opens up an additional potential for economic savings.



Powerful drive ELTRAL S 230

Advantages at a glance

- Additional saving potential by the control of several sash units via one drive
- Opening widths up to 200 mm, suitable for small sash heights from 300 mm
- Variable opening width setting



VENTUS F200 fanlight opening system

System features



System features

- Opening widths up to 200 mm for low sash heights from 300 mm
- Simple installation, horizontal or vertical (left/right)
- With position and function display
- Optional for increased security: operation of the concealed central locking system UNI-JET/ALU-JET via a connector
- Adjustable travel for variable opening widths
- Aluminium housing
- Individual or group control via ventilation push-button
- ELTRAL S electric drive also suitable for use at louvre windows
- Easy hinging and unhinging of the opening stay for quick window cleaning

Technical data

VENTUS F200 | Electrical operation with ELTRAL S 230 electric drive | Bottom-Hung window

Drive	Max. sash width [mm]	Min. sash width [mm]		Min. sash height [mm]	Max. sash weight [kg]	Infill weight max. [kg/m ²]	Space required for drive [mm]	
		lateral	top				lateral	top
ELTRAL S 230	3600	410	630	300	80	40 ^[1]	39	39

[1] Depending on "dimension S" (= distance from sash centre of gravity to middle of hinge) and sash width

ELTRAL S 230 electric drive

Drive	Nominal voltage AC [V]	Nominal force [N]	Nominal current [A]	Stroke [mm]	Speed [mm/s]	Cut-off	Connection	Dimensions LxHxD [mm]
ELTRAL S 230	230	1400	0.4	40-70 ^[1]	1.2	Limit stop	Connector plug for 4-core connecting cable	210x81.5x32.5

[1] Variably adjustable; preset to travel 50 mm = 200 mm opening width

VENTUS F200 fanlight opening system

ELTRAL S 230 / side installation



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
22	1	1	1	1	200	2	K-15012-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	3	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	4	0-25	2	K-15225-00-0-1

ELTRAL S 230 electric drive

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
31	1	1	1	1	1	6-40438-00-0-1

ELTRAL S connection coupling

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
34	1	1	1	1	1	K-20183-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	1	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	1	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

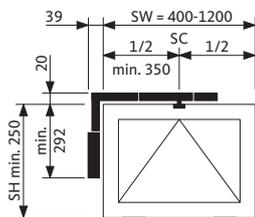
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-48801 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 226 and from page 282.

VENTUS F200 fanlight opening system

ELTRAL S 230 / side installation

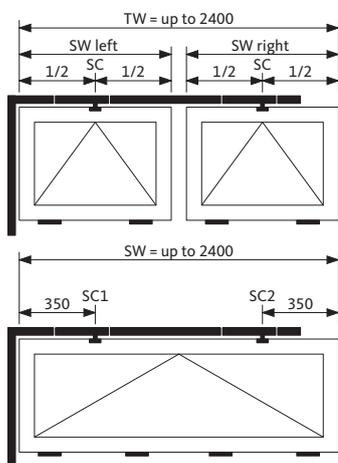


Pattern 1

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW			
	700	800	1000	1200
Horizontal rod length	530	580	680	780

[1] ELTRAL S 230

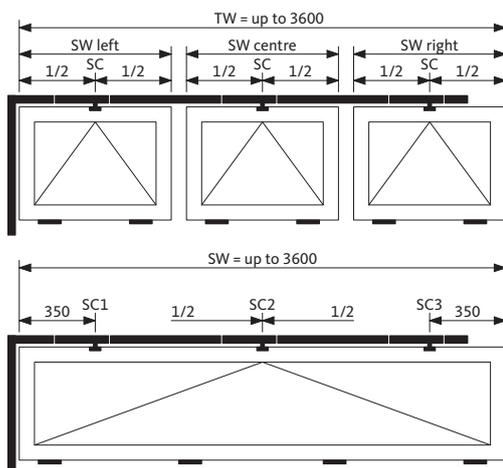


Pattern 2n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	1400	1600	1800	2000	2200	2400
Horizontal rod length	1065	1265	1465	1665	1865	2065

[1] ELTRAL S 230

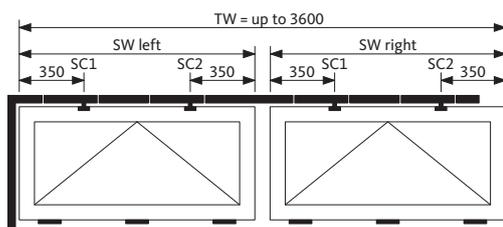


Pattern 3n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2265	2465	2665	2865	3065	3265

[1] ELTRAL S 230



Pattern 4n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2265	2465	2665	2865	3065	3265

[1] ELTRAL S 230

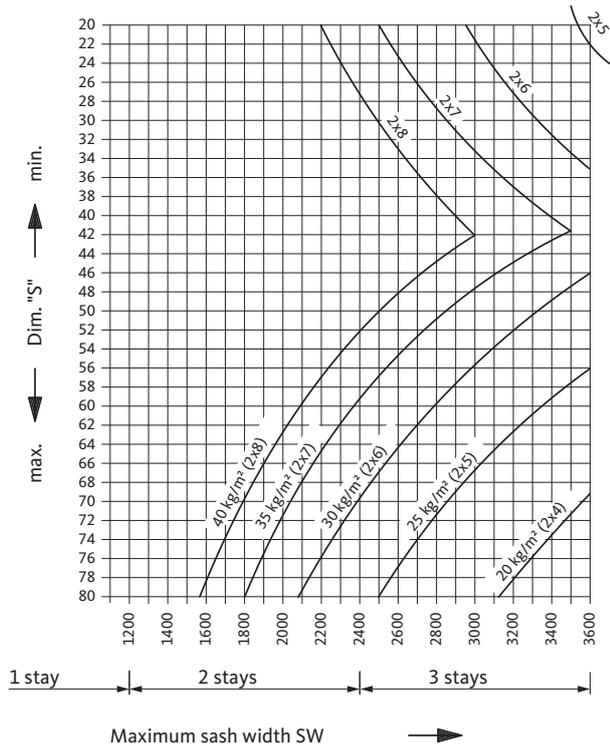
VENTUS F200 fanlight opening system

ELTRAL S 230 / side installation



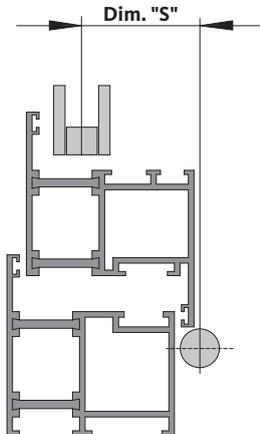
Application ranges VENTUS F200 fanlight opener

with ELTRAL S 230



Dimension "S"

(= distance from sash centre of gravity to middle of hinge)



Calculation example with ELTRAL S 230

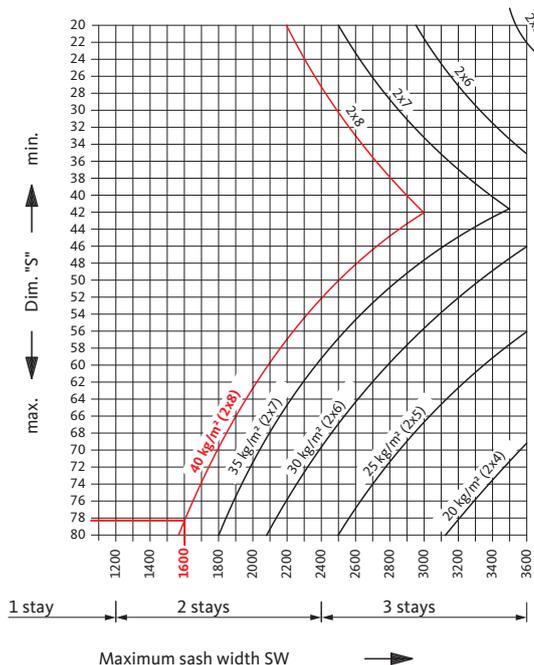
Example figures:

Glazing	2 x 8 mm
Weight of glass	40 kg/m ²
Sash width	1600 mm

Result:

Dimension "S"	20–79 mm possible
---------------	-------------------

Note: The total sash weight may not exceed max. 80 kg.



VENTUS F200 fanlight opening system

ELTRAL S 230 / top installation



VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	1	2	3	4	200	1	K-15013-00-0-1

End cap

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
28	1	1	1	1	1	9-34412-00-0-6

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	4	0-25	2	K-15225-00-0-1

ELTRAL S 230 electric drive

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
31	1	1	1	1	1	6-40438-00-0-1

ELTRAL S connection coupling

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
34	1	1	1	1	1	K-20183-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	1	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	1	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

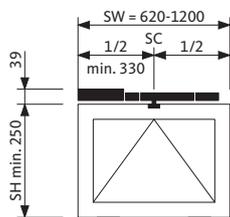
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-48801 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 226 and from page 282.

VENTUS F200 fanlight opening system

ELTRAL S 230 / top installation

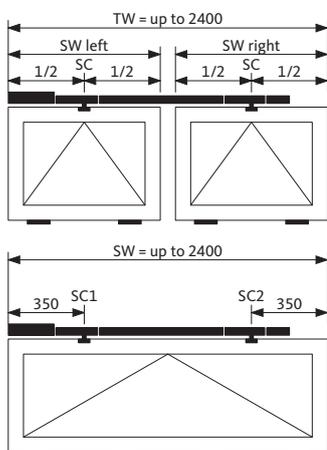


Pattern 1

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW			
	700	800	1000	1200
Horizontal rod length	372	422	522	622

[1] ELTRAL S 230

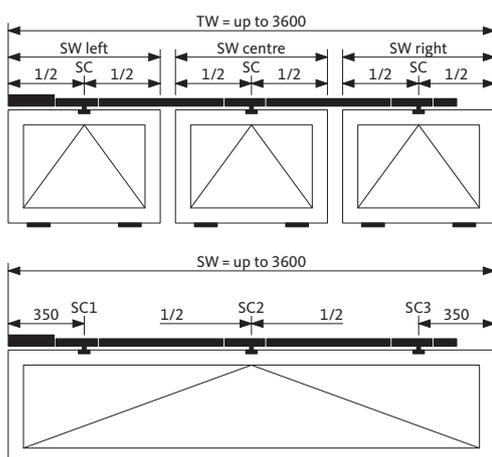


Pattern 2n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	1400	1600	1800	2000	2200	2400
Horizontal rod length	1072	1272	1472	1672	1872	2072

[1] ELTRAL S 230

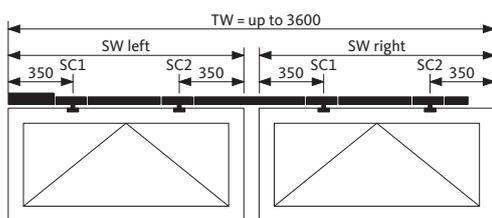


Pattern 3n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2272	2472	2672	2872	3072	3272

[1] ELTRAL S 230



Pattern 4n

Horizontal rod length depending on total sash width

Drive ^[1]	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2275	2475	2675	2875	3075	3275

[1] ELTRAL S 230

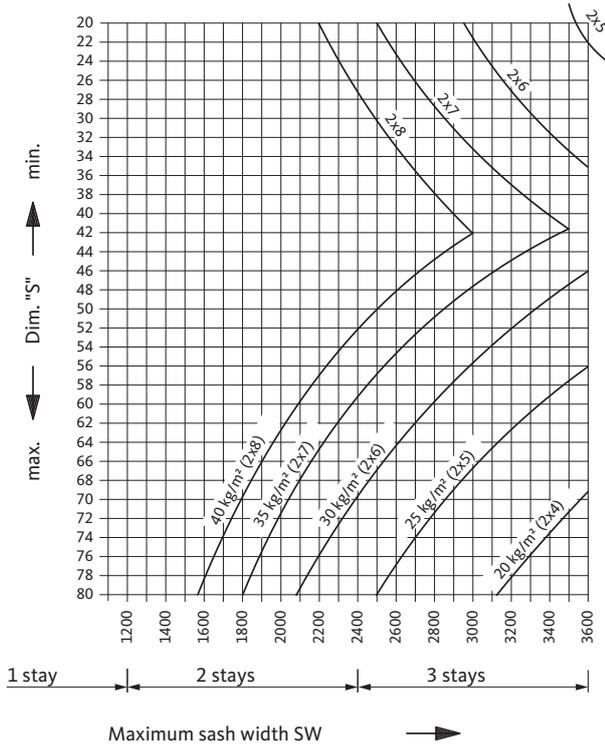
VENTUS F200 fanlight opening system

ELTRAL S 230 / top installation



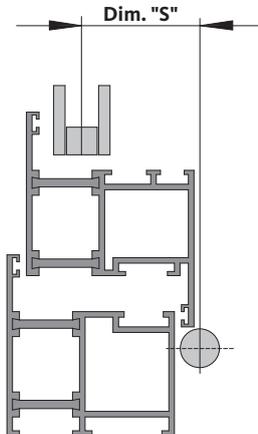
Application ranges VENTUS F200 fanlight opener

with ELTRAL S 230



Dimension "S"

(= distance from sash centre of gravity to middle of hinge)



Calculation example with ELTRAL S 230

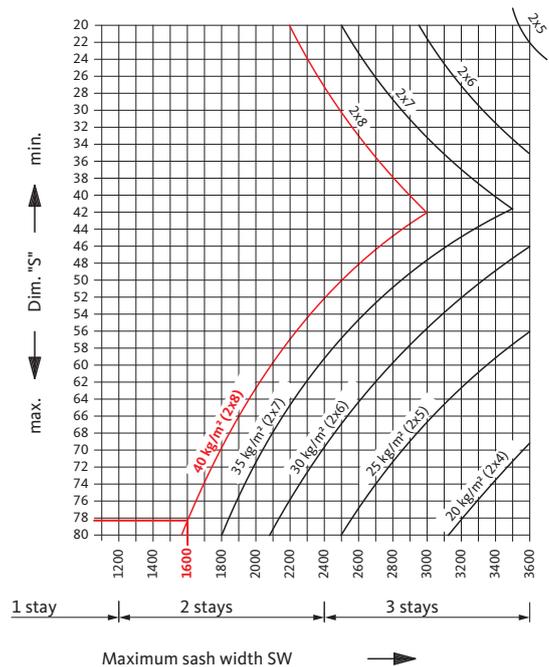
Example figures:

Glazing	2 x 8 mm
Weight of glass	40 kg/m ²
Sash width	1600 mm

Result:

Dimension "S"	20–79 mm possible
---------------	-------------------

Note: The total sash weight may not exceed max. 80 kg.



VENTUS F200 fanlight opening system

Individual parts – electric drive



ELTRAL S 230 electric drive

- Simple installation, horizontal or vertical (left/right)
- Adjustable travel for variable opening widths
- Limit stop
- Aluminium housing

Technical data	
Nominal voltage [V]	230
Frequency [Hz]	50
Tolerance of nominal voltage [%]	10
Nominal current [A]	0.4
Pull force [N]	1400
Push force [N]	1400
Travel [mm]	40–70 ^[1]
Travel speed [mm/s]	1.2
Connection	Connector, 4-wire
Depth [mm]	32.5
Height [mm]	81.5
Length [mm]	210

Finish	PU	Order number
EV1, silver	1	6-40438-00-0-1
UC5 brown	1	6-40438-00-0-5
white (RAL 9016)	1	6-40438-00-0-7

[1] variably adjustable; preset to travel 50 mm = 200 mm opening width

VENTUS F200 fanlight opening system

Individual parts – accessories



ELTRAL S connection coupling

Integral parts

- Guide
- Coupling

Finish	PU	Order number
ferGUard*silver	1	K-20183-00-0-1

Complete test cable

Technical data	
Use	ELTRAL S 230 electric drive

	PU	Order number
	1	6-40480-00-0-0

LZ 1 ventilation central control unit



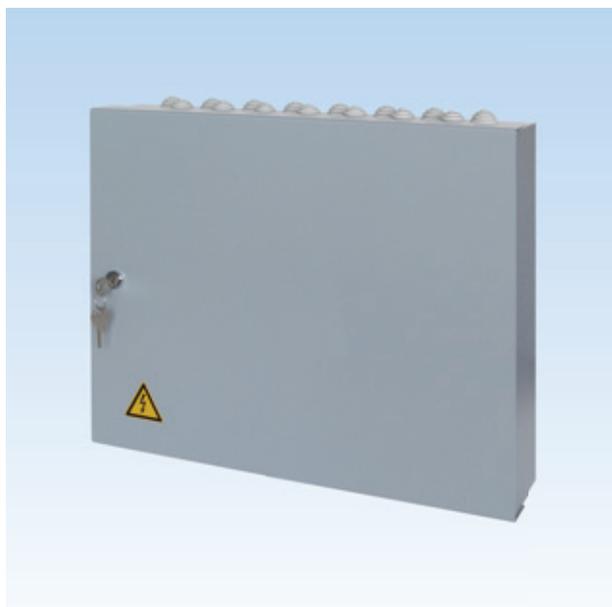
LZ 1 ventilation central control unit

- For controlling the 24-V-DC drives for daily ventilation
- With central push-button function
- Several central control units can be connected in parallel
- 3 connections for switching contacts with ascending priority, e.g.:
 - 1. Priority (P1) = primary building control system
 - 2. Priority (P2) = wind/rain detector
 - 3. Priority (P3) = ventilation push-button for dead man's mode and/or self-holding

Technical data	
Nominal voltage AC [V]	195–253
Output voltage DC [V]	20–28
Frequency [Hz]	50–60
Protection type	IP 54
Width [mm]	180
Height [mm]	130
Depth [mm]	60
Connection cross section of terminal / mains max. [mm ²]	1.5
Connection cross section of terminal / drive max. [mm ²]	2.5
Number of ventilation groups max. [piece]	1
Material of the body	PVC

Output current [A]	PU	Order number
2.5	1	K-19042-00-0-0

LZ 6 ventilation central control unit



LZ 6 ventilation central control unit

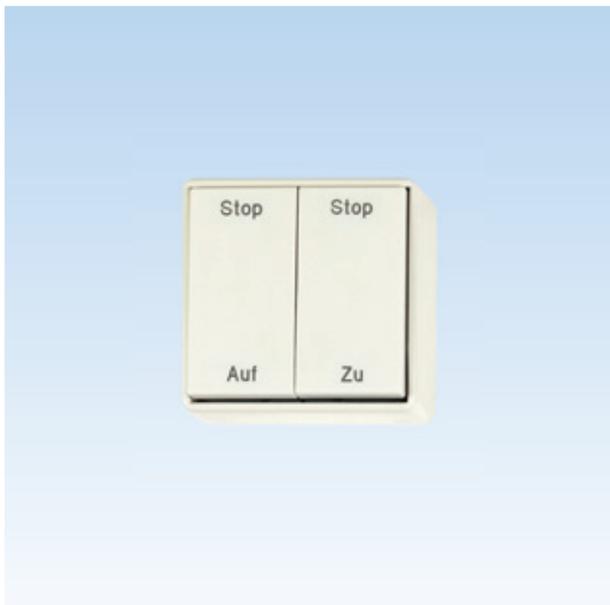
- For controlling the 24-V-DC drives for daily ventilation
- Formation of up to 6 ventilation groups
- With central push-button function
- Several central control units can be connected in parallel
- 3 connections for switching contacts with ascending priority, e.g.:
 - 1. Priority (P1) = primary building control system
 - 2. Priority (P2) = wind/rain detector
 - 3. Priority (P3) = ventilation push-button for dead man's mode and/or self-holding

Technical data	
Nominal voltage AC [V]	195–253
Output voltage DC [V]	20–28
Frequency [Hz]	50–60
Protection type	IP 30
Width [mm]	420
Height [mm]	300
Depth [mm]	144
Connection cross section of terminal / mains max. [mm ²]	1.5
Connection cross section of terminal / drive max. [mm ²]	2.5
Number of ventilation groups max. [piece]	6
Material of the body	sheet-steel
Finish	light grey (RAL 7035)

Output current [A]	PU	Order number
24 ^[1]	1	K-19043-00-0-0
30 ^[2]	1	K-19044-00-0-0

[1] max. 4 A per group/output | [2] max. 5 A pro group/output

Rocker switch, rocker button

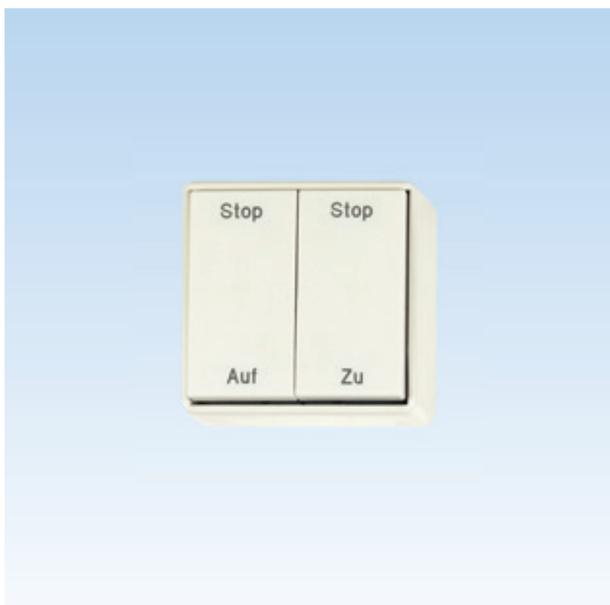


Rocker switch ON – STOP – OFF

■ 1-core

Technical data	
Width [mm]	80
Height [mm]	80
Depth [mm]	44
Finish	pearl white (RAL 1013)

Version	PU	Order number
On-wall version	1	6-22539-00-0-0
In-wall version	1	6-22540-00-0-0



Rocker button ON – STOP – OFF

■ 1-core

Technical data	
Width [mm]	80
Height [mm]	80
Depth [mm]	44
Finish	pearl white (RAL 1013)

Version	PU	Order number
On-wall version	1	6-25220-00-0-1
In-wall version	1	6-25219-00-0-1

Ventilation key switch



Ventilation spring-operated key switch ON – STOP – OFF

- Prepared for profile half cylinder

Technical data	
Version	in-wall
Width [mm]	80
Height [mm]	152
Depth [mm]	35

	PU	Order number
	1	6-25838-00-0-0

Wind/rain detector, rain sensor



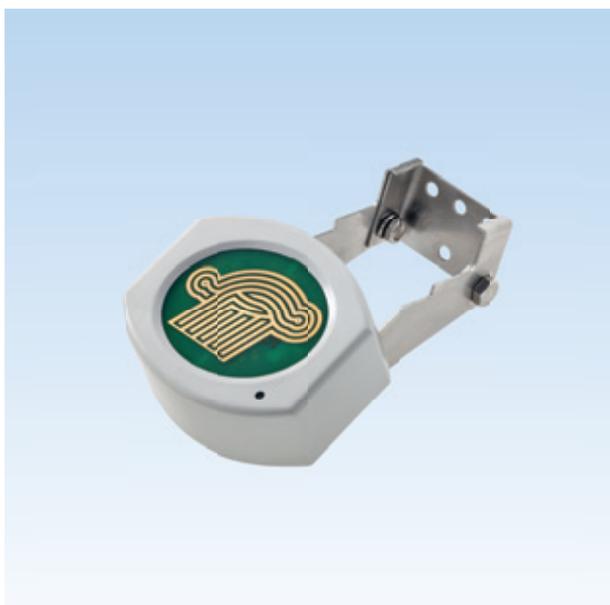
Wind/rain detector

Integral parts

- Wind sensor
- Rain sensor
- Bracket for pole or wall mounting
- Clamping ring

Technical data	
Use	for recording and transmission of the wind speed and rain detection to an analysis unit or SHEV central control unit to close the windows and block the ventilation push-button function
Operating voltage AC [V]	230
Operating voltage DC [V]	24
Length of connecting cable [m]	4
Width [mm]	250
Height [mm]	250
Depth [mm]	80

	PU	Order number
	1	K-15331-00-0-0



Rain sensor

- Rain sensor according to the conductance measurement principle with heated sensor surface and integrated electronic evaluation unit with potential-free contact to signal transmission
- Status display
- Installed heating
- Rating approx. 150 mA

Technical data	
Use	for recording and transmission of the rain detection to an analysis unit or SHEV central control unit to close the windows and block the ventilation push-button function
Operating voltage AC [V]	230
Operating voltage DC [V]	24
Protection type	IP 65
Length of connecting cable [m]	4
Width [mm]	100
Height [mm]	85
Depth [mm]	172

	PU	Order number
	1	9-39062-00-0-0

Time switch, room temperature controller



Timer switch

- With daily/weekly program and power reserve
- Potential-free changeover contact for connection to SHEV central control units
- Option of combination with temperature-dependent control units, e.g. for night cooling down (consideration of summer / winter time)
- Housing for top hat rail 35 mm

Technical data	
Use	for time-related opening and closing of ventilation sashes/leaves/flaps
Operating voltage AC [V]	230
Contact load max. [A]	16
Frequency [Hz]	50–60
Finish	white
Material of the body	PVC

	PU	Order number
	1	9-45612-00-0-0



Room temperature controller

- For connection to the ventilation push-button input of SHEV and ventilation control units
- Switch capacity: 230 V AC, 5 A

Technical data	
Use	for automatic ventilation control depending on the ambient temperature (via integrated thermostat)
Nominal voltage [V]	24
Tolerance of nominal voltage [%]	5
Protection type	IP 30
Adjustment range [°C]	5–30
Width [mm]	74.5
Height [mm]	74.5
Depth [mm]	25
Finish	white
Material of the body	PVC

	PU	Order number
	1	K-19040-00-0-0

Power supply units



NT2.5 power supply unit

Technical data	
Supply voltage AC [V]	230
Output current [A]	2.5
Rated power [VA]	54
Duty ratio [s]	20
Protection type	IP 54
Width [mm]	94
Height [mm]	130
Depth [mm]	81

	PU	Order number
	1	9-43994-00-0-0

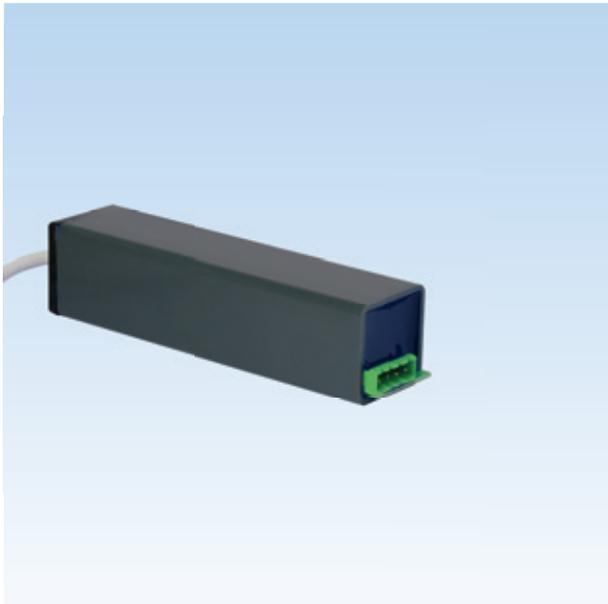


NT6.5 power supply unit

Technical data	
Supply voltage AC [V]	230
Output current [A]	6.5
Rated power [VA]	156
Duty ratio [s]	20
Protection type	IP 54
Width [mm]	160
Height [mm]	250
Depth [mm]	55

	PU	Order number
	1	9-43995-00-0-0

Power supply units

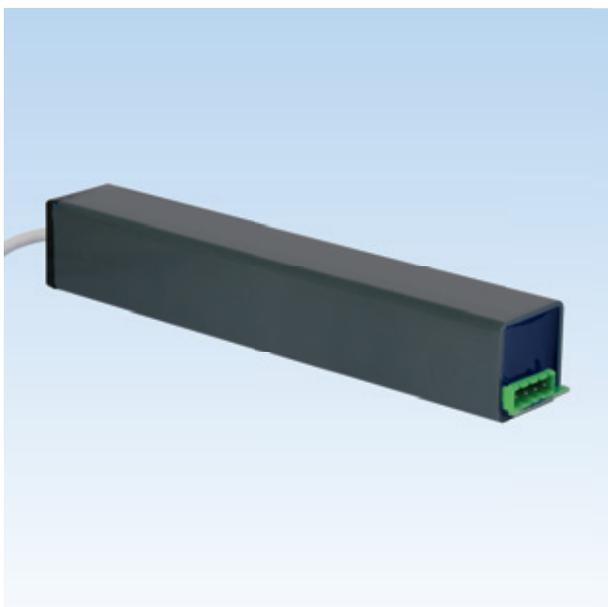


NT1.7 power supply unit

- Connection of up to two drives
- Power-up / connection possible (directional change)

Technical data	
Use	for voltage supply and control of chain drives and locking drives for ventilation purposes
Supply voltage AC [V]	230
Output current [A]	1.7
Rated power [VA]	50
Duty ratio [s]	30
Protection type	IP 20
Width [mm]	145
Height [mm]	35
Depth [mm]	35

	PU	Order number
	1	6-37487-01-0-0



NT3 power supply unit

- Connection of up to two drives
- Power-up / connection possible (directional change)

Technical data	
Use	for voltage supply and control of chain drives and locking drives for ventilation purposes
Supply voltage AC [V]	230
Output current [A]	3
Rated power [VA]	95
Duty ratio [s]	30
Protection type	IP 20
Width [mm]	245
Height [mm]	35
Depth [mm]	35

	PU	Order number
	1	6-37487-21-0-0

EURO-SOLID GU restrictor and cleaning stay

For timber, PVC and metal windows



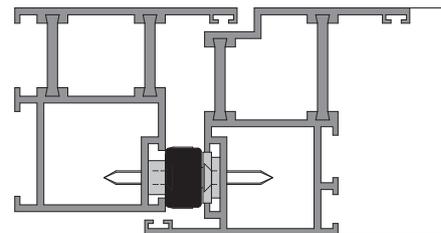
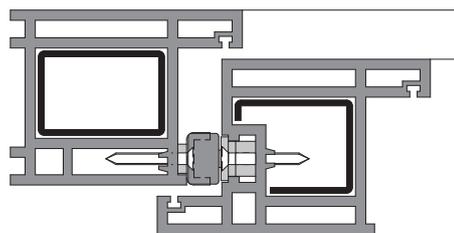
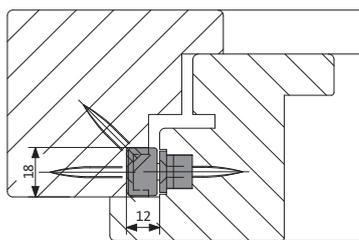
EURO-SOLID GU restrictor and cleaning stay

- The RAL directives stipulate: Bottom-Hung sashes must be equipped with restrictor stays in addition to the fanlight hardware.
- The GU restrictor and cleaning stays prevent damage that could occur due to improper hinging of the opening stays. Moreover, they provide ideal convenience for cleaning because the sash is held in the required position.

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Frame material	Timber PVC Metal

Size	PU	Order number
01	10	6-27995-01-0-8
02	20	6-27995-02-0-8
03	20	6-27995-03-0-8
04	20	6-27995-04-0-8

Size	Sash height min. [mm]	Sash height max. [mm]	Opening-angle with restrictor position min. [°]	Opening-angle with restrictor position max. [°]	Max. sash weight per stay [kg]
01	270	350	-	30	15
02	351	500	40	45	15
03	501	800	25	30	30
04	801	1500	15	20	30



EURO-SOLID GU restrictor and cleaning stay



Drilling jig set for frame and sash

Technical data		
Use	EURO-SOLID restrictor and cleaning stay	
	PU	Order number
	1	K-14788-00-0-0

Packer for Euro-groove 7/8 x 4, 6/8 x 4 / timber

	PU	Order number
	20	9-38819-00-0-1

Profile accessories for timber Bottom-Hung windows

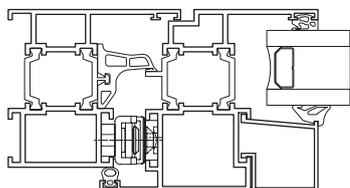
	PU	Order number
	20	K-14681-00-0-1

Note

- For PVC and metal Bottom-Hung windows on request

GU restrictor stays

For metal windows



GU restrictor stays

- The RAL directives and the technical rules of the ASR A 1.6 workplaces stipulate: Bottom-Hung sashes must be equipped with restrictor stays in addition to the drive system.
- The GU restrictor stays prevent damage that could occur due to improper hinging of the chain drives on the sash. They permanently connect the sash to the frame and therefore provide additional operating safety, whilst also preventing the sash from falling.
- Use on large and heavy Bottom-Hung windows up to 250 kg
- Safety catch function only (no cleaning function)
- Can be used together with locking drives ^[1]

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward

Without vertical locking

Size	Travel [mm]	Sash height min. [mm]
01	300	320
	400	400
00	500	500
	600	800

Size	PU	Order number
01	1	K-17915-01-0-8
00	1	K-17915-00-0-8

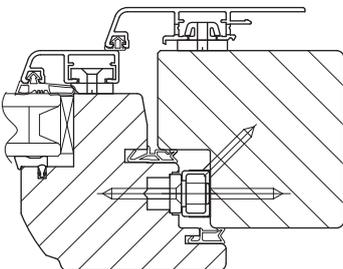
With vertical locking

Size	Travel [mm]	Sash height min. [mm]
01	300	900
	400	650
00	400	2000
	500	1100

Size	PU	Order number
01	1	K-17915-01-0-8
00	1	K-17915-00-0-8

GU restrictor stays

For timber windows



GU restrictor stays

- The RAL directives and the technical rules of the ASR A 1.6 workplaces stipulate: Bottom-Hung sashes must be equipped with restrictor stays in addition to the drive system.
- The GU restrictor stays prevent damage that could occur due to improper hinging of the chain drives on the sash. They permanently connect the sash to the frame and therefore provide additional operating safety, whilst also preventing the sash from falling.
- Use on large and heavy Bottom-Hung windows up to 250 kg
- Safety catch function only (no cleaning function)
- Can be used together with locking drives ^[1]

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward

Without vertical locking

Size	Travel [mm]	Sash height min. [mm]
01	300	550
	400	770
00	500	690
	600	700

Size	PU	Order number
01	1	K-17915-01-0-8
00	1	K-17915-00-0-8

With vertical locking

Size	Travel [mm]	Sash height min. [mm]
00	400	1101
	500	1001

Size	PU	Order number
00	1	K-18046-00-0-8

[1] The application information for use with locking drives can be found in the respective installation instructions

VENTUS F200 fanlight opening system

Manual operation via hand lever or crank



The manual fanlight opening system VENTUS F200 from the Gretsch-Unitas group allows the opening and closing of a wide range of window shapes – regardless of whether these are square Bottom-Hung windows, round or segmental arch head, pitched or triangular windows.

Also, window projections and reveals are mastered with ease. Steplessly adjustable tilt positions guarantee perfectly controlled room ventilation and permit large opening widths.



Automatic locking in the stay

Advantages at a glance

- Flat fanlight opening stay for vertically installed Bottom-Hung windows of different shapes
- Cost-efficient control of several sashes using a vertical or corner drive-gear with crank
- Ideally suited for windows offering limited mounting space
- The stay can be easily hinged and unhinged, e.g. for window cleaning



VENTUS F200 fanlight opening system

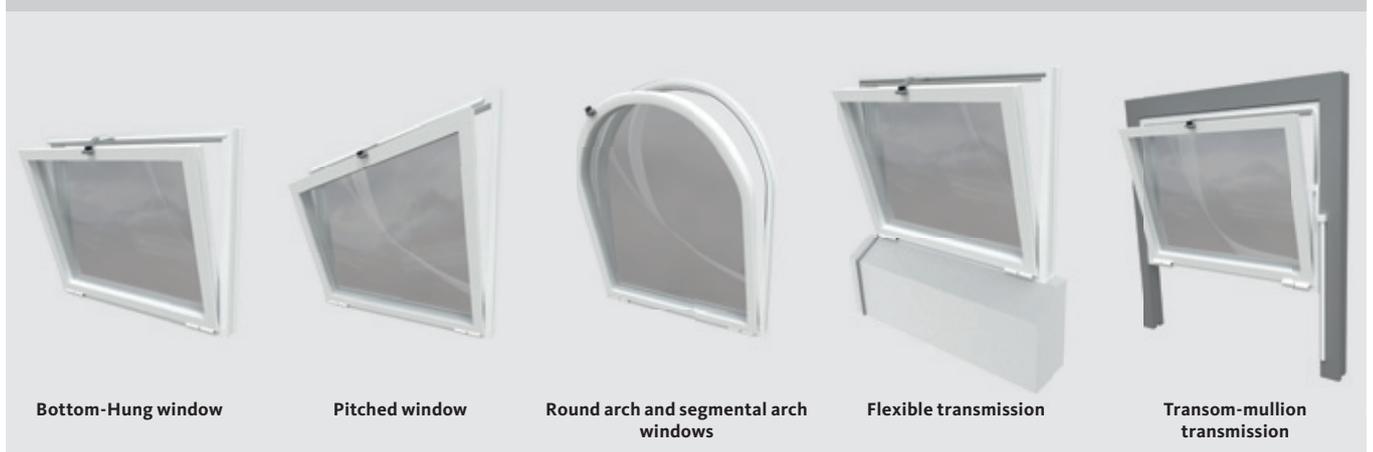
System features



System features

- Intensive room ventilation due to large opening widths of up to 200 mm
- Ideally suited for small sash heights from 250 mm
- Suitable for sash weights of up to 80 kg
- Compact modules for fast and easy mounting
- Steplessly controllable sash brackets for overlap heights of 0–25 mm
- A wide range of operation possibilities: hand lever, vertical or corner drive-gear with crank, transmissions (transom-mullion transmission / flexible transmission)
- Flat-form fanlight opening stay for vertically installed timber, PVC or metal Bottom-Hung windows
- Individually adapted tilt position by reducing the opening widths
- Drilling jigs for all application ranges
- No visible fixing screws
- The internal locking device inside the stay ensures maximum surface pressure on the window, thereby meeting today's requirements for water tightness, acoustic insulation and energy savings

One system – many applications



Bottom-Hung window

Pitched window

Round arch and segmental arch windows

Flexible transmission

Transom-mullion transmission

VENTUS F200 fanlight opening system

System design



System design

The GU VENTUS fanlight opener system consists of:

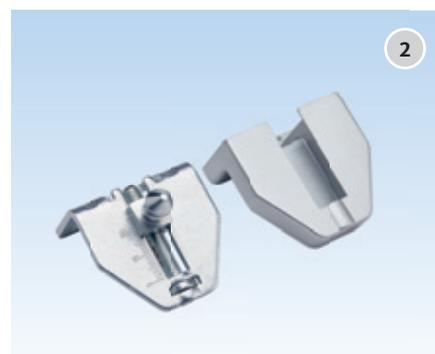
- 1 VENTUS F200 opening stay
- 2 Sash bracket for attachment to the sash
- 3 Corner-drive for force transmission
- 4 Connecting rods and rod guides
- 5 Cover profiles
- 6 Hand-lever for opening and closing

Alternative: operation via crank with vertical or corner drive-gear

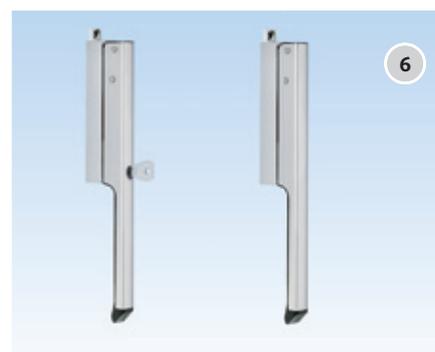
- 7 Additional restrictor and cleaning stays, eg EURO-SOLID



VENTUS F200 opening stay



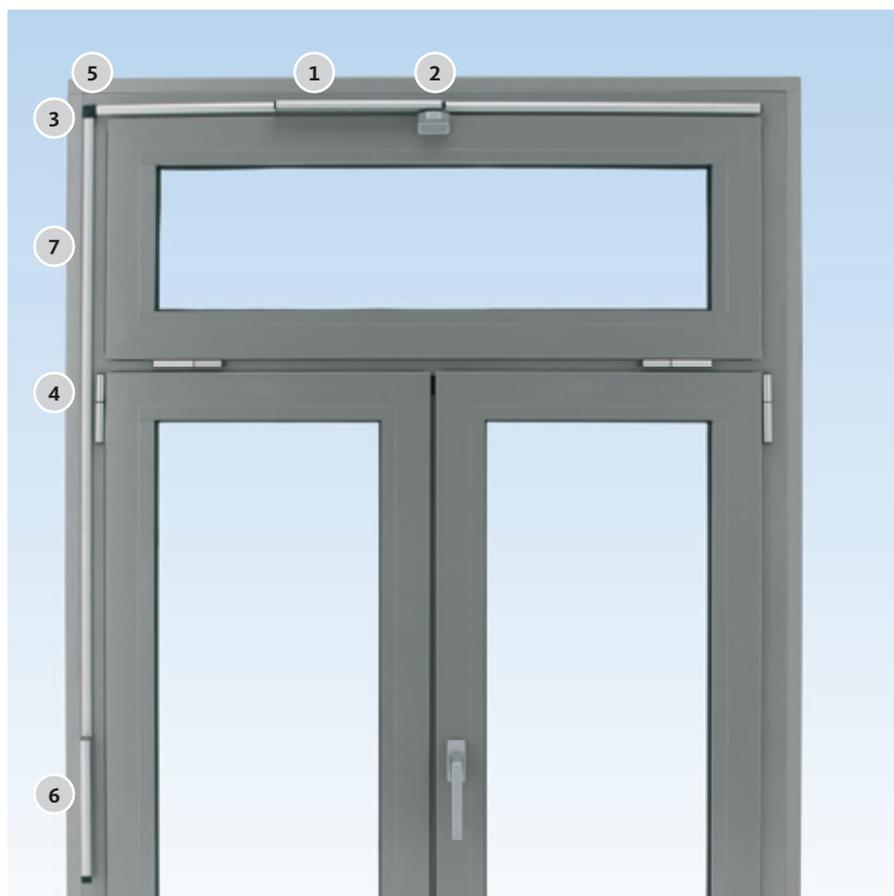
High gasket pressure thanks to adjustable angular sash bracket



Lockable hand lever / standard hand lever



Crank



VENTUS F200 fanlight opening system

Special solutions, technical data



Special solutions

Top-Hung window, outward-opening

Completely pre-mounted stay unit for all outward-opening Top-Hung windows with opening widths up to 200 mm.



