

Fan-light openers, face-fixed for aluminium windows

Application

Range of applications for face-fixed fan-light openers:

- Bottom hung inward opening or top hung outward opening windows with one or more sashes
- Installation for group ventilation as well as smoke and heat evacuation.

Designs

Fan-light opener VENTUS F 200

Slimline, unobtrusive opener with force locked horizontal stay arms for rectangular, oblique angle head, arch head and segmental arch head tilt windows. Vertical and horizontal rods covered with clip-on aluminium profile.

Fan-light opener VENTUS F 300

Slimline, unobtrusive opener with force locked horizontal stay arms for rectangular, oblique angle head tilt windows. Vertical and horizontal rods covered with clip-on aluminium profile.

Operation variants

- Lever handle
- Lever handle and flexible transmission
- Vertical gear, articulated crank rod fixed or removable
- Corner gear, articulated crank rod fixed or removable
- Vertical or corner gear with transmissions
- Electrical drives for individual control
- Electrical drives for group control

Group ventilation installations

Operation of ventilation sashes by electric drives ELTRAL. For electric drives an additional individual control is possible.

Special fan-light opener versions

Apart from the standard versions presented in this catalogue, manifold project related solutions are possible. Prices on request.

Standard colours

Colour EV 1

- Aluminium parts anodized in natural tone
- Other visible parts in silver colour

Colour UC 3

- Aluminium parts anodized in medium bronze colour
- Other visible parts in medium brown

Colour UC 5

- Aluminium parts anodized in dark bronze colour
- Other visible parts in dark brown

White

- Aluminium parts with white lacquer finish (RAL 9016)
- Other visible parts in white colour (RAL 9016)

Further colours and finishes on request.

Materials, surface sealing ferGUard*silver

The fitting parts are made of high quality steel, zinc die-casting or aluminium alloys.

Depending on the material, they are protected against corrosion by surface sealing with ferGUard*silver or by anodisation (aluminium parts).

Application

Type of fittings	Sash width Dim. SW mm	Sash height Dim. SH min. mm	Opening width mm	Stroke mm	O-E min. mm	Space requirement lateral top mm	Rod Ø mm	Standard assembly drawing
VENTUS F 200	400-3600 [1] 400-3600	300 250	200 [1] 165	50 [1] 40	440	20 20	8	0-43700-1
VENTUS F 300	620-3600	350	300 [1] 220	70 [1] 50	570	26 26	10	0-42700-1

[1] Standard version

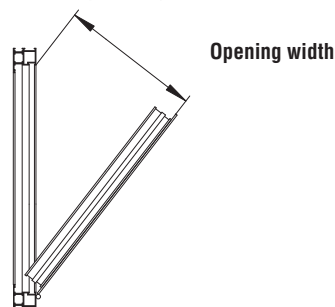
Abbreviations and ordering dimensions

B	Total sash width
B-E	Sill to bottom edge of lever handle or articulated crank handle (straight)
D	Centre of vertical rod to edge of sash
E -B	Top edge of sash on operation side to sill for oblique angle head and segmental arch head windows
E -E	Top edge of sash on operation side to bottom edge of lever handle or articulated crank handle (straight) for oblique angle head and segmental arch head windows
FB	Sash width
FBs	Sash width for oblique angle head windows
FH	Sash height
FHf	Sash height for oblique angle head windows
O-B	Top edge of sash to sill
O-E	Top edge of sash to bottom edge of lever handle or articulated crank handle (straight)
Ö	Opening width of sash
PU	Packing unit
r	Radius
RLB	Frame width in the clear (top hung sash opening outward)
RLH	Frame height in the clear (top hung sash opening outward)
t	Depth of reveal
U-B	Bottom edge of sash to sill, springing of arch to sill for arch head windows
U-E	Bottom edge of sash to bottom edge of lever handle or articulated crank handle (straight), springing of arch to bottom edge of lever handle or articulated crank handle (straight)
ü	Projection of window sill
x	Installation height for vertical and corner gears
y	Sash backset of outward opening windows
z	Distance between individual sashes

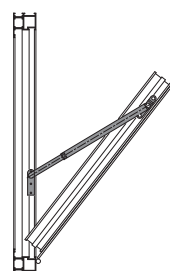
Profile system manufacturers' information

It is important to observe the product information issued by the profile system manufacturers, especially information concerning construction and fabrication, maximum sash dimensions and weights and material features such as linear expansion of profiles.

Dimension "Opening width"



G.U security stay EURO-SOLID



According to RAL regulations, tilt sashes fitted with fan-light hardware must be provided with additional catching stays.

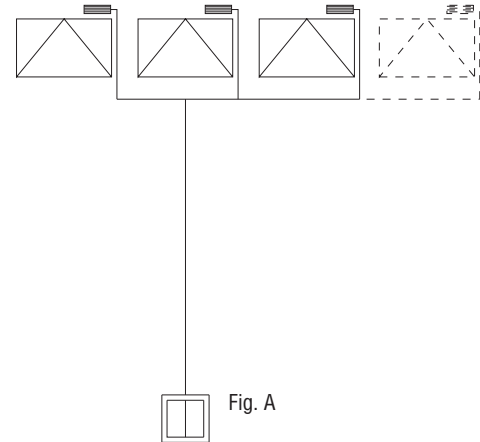
G.U security stays Euro-Solid prevent damage that might occur when opening stays are improperly mounted.

Assembly drawing 0-43278

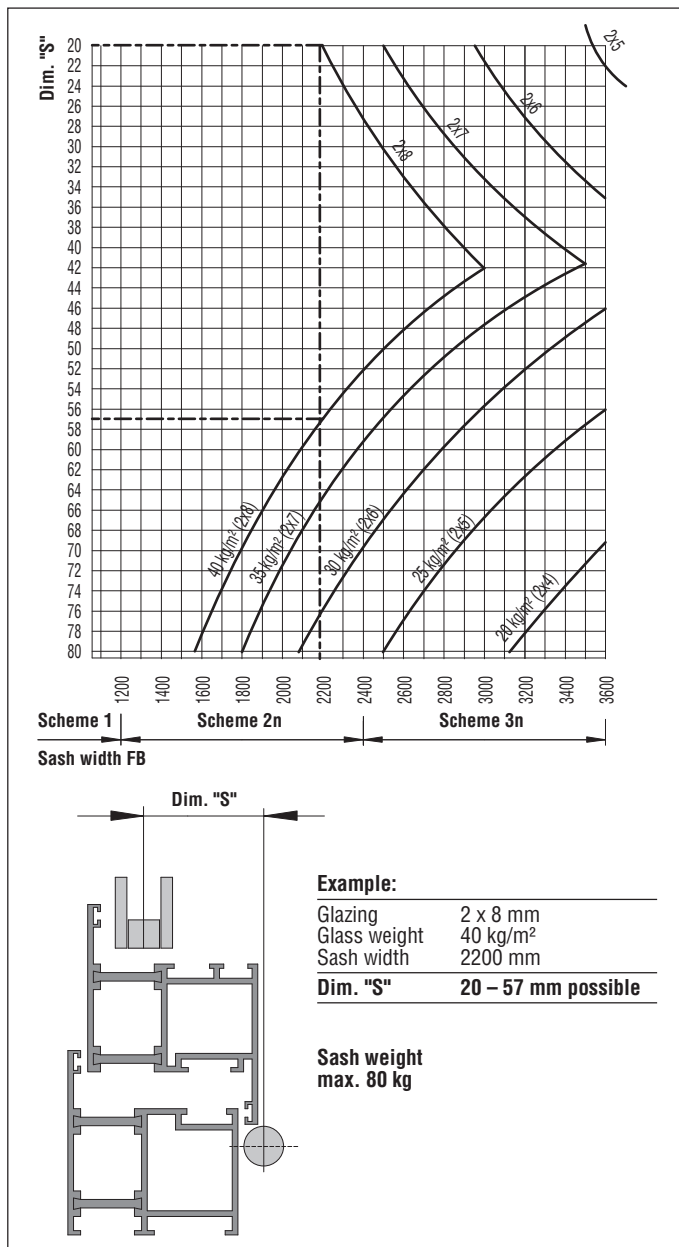
Group ventilation installations with electric drives

Group ventilation installation with 1 operating point according to figure A

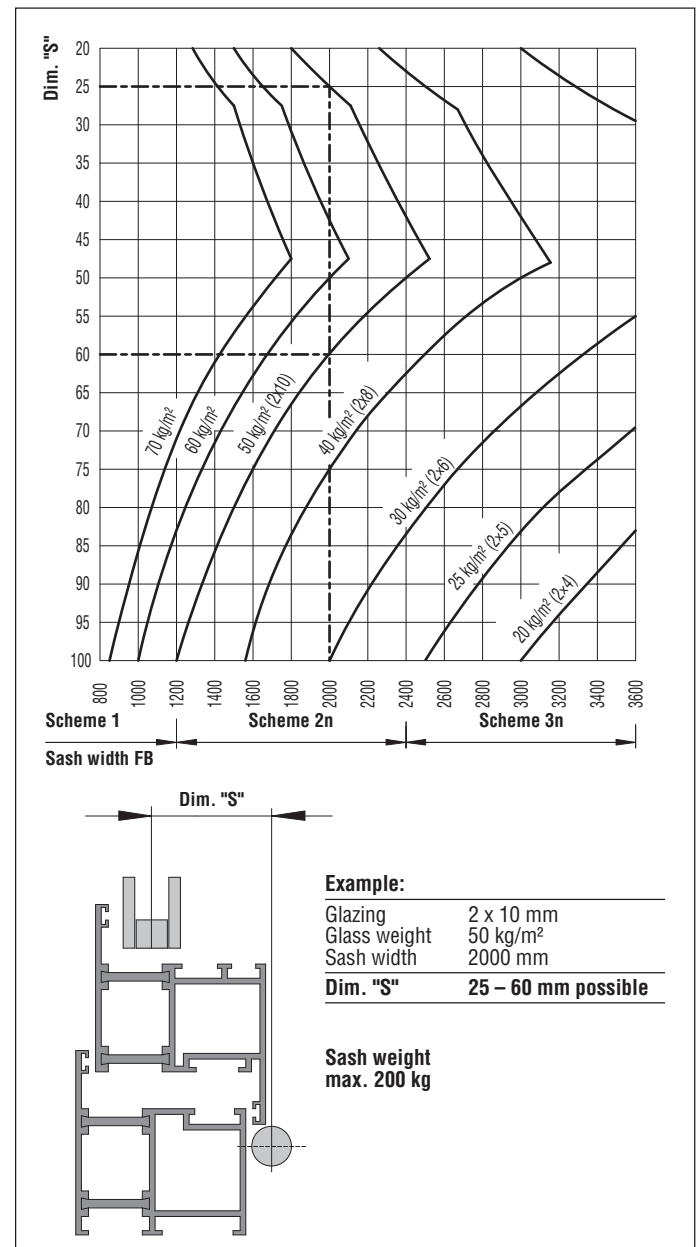
Qty.	Description
1 - 8	Electric drive ELTRAL S 230 L, ELTRAL S 230 E Electric drive ELTRAL 300 E1
1	Rocker switch, single-pole



Range of application according to Dim. „S“ – operation with lever handle, vertical gear or corner gear



Fan-light opener VENTUS F 200 with lever handle



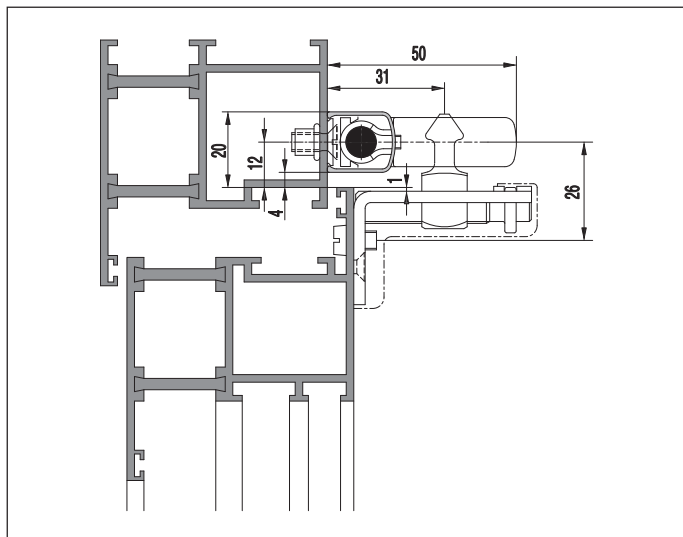
Fan-light opener VENTUS F 300 with lever handle

Fan-light openers, face-fixed for aluminium windows
assembly drawings, G.U security and rebate stays

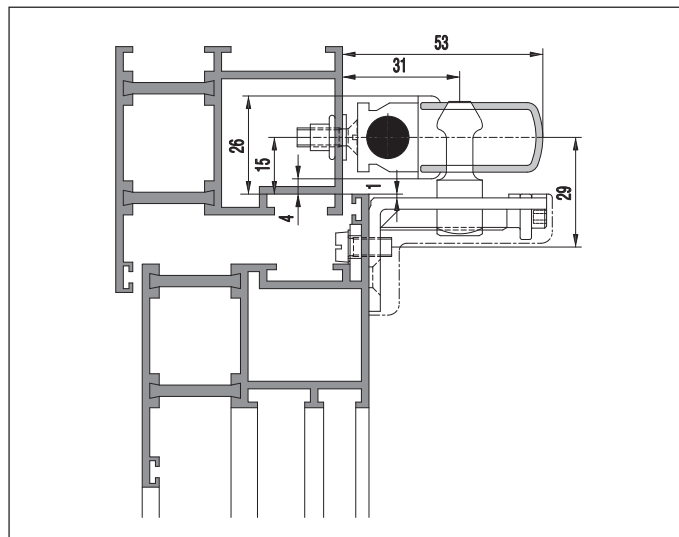
Aluminium profile systems

Profile systems	Sash profile	Frame profile	Assembly drawing VENTUS F 200	VENTUS F 300	Security stay	Rebate stay
Akotherm	1506	1503			EURO-SOLID	
Alcoa RT 620	734 077	717 876			EURO-SOLID	K-13393-00-0-1
Alcoa RT 620	734 075	717 832			EURO-SOLID	K-13393-00-0-1
Alisol 3	V 76007	V 73210				
Alisol 3	V 76104	V 75116		0-42985-4	EURO-SOLID	
Alsec 2000 Serie 59	CH 52534	CH 52731				
Brökelmann Conform	RG 6211	RG 6121			EURO-SOLID	
Bug 90	831 602	831 614				
EurAl Serie 65	162 200	161 100				K-13393-00-0-1
Finstral S 70						
Forster (Stahl)	500 600	502 565				
Hansen System 55	550 30550	550 10381	0-43339-4	0-43335-4		
Heroal Serie 30	30	31			EURO-SOLID	K-13393-00-0-1
Heroal Serie 40	6401	6423			EURO-SOLID	
Heroal Serie 40	6401	6422			EURO-SOLID	
Heroal Serie 65	9301	9322			EURO-SOLID	
Hueck 1.0	510200	510101			EURO-SOLID	
Hueck AK 80	578 200	578 100			EURO-SOLID	
Isal 99						
Isopro (Stahl)	ip-63620	ip-01541				
Jansen (Stahl)						
Kubal					EURO-SOLID	
Metra 65	265 101	165 108				
MKF TKI 602					EURO-SOLID	
Pesalu	7001069	4201041				
Redal	33.202	33.225			EURO-SOLID	
SAPA-Ekonal i70	42330	42001			EURO-SOLID	
Schüco Royal 64w	108 580	104 610				
Schüco Royal S						
Sidal nc 60 S	873	863				
Sykon					EURO-SOLID	
Thyssen-Schulte TSB W 70	W70 51348	W70 14146	0-43803-1		EURO-SOLID	K-13393-00-0-1
VAW	000 379	002 279			EURO-SOLID	
Wicline	110051	110001			EURO-SOLID	

Assembly dimensions



Fan-light openers VENTUS F 200



Fan-light openers VENTUS F 300

Fan-light openers, face-fixed

Fan-light opener VENTUS F 200

Lever handle
Stroke
40 mm 6-28681-40-0-*

Lever handle, lockable
Stroke
50 mm 6-32100-50-0-*
40 mm 6-32100-40-0-*

Swivelling lever handle
Stroke
50 mm K-12608-00-0-*
AD 0-44366

Stay arm bearing
6-29134-00-0-*

Stay with lift-off security device
6-29589-00-0-*

Rod bearing (2 pieces)
9-38016-00-0-0

Accessories for vertical rod, Ø 8 mm

Guide
9-28893-00-0-0

Sleeve
6-22842-00-0-1

Guide
9-28893-00-0-0

Guide for transmission
9-33711-00-0-*

Bag of T angle VENTUS F 200

T cover
9-37591-00-0-*

Insert with brace
6-26267-00-0-1

T angle
9-34721-00-0-1

Rod clamp
6-26265-00-0-1

Bow
9-34723-00-0-1

Chain with rod clamps
6-26268-00-0-1

Bag of T angle VENTUS F 200
K-14194-00-0-*

Assembly drawing 0-43822

Fan-light opener VENTUS F 300

Lever handle
Stroke
50 mm 6-26249-50-0-*

Swivelling lever handle
Stroke
50 mm K-14242-50-0-*
70 mm K-14242-70-0-*

Accessories for vertical rod, Ø 10 mm

Sleeve
6-26813-00-0-1

Guide
9-34491-00-0-0

Guide
9-34491-00-0-0

Stay with lift-off security device
6-27451-00-0-*

Stay arm bearing
6-26244-00-0-*

Rod bearing (2 pieces)
9-34458-00-0-0

Bag of T angle VENTUS F 300

Cover profile
9-35227-00-0-*

Guide
9-34491-00-0-0

T corner transmission
6-27089-00-0-1

Bag of T angle VENTUS F 300
K-14201-00-R-*
(rh/lh convertible)

