

# Catalogue

## 09/2011

### HAUTAU PRIMAT

for timber, PVC, and aluminium elements



**HAUTAU**



# HAUTAU Catalogue

## Fanlight openers HAUTAU PRIMAT 09/2011

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**PRIMAT-FL 190** for inward opening bottom hung windows

PRIMAT-FL 190 basic fitting

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Additional locking ZV/F

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Window with top slant

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Corner for double-sash windows

Page 20

Flat arch window and round arch window

Page 22

**PRIMAT-A** for outward opening top hung windows

PRIMAT-A  
Basic fitting

Page 24

Additional locking ZV/A

Page 28

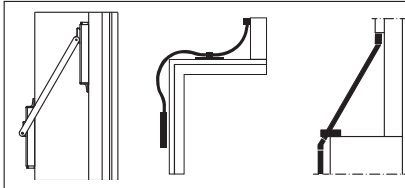
Corner for double-sash windows

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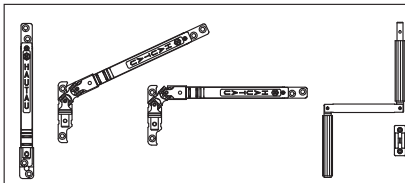


## Transmissions



Transmission for curtain walling	Page 32
Flexible transmission	Page 34
Spindle gear transmissions	Page 36

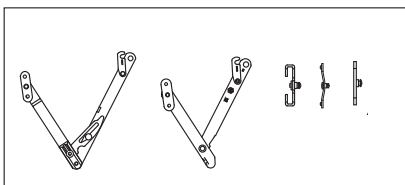
## Spindle gears



Spindle gears and crank rods

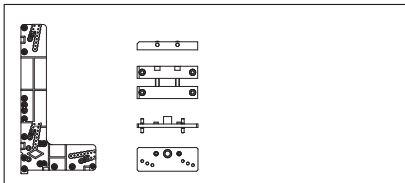
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## Accessories



Security stays KSP and restrictors

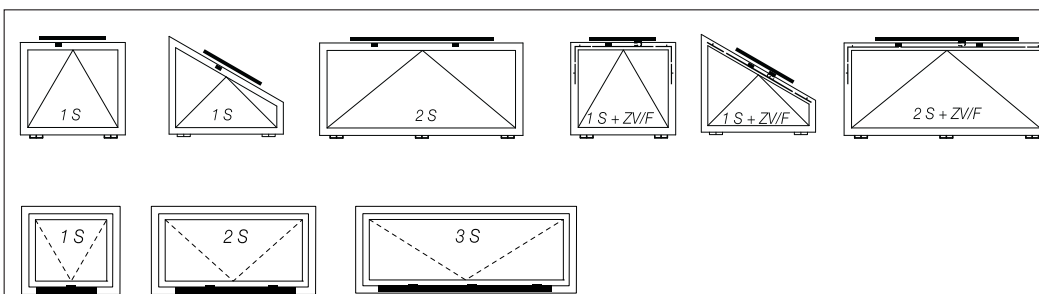
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Jigs

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## Drives



PRIMAT<sup>kompakt</sup> 190 / 300

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## PRIMAT, the most important benefits:

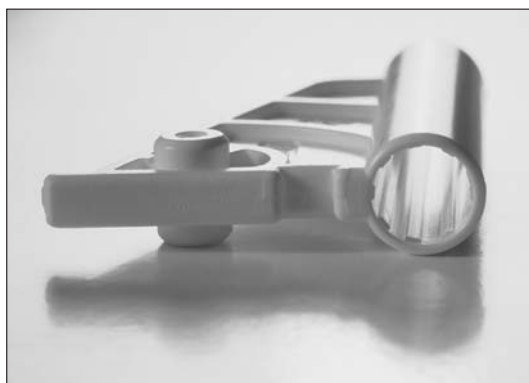
### PRIMAT-FL 190

- **Glass weight up to 70 kg/m<sup>2</sup>** possible
- **Additional third locking inside the stay for increased contact pressure** (heat insulation regulations). This window locking mechanism is a lot better than that of common fanlight openers as the holding points between sash and frame are closer together.
- Smooth operation despite large opening width (190 mm)
- The **anti-dirt profiling** inside the stays ensures smooth running over a long period of time as well as a long lifespan.
- Lever with **ergonomic recessed grips** for more convenient operation, also **lockable**
- Increased lever stroke for the proper functionality of an additional locking with mushroom cams installed inside the rebate



- **Visible parts made of aluminium**, functional parts made of steel with surface finish HAUTAU-S<sup>plus</sup> (chromed silver) for high anti-corrosion protection.
- Requires only 23 mm of space
- **Rod connection** to the corner without clamping screws, quick and permanently interlocking connection by simply hanging the rods
- **Universal sash bracket** with cover cap for all window materials, rebate 0 - 25 mm
- **No 45° section:** Alu cover profile with straight section and corner cover cap installed on the chain guide
- **Sash suspension with security knob**
- **Additional security:** An allen screw prevents the stay from unauthorized release

- **Easy installation:** stays and rods can be mounted from the front. Stay secured in the stay holder by coupling
- Opening stay with high closing pressure, automatic locking in closed position and stormproof fixing in open position
- Closing pressure adjustable on the sash bracket with simultaneous balancing of mounting inaccuracies
- Concealed fixing screws
- PVC rod guides with snappable locks
- Jigs for quick and easy assembly, universal right and left hand use on timber, PVC, and aluminium



### PRIMAT-A

- Elegant design, flat and modern structural shape (rods, cover profile, and lever same as PRIMAT-FL 190)
- **Large adjustable opening width:** 130 mm to approx. 170 mm
- three **sash brackets for possible recesses** of 0-75 mm; sash bracket on the pivot arm screwed on self-securingly (thread retention), locking pressure continuously adjustable
- Functional parts of the stay and the sash bracket made of stainless steel
- **Easy installation:** stays and rods can be mounted from the front; stay secured inside the stay holder by clamping screw; changing the stay position allows for right and left hand operation
- Jigs for quick and easy installation

## Accessories

### Additional lockings ZV/F – increased closing pressure for high tilt sashes, concealed inside the rebate or on the frame

You should always use lateral additional lockings for sash heights of 700 mm or greater.

#### Additional locking ZV/F

- Particularly well-suited for tall tilt sashes.
- No visible fitting parts - additional locking concealed inside the rebate
- Improved sealing and strong closing pressure for protection against driving rain and strong winds
- Improved security and burglar protection thanks to central locking system
- Despite the locking parts inside the rebate, it is still possible to install a catch stay and meet the requirements of the product liability law. The stay is screwed on to the lateral central lockings.
- Electronic closure control available on request.
- Also available for different locking systems when connected with special coupling parts.

### Flexible rod

for individual window constructions, suitable for round and flat arch windows or for use as a transmission.

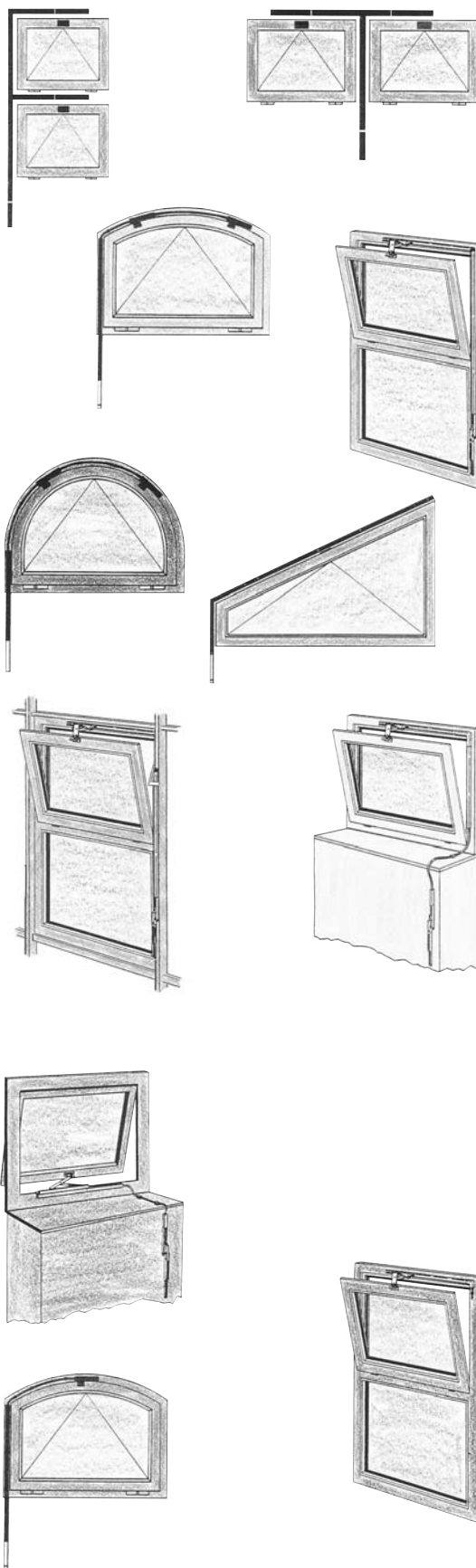
- Elegant and safe; designed to withstand pressures of up to 600 N and towing forces of up to 1000 N
- Available in grey, white and black
- Particularly smooth operation, even for small radii
- Packing units complete with accessories, no additional parts for flat arch windows necessary
- Individual adjustability
- Easily adjustable transmission for fanlight openers with manual operation; also available with spindle gear and electric drive
- No more corner transmissions or rod cranks
- Quick and easy installation

### Transmission for curtain walling

- Transmission for post heights up to 200 mm
- Can be combined with PRIMAT-FL 190 or PRIMAT-A
- Considerable design benefits
- Easy installation with jig

### Spindle gears

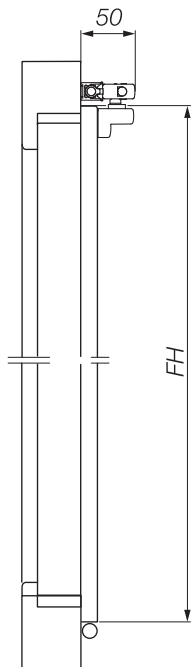
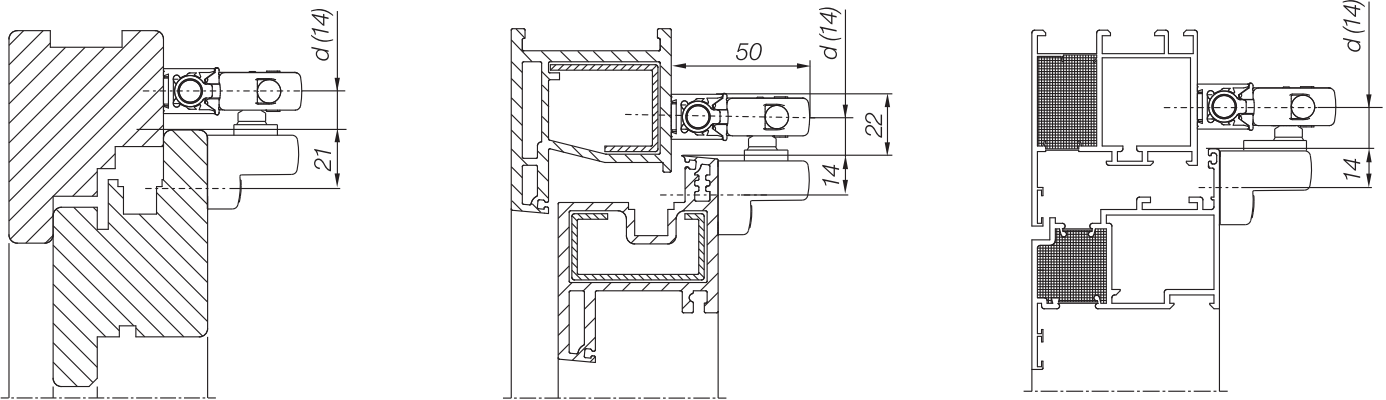
- **Extremely small footprint:**  
cover profile only 16 mm, fastening area 18 mm wide
- **Concealed installation** below the Alu cover profile of the PRIMAT flat type opener
- **Simpler storage:** spindle gear galvanized, the colour design is determined by the Alu cover profile
- **Trapezoid thread with 6 mm pitch:**  
large stroke volume achieved with a minimum of crank revolutions



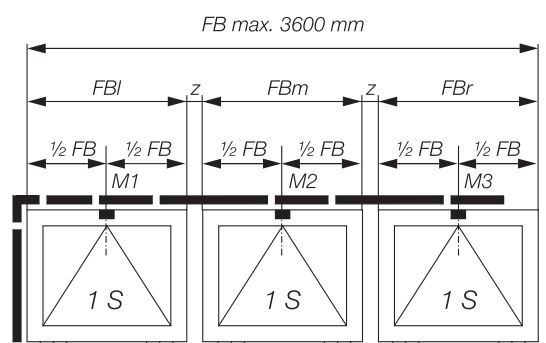
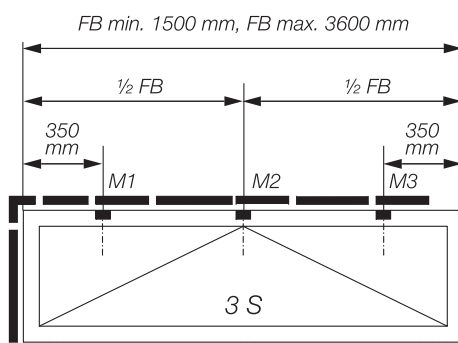
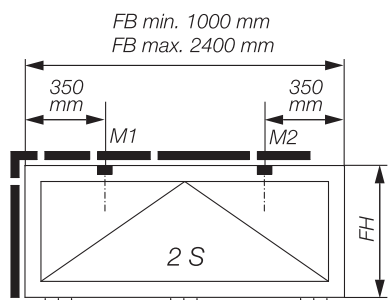
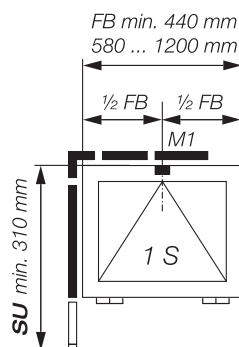
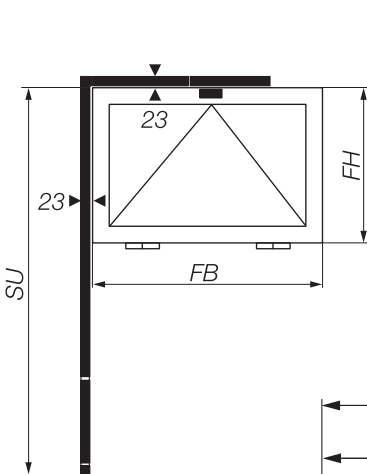
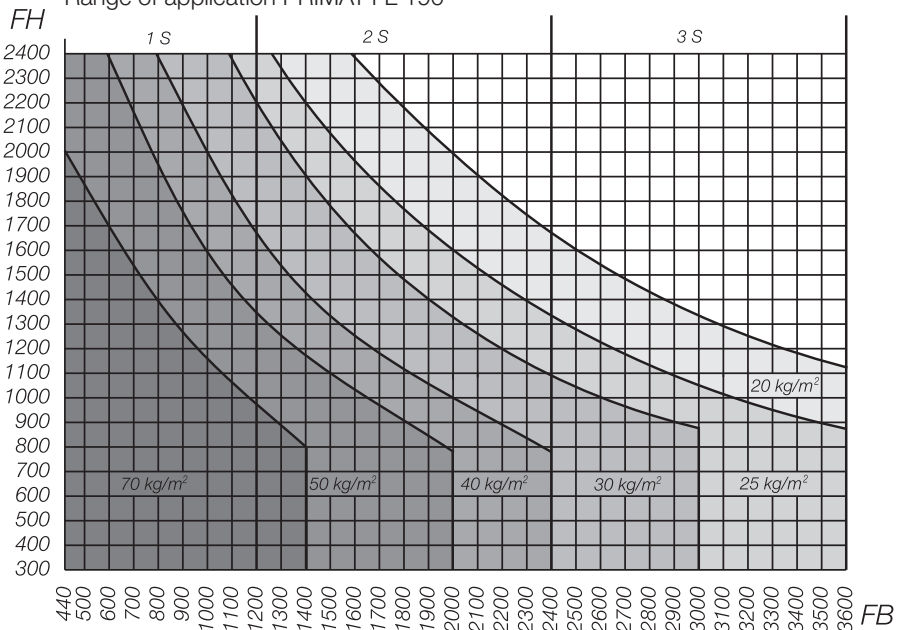
... for additional accessories such as corners for double sash windows, corners, and sash brackets for bevel windows or KSP and restrictors, refer to the following pages.



# Range of application PRIMAT-FL 190



Range of application PRIMAT-FL 190



## Range of application PRIMAT-FL 190

Sash width  
at least 440 mm - max. 1200 mm  
at least 1000 mm - max. 2400 mm  
at least 1500 mm - max. 3600 mm

1 stay  
2 stays  
3 stays

Sash height  
200 mm or greater  
300 mm\* or greater

space requirements  
23 mm  
23 mm

lever travel  
38 mm  
58 mm

opening width  
approx. 110 mm  
approx. 190 mm

Glass weights\* of up to 70 kg/m<sup>2</sup>  
\*weight for thickness of 1 mm ~ 2.5 kg/m<sup>2</sup>  
does not apply unless the distance between the sash's  
gravity centre and the centre of rotation is 25 - 65 mm.

sash weight max. 80 kg  
rod length: max. 3750 mm

\*Stock design

### Colour information PRIMAT-FL 190

	Stay	Cover profile	Lever	PVC corner cover caps
Design EV1	EV 1 ecru, anodized	EV 1 ecru, anodized	EV 1 ecru, anodized	black
Design white	white, coated RAL 9016	white, coated RAL 9016	white, coated RAL 9016	white
Design brown	brown coated RAL 8077	brown coated RAL 8077	brown coated RAL 8077	black
Design black	black, coated RAL 9005	black, coated RAL 9005	black, coated RAL 9005	black
Design medium bronze	C33, anodized	C33, anodized	C33, anodized	black
Design Niro look	anodized	anodized	anodized	black

Note: Cover caps colour matched, special colours available on request. Functional parts steel galvanized.  
Rods made of high solid steel materials, polished galvanized.

### Text for tender

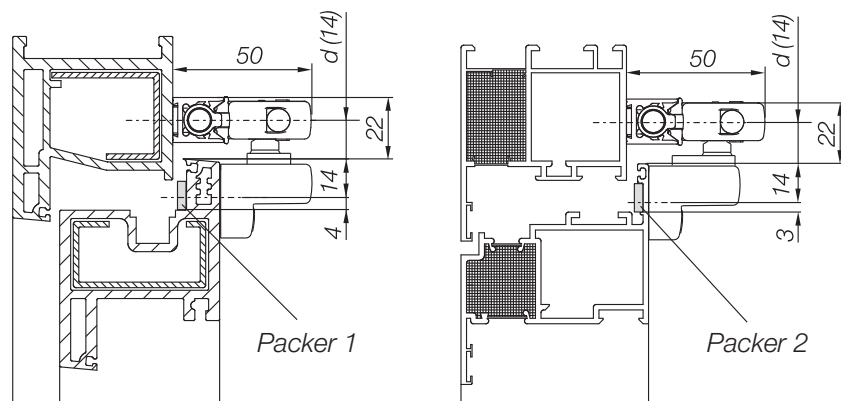
Flat type opener PRIMAT-FL 190 for inward tilt sashes with additional third locking systems concealed inside the stay for optimal sash closing pressure. Opening width approx. 190 mm. Stay, cover profile and lever made of aluminium in EV 1, white or black. Stay with automatic locking, detachable on the frame, stay attachment additionally secured by coupling. Suspendable rods, adjustable universal sash bracket with end cap, sash release with security knob, cover profile without bevel cut with corner end cap. Functional parts made of steel with surface finish **HAUTAU-S<sup>plus</sup>** (chromed silver). Rugged Alu lever with ergonomic recessed grips.

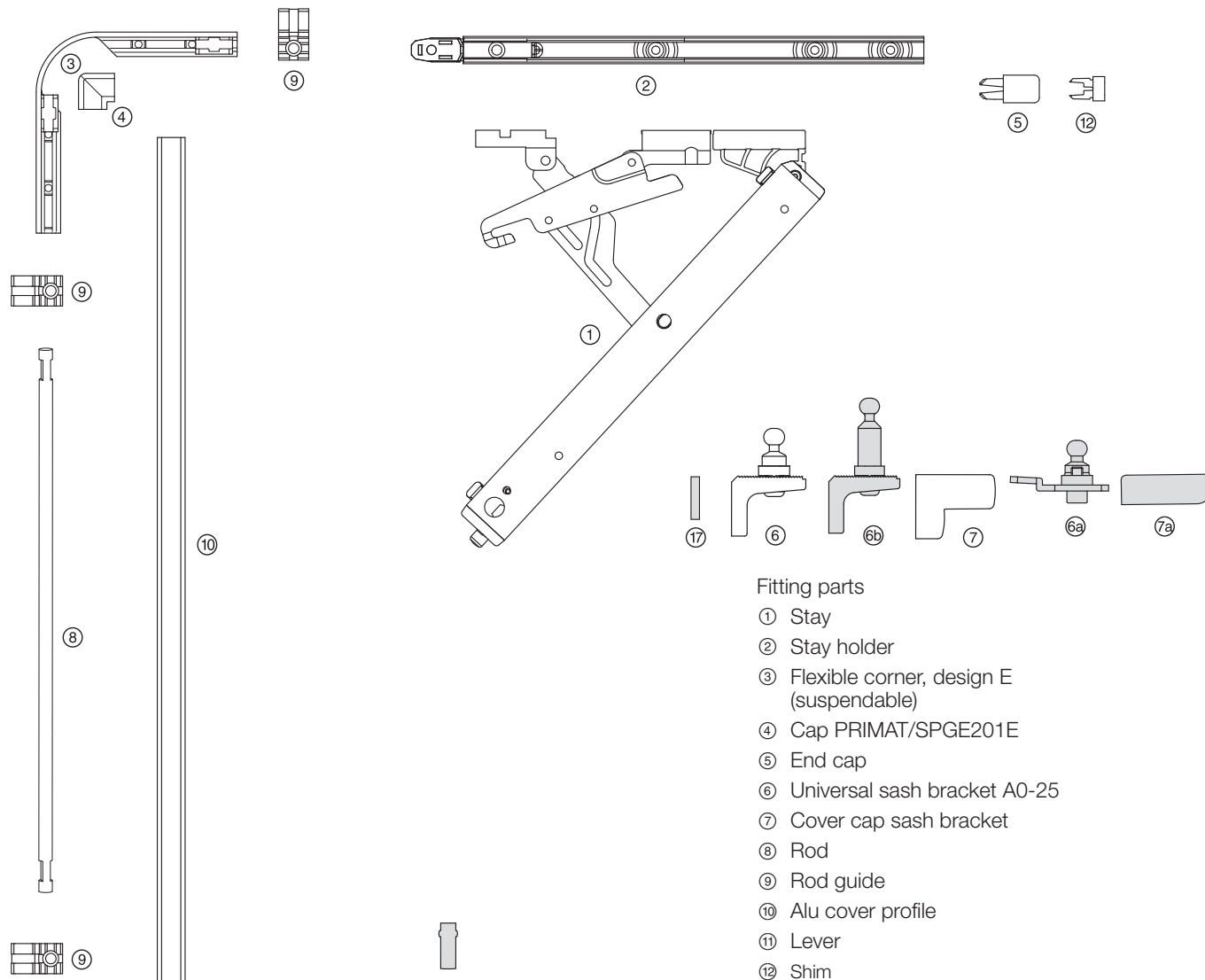
### Order details for custom made version

- Measure SU = rod length between upper edge of the sash to the lower edge of the lever (minimum measure 310 mm)
- Measure B = sash width (440 - 3600 mm)
- Measure H = sash height (minimum measure 200 mm)
- Number of stays
- Sash bracket type = universal sash bracket or screw sash bracket
- Lever position = left or right (only necessary for special designs)
- Measure d = outer sash to the middle of the rod (only necessary for measures other than 14 mm)
- Measure Bl, Bm, Br, z = 2 or 3 sashes
- Profile system = timber, PVC, steel or aluminium windows
- Colour = EV 1, white (RAL 9016) or black (RAL 9005)

### Note:

In combination with inward and outward tilt sashes you will also need **restrictors** on top of the fitting, which will limit the sash's tilt position when the opening stay is released (catch position). The catch position is slightly wider than the width of the opening stay.



