



KALE KİLİT



CATALOG
DOOR & WINDOW
FITTINGS





The foundations of Kale Endüstri Holding were laid at a lock manufacturing workshop of 40 m² in Istanbul in 1953. Growing wider with its huge investments so far, Kale has become a leader in its industry by including steel doors, cylinders, steel safes, window & door systems and high-technology locking systems into its range of products. Thanks to its 'Kale Kilit' brand recognition of 98 percent at home, Kale exports to more than 100 countries and takes firm steps toward as a leading brand in the global market thanks to all of its entire product groups. Kale has had its success in exports recognized as a leader of exports in the category of Metal Hardware by IDDMIB (Istanbul Ferrous and Non-Ferrous Metals Exporters' Association) in the Awards of Metallic Starts of Export for 13 years.

Adopting a quality and technology-focused production philosophy, Kale started its manufacturing facilities at its factory in Çerkezköy, which is featured as the largest integrated lock manufacturing plant of Europe, in 2016. The factory combines the leading-edge technology together with the manufacturing integration on an outdoor area of 120 thousand square metres and is thus named as one of the most important integrated lock manufacturing facilities, not only throughout the region and Europe, but also around the world. With modern manufacturing systems and full-automation machine parks, the factory can manufacture all of steel doors, steel safes, locks, cylinders and products of door and window systems.

Kale Door and Window Systems provide a wide range of global security products by adopting and following a "Full-Scope Security" perception. Kale Door and Window Systems meet needs that the PVC Aluminium door and window industry may have for espagnolettes, Single or Double-Sash Tilt & Turn windows/doors, friction stays, accessories and locks as an industry pioneer and is on the way up to become a global brand. The responsibility of becoming a leading domestic company in an international quality reflects onto the success of its products where such a success does not remain

only within borders of Turkey, but it also dominates the new worldwide markets. The concept "quality and safe" identified with the brand "Kale" for over a half century continues its stable success throughout the industry of window & door systems as well. Kale creates and gains a great deal of distinction thanks to its products by giving utmost priority to the environment and human health in particular in Russia, and also across a wide spectrum of countries such as Iran, Iraq and Ukraine.

With innovative approaches applied throughout all of processes, coating processes of Kale Door and Window systems are conducted by employing a silver "alkali zinc" method that provides an aesthetic appearance strengthened with a higher durability than standard coating methods and that does not pose a risk for the human health. The coating facility and sheet forming division are managed by an automation system that enhances the production rate / delivery speed and minimises workforce errors. The full-automated and zero-touch Alkali Zinc Coating and Lacquering Units occupy a special place amongst successful processes of Kale Doors and Windows across the manufacturing technology world.

For achieving the continued compliance with international standards, all products always undergo "leakage", life" "and "corrosion resistance" tests at the laboratories of the factory. Focused on the Indispensable Quality for Excellence, the R&D Department of the Plant develops new products in a planned way in accordance with demands identified under works conducted with PVC and Aluminium Profile manufacturers.

Kale Door and Window Systems hammer away at providing perfect products and services to the professionals of the industry; with its team of experienced engineers and members of the sales team, it also brings new-generation products thanks to its unique and proprietary designs which are appropriate for market conditions and can change habits of consumers.



TÜRK STANDARLARI ENSTİTÜSÜ
TÜRK STANDARLARINA UYGUNLUK BELGESİ
TURKISH STANDARDS INSTITUTION
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

ÜRÜN ADI / PRODUCT NAME: ...
TEKNOLOJİ / TECHNOLOGY: ...
KURULUM YERİ / INSTALLATION PLACE: ...
KURULUM TARİHİ / INSTALLATION DATE: ...
KURULUM YERİ / INSTALLATION PLACE: ...
KURULUM TARİHİ / INSTALLATION DATE: ...

Yazınca Kurulum İşleri
TSE STANDARTLARI ENSTİTÜSÜ
TSE STANDARTLARI ENSTİTÜSÜ

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ИСПОЛНЕНИЕ АТТЕСТАЦИИ ПО ТЕХНИЧЕСКИМ РЕГУЛИРОВАНИЕМ И ТЕХНИЧЕСКИМ
СЕРТИФИКАТ СООТВЕТСТВИЯ
TO: ...
Срок действия: ...

СЕРТИФИКАТ СООТВЕТСТВИЯ
№: ...
Срок действия: ...
Срок действия: ...

Аттестованная организация
Срок действия: ...



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TSE STANDARTLARI ENSTİTÜSÜ



Zertifikat / Certificate

Druck- und Druckkopfbearbeitung für Fenster und Fenestration
Produkt: ...
Hersteller: ...
Kunde: ...

ift
TSE STANDARTLARI ENSTİTÜSÜ



СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ИСПОЛНЕНИЕ АТТЕСТАЦИИ ПО ТЕХНИЧЕСКИМ РЕГУЛИРОВАНИЕМ И ТЕХНИЧЕСКИМ
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VERLEIHUNGS-URKUNDE
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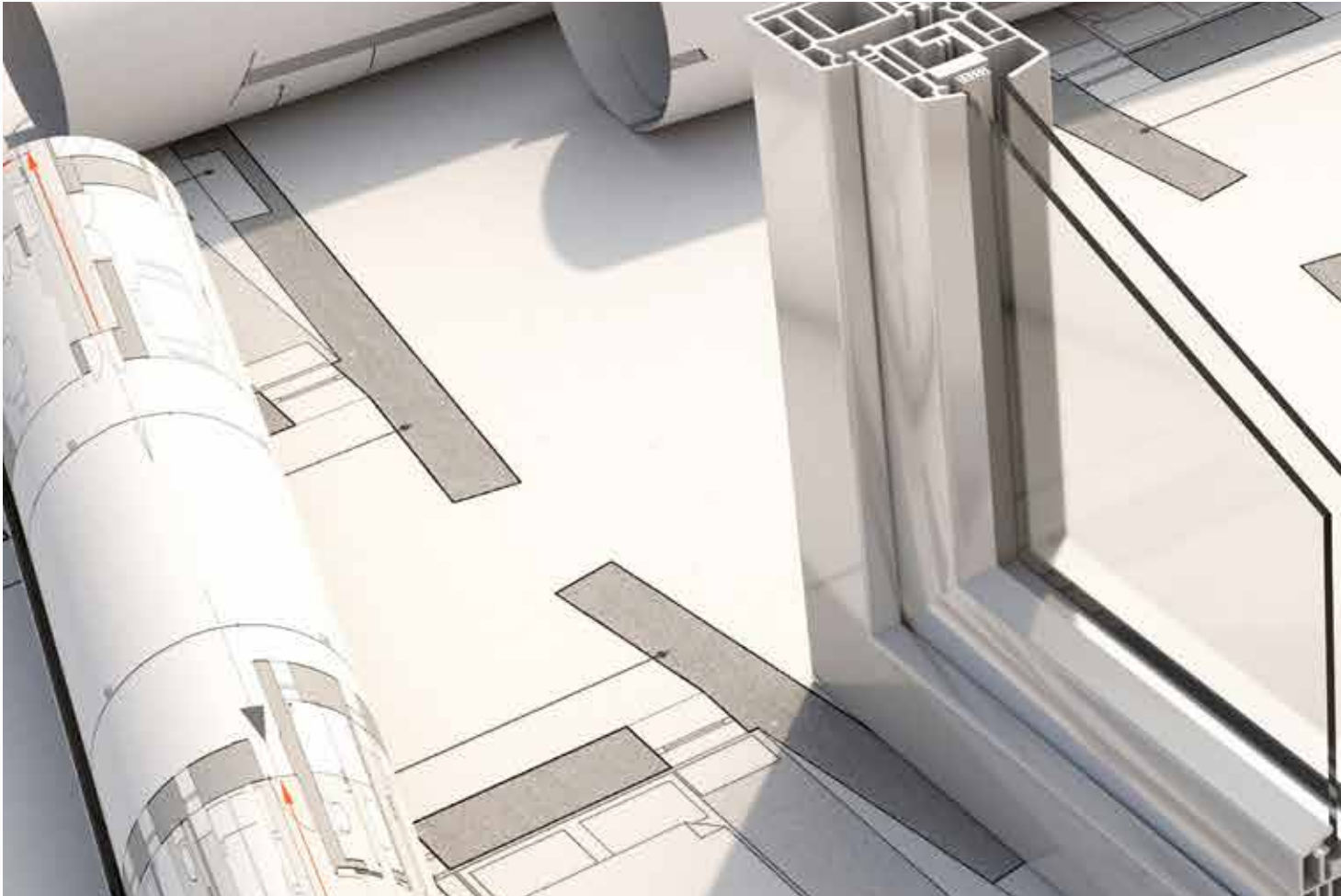
Head Office



Showroom



Integrated Manufacturing Plant



PVC/WOODEN WINDOW SYSTEMS

15

ALUMINIUM WINDOW SYSTEMS

33

PVC/WOODEN/ALUMINIUM WINDOW SYSTEM FITTINGS

47

PVC/WOODEN DOOR SYSTEMS

73



ALUMINIUM DOOR SYSTEMS

117

PVC/WOODEN/ALUMINIUM DOOR SYSTEM FITTINGS

119

LOCKING PLATES

141

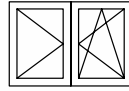
APPLICATION BASIC

149

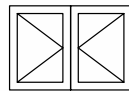
Technical Details



Tilt-and-Turn



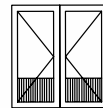
Double-Sash Tilt & Turn



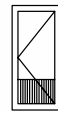
Double-Sash Turn Only



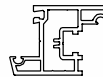
Turn Only



Double-Sash Turn Only Door



Turn Only Door



PVC Profile



Espagnolette Canal Height

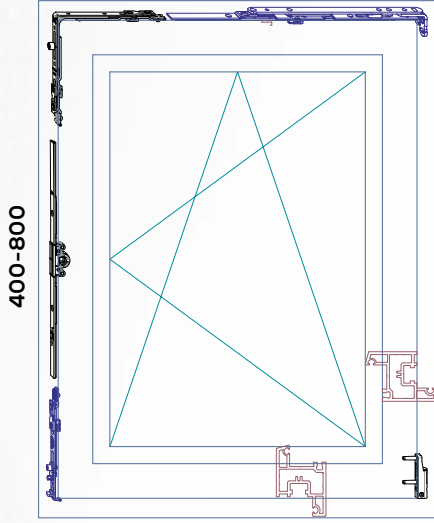


Espagnolette Canal Width

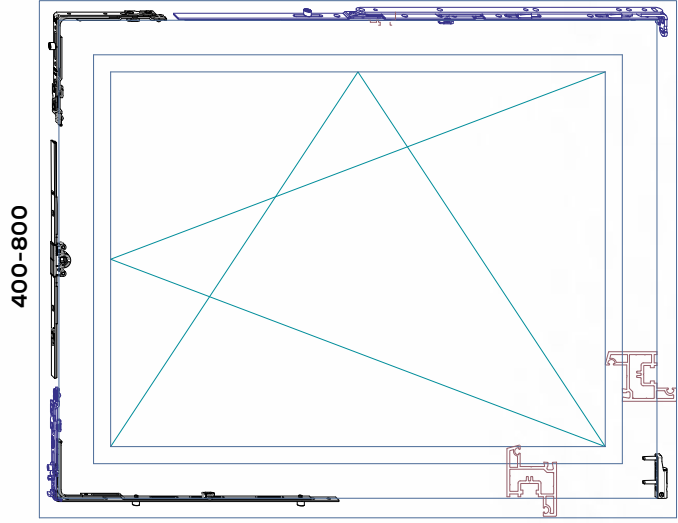


Espagnolette Canal Width and Height

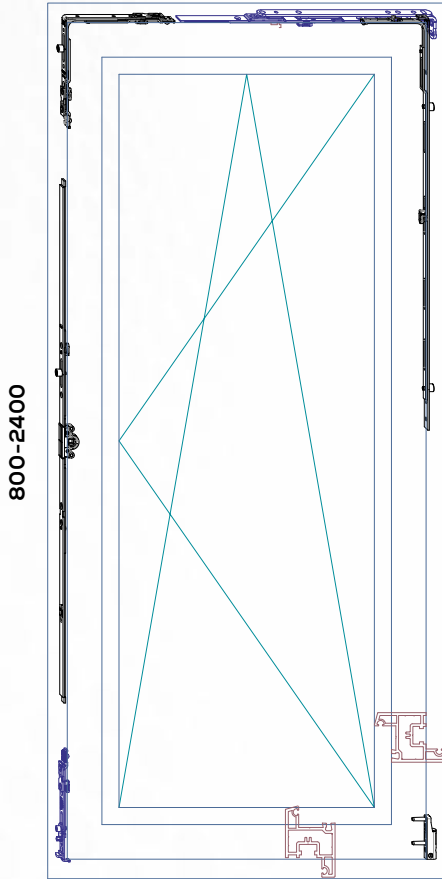
Narrow Short Window
400-800



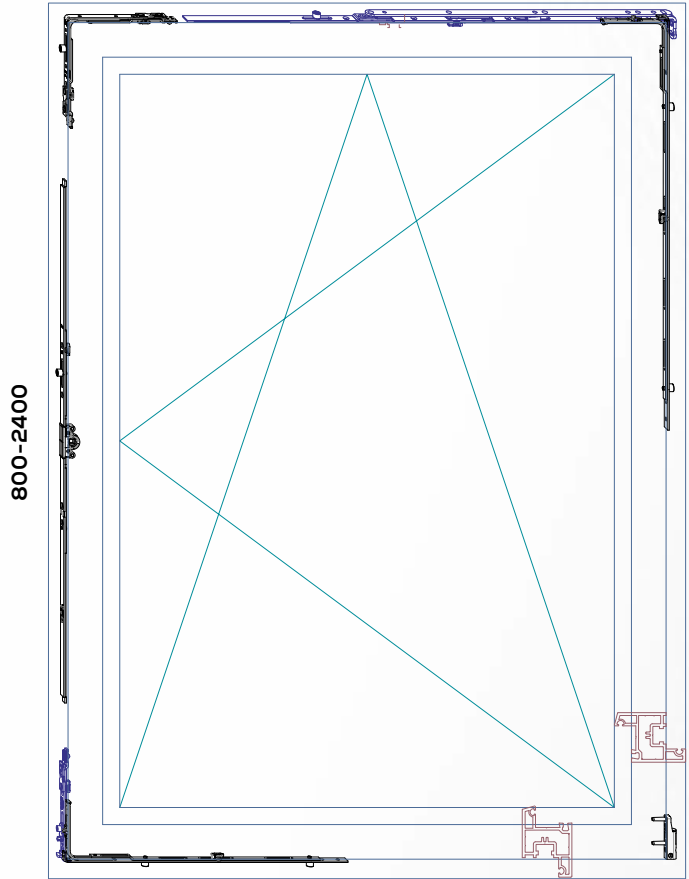
Wide Short Window
800-1600



Narrow High Window
400-800



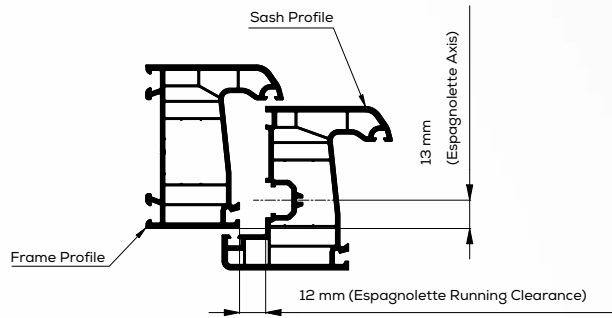
Wide High Window
800-1600



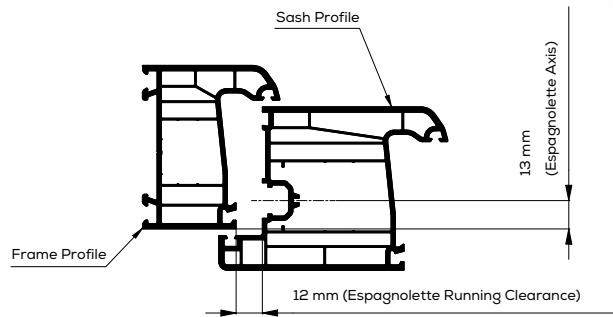
Profile Sections

Profile Types and Espagnolette Canal Sizes

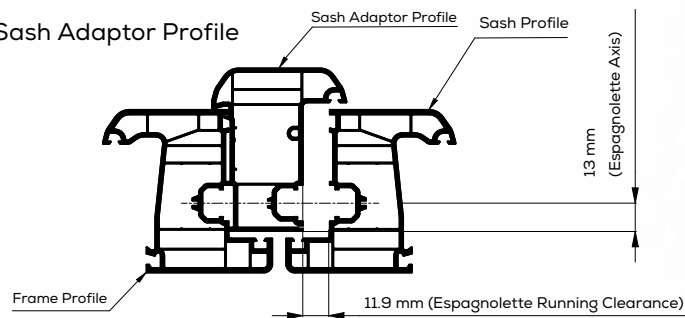
Window Sash Rebate Application



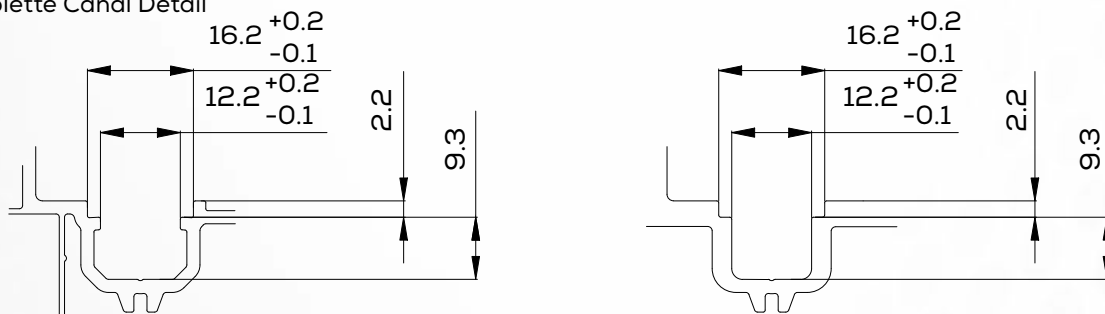
Door Sash Rebate Application



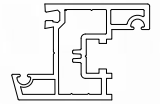
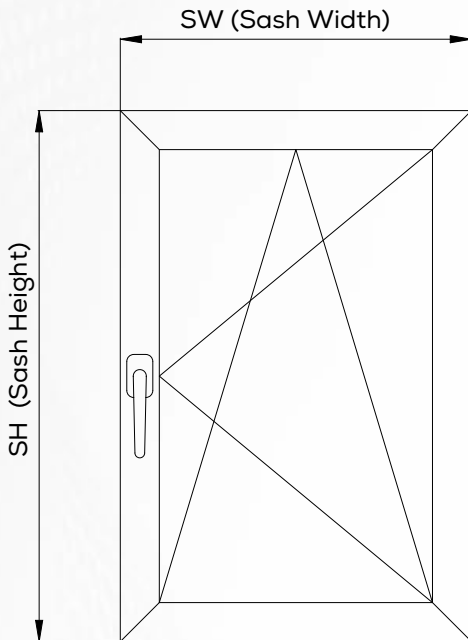
Double-Sash Application with a Sash Adaptor Profile



Espagnolette Canal Detail



Sizes



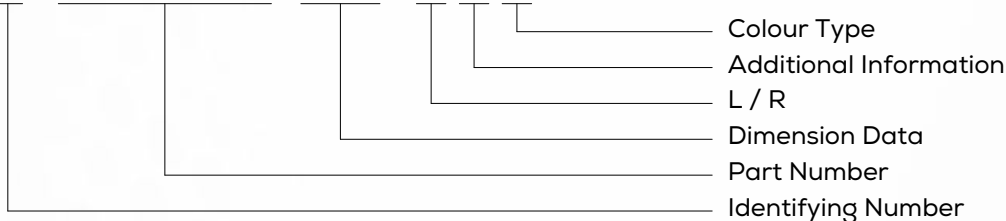
WW
 Minimum 450 mm
 Minimum 340 mm (w/Small Corner Transmission)
 Maximum 1,600 mm

WW
 Minimum 380 mm
 Minimum 280 mm (w/Small Corner Transmission)
 Maximum 2,400 mm

Technical Specifications

- Horizontal adjustments of sashes can be carried out on Bottom Hinges.
- The security system can be implemented optionally.
- Gasket pressure adjustments and upper horizontal adjustments can be carried out on Stay Arms.
- The vertical adjustment of the sash and gasket pressure adjustment can be carried out on Corner Hinges.
- They are applicable for Tilt & Slide and Folding Door Systems.
- All of parts are fixed into a middle position for assembly.
- All of parts including stay arms can be used for double sashes opening to the right and left.
- Frames and sashes are assembled independently.
- Assembly holes are drilled onto by Stay Bearings and Bottom Hinges using only one jig.
- With eccentric locking plates, gasket pressures can be adjusted at 0.8 mm.

X - X X X X X - X X - X X X



Colour Type
 0= Colourless
 1= New Silver (Plating)
 2= Silver (Gray)
 3= Moderate Bronze
 4= Yellow (Golden/Brass)

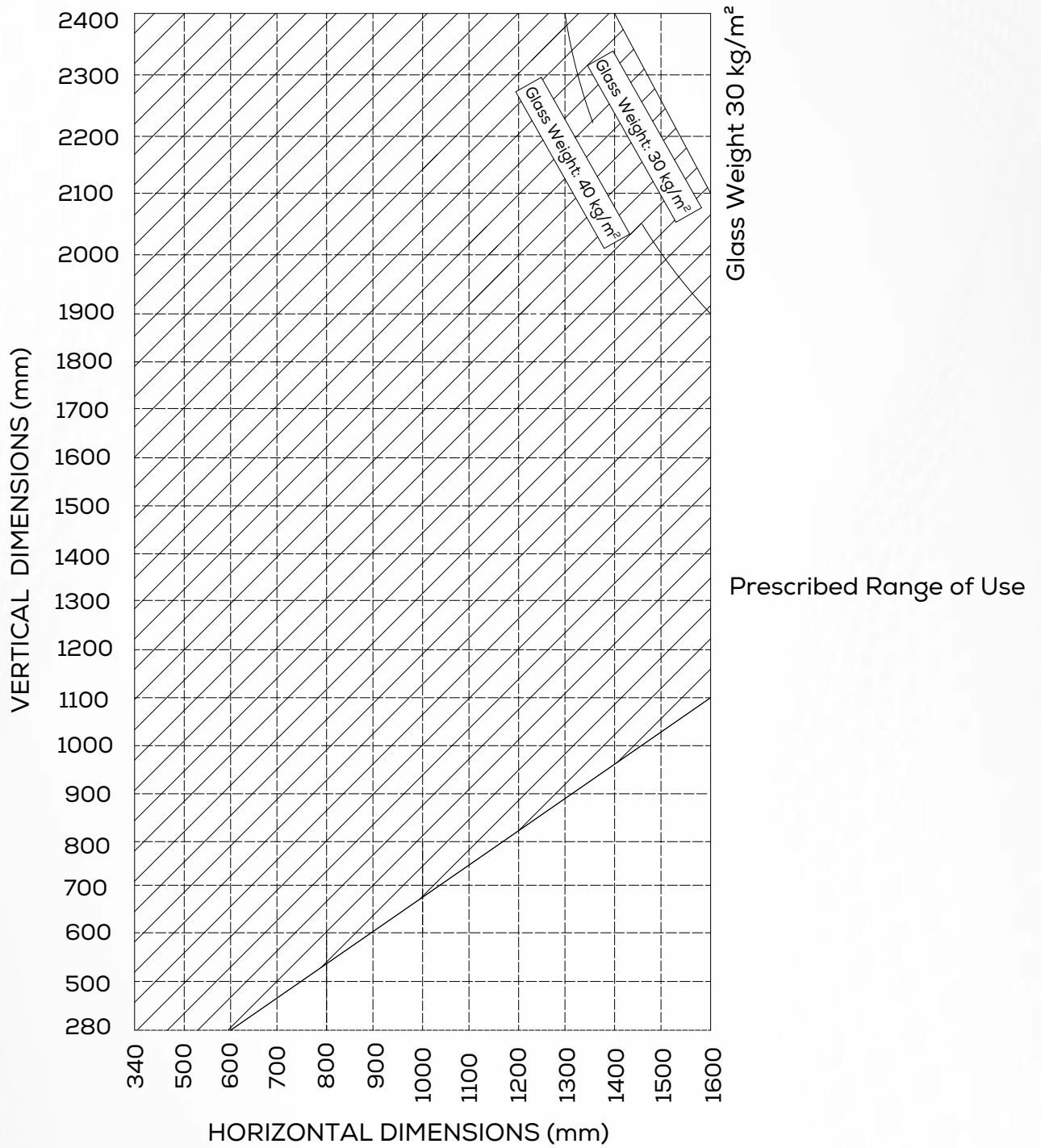
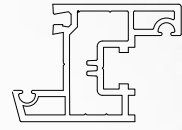
5= Black RAL 9011
 6= Brown RAL 8014
 7= Stainless
 8= White RAL 9016
 9= Beige RAL 1001
 A= Light Brown RAL 8003

B= Oyster White RAL 1013
 C= Special colours
 D= Light Beige
 E= Champagne 2
 F= Eloxal Mat
 G= Gold Metal Plating

H=Under-paint plating
 K= Grey Brown RAL 8019
 L=Chocolate Brown RAL8017
 M= Light Ivory RAL 1015
 N=Nickel
 P=Gray RAL 7040

S=Champagne
 T=Titan (Dark Gray)
 R= Anthracite Gray (RAL 7016)
 U= Jet Black (RAL 9005)

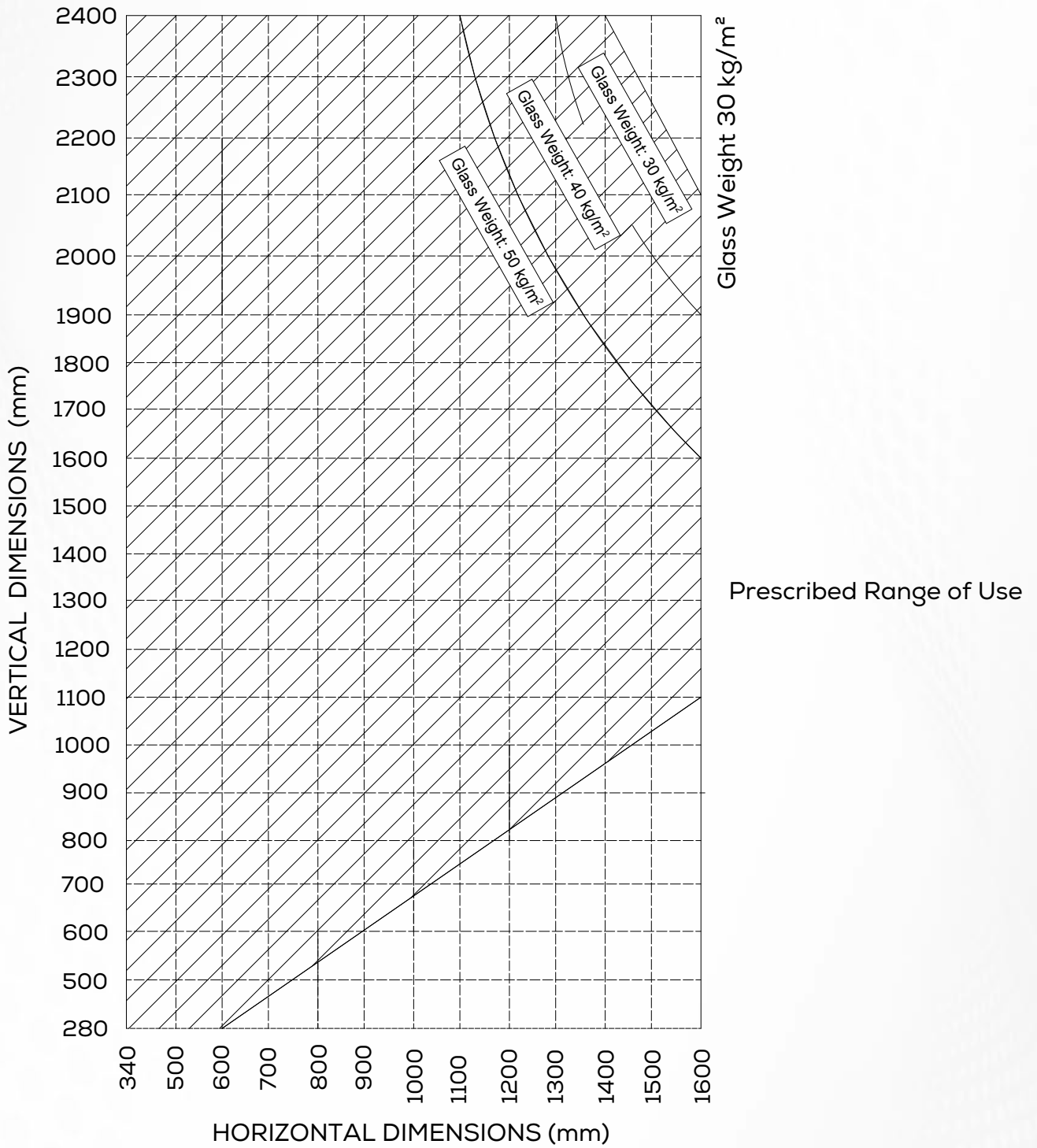
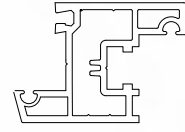
Maximum Sash Dimensions 80 kg



Allowed Maximum Sash Weight: 80 kg

The above dimensions can vary depending on types of profiles.

Maximum Sash Dimensions 130 kg



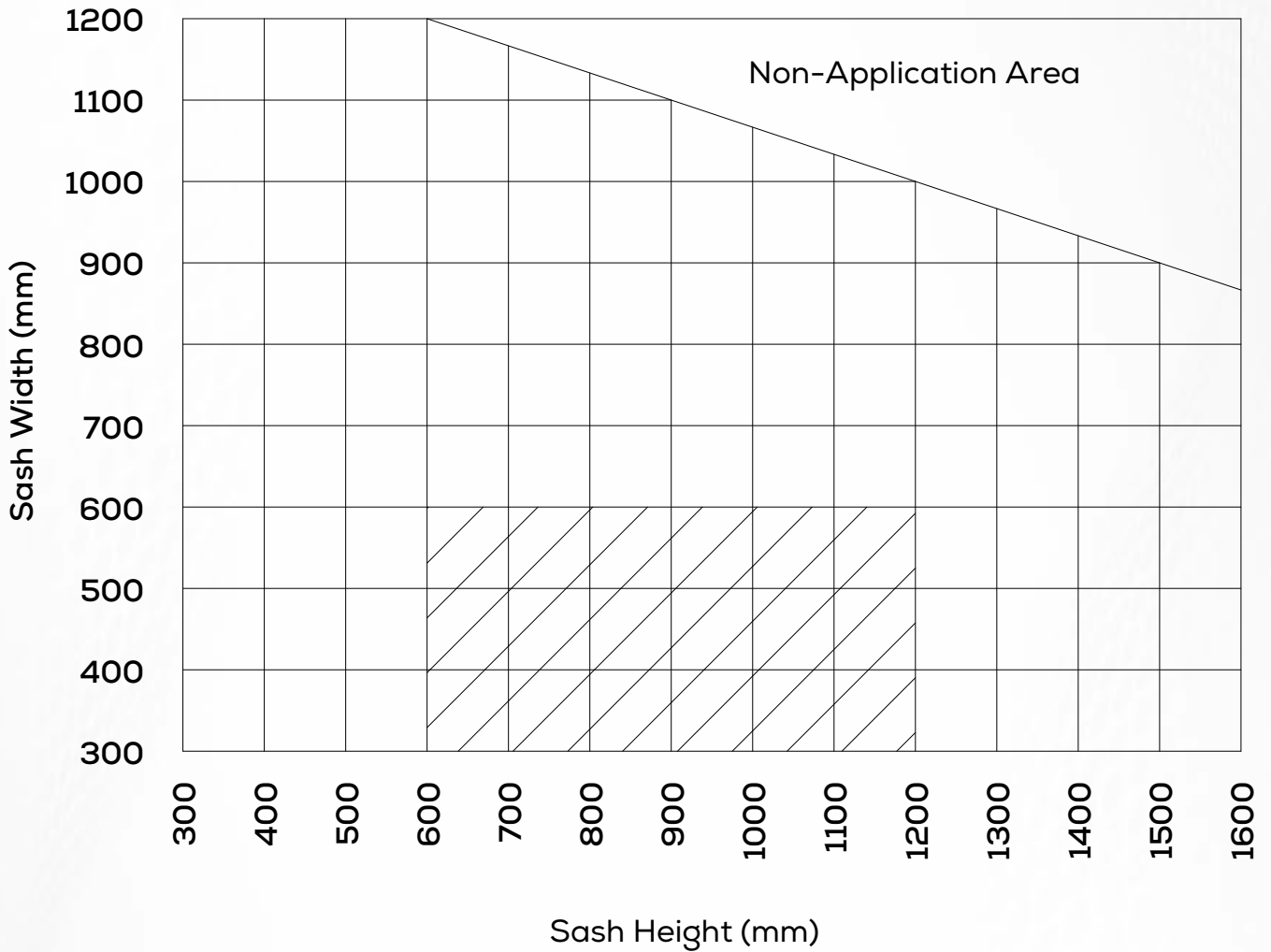
Allowed Maximum Sash Weight: 130 kg

The above dimensions can vary depending on types of profiles.

T&T Sash Weight

Kale Tilt Stay Diagram

Maximum Sash Weight: 40 kg



Note: The shaded region involves the use of one tilt stay.

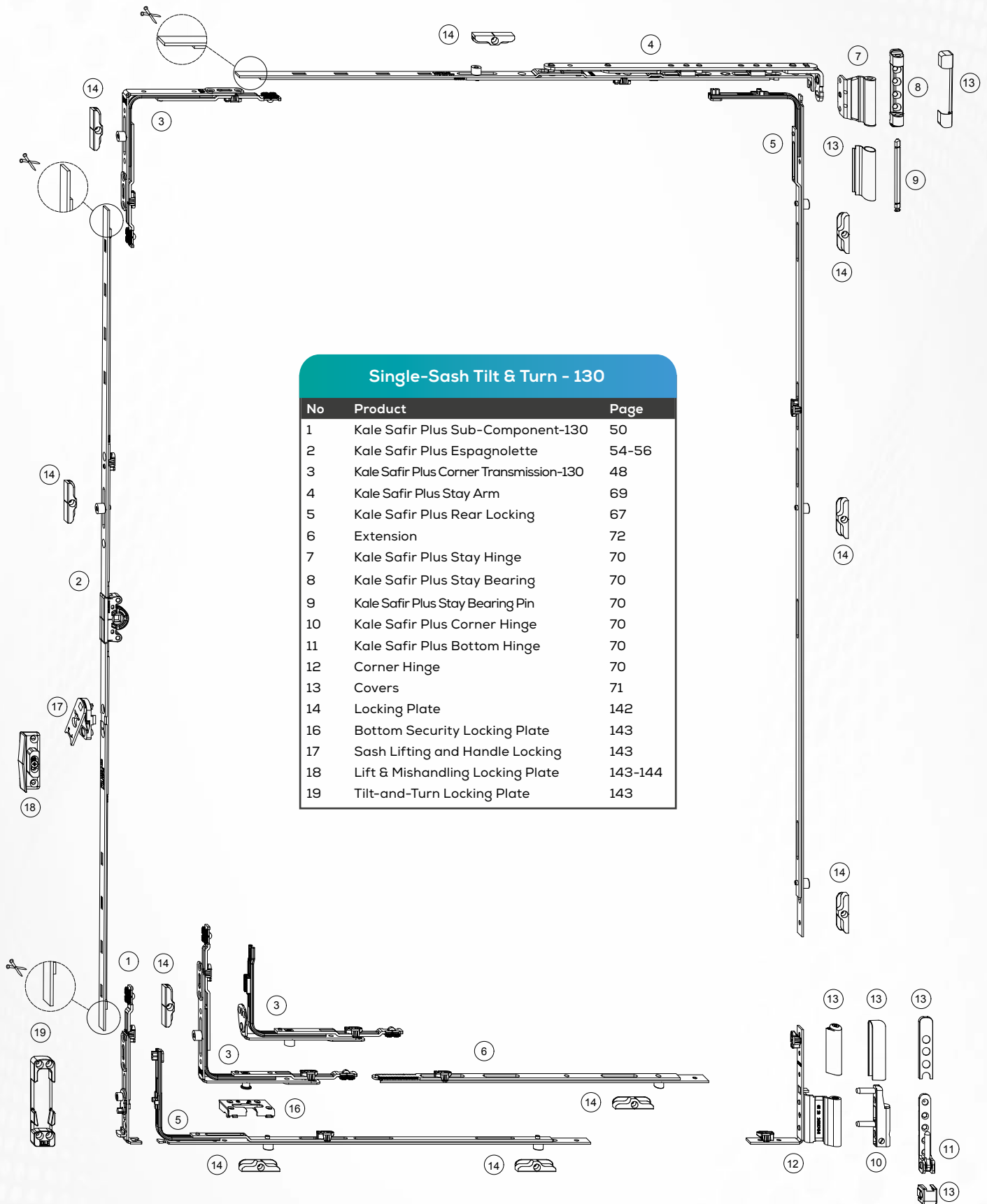
The remaining areas involve the use of 2 tilt stays.

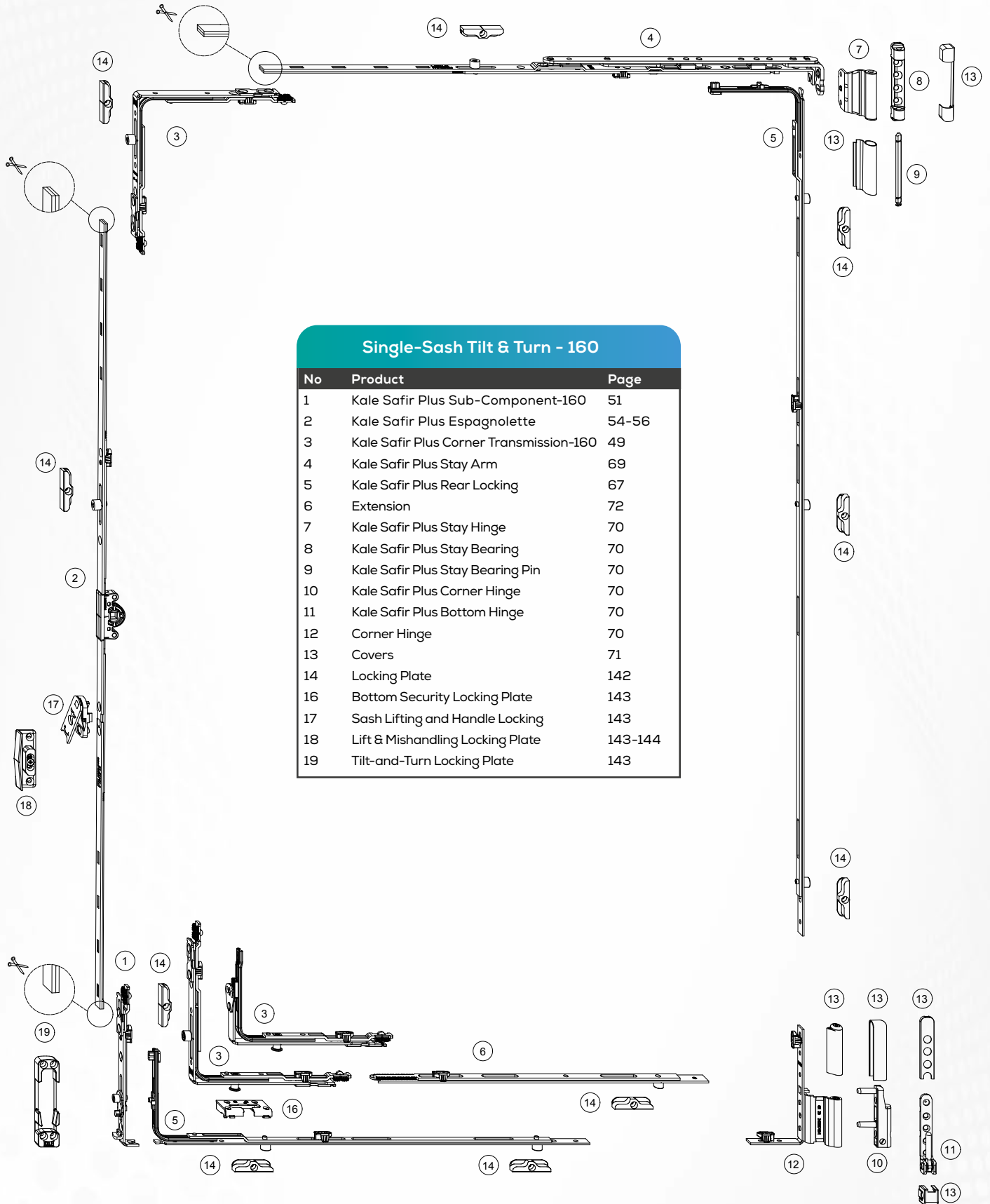


PRODUCT GROUPS
WINDOW

TILT&TURN SYSTEMS - KALE SAFIR PLUS

Single-Sash Tilt & Turn - 130

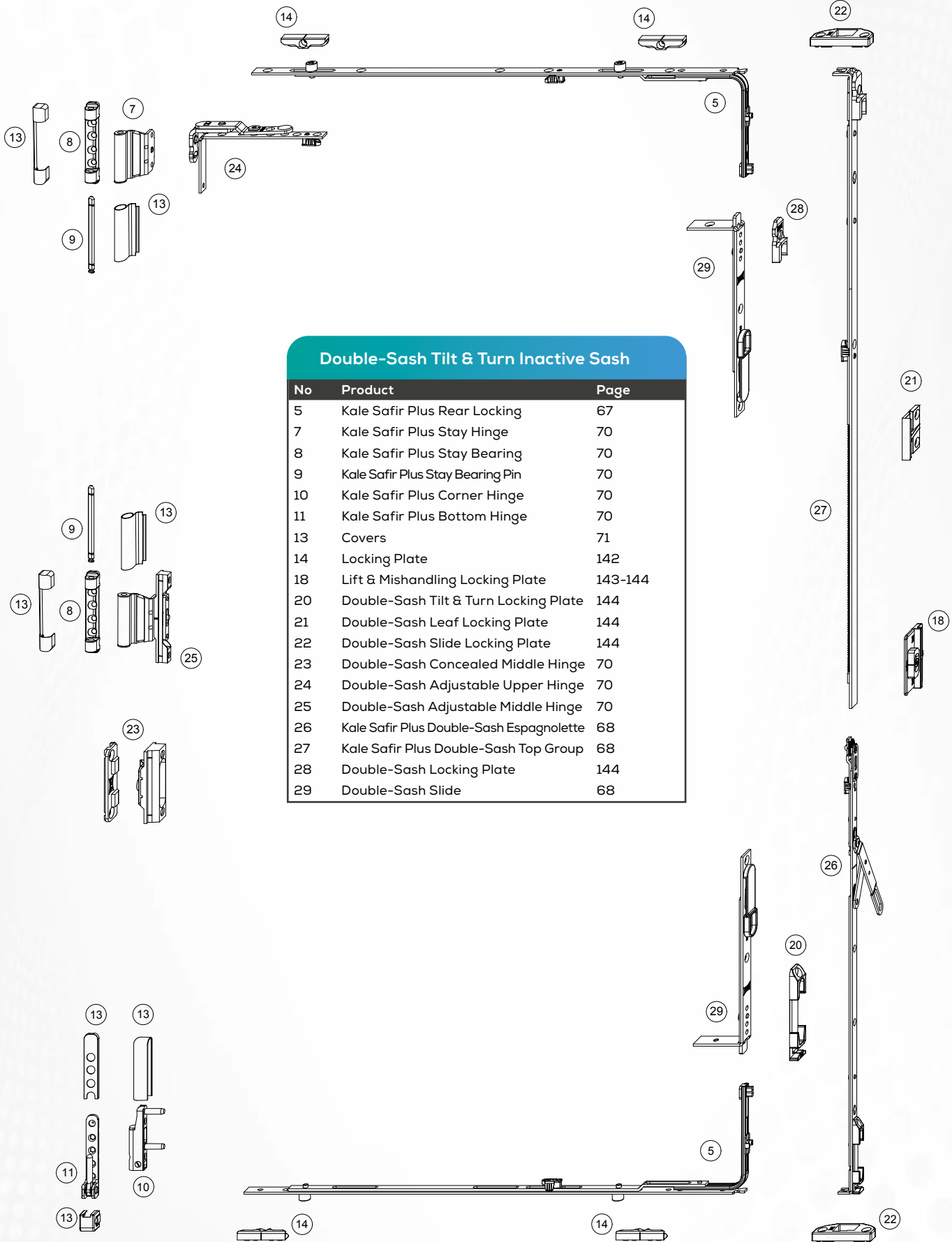




Single-Sash Tilt & Turn - 160

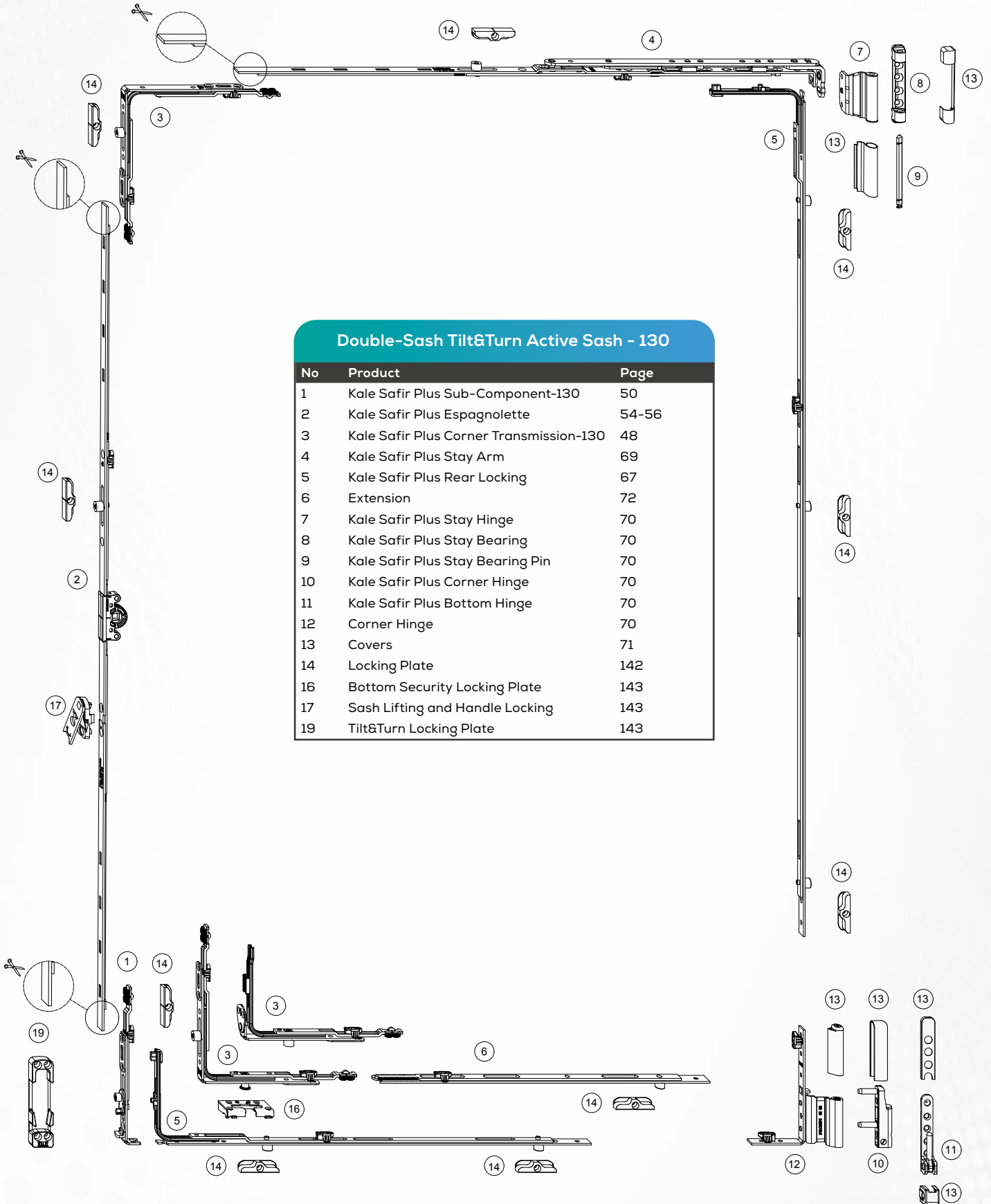
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1	Kale Safir Plus Sub-Component-160	51
2	Kale Safir Plus Espagnolette	54-56
3	Kale Safir Plus Corner Transmission-160	49
4	Kale Safir Plus Stay Arm	69
5	Kale Safir Plus Rear Locking	67
6	Extension	72
7	Kale Safir Plus Stay Hinge	70
8	Kale Safir Plus Stay Bearing	70
9	Kale Safir Plus Stay Bearing Pin	70
10	Kale Safir Plus Corner Hinge	70
11	Kale Safir Plus Bottom Hinge	70
12	Corner Hinge	70
13	Covers	71
14	Locking Plate	142
16	Bottom Security Locking Plate	143
17	Sash Lifting and Handle Locking	143
18	Lift & Mishandling Locking Plate	143-144
19	Tilt-and-Turn Locking Plate	143

Double-Sash Tilt & Turn Inactive Sash

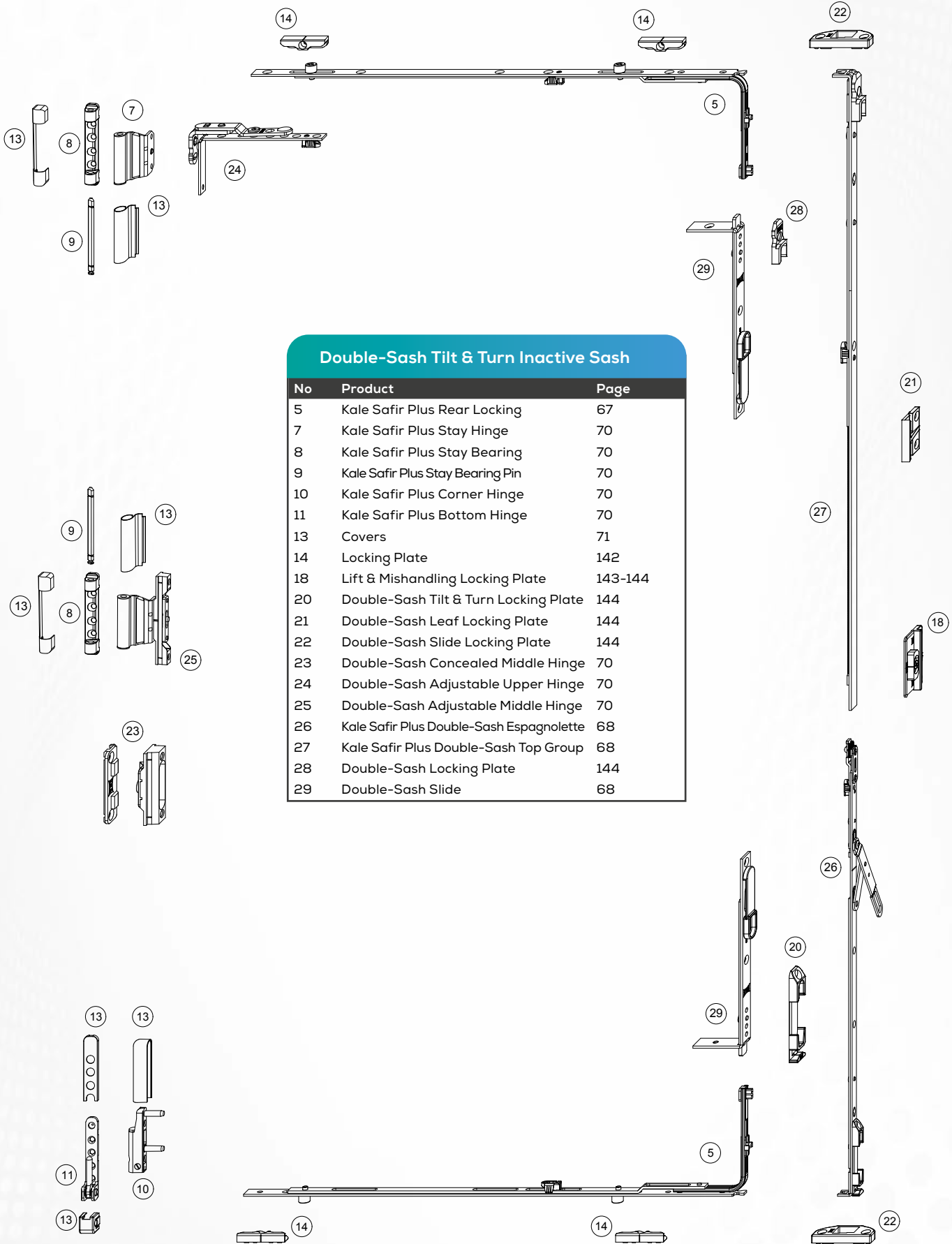


Double-Sash Tilt & Turn Inactive Sash		
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5	Kale Safir Plus Rear Locking	67
7	Kale Safir Plus Stay Hinge	70
8	Kale Safir Plus Stay Bearing	70
9	Kale Safir Plus Stay Bearing Pin	70
10	Kale Safir Plus Corner Hinge	70
11	Kale Safir Plus Bottom Hinge	70
13	Covers	71
14	Locking Plate	142
18	Lift & Mishandling Locking Plate	143-144
20	Double-Sash Tilt & Turn Locking Plate	144
21	Double-Sash Leaf Locking Plate	144
22	Double-Sash Slide Locking Plate	144
23	Double-Sash Concealed Middle Hinge	70
24	Double-Sash Adjustable Upper Hinge	70
25	Double-Sash Adjustable Middle Hinge	70
26	Kale Safir Plus Double-Sash Espagnolette	68
27	Kale Safir Plus Double-Sash Top Group	68
28	Double-Sash Locking Plate	144
29	Double-Sash Slide	68

Double-Sash Tilt&Turn Active Sash - 130

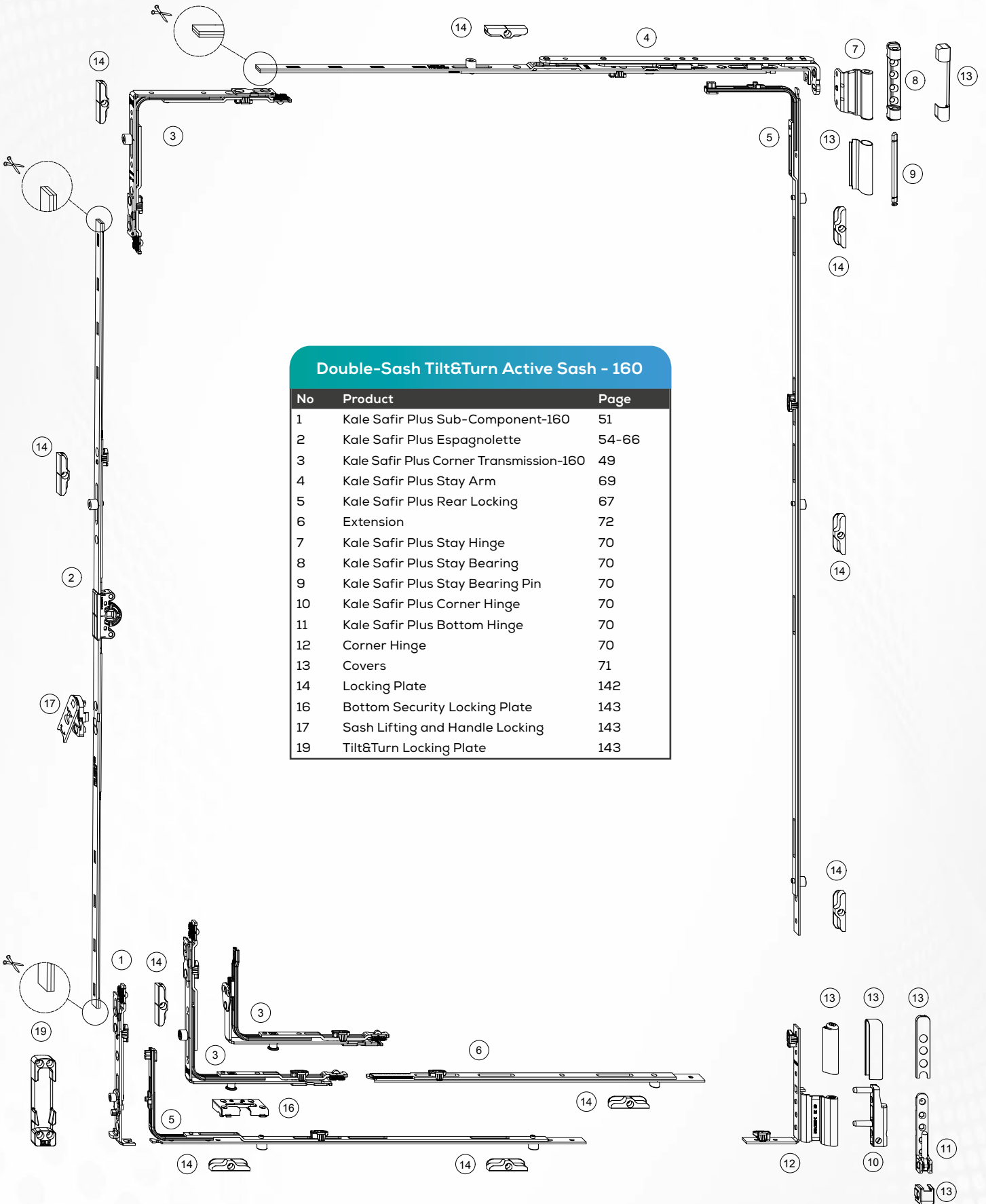


Double-Sash Tilt & Turn Inactive Sash

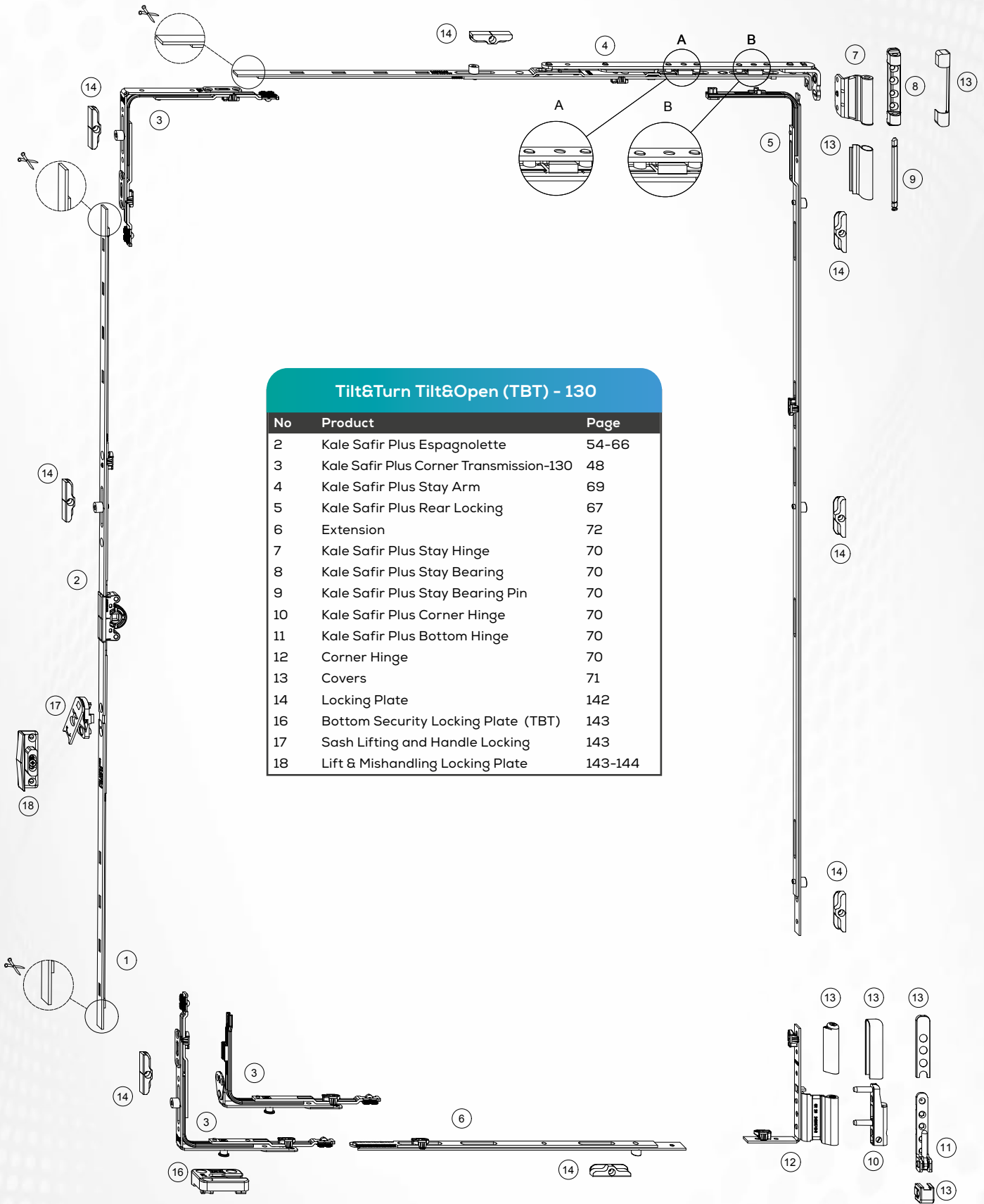


Double-Sash Tilt & Turn Inactive Sash		
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27	Kale Safir Plus Double-Sash Top Group	68
28	Double-Sash Locking Plate	144
29	Double-Sash Slide	68

Double-Sash Tilt&Turn Active Sash - 160



Tilt&Turn Tilt&Open (TBT) - 130



Tilt&Turn Tilt&Open (TBT) - 130		
No	Product	Page
2	Kale Safir Plus Espagnolette	54-66
3	Kale Safir Plus Corner Transmission-130	48
4	Kale Safir Plus Stay Arm	69
5	Kale Safir Plus Rear Locking	67
6	Extension	72
7	Kale Safir Plus Stay Hinge	70
8	Kale Safir Plus Stay Bearing	70
9	Kale Safir Plus Stay Bearing Pin	70
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11	Kale Safir Plus Bottom Hinge	70
12	Corner Hinge	70
13	Covers	71
14	Locking Plate	142
16	Bottom Security Locking Plate (TBT)	143
17	Sash Lifting and Handle Locking	143
18	Lift & Mishandling Locking Plate	143-144

Tilt&Turn Tilt&Open (TBT) - 160

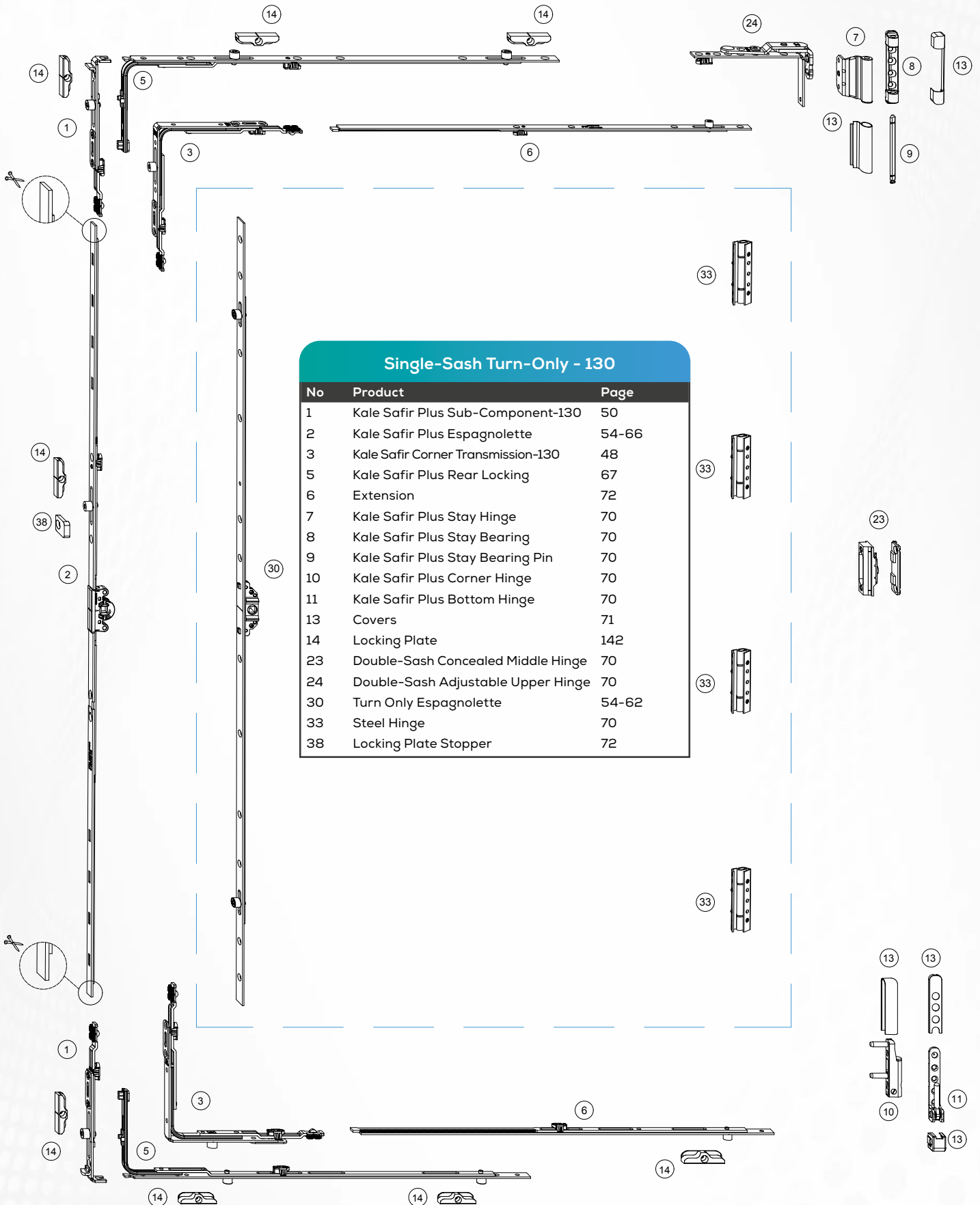


Tilt&Turn Tilt&Open (TBT) - 160

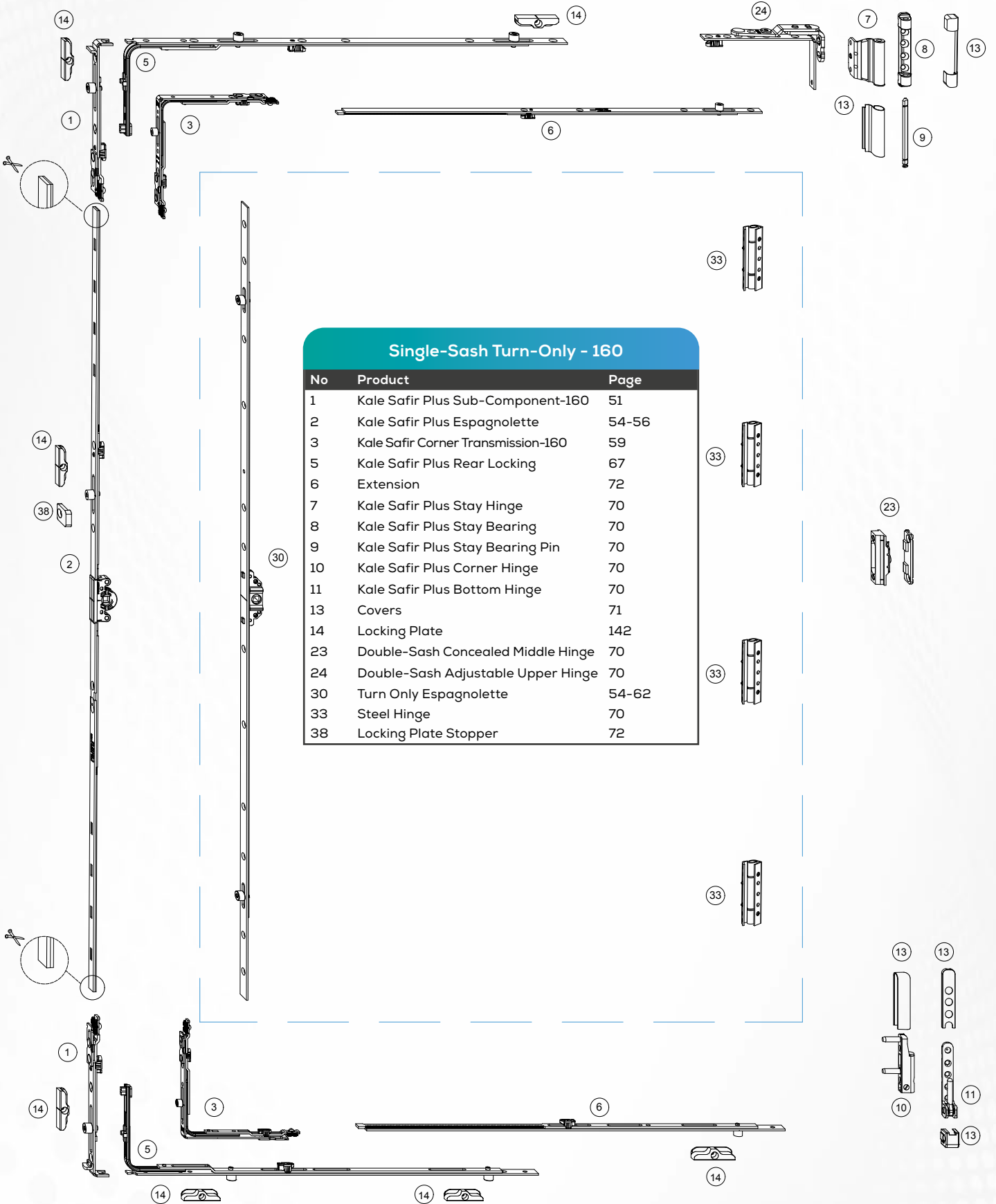
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18	Lift & Mishandling Locking Plate	143-144