Assembly drawing 0-43037

Electric drives

Electric drives 230 V



ELTRAL S 230 L
6-31730-00-0-*

ELTRAL S 230 E
6-31732-00-0-*



ELTRAL 300 E1
9-31020-01-0-*

Electric drives 24 V



ELTRAL S 24 L
6-31734-00-0-*



ELTRAL 300/24
9-31021-00-0-*

Radio remote control



Hand-held transmitter 42 FH
9-42496-00-0-0

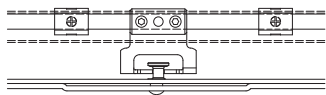


Radio actuator FAJ 6 UP
9-42495-00-0-0
Installation in flush-mounted socket
230 V AC 50Hz
Power rating:
250 V ~
700 VA

Fan-light openers, face-fixed

Fan-light opener VENTUS F 200 Se

UNI-JET locking mechanism in the rebate



Single parts

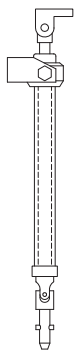
- 1 JET engaging fork 6-32154-**-0-1
- 2 guide 9-28893-00-0-0
- 1 cover profile 9-39509-00-0-*
- length 250 mm – with cut-out

- K-16718-02-0-*** = Aluminium window
- K-16718-03-0-*** = Aluminium window

- Sash overlap 18 mm
- Sash overlap 20 - 22 mm

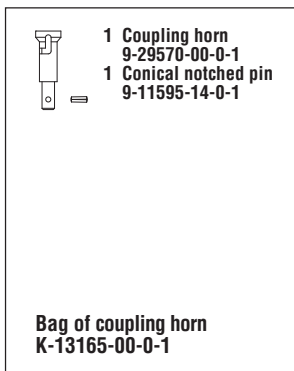
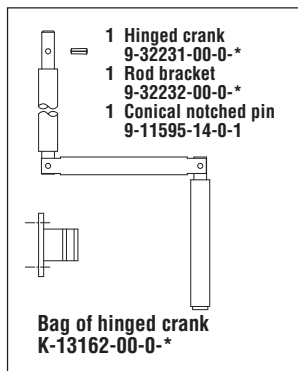
- Groove position 9 and 13 mm
- Groove position 9 and 13 mm

Telescopic spindle drive



Fitting requirements

Qty.	Description	PU	Article No.
1	Telescopic spindle drive for top hung windows and light domes	1	6-24869-00-0-1
Technical data			
	Stroke mm	300	
	Length of gear mm	222	
1	Crank rod (not illustrated) – to be cut from: Aluminium tube, L = 5000 mm	1	9-32230-50-0-*
1	Bag of hinged crank for articulated crank handle	1	K-13162-00-0-*
1	Bag of coupling horn for removable crank rod	1	K-13165-00-0-1



Assembly drawing 0-40636

Vertical gear and corner gear



Load-limiting device
6-31245-00-0-1
for VENTUS F 200 and
VENTUS F 300
 Release torque 4 Nm

Fan-light openers, face-fixed

Fan-light opener VENTUS F 200 Se

Mullion passage transmission

Box of mullion passage transmission
K-15384-08-0-*
 Mullion depth T 17 to 80 mm
 Mullion depth L 126 mm

Box of mullion passage transmission
K-15384-15-0-*
 Mullion depth T 17 to 150 mm
 Mullion depth L 266 mm

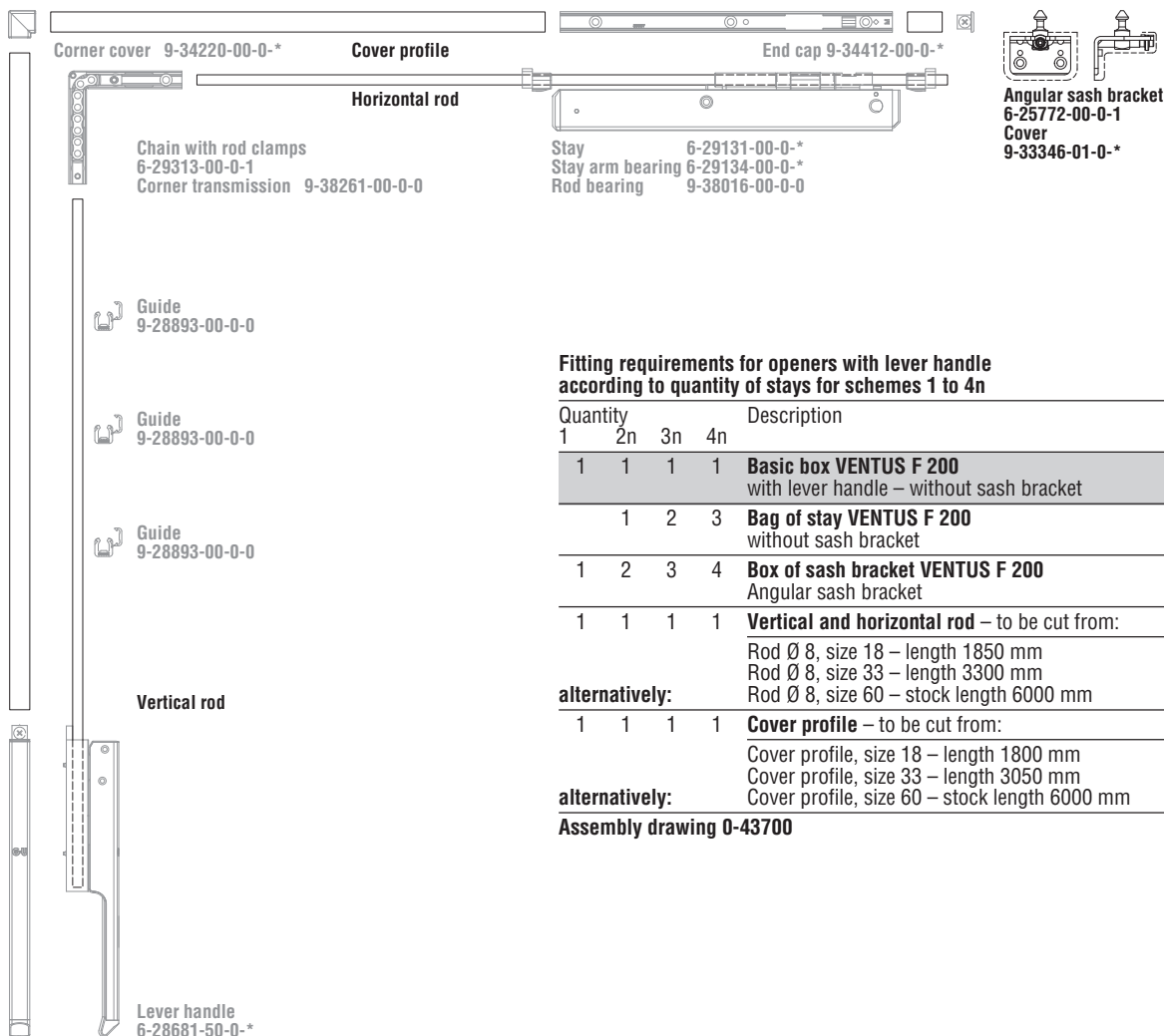
Single parts

1 mullion transmission	6-29260
1 guide	9-33600
1 gliding profile	9-28888
1 locking part	9-35860
1 cover profile	9-33443
1 end cap	9-34412

Assembly drawings

Tilt sash	0-43889
Top hung sash	0-44206

Standard version Lever handle and transmissions

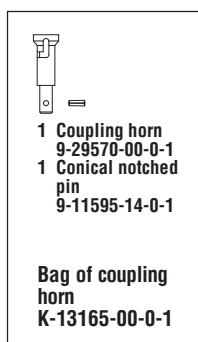
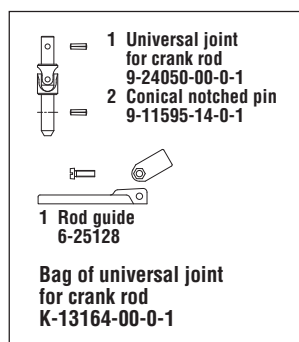
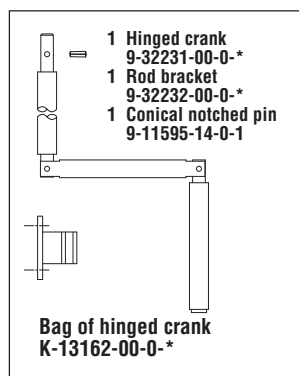
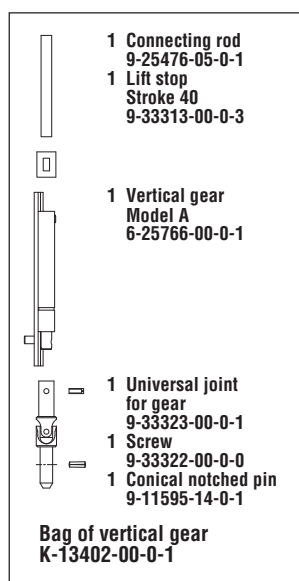
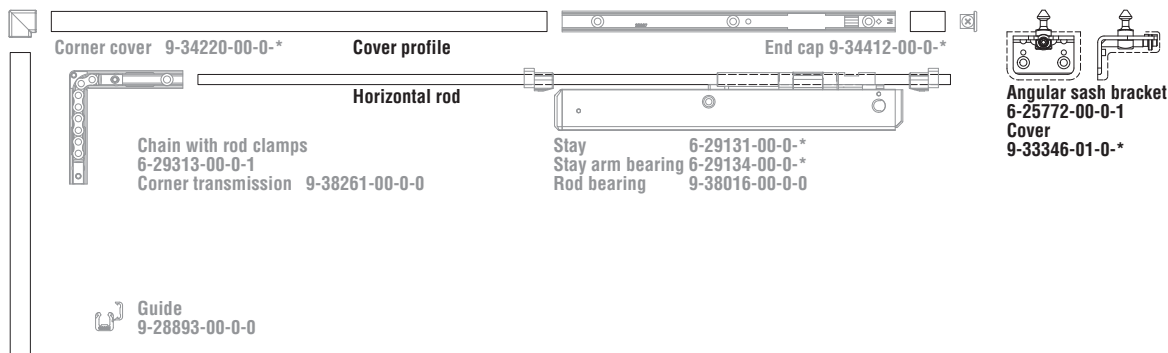


Fitting requirements for openers with lever handle according to quantity of stays for schemes 1 to 4n

Quantity	2n	3n	4n	Description	PU	Article No.
1	1	1	1	Basic box VENTUS F 200 with lever handle – without sash bracket	1	K-15011-00-0-*
	1	2	3	Bag of stay VENTUS F 200 without sash bracket	10	K-15013-00-0-*
1	2	3	4	Box of sash bracket VENTUS F 200 Angular sash bracket	10	K-15225-00-0-*
1	1	1	1	Vertical and horizontal rod – to be cut from:		
				Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
				Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
				Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
alternatively:						
1	1	1	1	Cover profile – to be cut from:		
				Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
				Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
				Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*
alternatively:						

Assembly drawing 0-43700

Standard version Vertical gear



Fitting requirements for openers with vertical gear according to quantity of stays for schemes 1 to 4n

Quantity	1	2n	3n	4n	Description	PU	Article No.
1	1	1	1	1	Basic box VENTUS F 200 without lever handle – without sash bracket	1	K-15012-00-0-*
		1	2	3	Bag of stay VENTUS F 200 without sash bracket	10	K-15013-00-0-*
1	2	3	4		Box of sash bracket VENTUS F 200 Angular sash bracket	10	K-15225-00-0-*
1	1	1	1	1	Horizontal rod – to be cut from: Rod Ø 8, size 06 – length 600 mm Rod Ø 8, size 18 – length 1850 mm Rod Ø 8, size 33 – length 3300 mm Rod Ø 8, size 60 – stock length 6000 mm	10 10 10 10	9-25476-06-0-1 9-25476-18-0-1 9-25476-33-0-1 9-25476-60-0-1
alternatively:							
1	1	1	1	1	Cover profile – to be cut from: Cover profile, size 06 – length 800 mm Cover profile, size 18 – length 1800 mm Cover profile, size 33 – length 3050 mm Cover profile, size 60 – stock length 6000 mm	10 10 10 10	9-33444-06-0- 9-33444-18-0- 9-33444-33-0- 9-33444-60-0-*
alternatively:							
1	1	1	1	1	Bag of vertical gear, model A	1	K-13402-00-0-1

Assembly drawing 0-43700

Fitting requirements for articulated crank rod and accessories according to types a to h for vertical and corner gears

Types	a	b	c	d	e	f	g	h	Description	PU	Article No.
1	1	1	1	1	1	1	1	1	Crank rod (not illustrated) – to be cut from: aluminium tube, stock length 5000 mm	1	9-32230-50-0-*
1	1	1	1	1	1	1	1	1	Bag of hinged crank	1	K-13162-00-0-*
		1	1	2	2	1	1		Bag of universal joint for crank rod	1	K-13164-00-0-1
1	1	1	1	1	1				Bag of coupling horn	1	K-13165-00-0-1

Standard version Corner gear

- 1 Cover 9-33337-00-0-*
- 1 Double universal joint 9-33333-00-0-1
- 1 Bearing 9-33335-00-0-0
- 1 Screw 9-33322-00-0-0

Bag of corner gear
K-13403-00-0-*

Cover profile End cap 9-34412-00-0-*

Horizontal rod

- Stay 6-29131-00-0-*
- Stay arm bearing 6-29134-00-0-*
- Rod bearing 9-38016-00-0-0

Guide 9-28893-00-0-0

Angular sash bracket 6-25772-00-0-1
Cover 9-33346-01-0-*

- 1 Vertical gear Model A 6-25766-00-0-1
- 1 Lift stop Stroke 40 9-33313-00-0-3
- 1 Connecting rod 9-25476-05-0-1
- 1 Universal joint for gear 9-33323-00-0-1
- 1 Screw 9-33322-00-0-0
- 1 Conical notched pin 9-11595-14-0-1

Bag of vertical gear
K-13402-00-0-1

Fitting requirements for openers with corner gear according to quantity of stays for schemes 1 to 4n

Quantity	2n	3n	4n	Description	PU	Article No.
1	2	3	4	Bag of stay VENTUS F 200 without sash bracket	10	K-15013-00-0-*
1	1	1	1	End cap	1	9-34412-00-0-*
1	2	3	4	Box of sash bracket VENTUS F 200 Angular sash bracket	10	K-15225-00-0-*
1	1	1	1	Horizontal rod – to be cut from:		
				Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
				Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
				Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
				Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
alternatively:						
1	1	1	1	Cover profile – to be cut from:		
				Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
				Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
				Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
				Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*
alternatively:						
1	1	1	1	Bag of vertical gear, model A	1	K-13402-00-0-1
1	1	1	1	Bag of additional parts for corner gear, model A	1	K-13403-00-0-*

Assembly drawing 0-43700

- 1 Hinged crank 9-32231-00-0-*
- 1 Rod bracket 9-32232-00-0-*
- 1 Conical notched pin 9-11595-14-0-1

Bag of hinged crank
K-13162-00-0-*

Fitting requirements for articulated crank rod and accessories according to types a to h for vertical and corner gears

Types	Description	PU	Article No.
a b c d e f g h			
1 1 1 1 1 1 1 1	Crank rod (not illustrated) – to be cut from: aluminium tube, stock length 5000 mm	1	9-32230-50-0-*
1 1 1 1 1 1 1 1	Bag of hinged crank	1	K-13162-00-0-*
1 1 2 2 1 1	Bag of universal joint for crank rod	1	K-13164-00-0-1
1 1 1 1	Bag of coupling horn	1	K-13165-00-0-1

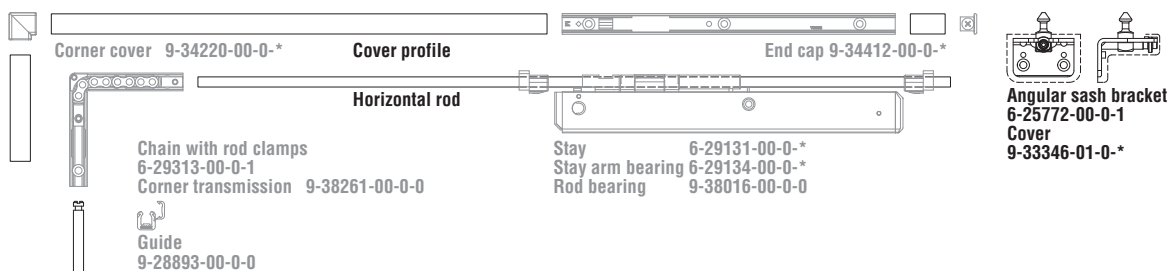
- 1 Universal joint for crank rod 9-24050-00-0-1
- 2 Conical notched pin 9-11595-14-0-1
- 1 Rod guide 6-25128

Bag of universal joint for crank rod
K-13164-00-0-1

- 1 Coupling horn 9-29570-00-0-1
- 1 Conical notched pin 9-11595-14-0-1

Bag of coupling horn
K-13165-00-0-1

Standard version
ELTRAL, vertical installation on the side



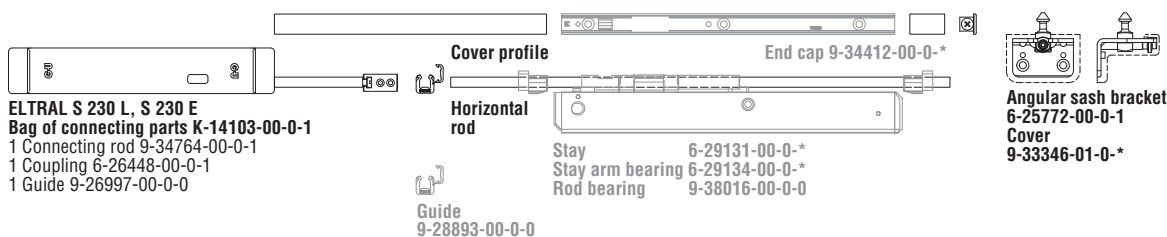
ELTRAL S 230 L, S 230 E
Connecting rod
9-34764-00-0-1

Fitting requirements for openers with ELTRAL for vertical installation according to quantity of stays for schemes 1 to 4n

