

TITLE

TECHNICAL CATALOGUE PROJECTING OPENINGS

DESCRIPTION

This document details the possible configurations for projecting openings that take in to account measurements, weights and other conditions for this type of opening.

OBSERVATIONS

Edition 02: September 2013

REFERENCE GUIDELINES

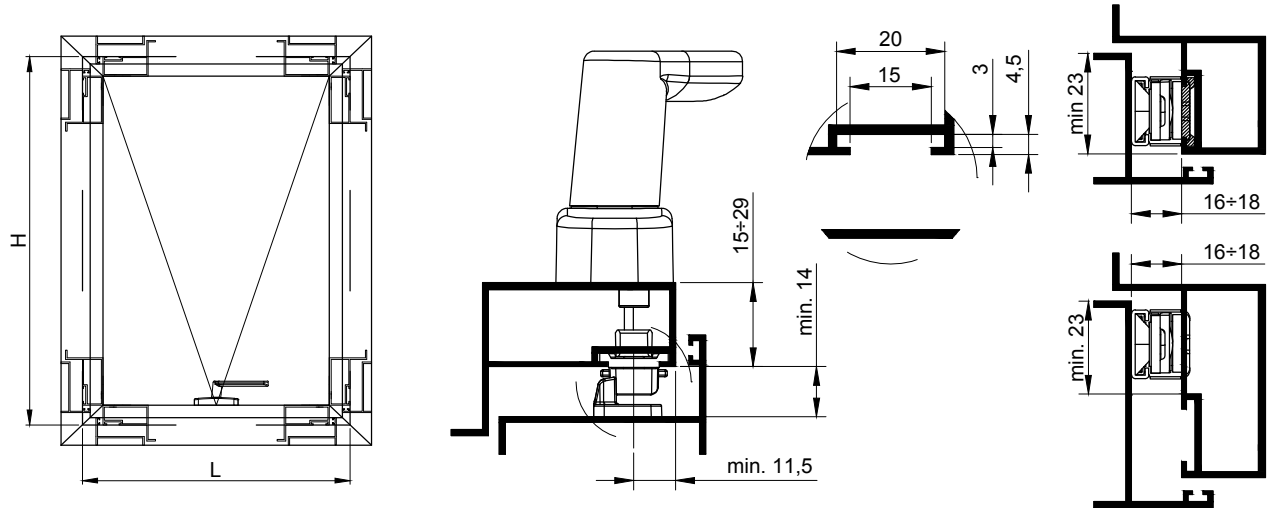
UNE-EN 1670:2007/AC:2008
UNE-EN 13126

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FITTINGS FOR A WINDOW WITH FLAT FRAME (WITHOUT EURO GROOVE)



SASH DIMENSIONS (en mm.)			H	500 - 850	851 - 1200	1201 - 1500	1501 - 1800	1801 - 2200
			L	500 - 850	851 - 1500	1201 - 1500	1501 - 1800	1801 - 2200
	1161**	(4)						
	1166**	(4)		1	1	1	1	1
	1167**	(4)						
	180100			1	1	1	1	1
	180200			×	opt.	×	×	×
	183000			2	2	2	4	4
	183500			×	opt.	1	1	1
	0518015			2	2	2	3	3
	18011 < 80 kg	30° (*)		1	×	×	×	×
		25° (**)		×	1	×	×	×
	18012 < 130 kg	20° (*)		×	×	1	×	×
		10° (**)		×	×	×	1	1
	18200 > 80 kg	(1)		×	opt.	opt.	opt.	1
	0518014 > 80 kg	(2)		×	×	opt.	2	2
	18010	(3)		×	×	×	opt.	1

(*) Friction stay return angle without using restrictor.

(**) Angle of friction stay opening using the restrictor. Ref. 18011 incorporates a restrictor stop that must be used from 1000 mm of sash height. Ref. 18012 is restricted by using part ref. 0518014 which must be used on sash heights of 1500 mm or over.

(1) For sash weights of > 80 kg, it is advisable to place the height adjusting components in the frame.

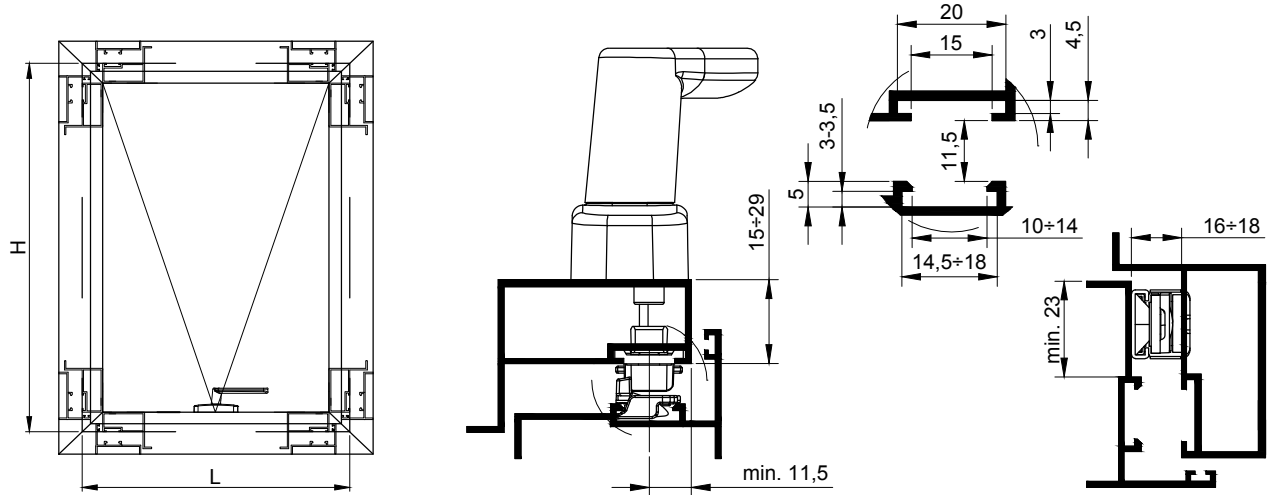
(2) For sash weights of > 80 kg, restrictor opening plates must be used with friction stay references 18012.

(3) In areas exposed to strong winds or with restrictions in opening limitations, we recommend using restrictor friction stays ref. 18010.

(4) Finishes: 01 White, 02 Black & special colours.

NOTE: For special configurations (not represented in the table), please consult with the STAC technical department or with the system manufacturer.