TURN ONLY SYSTEMS - KALE SAFİR PLUS

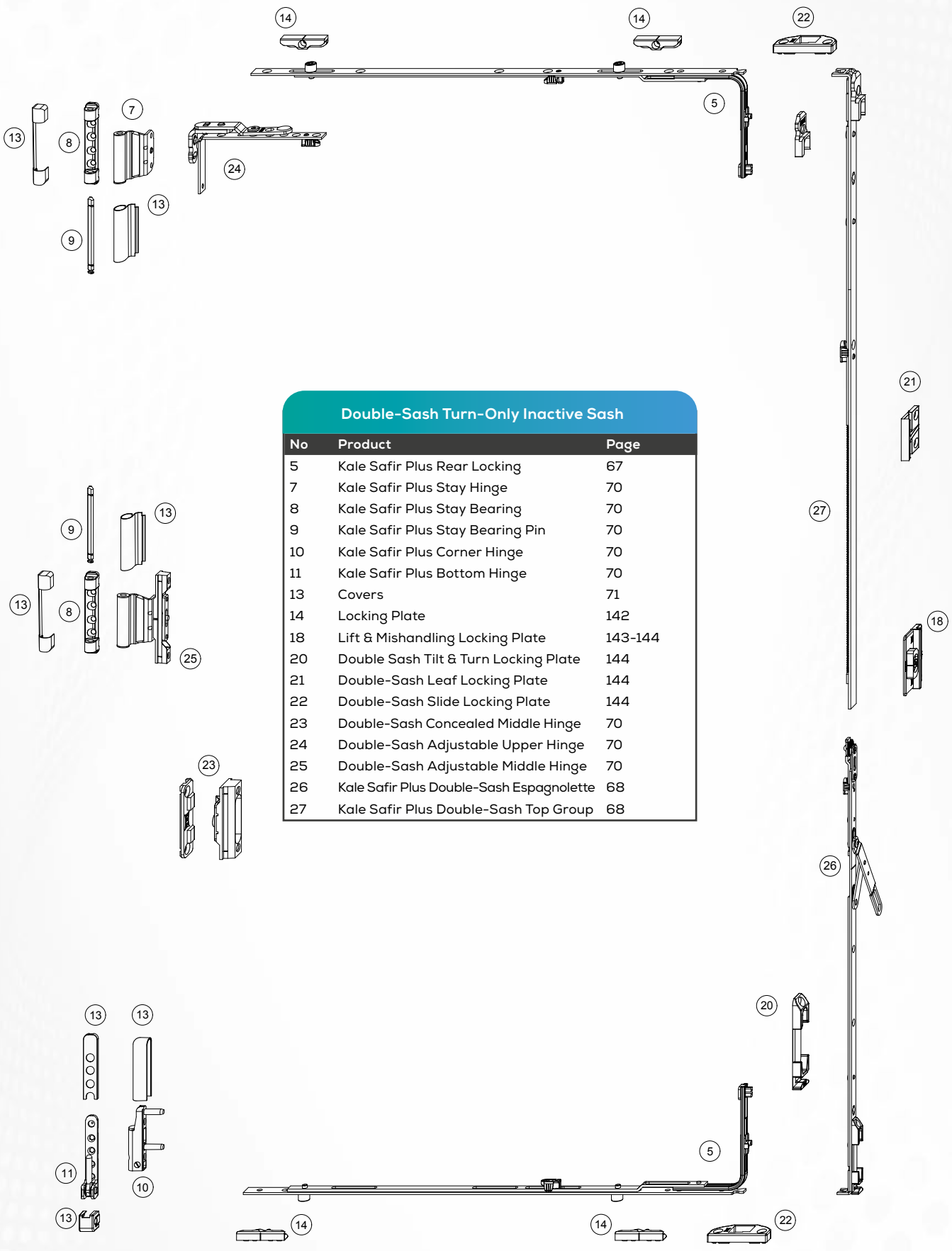
Single-Sash Turn-Only - 130



Single-Sash Turn-Only - 160

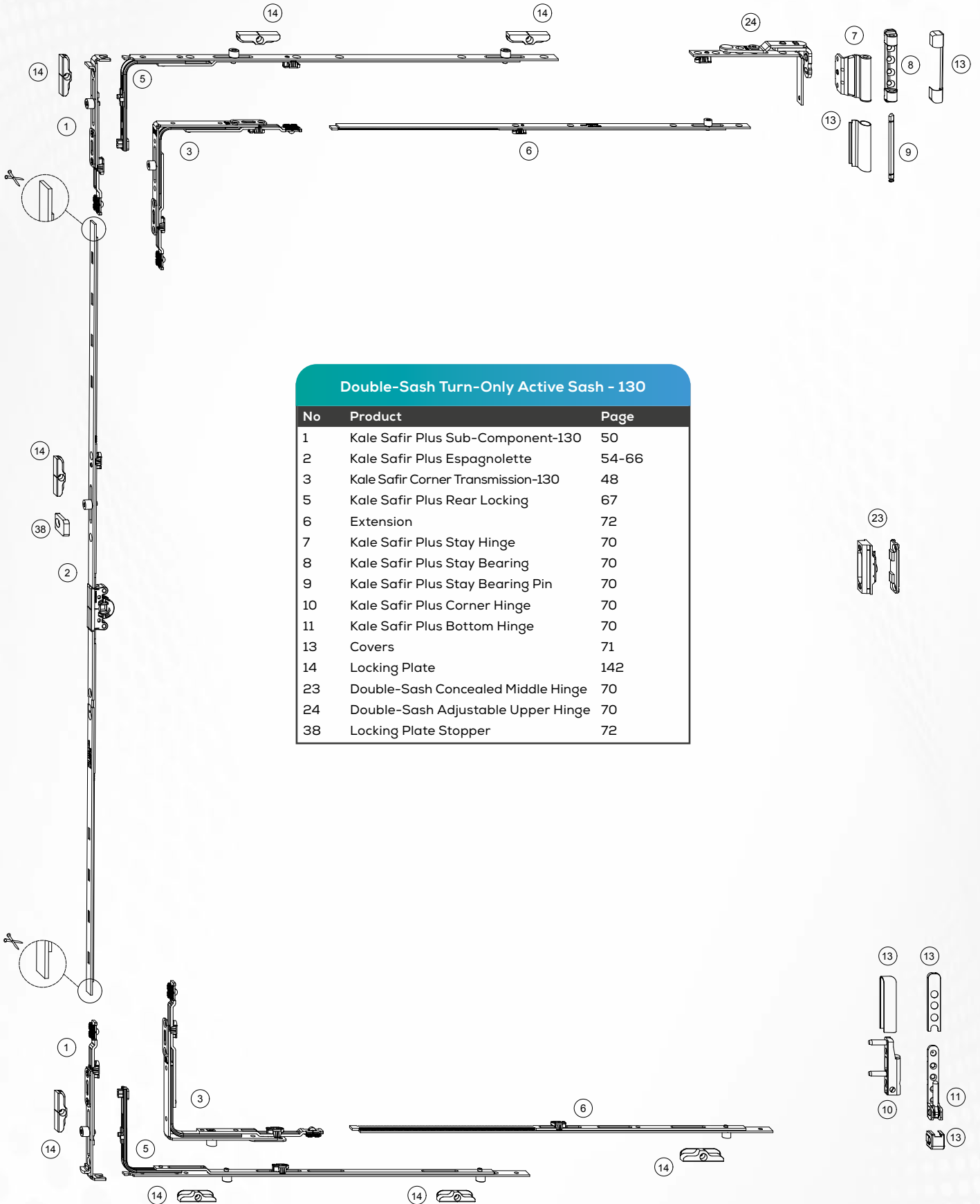


Double-Sash Turn-Only Inactive Sash



Double-Sash Turn-Only Inactive Sash		
No	Product	Page
5	Kale Safir Plus Rear Locking	67
7	Kale Safir Plus Stay Hinge	70
8	Kale Safir Plus Stay Bearing	70
9	Kale Safir Plus Stay Bearing Pin	70
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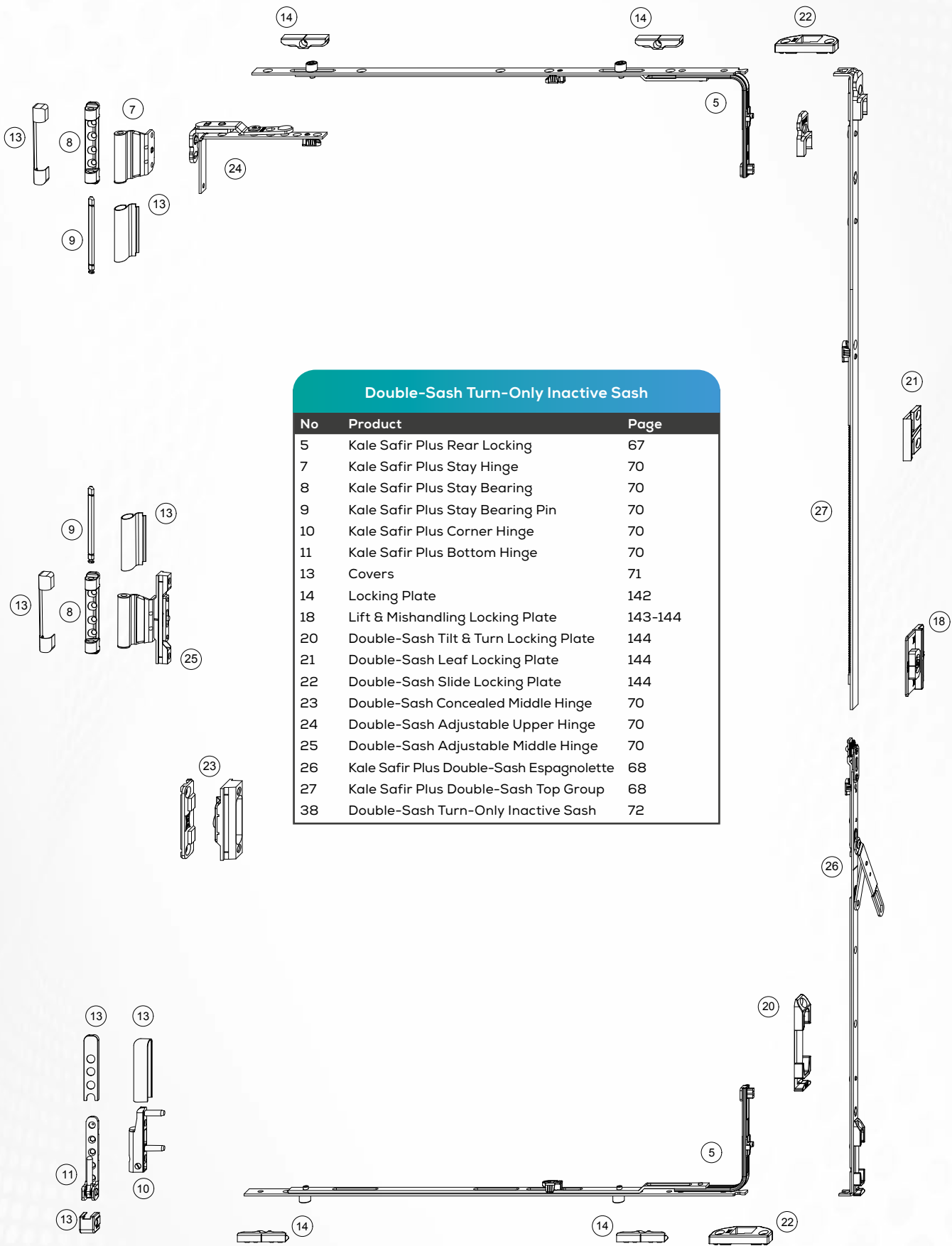
Double-Sash Turn-Only Active Sash - 130



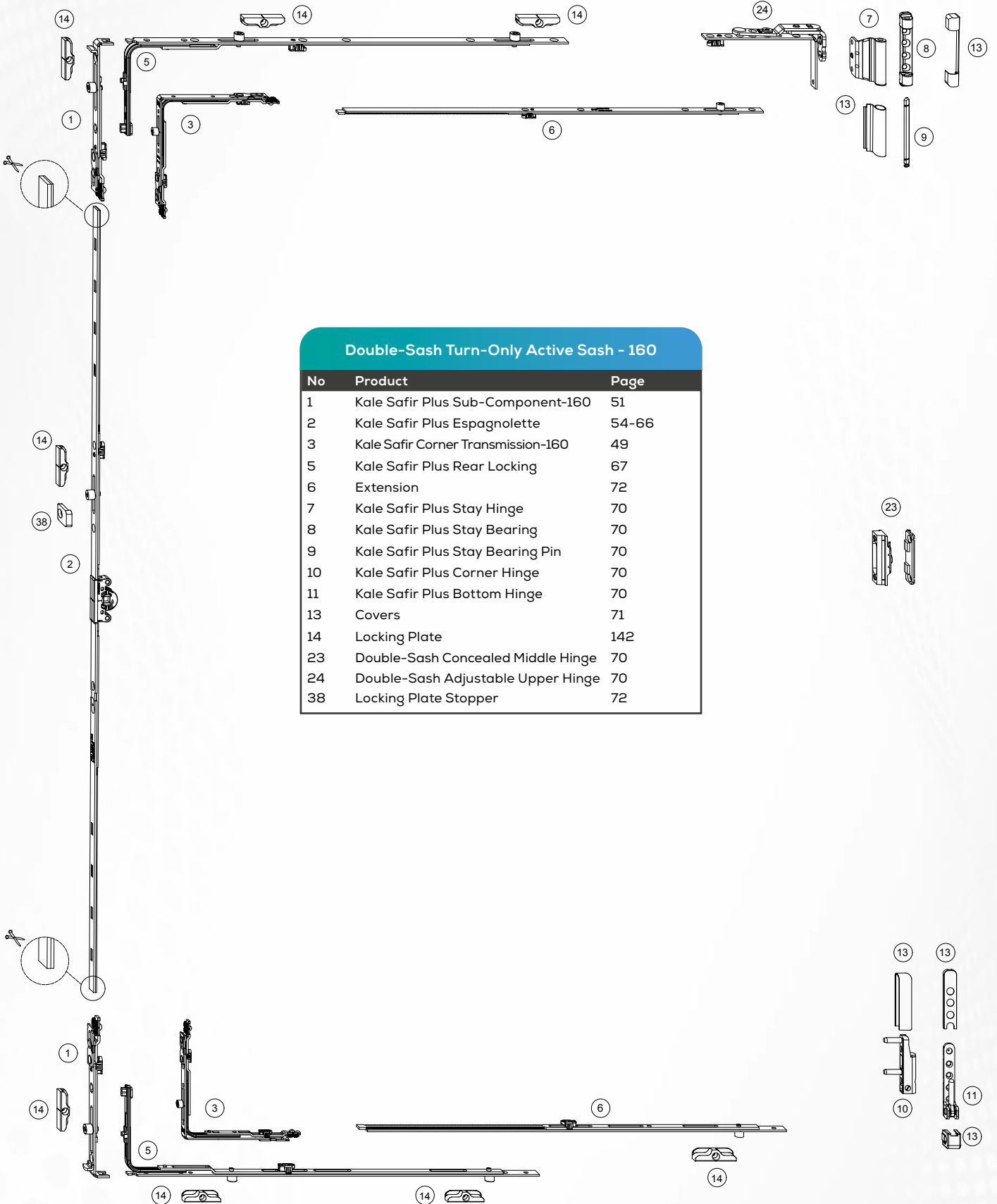
Double-Sash Turn-Only Active Sash - 130

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14	Locking Plate	142
23	Double-Sash Concealed Middle Hinge	70
24	Double-Sash Adjustable Upper Hinge	70
38	Locking Plate Stopper	72

Double-Sash Turn-Only Inactive Sash



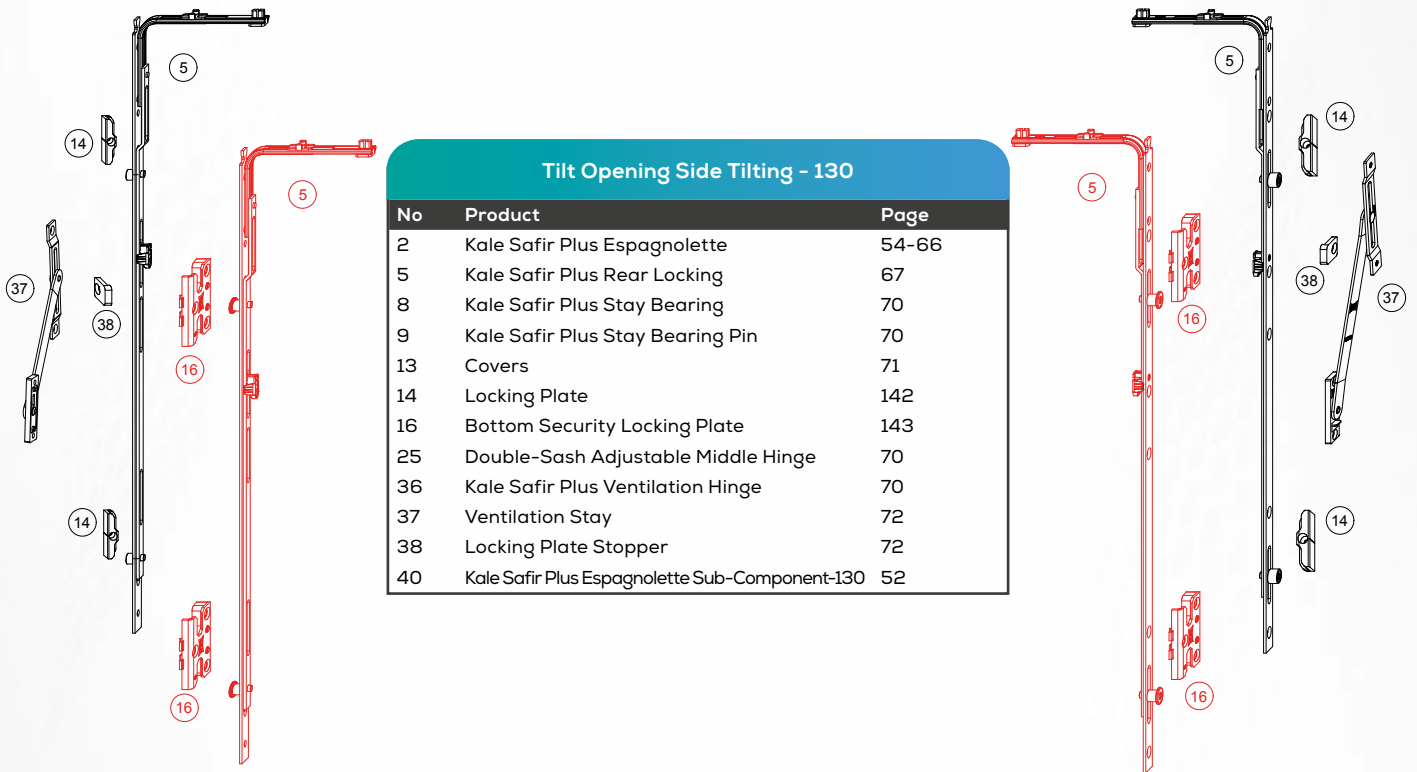
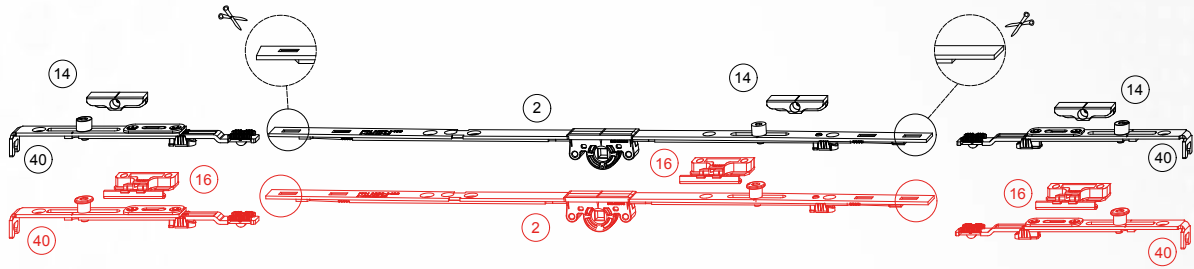
Double-Sash Turn-Only Active Sash - 160



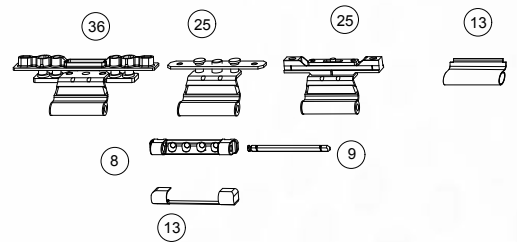
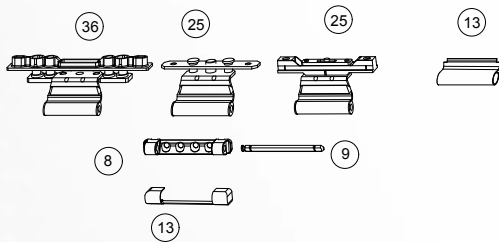
Double-Sash Turn-Only Active Sash - 160

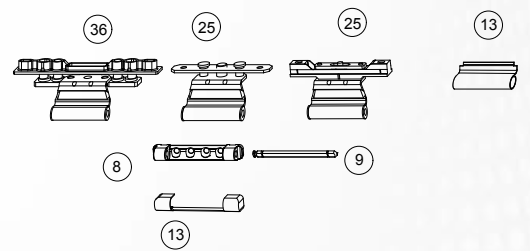
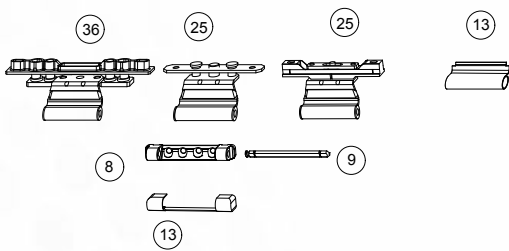
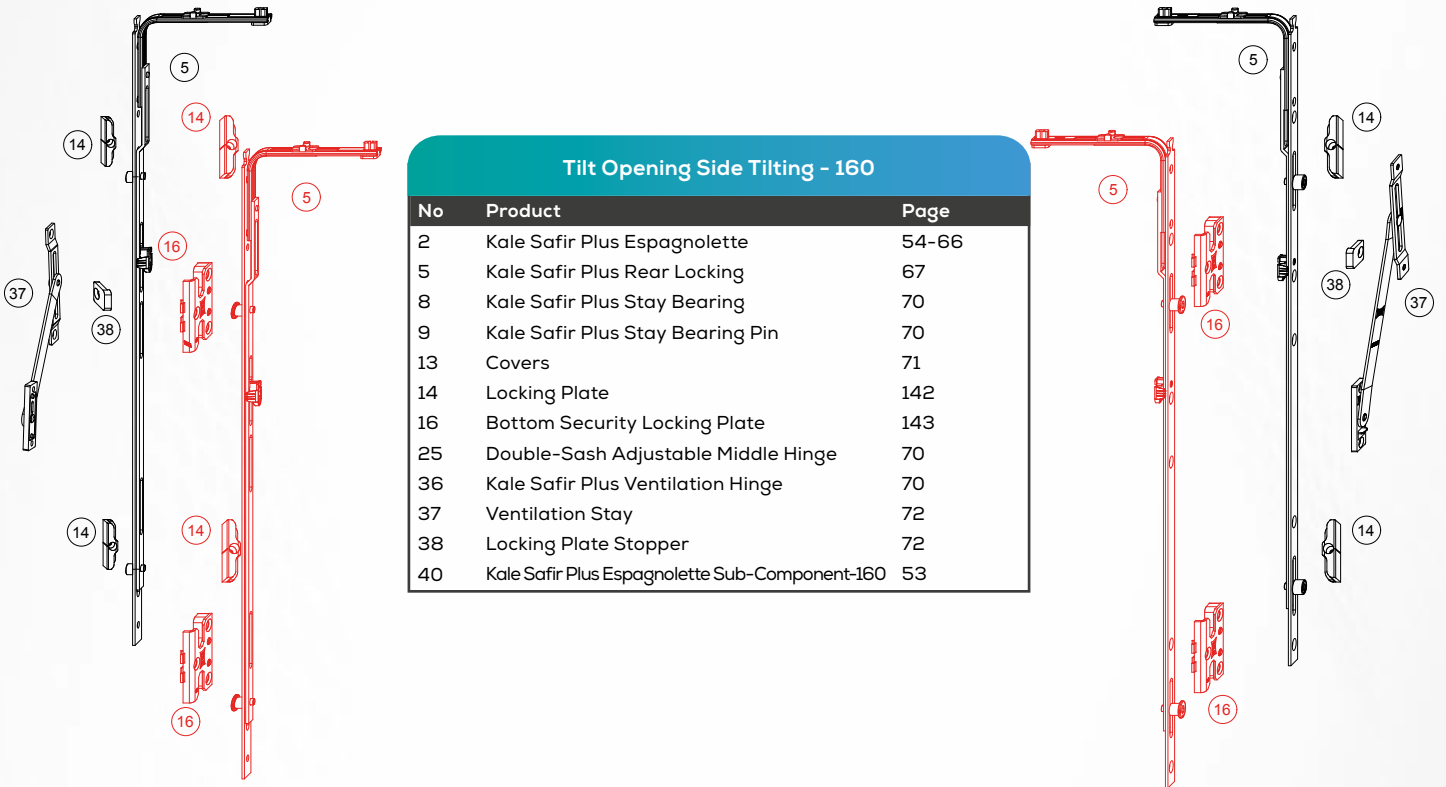
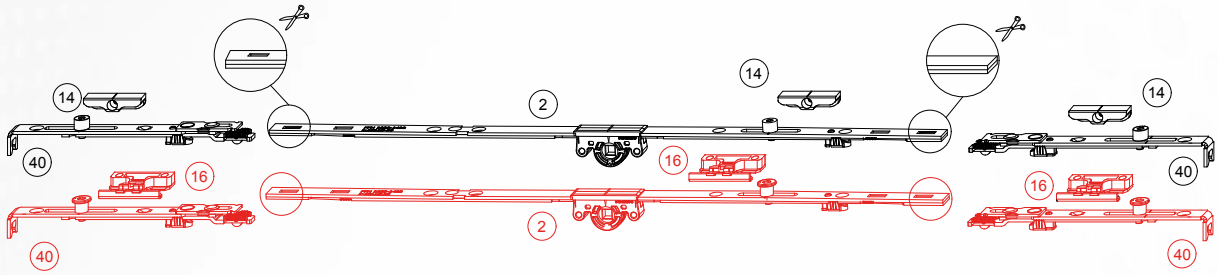
No	Product	Page
1	Kale Safir Plus Sub-Component-160	51
2	Kale Safir Plus Espagnolette	54-66
3	Kale Safir Corner Transmission-160	49
5	Kale Safir Plus Rear Locking	67
6	Extension	72
7	Kale Safir Plus Stay Hinge	70
8	Kale Safir Plus Stay Bearing	70
9	Kale Safir Plus Stay Bearing Pin	70
10	Kale Safir Plus Corner Hinge	70
11	Kale Safir Plus Bottom Hinge	70
13	Covers	71
14	Locking Plate	142
23	Double-Sash Concealed Middle Hinge	70
24	Double-Sash Adjustable Upper Hinge	70
38	Locking Plate Stopper	72

Tilt Opening Side Tilting - 130

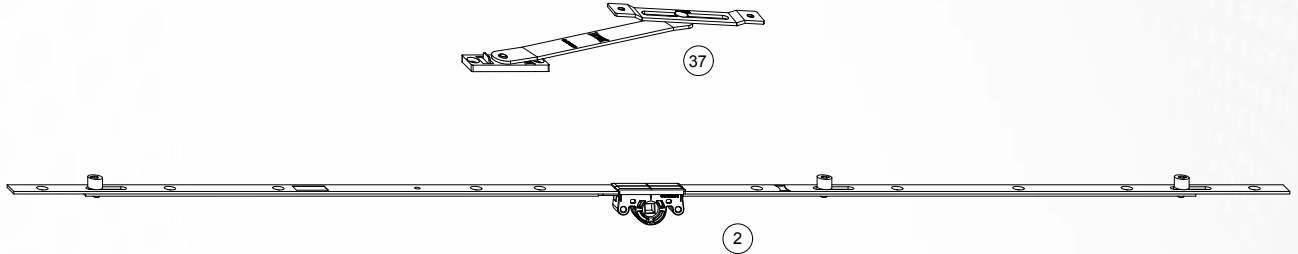


Tilt Opening Side Tilting - 130		
No	Product	Page
2	Kale Safir Plus Espagnolette	54-66
5	Kale Safir Plus Rear Locking	67
8	Kale Safir Plus Stay Bearing	70
9	Kale Safir Plus Stay Bearing Pin	70
13	Covers	71
14	Locking Plate	142
16	Bottom Security Locking Plate	143
25	Double-Sash Adjustable Middle Hinge	70
36	Kale Safir Plus Ventilation Hinge	70
37	Ventilation Stay	72
38	Locking Plate Stopper	72
40	Kale Safir Plus Espagnolette Sub-Component-130	52

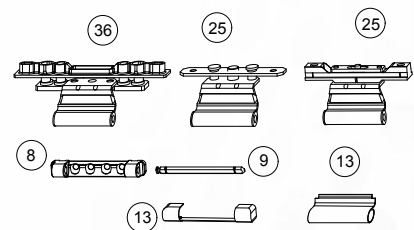
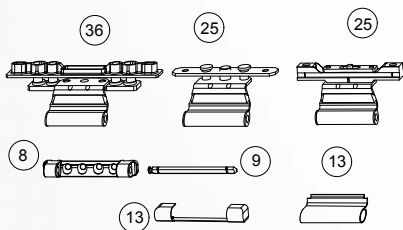




Tilt Opening Top Tilting



Tilt Opening Top Tilting		
No	Product	Page
2	Kale Safir Plus Espagnolette	54-66
8	Kale Safir Plus Stay Bearing	70
9	Kale Safir Plus Stay Bearing Pin	70
13	Covers	71
25	Double-Sash Adjustable Middle Hinge	70
36	Kale Safir Plus Ventilation Hinge	70
37	Ventilation Stay Arm	72
38	Locking Plate Stopper	72

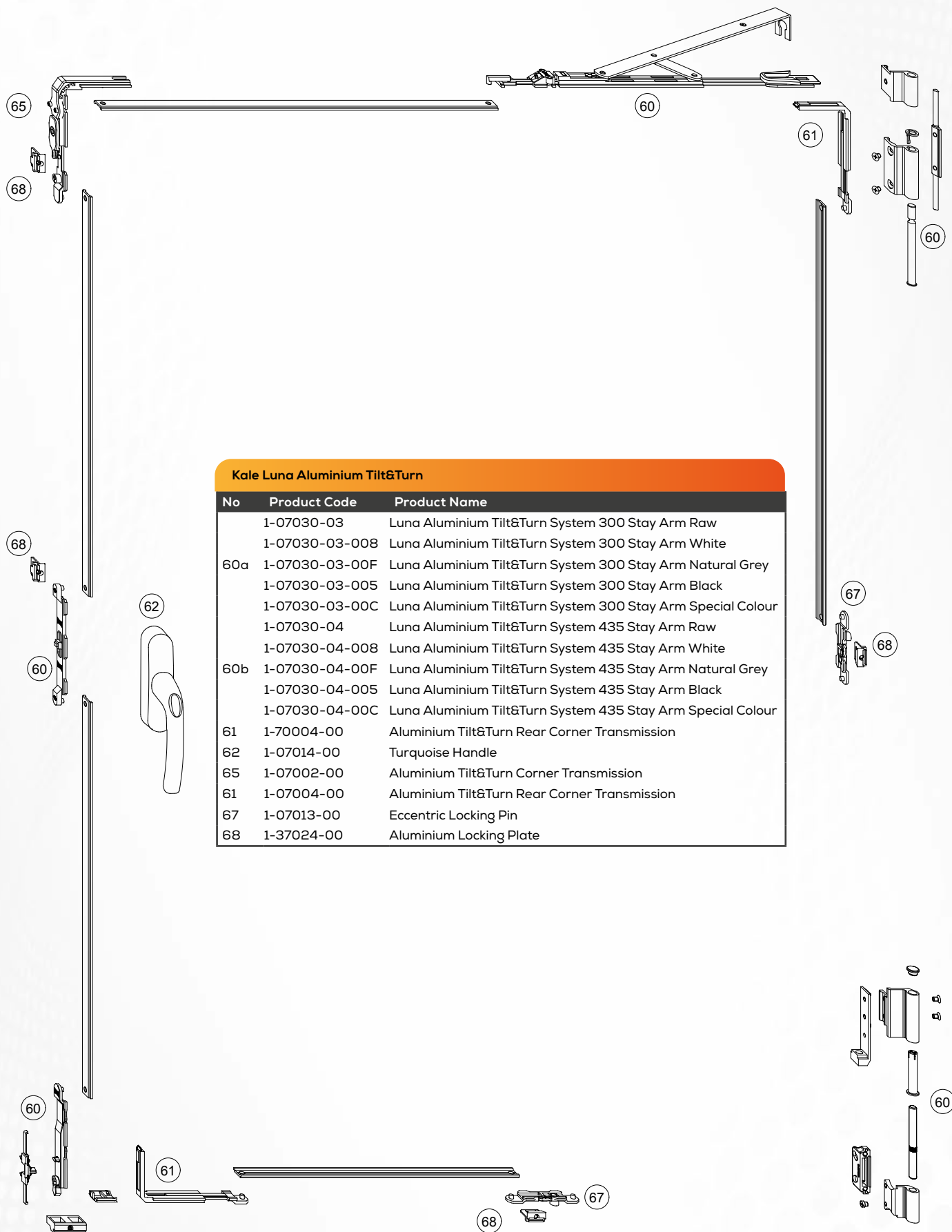




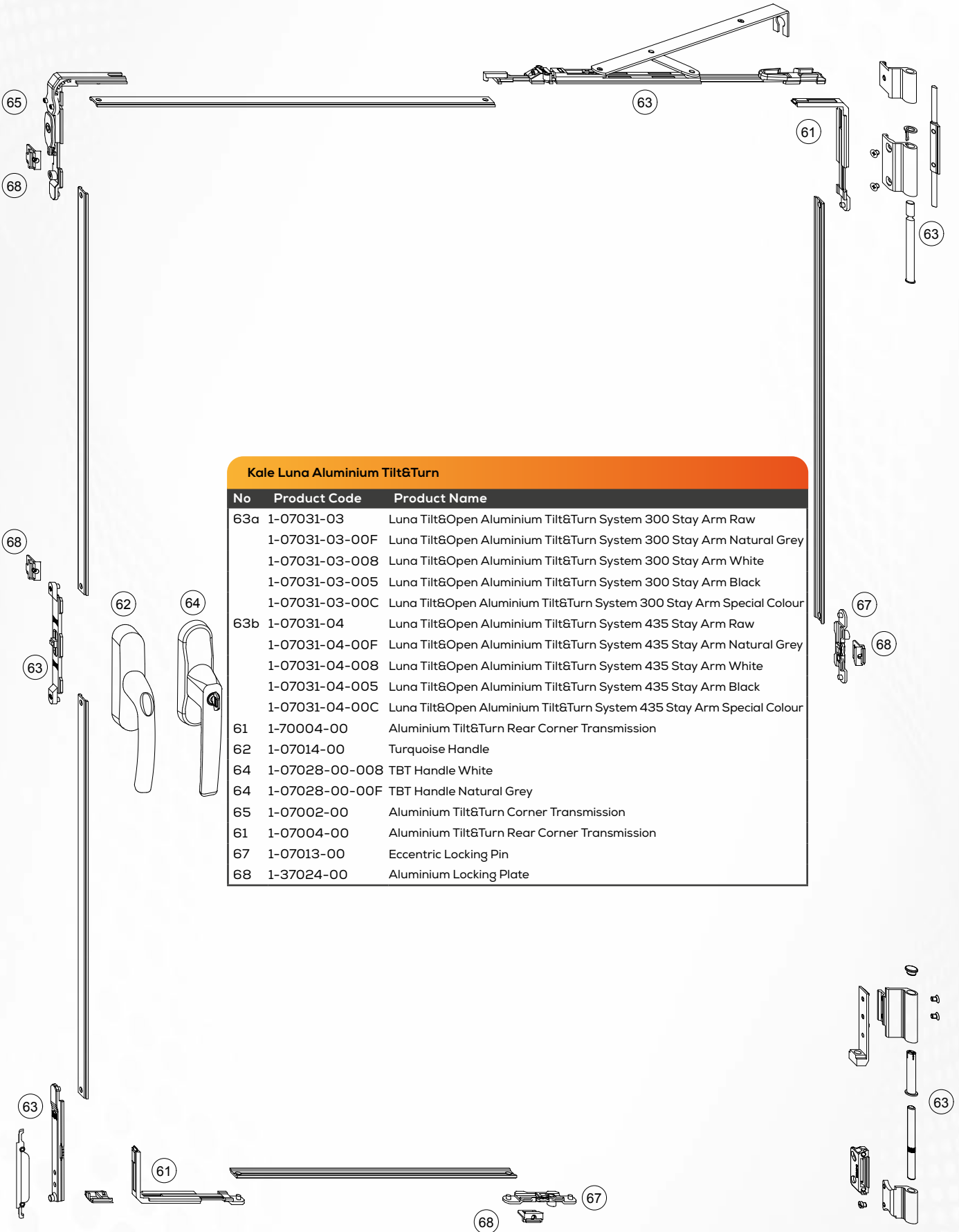
ALUMINIUM
WINDOW SYSTEMS

TILT&TURN SYSTEMS – KALE LUNA

Tilt&Turn System

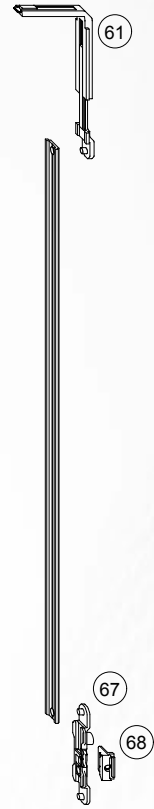


Kale Luna Aluminium Tilt&Turn		
No	Product Code	Product Name
	1-07030-03	Luna Aluminium Tilt&Turn System 300 Stay Arm Raw
	1-07030-03-008	Luna Aluminium Tilt&Turn System 300 Stay Arm White
60a	1-07030-03-00F	Luna Aluminium Tilt&Turn System 300 Stay Arm Natural Grey
	1-07030-03-005	Luna Aluminium Tilt&Turn System 300 Stay Arm Black
	1-07030-03-00C	Luna Aluminium Tilt&Turn System 300 Stay Arm Special Colour
	1-07030-04	Luna Aluminium Tilt&Turn System 435 Stay Arm Raw
	1-07030-04-008	Luna Aluminium Tilt&Turn System 435 Stay Arm White
60b	1-07030-04-00F	Luna Aluminium Tilt&Turn System 435 Stay Arm Natural Grey
	1-07030-04-005	Luna Aluminium Tilt&Turn System 435 Stay Arm Black
	1-07030-04-00C	Luna Aluminium Tilt&Turn System 435 Stay Arm Special Colour
61	1-70004-00	Aluminium Tilt&Turn Rear Corner Transmission
62	1-07014-00	Turquoise Handle
65	1-07002-00	Aluminium Tilt&Turn Corner Transmission
61	1-07004-00	Aluminium Tilt&Turn Rear Corner Transmission
67	1-07013-00	Eccentric Locking Pin
68	1-37024-00	Aluminium Locking Plate



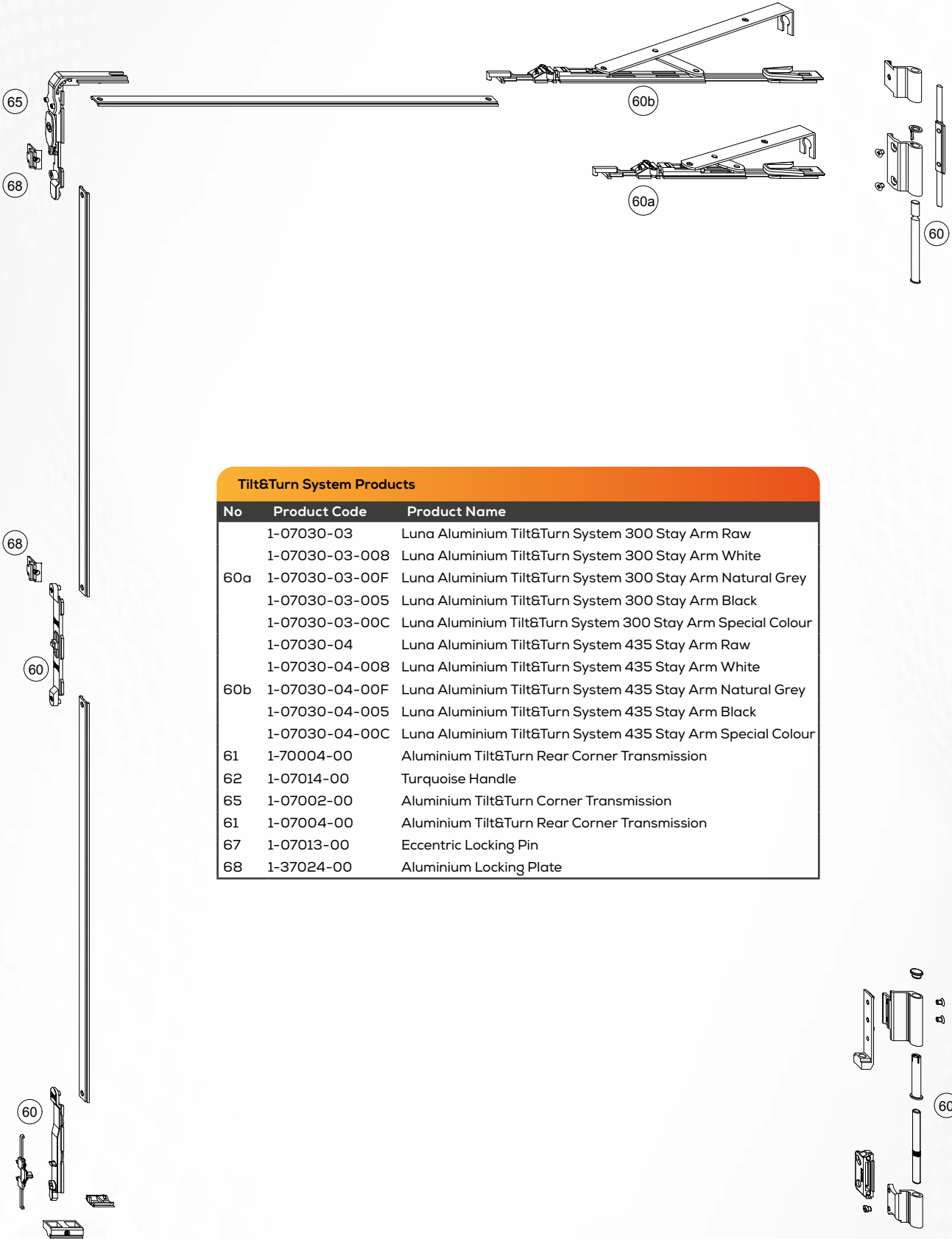
Kale Luna Aluminium Tilt&Turn		
No	Product Code	Product Name
63a	1-07031-03	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Raw
	1-07031-03-00F	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Natural Grey
	1-07031-03-008	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm White
	1-07031-03-005	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Black
	1-07031-03-00C	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Special Colour
63b	1-07031-04	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Raw
	1-07031-04-00F	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Natural Grey
	1-07031-04-008	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm White
	1-07031-04-005	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Black
	1-07031-04-00C	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Special Colour
61	1-70004-00	Aluminium Tilt&Turn Rear Corner Transmission
62	1-07014-00	Turquoise Handle
64	1-07028-00-008	TBT Handle White
64	1-07028-00-00F	TBT Handle Natural Grey
65	1-07002-00	Aluminium Tilt&Turn Corner Transmission
61	1-07004-00	Aluminium Tilt&Turn Rear Corner Transmission
67	1-07013-00	Eccentric Locking Pin
68	1-37024-00	Aluminium Locking Plate

Tilt&Turn System Additional Locking Group



Kale Luna Aluminium Additional Locking Group		
No	Product Code	Product Name
61	1-07004-00	Aluminium Tilt&Turn Rear Corner Transmission
67	1-07013-00	Eccentric Locking Pin
68	1-37024-00	Aluminium Locking Plate

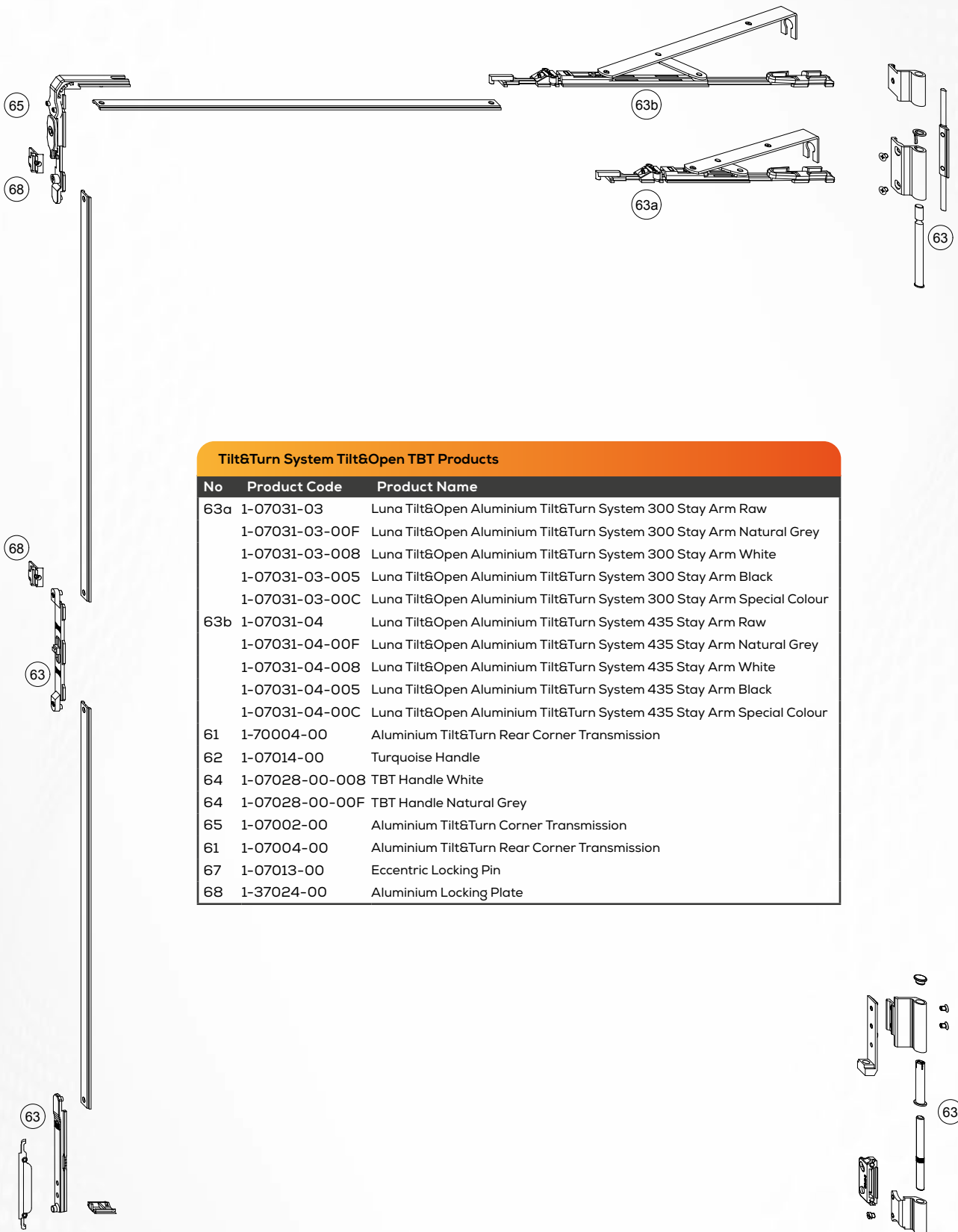




Tilt&Turn System Products

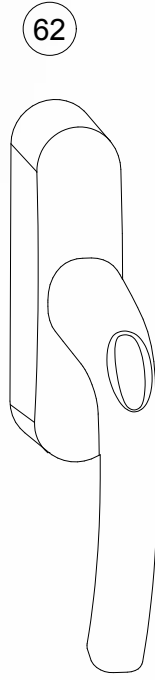
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	1-07030-03-008	Luna Aluminium Tilt&Turn System 300 Stay Arm White
60a	1-07030-03-00F	Luna Aluminium Tilt&Turn System 300 Stay Arm Natural Grey
	1-07030-03-005	Luna Aluminium Tilt&Turn System 300 Stay Arm Black
	1-07030-03-00C	Luna Aluminium Tilt&Turn System 300 Stay Arm Special Colour
	1-07030-04	Luna Aluminium Tilt&Turn System 435 Stay Arm Raw
	1-07030-04-008	Luna Aluminium Tilt&Turn System 435 Stay Arm White
60b	1-07030-04-00F	Luna Aluminium Tilt&Turn System 435 Stay Arm Natural Grey
	1-07030-04-005	Luna Aluminium Tilt&Turn System 435 Stay Arm Black
	1-07030-04-00C	Luna Aluminium Tilt&Turn System 435 Stay Arm Special Colour
61	1-70004-00	Aluminium Tilt&Turn Rear Corner Transmission
62	1-07014-00	Turquoise Handle
65	1-07002-00	Aluminium Tilt&Turn Corner Transmission
61	1-07004-00	Aluminium Tilt&Turn Rear Corner Transmission
67	1-07013-00	Eccentric Locking Pin
68	1-37024-00	Aluminium Locking Plate

Tilt&Turn System TBT Products

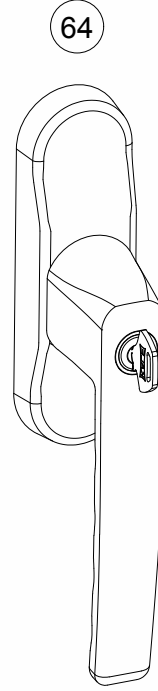


Tilt&Turn System Tilt&Open TBT Products

No	Product Code	Product Name
63a	1-07031-03	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Raw
	1-07031-03-00F	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Natural Grey
	1-07031-03-008	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm White
	1-07031-03-005	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Black
	1-07031-03-00C	Luna Tilt&Open Aluminium Tilt&Turn System 300 Stay Arm Special Colour
63b	1-07031-04	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Raw
	1-07031-04-00F	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Natural Grey
	1-07031-04-008	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm White
	1-07031-04-005	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Black
	1-07031-04-00C	Luna Tilt&Open Aluminium Tilt&Turn System 435 Stay Arm Special Colour
61	1-70004-00	Aluminium Tilt&Turn Rear Corner Transmission
62	1-07014-00	Turquoise Handle
64	1-07028-00-008	TBT Handle White
	1-07028-00-00F	TBT Handle Natural Grey
65	1-07002-00	Aluminium Tilt&Turn Corner Transmission
61	1-07004-00	Aluminium Tilt&Turn Rear Corner Transmission
67	1-07013-00	Eccentric Locking Pin
68	1-37024-00	Aluminium Locking Plate



TURQUOISE

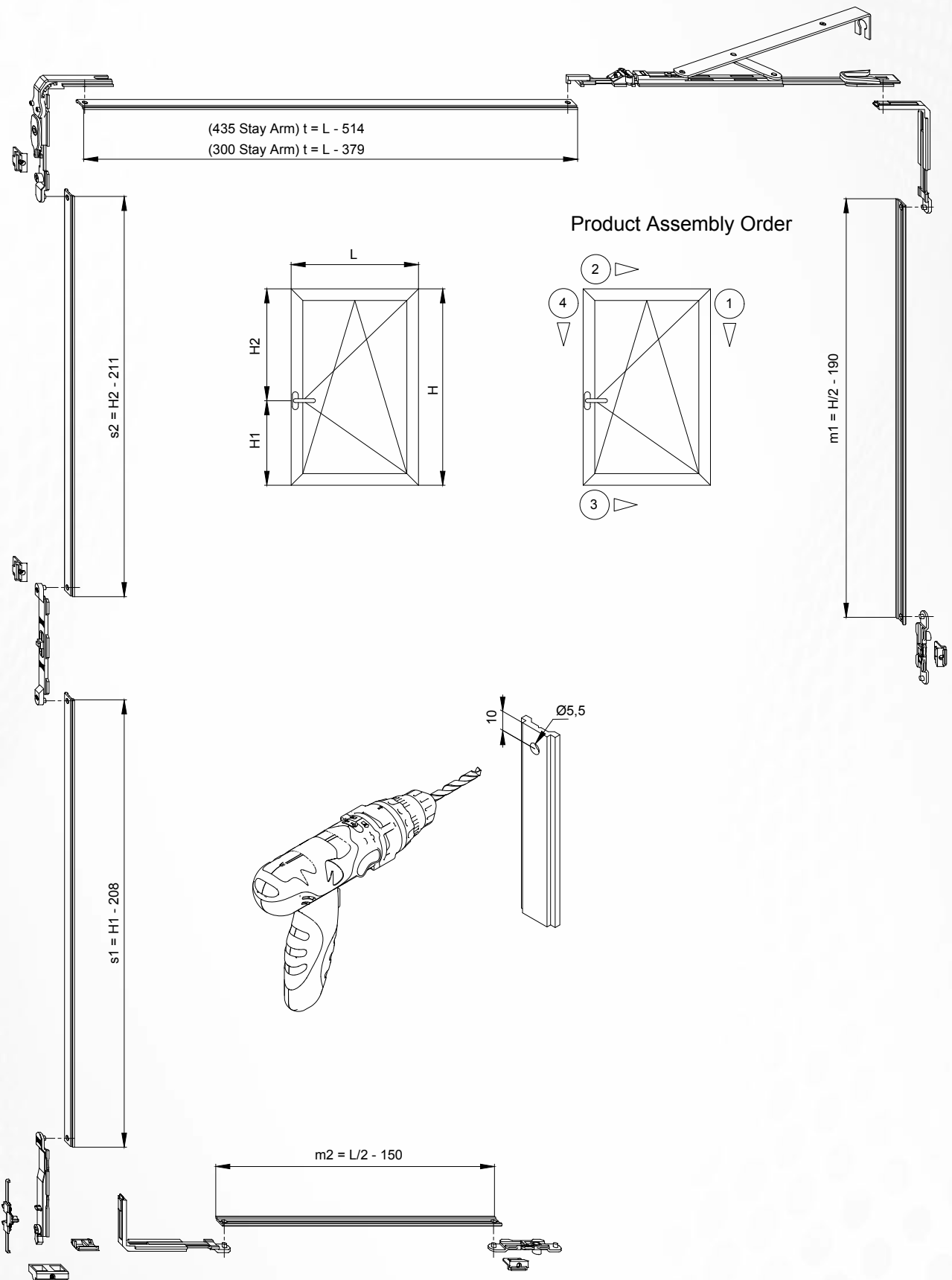


TBT

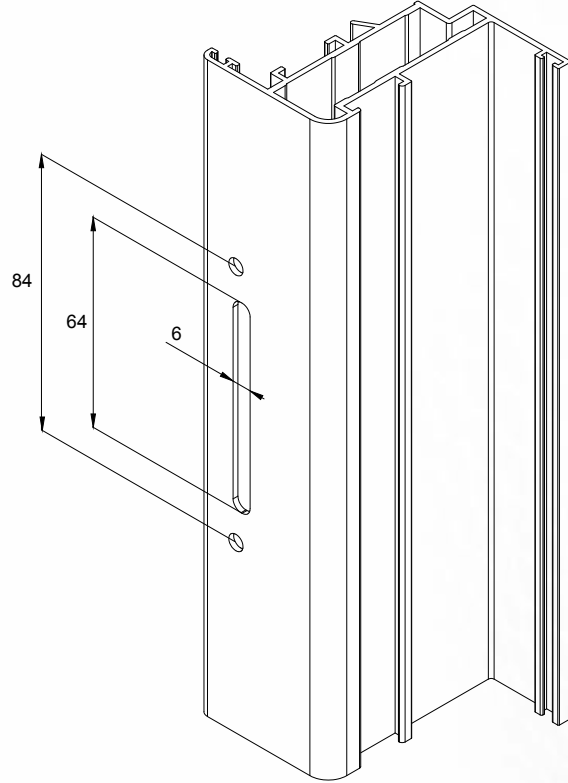
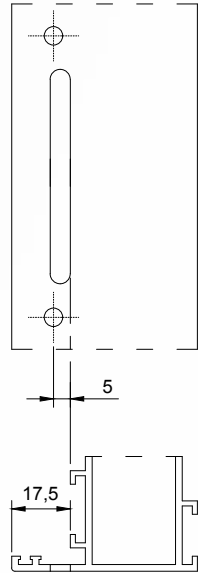
Tilt&Turn System Aluminium Handles

No	Product Code	Product Name
62	1-07014-00	Turquoise Handle Raw
62	1-07014-00-001	Turquoise Handle Plating
62	1-07014-00-005	Turquoise Handle Black
62	1-07014-00-008	Turquoise Handle White
62	1-07014-00-00C	Turquoise Handle Special Colour
62	1-07014-00-00F	Turquoise Handle Natural Grey
62	1-07014-50	Turquoise Handle Long Fork Raw
62	1-07014-50-008	Turquoise Handle Long Fork White
62	1-07014-50-00F	Turquoise Handle Long Fork Natural Grey
64	1-07028-00-008	Tbt Handle White
64	1-07028-00-00F	Tbt Handle Natural Grey

Tilt&Turn System Sash Assembly



Tilt&Turn System Handle Slot Preparation



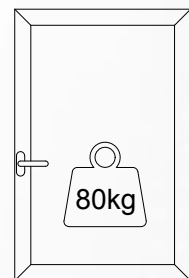
KALE LUNA ALUMINIUM T&T (Technical Specs)

	300 Stay Arm		435 Stay Arm	
Sash Width	Minimum	390 mm	Minimum	522 mm
	Maximum	522 mm	Maximum	1700 mm
Sash Height	Minimum	600 mm	Minimum	600 mm
	Maximum	2400 mm	Maximum	2400 mm
Sash weight - maximum 80 kg				

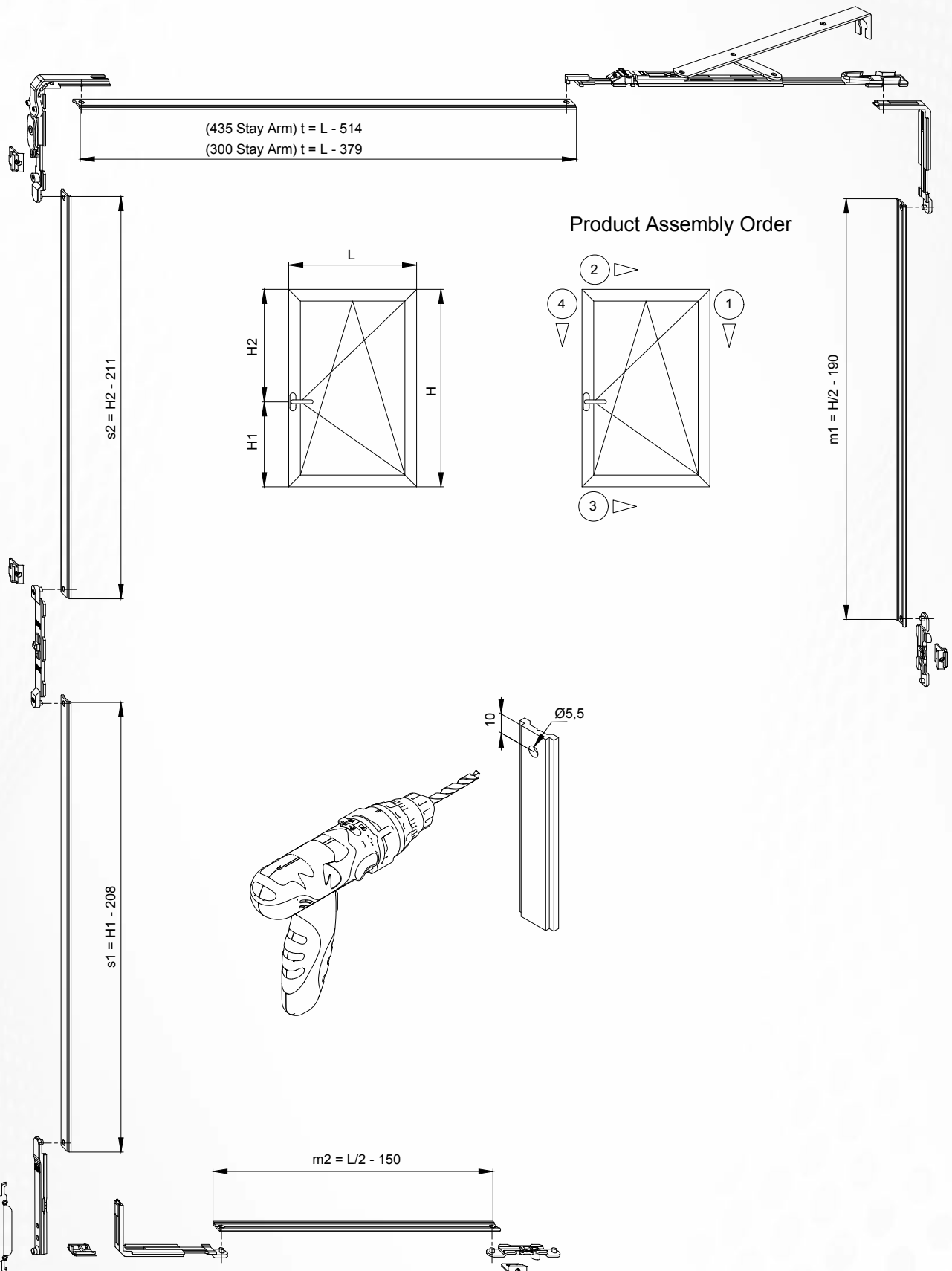
Application for Parts to be Painted



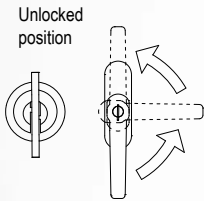
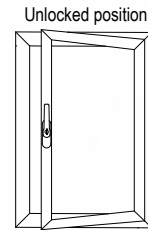
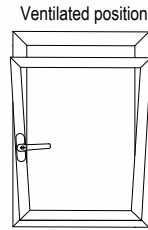
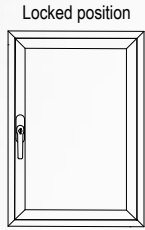
- The paint thickness must be 40~60 µm.
- Screw threads and pin holes must be protected against paint.
- The process for the painting of the window handle must not exceed 200°C and 15 minutes.



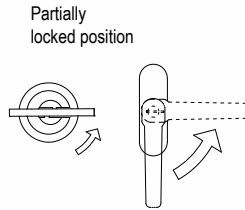
Tilt&Turn System TBT Sash Assembly



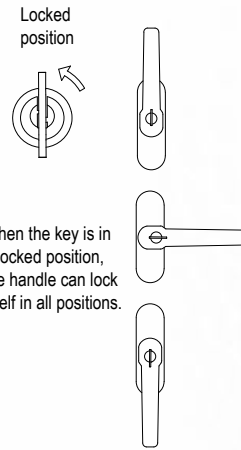
Tilt&Turn System TBT Handle Usage



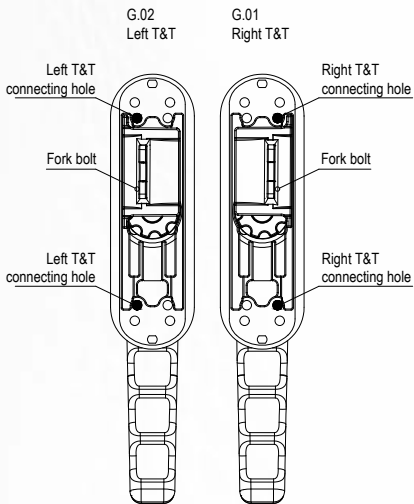
When the key is in an unlocked position, the handle can move in unlocked, ventilated and locked positions.



When the key is partially locked, the handle can move in locked and ventilated positions.



When the key is in a locked position, the handle can lock itself in all positions.



- Remove the plastic protective cover.

- As you can see in G.01, place the fork bolt onto the top area of the right canal (Right T&T).

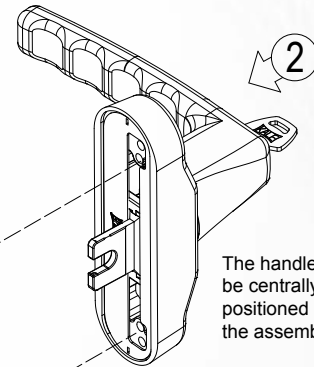
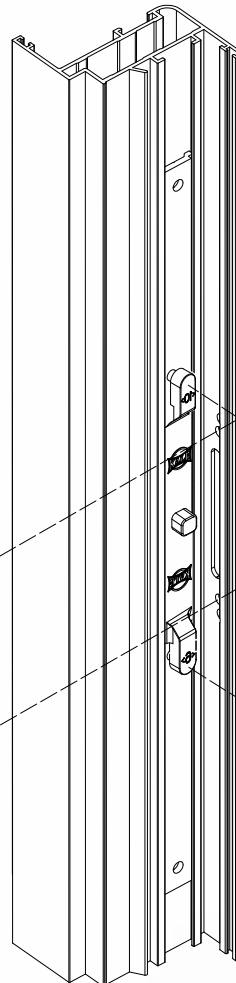
- If it is Left T&T, follow the same instructions as per G.02.

- Place the plastic protective cover.

- Assemble it onto the window through connecting holes according to whether it is on Right or Left.

3

The handle is fixed onto the joinery by using an SW 4 allen wrench.

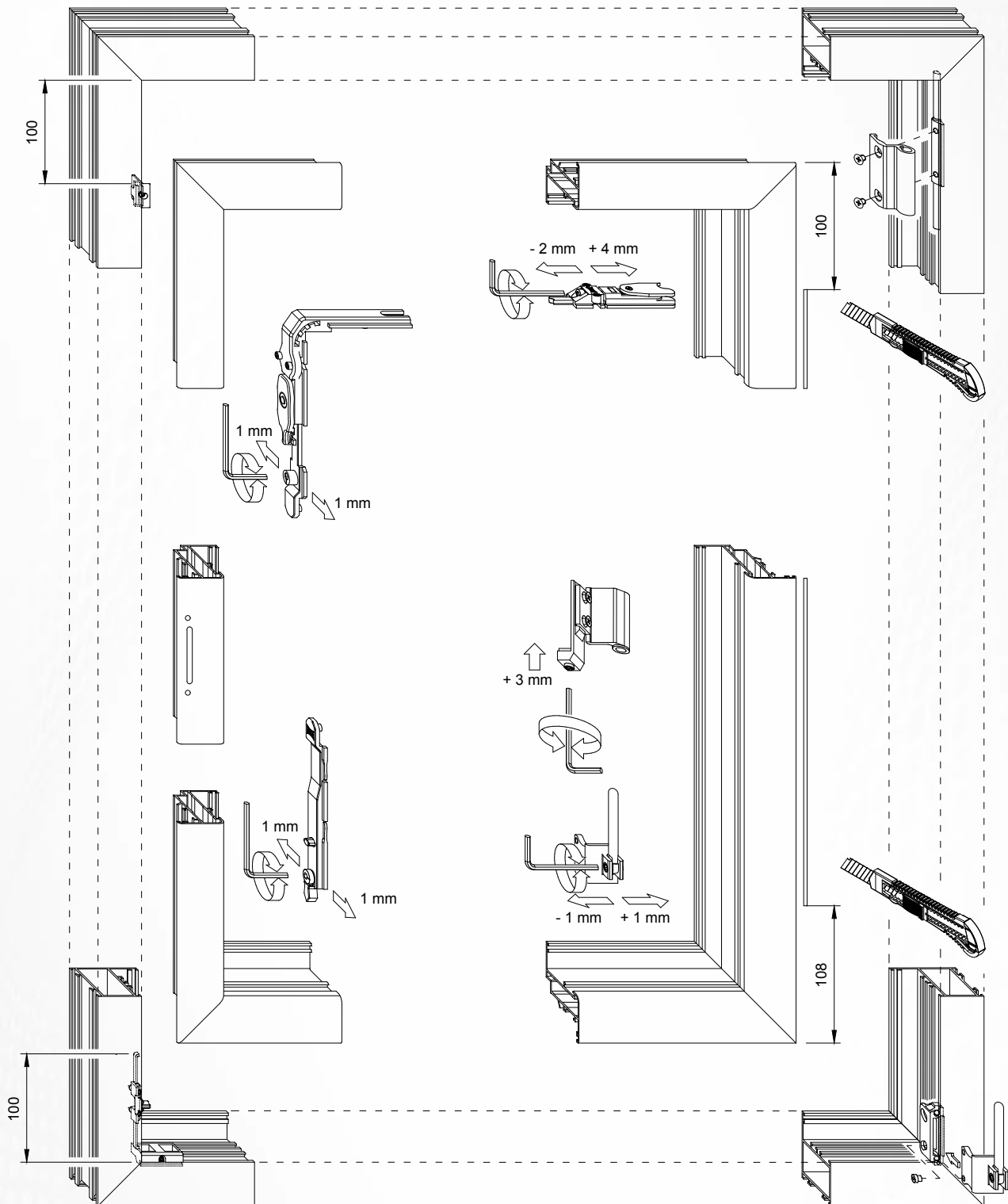


The handle must be centrally positioned during the assembly.