Additional locks

Additional surface-mounted, vertical locking elements for secure side sealing for high Bottom-Hung windows.

Optional locking via connector in combination with the concealed JET central locking system. This provides a visually appealing solution for greater security and increased burglar inhibition.



EURO-SOLID restrictor and cleaning stay

The RAL directives stipulate: Bottom-Hung sashes must be equipped with restrictor stays in addition to the fanlight hardware.

EURO-SOLID restrictor and cleaning stays prevent damage that might arise from incorrect attachment of the opening stays. Moreover, they provide great convenience when cleaning as the sash is held in the desired position.



Technical data

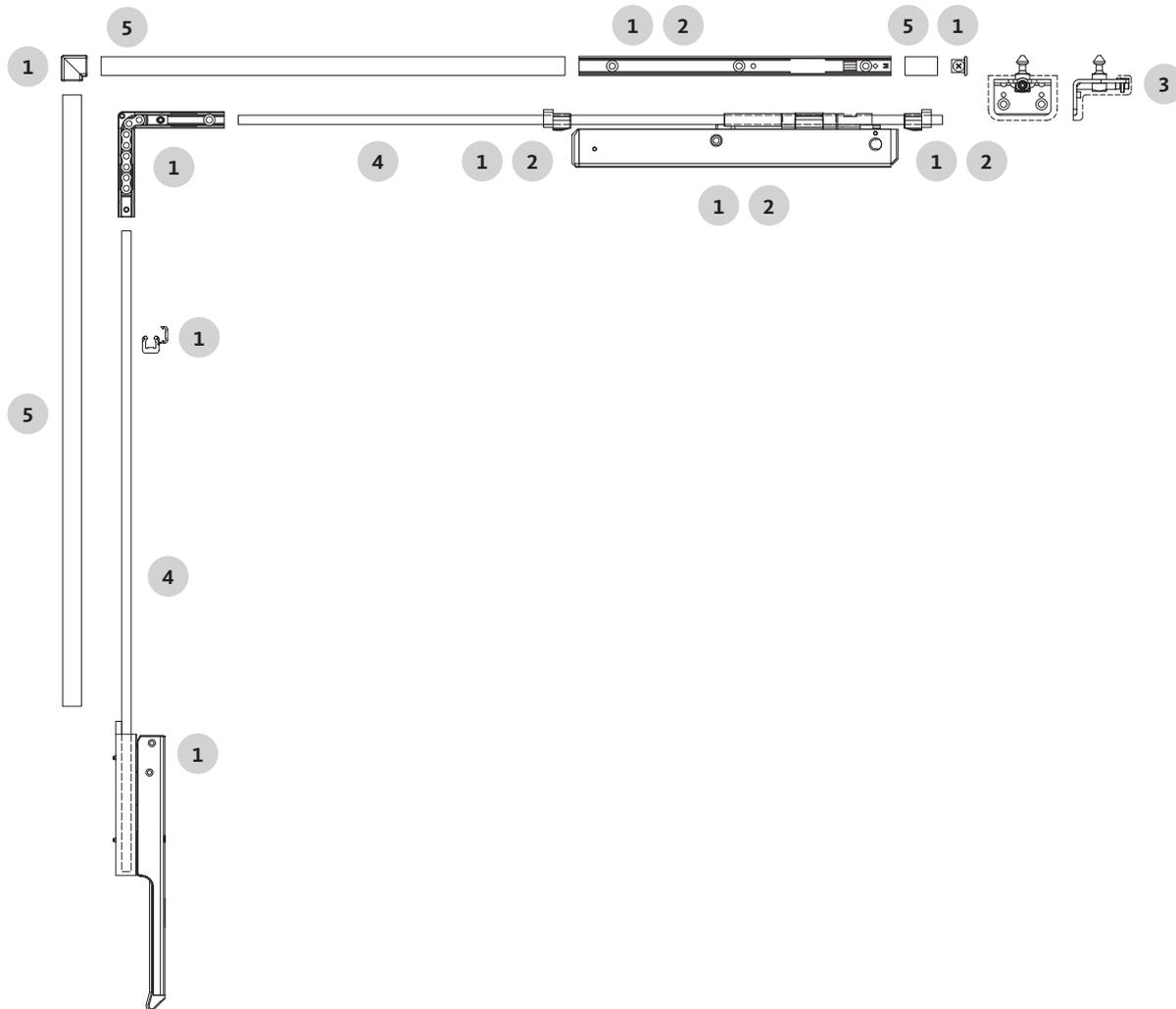
VENTUS F200 | Operation with hand lever or crank | Bottom-Hung windows

Hardware	Sash width [mm]	Min. sash height [mm]	Opening width [mm]	Max. sash weight [kg]	Travel [mm]	Space requirement [mm]	
						lateral	top
VENTUS F200 [1]	400-3600 400-3600	300 250	200 165	80	50 40	20	20

[1] For overlap heights 0-25 mm

VENTUS F200 fanlight opening system

Hand lever



VENTUS F200 fanlight opening system

Hand lever



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
1	1	1	1	1	200	2	K-15011-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	3	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	4	0-25	2	K-15225-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	1	1850	1	9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	1	62	5	9-33444-01-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

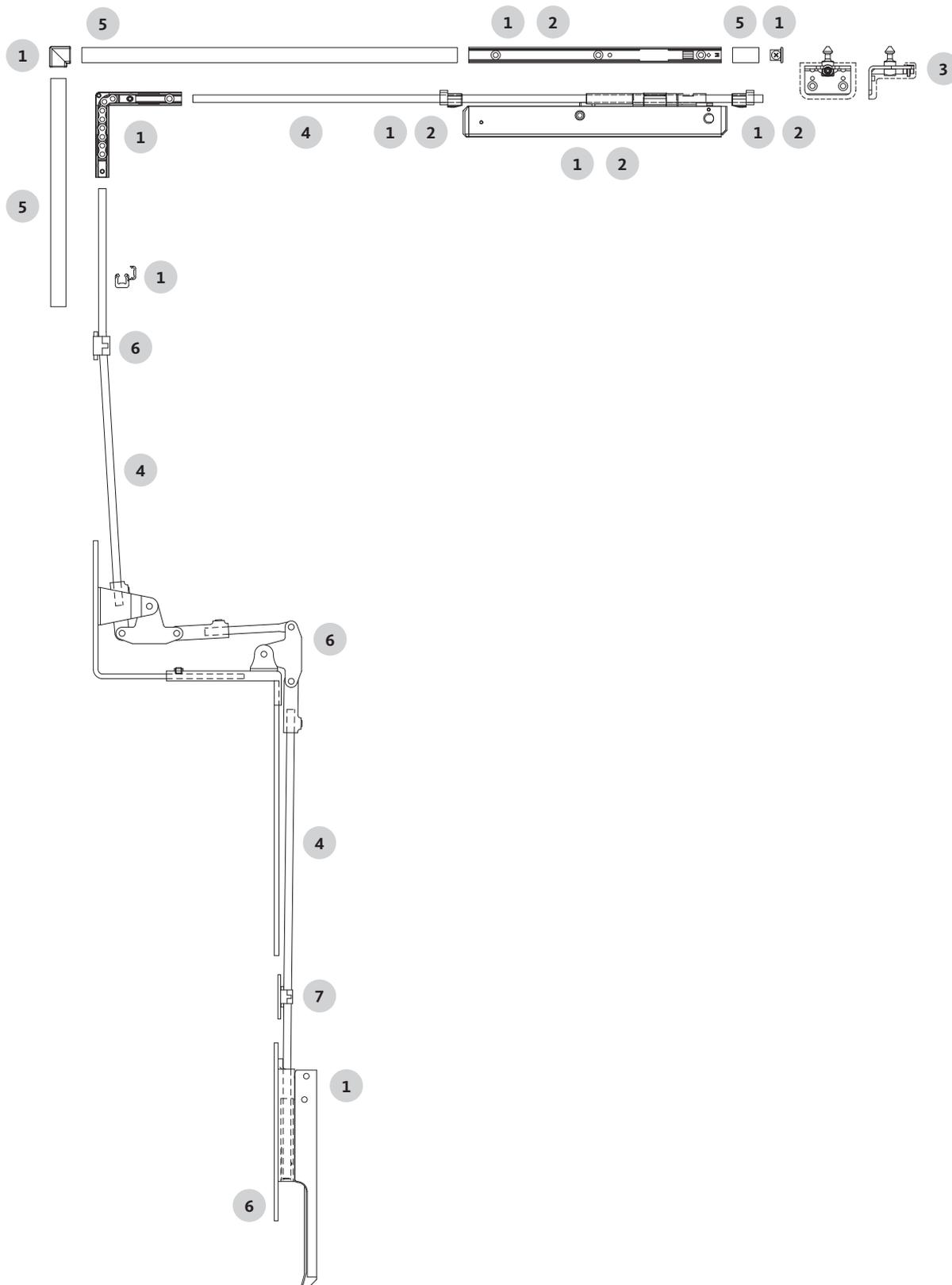
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / bell-shaped angle transmission



VENTUS F200 fanlight opening system

Hand lever / bell-shaped angle transmission



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
1	1	1	1	-	200	2	K-15011-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	-	200	1	K-15013-00-0-1

VENTUS F200 sash bracket [1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	-	0-25	2	K-15225-00-0-1

Bell-shaped angle transmission

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
6	1	1	1	-	1	K-13730-00-0-1

Guide for bell-shaped angle transmission

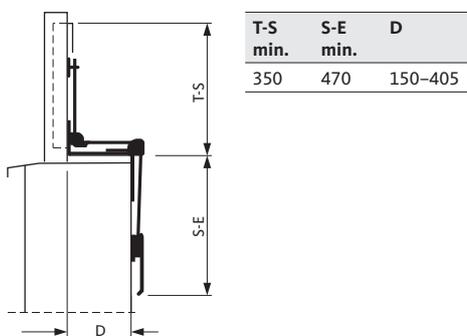
Item	Piece per pattern				S-E [mm]	PU	Order number
	1	2n	3n	4n			
7	1	1	1	-	901-1800	1	K-13731-00-0-1
	2	2	2	-	1501-2100		

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1



T-S min.	S-E min.	D
350	470	150-405

6 7

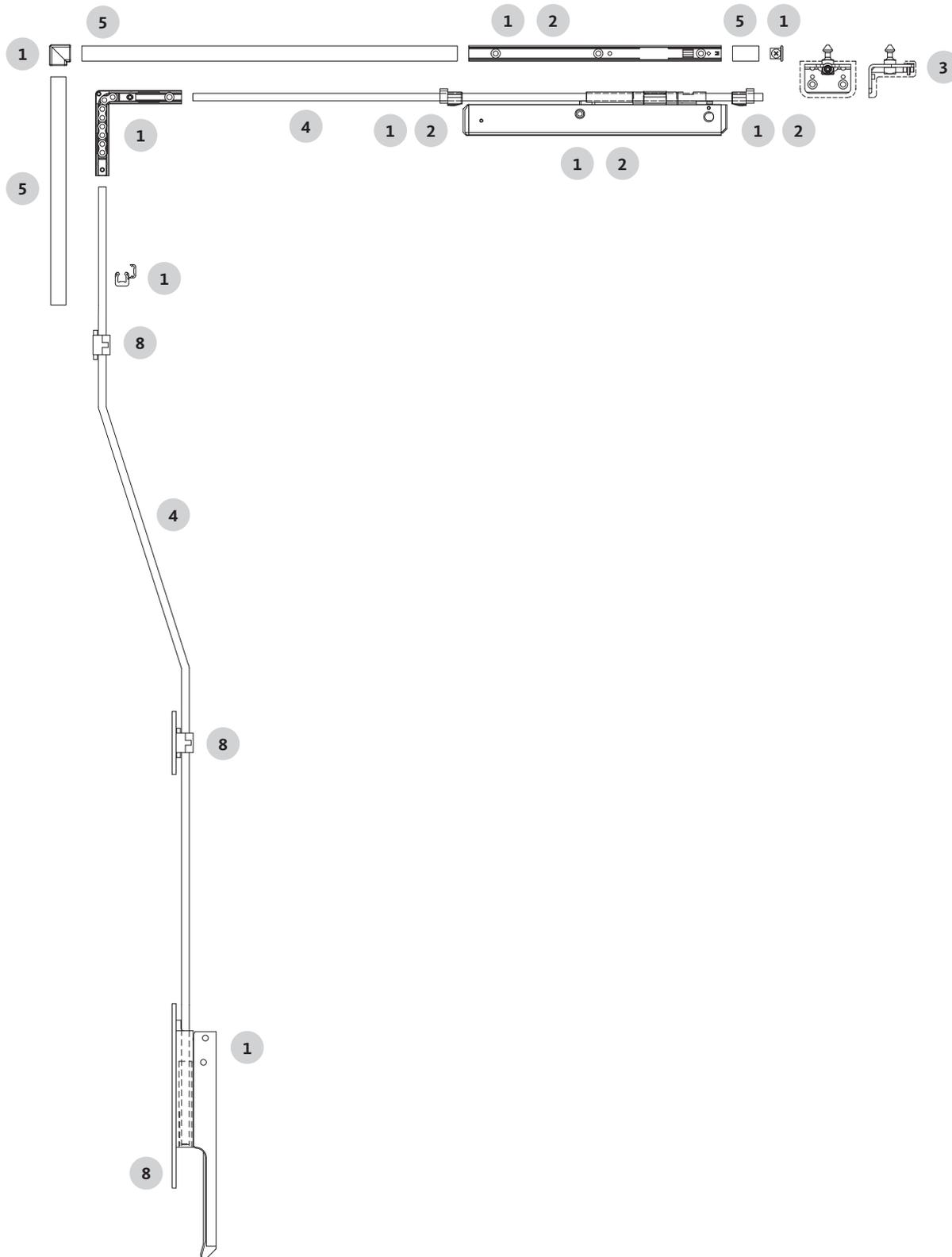
[1] Use insert according to the constitution of the profile.
 - Timber: 9-34508-00-0-0
 - PVC: 9-33105-00-0-1

Installation drawing 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / rod transmission



VENTUS F200 fanlight opening system

Hand lever / rod transmission



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
1	1	1	1	-	200	2	K-15011-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	-	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	-	0-25	2	K-15225-00-0-1

Additional parts for connecting rod transmission \varnothing 8 mm ^[2]

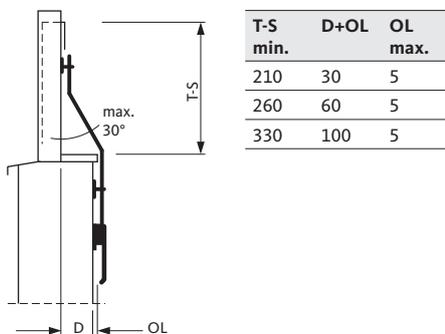
Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
8	1	1	1	-	1	K-13732-00-0-1

Connecting rod and horizontal rod – \varnothing 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1



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[1] Use insert according to the constitution of the profile.
 - Timber: 9-34508-00-0-0
 - PVC: 9-33105-00-0-1

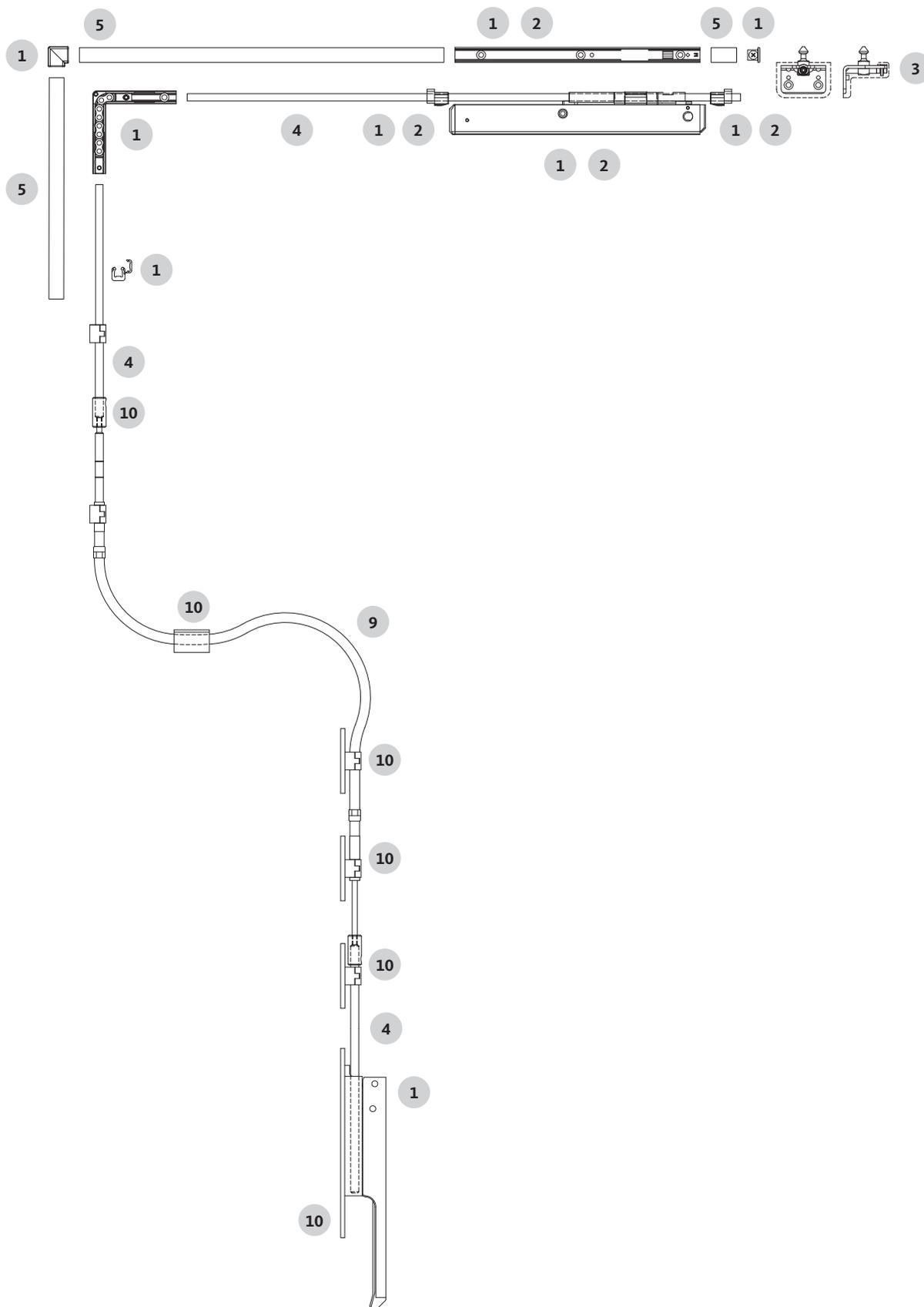
[2] The cropping of the connecting rod is to be provided by customer.

Installation drawing 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / flexible transmission



VENTUS F200 fanlight opening system

Hand lever / flexible transmission



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
1	1	1	1	-	200	2	K-15011-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	-	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	-	0-25	2	K-15225-00-0-1

Flexible transmission

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
9	1	1	1	-	200	1	6-29495-02-0-1
					400		6-29495-04-0-1
					700		6-29495-07-0-1
					1000		6-29495-10-0-1
					1300		6-29495-13-0-1
					2000		6-29495-20-0-1

Accessories for flexible transmission

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
10	1	1	1	-	1	K-14312-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

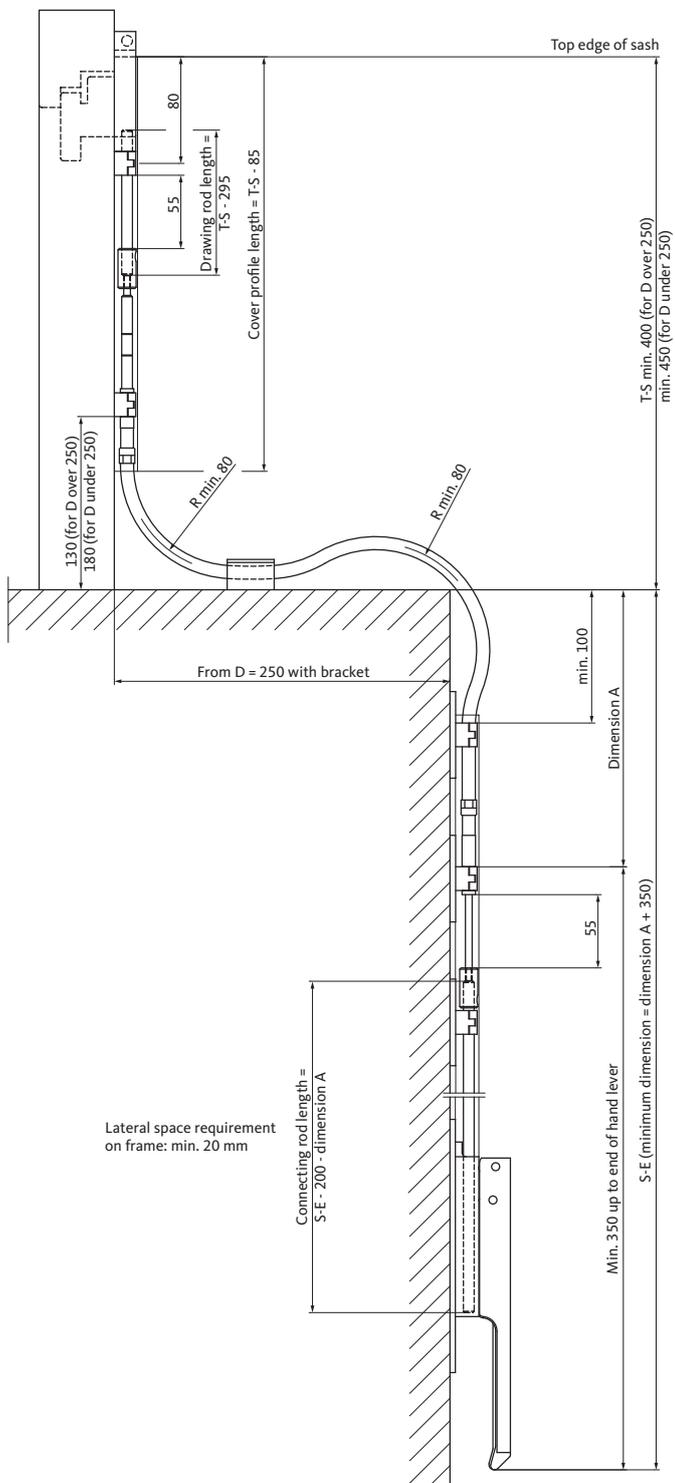
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

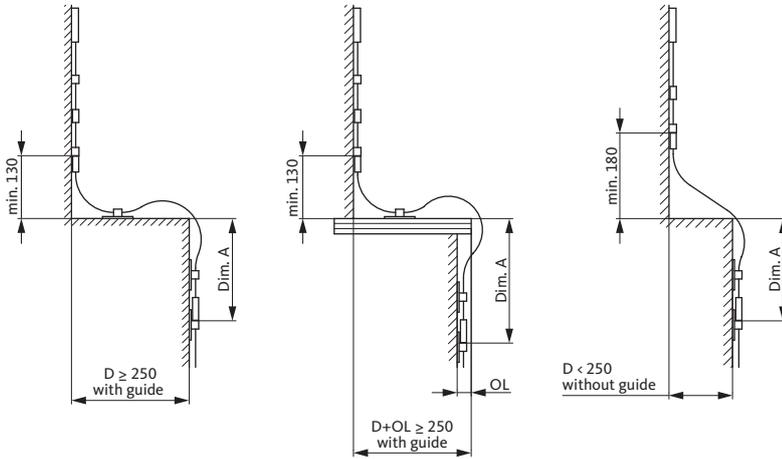
VENTUS F200 fanlight opening system

Hand lever / flexible transmission



VENTUS F200 fanlight opening system

Flexible transmission – minimum dimensions according to recess depth



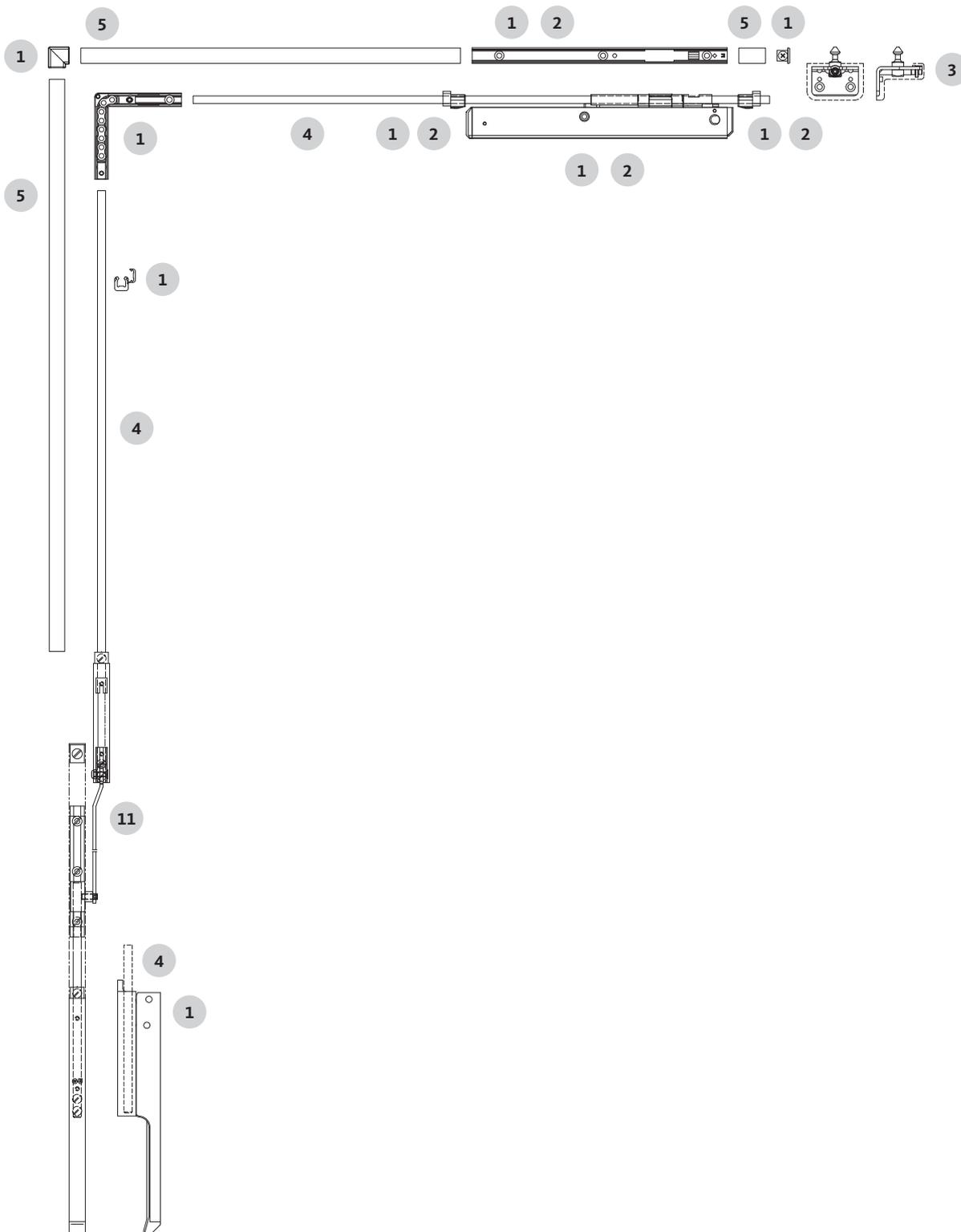
Dim. D	Dim. A
730	170
700	200
670	230
640	260
610	290
580	320
550	350
520	380
490	410
460	440
Length 1000	
430	170
400	200
370	230
340	260
310	290
280	320
250	350
Length 700	
Dim. D ≥ 250 mm with guide	

Dim. D+OL	Dim. A
670	230
640	260
610	290
580	320
550	350
520	380
490	410
460	440
Length 1000	
430	170
400	200
370	230
340	260
310	290
280	320
250	350
Length 700	
Dim. OL max. 40 mm	
Dim. D+OL ≥ 250 mm with guide	

Dim. D	Dim. A
240	360
210	380
180	400
150	425
120	450
Length 700	
90	170
60	190
30	200
0	220
Length 400	
Dim. D < 250 mm without guide	

VENTUS F200 fanlight opening system

Hand lever / transom / mullion transmission



VENTUS F200 fanlight opening system

Hand lever / transom / mullion transmission



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
1	1	1	1	-	200	2	K-15011-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	-	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	-	0-25	2	K-15225-00-0-1

Transom / mullion transmission

Item	Piece per pattern				Mullion depth T [mm]	Rod length L [mm]	PU	Order number
	1	2n	3n	4n				
11	1	1	1	-	17-80	126	1	K-15384-08-0-1
	1	1	1	-	17-150	266	1	K-15384-15-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1



11

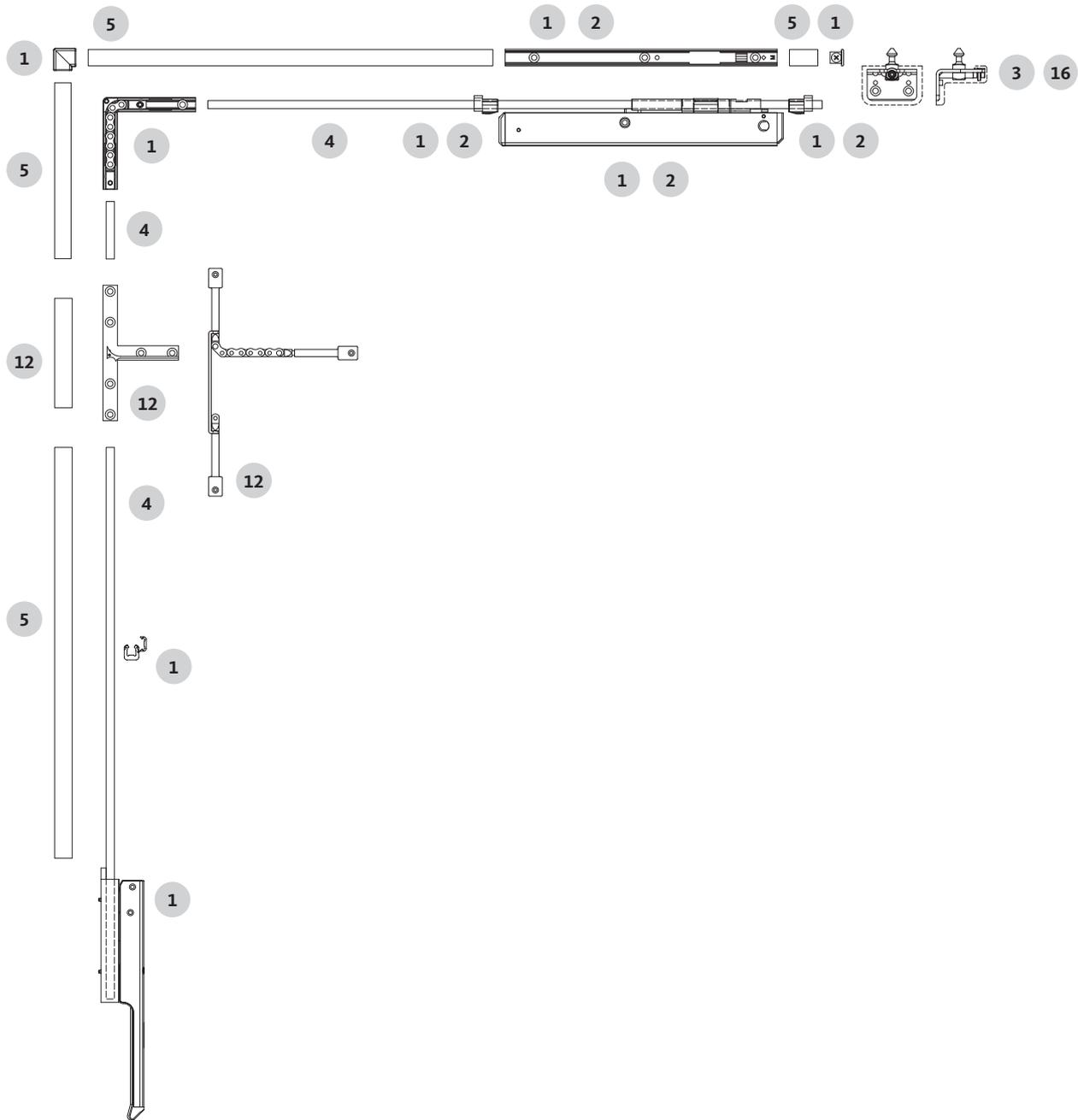
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-43889 / 0-44206 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / T angle bracket



VENTUS F200 fanlight opening system

Hand lever / T angle bracket



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
1	-	1	-	-	200	2	K-15011-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	-	-	200	1	K-15013-00-0-1

VENTUS F200 sash bracket [1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	-	2	-	-	0-25	2	K-15225-00-0-1

VENTUS F200 sash bracket with joint

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
16	-	2	-	-	0-25	1	K-15507-00-0-1

VENTUS F200 T-angle bracket

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
12	-	1	-	-	1	K-14194-00-0-1

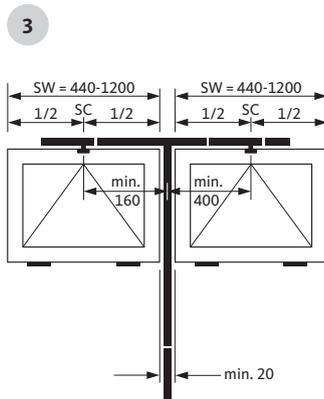
Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	-	1	-	-	1850	1	9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

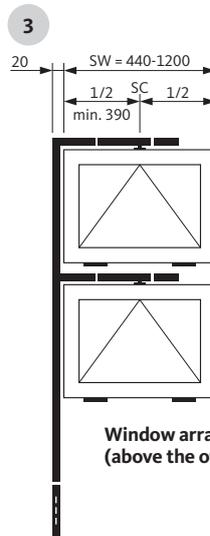
Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	-	1	-	-	62	5	9-33444-01-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

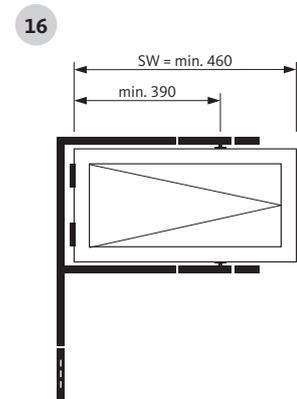
Applications



Window arrangement 2n (adjacent)



Window arrangement 2ü (above the other)



Side-Hung window with 2 stays

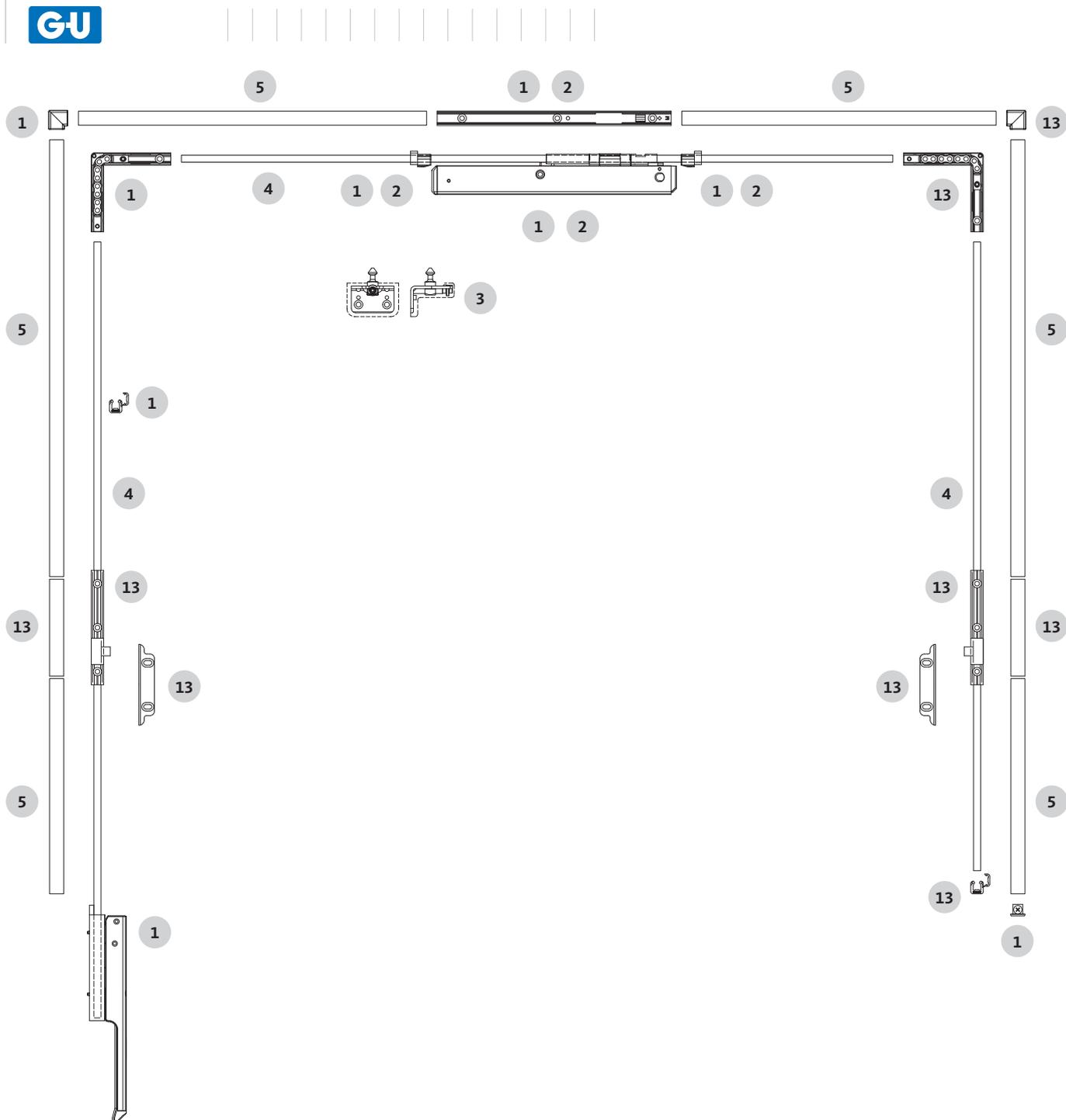
[1] Use insert according to the constitution of the profile.
 - Timber: 9-34508-00-0-0
 - PVC: 9-33105-00-0-1

Installation drawing 0-43822 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / vertical additional lock



VENTUS F200 fanlight opening system

Hand lever / vertical additional lock



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
1	1	1	1	-	200	2	K-15011-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	-	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	-	0-25	2	K-15225-00-0-1