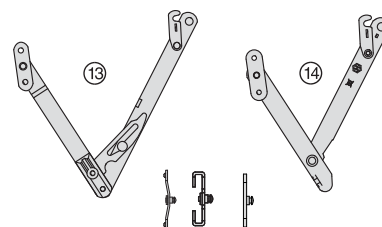
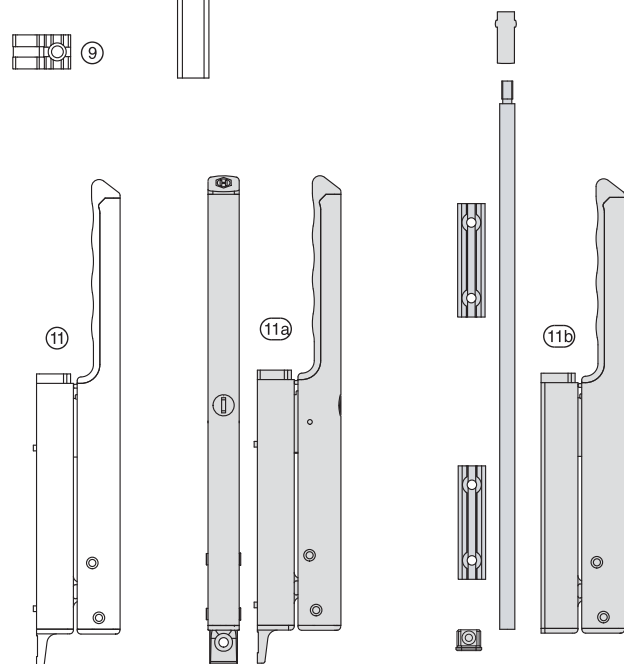


Fitting parts

- ① Stay
- ② Stay holder
- ③ Flexible corner, design E (suspendable)
- ④ Cap PRIMAT/SPGE201E
- ⑤ End cap
- ⑥ Universal sash bracket A0-25
- ⑦ Cover cap sash bracket
- ⑧ Rod
- ⑨ Rod guide
- ⑩ Alu cover profile
- ⑪ Lever
- ⑫ Shim

Optional:

- ⑥a Top mounted sash bracket A14-20
- ⑥b Sash bracket A0-25 timber window
- ⑦a Cover cap for top mounted sash bracket A14-20
- ⑪a Lever, lockable
- ⑪b Lever, pivoting
- ⑬ Security stay KSP
- ⑭ Restrictor
- ⑰ Packer 1 or 2





## Fitting parts PRIMAT-FL 190

Packing units	EV 1	white	brown	black	medium bronze	Niro look
	see the following page					
<b>Individual parts</b>	<b>EV 1</b>	<b>white</b>	<b>brown</b>	<b>black</b>	<b>medium bronze</b>	<b>Niro look</b>
① Stay	170525	170528	171227	170534	170531	169481
② Stay holder	168452	168455	171230	168449	168458	169484
③ Flexible corner, design E = suspendable	196538	196538	196538	196538	196538	196538
④ Cap PRIMAT/SPGE201E	211546	211549	211546	211546	211546	211546
⑤ End cap	172840	173509	172840	172840	172840	172840
⑥ Universal sash bracket A0-25	172083	172083	172083	172083	172083	172083
⑦ Cover cap for universal sash bracket A0-25	195878	195872	195875	195875	195881	195875
⑧ Rod 8 mm Ø, design E						
	L = 1000 mm	108041	108041	108041	108041	108041
	L = 2000 mm	108044	108044	108044	108044	108044
	L = 2500 mm	108047	108047	108047	108047	108047
	L = 3000 mm	108050	108050	108050	108050	108050
	L = 3750 mm	108053	108053	108053	108053	108053
⑨ Rod guide	176337	176337	176337	176337	176337	176337
⑩ Alu cover profile						
	L = 2000 mm	168869	168872	168875	168881	170142
	L = 3000 mm	168839	168842	168845	168851	170146
⑪ Lever						
	stroke 58 mm	171035	171038	190219	171044	171041
	stroke 38 mm	173110	173113	228562	173116	170140
⑪a Lever, lockable	stroke 58 mm	171050	171053	228565	171059	171056
⑪b Lever, pivoting	stroke 58 mm	168950	168953	228568	169667	172035
⑫a Top mounted sash bracket A14-20	173266	173266	173266	173266	173266	173266
⑫b Cover cap for top mounted sash bracket A14-20	127904	127889	127901	127901	127901	127901
⑬ Sash bracket A0-25 timber window	217482	217482	217482	217482	217482	217482
⑭ Shim	127907	127907	127907	127907	127907	127907
<b>Bulk pack</b>	<b>EV 1</b>	<b>white</b>	<b>brown</b>	<b>black</b>	<b>medium bronze</b>	<b>Niro look</b>
	see the following page					
<b>Accessories</b>						
⑬ KSP stays						see page 48/49
⑭ Restrictors						see page 50/51
Sleeve 8/8 mm (no ill.)						107171
⑰ Packer 1						108014
⑰ Packer 2						108017
Installation instructions PRIMAT-FL 190 (complete)						184656





## Fitting parts PRIMAT-FL 190 continued

Packing units	EV 1	white	brown	black	medium bronze	Niro look
Basic carton PRIMAT-FL 190, design E, with universal sash bracket A0-25 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	173002	173005	190213	173008	170170	176529
Basic carton PRIMAT-FL 190, design E, with timber sash bracket AH0-25 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	236246	236249	236252	-	-	-
Basic carton PRIMAT-FL 190, design E, with top mounted sash bracket A14-20 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	173020	173023	228814	173026	170164	176532
Additional carton PRIMAT-FL 190 with universal sash bracket A0-25 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	173056	173059	190216	173062	170167	176535
Additional carton PRIMAT-FL 190 with timber sash bracket AH0-25 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	234862	234865	234868	234871	234874	-
Additional carton PRIMAT-FL 190 with top mounted sash bracket A14-20 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	173074	173077	228817	173080	170161	176538
Additional carton PRIMAT-FL 190 stay with release protection with universal sash bracket A0-25	173092	173095	228820	173098	170176	176541
Additional carton PRIMAT-FL 190 without sash bracket ① ② ③ ④ ⑤ ⑥	173101	173104	228823	173107	170179	176547
Additional carton PRIMAT-FL 190 for bevel windows with corner sash bracket AS 0-25 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	173083	173086	228826	173089	170173	176541
Carton with lever, stroke 58 mm ⑪	171035	171038	190219	171044	171041	171047
Carton with lever, stroke 38 mm ⑪	173110	173113	228562	173116	170140	170966
Carton with lever, lockable, stroke 58 mm ⑪	171050	171053	228565	171059	171056	171062
Carton with lever, pivoting, stroke 58 mm ⑪	168950	168953	228568	169667	172035	169520
Bag with corner PRIMAT-FL 190 with accessories ③ ④ ⑤	228109	228106	228109	228109	228109	228109
<b>Bulk pack</b>	<b>EV 1</b>	<b>white</b>	<b>brown</b>	<b>black</b>	<b>medium bronze</b>	<b>Niro look</b>
Lever, stroke 58 mm, pack of 25 ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	169037	169040	190222	173146	170182	-
Stays with universal sash bracket A0-25, pack of 25 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	173128	173131	190225	173134	170185	-
Stays with top mounted sash bracket A14-20, pack of 25 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	173137	173140	228829	173143	170188	-
Cover profiles, pack of 20 L = 6000 mm	172316	172322	190228	172328	172325	-

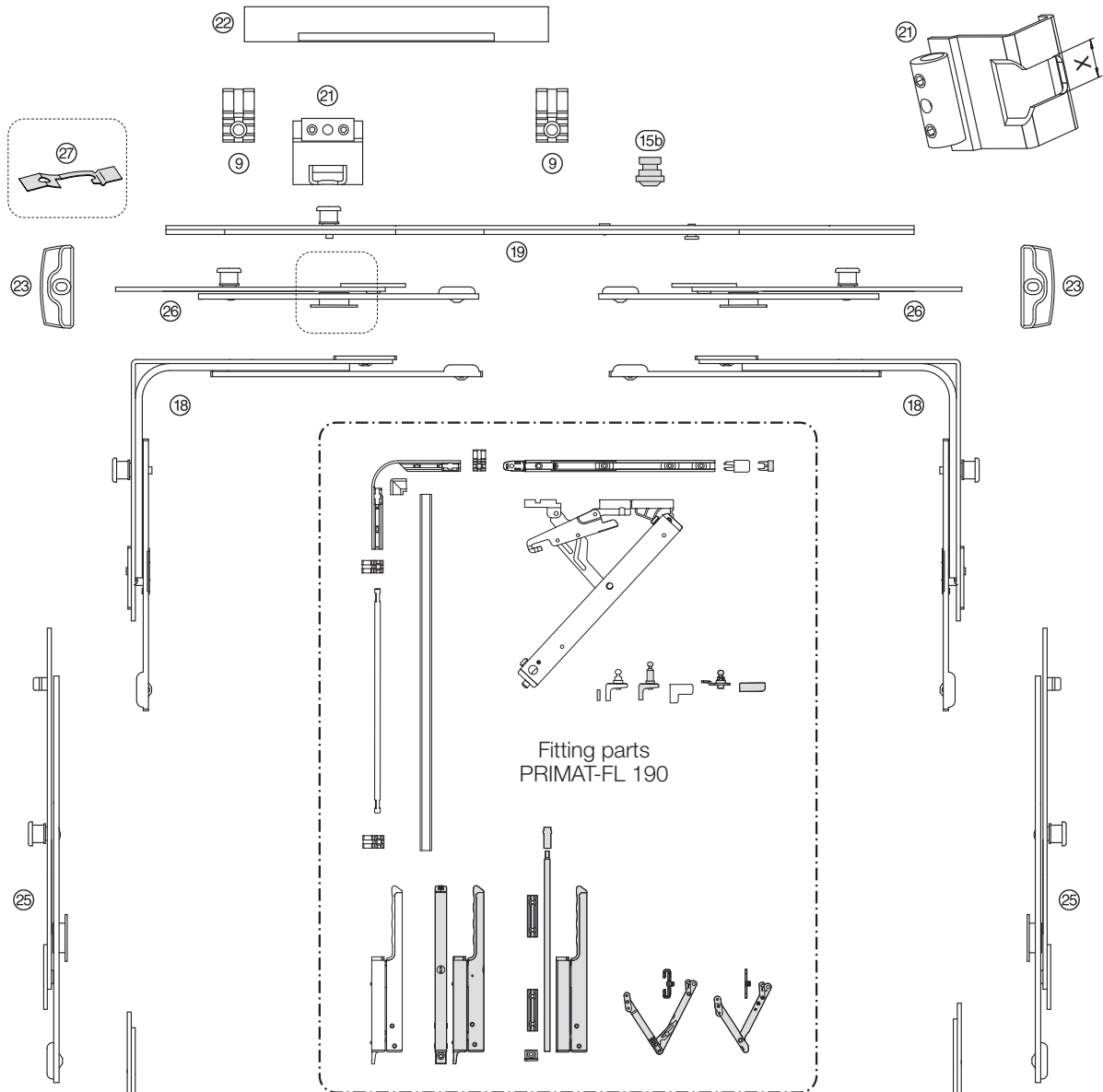
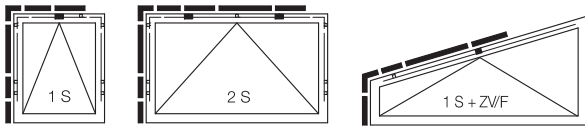




## Contents of the packing units PRIMAT-FL 190

### Packing units

Basic carton PRIMAT-FL 190	1 stay with stay holder, 1 sash bracket with cover cap, 1 corner, 3 rod guides, 1 end cap, 1 lever
Additional carton PRIMAT-FL 190	1 stay with stay holder, 1 sash bracket with cover cap, 1 rod guide, 1 shim
Additional carton PRIMAT-FL 190 for bevel windows	1 stay with stay holder, 1 bevel window sash bracket, 1 rod guide, 1 shim, 1 end cap
Additional carton PRIMAT-FL 190	1 stay with stay holder, 1 rod guide, 1 shim
Carton with lever	1 lever
Carton with lever, lockable	1 lever
Carton with lever, pivoting	1 pivoting lever (with mounting accessories)
Bag with flexible corner	1 corner, 2 rod guides, corner cover caps
Bag with corner for double-sash windows	1 corner, 3 rod guides, coupling bar
Bag with additional locking ZV/F	1 coupling, 1 cover piece, 2 rod guides
Bulk pack, pack of 25, lever	25 levers, 25 chain guides, 50 rod guides, 25 end caps stay
Bulk pack, pack of 25, stays with universal sash bracket A0-25	25 stays with stay holder, 25 universal sash brackets with cover caps, 25 rod guides, 25 shims
Bulk pack, pack of 25, stays with top mounted sash bracket A14-22	25 stays with stay holder, 25 top mounted sash brackets with cover caps, 25 rod guides, 25 shims
Bulk pack, pack of 20, cover profiles	20 profiles, each 6,000 mm long



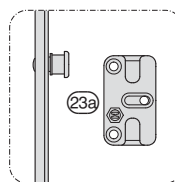
Fitting parts  
PRIMAT-FL 190

**Fitting parts**

- ⑨ Rod guide
- ⑮ Sleeve 10,0 x 10,2
- ⑱ Corner
- ⑱ Corner ES 2 (no ill.)
- ⑲ Connecting rod ZV/F
- ⑳ Central locking
- ㉑ Coupling part ZV/F
- ㉒ Alu cover profile ZV/F
- ㉓ Striker
- ㉓a Security striker
- ㉔ End locking
- ㉕ Linkage 400

**Optional:**

- ㉗ Catch spring (no ill.) for windows with top slant and side hung window



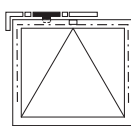
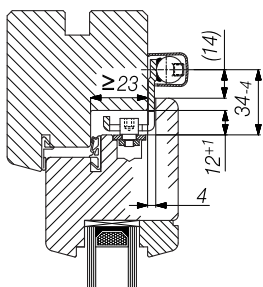
Security striker and steel mushroom cams for **SKG**-certified design.

Use the lockable design with lever operation.

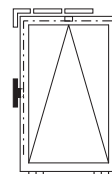
## Additional locking ZV/F

units/strikers/individual parts	EV 1	white	brown	black	medium bronze	Niro look	Lock Packing cams
Accessories ZV/F (coupling parts) ②① ②② ②③							
measure x = 8,3 mm	225316	225319	228349	225322	225325	225328	-
Connecting rod ZV/F ①⑨	221190	221190	221190	221190	221190	221190	0
HAUTAU-S <sup>plus</sup>	221190	221190	221190	221190	221190	221190	0
1 unit	221193	221193	221193	221193	221193	221193	0
	221199	221199	221199	221199	221199	221199	1
	221202	221202	221202	221202	221202	221202	2
	221205	221205	221205	221205	221205	221205	2
Central locking for additional locking ZV/F ②④	221232	221232	221232	221232	221232	221232	1
HAUTAU-S <sup>plus</sup>	221235	221235	221235	221235	221235	221235	1
1 unit	221238	221238	221238	221238	221238	221238	1
	221241	221241	221241	221241	221241	221241	1
Linkage 200 URZ ②⑤	217668	217668	217668	217668	217668	217668	1
1 unit HAUTAU-S <sup>plus</sup>							
Linkage 400 URZ ②⑥	227959	227959	227959	227959	227959	227959	1
1 unit HAUTAU-S <sup>plus</sup>							
Linkage ZV/F ②⑦	215571	215571	215571	215571	215571	215571	1
1 unit HAUTAU-S <sup>plus</sup>							
Corner ZV/F ①⑧	215598	215598	215598	215598	215598	215598	1
1 unit HAUTAU-S <sup>plus</sup>							
Corner ZV/F ES 2 ①⑧a	215595	215595	215595	215595	215595	215595	2
1 unit HAUTAU-S <sup>plus</sup>							
Striker ②⑧	see striker list ATRIUM HKS® (Internet)						
Security striker (design WK2/SKG) ②⑧a	see striker list ATRIUM HKS® (Internet)						

Individual parts	EV 1	white	brown	black	medium bronze	Niro look
②① Coupling part ZV/F measure x = 8,3 mm handle, top	223950	223950	223950	223950	223950	223950
②② Alu cover profile ZV/F	171726	171729	228346	171732	170212	169475
②③ Rod guide	176337	176337	176337	176337	176337	176337
②④ Catch spring for End locking/bevel windows	192574	192574	192574	192574	192574	192574
①⑤⑨ Sleeve 10,0 x 10,2	200543	200543	200543	200543	200543	200543



FB 621 ... 2400 mm  
FH at least 300 mm  
top coupling ZV/F



FB 440 ... 620 mm  
FH at least 500 mm  
lateral coupling ZV/F

### Fitting composition

Example for 1 tilt sash, white, WK2, horizontal and straight, FB 1000 m / FH 1500 mm

- 1 x Bag of additional lockings ZV/F (measure x = 8.3 mm)
- 1 x Connecting rod 221193
- 2 x Linkage 400 227959
- 2 x Central locking 221235
- 2 x Corner 215595
- 6 x Striker, profile related

### You will need the following additional fitting parts:

1. Basic carton PRIMAT-FL 190
2. Rod 8 mm Ø
3. Alu cover profile
4. KSP stay or restrictor 113



## Order matrix ZV/F-URZ

	FB	440 - 620					621 - 900					901 - 1200			
		FH 500 - 700	FH 701 - 1100	FH 1011 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100
Bag of additional lockings ZV/F (coupling parts) ⑳ ㉑ ㉒ measure x = 8.3 mm		225316 (EV1) 225319 (white) 228349 (brown) 225322 (black) 225325 (medium bronze) 225328 (Niro-Look)	1	1	1	1	1	1	1	1	1	1	1	1	1
Connecting rod ZV/F ⑲	221190		1	1	1	1	1	1	1	1	1	1	-	-	-
	221193		-	-	-	-	-	-	-	-	-	-	1	1	1
	221199		-	-	-	-	-	-	-	-	-	-	-	-	-
	221202		-	-	-	-	-	-	-	-	-	-	-	-	-
	221205		-	-	-	-	-	-	-	-	-	-	-	-	-
Central locking ㉔	221232		-	2	-	-	-	-	-	-	-	-	-	-	-
	221235		-	-	2	-	-	-	2	-	-	-	-	-	-
	221238		-	-	-	2	-	-	-	2	-	-	-	-	-
	221241		-	-	-	-	2	-	-	-	-	2	-	-	-
Linkage 200 ㉕	217668		1	-	-	-	-	-	-	-	-	-	-	-	-
Linkage 400 ㉖	227959		-	-	-	-	-	-	2	2	2	2	-	-	2
End locking ㉗	215571		-	-	-	-	2	-	-	-	-	-	2	-	-
Corner ⑲	215598		2	2	2	2	2	-	2	2	2	2	-	2	2
Corner ES 2 (optional with WK2 + SKG) ⑲a	215595		2	2	2	2	2	2	2	2	2	2	2	2	2
Striker standard ㉘	see list***		2	4	4	4	4	2	2	4	6	6	2	2	4
Security Striker (optional with WK2 + SKG)* ㉘a	see list***		4	6	6	6	6	4	4	6	8	8	2	4	6
KSP size 1 1 pair	140927		-	-	-	-	-	1	-	-	-	-	1	-	-
KSP size 2 1 pair	140930		-	-	-	-	-	-	-	-	-	-	-	-	-
KSP size 2 right or left	117452 / 117470		1	-	-	-	-	-	-	-	-	-	-	-	-
Restrictor 113, Spw. 250 mm left	159630		-	1	1	1	1	-	-	-	1	1	1	-	-
Restrictor 113, Spw. 250 mm right	159627		-	-	1	1	1	-	-	-	1	1	1	-	-

### Note:

\* max. 6 strikers under pressure (lateral), on top stay locking, more than 6 security strikers in neutral position!

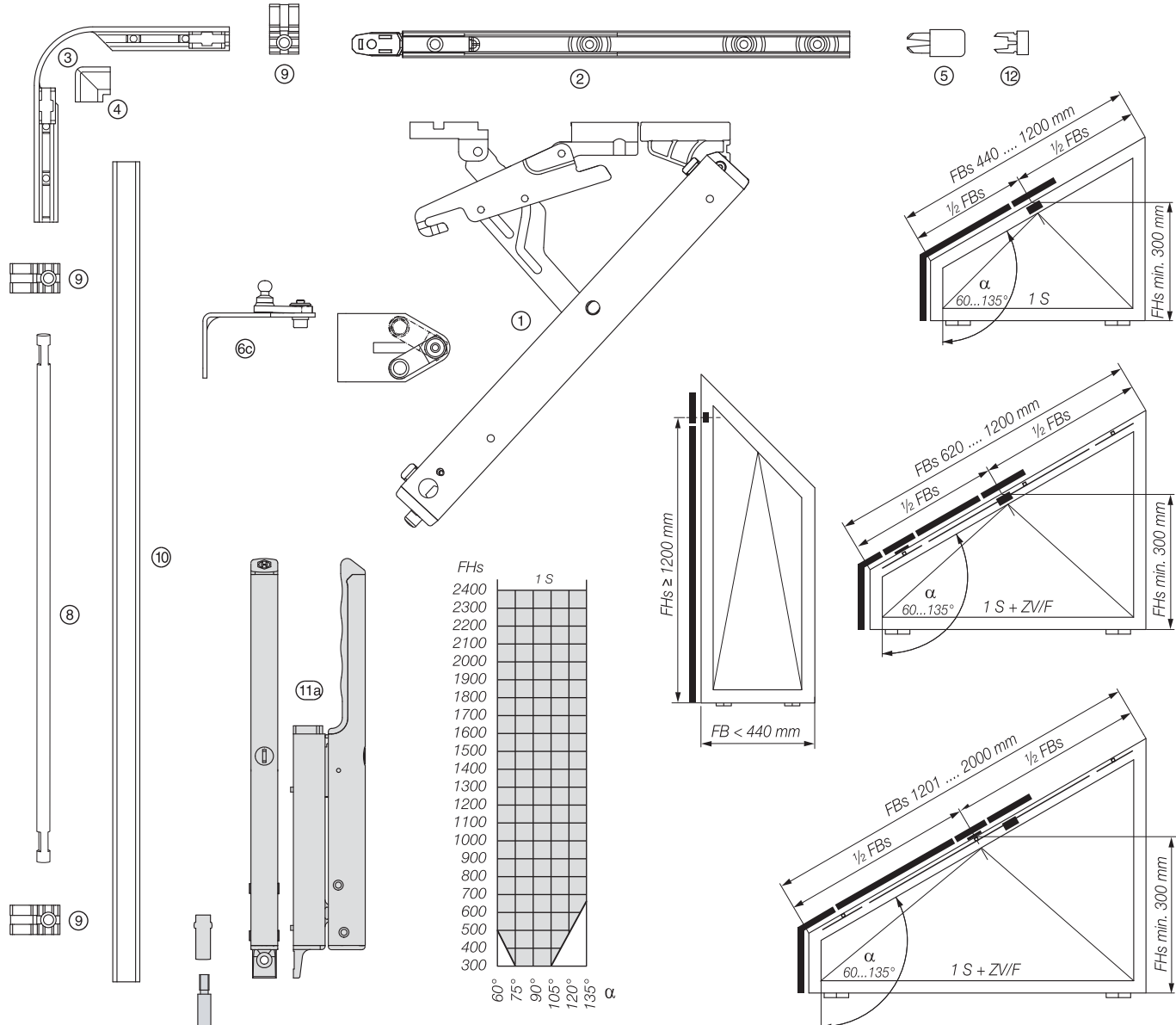
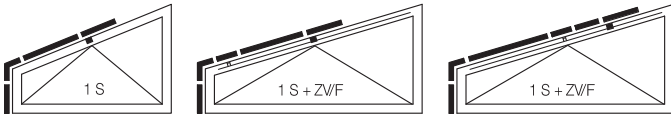
\*\* bush 10.0 x 10.2 ⑲b required

\*\*\* striker list ATRIUM HKS® (Internet)

op = optional; Spw. = span width



901 - 1200			1201 - 1600						1601 - 2000						2001 - 2400						bevel windows			
FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	Bs 621 - 900	Bs 901 - 1200	Bs 1201 - 1600	Bs 1601 - 2000
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	-
-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-
-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2	2	-	-	2	2	2	2	-	-	2	2	2	2	-	-	2	2	2	2	-	-	-	-
-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	2	2	2
2	2	2	-	2	2	2	2	2	-	2	2	2	2	2	-	2	2	2	2	2	-	-	-	-
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-
6	6	6	2	3	5	5	6	6	2	4	6	6	6	6	3	4	6	6	6	6	2	2	2	3
8	8	8	2	5	7	7	9	9	2	6	8	10	10	10	3	6	8	10	10	10	-	-	-	-
-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	1	1	-	1	1	1	1	1	-	1	1	1	1	1	-	1	1	1	1	1	op	op	op	op
1	1	1	-	1	1	1	1	1	-	1	1	1	1	1	-	1	1	1	1	1	op	op	op	op

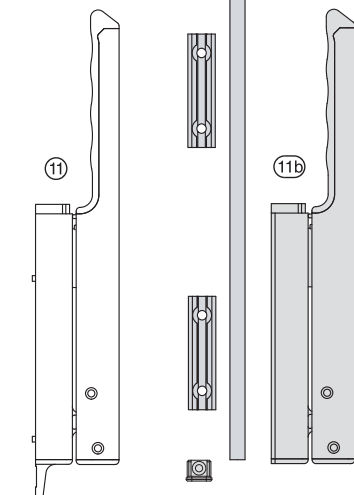
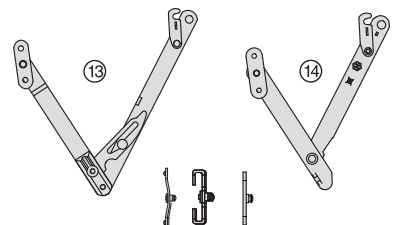


**Fitting parts**

- ① Stay
- ② Stay holder
- ③ Flexible corner
- ④ Cap PRIMAT/SPGE201E
- ⑤ End cap
- ⑥c Corner sash bracket AS0-25
- ⑧ Rod
- ⑨ Rod guide
- ⑩ Alu cover profile
- ⑪ Lever

**Optional:**

- ⑪a Lever, lockable
- ⑪b Lever, pivoting
- ⑫ Shim
- ⑬ Security stay KSP
- ⑭ Restrictor





## Window with top slant

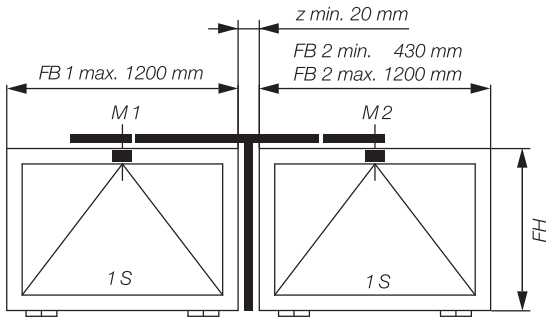
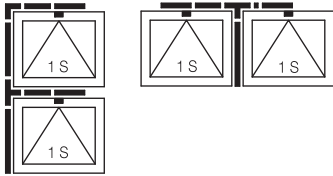
Packing units	EV 1	white	brown	black	medium bronze	Niro look
Additional carton PRIMAT-FL 190 for bevel windows with corner sash bracket AS0-25 ① ② ⑤ ⑥ ⑨ ⑫	173083	173086	228826	173089	170173	176544
Bag with additional locking ZV/F ⑭ ⑮ ⑯ (optional)	225316	225319	228349	225322	225325	225328
Bag with corner PRIMAT-FL190 with Accessories ③ ④ ⑧	228109	228106	228109	228109	228109	228109
Carton with lever, stroke 58 mm ⑩	171035	171038	190219	171044	171041	171047
Carton with lever, stroke 38 mm	173110	173113	228562	173116	170140	170966
Carton with lever, lockable, stroke 58 mm ⑪	171050	171053	228565	171059	171056	171062
Carton with lever, pivoting, stroke 58 mm ⑫	168950	168956	228568	169667	172035	169520

Individual parts	EV 1	white	brown	black	medium bronze	Niro look
① Stay	170525	170528	171227	170534	170531	169481
② Stay holder	168452	168455	171230	168449	168458	169484
③ Flexible corner PRIMAT-FL 190 complete	196538	196538	196538	196538	196538	196538
④ Cover cap PMAT/SPGE 201E	211546	211549	211546	211546	211546	211546
⑫ Shim	127907	127907	127907	127907	127907	127907
⑥ Corner sash bracket AS0-25	172334	172337	228332	172340	170203	172340
⑧ Rod 8 mm Ø, design E	L = 1000 mm	108041	108041	108041	108041	108041
	L = 2000 mm	108044	108044	108044	108044	108044
	L = 2500 mm	108047	108047	108047	108047	108047
	L = 3000 mm	108050	108050	108050	108050	108050
	L = 3750 mm	108053	108053	108053	108053	108053
⑨ Rod guide	176337	176337	176337	176337	176337	176337
⑩ Alu cover profile	L = 2000 mm	168869	168872	168875	168881	170142
	L = 3000 mm	168839	168842	168845	168851	170146
⑤ End cap	172840	173509	172840	172840	172840	172840

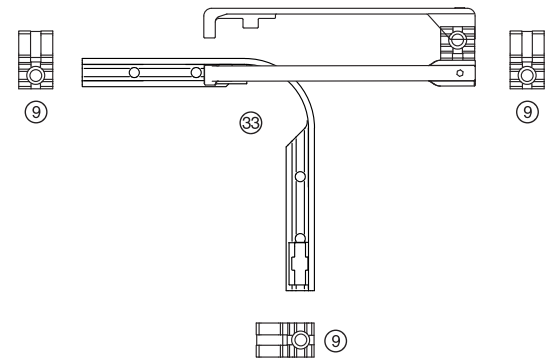
### Accessories

⑬ KSP stays	see page 48/49
⑭ Restrictors	see page 50/51
Sleeve 8/8 mm (no ill.)	107171*

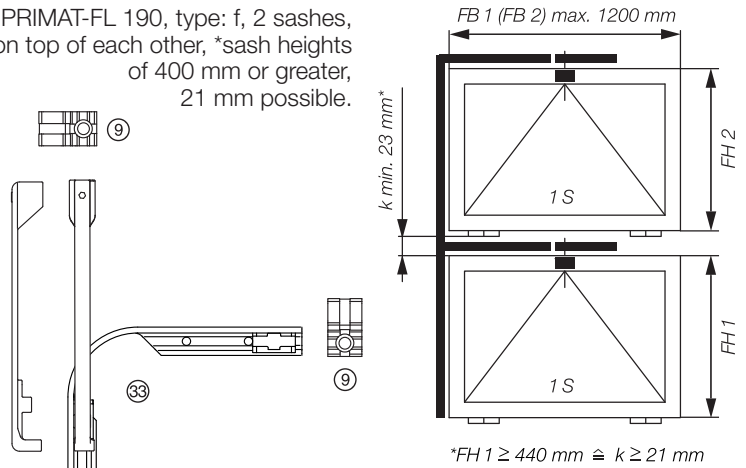
\*Same use for all colour variations possible.