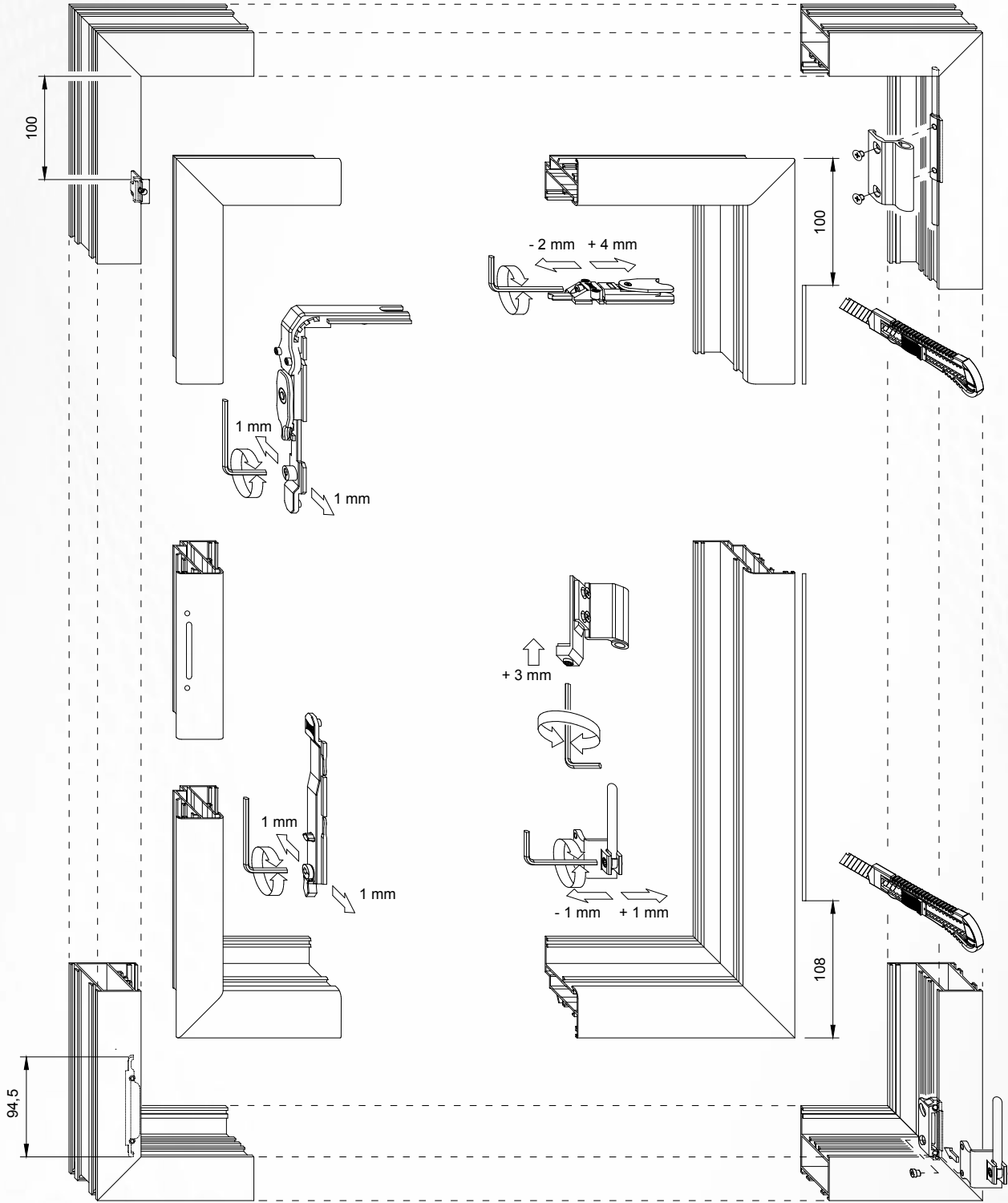
1

The handle must be assembled after completion of the assembly of the system.

Tilt&Turn System Application and Adjustment

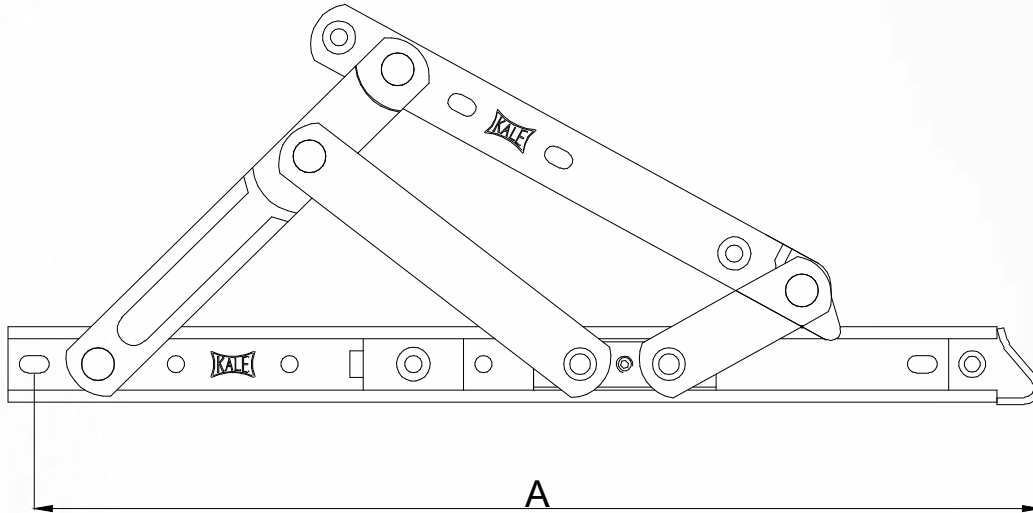


Tilt&Turn System TBT Application and Adjustment



TURN-ONLY SYSTEMS - KALE ATLAS

Friction Stay



Atlas Heavy-Duty Stay Arm – 23 FHJ

No	Product Code	Product Name	A (mm)	Stay Arm Length (mm)	Max. Ventilation Height (mm)	Max. Ventilation Width (mm)	Maximum Load (kg)	Angle
1	1-45346-HJ-12	Atlas Heavy-Duty Stay Arm 23FHJ 12"	301.5	305	800	1200	50	30
2	1-45341-HJ-14	Atlas Heavy-Duty Stay Arm 23FHJ 14"	348.5	355	1000	1200	65	30
3	1-45333-HJ-16	Atlas Heavy-Duty Stay Arm 23FHJ 16"	409.5	406	1200	1200	82	25
4	1-45334-HJ-18	Atlas Heavy-Duty Stay Arm 23FHJ 18"	454.5	457	1400	1500	100	25
5	1-45342-HJ-20	Atlas Heavy-Duty Stay Arm 23FHJ 20"	508.5	508	1600	1600	108	20
6	1-45340-HJ-22	Atlas Heavy-Duty Stay Arm 23FHJ 22"	554.5	560	1800	1800	110	20
7	1-45335-HJ-24	Atlas Heavy-Duty Stay Arm 23FHJ 24"	598.5	610	1800	1800	120	15
8	1-45343-HJ-26	Atlas Heavy-Duty Stay Arm 23FHJ 26"	654.5	660	1900	2000	125	15
9	1-45336-HJ-28	Atlas Heavy-Duty Stay Arm 23FHJ 28"	703.5	711	2000	2000	130	15

Atlas Heavy-Duty Stay Arm Accessories

No	Product Code	Product Name
1	1-45337-00	Atlas Heavy-Duty Stay Arm Angle Limiter FCB200 10.5"
2	1-45338-00	Atlas Heavy-Duty Stay Arm Adjustment Piece

Atlas Parallel Friction Stay-EZPH200

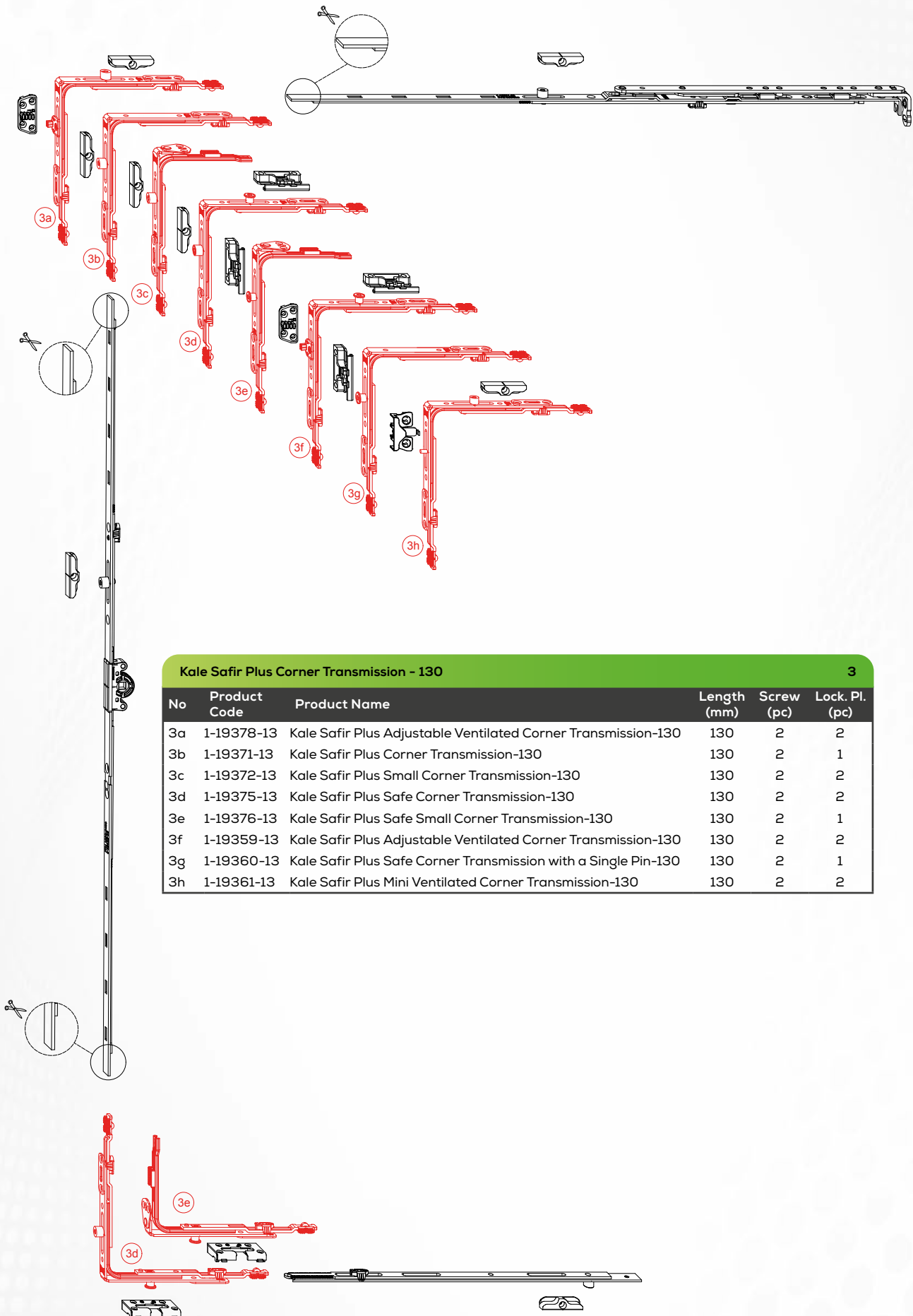
No	Product Code	Product Name	Stay Arm Length (mm)	Max. Ventilation Height (mm)	Max. Ventilation Width (mm)	Maximum Load (kg)	Angle
1	1-45344-20	Atlas Parallel Friction Stay EZPH200 20"	508	1000	1400	50	-
2	1-453420-37	Atlas Parallel Friction Stay EZPH200 37"	940	2000	2000	150	-



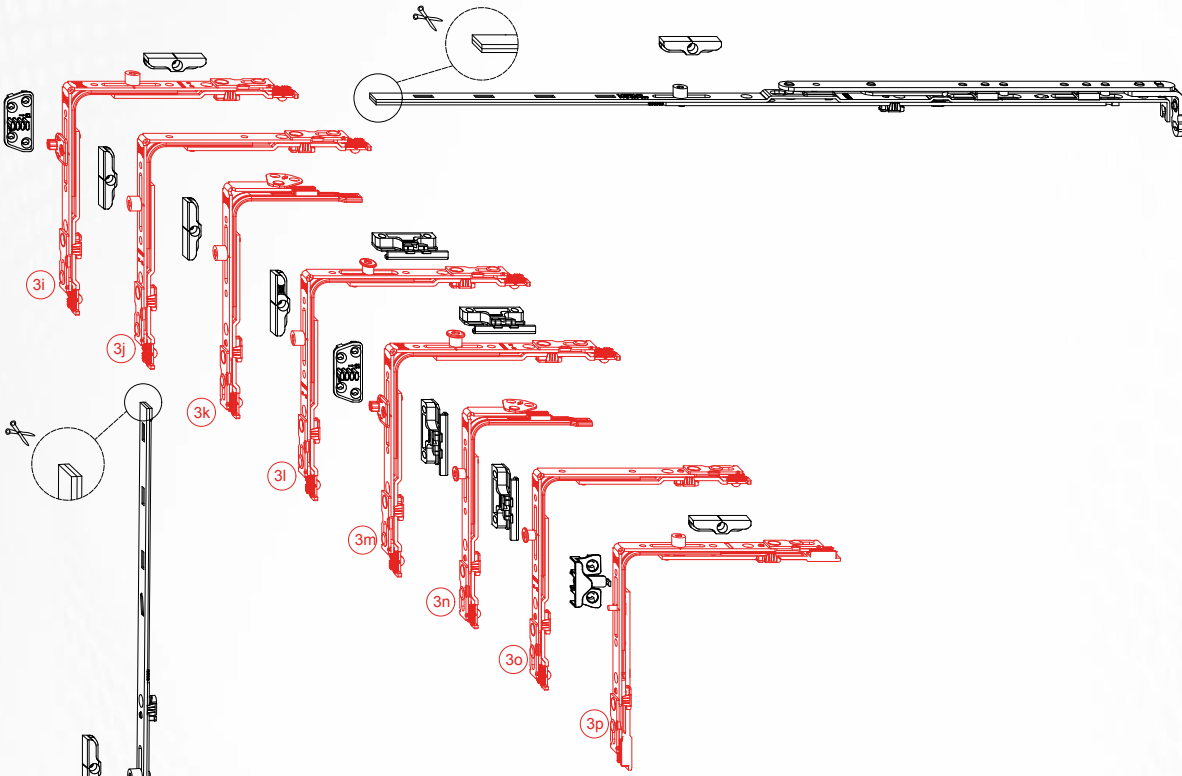
PVC/WOODEN/ALUMINIUM
WINDOW SYSTEM FITTINGS

TILT&TURN SYSTEMS

Corner Transmission - 130



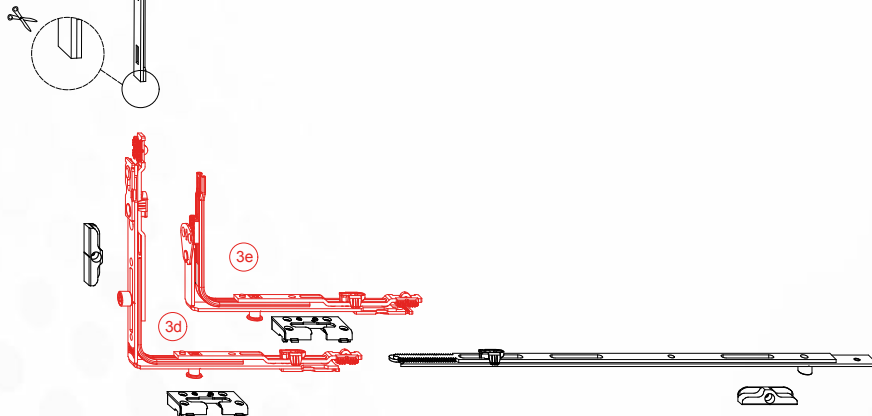
Kale Safir Plus Corner Transmission - 130						3
No	Product Code	Product Name	Length (mm)	Screw (pc)	Lock. Pl. (pc)	
3a	1-19378-13	Kale Safir Plus Adjustable Ventilated Corner Transmission-130	130	2	2	
3b	1-19371-13	Kale Safir Plus Corner Transmission-130	130	2	1	
3c	1-19372-13	Kale Safir Plus Small Corner Transmission-130	130	2	2	
3d	1-19375-13	Kale Safir Plus Safe Corner Transmission-130	130	2	2	
3e	1-19376-13	Kale Safir Plus Safe Small Corner Transmission-130	130	2	1	
3f	1-19359-13	Kale Safir Plus Adjustable Ventilated Corner Transmission-130	130	2	2	
3g	1-19360-13	Kale Safir Plus Safe Corner Transmission with a Single Pin-130	130	2	1	
3h	1-19361-13	Kale Safir Plus Mini Ventilated Corner Transmission-130	130	2	2	



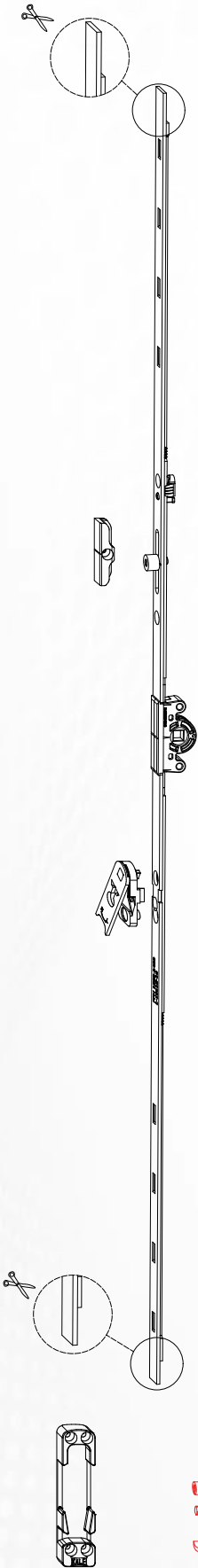
Kale Safir Plus Corner Transmission - 160

3

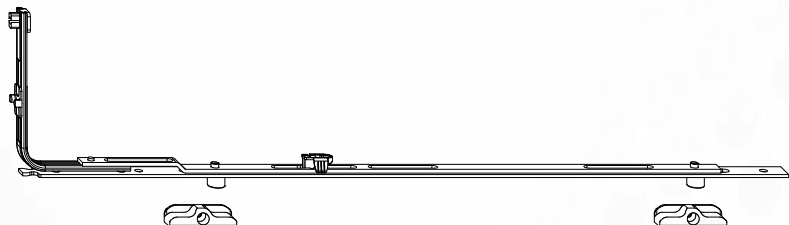
No	Product Code	Product Name	Length (mm)	Screw (pc)	Lock. Pl. (pc)
3i	1-11378-16	Kale Safir Adjustable Ventilated Corner Transmission-160	160	2	2
3j	1-11371-16	Kale Safir Corner Transmission-160	160	2	1
3k	1-11371-16	Kale Safir Small Corner Transmission-160	160	2	2
3l	1-11375-16	Kale Safir Safe Corner Transmission-160	160	2	2
3m	1-11359-16	Kale Safir Adjustable Ventilated Corner Transmission-160	160	2	1
3n	1-11376-16	Kale Safir Safe Small Corner Transmission-160	160	2	2
3o	1-11360-16	Kale Safir Safe Corner Transmission with a Single Pin-160	160	2	1
3p	1-11361-16	Kale Safir Mini Ventilated Corner Transmission-160	160	2	2

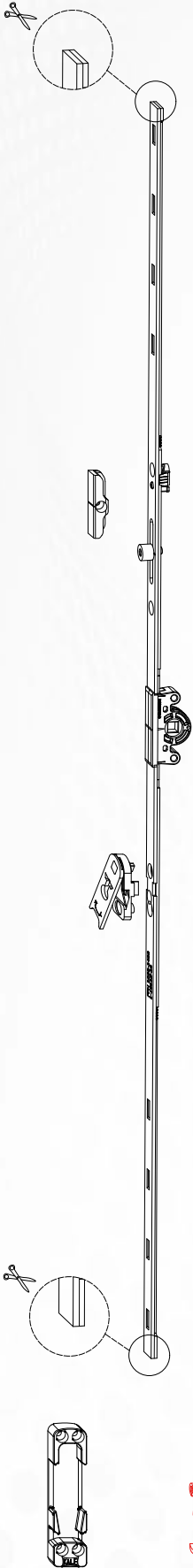


Sub-Component - 130

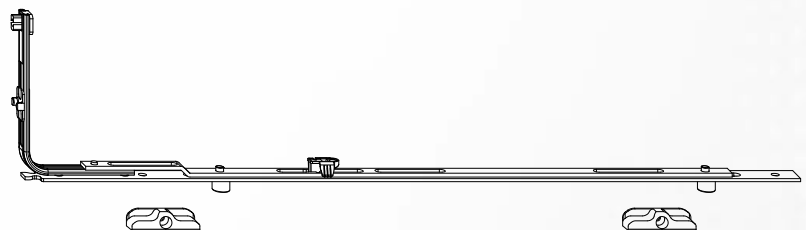


Kale Safir Plus Sub-Component-130					1
No	Product Code	Product Name	Length (mm)	Screw (pc)	Lock. Pl. (pc)
1a	1-19406-13	Kale Safir Plus Sub-Component-130	130	3	1

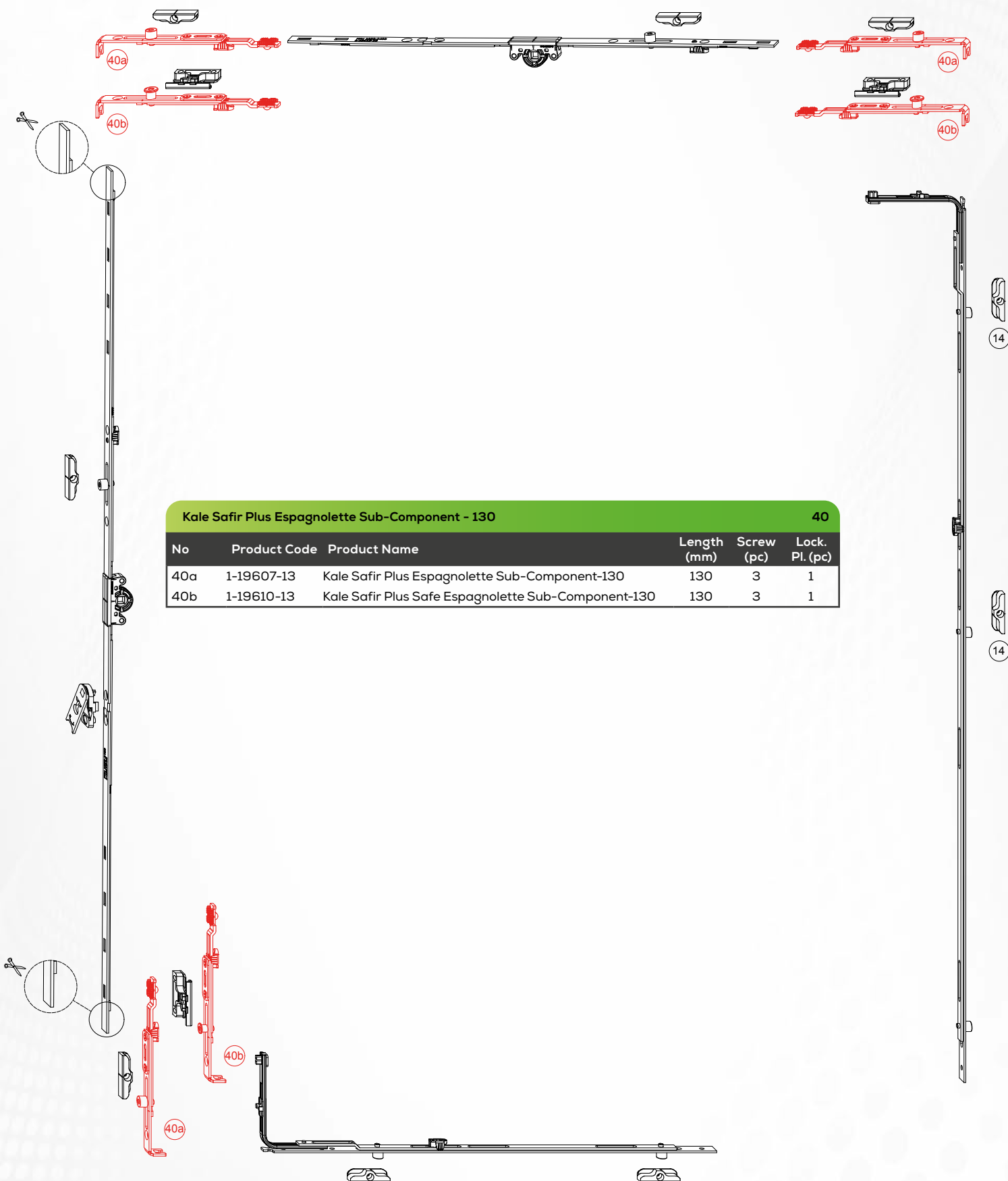




Kale Safir Plus Sub-Component-160					1
No	Product Code	Product Name	Length (mm)	Screw (pc)	Lock. Pl. (pc)
1a	1-19409-16	Kale Safir Plus Sub-Component-160	160	3	1



Espagnolette Sub-Component - 130

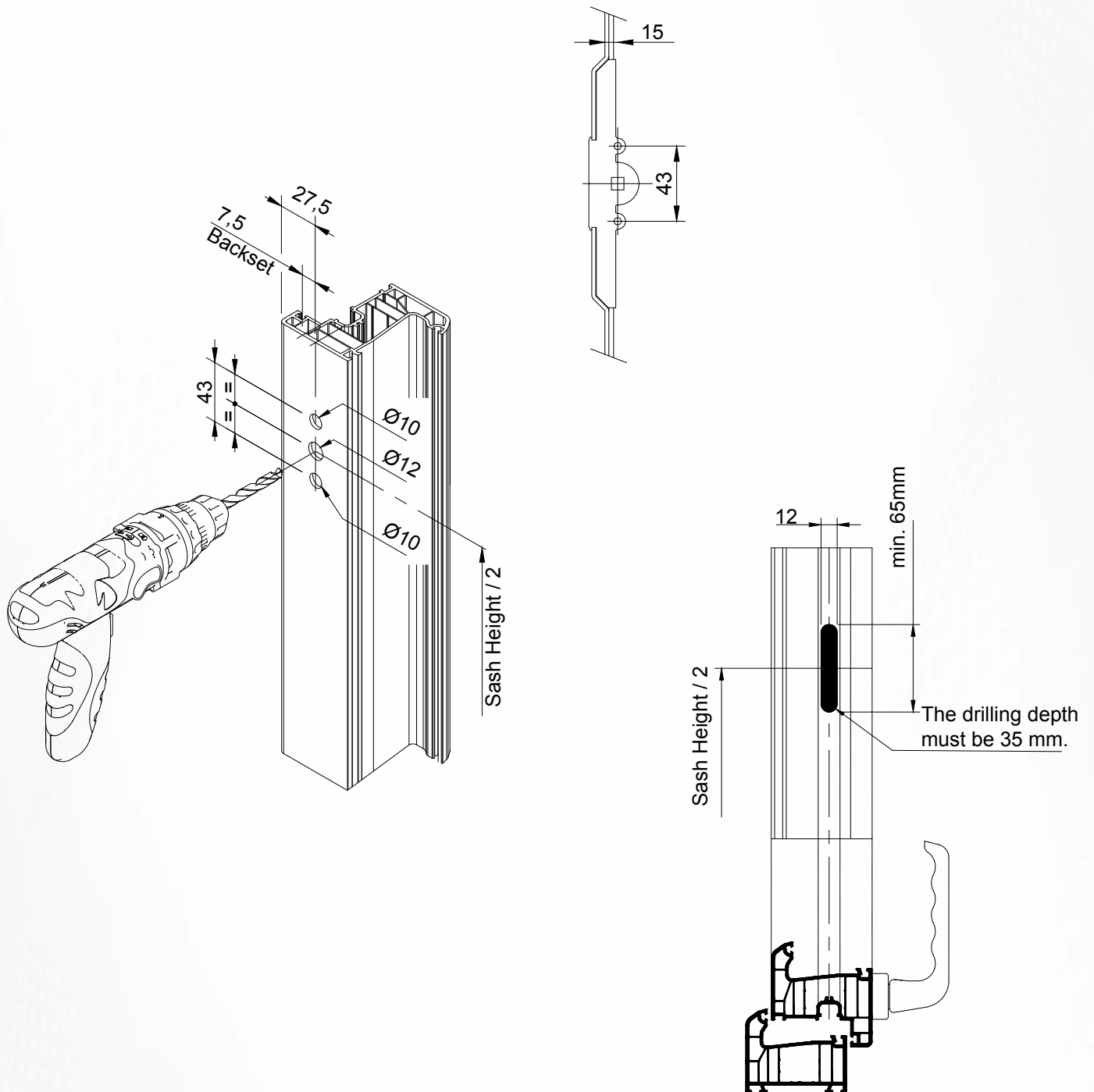


Espagnolette Sub-Component - 160



Kale Safir Plus Espagnolette Sub-Component-160					40	
No	Product Code	Product Name	Length (mm)	Screw (pc)	Lock. Pl. (pc)	
40c	1-19606-16	Kale Safir Plus Espagnolette Sub-Component-160	130	3	1	
40d	1-19602-16	Kale Safir Plus Safe Espagnolette Sub-Component-160	130	3	1	

Espagnolette Handle Slot Preparation 7.5 Axis



Note: All dimensions are in millimetre.

Turn-Only Espagnolette 7.5 Axis

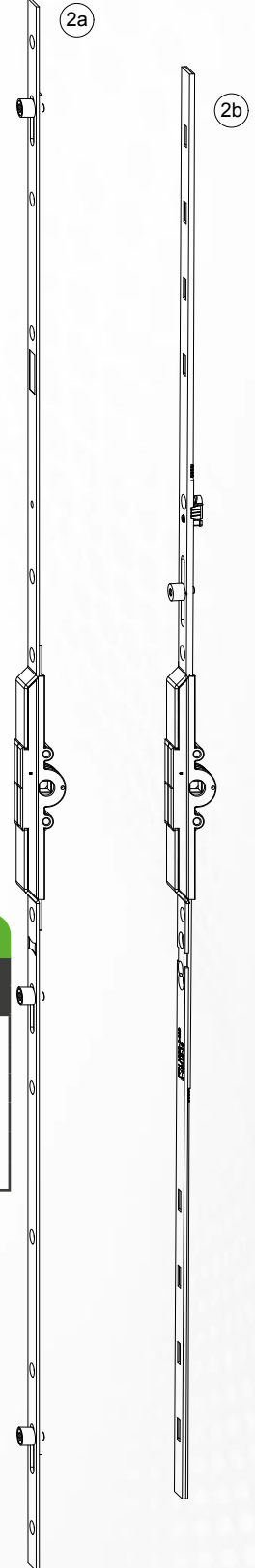
2a

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.04	1-61054-04	Düden Turn-Only Espagnolette 7,5/400	400	400	600	4	2
Gr.06	1-61054-06	Düden Turn-Only Espagnolette 7,5/600	600	600	800	6	2
Gr.08	1-61054-08	Düden Turn-Only Espagnolette 7,5/800	800	800	900	8	2
Gr.09	1-61054-09	Düden Turn-Only Espagnolette 7,5/900	900	900	1000	8	3
Gr.10	1-61054-10	Düden Turn-Only Espagnolette 7,5/1000	1000	1000	1100	10	3
Gr.11	1-61054-11	Düden Turn-Only Espagnolette 7,5/1100	1100	1100	1200	10	3
Gr.12	1-61054-12	Düden Turn-Only Espagnolette 7,5/1200	1200	1200	1300	10	3
Gr.13	1-61054-13	Düden Turn-Only Espagnolette 7,5/1300	1300	1300	1400	10	3
Gr.14	1-61054-14	Düden Turn-Only Espagnolette 7,5/1400	1400	1400	1500	12	3
Gr.15	1-61054-15	Düden Turn-Only Espagnolette 7,5/1500	1500	1500	1600	12	3
Gr.16	1-61054-16	Düden Turn-Only Espagnolette 7,5/1600	1600	1600	1800	13	4
Gr.18	1-61054-18	Düden Turn-Only Espagnolette 7,5/1800	1800	1800	2000	14	4
Gr.20	1-61054-20	Düden Turn-Only Espagnolette 7,5/2000	2000	2000	2200	16	4

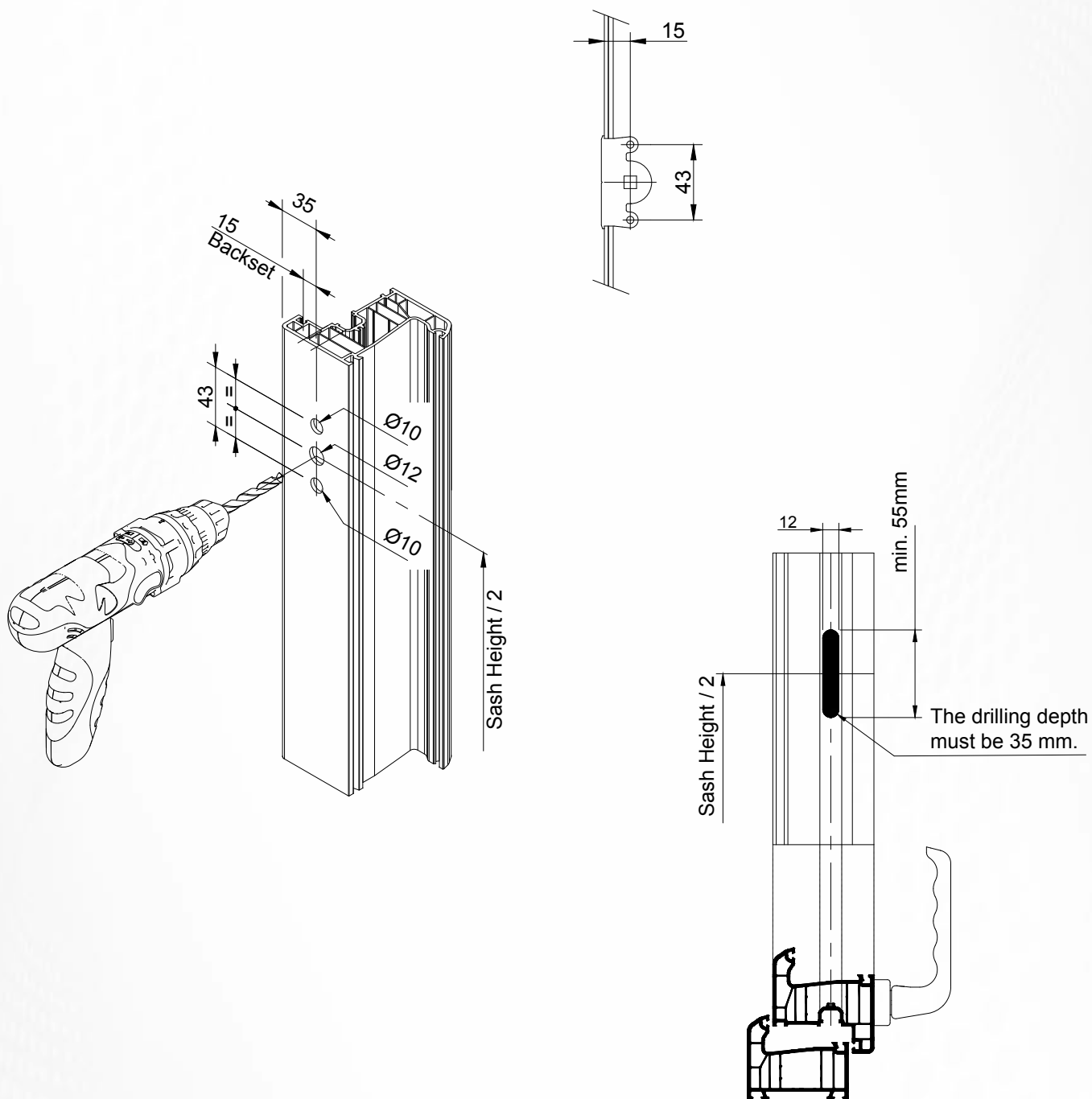
Tilt&Turn Espagnolette 7.5 Axis

2b

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.05	1-19107-05	Kale Safir Plus Tilt&Turn Espagnolette 7,5/ 600	546	470	800	0	0
Gr.08	1-19107-08	Kale Safir Plus Tilt&Turn Espagnolette 7,5/800	846	700	1100	2	1
Gr.10	1-19107-10	Kale Safir Plus Tilt&Turn Espagnolette 7,5/1000	1146	1000	1400	5	2
Gr.14	1-19107-14	Kale Safir Plus Tilt&Turn Espagnolette 7,5/1400	1546	1400	1800	9	3
Gr.18	1-19107-18	Kale Safir Plus Tilt&Turn Espagnolette 7,5/1800	1946	1800	2200	12	3
Gr.20	1-19107-20	Kale Safir Plus Tilt&Turn Espagnolette 7,5/2000	2146	2000	2400	13	3



Espagnolette Handle Slot Preparation 15 Axis



Note: All dimensions are in millimetre.

Espagnolette 15 Axis 1

Tilt&Turn Espagnolette 15 Axis

2c

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.05	1-19115-05	Kale Safir Plus Tilt&Turn Espagnolette 15/ 600	546	470	800	0	0
Gr.08	1-19115-08	Kale Safir Plus Tilt&Turn Espagnolette 15/800	846	700	1100	2	1
Gr.10	1-19115-10	Kale Safir Plus Tilt&Turn Espagnolette 15/1000	1146	1000	1400	5	2
Gr.14	1-19115-14	Kale Safir Plus Tilt&Turn Espagnolette 15/1400	1546	1400	1800	9	3
Gr.18	1-19115-18	Kale Safir Plus Tilt&Turn Espagnolette 15/1800	1946	1800	2200	12	3
Gr.20	1-19115-20	Kale Safir Plus Tilt&Turn Espagnolette 15/2000	2146	2000	2400	13	3

Turn-Only Espagnolette 15 Axis

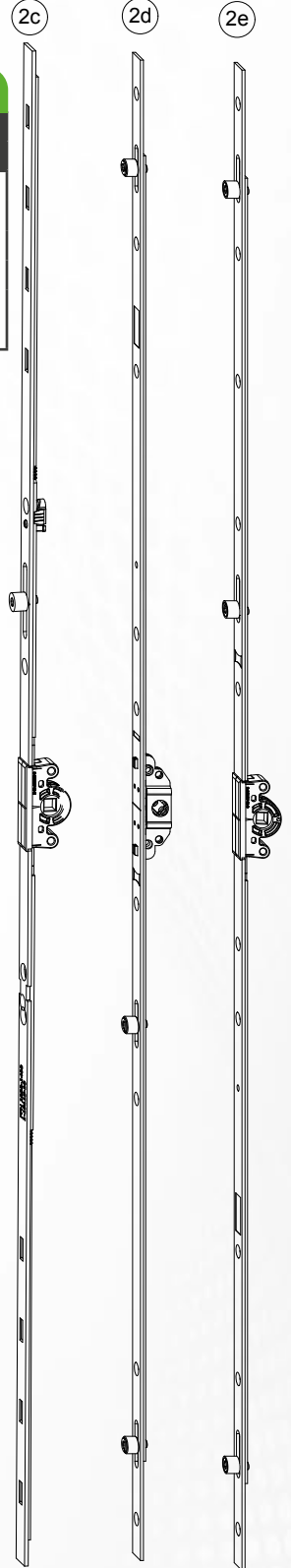
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Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61052-02	Göksu Turn-Only Espagnolette 15/200	250	250	400	4	2
Gr.04	1-61052-04	Göksu Turn-Only Espagnolette 15/400	400	400	600	4	2
Gr.06	1-61052-06	Göksu Turn-Only Espagnolette 15/600	600	600	800	6	2
Gr.08	1-61052-08	Göksu Turn-Only Espagnolette 15/800	800	800	900	7	2
Gr.09	1-61052-09	Göksu Turn-Only Espagnolette 15/900	900	900	1000	8	3
Gr.10	1-61052-10	Göksu Turn-Only Espagnolette 15/1000	1000	1000	1100	9	3
Gr.11	1-61052-11	Göksu Turn-Only Espagnolette 15/1100	1100	1100	1200	10	3
Gr.12	1-61052-12	Göksu Turn-Only Espagnolette 15/1200	1200	1200	1300	10	3
Gr.13	1-61052-13	Göksu Turn-Only Espagnolette 15/1300	1300	1300	1400	10	3
Gr.14	1-61052-14	Göksu Turn-Only Espagnolette 15/1400	1400	1400	1500	11	3
Gr.15	1-61052-15	Göksu Turn-Only Espagnolette 15/1500	1500	1500	1600	12	3
Gr.16	1-61052-16	Göksu Turn-Only Espagnolette 15/1600	1600	1600	1800	13	4
Gr.18	1-61052-18	Göksu Turn-Only Espagnolette 15/1800	1800	1800	2000	14	4
Gr.20	1-61052-20	Göksu Turn-Only Espagnolette 15/2000	2000	2000	2200	16	4

Turn-Only Espagnolette 15 Axis

2e

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61053-02	Düden Turn-Only Espagnolette 15/200	200	200	400	4	2
Gr.04	1-61053-04	Düden Turn-Only Espagnolette 15/400	400	400	600	4	2
Gr.06	1-61053-06	Düden Turn-Only Espagnolette 15/600	600	600	800	6	2
Gr.08	1-61053-08	Düden Turn-Only Espagnolette 15/800	800	800	900	8	2
Gr.09	1-61053-09	Düden Turn-Only Espagnolette 15/900	900	900	1000	8	3
Gr.10	1-61053-10	Düden Turn-Only Espagnolette 15/1000	1000	1000	1100	10	3
Gr.11	1-61053-11	Düden Turn-Only Espagnolette 15/1100	1100	1100	1200	10	3
Gr.12	1-61053-12	Düden Turn-Only Espagnolette 15/1200	1200	1200	1300	10	3
Gr.13	1-61053-13	Düden Turn-Only Espagnolette 15/1300	1300	1300	1400	10	3
Gr.14	1-61053-14	Düden Turn-Only Espagnolette 15/1400	1400	1400	1500	12	3
Gr.15	1-61053-15	Düden Turn-Only Espagnolette 15/1500	1500	1500	1600	12	3
Gr.16	1-61053-16	Düden Turn-Only Espagnolette 15/1600	1600	1600	1800	13	4
Gr.18	1-61053-18	Düden Turn-Only Espagnolette 15/1800	1800	1800	2000	14	4
Gr.20	1-61053-20	Düden Turn-Only Espagnolette 15/2000	2000	2000	2200	16	4



Espagnolette 15 Axis 2



Turn-Only Espagnolette 15 Axis							2i
Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61042-02	Ilgaz Turn-Only Espagnolette 250	250	250	400	2	4
Gr.04	1-61042-04	Ilgaz Turn-Only Espagnolette 400	400	400	600	2	4
Gr.06	1-61042-06	Ilgaz Turn-Only Espagnolette 600	600	600	800	2	7
Gr.08	1-61042-08	Ilgaz Turn-Only Espagnolette 800	800	800	900	2	9
Gr.09	1-61042-09	Ilgaz Turn-Only Espagnolette 900	900	900	1000	2	9
Gr.10	1-61042-10	Ilgaz Turn-Only Espagnolette 1000	1000	1000	1100	2	9
Gr.11	1-61042-11	Ilgaz Turn-Only Espagnolette 1100	1100	1100	1200	3	9
Gr.12	1-61042-12	Ilgaz Turn-Only Espagnolette 1200	1200	1200	1300	3	10
Gr.13	1-61042-13	Ilgaz Turn-Only Espagnolette 1300	1300	1300	1400	3	10
Gr.14	1-61042-14	Ilgaz Turn-Only Espagnolette 1400	1400	1400	1500	3	10
Gr.15	1-61042-15	Ilgaz Turn-Only Espagnolette 1500	1500	1500	1600	3	12
Gr.16	1-61042-16	Ilgaz Turn-Only Espagnolette 1600	1600	1600	1800	4	14
Gr.18	1-61042-18	Ilgaz Turn-Only Espagnolette 1800	1800	1800	2000	4	14
Gr.20	1-61042-20	Ilgaz Turn-Only Espagnolette 2000	2000	2000	2200	4	14

Safe Turn-Only Espagnolette 15 Axis							2j
Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61046-02	Ilgaz Safe Turn-Only Espagnolette 250	250	250	400	2	4
Gr.04	1-61046-04	Ilgaz Safe Turn-Only Espagnolette 400	400	400	600	2	4
Gr.06	1-61046-06	Ilgaz Safe Turn-Only Espagnolette 600	600	600	800	2	7
Gr.08	1-61046-08	Ilgaz Safe Turn-Only Espagnolette 800	800	800	900	2	9
Gr.09	1-61046-09	Ilgaz Safe Turn-Only Espagnolette 900	900	900	1000	2	9
Gr.10	1-61046-10	Ilgaz Safe Turn-Only Espagnolette 1000	1000	1000	1100	2	9
Gr.11	1-61046-11	Ilgaz Safe Turn-Only Espagnolette 1100	1100	1100	1200	3	9
Gr.12	1-61046-12	Ilgaz Safe Turn-Only Espagnolette 1200	1200	1200	1300	3	10
Gr.13	1-61046-13	Ilgaz Safe Turn-Only Espagnolette 1300	1300	1300	1400	3	10
Gr.14	1-61046-14	Ilgaz Safe Turn-Only Espagnolette 1400	1400	1400	1500	3	10
Gr.15	1-61046-15	Ilgaz Safe Turn-Only Espagnolette 1500	1500	1500	1600	3	12
Gr.16	1-61046-16	Ilgaz Safe Turn-Only Espagnolette 1600	1600	1600	1800	4	14
Gr.18	1-61046-18	Ilgaz Safe Turn-Only Espagnolette 1800	1800	1800	2000	4	14
Gr.20	1-61046-20	Ilgaz Safe Turn-Only Espagnolette 2000	2000	2000	2200	4	14

Turn-Only Slide Espagnolette 15 Axis							2k
Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61045-02	Ilgaz Slide Espagnolette 250	250	250	400	2	4
Gr.04	1-61045-04	Ilgaz Slide Espagnolette 400	400	400	600	2	4
Gr.06	1-61045-06	Ilgaz Slide Espagnolette 600	600	600	800	2	7
Gr.08	1-61045-08	Ilgaz Slide Espagnolette 800	800	800	900	2	9
Gr.09	1-61045-09	Ilgaz Slide Espagnolette 900	900	900	1000	2	9
Gr.10	1-61045-10	Ilgaz Slide Espagnolette 1000	1000	1000	1100	2	9
Gr.11	1-61045-11	Ilgaz Slide Espagnolette 1100	1100	1100	1200	3	9
Gr.12	1-61045-12	Ilgaz Slide Espagnolette 1200	1200	1200	1300	3	10
Gr.13	1-61045-13	Ilgaz Slide Espagnolette 1300	1300	1300	1400	3	10
Gr.14	1-61045-14	Ilgaz Slide Espagnolette 1400	1400	1400	1500	3	10
Gr.15	1-61045-15	Ilgaz Slide Espagnolette 1500	1500	1500	1600	3	12
Gr.16	1-61045-16	Ilgaz Slide Espagnolette 1600	1600	1600	1800	4	14
Gr.18	1-61045-18	Ilgaz Slide Espagnolette 1800	1800	1800	2000	4	14
Gr.20	1-61045-20	Ilgaz Slide Espagnolette 2000	2000	2000	2200	4	14

Turn-Only Non-Pin Slide Espagnolette 15 Axis							2m
Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61045-02-P	Ilgaz Non-Pin Slide Espagnolette 250	250	250	400	2	4
Gr.04	1-61045-04-P	Ilgaz Non-Pin Slide Espagnolette 400	400	400	600	2	4
Gr.06	1-61045-06-P	Ilgaz Non-Pin Slide Espagnolette 600	600	600	800	2	7
Gr.08	1-61045-08-P	Ilgaz Non-Pin Slide Espagnolette 800	800	800	900	2	9
Gr.09	1-61045-09-P	Ilgaz Non-Pin Slide Espagnolette 900	900	900	1000	2	9
Gr.10	1-61045-10-P	Ilgaz Non-Pin Slide Espagnolette 1000	1000	1000	1100	2	9
Gr.11	1-61045-11-P	Ilgaz Non-Pin Slide Espagnolette 1100	1100	1100	1200	3	9
Gr.12	1-61045-12-P	Ilgaz Non-Pin Slide Espagnolette 1200	1200	1200	1300	3	10
Gr.13	1-61045-13-P	Ilgaz Non-Pin Slide Espagnolette 1300	1300	1300	1400	3	10
Gr.14	1-61045-14-P	Ilgaz Non-Pin Slide Espagnolette 1400	1400	1400	1500	3	10
Gr.15	1-61045-15-P	Ilgaz Non-Pin Slide Espagnolette 1500	1500	1500	1600	3	12
Gr.16	1-61045-16-P	Ilgaz Non-Pin Slide Espagnolette 1600	1600	1600	1800	4	14
Gr.18	1-61045-18-P	Ilgaz Non-Pin Slide Espagnolette 1800	1800	1800	2000	4	14
Gr.20	1-61045-20-P	Ilgaz Non-Pin Slide Espagnolette 2000	2000	2000	2200	4	14

Turn-Only Slide Espagnolette H12.5 mm 15 Axis

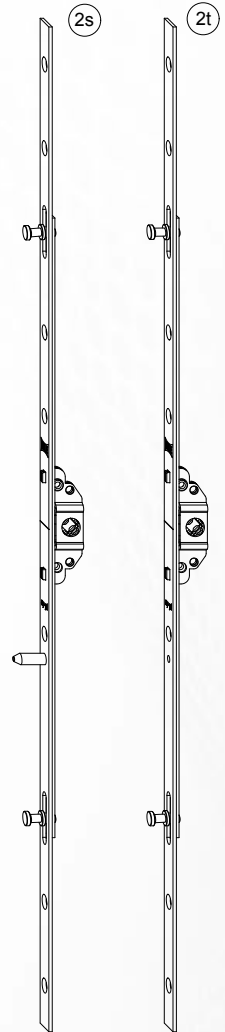
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Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.04	1-61047-04	İlgaz Slide Espagnolette 400, H12,5	400	400	600	2	4
Gr.06	1-61047-06	İlgaz Slide Espagnolette 600, H12,5	600	600	800	2	7
Gr.08	1-61047-08	İlgaz Slide Espagnolette 800, H12,5	800	800	900	2	9
Gr.09	1-61047-09	İlgaz Slide EspagnoletteT 900, H12,5	900	900	1000	2	9
Gr.10	1-61047-10	İlgaz Slide Espagnolette 1000, H12,5	1000	1000	1100	2	9
Gr.11	1-61047-11	İlgaz Slide Espagnolette 1100, H12,5	1100	1100	1200	3	9
Gr.12	1-61047-12	İlgaz Slide Espagnolette 1200, H12,5	1200	1200	1300	3	10
Gr.13	1-61047-13	İlgaz Slide Espagnolette 1300, H12,5	1300	1300	1400	3	10
Gr.14	1-61047-14	İlgaz Slide Espagnolette 1400, H12,5	1400	1400	1500	3	10
Gr.15	1-61047-15	İlgaz Slide Espagnolette 1500, H12,5	1500	1500	1600	3	12
Gr.16	1-61047-16	İlgaz Slide Espagnolette 1600, H12,5	1600	1600	1800	4	14
Gr.18	1-61047-18	İlgaz Slide Espagnolette 1800, H12,5	1800	1800	2000	4	14
Gr.20	1-61047-20	İlgaz Slide Espagnolette 2000, H12,5	2000	2000	2200	4	14

Turn-Only Non-Pin Slide Espagnolette H12.5 mm 15 Axis

2t

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.04	1-61047-04-P	İlgaz Non-Pin Slide Espagnolette 400, H12,5	400	400	600	2	4
Gr.06	1-61047-06-P	İlgaz Non-Pin Slide Espagnolette 600, H12,5	600	600	800	2	7
Gr.08	1-61047-08-P	İlgaz Non-Pin Slide Espagnolette 800, H12,5	800	800	900	2	9
Gr.09	1-61047-09-P	İlgaz Non-Pin Slide EspagnoletteT 900, H12,5	900	900	1000	2	9
Gr.10	1-61047-10-P	İlgaz Non-Pin Slide Espagnolette 1000, H12,5	1000	1000	1100	2	9
Gr.11	1-61047-11-P	İlgaz Non-Pin Slide Espagnolette 1100, H12,5	1100	1100	1200	3	9
Gr.12	1-61047-12-P	İlgaz Non-Pin Slide Espagnolette 1200, H12,5	1200	1200	1300	3	10
Gr.13	1-61047-13-P	İlgaz Non-Pin Slide Espagnolette 1300, H12,5	1300	1300	1400	3	10
Gr.14	1-61047-14-P	İlgaz Non-Pin Slide Espagnolette 1400, H12,5	1400	1400	1500	3	10
Gr.15	1-61047-15-P	İlgaz Non-Pin Slide Espagnolette 1500, H12,5	1500	1500	1600	3	12
Gr.16	1-61047-16-P	İlgaz Non-Pin Slide Espagnolette 1600, H12,5	1600	1600	1800	4	14
Gr.18	1-61047-18-P	İlgaz Non-Pin Slide Espagnolette 1800, H12,5	1800	1800	2000	4	14
Gr.20	1-61047-20-P	İlgaz Non-Pin Slide Espagnolette 2000, H12,5	2000	2000	2200	4	14



Espagnolette 15 Axis WK

Safe Tilt&Turn Espagnolette 15 Axis

2f

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.05	1-19101-05	Kale Safir Plus Safe Tilt&Turn Espagnolette 15/600	546	470	800	0	0
Gr.08	1-19101-08	Kale Safir Plus Safe Tilt&Turn Espagnolette 15/800	846	700	1100	2	1
Gr.10	1-19101-10	Kale Safir Plus Safe Tilt&Turn Espagnolette 15/1000	1146	1000	1400	5	2
Gr.14	1-19101-14	Kale Safir Plus Safe Tilt&Turn Espagnolette 15/1400	1546	1400	1800	9	3
Gr.18	1-19101-18	Kale Safir Plus Safe Tilt&Turn Espagnolette 15/1800	1946	1800	2200	12	3
Gr.20	1-19101-20	Kale Safir Plus Safe Tilt&Turn Espagnolette 15/2000	2146	2000	2400	13	3

Safe Turn-Only Espagnolette 15 Axis

2g

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61056-02	Göksu Safe Turn-Only Espagnolette 15/200	250	250	400	4	2
Gr.04	1-61056-04	Göksu Safe Turn-Only Espagnolette 15/400	400	400	600	4	2
Gr.06	1-61056-06	Göksu Safe Turn-Only Espagnolette 15/600	600	600	800	6	2
Gr.08	1-61056-08	Göksu Safe Turn-Only Espagnolette 15/800	800	800	900	7	2
Gr.09	1-61056-09	Göksu Safe Turn-Only Espagnolette 15/900	900	900	1000	8	3
Gr.10	1-61056-10	Göksu Safe Turn-Only Espagnolette 15/1000	1000	1000	1100	9	3
Gr.11	1-61056-11	Göksu Safe Turn-Only Espagnolette 15/1100	1100	1100	1200	10	3
Gr.12	1-61056-12	Göksu Safe Turn-Only Espagnolette 15/1200	1200	1200	1300	10	3
Gr.13	1-61056-13	Göksu Safe Turn-Only Espagnolette 15/1300	1300	1300	1400	10	3
Gr.14	1-61056-14	Göksu Safe Turn-Only Espagnolette 15/1400	1400	1400	1500	11	3
Gr.15	1-61056-15	Göksu Safe Turn-Only Espagnolette 15/1500	1500	1500	1600	12	3
Gr.16	1-61056-16	Göksu Safe Turn-Only Espagnolette 15/1600	1600	1600	1800	13	4
Gr.18	1-61056-18	Göksu Safe Turn-Only Espagnolette 15/1800	1800	1800	2000	14	4
Gr.20	1-61056-20	Göksu Safe Turn-Only Espagnolette 15/2000	2000	2000	2200	16	4

Safe Turn-Only Espagnolette 15 Axis

2h

Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.02	1-61045-02	Düden Safe Turn-Only Espagnolette 15/200	200	200	400	4	2
Gr.04	1-61045-04	Düden Safe Turn-Only Espagnolette 15/400	400	400	600	4	2
Gr.06	1-61045-06	Düden Safe Turn-Only Espagnolette 15/600	600	600	800	6	2
Gr.08	1-61045-08	Düden Safe Turn-Only Espagnolette 15/800	800	800	900	8	2
Gr.09	1-61045-09	Düden Safe Turn-Only Espagnolette 15/900	900	900	1000	8	3
Gr.10	1-61045-10	Düden Safe Turn-Only Espagnolette 15/1000	1000	1000	1100	10	3
Gr.11	1-61045-11	Düden Safe Turn-Only Espagnolette 15/1100	1100	1100	1200	10	3
Gr.12	1-61045-12	Düden Safe Turn-Only Espagnolette 15/1200	1200	1200	1300	10	3
Gr.13	1-61045-13	Düden Safe Turn-Only Espagnolette 15/1300	1300	1300	1400	10	3
Gr.14	1-61045-14	Düden Safe Turn-Only Espagnolette 15/1400	1400	1400	1500	12	3
Gr.15	1-61045-15	Düden Safe Turn-Only Espagnolette 15/1500	1500	1500	1600	12	3
Gr.16	1-61045-16	Düden Safe Turn-Only Espagnolette 15/1600	1600	1600	1800	13	4
Gr.18	1-61045-18	Düden Safe Turn-Only Espagnolette 15/1800	1800	1800	2000	14	4
Gr.20	1-61045-20	Düden Safe Turn-Only Espagnolette 15/2000	2000	2000	2200	16	4

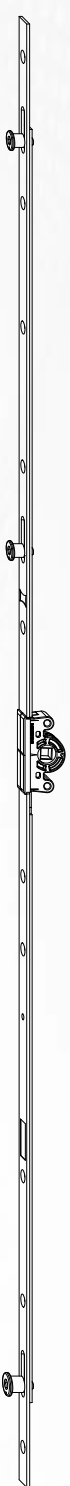
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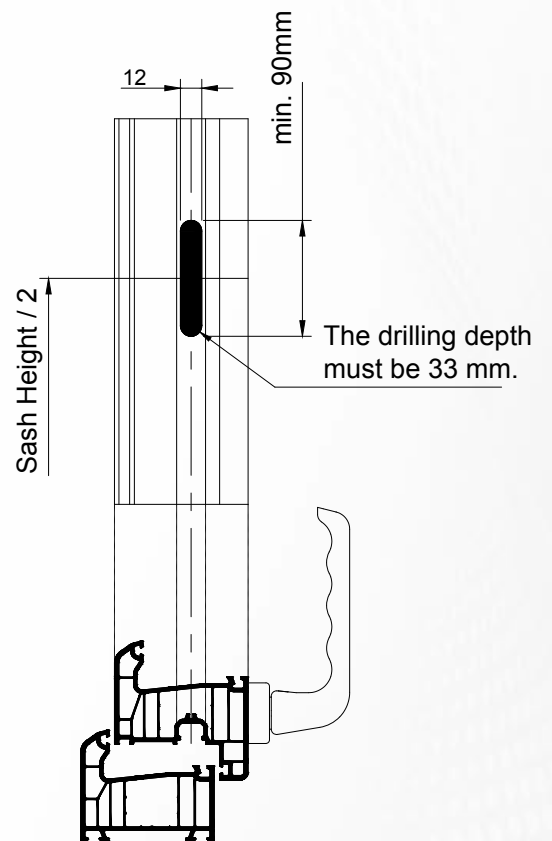
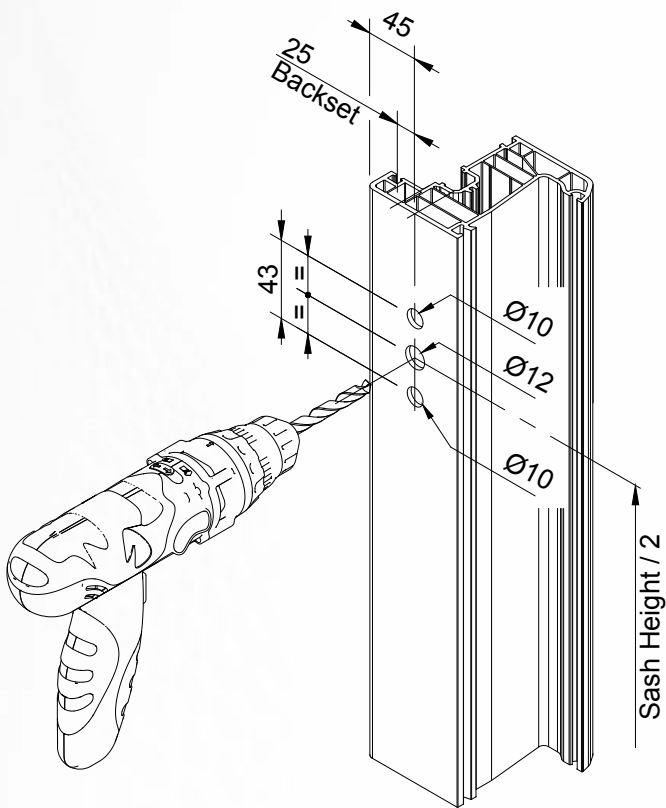
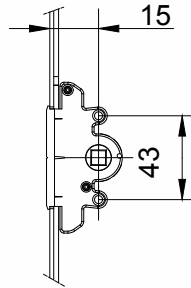
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2h



Espagnolette Handle Slot Preparation 25 Axis



Note: All dimensions are in millimetre.

Espagnolette 25 Axis

Turn-Only Espagnolette 25 Axis

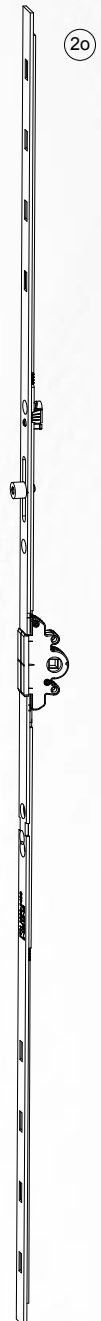
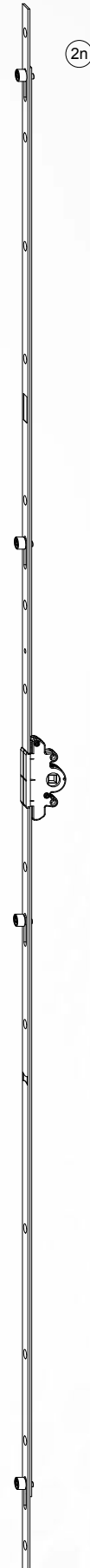
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Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.16	1-61067-16	1600 ZN 25 Turn-Only Espagnolette M5	1600	1600	1800	13	4
Gr.18	1-61067-18	1800ZN 25 Turn-Only Espagnolette M5	1800	1800	2000	14	4
Gr.20	1-61067-20	2000 ZN 25 Turn-Only Espagnolette M5	2000	2000	2200	15	4
Gr.16	1-61067-16-D	1600 ZN 25 Turn-Only Espagnolette Ø5	1600	1600	1800	13	4
Gr.18	1-61067-18-D	1800 ZN 25 Turn-Only Espagnolette Ø5	1800	1800	2000	14	4
Gr.20	1-61067-20-D	2000 ZN 25 Turn-Only Espagnolette Ø5	2000	2000	2200	15	4

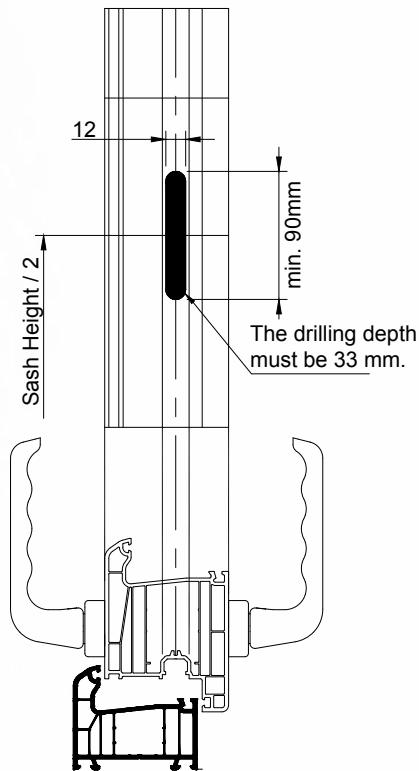
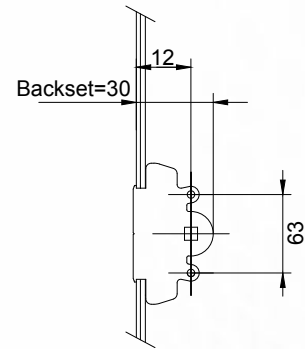
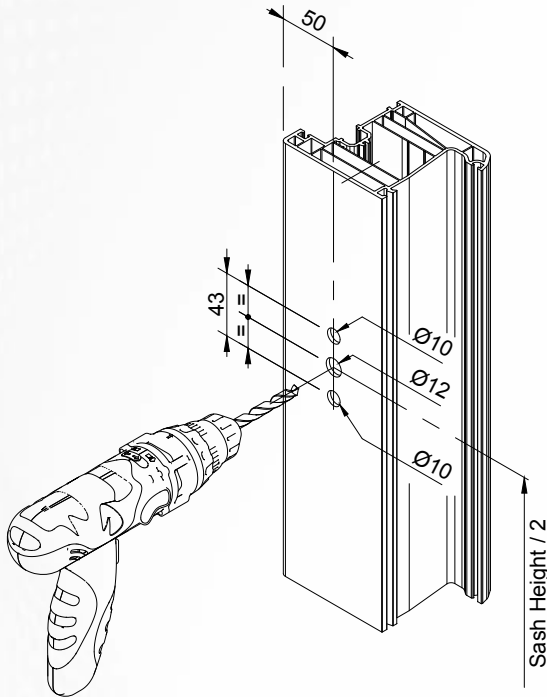
Turn&Tilt Espagnolette with a Handle in the Middle 25 Axis

2o

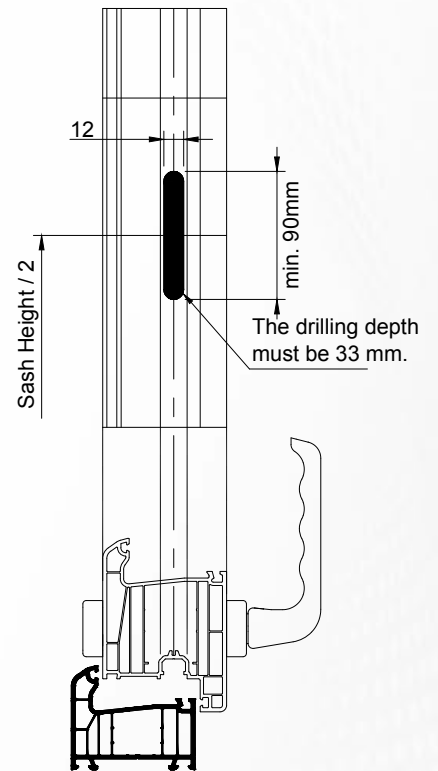
Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.16	1-19120-14	Kale Safir Plus-25 KYO 1400 Turn&Tilt Esp. with a Handle in the Middle M5	1546	1400	1800	9	3
Gr.18	1-19120-18	Kale Safir Plus-25 KYO 1800 Turn&Tilt Esp. with a Handle in the Middle M5	1946	1800	2200	12	3
Gr.20	1-19120-20	Kale Safir Plus-25 KYO 2000 Turn&Tilt Esp. with a Handle in the Middle M5	2146	2000	2400	13	3
Gr.16	1-19120-16-D	Kale Safir Plus-25 KYO 1400 Turn&Tilt Esp. with a Handle in the Middle Ø5	1546	1400	1800	9	3
Gr.18	1-19120-18-D	Kale Safir Plus-25 KYO 1800 Turn&Tilt Esp. with a Handle in the Middle Ø5	1946	1800	2200	12	3
Gr.20	1-19120-20-D	Kale Safir Plus-25 KYO 2000 Turn&Tilt Esp. with a Handle in the Middle Ø5	2146	2000	2400	13	3



Espagnolette Handle Slot Preparation with a Handle in the Middle-30 Axis



A one-side handle is used for M5 type



A one-side handle is used for Q5 type

Note: All dimensions are in millimetre.