VENTUS F200 additional lock vertical

Item	Piece per pattern				Description	Overlap height [mm]	SW min. [mm]	SH min. [mm]	PU	Order number
	1	2n	3n	4n						
13	1	1	1	-	For timber / PVC windows with overlap	from 16	458	400	1	K-15209-00-0-1
						6-7			1	K-15210-60-0-1
						7-8			1	K-15210-70-0-1
					For metal windows with overlap	8-9			1	K-15210-80-0-1
						9-10			1	K-15210-90-0-1
						For flush metal / timber windows			-	1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	1850	1	9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	1800	5	9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

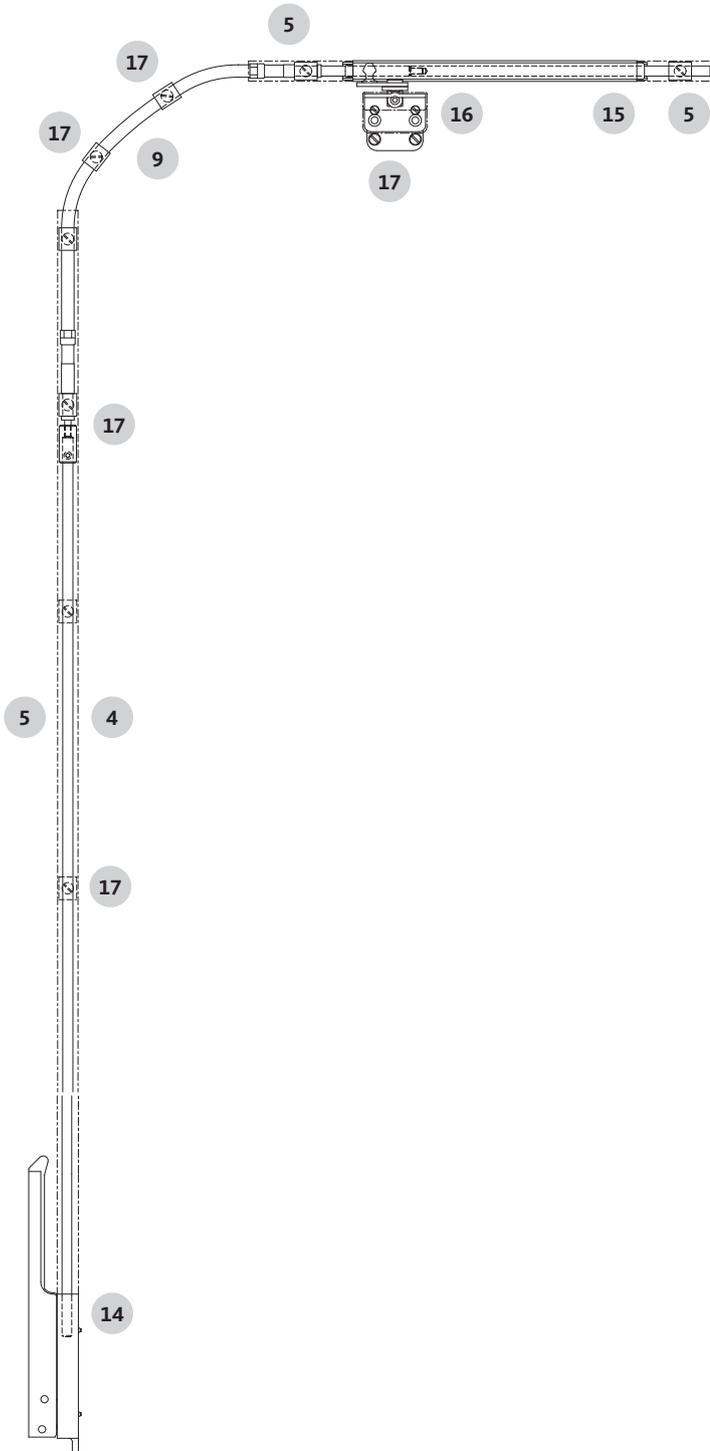
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-43800 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / round and segmental arch windows – pattern 1



VENTUS F200 fanlight opening system

Hand lever / round and segmental arch windows – pattern 1



VENTUS F200 hand lever

Item	Piece per pattern				Travel [mm]	PU	Order number
	1	2n	3n	4n			
14	1	-	-	-	50	1	6-28681-50-0-1

VENTUS F200 opening stay short

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
15	1	-	-	-	150	1	K-15483-00-0-1

VENTUS F200 sash bracket with joint

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
16	1	-	-	-	0-25	1	K-15507-00-0-1

Accessories for round and segmental arch windows

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
17	1	-	-	-	1	K-15484-00-0-1

Flexible transmission for arched windows

Item	Piece per pattern				SW [mm]	Length [mm]	PU	Order number
	1	2n	3n	4n				
9	1	-	-	-	500-900	700	1	6-29495-07-0-1
					901-1300	1000		6-29495-10-0-1

Flexible transmission for segmental arch windows

Item	Piece per pattern				SW [mm]	Length [mm]	PU	Order number
	1	2n	3n	4n				
9	1	-	-	-	500-600	400	1	6-29495-04-0-1
					601-900	700		6-29495-07-0-1
					901-1300	1000		6-29495-10-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	-	-	-	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

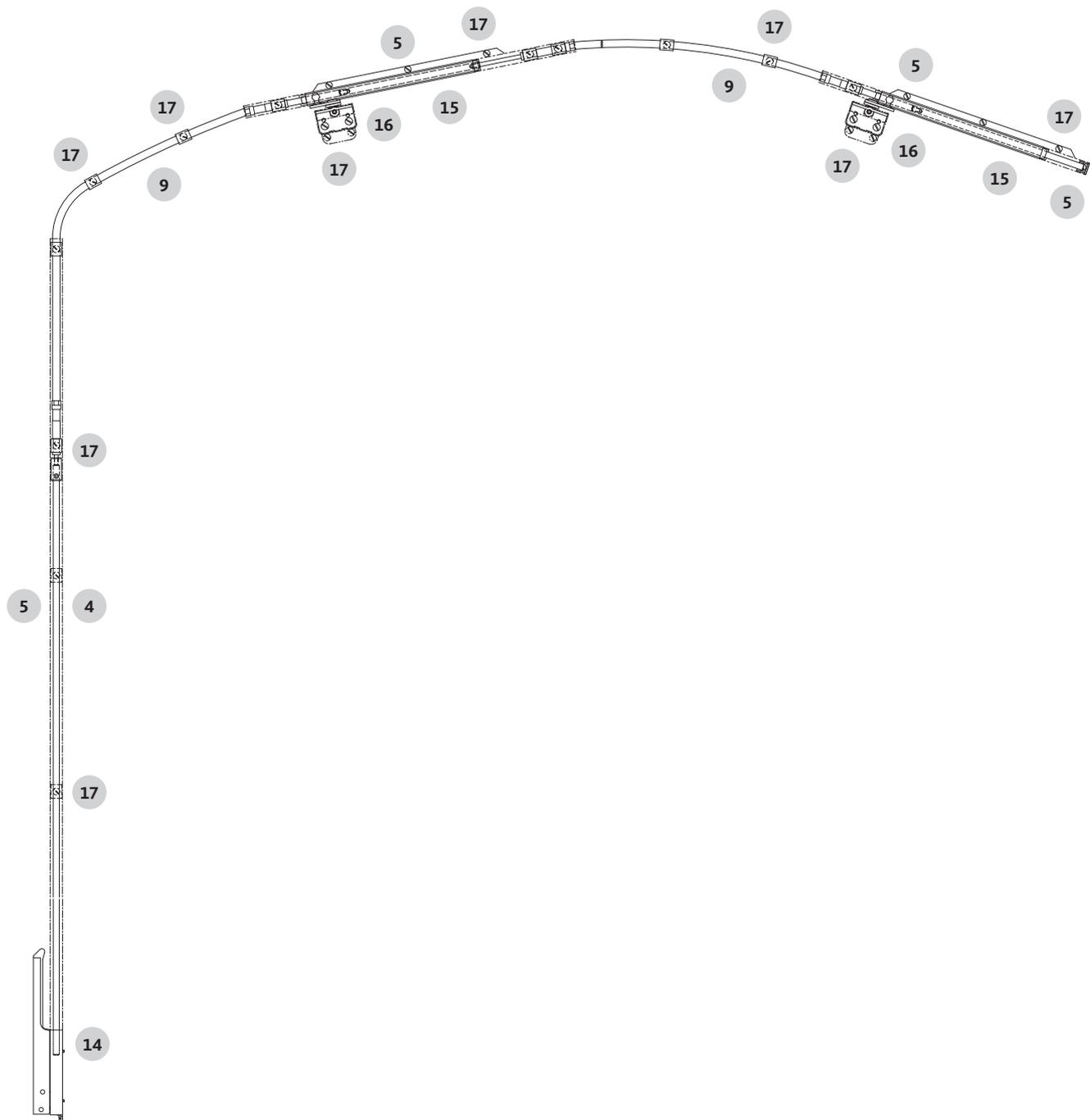
Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	-	-	-	800	5	9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

Installation drawing 0-43951

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / round and segmental arch windows – pattern 2n



VENTUS F200 fanlight opening system

Hand lever / round and segmental arch windows – pattern 2n



VENTUS F200 hand lever

Item	Piece per pattern				Travel [mm]	PU	Order number
	1	2n	3n	4n			
14	-	1	-	-	50	1	6-28681-50-0-1

VENTUS F200 opening stay short

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
15	-	2	-	-	150	1	K-15483-00-0-1

VENTUS F200 sash bracket with joint

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
16	-	2	-	-	0-25	1	K-15507-00-0-1

Accessories for round and segmental arch windows

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
17	-	1	-	-	1	K-15484-00-0-1
	-	1	-	-	1	K-15485-00-0-1

Flexible transmission for arched windows

Hand lever – stay

Item	Piece per pattern				SW [mm]	Length [mm]	PU	Order number
	1	2n	3n	4n				
9	-	1	-	-	1300-2100	1000	1	6-29495-10-0-1
	-	1	-	-	2101-2400	1300	1	6-29495-13-0-1

Stay – stay

Item	Piece per pattern				SW [mm]	Length [mm]	PU	Order number
	1	2n	3n	4n				
9	-	1	-	-	1300-1700	400	1	6-29495-04-0-1
	-	1	-	-	1701-1900	700	1	6-29495-07-0-1
	-	1	-	-	1901-2400	1000	1	6-29495-10-0-1

Flexible transmission for segmental arch windows

Hand lever – stay

Item	Piece per pattern				SW [mm]	Length [mm]	PU	Order number
	1	2n	3n	4n				
9	-	1	-	-	1200-2400	700	1	6-29495-07-0-1

Stay – stay

Item	Piece per pattern				SW [mm]	Length [mm]	PU	Order number
	1	2n	3n	4n				
9	-	1	-	-	1200-1500	400	1	6-29495-04-0-1
	-	1	-	-	1501-1800	700	1	6-29495-07-0-1
	-	1	-	-	1801-2100	1000	1	6-29495-10-0-1
	-	1	-	-	2101-2400	1300	1	6-29495-13-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	-	1	-	-	600	1	9-25476-06-0-1
	-	1	-	-	1850	1	9-25476-18-0-1
	-	1	-	-	3300	1	9-25476-33-0-1
	-	1	-	-	6000	1	9-25476-60-0-1

Cover profile

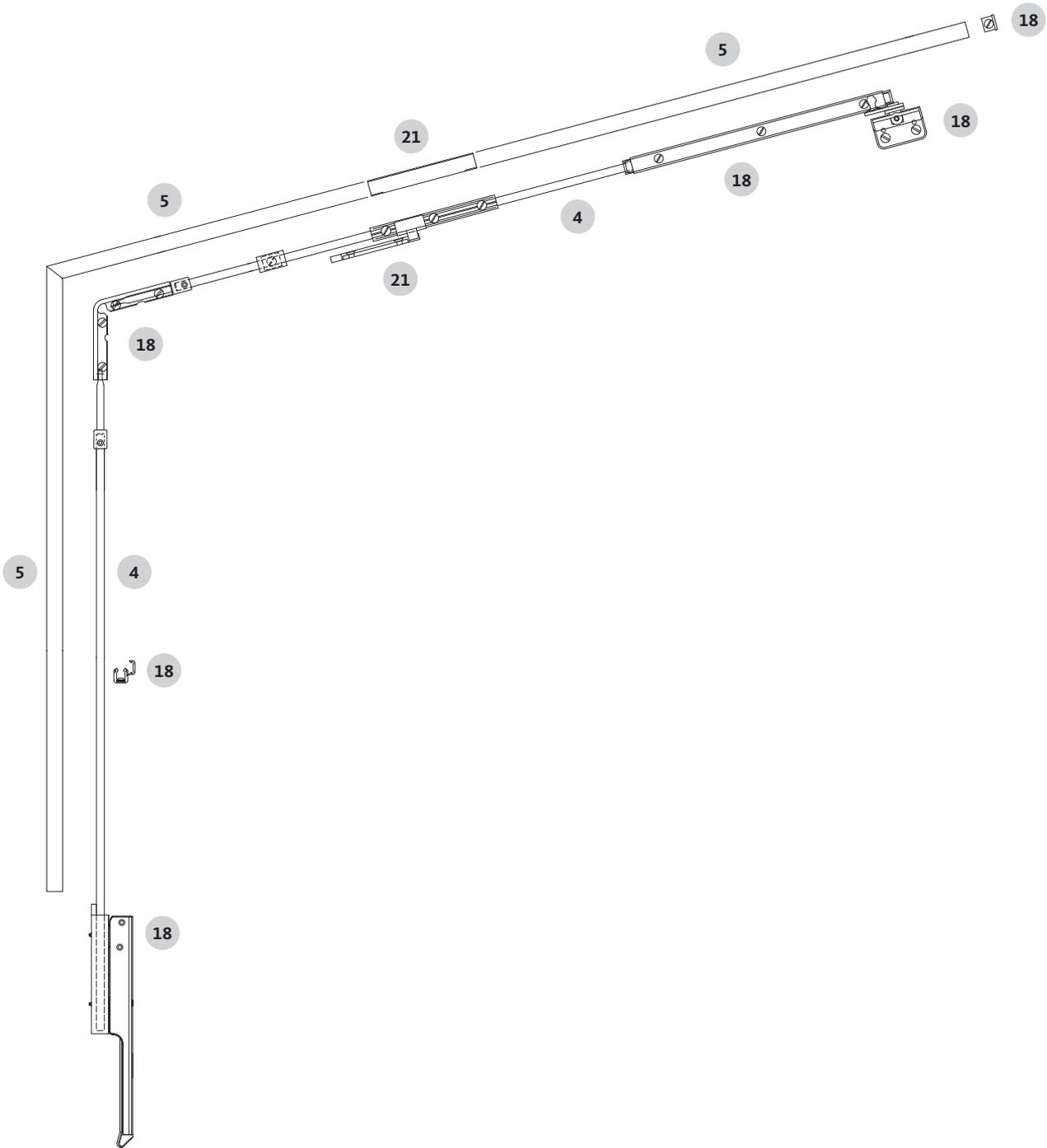
Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	-	1	-	-	62	5	9-33444-01-0-1
	-	1	-	-	800	5	9-33444-06-0-1
	-	1	-	-	1800	5	9-33444-18-0-1
	-	1	-	-	3050	5	9-33444-33-0-1
	-	1	-	-	6000	5	9-33444-60-0-1

Installation drawing 0-43952

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever / pitched window



VENTUS F200 fanlight opening system

Hand lever / pitched window



VENTUS F200 basic hardware set for pitched windows

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
18	1	-	-	-	0-25	1	K-15206-00-0-1
	Alternative: VENTUS F200 basic hardware set for pitched windows Application vertical gear or lateral ELTRAL						
	1	-	-	-	0-25	1	K-15207-00-0-1
	Alternative: VENTUS F200 basic hardware set for pitched windows Application corner drive-gear or top ELTRAL						
	1	-	-	-	0-25	1	K-15208-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

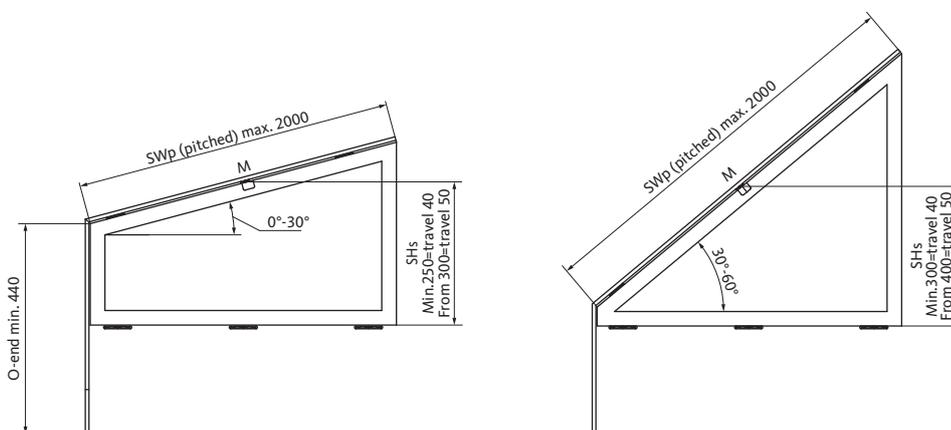
Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	-	-	-	1850	1	9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	-	-	-	1800	5	9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

VENTUS F200 additional lock horizontal

Item	Piece per pattern				SWp (pitched) [mm]	Overlap height [mm]	PU	Order number
	1	2n	3n	4n				
21	1	-	-	-	1200-1600			
	2	-	-	-	1601-2000			
	For timber / PVC windows with overlap					from 16	1	K-12008-00-0-1
	For metal windows with overlap					6-7	1	K-13033-60-0-1
						7-8	1	K-13033-70-0-1
						8-9	1	K-13033-80-0-1
						9-10	1	K-13033-90-0-1
	For flush metal / timber windows					-	1	K-13033-01-0-1

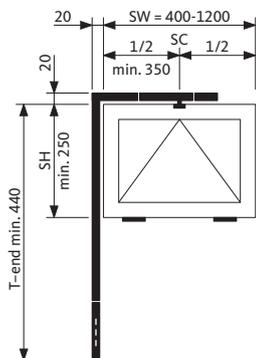


Installation drawing 0-43798

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Hand lever – individual and total rod length

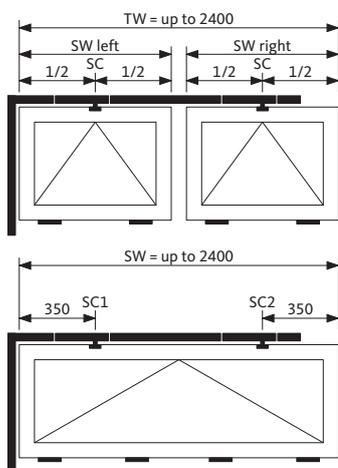


Pattern 1

Rod length according to total door leaf width and dimension O-end

O-end	Connector rod length	Total sash width dim. SW			
		700	800	1000	1200
		Horizontal rod length			
		365	415	515	615
1000	767	1132	1182	1282	1382
1100	867	1232	1282	1382	1482
1200	967	1332	1382	1482	1582
1300	1067	1432	1482	1582	1682
1400	1167	1532	1582	1682	1782
1500	1267	1632	1682	1782	1882
1600	1367	1732	1782	1882	1982
1700	1467	1832	1882	1982	2082
1800	1567	1932	1982	2082	2182
1900	1667	2032	2082	2182	2282
2000	1767	2132	2182	2282	2382

Rod and cover profile size 18 = white, 33 = grey



Pattern 2n

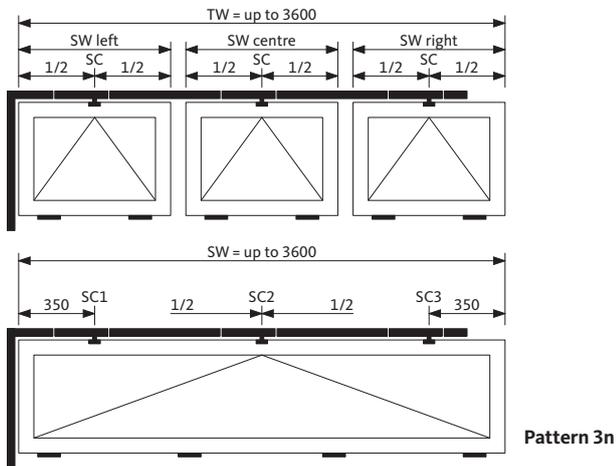
Rod length according to total door leaf width and dimension O-end

O-end	Connector rod length	Total sash width dim. SW or TW					
		1400	1600	1800	2000	2200	2400
		Horizontal rod length					
		1065	1265	1465	1665	1865	2065
1000	767	1832	2032	2232	2432	2632	2832
1100	867	1932	2132	2332	2532	2732	2932
1200	967	2032	2232	2432	2632	2832	3032
1300	1067	2132	2332	2532	2732	2932	3132
1400	1167	2232	2432	2632	2832	3032	3232
1500	1267	2332	2532	2732	2932	3132	3332
1600	1367	2432	2632	2832	3032	3232	3432
1700	1467	2532	2732	2932	3132	3332	3532
1800	1567	2632	2832	3032	3232	3432	3632
1900	1667	2732	2932	3132	3332	3532	3732
2000	1767	2832	3032	3232	3432	3632	3832

Rod and cover profile size 33 = grey, 60 = white

VENTUS F200 fanlight opening system

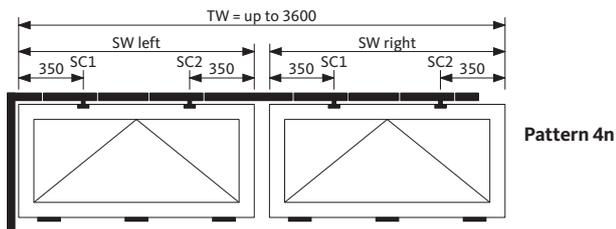
Hand lever – individual and total rod length



Rod length according to total door leaf width and dimension O-end

O-end	Connector rod length	Total sash width dim. SW or TW					
		2600	2800	3000	3200	3400	3600
		Horizontal rod length					
		2265	2465	2665	2865	3065	3265
1000	767	3032	3232	3432	3632	3832	4032
1100	867	3132	3332	3532	3732	3932	4132
1200	967	3232	3432	3632	3832	4032	4232
1300	1067	3332	3532	3732	3932	4132	4332
1400	1167	3432	3632	3832	4032	4232	4432
1500	1267	3532	3732	3932	4132	4332	4532
1600	1367	3632	3832	4032	4232	4432	4632
1700	1467	3732	3932	4132	4332	4532	4732
1800	1567	3832	4032	4232	4432	4632	4832
1900	1667	3932	4132	4332	4532	4732	4932
2000	1767	4032	4232	4432	4632	4832	5032

Rod and cover profile size 33 = grey, 60 = white



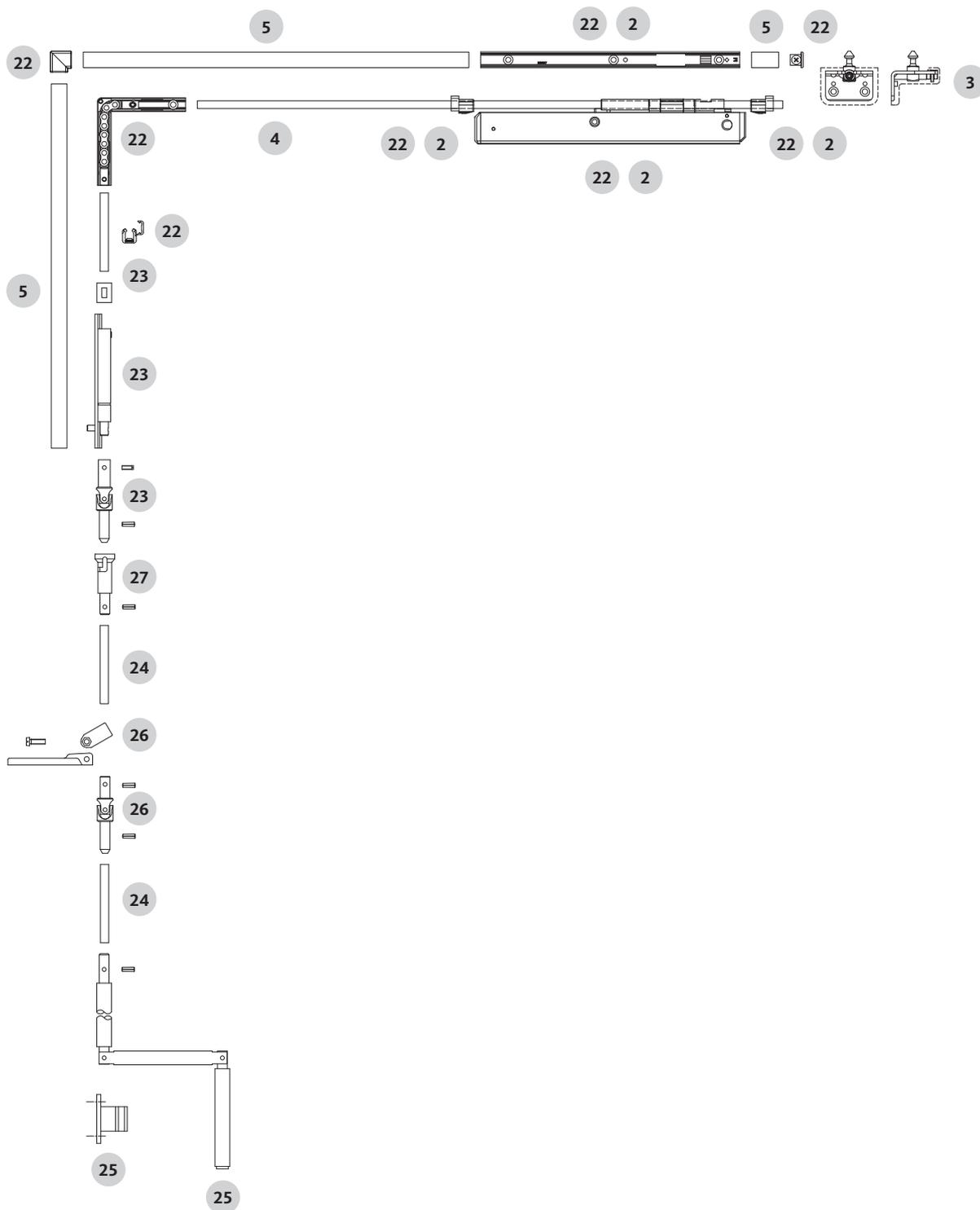
Rod length according to total door leaf width and dimension O-end

O-end	Connector rod length	Total sash width dim. SW or TW					
		2600	2800	3000	3200	3400	3600
		Horizontal rod length					
		2265	2465	2665	2865	3065	3265
1000	767	3032	3232	3432	3632	3832	4032
1100	867	3132	3332	3532	3732	3932	4132
1200	967	3232	3432	3632	3832	4032	4232
1300	1067	3332	3532	3732	3932	4132	4332
1400	1167	3432	3632	3832	4032	4232	4432
1500	1267	3532	3732	3932	4132	4332	4532
1600	1367	3632	3832	4032	4232	4432	4632
1700	1467	3732	3932	4132	4332	4532	4732
1800	1567	3832	4032	4232	4432	4632	4832
1900	1667	3932	4132	4332	4532	4732	4932
2000	1767	4032	4232	4432	4632	4832	5032

Rod and cover profile size 33 = grey, 60 = white

VENTUS F200 fanlight opening system

Crank / vertical gear



VENTUS F200 fanlight opening system

Crank / vertical gear



VENTUS F200 basic hardware set

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
22	1	1	1	1	200	2	K-15012-00-0-1

VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	-	1	2	3	200	1	K-15013-00-0-1

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	4	0-25	2	K-15225-00-0-1

Vertical gear

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
23	1	1	1	1	1	K-13402-00-0-1

Articulated crank rod and accessories according to version a to h

Crank rod

Item	Version								Length [mm]	PU	Order number
	a	b	c	d	e	f	g	h			
24	1	1	1	1	1	1	1	1	5000	1	9-32230-50-0-1

Articulated crank

Item	Version								PU	Order number	
	a	b	c	d	e	f	g	h			
25	1	1	1	1	1	1	1	1	1	1	K-13162-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	1	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	1	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

Crank rod universal joint

Item	Version								PU	Order number	
	a	b	c	d	e	f	g	h			
26	-	-	1	1	2	2	1	1	1	1	K-13164-00-0-1

Coupling bush

Item	Version								PU	Order number	
	a	b	c	d	e	f	g	h			
27	-	1	-	1	-	1	-	1	1	1	K-13165-00-0-1

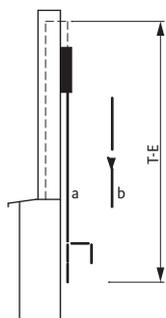
[1] Use insert according to the constitution of the profile.
 – Timber: 9-34508-00-0-0
 – PVC: 9-33105-00-0-1

Installation drawing 0-44556 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

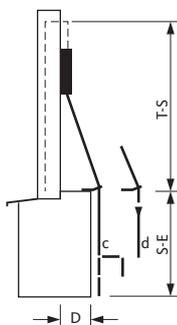
Crank / vertical gear



T-S min.	D
310	30
345	60
380	90
415	120
450	150
485	180
525	210
560	240
595	270
630	300

T-E min.	Vers.
715	a
765	b

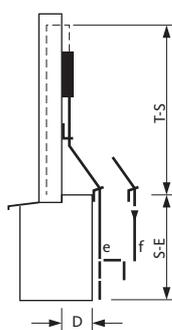
Version a and b



T-S min.	D
310	30
345	60
380	90
415	120
450	150
485	180
525	210
560	240
595	270
630	300

S-E min.	Vers.
475	c
515	d

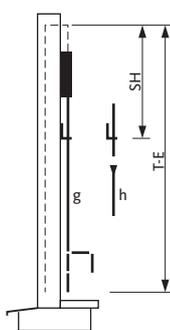
Version c and d



T-S min.	D
515	30
565	60
615	90
670	120
720	150
775	180
825	210
875	240
930	270
985	300

S-E min.	Vers.
475	e
515	f

Version e and f



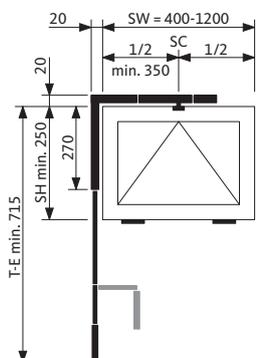
SH min.
400

T-E min.	Vers.
800	g
850	h

Version g and h

VENTUS F200 fanlight opening system

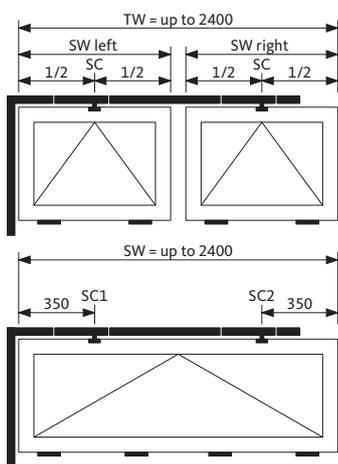
Crank / vertical gear



Pattern 1

Horizontal rod length depending on total sash width

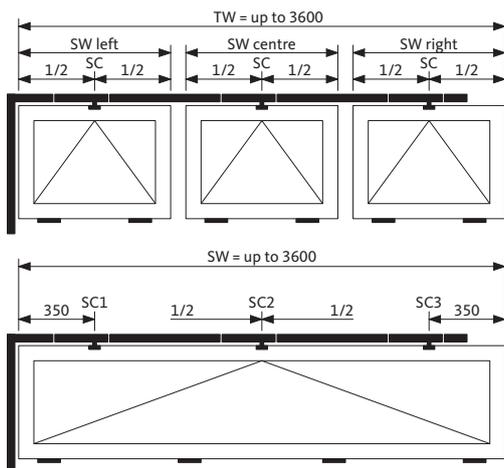
	Total sash width dim. SW			
	700	800	1000	1200
Horizontal rod length	365	415	515	615



Pattern 2n

Horizontal rod length depending on total sash width

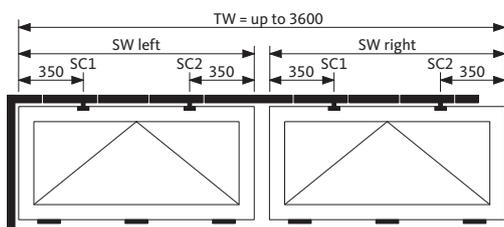
	Total sash width dim. SW or TW					
	1400	1600	1800	2000	2200	2400
Horizontal rod length	1065	1265	1465	1665	1865	2065



Pattern 3n

Horizontal rod length depending on total sash width

	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2265	2465	2665	2865	3065	3265



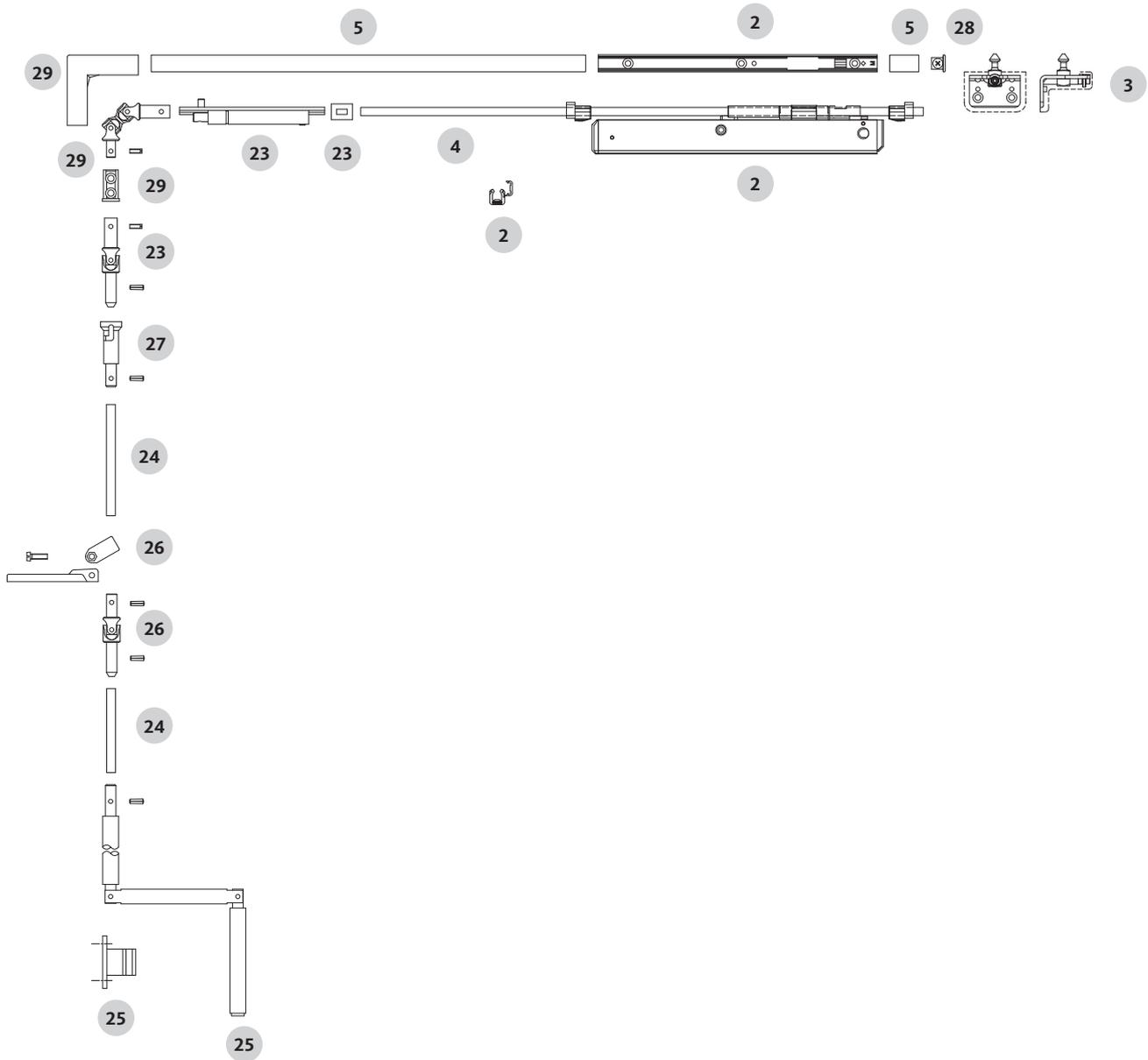
Pattern 4n

Horizontal rod length depending on total sash width

	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2265	2465	2665	2865	3065	3265

VENTUS F200 fanlight opening system

Crank / corner drive-gear



VENTUS F200 fanlight opening system

Crank / corner drive-gear



VENTUS F200 opening stay

Item	Piece per pattern				Opening width [mm]	PU	Order number
	1	2n	3n	4n			
2	1	2	3	4	200	1	K-15013-00-0-1

End cap

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
28	1	1	1	1	1	9-34412-00-0-6

VENTUS F200 sash bracket ^[1]

Item	Piece per pattern				Overlap height [mm]	PU	Order number
	1	2n	3n	4n			
3	1	2	3	4	0-25	2	K-15225-00-0-1

Vertical gear

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
23	1	1	1	1	1	K-13402-00-0-1

Additional parts for corner drive-gear

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
29	1	1	1	1	1	K-13403-00-0-1

Articulated crank rod and accessories according to version a to d

Crank rod

Item	Version				Length [mm]	PU	Order number
	a	b	c	d			
24	1	1	1	1	5000	1	9-32230-50-0-1

Articulated crank

Item	Version				PU	Order number
	a	b	c	d		
25	1	1	1	1	1	K-13162-00-0-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	1	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	1	62	5	9-33444-01-0-1
					800		9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

Crank rod universal joint

Item	Version				PU	Order number
	a	b	c	d		
26	-	-	1	1	1	K-13164-00-0-1

Coupling bush

Item	Version				PU	Order number
	a	b	c	d		
27	-	1	-	1	1	K-13165-00-0-1

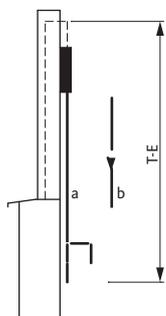
[1] Use insert according to the constitution of the profile.
 - Timber: 9-34508-00-0-0
 - PVC: 9-33105-00-0-1

Installation drawing 0-44556 / 0-43700

You will find further versions and finishes in chapter "Individual parts" from page 282.