FITTINGS FOR A WINDOW WITH EURO GROOVE FRAME



SASH DIMENSIONS (en mm.)		H	500 - 850	851 - 1200	1201 - 1500	1501 - 1800	1801 - 2200
		L	500 - 850	851 - 1500	1201 - 1500	1501 - 1800	1801 - 2200
	1161** (4)						
	1166** (4)		1	1	1	1	1
	1167** (4)						
	110200		×	opt.	×	2	2
	113000		×	opt.	2	2	2
	182400		1	1	×	×	×
	183400		×	opt.	1	1	1
	0518015 / 112500 (5)		2	2	2	3	3
	0517193		×	opt.	2	2	2
	0710621		opt.	2	×	×	×
	18011 < 80 kg	30° (*)	1	×	×	×	×
		25° (**)	×	1	×	×	×
	18012 < 130 kg	20° (*)	×	×	1	×	×
		10° (**)	×	×	×	1	1
	18200 > 80 kg (1)		×	opt.	opt.	opt.	1
	0518014 > 80 kg (2)		×	×	opt	2	2
	18010 (3)		×	×	×	opt.	1

(*) Friction stay return angle without using restrictor.

(**) Angle of friction stay opening using the restrictor. Ref. 18011 incorporates a restrictor stop that must be used from 1000 mm of sash height. Ref. 18012 is restricted by using part ref. 0518014 which must be used on sash heights of 1500 mm or over.

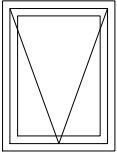
(1) For sash weights of > 80 kg, it is advisable to place the height adjusting components in the frame.

(2) For sash weights of > 80 kg, restrictor opening plates must be used with friction stay references 18012.

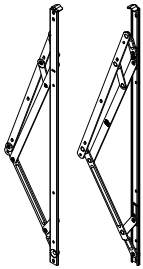
(3) In areas exposed to strong winds or with restrictions in opening limitations, we recommend using restrictor friction stays ref. 18010.



(4) Finishes: 01 White, 02 Black & special colours.

NOTE: For special configurations (not represented in the table), please consult with the STAC technical department or with the system manufacturer.



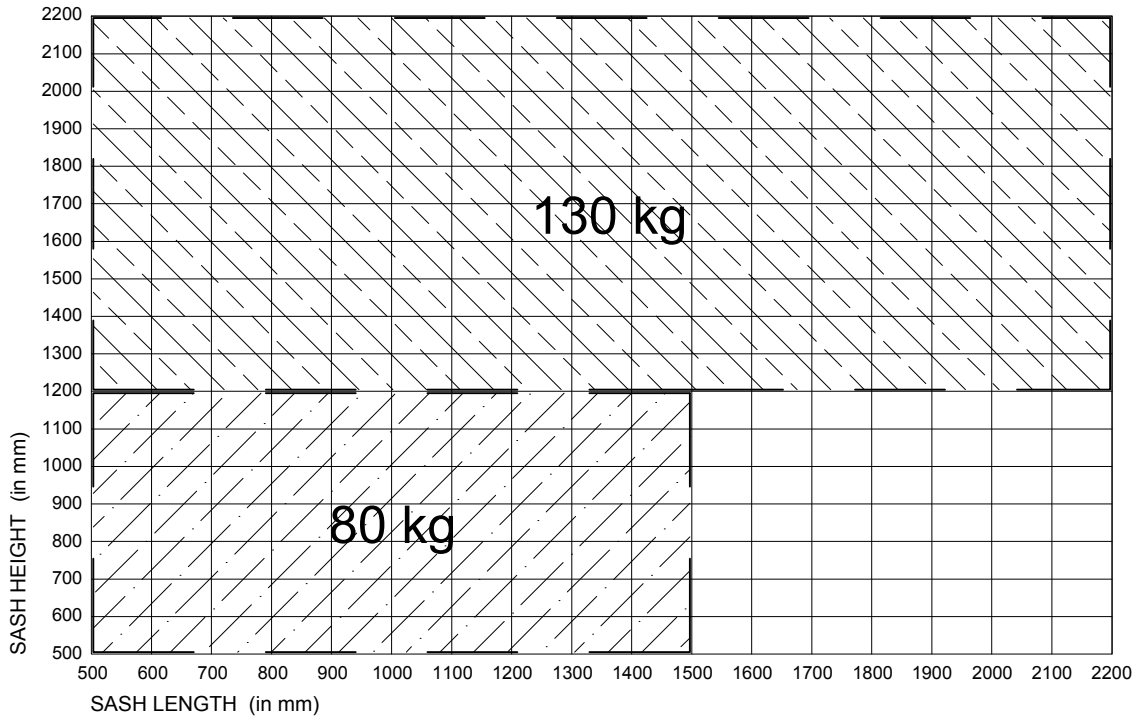
APPLICATION FIELD FOR THE PROJECTING OPENING FRICTION STAYS



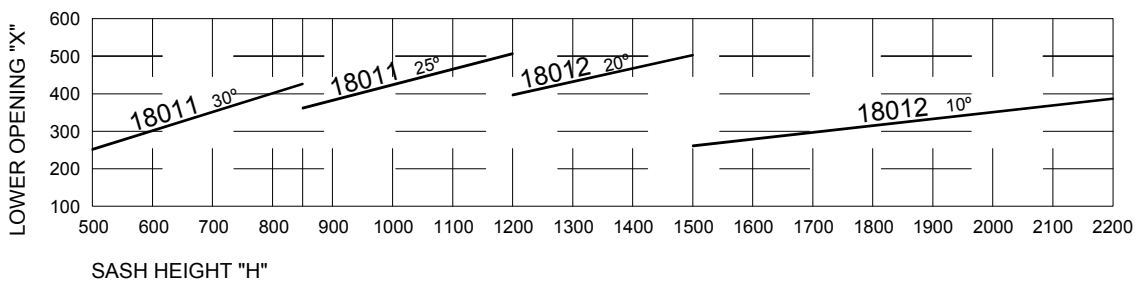
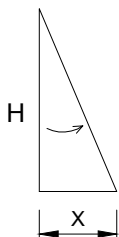
	Set of friction stays	Weight máx (kg/sash)	Sash height mín.-máx. (mm)	Sash width mín.-máx. (mm)	Max. Opening (°)	Adjustment part	Opening restriction
	18011	80	500 ÷ 1200	500 ÷ 1500	30°-25°	18200	Including
	18012 (*)	130	1200 ÷ 2200	500 ÷ 2200	20°-10°	18200	0518014 (*)

(*) For sash weights > 80 kg and/or a height of > 1500 mm, the friction stays ref. 18012 must be used with the opening restrictor plate ref. 0518014.

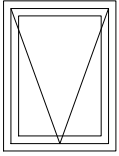
For sash weights > 80 kg, it is advisable to use the height adjustment components ref. 18200.