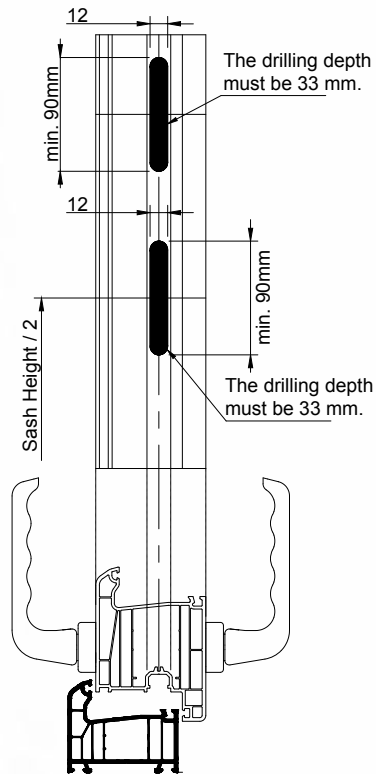
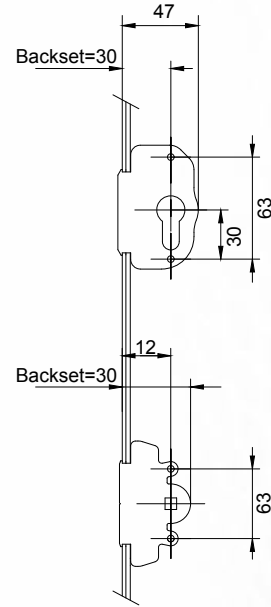
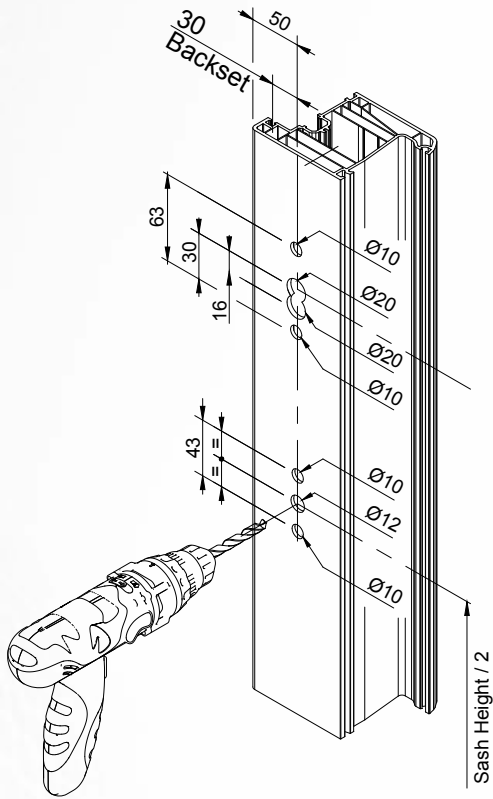
Espagnolette with a Handle in the Middle - 30 Axis

2p

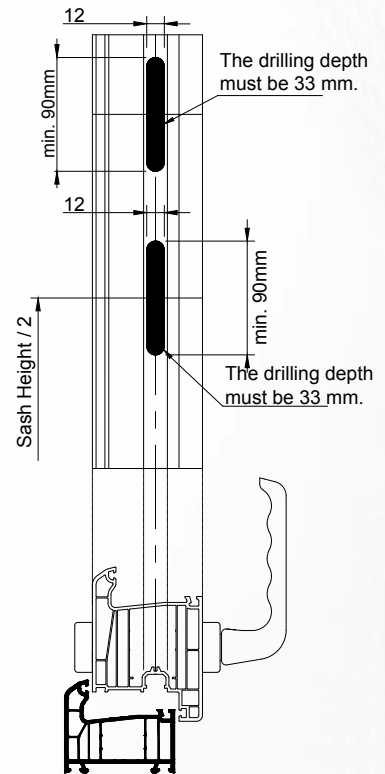


Tilt&Turn Espagnolette with a Handle in the Middle - 30 Axis							2p
Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.16	1-19119-14	Kale Safir Plus-30 KYO 1400 Tilt&Turn Espagnolette with a Handle in the Middle M5	1546	1400	1800	9	3
Gr.18	1-19119-18	Kale Safir Plus-30 KYO 1800 Tilt&Turn Espagnolette with a Handle in the Middle M5	1946	1800	2200	12	3
Gr.20	1-19119-20	Kale Safir Plus-30 KYO 2000 Tilt&Turn Espagnolette with a Handle in the Middle M5	2146	2000	2400	13	3
Gr.16	1-19119-14-D	Kale Safir Plus-30 KYO 1400 Tilt&Turn Espagnolette with a Handle in the Middle Ø5	1546	1400	1800	9	3
Gr.18	1-19119-18-D	Kale Safir Plus-30 KYO 1800 Tilt&Turn Espagnolette with a Handle in the Middle Ø5	1946	1800	2200	12	3
Gr.20	1-19119-20-D	Kale Safir Plus-30 KYO 2000 Tilt&Turn Espagnolette with a Handle in the Middle Ø5	2146	2000	2400	13	3

Lockable Espagnolette Handle Slot Preparation 30 Axis



A one-side handle is used for M5 type



A one-side handle is used for Ø5 type

Note: All dimensions are in millimetre.

Lockable Espagnolette 30 Axis

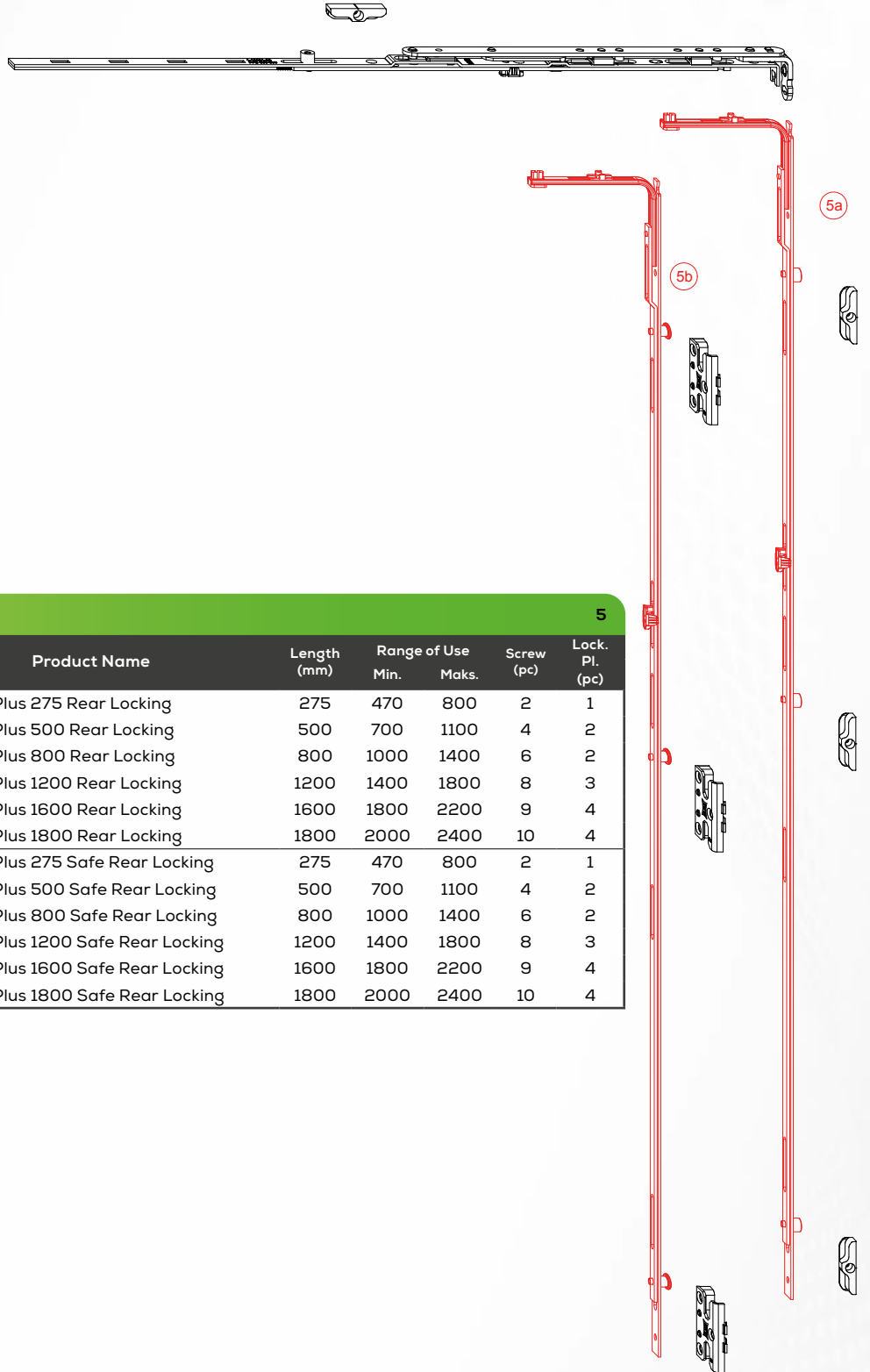
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Tilt&Turn Lockable Espagnolette 30 Axis

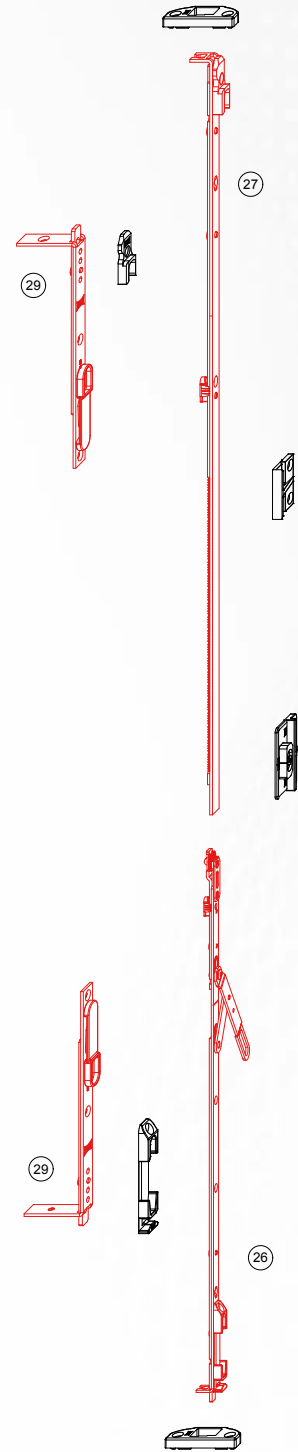
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Description	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
				Min.	Maks.		
Gr.16	1-19118-14	Kale Safir Plus-25 Tilt&Turn 1400 Lockable Espagnolette M5	1546	1400	1800	9	3
Gr.18	1-19118-18	Kale Safir Plus-25 Tilt&Turn 1800 Lockable Espagnolette M5	1946	1800	2200	12	3
Gr.20	1-19118-20	Kale Safir Plus-25 Tilt&Turn 2000 Lockable Espagnolette M5	2146	2000	2400	13	3
Gr.16	1-19118-14-D	Kale Safir Plus-25 Tilt&Turn 1400 Lockable Espagnolette Ø5	1546	1400	1800	9	3
Gr.18	1-19118-18-D	Kale Safir Plus-25 Tilt&Turn 1800 Lockable Espagnolette Ø5	1946	1800	2200	12	3
Gr.20	1-19118-20-D	Kale Safir Plus-25 Tilt&Turn 2000 Lockable Espagnolette Ø5	2146	2000	2400	13	3



Kale Safir Plus Rear Locking								5
No	Class	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
					Min.	Maks.		
5a	Gr.01	1-19051-02	Kale Safir Plus 275 Rear Locking	275	470	800	2	1
	Gr.02	1-19051-05	Kale Safir Plus 500 Rear Locking	500	700	1100	4	2
	Gr.03	1-19051-08	Kale Safir Plus 800 Rear Locking	800	1000	1400	6	2
	Gr.04	1-19051-12	Kale Safir Plus 1200 Rear Locking	1200	1400	1800	8	3
	Gr.05	1-19051-16	Kale Safir Plus 1600 Rear Locking	1600	1800	2200	9	4
	Gr.06	1-19051-18	Kale Safir Plus 1800 Rear Locking	1800	2000	2400	10	4
5b	Gr.01	1-19052-02	Kale Safir Plus 275 Safe Rear Locking	275	470	800	2	1
	Gr.02	1-19052-05	Kale Safir Plus 500 Safe Rear Locking	500	700	1100	4	2
	Gr.03	1-19052-08	Kale Safir Plus 800 Safe Rear Locking	800	1000	1400	6	2
	Gr.04	1-19052-12	Kale Safir Plus 1200 Safe Rear Locking	1200	1400	1800	8	3
	Gr.05	1-19052-16	Kale Safir Plus 1600 Safe Rear Locking	1600	1800	2200	9	4
	Gr.06	1-19052-18	Kale Safir Plus 1800 Safe Rear Locking	1800	2000	2400	10	4

Double-Sash Espagnolette and Extension Piece



Double-Sash Slide 29 29

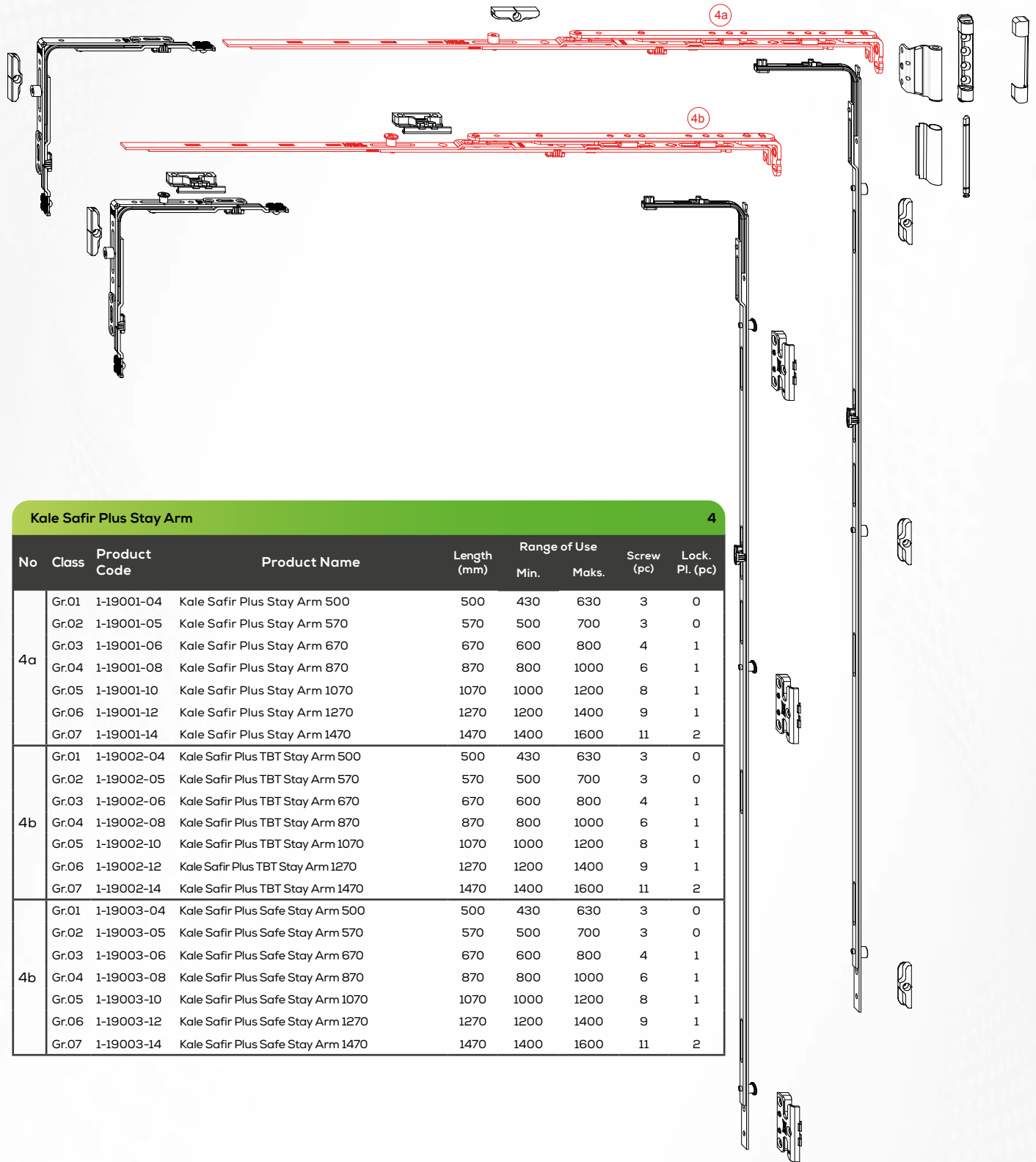
Product Code	Product Name	Length (mm)	Screw (pc)
1-11556-00	Double-Sash Slide 190	190	3

Kale Safir Plus Double-Sash Espagnolette 26

Description	Product Code	Product Name	Length (mm)	Screw (pc)
Gr.20	1-19201-20	Kale Safir Plus Double-Sash Espagnolette 200	350	4
Gr.40	1-19201-40	Kale Safir Plus Double-Sash Espagnolette 400	550	5
Gr.50	1-19201-50	Kale Safir Plus Double-Sash Espagnolette 500	650	5
Gr.100	1-19201-100	Kale Safir Plus Double-Sash Espagnolette 1000	1150	7

Kale Safir Plus Double-Sash Top Group 27

Description	Product Code	Product Name	Length (mm)	Screw (pc)	1-19201-20		1-19201-40		1-19201-50		1-19201-100	
					Min.	Maks.	Min.	Maks.	Min.	Maks.	Min.	Maks.
Gr.5	1-19256-05-001	Kale Safir Plus Double-Sash Top Group 500	500	2	600	800	800	1000	900	1100	1400	1600
Gr.6	1-19256-06-001	Kale Safir Plus Double-Sash Top Group 600	600	2	700	900	900	1100	1000	1200	1500	1700
Gr.7	1-19256-07-001	Kale Safir Plus Double-Sash Top Group 700	700	3	800	1000	1000	1200	1100	1300	1600	1800
Gr.8	1-19256-08-001	Kale Safir Plus Double-Sash Top Group 800	800	3	900	1100	1100	1300	1200	1400	1700	1900
Gr.9	1-19256-09-001	Kale Safir Plus Double-Sash Top Group 900	900	4	1000	1200	1200	1400	1300	1500	1800	2000
Gr.11	1-19256-11-001	Kale Safir Plus Double-Sash Top Group 1100	1100	5	1200	1400	1400	1600	1500	1700	2000	2200
Gr.13	1-19256-13-001	Kale Safir Plus Double-Sash Top Group 1300	1300	5	1400	1600	1600	1800	1700	1900	2200	2400
Gr.15	1-19256-15-001	Kale Safir Plus Double-Sash Top Group 1500	1500	6	1600	1800	1800	2000	1900	2100		
Gr.17	1-19256-17-001	Kale Safir Plus Double-Sash Top Group 1700	1700	7	1800	2000	2000	2200	2100	2300		
Gr.19	1-19256-19-001	Kale Safir Plus Double-Sash Top Group 1900	1900	8	2000	2200	2200	2400	2300	2500		
Gr.21	1-19256-21-001	Kale Safir Plus Double-Sash Top Group 2100	2100	9	2200	2400						



Kale Safir Plus Stay Arm

4

No	Class	Product Code	Product Name	Length (mm)	Range of Use		Screw (pc)	Lock. Pl. (pc)
					Min.	Maks.		
4a	Gr.01	1-19001-04	Kale Safir Plus Stay Arm 500	500	430	630	3	0
	Gr.02	1-19001-05	Kale Safir Plus Stay Arm 570	570	500	700	3	0
	Gr.03	1-19001-06	Kale Safir Plus Stay Arm 670	670	600	800	4	1
	Gr.04	1-19001-08	Kale Safir Plus Stay Arm 870	870	800	1000	6	1
	Gr.05	1-19001-10	Kale Safir Plus Stay Arm 1070	1070	1000	1200	8	1
	Gr.06	1-19001-12	Kale Safir Plus Stay Arm 1270	1270	1200	1400	9	1
	Gr.07	1-19001-14	Kale Safir Plus Stay Arm 1470	1470	1400	1600	11	2
4b	Gr.01	1-19002-04	Kale Safir Plus TBT Stay Arm 500	500	430	630	3	0
	Gr.02	1-19002-05	Kale Safir Plus TBT Stay Arm 570	570	500	700	3	0
	Gr.03	1-19002-06	Kale Safir Plus TBT Stay Arm 670	670	600	800	4	1
	Gr.04	1-19002-08	Kale Safir Plus TBT Stay Arm 870	870	800	1000	6	1
	Gr.05	1-19002-10	Kale Safir Plus TBT Stay Arm 1070	1070	1000	1200	8	1
	Gr.06	1-19002-12	Kale Safir Plus TBT Stay Arm 1270	1270	1200	1400	9	1
	Gr.07	1-19002-14	Kale Safir Plus TBT Stay Arm 1470	1470	1400	1600	11	2
4b	Gr.01	1-19003-04	Kale Safir Plus Safe Stay Arm 500	500	430	630	3	0
	Gr.02	1-19003-05	Kale Safir Plus Safe Stay Arm 570	570	500	700	3	0
	Gr.03	1-19003-06	Kale Safir Plus Safe Stay Arm 670	670	600	800	4	1
	Gr.04	1-19003-08	Kale Safir Plus Safe Stay Arm 870	870	800	1000	6	1
	Gr.05	1-19003-10	Kale Safir Plus Safe Stay Arm 1070	1070	1000	1200	8	1
	Gr.06	1-19003-12	Kale Safir Plus Safe Stay Arm 1270	1270	1200	1400	9	1
	Gr.07	1-19003-14	Kale Safir Plus Safe Stay Arm 1470	1470	1400	1600	11	2

Hinges

Stay Bearing Pin 9

Product Code	Product Name
1-33018-00-001	Kale Safir Plus Stay Bearing Pin

Stay Bearing 8

Product Code	Product Name	Sash (kg)	Screw (pc)
1-19275-00-00*	Kale Safir Plus Stay Bearing	130	4

Bottom Hinge 11

Product Code	Product Name	Sash (kg)	Screw (pc)
1-19422-00-00*	Kale Safir Plus Bottom Hinge	130	4

Corner Hinge 10

No	Product Code	Product Name	Screw (pc)
10a	1-19421-00-00*	Kale Safir Plus Corner Hinge	1
10b	1-11421-00-00*	Adjustable Corner Hinge	1
10c	1-11421-01-00*	Adjustable Corner Hinge with Long Pins	1

Stay Hinge 7

Product Code	Product Name
1-19254-13-00*	Kale Safir Plus Stay Hinge 13 Axis
1-19254-09-00*	Kale Safir Plus Stay Hinge 09 Axis

Double-Sash Adjustable Middle Hinge 25

Product Code	Product Name	Screw (pc)
1-19603-09-00*	Kale Safir Plus Double-Sash Adjustable Middle Hinge	2
1-19603-13-00*	Kale Safir Plus Double-Sash Adjustable Middle Hinge	2
1-19605-09-00*	Kale Safir Plus Double-Sash Adjustable Middle Hinge-2	2
1-19605-13-00*	Kale Safir Plus Double-Sash Adjustable Middle Hinge-2	2

Double-Sash Adjustable Upper Hinge 24

Product Code	Product Name	Screw (pc)
1-19601	Kale Safir Plus Double-Sash Adjustable Upper Hinge	4

Kale Safir Plus Ventilation Hinge 36

Product Code	Product Name	Screw (pc)
1-19609-09-00*	Kale Safir Plus Ventilation Hinge	2
1-19609-13-00*	Kale Safir Plus Ventilation Hinge	2

Corner Sash Hinge 8

Product Code	Product Name	Length (mm)	Screw (pc)
1-19604-13-L	Kale Safir Plus Corner Sash Hinge Left -13	134	5
1-19604-13-R	Kale Safir Plus Corner Sash Hinge Right -13	134	5
1-19604-09-L	Kale Safir Plus Corner Sash Hinge Left -09	134	5
1-19604-09-R	Kale Safir Plus Corner Sash Hinge Right -09	134	5

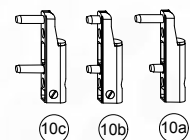
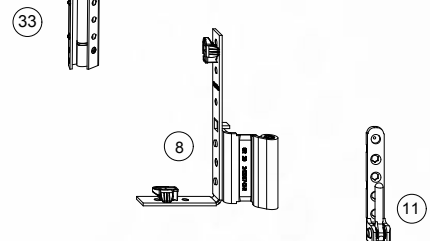
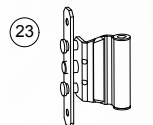
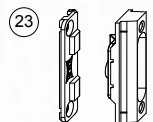
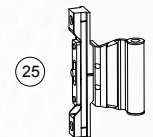
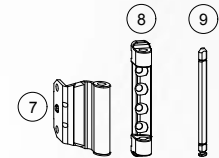
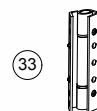
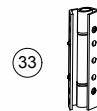
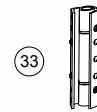
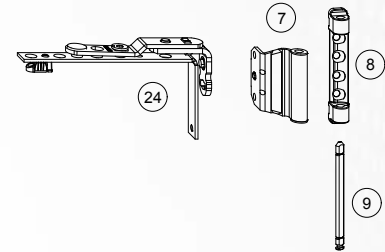
Double-Sash Concealed Middle Hinge 23

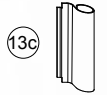
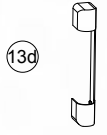
Product Code	Product Name	Screw (pc)
1-20006-13	Concealed Hinge 13	2
1-20006-09	Concealed Hinge 09	2

Steel Hinge 33

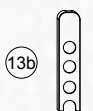
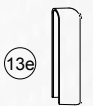
No	Product Code	Product Name	Length (mm)	Screw (pc)
33a	1-20001-00-00*	Centred Steel Hinge 73	73	5
33b	1-20004-00-00*	Non-Centred Sheet Hinge 73	73	5
33c	1-22009-00-00*	Centred Steel Hinge 90	90	7

(*)Colour Type	
0	Colourless
1	New silver (Plating)
2	Silver (Grey)
3	Moderate Bronze
4	Yellow (Golden/Brass)
5	Black-RAL 9011
6	Chocolate Brown -RAL 8014
7	Stainless
8	Traffic White-RAL 9016
9	Pale Beige RAL 1001
A	Clay Brown RAL-8003
B	Pearl White-RAL 1013
C	Special Colours
D	Light Beige
E	Champagne 2
F	Eloxal Mat
G	Golden Metal Plating
H	Under-Paint Coating
I	Graphite Grey-RAL 7024
J	Mahogany Brown-RAL 8016
K	Grey Brown-RAL 8019
L	Chocolate Brown - RAL 8017
M	Light Ivory-RAL 1015
N	Nickel
P	Window grey-RAL 7040
S	Champagne
T	Titan (Dark Grey)
R	Anthracite Grey (RAL 7016)
U	Jet Black (RAL 9005)
V	Traffic White RAL 9016
Y	Fir Green-RAL 6009
Z	Bronze

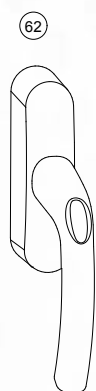




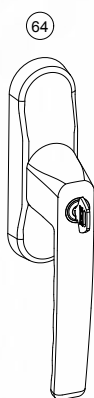
Covers		13
No	Product Code	Product Name
13a	1-41011-00-00*	Kale Safir Plus Bottom Hinge Cover
13b	1-41012-00-00*	Kale Safir Plus Bottom Hinge Body Cover
13c	1-41013-00-00*	Kale Safir Plus Stay Hinge Cover
13d	1-41014-00-00*	Kale Safir Plus Stay Bearing Cover
13e	1-41002-00-00*	Kale Safir Plus Corner Hinge Cover
13f	1-41005-00-00*	Corner Sash Hinge Cover
-	1-41016-00-00*	Kale Safir Plus Cover Set (5-unit set)



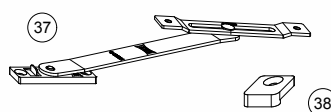
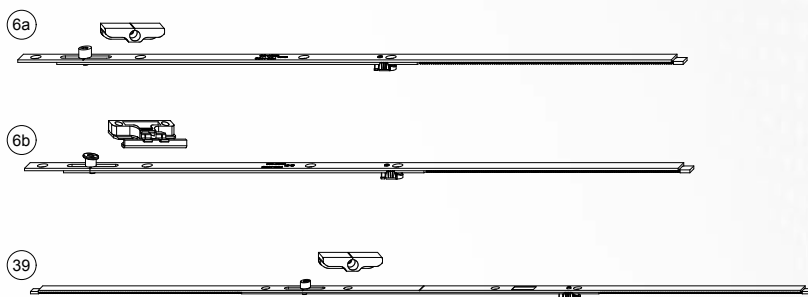
Window Accessories



TURQUOISE



TBT

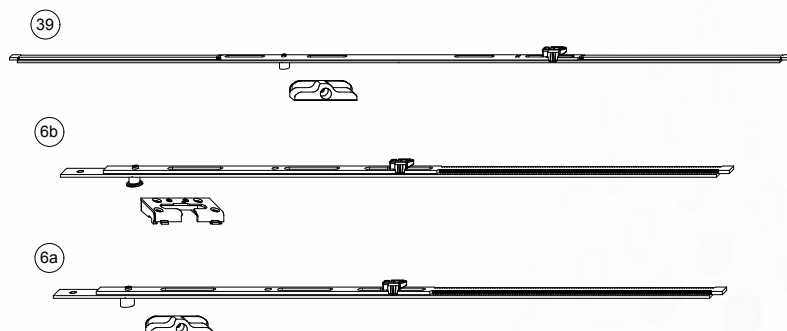
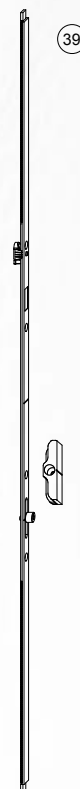


Ventilation Stay Arm			37
Product Code	Product Name	Screw (pc)	
1-20002-13	Ventilation Stay Arm 130	4	
1-20002-16	Ventilation Stay Arm 160	4	

Locking Plate Stopper			38
Product Code	Product Name	Screw (pc)	
1-34520-00	Locking Plate Stopper	1	

Extension Pieces					6
No	Product Code	Product Name	Length (mm)	Screw (pc)	
6a	1-11257-60	Locking Component A 600	600	4	
6b	1-11257-60-G	Safe Locking Component A 600	600	4	

Interconnecting Component					39
No	Product Code	Product Name	Length (mm)	Screw (pc)	
39	1-11251-04	Interconnecting Component 400	400	2	
39	1-11251-05	Interconnecting Component 580	580	2	
39	1-11251-09	Interconnecting Component 980	980	6	
39	1-11251-12	Interconnecting Component 1280	1280	8	
39	1-11251-16	Interconnecting Component 1680	1680	8	
39	1-11251-18	Interconnecting Component 1880	1880	10	
39	1-11251-20	Interconnecting Component 2080	2080	10	

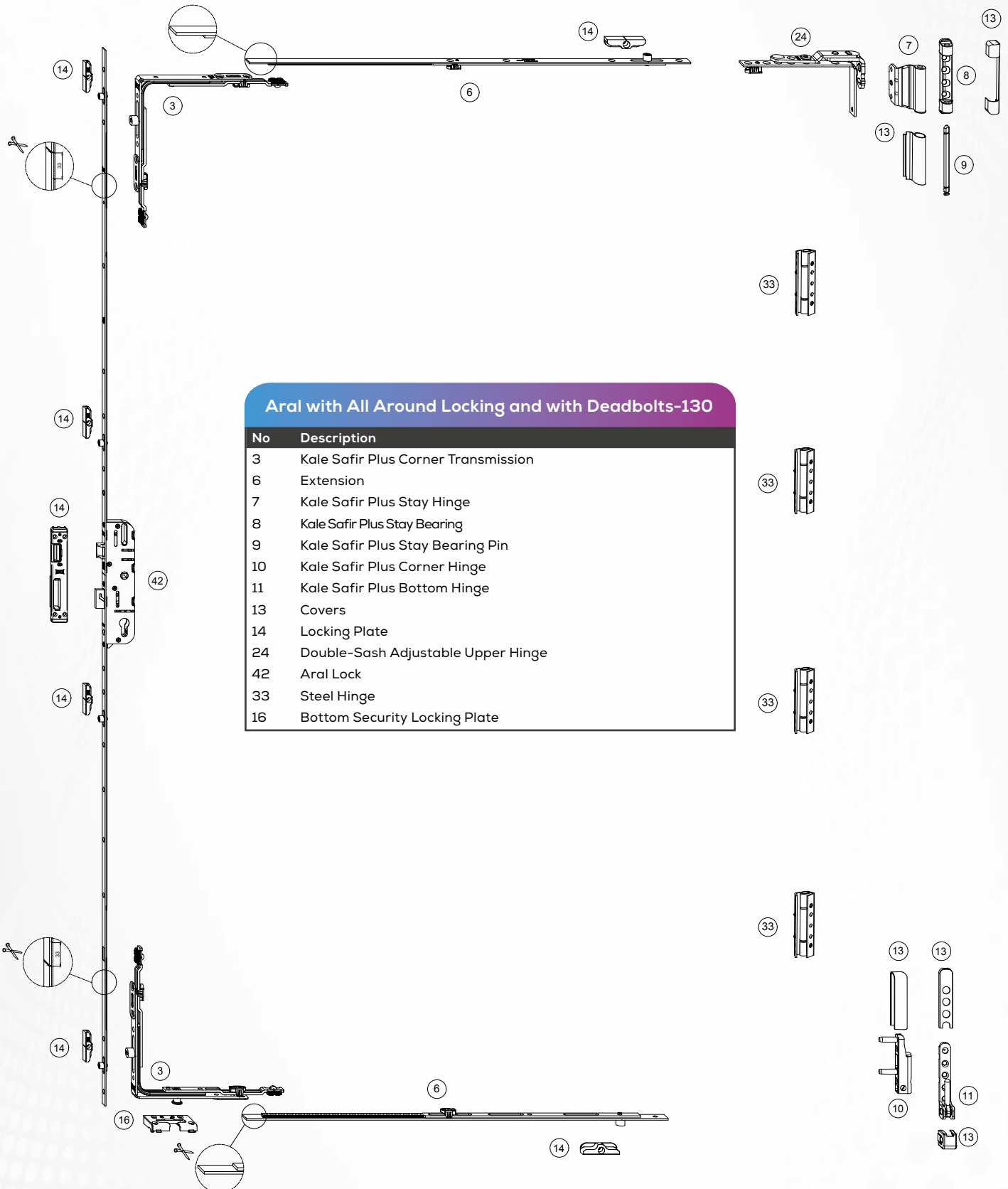




PVC/ WOODEN
DOOR SYSTEMS

LOCKED DOOR SYSTEMS

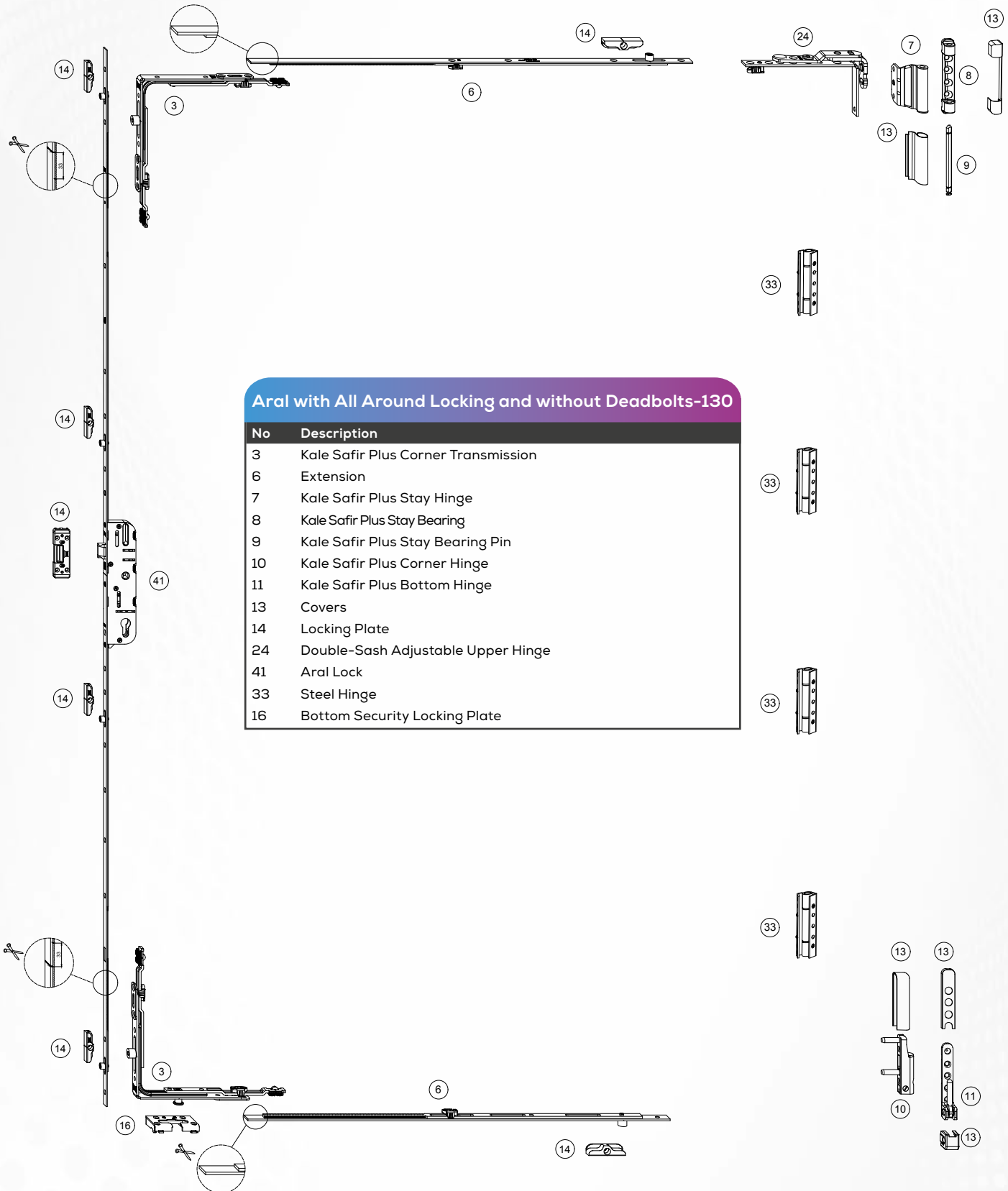
Aral with All Around Locking and with Deadbolts - 130



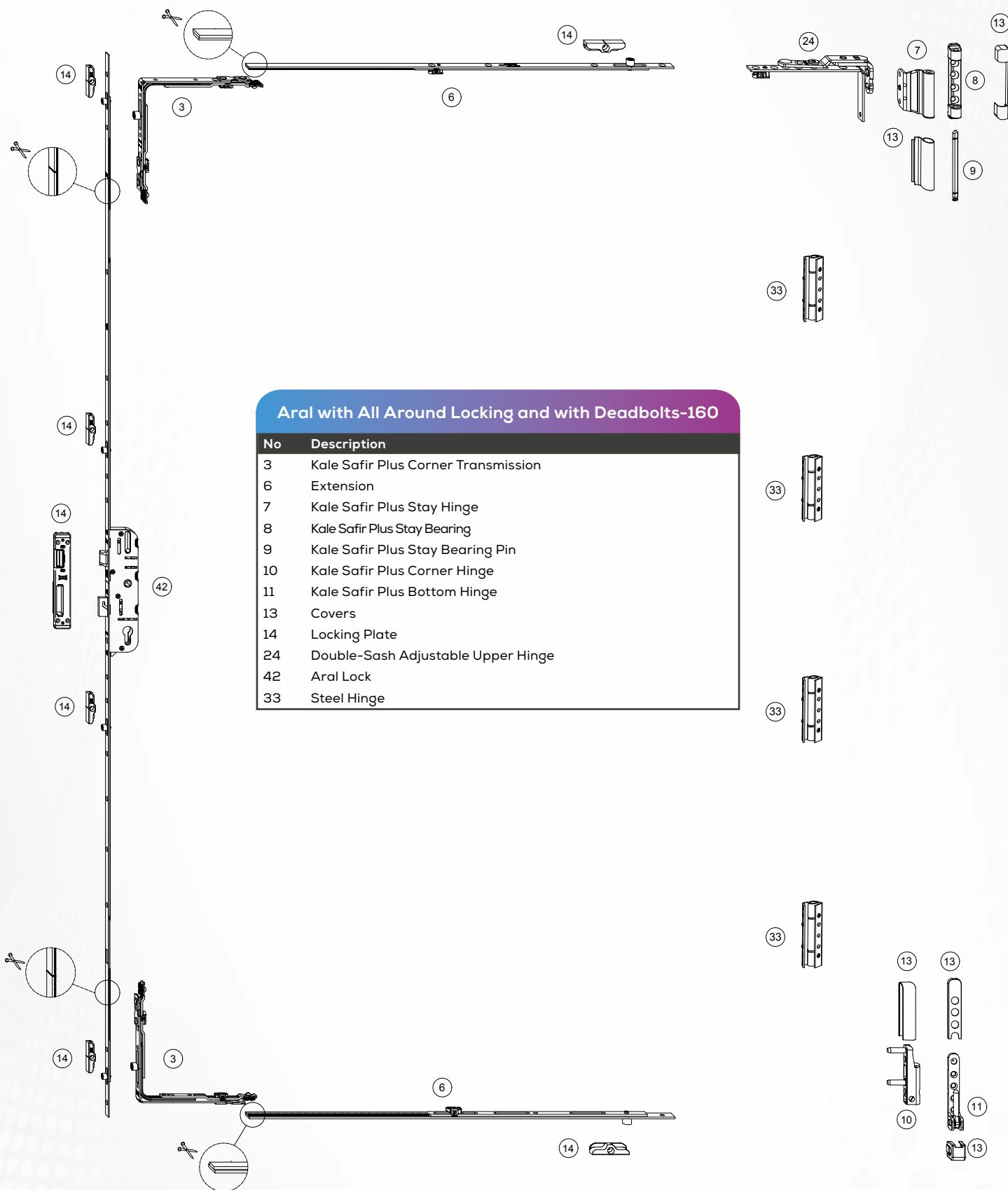
Aral with All Around Locking and with Deadbolts-130

No	Description
3	Kale Safir Plus Corner Transmission
6	Extension
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
42	Aral Lock
33	Steel Hinge
16	Bottom Security Locking Plate

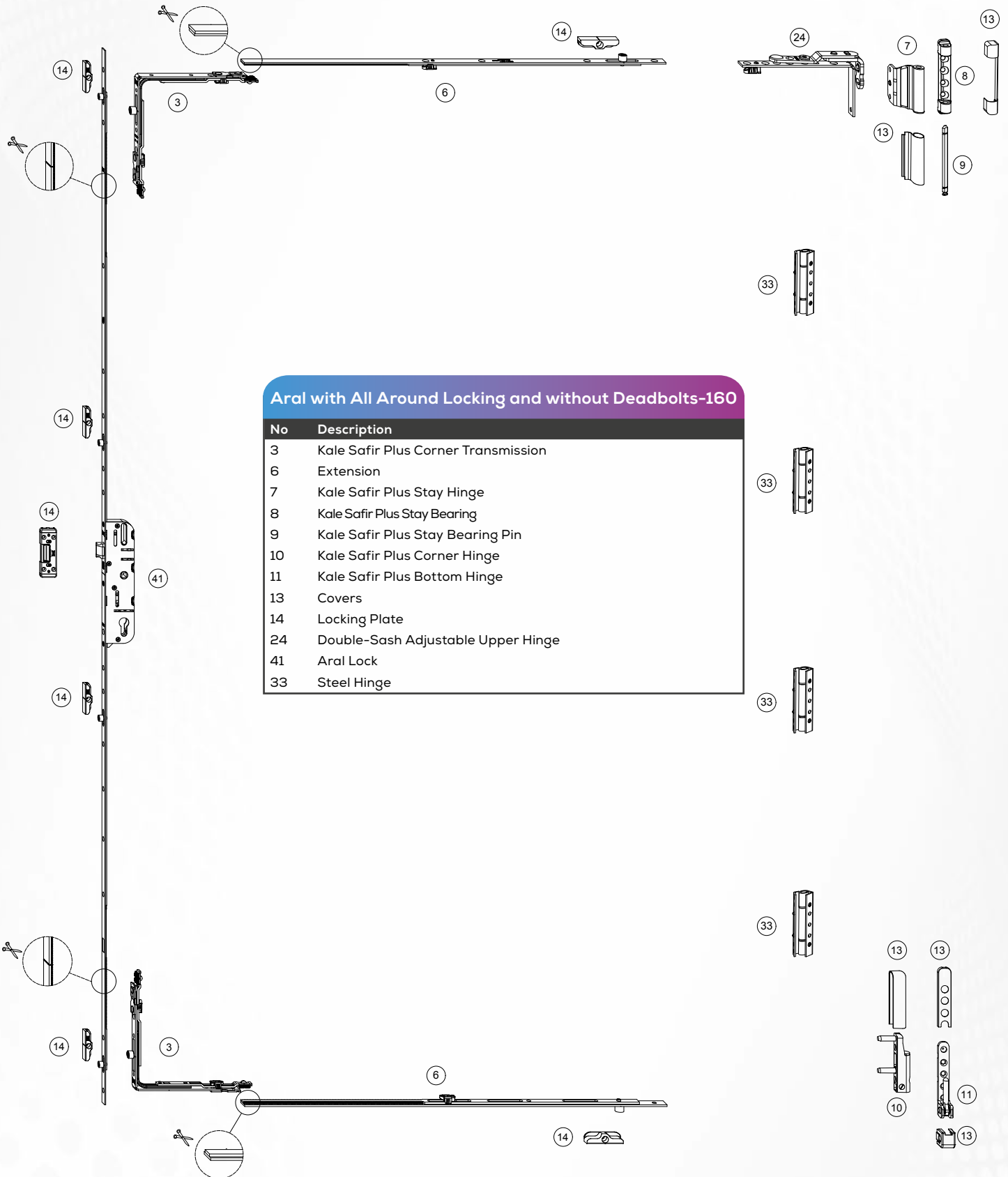
Aral with All Around Locking and without Deadbolts - 130



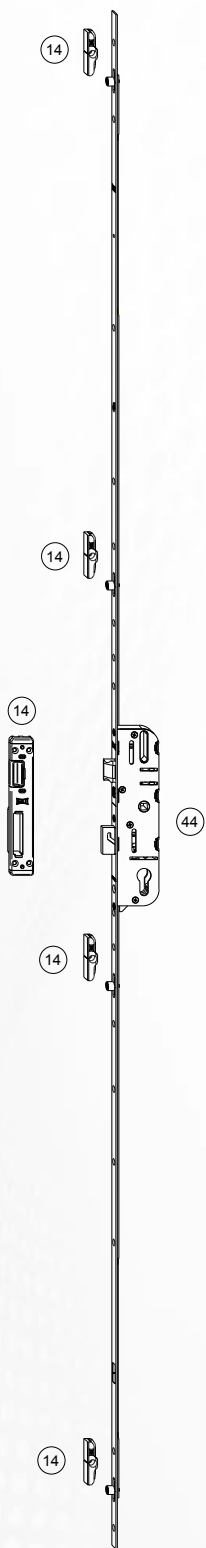
Aral with All Around Locking and with Deadbolts - 160



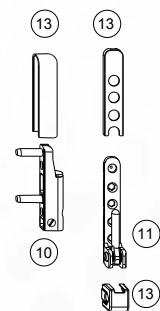
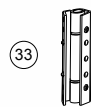
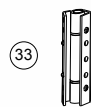
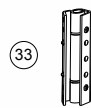
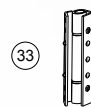
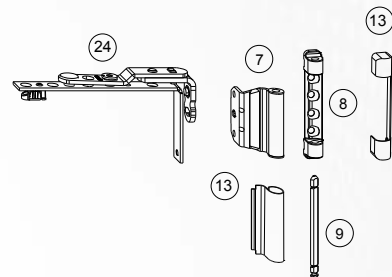
Aral with All Around Locking and without Deadbolts - 160



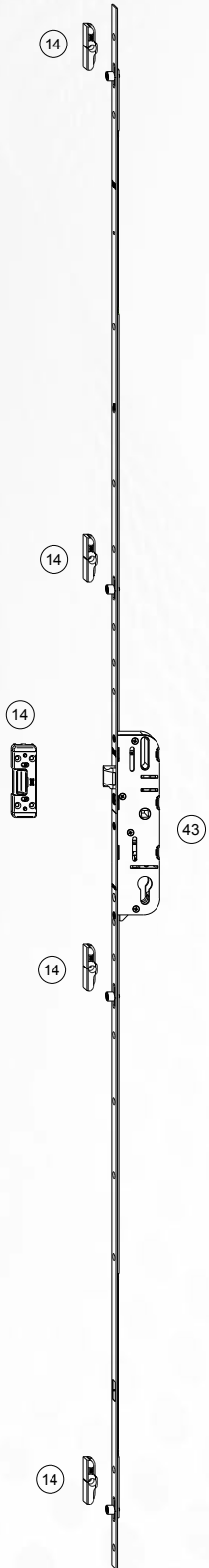
Aral without Connections and with Deadbolts



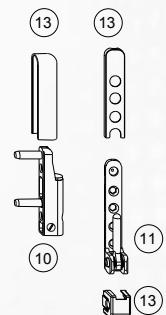
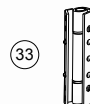
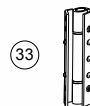
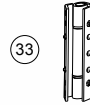
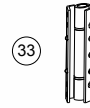
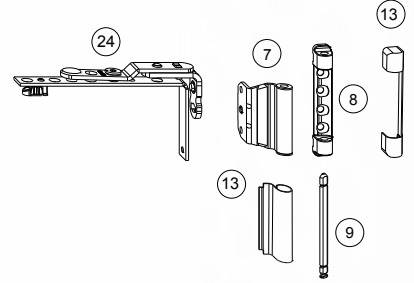
Aral without Connections and with Deadbolts	
No	Description
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
44	Aral Lock
33	Steel Hinge



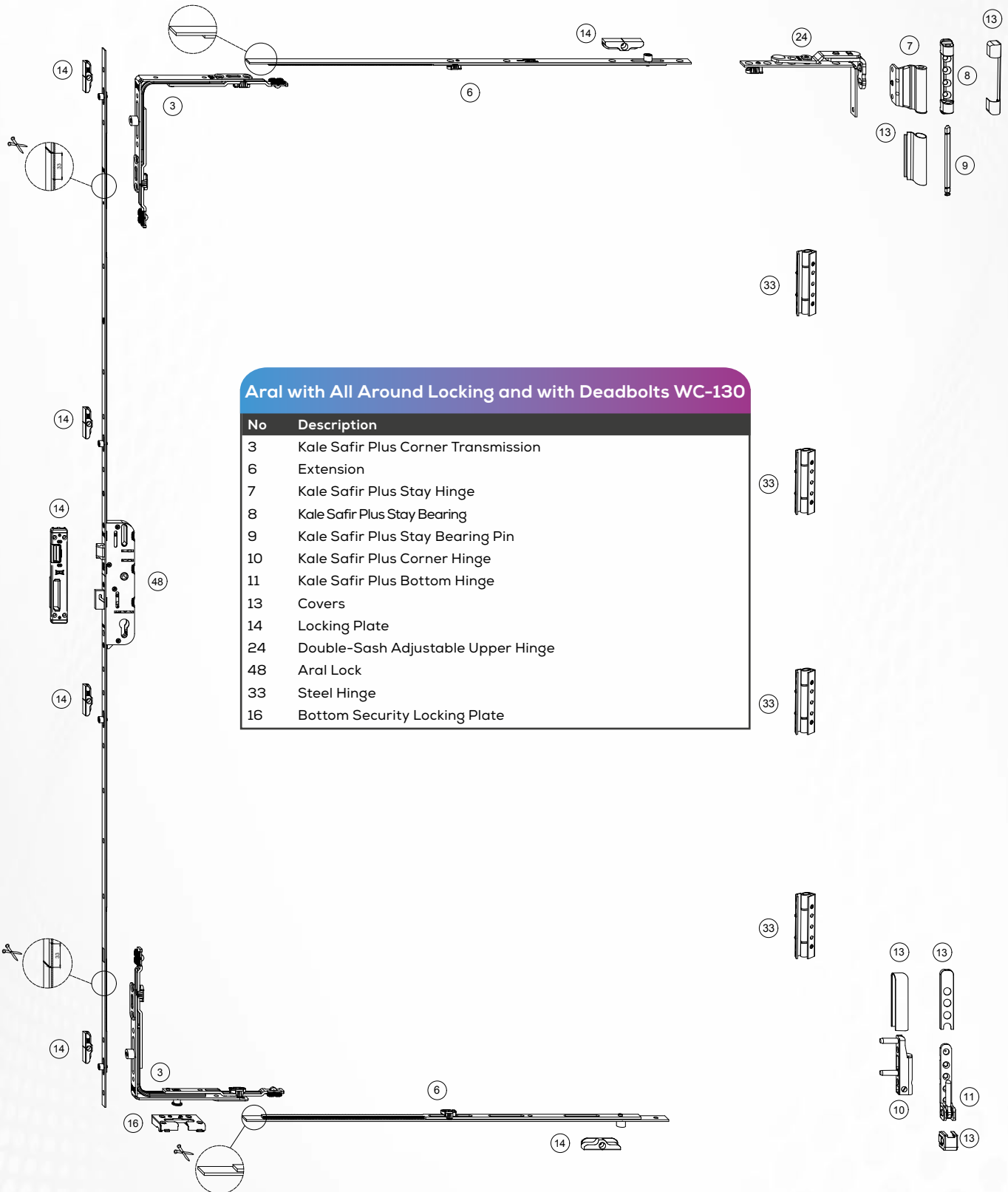
Aral without Connections and without Deadbolts



Aral without Connections and without Deadbolts	
No	Description
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
33	Steel Hinge
43	Aral Lock



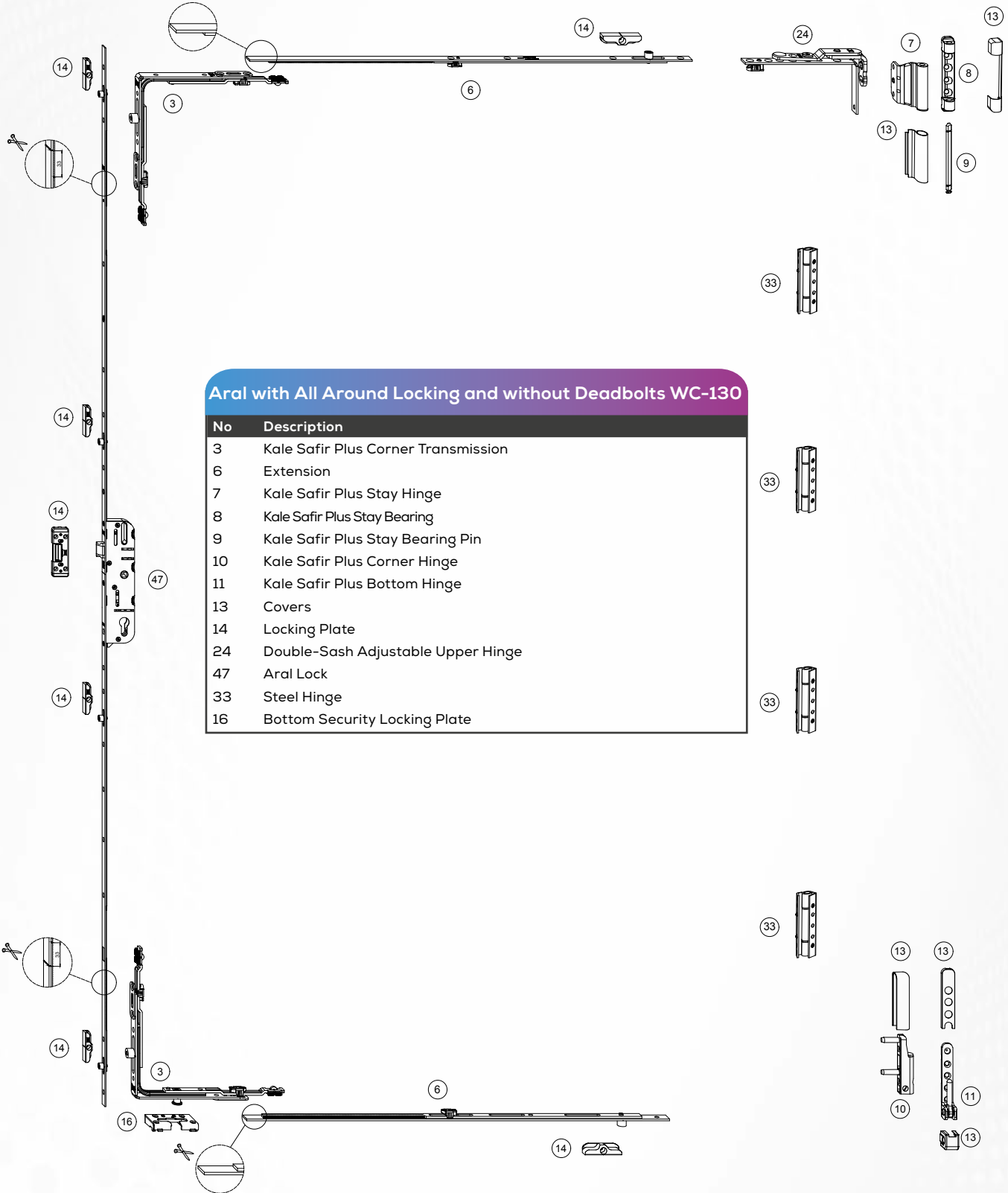
Aral with All Around Locking and with Deadbolts WC - 130



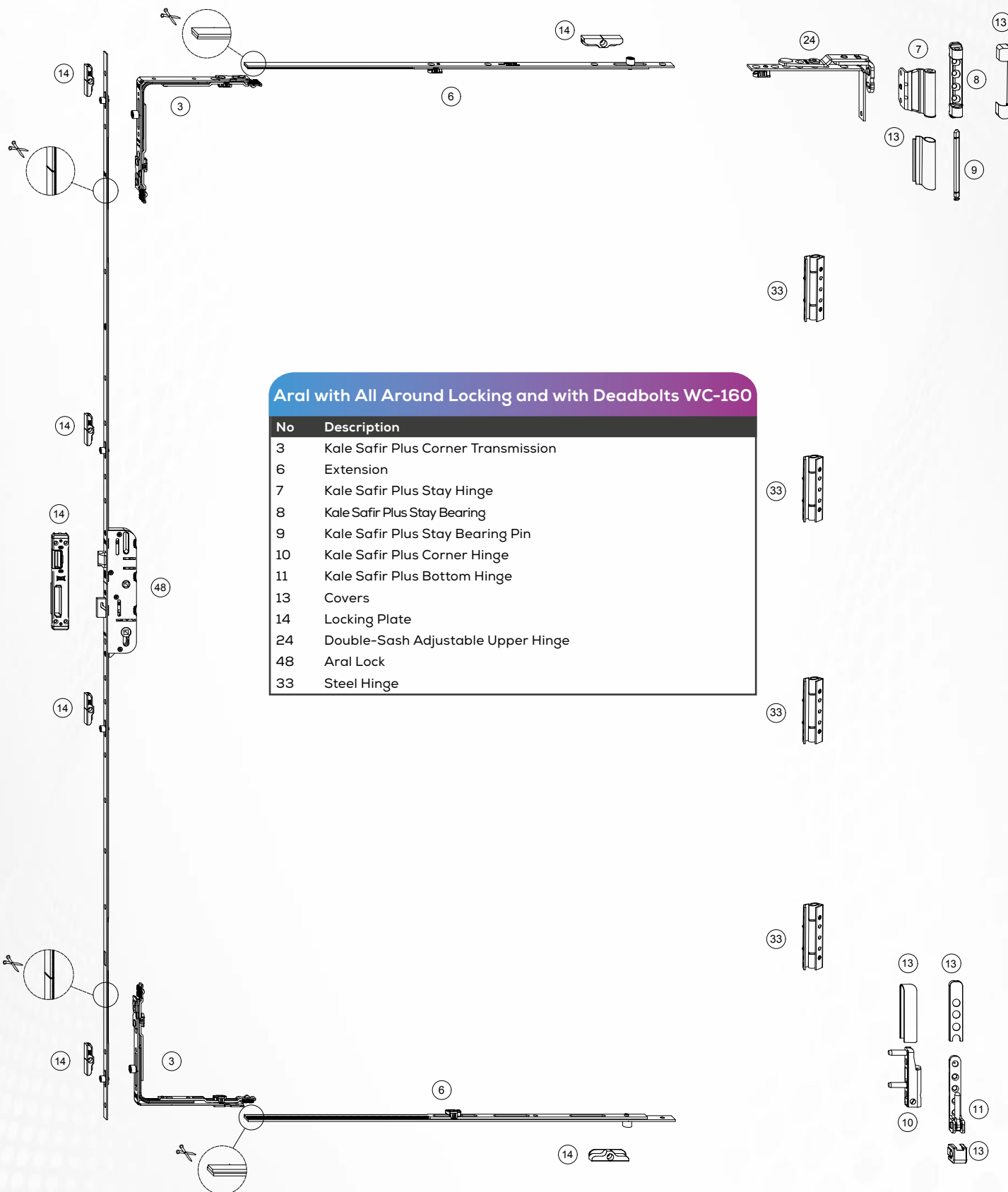
Aral with All Around Locking and with Deadbolts WC-130

No	Description
3	Kale Safir Plus Corner Transmission
6	Extension
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
48	Aral Lock
33	Steel Hinge
16	Bottom Security Locking Plate

Aral with All Around Locking and without Deadbolts WC - 130



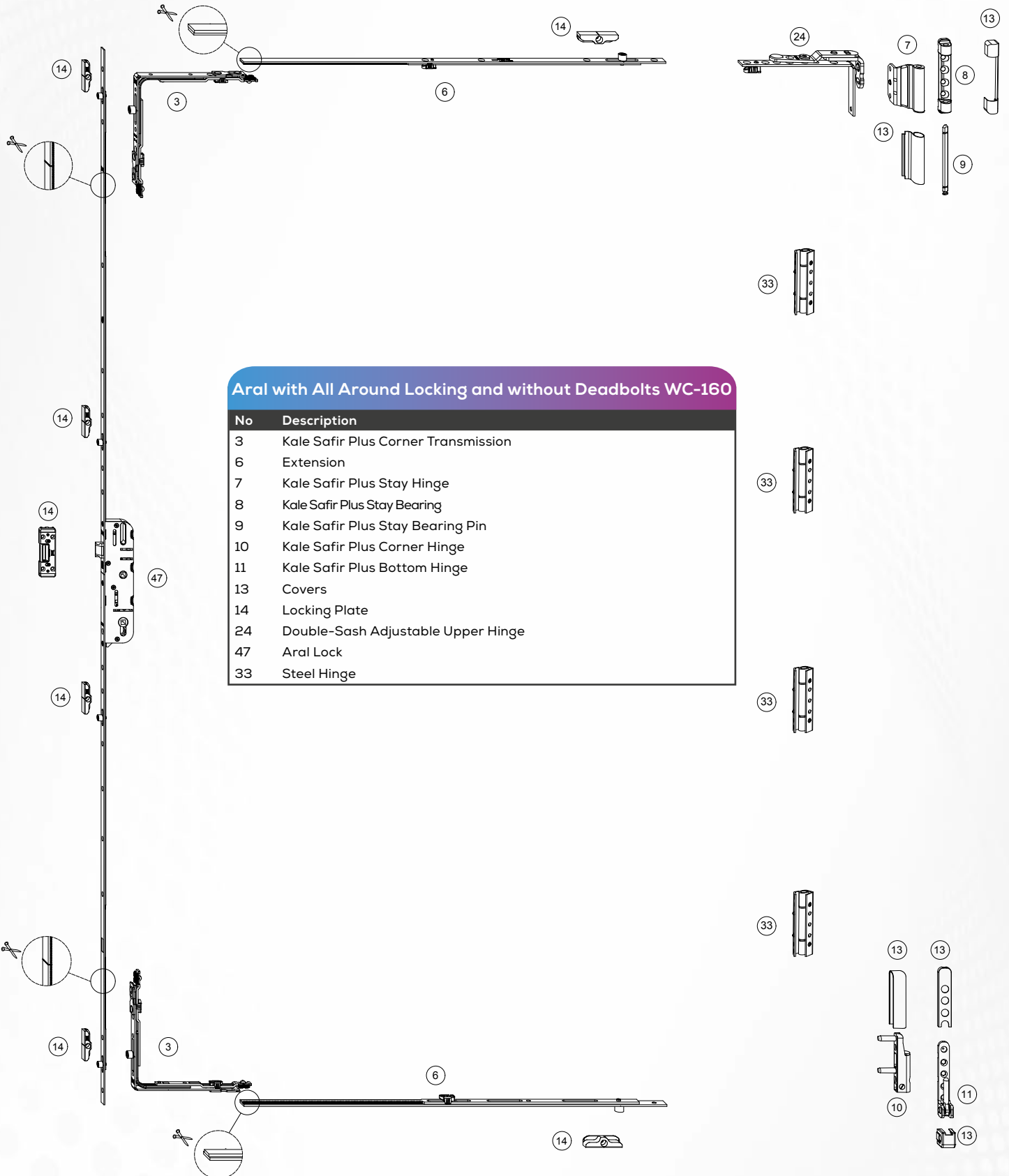
Aral with All Around Locking and with Deadbolts WC - 160



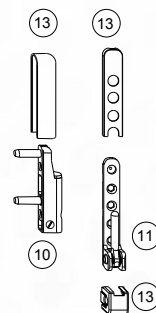
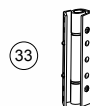
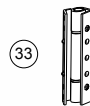
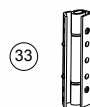
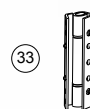
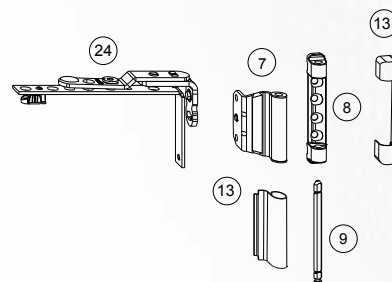
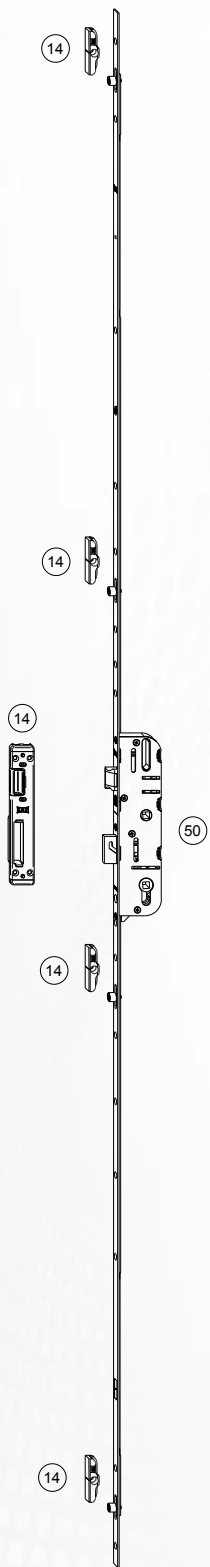
Aral with All Around Locking and with Deadbolts WC-160

No	Description
3	Kale Safir Plus Corner Transmission
6	Extension
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
48	Aral Lock
33	Steel Hinge