Quantity				Description	PU	Article No.
1	2n	3n	4n			
1	1	1	1	Basic box VENTUS F 200 without lever handle – without sash bracket	1	K-15012-00-0-*
		1	2	Bag of stay VENTUS F 200 without sash bracket	10	K-15013-00-0-*
1	2	3	4	Box of sash bracket VENTUS F 200 Angular sash bracket	10	K-15225-00-0-*
1	1	1	1	Horizontal rod – to be cut from: Rod Ø 8, size 06 – length 600 mm Rod Ø 8, size 18 – length 1850 mm Rod Ø 8, size 33 – length 3300 mm Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-06-0-1 10 9-25476-18-0-1 10 9-25476-33-0-1 10 9-25476-60-0-1
alternatively:						
1	1	1	1	Cover profile – to be cut from: Cover profile, size 06 – length 800 mm Cover profile, size 18 – length 1800 mm Cover profile, size 33 – length 3050 mm Cover profile, size 60 – stock length 6000 mm	10	9-33444-06-0-*
alternatively:						
1	1	1	1	Electric drive ELTRAL S 230 L	1	6-31730-00-0-*
alternatively:						
1	1	1	1	Electric drive ELTRAL S 230 E	1	6-31732-00-0-*
1	1	1	1	Connecting rod, Ø 8 mm, W = 400-3600	1	9-34764-00-0-1

Assembly drawing 0-43700, assembly drawing ELTRAL 0-43791

Standard version
ELTRAL, horizontal installation at the top



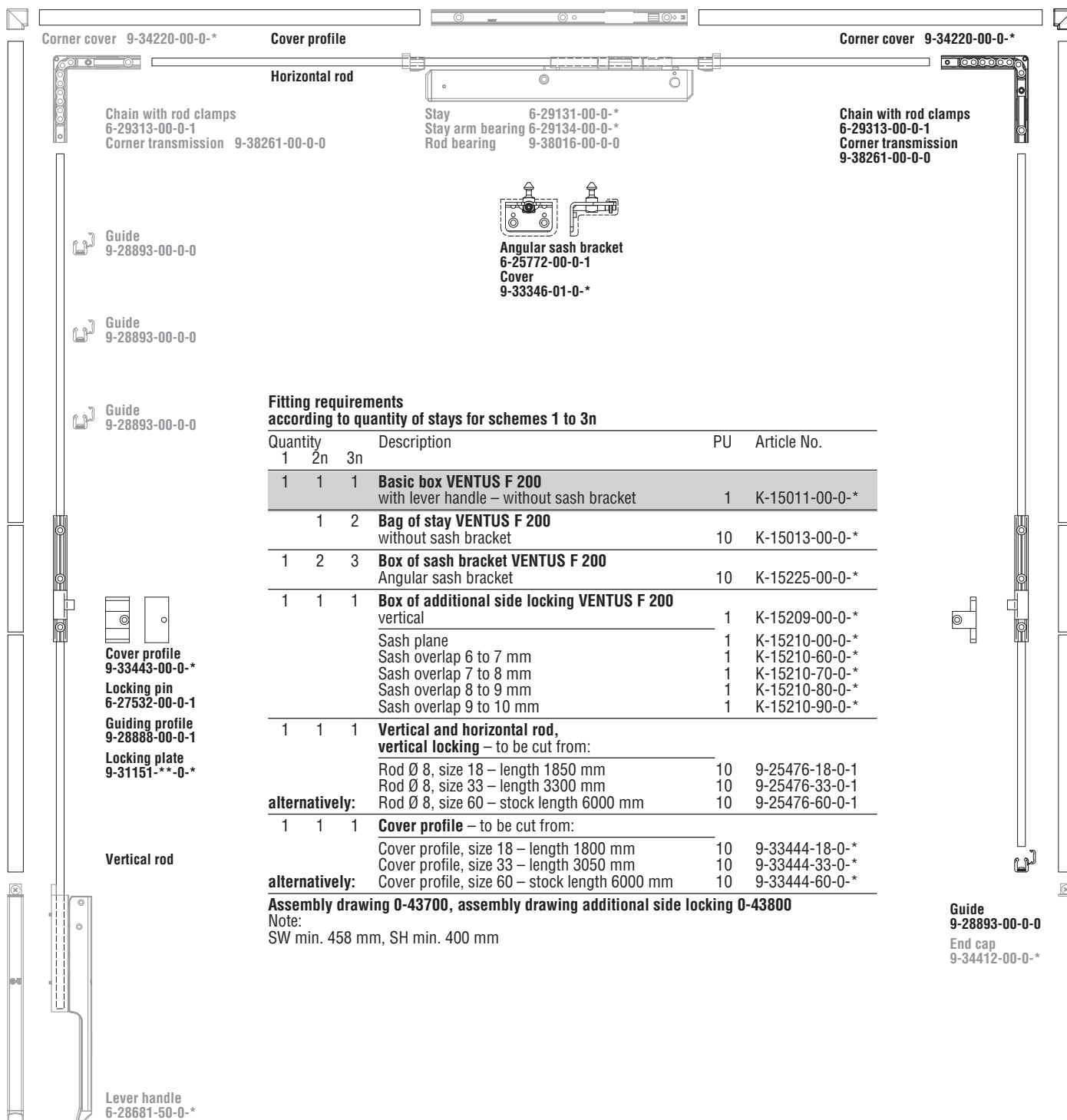
ELTRAL 300
Bag of connecting parts K-15216-00-0-1
1 Connecting rod 9-31018-01-0-1
1 Coupling 6-29592-00-0-1

Fitting requirements for openers with ELTRAL for horizontal installation according to quantity of stays for schemes 1 to 4n

Quantity	2n	3n	4n	Description	PU	Article No.
1	2	3	4	Bag of stay VENTUS F 200 without sash bracket	10	K-15013-00-0-*
1	1	1	1	End cap	1	9-34412-00-0-*
1	2	3	4	Box of sash bracket VENTUS F 200 Angular sash bracket	10	K-15225-00-0-*
1	1	1	1	Horizontal rod – to be cut from:		
				Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
				Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
				Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
				Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
alternatively:						
1	1	1	1	Cover profile – to be cut from:		
				Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
				Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
				Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
				Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*
alternatively:						
1	1	1	1	Electric drive ELTRAL S 230 L	1	6-31730-00-0-*
alternatively:				Electric drive ELTRAL S 230 E	1	6-31732-00-0-*
1	1	1	1	Bag of connecting parts, W = 620-3600	1	K-14103-00-0-1
alternatively:				Electric drive ELTRAL 300 E1	1	9-31020-01-0-*
alternatively:				Bag of connecting parts 300, W = 650-3600	1	K-15216-00-0-1

Assembly drawing 0-43700, assembly drawing ELTRAL 0-43791

Standard version Lever handle with additional side locking



Fitting requirements according to quantity of stays for schemes 1 to 3n

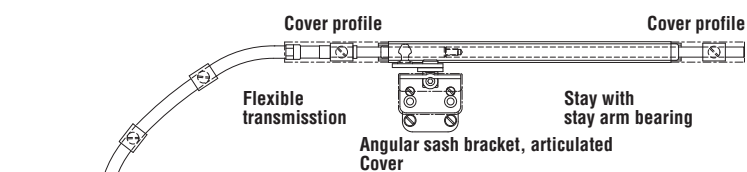
Quantity			Description	PU	Article No.
1	2n	3n			
1	1	1	Basic box VENTUS F 200 with lever handle – without sash bracket	1	K-15011-00-0-*
	1	2	Bag of stay VENTUS F 200 without sash bracket	10	K-15013-00-0-*
1	2	3	Box of sash bracket VENTUS F 200 Angular sash bracket	10	K-15225-00-0-*
1	1	1	Box of additional side locking VENTUS F 200 vertical	1	K-15209-00-0-*
			Sash plane	1	K-15210-00-0-*
			Sash overlap 6 to 7 mm	1	K-15210-60-0-*
			Sash overlap 7 to 8 mm	1	K-15210-70-0-*
			Sash overlap 8 to 9 mm	1	K-15210-80-0-*
			Sash overlap 9 to 10 mm	1	K-15210-90-0-*
1	1	1	Vertical and horizontal rod, vertical locking – to be cut from:		
			Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
			Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
alternatively:			Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
1	1	1	Cover profile – to be cut from:		
			Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
			Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
alternatively:			Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*

Assembly drawing 0-43700, assembly drawing additional side locking 0-43800

Note:
SW min. 458 mm, SH min. 400 mm

Guide 9-28893-00-0-0
 End cap 9-34412-00-0-*

Arch head and segmental arch head windows according to scheme 1
Standard version with flexible transmission



Cover profile
Vertical rod

Fitting requirements for arch head windows Scheme 1

Quantity	Description	PU	Article No.
1	Lever handle VENTUS F 200 Stroke 50 mm	1	6-28681-50-0-*
1	Bag of stay VENTUS F 200, short without sash bracket	1	K-15483-00-0-*
1	Box of sash bracket VENTUS F 200 Angular sash bracket, articulated	1	K-15507-00-0-*
1	Additional box VENTUS F 200 Arch and segmental arch head windows	1	K-15484-00-0-*
1	Flexible transmission SW 500- 900 = length 700 mm SW 901-1300 = length 1000 mm	1 1	6-29495-07-0-* 6-29495-10-0-*
1	Vertical rod – to be cut from:		
	Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
	Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
	Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
altern.:	Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
1	Cover profile – to be cut from:		
	Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
	Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
	Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
altern.:	Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*

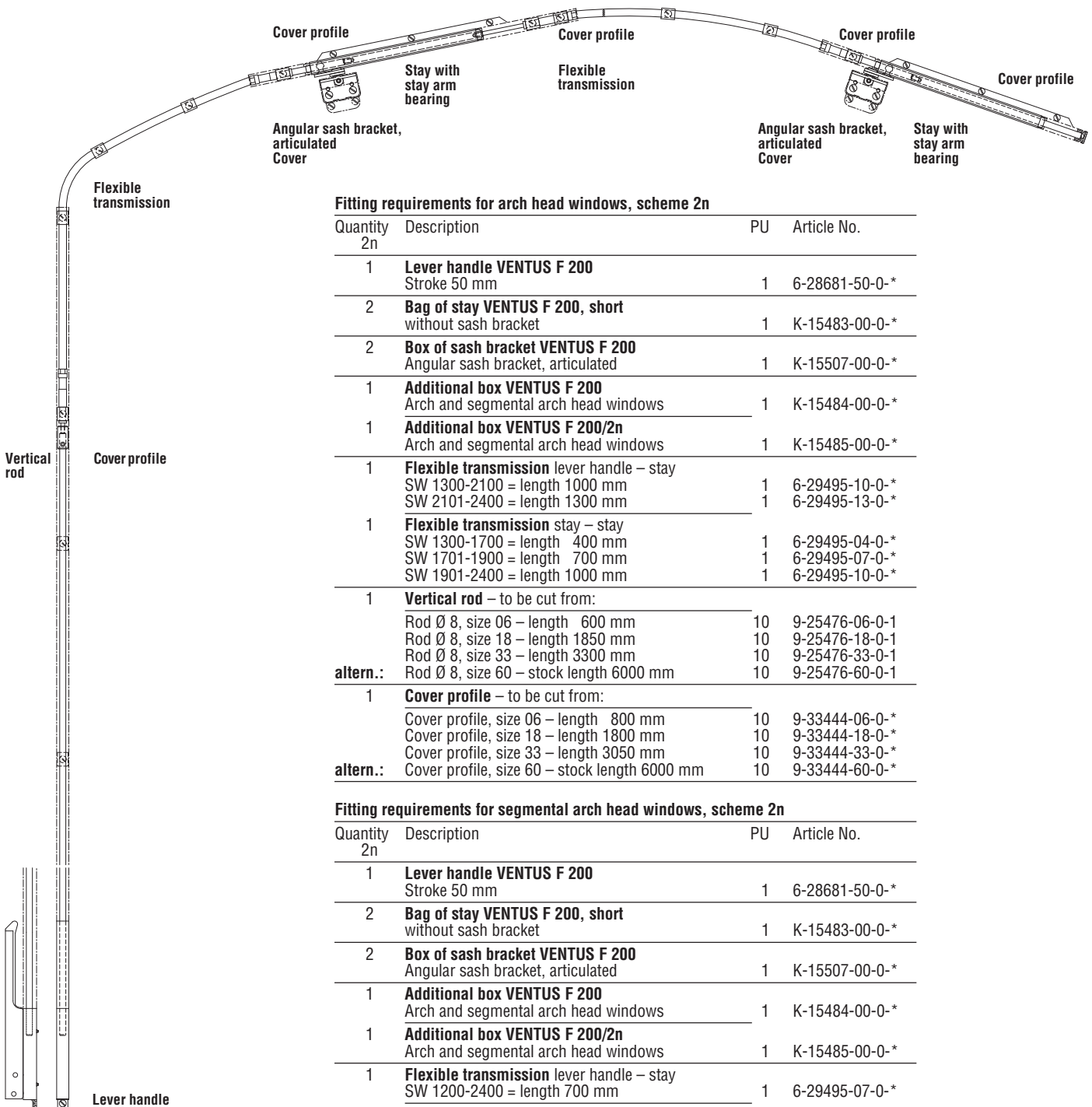
Fitting requirements for segmental arch head windows Scheme 1

Quantity	Description	PU	Article No.
1	Lever handle VENTUS F 200 Stroke 50 mm	1	6-28681-50-0-*
1	Bag of stay VENTUS F 200, short without sash bracket	1	K-15483-00-0-*
1	Box of sash bracket VENTUS F 200 Angular sash bracket, articulated	1	K-15507-00-0-*
1	Additional box VENTUS F 200 Arch and segmental arch head windows	1	K-15484-00-0-*
1	Flexible transmission SW 500- 600 = length 400 mm SW 601- 900 = length 700 mm SW 901-1300 = length 1000 mm	1 1 1	6-29495-04-0-* 6-29495-07-0-* 6-29495-10-0-*
1	Vertical rod – to be cut from:		
	Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
	Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
	Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
altern.:	Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
1	Cover profile – to be cut from:		
	Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
	Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
	Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
altern.:	Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*

Lever handle

Assembly drawing 0-43951

Arch and segmental arch head windows according to scheme 2n
Standard version with flexible transmission



Fitting requirements for arch head windows, scheme 2n

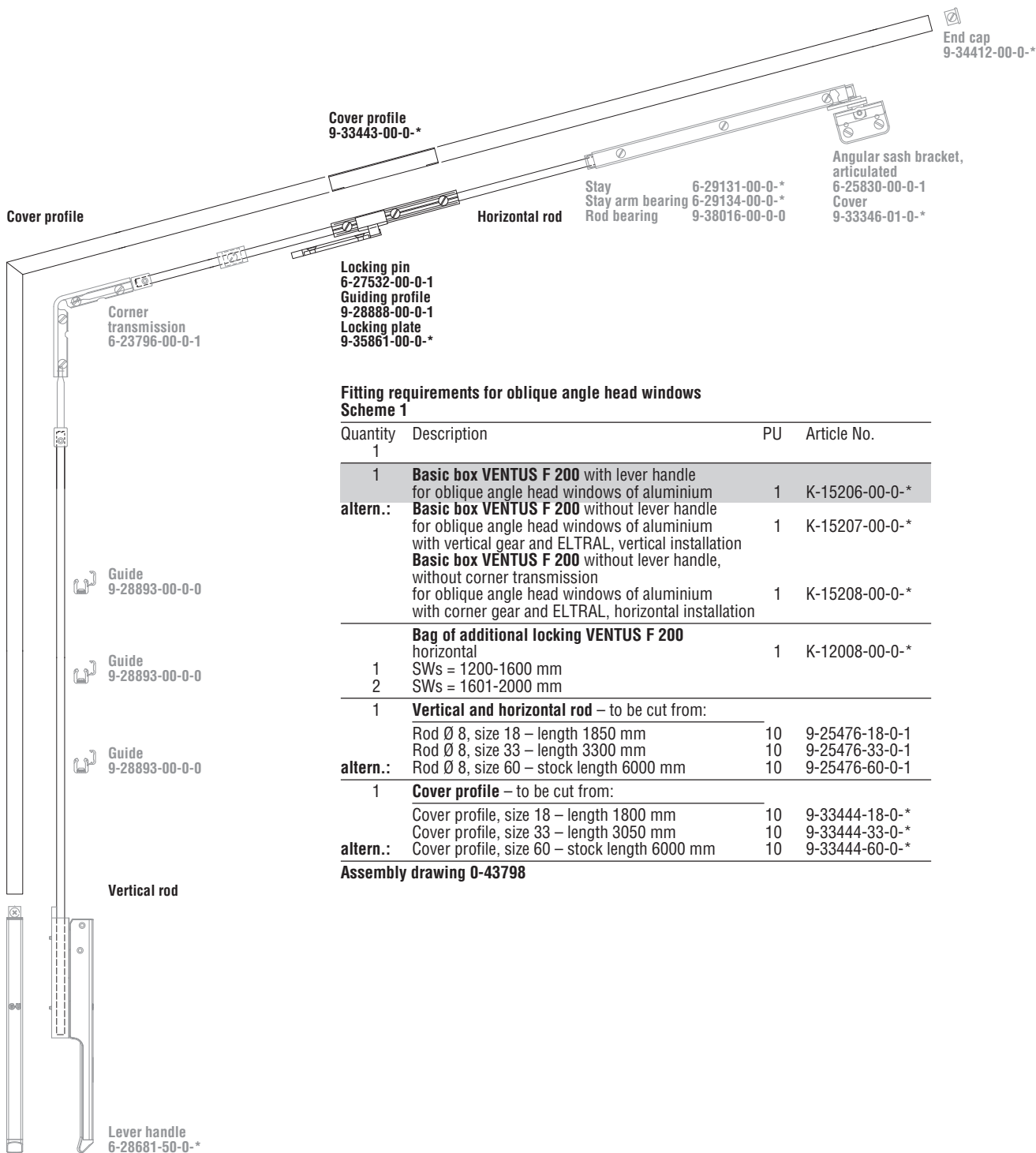
Quantity 2n	Description	PU	Article No.
1	Lever handle VENTUS F 200 Stroke 50 mm	1	6-28681-50-0-*
2	Bag of stay VENTUS F 200, short without sash bracket	1	K-15483-00-0-*
2	Box of sash bracket VENTUS F 200 Angular sash bracket, articulated	1	K-15507-00-0-*
1	Additional box VENTUS F 200 Arch and segmental arch head windows	1	K-15484-00-0-*
1	Additional box VENTUS F 200/2n Arch and segmental arch head windows	1	K-15485-00-0-*
1	Flexible transmission lever handle – stay SW 1300-2100 = length 1000 mm SW 2101-2400 = length 1300 mm	1 1	6-29495-10-0-* 6-29495-13-0-*
1	Flexible transmission stay – stay SW 1300-1700 = length 400 mm SW 1701-1900 = length 700 mm SW 1901-2400 = length 1000 mm	1 1 1	6-29495-04-0-* 6-29495-07-0-* 6-29495-10-0-*
1	Vertical rod – to be cut from:		
	Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
	Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
	Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
altern.:	Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
1	Cover profile – to be cut from:		
	Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
	Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
	Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
altern.:	Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*