PRIMAT-FL 190, type: hm, 2 sashes, side-by-side



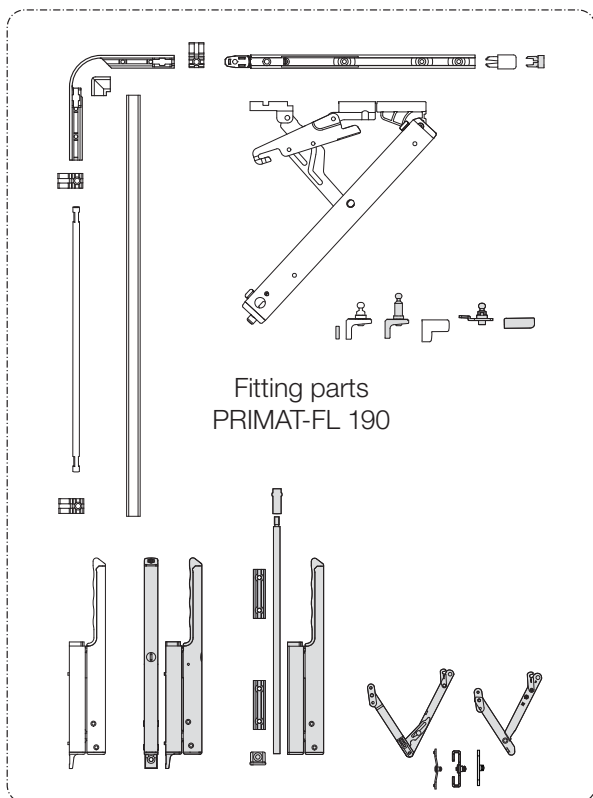
PRIMAT-FL 190, type: f, 2 sashes, on top of each other, \*sash heights of 400 mm or greater, 21 mm possible.



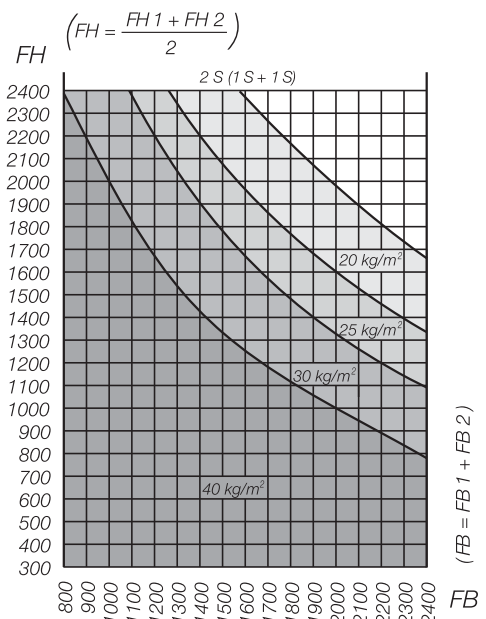
Side and front view  
Lever position on the left (right laterally reversed)

**Fitting parts**

- 33 Corner for double-sash windows
- 9 Rod guide



Fitting parts  
PRIMAT-FL 190



Note:  
For double-sash windows in application diagrams, the sash weight and width always refer to the total weight or width of both sashes.





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## Corner for double-sash windows, PRIMAT-FL 190

### Packing units

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Bag with corner for double sash windows ① ②

228118\*

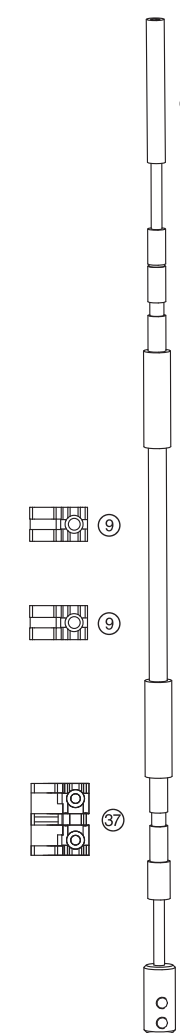
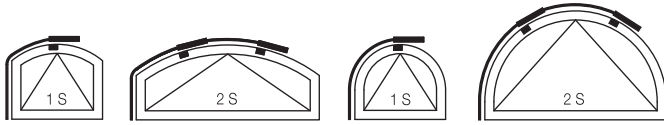
\*Same use for all colour variations possible.

### requires the following additional fitting parts:

1. 2 x additional carton PRIMAT-FL 190
2. 2 x end cap
3. Alu lever
4. Rod 8 mm Ø
5. Alu cover profile

Only for type: f

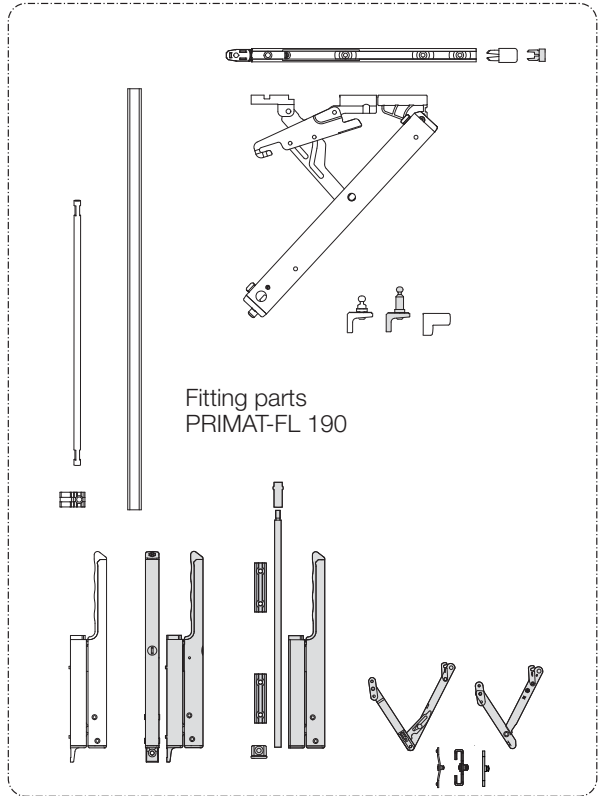
6. Bag with corner
7. Additional rod



**Fitting parts**

- ③④ Flexible rod
- ③⑤ Snap-on clip
- ⑨ Guide
- ③⑦ Holder
- ⑥ Universal sash bracket A0-25 (with single-stay designs)
- ⑥⑥ Corner sash bracket AS0-25 (with double-stay designs)
- ⑦ Cover cap sash bracket

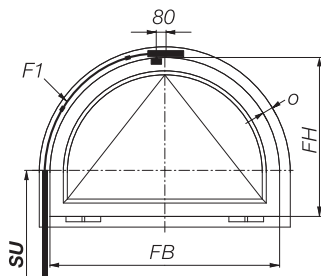
\*for single-stay round arches,  
B 600 - 700 mm, use corner sash  
bracket AS0-25!



Fitting parts  
PRIMAT-FL 190

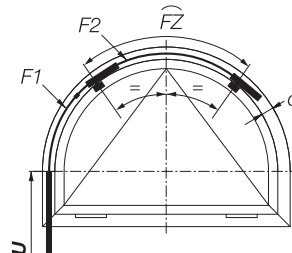
**Optional:**

- ⑥⑥ Sash bracket A0-25  
timber window



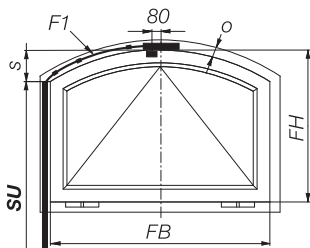
Round arch, single stay

FB	F1	SU (min.)
600 ... 850 mm	700 mm	450 mm
851 ... 1200 mm	1000 mm	550 mm
1201 ... 1300 mm	1250 mm	500 mm



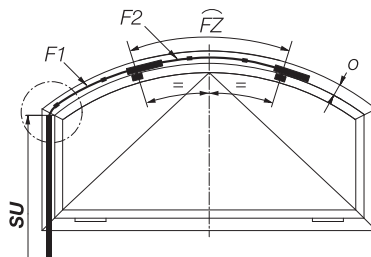
Round arch, double stay

FB	F1	F2	FZ	SU (min.)
1300 ... 1400 mm	700 mm	400 mm	740 mm	400 ... 350 mm
1401 ... 1600 mm	1000 mm	400 mm	740 mm	650 ... 550 mm
1601 ... 2000 mm	1000 mm	700 mm	1040 mm	700 ... 500 mm



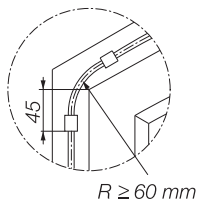
Flat arch, single stay

FB	F1	SU (min.)
600 ... 700 mm		500 mm
701 ... 800 mm	700 mm	450 mm
801 ... 1100 mm		300 mm
1101 ... 1200 mm		600 mm
1201 ... 1300 mm	1000 mm	550 mm



Flat arch, double stay

FB	F1	F2	FZ	SU (min.)
1300 ... 1500 mm	700 mm	400 mm	740 mm	730 ... 630 mm
1501 ... 1800 mm	700 mm	700 mm	1040 mm	780 ... 630 mm
1801 ... 2100 mm	700 mm	1000 mm	1340 mm	780 ... 630 mm
2101 ... 2400 mm	700 mm	1250 mm	1590 mm	750 ... 600 mm





# Flexible rods for flat and round arches

## Packing units

		grey	white	black
Bag with flexible rod, complete with accessories for round and flat arches ⑳㉑㉒㉓㉔	L = 400 mm	175344	175347	175350
	L = 700 mm	175353	175356	175359
	L = 1000 mm	175362	175365	175368
	L = 1250 mm	175371	175374	175377
	L = 1700 mm	133925	133919	133925
	L = 2000 mm	133934	133928	133931

## Individual parts

		grey	white	black
㉔ Flexible rod	L = 400 mm	123623	123617	123620
	L = 700 mm	123515	123506	123512
	L = 1000 mm	123527	123518	123524
	L = 1250 mm	123539	123530	123536
	L = 1700 mm	123701	123695	123698
	L = 2000 mm	123641	123632	123635
㉑ Snap-on clip		107411	107411	107411
㉒ Guide		127658	127652	127655
㉓ Holder		127712	127706	127709
㉔ Corner sash bracket AS0-25		172334	172337	172340
㉑ Universal sash bracket A0-25		172083	172083	172083
㉒ Cover cap for universal sash bracket A0-25		195878	195872	195785

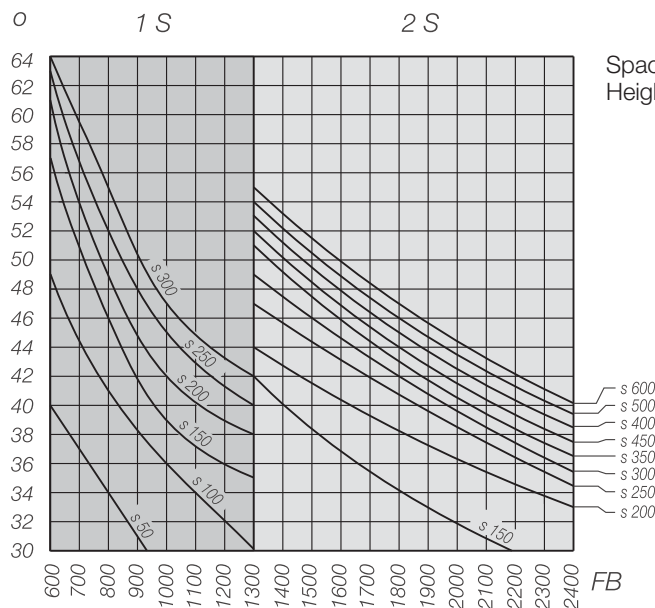
Use design black for designs medium bronze and Niro look.

### Requires the following additional fitting parts:

1. Additional carton PRIMAT-FL 190
2. Alu lever
3. Rod 8 mm Ø
4. Alu cover profile

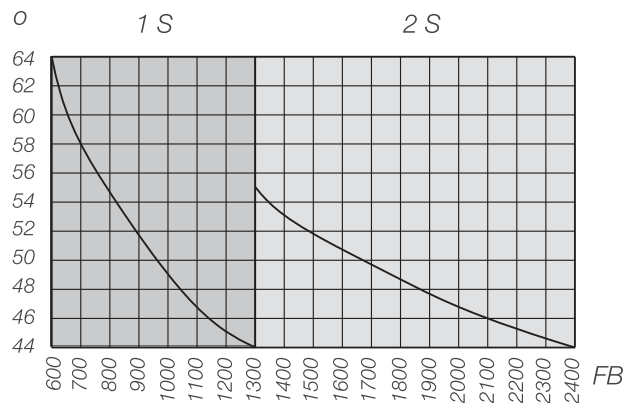
### Note:

The double stay design (for sash widths of 1300 or greater) requires 2 additional cartons for bevel windows as well as 2 flexible rods.

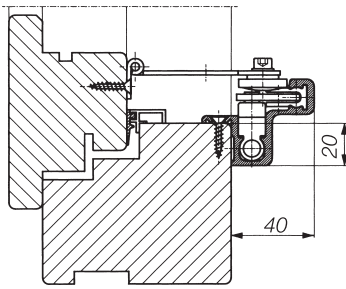


Flat arch window

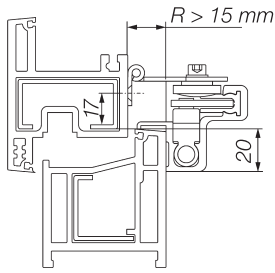
Space requirements on the frame, measure o  
Height of the arch rise, measure s



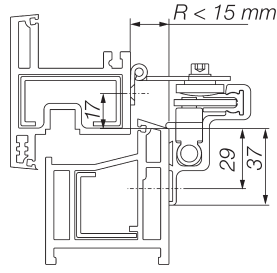
Round arch window



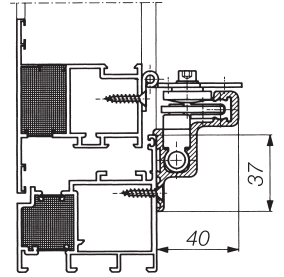
Vertical section on the timber window with stay holder 1



Vertical section on the PVC window with stay holder 1

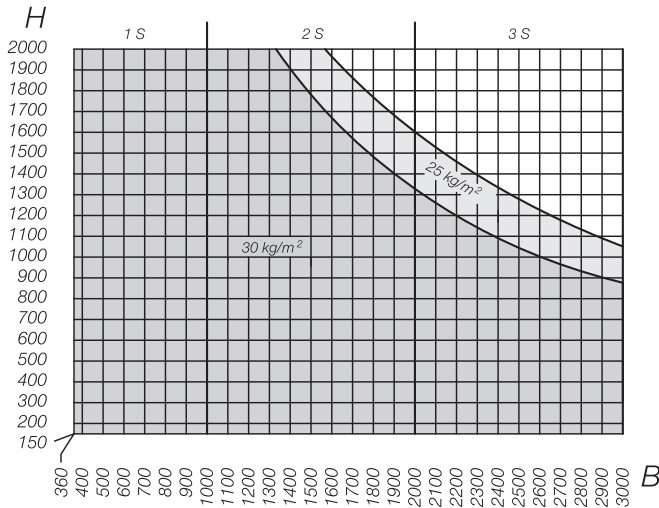


Vertical section on the PVC window with stay holder 2

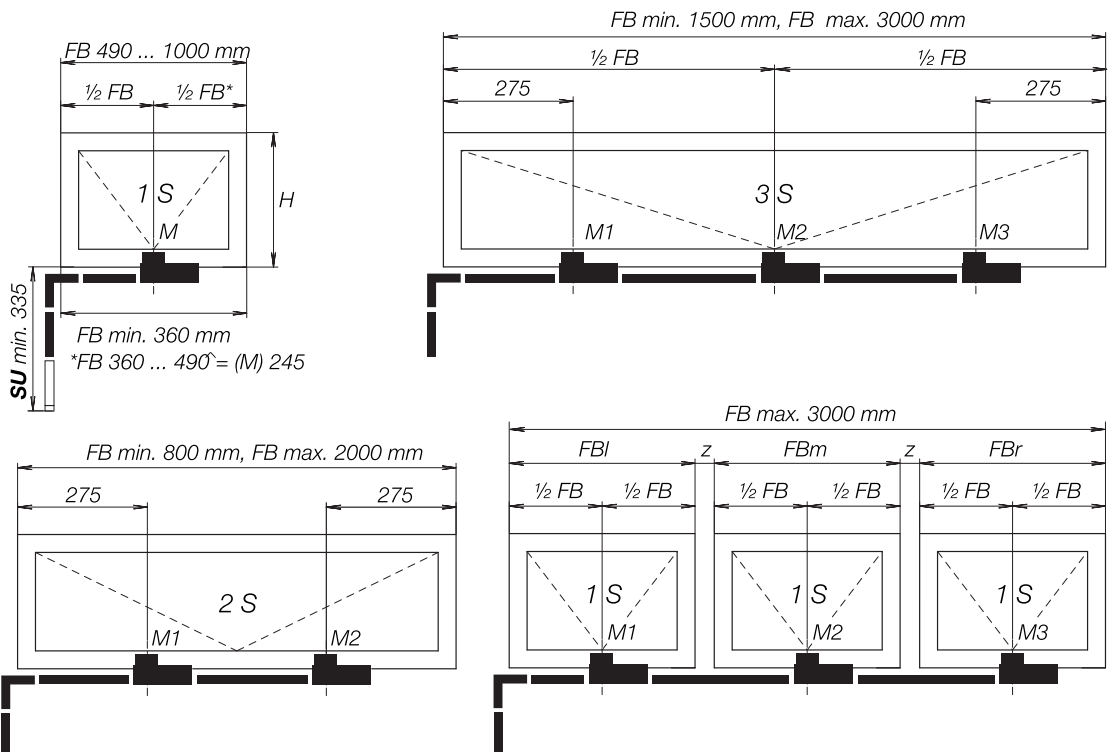
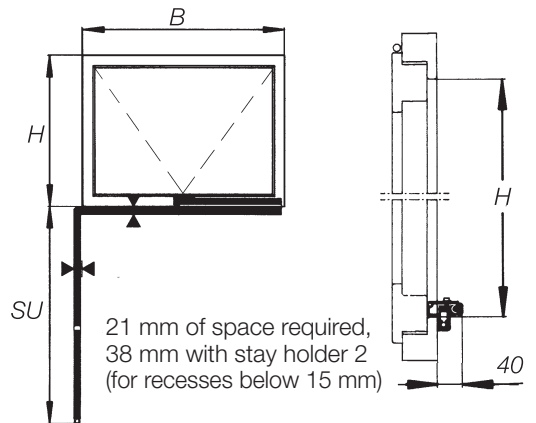


Vertical section on the Alu window with stay holder 2

Range of application PRIMAT-A



Note:  
For flush surface windows, please contact our technicians.





## Range of application PRIMAT-A

### Sash width

at least 360 mm - max. 1000 mm	1 stay
at least 800 mm - max. 2000 mm	2 stays
at least 1500 mm - max. 3000 mm	3 stays

Glass weights\* of up to 30 kg/m<sup>2</sup>

\*weight for thickness of 1 mm ~ 2.5 kg/m<sup>2</sup>

Does not apply unless the distance between the sash's gravity centre and the centre of rotation  $s \leq 60$  mm.

Sash heights	of 150 mm or greater
Space requirements	21 mm
Lever travel	58 mm
Sash weight	max. 80 kg
Opening width	approx. 170 mm (adjustable)

### Colour information PRIMAT-A

	Stay	Colour profile	Lever	PVC cover
Design EV1	EV 1 ecru, anodized	EV 1 ecru, anodized	EV 1 ecru, anodized	black
Design white	white, coated RAL 9016	white, coated RAL 9016	white, coated RAL 9016	white
Design . brown	brown coated RAL 8077	brown coated RAL 8077	brown coated RAL 8077	black
Design black	black, coated RAL 9005	black, coated RAL 9005	black, coated RAL 9005	black

Note: Cover caps colour matched, special colours available on request. Functional parts steel galvanized. Rods made of hand selected steel materials, polished galvanized.

### Text for tender

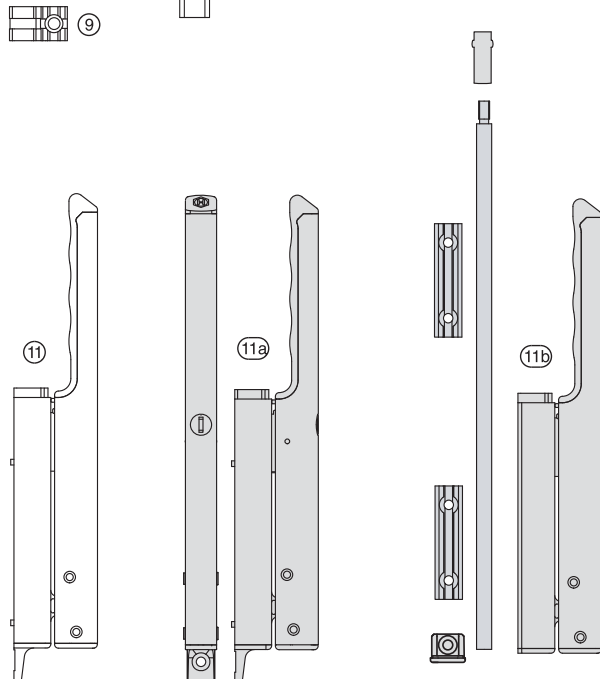
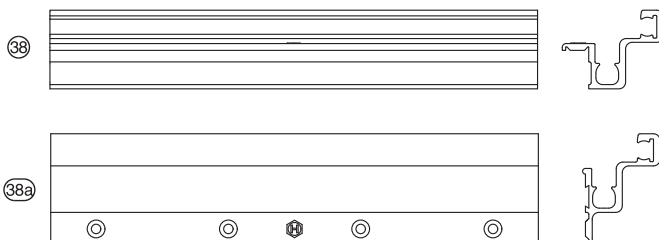
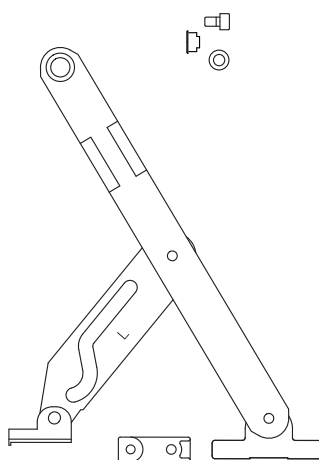
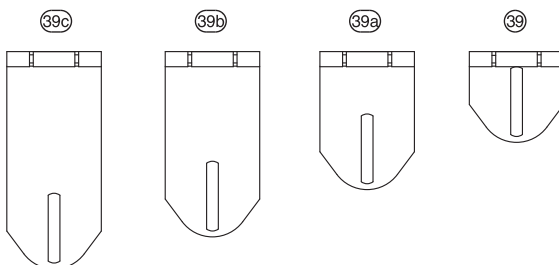
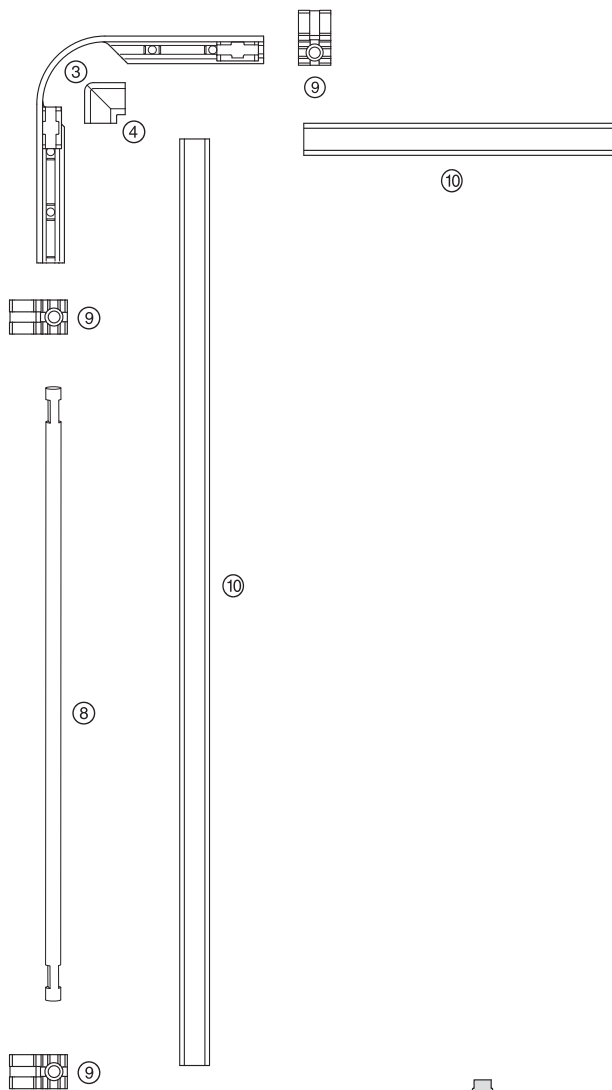
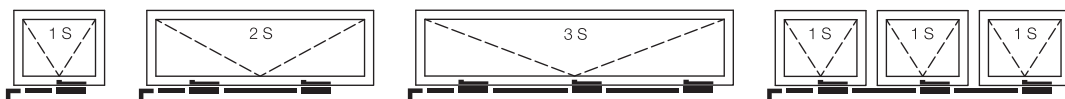
Flat type opener PRIMAT-A for outward tilt sashes, visible aluminium parts in EV 1, white or black.