Aral with All Around Locking and without Deadbolts WC - 160

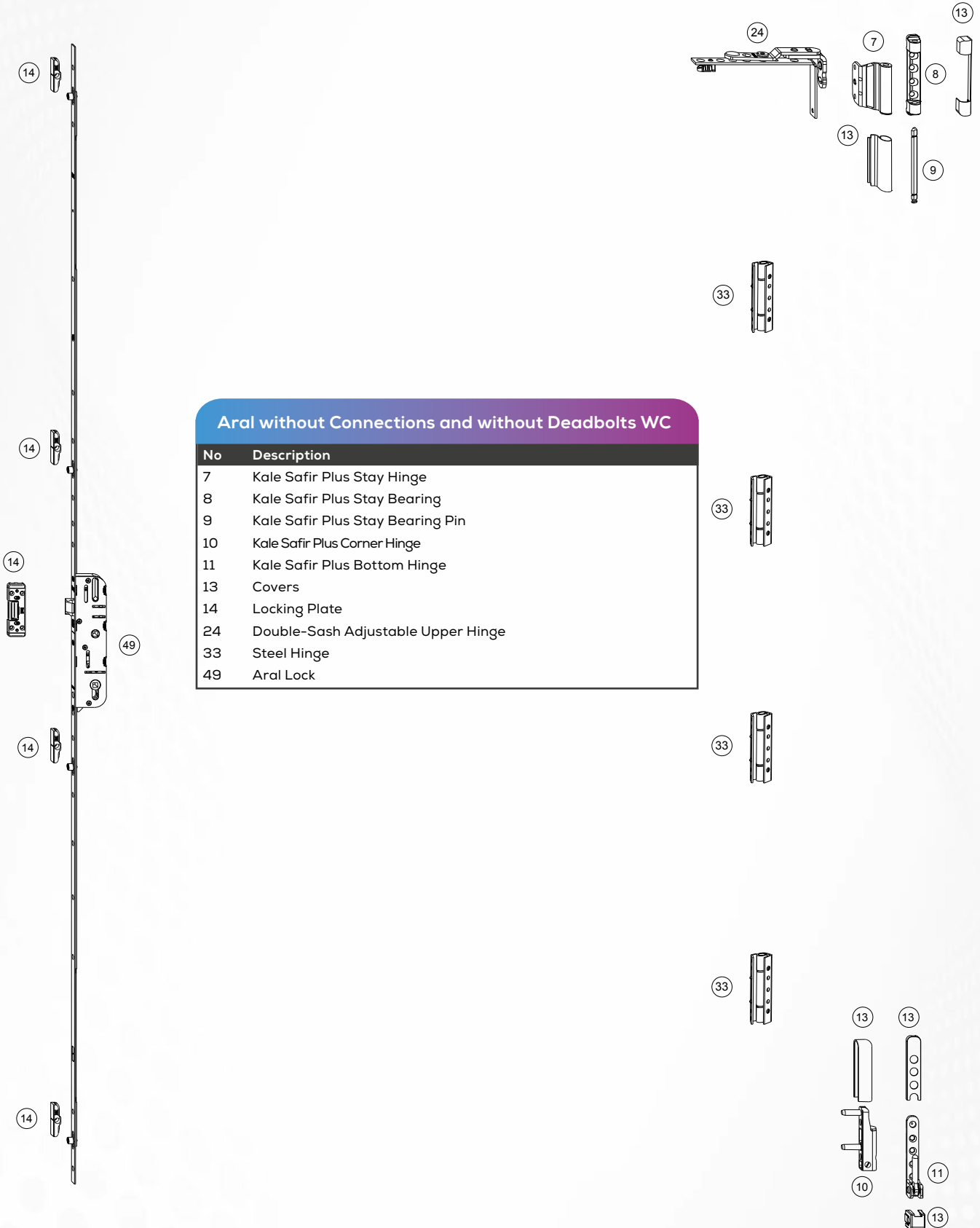


Aral without Connections - with Deadbolts WC



Aral without Connections and with Deadbolts WC	
No	Description
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
33	Steel Hinge
50	Aral Lock

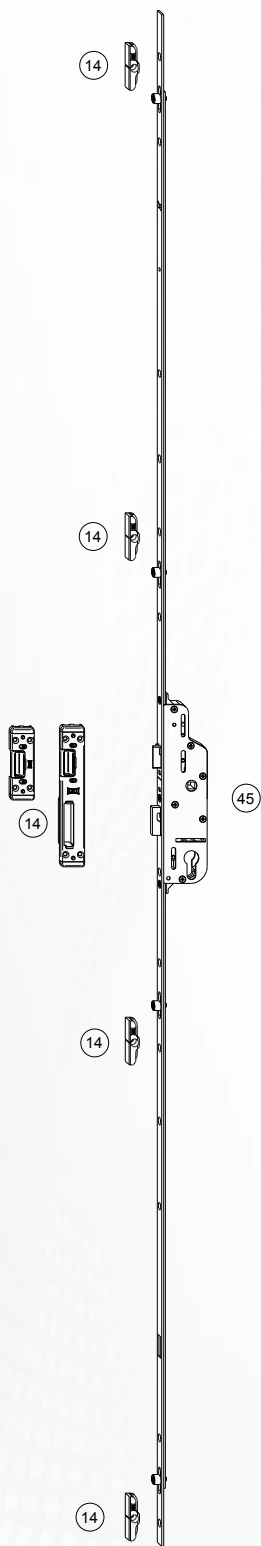
Aral without Connections – without Deadbolts WC



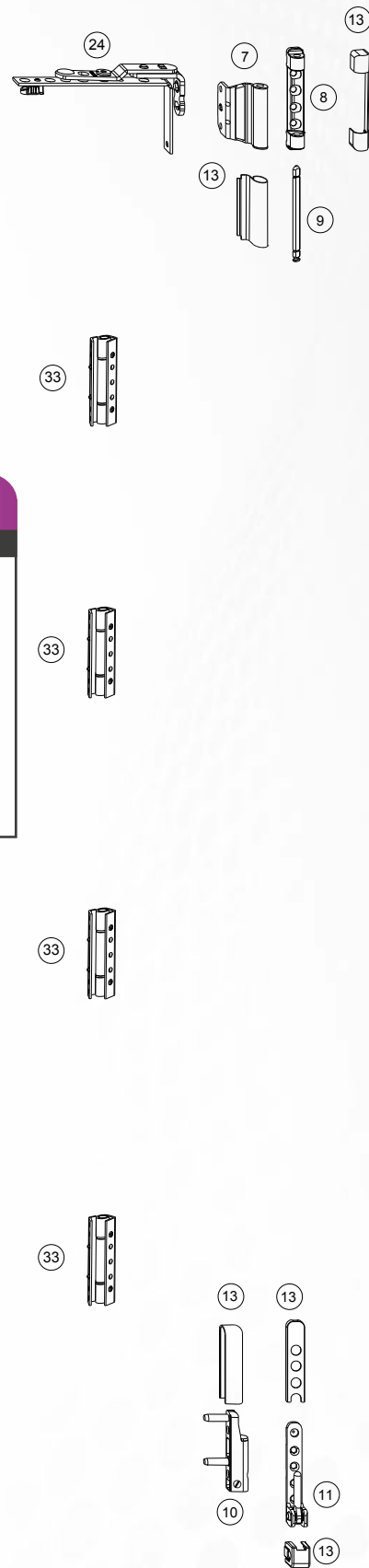
Aral without Connections and without Deadbolts WC

No	Description
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
33	Steel Hinge
49	Aral Lock

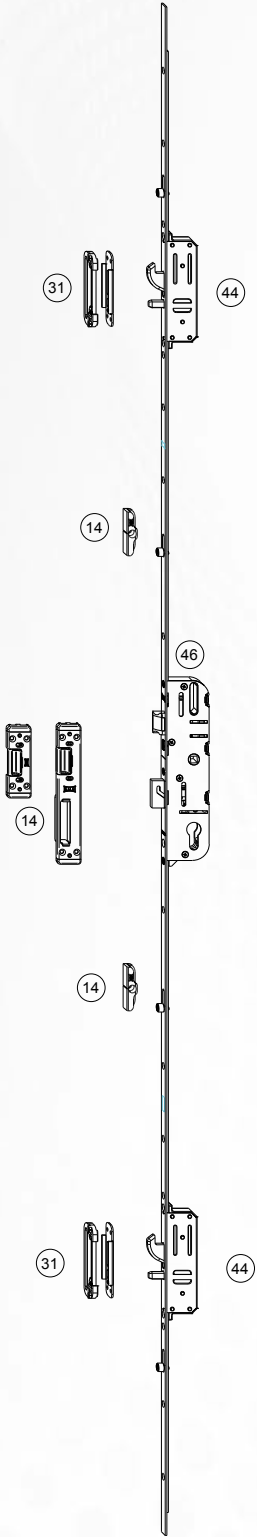
Aral with Opposite Direction Pins



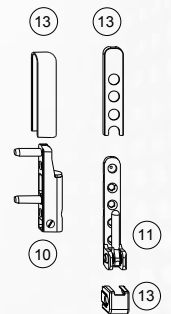
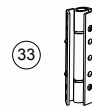
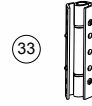
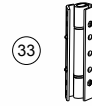
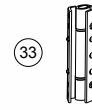
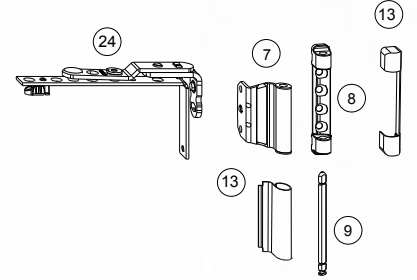
Aral with Opposite Direction Pins	
No	Description
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
33	Steel Hinge
45	Aral Lock with Opposite Direction Pins



Aral without Connections and with Hooks

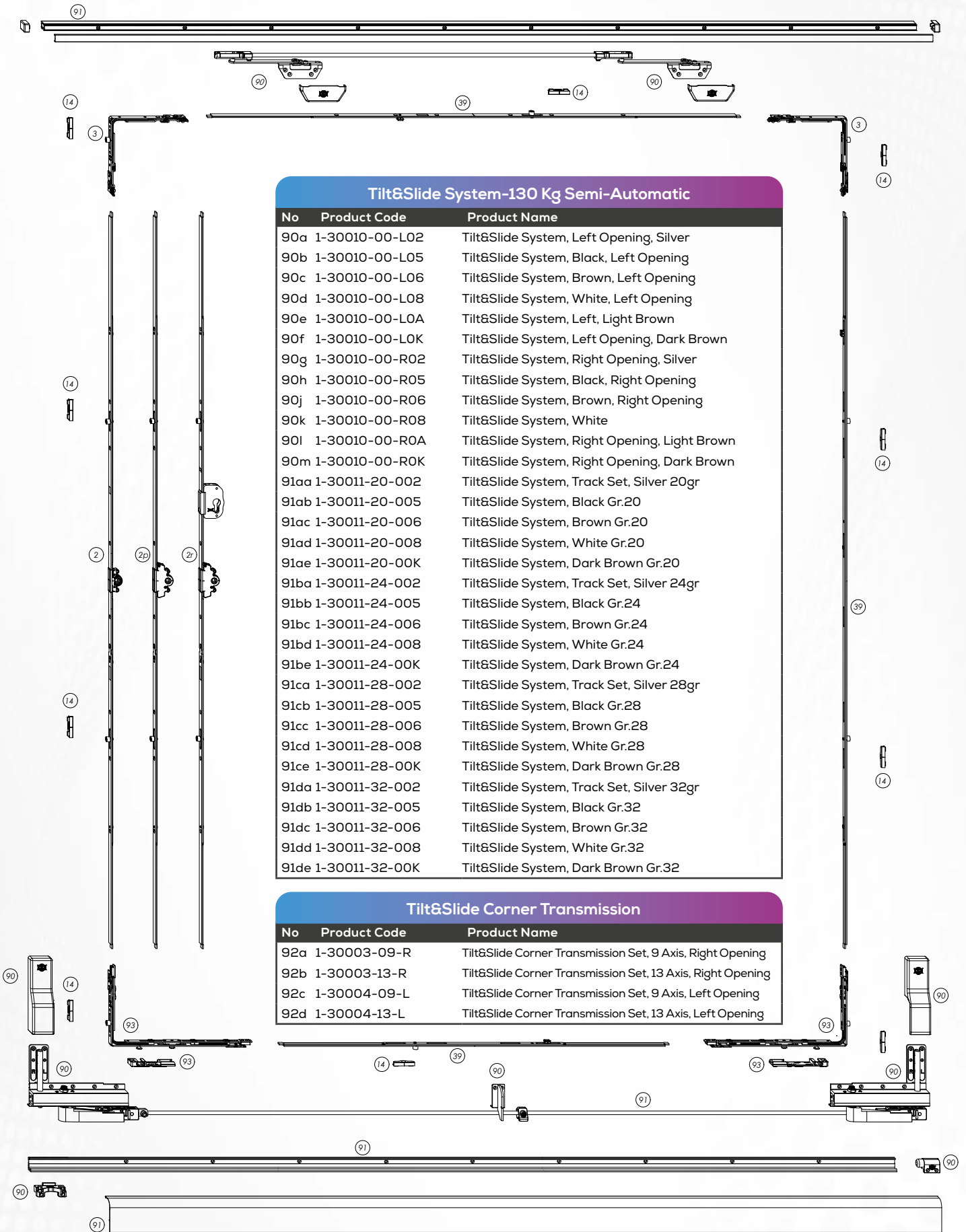


Aral without Connections and with Hooks	
No	Description
7	Kale Safir Plus Stay Hinge
8	Kale Safir Plus Stay Bearing
9	Kale Safir Plus Stay Bearing Pin
10	Kale Safir Plus Corner Hinge
11	Kale Safir Plus Bottom Hinge
13	Covers
14	Locking Plate
24	Double-Sash Adjustable Upper Hinge
33	Steel Hinge
46	Aral Lock with Hooks



SLIDE WINDOW AND DOOR SYSTEMS - KALE AKSU

Tilt&Slide System - 130 Kg Semi-Automatic



Tilt&Slide System-130 Kg Semi-Automatic

No	Product Code	Product Name
90a	1-30010-00-L02	Tilt&Slide System, Left Opening, Silver
90b	1-30010-00-L05	Tilt&Slide System, Black, Left Opening
90c	1-30010-00-L06	Tilt&Slide System, Brown, Left Opening
90d	1-30010-00-L08	Tilt&Slide System, White, Left Opening
90e	1-30010-00-L0A	Tilt&Slide System, Left, Light Brown
90f	1-30010-00-L0K	Tilt&Slide System, Left Opening, Dark Brown
90g	1-30010-00-R02	Tilt&Slide System, Right Opening, Silver
90h	1-30010-00-R05	Tilt&Slide System, Black, Right Opening
90j	1-30010-00-R06	Tilt&Slide System, Brown, Right Opening
90k	1-30010-00-R08	Tilt&Slide System, White
90l	1-30010-00-R0A	Tilt&Slide System, Right Opening, Light Brown
90m	1-30010-00-R0K	Tilt&Slide System, Right Opening, Dark Brown
91aa	1-30011-20-002	Tilt&Slide System, Track Set, Silver 20gr
91ab	1-30011-20-005	Tilt&Slide System, Black Gr.20
91ac	1-30011-20-006	Tilt&Slide System, Brown Gr.20
91ad	1-30011-20-008	Tilt&Slide System, White Gr.20
91ae	1-30011-20-00K	Tilt&Slide System, Dark Brown Gr.20
91ba	1-30011-24-002	Tilt&Slide System, Track Set, Silver 24gr
91bb	1-30011-24-005	Tilt&Slide System, Black Gr.24
91bc	1-30011-24-006	Tilt&Slide System, Brown Gr.24
91bd	1-30011-24-008	Tilt&Slide System, White Gr.24
91be	1-30011-24-00K	Tilt&Slide System, Dark Brown Gr.24
91ca	1-30011-28-002	Tilt&Slide System, Track Set, Silver 28gr
91cb	1-30011-28-005	Tilt&Slide System, Black Gr.28
91cc	1-30011-28-006	Tilt&Slide System, Brown Gr.28
91cd	1-30011-28-008	Tilt&Slide System, White Gr.28
91ce	1-30011-28-00K	Tilt&Slide System, Dark Brown Gr.28
91da	1-30011-32-002	Tilt&Slide System, Track Set, Silver 32gr
91db	1-30011-32-005	Tilt&Slide System, Black Gr.32
91dc	1-30011-32-006	Tilt&Slide System, Brown Gr.32
91dd	1-30011-32-008	Tilt&Slide System, White Gr.32
91de	1-30011-32-00K	Tilt&Slide System, Dark Brown Gr.32

Tilt&Slide Corner Transmission

No	Product Code	Product Name
92a	1-30003-09-R	Tilt&Slide Corner Transmission Set, 9 Axis, Right Opening
92b	1-30003-13-R	Tilt&Slide Corner Transmission Set, 13 Axis, Right Opening
92c	1-30004-09-L	Tilt&Slide Corner Transmission Set, 9 Axis, Left Opening
92d	1-30004-13-L	Tilt&Slide Corner Transmission Set, 13 Axis, Left Opening

Tilt&Slide System, 130 Kg, Manual

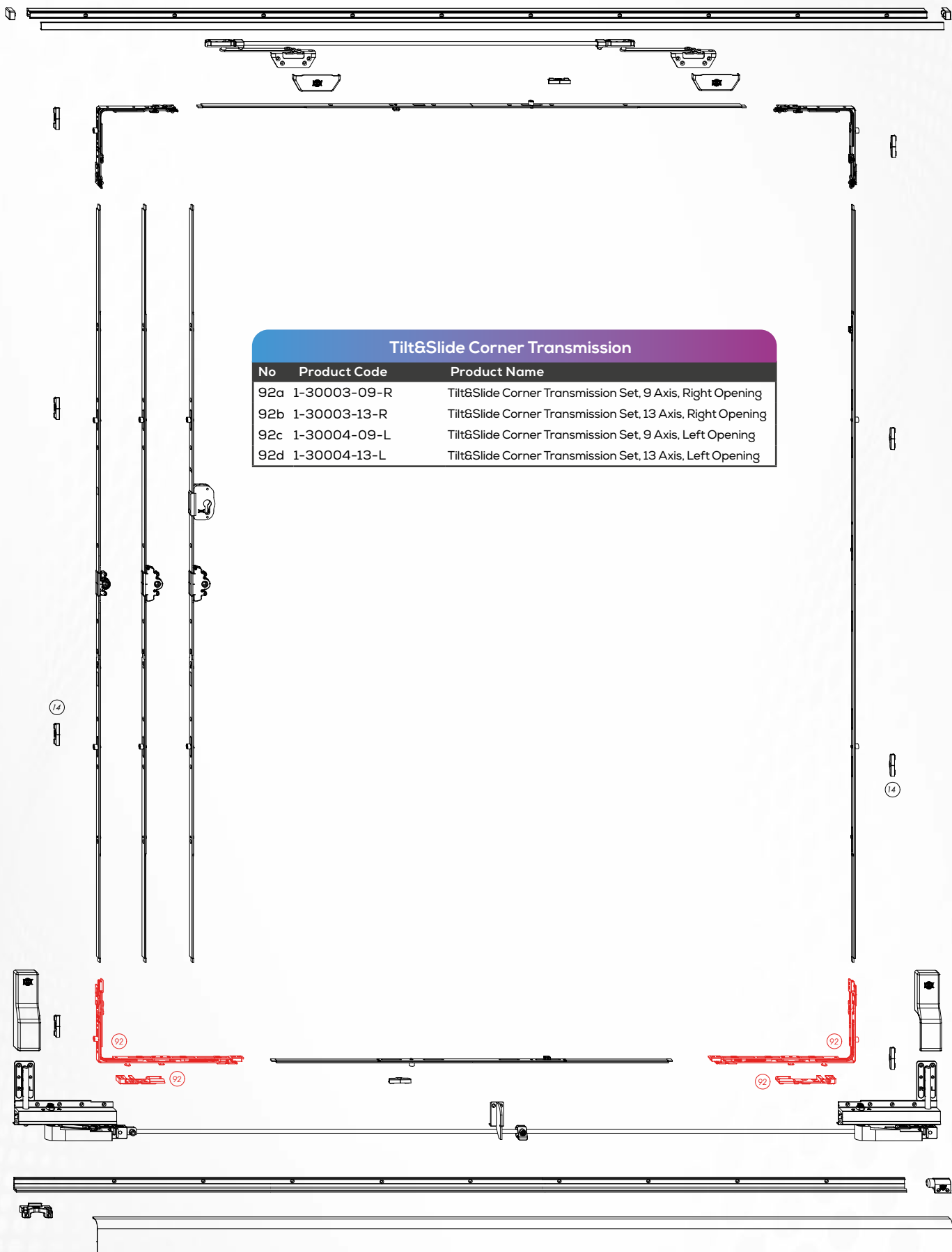
Tilt&Slide System, 130 Kg, Manual

No	Product Code	Product Name
90a	1-30010-00-L02	Tilt&Slide System, Left Opening, Silver
90b	1-30010-00-L05	Tilt&Slide System, Black, Left Opening
90c	1-30010-00-L06	Tilt&Slide System, Brown, Left Opening
90d	1-30010-00-L08	Tilt&Slide System, White, Left Opening
90e	1-30010-00-L0A	Tilt&Slide System, Left, Light Brown
90f	1-30010-00-L0K	Tilt&Slide System, Left Opening, Dark Brown
90g	1-30010-00-R02	Tilt&Slide System, Right Opening, Silver
90h	1-30010-00-R05	Tilt&Slide System, Black, Right Opening
90j	1-30010-00-R06	Tilt&Slide System, Brown, Right Opening
90k	1-30010-00-R08	Tilt&Slide System, White
90l	1-30010-00-R0A	Tilt&Slide System, Right Opening, Light Brown
90m	1-30010-00-R0K	Tilt&Slide System, Right Opening, Dark Brown
91aa	1-30011-20-002	Tilt&Slide System, Track Set, Silver 20gr
91ab	1-30011-20-005	Tilt&Slide System, Black Gr.20
91ac	1-30011-20-006	Tilt&Slide System, Brown Gr.20
91ad	1-30011-20-008	Tilt&Slide System, White Gr.20
91ae	1-30011-20-00K	Tilt&Slide System, Dark Brown Gr.20
91ba	1-30011-24-002	Tilt&Slide System, Track Set, Silver 24gr
91bb	1-30011-24-005	Tilt&Slide System, Black Gr.24
91bc	1-30011-24-006	Tilt&Slide System, Brown Gr.24
91bd	1-30011-24-008	Tilt&Slide System, White Gr.24
91be	1-30011-24-00K	Tilt&Slide System, Dark Brown Gr.24
91ca	1-30011-28-002	Tilt&Slide System, Track Set, Silver 28gr
91cb	1-30011-28-005	Tilt&Slide System, Black Gr.28
91cc	1-30011-28-006	Tilt&Slide System, Brown Gr.28
91cd	1-30011-28-008	Tilt&Slide System, White Gr.28
91ce	1-30011-28-00K	Tilt&Slide System, Dark Brown Gr.28
91da	1-30011-32-002	Tilt&Slide System, Track Set, Silver 32gr
91db	1-30011-32-005	Tilt&Slide System, Black Gr.32
91dc	1-30011-32-006	Tilt&Slide System, Brown Gr.32
91dd	1-30011-32-008	Tilt&Slide System, White Gr.32
91de	1-30011-32-00K	Tilt&Slide System, Dark Brown Gr.32

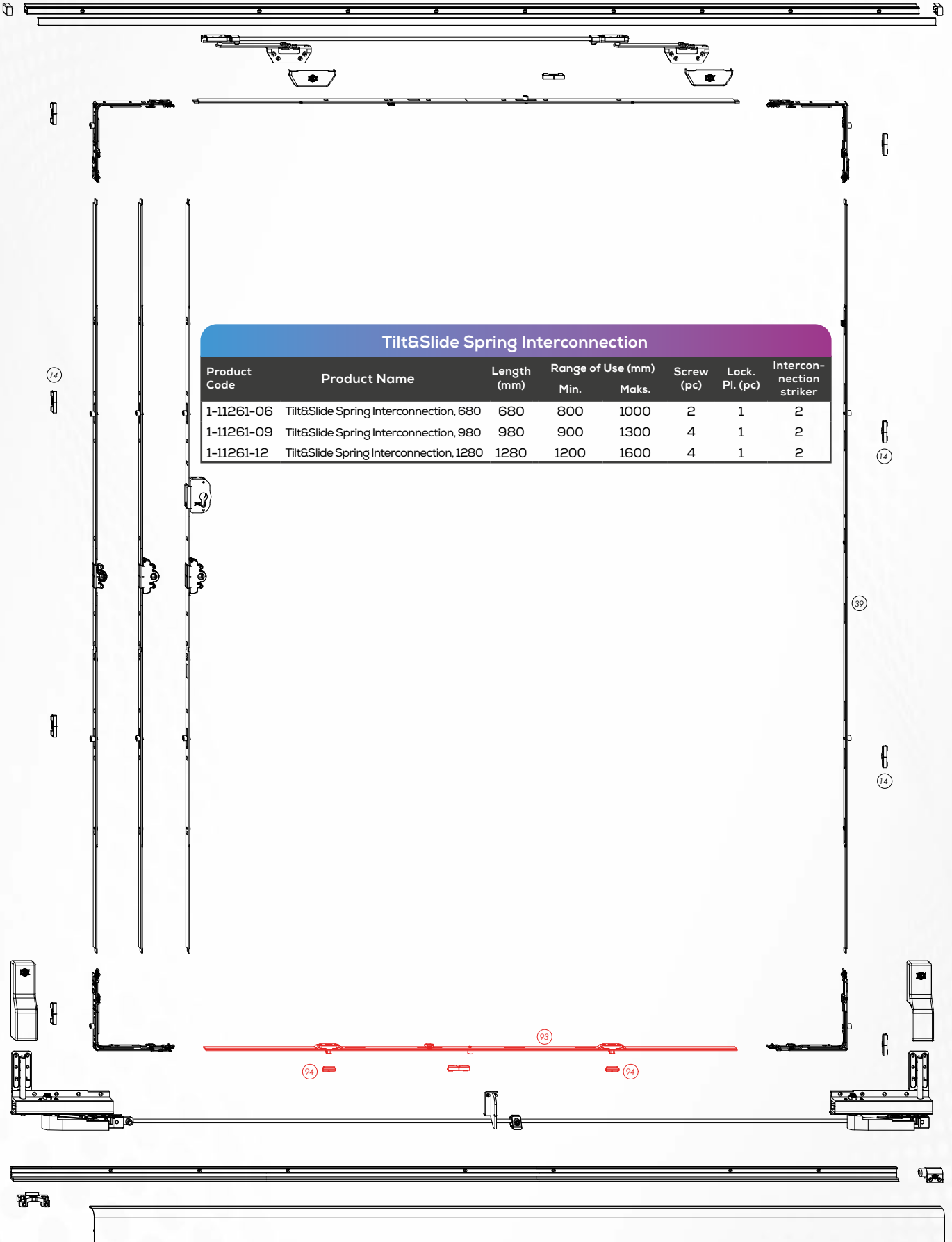
Tilt&Slide Spring Interconnection

Product Code	Product Name	Length (mm)	Range of Use (mm)		Screw (pc)	Lock. Pl. (pc)	Interconnection Striker
			Min.	Maks.			
1-11261-06	Tilt&Slide Spring Interconnection, 680	680	800	1000	2	1	2
1-11261-09	Tilt&Slide Spring Interconnection, 980	980	900	1300	4	1	2
1-11261-12	Tilt&Slide Spring Interconnection, 1280	1280	1200	1600	4	1	2

Tilt&Slide System, Corner Transmission

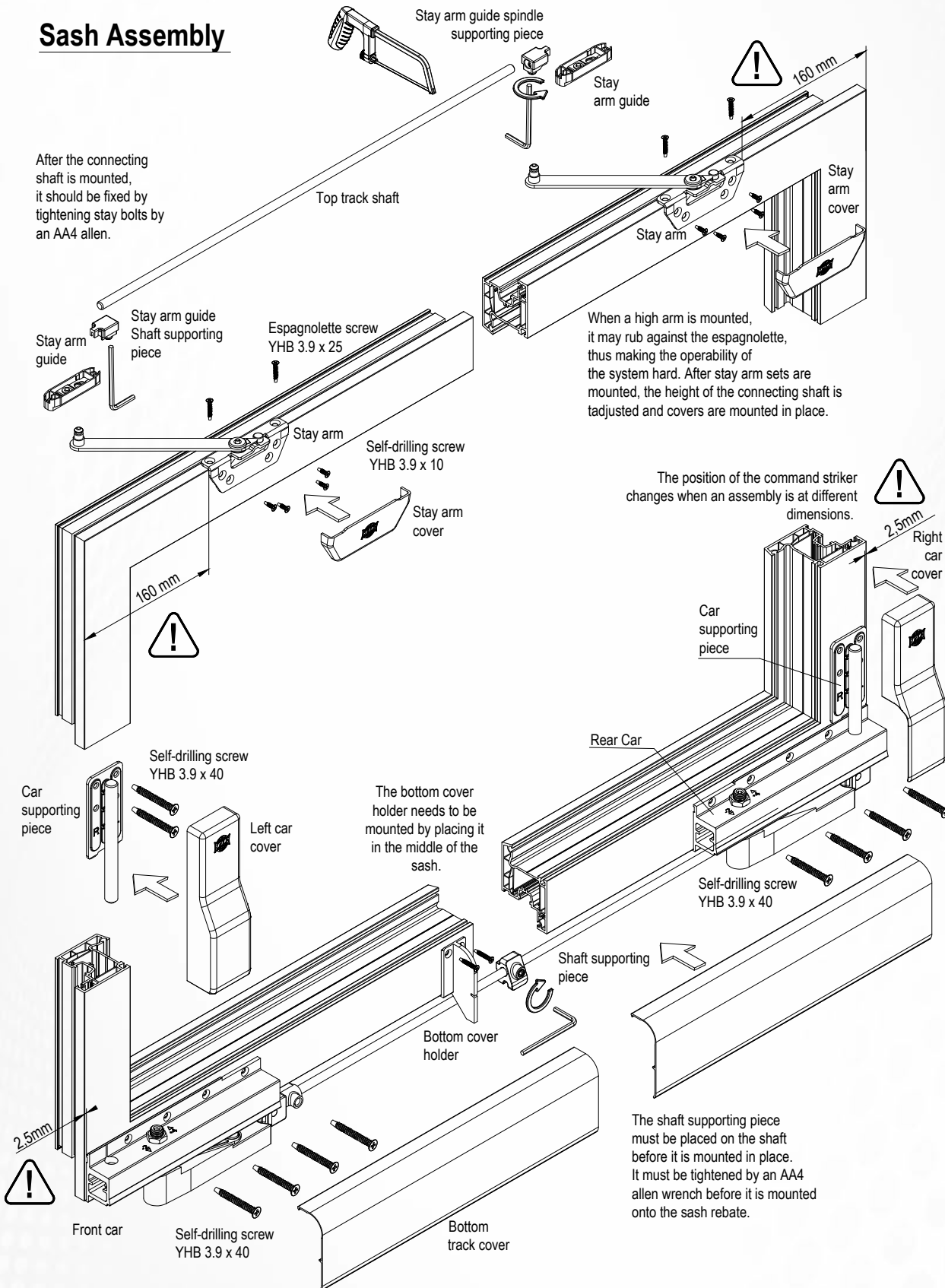


Tilt&Slide System, Spring Interconnection

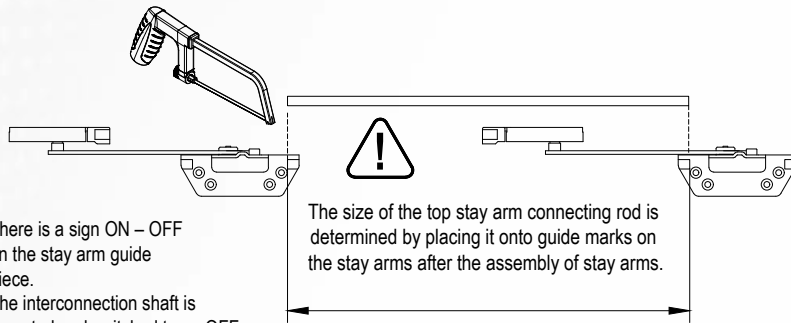


Tilt&Slide System 130 Kg, Semi-Automatic Sash Assembly Instruction-1

Sash Assembly



Tilt&Slide System 130 Kg, Semi-Automatic Sash Assembly Instruction-2

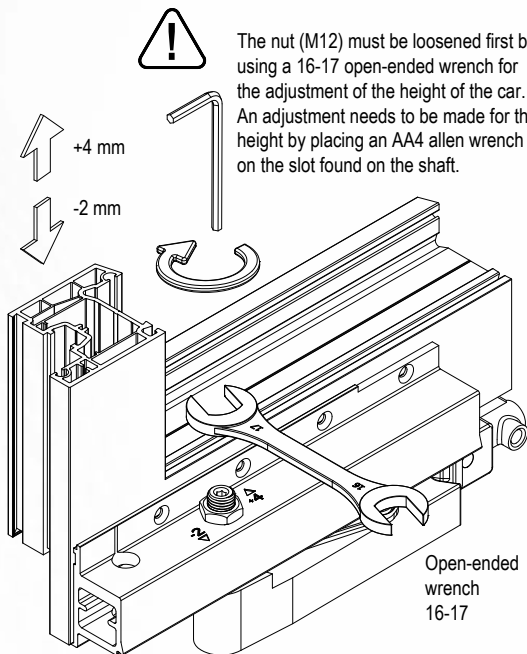
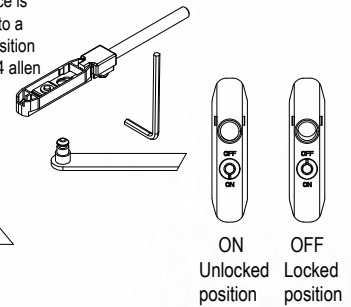


There is a sign ON – OFF on the stay arm guide piece. The interconnection shaft is mounted and switched to an OFF position, and the system is fixed.

The size of the top stay arm connecting rod is determined by placing it onto guide marks on the stay arms after the assembly of stay arms.

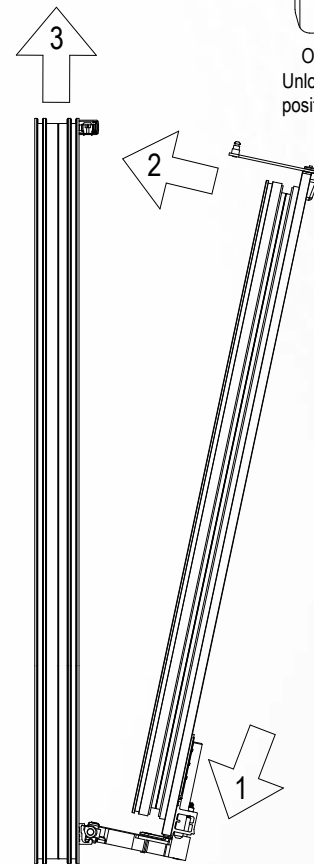
Assembly of the Sash onto the Rebate

3- The stay arm guide piece is switched to a locked position by an AA4 allen wrench.



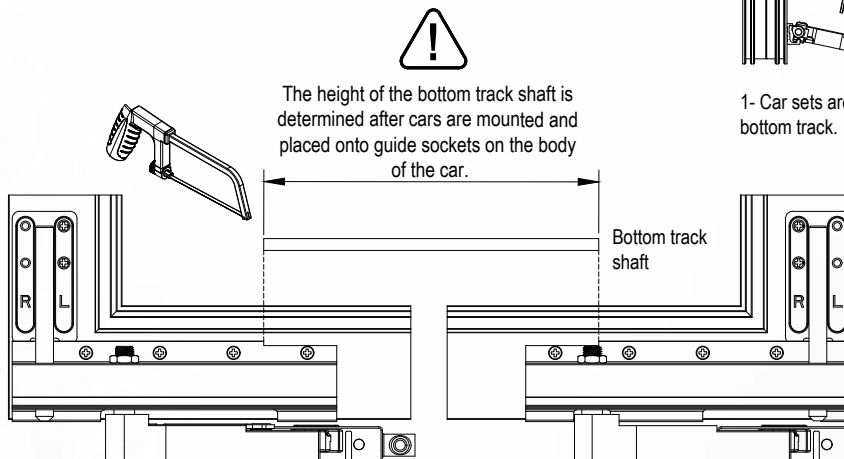
The nut (M12) must be loosened first by using a 16-17 open-ended wrench for the adjustment of the height of the car. An adjustment needs to be made for the height by placing an AA4 allen wrench on the slot found on the shaft.

Open-ended wrench 16-17



2- The pin found on the stay arms is carefully placed onto the stay arm guide piece on the top track.

1- Car sets are placed onto the bottom track.

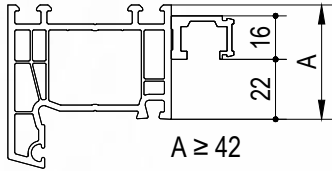


The height of the bottom track shaft is determined after cars are mounted and placed onto guide sockets on the body of the car.

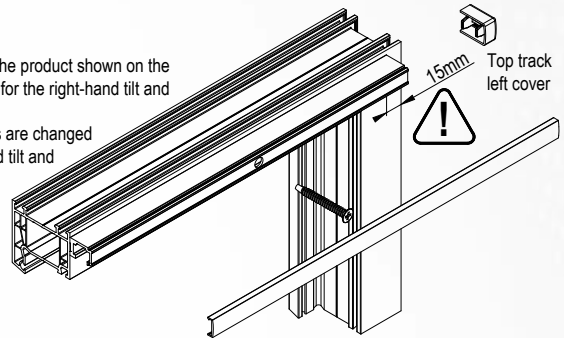
Bottom track shaft

Tilt&Slide System 130 Kg, Semi-Automatic Rebate Assembly Instruction-1

Rebate Assembly

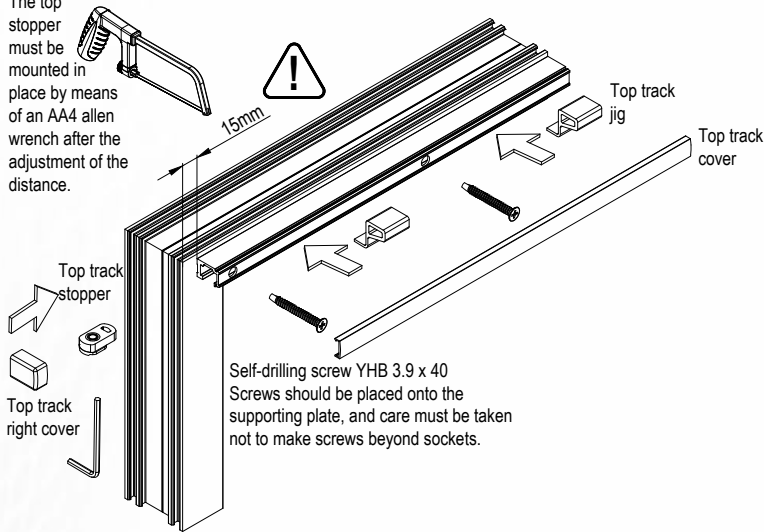


The assembly of the product shown on the assembly chart is for the right-hand tilt and turn sash. Directions of parts are changed when the left-hand tilt and turn sash is to be assembled.



The top track cover and side covers must be mounted after the assembly of the track.

The top stopper must be mounted in place by means of an AA4 allen wrench after the adjustment of the distance.

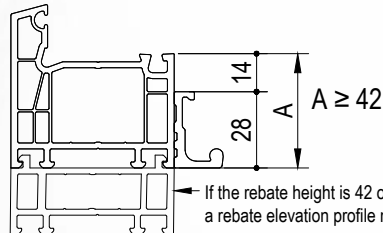


Self-drilling screw YHB 3.9 x 40
Screws should be placed onto the supporting plate, and care must be taken not to make screws beyond sockets.

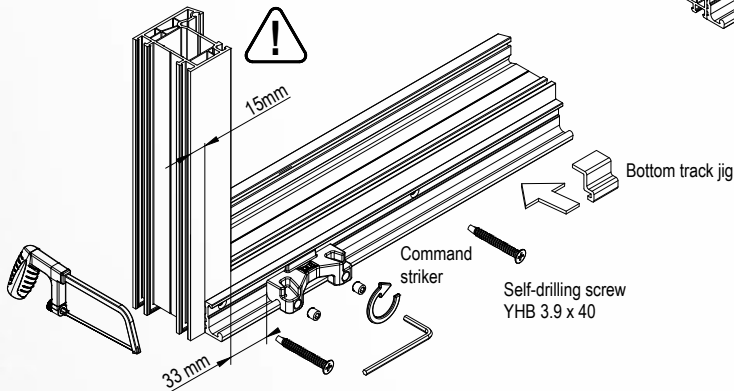
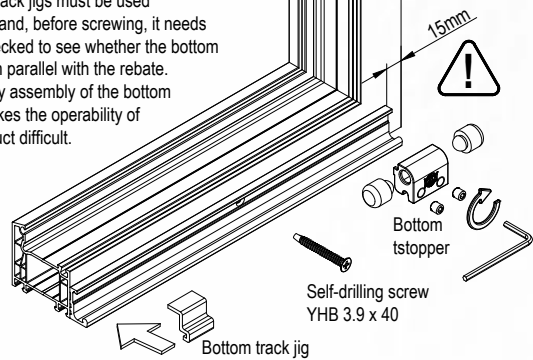
After the bottom track stopper is mounted into the track profile, stay bolts must be tightened by means of an AA4 allen wrench.

When stay bolts are not tightened firmly, this will make the working of the sash hard.

The plastic shock absorber must be inserted into the slot on the stopper by considering the opening direction of the sash.

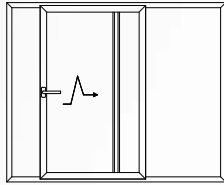


Bottom track jigs must be used together and, before screwing, it needs to be checked to see whether the bottom track is in parallel with the rebate. The faulty assembly of the bottom track makes the operability of the product difficult.

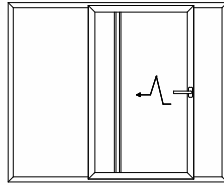


Tilt&Slide System 130 Kg, Semi-Automatic Rebate Assembly Instruction-2

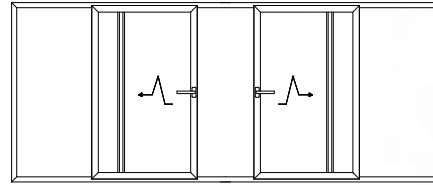
Areas of Application



Right T&T

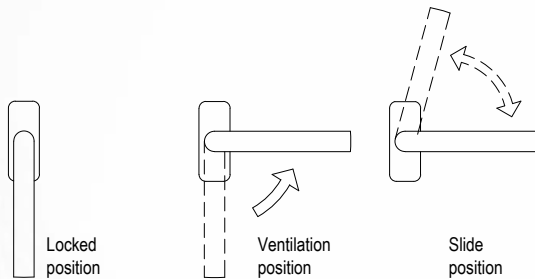


Left Tilt&Turn



Double Sash

Use



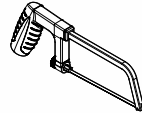
- KA ≤ 130 kg.
- KY ≤ 2,5 KG
- KY ≤ 2400 , KG ≤ 1600

SW Sash Weight (kg)
SH Sash Height (mm)
SW Sash Width (mm)

Assembly Equipment



Open-ended wrench
16-17



Handsaw



Allen wrench
AA4



Self-drilling Screw
YHB 3.9 x 40
DIN 7504 P



Self-drilling Screw
YHB 3.9 x 10
DIN 7504 P



Espagnolette Screw
YHB 3.9 x 25
DIN 7505

Screws

Product Content

Box	1-30010-00-R0* (Right Opening)	1-30010-00-L0* (Left Opening)
	Stay arm	2 pcs
	Stay arm guide piece	2 pcs
	Stay arm guide spindle supporting piece	2 pcs
	Top track stopper	1 pcs
	Front Car	1 pcs
	Rear Car	1 pcs
	Car Supporting Piece	2 pcs
	Shaft supporting piece	1 pcs
	Command part	1 pcs
	Bottom stopper	1 pcs
	Stopper plastic part	1 pcs
	Bottom cover holder	1 pcs
	Left car cover (*)	1 pcs
	Right car cover (*)	1 pcs
	Top track jig	2 pcs
	Bottom track jig	2 pcs
	Top track left cover (*)	1 pcs
	Top track right cover (*)	1 pcs
	Stay arm cover (*)	2 pcs

(*) Colour must be specified.

Track Set	1-30011-XX-00*					
	Top track	1	pcs			
	Bottom track	1	pcs			
	Top track shaft	1	pcs			
	Bottom track shaft	1	pcs			
	Top track cover (*)	1	pcs			
	Bottom track cover (*)	1	pcs			

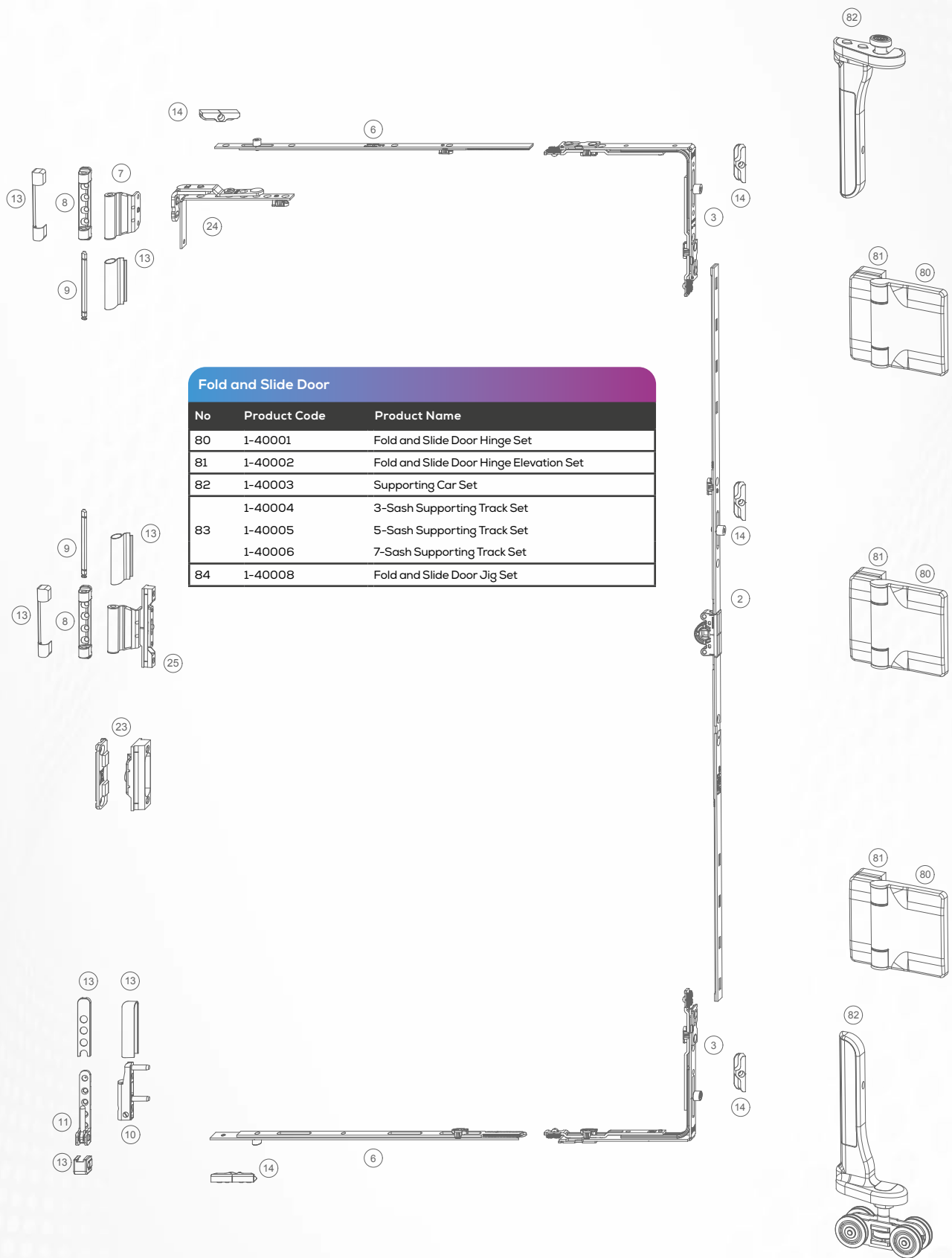
(*) Colour must be specified.
(XX) Length must be specified.

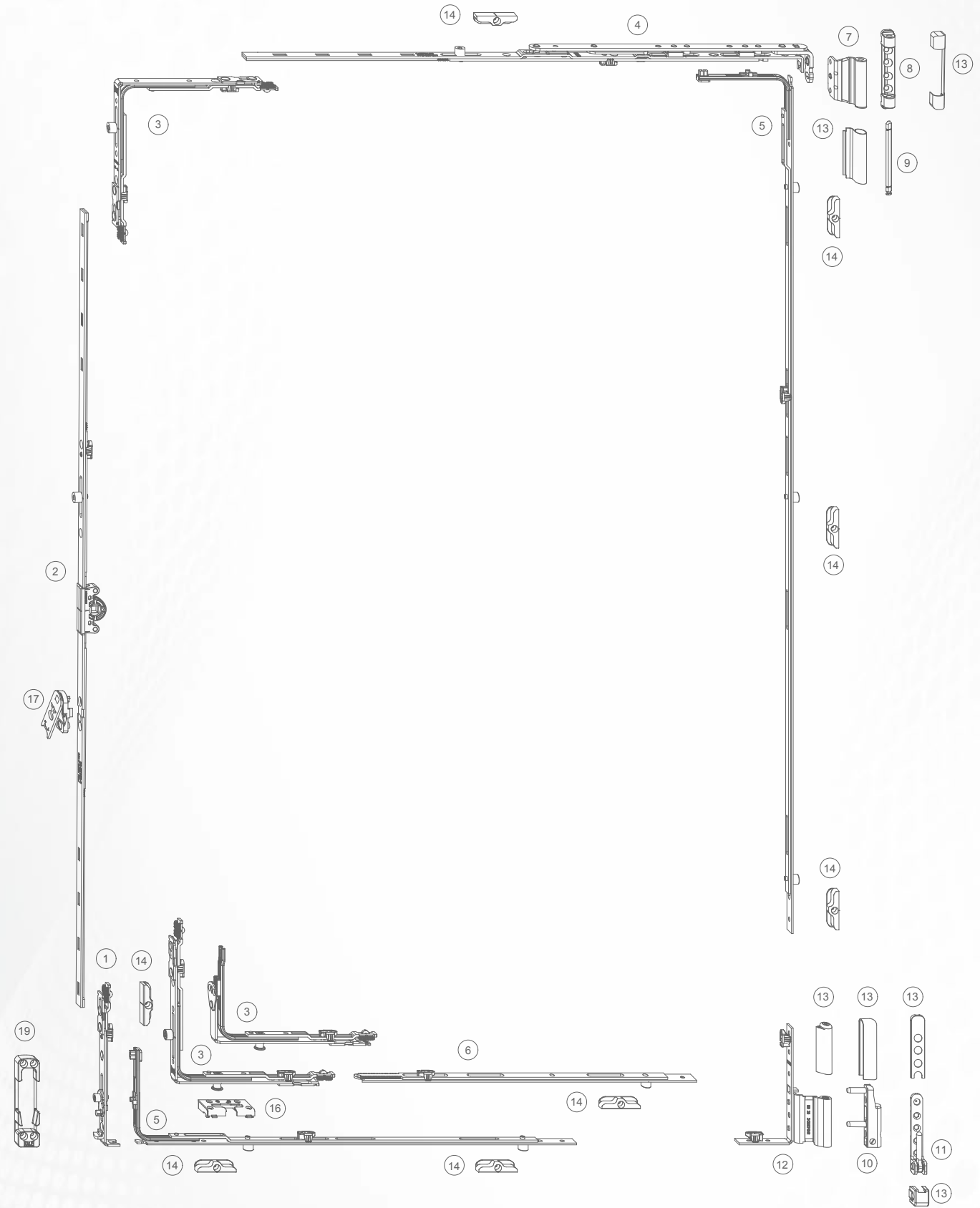
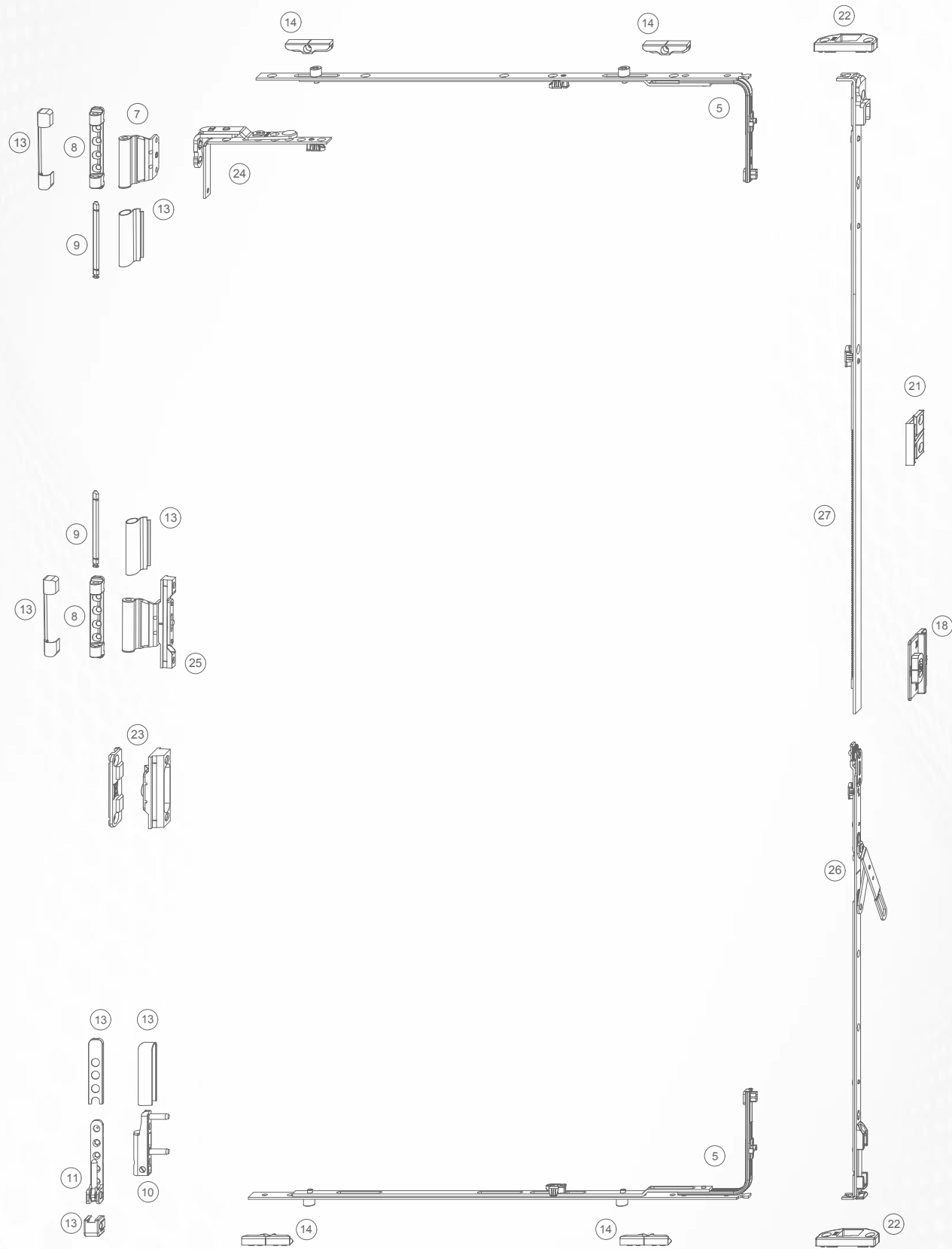
Track Set Length Table (mm)						
Dimension	Top Track	Bottom Track	Top Track Shaft	Bottom Track Shaft	Top Track Cover	Bottom Track Cover
Gr.20	2000	2000	470	607	2000	860
Gr.24	2400	2400	670	807	2400	1060
Gr.28	2850	2850	895	1032	2850	1285
Gr.32	3200	3200	1070	1207	3200	1460



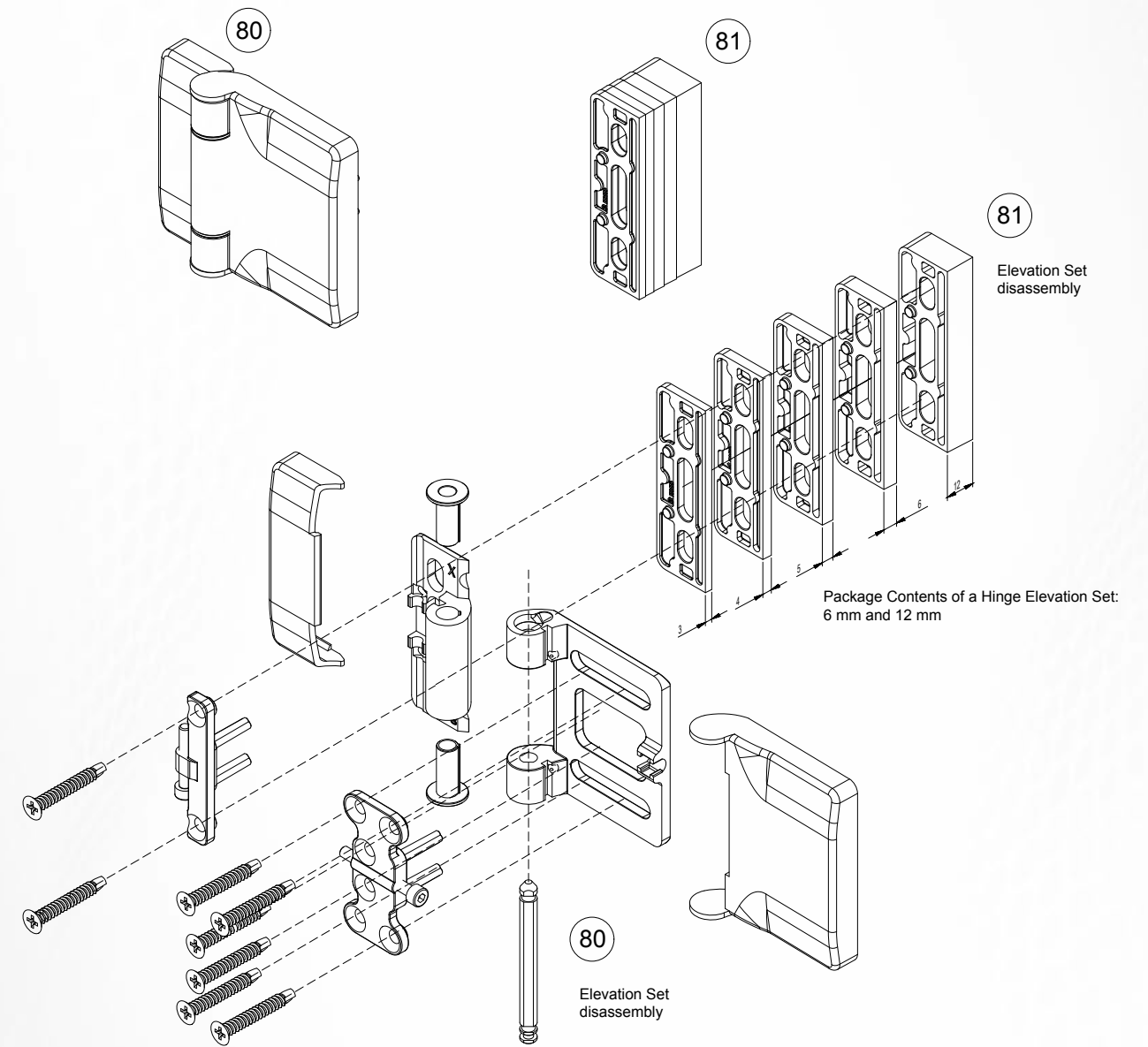
The rebate width must be specified.
The dimension specified as Gr.XX in the table is the rebate width.

Folding Door System





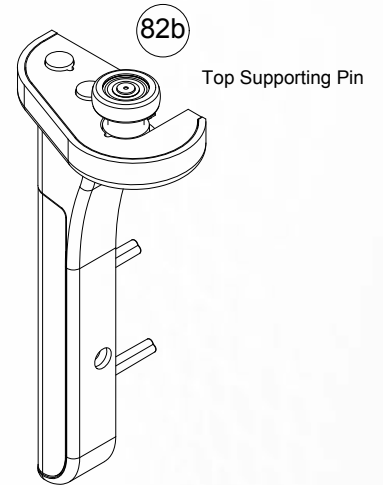
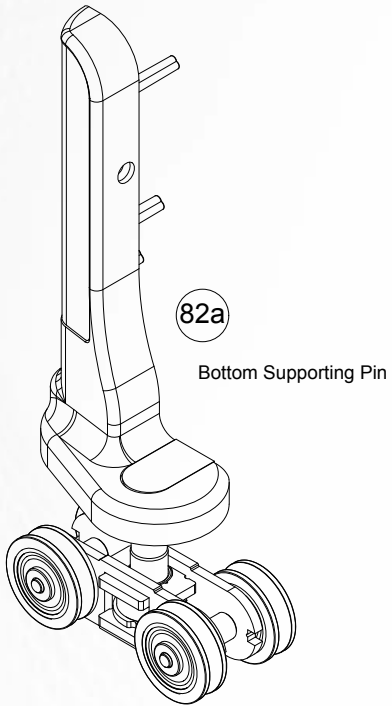
Fold and Slide Door Hinge and Hinge Elevation Set



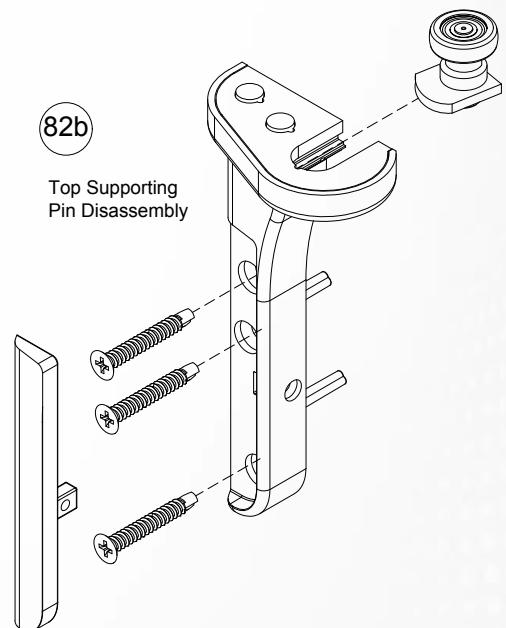
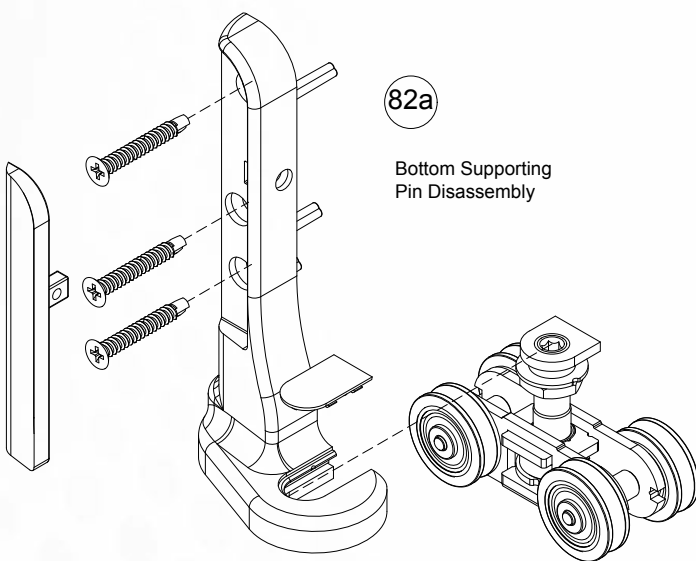
No	Product Code	Description	Colour
80	1-40003-00-008	Fold and Slide Door Hinge Set	Traffic White, RAL 9016
	1-40003-00-005		Black, RAL 9005
	1-40003-00-00A		Clay Brown, RAL 8003
	1-40003-00-00K		Grey Brown, RAL 8019

No	Product Code	Description	Colour
81	1-40003-00-008	Fold and Slide Door Hinge Elevation	Traffic White, RAL 9016
	1-40003-00-005		Black, RAL 9005
	1-40003-00-00A		Clay Brown, RAL 8003
	1-40003-00-00K		Grey Brown, RAL 8019

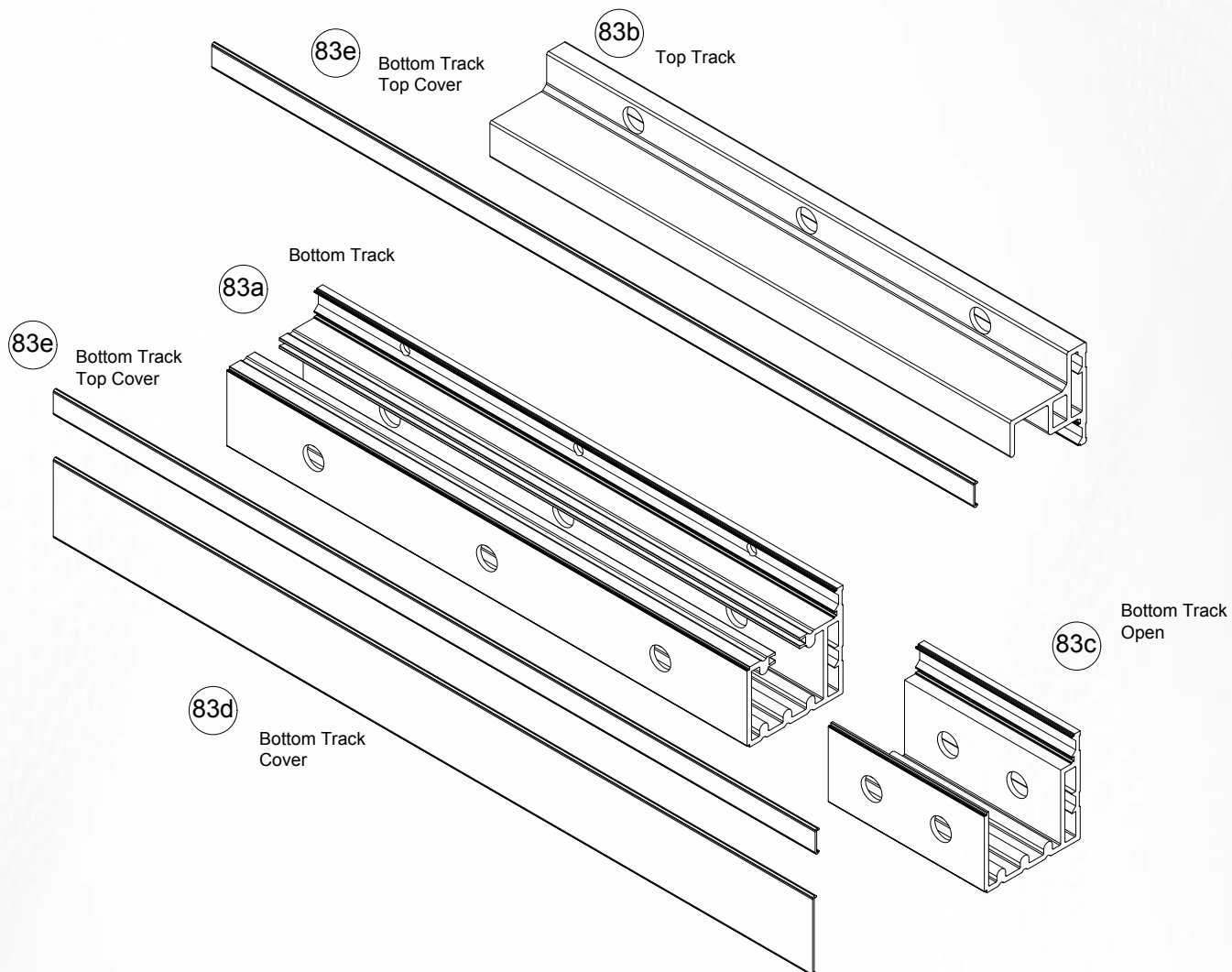
Fold and Slide Door Supporting Car Set



No	Product Code	Description	Colour
82	1-40003-00-008	Fold and Slide Door Supporting Car Set	Traffic White, RAL 9016
	1-40003-00-005		Black, RAL 9005
	1-40003-00-00A		Clay Brown, RAL 8003
	1-40003-00-00K		Grey Brown, RAL 8019



Supporting Track Set

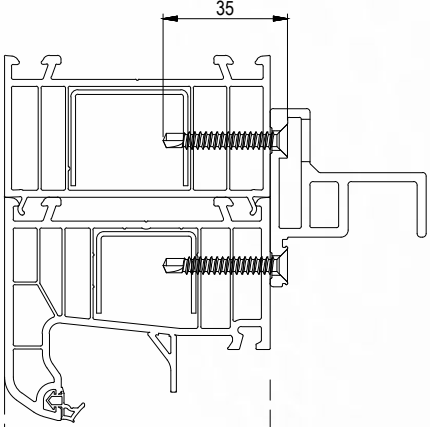
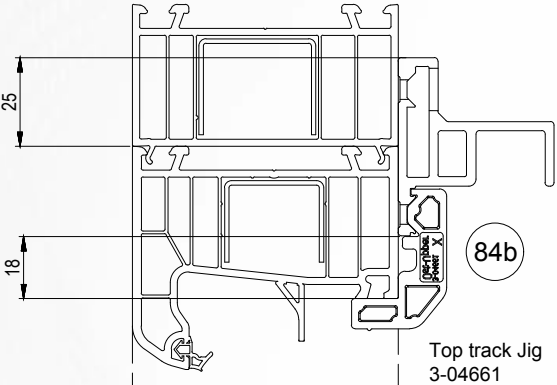


No	Product Code	Description	Colour	Track Length
83	1-40004-00-00F	3-SASH SUPPORTING TRACK SET	Grey, Eloxal	2485mm
	1-40004-00-005		Black, Eloxal, RAL 9005	
	1-40004-00-00A		Clay Brown, Eloxal, RAL 8003	
	1-40004-00-00K	Grey Brown, Eloxal, RAL 8019		
	1-40005-00-00F	5-SASH SUPPORTING TRACK SET	Gri, Eloxal	4075mm
	1-40005-00-005		Black, Eloxal, RAL 9005	
	1-40005-00-00A		Clay Brown, Eloxal, RAL 8003	
	1-40005-00-00K	Grey Brown, Eloxal, RAL 8019		
	1-40006-00-00F	7-SASH SUPPORTING TRACK SET	Gri, Eloxal	5665mm
1-40006-00-005	Black, Eloxal, RAL 9005			
1-40006-00-00A	Clay Brown, Eloxal, RAL 8003			
1-40006-00-00K	Grey Brown, Eloxal, RAL 8019			

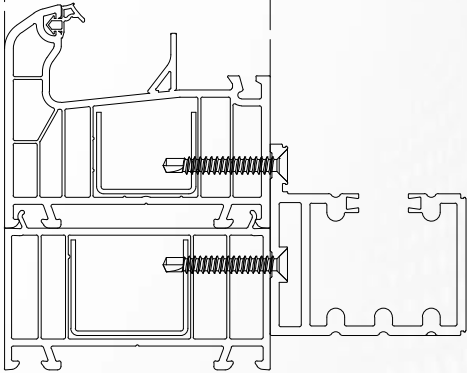
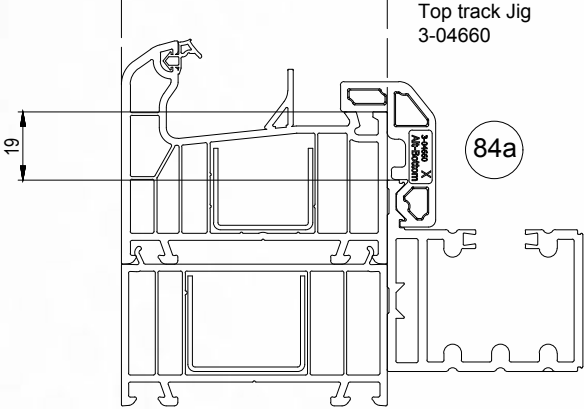
Note: The length of the track referred to in the table belongs to that of the top track. The bottom track found inside the set is 90 mm shorter.