Fitting requirements for segmental arch head windows, scheme 2n

Quantity 2n	Description	PU	Article No.
1	Lever handle VENTUS F 200 Stroke 50 mm	1	6-28681-50-0-*
2	Bag of stay VENTUS F 200, short without sash bracket	1	K-15483-00-0-*
2	Box of sash bracket VENTUS F 200 Angular sash bracket, articulated	1	K-15507-00-0-*
1	Additional box VENTUS F 200 Arch and segmental arch head windows	1	K-15484-00-0-*
1	Additional box VENTUS F 200/2n Arch and segmental arch head windows	1	K-15485-00-0-*
1	Flexible transmission lever handle – stay SW 1200-2400 = length 700 mm	1	6-29495-07-0-*
1	Flexible transmission stay – stay SW 1200-1500 = length 400 mm SW 1501-1800 = length 700 mm SW 1801-2100 = length 1000 mm SW 2101-2400 = length 1300 mm	1 1 1 1	6-29495-04-0-* 6-29495-07-0-* 6-29495-10-0-* 6-29495-13-0-*
1	Vertical rod – to be cut from:		
	Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
	Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
	Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
altern.:	Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
1	Cover profile – to be cut from:		
	Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
	Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
	Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
altern.:	Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*

Assembly drawing 0-43952

Standard version
Oblique angle head windows



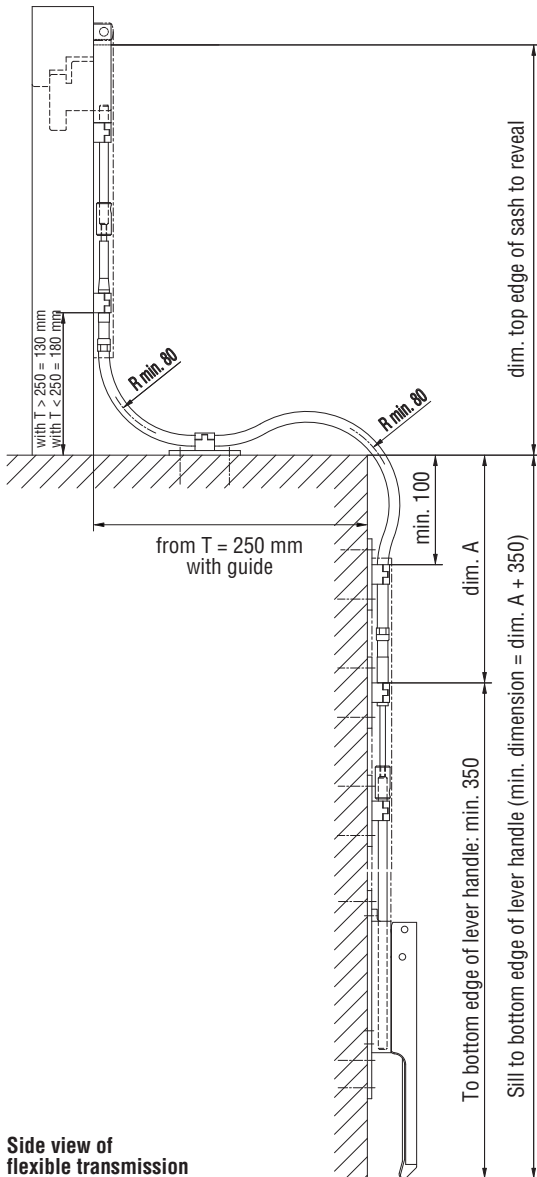
Fitting requirements for oblique angle head windows Scheme 1

Quantity	Description	PU	Article No.
1	Basic box VENTUS F 200 with lever handle for oblique angle head windows of aluminium	1	K-15206-00-0-*
altern.:	Basic box VENTUS F 200 without lever handle for oblique angle head windows of aluminium with vertical gear and ELTRAL, vertical installation	1	K-15207-00-0-*
	Basic box VENTUS F 200 without lever handle, without corner transmission for oblique angle head windows of aluminium with corner gear and ELTRAL, horizontal installation	1	K-15208-00-0-*
	Bag of additional locking VENTUS F 200 horizontal	1	K-12008-00-0-*
1	SWs = 1200-1600 mm		
2	SWs = 1601-2000 mm		
1	Vertical and horizontal rod – to be cut from:		
	Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
	Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
altern.:	Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
1	Cover profile – to be cut from:		
	Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
	Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
altern.:	Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*

Assembly drawing 0-43798

Flexible transmission, special versions

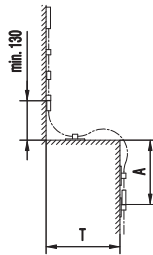
Flexible transmission



Side view of flexible transmission

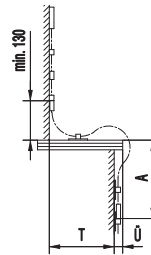
Fitting requirements for flexible transmission

Quantity	Description	PU	Article No.
1	Additional box of flexible transmission	1	K-14312-00-0*
1	Flexible transmission		
	Size 02, length 200 mm	1	6-29495-02-0*
	Size 04, length 400 mm	1	6-29495-04-0*
	Size 07, length 700 mm	1	6-29495-07-0*
	Size 10, length 1000 mm	1	6-29495-10-0*
	Size 13, length 1300 mm	1	6-29495-13-0*
	Size 20, length 2000 mm	1	6-29495-20-0*



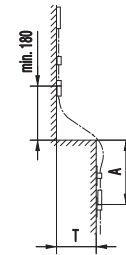
dim. t	dim. A	
730	170	length 1000
700	200	
670	230	
640	260	
610	290	
580	320	
550	350	
520	380	
490	410	
460	440	
430	170	length 700
400	200	
370	230	
340	260	
310	290	
280	320	
250	350	

dim. T = > 250 mm with guide



dim. t	dim. A		
670	230	length 1000	
640	260		
610	290		
580	320		
550	350		
520	380		
490	410		
460	440		
430	170		length 700
400	200		
370	230		
340	260		
310	290		
280	320		
250	350		

dim. U max. 40 mm

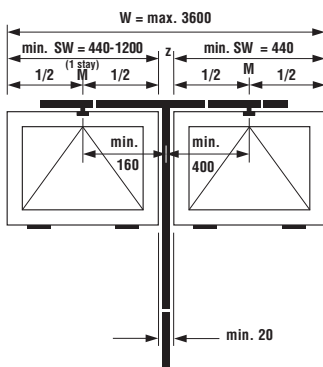


dim. t	dim. A	
240	360	length 700
210	380	
180	400	
150	425	
120	450	
90	170	
60	190	
30	200	
0	250	

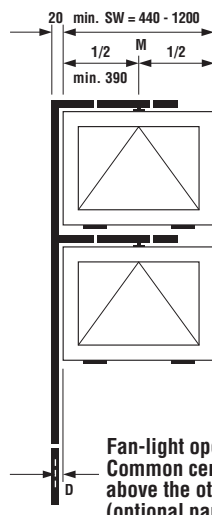
dim. T = < 250 mm without guide

Minimum dimensions depending on depth of reveal

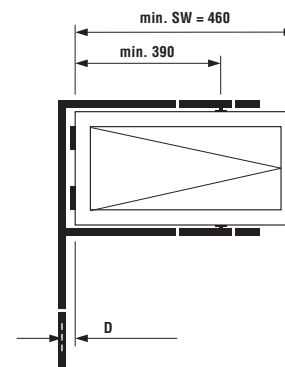
Special versions



Fan-light opener VENTUS F 200
Common centre operation of 2 side by side sashes, type 2n with T angle (optional part)

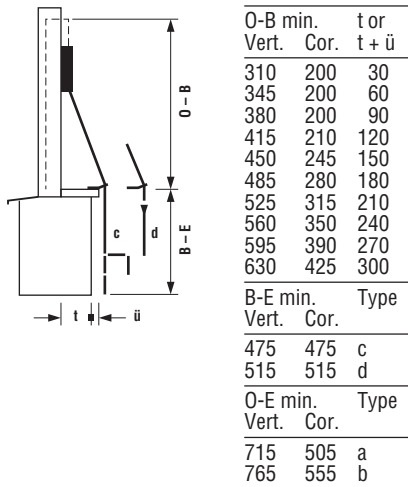


Fan-light opener VENTUS F 200
Common centre operation of 2 sashes one above the other, type 2ü with T angle (optional part)

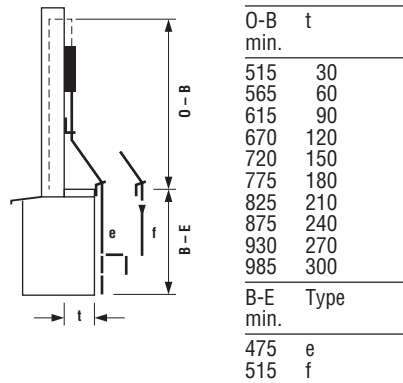


Fan-light opener VENTUS F 200
Side hung sash with T angle (optional part)

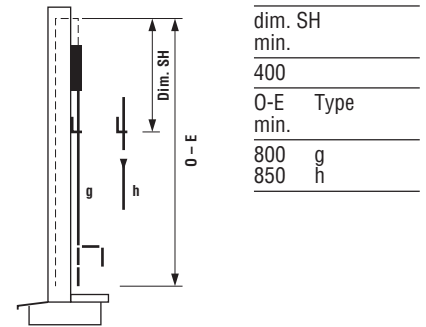
Standard version, minimum dimensions



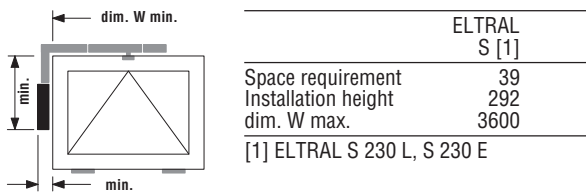
Vertical and corner gears
Types a, b, c and d



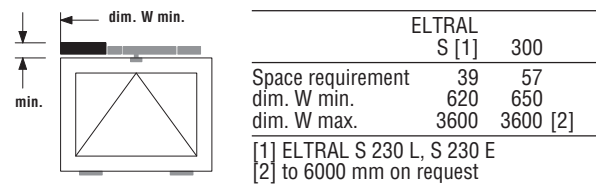
Vertical gear
Types e and f



Vertical gear
Types g and h

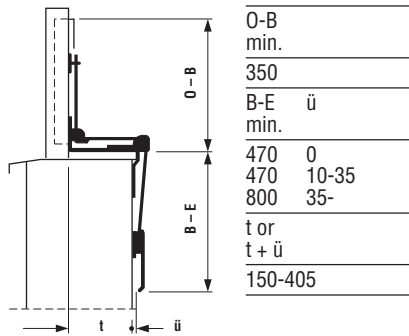


ELTRAL, vertical installation on the side

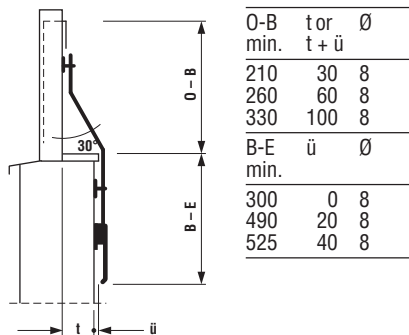


ELTRAL horizontal installation at the top

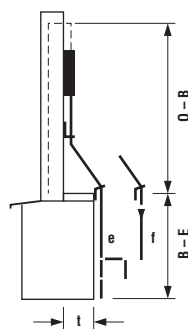
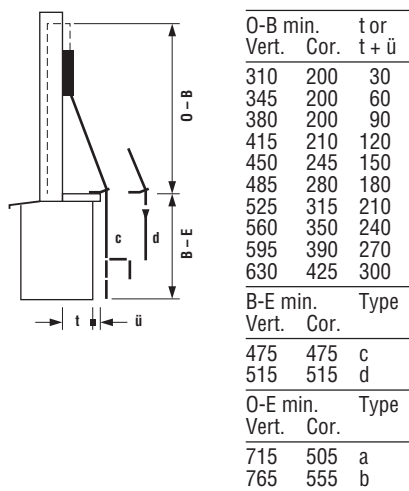
Rods cut to measure, minimum dimensions



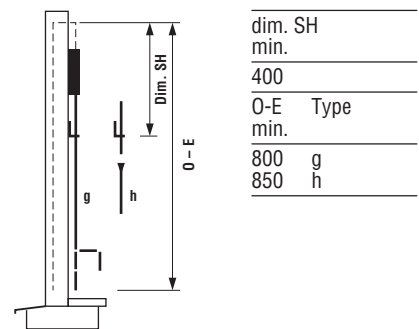
Bell-shaped corner transmission Ø 8
Lever handle on reveal, 90° or cranked



Rod transmission
Form A, Ø 8 mm
dim. t + ü max. 100 mm

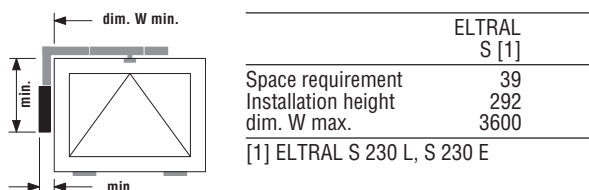


Vertical gear
Types e and f

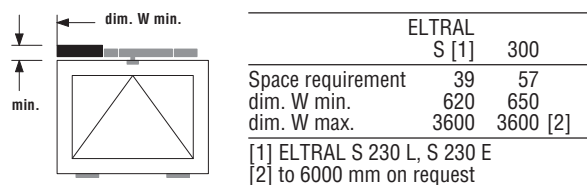


Vertical gear
Types g and h

Vertical and corner gears
Types a, b, c and d

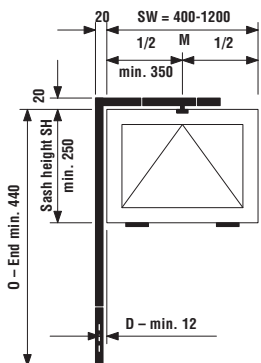


ELTRAL, vertical installation on the side



ELTRAL horizontal installation at the top

Fan-light opener VENTUS F 200 Lever handle

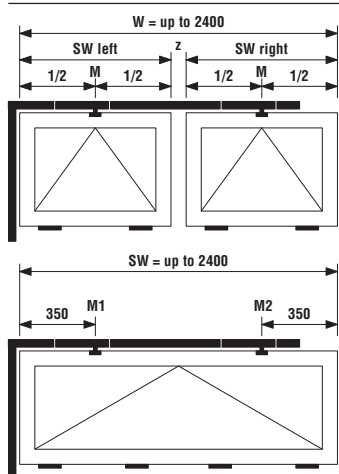


Scheme 1
Lever handle

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W			
		700	800	1000	1200
		Length of horizontal rod			
		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 33 = grey, 60 = white

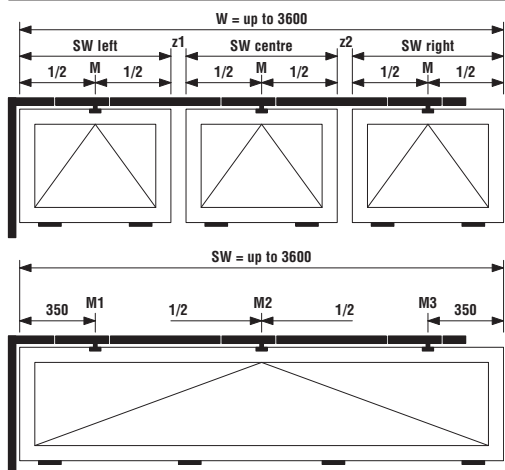


Scheme 2n

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W					
		1400	1600	1800	2000	2200	2400
		Length of horizontal rod					
		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

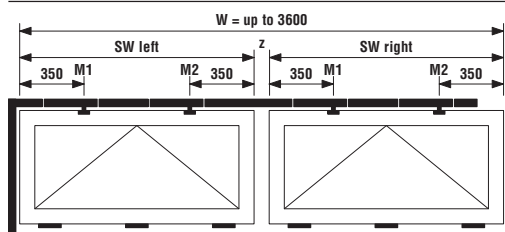


Scheme 3n

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W					
		2600	2800	3000	3200	3400	3600
		Length of horizontal rod					
		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



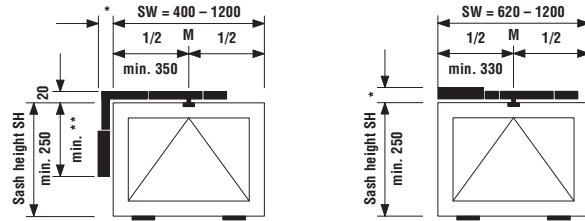
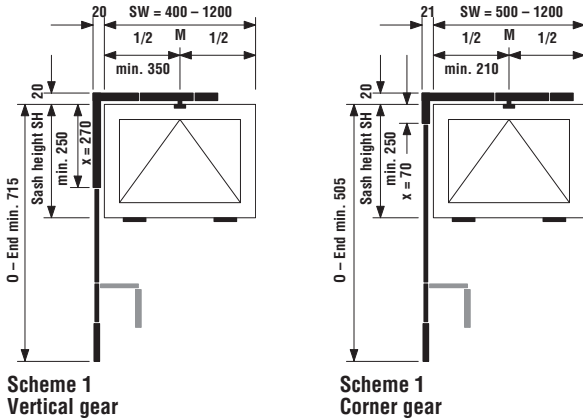
Scheme 4n