OPENINGS DIAGRAM (in mm)

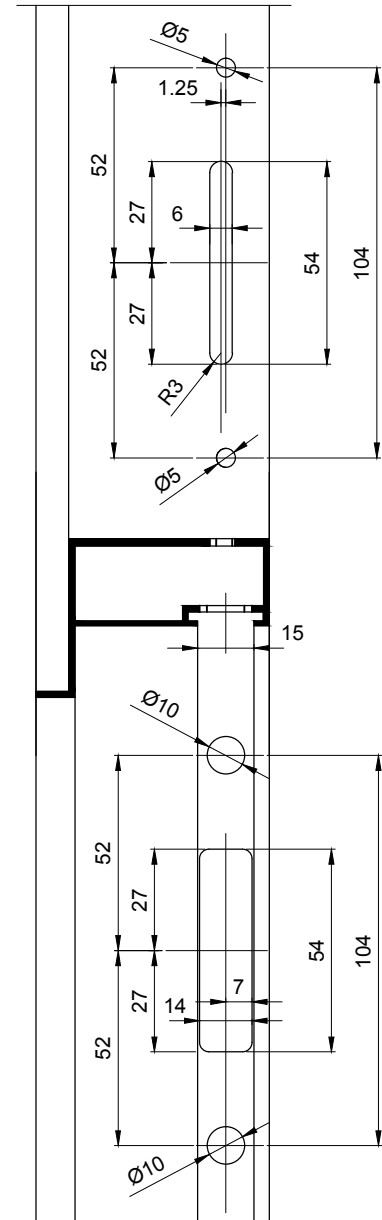
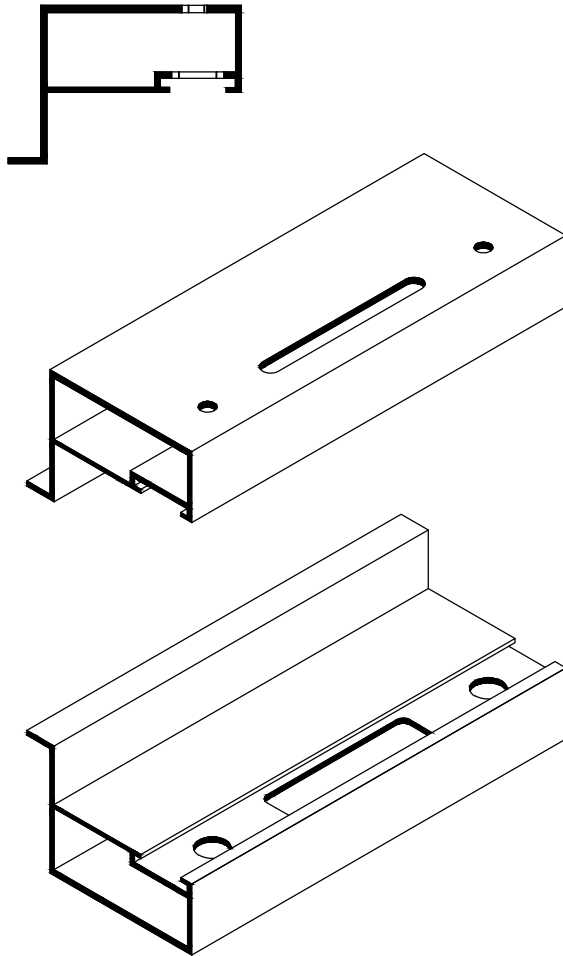


PROJECTING OPENING FABRICATIONS

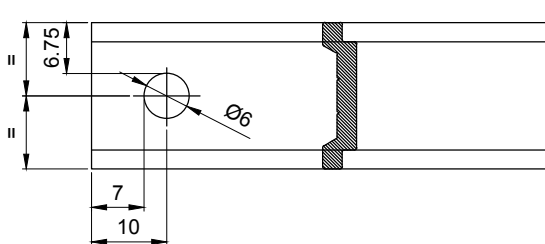
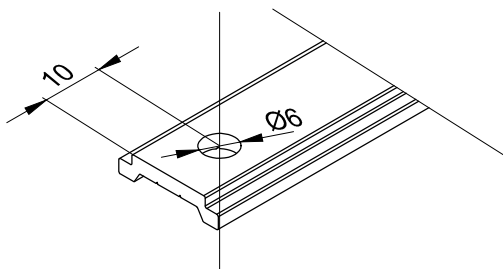


FABRICATIONS FOR THE
CREMONE & TRANSMISSION

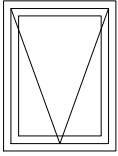
SCALA 1:2



PUNCHING & CUTTING FOR THE OPERATING ROD

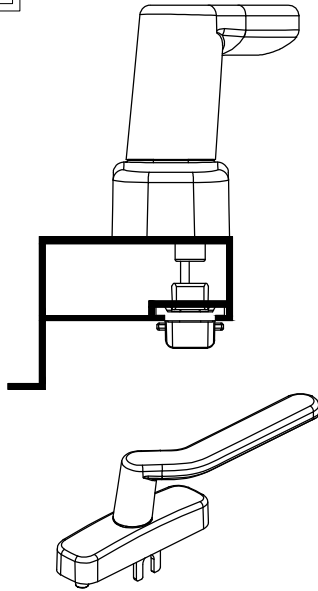


NOTE: For cutting and punching of the operating rods, we recommend using the operating rod Punch Tools STAC: TFS-02, TFS-04, TFS-05 o TFS-06.



PROJECTING OPENING CREMONES AND TRANSMISSIONS

SIRIUS ANGLED CREMONE HANDLE

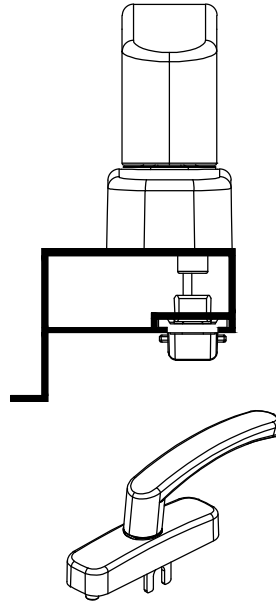


Sirius angled cremone handle for projecting windows



1161**

SIRIUS CREMONE HANDLE

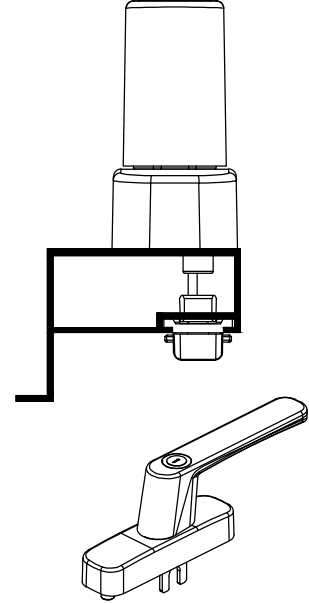


Sirius cremone handle for projecting windows



1166**

SIRIUS CREMONE HANDLE WITH KEY LOCK



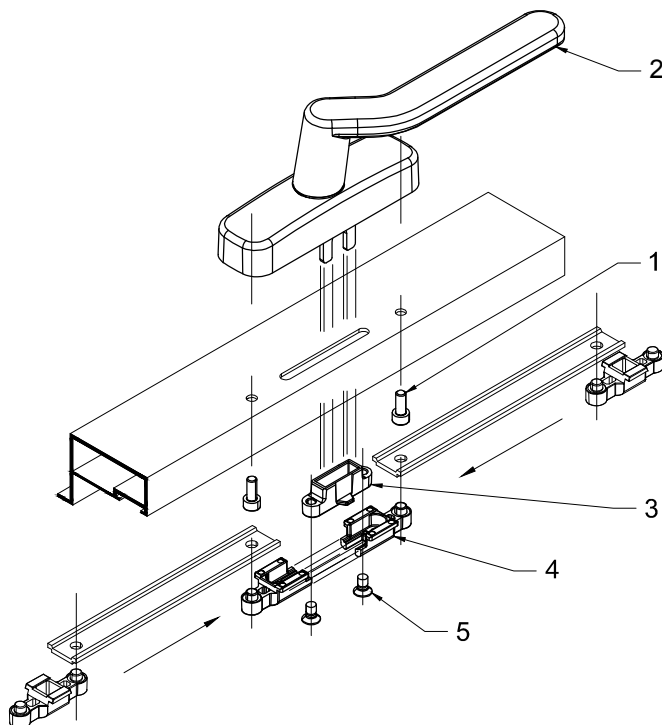
Sirius cremone handle with key for projecting windows