Rebate Track Assembly

A minimum 25 mm rebate (frame) elevation must be used for the top track assembly.

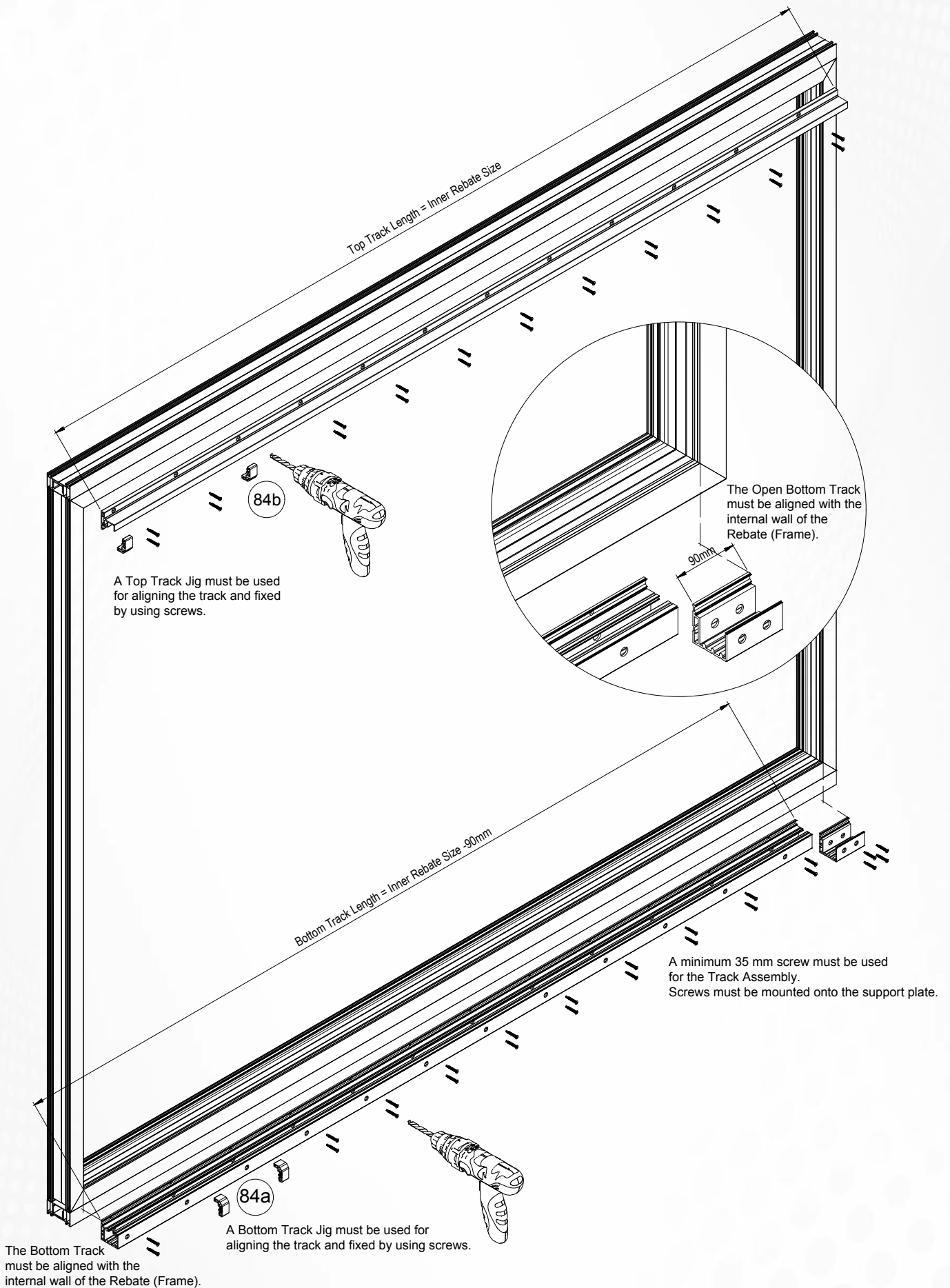


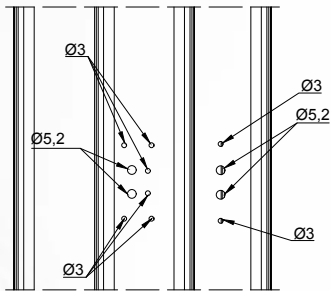
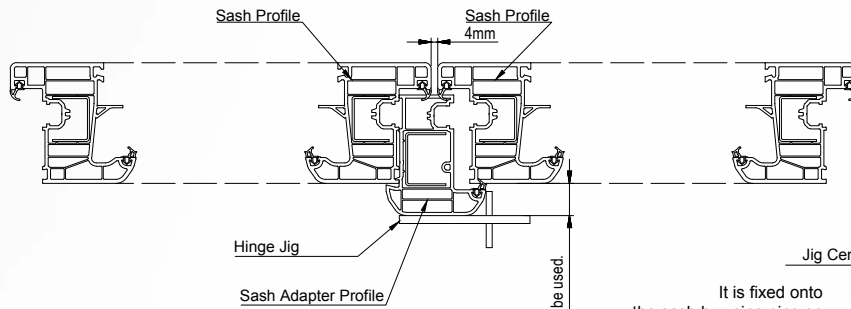
A minimum 35 mm screw must be used for the Track Assembly. Screws must be mounted onto the support plate.



A minimum 40 mm frame elevation must be used for the Bottom Track Assembly.

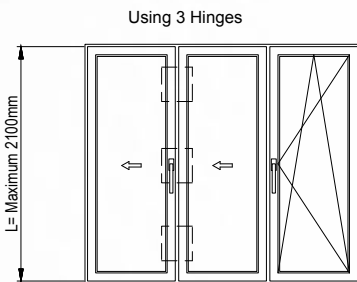
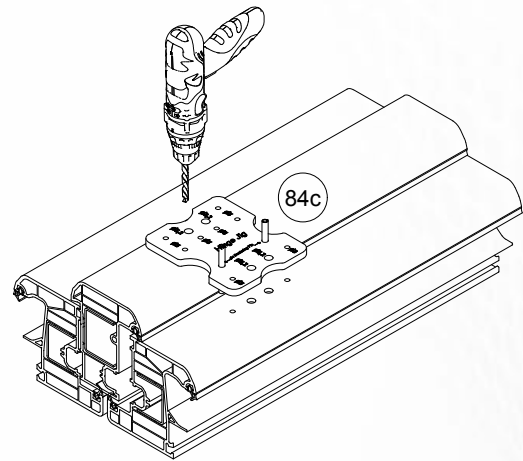
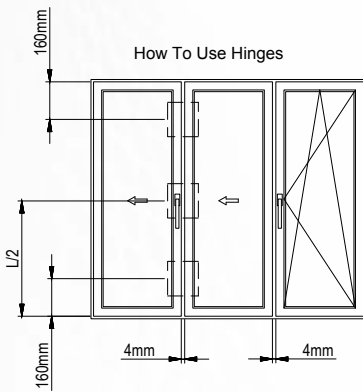
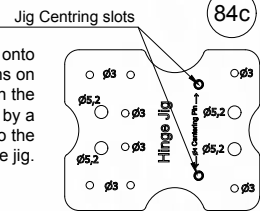
Rebate Track Assembly 2



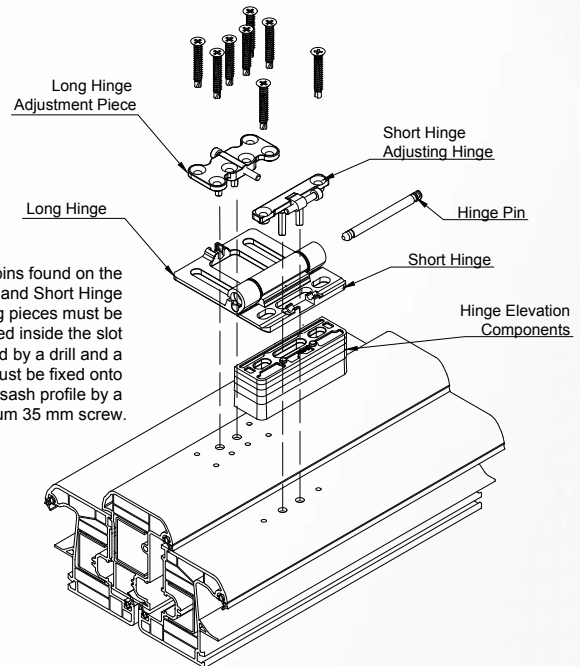
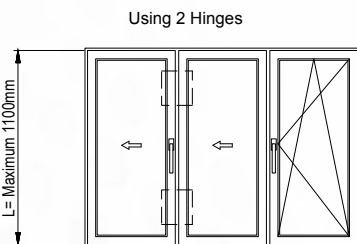


A hole must be drilled onto the sash and adapter profile by drilling bits by using a Hinge Jig.

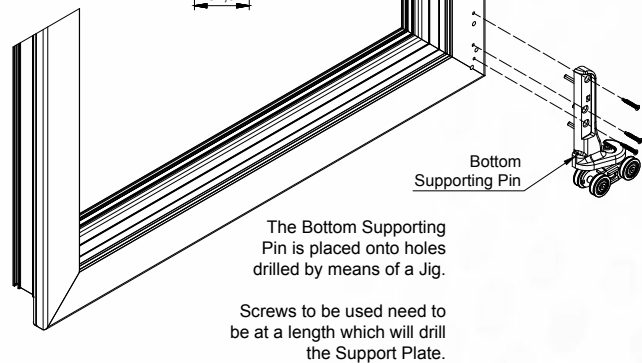
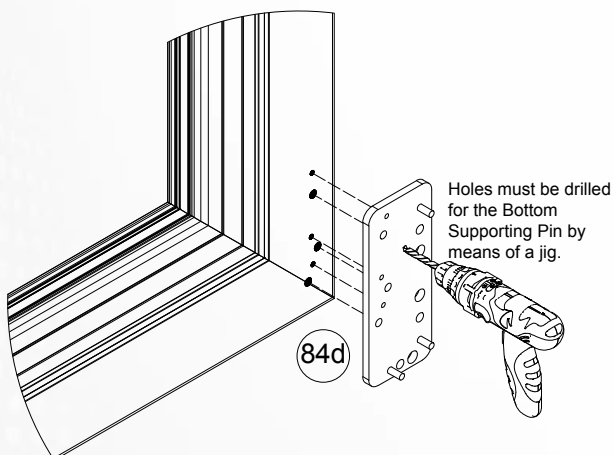
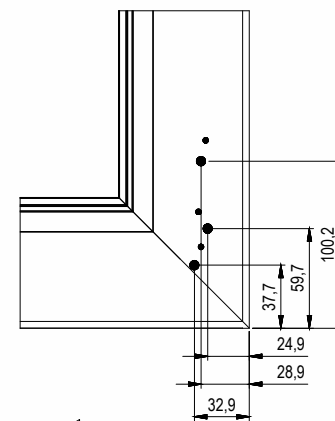
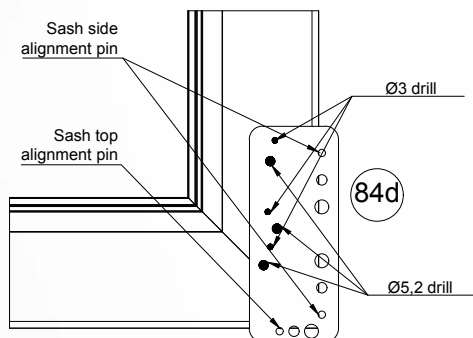
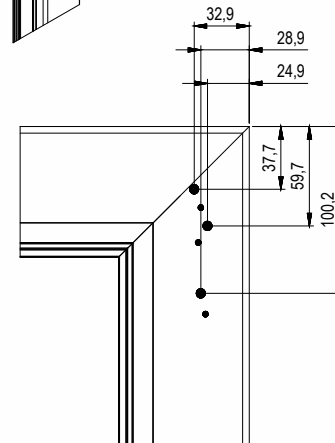
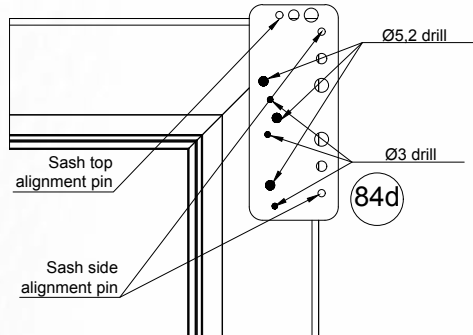
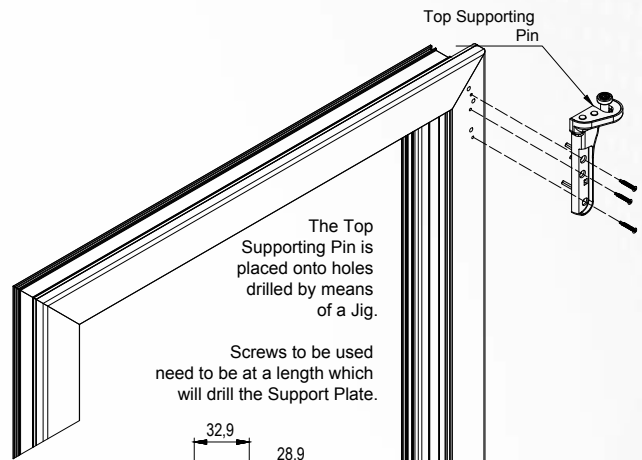
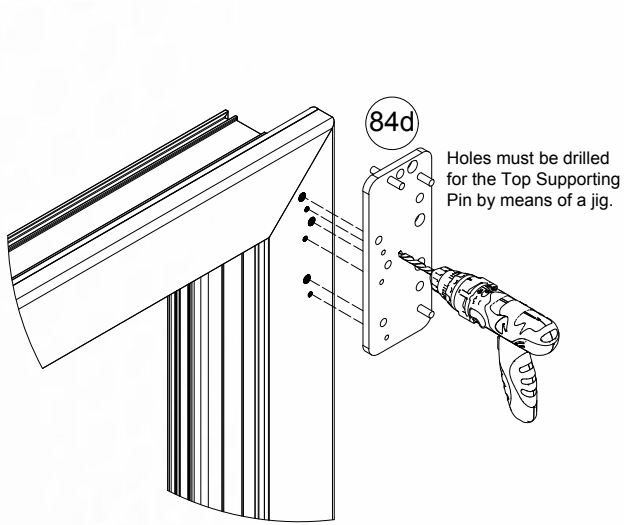
A hinge elevation will be used.



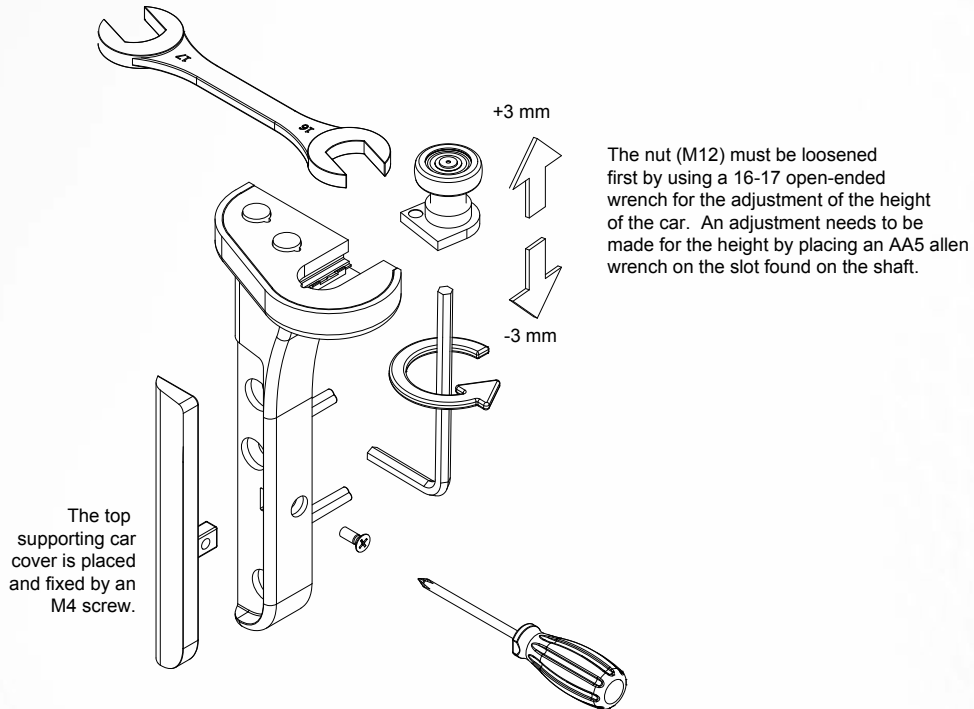
4 hinges can be used for high sashes (2,100 – 2,400).



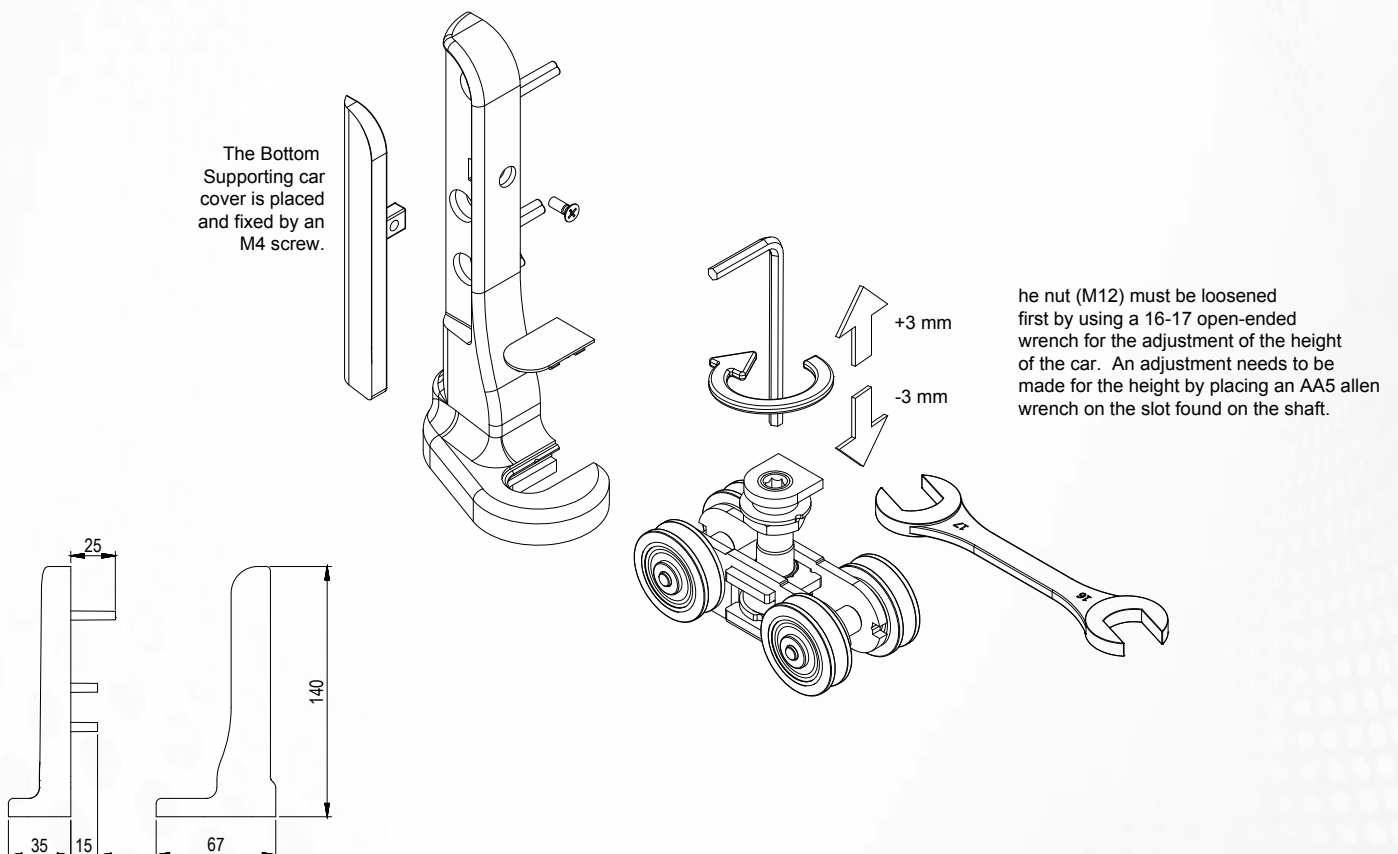
Sash Assembly 2



Top Supporting Pin

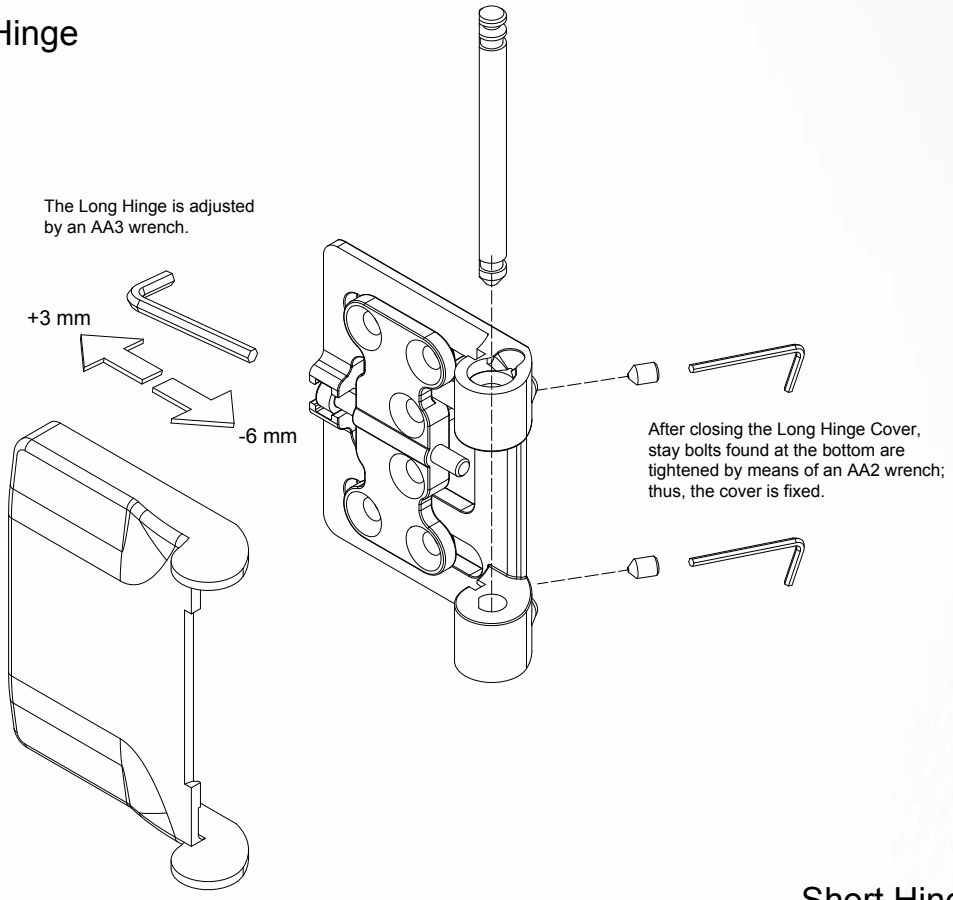


Bottom Supporting Pin

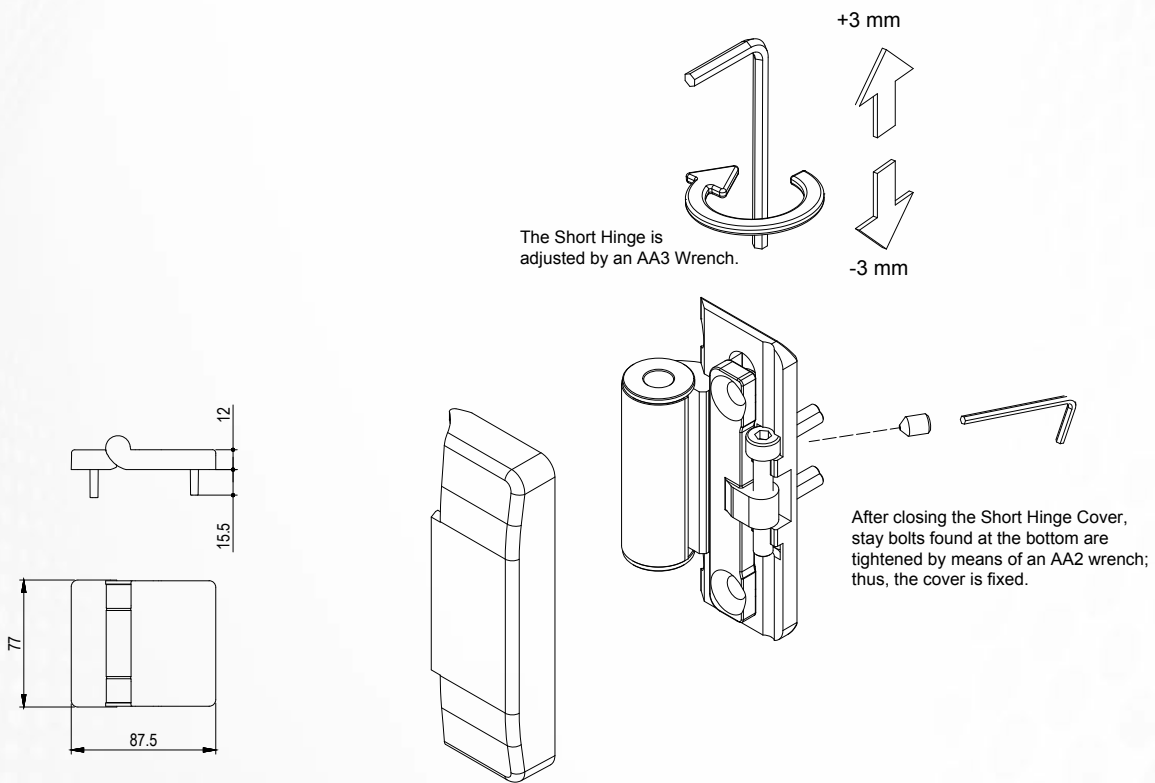


Hinge Adjustment

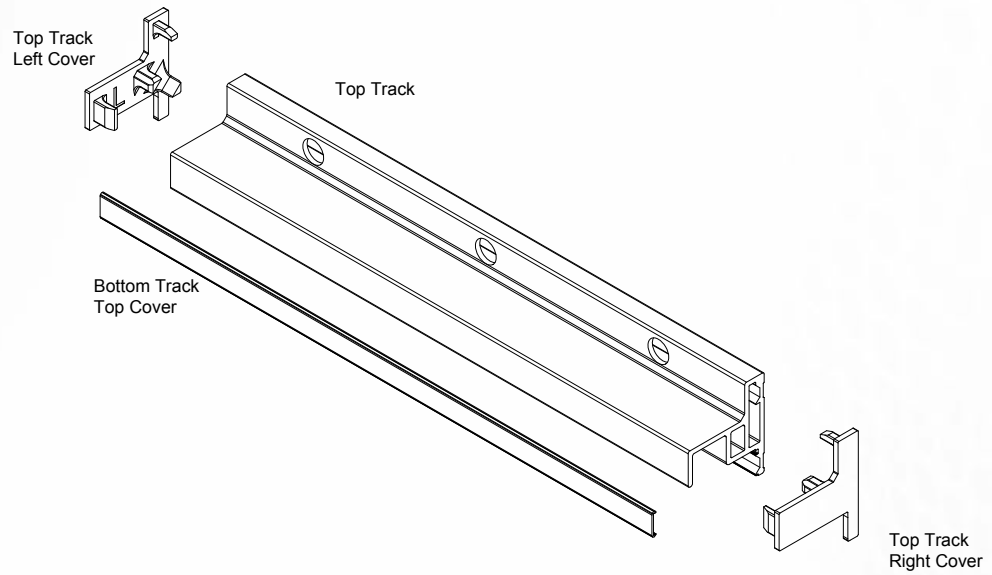
Long Hinge



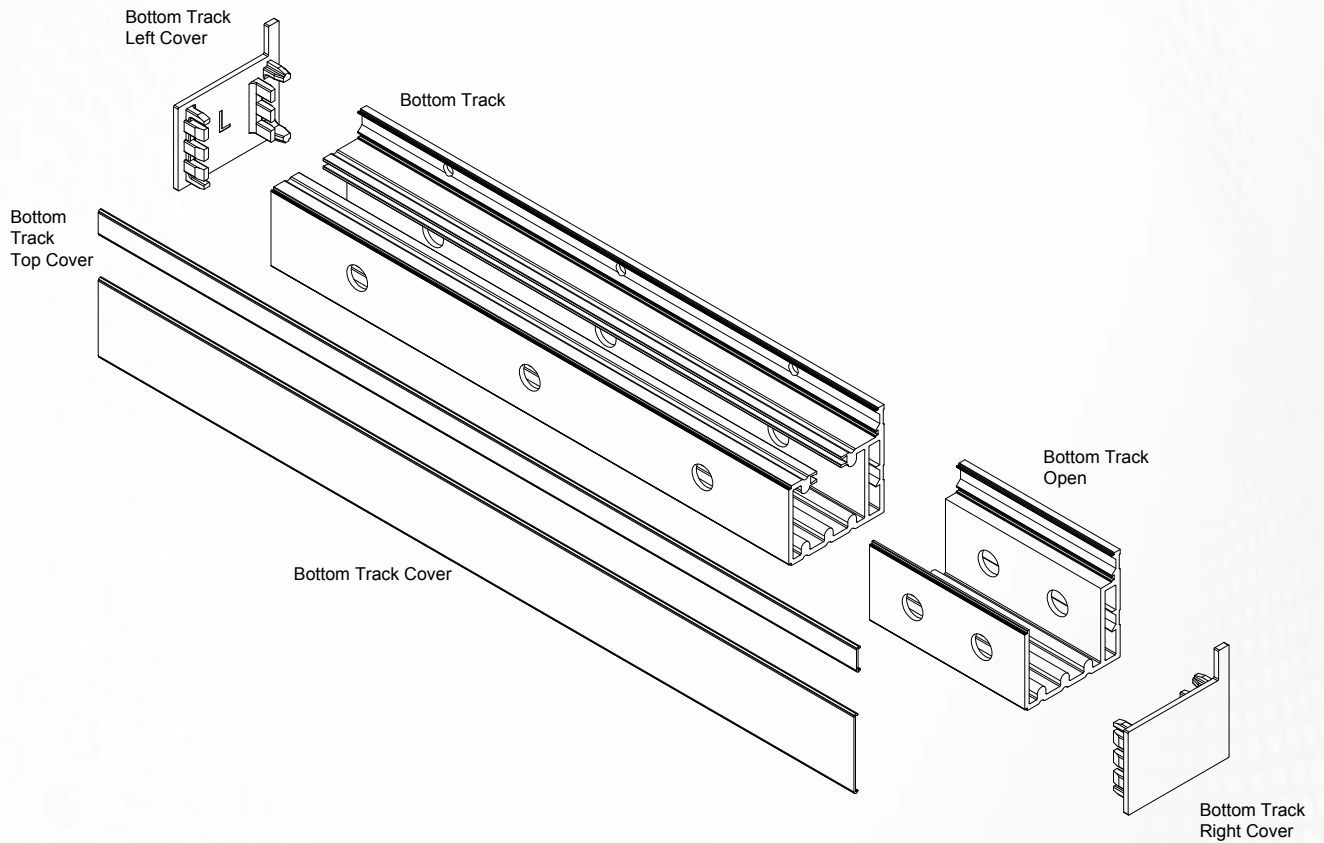
Short Hinge



Top Track

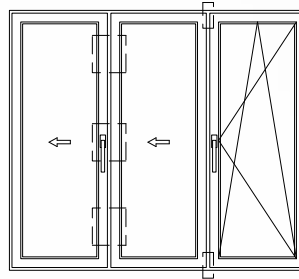


Bottom Track

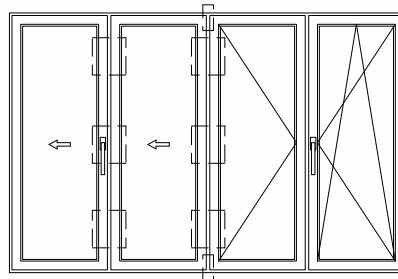


Fold and Slide Door User Adjustment

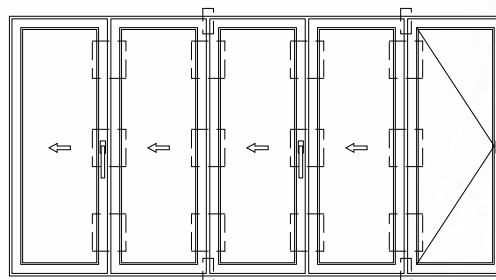
Fold and Slide Door User Adjustment		321
Pc	Description	Product Code
1	Fold and Slide Door Hinge Set	1-40001
1	Fold and Slide Door Hinge Elevation Set	1-40002
1	Supporting Car Set	1-40003
1	3-Sash Supporting Track Set	1-40004



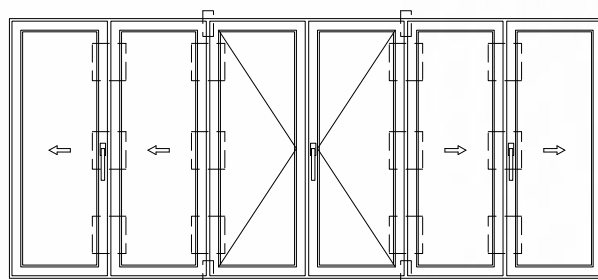
Fold and Slide Door User Adjustment		431
Pc	Description	Product Code
2	Fold and Slide Door Hinge Set	1-40001
1	Fold and Slide Door Hinge Elevation Set	1-40002
1	Supporting Car Set	1-40003
1	5-Sash Supporting Track Set	1-40005



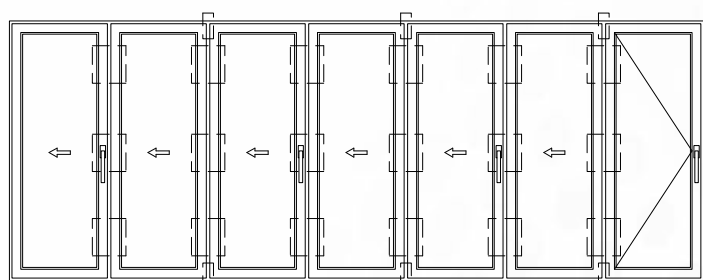
Fold and Slide Door User Adjustment		550
Pc	Description	Product Code
4	Fold and Slide Door Hinge Set	1-40001
2	Fold and Slide Door Hinge Elevation Set	1-40002
2	Supporting Car Set	1-40003
1	5-Sash Supporting Track Set	1-40005

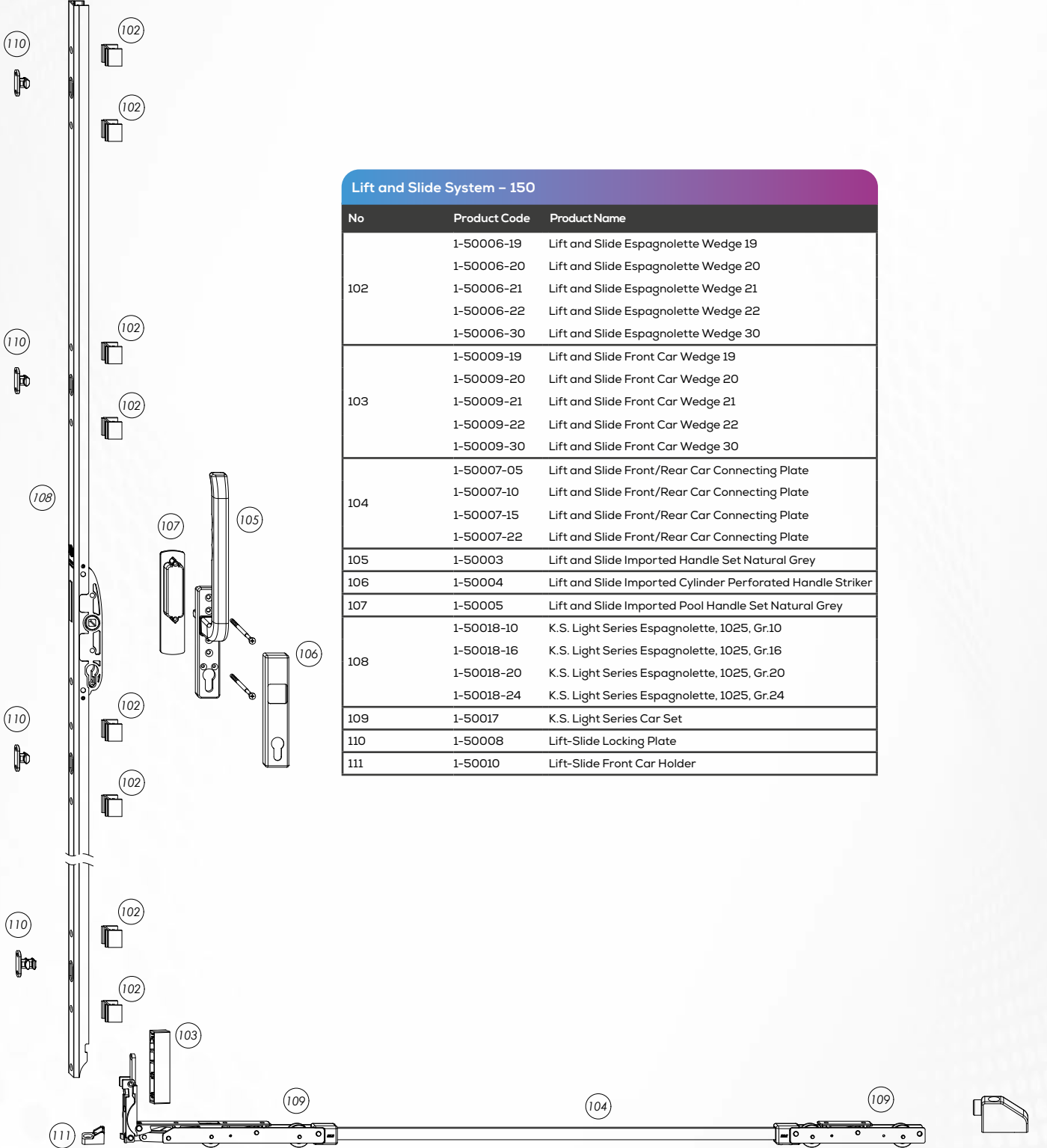


Fold and Slide Door User Adjustment		633
Pc	Description	Product Code
4	Fold and Slide Door Hinge Set	1-40001
2	Fold and Slide Door Hinge Elevation Set	1-40002
2	Supporting Car Set	1-40003
1	7-Sash Supporting Track Set	1-40006



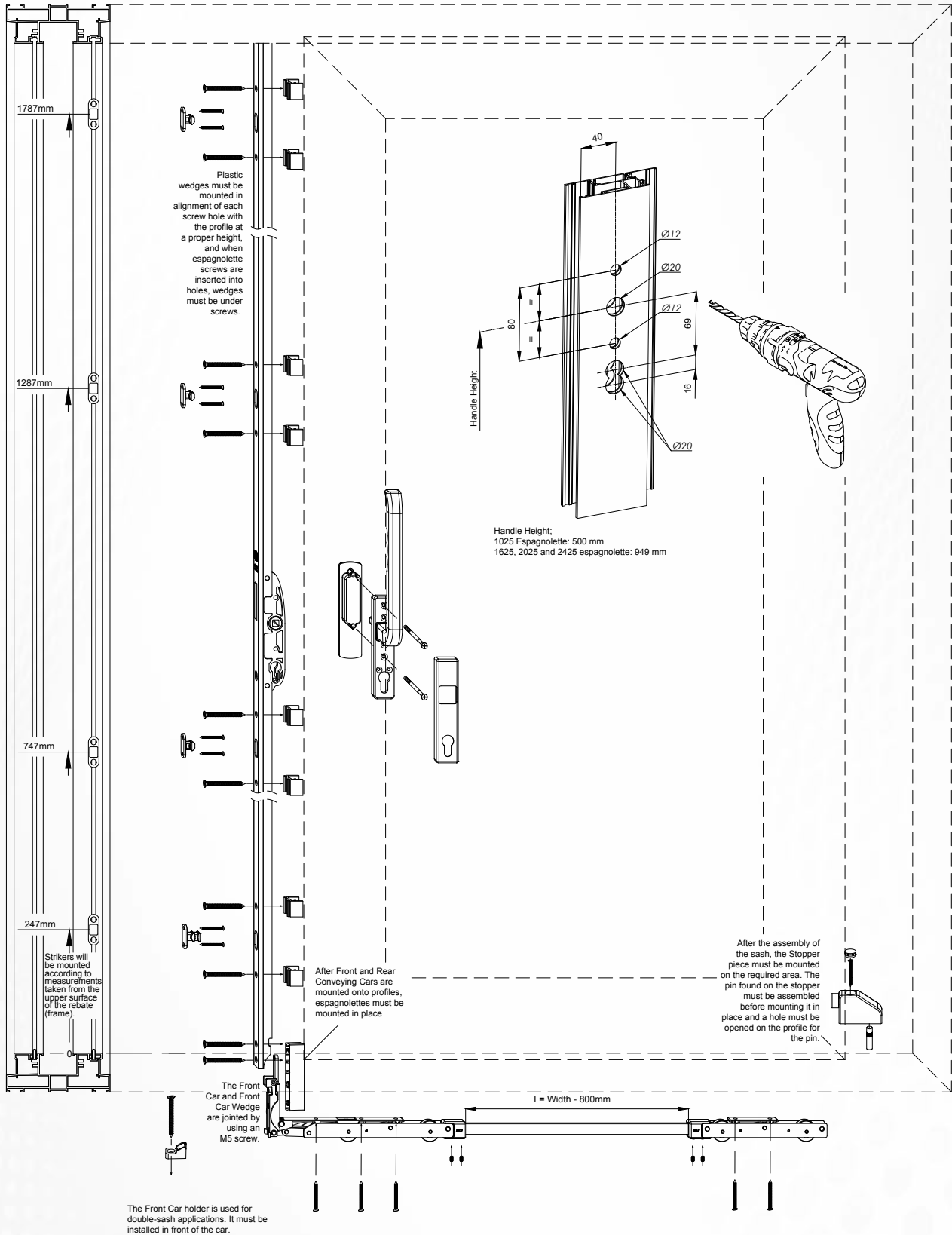
Fold and Slide Door User Adjustment		770
Pc	Description	Product Code
6	Fold and Slide Door Hinge Set	1-40001
3	Fold and Slide Door Hinge Elevation Set	1-40002
3	Supporting Car Set	1-40003
1	7-Sash Supporting Track Set	1-40006





Lift and Slide System - 150		
No	Product Code	Product Name
102	1-50006-19	Lift and Slide Espagnolette Wedge 19
	1-50006-20	Lift and Slide Espagnolette Wedge 20
	1-50006-21	Lift and Slide Espagnolette Wedge 21
	1-50006-22	Lift and Slide Espagnolette Wedge 22
	1-50006-30	Lift and Slide Espagnolette Wedge 30
103	1-50009-19	Lift and Slide Front Car Wedge 19
	1-50009-20	Lift and Slide Front Car Wedge 20
	1-50009-21	Lift and Slide Front Car Wedge 21
	1-50009-22	Lift and Slide Front Car Wedge 22
	1-50009-30	Lift and Slide Front Car Wedge 30
104	1-50007-05	Lift and Slide Front/Rear Car Connecting Plate
	1-50007-10	Lift and Slide Front/Rear Car Connecting Plate
	1-50007-15	Lift and Slide Front/Rear Car Connecting Plate
	1-50007-22	Lift and Slide Front/Rear Car Connecting Plate
105	1-50003	Lift and Slide Imported Handle Set Natural Grey
106	1-50004	Lift and Slide Imported Cylinder Perforated Handle Striker
107	1-50005	Lift and Slide Imported Pool Handle Set Natural Grey
108	1-50018-10	K.S. Light Series Espagnolette, 1025, Gr.10
	1-50018-16	K.S. Light Series Espagnolette, 1025, Gr.16
	1-50018-20	K.S. Light Series Espagnolette, 1025, Gr.20
	1-50018-24	K.S. Light Series Espagnolette, 1025, Gr.24
109	1-50017	K.S. Light Series Car Set
110	1-50008	Lift-Slide Locking Plate
111	1-50010	Lift-Slide Front Car Holder

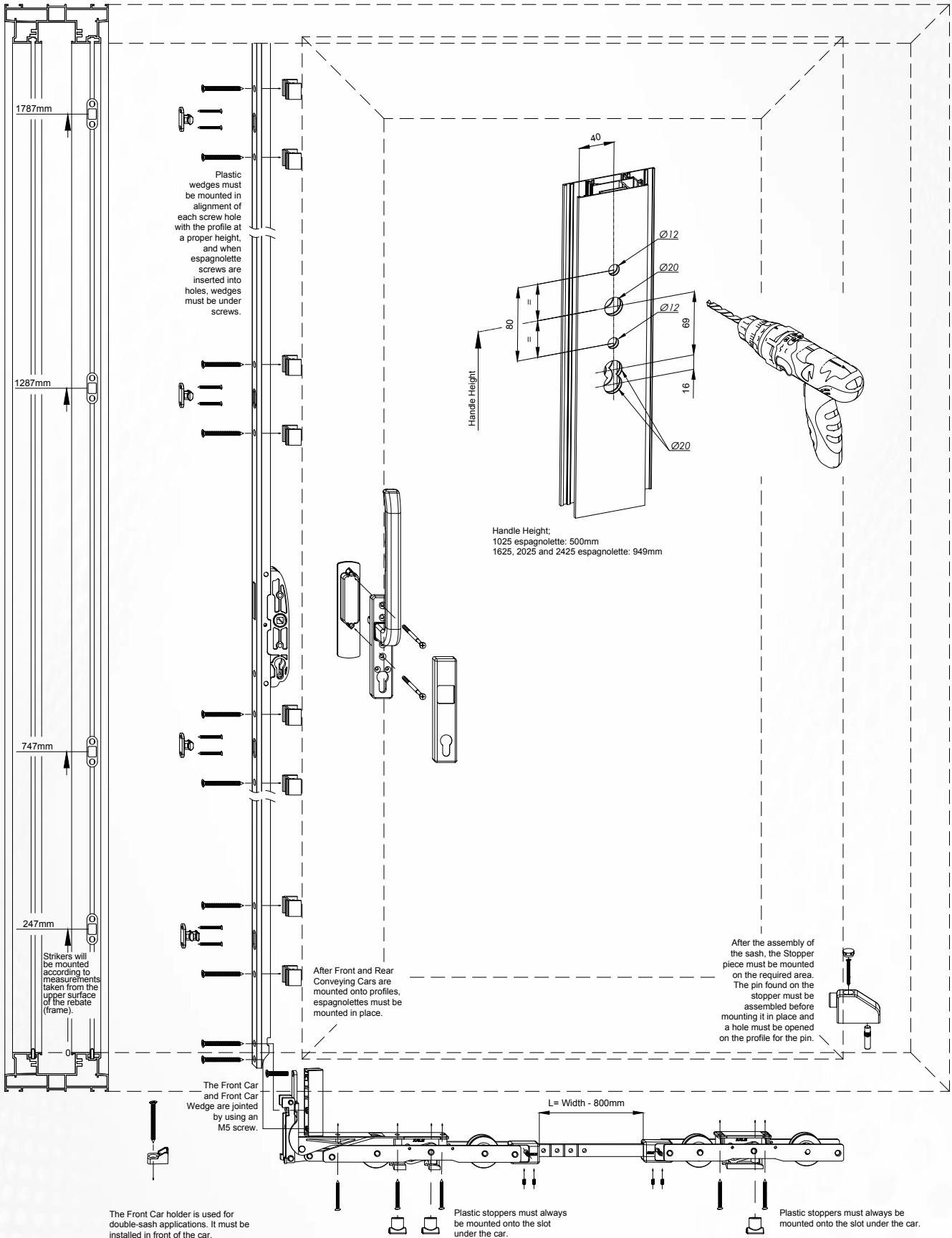
Lift and Slide System – 150 Assembly Instruction



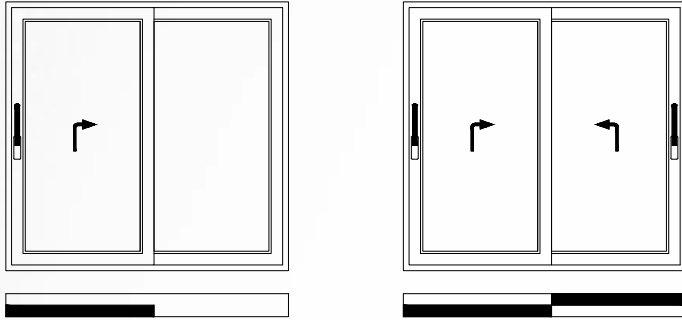


Lift and Slide System - 300		
No	Product Code	Product Name
100	1-50001-10	Lift and Slide Espagnolette 1025
	1-50001-16	Lift and Slide Espagnolette 1625
	1-50001-20	Lift and Slide Espagnolette 2025
	1-50001-24	Lift and Slide Espagnolette 2425
101	1-50002	Lift and Slide Car Set 300
102	1-50006-19	Lift and Slide Espagnolette Wedge 19
	1-50006-20	Lift and Slide Espagnolette Wedge 20
	1-50006-21	Lift and Slide Espagnolette Wedge 21
	1-50006-22	Lift and Slide Espagnolette Wedge 22
	1-50006-30	Lift and Slide Espagnolette Wedge 30
103	1-50009-19	Lift and Slide Front Car Wedge 19
	1-50009-20	Lift and Slide Front Car Wedge 20
	1-50009-21	Lift and Slide Front Car Wedge 21
	1-50009-22	Lift and Slide Front Car Wedge 22
	1-50009-30	Lift and Slide Front Car Wedge 30
104	1-50007-05	Lift and Slide Front/Rear Car Connecting Plate
	1-50007-10	Lift and Slide Front/Rear Car Connecting Plate
	1-50007-15	Lift and Slide Front/Rear Car Connecting Plate
	1-50007-22	Lift and Slide Front/Rear Car Connecting Plate
105	1-50003	Lift and Slide Imported Handle Set Natural Grey
106	1-50004	Lift and Slide Imported Cylinder Perforated Handle Striker
107	1-50005	Lift and Slide Imported Pool Handle Set Natural Grey
110	1-50008	Lift-Slide Locking Plate
111	1-50010	Lift-Slide Front Car Holder

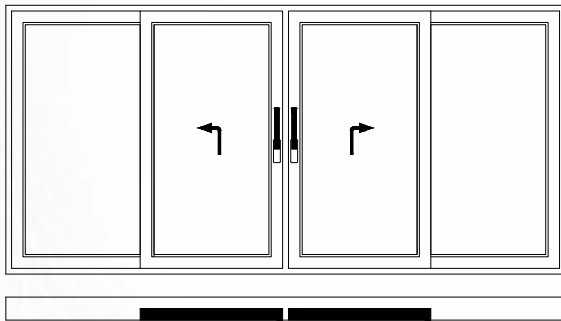
Lift and Slide System – 300 Assembly Instruction



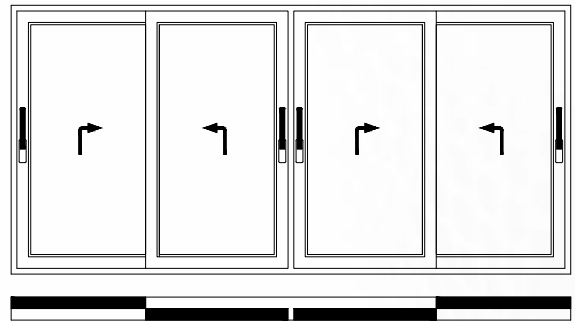
Lift-Slide sash, 1 Fixed rebate (frame) 2 Lift-Slide sashes



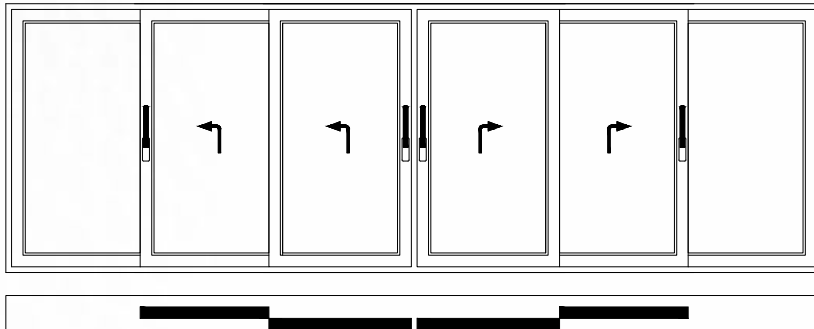
2 Lift-Slide sashes, 2 fixed rebates (frames)



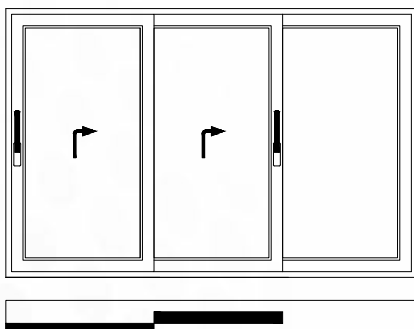
4 Lift-Slide sashes



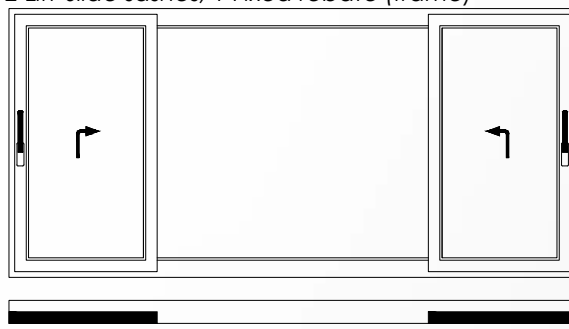
4 Lift-Slide sashes, 2 Fixed rebates (frames)



2 Lift-Slide sashes, 1 Fixed rebate (frame)



2 Lift-Slide sashes, 1 Fixed rebate (frame)



NOTE

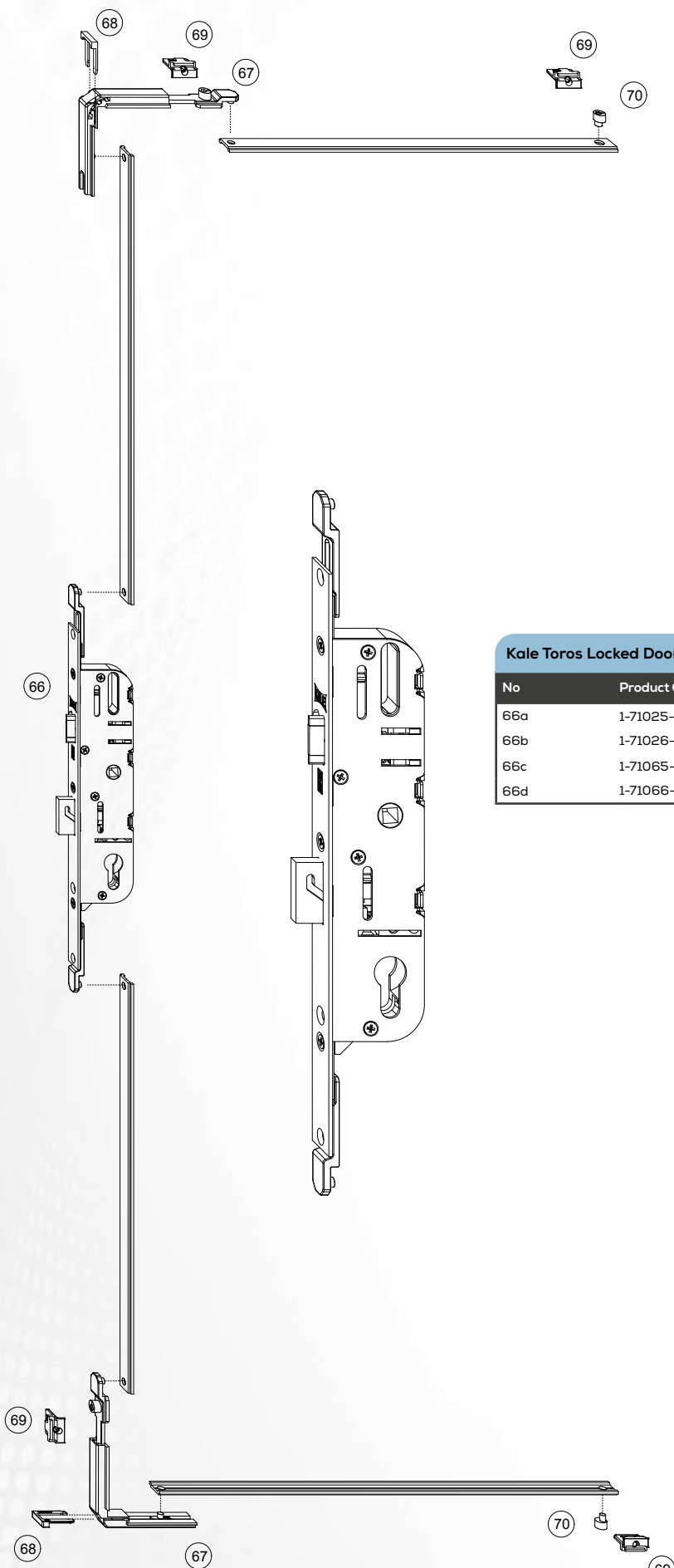
A series of horizontal dotted lines for writing notes, spanning the width of the page.