Opening width approx. 170 mm. Stainless steel stay and sash bracket, rods made of steel with surface finish **HAUTAU-S<sup>plus</sup>** (chromed silver), sash bracket on the pivot arm screwed on self-securingly, locking pressure continuously adjustable.

Rod suspendable and completely concealed, cover profile without bevel cut with corner cover cap. Rugged Alu lever with ergonomic recessed grips.

### Order details for made-to-measure design

- Measure SU = rod length (minimum measure 335 mm)
- Measure B = sash width (360 - 3000 mm)
- Measure H = sash height (minimum measure 150 mm)
- Number of stays
- Stay holder design = stay holder 1 (recesses of 15 mm or greater, 23 mm of space required)  
stay holder 2 (recesses below 15 mm, 38 mm of space required)
- Sash bracket design = R0-25, R26-50, R51-75 for recesses of 0 - 25, 26 - 50, 51 - 75 and 76 - 100 mm
- Lever position = left or right (only necessary for special designs)
- Measure d = inner edge of the frame to middle of the rod  
(only necessary for measures other than 12 mm)
- Measures Bl, Bm, Br, and z = 2 or 3 sashes
- Profile system = timber, PVC, steel or aluminium windows
- Colour = EV 1, white (RAL 9016) or black (RAL 9005)



**Fitting parts**

- ① Stay
- ③ Chain guide, design E (suspendable)
- ⑧ Rod
- ⑨ Rod guide
- ⑩ Alu cover profile
- ⑪ Lever
- ⑳ Stay holder 1
- ㉑ Stay holder 2
- ㉒ Sash bracket R0-25
- ㉓ Sash bracket R26-50
- ㉔ Sash bracket R51-75
- ㉕ Sash bracket R76-100

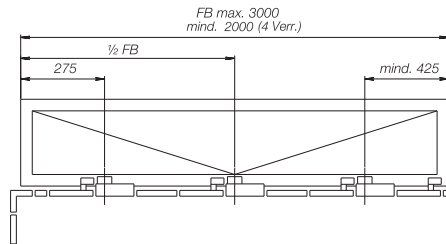
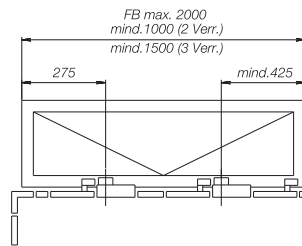
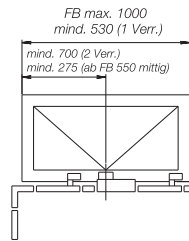
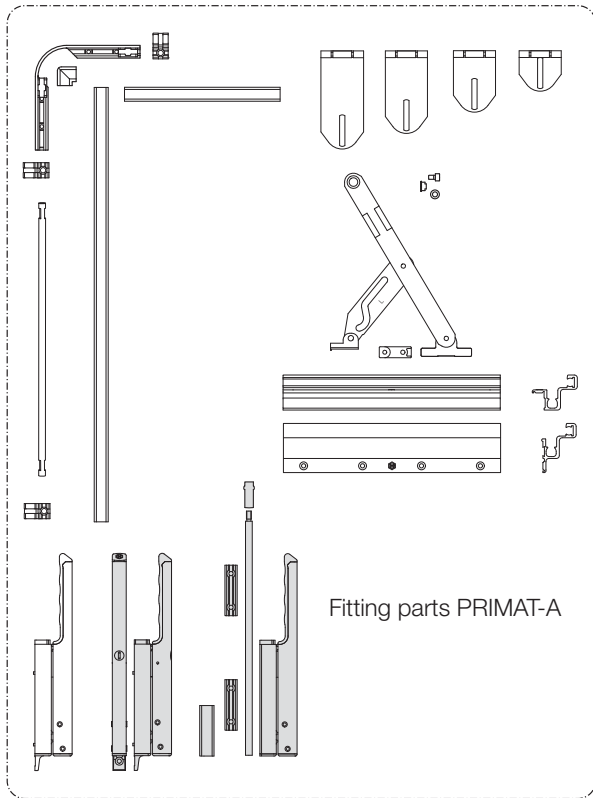
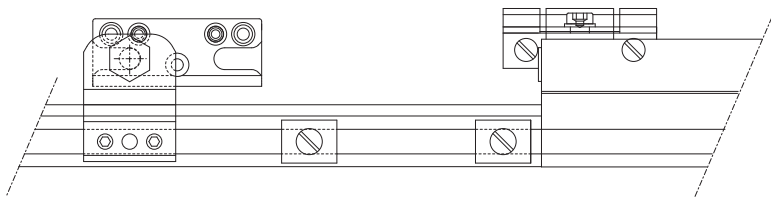
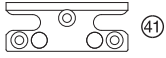
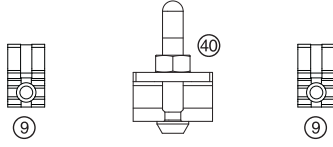
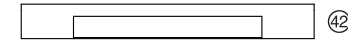
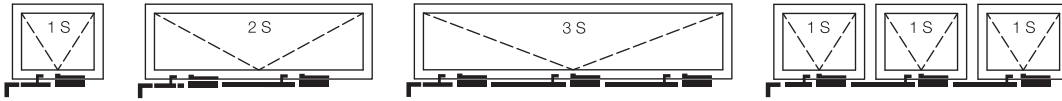
**Optional:**

- ⑪a Lever, lockable
- ⑪b Lever, pivoting



## Fitting Parts PRIMAT-A

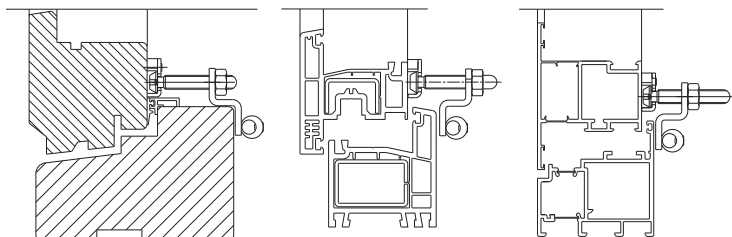
Packing units	EV 1	white	brown	black
Additional carton PRIMAT-A with stay holder 1 and sash bracket R0-25 ① ③⑨ ③⑨	139436	139439	139442	145947
Additional carton PRIMAT-A with stay holder 1 and sash bracket R26-50 ① ③⑨ ③⑨	139454	139460	139466	145950
Additional carton PRIMAT-A with stay holder 1 and sash bracket R51-75 ① ③⑨ ③⑨	139457	139463	139469	145953
Additional carton PRIMAT-A with stay holder 2 and sash bracket R0-25 ① ③⑨ ③⑨	139445	139448	139451	145959
Carton with lever, stroke 58 mm ⑩	171035	171038	190219	171044
Carton with lever, lockable, stroke 58 mm ⑩	171050	171053	228565	171059
Carton with lever, pivoting, stroke 58 mm ⑩	168950	168956	228568	169667
Bag with corner PRIMAT-FL190 with accessories ③ ④ ⑨	228109	228106	228109	228109
<b>Bulk pack</b>	<b>EV1</b>	<b>white</b>	<b>brown</b>	<b>black</b>
Lever, stroke 58 mm, pack of 25 ③ ④ ⑨ ⑩	169037	169040	190222	173146
Cover profiles, pack of 20 L = 6000 mm	172316	172322	190228	172328
<b>Individual parts</b>	<b>EV1</b>	<b>white</b>	<b>brown</b>	<b>black</b>
① + ③ Stay with stay holder 1 and control arm	108242	108245	108248	145965
① + ③ Stay with stay holder 2 and control arm	108251	108254	108257	145971
③ Flexible corner PRIMAT-FL190 complete	196538	196538	196538	196538
④ Cover cap PMAT/SPGE 201E	211546	211549	211546	211546
③ Sash bracket R0-25	108194	108194	108194	108194
③ Sash bracket R26-50	108197	108197	108197	108197
③ Sash bracket R51-75	108200	108200	108200	108200
③ Sash bracket R76-100	145392	145392	145392	145392
⑨ Rod 8 mm Ø, design E L = 1000 mm	108041	108041	108041	108041
L = 2000 mm	108044	108044	108044	108044
L = 2500 mm	108047	108047	108047	108047
L = 3000 mm	108050	108050	108050	108050
L = 3750 mm	108053	108053	108053	108053
⑨ Rod guide	176337	176337	176337	176337
⑨ Alu cover profile L = 2000 mm	168869	168872	168875	168881
L = 3000 mm	168839	168842	168845	168851
Installation instructions PRIMAT-A				184656



**Range of application**

Sash width FB

530 - 700 mm	1 stay	+ 1 locking
701 - 1000 mm	1 stay	+ 2 lockings
1001 - 1500 mm	2 stays	+ 2 lockings
1501 - 2000 mm	2 stays	+ 3 lockings
2001 - 3000 mm	3 stays	+ 4 lockings



Vertical sections on timber, PVC, and metal windows





## Additional locking ZV/A

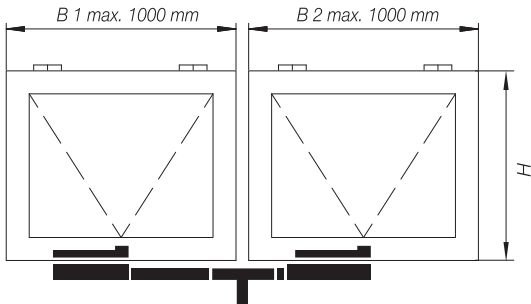
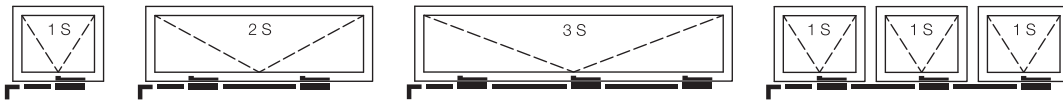
		EV 1	white	brown	black
Accessories ZV/A	recess 0 - 25 mm	151819	151831		178763
HAUTAU-S <sup>plus</sup>	recess 26 - 50 mm	151822	151834		178766
	recess 51 - 75 mm	151825	151837		178769
<b>Individual parts</b>					
		EV 1	white	brown	black
④ Locking	0 - 25	151810	151810		151810
	26 - 50	151813	151813		151813
	51 - 75	151816	151816		151816
④ Security striker		151759	151759		151759
⑨ Rod guide		176337	176337		176337
④ Alu cover profile ZV/A		152095	152098		178760

### Fitting composition

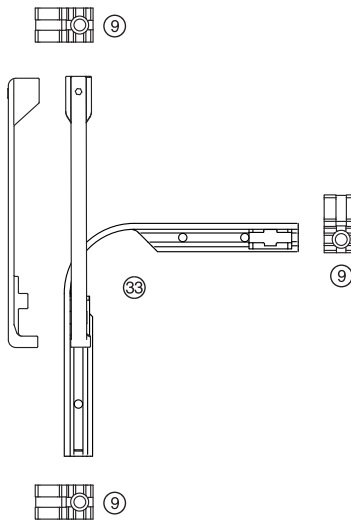
for 1 outward opening sash, horizontal and straight  
1-4 accessories ZV/A (number depends on width)

### requires the following additional fitting parts:

1. Additional carton
2. Alu lever, lockable
3. Rod 8 mm Ø
4. Alu cover profile

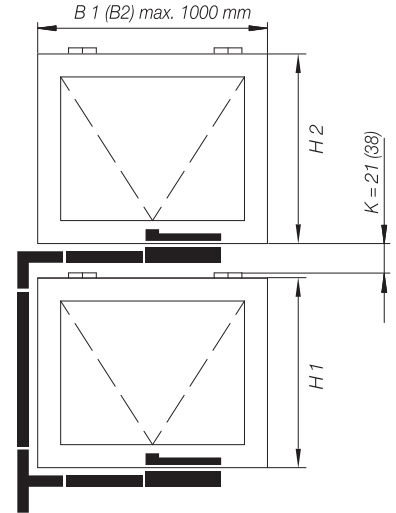


PRIMAT-A, type: hm, 2 sashes, side-by-side



**Fitting parts**

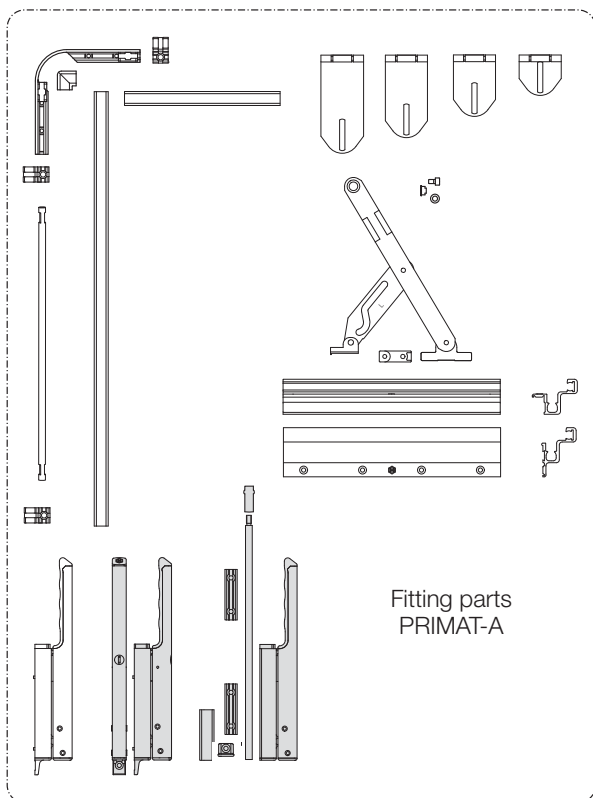
- ⊗ Corner for double-sash windows
- ⑨ Rod guide



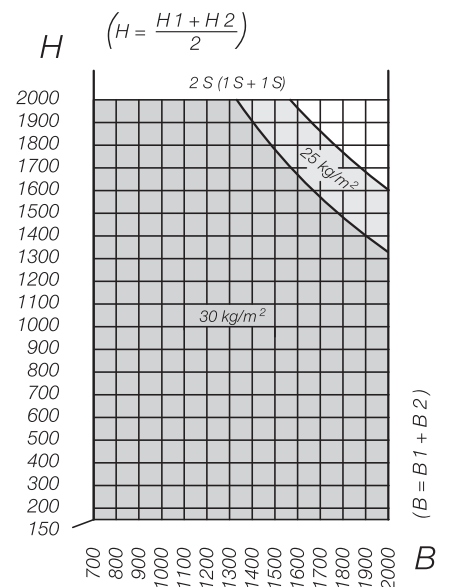
PRIMAT-A, type: f,  
2 sashes, on top of each other  
Space requirements between  
the sashes measured from the  
bottom edge of the upper sash  
to the hinges of the lower sash  
(measure K):

21 mm with stay holder 1  
38 mm with stay holder 2

Side and front view  
Lever position on the left (right laterally reversed)



Fitting parts  
PRIMAT-A





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## Corner for double-sash windows, PRIMAT-A

### Packing units

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Bag with corner PRIMAT-FL 190 for double sash windows ⑨ ⑩

228118\*

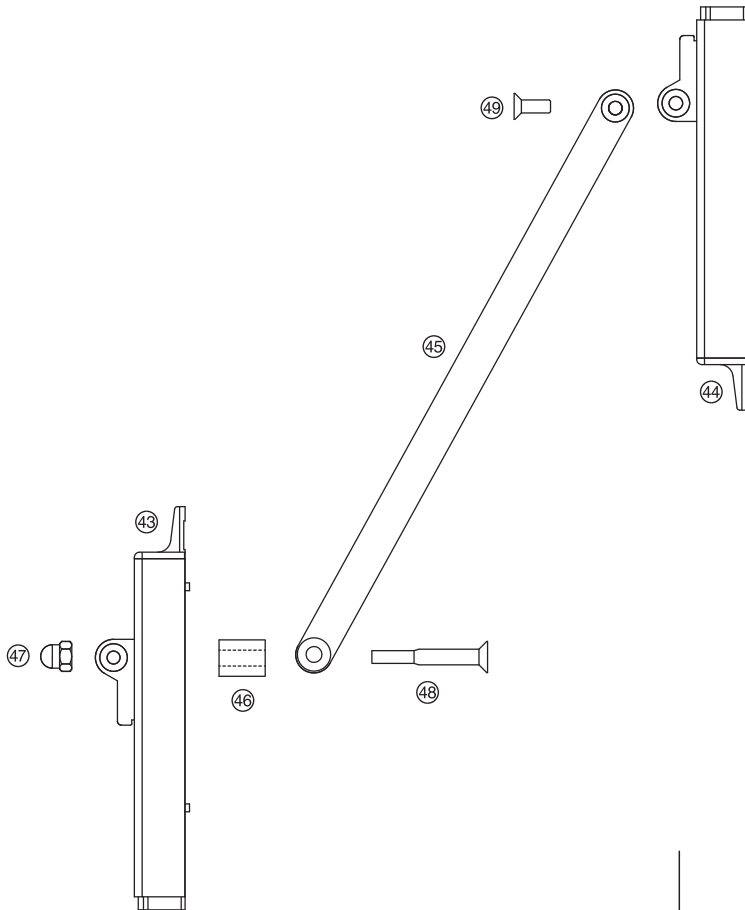
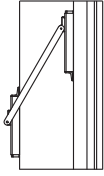
\*same use for all colour variations possible

### requires the following additional fitting parts:

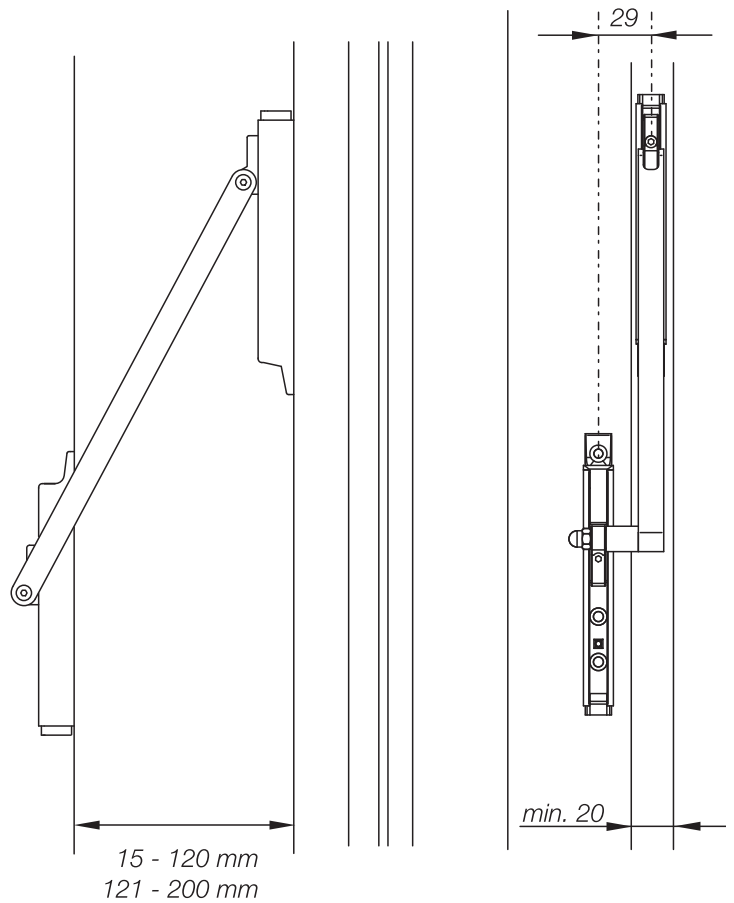
1. 2 x additional carton PRIMAT-A
2. Alu lever
3. Rod 8 mm Ø
4. Alu cover profile

Only for type: f

5. Bag with corner, design E = suspendable
6. Additional rod


**Fitting parts**

- ④③ Slide bar 1
- ④④ Slide bar 2
- ④⑤ Drive rod
- ④⑥ Spacer sleeve
- ④⑦ Cap nut
- ④⑧ Screw M6 x 45
- ④⑨ Screw M5 x 14





## Transmission for curtain walling

Packing units		EV 1	white	black
Transmission for curtain walling ④③ ④④ ④⑤ ④⑥ ④⑦ ④⑧ ④⑨	size 1 (T = 15 - 120 mm)	171828	171831	171834
	size 2 (T = 121 - 200 mm)	171837	171840	171843

Individual parts		EV 1	white	black
④③ Slide bar 1		171876	171879	171882
④④ Slide bar 2		171885	171888	171891
④⑤ Drive rod	(T = 15 - 120 mm)	171795	171798	171801
	(T = 121 - 200 mm)	171807	171810	171813
④⑥ Spacer sleeve		171846	171846	171846
④⑦ Cap nut		171825	171825	171825
④⑧ Screw M6 x 45		171822	171822	171822
④⑨ Screw M5 x 14		175053	175053	175053

Use design black for designs medium bronze and Niro look.

### PRIMAT-FL 190

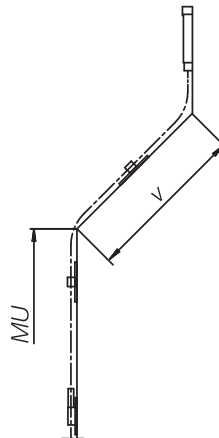
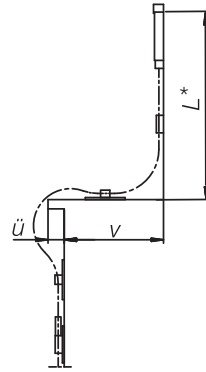
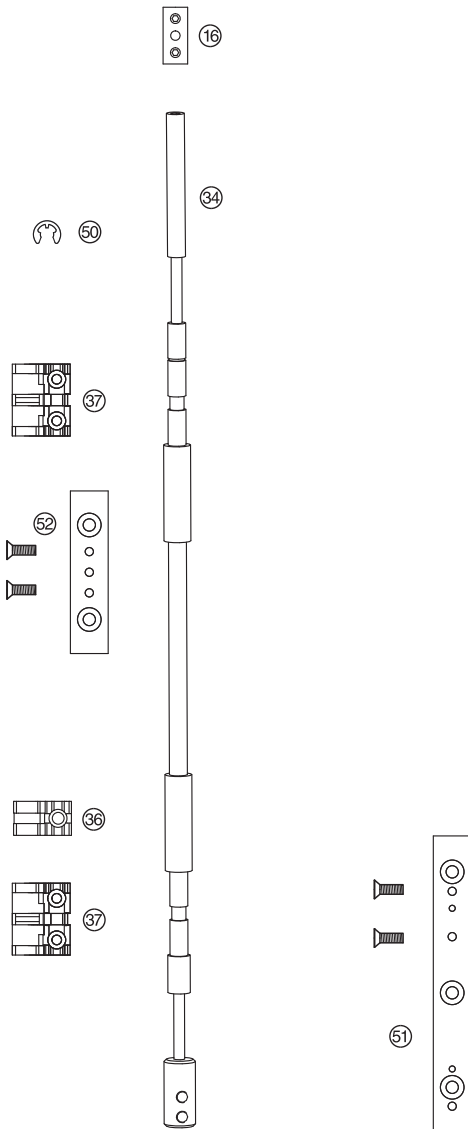
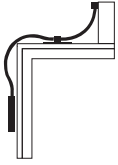
#### requires the following additional fitting parts:

1. Basic carton PRIMAT-FL 190
2. Rod 8 mm Ø
3. Alu cover profile

### PRIMAT-A

#### requires the following additional fitting parts:

1. Additional carton PRIMAT-A
2. Bag with corner, design E = suspendable
3. Alu lever
4. Rod 8 mm Ø
5. Alu cover profile



Range of application

**For single and double stay systems**

Minimum sash height = 300 mm

\* acc. application range PRIMAT-FL 190

measure v up to 400 mm  $\Delta$  Rods 700 mm

measure v up to 700 mm  $\Delta$  Rods 1000 mm

measure v up to 950 mm  $\Delta$  Rods 1250 mm

measure v up to 1300 mm  $\Delta$  Rods 1700 mm

measure v up to 1700 mm  $\Delta$  Rods 2000 mm

**Glass weights** of up to 30 kg/m<sup>2</sup>

(Weight for thickness of 1 mm ~ 2.5 kg/m<sup>2</sup>)

Does not apply unless the distance between the sash's gravity centre and the centre of rotation is  $\leq$  60 mm.

**Fitting parts**

- 16 Sleeve 8/8
- 34 Flexible rod
- 36 Guide
- 37 Holder
- 50 Lock washer
- 51 Plugging plate, lever
- 52 Plugging plate, clamping guide

Measure v = depth of the reveal (window sill depth),  
above 200 mm with guide, up to 200 mm  
without guide

Measure MU = upper edge of the window will to lower edge  
of the lever at least 455 mm

Measure ü = sill depth max. 40 mm

Measure L\* = upper edge of the sash to upper edge of the  
window will at least 405 mm



## Flexible transmission

Packing units		EV 1	white	black
Bag of accessories for flexible transmission (supplementing flexible rod) ⑩ ⑤① ⑤② ⑤③ ⑤④		108308	108302	108305
Bag of accessories for flexible transmission without plugging plate (supplementing flexible rod) ⑩ ⑤① ⑤②		190864	190867	190870
Bag with flexible rod, complete with accessories ⑤④ ⑤② ⑤③	L = 400 mm	175344	175347	175350
	L = 700 mm	175353	175356	175359
	L = 1000 mm	175362	175365	175368
	L = 1250 mm	175371	175374	175377
	L = 1700 mm	133925	133919	133922
	L = 2000 mm	133934	133928	133931

Individual parts		EV 1	white	black
⑤④ Flexible rod	L = 400 mm	123623	123617	123620
	L = 700 mm	123515	123506	123512
	L = 1000 mm	123527	123518	123524
	L = 1250 mm	123539	123530	123536
	L = 1700 mm	123701	123695	123698
	L = 2000 mm	123641	123 632	123655
⑩ Sleeve 8/8 mm		107171	107171	107171
⑤① Lock washer		155750	155750	155750
⑤② Holder		127712	127706	127709
⑤③ Plugging plate, lever		107399	107399	107399
⑤④ Plugging plate, clamping guide		107402	107402	107402
⑤③ Guide		127658	127652	127655

Use design black for designs medium bronze and Niro look.