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W					
		2600	2800	3000	3200	3400	3600
		Length of horizontal rod					
		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

Fan-light opener VENTUS F 200 Vertical and corner gears, ELTRAL – vertical and horizontal installation



Scheme 1 ELTRAL vertical, min. dimensions

ELTRAL S [1]	
*	39
**	292
W max.	3600

Scheme 1 ELTRAL horizontal, min. dimensions

ELTRAL S [1]	300
*	39 57
W min.	620 650
W max.	3600 3600

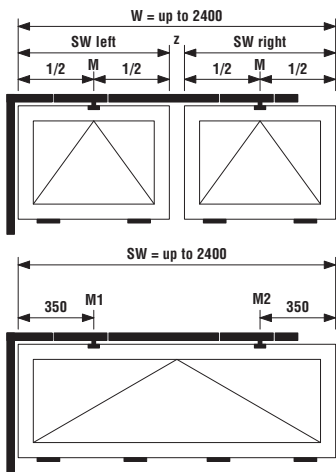
Length of horizontal rod depending on total sash width

Drive	Total sash width dim. FB or B			
	700	800	1000	1200
Vertical gear	365	415	515	615
Corner gear	486	536	636	736

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. SW or W			
	700	800	1000	1200
ELTRAL S vertical [1]	530	580	680	780
ELTRAL S horizontal [1]	372	422	522	622
ELTRAL 300 horizontal	327	377	477	577

[1] ELTRAL S 230 L, S 230 E

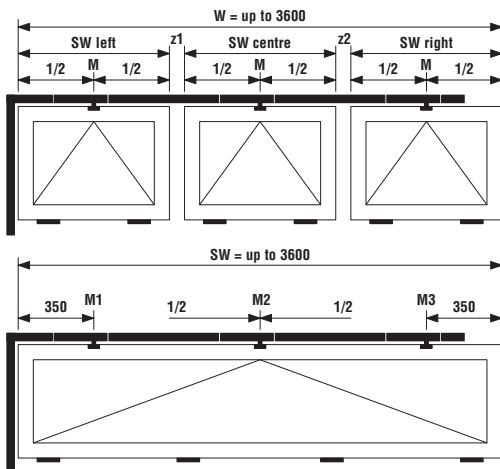


Scheme 2n

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. SW or W					
	1400	1600	1800	2000	2200	2400
Vertical gear	1065	1265	1465	1665	1865	2065
Corner gear	1186	1386	1586	1786	1986	2186
ELTRAL S vertical [1]	1065	1265	1465	1665	1865	2065
ELTRAL S horizontal [1]	1072	1272	1472	1672	1872	2072
ELTRAL 300 horizontal	1027	1227	1427	1627	1827	2027

[1] ELTRAL S 230 L, S 230 E

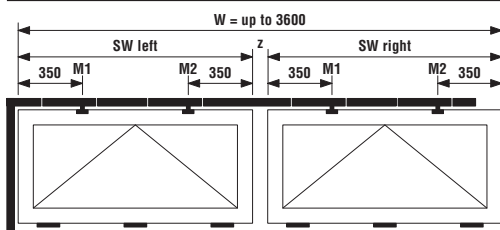


Scheme 3n

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. SW or W					
	2600	2800	3000	3200	3400	3600
Vertical gear	2265	2465	2665	2865	3065	3265
Corner gear	2386	2586	2786	2986	3186	3386
ELTRAL S vertical [1]	2265	2465	2665	2865	3065	3265
ELTRAL S horizontal [1]	2272	2472	2672	2872	3072	3272
ELTRAL 300 horizontal	2227	2427	2627	2827	3027	3227

[1] ELTRAL S 230 L, S 230 E



Scheme 4n

Length of horizontal rod depending on total sash width

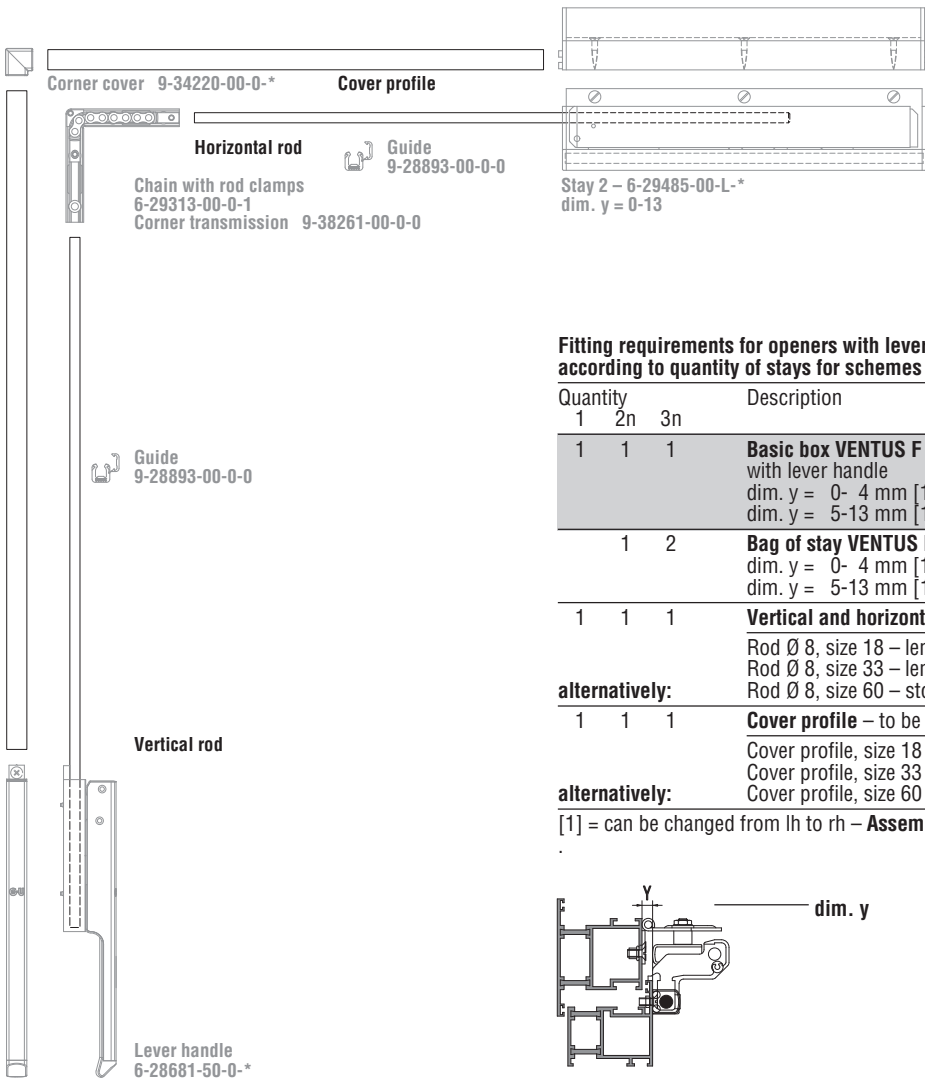
Drive	Total sash width dim. SW or W					
	2600	2800	3000	3200	3400	3600
Vertical gear	2265	2465	2665	2865	3065	3265
Corner gear	2386	2586	2786	2986	3186	3386
ELTRAL S vertical [1]	2265	2465	2665	2865	3065	3265
ELTRAL S horizontal [1]	2272	2472	2672	2872	3072	3272
ELTRAL 300 horizontal	2227	2427	2627	2827	3027	3227

[1] ELTRAL S 230 L, S 230 E

Fan-light opener VENTUS F 200



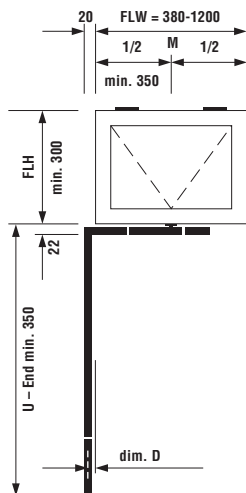
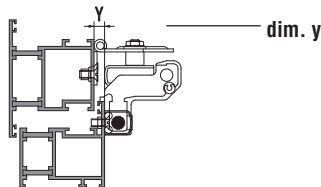
Top hung outward opening sashes
Standard version – lever handle and transmissions



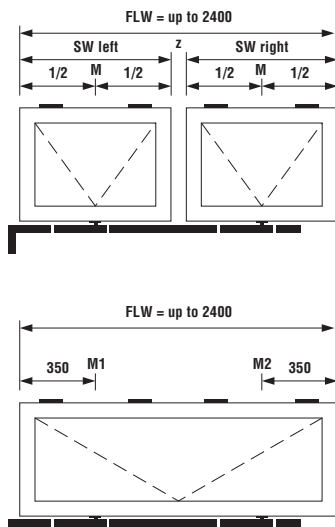
Fitting requirements for openers with lever handle according to quantity of stays for schemes 1 to 3n

Quantity	Description	PU	Article No.
1 2n 3n			
1 1 1	Basic box VENTUS F 200 top hung outward opening sash with lever handle dim. y = 0- 4 mm [1] dim. y = 5-13 mm [1]	1	K-15168-00-L-*
1 2	Bag of stay VENTUS F 200 top hung outward opening sash dim. y = 0- 4 mm [1] dim. y = 5-13 mm [1]	1	K-15169-00-L-*
1 1 1	Vertical and horizontal rod – to be cut from: Rod Ø 8, size 18 – length 1850 mm Rod Ø 8, size 33 – length 3300 mm Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-18-0-1 9-25476-33-0-1 9-25476-60-0-1
1 1 1	alternatively: Cover profile – to be cut from: Cover profile, size 18 – length 1800 mm Cover profile, size 33 – length 3050 mm Cover profile, size 60 – stock length 6000 mm	10	9-33444-18-0-*
		10	9-33444-33-0-*
		10	9-33444-60-0-*

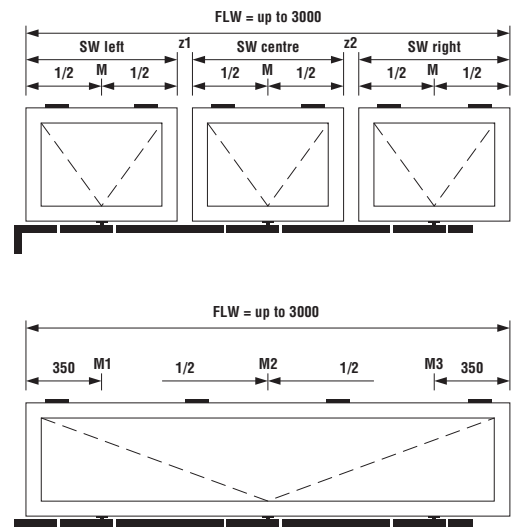
[1] = can be changed from lh to rh – **Assembly drawing 0-43818**



Scheme 1
Lever handle

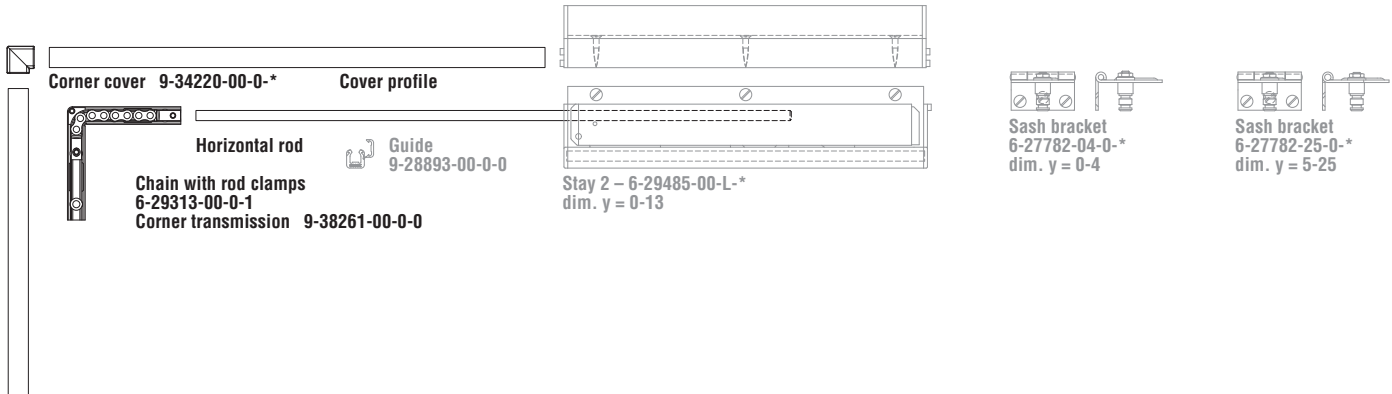


Scheme 2n



Scheme 3n

Top hung outward opening sashes Standard version – vertical gear



- 1 Connecting rod 9-25476-05-0-1
- 1 Lift stop Stroke 40 9-33313-00-0-3
- 1 Vertical gear Model A 6-25766-00-0-1
- 1 Universal joint for gear 9-33323-00-0-1
- 1 Screw 9-33322-00-0-0
- 1 Conical notched pin 9-11595-14-0-1

Bag of vertical gear
K-13402-00-0-1

- 1 Hinged crank 9-32231-00-0-*
- 1 Rod bracket 9-32232-00-0-*
- 1 Conical notched pin 9-11595-14-0-1

Bag of hinged crank
K-13162-00-0-*

- 1 Universal joint for crank rod 9-24050-00-0-1
- 2 Conical notched pin 9-11595-14-0-1
- 1 Rod guide 6-25128

Bag of universal joint for crank rod
K-13164-00-0-1

- 1 Coupling horn 9-29570-00-0-1
- 1 Conical notched pin 9-11595-14-0-1

Bag of coupling horn
K-13165-00-0-1

Fitting requirements for openers with vertical gear according to quantity of stays for schemes 1 to 3n

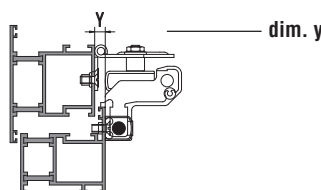
Quantity	Description	PU	Article No.
1 2n 3n			
1 2 3	Bag of stay VENTUS F 200 top hung outward opening sash	1	K-15169-00-L-*
	dim. y = 0- 4 mm [1]	1	K-15167-00-L-*
1 1 1	Chain with rod clamps	1	6-29313-00-0-1
1 1 1	Corner transmission	1	9-38261-00-0-0
1 1 1	Corner cover	100	9-34220-00-0-*
1 1 1	Horizontal rod – to be cut from:		
	Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
	Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
	Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
	Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
alternatively:			
1 1 1	Cover profile – to be cut from:		
	Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
	Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
	Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
	Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*
alternatively:			
1 1 1	Bag of vertical gear, model A	1	K-13402-00-0-1

[1] = can be changed from lh to rh

Fitting requirements for articulated crank rod and accessories according to types a to h for vertical and corner gears

Type	Description	PU	Article No.
a b c d e f g h			
1 1 1 1 1 1 1 1	Crank rod (not illustrated) – to be cut from: aluminium tube, stock length 5000 mm	1	9-32230-50-0-*
1 1 1 1 1 1 1 1	Bag of hinged crank	1	K-13162-00-0-*
1 1 2 2 1 1	Bag of universal joint for crank rod	1	K-13164-00-0-1
1 1 1 1	Bag of coupling horn	1	K-13165-00-0-1

Assembly drawing 0-43818



Top hung outward opening sashes Standard version – corner gear

- 1 Cover 9-33337-00-0-*
- 1 Double universal joint 9-33333-00-0-1
- 1 Bearing 9-33335-00-0-0
- 1 Screw 9-33322-00-0-0

Bag of corner gear
K-13403-00-0-*

Cover profile

Horizontal rod

Guide 9-28893-00-0-0

Stay 2 – 6-29485-00-L-*

dim. y = 0-13

Sash bracket
6-27782-04-0-*

dim. y = 0-4

Sash bracket
6-27782-25-0-*

dim. y = 5-25

- 1 Vertical gear Model A 6-25766-00-0-1
- 1 Lift stop Stroke 40 9-33313-00-0-3
- 1 Connecting rod 9-25476-05-0-1
- 1 Universal joint for gear 9-33323-00-0-1
- 1 Screw 9-33322-00-0-0
- 1 Conical notched pin 9-11595-14-0-1

Bag of vertical gear
K-13402-00-0-1

Fitting requirements for openers with corner gear according to quantity of stays for schemes 1 to 3n

Quantity	Description	PU	Article No.
1 2n 3n			
1 2 3	Bag of stay VENTUS F 200 top hung outward opening sash	1	K-15169-00-L-*
	dim. y = 0- 4 mm [1]		
	dim. y = 5-13 mm [1]	1	K-15167-00-L-*
1 1 1	Horizontal rod – to be cut from:		
	Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
	Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
	Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
	Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
alternatively:			
1 1 1	Cover profile – to be cut from:		
	Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
	Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
	Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
	Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*
alternatively:			
1 1 1	Bag of vertical gear, model A	1	K-13402-00-0-1
1 1 1	Bag of additional parts for corner gear, model A	1	K-13403-00-0-*

[1] = can be changed from lh to rh

- 1 Hinged crank 9-32231-00-0-*
- 1 Rod bracket 9-32232-00-0-*
- 1 Conical notched pin 9-11595-14-0-1

Bag of hinged crank
K-13162-00-0-*

Fitting requirements for articulated crank rod and accessories according to types a to h for articulated crank rod

Type	Description	PU	Article No.
a b c d e f g h			
1 1 1 1 1 1 1 1	Crank rod (not illustrated) – to be cut from: aluminium rod, stock length 5000 mm	1	9-32230-50-0-*
1 1 1 1 1 1 1 1	Bag of hinged crank	1	K-13162-00-0-*
	1 1 2 2 1 1	1	K-13164-00-0-1
	1 1 1 1	1	K-13165-00-0-1