1167**

** Finish: 01 White, 02 Black and special colors.

CREMONE AND TRANSMISSION ASSEMBLY



INSTALLATION INSTRUCTIONS

1. Fit the cremone fixing screws in to the previously drilled sash profile on the channel side.
2. Fit the cremone to the profile and fasten the screws completely.
3. Introduce the internal transmission element in to the previously machined central area on the channel side. The two side flanges of the piece will remain supported in the channel
4. Link all the lower sash hardware and rods to the transmission moorings. Insert them through both sides until they touch on the middle.
5. Fit both parts with the screws provided with the transmission

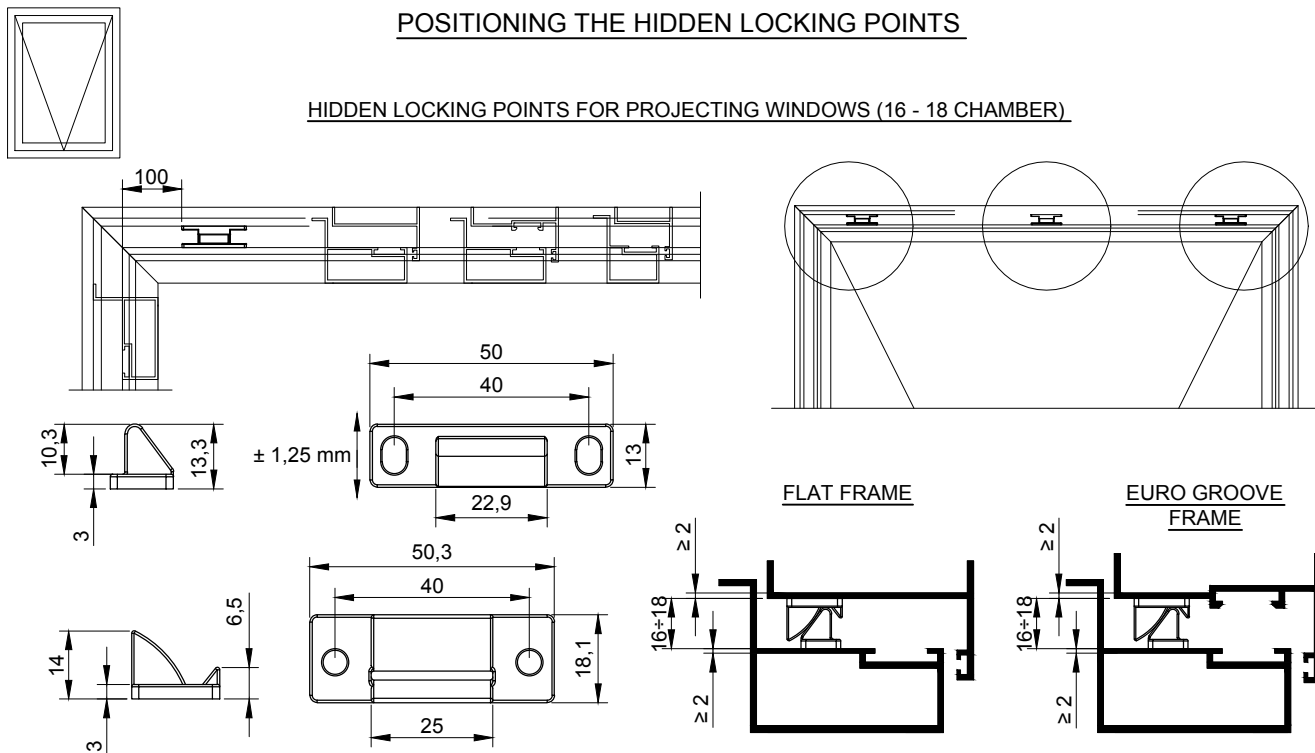
Cremone transmission



180100

POSITIONING THE HIDDEN LOCKING POINTS

HIDDEN LOCKING POINTS FOR PROJECTING WINDOWS (16 - 18 CHAMBER)



INSTALLATION INSTRUCTIONS:

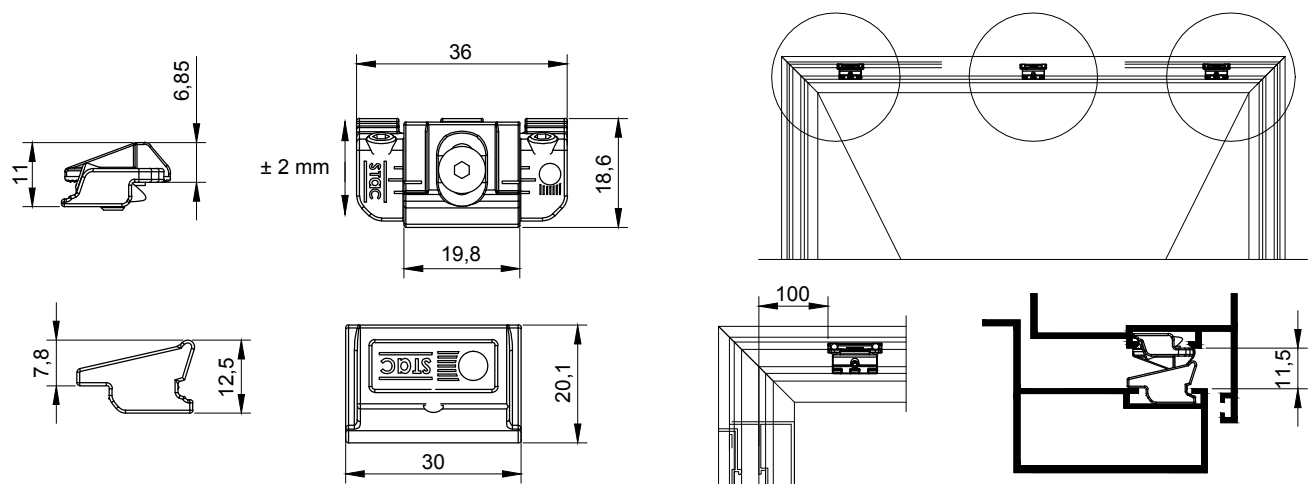
Fixing of both parts using blind rivet nuts and M5 screws. Consult in the annex pages of **ADDITIONAL INFORMATION**, for **INSTALLATION INSTRUCTIONS** of the hidden locking points for a projecting window. Sash tightening adjustment is $\pm 1,25$ mm. For 16-18 mm chambers.