### PRIMAT-FL 190

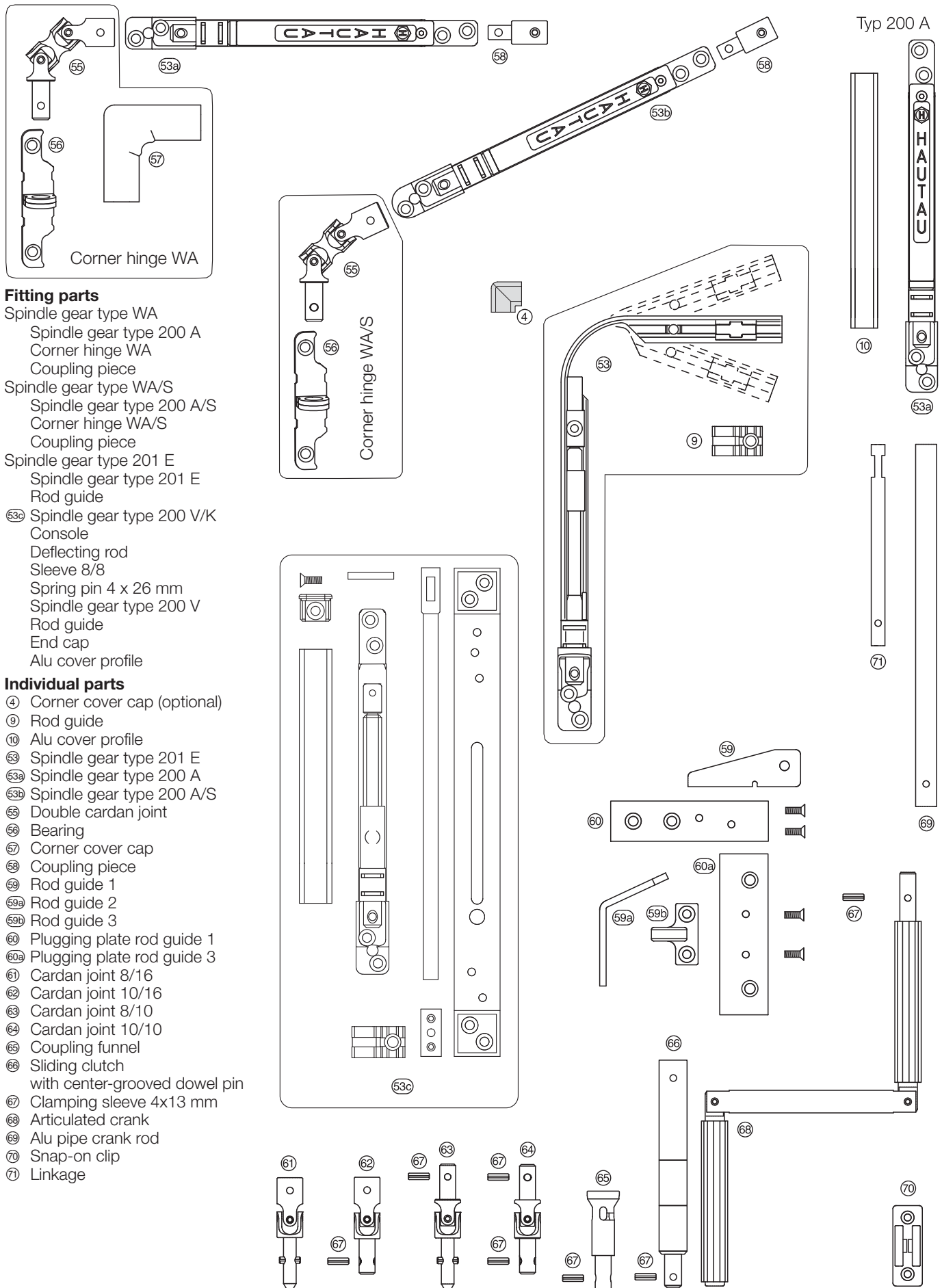
#### requires the following additional fitting parts:

1. Additional carton PRIMAT-FL 190
2. Alu lever
3. Corner
4. Rod 8 mm Ø
5. Alu cover profile

### PRIMAT-A

#### requires the following additional fitting parts:

1. Additional carton PRIMAT-A
2. Alu lever
3. Corners (only necessary in certain assembly situations)
4. Rod 8 mm Ø
5. Alu cover profile
6. Bag with flexible rod
7. Bag of accessories for flexible transmission







## Fitting parts spindle gear

Packing units		EV 1	white	black
see the following page				
Individual parts and assembly groups		EV 1	white	black
Spindle gear 201 E ⑨ ⑤③ ④	left	228511	228505	228511
	right	228508	228502	228508
⑤③⑨ Spindle gear 200 A		172065	172065	172065
⑤③⑨ Spindle gear 200 A/S		173461	173461	173461
⑤③⑨ Spindle gear 200 V/K (on console for PRIMAT-A, type H)		139577	139580	176028
⑩ Alu cover profile for spindle gear 200 A		173443	173446	173449
Corner hinge WA, complete ⑤⑤ ⑤⑥ ⑤⑦		134066	134060	134063
Corner hinge WA/S, complete ⑤⑤ ⑤⑥		134072	134072	134069
⑦① Linkage PRIMAT-FL 190		108656	108656	108656
⑤⑤ Coupling piece PRIMAT-FL 190 for corner hinge WA		108731	108731	108731
⑥① Cardan joint 8/16 including pin		108341	108341	108344
⑥② Cardan joint 10/16 (without clamping sleeve)		108335	108335	108338
⑥③ Cardan joint 8/10 (without clamping sleeve)		108347	108347	108350
⑥④ Cardan joint 10/10 (without clamping sleeve)		123437	123437	123440
⑥⑤ Coupling funnel (without clamping sleeve)		108359	108359	125078
⑥⑥ Sliding clutch (to prevent an overload )		108728	108728	108728
⑤⑥ Bearing for WA, WA/S		108743	108743	139589
⑤⑤ Double cardan joint for WA, WA/S		108353	108353	108356
⑤⑦ Corner cover cap for WA		127886	127880	127883
⑤⑨ Rod guide 1		108329	108332	133976
⑥① Plugging plate for rod guide 1 with screws		133958	133961	173389
⑤⑨⑨ Rod guide 2		133979	142586	142583
⑤⑨⑨ Rod guide 3		133211	133214	133217
⑥①⑨ Plugging plate for rod guide 3 with screws		133967	133970	133973
⑥⑨ Alu pipe for crank rod	Stock length approx. 6000 mm	108455	-	-
	Length 1000 mm	108410	108413	173323
	Length 1500 mm	108419	108422	173326
	Length 2000 mm	108428	108431	173329
	Length 2500 mm	108437	108440	173332
	Length 3000 mm	108446	108449	173335
⑥⑨ Articulated crank		125372	125375	173341
⑦① Snap-on clip		126533	126527	173338
⑥⑦ Clamping sleeve 4x13 mm		130391	130391	130391
④ Corner cover cap for spindle gear 201 E		211546	211549	211546
⑨ Rod guide		176337	176337	176337

## Contents of the packing units spindle gear

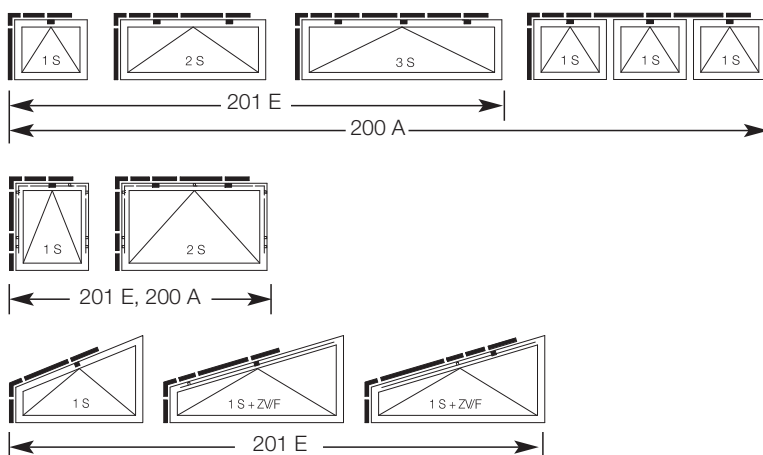
Packing units	Packing content
Accessories, design SF With spindle gear 201 E	1 spindle gear 201 E, 1 snap-on clip, 1 articulated crank, 2 clamping sleeves 4 x 13 mm, and 1 cardan joint 10/16
Accessories, design SA with spindle gear 201 E	1 spindle gear 201 E and 1 cardan joint 8/16 with pin
Accessories, design SG with spindle gear 201 E	1 spindle gear 201 E, 1 snap-on clip, 1 articulated crank, 4 clamping sleeves 4x13 mm, 1 cardan joint 10/10, 1 cardan joint 10/16 1 rod guide, 1 plugging plate with screws
Accessories, design SF with spindle gear 200 A	1 cardan joint 10/16, 1 rod guide 1, and 1 plugging plate with screws 1 spindle gear 200 A (without cover profile), 1 linkage PRIMAT-FL 190, 1 snap-on clip, 1 articulated crank, 2 clamping sleeves 4x13 mm, 1 cardan joint 10/16
Accessories, design SA with spindle gear 200 A	1 spindle gear 200 A (without cover profile), 1 linkage PRIMAT-FL 190, 1 cardan joint 8/16 with pin
Accessories, design SG with spindle gear 200 A	1 spindle gear 200 A (without cover profile), 1 linkage PRIMAT-FL 190, 1 articulated crank, 4 clamping sleeves 4 x 13 mm, 1 cardan joint 10/10, 1 cardan joint 10/16, 1 rod guide 1, 1 plugging plate with screws
Accessories for design SA supplementing design SF	1 coupling funnel, 1 cardan joint 8/16 with pin
Accessories for design SG supplementing design SF	1 cardan joint 10/10, 1 rod guide 1, 2 clamping sleeves 4x13 mm

### Note:

The listed packing units with spindle gears 201 E and 200 A are meant to be used in combination with PRIMAT-FL 190. The Alu cover profile is not included. However, it can be cut out of existing stock. Packing units 200 A including linkages for other fanlight openers are also available on request. The Alu cover profile will then be included in EV 1.

Use design black for designs medium bronze and Niro look.

## Application examples of spindle gears:



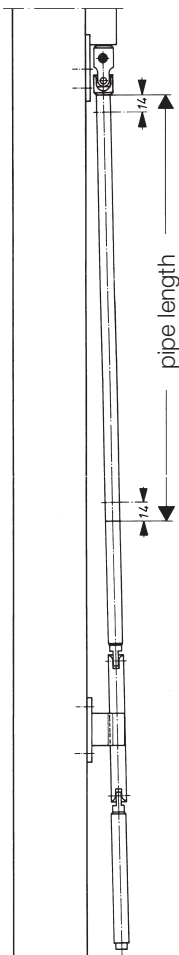
### Caution!

Please note that the spindle gear 201 E does not include the chain guide of the PRIMAT-FL 190. Therefore, make sure to order the additional carton PRIMAT-FL 190. Single-stay designs can be used for sash widths (FB) of up to 1200 mm, double-stay designs for sash widths of up to 2400, and slanted designs for sash widths of up to 2000 mm.

Please note that the spindle gear 200 A does not include the lever of the PRIMAT-FL 190. Therefore, make sure to order the additional carton PRIMAT-FL along with a chain guide. (Pages 8-11)

## Fitting parts gear drive continued

Packing units		EV 1	white	black
Accessories spindle gear 201 E	right	173362	173368	173374
for PRIMAT-FL 190, design SF ⑤③ ⑥② ⑥⑦ ⑥⑧ ⑦① ⑨ ④	left	173365	173371	173377
Accessories spindle gear 201 E	right	173380	173380	173392
for PRIMAT-FL 190, design SA ⑤③ ⑥① ⑨ ④	left	173383	173383	173395
Accessories spindle gear 201 E	right	173398	173404	173410
for PRIMAT-FL 190, design SG ⑤③ ⑤⑨ ⑥① ⑥② ⑥④ ⑥⑦ ⑥⑧ ⑦① ⑨ ④	left	173401	173407	173413
Accessories spindle gear 200 A				
for PRIMAT-FL 190, design SF ⑤③③ ⑥② ⑥⑦ ⑥⑧ ⑦① ⑦①		173416	173419	173422
Accessories spindle gear 200 A				
for PRIMAT-FL 190, design SA ⑤③③ ⑥① ⑦①		173425	173425	173431
Accessories spindle gear 200 A				
for PRIMAT-FL 190, design SG ⑤③③ ⑤⑨ ⑥② ⑥④ ⑥⑦ ⑥⑧ ⑦① ⑦①		173434	173437	173440
Alu cover profile (for type 200 A), 134 mm ⑩		173443	173446	173449
Bag, design SA (supplementing design SF) ⑥① ⑥⑤		133937	133937	133940
Bag, design SG (supplementing design SF) ⑤⑨ ⑥④ ⑥⑦		133943	133946	173452
Crank rod, design SA, fully mounted	LE 1000 mm	108362	108365	173347
with coupling funnel and articulated crank	LE 1500 mm	108371	108374	173350
(measure LE = the crank rod's elongated length)	LE 2000 mm	108380	108383	173353
	LE 2500 mm	108389	108392	173356
	LE 3000 mm	108398	108401	173359
Accessories crank rod, design SA for self installation, consisting of: 1 articulated crank, 1 coupling funnel, 2 clamping sleeves 4 x 13 mm		133952	139490	173344



### Determining the pipe length

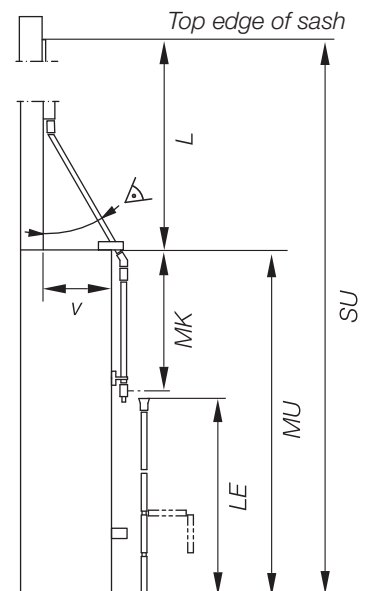
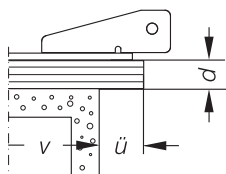
Measure SU minus ..... mm = required pipe length

Design	200 A	201 E	200 WA
PRIMAT-FL 190	750 mm	585 mm	440 mm
PRIMAT-A	775 mm	610 mm	465 mm
<b>Design SF</b>	<b>200 A</b>	<b>201 E</b>	<b>200 WA</b>
PRIMAT-FL 190	710 mm	545 mm	400 mm
PRIMAT-A	735 mm	570 mm	425 mm

When using the sliding clutch,  
make sure to subtract another 47 mm!

### Order details custom-made design

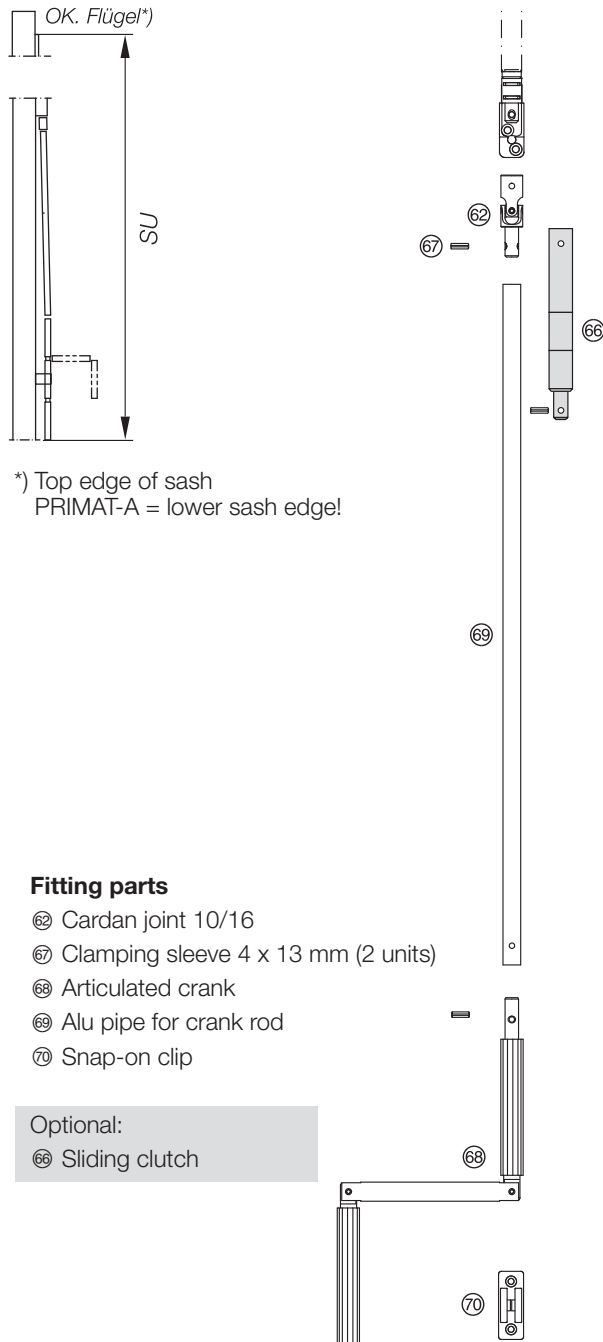
1. Labelling: Type (200 A, 200 WA, 201 E, etc.)
2. Colour: EV 1, white or black
3. Design: SA, SF, SG, etc.
4. Measure SU
5. For transmissions of the articulation, measure L, FL, MU, MK, LE, v, ü, d or drawing or scale sketch
6. Used fanlight opener or type of bar linkage
7. Number of crank rods (for SA)
8. Page information (right or left)



\*) When using the fanlight fitting for outward tilt sash PRIMAT-A, measure up to the lower edge of the sash!

**Design SF**

Stationary crank rod



\*) Top edge of sash  
PRIMAT-A = lower sash edge!

**Fitting parts**

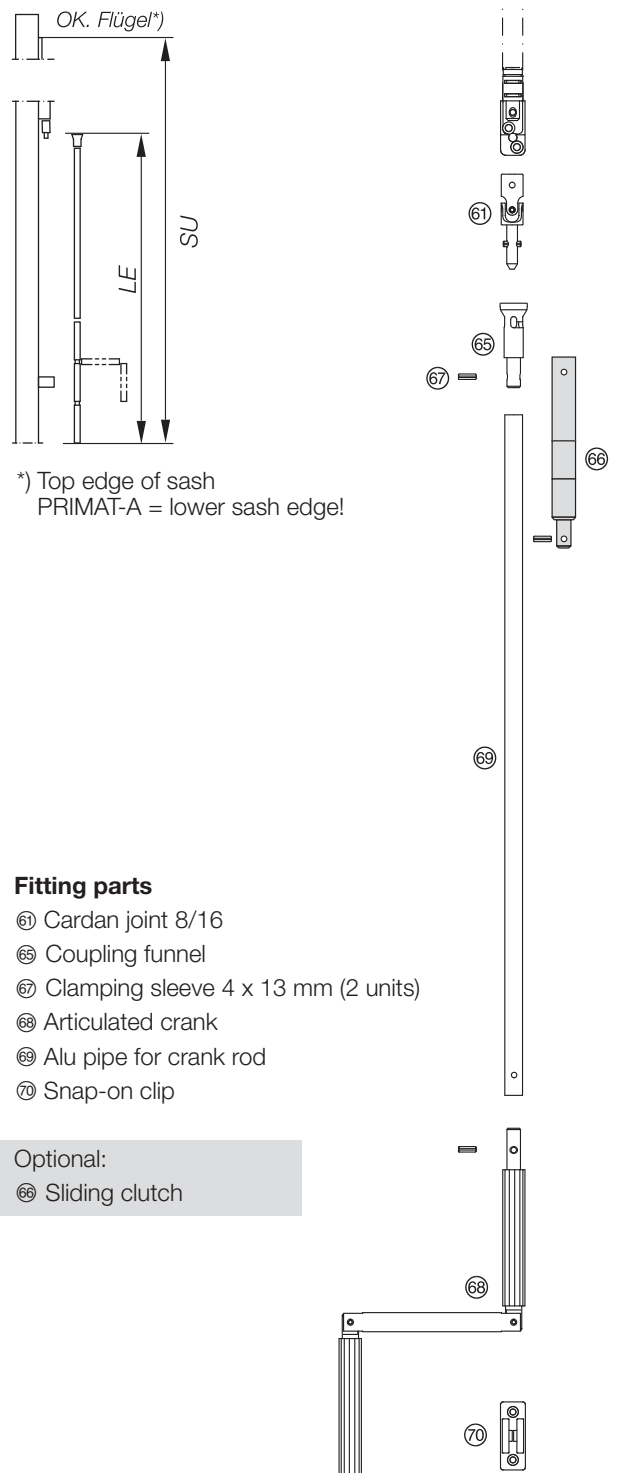
- 62 Cardan joint 10/16
- 67 Clamping sleeve 4 x 13 mm (2 units)
- 66 Articulated crank
- 69 Alu pipe for crank rod
- 70 Snap-on clip

Optional:

- 68 Sliding clutch

**Design SA**

Detachable crank rod



\*) Top edge of sash  
PRIMAT-A = lower sash edge!

**Fitting parts**

- 61 Cardan joint 8/16
- 65 Coupling funnel
- 67 Clamping sleeve 4 x 13 mm (2 units)
- 66 Articulated crank
- 69 Alu pipe for crank rod
- 70 Snap-on clip

Optional:

- 68 Sliding clutch



## Spindle gears and crank rods

### Individual parts, design SF

(stationary crank rod)

	EV 1	white	black
⑥② Cardan joint 10/16 (without clamping sleeve)	108335	108335	108338
⑥⑦ Clamping sleeve 4x13 mm	130391	130391	130391
⑥⑨ Alu pipe for crank rod	Stock length approx. 6000 mm	108455	-
	Length 1000 mm	108410	108413
	Length 1500 mm	108419	108422
	Length 2000 mm	108428	108431
	Length 2500 mm	108437	108440
	Length 3000 mm	108446	108449
⑥⑨ Articulated crank	125372	125375	173341
⑦⑩ Snap-on clip	126533	126527	173338
⑥⑥ Sliding clutch	108728	108728	108728

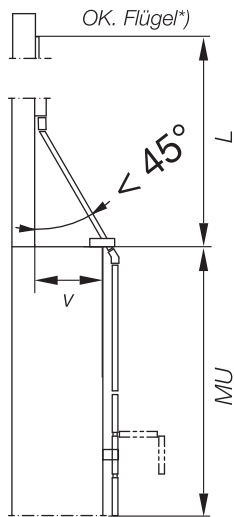
### Individual parts, design SA

(detachable crank rod)

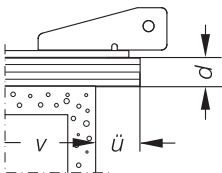
	EV 1	white	black
⑥① Cardan joint 8/16 with pin	108341	108341	108344
⑥⑦ Clamping sleeve 4x13 mm	130391	130391	130391
⑥⑨ Alu pipe for crank rod	Stock length approx. 6000 mm	108455	-
	Length 1000 mm	108410	108413
	Length 1500 mm	108419	108422
	Length 2000 mm	108428	108431
	Length 2500 mm	108437	108440
	Length 3000 mm	108446	108449
⑥⑨ Articulated crank	125372	125375	173341
⑦⑩ Snap-on clip	126533	126527	173338
⑥⑤ Coupling funnel (without clamping sleeve)	108359	108359	125078
⑥⑥ Sliding clutch	108728	108728	108728

**Design SG**

for angles lower than 45°  
Crank rod with transmission of the  
articulation, stationary



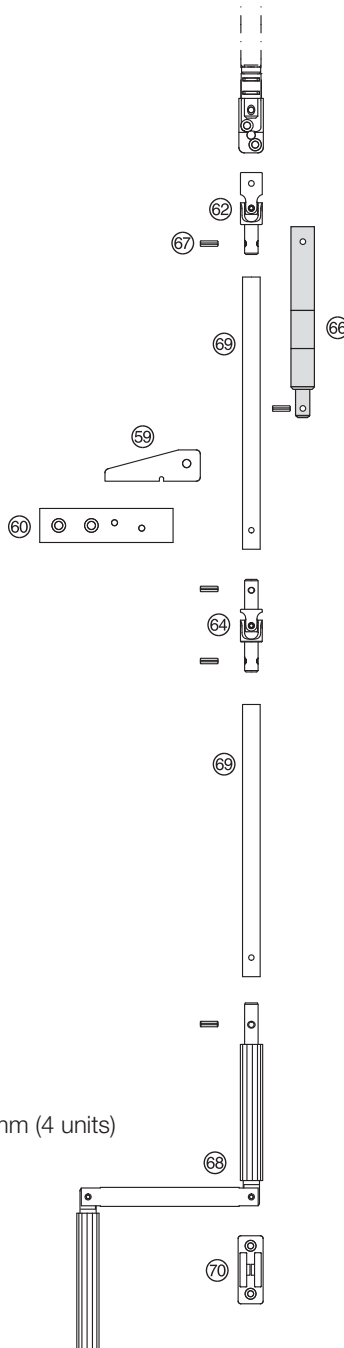
\*) PRIMAT-A =  
lower sash edge!

**Fitting parts**

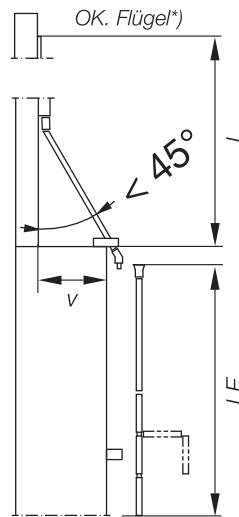
- ⑤⑨ Rod guide 1
- ⑥⑩ Plugging plate for rod guide 1
- ⑥② Cardan joint 10/16
- ⑥④ Cardan joint 10/10
- ⑥⑦ Clamping sleeve 4 x 13 mm (4 units)
- ⑥⑧ Articulated crank
- ⑥⑨ Alu pipe for crank rod
- ⑦⑩ Snap-on clip

Optional:

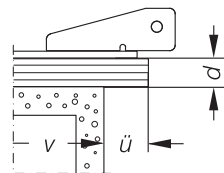
- ⑥⑥ Sliding clutch

**Design SG/A**

for angles lower than 45°  
Crank rod with transmission of the  
articulation, detachable



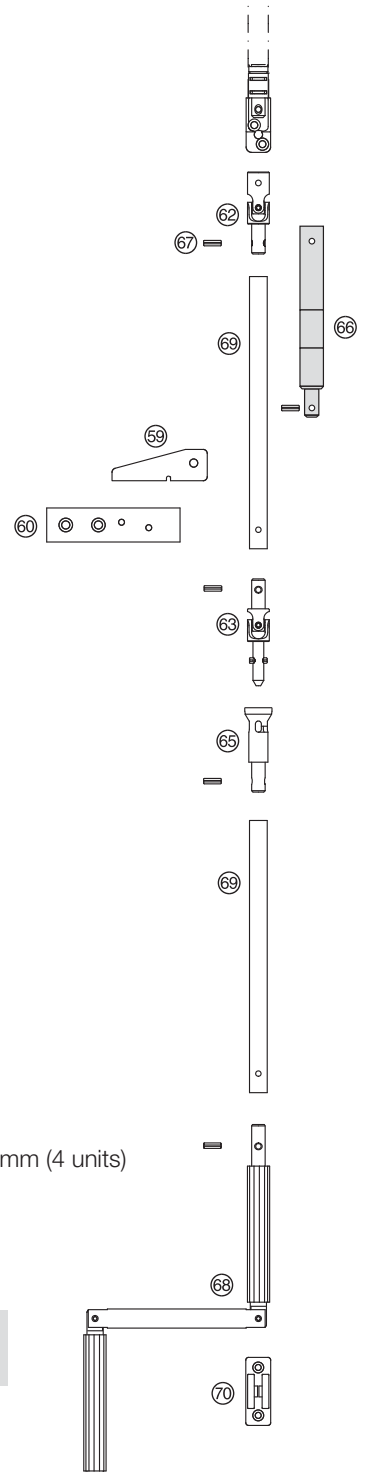
\*) PRIMAT-A =  
lower sash edge!