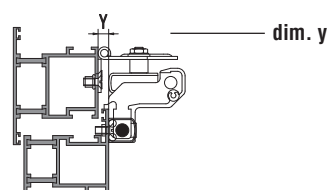
Assembly drawing 0-43818

- 1 Universal joint for crank rod 9-24050-00-0-1
- 2 Conical notched pin 9-11595-14-0-1
- 1 Rod guide 6-25128

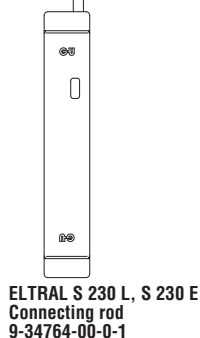
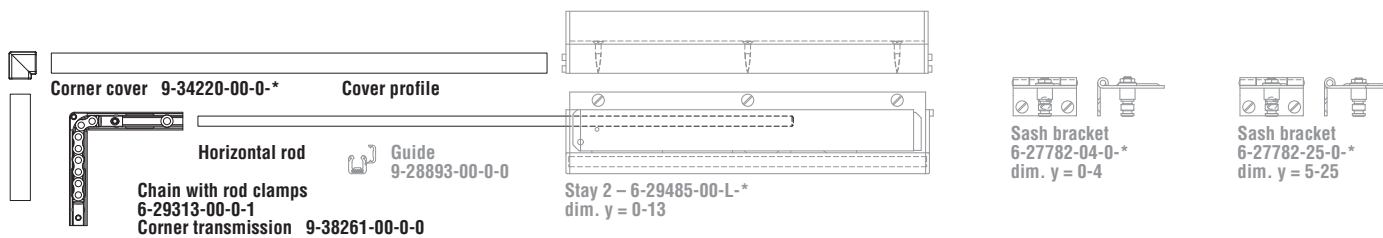
Bag of universal joint for crank rod
K-13164-00-0-1

- 1 Coupling horn 9-29570-00-0-1
- 1 Conical notched pin 9-11595-14-0-1

Bag of coupling horn
K-13165-00-0-1



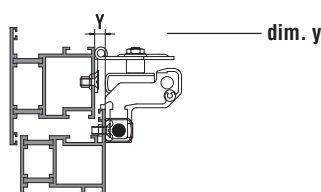
Top hung outward opening sashes
Standard version – ELTRAL, vertical installation on the side



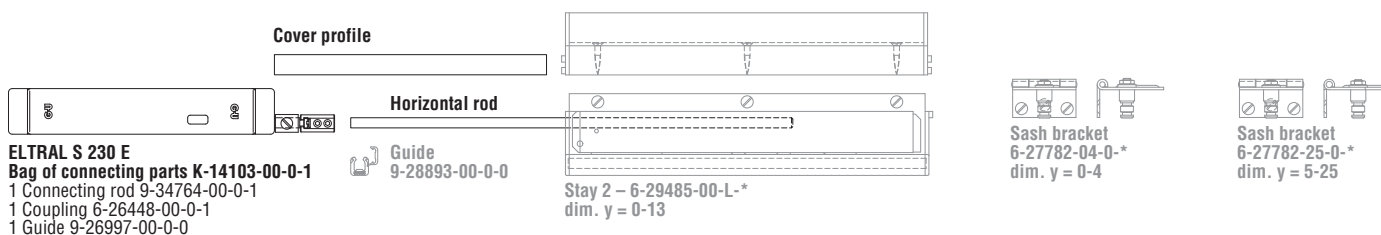
Fitting requirements for openers with ELTRAL for vertical installation for schemes 1 to 3n

Quantity			Description	PU	Article No.
1	2n	3n			
1	2	3	Bag of stay VENTUS F 200 top hung outward opening sash	1	K-15169-00-L-*
			dim. y = 0- 4 mm [1]	1	K-15167-00-L-*
			dim. y = 5-13 mm [1]		
1	1	1	Chain with rod clamps	1	6-29313-00-0-1
1	1	1	Corner transmission	1	9-38261-00-0-0
1	1	1	Corner cover	100	9-34220-00-0-*
1	1	1	Horizontal rod – to be cut from:		
			Rod Ø 8, size 06 – length 600 mm	10	9-25476-06-0-1
			Rod Ø 8, size 18 – length 1850 mm	10	9-25476-18-0-1
			Rod Ø 8, size 33 – length 3300 mm	10	9-25476-33-0-1
			Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-60-0-1
alternatively:					
1	1	1	Cover profile – to be cut from:		
			Cover profile, size 06 – length 800 mm	10	9-33444-06-0-*
			Cover profile, size 18 – length 1800 mm	10	9-33444-18-0-*
			Cover profile, size 33 – length 3050 mm	10	9-33444-33-0-*
			Cover profile, size 60 – stock length 6000 mm	10	9-33444-60-0-*
alternatively:					
1	1	1	Electric drive ELTRAL S 230 L	1	6-31730-00-0-*
alternatively:			Electric drive ELTRAL S 230 E	1	6-31732-00-0-*
1	1	1	Connecting rod, Ø 8 mm, W = 400-3000	1	9-34764-00-0-1

[1] = can be changed from lh to rh – **Assembly drawing 0-43831**



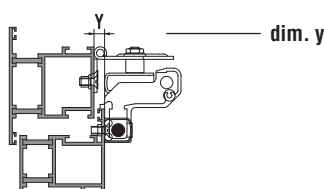
Top hung outward opening sashes
Standard version – ELTRAL, horizontal installation at the top



Fitting requirements for openers with ELTRAL for horizontal installation for schemes 1 to 3n

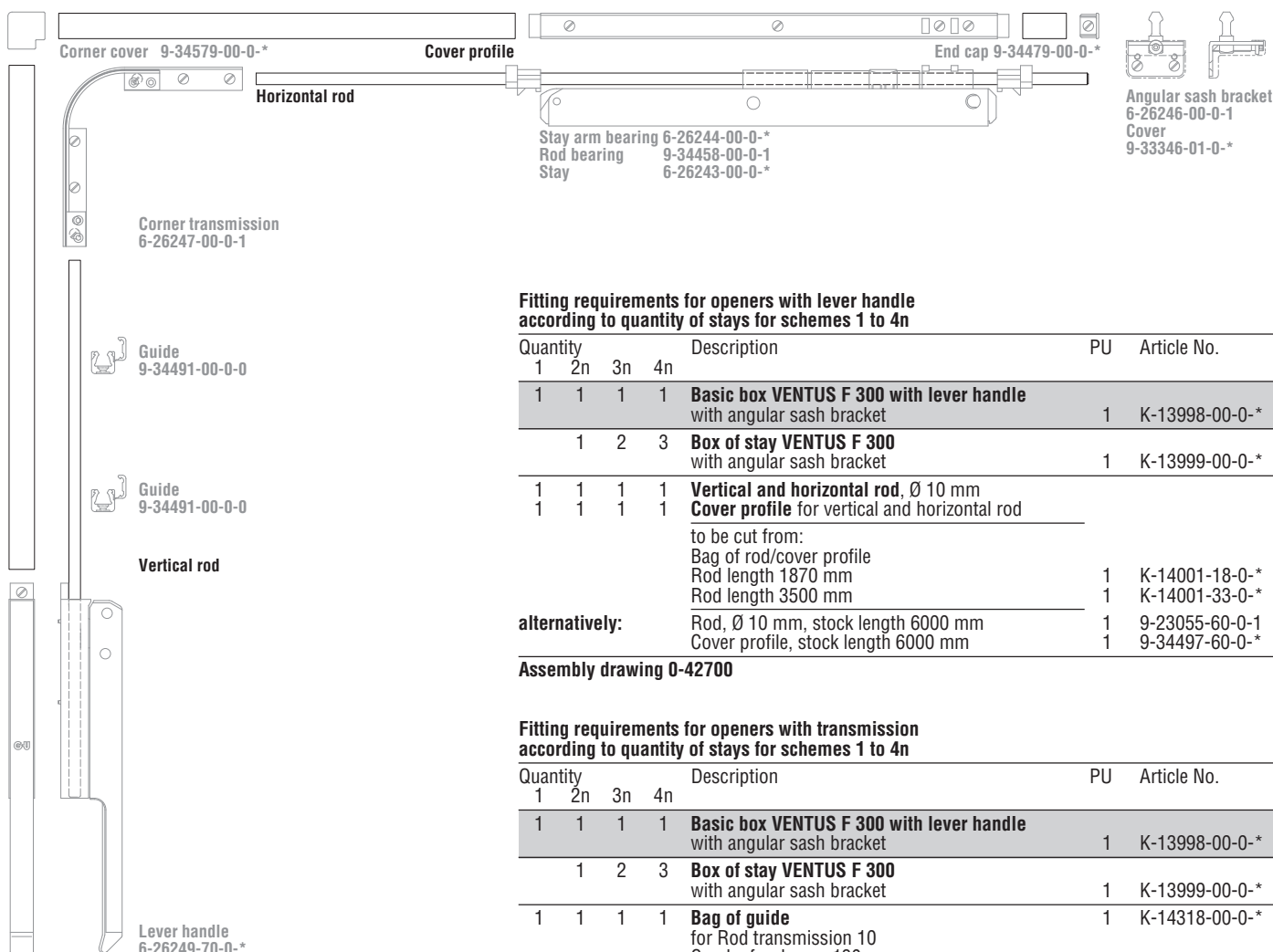
Quantity			Description	PU	Article No.
1	2n	3n			
1	2	3	Bag of stay VENTUS F 200 top hung outward opening sash dim. y = 0- 4 mm [1] dim. y = 5-13 mm [1]	1	K-15169-00-L-*
1	1	1	Horizontal rod – to be cut from: Rod Ø 8, size 06 – length 600 mm Rod Ø 8, size 18 – length 1850 mm Rod Ø 8, size 33 – length 3300 mm alternatively: Rod Ø 8, size 60 – stock length 6000 mm	10	9-25476-06-0-1 9-25476-18-0-1 9-25476-33-0-1 9-25476-60-0-1
1	1	1	Cover profile – to be cut from: Cover profile, size 06 – length 800 mm Cover profile, size 18 – length 1800 mm Cover profile, size 33 – length 3050 mm alternatively: Cover profile, size 60 – stock length 6000 mm	10	9-33444-06-0- 9-33444-18-0- 9-33444-33-0- 9-33444-60-0-*
1	1	1	Electric drive ELTRAL S 230 L	1	6-31730-00-0-*
alternatively:			Electric drive ELTRAL S 230 E	1	6-31732-00-0-*
1	1	1	Bag of connecting parts, W = 620-3000	1	K-14103-00-0-1

[1] = can be changed from lh to rh – **Assembly drawing 0-43831**





Standard version Lever handle and transmission



Fitting requirements for openers with lever handle according to quantity of stays for schemes 1 to 4n

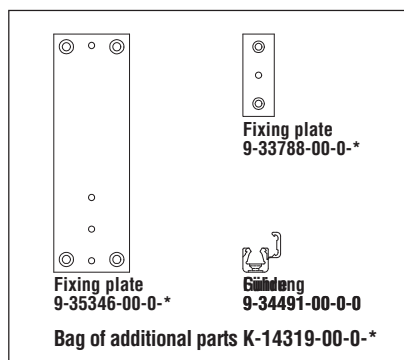
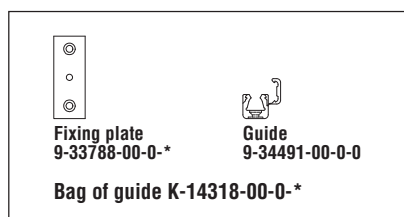
Quantity				Description	PU	Article No.
1	2n	3n	4n			
1	1	1	1	Basic box VENTUS F 300 with lever handle with angular sash bracket	1	K-13998-00-0-*
	1	2	3	Box of stay VENTUS F 300 with angular sash bracket	1	K-13999-00-0-*
1	1	1	1	Vertical and horizontal rod, Ø 10 mm		
1	1	1	1	Cover profile for vertical and horizontal rod to be cut from: Bag of rod/cover profile Rod length 1870 mm Rod length 3500 mm	1	K-14001-18-0-*
					1	K-14001-33-0-*
alternatively:				Rod, Ø 10 mm, stock length 6000 mm	1	9-23055-60-0-1
				Cover profile, stock length 6000 mm	1	9-34497-60-0-*

Assembly drawing 0-42700

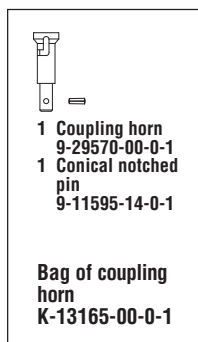
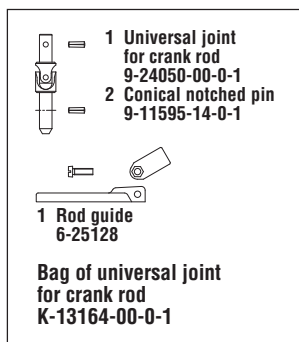
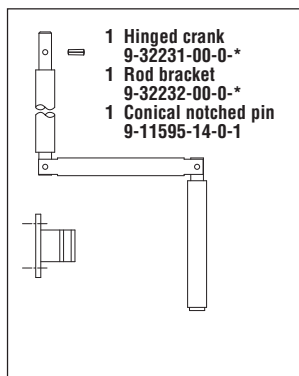
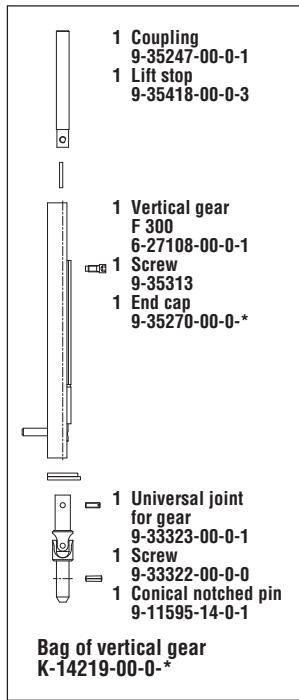
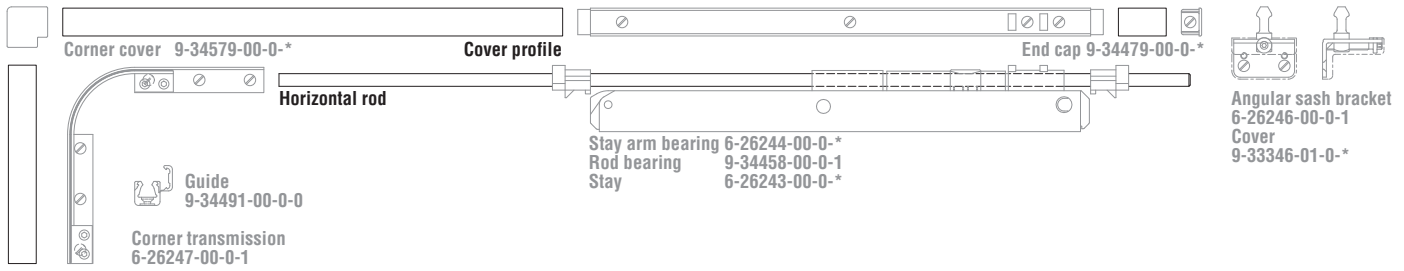
Fitting requirements for openers with transmission according to quantity of stays for schemes 1 to 4n

Quantity				Description	PU	Article No.
1	2n	3n	4n			
1	1	1	1	Basic box VENTUS F 300 with lever handle with angular sash bracket	1	K-13998-00-0-*
	1	2	3	Box of stay VENTUS F 300 with angular sash bracket	1	K-13999-00-0-*
1	1	1	1	Bag of guide for Rod transmission 10 Crank of rod max. 130 mm	1	K-14318-00-0-*
1	1	1	1	Bag of additional parts for rod transmission 10	1	K-14319-00-0-*
1	1	1	1	Vertical rod, Ø 10 mm to be cut from: Rod, Ø 10 mm, length 6000 mm	1	9-23055-60-0-1
1	1	1	1	Horizontal rod, Ø 10 mm		
1	1	1	1	Cover profile for horizontal rod to be cut from Bag of rod/cover profile Rod length 1870 mm Rod length 3500 mm	1	K-14001-18-0-*
					1	K-14001-33-0-*
alternatively:				Rod, Ø 10 mm, stock length 6000 mm	1	9-23055-60-0-1
				Cover profile, stock length 6000 mm	1	9-34497-60-0-*

Assembly drawing 0-42700



Standard version Vertical gear



Fitting requirements for openers with vertical gear according to quantity of stays for schemes 1 to 4n

Quantity				Description	PU	Article No.
1	2n	3n	4n			
1	1	1	1	Basic box VENTUS F 300 without lever handle with angular sash bracket	1	K-14320-00-0-*
	1	2	3	Bag of stay VENTUS F 300 with angular sash bracket	1	K-13999-00-0-*
1	1	1	1	Horizontal rod , Ø 10 mm		
1	1	1	1	Cover profile für horizontal rod		
				To be cut from:		
				Bag of rod/Cover profile		
				length 600 mm	1	K-14001-06-0-*
				length 1870 mm	1	K-14001-18-0-*
				length 3500 mm	1	K-14001-33-0-*
alternatively:				Rod, Ø 10 mm, stock length 6000 mm	1	9-23055-60-0-1
				Cover profile, stock length 6000 mm	1	9-34497-60-0-*
1	1	1	1	Bag of vertical gear F 300	1	K-14219-00-0-*

Assembly drawing 0-42700

Fitting requirements for articulated crank rod and accessories according to types a to h for vertical and corner gears

Types									Description	PU	Article No.
a	b	c	d	e	f	g	h				
1	1	1	1	1	1	1	1	1	Crank rod – to be cut from: aluminium tube, stock length 5000 mm	1	9-32230-50-0-*
1	1	1	1	1	1	1	1	1	Bag of hinged crank	1	K-13162-00-0-*
	1	1	2	2	1	1	1	1	Bag of universal joint for crank rod	1	K-13164-00-0-1
	1	1	1	1	1	1	1	1	Bag of coupling horn	1	K-13165-00-0-1