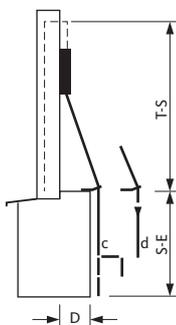
VENTUS F200 fanlight opening system

Crank / corner drive-gear



Version a and b

T-S min.	D
200	30
200	60
200	90
210	120
245	150
280	180
315	210
350	240
390	270
425	300
T-E min.	Vers.
505	a
555	b

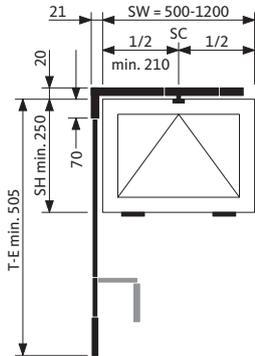


Version c and d

T-S min.	D
200	30
200	60
200	90
210	120
245	150
280	180
315	210
350	240
390	270
425	300
S-E min.	Vers.
475	c
515	d

VENTUS F200 fanlight opening system

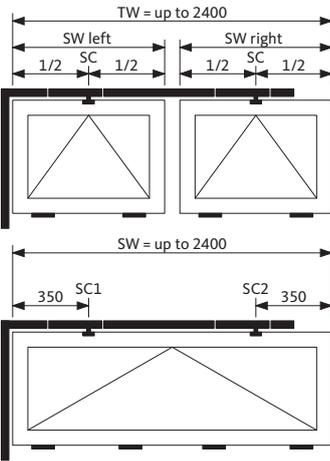
Crank / corner drive-gear



Pattern 1

Horizontal rod length depending on total sash width

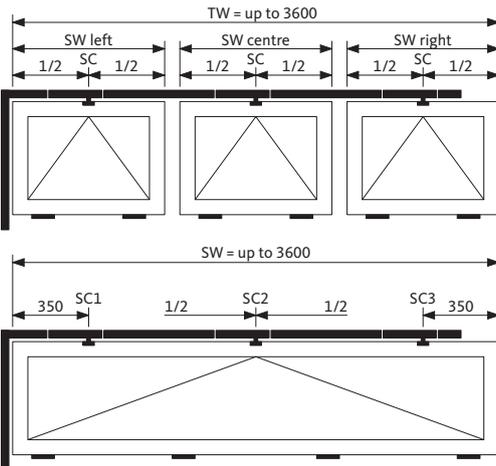
	Total sash width dim. SW			
	700	800	1000	1200
Horizontal rod length	486	536	636	736



Pattern 2n

Horizontal rod length depending on total sash width

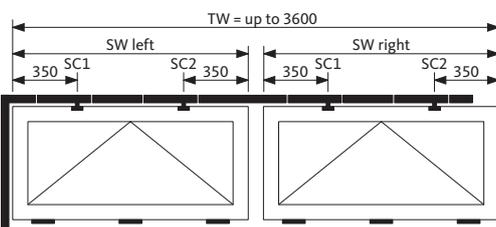
	Total sash width dim. SW or TW					
	1400	1600	1800	2000	2200	2400
Horizontal rod length	1186	1386	1586	1786	1986	2186



Pattern 3n

Horizontal rod length depending on total sash width

	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2386	2586	2786	2986	3186	3386



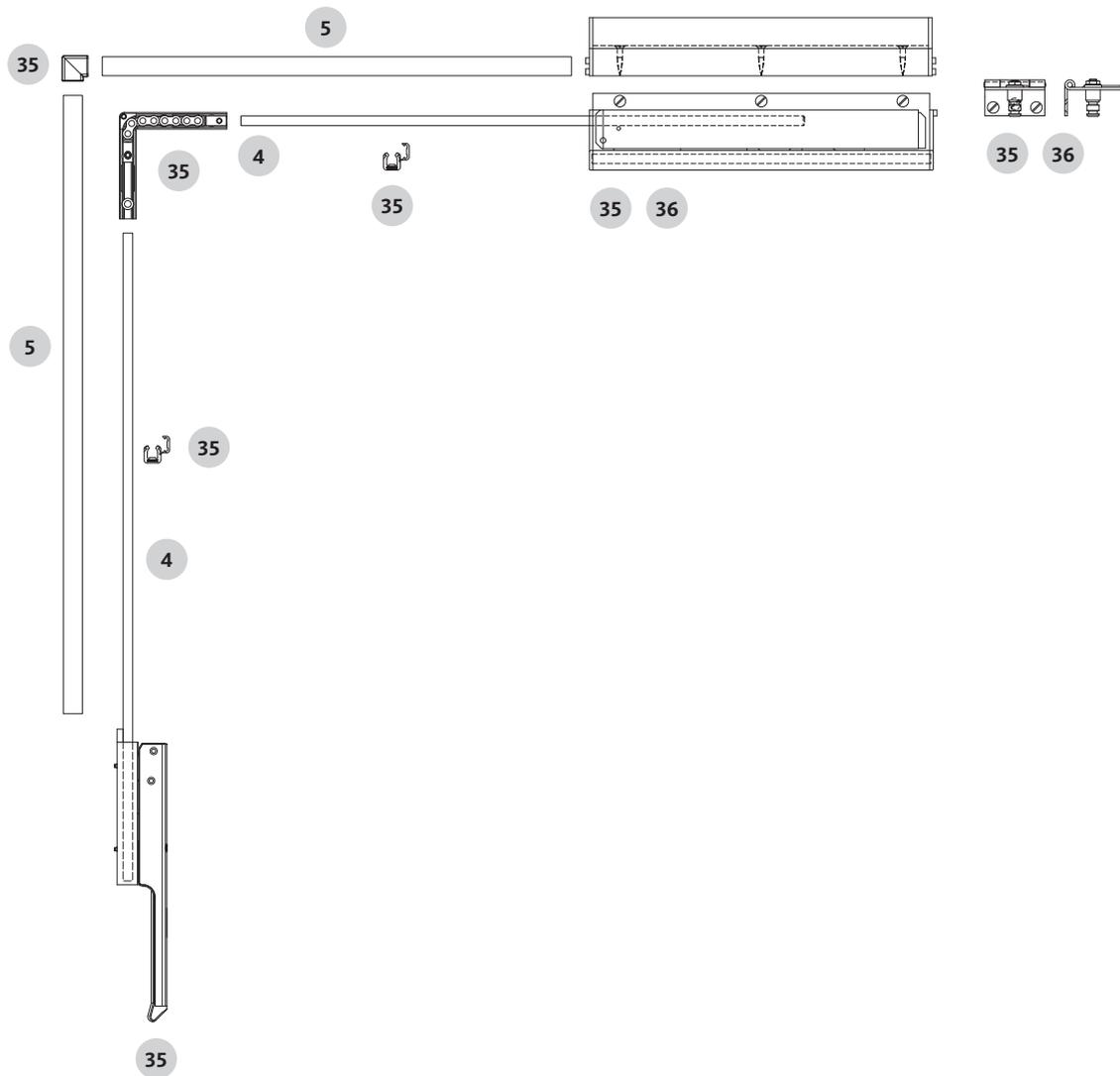
Pattern 4n

Horizontal rod length depending on total sash width

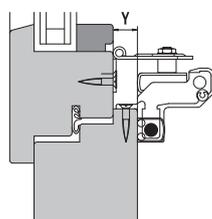
	Total sash width dim. SW or TW					
	2600	2800	3000	3200	3400	3600
Horizontal rod length	2386	2586	2786	2986	3186	3386

VENTUS F200 fanlight opening system

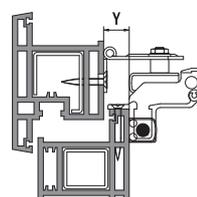
Hand lever / Top-Hung window outward opening



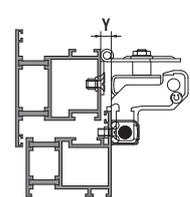
Dim. Y
Timber



PVC



Metal



VENTUS F200 fanlight opening system

Hand lever / Top-Hung window outward opening



VENTUS F200 basic hardware set ^[1]

Item	Piece per pattern				Opening width [mm]	Dim. Y [mm]	PU	Order number
	1	2n	3n	4n				
35	1	1	1	-	200	0-4	1	K-15168-00-L-1
						5-13		K-15165-00-L-1
						14-25		K-15164-25-L-1
						26-50		K-15164-50-L-1
						51-75		K-15164-75-L-1

VENTUS F200 opening stay ^[1]

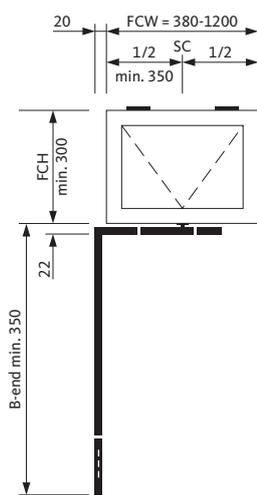
Item	Piece per pattern				Opening width [mm]	Dim. Y [mm]	PU	Order number
	1	2n	3n	4n				
36	-	1	2	-	200	0-4	1	K-15169-00-L-1
						5-13		K-15167-00-L-1
						14-25		K-15166-25-L-1
						26-50		K-15166-50-L-1
						51-75		K-15166-75-L-1

Connecting rod and horizontal rod – Ø 8 mm

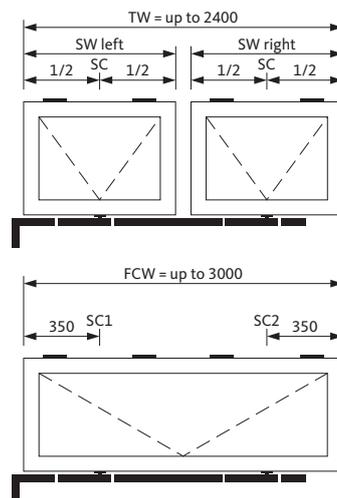
Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	1850	1	9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Cover profile

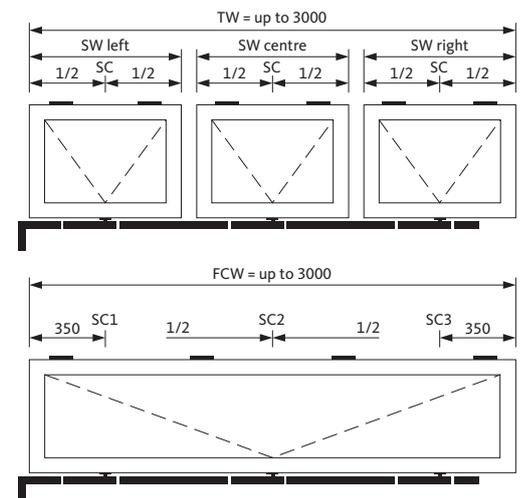
Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	1800	5	9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1



Pattern 1 – Hand lever



Pattern 2n



Pattern 3n

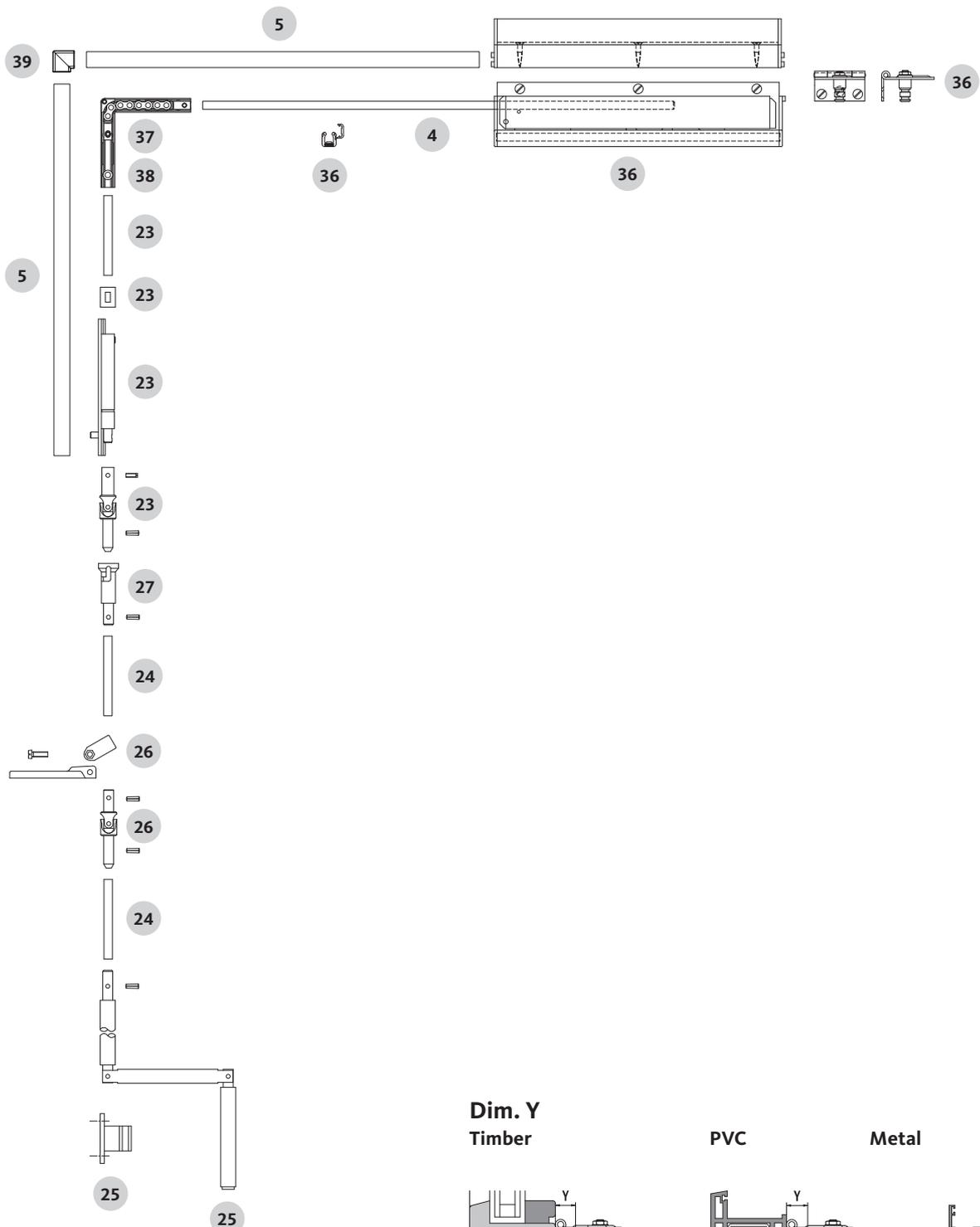
[1] Can be retrofitted from left operation to right operation

Installation drawing 0-43818

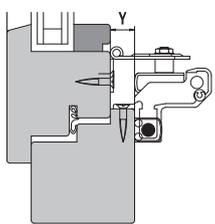
You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

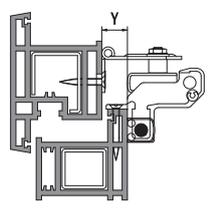
Crank / Vertical gear / Top-Hung window outward opening



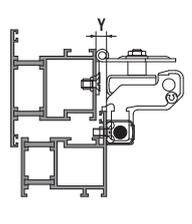
Dim. Y
Timber



PVC



Metal



VENTUS F200 fanlight opening system

Crank / Vertical gear / Top-Hung window outward opening



VENTUS F200 opening stay ^[1]

Item	Piece per pattern				Opening width [mm]	Dim. Y [mm]	PU	Order number
	1	2n	3n	4n				
36	1	2	3	-	200	0-4	1	K-15169-00-L-1
						5-13		K-15167-00-L-1
						14-25		K-15166-25-L-1
						26-50		K-15166-50-L-1
						51-75		K-15166-75-L-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Chain with rod clamps

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
37	1	1	1	-	1	6-29313-00-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	800	5	9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

Corner guide

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
38	1	1	1	-	1	9-38261-00-0-0

Corner cover

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
39	1	1	1	-	1	9-34220-00-0-6

Vertical gear

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
23	1	1	1	-	1	K-13402-00-0-1

Articulated crank rod and accessories according to version a to h

Crank rod

Item	Version								Length [mm]	PU	Order number
	a	b	c	d	e	f	g	h			
24	1	1	1	1	1	1	1	1	5000	1	9-32230-50-0-1

Crank rod universal joint

Item	Version								PU	Order number	
	a	b	c	d	e	f	g	h			
26	-	-	1	1	2	2	1	1	1	1	K-13164-00-0-1

Articulated crank

Item	Version								PU	Order number	
	a	b	c	d	e	f	g	h			
25	1	1	1	1	1	1	1	1	1	1	K-13162-00-0-1

Coupling bush

Item	Version								PU	Order number	
	a	b	c	d	e	f	g	h			
27	-	1	-	1	-	1	-	1	1	1	K-13165-00-0-1

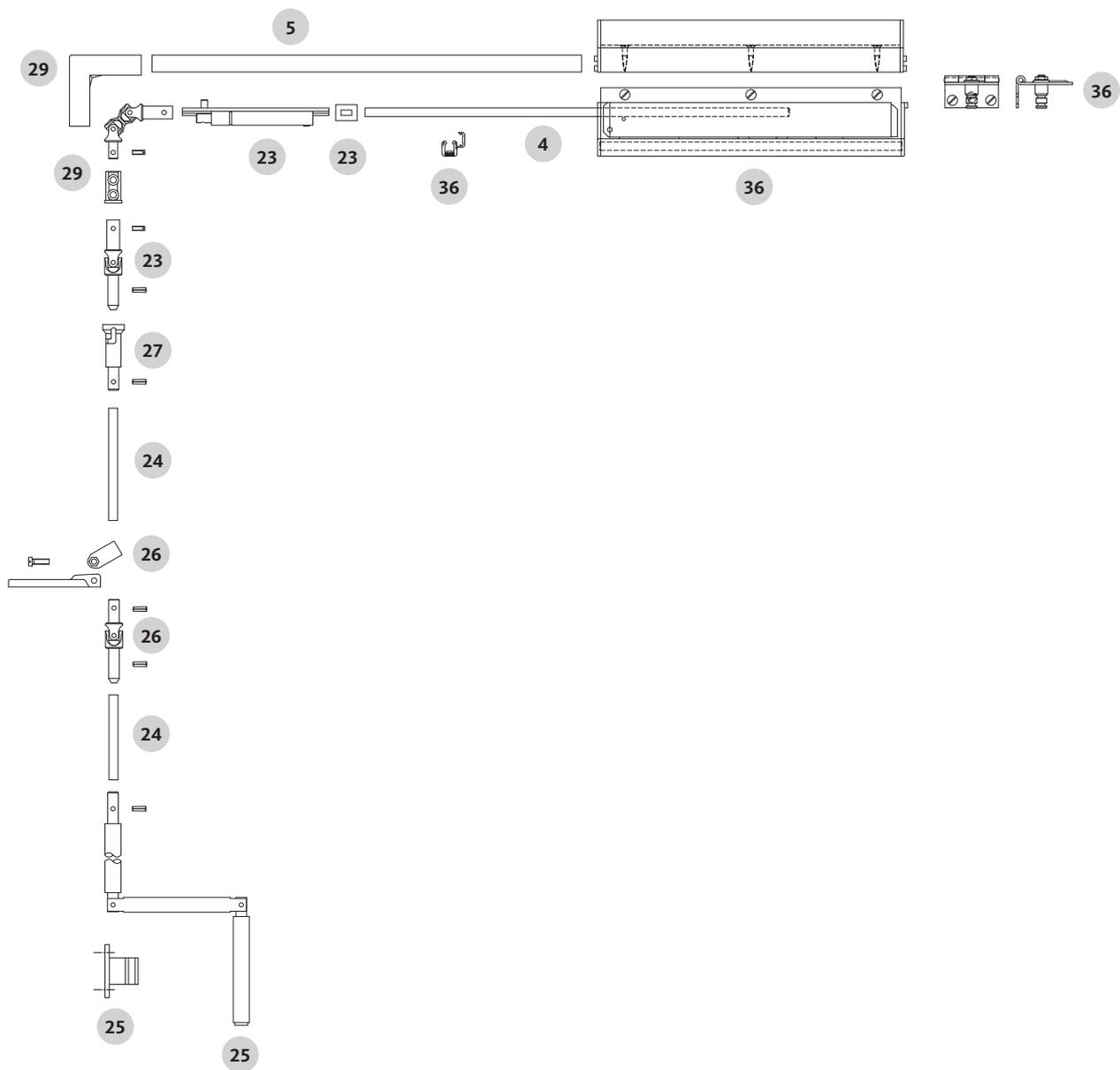
[1] Can be retrofitted from left operation to right operation

Installation drawing 0-43818 / 0-44556

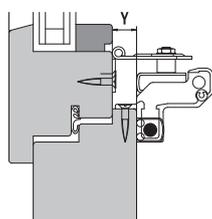
You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

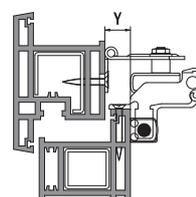
Crank / Corner drive-gear / Top-Hung window outward opening



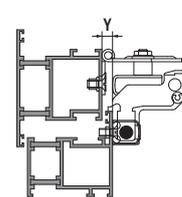
Dim. Y
Timber



PVC



Metal



VENTUS F200 fanlight opening system

Crank / Corner drive-gear / Top-Hung window outward opening



VENTUS F200 opening stay ^[1]

Item	Piece per pattern				Dim. Y [mm]	PU	Order number
	1	2n	3n	4n			
36	1	2	3	-	0-4	1	K-15169-00-L-1
					5-13		K-15167-00-L-1
					14-25		K-15166-25-L-1
					26-50		K-15166-50-L-1
					51-75		K-15166-75-L-1

Connecting rod and horizontal rod – Ø 8 mm

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
4	1	1	1	-	600	1	9-25476-06-0-1
					1850		9-25476-18-0-1
					3300		9-25476-33-0-1
					6000		9-25476-60-0-1

Vertical gear

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
23	1	1	1	-	1	K-13402-00-0-1

Cover profile

Item	Piece per pattern				Length [mm]	PU	Order number
	1	2n	3n	4n			
5	1	1	1	-	800	5	9-33444-06-0-1
					1800		9-33444-18-0-1
					3050		9-33444-33-0-1
					6000		9-33444-60-0-1

Additional parts for corner drive-gear

Item	Piece per pattern				PU	Order number
	1	2n	3n	4n		
29	1	1	1	-	1	K-13403-00-0-1

Articulated crank rod and accessories according to version a to d

Crank rod

Item	Version				Length [mm]	PU	Order number
	a	b	c	d			
24	1	1	1	1	5000	1	9-32230-50-0-1

Crank rod universal joint

Item	Version				PU	Order number
	a	b	c	d		
26	-	-	1	1	1	K-13164-00-0-1

Articulated crank

Item	Version				PU	Order number
	a	b	c	d		
25	1	1	1	1	1	K-13162-00-0-1

Coupling bush

Item	Version				PU	Order number
	a	b	c	d		
27	-	1	-	1	1	K-13165-00-0-1

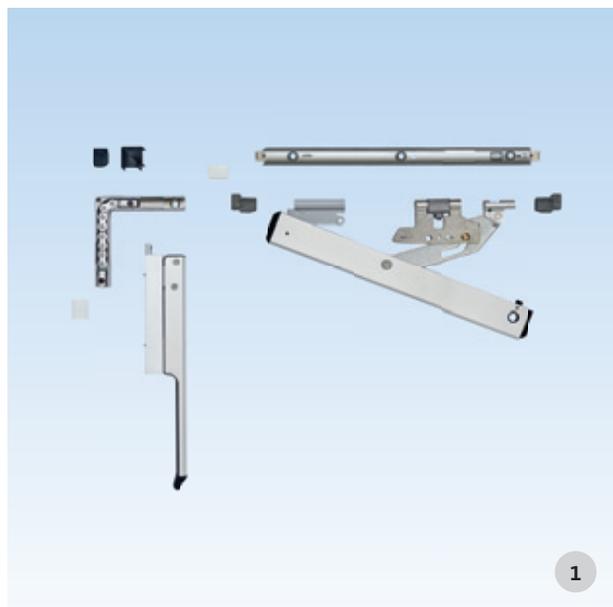
[1] Can be retrofitted from left operation to right operation

Installation drawing 0-43818 / 0-44556

You will find further versions and finishes in chapter "Individual parts" from page 282.

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



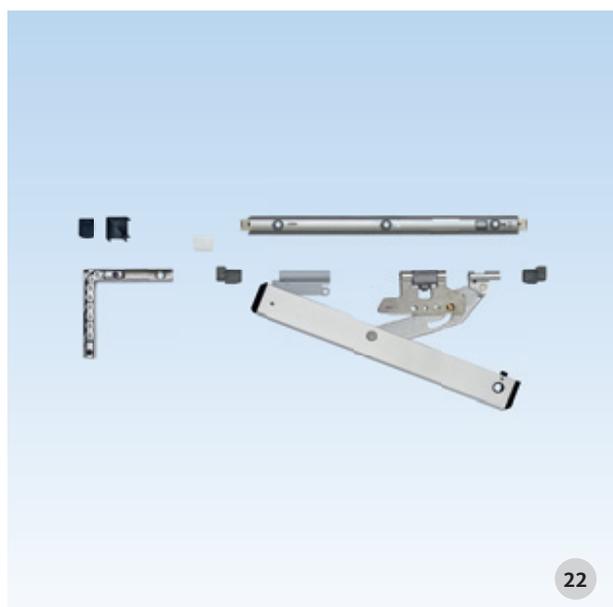
VENTUS F200 basic hardware set

Integral parts

- Stay
- Stay-bearing
- Rod bearing
- Corner guide
- Chain with rod clamps
- Hand lever
- Guide
- Corner cover
- End cap

Technical data	
Version	with hand lever
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right

Finish	PU	Order number
silver	2	K-15011-00-0-1
brown	2	K-15011-00-0-5
white	2	K-15011-00-0-7



VENTUS F200 basic hardware set

Integral parts

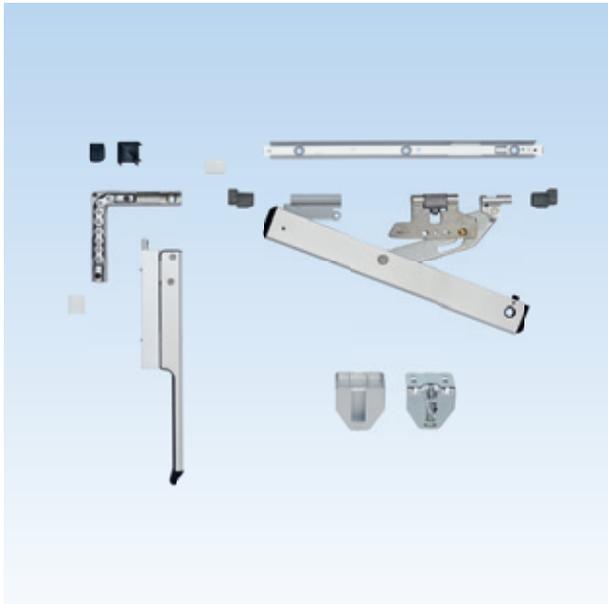
- Stay
- Stay-bearing
- Rod bearing
- Corner guide
- Chain with rod clamps
- Guide
- Corner cover
- End cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right

Finish	PU	Order number
silver	2	K-15012-00-0-1
brown	2	K-15012-00-0-5
white	2	K-15012-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



VENTUS F200 basic hardware set

Integral parts

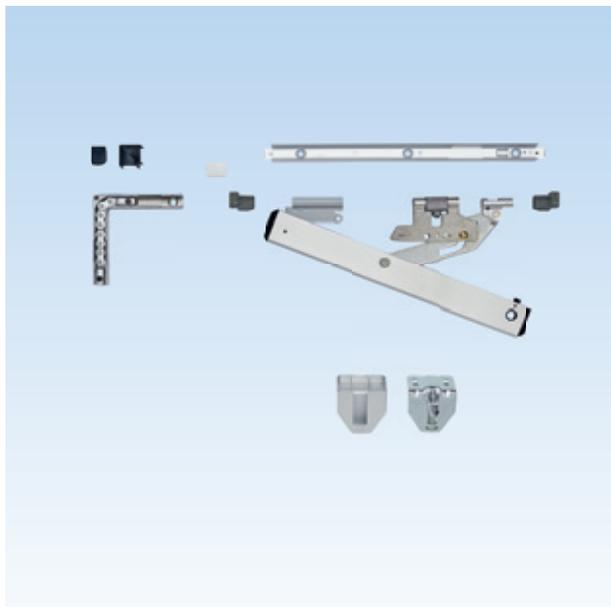
- Stay
- Stay-bearing
- Rod bearing
- Corner guide
- Chain with rod clamps
- Hand lever
- High sash bracket
- Cover cap
- Guide
- Corner cover
- End cap

Technical data	
Version	with hand lever with sash bracket
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right
Overlap height [mm]	0-25

Finish	PU	Order number
silver	250	K-15247-00-0-1
brown	1	K-15247-00-0-5
white	1	K-15247-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



VENTUS F200 basic hardware set

Integral parts

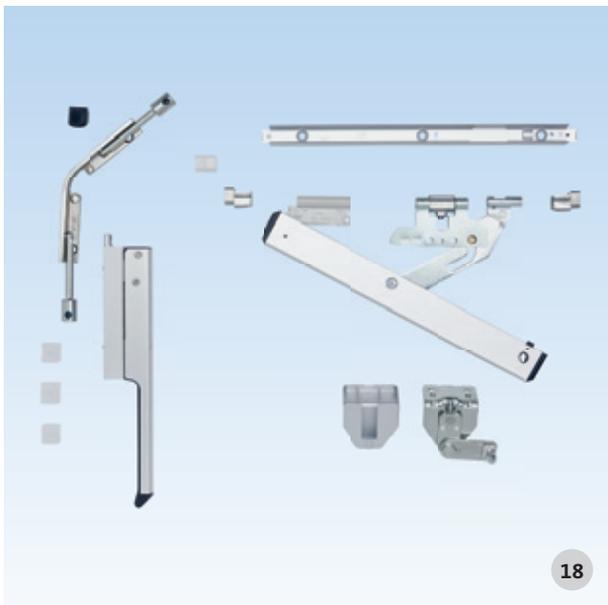
- Stay
- Stay-bearing
- Rod bearing
- Corner guide
- Chain with rod clamps
- High sash bracket
- Cover cap
- Guide
- Corner cover
- End cap

Technical data	
Version	with sash bracket
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right
Overlap height [mm]	0-25

Finish	PU	Order number
silver	1	K-15255-00-0-1
brown	1	K-15255-00-0-5
white	50	K-15255-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



VENTUS F200 basic hardware set for pitched windows

Integral parts

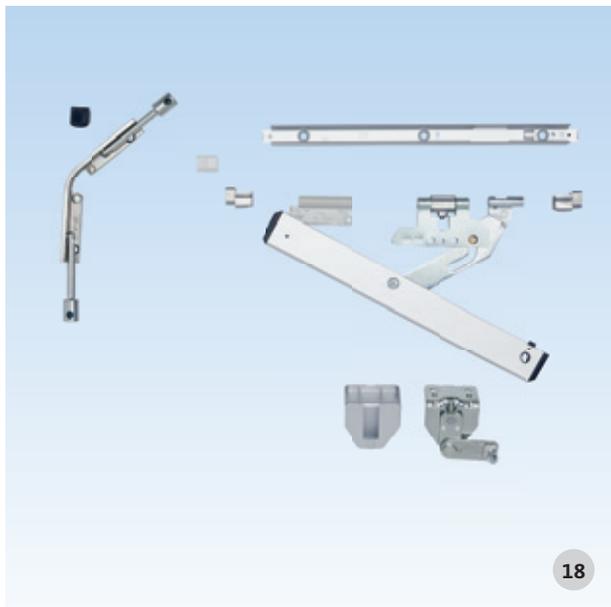
- Stay
- Stay-bearing
- Rod bearing
- Pitched corner angle
- Hand lever
- Sash bracket with joint
- Cover cap
- Guide
- End cap

Technical data	
Version	with hand lever with sash bracket
Window shape	pitched window
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right
Overlap height [mm]	0–25

Finish	PU	Order number
silver	1	K-15206-00-0-1
brown	1	K-15206-00-0-5
white	1	K-15206-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



VENTUS F200 basic hardware set for pitched windows

Integral parts

- Stay
- Stay-bearing
- Rod bearing
- Pitched corner angle
- Sash bracket with joint
- Cover cap
- Guide
- End cap

Technical data	
Use	with vertical gear or lateral ELTRAL
Version	with sash bracket
Window shape	pitched window
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right
Overlap height [mm]	0-25

Finish	PU	Order number
silver	1	K-15207-00-0-1
brown	1	K-15207-00-0-5
white	1	K-15207-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



VENTUS F200 basic hardware set for pitched windows

Integral parts

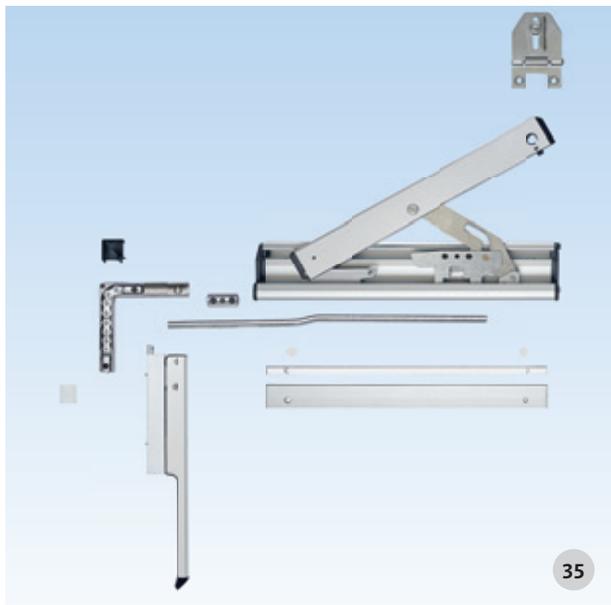
- Stay
- Stay-bearing
- Rod bearing
- Sash bracket with joint
- Cover cap
- Guide
- End cap

Technical data	
Use	with corner drive-gear or top ELTRAL
Version	with sash bracket
Window shape	pitched window
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right
Overlap height [mm]	0-25

Finish	PU	Order number
silver	1	K-15208-00-0-1
brown	1	K-15208-00-0-5
white	1	K-15208-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



VENTUS F200 basic hardware set

Integral parts

- Stay 2
- Sash bracket
- Corner guide
- Chain with rod clamps
- Hand lever
- Guide
- Corner cover
- Tapped strip
- Cover cap
- Packer
- Stay rod
- Sleeve

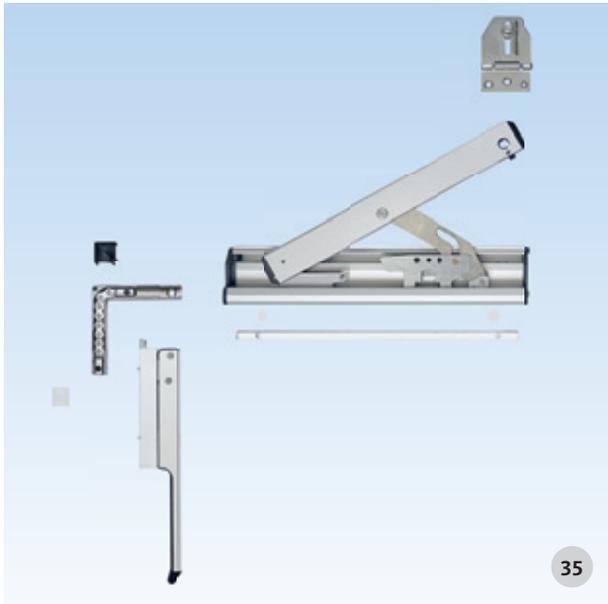
Technical data	
Version	with hand lever with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	0-4

Finish	PU	Order number
silver	1	K-15168-00-L-1
brown	1	K-15168-00-L-5
white	1	K-15168-00-L-7

[1] Can be retrofitted from left operation to right operation

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



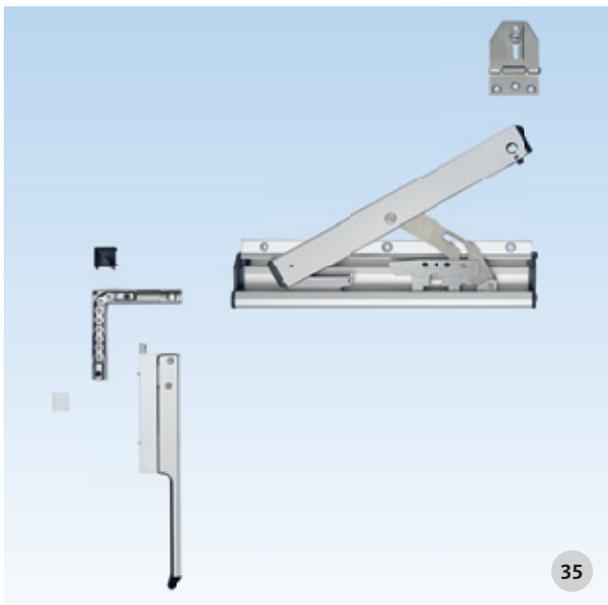
VENTUS F200 basic hardware set

Integral parts

- Stay 2
- Sash bracket
- Corner guide
- Chain with rod clamps
- Hand lever
- Guide
- Corner cover
- Tapped strip
- Cover cap

Technical data	
Version	with hand lever with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	5–13

Finish	PU	Order number
silver	1	K-15165-00-L-1
brown	1	K-15165-00-L-5
white	1	K-15165-00-L-7



VENTUS F200 basic hardware set

Integral parts

- Stay 1
- Sash bracket
- Corner guide
- Chain with rod clamps
- Hand lever
- Guide
- Corner cover

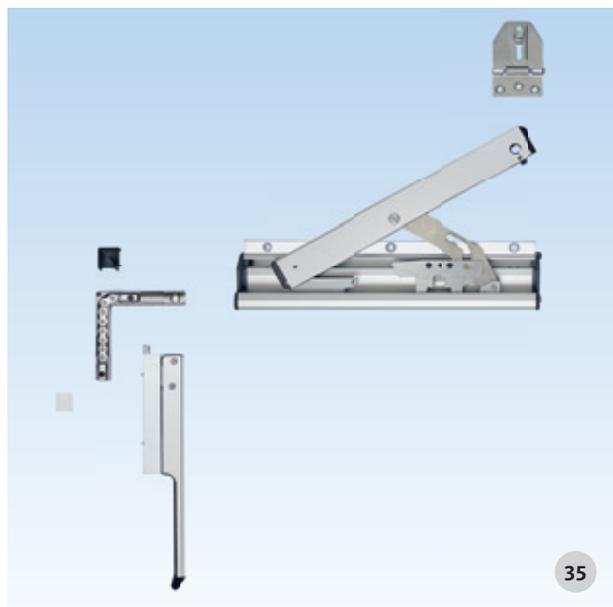
Technical data	
Version	with hand lever with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	14–25

Finish	PU	Order number
silver	1	K-15164-25-L-1
brown	1	K-15164-25-L-5
white	1	K-15164-25-L-7

[1] Can be retrofitted from left operation to right operation

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 basic hardware set



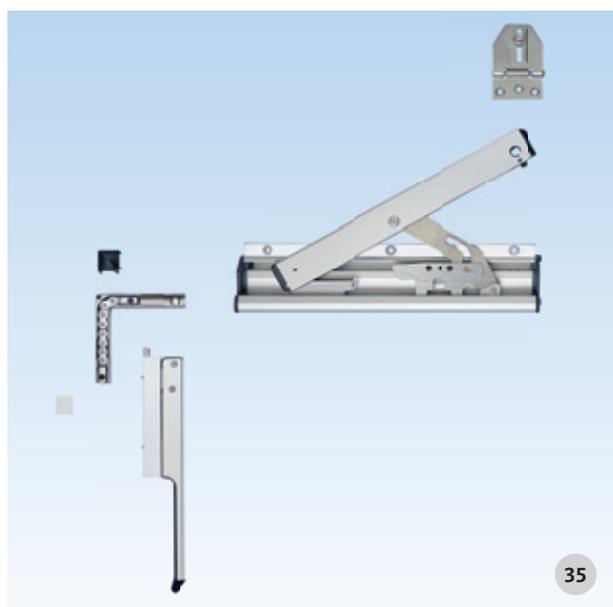
VENTUS F200 basic hardware set

Integral parts

- Stay 1
- Sash bracket
- Corner guide
- Chain with rod clamps
- Hand lever
- Guide
- Corner cover

Technical data	
Version	with hand lever with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	26-50

Finish	PU	Order number
silver	1	K-15164-50-L-1
brown	1	K-15164-50-L-5
white	1	K-15164-50-L-7



VENTUS F200 basic hardware set

Integral parts

- Stay 1
- Sash bracket
- Corner guide
- Chain with rod clamps
- Hand lever
- Guide
- Corner cover

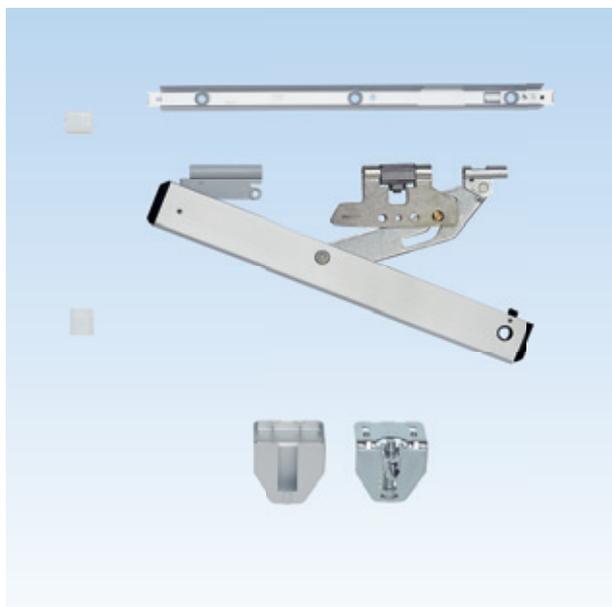
Technical data	
Version	with hand lever with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	51-75

Finish	PU	Order number
silver	1	K-15164-75-L-1
brown	1	K-15164-75-L-5
white	1	K-15164-75-L-7

[1] Can be retrofitted from left operation to right operation

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 opening stay



VENTUS F200 opening stay

Integral parts

- Stay
- Stay-bearing
- Rod bearing
- High sash bracket
- Cover cap

Technical data	
Version	with sash bracket
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
Overlap height [mm]	0–25
DIN stop	left right

Finish	PU	Order number
silver	1	K-15248-00-0-1
brown	1	K-15248-00-0-5
white	1	K-15248-00-0-7