Use an aluminium flat bar in order to support the sash.

Hidden locking point for projecting windows

	0518015
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HIDDEN LOCKING POINT FOR EURO GROOVE

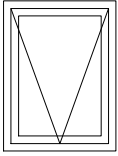


INSTALLATION INSTRUCTIONS:

Pre-assemble directly over the channel. Use a 2.5 mm Allen key to fix as well as to adjust the tightness of the hidden locking points. Tightening adjustment to be ± 2 mm. for the euro groove.

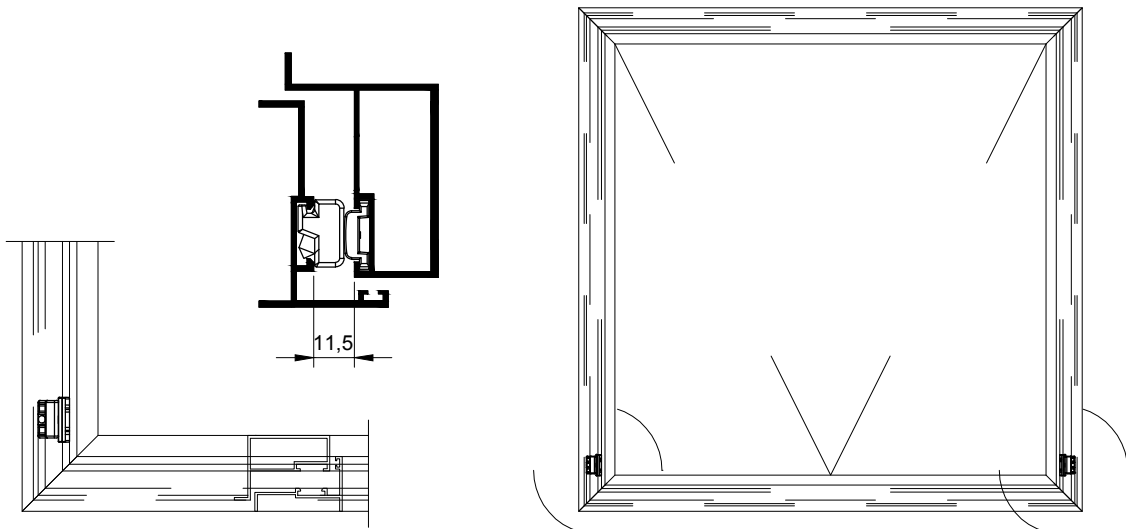
Punto de cierre oculto canal europeo

	112500
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POSITIONING THE SLIP IN THE FRAME EURO GROOVE

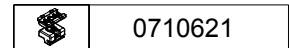
SLIP SET FOR A 4 POINT PERIMETER LOCK



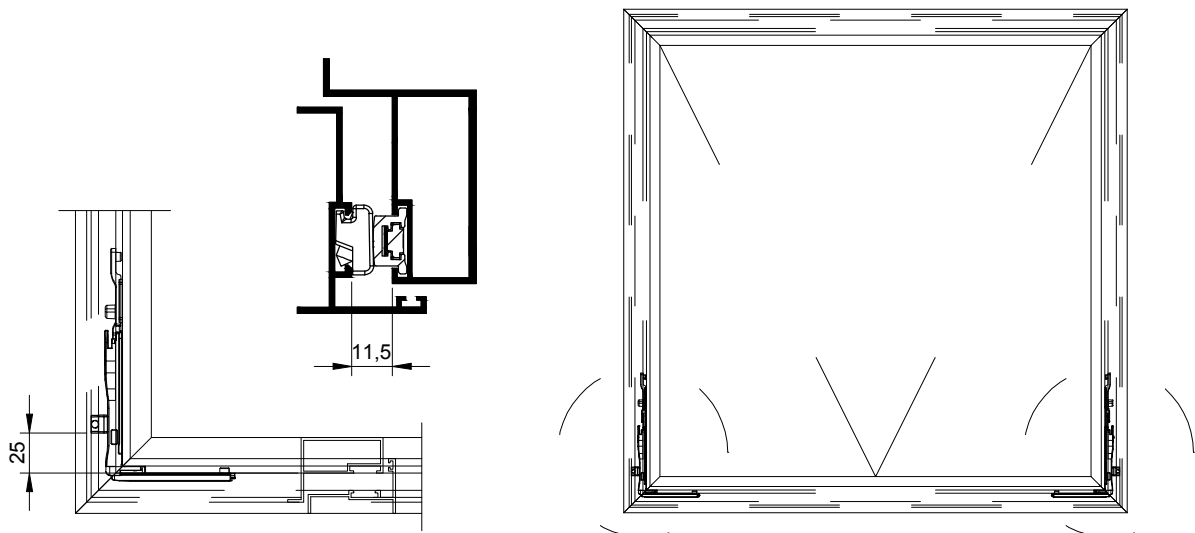
INSTALLATION INSTRUCTIONS:

Pre-assemble directly over the channel. Use a 2.5 mm Allen key to fix the frame element to the channel. For Euro Groove.

Frame-sash slip kit



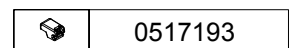
SLIP KIT FOR PERIMETRAL LOCK WITH RETURN ANGLES

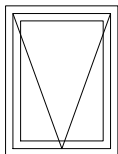


INSTALLATION INSTRUCTIONS:

Pre-assemble directly over the channel. To fit the slip to the channel, use a 2.5 mm Allen key. For Euro Groove.