**Fitting parts**

- ⑤⑨ Rod guide 1
- ⑥⑩ Plugging plate for rod guide 1
- ⑥② Cardan joint 10/16
- ⑥③ Cardan joint 8/10
- ⑥⑤ Coupling funnel
- ⑥⑦ Clamping sleeve 4 x 13 mm (4 units)
- ⑥⑧ Articulated crank
- ⑥⑨ Alu pipe for crank rod
- ⑦⑩ Snap-on clip

Optional:

- ⑥⑥ Sliding clutch





## Spindle gears and crank rods continued

### Individual parts, design SG

(crank rod with transmission of the articulation, stationary)

		EV 1	white	black	
⑥②	Cardan joint 10/16 (without clamping sleeve)	108335	108335	108338	
⑥⑦	Clamping sleeve 4x13 mm	130391	130391	130391	
⑥⑨	Alu pipe for crank rod	Stock length approx. 6000 mm	108455	-	-
		Length 1000 mm	108410	108413	173323
		Length 1500 mm	108419	108422	173326
		Length 2000 mm	108428	108431	173329
		Length 2500 mm	108437	108440	173332
		Length 3000 mm	108446	108449	173335
⑥⑧	Articulated crank	125372	125375	173341	
⑦⑩	Snap-on clip	126533	126527	173338	
⑥④	Cardan joint 10/10 (without clamping sleeve)	123437	123437	123440	
⑤⑨	Rod guide 1	108329	108332	133976	
⑥⑩	Plugging plate for rod guide 1 with screws	133958	133961	173389	
⑥⑥	Sliding clutch	108728	108728	108728	

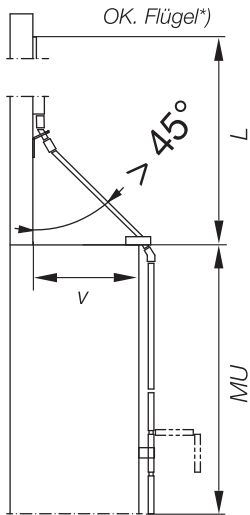
### Individual parts, design SG/A

(crank rod with transmission of the articulation, detachable)

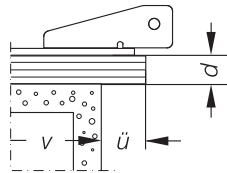
		EV 1	white	black	
⑥②	Cardan joint 10/16 (without clamping sleeve)	108335	108335	108338	
⑥⑦	Clamping sleeve 4x13 mm	130391	130391	130391	
⑥⑨	Alu pipe for crank rod	Stock length approx. 6000 mm	108455	-	-
		Length 1000 mm	108410	108413	173323
		Length 1500 mm	108419	108422	173326
		Length 2000 mm	108428	108431	173329
		Length 2500 mm	108437	108440	173332
		Length 3000 mm	108446	108449	173335
⑥⑧	Articulated crank	125372	125375	173341	
⑦⑩	Snap-on clip	126533	126527	173338	
⑥③	Cardan joint 8/10 with pin	108347	108347	108350	
⑤⑨	Rod guide 1	108329	108332	133976	
⑥⑩	Plugging plate for rod guide 1 with screws	133958	133961	173389	
⑥⑤	Coupling funnel (without clamping sleeve)	108359	108359	125078	
⑥⑥	Sliding clutch	108728	108728	108728	

**Design SG/2**

for angles greater than 45°  
Crank rod with transmission of the articulation, stationary



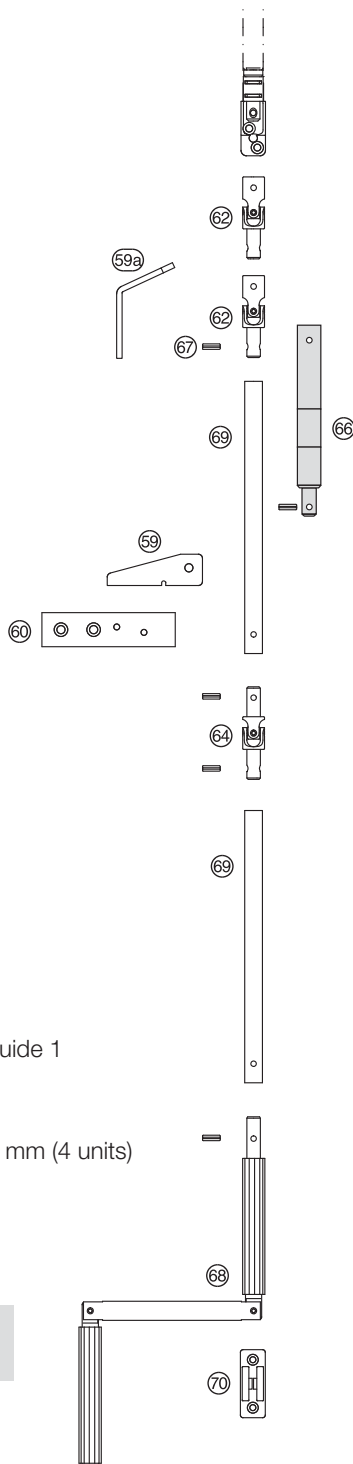
\*) PRIMAT-A = lower sash edge!



**Fitting parts**

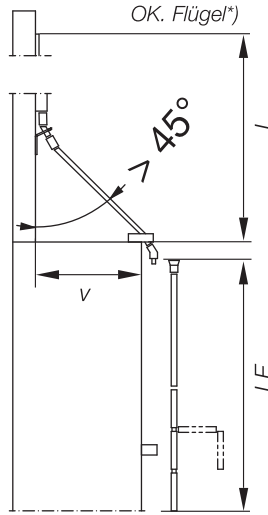
- 59 Rod guide 1
- 59a Rod guide 2
- 60 Plugging plate for rod guide 1
- 62 Cardan joint 10/16
- 64 Cardan joint 10/10
- 67 Clamping sleeve 4 x 13 mm (4 units)
- 66 Articulated crank
- 69 Alu pipe for crank rod
- 70 Snap-on clip

Optional:  
66 Sliding clutch

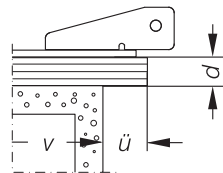


**Design SG/A2**

for angles greater than 45°  
Crank rod with transmission of the articulation, detachable



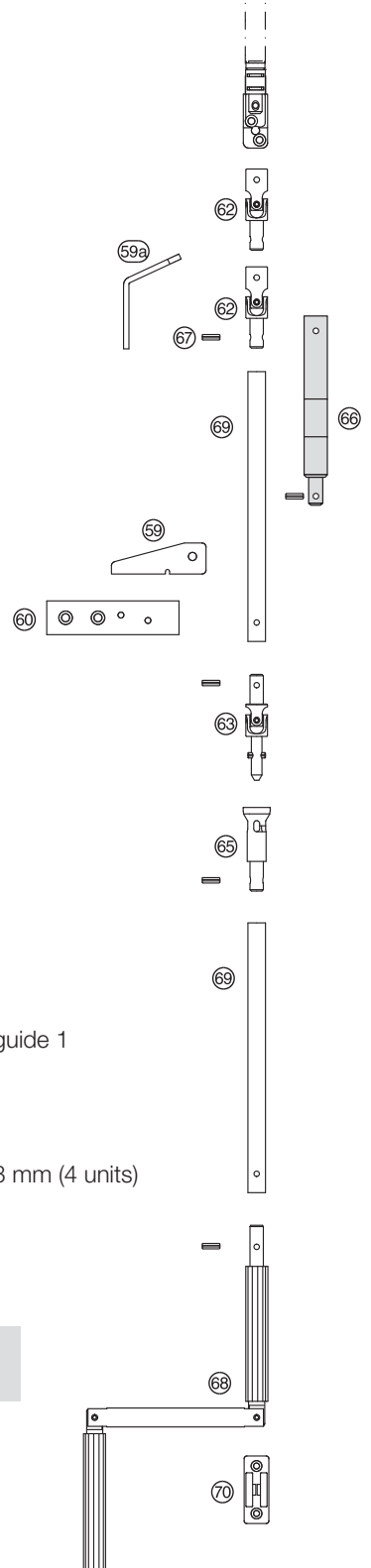
\*) PRIMAT-A = lower sash edge!



**Fitting parts**

- 59 Rod guide 1
- 59a Rod guide 2
- 60 Plugging plate for rod guide 1
- 62 Cardan joint 10/16
- 63 Cardan joint 8/10
- 65 Coupling funnel
- 67 Clamping sleeve 4 x 13 mm (4 units)
- 66 Articulated crank
- 69 Alu pipe for crank rod
- 70 Snap-on clip

Optional:  
66 Sliding clutch







## Spindle gears and crank rods continued

### Individual parts, design SG/2

(crank rod with transmission of the articulation, stationary)

		EV 1	white	black	
⑥②	Cardan joint 10/16 (without clamping sleeve)	108335	108335	108338	
⑥⑦	Clamping sleeve 4x13 mm	130391	130391	130391	
⑥⑨	Alu pipe for crank rod	Stock length approx. 6000 mm	108455	-	-
		Length 1000 mm	108410	108413	173323
		Length 1500 mm	108419	108422	173326
		Length 2000 mm	108428	108431	173329
		Length 2500 mm	108437	108440	173332
		Length 3000 mm	108446	108449	173335
⑥⑧	Articulated crank	125372	125375	173341	
⑦⑩	Snap-on clip	126533	126527	173338	
⑥④	Cardan joint 10/10 (without clamping sleeve)	123437	123437	123440	
⑤⑨	Rod guide 1	108329	108332	133976	
⑥⑩	Plugging plate for rod guide 1 with screws	133958	133961	173389	
⑤⑨②	Rod guide 2	133979	142586	142583	
⑥⑥	Sliding clutch	108728	108728	108728	

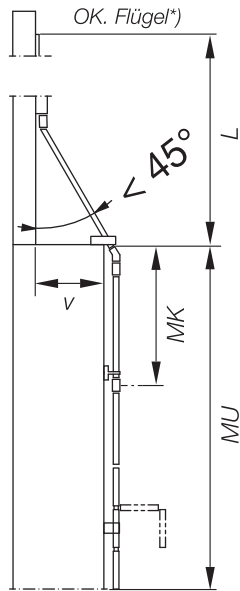
### Individual parts, design SG/A

(crank rod with transmission of the articulation, detachable)

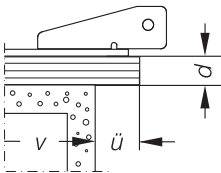
		EV 1	white	black	
⑥②	Cardan joint 10/16 (without clamping sleeve)	108335	108335	108338	
⑥⑦	Clamping sleeve 4x13 mm	130391	130391	130391	
⑥⑨	Alu pipe for crank rod	Stock length approx. 6000 mm	108455	-	-
		Length 1000 mm	108410	108413	173323
		Length 1500 mm	108419	108422	173326
		Length 2000 mm	108428	108431	173329
		Length 2500 mm	108437	108440	173332
		Length 3000 mm	108446	108449	173335
⑥⑧	Articulated crank	125372	125375	173341	
⑦⑩	Snap-on clip	126533	126527	173338	
⑥③	Cardan joint 8/10 with pin	108347	108347	108350	
⑤⑨	Rod guide 1	108329	108332	133976	
⑥⑩	Plugging plate for rod guide 1 with screws	133958	133961	173389	
⑤⑨②	Rod guide 2	133979	142586	142583	
⑥⑤	Coupling funnel (without clamping sleeve)	108359	108359	125078	
⑥⑥	Sliding clutch	108728	108728	108728	

**Design SG/1**

for angles lower than 45°  
Crank rod with transmission of the articulation, stationary



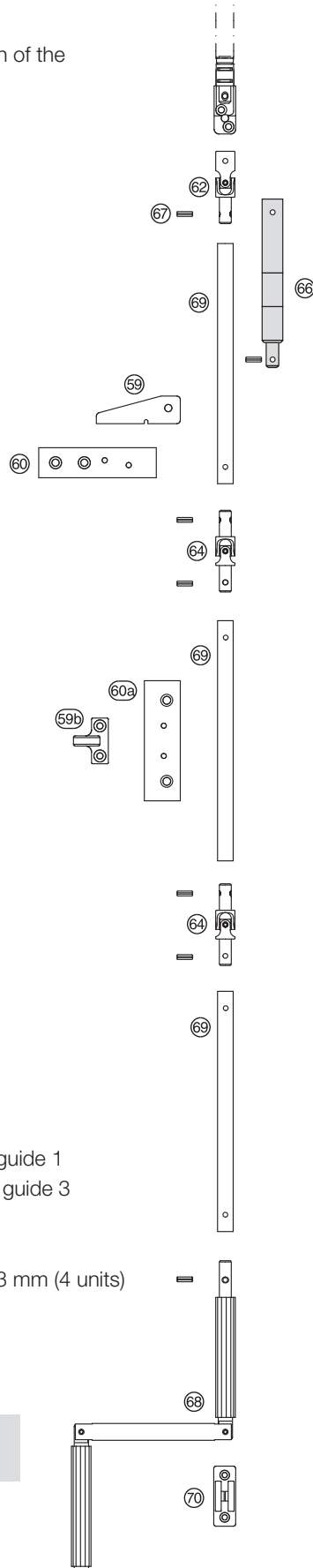
\*) PRIMAT-A = lower sash edge!



**Fitting parts**

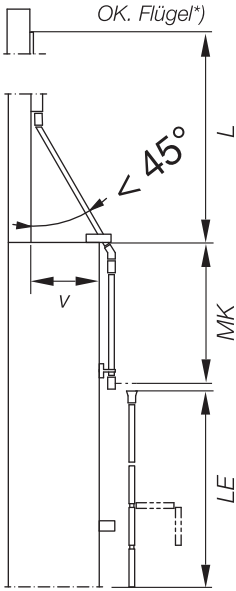
- 59 Rod guide 1
- 59b Rod guide 3
- 60 Plugging plate for rod guide 1
- 60a Plugging plate for rod guide 3
- 62 Cardan joint 10/16
- 64 Cardan joint 10/10
- 67 Clamping sleeve 4 x 13 mm (4 units)
- 68 Articulated crank
- 69 Alu pipe for crank rod
- 70 Snap-on clip

Optional:  
66 Sliding clutch

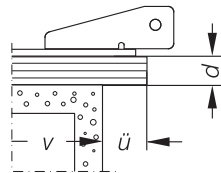


**Design SG/A1**

for angles lower than 45°  
Crank rod with transmission of the articulation, detachable



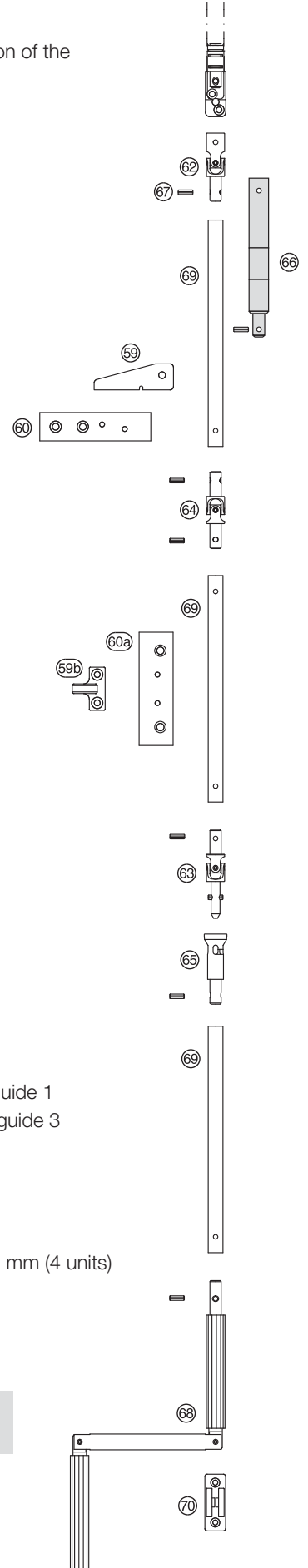
\*) PRIMAT-A = lower sash edge!



**Fitting parts**

- 59 Rod guide 1
- 59b Rod guide 3
- 60 Plugging plate for rod guide 1
- 60a Plugging plate for rod guide 3
- 62 Cardan joint 10/16
- 63 Cardan joint 8/10
- 64 Cardan joint 10/10
- 65 Coupling funnel
- 67 Clamping sleeve 4 x 13 mm (4 units)
- 68 Articulated crank
- 69 Alu pipe for crank rod
- 70 Snap-on clip

Optional:  
66 Sliding clutch





## Spindle gears and crank rods continued

### Individual parts, design SG/1

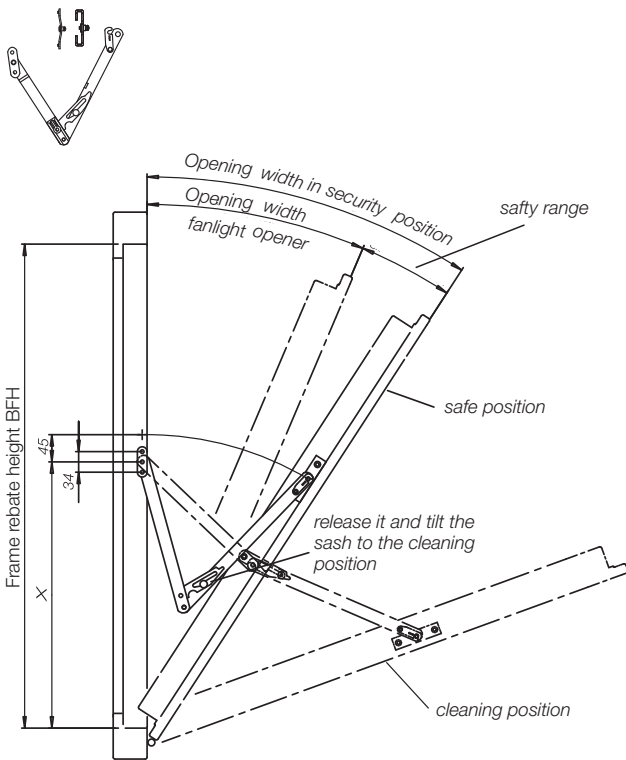
(crank rod with transmission of the articulation, stationary)

	EV 1	white	black	
⑥② Cardan joint 10/16 (without clamping sleeve)	108335	108335	108338	
⑥⑦ Clamping sleeve 4x13 mm	130391	130391	130391	
⑥⑨ Alu pipe for crank rod	stock length approx. 6000 mm	-	-	
	Length 1000 mm	108410	108413	173323
	Length 1500 mm	108419	108422	173326
	Length 2000 mm	108428	108431	173329
	Length 2500 mm	108437	108440	173332
	Length 3000 mm	108446	108449	173335
⑥⑨ Articulated crank	125372	125375	173341	
⑦⑩ Snap-on clip	126533	126527	173338	
⑥④ Cardan joint 10/10 (without clamping sleeve)	123437	123437	123440	
⑤⑨ Rod guide 1	108329	108332	133976	
⑥⑩ Plugging plate for rod guide 1 with screws	133958	133961	173389	
⑤⑨③ Rod guide 3	133211	133214	133217	
⑥⑩③ Plugging plate for rod guide 3 with screws	133967	133970	133973	
⑥⑥ Sliding clutch	108728	108728	108728	

### Individual parts, design SG/A1

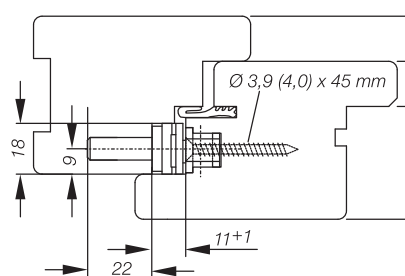
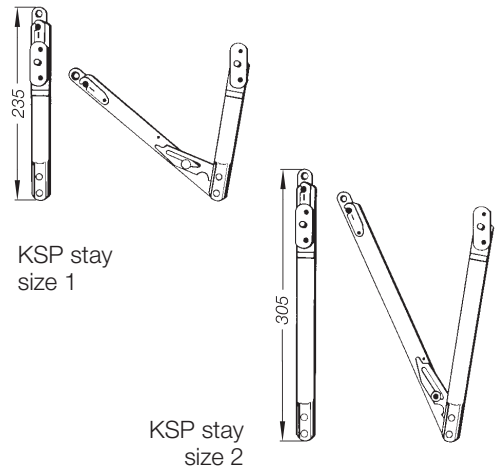
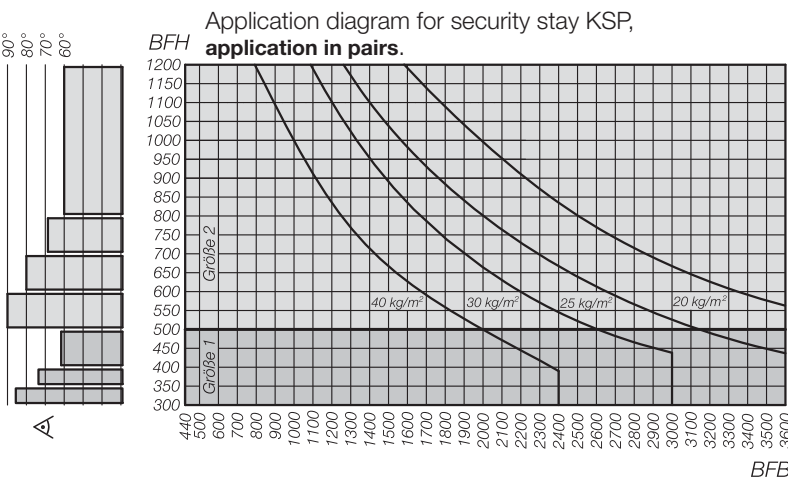
(crank rod with transmission of the articulation, detachable)

	EV 1	white	black	
⑥② Coupling funnel (without clamping sleeve)	108359	108359	125078	
⑥⑦ Clamping sleeve 4x13 mm	130391	130391	130391	
⑥⑨ Alu pipe for crank rod	stock length approx. 6000 mm	-	-	
	Length 1000 mm	108410	108413	173323
	Length 1500 mm	108419	108422	173326
	Length 2000 mm	108428	108431	173329
	Length 2500 mm	108437	108440	173332
	Length 3000 mm	108446	108449	173335
⑥⑨ Articulated crank	125372	125375	173341	
⑦⑩ Snap-on clip	126533	126527	173338	
⑥④ Cardan joint 10/10 (without clamping sleeve)	123437	123437	123440	
⑤⑨ Rod guide 1	108329	108332	133976	
⑥⑩ Plugging plate for rod guide 1 with screws	133958	133961	173389	
⑤⑨③ Rod guide 3	133211	133214	133217	
⑥⑩③ Plugging plate for rod guide 3 with screws	133967	133970	133973	
⑥③ Cardan joint 8/10 with pin	108347	108347	108350	
⑥⑤ Coupling funnel (without clamping sleeve)	108359	108359	125078	
⑥⑥ Sliding clutch	108728	108728	108728	

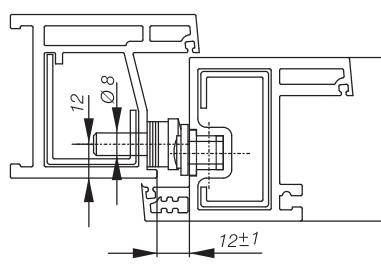


Ranges of application for PRIMAT-FL 190				
Frame rebate height BFH	Stays	Measure x	Opening width in security position	Opening width in cleaning position
300 - 350 mm	size 1	210 mm	approx. 220 - 255 mm	approx. 86°
350 - 400 mm	size 1	250 mm	approx. 220 - 255 mm	approx. 73°
400 - 500 mm	size 1	290 mm	approx. 220 - 270 mm	approx. 62°
500 - 600 mm	size 2	320 mm	approx. 220 - 255 mm	approx. 90°
600 - 700 mm	size 2	370 mm	approx. 220 - 255 mm	approx. 80°
700 - 800 mm	size 2	440 mm	approx. 220 - 250 mm	approx. 68°
800 - 1200 mm	size 2	500 mm	approx. 220 - 330 mm	approx. 60°

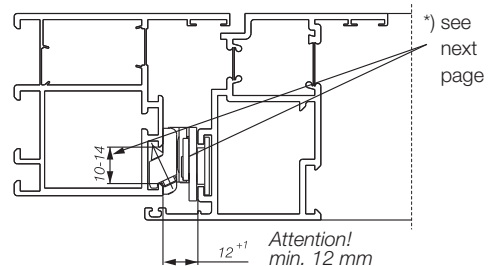
Installation note: The security stays KSP are to be installed in such a way that there is a safety area of 50 to 100 mm between the open position of the fanlight opener and the security position of the stays. Use alternative catch stays for frame rebate heights of 1200 or greater (see p. 50).