VENTUS F200 opening stay

Integral parts

- Stay
- Stay-bearing
- Rod bearing
- Guide

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Opening width [mm]	200
DIN stop	left right

Finish	PU	Order number
silver	1	K-15013-00-0-1
brown	1	K-15013-00-0-5
white	1	K-15013-00-0-7

2

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 opening stay



15

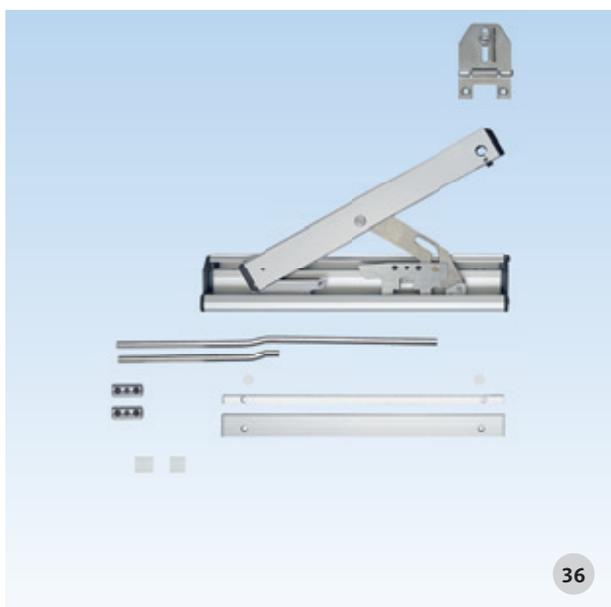
VENTUS F200 opening stay short

Integral parts

- Short stay
- Short stay-bearing
- Rod bearing

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Window shape	pitched window arched window
Opening width [mm]	150
DIN stop	left right

Finish	PU	Order number
silver	1	K-15483-00-0-1
brown	1	K-15483-00-0-5
white	1	K-15483-00-0-7



36

VENTUS F200 opening stay

Integral parts

- Stay 2
- Sash bracket
- Guide
- Tapped strip
- Cover cap
- Packer
- Stay rod 1
- Stay rod 2
- Sleeve

Technical data	
Version	with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	0-4

Finish	PU	Order number
silver	1	K-15169-00-L-1
brown	1	K-15169-00-L-5
white	1	K-15169-00-L-7

[1] Can be retrofitted from left operation to right operation

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 opening stay



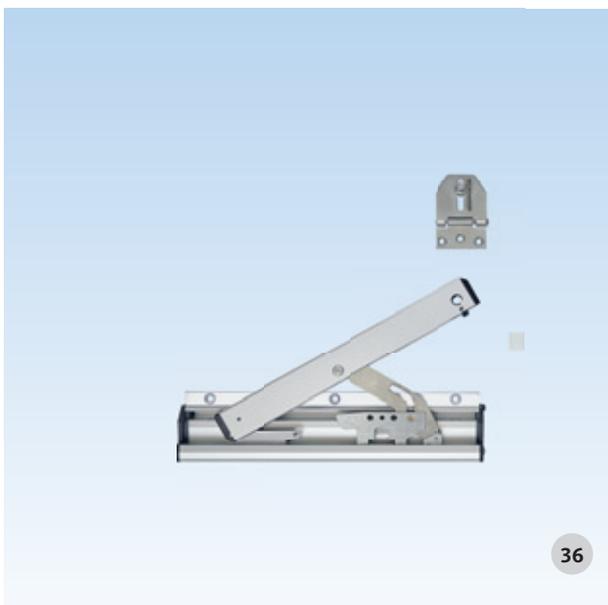
VENTUS F200 opening stay

Integral parts

- Stay 2
- Sash bracket
- Guide
- Tapped strip
- Cover cap

Technical data	
Version	with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	5–13

Finish	PU	Order number
silver	1	K-15167-00-L-1
brown	1	K-15167-00-L-5
white	1	K-15167-00-L-7



VENTUS F200 opening stay

Integral parts

- Stay 1
- Sash bracket
- Guide

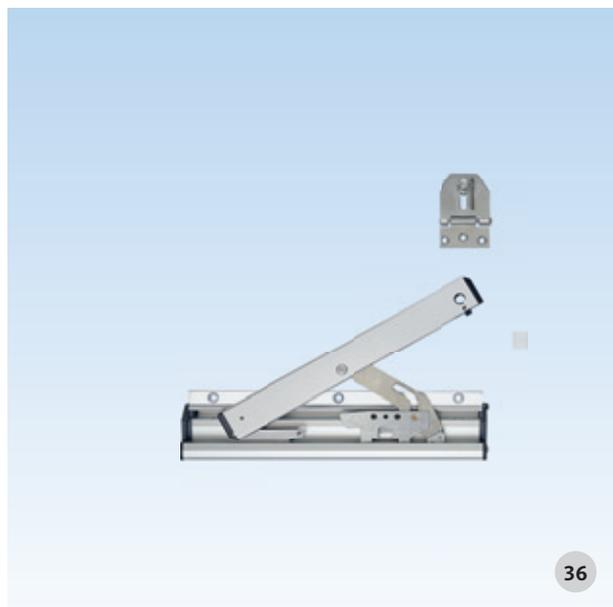
Technical data	
Version	with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	14–25

Finish	PU	Order number
silver	1	K-15166-25-L-1
brown	1	K-15166-25-L-5
white	1	K-15166-25-L-7

[1] Can be retrofitted from left operation to right operation

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 opening stay



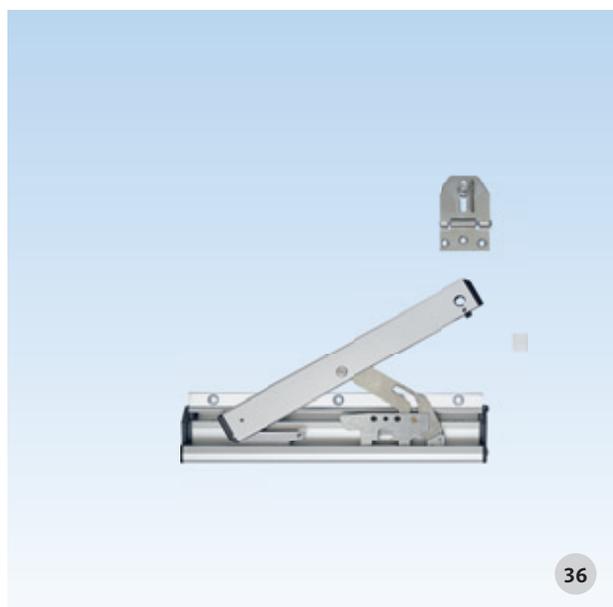
VENTUS F200 opening stay

Integral parts

- Stay 1
- Sash bracket
- Guide

Technical data	
Version	with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	26-50

Finish	PU	Order number
silver	1	K-15166-50-L-1
brown	1	K-15166-50-L-5
white	1	K-15166-50-L-7



VENTUS F200 opening stay

Integral parts

- Stay 1
- Sash bracket
- Guide

Technical data	
Version	with sash bracket
Opening type	Top-Hung window
Opening direction	outward
Opening width [mm]	200
DIN stop	left ^[1]
Dim. Y [mm]	51-75

Finish	PU	Order number
silver	1	K-15166-75-L-1
brown	1	K-15166-75-L-5
white	1	K-15166-75-L-7

[1] Can be retrofitted from left operation to right operation

VENTUS F200 fanlight opening system

Individual parts – hand lever



Hand lever

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward

Travel [mm]	Finish	PU	Order number
40	silver	1	6-28681-40-0-1
	brown	1	6-28681-40-0-5
	white	1	6-28681-40-0-7
50	silver	1	6-28681-50-0-1
	brown	1	6-28681-50-0-5
	white	1	6-28681-50-0-7



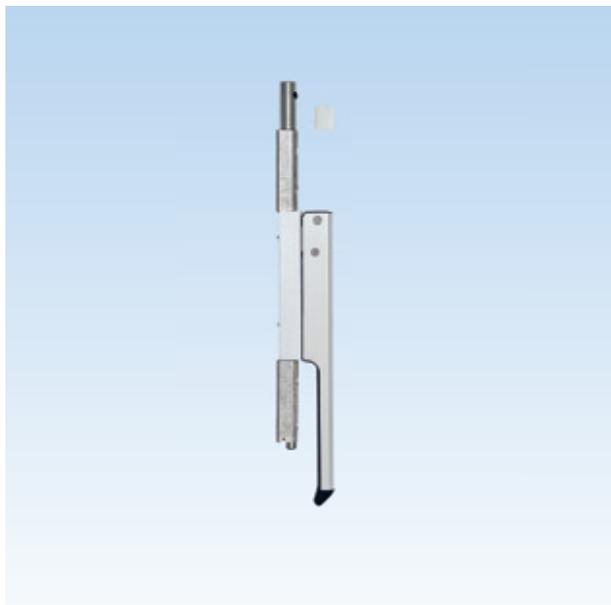
Lockable hand lever

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward

Travel [mm]	Finish	PU	Order number
40	silver	1	6-32100-40-0-1
	brown	1	6-32100-40-0-5
	white	1	6-32100-40-0-7
50	silver	1	6-32100-50-0-1
	brown	1	6-32100-50-0-5
	white	1	6-32100-50-0-7

VENTUS F200 fanlight opening system

Individual parts – pivot lever



Pivot lever

Integral parts

- Pivot lever
- Sleeve
- Pivot bracket
- Rod
- Guide

Technical data	
Travel [mm]	50

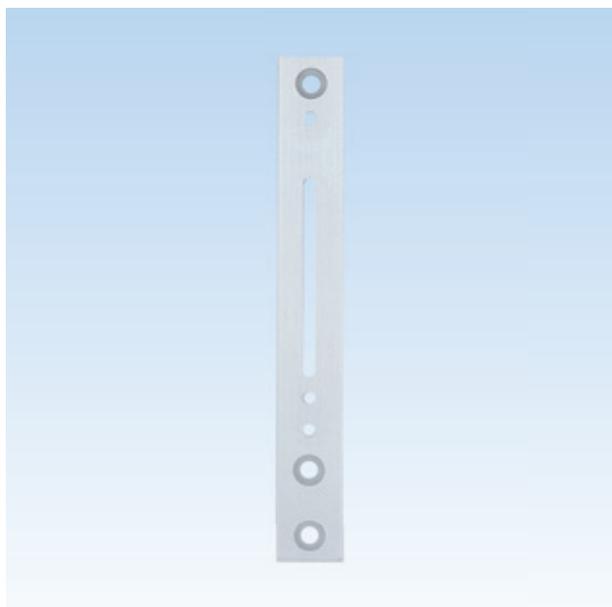
Finish	PU	Order number
silver	1	K-12608-00-0-1
brown	1	K-12608-00-0-5
white	1	K-12608-00-0-7

Note

- Installation drawing 0-44366

VENTUS F200 fanlight opening system

Individual parts – fixing plate



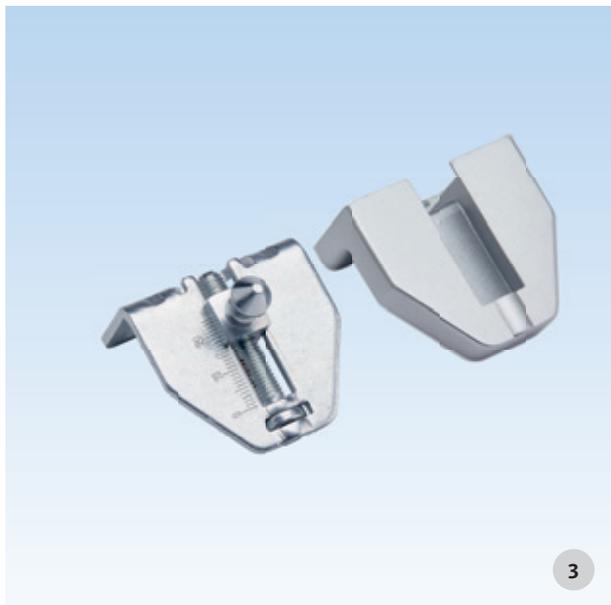
Fixing plate

Technical data		
Use	hand lever lockable hand lever	

Finish	PU	Order number
silver	1	9-33787-00-0-1
brown	1	9-33787-00-0-5
white	1	9-33787-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 sash bracket



3

VENTUS F200 sash bracket

Integral parts

- High sash bracket
- Cover cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	0-25

Finish	PU	Order number
silver	2	K-15225-00-0-1
brown	2	K-15225-00-0-5
white	2	K-15225-00-0-7



VENTUS F200 sash bracket

Integral parts

- High sash bracket for hardware groove
- Cover cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	0-25

Finish	PU	Order number
silver	2	K-15225-01-0-1
brown	2	K-15225-01-0-5
white	2	K-15225-01-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 sash bracket



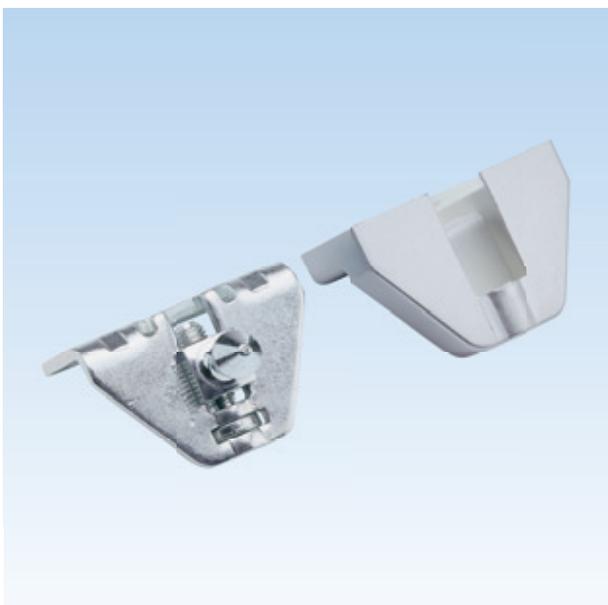
VENTUS F200 sash bracket with joint

Integral parts

- Sash bracket with joint
- Cover cap

Technical data	
Window shape	arched window segmental arch window pitched window
Opening type	Bottom-Hung window Side-Hung window
Opening direction	inward
Overlap height [mm]	0–25

Finish	PU	Order number
silver	1	K-15507-00-0-1
brown	1	K-15507-00-0-5
white	1	K-15507-00-0-7



VENTUS F200 sash bracket

Integral parts

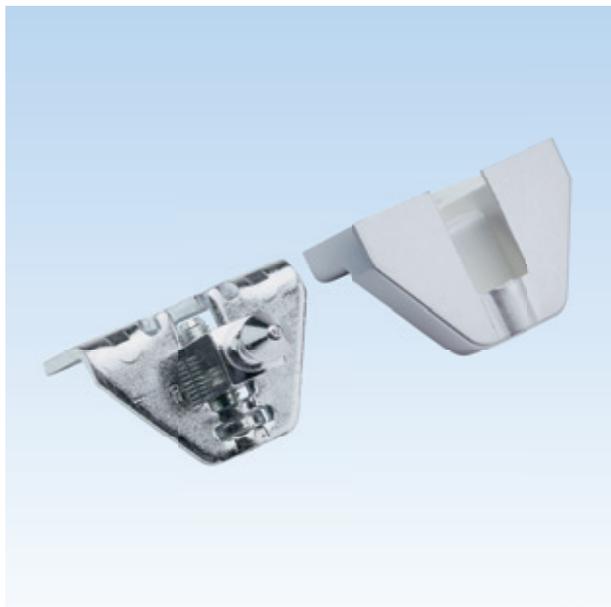
- Short sash bracket
- Cover cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	14–25

Finish	PU	Order number
silver	2	K-15224-00-0-1
brown	2	K-15224-00-0-5
white	2	K-15224-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 sash bracket



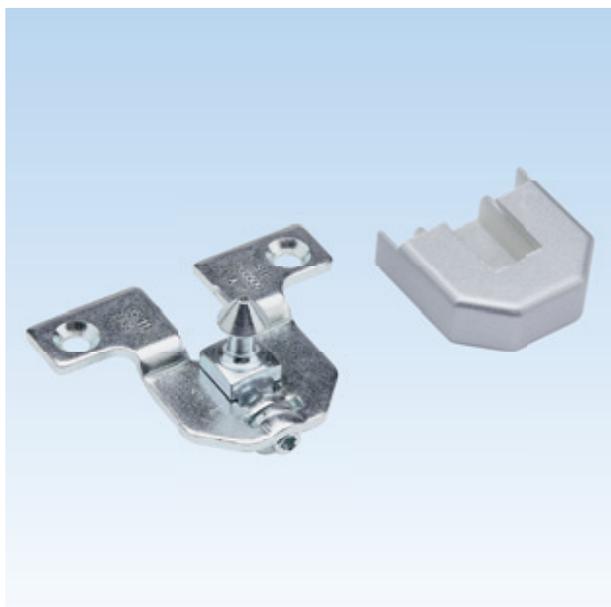
VENTUS F200 sash bracket

Integral parts

- Short sash bracket for hardware groove
- Cover cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	14–25

Finish	PU	Order number
silver	2	K-15224-01-0-1
brown	2	K-15224-01-0-5
white	2	K-15224-01-0-7



VENTUS F200 sash bracket

Integral parts

- Flat sash bracket
- Cover cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	14–25

Finish	PU	Order number
silver	2	K-15226-00-0-1
brown	2	K-15226-00-0-5
white	2	K-15226-00-0-7

VENTUS F200 fanlight opening system

Individual parts – sash bracket



High sash bracket

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	0-25

Finish	PU	Order number
silver	1	6-25772-00-0-1



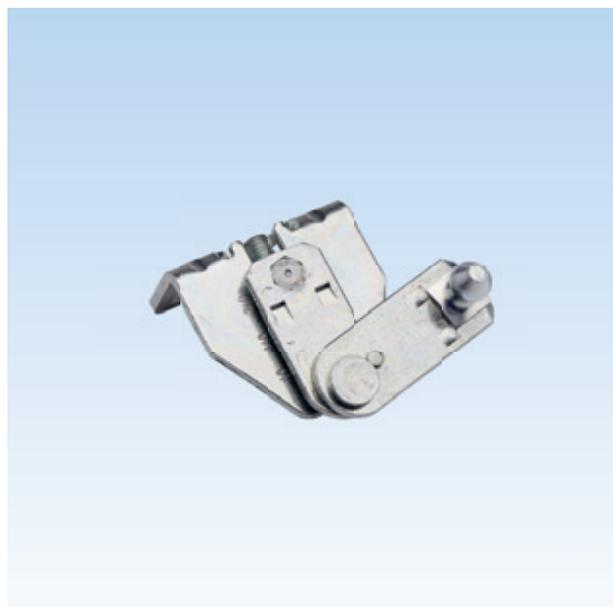
High sash bracket for hardware groove

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	0-25

Finish	PU	Order number
silver	1	6-25772-01-0-1

VENTUS F200 fanlight opening system

Individual parts – sash bracket



Sash bracket with joint

Technical data		
Window shape	arched window segmental arch window pitched window	
Opening type	Bottom-Hung window Side-Hung window	
Opening direction	inward	
Overlap height [mm]	0-25	
Finish	PU	Order number
silver	1	6-25830-00-0-1



Short sash bracket

Technical data		
Opening type	Bottom-Hung window	
Opening direction	inward	
Overlap height [mm]	14-25	
Finish	PU	Order number
silver	1	6-28566-00-0-1

VENTUS F200 fanlight opening system

Individual parts – sash bracket



Short sash bracket for hardware groove

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	14–25

Finish	PU	Order number
silver	1	6-28566-01-0-1



Flat sash bracket

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	14–25

Finish	PU	Order number
silver	1	6-25824-00-0-1

VENTUS F200 fanlight opening system

Individual parts – sash bracket



Sash bracket

Technical data	
Opening type	Top-Hung window
Opening direction	outward

Dim. Y [mm]	Finish	PU	Order number
0-4	silver	1	6-27782-04-0-1
	brown	1	6-27782-04-0-5
	white	1	6-27782-04-0-7
5-25	silver	1	6-27782-25-0-1
	brown	1	6-27782-25-0-5
	white	1	6-27782-25-0-7
26-50	silver	1	6-27782-50-0-1
	brown	1	6-27782-50-0-5
	white	1	6-27782-50-0-7
51-75	silver	1	6-27782-75-0-1
	brown	1	6-27782-75-0-5
	white	1	6-27782-75-0-7

VENTUS F200 fanlight opening system

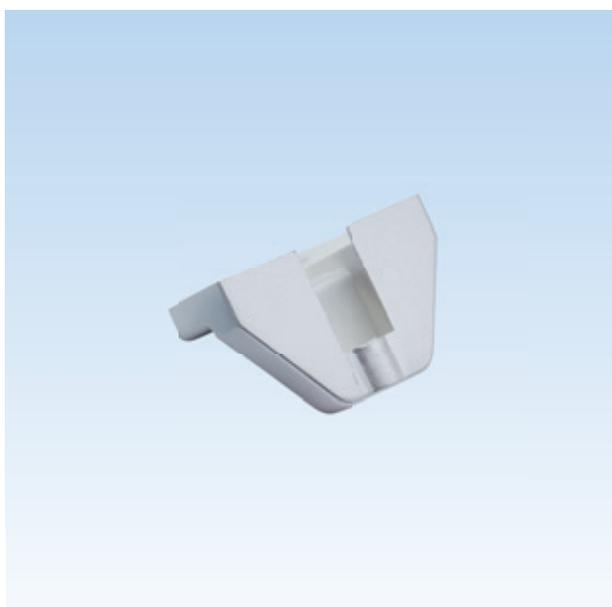
Individual parts – cover cap



Cover cap

Technical data	
Use	high sash bracket high sash bracket for hardware groove sash bracket with joint
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	0–25

Finish	PU	Order number
silver	1	9-33346-01-0-1
brown	1	9-33346-01-0-5
white	1	9-33346-01-0-7



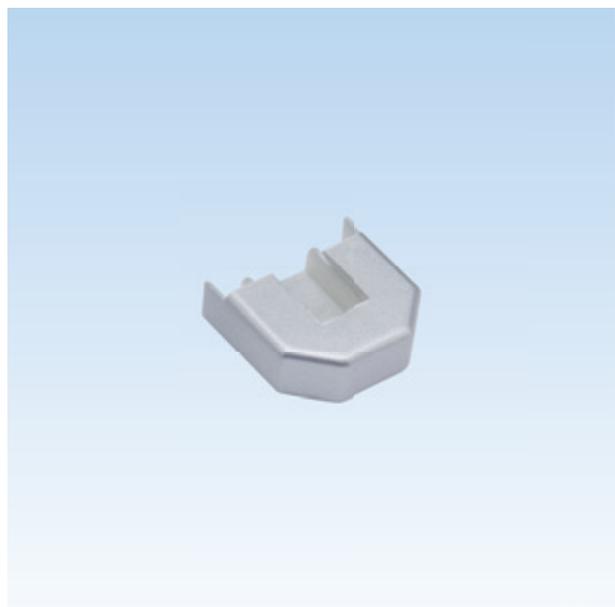
Cover cap

Technical data	
Use	short sash bracket short sash bracket for hardware groove
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	14–25

Finish	PU	Order number
silver	1	9-37313-01-0-1
brown	1	9-37313-01-0-5
white	1	9-37313-01-0-7

VENTUS F200 fanlight opening system

Individual parts – cover cap



Cover cap

Technical data	
Use	flat sash bracket
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	14–25

Finish	PU	Order number
silver	1	9-33900-00-0-1
brown	1	9-33900-00-0-5
white	1	9-33900-00-0-7

VENTUS F200 fanlight opening system

Individual parts – bell-shaped angle transmission



6

Bell-shaped angle transmission

Integral parts

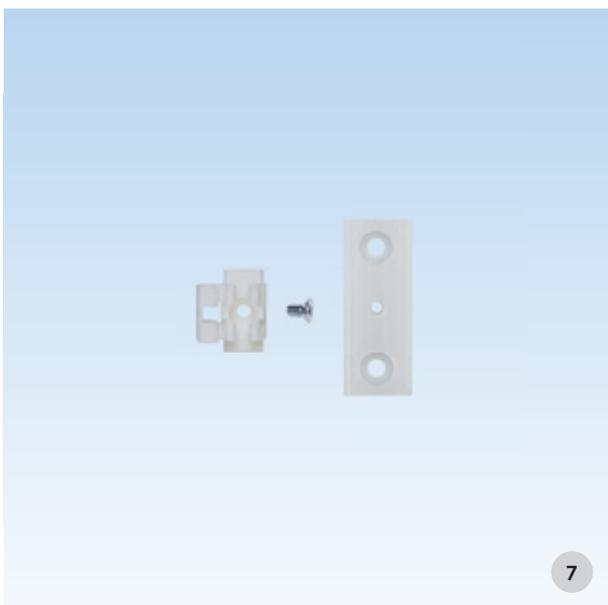
- High bell-shaped angle
- Short bell-shaped angle
- Rod
- Fixing plate
- Countersunk screw M5x8
- Countersunk screw M5x6
- Guide

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Recess depth T [mm]	150–405

Finish	PU	Order number
silver	1	K-13730-00-0-1
brown	1	K-13730-00-0-5
white	1	K-13730-00-0-7

Note

- Condition at delivery uninstalled



7

Guide for bell-shaped angle transmission

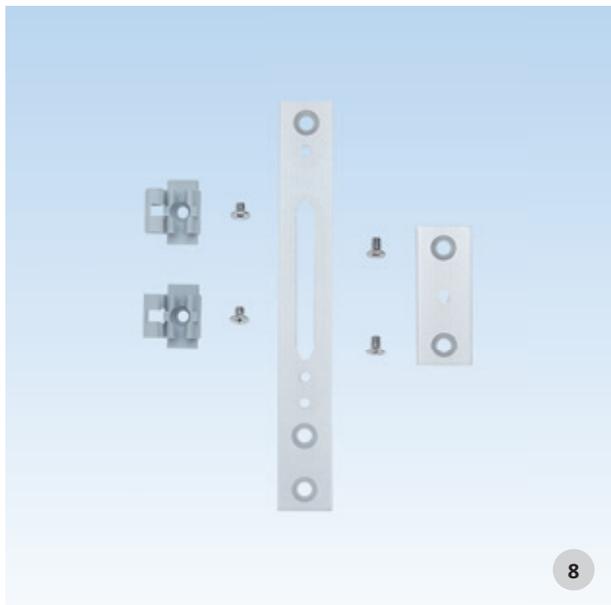
Integral parts

- Guide
- Guide fixing plate
- Countersunk screw M5x8

Finish	PU	Order number
silver	1	K-13731-00-0-1
brown	1	K-13731-00-0-5
white	1	K-13731-00-0-7

VENTUS F200 fanlight opening system

Individual parts – connecting rod transmission



Additional parts for connecting rod transmission Ø 8 mm

Integral parts

- Guide
- Guide fixing plate
- Fixing plate
- Countersunk screw M5x8
- Countersunk screw M5x6

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Rod cropping max. [mm]	100

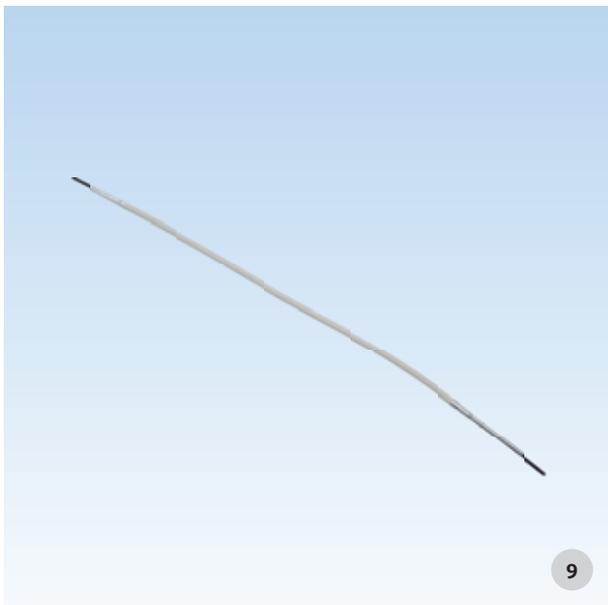
Finish	PU	Order number
silver	1	K-13732-00-0-1
brown	1	K-13732-00-0-5
white	1	K-13732-00-0-7

Note

- The connecting rod 9-25476 must be ordered separately (see page 322)
- The cropping of the connecting rod is to be provided by customer

VENTUS F200 fanlight opening system

Individual parts – flexible transmission

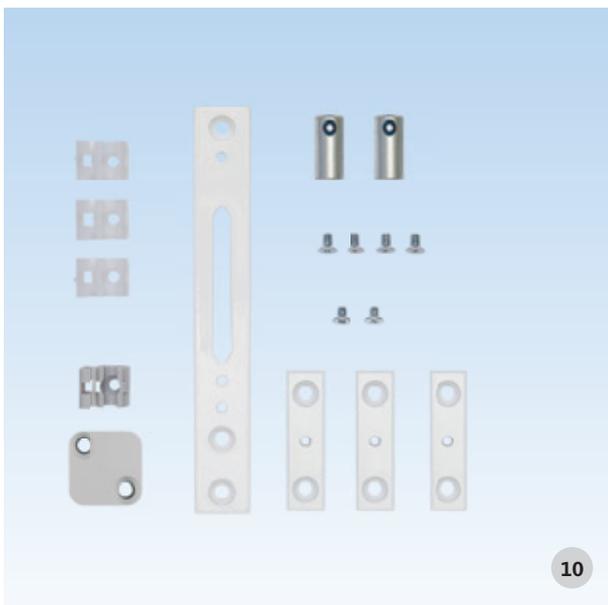


9

Flexible transmission

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward

Length [mm]	Finish	PU	Order number
200	silver	1	6-29495-02-0-1
	brown	1	6-29495-02-0-5
	white	1	6-29495-02-0-7
400	silver	1	6-29495-04-0-1
	brown	1	6-29495-04-0-5
	white	1	6-29495-04-0-7
700	silver	1	6-29495-07-0-1
	brown	1	6-29495-07-0-5
	white	1	6-29495-07-0-7
1000	silver	1	6-29495-10-0-1
	brown	1	6-29495-10-0-5
	white	1	6-29495-10-0-7
1300	silver	1	6-29495-13-0-1
	brown	1	6-29495-13-0-5
	white	1	6-29495-13-0-7
2000	silver	1	6-29495-20-0-1
	brown	1	6-29495-20-0-5
	white	1	6-29495-20-0-7



10

Accessories for flexible transmission

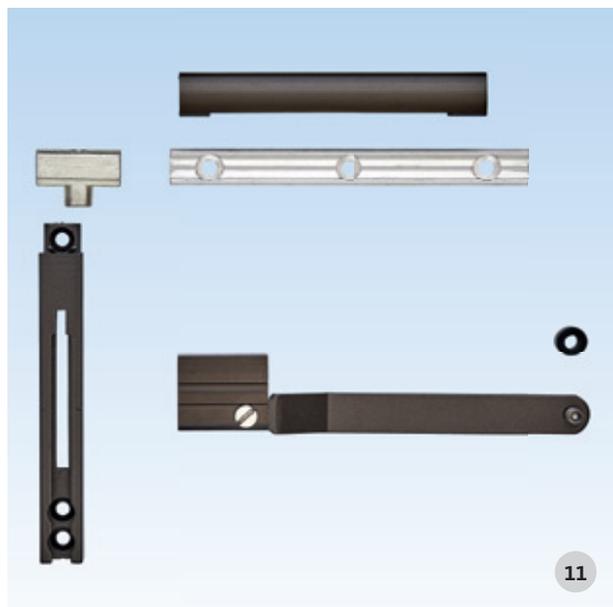
Integral parts

- Sleeve
- Guides Ø 8 mm (3 piece)
- Guide Ø 10 mm (1 piece)
- Small fixing plates for guide Ø 8 mm (3 piece)
- Large fixing plate for hand lever (1 piece)
- Countersunk screws M5x8
- Countersunk screws M5x6
- Support for flexible transmission

Finish	PU	Order number
silver	1	K-14312-00-0-1
brown	1	K-14312-00-0-5
white	1	K-14312-00-0-7

VENTUS F200 fanlight opening system

Individual parts – transom / mullion transmission



Transom / mullion transmission

Integral parts

- Transom transmission
- Guide
- Guiding profile
- Locking part
- Cover profile
- End cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Rod length L [mm]	126
Dimension T (mullion depth) [mm]	17-80

Finish	PU	Order number
silver	1	K-15384-08-0-1
brown	1	K-15384-08-0-5
white	1	K-15384-08-0-7



Transom / mullion transmission

Integral parts

- Transom transmission
- Guide
- Guiding profile
- Locking part
- Cover profile
- End cap

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Rod length L [mm]	266
Dimension T (mullion depth) [mm]	17-150

Finish	PU	Order number
silver	1	K-15384-15-0-1
brown	1	K-15384-15-0-5
white	1	K-15384-15-0-7

VENTUS F200 fanlight opening system

Individual parts – T angle bracket



VENTUS F200 T-angle bracket

Integral parts

- Chain with rod clamps
- Rod clamp
- Enclosure with spring dowel pin
- T-angle bracket
- Shackle
- T-cover

Technical data		
Opening type	Bottom-Hung window Side-Hung window	
Opening direction	inward	
Finish	PU	Order number
silver	1	K-14194-00-0-1
brown	1	K-14194-00-0-5
white	1	K-14194-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 additional lock



13

VENTUS F200 additional lock vertical

- For timber / PVC windows with overlap

Integral parts

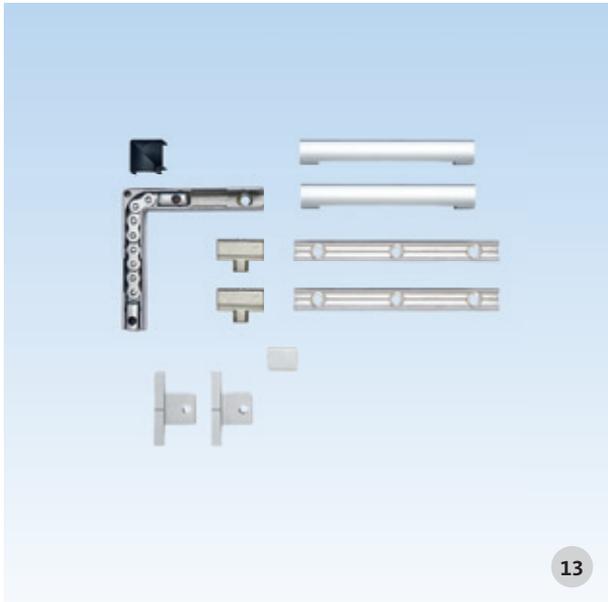
- Corner guide
- Chain with rod clamps
- Striker
- Guiding profile
- Locking part
- Cover profile
- Guide
- Corner cover

Technical data	
Frame material	Timber PVC
Opening type	Bottom-Hung window
Opening direction	inward
Overlap height [mm]	from 16

Finish	PU	Order number
silver	1	K-15209-00-0-1
brown	1	K-15209-00-0-5
white	1	K-15209-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 additional lock



13

VENTUS F200 additional lock vertical

- For metal windows with overlap

Integral parts

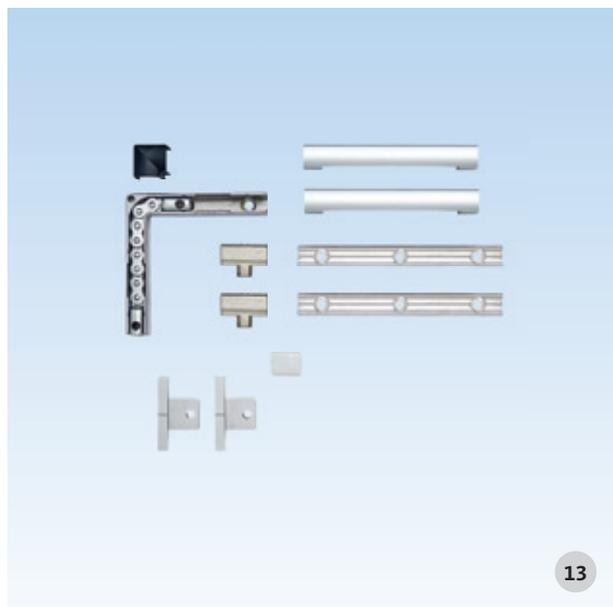
- Corner guide
- Chain with rod clamps
- Striker
- Guiding profile
- Locking part
- Cover profile
- Guide
- Corner cover

Technical data	
Frame material	Aluminium
Opening type	Bottom-Hung window
Opening direction	inward

Overlap height [mm]	Finish	PU	Order number
6-7	silver	1	K-15210-60-0-1
	brown	1	K-15210-60-0-5
	white	1	K-15210-60-0-7
7-8	silver	1	K-15210-70-0-1
	brown	1	K-15210-70-0-5
	white	1	K-15210-70-0-7
8-9	silver	1	K-15210-80-0-1
	brown	1	K-15210-80-0-5
	white	1	K-15210-80-0-7
9-10	silver	1	K-15210-90-0-1
	brown	1	K-15210-90-0-5
	white	1	K-15210-90-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 additional lock



13

VENTUS F200 additional lock vertical

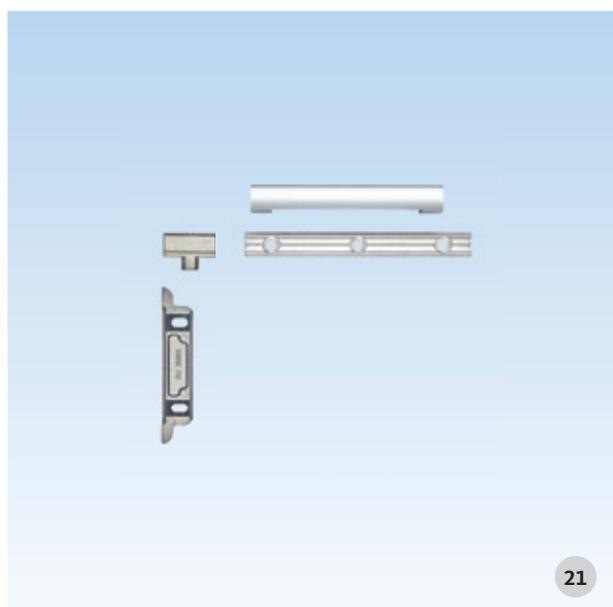
- For flush metal / timber windows

Integral parts

- Corner guide
- Chain with rod clamps
- Striker
- Guiding profile
- Locking part
- Cover profile
- Guide
- Corner cover
- Packer plate (not illustrated)

Technical data	
Frame material	Metal Timber
Opening type	Bottom-Hung window
Opening direction	inward

Finish	PU	Order number
silver	1	K-15210-01-0-1
brown	1	K-15210-01-0-5
white	1	K-15210-01-0-7



21

VENTUS F200 additional lock horizontal

- For timber / PVC windows with overlap

Integral parts

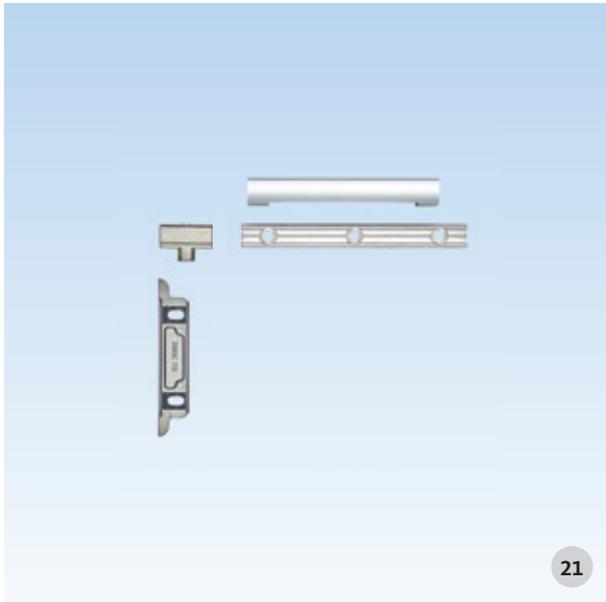
- Locking part
- Guiding profile
- Striker
- Cover profile

Technical data	
Frame material	Timber PVC
Opening type	Bottom-Hung window
Opening direction	inward
Window shape	pitched window
Overlap height [mm]	from 16

Finish	PU	Order number
silver	1	K-12008-00-0-1
brown	1	K-12008-00-0-5
white	1	K-12008-00-0-7