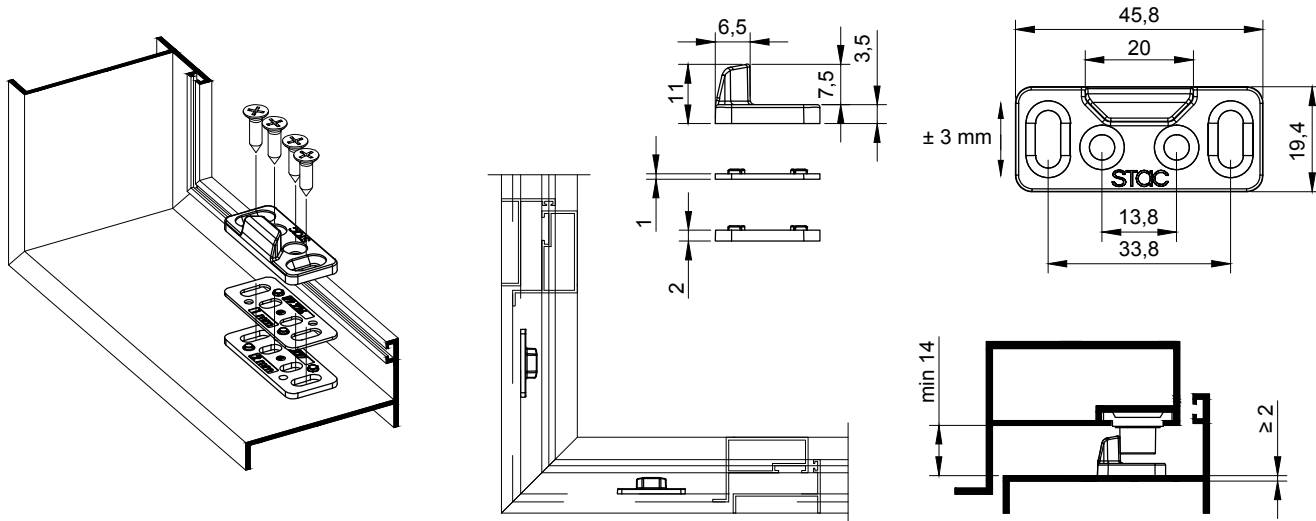
Return angle slip.





SITUATING THE FRAME LOCKING POINTS

ADJUSTABLE LOCKING POINT FOR A BASIC PROJECTING FRAME



INSTALLATION INSTRUCTIONS:

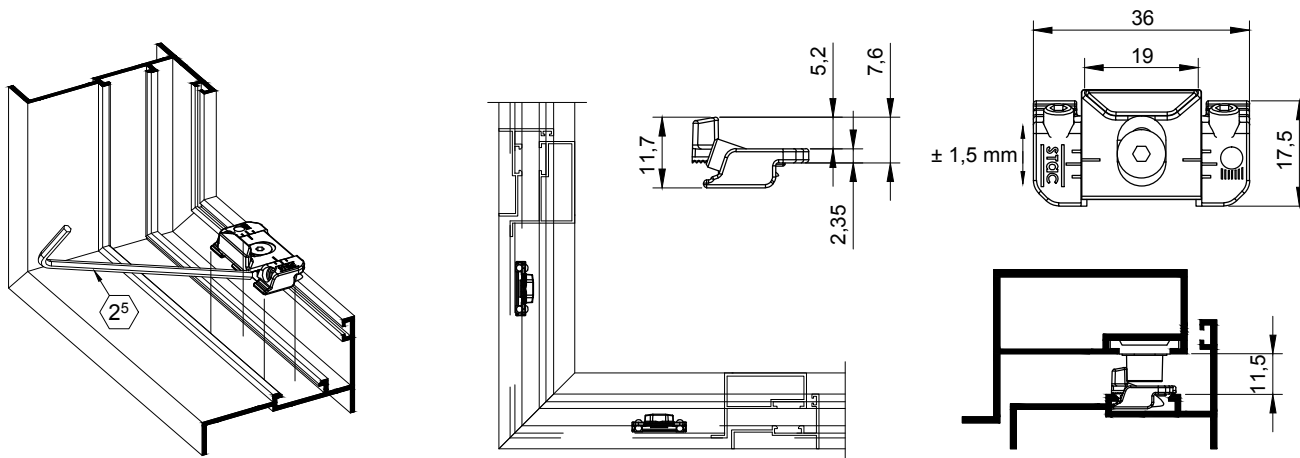
Initially identify the drill points relative to the adjustable position (scratched holes on the sides) and do the rest once adjusted with the required tightness. For fixing the locking points, ALL the available holes must be used. Use a $\varnothing 3,5$ mm drill bit to drill the holes and fix them with DIN7982 $\varnothing 4.2$ screws (13 mm min. length). The minimum frame profile wall thickness in the fixing area must be 2 mm.

Each lock is supplied with a 1 mm & a 2 mm wedge in order to adjust the height to +1, +2 and +3 mm inclusively. If this is not enough, please consult with STAC to order more wedges. The tightening adjustment is ± 3 mm for chambers from 14 mm.

Adjustable locking point for projecting basic frame

	180200
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ADJUSTABLE LOCKING POINT FOR A EURO GROOVE FRAME

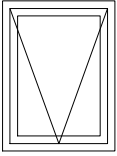


INSTALLATION INSTRUCTIONS:

Pre-assemble directly over the channel. Tightening adjustment to be $\pm 1,5$ mm. Use a 2.5 mm Allen key for fixing as well as for adjusting the tightness in the locking points. For Euro Groove.

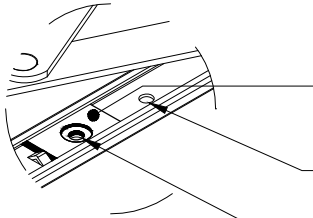
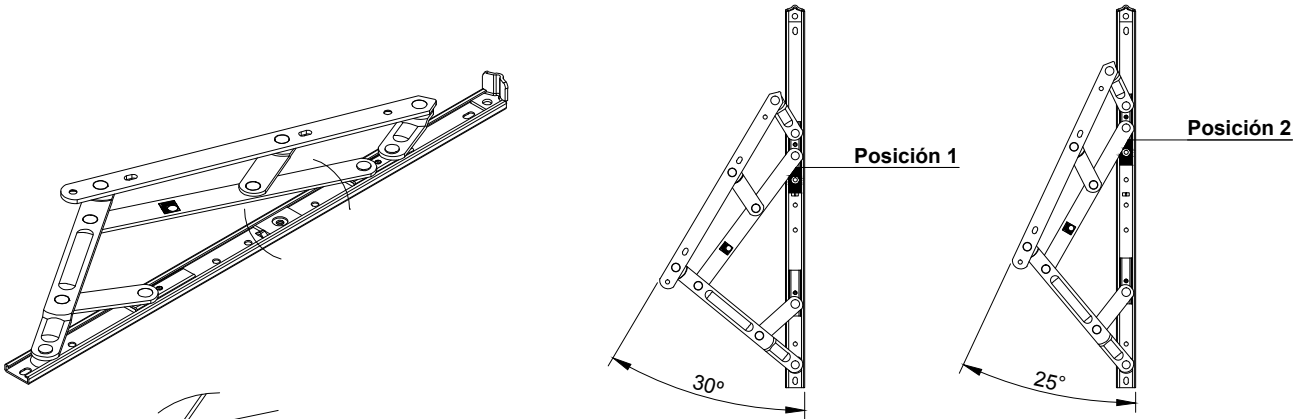
Adjustable locking point for Euro Groove.