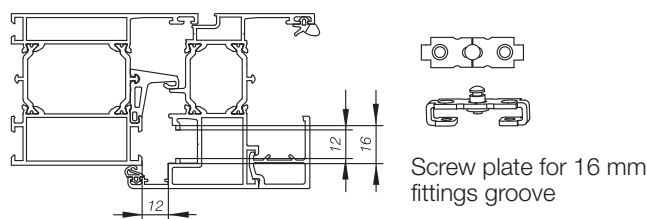
Vertical section KSP on the timber window



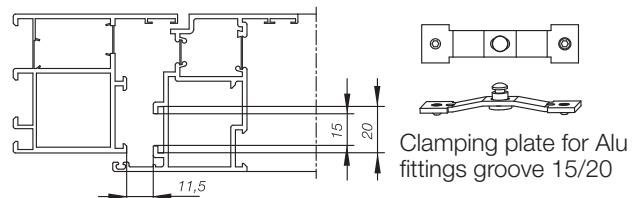
Vertical section KSP on the PVC window



Vertical section KSP on the aluminium window



Screw plate for 16 mm fittings groove



Clamping plate for Alu fittings groove 15/20



## Security stay KSP

### Packing units for timber and PVC windows

1 pair of KSP stays, size 1	140927
1 pair of KSP stays, size 2	140930

### Individual parts for timber and PVC windows

1 unit KSP stay, size 1	left	142140
	right	142134
1 unit KSP stay, size 2	left	142143
	right	142137

### Bulk packing for timber and PVC windows

KSP stays, size 1, pack of 10	142146
KSP stays, size 2, pack of 10	142149

### Accessories for timber and PVC windows

Packer for KSP stay, thickness 1 mm	117548
Packer for KSP stay, thickness 3 mm	153667
Packer for KSP stay, thickness 6 mm	128057
Packer for KSP stay, for beveled rebate profiles	136868
Jig with frame clamping plate, without sash clamping plate	117413

### Individual parts for aluminium windows with frame clamping plate, without sash clamping plate

KSP stay, size 1, Alu 10 to 12 mm	left	187873
	right	187870
KSP stay, size 2, Alu 10 to 12 mm	left	187879
	right	187876
KSP stay, size 1, Alu 12.1 to 14 mm	left	187885
	right	187882
KSP stay, size 2, Alu 12.1 to 14 mm	left	187891
	right	187888

### Sash clamping plate/screw plate for aluminium windows

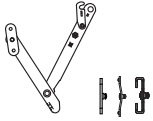
Alu fittings groove 15/20	154702
16 mm fittings groove	117401
Additional clamping plates available on request	

Installation instructions KSP	131219
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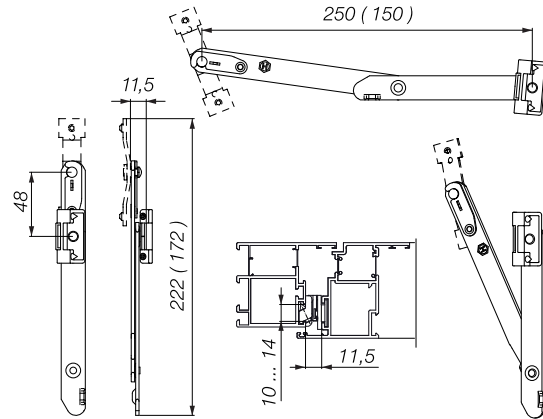
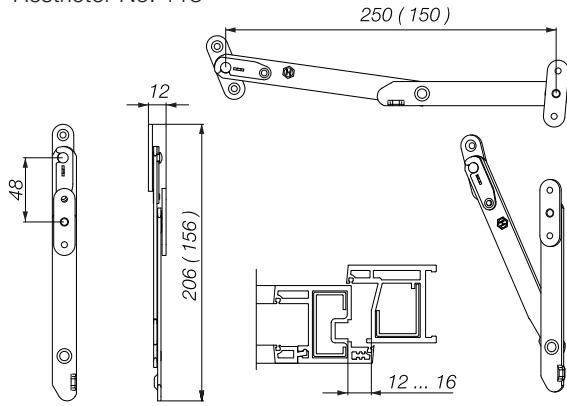
#### Note:

In some cases, a special screw bush may be required when installing our restrictors or our holding and security stays in combination with a central locking (Item Code: 200543).

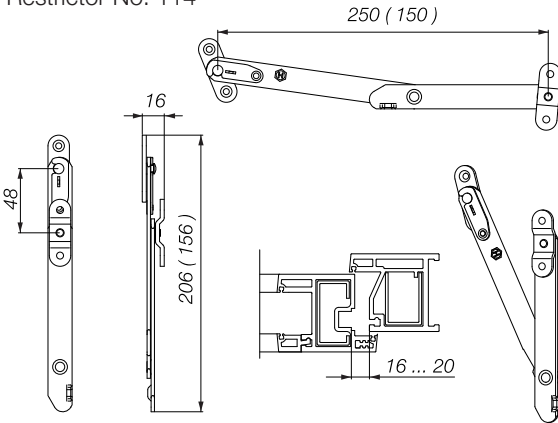
\*) Note the vertical section KSP on aluminium windows shown on the previous page:  
 for 10 to 12 mm: Stay KSP Alu 10 to 12 mm  
 for 12.1 to 14 mm: Stay KSP Alu 12.1 to 14 mm



Restrictor No. 113

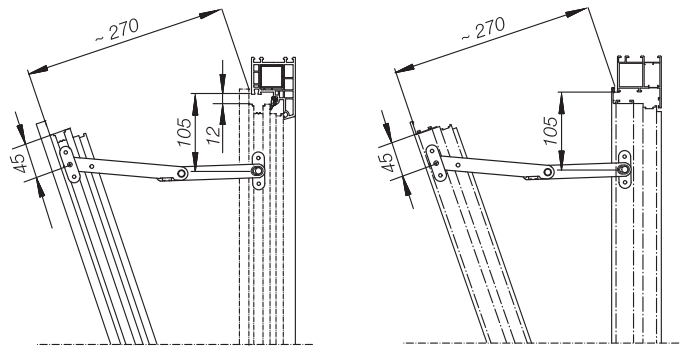


Restrictor No. 114



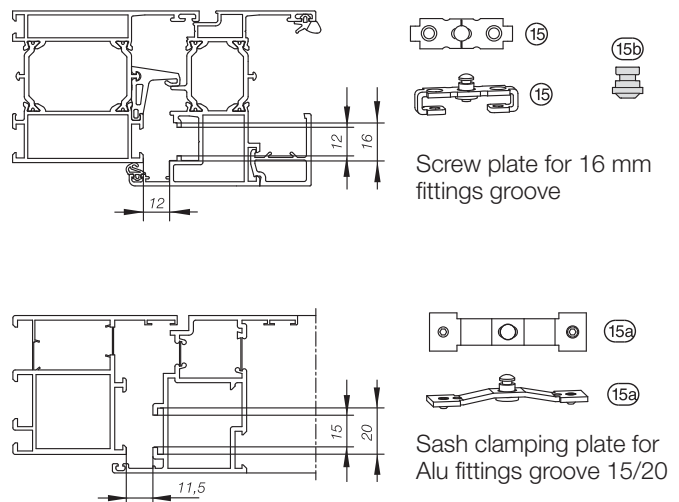
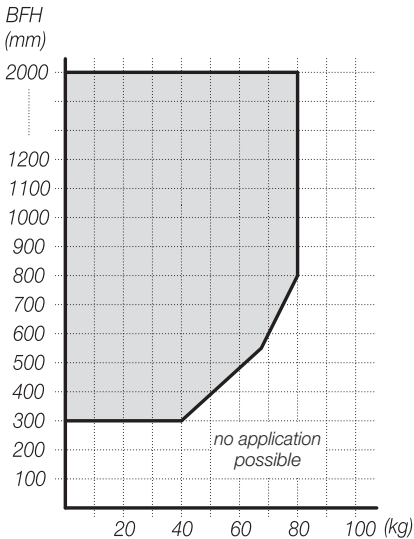
Installation note:

The security stays KSP are to be installed in such a way that there is a safety range of 50 to 100 mm between the open position of the farlight opener and the security position of the stays.



Restrictor on PVC and aluminium windows

Application diagram for restrictors, application in pairs.



## Restrictors 113 and 114

### Packing units

Restrictors No. 113, span width 300 mm, 1 Paar	229438
Restrictors No. 113, span width 250 mm, 1 pair	190510
Restrictors No. 113, span width 150 mm, 1 pair	190516
Restrictors No. 114, span width 300 mm, 1 Paar	229441
Restrictors No. 114, span width 250 mm, 1 pair	190513
Restrictors No. 114, span width 150 mm, 1 pair	190519

### Bulk packing for timber and PVC windows

Restrictors No. 113, span width 250 mm, 10 pairs	159576
Restrictors No. 113, span width 150 mm, 10 pairs	159585
Restrictors No. 114, span width 250 mm, 10 pairs	159579
Restrictors No. 114, span width 150 mm, 10 pairs	159588

### Individual parts for timber and PVC windows

Restrictors No. 113, span width 300 mm	left	196706	right	196703
Restrictors No. 113, span width 250 mm	left	159630	right	159627
Restrictors No. 113, span width 150 mm	left	159648	right	159645
Restrictors No. 114, span width 300 mm	left	196712	right	196709
Restrictors No. 114, span width 250 mm	left	159636	right	159633
Restrictors No. 114, span width 150 mm	left	159654	right	159651

### Individual parts for aluminium windows with frame clamping plate, without sash clamping plate

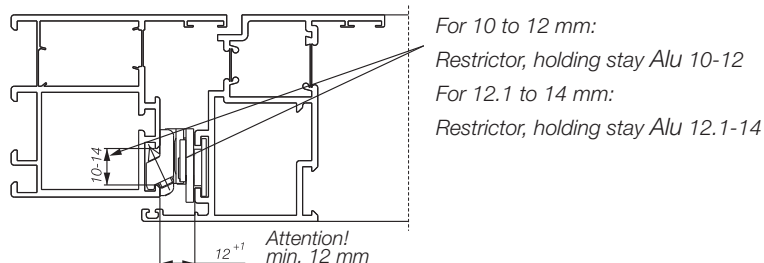
Restrictor No. 113, span width 300 mm, Alu 10 - 12 mm	left	196946	right	196943
Restrictor No. 113, span width 300 mm, Alu 12.1 - 14 mm	left	196952	right	196949
Restrictor No. 113, span width 250 mm, Alu 10 - 12 mm	left	185931	right	185928
Restrictor No. 113, span width 250 mm, Alu 12.1 - 14 mm	left	185314	right	185934
Restrictor No. 113, span width 150 mm, Alu 10 - 12 mm	left	185919	right	185916
Restrictor No. 113, span width 150 mm, Alu 12.1 - 14 mm	left	185925	right	185922

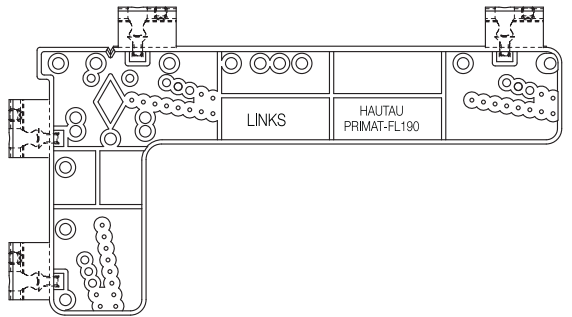
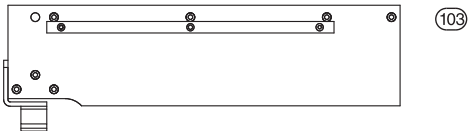
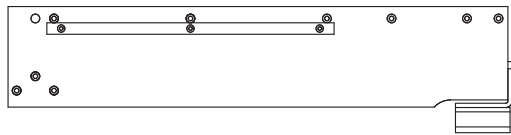
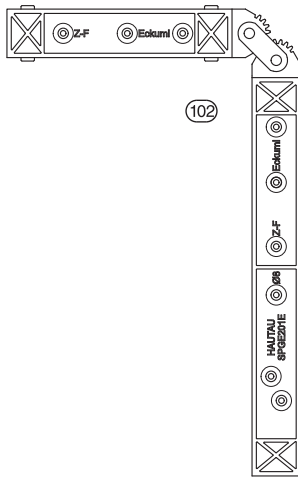
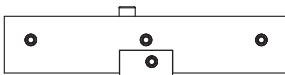
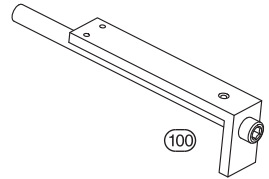
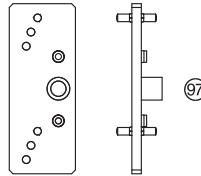
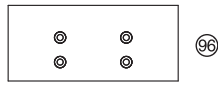
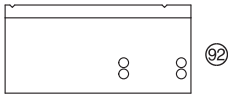
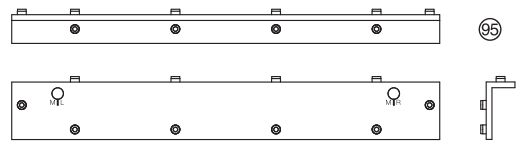
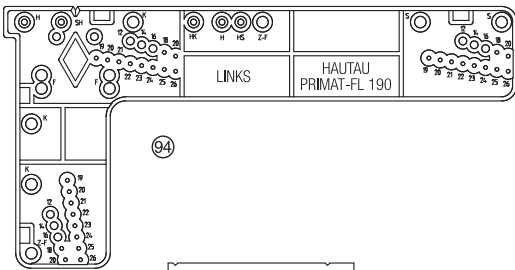
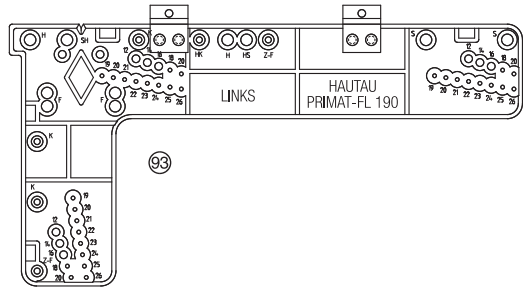
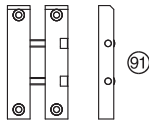
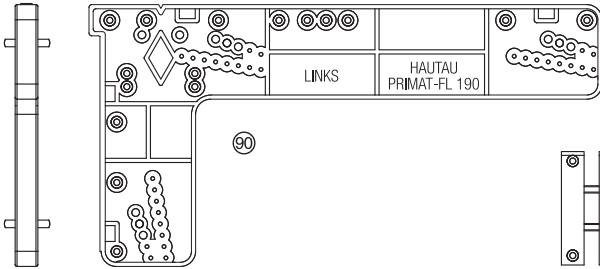
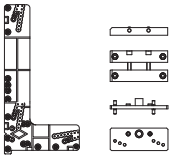
### Sash clamping plate/screw plate for aluminium windows

16 mm fittings groove <sup>15</sup>	117401
Sleeve 10,0 x 10,2 <sup>15b</sup>	200543
Alu fittings groove 15/20 <sup>15a</sup>	154702

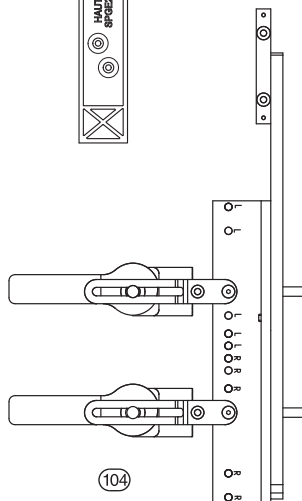
Additional clamping plates available on request

**Note:** In some cases, a special screw bush may be required when installing our restrictors or our holding and security stays in combination with a central locking (Item Code 200543).

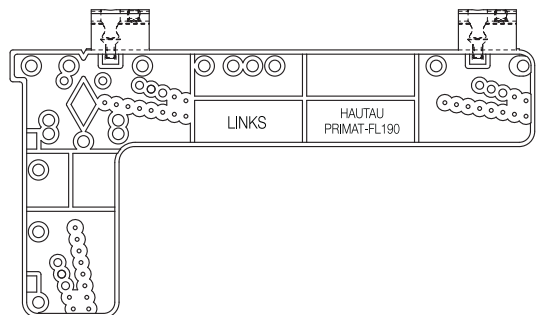




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## Jigs

### Packing units

⑨⑩	Jig PRIMAT-FL190 (Stay holder, universal sash bracket, corner, lever)	172864
⑨①	Jig top mounted sash bracket	107366
⑨②	Jig PRIMAT-A corner	108209
⑨③	Jig PRIMAT-A lever	108212
⑨④	Jig PRIMAT-A stay	108203
⑨⑤	Jig PRIMAT-A sash bracket	108206
⑨⑥	Jig PRIMAT-FL190 timber window	217488
⑨⑦	Jig security stay KSP	117413
⑩⑩	Jig crank rod for Alu pipe (spindle gear)	156737
⑩①	Jig spindle gear 200 A/WA	108716
⑩②	Jig spindle gear 200 E	139586
⑩③	Jig flexible rod (double-stay)	133586
⑩④	Jig transmission for curtain walling	172433
⑩⑤	Rod jig PRIMAT-FL 190 for batch production (round rod for 8 mm necessary)	177961

Additional jigs available on request

## PRIMAT-S<sup>compact</sup> 190

### Device properties

- Opening width 190 mm
- Increased contact pressure thanks to additional third locking inside the stay
- Two-stay version for wide windows
- Sash suspension with security knob
- Maintenance-free stay with anti-dirt profiling inside the stay
- Integrated limit stop and overload cutoff
- Optional drive pin in combination with additional lockings
- Compact design with low space requirements on the frame

### Accessories

- Sash bracket with cap ①
- Bevel window sash bracket with cap ②
- Coupling track for additional locking ZV/F ③
- Drive track, additional for 2-stay design ④

### Tools

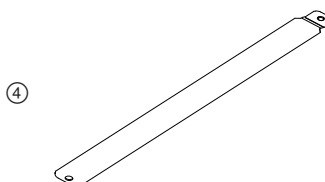
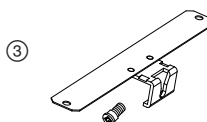
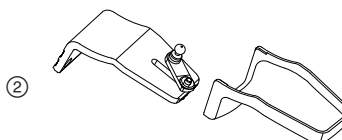
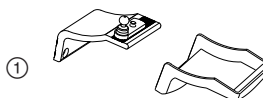
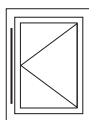
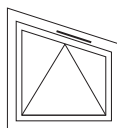
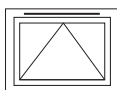
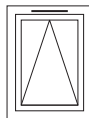
- Jig

### Range of application

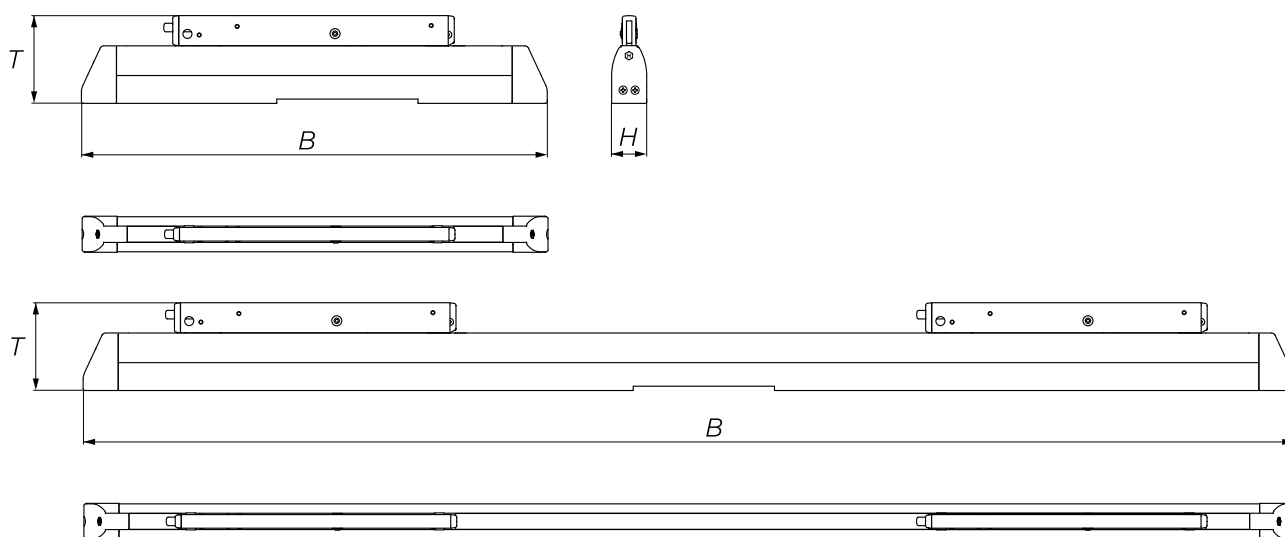
For sashes made of wood, PVC, aluminium and composite material.

Suitable for ventilation systems.

### Installation examples



## PRIMAT-S<sup>compact</sup> 190



### Technical specifications

	PRIMAT-S <sup>compact</sup> 190, single stay	PRIMAT-S <sup>compact</sup> 190, double stay
Rated voltage (V)	24	24
Voltage tolerance range (%)	-10 / +30	-10 / +30
Remaining ripple (%)	10	10
Current consumption (A)	0,35	0,35
Starting current (A)	0,5	0,5
Compressive force (N)	100	100
Tractive force (N)	100	100
Locking force (N)	1500	3000
Stroke/opening width (in mm)	190	190
Opening mechanism	stay	stay
Running period	40s	40s
Duty cycle	60s on / 60s off	60s on / 60s off
Ambient temperature	0 °C to +70 °C	0 °C to +70 °C
Protection class	IP40	IP40
Cutoff open	limit switch	limit switch
Cutoff closed	limit switch	limit switch
Connection technology	plug-in screw terminal, max. 1 mm <sup>2</sup>	
Dimensions (B x H x T in mm)	465 x 36 x 88	1210 x 36 x 88
Housing	aluminium	aluminium
Scope of delivery	including sash bracket	including sash bracket
Lifespan (Open/Closed cycles)	10.000	10.000

#### Item code

EV 1	183758	183767
RAL 9016	183761	183770
RAL 9005	183764	183773
RAL 9016 with white caps	185503	185506

other strokes on request

Item code accessories	RAL 7035	RAL 9016	RAL 9005
Sash bracket with cap	195104	190462	190465
Bevel window sash bracket with cap	195107	184452	184455
	Measure x = 8,3 mm		179608
Coupling track for additional locking ZV/F	Measure x = 9,5 mm		179611
	Measure x = 11,5 mm		185188
Drive track, additional for ZV/F with 2-stay design			179540

## PRIMAT-S<sup>compact</sup> 300

### Device properties

- Opening width 300 mm
- Increased contact pressure thanks to additional third locking inside the stay
- Two-stay version for wide windows
- Sash suspension with security knob
- Maintenance-free stay with anti-dirt profiling inside the stay
- Integrated limit stop and overload cutoff
- Optional drive pin in combination with additional lockings
- Compact design with low space requirements on the frame

### Accessories

- Sash bracket with cap ①
- Bevel window sash bracket with cap ②
- Coupling track for additional locking ZV/F ③
- Drive track, additional for 1-stay design ④
- Drive track, additional for 2-stay design ⑤

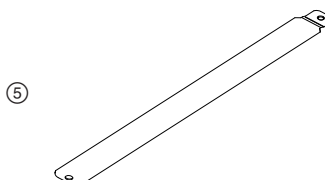
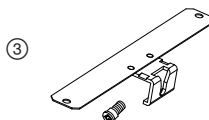
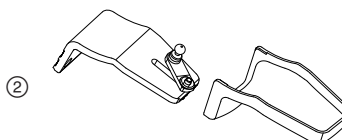
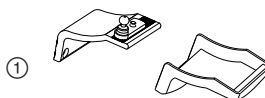
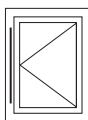
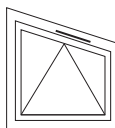
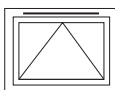
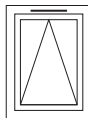
### Tools

- Jig

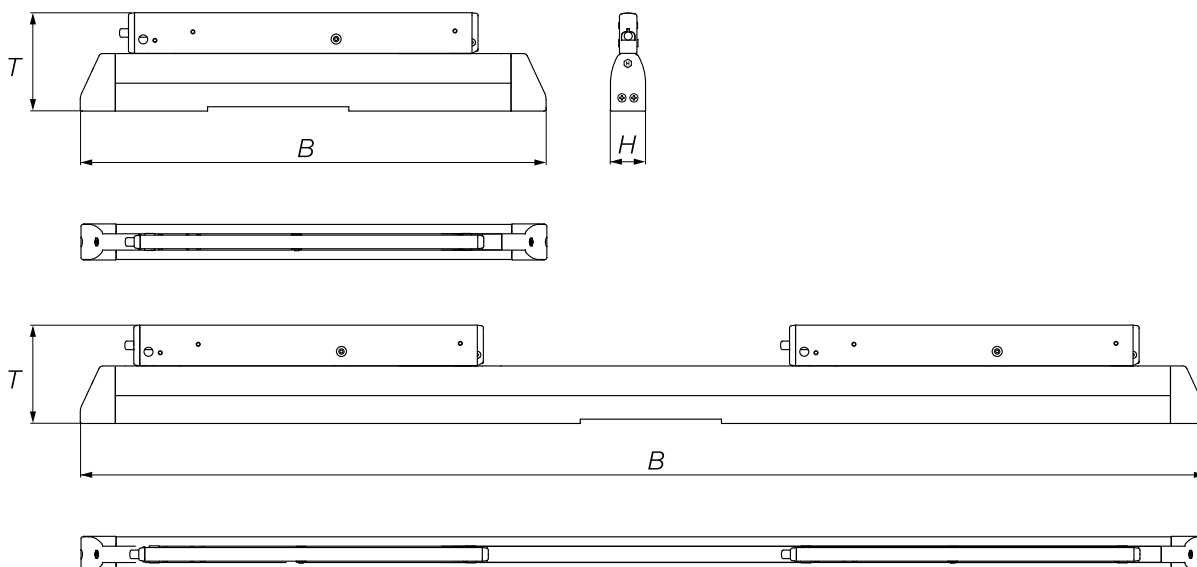
### Range of application

For sashes made of wood, PVC, aluminium and composite material.  
Suitable for ventilation systems.