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 additional lock



VENTUS F200 additional lock horizontal

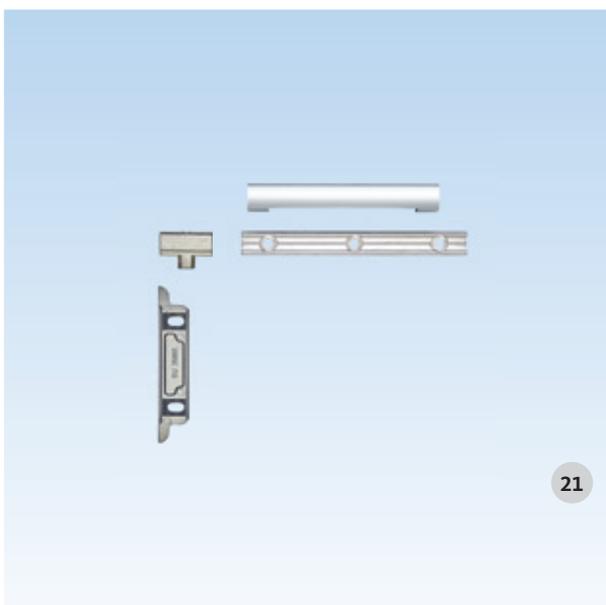
- For metal windows with overlap

Integral parts

- Locking part
- Guiding profile
- Striker
- Cover profile

Technical data	
Frame material	Aluminium
Opening type	Bottom-Hung window
Opening direction	inward
Window shape	pitched window

Overlap height [mm]	Finish	PU	Order number
6-7	silver	1	K-13033-60-0-1
	brown	1	K-13033-60-0-5
	white	1	K-13033-60-0-7
7-8	silver	1	K-13033-70-0-1
	brown	1	K-13033-70-0-5
	white	1	K-13033-70-0-7
8-9	silver	1	K-13033-80-0-1
	brown	1	K-13033-80-0-5
	white	1	K-13033-80-0-7
9-10	silver	1	K-13033-90-0-1
	brown	1	K-13033-90-0-5
	white	1	K-13033-90-0-7



VENTUS F200 additional lock horizontal

- For flush metal / timber windows

Integral parts

- Locking part
- Guiding profile
- Striker
- Cover profile

Technical data	
Frame material	Metal Timber
Opening type	Bottom-Hung window
Opening direction	inward
Window shape	pitched window

Finish	PU	Order number
silver	1	K-13033-01-0-1
brown	1	K-13033-01-0-5
white	1	K-13033-01-0-7

VENTUS F200 fanlight opening system

Individual parts – accessories for round and segmental arch windows



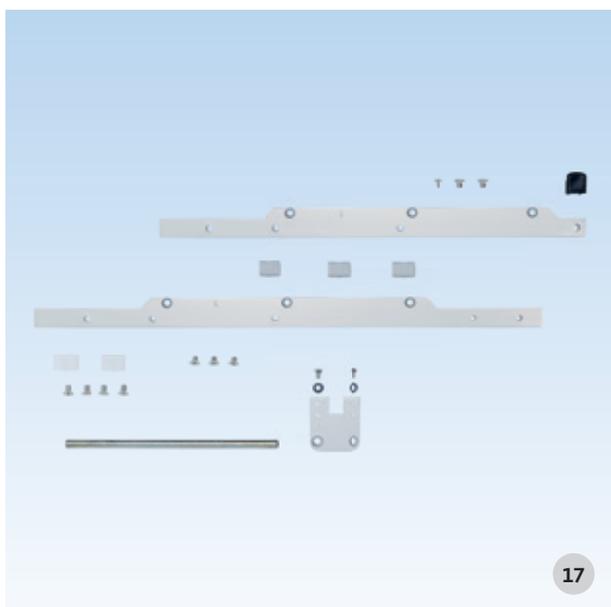
Accessories for round and segmental arch windows for pattern 1 and pattern 2n

Integral parts

- Sleeve
- Guides Ø 8 mm (3 piece)
- Guide Ø 10 mm (4 piece)
- Rod
- Packer
- Washer
- Cylinder head screws M4x6

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Window shape	arched window segmental arch window

Finish	PU	Order number
silver	1	K-15484-00-0-1
brown	1	K-15484-00-0-5
white	1	K-15484-00-0-7



Accessories for round and segmental arch windows for pattern 2n

Integral parts

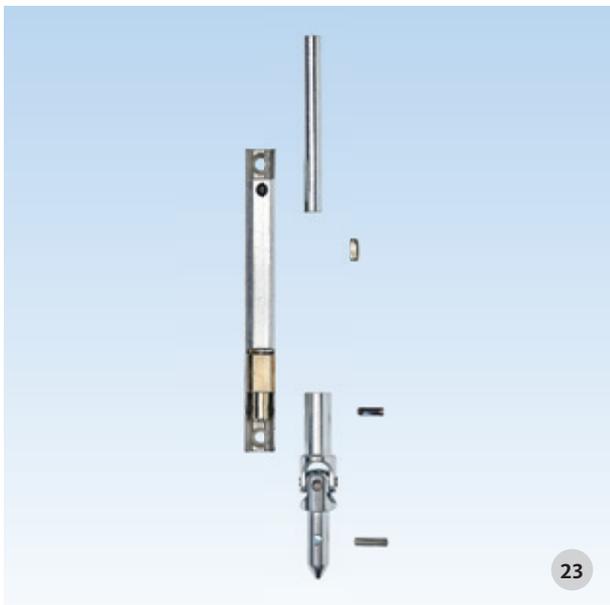
- Guides Ø 8 mm (2 piece)
- Guides Ø 10 mm (3 piece)
- Rod
- Packer
- Washer
- Fixing plates
- End cap
- Cylinder head screws M4x6
- Countersunk screws M5x6
- Countersunk screws M5x8

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Window shape	arched window segmental arch window

Finish	PU	Order number
silver	1	K-15485-00-0-1
brown	1	K-15485-00-0-5
white	1	K-15485-00-0-7

VENTUS F200 fanlight opening system

Individual parts – vertical and corner drive-gear



23

Vertical gear

Integral parts

- Vertical gear
- Lift stop
- Universal joint gear
- Set screw
- Conical notched pin
- Rod

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward
Travel [mm]	40 / 50

Finish	PU	Order number
silver	1	K-13402-00-0-1



29

Additional parts for corner drive-gear

Integral parts

- Bearing
- Double cross joint
- Set screw
- Cover cap

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward

Finish	PU	Order number
silver	1	K-13403-00-0-1
brown	1	K-13403-00-0-5
white	1	K-13403-00-0-7

VENTUS F200 fanlight opening system

Individual parts – vertical and corner drive-gear



24

Crank rod

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward
Rod material	Aluminium

Length of crank rod [mm]	Finish	PU	Order number
1055	silver	1	9-32230-10-0-1
	white	1	9-32230-10-0-7
5000	silver	1	9-32230-50-0-1
	brown	1	9-32230-50-0-5
	white	1	9-32230-50-0-7



Load-limiting device

Technical data	
Use	crank
Release torque [Nm]	approx. 4

Finish	PU	Order number
silver	1	6-31245-00-0-1

VENTUS F200 fanlight opening system

Individual parts – vertical and corner drive-gear



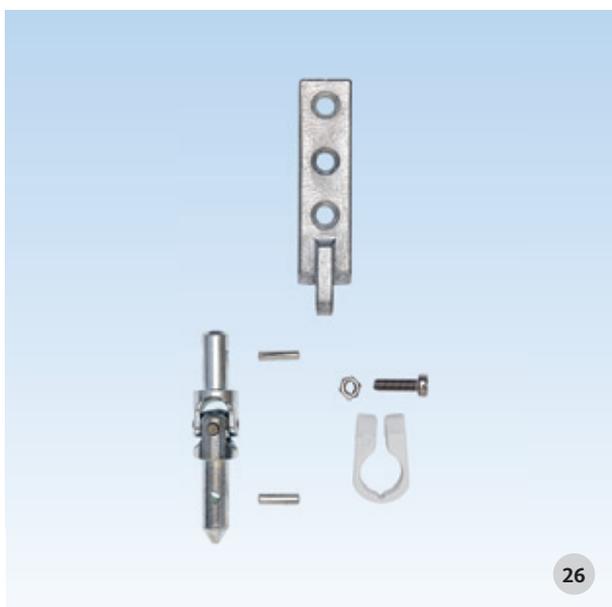
25

Articulated crank

Integral parts

- Articulated crank
- Crank clip
- Conical notched pin

Finish	PU	Order number
silver	1	K-13162-00-0-1
brown	1	K-13162-00-0-5
white	1	K-13162-00-0-7



26

Universal joint

Integral parts

- Crank rod universal joint
- Crank rod guide
- Conical notched pin

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward

Finish	PU	Order number
silver	1	K-13164-00-0-1

VENTUS F200 fanlight opening system

Individual parts – vertical and corner drive-gear



27

Coupling bush

Integral parts

- Coupling bush
- Conical notched pin

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward

Finish	PU	Order number
silver	1	K-13165-00-0-1



Telescopic spindle drive

Technical data	
Travel [mm]	300
Gear length [mm]	222

Finish	PU	Order number
silver	1	6-24869-00-0-1

Note

- Installation drawing 0-40636
- Only in combination with crank rod 9-32230 (see page 318), articulated crank K-13162 (see page 319), coupling bush K-13165 (see page 320)

VENTUS F200 fanlight opening system

Individual parts – VENTUS F200 connector, cover profile



VENTUS F200 connector for JET CLS

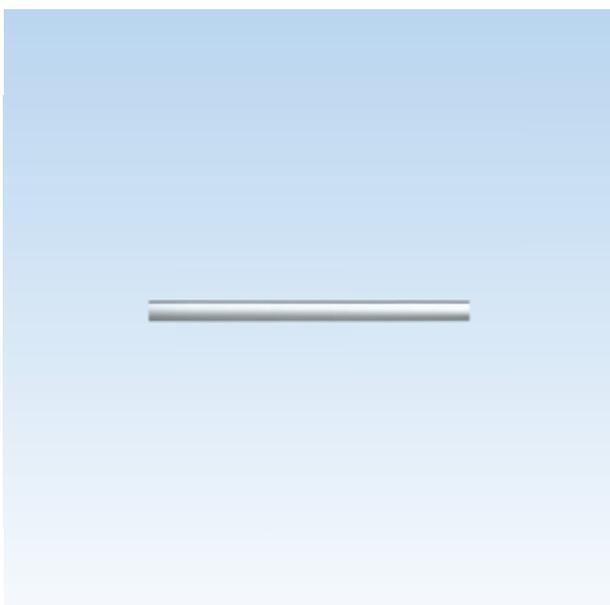
Integral parts

- Connector for JET CLS
- Guide

Note

- Installation drawing 16 mm hardware groove: 0-43813
- Installation drawing Euro-groove 15/20: 0-48594
- Cover profile 9-39509 please order separately (see below)

Window shape	Folding system	Overlap height [mm]	Axis [mm]	PU	Order number
Square window (centre distance 12 mm)	16-mm hardware groove	18	9	1	K-19765-01-0-1
	16-mm hardware groove Euro-groove 15/20	18	9 13	1	K-19765-02-0-1
	16-mm hardware groove	20-22	9 13	1	K-19765-03-0-1
Pitched window (centre distance 17 mm)	16-mm hardware groove	18	9	1	K-19765-11-0-1
	16-mm hardware groove Euro-groove 15/20	18	9 13	1	K-19765-12-0-1
	16-mm hardware groove	20-22	9 13	1	K-19765-13-0-1



Cover profile

Technical data	
Use	VENTUS F200 connector for JET CLS

Finish	PU	Order number
silver	1	9-39509-00-0-1
brown	1	9-39509-00-0-5
white	1	9-39509-00-0-7

VENTUS F200 fanlight opening system

Individual parts – connecting rod and horizontal rod, cover profile

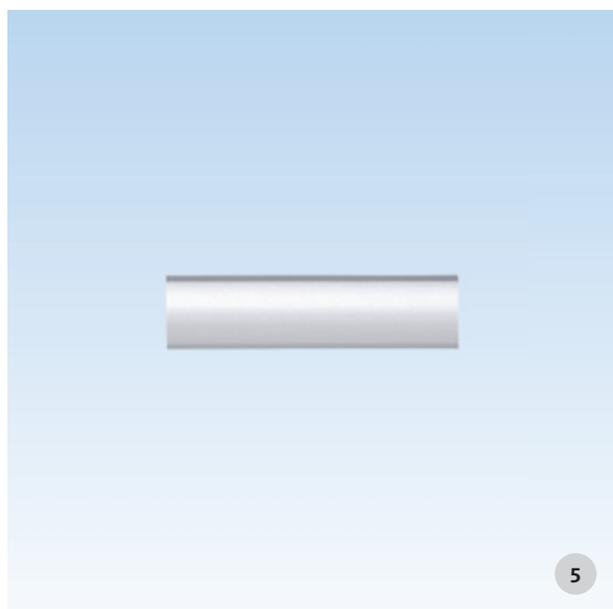


4

Connecting rod and horizontal rod – Ø 8 mm

Technical data	
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward
Diameter [mm]	8

Finish	Length [mm]	PU	Order number
silver	600	1	9-25476-06-0-1
	1850	1	9-25476-18-0-1
	3300	1	9-25476-33-0-1
	6000	1	9-25476-60-0-1



5

Cover profile

Technical data	
Use	Connecting rod and horizontal rod Ø 8 mm
Opening type	Bottom-Hung window Top-Hung window
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	outward

Length [mm]	Finish	PU	Order number
62	silver	5	9-33444-01-0-1
	brown	1	9-33444-01-0-5
	white	1	9-33444-01-0-7
800	silver	5	9-33444-06-0-1
	brown	1	9-33444-06-0-5
	white	5	9-33444-06-0-7
1800	silver	5	9-33444-18-0-1
	brown	5	9-33444-18-0-5
	white	5	9-33444-18-0-7
3050	silver	5	9-33444-33-0-1
	brown	5	9-33444-33-0-5
	white	5	9-33444-33-0-7
6000	silver	5	9-33444-60-0-1
	brown	5	9-33444-60-0-5
	white	5	9-33444-60-0-7

VENTUS F200 fanlight opening system

Individual parts – end cap, end cover



28

End cap

Technical data	
Use	Cover profile

Finish	PU	Order number
black	1	9-34412-00-0-6
white	1	9-34412-00-0-7



39

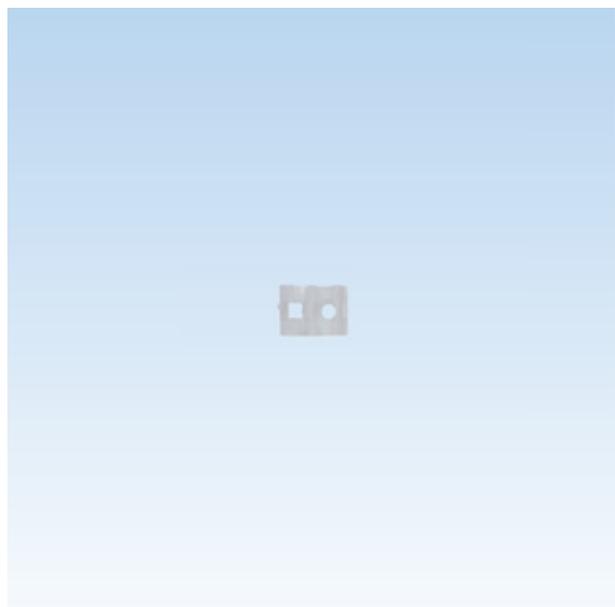
Corner cover

Technical data	
Use	Corner guide

Finish	PU	Order number
black	1	9-34220-00-0-6
white	1	9-34220-00-0-7

VENTUS F200 fanlight opening system

Individual parts – accessories



Guide

Diameter [mm]	Finish	PU	Order number
8	untreated	1	9-28893-00-0-0
10	untreated	1	9-35366-00-0-0
	brown	1	9-35366-00-0-5
	white	1	9-35366-00-0-7



Sleeve

Diameter	Finish	PU	Order number
8	silver	1	6-22842-00-0-1
8 / M5		1	6-27402-00-0-1

VENTUS F200 fanlight opening system

Individual parts – accessories



Pitched corner angle

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward

Finish	PU	Order number
silver	1	6-23796-00-0-1

Enclosed sash bracket

Technical data	
Opening type	Bottom-Hung window
Opening direction	inward
Finish	silver

Frame material	PU	Order number
Timber	1	9-34508-00-0-0
PVC	1	9-33105-00-0-1

VENTUS F200 fanlight opening system

Individual parts – accessories



Drilling jig VENTUS F200

Use	Opening type	Overlap min. [mm]	Overlap max. [mm]	Hole diameter [mm]	PU	Order number
Timber and PVC windows high sash bracket short sash bracket	Bottom-Hung window	–	16	3 5.2	1	6-29410-30-0-9
Timber and PVC windows high sash bracket short sash bracket	Bottom-Hung window	16	–	3 5.2	1	6-33234-30-0-9
Timber and PVC windows flat sash bracket	Bottom-Hung window	–	16	3	1	6-29411-00-0-9
Timber and PVC windows flat sash bracket	Bottom-Hung window	16	–	3	1	6-33235-00-0-9
Metal window with overlap high sash bracket short sash bracket	Bottom-Hung window	–	16	3.5 5.2	1	6-29410-35-0-9
Metal window with overlap high sash bracket short sash bracket	Bottom-Hung window	16	–	3.5 5.2	1	6-33234-35-0-9

Drilling jig VENTUS F200 for coupling

Use	Opening type	Overlap min. [mm]	Overlap max. [mm]	Hole diameter [mm]	PU	Order number
Timber and PVC windows high sash bracket short sash bracket	Bottom-Hung window	–	16	3 5.2	1	6-29474-01-0-9
Timber and PVC windows flat sash bracket	Bottom-Hung window	–	16	3	1	6-29474-02-0-9
Timber and PVC windows high sash bracket short sash bracket	Bottom-Hung window	16	–	3 5.2	1	6-33236-01-0-9
Timber and PVC windows flat sash bracket	Bottom-Hung window	16	–	3	1	6-33236-02-0-9
Metal window with overlap high sash bracket short sash bracket	Bottom-Hung window	–	16	3.5 5.2	1	6-29474-03-0-9
Metal window with overlap high sash bracket short sash bracket	Bottom-Hung window	16	–	3.5 5.2	1	6-33236-03-0-9

Drilling jig

Use	Opening type	Opening direction	PU	Order number
High sash bracket for hardware groove short sash bracket for hardware groove	Bottom-Hung window	inward	1	6-33615-00-0-1
Sash bracket with joint			1	6-29650-00-0-1
Round and segmental arch windows – pattern 1			1	9-39659-00-0-0
Additional lock horizontal additional lock vertical			1	9-29311-00-0-1
Pivot lever	Bottom-Hung window Top-Hung window	inward outward	1	9-30911-00-0-1
Articulated crank rod			1	6-22276-00-0-0
Corner drive-gear, hole diameter 3.0 mm			1	6-25841-02-0-0
Corner drive-gear, hole diameter 3.5 mm			1	6-25841-03-0-0
Opening stay and sash bracket, dimension Y = 0–40 mm	Top-Hung window	outward	1	6-29490-00-0-0
Sash bracket, dimension Y = 41–75 mm			1	6-29583-00-0-0







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Smoke and heat exhaust ventilation systems as an essential part of preventative fire protection



What is meant by preventative and defensive fire protection?

Preventative fire protection

For the protection of the life and health of humans and animals, the development and spreading of fire and smoke should be eliminated or reduced in advance.

According to the definition, this involves measures for preventing the outbreak and spread of fire as well as ensuring that the escape routes are safe.

Defensive fire protection

This refers especially to all measures implemented by the fire brigade for the rescue of humans and animals via secured routes that are necessary in the event of progressive fire.

Smoke and heat exhaust ventilation systems as part of preventative fire protection

Smoke and heat exhaust ventilation systems as an important component of the preventative fire protection concept

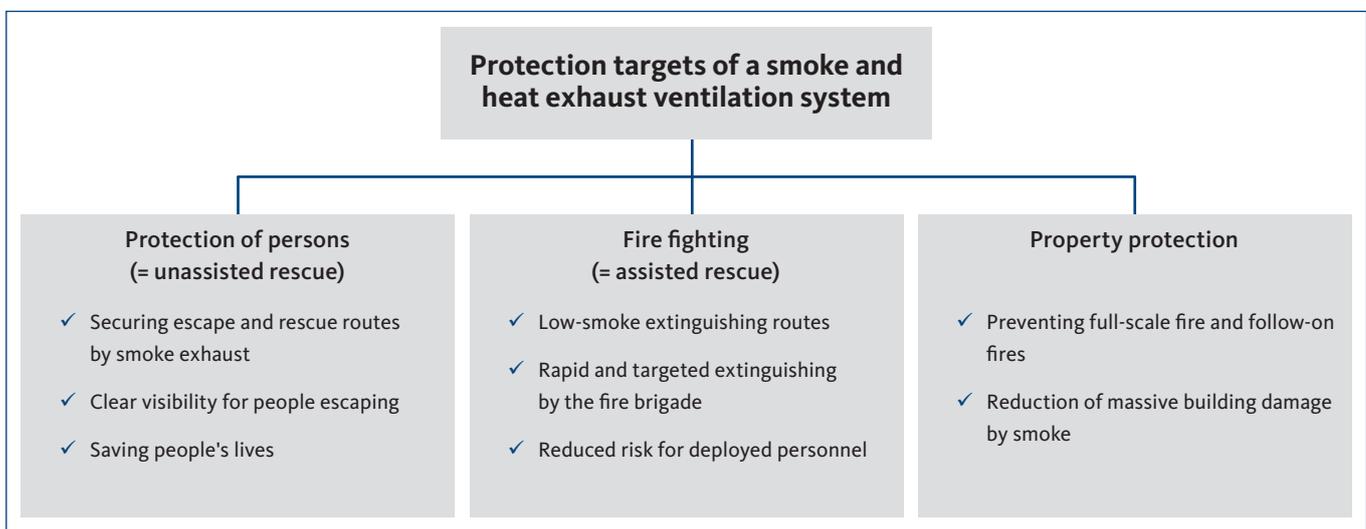
Fires and the associated heat and smoke development are still the biggest threat to people and buildings. Every year, many people die in fire disasters, fires also cause enormous property damage. However, the threat to people and buildings not only comes from fire and heat, but especially from smoke and the arising toxic fumes.

For this reason, it is extremely important that the smoke be extracted quickly and reliably. In this case, smoke and heat vent systems, as a fixed integral part of fire prevention, take over the most important task, namely discharging combustion gases, dangerous oxides and thermal energy outdoors in event of fire. In this way, smoke levels are kept low in escape and rescue routes, thereby permitting non-assisted and assisted rescue to take place!

Furthermore, this avoids the thermal load imposed on the building structure by hot fire gases leading to damage to the building.

Protection targets of a smoke and heat exhaust ventilation system

Preventative fire protection does not fully guarantee the prevention of fires in buildings. However, it is possible to achieve protection targets through the use of smoke and heat exhaust ventilation systems.





The umbrella term **SHEV** stands for "smoke and heat exhaust ventilation". This comprises

- a natural smoke exhaust system (NSE)
- a mechanical smoke exhaust system (MRA)
- a smoke protection pressure system (RDA) or
- a lift shaft smoke exhaust system

The term NSE stands for **Natural smoke exhaust**. A natural smoke exhaust system is defined as a master key system whose function is based on the principle of thermal uplift.

The principle of thermal uplift

In the event of a fire, thermal uplift causes the smoke and fumes in the building to rise upwards and form a layer of smoke gas beneath the ceiling, which fills the entire room within a very short time. Smoke and heat is able to escape through the use of smoke outlets in the upper area of the facade or in the roof. Supply air inlets in the lower area help to boost the thermal uplift.

Smoke and heat exhaust ventilation

Smoke exhaust refers to the extraction of smoke in the event of a fire (heat extraction), in order to create a low-smoke layer near the ground and thus enable the safe use of escape and rescue routes.

The products used here are safety-relevant building products that are regulated by EN 12101-2 in Building Rules List B, part 1. In In these cases, NSHEV are required as part of SHEV.

Areas of application:

- Public assembly places
- Large warehouses
- Industrial buildings

The Gretsch-Unitas group offers the latest electromotor-driven SHEV technology relating to natural smoke exhaust (NSE) for all areas of application: from stairwell smoke exhaust to complex SHEV systems for large projects.

NSE systems from the Gretsch-Unitas group ensure the safe, automatic opening of smoke exhaust apertures. As part of the preventative fire protection concept, they minimise the development of smoke in escape and rescue routes, thus protecting people from smoke intoxication and property from damage.

In everyday operation, they also ensure the controlled supply of fresh air.

Smoke ventilation

Smoke exhaust systems in stairwells are referred to as smoke ventilation. Their purpose is to extract smoke by way of cold smoke exhaust.

The products used here are non-safety-relevant building products that are therefore only listed in Building Rules List C, part 3.10.

Planning takes place in accordance with the specifications of the respective applicable regional building regulation (LBO). Decisive are the location, size and opening width of the smoke extraction areas as well as the number and location of the automatic and manual trigger devices

Areas of application:

- Stairwells

What is meant by SHEV?

What is meant by NSE?

What is meant by smoke and heat exhaust ventilation system or smoke extraction

Definition of terms



What is meant by SHEV group and ventilation group?

SHEV group

A SHEV group consists of at least one alarm line (manual alarm) and a ventilation line (drive line). These two lines together form a SHEV group that refers to a fire compartment (e.g. stairwell). For EMERGENCY OPEN, all connected electromotor drives are considered as part of this SHEV group.

Up to four mutually independent SHEV groups can be achieved according to the central control system versions.

Ventilation group

A ventilation group consists of several window units (drive lines), which can be opened manually or automatically for everyday room ventilation, regardless of the SHEV group and via a ventilation push-button, rain/wind controller or time switch.

This allows several ventilation groups to be combined in a SHEV group, which open the exhaust and supply air elements automatically in the event of an alarm.

What is meant by dead man's switch function?

In case of ventilation, the drives only move in the opening and/or closing direction as long as the ventilation push-button is activated permanently. If the push-button is no longer activated (pressed), the drives stop their movement. This allows for customised window opening widths.

The main application areas for a dead man's function are windows installed in the gripping area.

All central control units from the Gretsch-Unitas group have a dead man's switch function that can be switched on or off (via DIP switch).

What is meant by runtime limitation?

For ventilation, adjustable limitation of the drive running time (opening width limitation) in the opening direction. In the event of a fire, the running time limitation is deactivated and the drives are fully opened.

This function is integrated in all central control units of the Gretsch-Unitas group as standard and can be individually adjusted via potentiometer.

What is meant by automatic ventilation OFF?

The automatic ventilation OFF allows the windows to close automatically following the expiry of a predefined time period.

This function is integrated as standard in all central control systems of the Gretsch-Unitas group and can be individually set via potentiometer.



Fire alarm system (FAS)

A security alarm which is permanently installed in the building for early detection and direct reporting (emergency call) of fires to the fire brigade.

Furthermore, the FAS can control further technical systems, e.g. a SHEV system or receive signals from this system.

What is meant by FAS?

The option to choose the running direction of the drives in the event of an alarm. In a normal situation with a SHEV alarm, the SHEV openings in the building are opened to extract the smoke from the escape routes.

In rare cases, it may be a requirement that the SHEV openings can be securely shut. In such cases, it is possible to reverse the running direction of the drives via an integrated switch.

What is meant by selection of the running direction?

The reset push-button allows an alarm to be reset remotely, i.e. closes the SHEV openings.

This function is integrated in all central control units of the Gretsche-Unitas group and is controlled via the SHEV push-button.

What is meant by reset function?

DIN 18232, Model Building Regulation, regional building regulations



Collection E+ / Getty Images



To ensure that SHEV systems can be planned and implemented in line with the applicable standards and regulations right from the start, on the following pages we have compiled and briefly explained all the important information about regulations, ordinances and German and European standards.

A wide range of directives and regulations must be observed for the smoke and heat exhaust ventilation system.

According to the building, e.g. for the stairwell, the relevant state building regulation (LBO) must be observed for industrial buildings if it has been adopted by the building supervision authorities of the relevant federal state, the industrial building directive and additionally DIN 18232, for salesrooms, the salesroom directive and additionally DIN 18232 etc. must be observed.

The applicable regulations and guidelines are listed below.

DIN 18232, Part 2

The planning, dimensioning and installation (position and size of the smoke exhaust apertures or supply air apertures) of natural smoke exhaust systems are determined by many national codes of practice as in the past – in Germany by the DIN 18232, part 2 standard.

This standard can be used to determine how many smoke exhaust or supply air apertures should be planned into the facade and where these should be located.

This must be done by the planner or the accepting party.

In general, the planning and configuration should always be carried out in consultation with the local fire protection authorities.

Model Building Regulation (MBO)

„Building structures must be constructed in such a way that the development of a fire and the spreading of fire and smoke is prevented and the rescue of humans and animals as well as effective fire-fighting operations in the event of fire are possible.“

The installation of smoke exhaust systems is one of the most important measures for ensuring the active and passive rescue of persons.

The general requirements of the MBO are adopted by the regional building regulations and specified through further requirements in the legal text of the respective regional building regulation and its supplementary provisions for special structures. The special building regulations of each state are also based on a respective model building regulation. Furthermore, both private guidelines and those governed by public law apply.

Regional building regulations (LBOs)

Smoke exhaust in stairwells

In the respective regional building regulations (LBOs), the German Federal States stipulate that stairwells must be fitted with a smoke exhaust system, smoke exhaust device or an opening for removing smoke from the building.

The specifications vary from state to state and are therefore not regulated in a standardised manner.

DIN 18232, Model Building Regulation, regional building regulations



You can find the most recent model ordinances and directives as well as decrees of the "Bauministerkonferenz" for the areas of construction supervision and building technology as well as the land-specific ordinances in the online service portal of the Laender.

Below you can see an overview of the various regulations of the individual German Federal States concerning smoke extraction in stairwells.

Federal State	Smoke ventilation – when?	Smoke ventilation – where?	Smoke ventilation – size?	Control points – where?
Model Building Regulation (MBO)	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor (EG) and top stair landing
Baden-Württemberg	More than 5 floors above ground and for interior, necessary stairwells	at the top point; windows may be designed as smoke exhausts if they are situated high enough ^[1]	With a free cross-section of at least 1 m ²	to be opened from the ground floor (EG) ^[2]
Bavaria	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Berlin	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Brandenburg	More than 5 floors above ground and for interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 5 v.H. of the surface area, at least 1 m ²	Ground floor and highest landing
Bremen	More than 5 floors above ground and for interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 5% of the floor area, however at least 1 m ²	Ground floor and highest landing ^[2]
Hamburg	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Hessen	More than 5 floors above ground and for interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Mecklenburg-Vorpommern	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Niedersachsen	More than 6 floors	at the top point of the stairwell	With a free cross-section of at least 5 v.H. of the surface area, at least 1 m ²	Ground floor and highest landing ^[2]
Nordrhein-Westfalen	More than 5 floors above ground and for interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 5% of the floor area, however at least 1 m ²	Ground floor and highest landing
Rheinland-Pfalz	More than 5 floors above ground and for interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 5% of the floor area, however at least 1 m ²	Ground floor and highest landing ^[2]
Saarland	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Sachsen	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Sachsen-Anhalt	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Schleswig-Holstein	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing
Thüringen	In necessary stairwells of buildings with heights of more than 13 m or interior, necessary stairwells	at the top point of the stairwell	With a free cross-section of at least 1 m ²	Ground floor and highest landing

[1] Exceptions can be approved if the smoke can be extracted in another way.

[2] Further control points could be demanded.

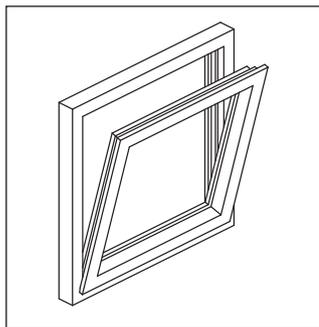
Most recent revision: 2014

Planning – selecting the drive system

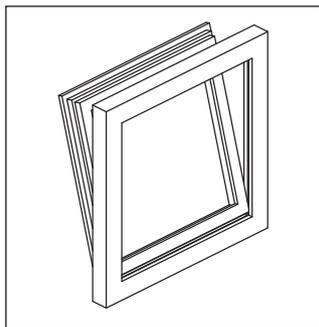
Example: stairwell smoke exhaust



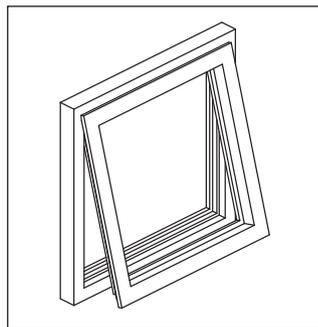
Step 1: Window definition – window types and opening directions (please enter number of pieces)



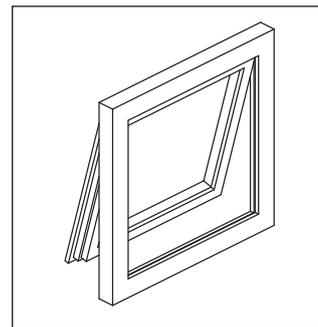
Bottom-Hung window, inward



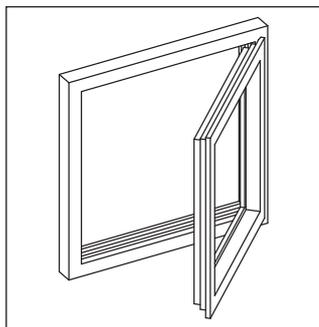
Bottom-Hung window, outward



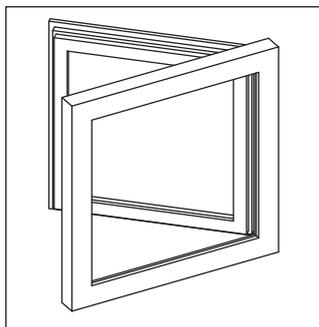
Top-Hung window, inward



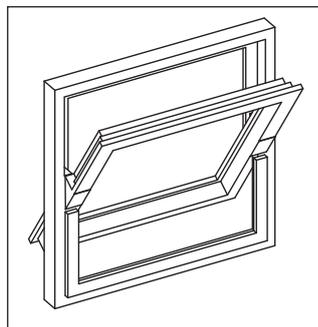
Top-Hung window, outward



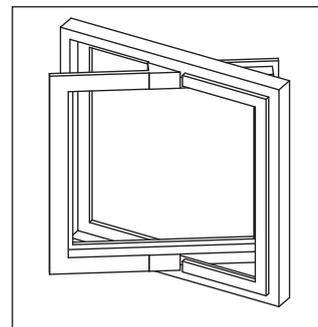
Side-Hung window, inward



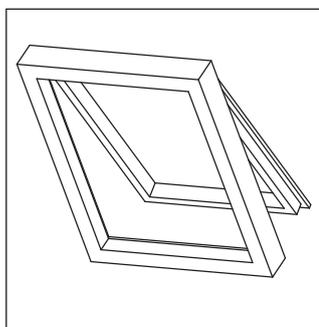
Side-Hung window, outward



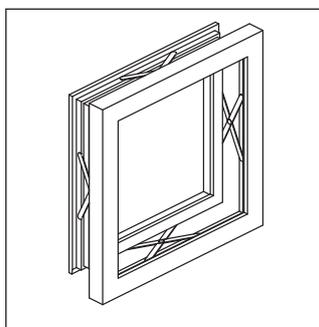
Horizontal-Pivot window



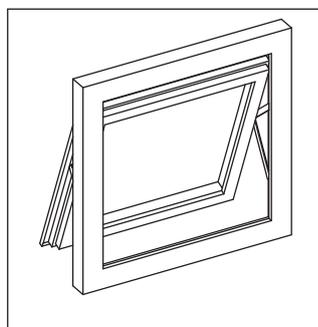
Vertical-Pivot window



Skylight



Parallel-Projecting windows



Projecting top-hung window

Planning – selecting the drive system

Example: stairwell smoke exhaust



Step 2: Defining the application and window data

Sash exterior dimensions

Clear sash width (in mm) _____

Clear sash height (in mm) _____

Door leaf weight (in kg) _____

Alternative:
glass thickness (in mm) _____

Alternative:
profile weight (in kg/m) _____

Position in room ^[1] under 2.5 m

over 2.5 m

Stipulated geometric
smoke extraction area (in m²) ^[2] _____

Desired opening width (in mm) _____

Alternative:
desired opening angle (in °) _____

Facade/roof incline (in °) _____

Step 3: Drive installation

Frame installation

Sash installation

Concealed installation

Min. space requirement (in mm) _____

Planning example: 2 Bottom-Hung windows, inward-opening

Clear sash width (in mm) 1200

Clear sash height (in mm) 850

Door leaf weight (in kg) 40

Alternative:
glass thickness (in mm) -

Alternative:
profile weight (in kg/m) -

Position in room ^[1] under 2.5 m

over 2.5 m

Stipulated geometric
smoke extraction area (in m²) ^[2] 1

Desired opening width (in mm) 500

Alternative:
desired opening angle (in °) -

Facade/roof incline (in °) Facade, 90°

Frame installation

Sash installation

Concealed installation

Min. space requirement (in mm) 60

[1] The risk analysis must be taken into consideration for an installation height of the window element below 2.50 m (see pages 343–345 – attachment 3).

[2] This value must be determined on site by the relevant fire protection authorities or the planning office based on DIN 18232-2.

Planning – selecting the drive system

Example: stairwell smoke exhaust



Step 4: Determining the smoke extraction area as stipulated by DIN 18232-2

The smoke extraction area is determined with the aid of the design group, the room height and the height of the low-smoke layer from the corresponding table 3 of DIN 18232 Part 2 for each smoke compartment. This entire smoke extraction area is then split up into a corresponding number of facade openings and skylights. The corresponding regulations specified by the standard must be taken into consideration here.

Step 5: Calculating the clear opening width for the predetermined geometric smoke extraction area (Ag)

You can find the calculation of the geometric smoke extraction area (Ag) on page 340 – attachment 1 „Calculation of the geometric smoke extraction area“.

Step 6: Calculation of the window area / opening and closing force

For calculations of the window area or the opening and closing force, see pages 341/342 – Appendix 2 "Calculating the window area / opening and closing force".

Planning example:

The stipulated geometric smoke extraction area (Ag) in accordance with DIN 18232-2 is 1 m² [1]

2 Bottom-Hung windows are designated as facade openings

This results in a required geometric smoke extraction area of 0.5 m² per facade opening

Planning example:

Calculated clear opening width = 416 mm

This means a drive with a travel length of 500 mm is required

Planning example:

Calculated opening and closing force = 535 N
(incl. wind load)

[1] This value must be determined on site by the relevant fire protection authorities or the planning office based on DIN 18232-2.

Planning – selecting the drive system

Example: stairwell smoke exhaust



Result: Selection of the drive and the associated fixing set

The suitable drive and the associated fixing set must be determined on the basis of the determined travel length (step 5) and the required opening and closing force (step 6).

The selection of the drive is predominantly derived from the determined opening and closing forces (see pages 341/342 – attachment 2).

The minimum sash height depending on the travel length in the corresponding tables on the order pages must be checked for the selection of the associated fixing set.

Planning example:

Travel	500 mm
Sash height	850 mm
Determined required opening and closing force	535 N

Result:

Selected drive system:
ELTRAL K30 Synchro / K-17833-00-0-*

Selected fixing set:
Fixing set K30 / K-18157-00-0-*

K30 fixing set

Technical data	
Opening type	Bottom-Hung window Top-Hung window Side-Hung window
Type of installation	surface-mounted
Type of installation Bottom-Hung window	Frame installation (FI)
Type of installation Top-Hung window	Frame installation (FI)
Type of installation Side-Hung window	Frame installation (FI)
Opening direction Bottom-Hung window	inward
Opening direction Top-Hung window	inward
Opening direction Side-Hung window	inward
Space requirement X min. Aluminium Timber PVC [mm]	50 50 50

Travel [mm]	Sash height min. for FI [mm]
300	350
400	550
500	700

Frame material	Finish	PU	Order number
Aluminium Timber PVC ⁽¹⁾	silver painted (RAL 9006)	1	K-18157-00-0-1
	black painted (RAL 9005)	1	K-18157-00-0-6
	white painted (RAL 9010)	1	K-18157-00-0-7

Extract from order pages

SHEV air supply

Adequately sized supply air openings are always required to ensure that the smoke and heat extraction system functions safely. The supply air areas must be completely situated in the low-smoke layer and amount to at least 1.5-times the extraction area. By means of a kind of "chimney effect", these boost the thermal uplift and thus ensure that smoke gases are drawn upwards and extracted more quickly.