	110200
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OPENING RESTRICTION FOR PROJECTING FRICTION STAYS

80 KG LOAD BEARING PROJECTING FRICTION STAY



The restrictor plate has two fixing points:

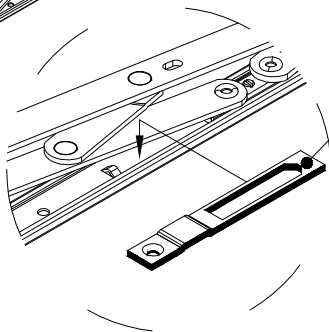
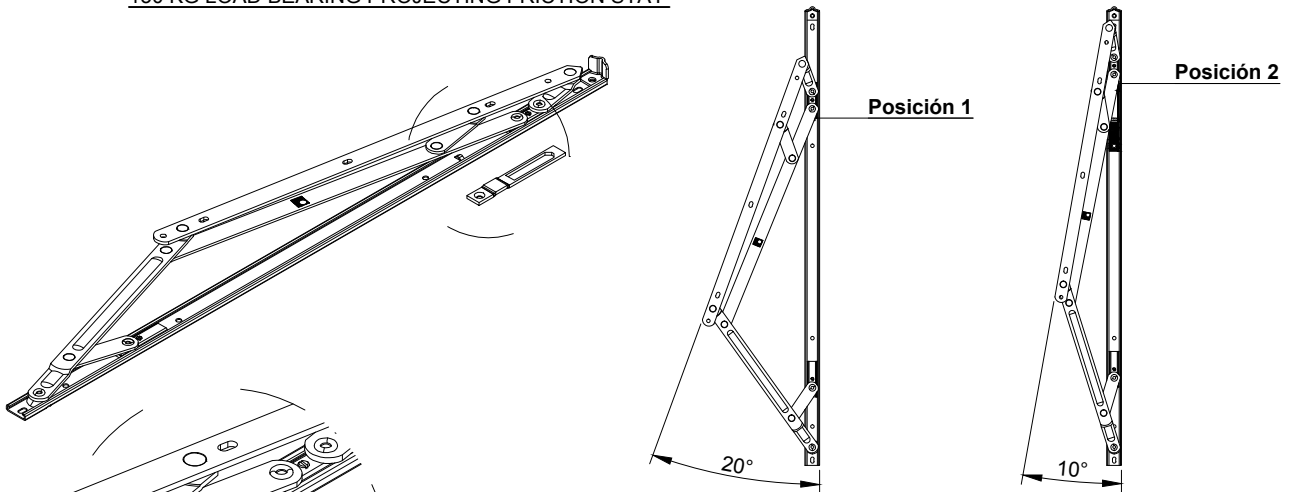
Position 2: 25° opening. Must always be used for sash heights greater than 850 mm.

Position 1: 30° opening. Default position. Used for sash heights of less than 850 mm.

Pair of 80 kg projecting friction stays



130 KG LOAD BEARING PROJECTING FRICTION STAY



Restrictor plate 0518014:

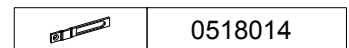
Position 1: without restrictor plate 20° opening. Default position. It is not necessary to fit this plate below 1500 mm in height and/or 80 kg. sash weight.

Position 2: with restrictor plate. 10° opening. This must always be used from 1500 mm in heightS and/or 80 kgs. in sash weight.

Set of 130 kg. projecting friction stays

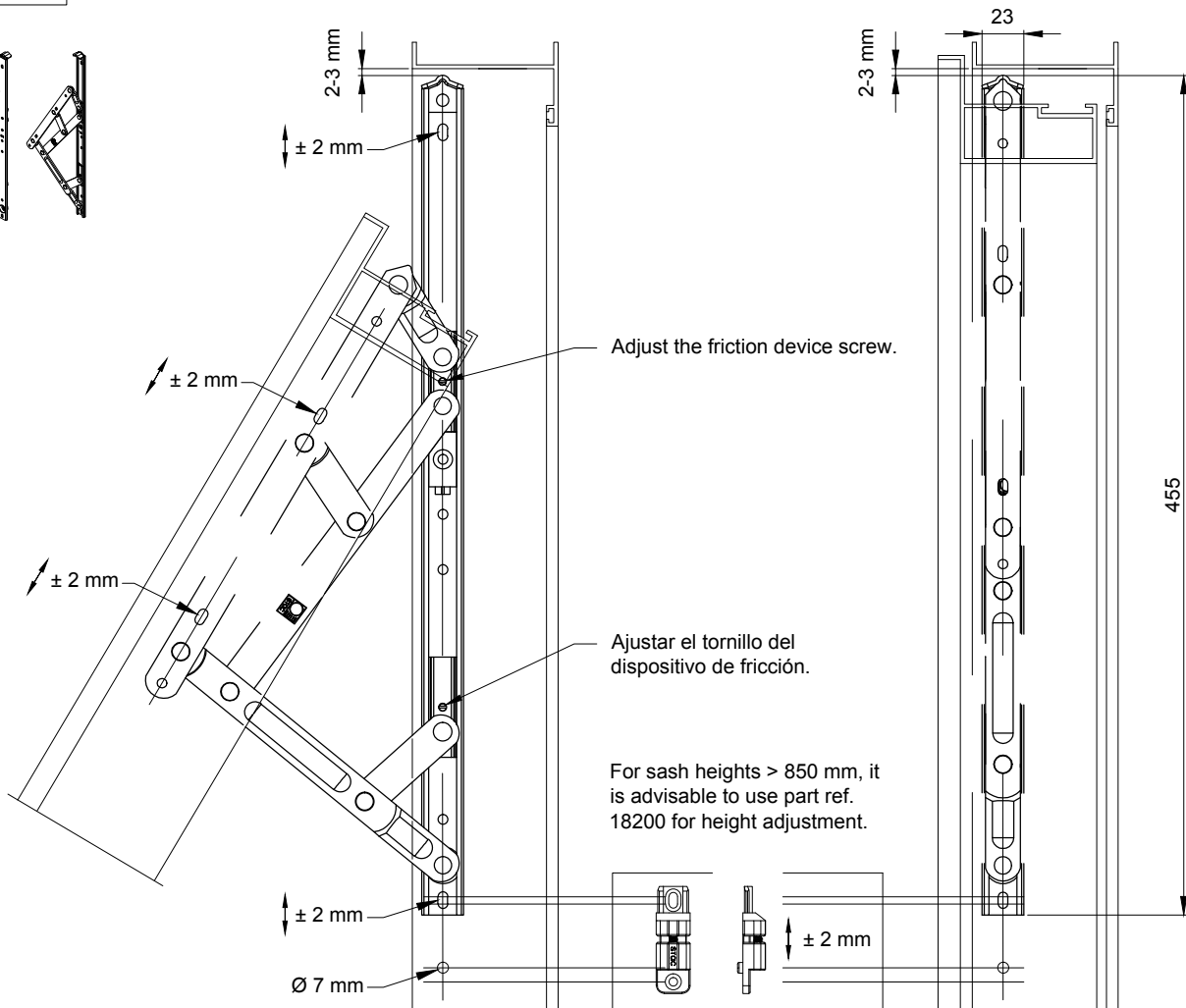
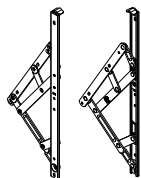
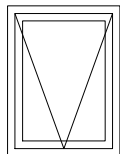