ALUMINIUM
DOOR SYSTEMS

LOCKED DOOR SYSTEMS

Toros



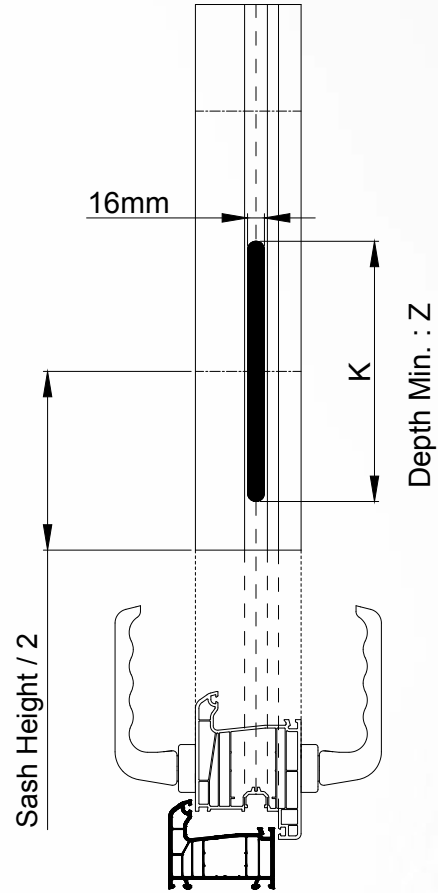
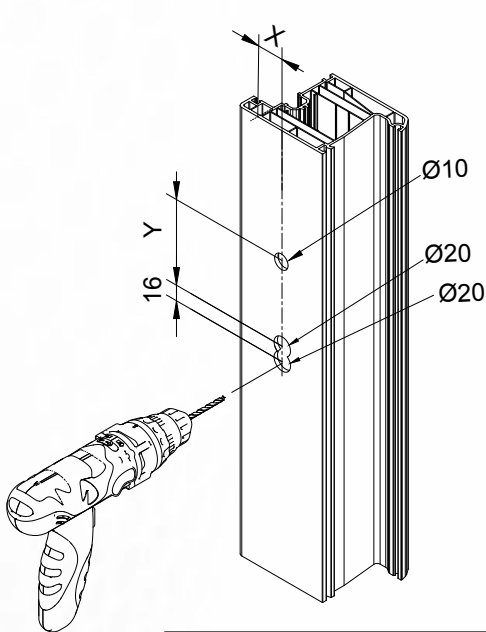
Kale Toros Locked Door

No	Product Code	Product Name
66a	1-71025-00	TOROS ALUMINIUM DOOR LOCK 28*92
66b	1-71026-00	TOROS ALUMINIUM DOOR LOCK 35*85
66c	1-71065-00	TOROS AL. DOOR LOCK 28*92 W/OUT STRIKERS+PINS
66d	1-71066-00	TOROS AL. DOOR LOCK 35*85 W/OUT STRIKERS+PINS

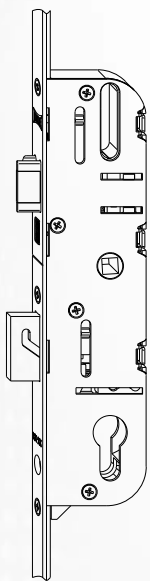


PVC/WOODEN/ALUMINIUM
DOOR SYSTEM FITTINGS

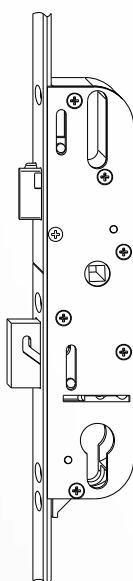
Aral Handle Slot Preparation with All Around Locking and with Deadbolts



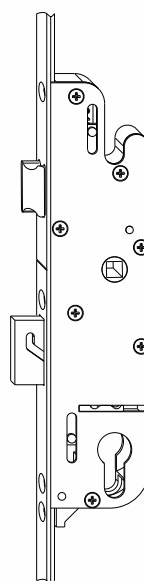
Aral Handle Slot Preparation with All Around Locking			
X	Y	K	Z
35	85	230	55
35	92	240	55
28	85	230	48
28	92	240	48
25	85	230	45
25	92	240	45



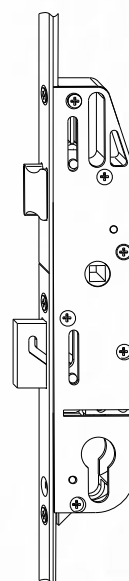
35x85mm



28x85 / 28x92 / 25x85mm

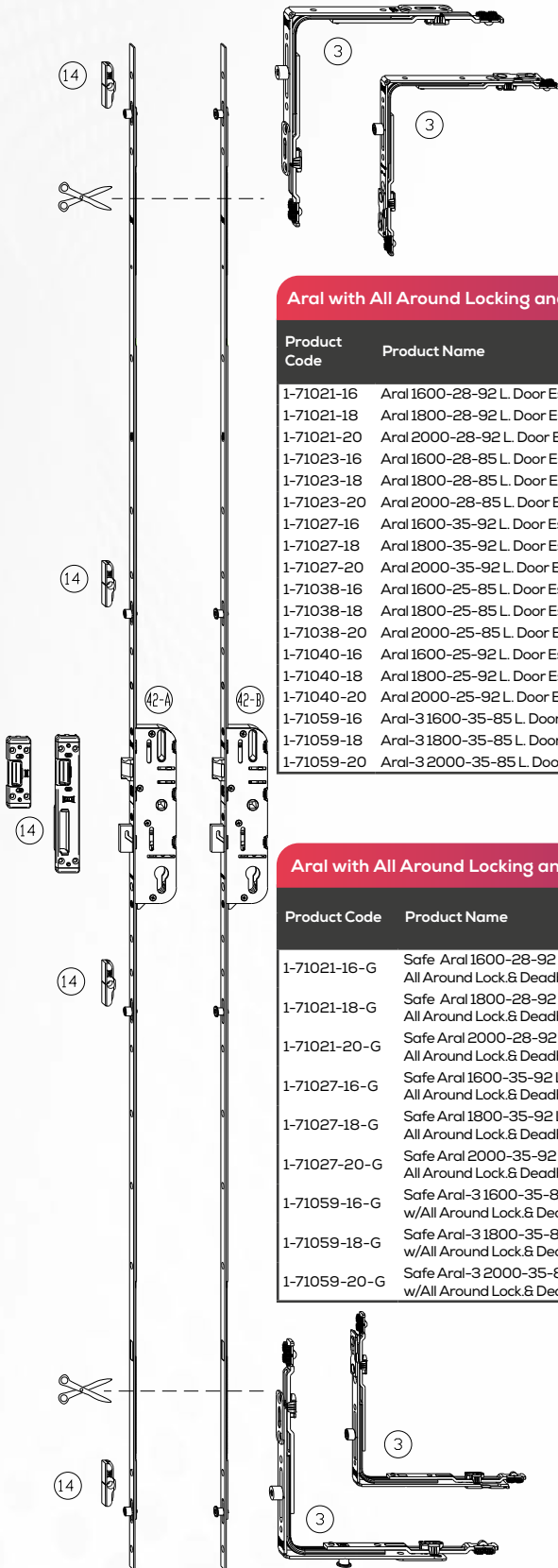


35x92mm



25x92mm

Aral with All Around Locking and with Deadbolts



Aral with All Around Locking and with Deadbolts

42-A

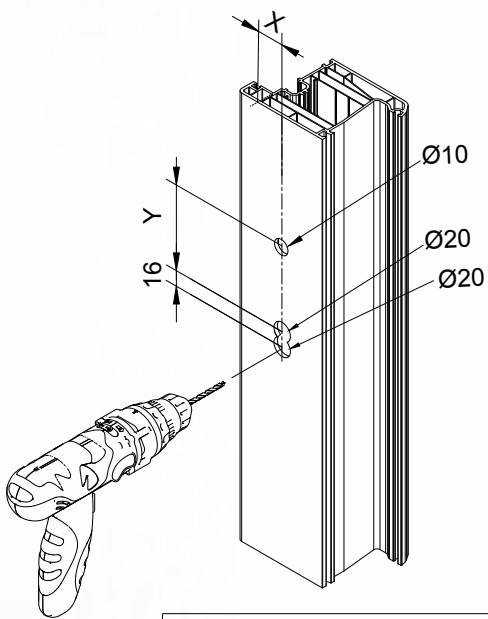
Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71021-16	Aral 1600-28-92 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	92	28	10	4
1-71021-18	Aral 1800-28-92 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	92	28	10	4
1-71021-20	Aral 2000-28-92 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	92	28	12	4
1-71023-16	Aral 1600-28-85 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	85	28	10	4
1-71023-18	Aral 1800-28-85 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	85	28	10	4
1-71023-20	Aral 2000-28-85 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	85	28	12	4
1-71027-16	Aral 1600-35-92 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	92	35	10	4
1-71027-18	Aral 1800-35-92 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	92	35	10	4
1-71027-20	Aral 2000-35-92 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	92	35	12	4
1-71038-16	Aral 1600-25-85 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	85	25	10	4
1-71038-18	Aral 1800-25-85 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	85	25	10	4
1-71038-20	Aral 2000-25-85 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	85	25	12	4
1-71040-16	Aral 1600-25-92 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	92	25	10	4
1-71040-18	Aral 1800-25-92 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	92	25	10	4
1-71040-20	Aral 2000-25-92 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	92	25	12	4
1-71059-16	Aral-3 1600-35-85 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	85	35	10	4
1-71059-18	Aral-3 1800-35-85 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	85	35	10	4
1-71059-20	Aral-3 2000-35-85 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	85	35	12	4

Aral with All Around Locking and with Deadbolts

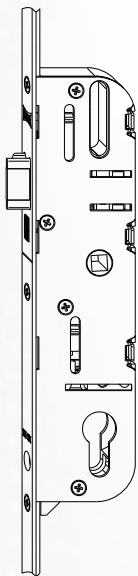
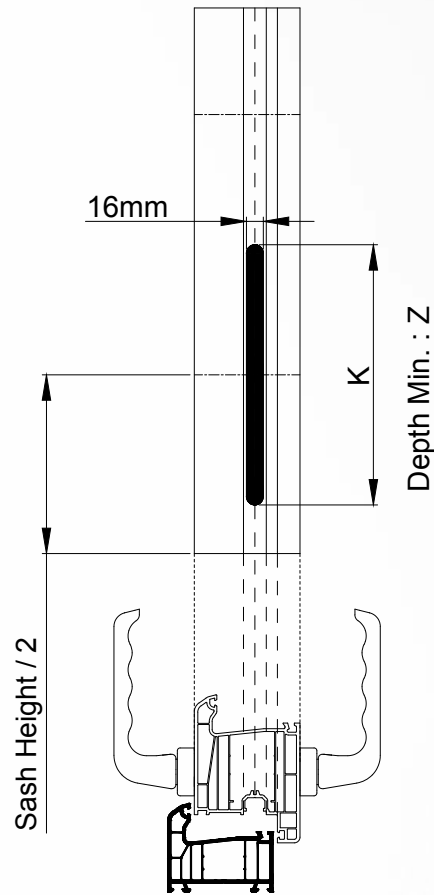
42-B

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71021-16-G	Safe Aral 1600-28-92 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	92	28	10	4
1-71021-18-G	Safe Aral 1800-28-92 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	92	28	10	4
1-71021-20-G	Safe Aral 2000-28-92 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	92	28	12	4
1-71027-16-G	Safe Aral 1600-35-92 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	92	35	10	4
1-71027-18-G	Safe Aral 1800-35-92 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	92	35	10	4
1-71027-20-G	Safe Aral 2000-35-92 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	92	35	12	4
1-71059-16-G	Safe Aral-3 1600-35-85 L. Door Esp. w/All Around Lock.& Deadbolts	1600	1600	1800	85	35	10	4
1-71059-18-G	Safe Aral-3 1800-35-85 L. Door Esp. w/All Around Lock.& Deadbolts	1800	1800	2000	85	35	10	4
1-71059-20-G	Safe Aral-3 2000-35-85 L. Door Esp. w/All Around Lock.& Deadbolts	2000	2000	2200	85	35	12	4

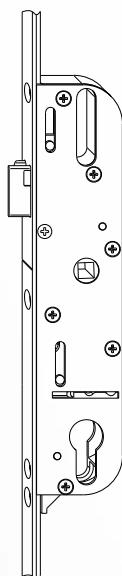
Aral Handle Slot Preparation with All Around Locking and without Deadbolts



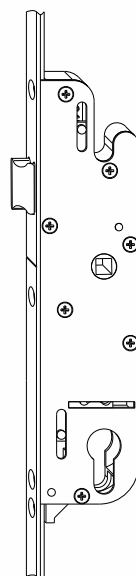
X	Y	K	Z
35	85	230	55
35	92	240	55
28	85	230	48
28	92	240	48
25	85	230	45
25	92	240	45



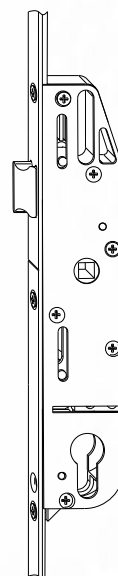
35x85mm



28x85 / 28x92 / 25x85mm

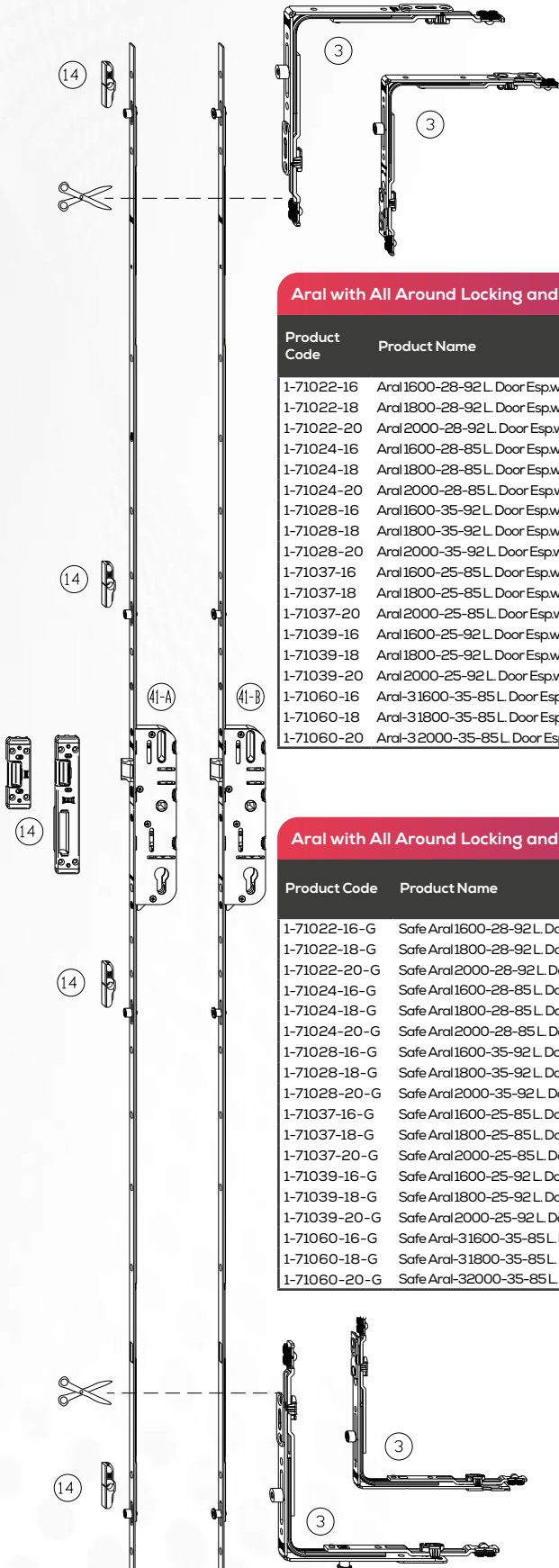


35x92mm



25x92mm

Aral with All Around Locking and without Deadbolts



Aral with All Around Locking and without Deadbolts

41 - A

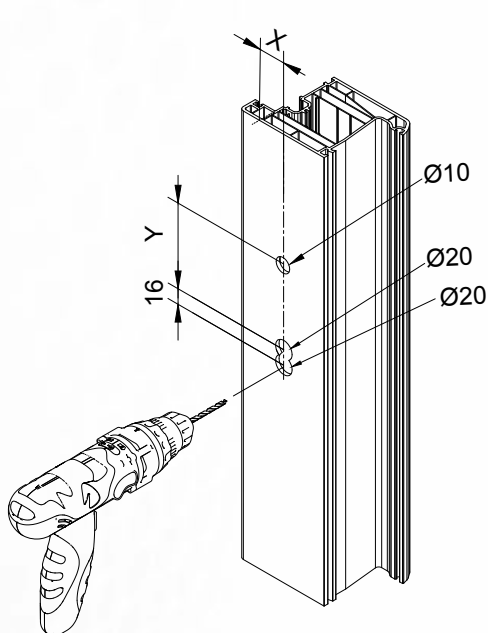
Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71022-16	Aral1600-28-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	92	28	10	4
1-71022-18	Aral1800-28-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	92	28	10	4
1-71022-20	Aral2000-28-92 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	92	28	12	4
1-71024-16	Aral1600-28-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	85	28	10	4
1-71024-18	Aral1800-28-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	85	28	10	4
1-71024-20	Aral2000-28-85 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	85	28	12	4
1-71028-16	Aral1600-35-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	92	35	10	4
1-71028-18	Aral1800-35-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	92	35	10	4
1-71028-20	Aral2000-35-92 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	92	35	12	4
1-71037-16	Aral1600-25-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	85	25	10	4
1-71037-18	Aral1800-25-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	85	25	10	4
1-71037-20	Aral2000-25-85 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	85	25	12	4
1-71039-16	Aral1600-25-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	92	25	10	4
1-71039-18	Aral1800-25-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	92	25	10	4
1-71039-20	Aral2000-25-92 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	92	25	12	4
1-71060-16	Aral-31600-35-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	85	35	10	4
1-71060-18	Aral-31800-35-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	85	35	10	4
1-71060-20	Aral-32000-35-85 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	85	35	12	4

Aral with All Around Locking and without Deadbolts

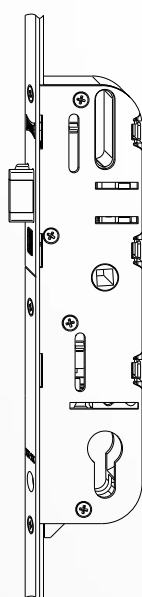
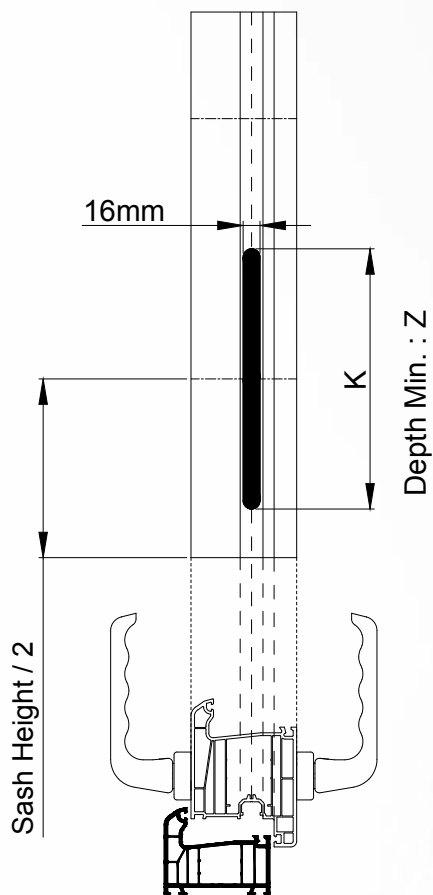
41 - B

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71022-16-G	Safe Aral1600-28-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	92	28	10	4
1-71022-18-G	Safe Aral1800-28-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	92	28	10	4
1-71022-20-G	Safe Aral2000-28-92 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	92	28	12	4
1-71024-16-G	Safe Aral1600-28-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	85	28	10	4
1-71024-18-G	Safe Aral1800-28-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	85	28	10	4
1-71024-20-G	Safe Aral2000-28-85 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	85	28	12	4
1-71028-16-G	Safe Aral1600-35-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	92	35	10	4
1-71028-18-G	Safe Aral1800-35-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	92	35	10	4
1-71028-20-G	Safe Aral2000-35-92 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	92	35	12	4
1-71037-16-G	Safe Aral1600-25-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	85	25	10	4
1-71037-18-G	Safe Aral1800-25-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	85	25	10	4
1-71037-20-G	Safe Aral2000-25-85 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	85	25	12	4
1-71039-16-G	Safe Aral1600-25-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	92	25	10	4
1-71039-18-G	Safe Aral1800-25-92 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	92	25	10	4
1-71039-20-G	Safe Aral2000-25-92 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	92	25	12	4
1-71060-16-G	Safe Aral-31600-35-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1600	1600	1800	85	35	10	4
1-71060-18-G	Safe Aral-31800-35-85 L. Door Espw/All Around Lock. & w/out Deadbolts	1800	1800	2000	85	35	10	4
1-71060-20-G	Safe Aral-32000-35-85 L. Door Espw/All Around Lock. & w/out Deadbolts	2000	2000	2200	85	35	12	4

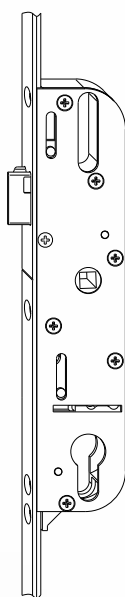
Aral Handle Slot Preparation without Connections and with Deadbolts



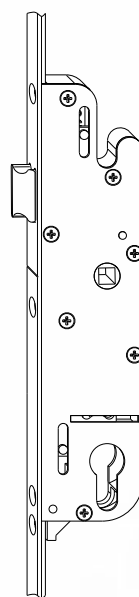
Aral Handle Slot Preparation with All Around Locking			
X	Y	K	Z
35	85	230	55
35	92	240	55
28	92	240	48
25	85	230	45



35x85mm

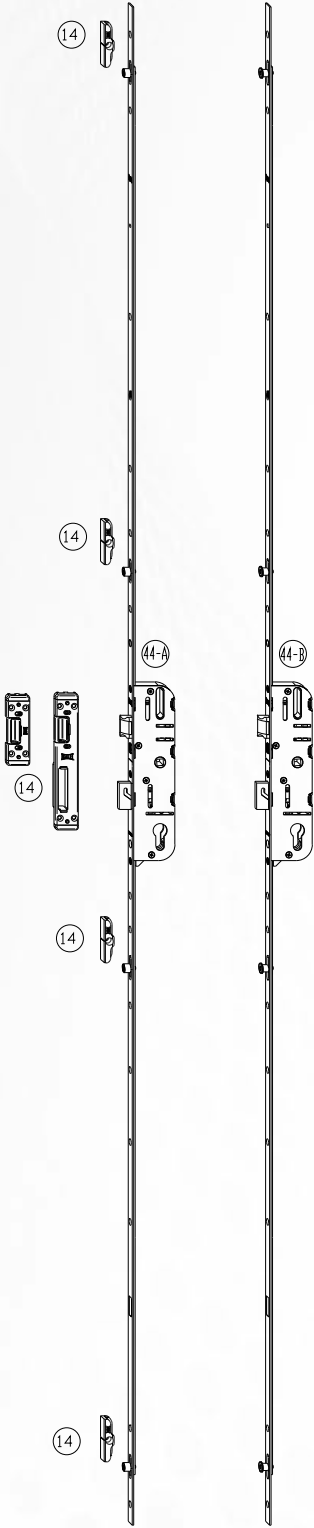


28x85 / 28x92 mm



35x92mm

Aral without Connections and with Deadbolts



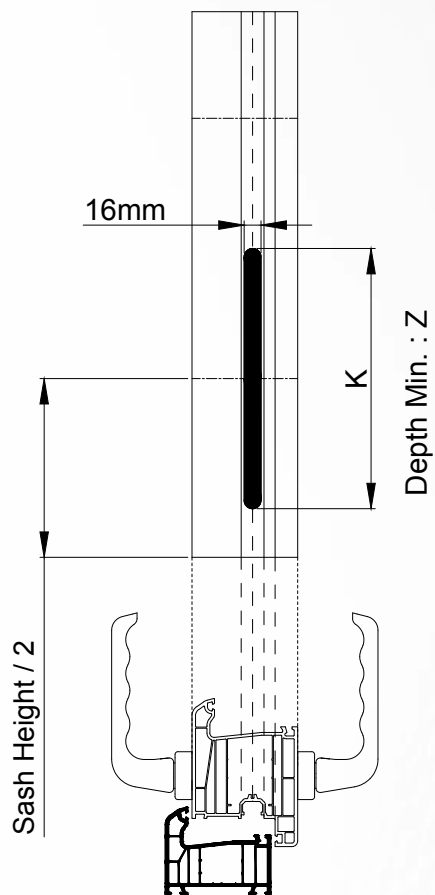
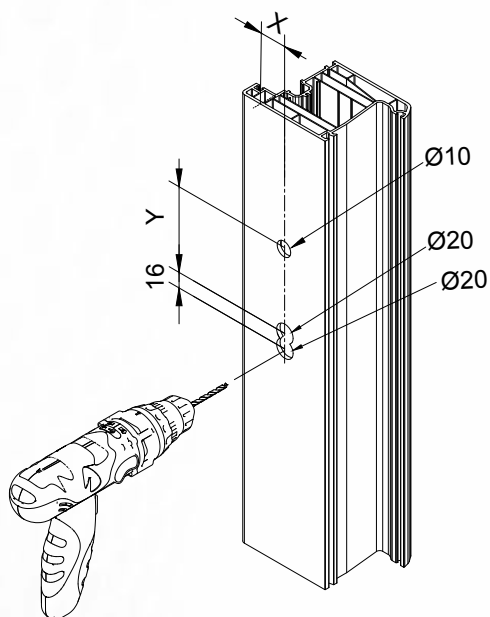
Aral without Connections and with Deadbolts 44-A

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71051-16	Aral 1600-28-92 L. Door Esp.w/out Connections & w/ Deadbolts	1600	1600	1800	92	28	10	4
1-71051-18	Aral 1800-28-92 L. Door Esp.w/out Connections & w/ Deadbolts	1800	1800	2000	92	28	10	4
1-71051-20	Aral 2000-28-92 L. Door Esp.w/out Connections & w/ Deadbolts	2000	2000	2200	92	28	12	4
1-71053-16	Aral 1600-28-85 L. Door Esp.w/out Connections & w/ Deadbolts	1600	1600	1800	85	28	10	4
1-71053-18	Aral 1800-28-85 L. Door Esp.w/out Connections & w/ Deadbolts	1800	1800	2000	85	28	10	4
1-71053-20	Aral 2000-28-85 L. Door Esp.w/out Connections & w/ Deadbolts	2000	2000	2200	85	28	12	4
1-71057-16	Aral 1600-35-92 L. Door Esp.w/out Connections & w/ Deadbolts	1600	1600	1800	92	35	10	4
1-71057-18	Aral 1800-35-92 L. Door Esp.w/out Connections & w/ Deadbolts	1800	1800	2000	92	35	10	4
1-71057-20	Aral 2000-35-92 L. Door Esp.w/out Connections & w/ Deadbolts	2000	2000	2200	92	35	12	4
1-71079-16	Aral-3 1600-35-85 L. Door Esp.w/out Connections & w/ Deadbolts	1600	1600	1800	85	35	10	4
1-71079-18	Aral-3 1800-35-85 L. Door Esp.w/out Connections & w/ Deadbolts	1800	1800	2000	85	35	10	4
1-71079-20	Aral-3 2000-35-85 L. Door Esp.w/out Connections & w/ Deadbolts	2000	2000	2200	85	35	12	4

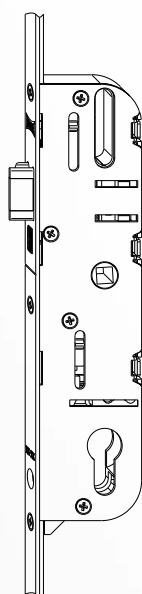
Aral without Connections and with Deadbolts 44-B

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71057-16-G	Safe Aral 1600-35-92 L. Door Esp.w/out Connections & w/ Deadbolts	1600	1600	1800	92	35	10	4
1-71057-18-G	Safe Aral 1800-35-92 L. Door Esp.w/out Connections & w/ Deadbolts	1800	1800	2000	92	35	10	4
1-71057-20-G	Safe Aral 2000-35-92 L. Door Esp.w/out Connections & w/ Deadbolts	2000	2000	2200	92	35	12	4

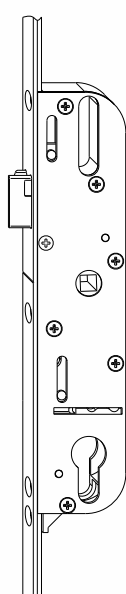
Aral Handle Slot Preparation without Connections and without Deadbolts



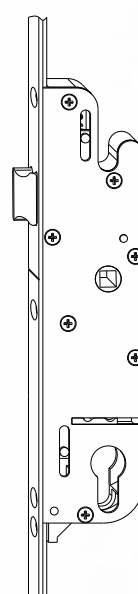
Aral Handle Slot Preparation with All Around Locking			
X	Y	K	Z
35	85	230	55
35	92	240	55
28	92	240	48
25	85	230	45



35x85mm

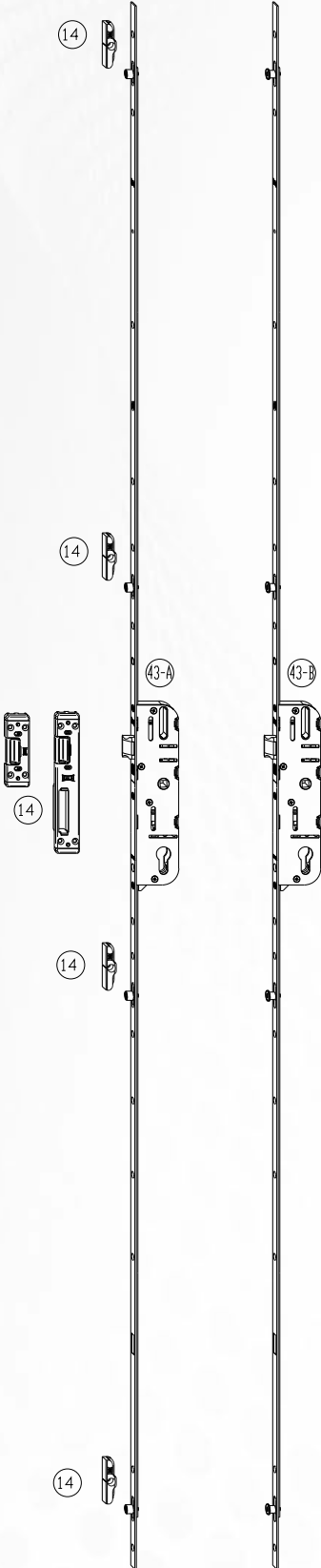


28x85 / 28x92 mm



35x92mm

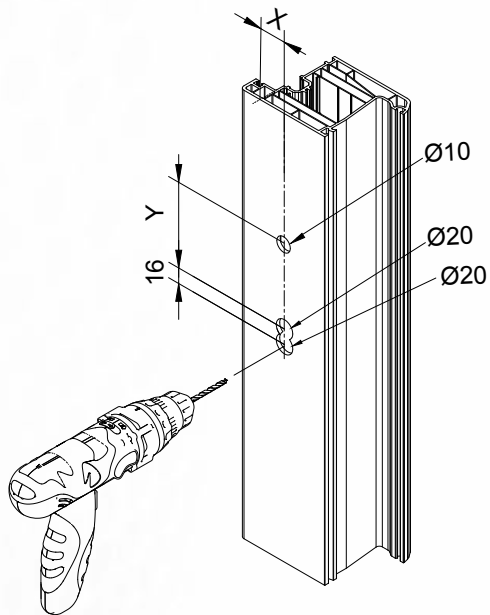
Aral without Connections and without Deadbolts



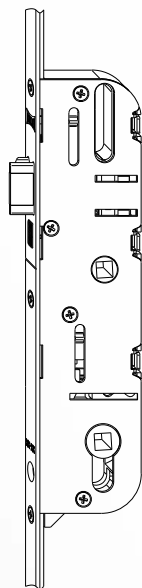
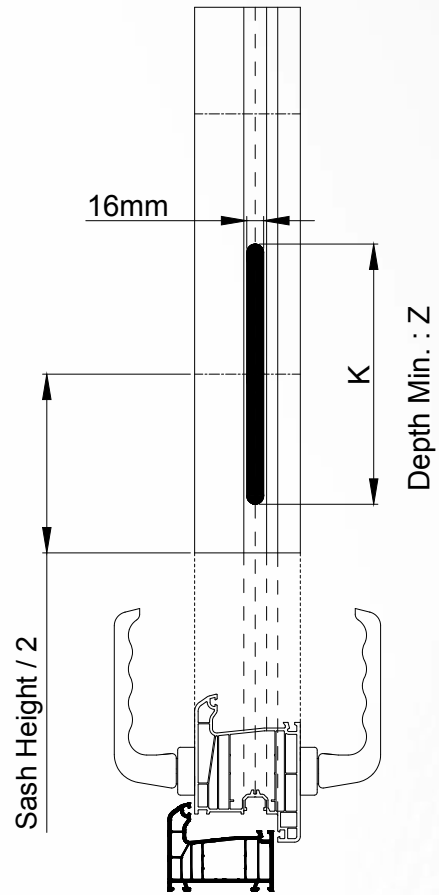
Aral without Connections and without Deadbolts								43 -A
Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71052-16	Aral 1600-28-92 L. Door Esp. w/out Connections & w/out Deadbolts	1600	1600	1800	92	28	10	4
1-71052-18	Aral 1800-28-92 L. Door Esp. w/out Connections & w/out Deadbolts	1800	1800	2000	92	28	10	4
1-71052-20	Aral 2000-28-92 L. Door Esp. w/out Connections & w/out Deadbolts	2000	2000	2200	92	28	12	4
1-71054-16	Aral 1600-28-85 L. Door Esp. w/out Connections & w/out Deadbolts	1600	1600	1800	85	28	10	4
1-71054-18	Aral 1800-28-85 L. Door Esp. w/out Connections & w/out Deadbolts	1800	1800	2000	85	28	10	4
1-71054-20	Aral 2000-28-85 L. Door Esp. w/out Connections & w/out Deadbolts	2000	2000	2200	85	28	12	4
1-71058-16	Aral 1600-35-92 L. Door Esp. w/out Connections & w/out Deadbolts	1600	1600	1800	92	35	10	4
1-71058-18	Aral 1800-35-92 L. Door Esp. w/out Connections & w/out Deadbolts	1800	1800	2000	92	35	10	4
1-71058-20	Aral 2000-35-92 L. Door Esp. w/out Connections & w/out Deadbolts	2000	2000	2200	92	35	12	4
1-71080-16	Aral-3 1600-35-85 L. Door Esp. w/out Connections & w/out Deadbolts	1600	1600	1800	85	35	10	4
1-71080-18	Aral-3 1800-35-85 L. Door Esp. w/out Connections & w/out Deadbolts	1800	1800	2000	85	35	10	4
1-71080-20	Aral-3 2000-35-85 L. Door Esp. w/out Connections & w/out Deadbolts	2000	2000	2200	85	35	12	4

Aral without Connections and without Deadbolts								43 -B
Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71054-16-G	Safe Aral 1600-28-85 L. Door Esp. w/out Connections & w/out Deadbolts	1600	1600	1800	85	28	10	4
1-71054-18-G	Safe Aral 1800-28-85 L. Door Esp. w/out Connections & w/out Deadbolts	1800	1800	2000	85	28	10	4
1-71054-20-G	Safe Aral 2000-28-85 L. Door Esp. w/out Connections & w/out Deadbolts	2000	2000	2200	85	28	12	4
1-71080-16-G	Safe Aral-3 1600-35-85 L. Door Esp. w/out Connections & w/out Deadbolts	1600	1600	1800	85	35	10	4
1-71080-18-G	Safe Aral-3 1800-35-85 L. Door Esp. w/out Connections & w/out Deadbolts	1800	1800	2000	85	35	10	4
1-71080-20-G	Safe Aral-3 2000-35-85 L. Door Esp. w/out Connections & w/out Deadbolts	2000	2000	2200	85	35	12	4

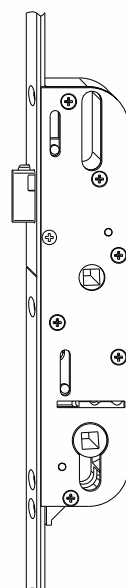
Aral Handle Slot Preparation with All Around Locking and with Deadbolts WC



Aral Handle Slot Preparation with All Around Locking			
X	Y	K	Z
35	85	230	55
28	85	230	48

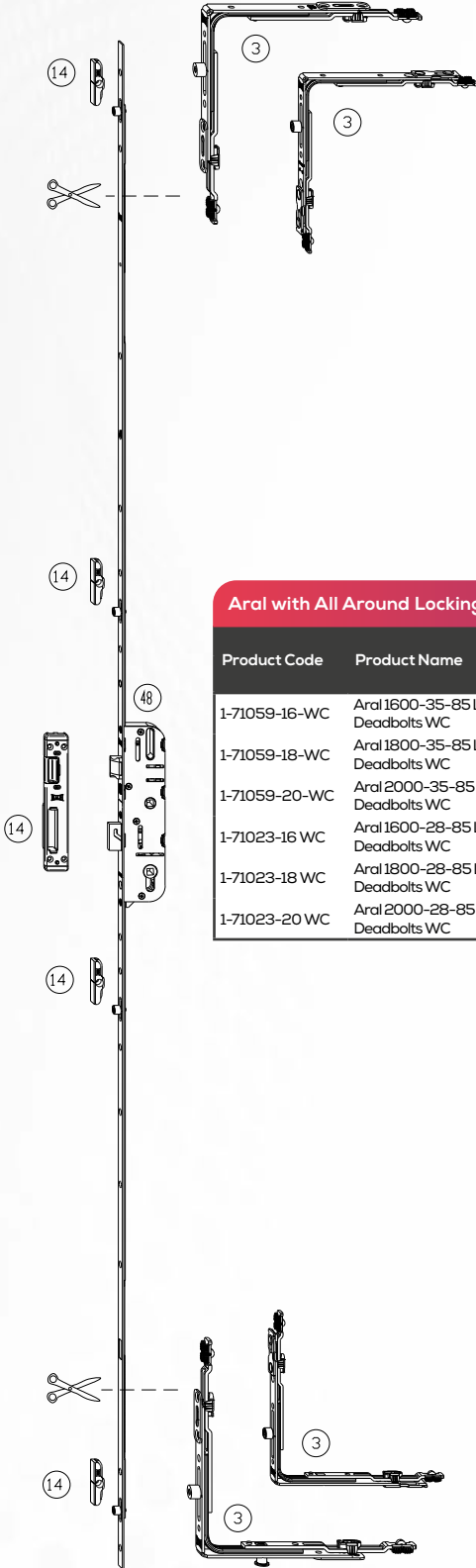


35x85mm



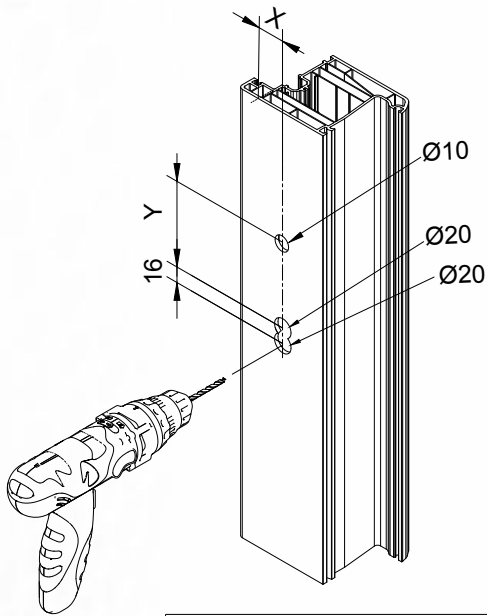
28x85 mm

Aral with All Around Locking and with Deadbolts WC

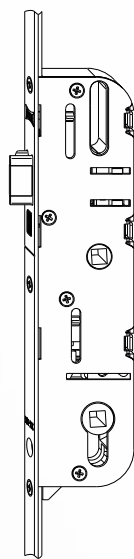
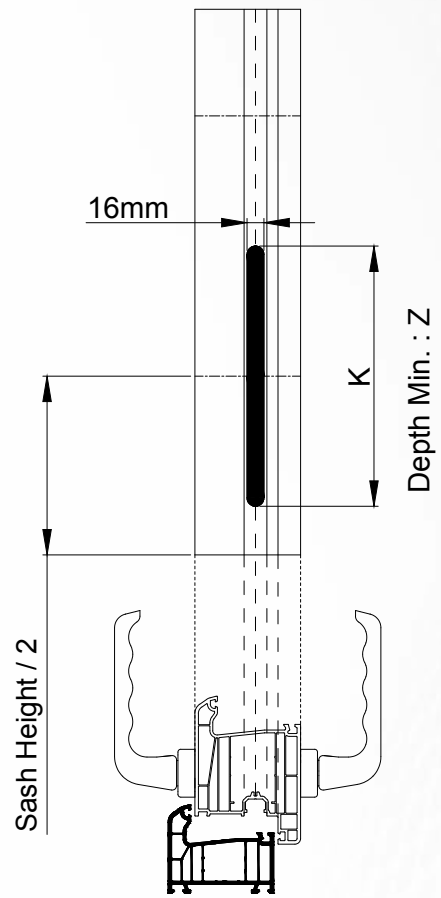


Aral with All Around Locking and with Deadbolts WC								48
Product Code	Product Name	Length (mm)	Range of Use		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71059-16-WC	Aral 1600-35-85 L. Door Esp. w/All Around Lock.& Deadbolts WC	1600	1600	1800	85	35	10	4
1-71059-18-WC	Aral 1800-35-85 L. Door Esp. w/All Around Lock.& Deadbolts WC	1800	1800	2000	85	35	10	4
1-71059-20-WC	Aral 2000-35-85 L. Door Esp. w/All Around Lock.& Deadbolts WC	2000	2000	2200	85	35	12	4
1-71023-16 WC	Aral 1600-28-85 L. Door Esp. w/All Around Lock.& Deadbolts WC	1600	1600	1800	85	28	10	4
1-71023-18 WC	Aral 1800-28-85 L. Door Esp. w/All Around Lock.& Deadbolts WC	1800	1800	2000	85	28	10	4
1-71023-20 WC	Aral 2000-28-85 L. Door Esp. w/All Around Lock.& Deadbolts WC	2000	2000	2200	85	28	12	4

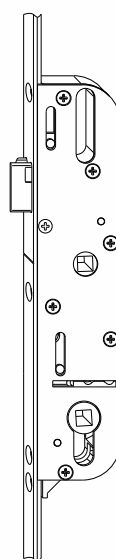
Aral Handle Slot Preparation with All Around Locking and without Deadbolts WC



Aral Handle Slot Preparation with All Around Locking			
X	Y	K	Z
35	85	230	55
28	85	230	48

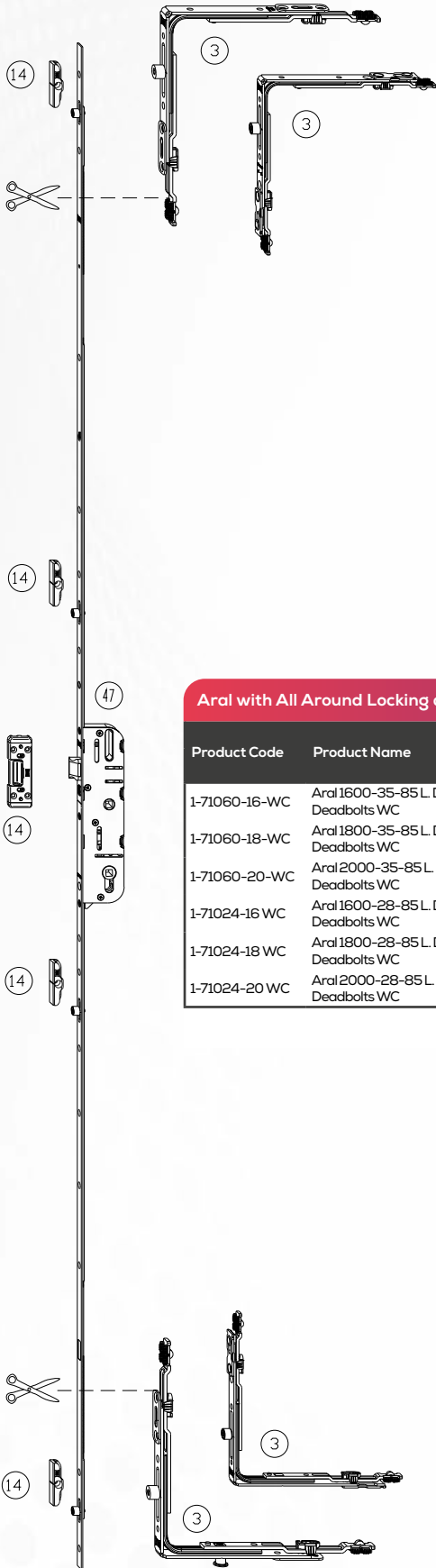


35x85mm



28x85 mm

Aral with All Around Locking and without Deadbolts WC

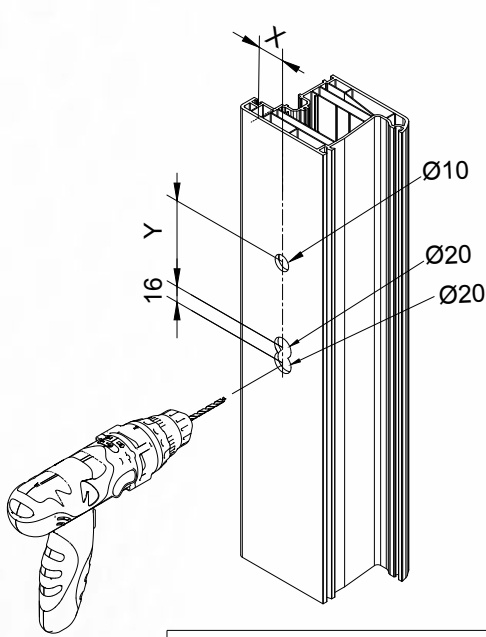


Aral with All Around Locking and without Deadbolts WC

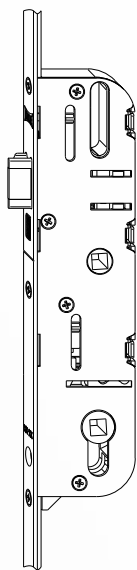
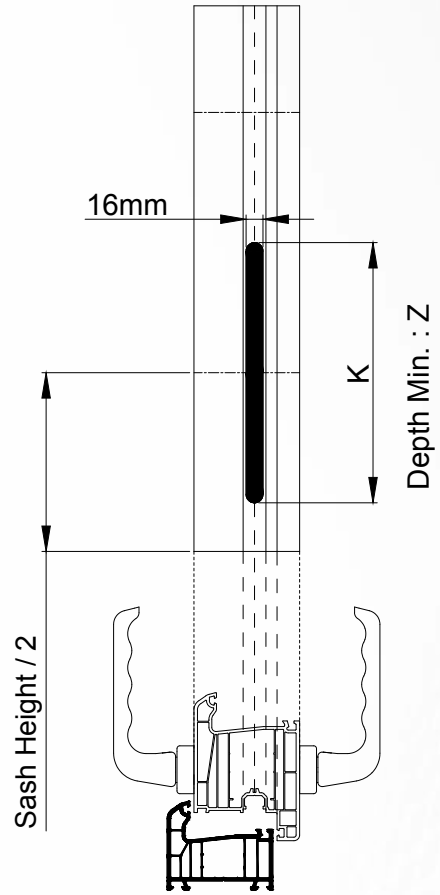
47

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71060-16-WC	Aral 1600-35-85 L. Door Esp.w/All Around Lock. & w/out Deadbolts WC	1600	1600	1800	85	35	10	4
1-71060-18-WC	Aral 1800-35-85 L. Door Esp.w/All Around Lock. & w/out Deadbolts WC	1800	1800	2000	85	35	10	4
1-71060-20-WC	Aral 2000-35-85 L. Door Esp.w/All Around Lock. & w/out Deadbolts WC	2000	2000	2200	85	35	12	4
1-71024-16 WC	Aral 1600-28-85 L. Door Esp.w/All Around Lock. & w/out Deadbolts WC	1600	1600	1800	85	28	10	4
1-71024-18 WC	Aral 1800-28-85 L. Door Esp.w/All Around Lock. & w/out Deadbolts WC	1800	1800	2000	85	28	10	4
1-71024-20 WC	Aral 2000-28-85 L. Door Esp.w/All Around Lock. & w/out Deadbolts WC	2000	2000	2200	85	28	12	4

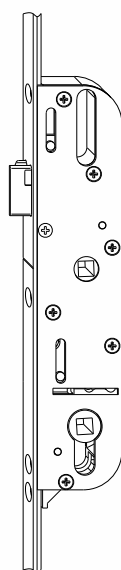
Aral Handle Slot Preparation without Connections and with Deadbolts WC



Aral Handle Slot Preparation with All Around Locking			
X	Y	K	Z
35	85	230	55
28	85	230	48

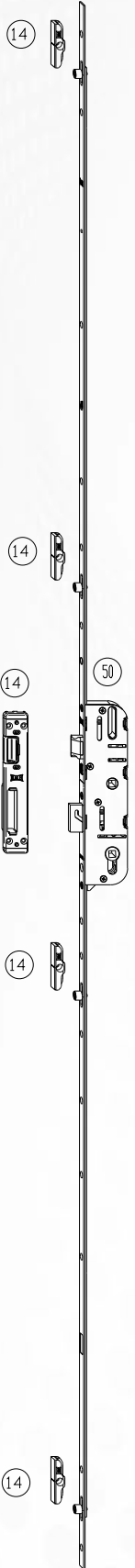


35x85mm



28x85 mm

Aral without Connections and with Deadbolts WC

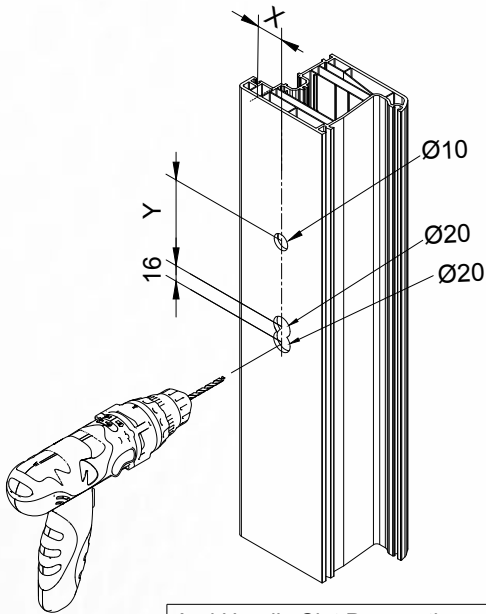


Aral without Connections and with Deadbolts WC

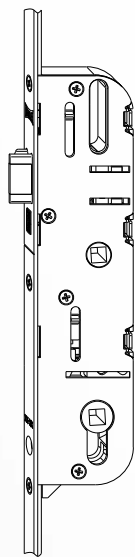
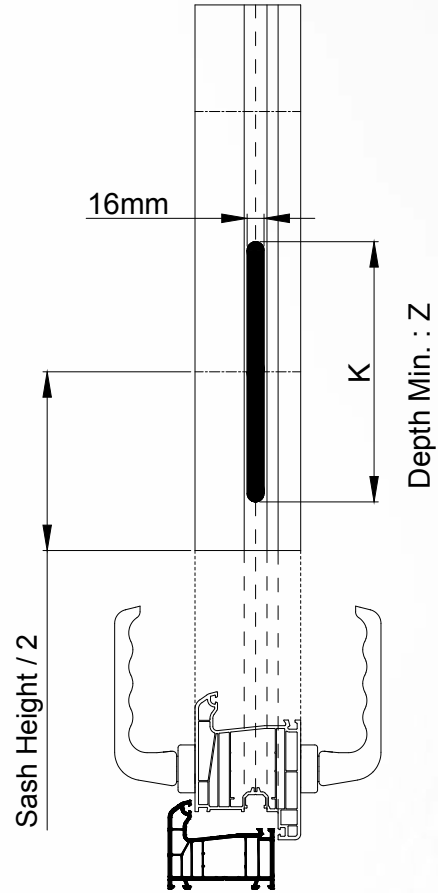
50

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71079-16-WC	Aral 1600-35-85 L. Door Esp.w/out Connections & w/ Deadbolts WC	1600	1600	1800	85	35	10	4
1-71079-18-WC	Aral 1800-35-85 L. Door Esp.w/out Connections & w/ Deadbolts WC	1800	1800	2000	85	35	10	4
1-71079-20-WC	Aral 2000-35-85 L. Door Esp.w/out Connections & w/ Deadbolts WC	2000	2000	2200	85	35	12	4
1-71053-16 WC	Aral 1600-28-85 L. Door Esp.w/out Connections & w/ Deadbolts WC	1600	1600	1800	85	28	10	4
1-71053-18 WC	Aral 1800-28-85 L. Door Esp.w/out Connections & w/ Deadbolts WC	1800	1800	2000	85	28	10	4
1-71053-20 WC	Aral 2000-28-85 L. Door Esp.w/out Connections & w/ Deadbolts WC	2000	2000	2200	85	28	12	4

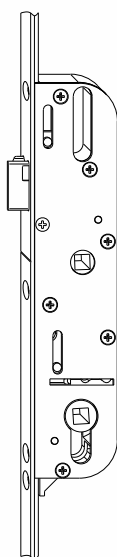
Aral Handle Slot Preparation without Connections and without Deadbolts WC



Aral Handle Slot Preparation with All Around Locking			
X	Y	K	Z
35	85	230	55
28	85	230	48

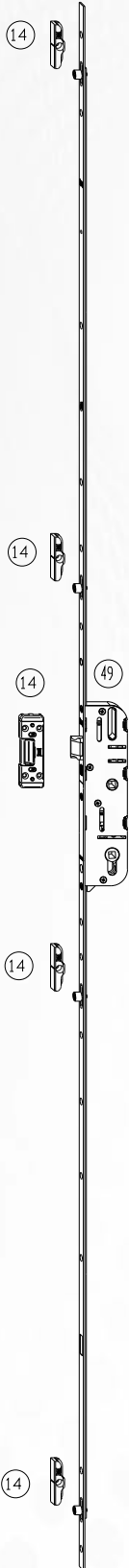


35x85mm



28x85 mm

Aral without Connections and without Deadbolts WC

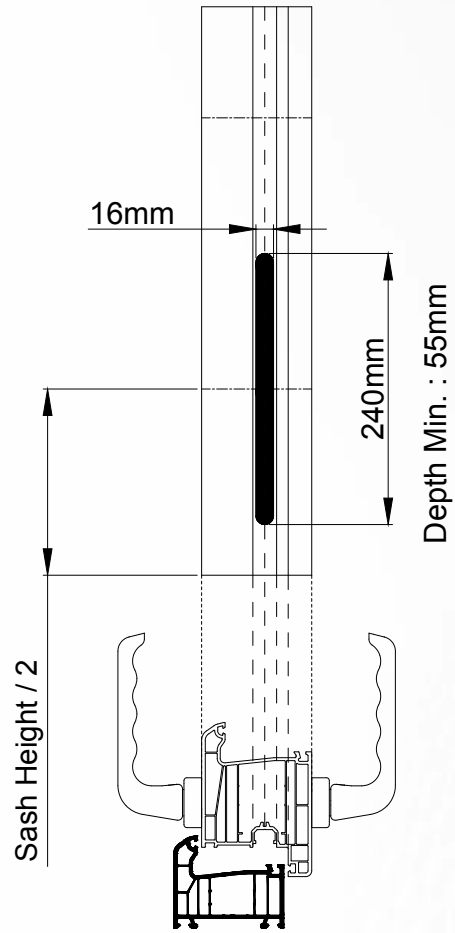
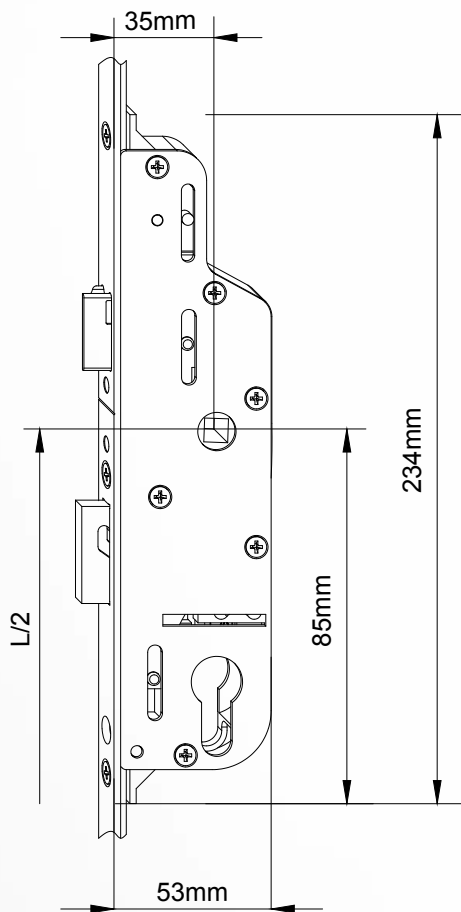
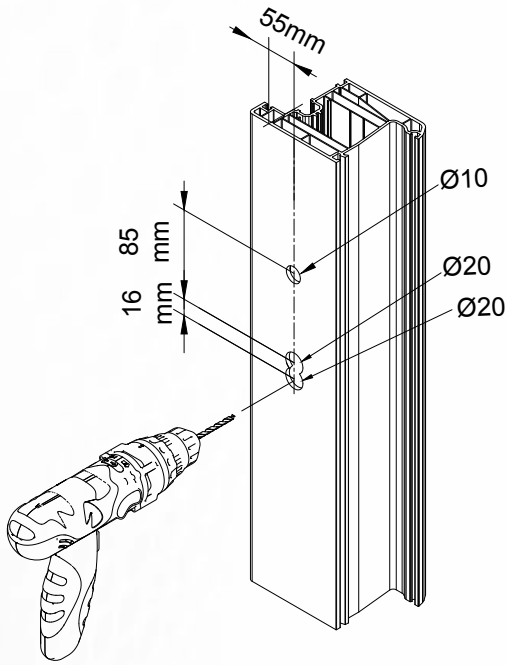


Aral without Connections and without Deadbolts WC

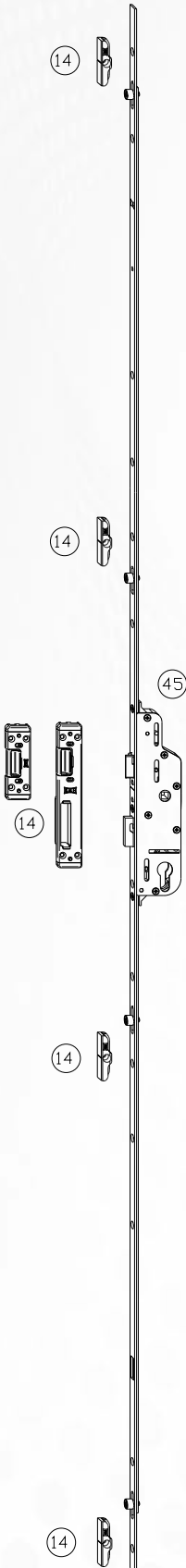
49

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			Min. (mm)	Max. (mm)				
1-71080-16-WC	Aral 1600-35-85 L. Door Esp. w/out Connections & w/out Deadbolts WC	1600	1600	1800	85	35	10	4
1-71080-18-WC	Aral 1800-35-85 L. Door Esp. w/out Connections & w/out Deadbolts WC	1800	1800	2000	85	35	10	4
1-71080-20-WC	Aral 2000-35-85 L. Door Esp. w/out Connections & w/out Deadbolts WC	2000	2000	2200	85	35	12	4
1-71054-16 WC	Aral 1600-28-85 L. Door Esp. w/out Connections & w/out Deadbolts WC	1600	1600	1800	85	28	10	4
1-71054-18 WC	Aral 1800-28-85 L. Door Esp. w/out Connections & w/out Deadbolts WC	1800	1800	2000	85	28	10	4
1-71054-20 WC	Aral 2000-28-85 L. Door Esp. w/out Connections & w/out Deadbolts WC	2000	2000	2200	85	28	12	4

Aral Handle Slot Preparation with Opposite Direction Pins



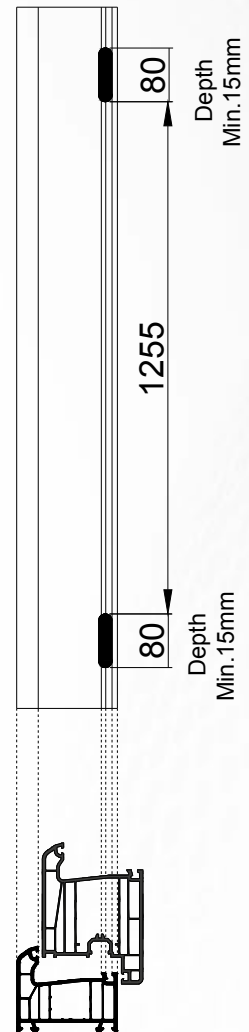
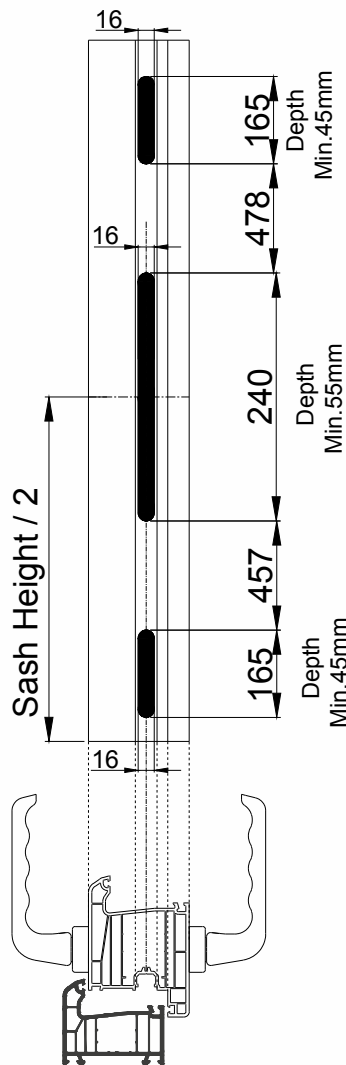
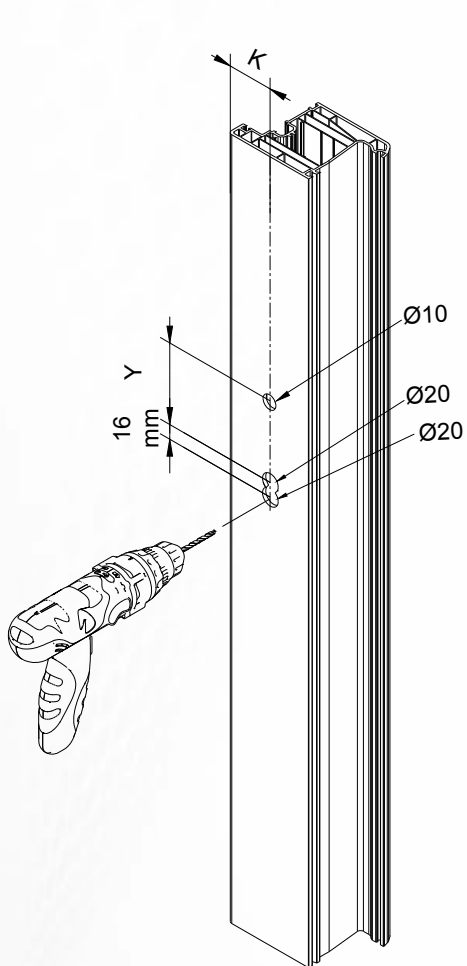
Aral with Opposite Direction Pins



Aral with Opposite Direction Pins								45-A
Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71211-16	Aral 1600-35-85 Aral with Opposite Pins and w/Deadbolts	1600	1600	1800	92	28	10	4
1-71211-18	Aral 1800-35-85 Aral with Opposite Pins and w/Deadbolts	1800	1800	2000	92	28	10	4
1-71211-20	Aral 2000-35-85 Aral with Opposite Pins and w/Deadbolts	2000	2000	2200	92	28	12	4

Aral with Opposite Direction Pins								45-B
Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			min.	max.				
1-71212-16	Aral 1600-35-85 Aral with Opposite Pins and w/out Deadbolts	1600	1600	1800	85	28	10	4
1-71212-18	Aral 1800-35-85 Aral with Opposite Pins and w/out Deadbolts	1800	1800	2000	85	28	10	4
1-71212-20	Aral 2000-35-85 Aral with Opposite Pins and w/out Deadbolts	2000	2000	2200	85	28	12	4

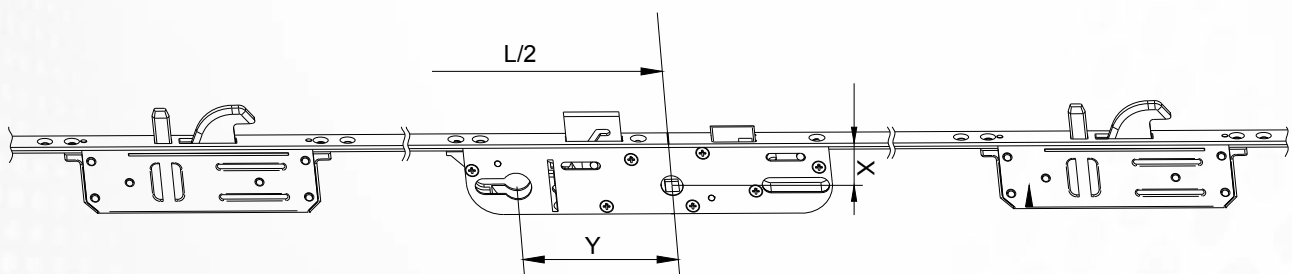
Aral Handle Slot Preparation without Connections and with Hooks



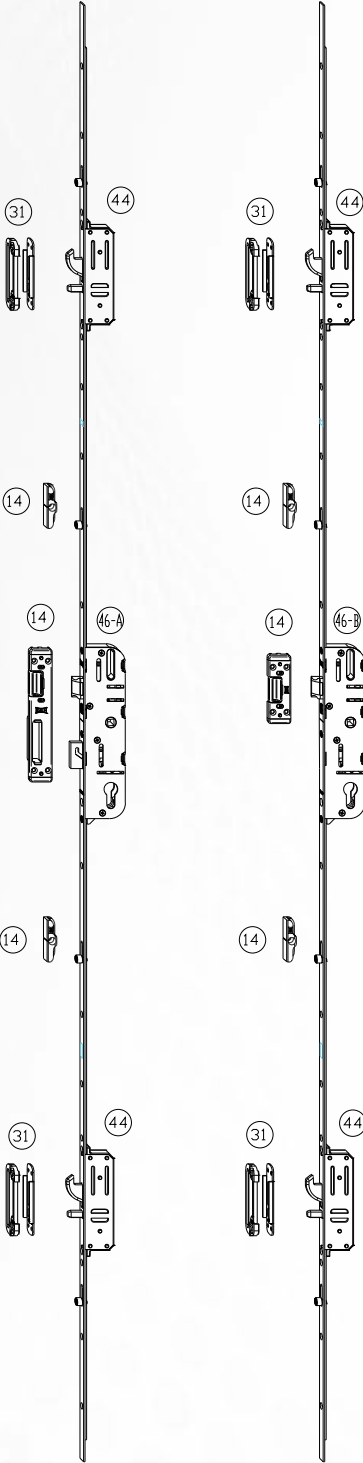
Sash

Rebate

Aral Handle Slot Preparation with Hooks				
SRH (mm)	L(mm)	X	Y	K
1850-2400	2100	35	85	55
1850-2400	2100	35	92	35
1850-2400	2100	28	92	48
1850-2400	2100	28	85	48



Aral without Connections and with Hooks



Aral without Connections and with Hooks

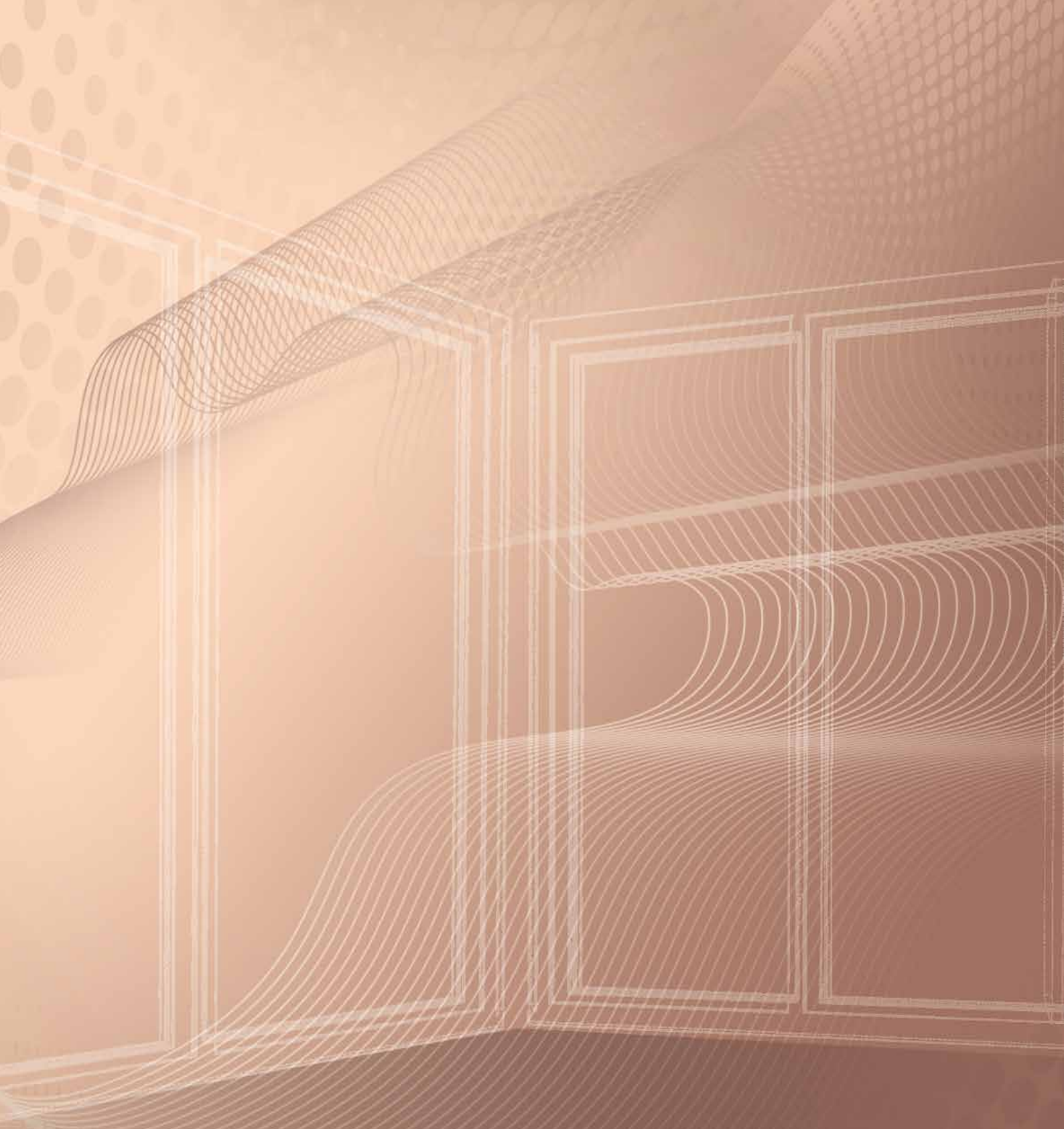
46-A

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			Min. (mm)	Max. (mm)				
1-71029	Aral 210035x85 w/out Connections & w/Hooks	2100	1850	2400	85	35	12	4
1-71031	Aral 2100 35x92 w/out Connections & w/Hooks	2100	1850	2400	92	35	12	4
1-71033	Aral 2100 28x85 w/out Connections & w/Hooks	2100	1850	2400	85	28	12	4
1-71035	Aral 2100 28x92 w/out Connections & w/Hooks	2100	1850	2400	92	28	12	4

Aral without Connections and with Hooks

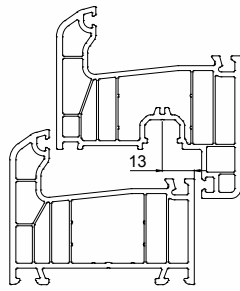
46-B

Product Code	Product Name	Length (mm)	Range of Use (mm)		Handle - Key	Axis	Screw (Pc)	Lock. Pl. (Pc)
			Min. (mm)	Max. (mm)				
1-71030	Aral 210035x85 w/out Connections and w/Hooks	2100	1850	2400	85	35	12	4
1-71032	Aral 2100 35x92 w/out Connections and w/Hooks	2100	1850	2400	92	35	12	4
1-71034	Aral 2100 28x85 w/out Connections and w/Hooks	2100	1850	2400	85	28	12	4
1-71036	Aral 2100 28x92 w/out Connections and w/Hooks	2100	1850	2400	92	28	12	4

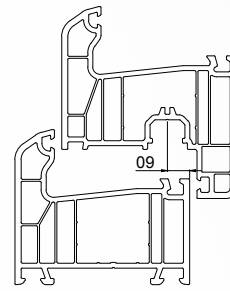


LOCKING PLATES

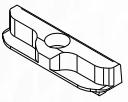
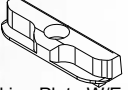
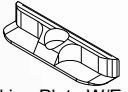
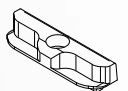
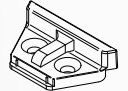
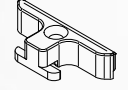
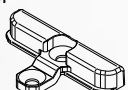
Standard Locking Plates

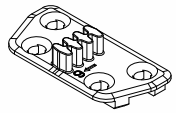
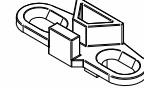
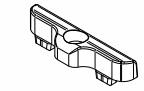

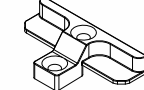
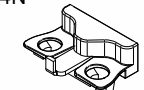


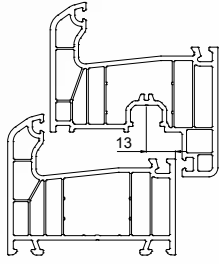
Profile Type 1



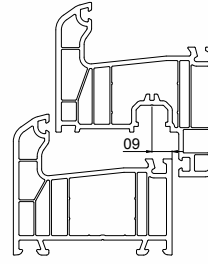
Profile Type 2

Product	Profile Axis	Profile Type	Product Code
 Standard Locking Plate	9	2	1-32806-09
	13	1	1-32807-13
 Locking Plate W/Extra Presses	13	1	1-32861-13
 Locking Plate W/Extra Presses	9	1	1-32873-09
 Locking Plate Single Tab Composite	13	1	1-32894-13 COMPOSITE
 Locking Plate	9	2	1-32824-09
 Locking Plate Double Tab Tirnak	13	1	1-32833-13
 Locking Plate Single Tab	13	1	1-32845-13

Product	Profile Axis	Profile Type	Product Code
 Adjustable Ventilation Locking Plate	9-13	1-2	1-32832-00
 Mini Ventilated Corner Transmission Locking Plate	9	2	1-32850-09
	13	1	1-32850-13
 Standard Locking Plate / 13-2	13	1	1-32869-13
 Multi-Espagnolette Ventilated Locking Plate	9-13		1-32874-00
 Locking Plate	9	2	1-32825-09
 Standard Khi Mini Ventilated Locking Plate	9-13		1-32858-00



Profile Type 1

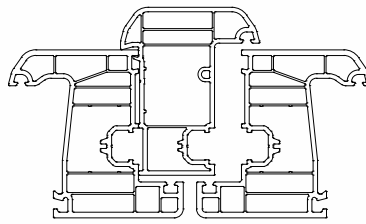


Profile Type 2


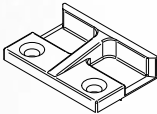
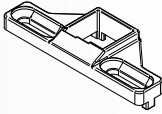
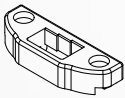
Product	Profile Axis	Profile Type	Product Code
<p>Tilt-and-Turn Striker Plate (Wide)</p>	9	2	1-32835-13
	13	1	1-32835-13
<p>Security Tilt-and-Turn Striker Plate</p>	9	2	1-32819-09
	13	1	1-32819-13
<p>Safe Locking Plate Striker Zamac</p>	9	2	1-32879-09
	13	1	1-32879-13
<p>Bottom Security Lock. Pl. Zamac</p>	9	2	1-32877-09
	13	1	1-32877-13
<p>Lift & Mishandling Device Locking Plate</p>	-	1-2	1-11501-00


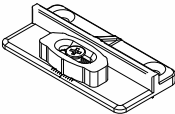
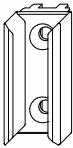
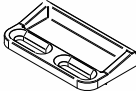
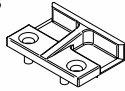
Product	Profile Axis	Profile Type	Product Code
<p>Tilt-and-Turn Striker Plate</p>	9	2	1-32851-13
	13	1	1-32851-13
<p>Security Locking Plate</p>	9	2	1-32818-09
	13	1	1-32818-13
<p>Lift & Mishandling Device Locking Plate</p>	9	2	1-32841-09
	13	1	1-32841-13
<p>Tbt Lock. Pl. 13 Axis Left Opening</p>	13	1	1-32898-13-L
<p>Tbt Lock. Pl. 13 Axis Right Opening</p>	13	1	1-32898-13-R
<p>Tilt&Turn Aluminium Profile Lock. Pl.</p>	9	1-2	1-32897-11
	11 13		

Tilt-and-Turn Locking Plates

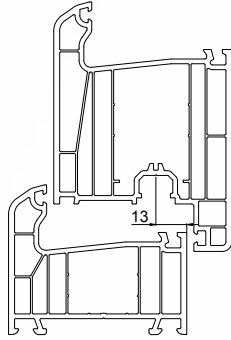


Profile Type 3

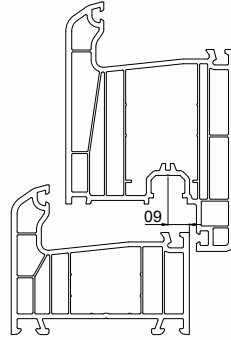
Product	Profile Axis	Profile Type	Product Code
20  Double-Sash Tilt & Turn Lock. Pl.	--	--	1-32840-00
21A  Double-Sash Locking Plate-2	--	3	1-32838-00
22A  Deadbolt Striker	9		1-32854-09
	13		1-32854-13
22B  Double-Sash Deadbolt Striker	9	2	1-32817-09
	13	1	1-32817-13

Product	Profile Axis	Profile Type	Product Code
28  Double-Sash Locking Plate	--	--	1-32809-00
18B  Double-Sash Lift & Mishandling Device Locking Plate	--	--	1-32843-00 1-32900-00
 Mullion Striker Plate	--	3	1-32816-00
 Double-Sash Aral Locked Door Striker	9-13		1-32852-00
21B  Double-Sash Striker 2-Pin	9-13		1-32856-00


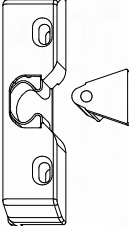
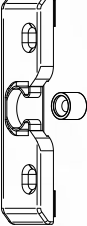
Locking Plates for Aral Locks


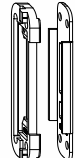


Profile Type 4

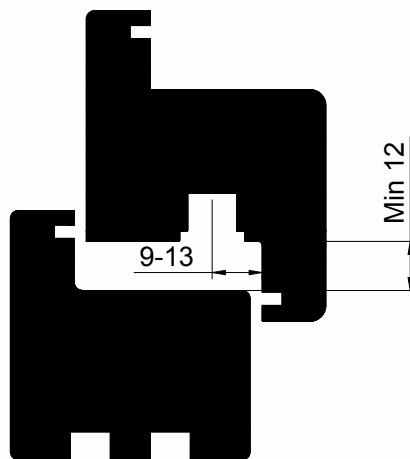


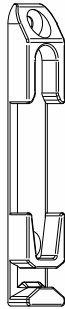
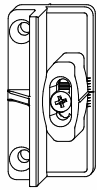
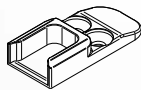
Profile Type 5

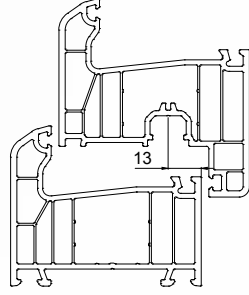
Product	Profile Axis	Profile Type	Product Code
14A  Locking Plates for Aral Locks with Deadbolts	9-13	4-5	1-21005-00
14C  Door Gripper Locking Plate	13	4	1-32848-13
	9	5	1-32848-09
14D  Gripper Metal Locking Plate System	9	2	1-32893-09
	13	1	1-32893-13

Product	Profile Axis	Profile Type	Product Code
14B  Locking Plates for Aral Locks without Deadbolts	9-13	4-5	1-21006-00
31  Locking Plates for Aral Locks with Hooks	9-13	4-5	1-21004-00

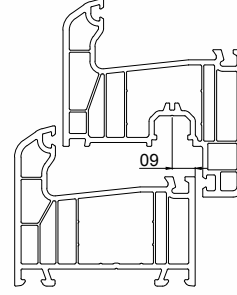
Wooden Locking Plates



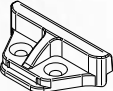
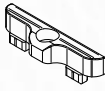
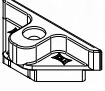



Product	Profile Axis	Profile Type	Product Code
<p>14A</p>  <p>Double-Sash Tilt & Turn Lock. Pl.</p>	--	--	1-32853-00
<p>14B</p>  <p>Double-Sash Lift & Mishandling Device Locking Plate</p>	--	--	1-32888-00
<p>14C</p>  <p>Wooden Locking Plate</p>	--	--	1-32855-00

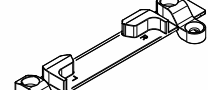
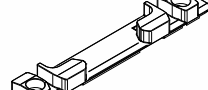
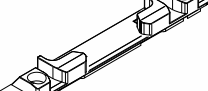
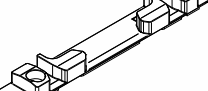
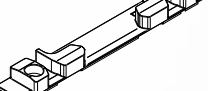
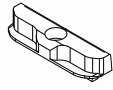


Profile Type 1



Profile Type 2

Product	Profile Axis	Profile Type	Product Code
 Thyssen Standard Locking Plate	13	1	1-32859-13
 Aluplast - Salamander Al. Standard Locking Plate	13	1	1-32865-13
 Aluminium Locking Plate 9 Axis	9	2	1-32887-09
 Gealan S 3000 Standard Locking Plate	13	1	1-32860-13
 Kbe System 70 Standard Locking Plate	13	1	1-32866-13
 Deceuninck Mondial Standard Locking Plate	13	1	1-32867-13

Product	Profile Axis	Profile Type	Product Code
 Tilt&Turn Espagnolette Sub-Component Gealan	13	1	1-32862-13
 Aluplast - Salamander Tilt&Turn Locking Plate	13	1	1-32868-13
 Tilt&Turn Espagnolette Sub-Component Pimapen	14	3	1-32882-14
 Kbe System 70 Tilt&Turn Locking Plate	13	1	1-32863-13
 Deceuninck Mondial Tilt&Turn Locking Plate	13	1	1-32864-13
 Standard Locking Plate	14		1-32883-14

NOTE





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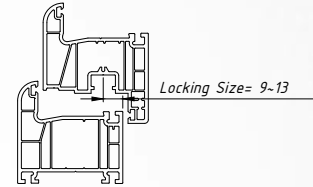
The background features a complex, layered design. It includes a grid of small circles in the upper left and lower right corners, and a series of overlapping, wavy, light-colored lines that create a sense of depth and movement across the center. The overall color palette is light and airy, with various shades of blue and white.