Air supply opening: door

We recommend the use of our door drive

- ELTRAL TA60 T or ELTRAL TA60 T-SRI (2-leaf)

Air supply opening: window

We recommend the use of our door drive

- ELTRAL TA60 DF or ELTRAL TA60 DF-SRI (2-leaf)
- ELTRAL TA60 GS

Planning – selecting the drive system – Appendix 1

Calculating the geometric smoke extraction area

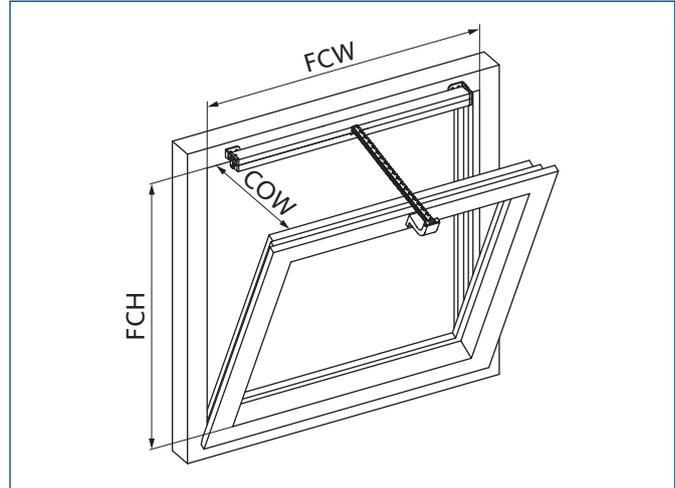


Depending on the planning basis, a distinction is made between the aerodynamic and geometric smoke extraction area.

The German Model Building Regulation and associated regional building regulations generally require a geometric ventilation area for the removal of smoke from stairwells.

Planning example:

- Stipulated smoke extraction area $A_g = 1 \text{ m}^2$
- Number of facade openings = 2 Bottom-Hung windows
- Required smoke extraction area for each facade opening = 0.5 m^2
- Frame clearance width $FCW = 1.20 \text{ m}$
- Sash profile thickness = 75 mm



Basically, an opening-angle of 60° should be aspired!

Calculation formula:

$$A_g = FCW \times COW$$

Calculation of the clear opening width COW for determining the drive travel length

$$COW = A_g / FCW$$

Taking into account the sash profile thickness

$$\text{Travel} = COW + \text{sash profile thickness}$$

Calculation formula:

$$A_g = FCW \times COW$$

Calculation of the clear opening width COW for determining the drive travel length

$$COW = 0.5 \text{ m}^2 / 1.20 \text{ m} = 0.416 \text{ m}$$

$$\gg 0.416 \sim 416 \text{ mm}$$

Taking into account the sash profile thickness

$$\text{Travel} = 416 \text{ mm} + 75 \text{ mm} = 491 \text{ mm}$$

Result: a drive with a stroke length of 500 mm is required!

Legend:

- A_g = Geometric smoke extraction area [m^2]
- COW = Clear opening width [m]
- FCH = Frame clearance height [m]
- FCW = Frame clearance width [m]

Be aware of the installation situation:

Further factors like the distance to the lock case cover or the arrangement of the windows must be taken into consideration for the calculation. Need help with planning? Please contact your field consultant.

Planning – selecting the drive system – Appendix 2

Calculating the window area / opening and closing force



Step 1: Calculating the window area

- Calculating window area A:

$$A = FCW \times FCH$$

Step 2: Calculating the required opening and closing force

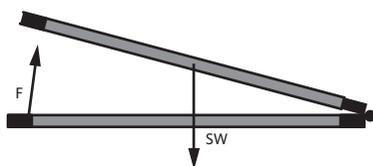
Calculation example: skylight

- Step 1: Calculation of the driving force depending on the sash weight SW:

$$F_P = 5.4 \times SW$$

- Step 2: Calculation of the driving force depending on the sash weight SW and the snow load $F_{SK}^{[1]}$:

$$F = F_P + F_{SK}$$



Planning example:

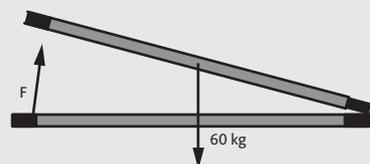
- Frame clearance width (FCW) = 1.20 m
- Frame clearance height (FCH) = 0.85 m

Calculation:

$$A = 1.20 \text{ m} \times 0.85 \text{ m} = 1.02 \text{ m}^2$$

Planning example: skylight

- Window area (A) = 1.2 m²
- Sash weight (SW) = 60 kg
- Snow load ^[1] = 0.6 kN/m² = $F_{SK} = 720 \text{ N}$



Calculating the drive force based on the sash weight SW:

$$F_P = 5.4 \times 60 \text{ kg} = 324 \text{ N}$$

Calculating the drive force based on the sash weight SW and the snow load $F_{SK}^{[1]}$:

$$F = 324 \text{ N} + 720 \text{ N} = 1044 \text{ N}$$

Result:

On the basis of the required determined opening and closing force of 1104 N, the following drives can be used, for example:

- ELTRAL S160 Solo or ELTRAL S80 Synchro

[1] When using skylights, the snow loads must be taken into account. Snow load information can either be determined according to DIN 1055-5 or retrieved from the respective authorities.

Planning – selecting the drive system – Appendix 2

Calculating the window area / opening and closing force



Step 2: Calculating the required opening and closing force

Calculation example: facade

- Step 1: calculation of the driving force depending on the sash weight SW:

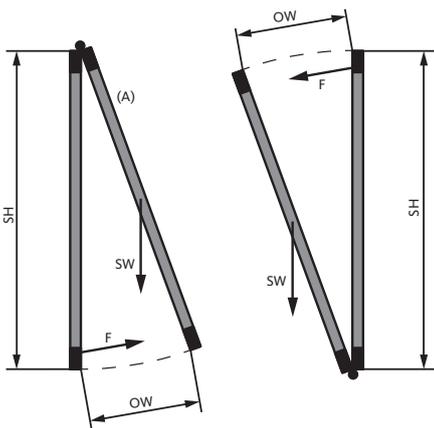
$$F_P = 5.4 \times P \times COW / SH$$

- Step 2: calculating the drive force based on the wind load F_w ^[1]:

$$F_{PW} = F_w \times A / 2$$

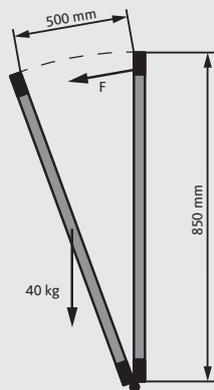
- Step 3: calculating the drive force based on the sash weight SW and the wind load F_w ^[1]:

$$F = F_P + F_{PW}$$



Planning example: Bottom-Hung window

- Window area (A) = 1.02 m²
- Sash width (SW) = 1.2 m or 1200 mm
- Sash height (SH) = 0.85 m or 850 mm
- Sash weight (SW) = 40 kg
- Clear opening width (COW) = 500 mm
- Wind load ^[1] = 800 N/m²



Calculating the drive force based on the sash weight SW:

$$F_P = 5.4 \times 40 \text{ kg} \times 500/850 \text{ mm} = 127 \text{ N}$$

Calculating the drive force based on the wind load F_w ^[1]:

$$F_{PW} = 800 \text{ N/m}^2 + 1.02 \text{ m}^2/2 = 408 \text{ N}$$

Calculating the drive force based on the sash weight SW and the wind load F_w :

$$F = 127 \text{ N} + 408 \text{ N} = 535 \text{ N}$$

Result:

Based on the required opening and closing force calculated at 535 N, the following drives may be used:

- ELTRAL K60 Solo or ELTRAL K30 Synchro

Chain drives – maximum drive forces

Max. opening and closing force	Chain drives						Spindle drives		
	K25	K30	KS 30/40 ^[1]	K35	K40	K60	S80	S100 Speed	S160
F_{max} – Solo	250 N	300 N	300 N	350 N	400 N	600 N	800 N	1000 N	1600 N
F_{max} – Synchro	500 N	600 N	600 N	700 N	800 N	1200 N	1600 N	2000 N	3200 N

[1] The wind loads must be taken into consideration. Wind load information can either be determined according to DIN 1055-4 or retrieved from the respective authorities.

[2] Due to its plastic case, the ELTRAL KS 30/40 drive is not approved for SHEV use within the EU!

Planning – selecting the drive system – Appendix 3



Risk assessment for power-operated windows in accordance with Machinery Directive 2006/42/EC



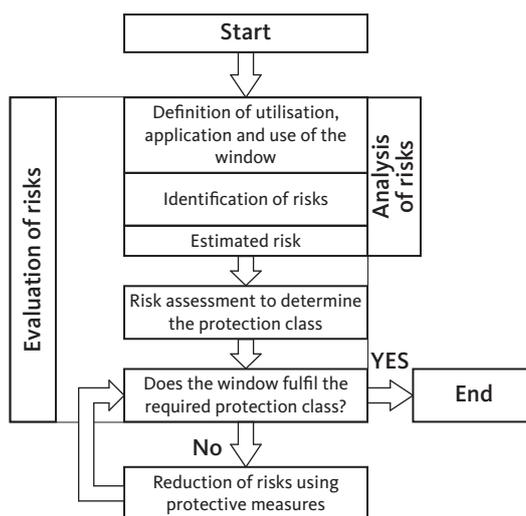
General

After the planner has carried out the evaluation of risks for force-operated windows and this has been listed in the construction requirements, the constructor of the force-operated window is obliged to repeat the evaluation of risks and to verify whether the planning specifications have been fulfilled. If the prescribed protection class has not been achieved, further steps must be taken for reduction of risks.

Extract from the Machinery Directive 2006/42/EC (MaschRL 2006/42/EC)

"The manufacturer of a machine or his authorised representative must ensure that an evaluation of risks has been undertaken in order to determine the safety and health protection requirements which are applicable for the machine. The machine must then be designed and constructed under consideration of the results of the evaluation of risks."

Expiry of evaluation of risks



Protection classes and the resulting protection measures

Class	Protective measures
Protection class 0	■ No protective measures required
Protection class 1	■ Warning notes
Protection class 2	<ul style="list-style-type: none"> ■ Protection against access using structural measures or ■ Rounded, padded edges, closing forces from 80 N to 150 N, no shearing effect or ■ Acoustic warning signals or ■ Warning lamps or ■ EMERGENCY-STOP switch at the window or ■ Moving systems in front of the window to prevent access
Protection class 3	<ul style="list-style-type: none"> ■ Dead-man's control without overriding central control or ■ Slow sash movement of max. 5 mm/s or ■ Intervention width less than 8 mm or ■ Rounded, padded edges, closing forces less than 80 N, no shearing effect
Protection class 4	<ul style="list-style-type: none"> ■ Protection using contact-sensitive protective devices, eg switch rails, contact sensors, or ■ Protection using non-contact protective devices, e.g. light barriers, light grids, or ■ Dead man's control with authorised operation of each window without a overriding control system (e.g. spring-operated key switch) or ■ Intervention width less than 4 mm or ■ Prevention of access using structural measures

Planning – selecting the drive system – Appendix 3

Risk assessment for power-operated windows
in accordance with Machinery Directive 2006/42/EC



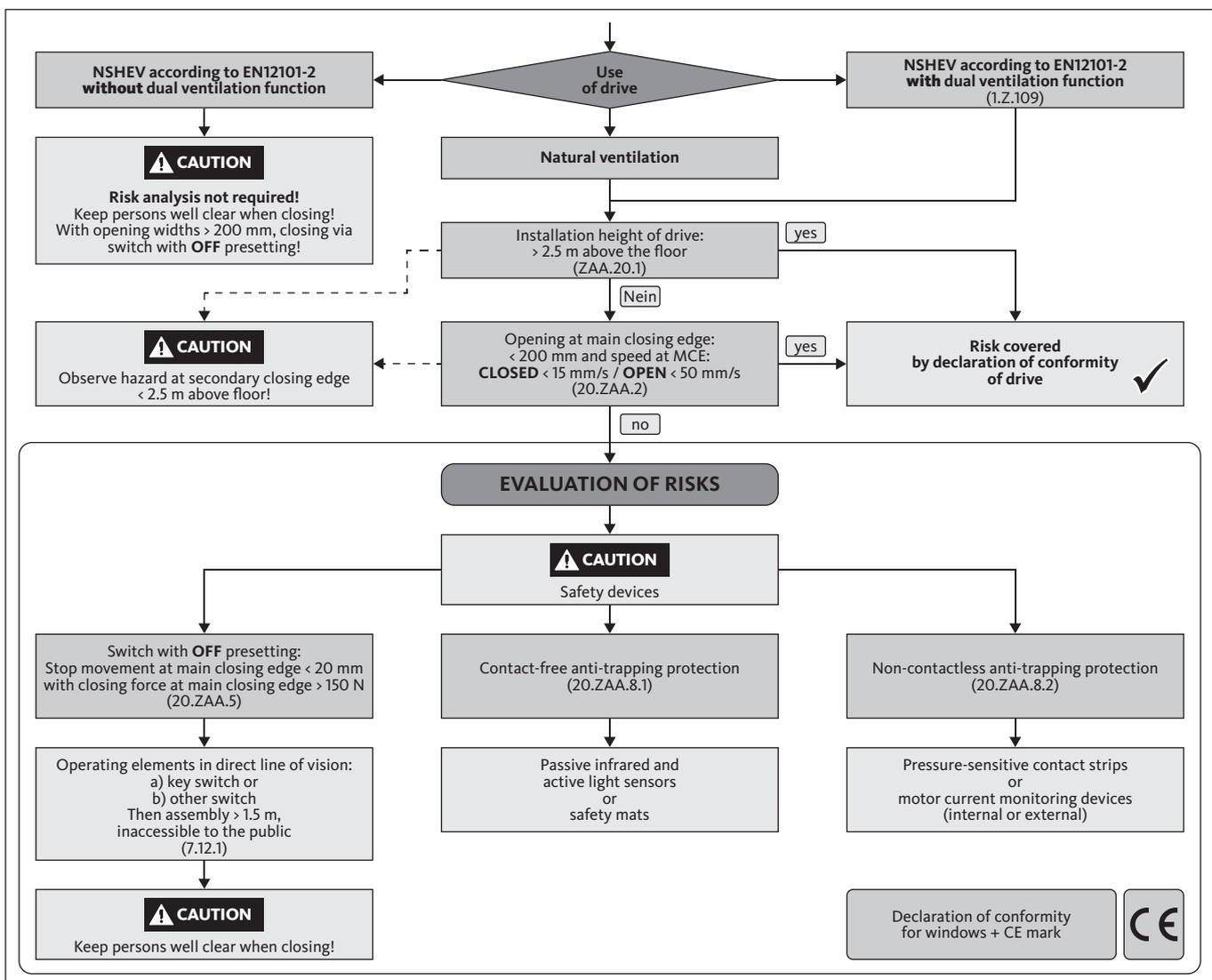
Need for an evaluation of risks at the installation location due to reasonably foreseeable incorrect use

When using the power-operated window for natural ventilation, according to Machinery Directive 2006/42/EC an evaluation of risks must always be performed under the following circumstances:

- Installation height of the drive < 2.5 m above ground and
- Opening width at MCE of > 200 mm, or
- Closing speed at MCE of > 15 mm/s, or
- Opening speed at MCE of > 50 mm/s, or
- Closing force at MCE of > 150 N

The risk analysis can be performed as shown in the following flowchart, which also includes the protective measures according to EN 60335-2-103/2016-05.

Risk analysis according to DIN EN 60335-2-103



Planning – selecting the drive system – Appendix 3



Risk assessment for power-operated windows in accordance with Machinery Directive 2006/42/EC



Procedure for determining the protection classes

Procedure

Carry out the evaluation of risks in accordance with the adjacent table step by step and document the result (protection class: PC).

After the definition of the protection class, it must be determined whether the windows fulfil the required protection classes or whether a reduction of risks by the definition of protective measures is required.

Compare the result with the specifications defined by the architect/planner.

Residual risk

However, even after the performance of an evaluation of risks and the implementation of any remedial measures for a reduction of risks, a residual risk will still prevail e.g.:

- that unforeseeable occurrences could arise as a result of manipulation on the manual control elements or modification of the automatic operation, which have not flown into the evaluation of risks.
- that, due to force majeure, the forced controlled windows or the drives and fixings suffer damage or are destroyed and therefore represent a direct hazardous situation by falling out.

Step 1		
Installation situation	Risk assessment	Risk parameters
<ul style="list-style-type: none"> ■ Installation height of the bottom edge of the sash at least 2.5 m above the finished floor or fixed access level ■ Integral devices in front of the window which impede access ■ Window sills or reveals that prevent free access to the window by the user ■ SHEV windows that are not used for ventilation 	Low risk	E1
<ul style="list-style-type: none"> ■ Installation height of the bottom edge of the sash the finished floor or access level below 2.5 m and window is freely accessible 	Higher risk	E2

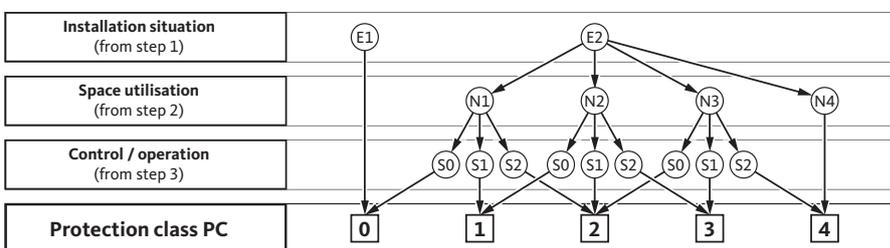


Step 2		
Space utilisation	Risk assessment	Risk parameters
<ul style="list-style-type: none"> ■ Rooms for commercial use, where users have been instructed on the technology (e.g. offices, industrial areas) 	Low risk	N1
<ul style="list-style-type: none"> ■ Residential spaces where residents have been familiarised with technical systems ■ Spaces where the users/visitors are able to assess the risks or are supervised 	Medium risk	N2
<ul style="list-style-type: none"> ■ Rooms, which are intended for the regular presence of people who cannot be instructed on safe use (e.g. salesrooms, places of assembly, ...) 	High risk	N3
<ul style="list-style-type: none"> ■ Rooms, which are intended for the regular presence of vulnerable people (e.g. kindergartens, schools, hospitals, ...) 	Very high risk	N4



Step 3		
Control unit or operation	Risk assessment	Risk parameters
<ul style="list-style-type: none"> ■ Manual operation without self hold with visual control of all windows (deadman's control, e.g. use of a key switch with OFF pre-adjustment/key switch) 	Very low risk	S0
<ul style="list-style-type: none"> ■ Manual operation with self hold with visual control of all windows (e.g. use of a switch) 	Low risk	S1
<ul style="list-style-type: none"> ■ Automatic operation (e.g. wind/train control, building control systems) or manual operation without visual control of all windows (e.g. central control system switch, remote control) 	High risk	S2

Step 4 Determination of protection class



Result

Defined protection class _____ PC

Protective measures required? yes [1]

no

[1] Description of the resulting protective measures see page 343.

Selecting the right SHEV central control unit

Planning



The selection of a suitable electric controller (SHEV central control unit) should be considered as early as the planning phase.

The following points are important for this:

- The current consumption (nominal and breaking currents) of all connected drives as well as the accessory components (see following table)
- See page 335 for the minimum number of control points (SHEV push-button HSE) prescribed according to the state construction laws (in German Landesbauordnungen)
- The minimum number of automatic detectors (smoke or heat detectors) as specified by the relevant fire protection authorities
- The wiring, in particular the cable cross-sections for the drives in accordance with the Model Conduit Systems Directive (German designation: MLAR) and DIN 4102, part 12
- Division into SHEV and ventilation groups
- Optional: connection to the building control system (GLT) / fire alarm system (BMA), e.g. for overriding ventilation function
- Optional: Use of automatic ventilation controls, for example wind/rain detector, time switch
- Position/installation location for dimensioning the cable cross-sections, or for the optional connection of multiple central control units

Selecting the right SHEV central control unit

Nominal and breaking currents



Current consumption of drive systems				Current consumption – accessories	
Electric drive and opening systems (24 V)	Designation	Nominal current	Breaking current	Accessories	Nominal current
Chain drives	ELTRAL K25	0.7 A	1.0 A	Wind/rain detector	250 mA
	ELTRAL K30	0.9 A	1.2 A	Input/output module IO10	100 mA
	ELTRAL KS 30/40 ^[2]	0.9 A	1.2 A	Spring-operated key switch ST10/ST20	25 mA
	ELTRAL K35	0.9 A	1.2 A		
	ELTRAL K40	0.9 A	1.2 A		
	ELTRAL K60	0.8 A	1.2 A		
Locking drives	ELTRAL VAN	1.5 A	1.5 A		
	ELTRAL VA25	0.6 A	0.8 A		
	ELTRAL VA35	0.6 A	0.8 A		
	ELTRAL OA m-com	0.8 A	1.1 A		
Spindle drives	ELTRAL S80	1.0 A	1.4 A		
	ELTRAL S100 Speed	1.9 A	2.5 A		
	ELTRAL S160	1.9 A	2.5 A		
SHEV opening systems	SHEV 1000*	0.6 A	0.8 A		
	SHEV 1050**	0.6 A	0.8 A		
Fanlight opening systems	ELTRAL S 24	1.2 A	–		
Door drives	ELTRAL TA60 T/T-SRI	1.0 A	1.4 A		
Window drives	ELTRAL TA60 DF/DF-SRI	1.0 A	1.4 A		
	ELTRAL TA60 GS	1.0 A	1.4 A		

* with spindle drive ELTRAL S100 | ** with spindle drive ELTRAL S60

Maximum number of drives per central control unit type								
Electric drive and opening systems (24 V)	Designation (Output current ^[1])	RZ25 (3.2 A)	RZ50 (6.5 A)	RZ75 (8.4 A)	RZ100 (10 A)	RZ 200 (20 A)	RZM240 (24 A)	RZM480 (48 A)
Chain drives	ELTRAL K25	3	6	8	10	20	24	48
	ELTRAL K30	2	5	7	8	16	20	40
	ELTRAL KS 30/40 ^[2]	2	5	7	8	16	20	40
	ELTRAL K35	2	5	7	8	16	20	40
	ELTRAL K40	2	5	7	8	16	20	40
	ELTRAL K60	2	5	7	8	16	20	40
Locking drives	ELTRAL VAN	2	4	5	6	13	16	32
	ELTRAL VA25	8	16	21	25	50	60	120
	ELTRAL OA m-com	2	5	7	9	18	21	43
	ELTRAL VA35	4	8	10	12	25	30	60
Spindle drives	ELTRAL S80	2	4	6	7	14	17	34
	ELTRAL S100 Speed	1	2	3	4	8	9	19
	ELTRAL S160	1	2	3	4	8	9	19
SHEV opening systems	SHEV 1000*	2	4	6	7	14	17	34
	SHEV 1050**	2	5	7	8	16	20	40
Fanlight opening systems	ELTRAL S 24	2	5	7	8	16	20	40
Door drives	ELTRAL TA60 T/T-SRI	2	4	6	7	14	17	34
Window drives	ELTRAL TA60 DF/DF-SRI	2	4	6	7	14	17	34
	ELTRAL TA60 GS	2	4	6	7	14	17	34

* with ELTRAL S100 spindle drive | ** with ELTRAL S60 spindle drive

[1] The total current consumption of the connected drives and accessory components must not exceed this value.

[2] As a result of the PVC body, the ELTRAL KS 30/40 drive is not approved for use in the SHEV sector within the EU!

Selecting the right SHEV central control unit

Planning example: rating of output current



Requirement:

Operation of:

- 1 x ELTRAL K35 Synchro chain drive
- 1 x ELTRAL S80 spindle drive
- 1 x ELTRAL TA60 T-SRI door drive (2-leaf door)
- 1 SHEVs and 2 ventilation groups

Calculation:

1 x ELTRAL K35 Synchro chain drive

- Interrupting current drive K35 (2 x 1.2 A): 2.4 A

1 x ELTRAL S80 spindle drive

- Interrupting current drive S80 1.4 A

1 x ELTRAL TA60 T-SRI door drive (2-leaf door)

- Interrupting current drive TA60 (2 x 1.4 A) 2.8 A

Total current:

$$2.4 \text{ A} + 1.4 \text{ A} + 2.8 \text{ A} = \mathbf{6.6 \text{ A}}$$

Selected central control unit:

RZ100 1/2 (with a max. output current of 10.0 A and 2 mutually disconnected ventilation groups)

Selecting the right SHEV central control unit

Planning example: calculating the cable cross-section and length



Calculating the cable cross-section and length

The cross-sections of the on-site cables between the central control unit and the drives depend on the cable length, current consumption and the potential drop on the cable.

When using GU drives

$$\text{Cable cross-section [mm}^2\text{]} = \frac{\text{Single cable length [m]} \times \text{number of drives}}{\text{Factor } f_{\text{drive}}}$$

$$\text{Single cable length [m]} = \frac{\text{Cable cross-section [mm}^2\text{]} \times \text{factor } f_{\text{drive}}}{\text{Number of drives}}$$

Factor f_{drive}

Drive ELTRAL	S100 Speed S160	VAN	S80 TA60 SHEV 1000	K30 K30/40 K35 K40 K60 SHEV 1050 S 24	OA m-com	K25	VA25 VA35
Factor f_{drive}	22	37	40	46	51	56	70

Calculation example: Requirement: operation of 5 ELTRAL K35 chain drives in a stairwell with a simple cable length of 25 m between the SHEV compact control unit and drives

$$\text{Calculation: cable cross-section [mm}^2\text{]} = \frac{25 \text{ m} \times 5}{46} = 2.72$$

Selected cable cross-section: 3.0 mm²

When using drives from other manufacturers

The cable cross-section is calculated using the cable length and the sum of the breaking currents of the drives to be connected.

$$\text{Min. cable cross-section [mm}^2\text{]} = \frac{\text{Single cable length [m]} \times \text{sum of breaking currents [A]}}{56}$$

Maximum cable length (central control unit – drive)

Cable cross section	Sum of breaking currents										
	1.0 A	2.0 A	3.0 A	3.2 A	4.0 A	5.0 A	6.0 A	6.5 A	7.0 A	8.0 A	8.4 A
3 x 1.0 mm ²	56 m	28 m	18 m	17 m	14 m	11 m	9 m	8 m	8 m	7 m	6 m
3 x 1.5 mm ²	84 m	42 m	28 m	26 m	21 m	16 m	14 m	12 m	12 m	10 m	10 m
3 x 2.5 mm ²	140 m	70 m	46 m	43 m	35 m	28 m	23 m	21 m	20 m	17 m	16 m
3 x 3.0 mm ²	168 m	84 m	56 m	52 m	42 m	33 m	27 m	25 m	24 m	21 m	20 m
5 x 2.5 mm ² *	280 m	140 m	93 m	87 m	70 m	56 m	45 m	43 m	40 m	35 m	33 m

* Doubling the current conducting wires (results in a cable cross-section of 5.0 mm² each).

Installation and operating instructions

Electric drive and opening systems (24 V / 230 V), accessories



Electric drive and opening systems (24 V and 230 V)

Designation		Document type	Document no.
Chain drives			
ELTRAL K25	24 V	Installation and operating instructions	0-44928
ELTRAL K25	230 V	Installation and operating instructions	0-44929
ELTRAL K30	24/230 V	Installation and operating instructions	0-45380
ELTRAL KS 30/40 Solo	24/230 V	Installation and operating instructions	0-46790
ELTRAL KS 30/40 Synchro	24/230 V	Installation and operating instructions	M-00158
ELTRAL KS 30/40 radio	230 V	Installation and operating instructions	0-46857
ELTRAL K35	24 V	Installation and operating instructions	0-45841
ELTRAL K40	24 V	Installation and operating instructions	0-48016
ELTRAL K60	24 V	Installation and operating instructions	0-44936
ELTRAL K60	230 V	Installation and operating instructions	0-44937
Locking drives			
ELTRAL VAN	24 V	Installation and operating instructions	0-45093
ELTRAL VA25	24 V	Installation and operating instructions	0-45093
ELTRAL OA m-com	24 V	Installation and operating instructions	0-45247
ELTRAL VA35	24 V	Installation and operating instructions	0-45094
ELTRAL VA-1 R/4; VA-1 L/4; ELTRAL VA-2/12; VA-2/20	24 V	Installation and operating instructions	0-45322
Spindle drives / rack and pinion drives			
ELTRAL S60; S80; S100; S100 Speed; S160	24 V	Installation and operating instructions	0-45092
ELTRAL S80	230 V	Installation and operating instructions	0-45289
ELTRAL Z45	230 V	Installation and operating instructions	0-46019
Fanlight opening systems			
ELTRAL S 24	24 V	Operating instructions	0-48798
ELTRAL S 230	230 V	Operating instructions	0-48799
SHEV opening systems			
SHEV 1000 Solo	24 V	Installation and operating instructions	0-45244
SHEV 1000 Synchro	24 V	Installation and operating instructions	0-45263
SHEV 1050 Solo+Synchro	24 V	Installation and operating instructions	0-45245
Door drives			
ELTRAL TA60 T; TA60 T-SRI	24 V	Installation and operating instructions	0-45246
Window drives			
ELTRAL TA60 DF; TA60 DF-SRI; TA60 GS	24 V	Installation and operating instructions	0-45246
Accessories			
Main control element m-com; m-com Click	24 V	Installation and operating instructions	0-46628
Power supply unit NT 2.5; NT 6.5	230 V	Installation manual	0-46966
Power supply unit NT 1.7; NT 3	230 V	Installation manual	0-46948
Universal connector UNI-S 24	24 V	Electrical connection	0-48545
Universal connector UNI-S 230	230 V	Electrical connection	0-48546

Installation and operating instructions

Electric control units (24 V / 230 V), accessories



Electric control units (24 V and 230 V) and accessories			
Designation		Document type	Document no.
SHEV compact control units			
RZ25; RZ50; RZ75	24 V	Installation and operating instructions	0-46003
RZ100; RZ200	24 V	Installation and operating instructions	0-46622
SHEV modular control units			
RZM	24 V	Installation and operating instructions	0-46624
Ventilation central control units			
LZ	230 V	Installation and operating instructions	0-45283
Accessories			
SHEV push-button 'HSE'		Data sheet	0-46623
Smoke switch D3 / heat detector WMD3		Data sheet	0-46625
Wind/rain detector		Operating instructions	0-45284
Rain sensor		Operating instructions	0-45285
WRAG 2 wind/rain evaluator		Operating instructions	0-45265
Line termination module / Interface module for FAS		Data sheet	0-46720
Time module for alarm time limit		Operating instructions	0-45291
BKS-NET coupling module		Data sheet	0-46729
USKM control module		Operating instructions	0-45320
Portable test set		Operating instructions	0-45377

Documentation



Documentation

Documentation	Document type	Document no.
Risk analysis	-	0-45948
SHEV test log book	-	0-45839
Checklist for acceptance/commissioning SHEV	-	0-45974
Checklist window	-	0-45975
Checklist central control units	-	0-48672

Installation drawings

ELTRAL K25 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
General profile systems					
ELTRAL K25	24 V	Timber / PVC	Bottom-Hung window, inward	Frame installation	K-17635-00-0-8 0-44933
ELTRAL K25	24 V	Timber	Bottom-Hung window, inward	Frame installation	K-17635-00-0-8 0-45059
ELTRAL K25	24/230 V	Timber	Bottom-Hung window, inward	Frame installation	K-17636-00-0-8 0-45061
ELTRAL K25	24/230 V	PVC	Bottom-Hung window, inward	Frame installation	K-17636-00-0-8 0-45065
ELTRAL K25	24 V	Aluminium	Bottom-Hung window, inward	Frame installation	K-17593-00-0-8 0-44930
ELTRAL K25	24 V	Euro-groove	Bottom-Hung window, inward	Frame installation	K-17593-00-0-8 0-45799
ELTRAL K25	24 V	Euro-groove	Bottom-Hung window, inward	Frame installation	K-17594-00-0-8 0-45800
ELTRAL K25	24 V	Timber	Bottom-Hung window, inward	Sash installation	K-17637-00-0-8 0-45039
ELTRAL K25	230 V	Timber	Bottom-Hung window, inward	Sash installation	K-17637-00-0-8 0-45060
ELTRAL K25	24 V	PVC	Bottom-Hung window, inward	Sash installation	K-17637-00-0-8 0-45062
ELTRAL K25	24 V	PVC	Bottom-Hung window, inward	Sash installation	K-17635-00-0-8 0-45063
ELTRAL K25	230 V	PVC	Bottom-Hung window, inward	Sash installation	K-17637-00-0-8 0-45064
ELTRAL K25	24/230 V	Timber	Bottom-Hung window, inward	Concealed installation	K-17909-00-0-1 0-45593
ELTRAL K25	24 V	Euro-groove	Bottom-Hung window, inward	Concealed installation	K-17880-00-0-1 0-45803
ELTRAL K25	24 V	Euro-groove	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-45796
ELTRAL K25	24 V	Euro-groove	Top-Hung window, outward	Frame installation	K-17595-00-0-8 0-45811
ELTRAL K25	24 V	Aluminium	Top-Hung window, outward	Sash installation	K-17706-00-0-8 0-45084
ELTRAL K25	24/230 V	Timber / PVC	Bottom-Hung window, inward Top-Hung window, outward	Sash installation	K-17637-00-0-8 0-44935
ELTRAL K25	24/230 V	Aluminium	Bottom-Hung window, inward Top-Hung window, outward	Sash installation	K-17595-00-0-8 0-44932
Alcoa profile system					
ELTRAL K25	24/230 V	Alcoa	Bottom-Hung window, inward	Frame installation	K-17594-00-0-8 0-46013
ELTRAL K25	230 V	Alcoa	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-46037
Feal profile system					
ELTRAL K25	24 V	Feal T65i series	Bottom-Hung window, inward	Concealed installation	K-17880-00-0-1 0-45650
Heroal profile system					
ELTRAL K25	24 V	Heroal	Bottom-Hung window, inward	Frame installation	K-17593-00-0-8 0-45547
ELTRAL K25	24 V	Heroal	Bottom-Hung window, inward	Frame installation	K-17594-00-0-8 0-46478
ELTRAL K25	230 V	Heroal	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-46038
ELTRAL K25	24 V	Heroal	Bottom-Hung window, inward	Concealed installation	K-17880-00-0-1 0-45592
ELTRAL K25	230 V	Heroal	Bottom-Hung window, inward	Concealed installation	K-17880-00-0-1 0-45599
ELTRAL K25	24 V	Heroal	Horizontal/vertical-pivot window	Frame installation	K-17593-00-0-8 0-45548

Installation drawings

ELTRAL K25 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
Hueck profile system					
ELTRAL K25	24 V	Hueck	Bottom-Hung window, inward	Frame installation	K-17593-00-0-8 0-45045
ELTRAL K25	24 V	Hueck	Bottom-Hung window, inward	Frame installation, flush-mounted	K-17593-00-0-8 0-45046
ELTRAL K25	24/230 V	Hueck	Bottom-Hung window, inward	Frame installation	K-17594-00-0-8 0-45053
ELTRAL K25	24 V	Hueck	Bottom-Hung window, inward	Sash installation	K-17706-00-0-8 0-45042
ELTRAL K25	24 V	Hueck	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17595-00-0-8 0-45043
ELTRAL K25	230 V	Hueck	Bottom-Hung window, inward	Sash installation	K-17706-00-0-8 0-45051
ELTRAL K25	24 V	Hueck	Bottom-Hung window, inward	Concealed installation	K-17880-00-0-1 0-45595
ELTRAL K25	24 V	Hueck	Top-Hung window, outward	Frame installation	K-17595-00-0-8 0-45047
ELTRAL K25	230 V	Hueck	Top-Hung window, outward	Frame installation	K-17595-00-0-8 0-45054
ELTRAL K25	24 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17593-00-0-8 0-45049
ELTRAL K25	24 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17595-00-0-8 0-45050
ELTRAL K25	24/230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17594-00-0-8 0-45056
ELTRAL K25	230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17595-00-0-8 0-45057
ELTRAL K25	24 V	Hueck	Horizontal/vertical-pivot window	Sash installation	K-17706-00-0-8 0-45044
ELTRAL K25	230 V	Hueck	Horizontal/vertical-pivot window	Sash installation	K-17706-00-0-8 0-45052
ELTRAL K25	24 V	Hueck	Projecting Top-Hung windows	Frame installation	K-17595-00-0-8 0-45048
ELTRAL K25	230 V	Hueck	Projecting Top-Hung windows	Frame installation	K-17706-00-0-8 0-45055
Jansen profile system					
ELTRAL K25	24 V	Jansen	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-45376
Reynaers profile system					
ELTRAL K25	24/230 V	Reynaers	Bottom-Hung window, inward	Frame installation	K-17594-00-0-8 0-45035
ELTRAL K25	24 V	Reynaers	Bottom-Hung window, inward	Frame installation	K-17593-00-0-8 0-45029
ELTRAL K25	24 V	Reynaers	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-45027
ELTRAL K25	230 V	Reynaers	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-45033
ELTRAL K25	24 V	Reynaers	Bottom-Hung window, inward	Concealed installation	K-17880-00-0-1 0-45594
ELTRAL K25	24/230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17594-00-0-8 0-45037
ELTRAL K25	24 V	Reynaers	Horizontal/vertical-pivot window	Sash installation	K-17595-00-0-8 0-45028
ELTRAL K25	24 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17593-00-0-8 0-45031
ELTRAL K25	24 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17595-00-0-8 0-45032
ELTRAL K25	230 V	Reynaers	Horizontal/vertical-pivot window	Sash installation	K-17595-00-0-8 0-45034
ELTRAL K25	230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17595-00-0-8 0-45038
ELTRAL K25	24 V	Reynaers	Projecting Top-Hung windows	Frame installation	K-17706-00-0-8 0-45030
ELTRAL K25	230 V	Reynaers	Projecting Top-Hung windows	Frame installation	K-17706-00-0-8 0-45036

Installation drawings

ELTRAL K25 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
Schüco profile system					
ELTRAL K25	24/230 V	Schüco	Bottom-Hung window, inward	Frame installation	K-17594-00-0-8 0-44975
ELTRAL K25	24/230 V	Schüco	Bottom-Hung window, inward	Frame installation, flush-mounted	K-17594-00-0-8 0-44976
ELTRAL K25	24 V	Schüco	Bottom-Hung window, inward	Frame installation	K-17593-00-0-8 0-44985
ELTRAL K25	24 V	Schüco	Bottom-Hung window, inward	Frame installation, flush-mounted	K-17593-00-0-8 0-44986
ELTRAL K25	24 V	Schüco	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-44992
ELTRAL K25	24 V	Schüco	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17595-00-0-8 0-44993
ELTRAL K25	230 V	Schüco	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-44982
ELTRAL K25	230 V	Schüco	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17595-00-0-8 0-44983
ELTRAL K25	24 V	Schüco	Bottom-Hung window, inward	Concealed installation	K-17874-00-0-0 + K-17875-00-0-0 0-45596
ELTRAL K25	24 V	Schüco	Bottom-Hung window, inward	Concealed installation	K-17874-00-0-0 0-45597
ELTRAL K25	24 V	Schüco	Top-Hung window, outward	Frame installation	K-17595-00-0-8 0-44987
ELTRAL K25	24 V	Schüco	Top-Hung window, outward	Frame installation	K-17595-00-0-8 0-44988
ELTRAL K25	230 V	Schüco	Top-Hung window, outward	Frame installation	K-17595-00-0-8 0-44977
ELTRAL K25	230 V	Schüco	Top-Hung window, outward	Frame installation	K-17706-00-0-8 0-44978
ELTRAL K25	24/230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17594-00-0-8 0-44980
ELTRAL K25	24 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17593-00-0-8 0-44990
ELTRAL K25	24 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17595-00-0-8 0-44991
ELTRAL K25	230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17595-00-0-8 0-44981
ELTRAL K25	24 V	Schüco	Horizontal/vertical-pivot window	Sash installation	K-17595-00-0-8 0-44994
ELTRAL K25	230 V	Schüco	Horizontal/vertical-pivot window	Sash installation	K-17595-00-0-8 0-44984
ELTRAL K25	24 V	Schüco	Projecting Top-Hung windows	Frame installation	K-17595-00-0-8 0-44989
ELTRAL K25	230 V	Schüco	Projecting Top-Hung windows	Frame installation	K-17595-00-0-8 0-44979