Standard version Corner gear

1 Cover 9-35357-00-0-
1 Double universal joint 9-33333-00-0-1
1 Sleeve 6-26813-00-0-1
1 Bearing 9-35333-00-0-
1 Screw 9-33322-00-0-0

Bag of corner gear
K-14282-00-0-*

Cover profile
Horizontal rod
End cap 9-34479-00-0-
Stay arm bearing 6-26244-00-0-
Rod bearing 9-34458-00-0-1
Stay 6-26243-00-0-
Guide 9-34491-00-0-0

Angular sash bracket 6-26246-00-0-1
Cover 9-33346-01-0-
Angular sash bracket 6-26246-00-0-1
Cover 9-33346-01-0-

1 Vertical gear F 300 6-27108-00-0-1
1 Screw 9-35313
1 End cap 9-35270-00-0-
1 Lift stop 9-35418-00-0-3
1 Coupling 9-35247-00-0-1
1 Universal joint for gear 9-33323-00-0-1
1 Screw 9-33322-00-0-0
1 Conical notched pin 9-11595-14-0-1

Bag of vertical gear
K-14219-00-0-*

Fitting requirements for openers with corner gear according to quantity of stays for schemes 1 to 4n

Stück	1	2n	3n	4n	Bezeichnung	VE	Bestell-Nr.
1	1	2	3	4	Bag of stay VENTUS F 300 with angular sash bracket	1	K-13999-00-0-*
1	1	1	1	1	End cap	1	9-34479-00-0-*
1	1	1	1	1	Horizontal rod, Ø 10 mm		
1	1	1	1	1	Cover profile für horizontal rod		
					To be cut from:		
					Bag of rod/Cover profile length 600 mm	1	K-14001-06-0-*
					length 1870 mm	1	K-14001-18-0-*
					length 3500 mm	1	K-14001-33-0-*
					alternatively: Rod, Ø 10 mm, stock length 6000 mm	1	9-23055-60-0-1
					Cover profile, stock length 6000 mm	1	9-34497-60-0-*
1	1	1	1	1	Bag of vertical gear F 300	1	K-14219-00-0-*
1	1	1	1	1	Bag of corner gear	1	K-14282-00-0-*

Assembly drawing 0-42700

Fitting requirements for articulated crank rod and accessories according to types a to h for vertical and corner gears

Types	Description	PU	Article No.
a b c d e f g h			
1 1 1 1 1 1 1 1	Crank rod – to be cut from: aluminium tube, stock length 5000 mm	1	9-32230-50-0-*
1 1 1 1 1 1 1 1	Bag of hinged crank	1	K-13162-00-0-*
1 1 2 2 1 1	Bag of universal joint for crank rod	1	K-13164-00-0-1
1 1 1 1	Bag of coupling horn	1	K-13165-00-0-1

1 Hinged crank 9-32231-00-0-
1 Rod bracket 9-32232-00-0-
1 Conical notched pin 9-11595-14-0-1

Bag of hinged crank
K-13162-00-0-*

1 Universal joint for crank rod 9-24050-00-0-1
2 Conical notched pin 9-11595-14-0-1
1 Rod guide 6-25128

Bag of universal joint for crank rod
K-13164-00-0-1

1 Coupling horn 9-29570-00-0-1
1 Conical notched pin 9-11595-14-0-1

Bag of coupling horn
K-13165-00-0-1

Standard version
ELTRAL, vertical installation on the side

Corner cover 9-34579-00-0-*

Cover profile

Horizontal rod

End cap 9-34479-00-0-*

Stay arm bearing 6-26244-00-0-*

Rod bearing 9-34458-00-0-1

Stay 6-26243-00-0-*

Angular sash bracket 6-26246-00-0-1

Cover 9-33346-01-0-*

Guide 9-34491-00-0-0

Corner transmission 6-26247-00-0-1

ELTRAL S 230 L, S 230 E
Bag of connecting parts
K-14203-00-0-1
1 Connecting rod 9-34764-00-0-1
1 Coupling 6-26815-00-0-1
1 Guide 9-34491-00-0-0

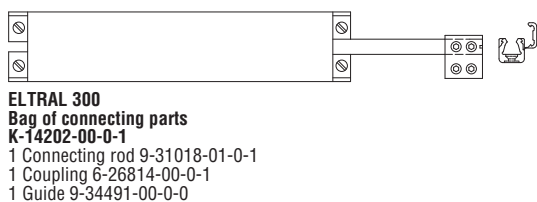
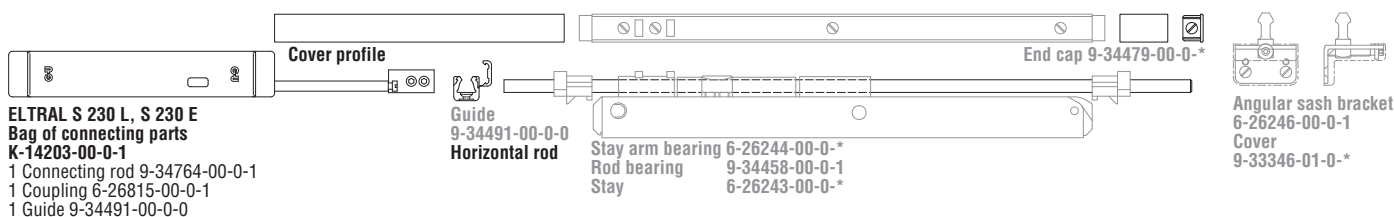
ELTRAL 300
1 Connecting rod 9-35331-00-0-1

Fitting requirements for openers with ELTRAL for vertical installation according to quantity of stays for schemes 1 to 4n

Quantity				Description	PU	Article No.
1	2n	3n	4n			
1	1	1	1	Basic box VENTUS F 300 without lever handle with angular sash bracket	1	K-14320-00-0-*
	1	2	3	Box of stay VENTUS F 300 with angular sash bracket	1	K-13999-00-0-*
1	1	1	1	Horizontal rod, Ø 10 mm		
1	1	1	1	Cover profile for horizontal rod		
				to be cut from:		
				Bag of rod/cover profile	1	K-14001-06-0-*
				Rod length 600 mm	1	K-14001-18-0-*
				Rod length 1870 mm	1	K-14001-33-0-*
				Rod length 3500 mm		
alternatively:				Rod, Ø 10 mm, stock length 6000 mm	1	9-23055-60-0-1
				Cover profile, stock length 6000 mm	1	9-34497-60-0-*
1	1	1	1	Electric drive ELTRAL S 230 L	1	6-31730-00-0-*
alternatively:				Electric drive ELTRAL S 230 E	1	6-31732-00-0-*
1	1	1	1	Bag of connecting parts, B = 620-3600	1	K-14203-00-0-1
1	1	1	1	Vertical rod, to be cut from rod Ø 10 mm		
alternatively:				Electric drive ELTRAL 300 E1	1	9-31020-01-0-*
alternatively:				Connecting rod, Ø 12 mm, B = 605-3600 mm	1	9-35331-00-0-1

Assembly drawing 0-42700
Assembly drawings ELTRAL S 230 0-42807, ELTRAL 300 0-42710

Standard version ELTRAL, horizontal installation at the top



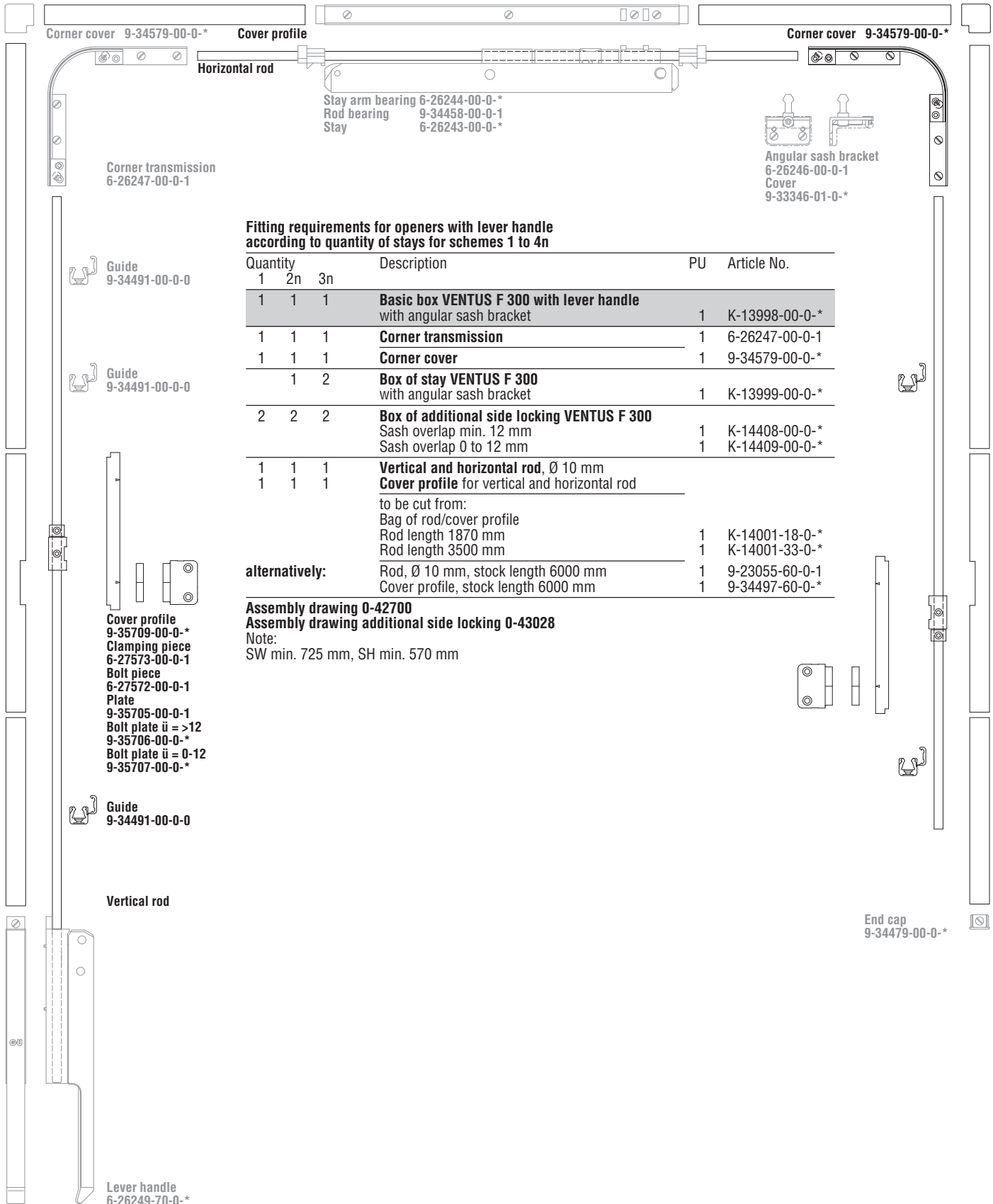
Fitting requirements for openers with ELTRAL for horizontal installation according to quantity of stays for schemes 1 to 4n

Quantity				Description	PU	Article No.
1	2n	3n	4n			
1	2	3	4	Box of stay VENTUS F 300 with angular sash bracket	1	K-13999-00-0-*
1	1	1	1	End cap	1	9-34479-00-0-*
1	1	1	1	Horizontal rod, Ø 10 mm		
1	1	1	1	Cover profile for horizontal rod		
				to be cut from		
				Bag of rod/cover profile	1	K-14001-06-0-*
				Rod length 600 mm	1	K-14001-18-0-*
				Rod length 1870 mm	1	K-14001-33-0-*
				Rod length 3500 mm	1	K-14001-33-0-*
alternatively:				Rod, Ø 10 mm, stock length 6000 mm	1	9-23055-60-0-1
				Cover profile, stock length 6000 mm	1	9-34497-60-0-*
1	1	1	1	Electric drive ELTRAL S 230 L	1	6-31730-00-0-*
alternatively:				Electric drive ELTRAL S 230 E	1	6-31732-00-0-*
1	1	1	1	Bag of connecting parts, B = 825-3600	1	K-14203-00-0-1
alternatively:				Electric drive ELTRAL 300 E1	1	9-31020-01-0-*
alternatively:				Bag of connecting parts 300, B = 850-3600	1	K-14202-00-0-1

Assembly drawing 0-42700

Assembly drawings ELTRAL S 230 0-42807, ELTRAL 300 0-42710

Standard version
Lever handle additional side locking



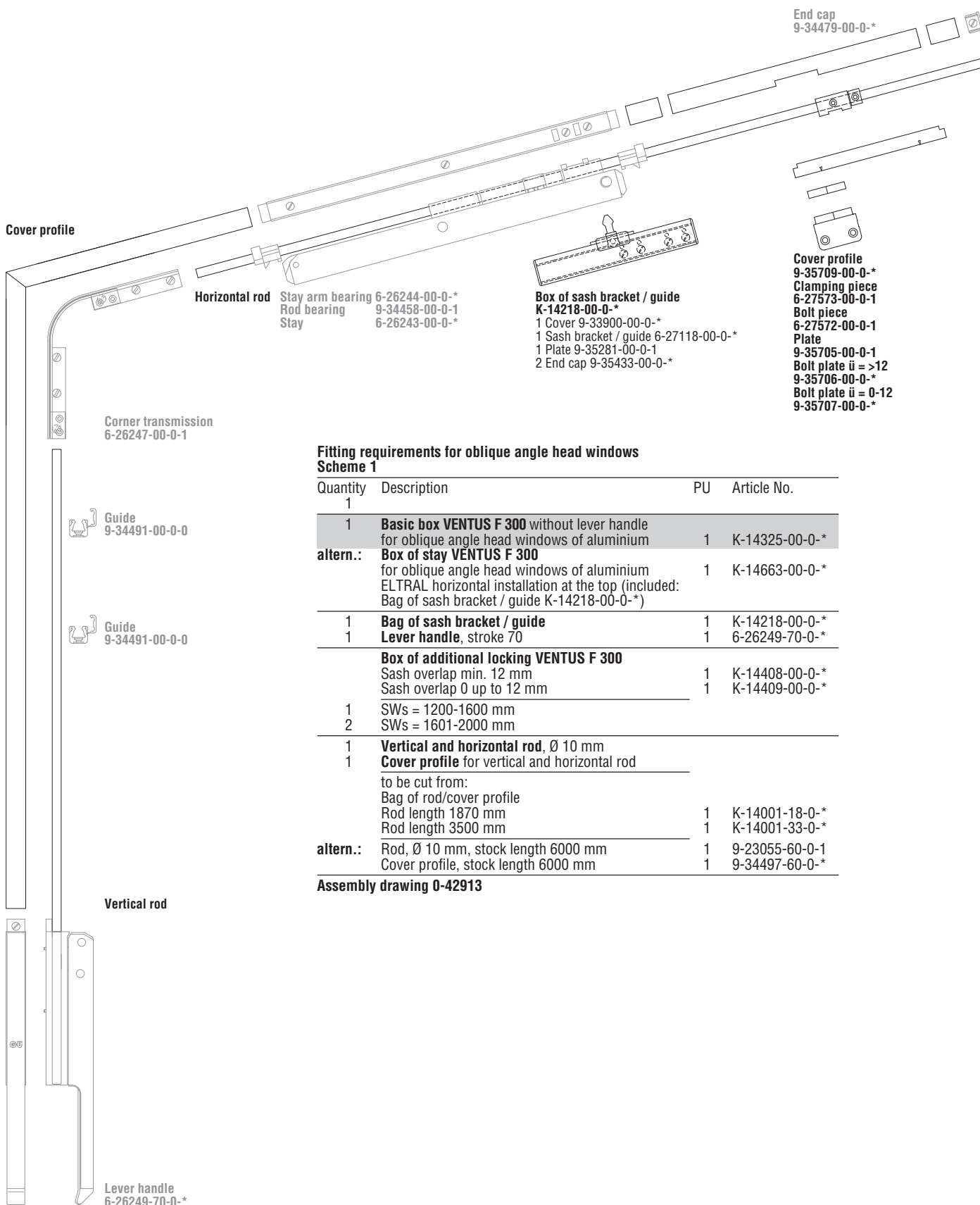
Fitting requirements for openers with lever handle according to quantity of stays for schemes 1 to 4n

Quantity			Description	PU	Article No.
1	2n	3n			
1	1	1	Basic box VENTUS F 300 with lever handle with angular sash bracket	1	K-13998-00-0-*
1	1	1	Corner transmission	1	6-26247-00-0-1
1	1	1	Corner cover	1	9-34579-00-0-*
	1	2	Box of stay VENTUS F 300 with angular sash bracket	1	K-13999-00-0-*
2	2	2	Box of additional side locking VENTUS F 300	1	K-14408-00-0-*
			Sash overlap min. 12 mm	1	K-14409-00-0-*
			Sash overlap 0 to 12 mm	1	K-14409-00-0-*
1	1	1	Vertical and horizontal rod, Ø 10 mm		
1	1	1	Cover profile for vertical and horizontal rod		
to be cut from:					
			Bag of rod/cover profile	1	K-14001-18-0-*
			Rod length 1870 mm	1	K-14001-33-0-*
			Rod length 3500 mm	1	K-14001-33-0-*
alternatively:					
			Rod, Ø 10 mm, stock length 6000 mm	1	9-23055-60-0-1
			Cover profile, stock length 6000 mm	1	9-34497-60-0-*