APPLICATION
BASICS

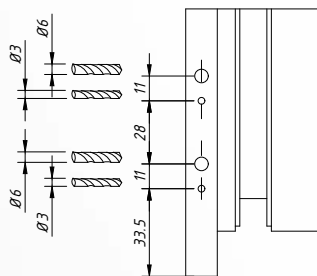
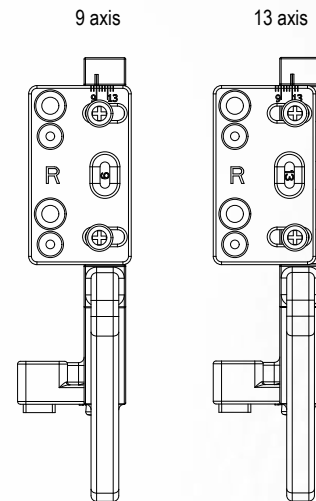
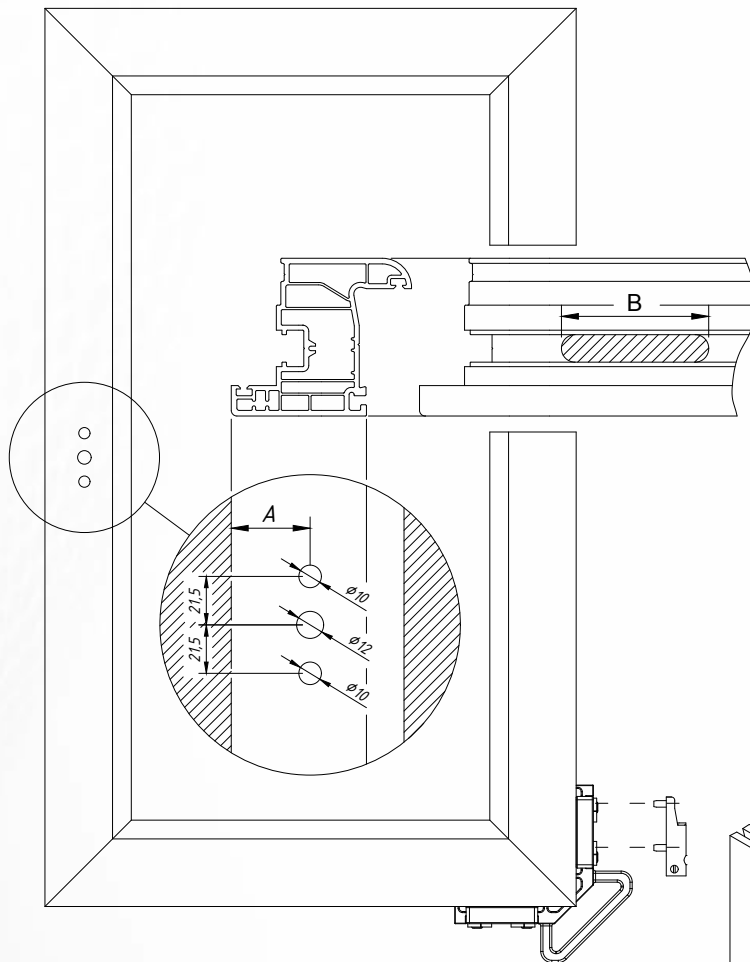
Sash Operations and Assembly

Handle holes are drilled according to the specified sizes. The section onto which the espagnolette hub (B) will seat is cut by using a milling cutter.

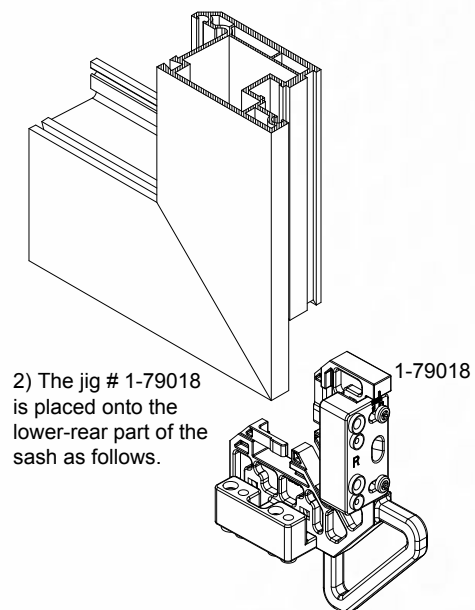
				
KEM	7,5 mm	15 mm	25 mm	30 mm
A	27,5 mm	35 mm	45 mm	50 mm
B	35 mm	55 mm	65 mm	65 mm



1) The Movable Hinge Jig must be adjusted according to the locking size (9 or 13) before it is first used.

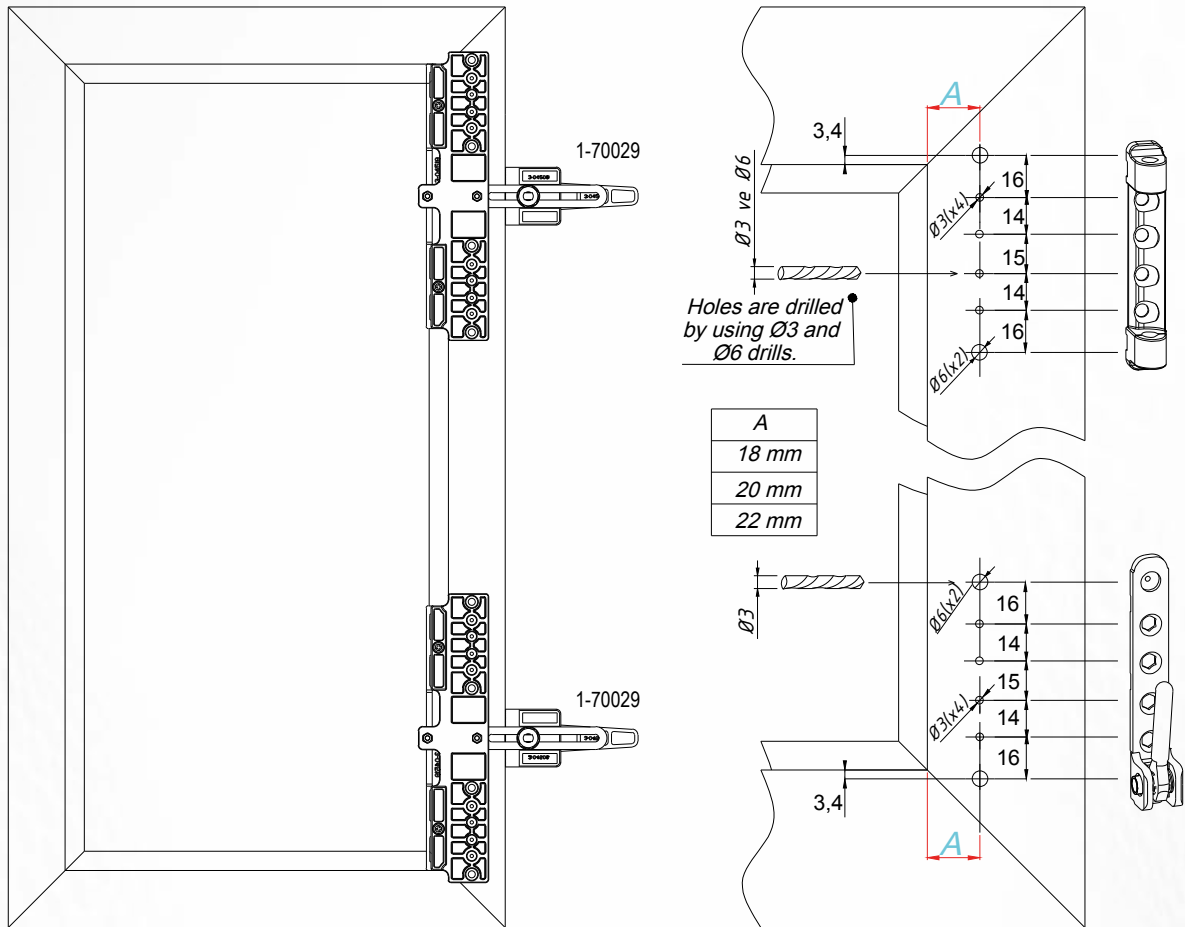


3) "Movable Hinge" holes are then cut through holes found on the jig by using $\phi 3$ and $\phi 6$ drills.

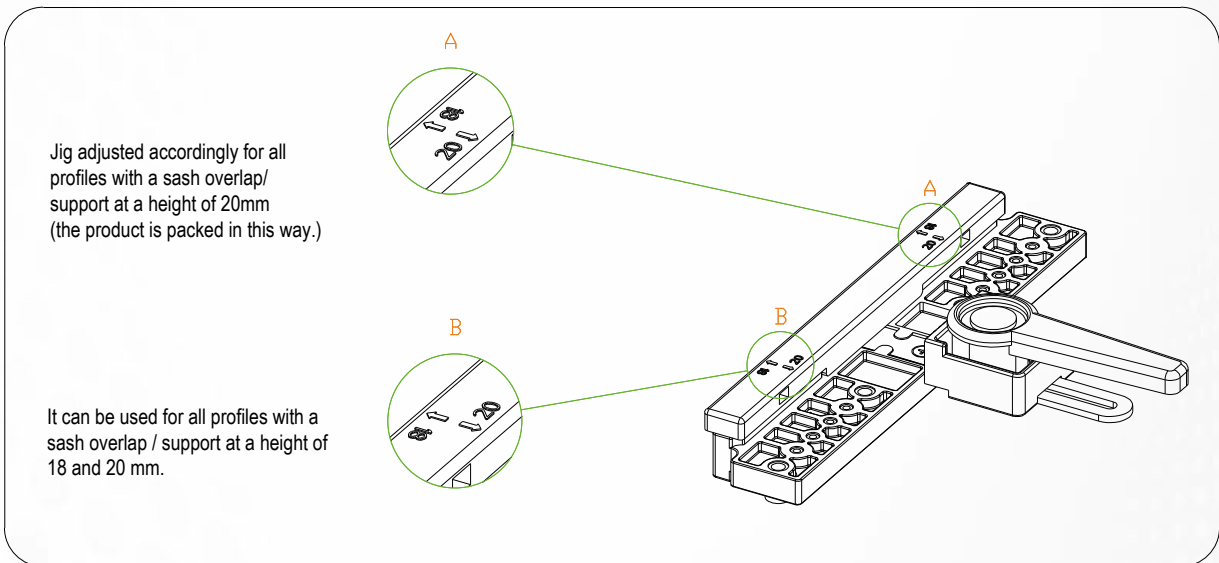


2) The jig # 1-79018 is placed onto the lower-rear part of the sash as follows.

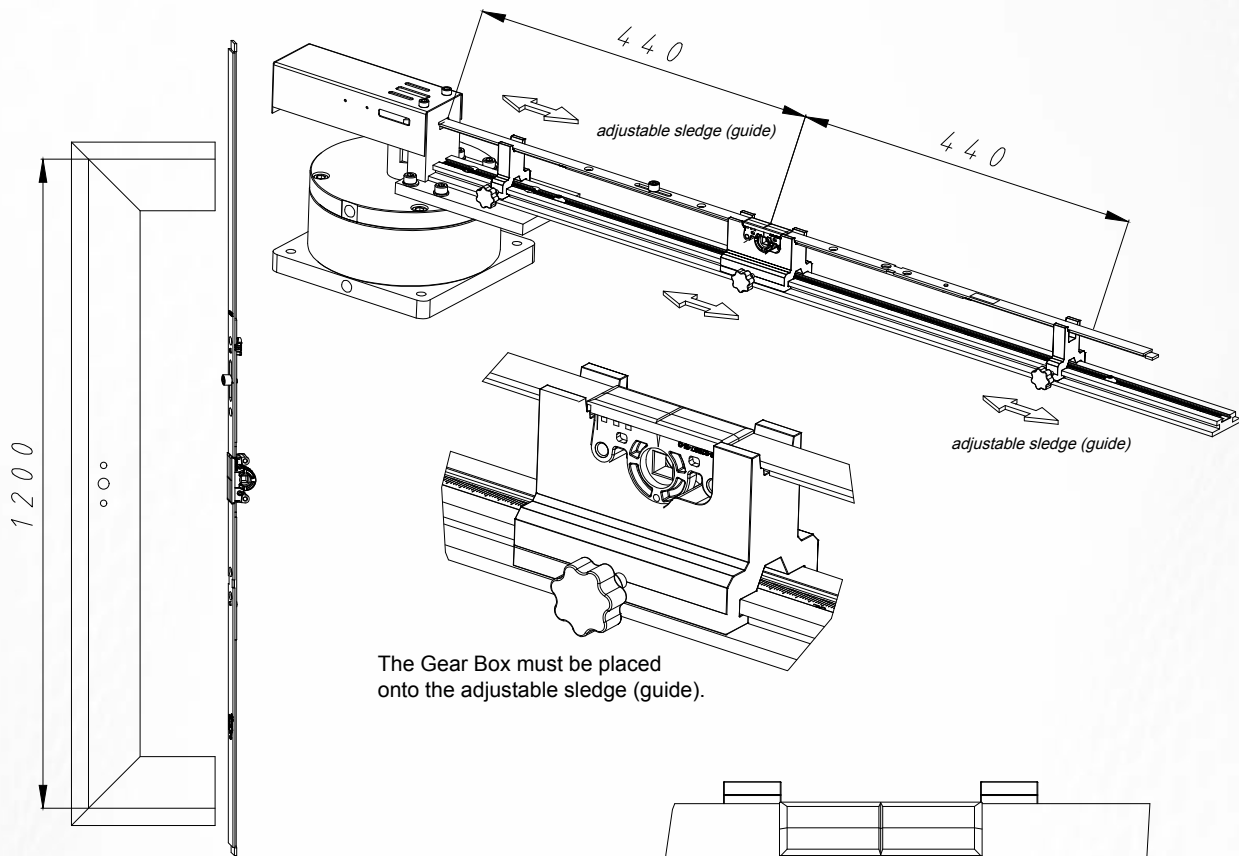
Rebate (Frame) Operations and Assembly



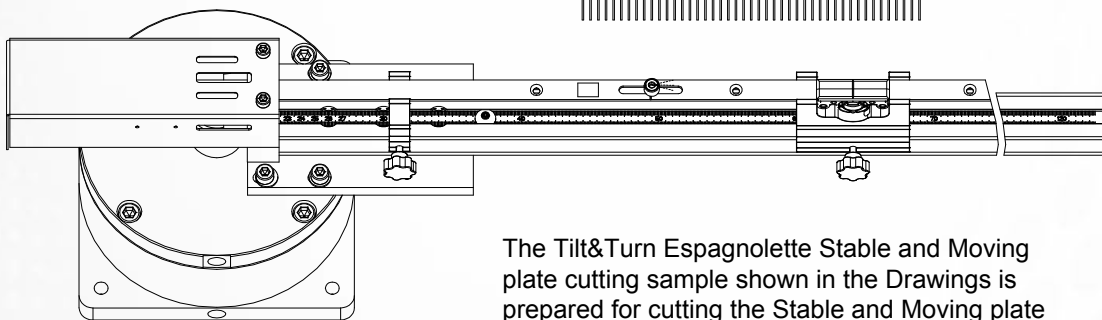
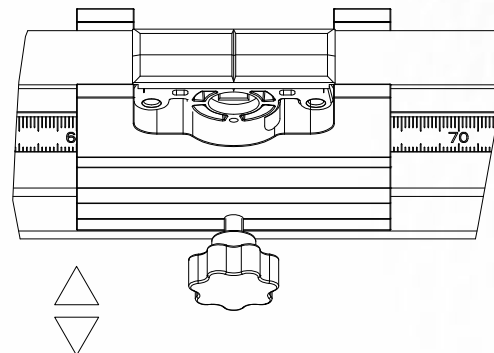
4 and 2 holes are drilled onto the rebate (frame) from each of upper and lower sides by using Ø3 mm and Ø6 mm drills respectively. The Tilt & Turn and Corner Bearings are screwed onto the rebate (frame) through these holes.



Espagnolette Cutting Apparatus - 160 mm

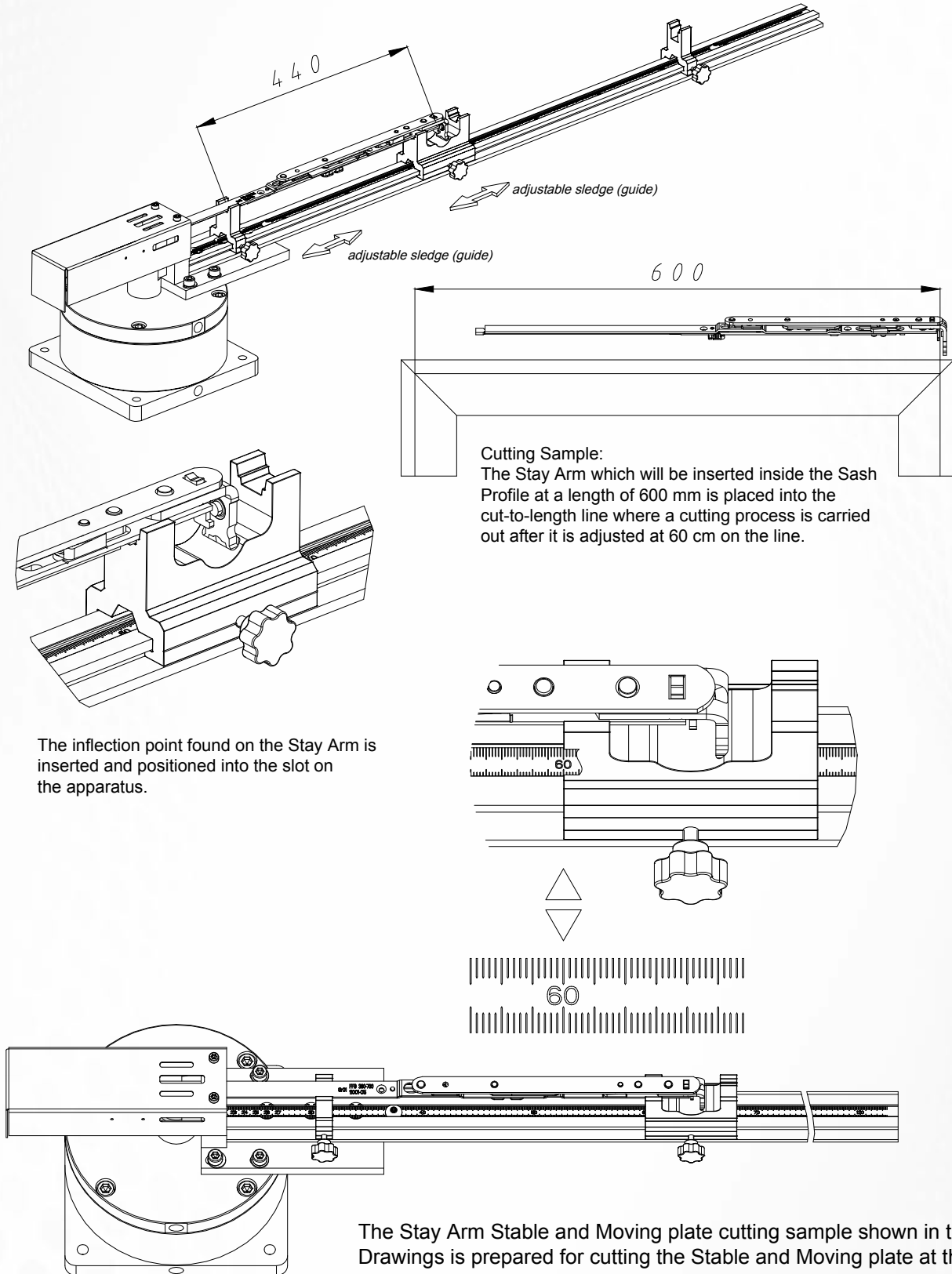


Cutting Sample:
 The espagnolette which will be inserted inside the sash profile at a length of 1,200 mm is placed into the cut-to-length line where a cutting process is carried out as it is adjusted at 60 cm on the line.
 The other part of the espagnolette is also placed without changing the size and the cutting process is carried out.

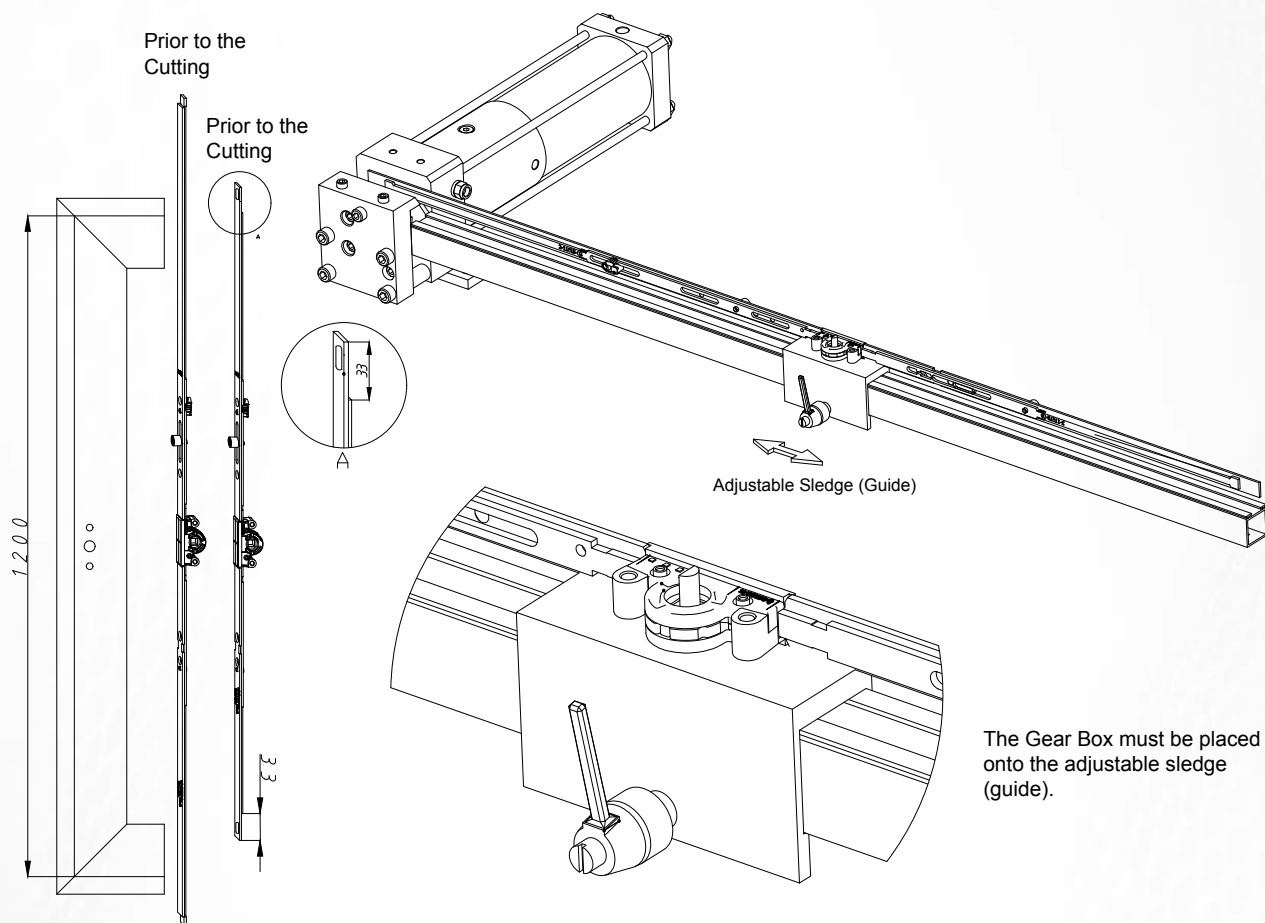


The Tilt&Turn Espagnolette Stable and Moving plate cutting sample shown in the Drawings is prepared for cutting the Stable and Moving plate at the same length.

Stay Arm Cutting Apparatus – 160 mm

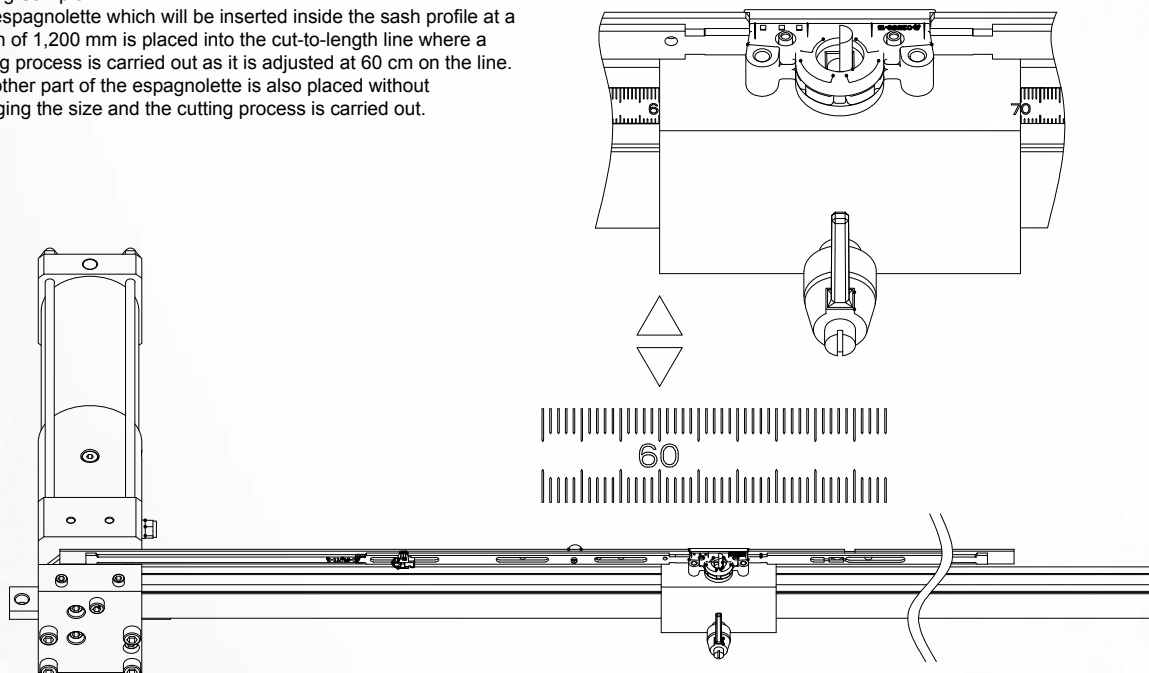


Espagnolette Cutting Apparatus - 130 mm

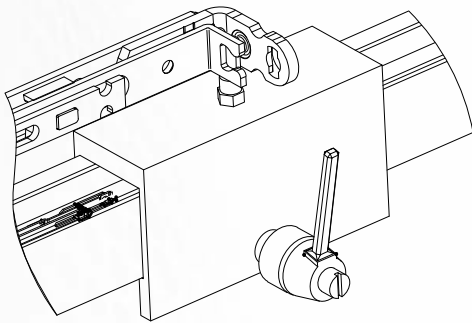
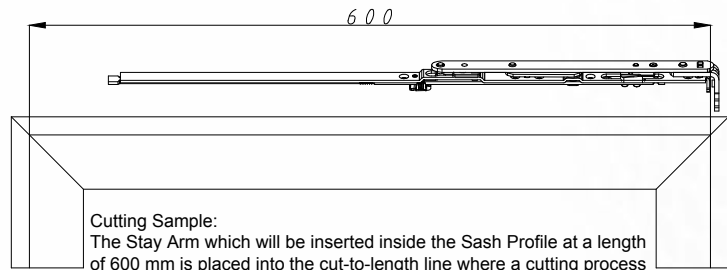
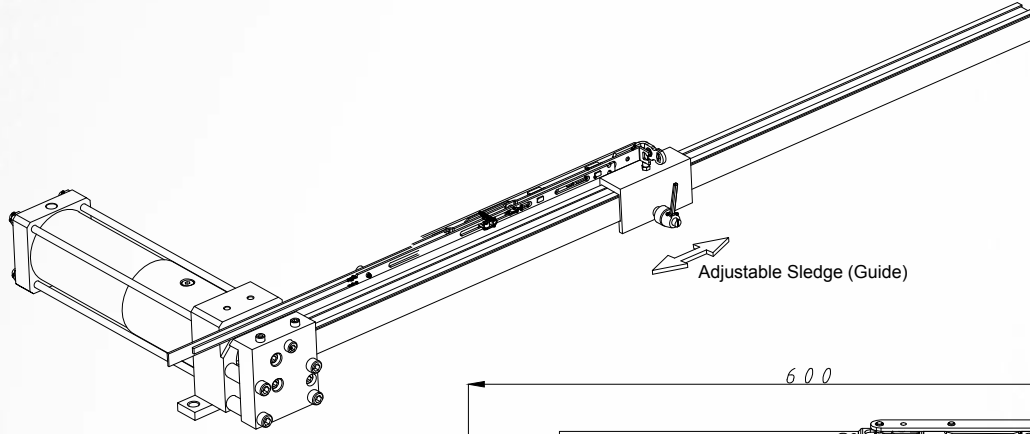


Cutting Sample:

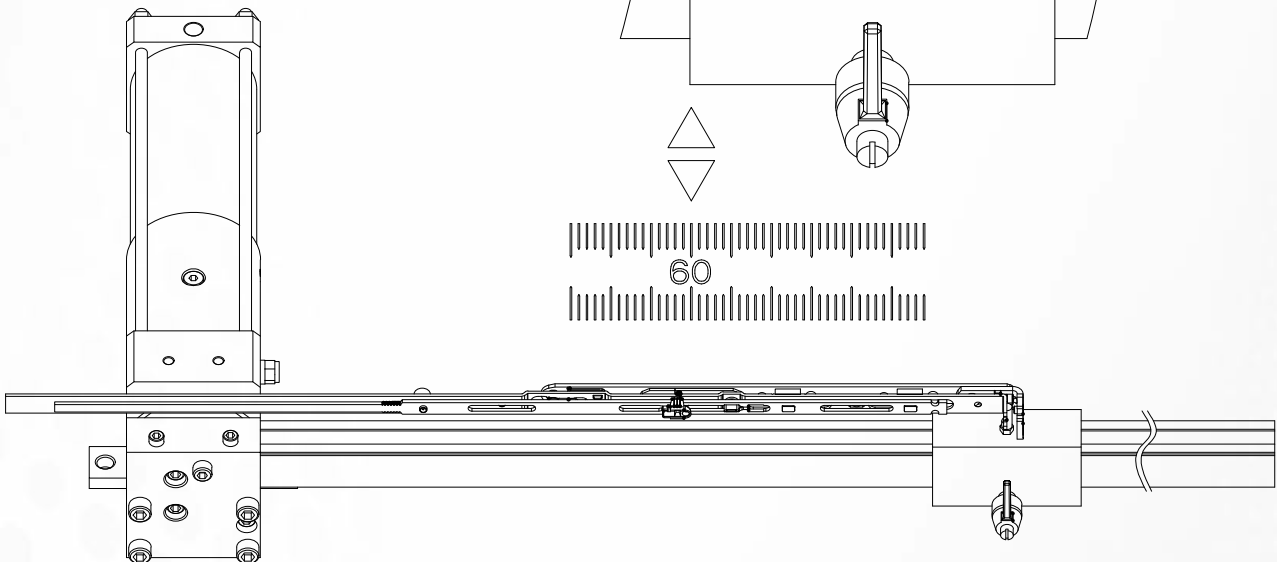
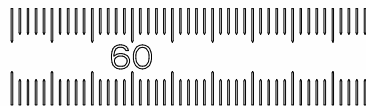
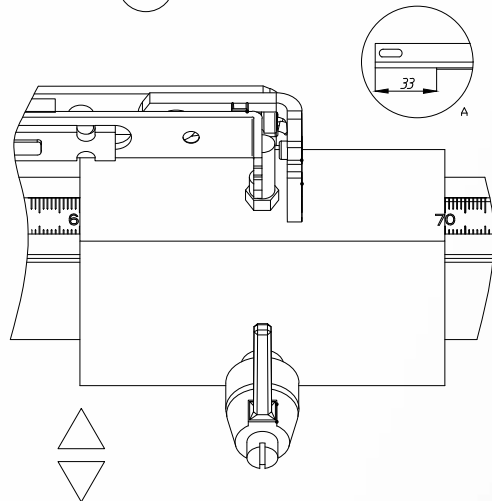
The espagnolette which will be inserted inside the sash profile at a length of 1,200 mm is placed into the cut-to-length line where a cutting process is carried out as it is adjusted at 60 cm on the line. The other part of the espagnolette is also placed without changing the size and the cutting process is carried out.



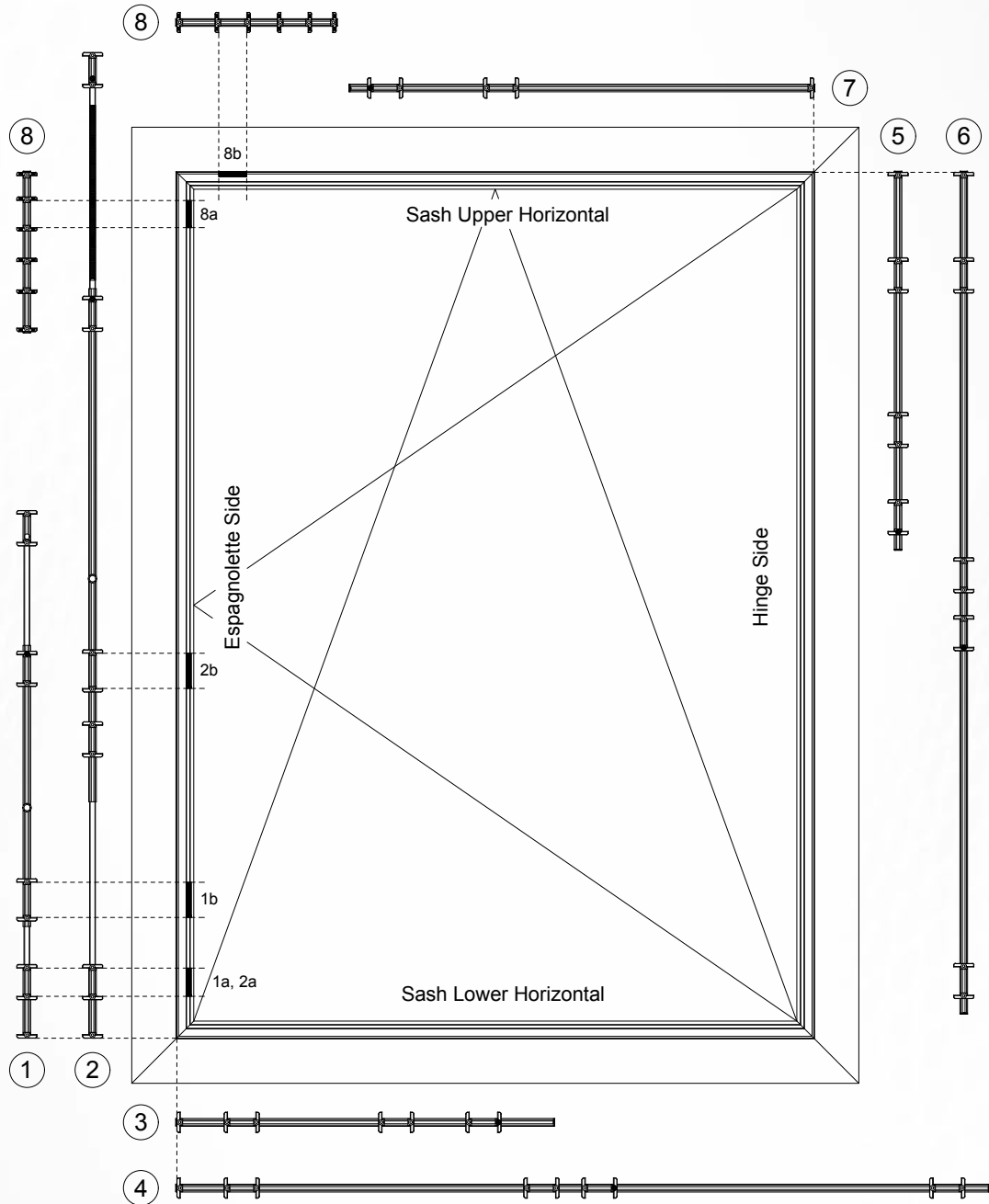
Stay Arm Cutting Apparatus - 130 mm



The inflection point found on the Stay Arm is inserted and positioned into the slot on the apparatus.



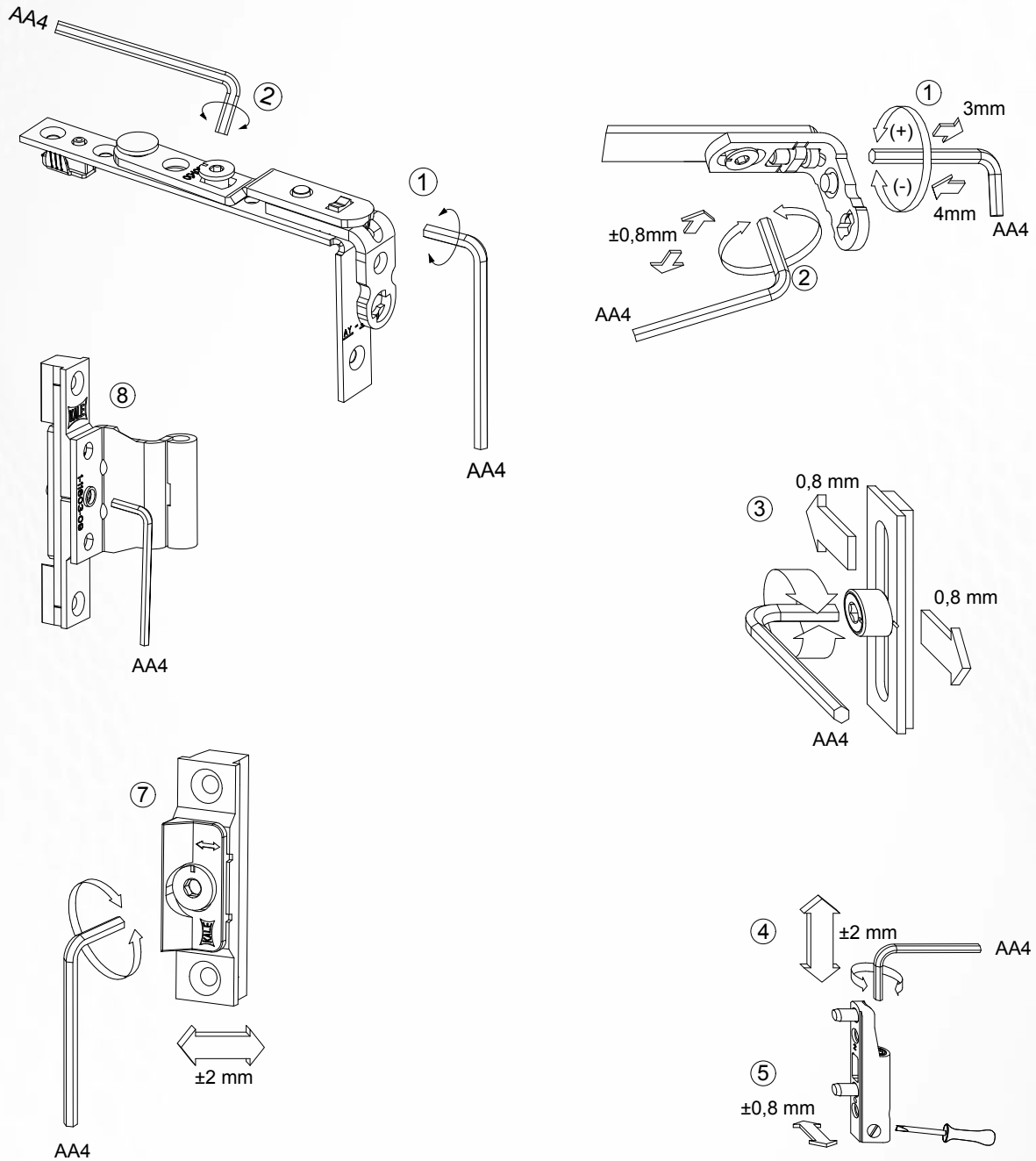
Kale Safir Plus Locking Plate Jigs



- | Application | Product Code |
|--|--------------|
| 1 KSP. Tilt & Turn Espagnolette Locking Plate Jig-1/780-1600
1a - A striker plate will be used only when a bottom tilt is used.
1b - It will be used for the Lift & Mishandling Device Locking Plate. | 1-70030 |
| 2 KSP Tilt & Turn Espagnolette Locking Plate Jig-2/1601-2400
2a - A striker plate will be used only when a bottom tilt is used.
2b - It will be used for the Lift & Mishandling Device Locking Plate. | 1-70031 |
| 3 KSP Rear Locking Horizontal Locking Plate Jig-1/600-1250 | 1-70032 |
| 4 KSP Rear Locking Horizontal Locking Plate Jig-2/1251-2200 | 1-70033 |

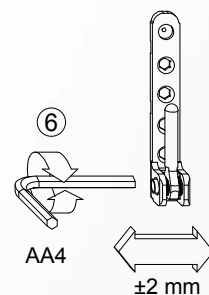
- | Application | Product Code |
|---|--------------|
| 5 KSP Rear Locking Vertical Locking Plate Jig-1/600-1250 | 1-70034 |
| 6 Rear Locking Vertical Locking Plate Jig-2/1251-2200 | 1-70035 |
| 7 KSP Stay Arm Locking Plate Jig
Only for a length of 670, 870, 1070, 1270 and 1470 | 1-70036 |
| 8 KSP Adj. Vent. Corner Transmission Locking Plate Jig
8a- Only for the adjustable ventilation locking plate (the amber fixing piece will be seated on the rebate (frame)).
8b- It will be used for the assembly of the horizontal standard locking plate. | 1-70037 |

Kale Safir Plus System Setup

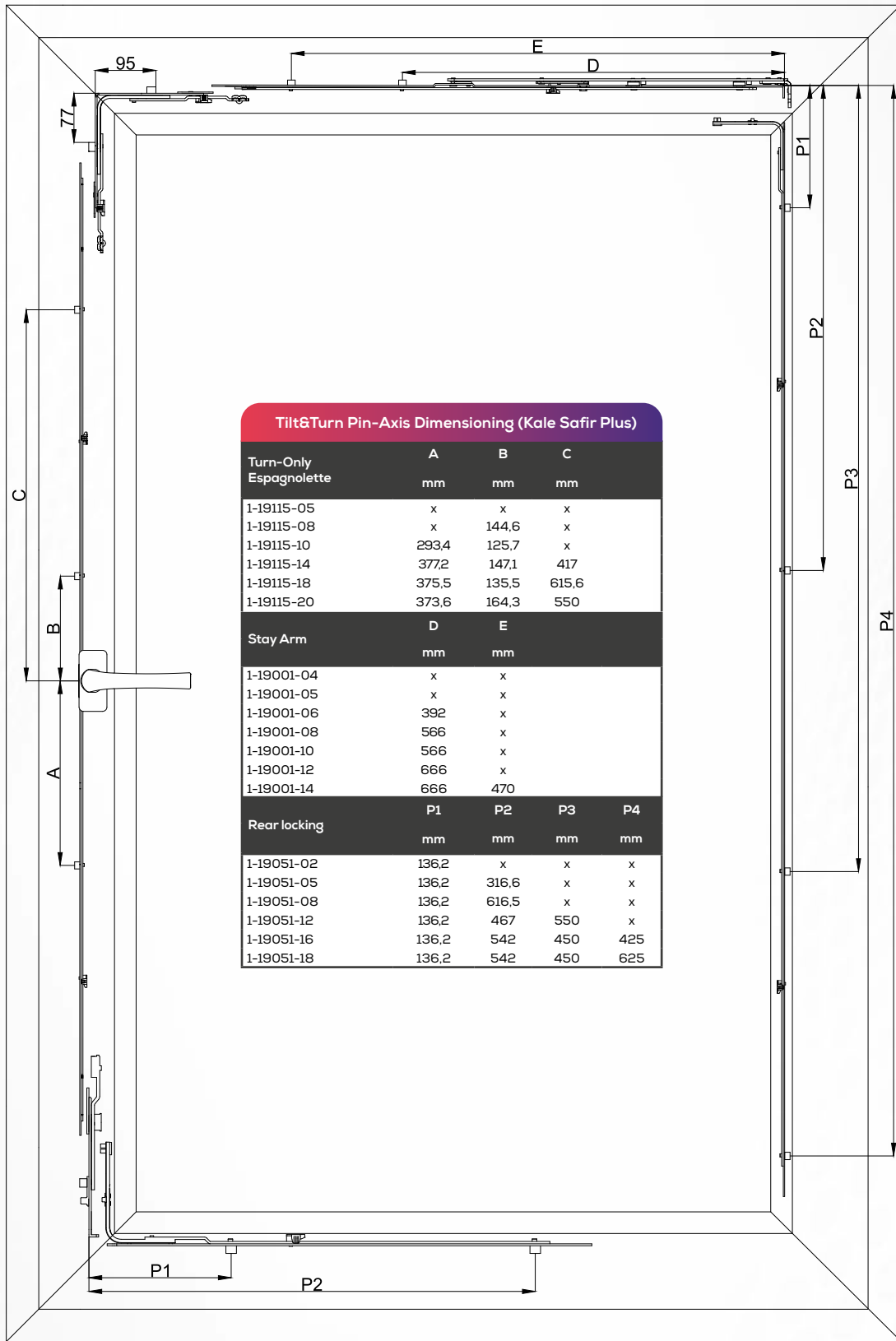


System Setup

- 1- Adjustment of the horizontal position of the sash through the stay arm
- 2- Adjustment of the gasket's pressure on the top through the stay arm
- 3- Adjustment of the gasket pressure on all locking plates
- 4- Adjustment of the vertical position of the sash through the movable hinge
- 5- Adjustment of the gasket's pressure on the bottom through the movable hinge
- 6- Adjustment of the horizontal position of the sash through the fixed hinge
- 7- Adjustment of the pressure of the gasket at 0.8 mm

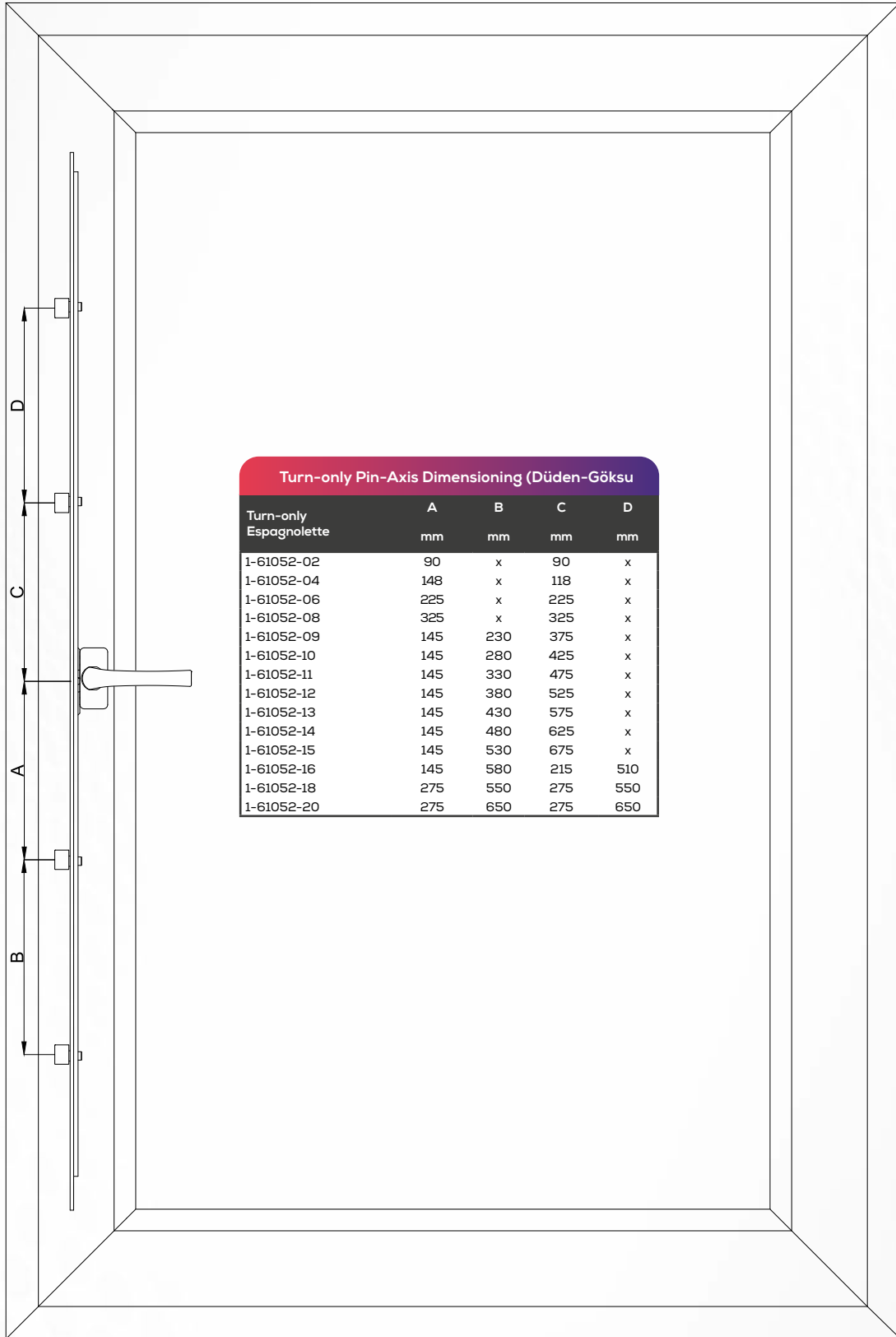


Tilt&Turn Pin-Axis Dimensioning

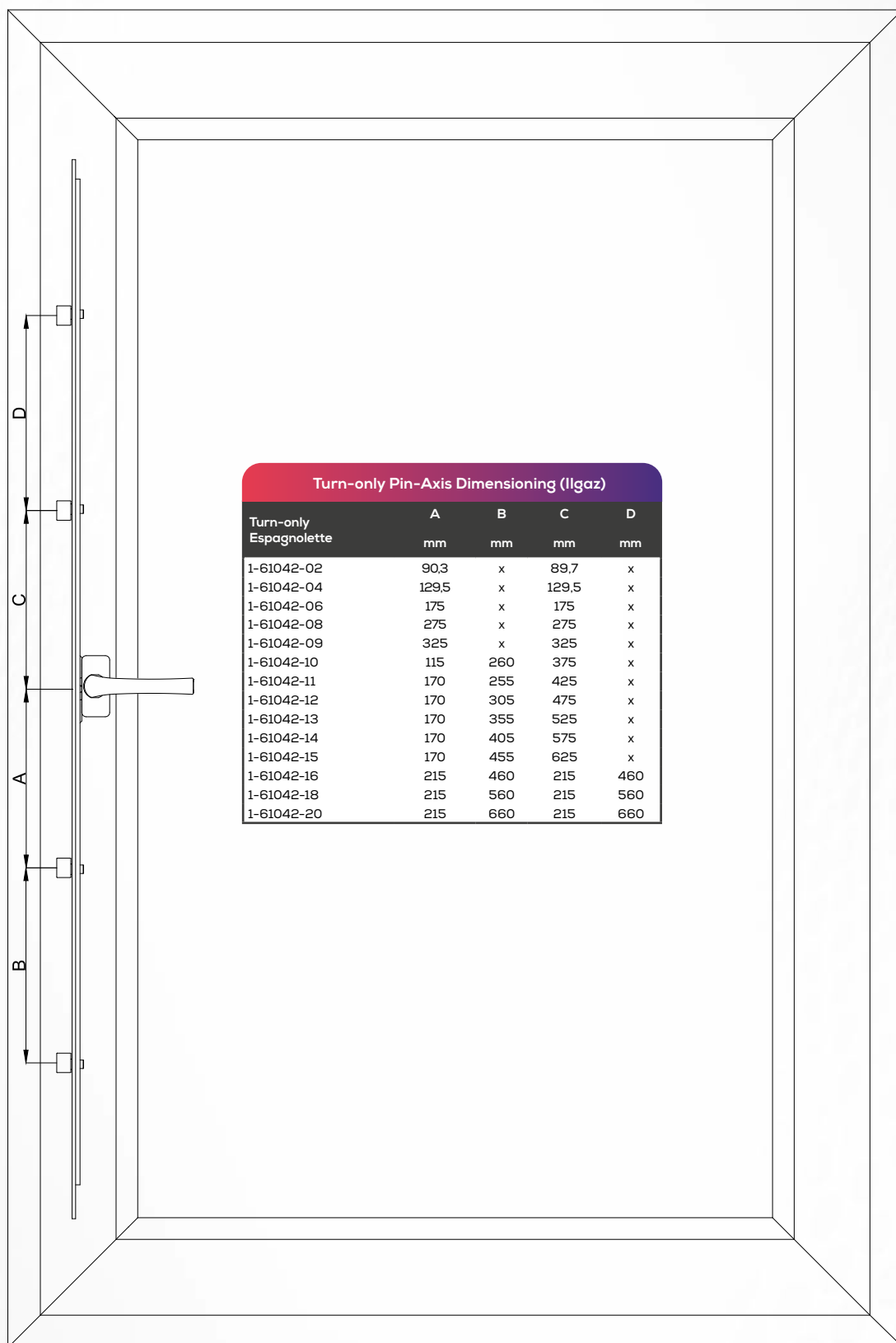


Tilt&Turn Pin-Axis Dimensioning (Kale Safir Plus)				
Turn-Only Espagnolette	A	B	C	
	mm	mm	mm	
1-19115-05	x	x	x	
1-19115-08	x	144,6	x	
1-19115-10	293,4	125,7	x	
1-19115-14	377,2	147,1	417	
1-19115-18	375,5	135,5	615,6	
1-19115-20	373,6	164,3	550	
Stay Arm	D	E		
	mm	mm		
1-19001-04	x	x		
1-19001-05	x	x		
1-19001-06	392	x		
1-19001-08	566	x		
1-19001-10	566	x		
1-19001-12	666	x		
1-19001-14	666	470		
Rear locking	P1	P2	P3	P4
	mm	mm	mm	mm
1-19051-02	136,2	x	x	x
1-19051-05	136,2	316,6	x	x
1-19051-08	136,2	616,5	x	x
1-19051-12	136,2	467	550	x
1-19051-16	136,2	542	450	425
1-19051-18	136,2	542	450	625

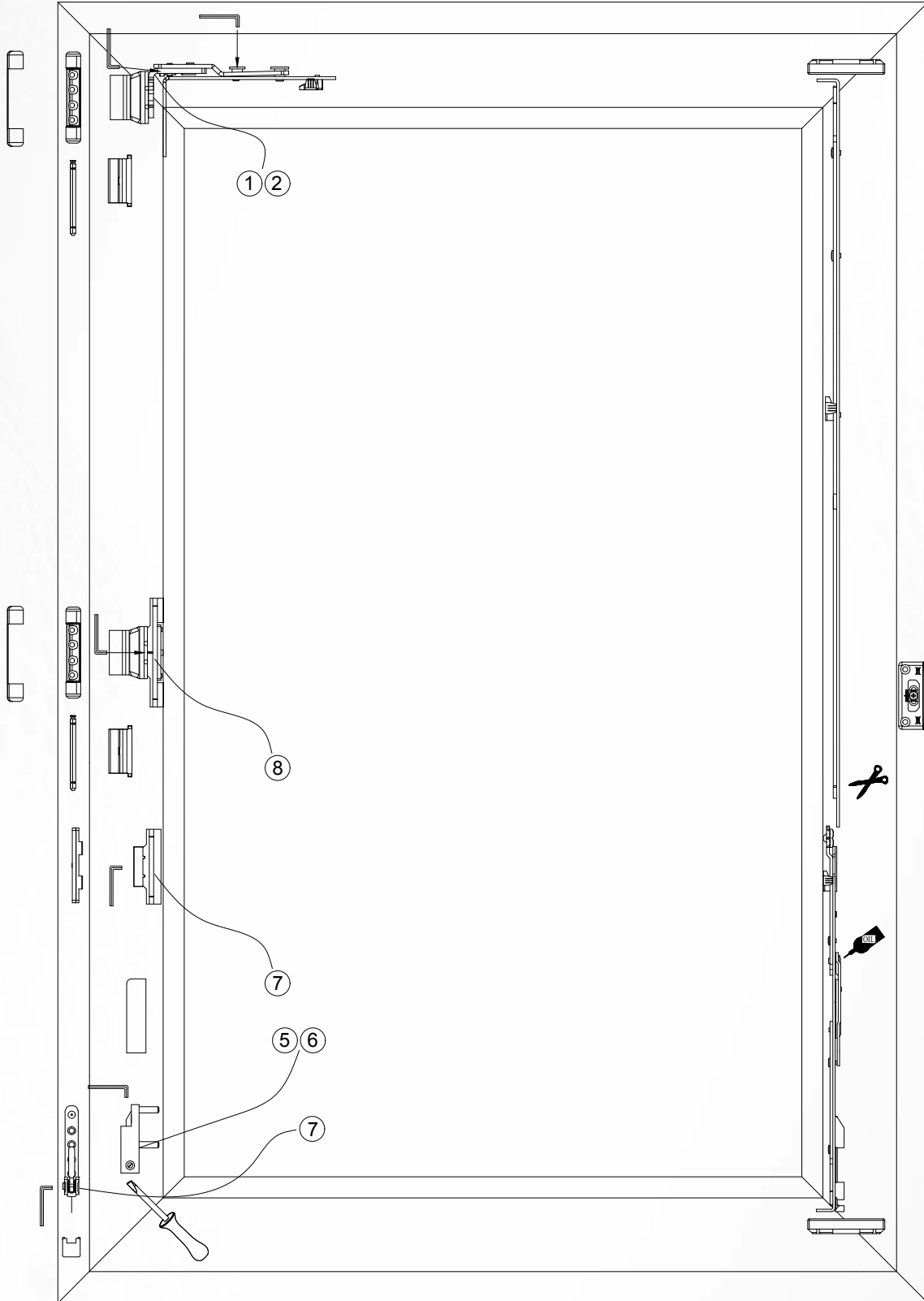
Turn-only Pin-Axis Dimensioning (Düden-Göksu)



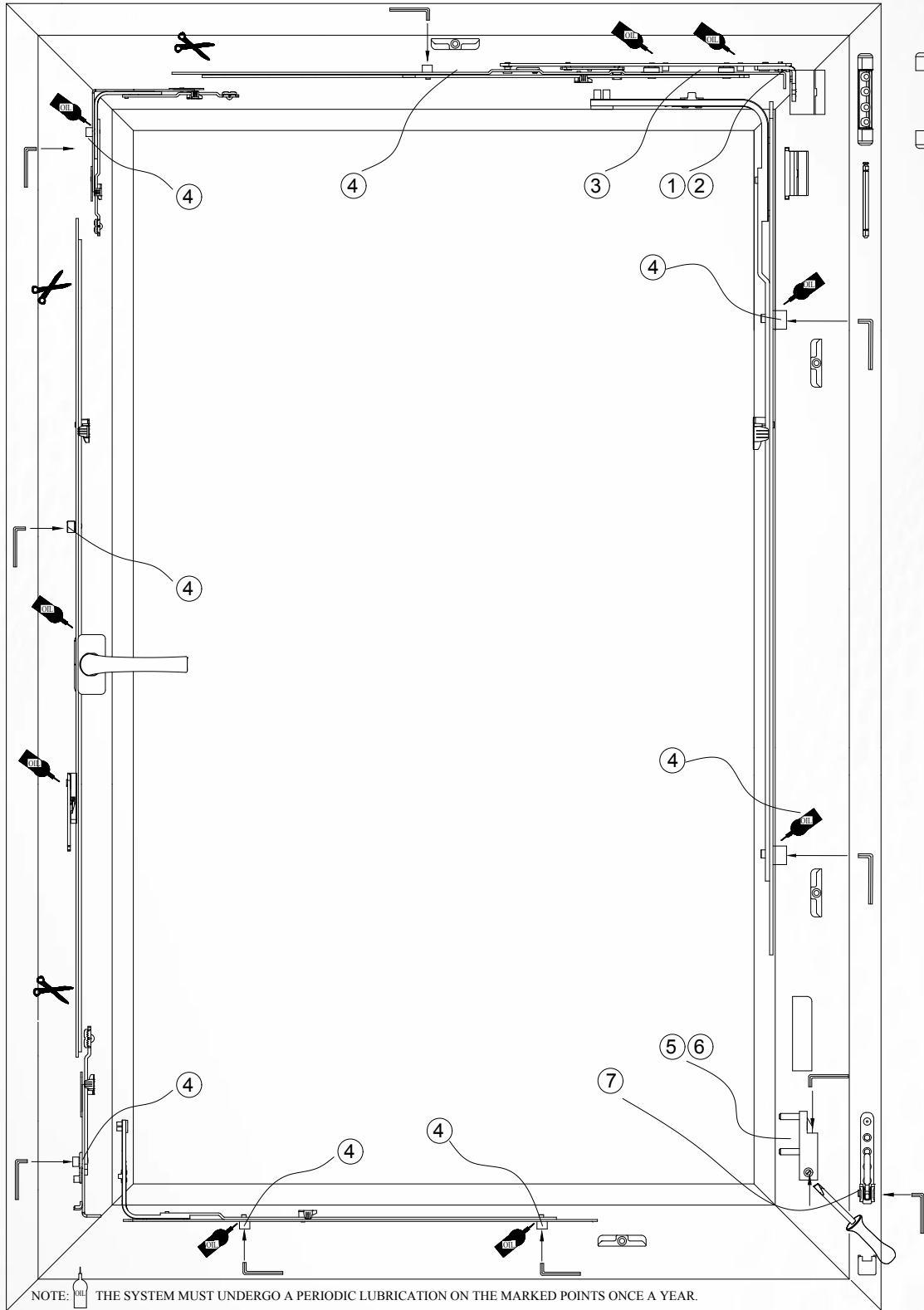
Turn-only Pin-Axis Dimensioning (Ilgaz)



Adjustment and Maintenance Points of the System (Inactive Sash)



Adjustment and Maintenance Points of the System (Active Sash)



NOTE

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NOTE

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KALE KİLİT

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