Installation drawings

ELTRAL K25 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
Wicona profile system					
ELTRAL K25	24/230 V	Wicona	Bottom-Hung window, inward	Frame installation	K-17594-00-0-8 0-45020
ELTRAL K25	24/230 V	Wicona	Bottom-Hung window, inward	Frame installation, flush-mounted	K-17594-00-0-8 0-45021
ELTRAL K25	24 V	Wicona	Bottom-Hung window, inward	Frame installation	K-17593-00-0-8 0-45011
ELTRAL K25	24 V	Wicona	Bottom-Hung window, inward	Frame installation, flush-mounted	K-17593-00-0-8 0-45012
ELTRAL K25	24 V	Wicona	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-45008
ELTRAL K25	24 V	Wicona	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17595-00-0-8 0-45009
ELTRAL K25	230 V	Wicona	Bottom-Hung window, inward	Sash installation	K-17595-00-0-8 0-45017
ELTRAL K25	230 V	Wicona	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17595-00-0-8 0-45018
ELTRAL K25	24 V	Wicona	Bottom-Hung window, inward	Concealed installation	K-17880-00-0-1 0-45598
ELTRAL K25	24 V	Wicona	Top-Hung window, outward	Frame installation	K-17595-00-0-8 0-45013
ELTRAL K25	230 V	Wicona	Top-Hung window, outward	Frame installation	K-17706-00-0-8 0-45022
ELTRAL K25	24/230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17594-00-0-8 0-45024
ELTRAL K25	24 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-17593-00-0-8 0-45015
ELTRAL K25	24 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17595-00-0-8 0-45016
ELTRAL K25	24 V	Wicona	Horizontal/vertical-pivot window	Sash installation	K-17595-00-0-8 0-45010
ELTRAL K25	230 V	Wicona	Horizontal/vertical-pivot window	Sash installation	K-17595-00-0-8 0-45019
ELTRAL K25	230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17706-00-0-8 0-45025
ELTRAL K25	24 V	Wicona	Projecting Top-Hung windows	Frame installation	K-17595-00-0-8 0-45014
ELTRAL K25	230 V	Wicona (Wictec 50/60)	Projecting Top-Hung windows	Frame installation	K-17706-00-0-8 0-45023
ELTRAL K25	24 V	Wicona (Wicsky 3)	Projecting Top-Hung windows	Frame installation	K-17706-00-0-8 0-45068
ELTRAL K25	230 V	Wicona (Wicsky 3)	Projecting Top-Hung windows	Frame installation	K-17706-00-0-8 0-45026

Installation drawings

ELTRAL K30 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
General profile systems					
ELTRAL K30	24/230 V	Timber	Bottom-Hung window, inward	Frame installation	K-18157-00-0.* 0-45519
ELTRAL K30	24/230 V	PVC	Bottom-Hung window, inward	Frame installation	K-18157-00-0.* 0-45525
ELTRAL K30	24 V	Euro-groove	Bottom-Hung window, inward	Frame installation	K-18157-00-0.* 0-45801
ELTRAL K30	24/230 V	Timber	Bottom-Hung window, inward	Sash installation	K-17843-00-0.* 0-45545
ELTRAL K30	24/230 V	PVC	Bottom-Hung window, inward	Sash installation	K-17843-00-0.* 0-45542
ELTRAL K30	24 V	Euro-groove	Bottom-Hung window, inward	Sash installation	K-17843-00-0.* 0-45797
ELTRAL K30	24 V	Euro-groove	Top-Hung window, outward	Frame installation	K-17841-00-0.* 0-45812
Alumil profile system					
ELTRAL K30	24/230 V	Alumil	Bottom-Hung window, inward	Frame installation	K-18157-00-0.* 0-45513
Heroal profile system					
ELTRAL K30	24/230 V	Heroal	Bottom-Hung window, inward	Sash installation	K-17843-00-0.* 0-45546
Hueck profile system					
ELTRAL K30	24/230 V	Hueck	Bottom-Hung window, inward	Frame installation	K-18157-00-0.* 0-45520
ELTRAL K30	24/230 V	Hueck	Bottom-Hung window, inward	Sash installation	K-17843-00-0.* 0-45543
ELTRAL K30	24/230 V	Hueck	Top-Hung window, outward	Frame installation	K-17841-00-0.* 0-45521
ELTRAL K30	24/230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-18157-00-0.* 0-45523
ELTRAL K30	24/230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17841-00-0.* 0-45524
ELTRAL K30	24/230 V	Hueck	Horizontal/vertical-pivot window	Sash installation	K-17843-00-0.* 0-45544
ELTRAL K30	24/230 V	Hueck	Projecting Top-Hung windows	Frame installation	K-17841-00-0.* 0-45522
Reynaers profile system					
ELTRAL K30	24/230 V	Reynaers	Bottom-Hung window, inward	Frame installation	K-18157-00-0.* 0-45526
ELTRAL K30	24/230 V	Reynaers	Bottom-Hung window, inward	Sash installation	K-17843-00-0.* 0-45540
ELTRAL K30	24/230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-18157-00-0.* 0-45528
ELTRAL K30	24/230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17843-00-0.* 0-45529
ELTRAL K30	24/230 V	Reynaers	Horizontal/vertical-pivot window	Sash installation	K-17843-00-0.* 0-45541
ELTRAL K30	24/230 V	Reynaers	Projecting Top-Hung windows	Frame installation	K-17843-00-0.* 0-45527
Sapa profile system					
ELTRAL K30	24/230 V	Sapa	Top-Hung window, outward	Frame installation	see drawing 0-45759
ELTRAL K30	24/230 V	Sapa	Skylight	Frame installation	see drawing 0-45760

Installation drawings

ELTRAL K30 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
Schüco profile system					
ELTRAL K30	24/230 V	Schüco	Bottom-Hung window, inward	Frame installation	K-18157-00-0-* 0-45493
ELTRAL K30	24/230 V	Schüco	Bottom-Hung window, inward	Frame installation, flush-mounted	K-18157-00-0-* 0-45494
ELTRAL K30	24/230 V	Schüco	Bottom-Hung window, inward	Sash installation	K-17843-00-0-* 0-45490
ELTRAL K30	24/230 V	Schüco	Bottom-Hung window, inward	Sash installation	K-17841-00-0-* 0-45491
ELTRAL K30	24/230 V	Schüco	Top-Hung window, outward	Frame installation	K-17843-00-0-* 0-45495
ELTRAL K30	24/230 V	Schüco	Top-Hung window, outward	Frame installation	K-17843-00-0-* 0-45496
ELTRAL K30	24/230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-18157-00-0-* 0-45498
ELTRAL K30	24/230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17841-00-0-* 0-45499
ELTRAL K30	24/230 V	Schüco	Horizontal/vertical-pivot window	Sash installation	K-17843-00-0-* 0-45492
ELTRAL K30	24/230 V	Schüco	Projecting Top-Hung windows	Frame installation	K-17840-00-0-* 0-45497
Wicona profile system					
ELTRAL K30	24/230 V	Wicona	Bottom-Hung window, inward	Frame installation	K-18157-00-0-* 0-45530
ELTRAL K30	24/230 V	Wicona	Bottom-Hung window, inward	Frame installation, flush-mounted	K-18157-00-0-* 0-45531
ELTRAL K30	24/230 V	Wicona	Bottom-Hung window, inward	Sash installation	K-17843-00-0-* 0-45537
ELTRAL K30	24/230 V	Wicona	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17841-00-0-* 0-45538
ELTRAL K30	24/230 V	Wicona	Top-Hung window, outward	Frame installation	K-17841-00-0-* 0-45532
ELTRAL K30	24/230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-18157-00-0-* 0-45534
ELTRAL K30	24/230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17841-00-0-* 0-45535
ELTRAL K30	24/230 V	Wicona	Horizontal/vertical-pivot window	Sash installation	K-17843-00-0-* 0-45539
ELTRAL K30	24/230 V	Wicona	Projecting Top-Hung windows	Frame installation	K-17841-00-0-* 0-45533

Installation drawings

ELTRAL KS 30/40 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
General profile systems					
ELTRAL KS 30/40	24/230 V	Timber	Bottom-Hung window, inward	Frame installation	see drawing 0-45219
ELTRAL KS 30/40	24/230 V	PVC	Bottom-Hung window, inward	Frame installation	see drawing 0-45372
ELTRAL KS 30/40	24/230 V	Timber	Bottom-Hung window, inward	Sash installation	see drawing 0-45207
ELTRAL KS 30/40	24/230 V	PVC	Bottom-Hung window, inward	Sash installation	see drawing 0-45211
Alcoa profile system					
ELTRAL KS 30/40	24/230 V	Alcoa	Bottom-Hung window, inward	Sash installation	see drawing 0-45422
Alumil profile system					
ELTRAL KS 30/40	24/230 V	Alumil	Bottom-Hung window, inward	Frame installation	see drawing 0-45512
ELTRAL KS 30/40	24/230 V	Alumil	Bottom-Hung window, inward	Sash installation	see drawing 0-45511
Heroal profile system					
ELTRAL KS 30/40	24/230 V	Heroal	Bottom-Hung window, inward	Sash installation	see drawing 0-45317
Hueck profile system					
ELTRAL KS 30/40	24/230 V	Hueck	Bottom-Hung window, inward	Frame installation	see drawing 0-45220
ELTRAL KS 30/40	24/230 V	Hueck	Bottom-Hung window, inward	Sash installation	see drawing 0-45208
ELTRAL KS 30/40	24/230 V	Hueck	Bottom-Hung window, inward	Sash installation, flush-mounted	see drawing 0-45209
ELTRAL KS 30/40	24/230 V	Hueck	Top-Hung window, outward	Frame installation	see drawing 0-45221
ELTRAL KS 30/40	24/230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at top	see drawing 0-45223
ELTRAL KS 30/40	24/230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	see drawing 0-45224
ELTRAL KS 30/40	24/230 V	Hueck	Horizontal/vertical-pivot window	Sash installation	see drawing 0-45210
ELTRAL KS 30/40	24/230 V	Hueck	Projecting Top-Hung windows	Frame installation	see drawing 0-45222
Reynaers profile system					
ELTRAL KS 30/40	24/230 V	Reynaers	Bottom-Hung window, inward	Frame installation	see drawing 0-45225
ELTRAL KS 30/40	24/230 V	Reynaers	Bottom-Hung window, inward	Sash installation	see drawing 0-45212
ELTRAL KS 30/40	24/230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at top	see drawing 0-45227
ELTRAL KS 30/40	24/230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	see drawing 0-45228
ELTRAL KS 30/40	24/230 V	Reynaers	Horizontal/vertical-pivot window	Sash installation	see drawing 0-45213
ELTRAL KS 30/40	24/230 V	Reynaers	Projecting Top-Hung windows	Frame installation	see drawing 0-45226

Installation drawings

ELTRAL KS 30/40 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
Schüco profile system					
ELTRAL KS 30/40 24/230 V	Schüco	Bottom-Hung window, inward	Frame installation	see drawing	0-45072
ELTRAL KS 30/40 24/230 V	Schüco	Bottom-Hung window, inward	Frame installation, flush-mounted	see drawing	0-45073
ELTRAL KS 30/40 24/230 V	Schüco	Bottom-Hung window, inward	Sash installation	see drawing	0-45069
ELTRAL KS 30/40 24/230 V	Schüco	Bottom-Hung window, inward	Sash installation, flush-mounted	see drawing	0-45070
ELTRAL KS 30/40 24/230 V	Schüco	Top-Hung window, outward	Frame installation	see drawing	0-45074
ELTRAL KS 30/40 24/230 V	Schüco	Top-Hung window, outward	Frame installation	see drawing	0-45075
ELTRAL KS 30/40 24/230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at top	see drawing	0-45077
ELTRAL KS 30/40 24/230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	see drawing	0-45078
ELTRAL KS 30/40 24/230 V	Schüco	Horizontal/vertical-pivot window	Sash installation	see drawing	0-45071
ELTRAL KS 30/40 24/230 V	Schüco	Projecting Top-Hung windows	Frame installation	see drawing	0-45076
Wicona profile system					
ELTRAL KS 30/40 24/230 V	Wicona	Bottom-Hung window, inward	Frame installation	see drawing	0-45229
ELTRAL KS 30/40 24/230 V	Wicona	Bottom-Hung window, inward	Frame installation, flush-mounted	see drawing	0-45230
ELTRAL KS 30/40 24/230 V	Wicona	Bottom-Hung window, inward	Sash installation	see drawing	0-45214
ELTRAL KS 30/40 24/230 V	Wicona	Bottom-Hung window, inward	Sash installation, flush-mounted	see drawing	0-45215
ELTRAL KS 30/40 24/230 V	Wicona	Top-Hung window, outward	Frame installation	see drawing	0-45231
ELTRAL KS 30/40 24/230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at top	see drawing	0-45233
ELTRAL KS 30/40 24/230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	see drawing	0-45234
ELTRAL KS 30/40 24/230 V	Wicona	Horizontal/vertical-pivot window	Sash installation	see drawing	0-45216
ELTRAL KS 30/40 24/230 V	Wicona	Projecting Top-Hung windows	Frame installation	see drawing	0-45232

Installation drawings

ELTRAL K35 chain drive (24 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
General profile systems					
ELTRAL K35 24 V	Timber	Bottom-Hung window, inward	Frame installation	K-18439-00-0.*	0-46511
ELTRAL K35 24 V	Euro-groove	Bottom-Hung window, inward	Frame installation	K-18205-00-0.*	0-45888 / Bl- 2
ELTRAL K35 24 V	Timber	Bottom-Hung window, inward	Sash installation	K-18204-00-0.*	0-46589
ELTRAL K35 24 V	Euro-groove	Bottom-Hung window, inward	Sash installation	K-18204-00-0.*	0-45887 / Bl- 2
ELTRAL K35 24 V	Euro-groove	Bottom-Hung window, inward	Concealed installation	K-18217-00-0.*	0-45896 / Bl- 2
ELTRAL K35 24 V	Euro-groove	Bottom-Hung window, inward	Concealed installation	K-18218-00-0.*	0-45897
ELTRAL K35 24 V	Euro-groove	Top-Hung window, outward	Frame installation	K-18204-00-0.*	0-46580
Raico profile system					
ELTRAL K35 24 V	Raico	Bottom-Hung window, inward	Concealed installation	K-18219-00-0.*	0-45898
Schüco profile system					
ELTRAL K35 24 V	Schüco	Bottom-Hung window, inward	Frame installation	K-18205-00-0.*	0-45888 / Bl- 1
ELTRAL K35 24 V	Schüco	Bottom-Hung window, inward	Sash installation	K-18204-00-0.*	0-45887 / Bl- 1
ELTRAL K35 24 V	Schüco	Bottom-Hung window, inward	Concealed installation	K-18217-00-0.*	0-45896 / Bl- 1
Wicona profile system					
ELTRAL K35 24 V	Wicona	Bottom-Hung window, inward	Frame installation	K-18205-00-0.*	0-45945
ELTRAL K35 24 V	Wicona	Bottom-Hung window, inward	Sash installation	K-18204-00-0.*	0-45944
ELTRAL K35 24 V	Wicona	Bottom-Hung window, inward	Concealed installation	K-18217-00-0.*	0-45946

Installation drawings

ELTRAL K40 chain drive (24 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
Profile system Kawneer					
ELTRAL K40 24 V	Kawneer	Bottom-Hung window, inward Side-Hung window, inwards, DIN right	Concealed installation	K-19778-00-0-1	0-48046 / Bl. 1
ELTRAL K40 24 V	Kawneer	Side-Hung window, inwards, DIN left	Concealed installation	K-19778-00-0-1	0-48046 / Bl. 2
Schüco profile system					
ELTRAL K40 24 V	Schüco	Bottom-Hung window, inward Side-Hung window, inwards, DIN right	Sash installation	K-19760-00-0-1	0-48042 / Bl. 1
ELTRAL K40 24 V	Schüco	Bottom-Hung window, inward Side-Hung window, inwards, DIN left	Frame installation	K-19761-00-0-1	0-48043 / Bl. 1
ELTRAL K40 24 V	Schüco	Bottom-Hung window, inward Side-Hung window, inwards, DIN left	Frame installation, pivotable	K-19762-00-0-1	0-48044 / Bl. 1
ELTRAL K40 24 V	Schüco	Bottom-Hung window, inward Side-Hung window, inwards, DIN right	Concealed installation	K-19763-00-0-1	0-48045 / Bl. 1
ELTRAL K40 24 V	Schüco	Side-Hung window, inwards, DIN left	Sash installation	K-19760-00-0-1	0-48042 / Bl. 2
ELTRAL K40 24 V	Schüco	Side-Hung window, inwards, DIN right	Frame installation	K-19761-00-0-1	0-48043 / Bl. 2
ELTRAL K40 24 V	Schüco	Side-Hung window, inwards, DIN right	Frame installation, pivotable	K-19762-00-0-1	0-48044 / Bl. 2
ELTRAL K40 24 V	Schüco	Side-Hung window, inwards, DIN left	Concealed installation	K-19763-00-0-1	0-48045 / Bl. 2

Installation drawings

ELTRAL K60 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number	
General profile systems						
ELTRAL K60	24/230 V	Timber	Bottom-Hung window, inward	Frame installation	K-19936-00-0-8	0-45129
ELTRAL K60	24/230 V	PVC	Bottom-Hung window, inward	Frame installation	K-19936-00-0-8	0-45199
ELTRAL K60	24/230 V	Timber / PVC	Bottom-Hung window, inward	Frame installation	K-19936-00-0-8	0-44949
ELTRAL K60	24/230 V	Aluminium	Bottom-Hung window, inward	Frame installation	K-19935-00-0-8	0-44948
ELTRAL K60	24 V	Euro-groove	Bottom-Hung window, inward	Frame installation	K-19935-00-0-8	0-45802
ELTRAL K60	24/230 V	Timber	Bottom-Hung window, inward	Sash installation	K-17638-00-0-8	0-45126
ELTRAL K60	24/230 V	Timber	Bottom-Hung window, inward	Sash installation, with long bracket	K-17640-00-0-8	0-45127
ELTRAL K60	24/230 V	PVC	Bottom-Hung window, inward	Sash installation	K-17638-00-0-8	0-45185
ELTRAL K60	24/230 V	Timber / PVC	Bottom-Hung window, inward	Sash installation	K-17638-00-0-8	0-44941
ELTRAL K60	24/230 V	Aluminium	Bottom-Hung window, inward	Sash installation	K-17596-00-0-8	0-44938
ELTRAL K60	24/230 V	Timber / PVC	Bottom-Hung window, inward	Sash installation, with long bracket	K-17640-00-0-8	0-44943
ELTRAL K60	24/230 V	Aluminium	Bottom-Hung window, inward	Sash installation, with long bracket	K-17598-00-0-8	0-44940
ELTRAL K60	24 V	Euro-groove	Bottom-Hung window, inward	Sash installation	K-17596-00-0-8	0-45798
ELTRAL K60	24/230 V	Timber	Top-Hung window, outward	Frame installation	K-17639-00-0-8	0-45130
ELTRAL K60	24/230 V	Timber / PVC	Top-Hung window, outward	Frame installation	K-17639-00-0-8	0-44942
ELTRAL K60	24/230 V	Aluminium	Top-Hung window, outward	Frame installation	K-17597-00-0-8	0-44939
ELTRAL K60	24 V	Euro-groove	Top-Hung window, outward	Frame installation	K-17596-00-0-8	0-45813

Installation drawings

ELTRAL K60 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number	
Heroal profile system						
ELTRAL K60	24/230 V	Heroal	Bottom-Hung window, inward	Sash installation	K-17596-00-0-8	0-45401
Hueck profile system						
ELTRAL K60	24/230 V	Hueck	Bottom-Hung window, inward	Frame installation	K-19935-00-0-8	0-45193
ELTRAL K60	24/230 V	Hueck	Bottom-Hung window, inward	Frame installation, flush-mounted	K-19935-00-0-8	0-45194
ELTRAL K60	24/230 V	Hueck	Bottom-Hung window, inward	Sash installation	K-17596-00-0-8	0-45177
ELTRAL K60	24/230 V	Hueck	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17596-00-0-8	0-45178
ELTRAL K60	24/230 V	Hueck	Bottom-Hung window, inward	Sash installation, with long bracket	K-17598-00-0-8	0-45182
ELTRAL K60	24/230 V	Hueck	Bottom-Hung window, inward	Sash installation, flush-mounted, with folding bracket	K-17596-00-0-8	0-45181
ELTRAL K60	24/230 V	Hueck	Top-Hung window, outward	Frame installation	K-17596-00-0-8	0-45195
ELTRAL K60	24/230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-19935-00-0-8	0-45197
ELTRAL K60	24/230 V	Hueck	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17596-00-0-8	0-45198
ELTRAL K60	24/230 V	Hueck	Horizontal/vertical-pivot window	Sash installation	K-17596-00-0-8	0-45179
ELTRAL K60	24/230 V	Hueck	Projecting Top-Hung windows	Frame installation	K-17596-00-0-8	0-45196
Reynaers profile system						
ELTRAL K60	24/230 V	Reynaers	Bottom-Hung window, inward	Frame installation	K-19935-00-0-8	0-45115
ELTRAL K60	24/230 V	Reynaers	Bottom-Hung window, inward	Sash installation	K-17596-00-0-8	0-45111
ELTRAL K60	24/230 V	Reynaers	Bottom-Hung window, inward	Sash installation, with long bracket	K-17598-00-0-8	0-45113
ELTRAL K60	24/230 V	Reynaers	Bottom-Hung window, inward	Sash installation, with folding bracket	K-17695-00-0-1	0-45112
ELTRAL K60	24/230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-19935-00-0-8	0-45117
ELTRAL K60	24/230 V	Reynaers	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17596-00-0-8	0-45118
ELTRAL K60	24/230 V	Reynaers	Horizontal/vertical-pivot window	Sash installation	K-17596-00-0-8	0-45114
ELTRAL K60	24/230 V	Reynaers	Projecting Top-Hung windows	Frame installation	K-17596-00-0-8	0-45116
Sapa profile system						
ELTRAL K60	24/230 V	Sapa	Skylight	Frame installation	see drawing	0-45761

Installation drawings

ELTRAL K60 chain drive (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
Schüco profile system					
ELTRAL K60	24/230 V	Schüco	Bottom-Hung window, inward	Frame installation	K-19935-00-0-8 0-45104
ELTRAL K60	24/230 V	Schüco	Bottom-Hung window, inward	Frame installation, flush-mounted	K-19935-00-0-8 0-45105
ELTRAL K60	24/230 V	Schüco	Bottom-Hung window, inward	Sash installation	K-17596-00-0-8 0-45098
ELTRAL K60	24/230 V	Schüco	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17596-00-0-8 0-45100
ELTRAL K60	24/230 V	Schüco	Bottom-Hung window, inward	Sash installation, with long bracket	K-17598-00-0-8 0-45102
ELTRAL K60	24/230 V	Schüco	Bottom-Hung window, inward	Sash installation, flush-mounted, with folding bracket	K-17596-00-0-8 0-45101
ELTRAL K60	24/230 V	Schüco	Top-Hung window, outward	Frame installation	K-17596-00-0-8 0-45106
ELTRAL K60	24/230 V	Schüco	Top-Hung window, outward	Frame installation	K-17596-00-0-8 0-45107
ELTRAL K60	24/230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-19935-00-0-8 0-45109
ELTRAL K60	24/230 V	Schüco	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17596-00-0-8 0-45110
ELTRAL K60	24/230 V	Schüco	Horizontal/vertical-pivot window	Sash installation	K-17596-00-0-8 0-45103
ELTRAL K60	24/230 V	Schüco	Projecting Top-Hung windows	Frame installation	K-17597-00-0-8 0-45108
ELTRAL K60	24/230 V	Schüco AWS 57 RO	Skylight	Frame installation, narrow frame	K-18261-00-0-8 0-44944
ELTRAL K60	24/230 V	Schüco AWS 57 RO	Skylight	Frame installation, wide frame	K-18262-00-0-8 0-45938
Wicona profile system					
ELTRAL K60	24/230 V	Wicona	Bottom-Hung window, inward	Frame installation	K-19935-00-0-8 0-45200
ELTRAL K60	24/230 V	Wicona	Bottom-Hung window, inward	Frame installation, flush-mounted	K-19935-00-0-8 0-45201
ELTRAL K60	24/230 V	Wicona	Bottom-Hung window, inward	Sash installation	K-17596-00-0-8 0-45187
ELTRAL K60	24/230 V	Wicona	Bottom-Hung window, inward	Sash installation, flush-mounted	K-17596-00-0-8 0-45188
ELTRAL K60	24/230 V	Wicona	Bottom-Hung window, inward	Sash installation, with long bracket	K-17598-00-0-8 0-45191
ELTRAL K60	24/230 V	Wicona	Bottom-Hung window, inward	Sash installation, flush-mounted, with folding bracket	K-17596-00-0-8 0-45190
ELTRAL K60	24/230 V	Wicona	Top-Hung window, outward	Frame installation	K-17596-00-0-8 0-45202
ELTRAL K60	24/230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at top	K-19935-00-0-8 0-45204
ELTRAL K60	24/230 V	Wicona	Horizontal/vertical-pivot window	Frame installation, fixed at bottom	K-17596-00-0-8 0-45205
ELTRAL K60	24/230 V	Wicona	Horizontal/vertical-pivot window	Sash installation	K-17596-00-0-8 0-45192
ELTRAL K60	24/230 V	Wicona	Projecting Top-Hung windows	Frame installation	K-17596-00-0-8 0-45203
ELTRAL K60	24/230 V	Wicona	Skylight	Frame installation	K-17609-00-0-8 0-44947
ELTRAL K60	24/230 V	Wicona (Wictec)	Skylight	Frame installation	K-17609-00-0-8 0-45124

Installation drawings

ELTRAL VAN locking drive (24 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
General profile systems					
ELTRAL VAN 24 V	Timber	Bottom-Hung window, inward	Concealed installation	see drawing	0-46761
ELTRAL VAN 24 V	Euro-groove	Bottom-Hung window, inward	Concealed installation	see drawing	0-46560
ELTRAL VAN 24 V	Euro-groove	Top-Hung window, outward	Concealed installation	see drawing	0-46561
Heroal profile system					
ELTRAL VAN 24 V	Heroal	Bottom-Hung window, inward	Concealed installation	see drawing	0-45952
ELTRAL VAN 24 V	Heroal	Horizontal/vertical-pivot window	Concealed installation	see drawing	0-45951
Hueck profile system					
ELTRAL VAN 24 V	Hueck	Bottom-Hung window, inward	Concealed installation	see drawing	0-45953
Reynaers profile system					
ELTRAL VAN 24 V	Reynaers	Bottom-Hung window, inward	Concealed installation	see drawing	0-45955
Sapa profile system					
ELTRAL VAN 24 V	Sapa	Bottom-Hung window, inward	Concealed installation	see drawing	0-46762
Schüco profile system					
ELTRAL VAN 24 V	Schüco	Bottom-Hung window, inward	Concealed installation	see drawing	0-45954
Wicona profile system					
ELTRAL VAN 24 V	Wicona	Bottom-Hung window, inward	Concealed installation	see drawing	0-45956

Installation drawings

ELTRAL VA25 locking drive (24 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
General profile systems					
ELTRAL VA25 24 V	Euro-groove	Bottom-Hung window, inward	Concealed installation	see drawing	0-45805
ELTRAL VA25 24 V	Euro-groove	Top-Hung window, outward	Concealed installation	see drawing	0-45814
Heroal profile system					
ELTRAL VA25 24 V	Heroal	Horizontal/vertical-pivot window	Concealed installation	see drawing	0-45254
Hueck profile system					
ELTRAL VA25 24 V	Hueck	Bottom-Hung window, inward	Concealed installation	see drawing	0-45255
Reynaers profile system					
ELTRAL VA25 24 V	Reynaers	Bottom-Hung window, inward	Concealed installation	see drawing	0-45256
Schüco profile system					
ELTRAL VA25 24 V	Schüco	Bottom-Hung window, inward	Concealed installation	see drawing	0-45257
ELTRAL VA25 24 V	Schüco	Horizontal/vertical-pivot window	Concealed installation	see drawing	0-45258
Wicona profile system					
ELTRAL VA25 24 V	Wicona	Bottom-Hung window, inward	Concealed installation	see drawing	0-45259

Installation drawings

ELTRAL VA35 locking drive (24 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number
General profile systems					
ELTRAL VA35 24 V	Timber	Bottom-Hung window, inward	Sash installation	see drawing	0-45335
Hueck profile system					
ELTRAL VA35 24 V	Hueck	Bottom-Hung window, inward	Sash installation	see drawing	0-45390
ELTRAL VA35 24 V	Hueck	Projecting Top-Hung windows	Frame installation	see drawing	0-45391
Reynaers profile system					
ELTRAL VA35 24 V	Reynaers	Bottom-Hung window, inward	Sash installation	see drawing	0-45392
ELTRAL VA35 24 V	Reynaers	Projecting Top-Hung windows	Frame installation	see drawing	0-45393
Schüco profile system					
ELTRAL VA35 24 V	Schüco	Bottom-Hung window, inward	Sash installation	see drawing	0-45260
ELTRAL VA35 24 V	Schüco	Projecting Top-Hung windows	Frame installation	see drawing	0-45261
Wicona profile system					
ELTRAL VA35 24 V	Wicona	Bottom-Hung window, inward	Sash installation	see drawing	0-45394
ELTRAL VA35 24 V	Wicona	Projecting Top-Hung windows	Frame installation	see drawing	0-45395

Installation drawings

Spindle drive ELTRAL S80, S100 Speed, S160 (24 V / 230 V)



Installation drawings

Drive	Profile system	Window type, opening direction	Type of installation	Mounting bracket	Drawing number	
General profile systems						
ELTRAL S80/ S100 Speed/S160	24 V	general	Skylight	Frame installation	K-17766-00-0-1	0-45304
ELTRAL S80	230 V	general	Skylight	Frame installation	K-17774-00-0-1	0-45312
Hueck profile system						
ELTRAL S80/ S100 Speed/S160	24 V	Hueck 85E	Skylight	Frame installation	K-17765-00-0-1	0-45303
ELTRAL S80	230 V	Hueck 85E	Skylight	Frame installation	K-17773-00-0-1	0-45311
Schüco profile system						
ELTRAL S80/ S100 Speed/S160	24 V	Schüco RS 47 D	Skylight	Frame installation	K-17765-00-0-1	0-45300
ELTRAL S80/ S100 Speed/S160	24 V	Schüco AWS 57 RO	Skylight	Frame installation	K-17765-00-0-1	0-45300
ELTRAL S80/ S100 Speed/S160	24 V	Schüco RS 107 D	Skylight	Frame installation	K-18164-00-0-1	0-45301
ELTRAL S80	230 V	Schüco RS 47 D	Skylight	Frame installation	K-17770-00-0-1	0-45308
ELTRAL S80	230 V	Schüco AWS 57 RO	Skylight	Frame installation	K-17770-00-0-1	0-45308
ELTRAL S80	230 V	Schüco RS 106 D	Skylight	Frame installation	K-17774-00-0-1	0-45309
Wicona profile system						
ELTRAL S80/ S100 Speed/S160	24 V	Wicona Wictec	Skylight	Frame installation	K-17765-00-0-1	0-45303
ELTRAL S80	230 V	Wicona Wictec	Skylight	Frame installation	K-17773-00-0-1	0-45311

Installation drawings

Fanlight opening systems (24 V / 230 V)



Installation drawings

Opening system	Description	Window type, opening direction	Type of installation	Drawing number
VENTUS F200	Standard	-	-	0-43700
VENTUS F200	with ELTRAL S 24; S 230	Bottom-Hung window, inward	Motor top/side (horizontal/vertical installation)	0-48801
VENTUS F200	with ELTRAL S 24; S 230	Top-Hung window, outward	Motor top/side (horizontal/vertical installation)	0-43831



Protection classes (IP) according to DIN 60529



Protection classes (IP) according to DIN 60529

1st code number	Protection against solid foreign bodies	2nd code number	Protection against water
0	No contact protection, no protection against solid foreign objects	0	No protection against water
1	Protection against large-format contacts with the hand, protection against foreign objects with $\varnothing > 50$ mm	1	Protection against vertical water drips
2	Protection against finger contact, protection against foreign objects with $\varnothing > 12$ mm	2	Protection against obliquely falling water drips from any angle of to 15° from the vertical
3	Protection against tool contact, e.g. wires with $\varnothing > 2.5$ mm, protection against foreign objects with $\varnothing > 2.5$ mm	3	Protection against obliquely falling water drips from any angle of to 60° from the vertical
4	Protection against tool contact, e.g. wires with $\varnothing > 1.0$ mm, protection against foreign objects with $\varnothing > 1.0$ mm	4	Protection against splashing water from all directions
5	Protection against contact, protection against dust deposits inside	5	Protection against water jet (nozzle) from any angle
6	Complete protection against contact, protection against ingress of dust	6	Protection against strong water jets (nozzle) from any angle
		7	Protection against water penetration with temporary immersion (30 minutes)
		8	Protection against water penetration with permanent immersion, requested following consultation between manufacturer and user
		9 K	Protection against high-pressure water penetration (8,000 – 10,000 kPa) from a nozzle or steam jet cleaning from any direction

Duty ratio (ED) according to DIN VDE 0530-1

Wind strengths according to Beaufort



Duty ratio (ED) according to DIN VDE 0530-1

The duty ratio refers to the maximum permissible operating time of the drives, after which time there must be a rest period in order to avoid damaging or destroying the drives.

The duty ratio is specified in DIN VDE 0530-1.

For a period of use of 10 minutes and a duty ratio of 20 %, the operating time is 2 minutes and the rest period is 8 minutes.

Code number	Operating mode
S1	Continuous operation, constant load
S2	Brief operation, constant load
S3	Intermittent operation without the influence of the start process on the temperature
S4	Intermittent operation with the influence of the start process on the temperature
S5	Intermittent operation with the influence of the start process and stopping on the temperature
S6	Continuous operation with intermittent load
S7	Continuous operation with starting process and stopping
S8	Continuous operation with alternating load

Wind strengths according to Beaufort – resulting wind loads

Wind strength	Designation	m/s top boundary	km/h top boundary	Wind pressure [kN/m ²]
1	light air	1.5	5.4	0.0016
2	slight breeze	3.3	11.88	0.0077
3	gentle breeze	5.4	19.44	0.0207
4	moderate breeze	7.9	28.44	0.0444
5	fresh breeze	10.7	38.52	0.0814
6	strong breeze	13.8	49.68	0.1354
7	brisk wind	17.1	61.56	0.2079
8	stormy wind	20.7	74.52	0.3047
9	storm	24.4	87.84	0.4234
10	severe storm	28.4	102.24	0.5736
11	violent storm	32.6	117.36	0.7558
12	gale	35	126	0.8712
13	50-year storm	41	147.6	1.1954

Essential information for installers and operators



General service notes

Builders and operators of SHEV systems are legally obliged to take all necessary precautions in order to protect persons and material goods within the building. For this reason, special attention must be paid to commissioning, the function test and regular maintenance and repair.

Annual maintenance must be carried out by the manufacturer or experts (qualified personnel authorised by the manufacturer) in order to preserve the functionality. Systems must be treated according to the information of the manufacturer in terms of product information and intended use, misuse, product performances and information and instruction obligations.

Applicable regulations

- **Model building regulation (MBO §3) and state building regulation (LBOs)**
Structural installations as well as other systems ..() must be arranged, erected, modified and serviced in such a way that public safety and order, in particular life, health or natural livelihoods are not endangered.
- **DIN 18232, part 2**
In accordance with the manufacturer's specifications (as a rule once a year), SHEV systems and their operation and control elements, opening devices, power supply lines and accessories must be tested for functionality and operating state, maintained and repaired if necessary. Maintenance work may only be carried out by specialist firms qualified to do so on SHEV systems.
- **EN 12101-2: Heat and smoke control systems**
Definitions of natural smoke and heat exhaust ventilators (NSHEVs) as integral part of a SHEV system
- **EN 12101-9 and DIN EN 12101-10:**
Heat and smoke control systems
Control panels and power supply
- **VdS Guidelines 2098 and 2257**
- **EN 54: Automatic smoke and heat detector**
- **DIN 31051:2003-06: Servicing, inspection and maintenance of SHEV systems**
- **DIN 60335-2-103: Drives for gates, doors and windows**
- **DIN VDE 01000-10: Requirements and definitions of qualified electricians**
- **VFF information sheet WP01, WP02, WP03**
- **ASR 1.6/1.7: Directives for force-controlled windows**
- **Manufacturer's installation and operating instructions**

Furthermore, the regulations imposed by the responsible building supervision authorities, the trade supervisory authority, the fire brigade, the regional building regulations (LBO), the technical inspection ordinances of the German Federal States or special ordinances must be complied with.

The operator must perform at least one visual inspection in between these annual maintenance intervals, which must be documented in the test log book.



Important!

- Failure to carry out regular maintenance may result in legal ramifications for the builder or operator
- There is a danger of injury during maintenance due to manual or automatic control of the opening element.
- If the premises are excessively exposed to dirt and dust, the maintenance intervals must be reduced accordingly.
- When exchanging consumable or replacement parts, it must be ensured that the interplay between the system components is correct and trouble-free (system compatibility). Only consumables or spare parts with the corresponding approval (listed in the general test certificate ABP in accordance with DIN 18232) or original parts may be used.
- In accordance with the liability of the manufacturer for his products defined in the "German Product Liability Law" (§4 Prod-HaftG), the following information concerning smoke and heat exhaust ventilation systems must be observed. Non-observation shall release the manufacturer from his liability.

Intended use

Smoke and heat exhaust ventilation systems are a fixed integral part of fire prevention with the task of discharging combustion gases, dangerous oxides and thermal energy outdoors in event of fire.

They consist of elements such as mechanisms for opening and closing windows, light domes and smoke flaps with the aim of

- keeping escape and rescue routes smoke-free in the event of a fire
- facilitating the fire fighting process

The non-use or disregard of the entries in the test log book constitutes misuse of the SHEV system and may result in a risk to persons and considerable material damage to the building and its installations.

Essential information for installers and operators



Information for the operator

The SHEV system must be kept in a constant operational state by the operator, and must be checked at least once a year to ensure that the interplay between all components is correct and trouble-free. Furthermore, maintenance must be carried out either by the operator or qualified personnel. As well as testing the detectors/ alarm devices, push-buttons and central control units, this test and maintenance must also include the maintenance of all drives, fixings and hardware of the opening system.

These tests and maintenance procedures may only be carried out by an expert authorised by the manufacturer. The scope, results and time of the tests and maintenance must be recorded. These records must be kept by the operator.

The following documents must be kept in a safe place by the operator

- Acceptance certificates / log book
- Assembly instructions / operating instructions
- "Function tests" checklists

The following points must be observed by the operator:

- Regular visual inspection to check that components are functioning correctly
- System must be kept in a constant operational state
- Annual check
- Annual maintenance
- Documentation obligation
- Retention obligation for documents



Building Rules List

The regional building regulations stipulate that the technical regulations, as introduced by the supreme building supervision authorities of the respective Federal State by way of public notification, must be observed. The Deutsche Institut für Bautechnik (German Institute for Building Technology – DIBt) is tasked with establishing the technical regulations for building products and designs in Building Rules Lists A, B and C, and publishing these in agreement with the supreme building supervision authorities of the respective Federal States.

The Building Rules List B, part 1, is reserved for building products that are put into circulation based on the German Building Products Act, and for which there are technical specifications, classes and performance levels depending on the intended use.

List of abbreviations



List of abbreviations SHEV and ventilation systems

A	Window area
A _g	Geometric smoke extraction area
BCL	Bracket clamping area
COW	Clear opening width
F	Driving force
FAS	Fire alarm system
FCH	Frame clearance height
FCW	Frame clearance width
FI	Frame installation
L	Length
LBO	State construction law (in German Landesbauordnung)
MBO	Model building regulation
MCE	Main closing edge
MSE	Mechanical smoke exhaust system
NSE	Natural smoke exhaust system
OL	Overlap width
PC	Protection class
PU	Packing unit
SH	Sash height
SHEV	Smoke and heat exhaust ventilation system
SI	Sash installation
SPS	Smoke protection pressure system
SW	Sash width
SW	Sash weight

List of abbreviations fanlight opening systems

B	Total width
B-end	Bottom edge of sash to end of hand lever
D	Recess depth
FCH	Frame clearance height
FCW	Frame clearance width
L	Rod length
OL	Overlap height or window sill projection
PU	Packing unit
SC	Sash centre
S-E	Window sill to lower end of hand lever
SH	Sash height
SHs	Sash height bottom edge of sash to middle of the pitched side
SW	Sash width
SWp	Sash width pitched side
T-E T-end	Top edge of sash to end of hand lever
T-S	Top edge of sash to window sill



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