Assembly drawing 0-42700
Assembly drawing additional side locking 0-43028

Note:
SW min. 725 mm, SH min. 570 mm

Standard version
Oblique angle head windows



Fitting requirements for oblique angle head windows Scheme 1

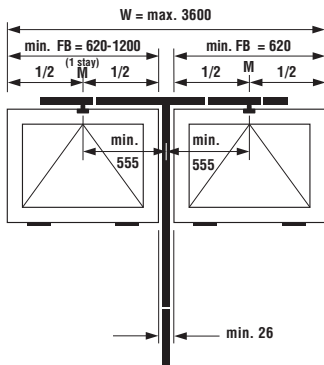
Quantity	Description	PU	Article No.
1	Basic box VENTUS F 300 without lever handle for oblique angle head windows of aluminium	1	K-14325-00-0-*
altern.:	Box of stay VENTUS F 300 for oblique angle head windows of aluminium ELTRAL horizontal installation at the top (included: Bag of sash bracket / guide K-14218-00-0-*)	1	K-14663-00-0-*
1	Bag of sash bracket / guide	1	K-14218-00-0-*
1	Lever handle , stroke 70	1	6-26249-70-0-*
	Box of additional locking VENTUS F 300		
	Sash overlap min. 12 mm	1	K-14408-00-0-*
	Sash overlap 0 up to 12 mm	1	K-14409-00-0-*
1	SWs = 1200-1600 mm		
2	SWs = 1601-2000 mm		
1	Vertical and horizontal rod, \varnothing 10 mm		
1	Cover profile for vertical and horizontal rod		
	to be cut from:		
	Bag of rod/cover profile		
	Rod length 1870 mm	1	K-14001-18-0-*
	Rod length 3500 mm	1	K-14001-33-0-*
altern.:	Rod, \varnothing 10 mm, stock length 6000 mm	1	9-23055-60-0-1
	Cover profile, stock length 6000 mm	1	9-34497-60-0-*

Assembly drawing 0-42913

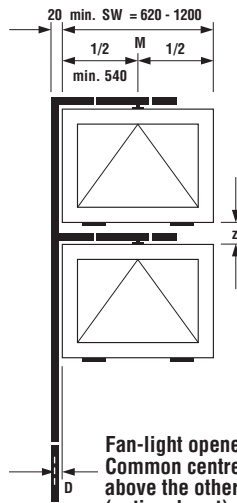
Special versions

Standard version, minimum dimensions

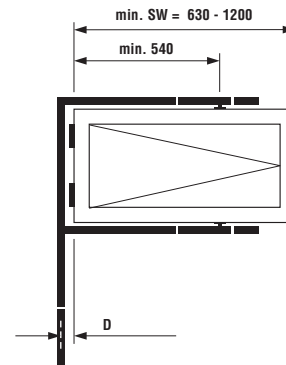
Special versions



Fan-light opener VENTUS F 200
Common centre operation of 2 side by side sashes, type 2n with T angle (optional part)

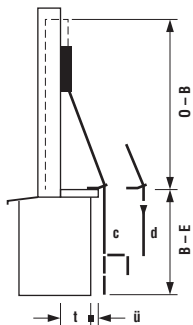


Fan-light opener VENTUS F 200
Common centre operation of 2 sashes one above the other, type 2ü with T angle (optional part)



Fan-light opener VENTUS F 200
Side hung sash with T angle (optional part)

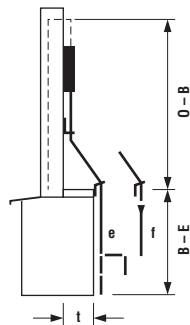
Standard version, minimum dimensions



O-B min. Vert.	t or Cor.	t + ü
395	200	30
430	200	60
465	200	90
500	210	120
535	245	150
570	280	180
610	315	210
645	350	240
680	390	270
715	425	300

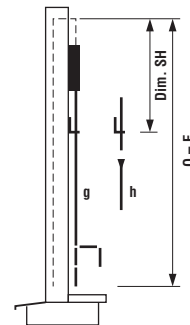
B-E min. Vert.	Type Cor.
475	475 c
515	515 d

O-E min. Vert.	Type Cor.
800	505 a
850	555 b



O-B min.	t
600	30
650	60
700	90
755	120
805	150
860	180
910	210
960	240
1015	270
1070	300

B-E min.	Type
475	e
515	f



dim. SH min.
350

O-E min.	Type
885	g
935	h

Vertical and corner gears

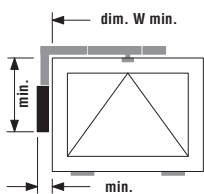
Types a, b, c and d

Vertical gear

Types e and f

Vertical gear

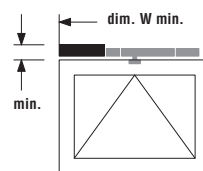
Types g and h



	ELTRAL S [1]	300
Space requirement	39	56
Installation height	468	400
dim. W max.	3600	6000

[1] ELTRAL S 230 L, S 230 E

ELTRAL, vertical installation on the side

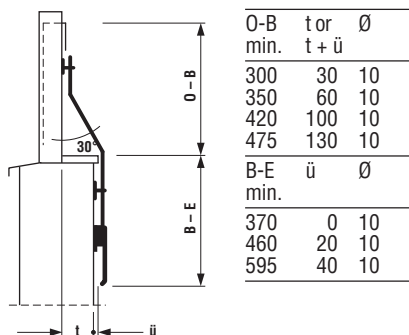


	ELTRAL S [1]	300
Space requirement	39	56
dim. W min.	825	850
dim. W max.	3600	6000

[1] ELTRAL S 230 L, S 230 E

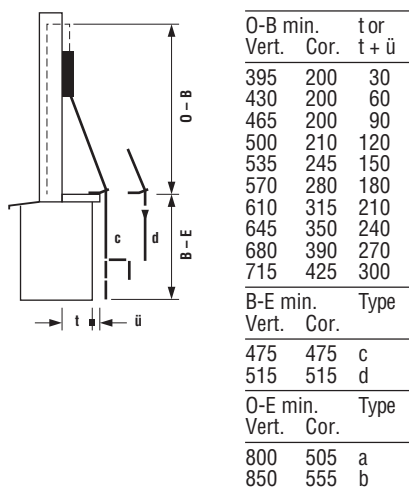
ELTRAL horizontal installation at the top

Rods cut to measure, minimum dimensions



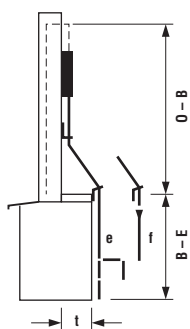
O-B min.	t or t + ü	Ø
300	30	10
350	60	10
420	100	10
475	130	10
B-E min.	ü	Ø
370	0	10
460	20	10
595	40	10

Rod transmission
Form A, Ø 10 mm



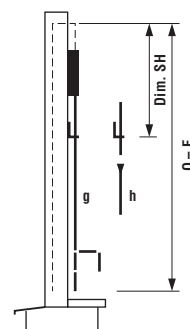
O-B min.	Vert. Cor.	t or t + ü
395	200	30
430	200	60
465	200	90
500	210	120
535	245	150
570	280	180
610	315	210
645	350	240
680	390	270
715	425	300
B-E min.	Type	
475	475	c
515	515	d
O-E min.	Type	
800	505	a
850	555	b

Vertical and corner gears
Type a, b, c and d



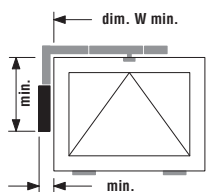
O-B min.	t
600	30
650	60
700	90
755	120
805	150
860	180
910	210
960	240
1015	270
1070	300
B-E min.	Type
475	e
515	f

Vertical gear
Type e and f



dim. SH min.	O-E min.	Type
350		
	885	g
	935	h

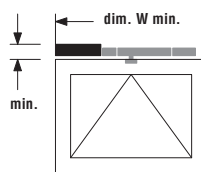
Vertical gear
Type g and h



	ELTRAL S [1]	300
Space requirement	39	56
Installation height	468	400
dim. W max.	3600	6000

[1] ELTRAL S 230 L, S 230 E

ELTRAL, vertical installation on the side

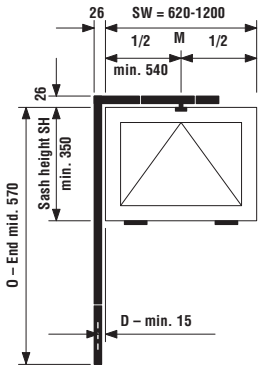


	ELTRAL S [1]	300
Space requirement	39	56
dim. W min.	825	850
dim. W max.	3600	6000

[1] ELTRAL S 230 L, S 230 E

ELTRAL horizontal installation at the top

Fan-light opener VENTUS F 300 Lever handle

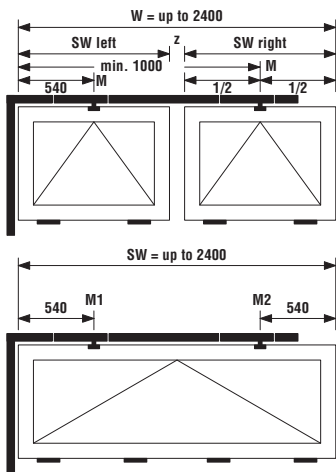


Scheme 1
Lever handle

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W up to 1200	
		Length of horizontal rod	
		540	
1000	765	1305	
1100	865	1405	
1200	965	1505	
1300	1065	1605	
1400	1165	1705	
1500	1265	1805	
1600	1365	1905	
1700	1465	2005	
1800	1565	2105	
1900	1665	2205	
2000	1765	2305	

Rod and cover profile size 33 = grey, 60 = white

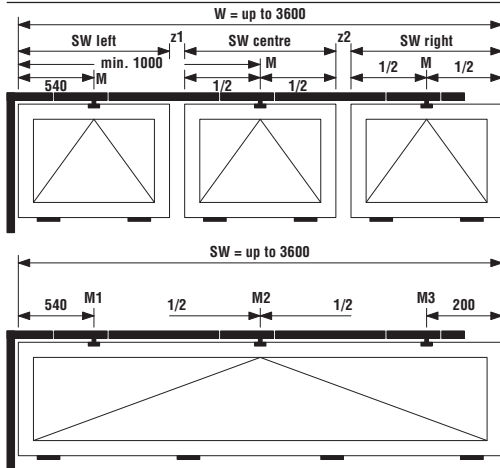


Scheme 2n

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W					
		Length of horizontal rod					
		1200	1400	1600	1800	2000	2200
1000	765	1965	2165	2365	2565	2765	2965
1100	865	2065	2265	2465	2665	2865	3065
1200	965	2165	2365	2565	2765	2965	3165
1300	1065	2265	2465	2665	2865	3065	3265
1400	1165	2365	2565	2765	2965	3165	3365
1500	1265	2465	2665	2865	3065	3265	3465
1600	1365	2565	2765	2965	3165	3365	3565
1700	1465	2665	2865	3065	3265	3465	3665
1800	1565	2765	2965	3165	3365	3565	3765
1900	1665	2865	3065	3265	3465	3665	3865
2000	1765	2965	3165	3365	3565	3765	3965

Rod and cover profile size 33 = grey, 60 = white

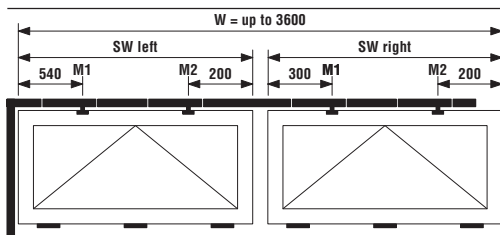


Scheme 3n

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W					
		Length of horizontal rod					
		2400	2600	2800	3000	3200	3400
1000	765	3165	3365	3565	3765	3965	4165
1100	865	3265	3465	3665	3865	4065	4265
1200	965	3365	3565	3765	3965	4165	4365
1300	1065	3465	3665	3865	4065	4265	4465
1400	1165	3565	3765	3965	4165	4365	4565
1500	1265	3665	3865	4065	4265	4465	4665
1600	1365	3765	3965	4165	4365	4565	4765
1700	1465	3865	4065	4265	4465	4665	4865
1800	1565	3965	4165	4365	4565	4765	4965
1900	1665	4065	4265	4465	4665	4865	5065
2000	1765	4165	4365	4565	4765	4965	5165

Rod and cover profile size 33 = grey, 60 = white



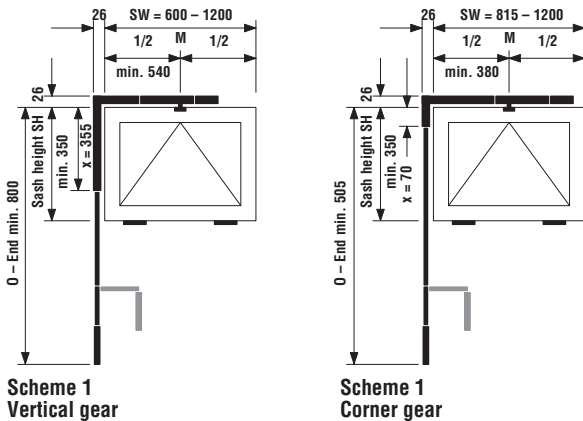
Scheme 4n

Rod length depending on total sash width and dim. O-End

O-End	Length of vertical rod	Total sash width dim. SW or W					
		Length of horizontal rod					
		2400	2600	2800	3000	3200	3400
1000	765	3165	3365	3565	3765	3965	4165
1100	865	3265	3465	3665	3865	4065	4265
1200	965	3365	3565	3765	3965	4165	4365
1300	1065	3465	3665	3865	4065	4265	4465
1400	1165	3565	3765	3965	4165	4365	4565
1500	1265	3665	3865	4065	4265	4465	4665
1600	1365	3765	3965	4165	4365	4565	4765
1700	1465	3865	4065	4265	4465	4665	4865
1800	1565	3965	4165	4365	4565	4765	4965
1900	1665	4065	4265	4465	4665	4865	5065
2000	1765	4165	4365	4565	4765	4965	5165

Rod and cover profile size 33 = grey, 60 = white

Fan-light opener VENTUS F 200 Vertical and corner gears, ELTRAL – vertical and horizontal installation

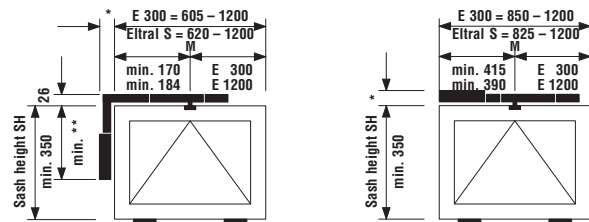


Scheme 1
Vertical gear

Scheme 1
Corner gear

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. FB or B			
	700	800	1000	1200
Vertical gear	540	540	540	540
Corner gear		585	635	735



Scheme 1
ELTRAL vertical, min. dimensions

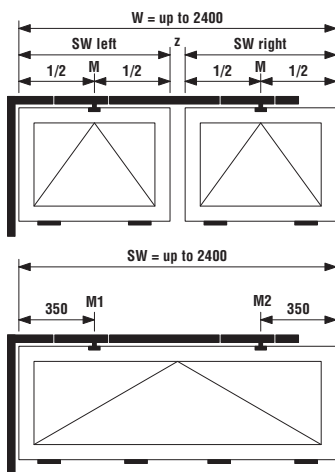
Scheme 1
ELTRAL horizontal, min. dimensions

	ELTRAL S [1]	300
*	39	56
**	468	400
W max.	3600	6000

	ELTRAL S [1]	300
*	39	56
W min.	825	850
W max.	3600	6000

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. SW or W				
	700	800	1000	1200	
ELTRAL S vertical [1]	730	830	990	1090	[1]
ELTRAL S horizontal [1]		540	650	750	ELTRAL S 230 L
ELTRAL 300 vertical	610	710	870	970	S 230 E
ELTRAL 300 horizontal		620	720		

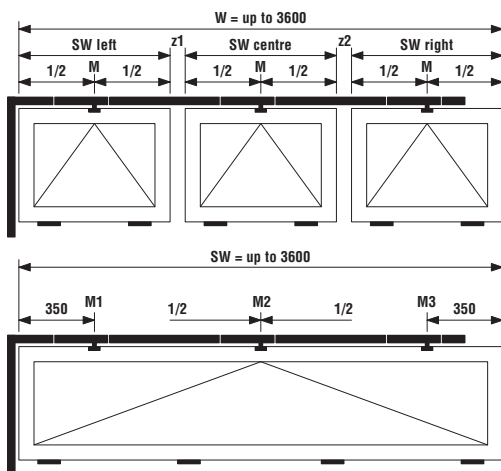


Scheme 2n

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. SW or W					
	1400	1600	1800	2000	2200	2400
Vertical gear	1200	1400	1600	1800	2000	2200
Corner gear	1145	1345	1545	1745	1945	2145
ELTRAL S vertical [1]	1430	1630	1830	2030	2230	2430
ELTRAL S horizontal [1]	1090	1290	1490	1690	1890	2090
ELTRAL 300 vertical	1310	1510	1710	1910	2110	2310
ELTRAL 300 oben	1060	1260	1460	1660	1860	2060

[1] ELTRAL S 230 L, S 230 E

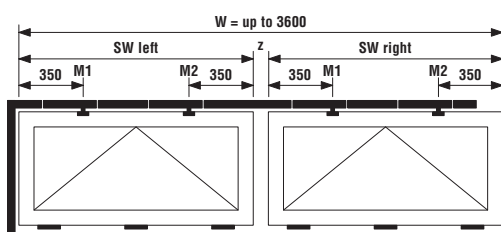


Scheme 3n

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. SW or W					
	2600	2800	3000	3200	3400	3600
Vertical gear	2400	2600	2800	3000	3200	3400
Corner gear	2345	2545	2745	2945	3145	3345
ELTRAL S vertical [1]	2630	2830	3030	3230	3430	3630
ELTRAL S horizontal [1]	2290	2490	2690	2890	3090	3290
ELTRAL 300 vertical	2510	2710	2910	3110	3310	3510
ELTRAL 300 oben	2260	2460	2660	2860	3060	3260

[1] ELTRAL S 230 L, S 230 E



Scheme 4n

Length of horizontal rod depending on total sash width

Drive	Total sash width dim. SW or W					
	2600	2800	3000	3200	3400	3600
Vertical gear	2400	2600	2800	3000	3200	3400
Corner gear	2345	2545	2745	2945	3145	3345
ELTRAL S vertical [1]	2630	2830	3030	3230	3430	3630
ELTRAL S horizontal [1]	2290	2490	2690	2890	3090	3290
ELTRAL 300 vertical	2510	2710	2910	3110	3310	3510
ELTRAL 300 horizontal	2260	2460	2660	2860	3060	3260

[1] ELTRAL S 230 L, S 230 E