### Installation examples



## PRIMAT-S<sup>compact</sup> 300



### Technical specifications

	PRIMAT-S <sup>compact</sup> 300, single stay	PRIMAT-S <sup>compact</sup> 300, double stay
Rated voltage (V)	24	24
Voltage tolerance range (%)	-10 / +30	-10 / +30
Remaining ripple (%)	10	10
Current consumption (A)	0,35	0,35
Starting current (A)	0,5	0,5
Compressive force (N)	80	80
Tractive force (N)	80	80
Locking force (N)	1500	3000
Stroke/opening width (in mm)	300	300
Opening mechanism	stay	stay
Running period	50s	50s
Duty cycle	60s on / 60s off	60s on / 60s off
Ambient temperature	0 °C to +70 °C	0 °C to +70 °C
Protection class	IP40	IP40
Cutoff open	limit switch	limit switch
Cutoff closed	limit switch	limit switch
Connection technology	plug-in screw terminal, max. 1 mm <sup>2</sup>	
Dimensions (B x H x T in mm)	512 x 36 x 100	1210 x 36 x 100
Housing	aluminium	aluminium
Scope of delivery	including sash bracket	including sash bracket
Lifespan (Open/Closed cycles)	10.000	10.000

#### Item code

EV 1	193980	193989
RAL 9016	193983	193992
RAL 9005	193986	193995

other strokes on request

Item code accessories	RAL 7035	RAL 9016	RAL 9005
Sash bracket with cap	195104	190462	190465
Bevel window sash bracket with cap	195107	184452	184455
Coupling track for additional locking ZV/F	Measure x = 8,3 mm		179608
	Measure x = 9,5 mm		179611
	Measure x = 11,5 mm		185188
Drive track, additional for single stay design			192904
Drive track, additional for ZV/F with 2-stay design			192910

## PRIMAT-S<sup>compact</sup> A

### Device properties

- Opening width 95 - 190 mm adjustable
- Increased contact pressure thanks to integrated locking
- Single, double, triple version
- Integrated limit stop and overload cutoff
- Compact design with low space requirements on the frame

### Accessories

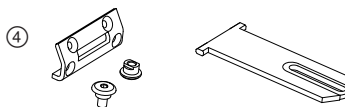
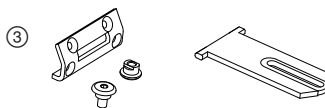
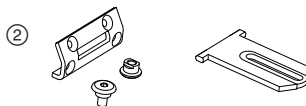
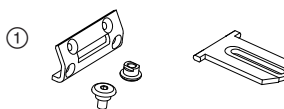
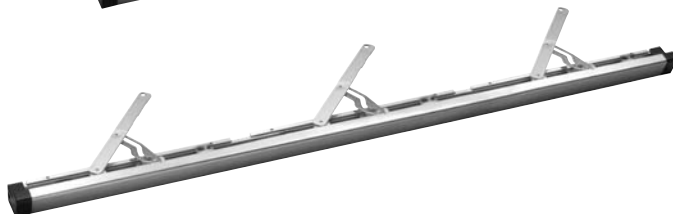
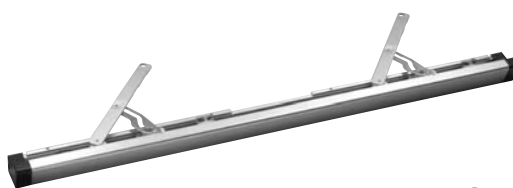
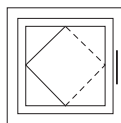
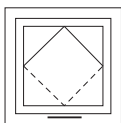
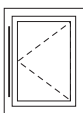
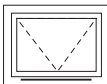
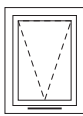
- Accessories sash bracket R 0-25 ①
- Accessories sash bracket R 26-50 ②
- Accessories sash bracket R 51-75 ③
- Accessories sash bracket R 76-100 ④

### Range of application

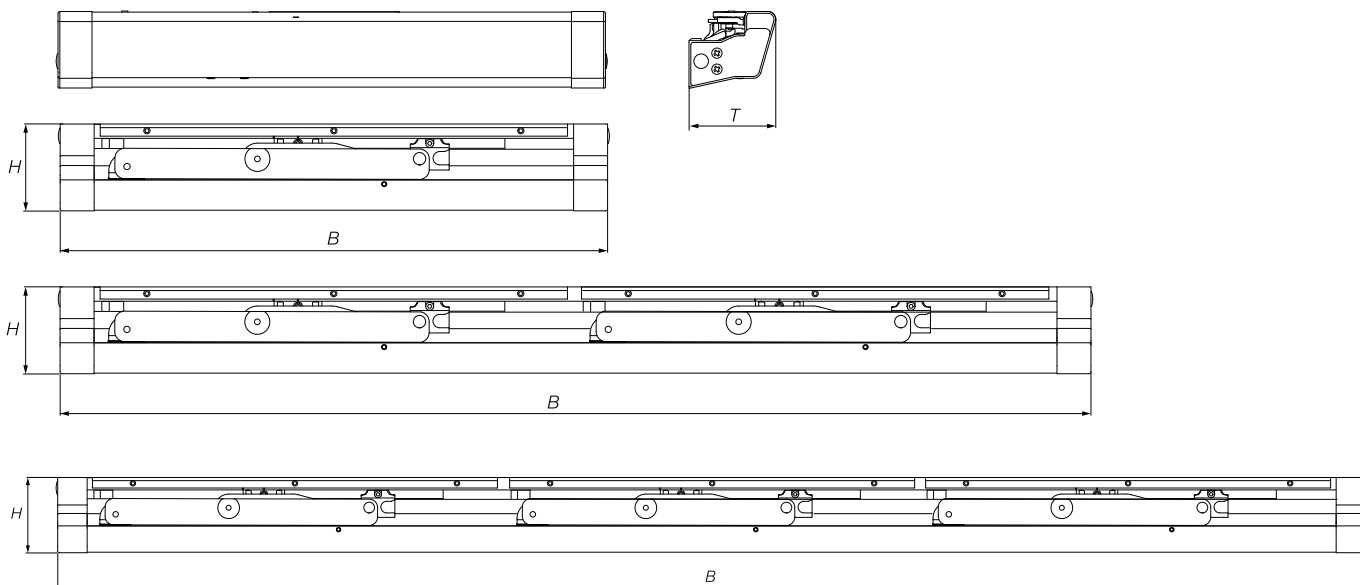
For sashes made of wood, PVC, aluminium and composite material.

Suitable for ventilation systems.

### Installation examples



## PRIMAT-S<sup>compact</sup> A



### Technical specifications

	PRIMAT-S <sup>compact</sup> A, single stay	PRIMAT-S <sup>compact</sup> A, double stay	PRIMAT-S <sup>compact</sup> A, triple stay
Rated voltage (V)	24	24	24
Voltage tolerance range (%)	-30 / +30	-30 / +30	-30 / +30
Remaining ripple (%)	10	10	10
Current consumption (A)	0,35	0,35	0,35
Starting current (A)	0,5	0,5	0,5
Compressive force (N)	50	80	80
Tractive force (N)	50	80	80
Locking force (N)	8000	16.000	24.000
Stroke/opening width (in mm)	190	190	190
Opening mechanism	stay	stay	stay
Running period	40s	40s	40s
Duty cycle	60s on / 60s off	60s on / 60s off	60s on / 60s off
Ambient temperature	0 °C to +70 °C	0 °C to +70 °C	0 °C to +70 °C
Protection class	IP40	IP40	IP40
Cutoff open	limit switch	limit switch	limit switch
Cutoff closed	limit switch	limit switch	limit switch
Connection technology	plug-in screw terminal, max. 1 mm <sup>2</sup>		
Dimensions (B x H x T in mm)	452 x 72 x 63 (FB 450-1000)	1001 x 72 x 63 (FB 1001-1500) 1501 x 72 x 63 (FB 1501-2000)	2001 x 72 x 63 (FB 2001-2500) 2501 x 72 x 63 (FB 2501-3000)
Housing	aluminium	aluminium	aluminium
Scope of delivery	without sash bracket	without sash bracket	without sash bracket
Lifespan (Open/Closed cycles)	10.000	10.000	10.000

#### Item code

EV 1	194921 (FB 450-1000)	203001 (FB 1001-1500)	203019 (FB 2001-2500)
		206377 (FB 1501-2000)	206395 (FB 2501-3000)
RAL 9016	194924 (FB 450-1000)	203004 (FB 1001-1500)	203022 (FB 2001-2500)
		206380 (FB 1501-2000)	206398 (FB 2501-3000)
RAL 9005	194927 (FB 450-1000)	203007 (FB 1001-1500)	203025 (FB 2001-2500)
		206383 (FB 1501-2000)	206401 (FB 2501-3000)

other strokes on request

#### Item code accessories

Accessories sash bracket R 0-25	200200
Accessories sash bracket R 26-50	200203
Accessories sash bracket R 51-75	200206
Accessories sash bracket R 76-100	200209

## PRIMAT-E<sup>compact</sup> 190

### Device properties

- Opening width 190 mm
- Increased contact pressure thanks to additional third locking inside the stay
- Two-stay version for wide windows
- Sash suspension with security knob
- Maintenance-free stay with anti-dirt profiling inside the stay
- Integrated limit stop and overload cutoff
- Optional drive pin in combination with additional lockings
- Compact design with low space requirements on the frame

### Accessories

- Sash bracket with cap ①
- Bevel window sash bracket with cap ②
- Coupling track for additional locking ZV/F ③
- Drive track, additional for 2-stay design ④

### Tools

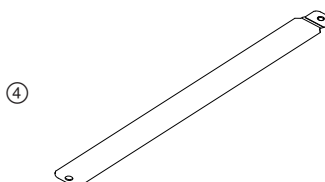
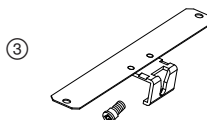
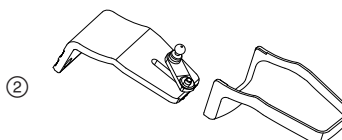
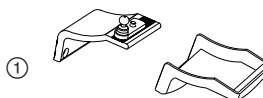
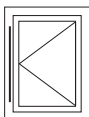
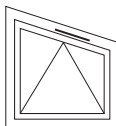
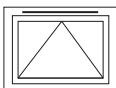
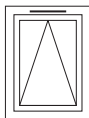
- Jig

### Range of application

For sashes made of wood, PVC, aluminium and composite material.

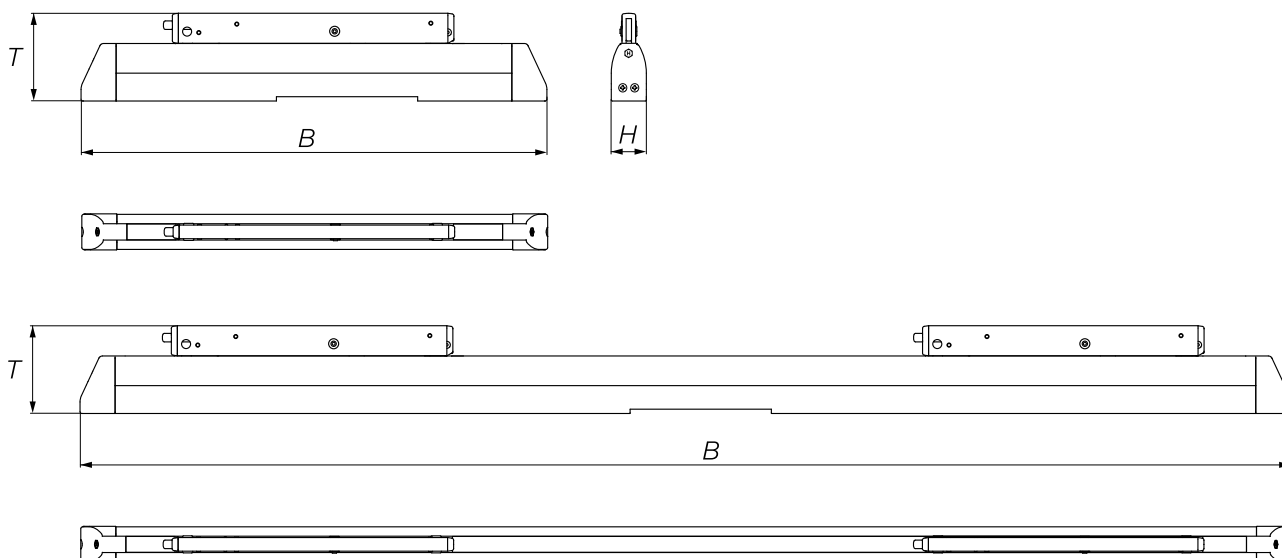
Suitable for ventilation systems.

### Installation examples





## PRIMAT-E<sup>compact</sup> 190



### Technical specifications

	PRIMAT-E <sup>compact</sup> 190, single stay	PRIMAT-E <sup>compact</sup> 190, double stay
Rated voltage (V)	230	230
Voltage tolerance range (%)	-10 / +10	-10 / +10
Current consumption (A)	0,06	0,06
Compressive force (N)	100	100
Tractive force (N)	100	100
Locking force (N)	1500	3000
Stroke/opening width (in mm)	190	190
Opening mechanism	stay	stay
Running period	40s	40s
Duty cycle	60s on / 60s off	60s on / 60s off
Ambient temperature	0 °C to +70 °C	0 °C to +70 °C
Protection class	IP40	IP40
Cutoff open	limit switch	limit switch
Cutoff closed	limit switch	limit switch
Connection technology	plug-in screw terminal, max. 1 mm <sup>2</sup>	
Dimensions (B x H x T in mm)	465 x 36 x 88	1210 x 36 x 88
Housing	aluminium	aluminium
Scope of delivery	including sash bracket	including sash bracket
Lifespan (Open/Closed cycles)	10.000	10.000

#### Item code

EV 1	183740	183749
RAL 9016	183743	183752
RAL 9005	183746	183755
RAL 9016 with white caps	185497	185500

other strokes on request

#### Item code accessories

	RAL 7035	RAL 9016	RAL 9005
Sash bracket with cap	195104	190462	190465
Bevel window sash bracket with cap	195107	184452	184455
Coupling track for additional locking ZV/F	Measure x = 8,3 mm		179608
	Measure x = 9,5 mm		179611
	Measure x = 11,5 mm		185188
Drive track, additional for ZV/F with 2-stay design			179540

## PRIMAT-E<sup>compact</sup> 300

### Device properties

- Opening width 300 mm
- Increased contact pressure thanks to additional third locking inside the stay
- Two-stay version for wide windows
- Sash suspension with security knob
- Maintenance-free stay with anti-dirt profiling inside the stay
- Integrated limit stop and overload cutoff
- Optional drive pin in combination with additional lockings
- Compact design with low space requirements on the frame

### Accessories

- Sash bracket with cap ①
- Bevel window sash bracket with cap ②
- Coupling track for additional locking ZV/F ③
- Drive track, additional for 1-stay design ④
- Drive track, additional for 2-stay design ⑤

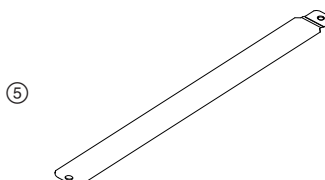
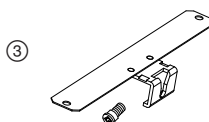
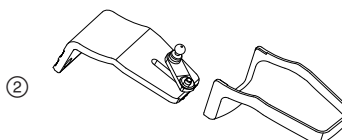
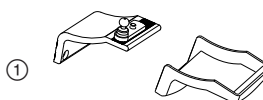
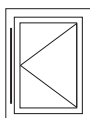
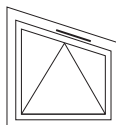
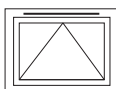
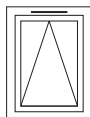
### Tools

- Jig

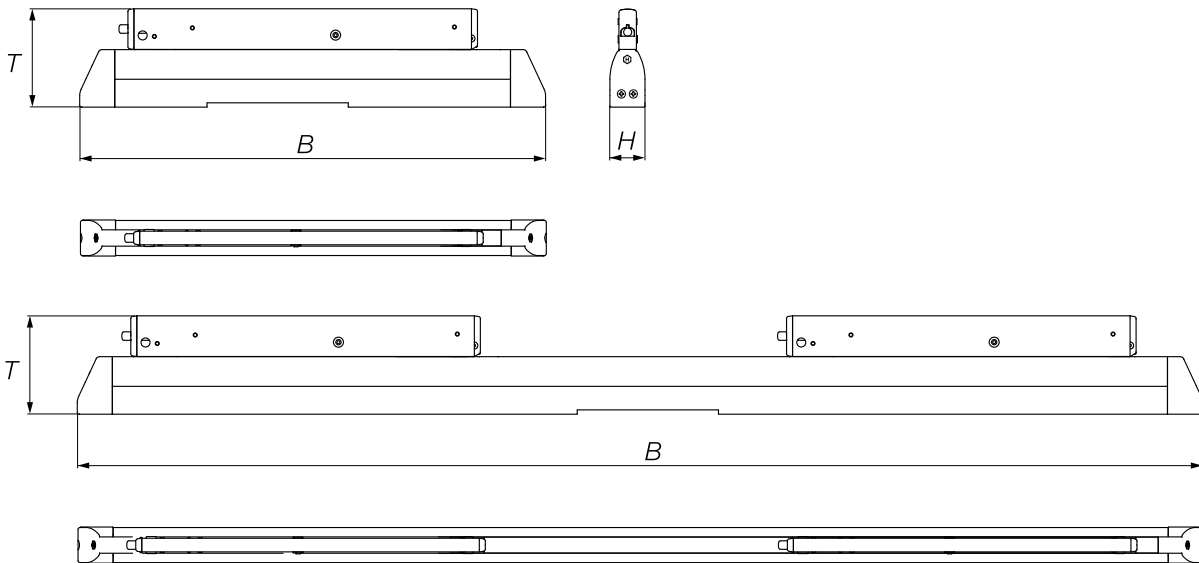
### Range of application

For sashes made of wood, PVC, aluminium and composite material.  
Suitable for ventilation systems.

### Installation examples



## PRIMAT-E<sup>compact</sup> 300



### Technical specifications

	PRIMAT-E <sup>compact</sup> 300, single stay	PRIMAT-E <sup>compact</sup> 300, double stay
Rated voltage (V)	230	230
Voltage tolerance range (%)	-10 / +10	-10 / +10
Current consumption (A)	0,06	0,06
Compressive force (N)	80	80
Tractive force (N)	80	80
Locking force (N)	1500	3000
Stroke/opening width (in mm)	300	300
Opening mechanism	stay	stay
Running period	50s	50s
Duty cycle	60s on / 60s off	60s on / 60s off
Ambient temperature	0 °C to +70 °C	0 °C to +70 °C
Protection class	IP40	IP40
Cutoff open	limit switch	limit switch
Cutoff closed	limit switch	limit switch
Connection technology	plug-in screw terminal, max. 1 mm <sup>2</sup>	
Dimensions (B x H x T in mm)	512 x 36 x 100	1210 x 36 x 100
Housing	aluminium	aluminium
Scope of delivery	including sash bracket	including sash bracket
Lifespan (Open/Closed cycles)	10.000	10.000

#### Item code

EV 1	193953	193962
RAL 9016	193956	193965
RAL 9005	193959	193968

other strokes on request

#### Item code accessories

	RAL 7035	RAL 9016	RAL 9005
Sash bracket with cap	195104	190462	190465
Bevel window sash bracket with cap	195107	184452	184455
Coupling track for additional locking ZV/F	Measure x = 8,3 mm		179608
	Measure x = 9,5 mm		179611
	Measure x = 11,5 mm		185188
Drive track, additional for single stay design			192904
Drive track, additional for ZV/F with 2-stay design			192910

## PRIMAT-E<sup>compact</sup> A

### Device properties

- Opening width 95 - 190 mm adjustable
- Increased contact pressure thanks to integrated locking
- Single, double, triple version
- Integrated limit stop and overload cutoff
- Compact design with low space requirements on the frame

### Accessories

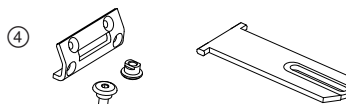
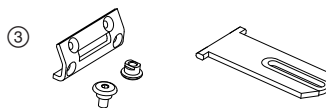
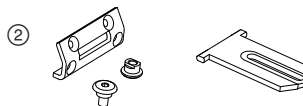
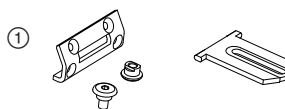
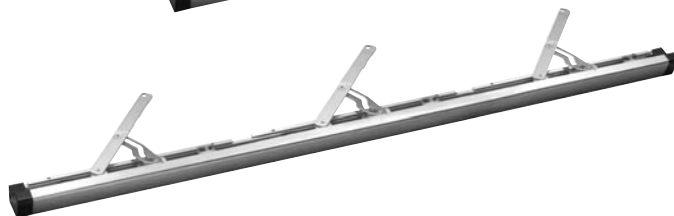
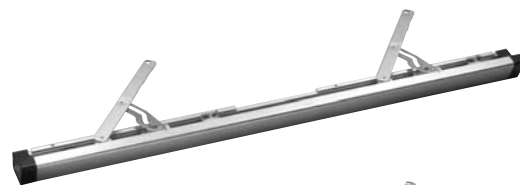
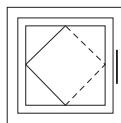
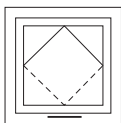
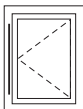
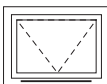
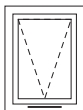
- Accessories sash bracket R 0-25 ①
- Accessories sash bracket R 26-50 ②
- Accessories sash bracket R 51-75 ③
- Accessories sash bracket R 76-100 ④

### Range of application

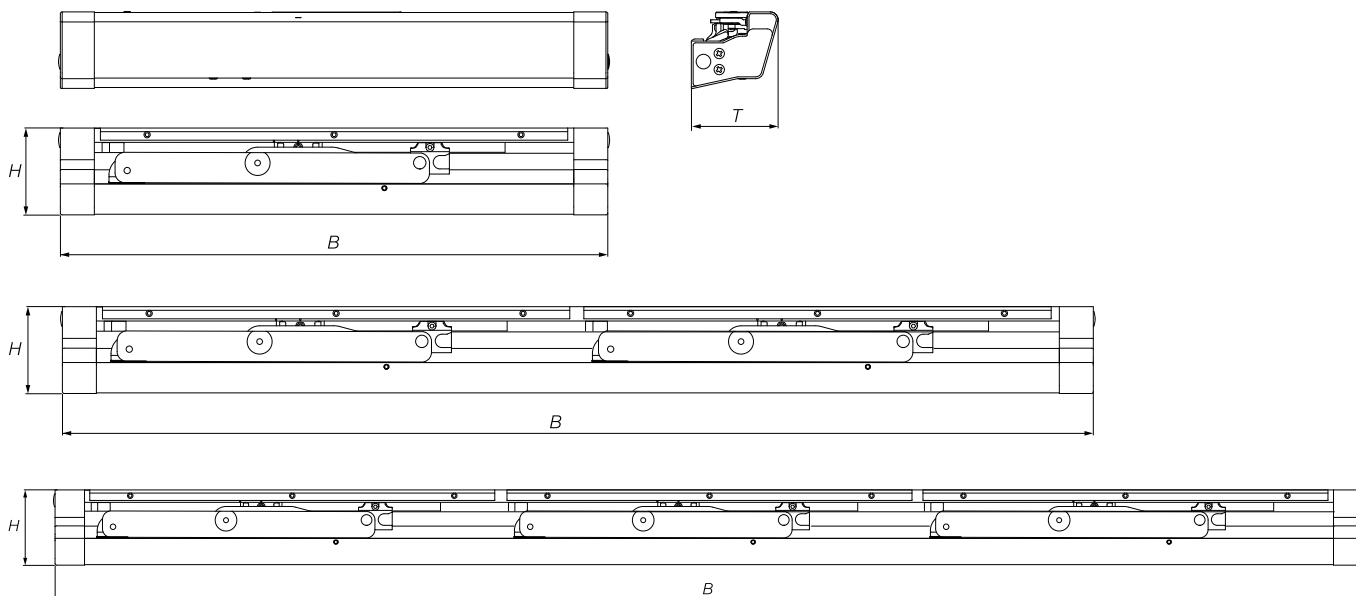
For sashes made of wood, PVC, aluminium and composite material.

Suitable for ventilation systems.

### Installation examples



## PRIMAT-E<sup>compact</sup> A



### Technical specifications

	PRIMAT-E <sup>compact</sup> A, single stay	PRIMAT-E <sup>compact</sup> A, double stay	PRIMAT-E <sup>compact</sup> A, triple stay
Rated voltage (V)	230	230	230
Voltage tolerance range (%)	-10 / +10	-10 / +10	-10 / +10
Current consumption (A)	0,06	0,06	0,06
Starting current (A)	0,1	0,1	0,1
Compressive force (N)	50	80	80
Tractive force (N)	50	80	80
Locking force (N)	8000	16.000	24.000
Stroke/opening width (in mm)	190	190	190
Opening mechanism	stay	stay	stay
Running period	40s	40s	40s
Duty cycle	60s on / 60s off	60s on / 60s off	60s on / 60s off
Ambient temperature	0 °C to +70 °C	0 °C to +70 °C	0 °C to +70 °C
Protection class	IP40	IP40	IP40
Cutoff open	limit switch	limit switch	limit switch
Cutoff open	limit switch	limit switch	limit switch
Connection technology	plug-in screw terminal, max. 1 mm <sup>2</sup>		
Dimensions (B x H x T in mm)	452 x 72 x 63 (FB 450-1,000)	1001 x 72 x 63 (FB 1001-1500) 1501 x 72 x 63 (FB 1501-2000)	2001 x 72 x 63 (FB 2001-2500) 2501 x 72 x 63 (FB 2501-3000)
Housing	aluminium	aluminium	aluminium
Scope of delivery	without sash bracket	without sash bracket	without sash bracket
Lifespan (Open/Closed cycles)	10.000	10.000	10.000

#### Item code

EV 1	200269 (FB 450-1000)	203010 (FB 1001-1500) 206386 (FB 1501-2000)	203028 (FB 2001-2500) 206404 (FB 2501-3000)
RAL 9016	200272 (FB 450-1000)	203013 (FB 1001-1500) 206389 (FB 1501-2000)	203031 (FB 2001-2500) 206407 (FB 2501-3000)
RAL 9005	200275 (FB 450-1000)	203016 (FB 1001-1500) 206392 (FB 1501-2000)	203034 (FB 2001-2500) 206410 (FB 2501-3000)

other strokes on request

#### Item code accessories

Accessories sash bracket R 0-25	200200
Accessories sash bracket R 26-50	200203
Accessories sash bracket R 51-75	200206
Accessories sash bracket R 76-100	200209



## Order matrix ZV/F-URZ for SVA 18 / PRIMAT<sup>compact</sup>

	FB	440 - 620					621 - 720					721 - 1200						
		FH 500 - 700	FH 701 - 1100	FH 1011 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400
Bag of additional lockings PRIMAT <sup>compact</sup> ZV/F-URZ measure x = 8,3 mm	179608	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Drive track for PRIMAT <sup>compact</sup> 300, 1-stay	192904	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	
Drive track for PRIMAT <sup>compact</sup> 190, 2-stay	179540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Drive track for PRIMAT <sup>compact</sup> 300, 2-stay	192910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Connecting rod ZV/F	221190	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	
	221196	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	
	221199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	221202	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	221205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Linkage without cam	175980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Central locking	221232	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	221235	-	-	2	-	-	-	-	2	-	-	-	-	-	2	-	-	
	221238	-	-	-	2	-	-	-	-	2	-	-	-	-	-	2	-	
	221241	-	-	-	-	2	-	-	-	-	2	-	-	-	-	-	2	
Linkage 200	217668	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Linkage 400	227959	-	-	-	-	-	-	2	2	2	2	-	-	2	2	2		
End locking	215571	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-		
Corner	215598	2	2	2	2	2	-	2	2	2	2	-	2	2	2	2		
Corner ES 2 (optional design WK2 + SKG)	215595	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Striker standard	***	2	4	4	4	4	2	2	4	6	6	6	2	2	4	6	6	
Security striker (optional design WK2 + SKG)*	***	4	6	6	6	6	4	4	6	8	8	8	2	4	6	8	8	
KSP size 1 1 pair	140927	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-		
KSP size 2 1 pair	140930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
KSP size 2 right or left	117452 / 117470	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Restrictor 113, Spw. 250 mm left	159630	-	1**	1	1	1	-	1	1	1	1	-	1	1	1	1		
Restrictor 113, Spw. 250 mm right	159627	-	-	1	1	1	-	1	1	1	1	-	1	1	1	1		

### Note:

\* Max. 6 strikers with sash pressure (at side), on top restrictors, surplus security strikers without sash pressure!

\*\* socket 10,0 x 10,2 necessary

\*\*\* see list (Internet)

op = optional; Spw. = span width; FB = sash width; FH = sash height



1201 - 1600						1601 - 2000						2001 - 2400						2401 - 2800						bevel wind.			
FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	FH 300 - 500	FH 501 - 700	FH 701 - 1100	FH 1101 - 1500	FH 1501 - 1900	FH 1901 - 2400	Bs 720 - 1200	Bs 1201 - 1600	Bs 1601 - 2000	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
op	op	op	op	op	op	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-
op	op	op	op	op	op	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
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