Opening restrictor plate



POSITIONING REF. 18011 FRICTION STAY SET

W	≤ 80 kg
H	500 - 1200
L	500 - 1500

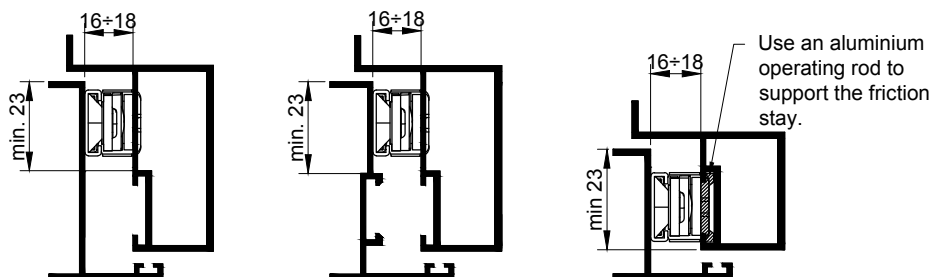


INSTALLATION INSTRUCTIONS:

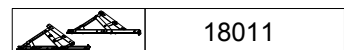
Initially perform the drilling relative to the adjustable position (indicated by the note "± 2 mm") and carry out the rest of the job with the adjusted friction stay in the sash. Leave a separation of between 2 & 3 mm between the top guide stop and the top interior corner of the frame in order to allow for a possible height adjustment.

For fixing the friction stays, ALL the available holes must be used. Adjust the friction devices screws in order to obtain the desired degree of resistance.

Consult in the annex pages of **ADDITIONAL INFORMATION**, for **INSTALLATION INSTRUCTIONS** of the projecting friction stays.



Set of 80 kg. projecting friction stays

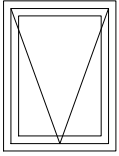


18011

Set of height adjustment components

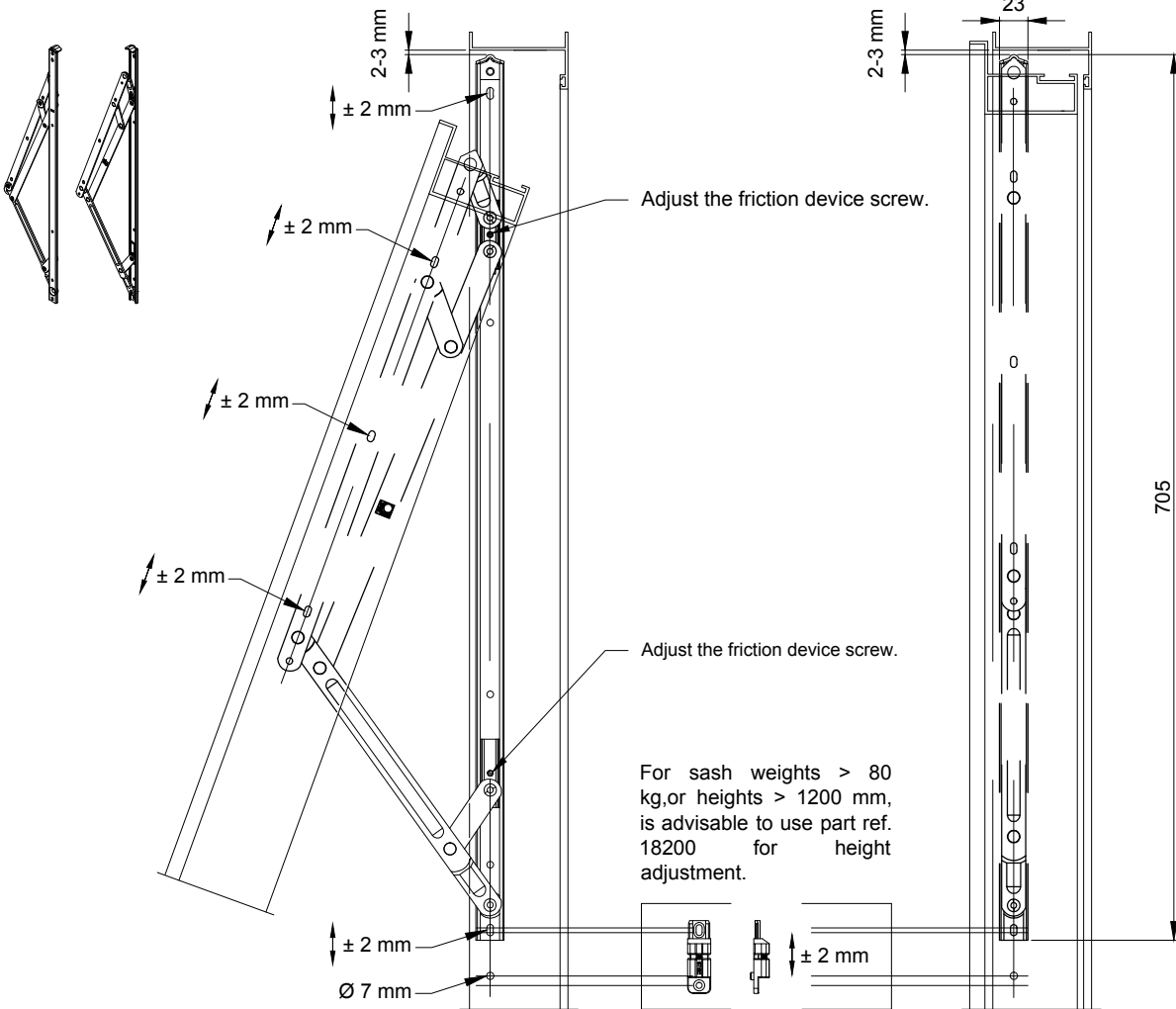


18200



POSITIONING FRICTION STAY SET REF 18012

W	≤ 130 kg
H	1200 - 2200
L	500 - 2200

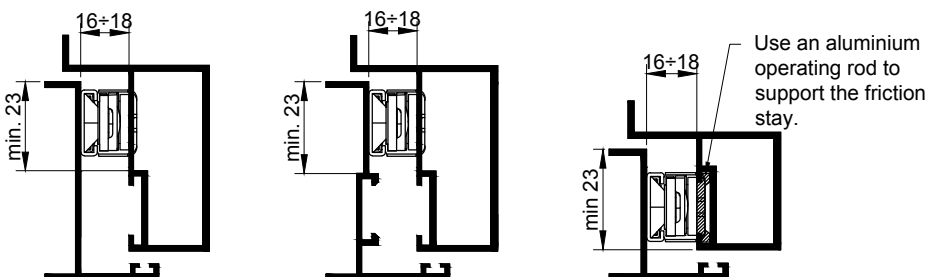


INSTALLATION INSTRUCTIONS:

Initially perform the drilling relative to the adjustable position (indicated by the note "± 2 mm") and carry out the rest of the job with the adjusted friction stay in the sash. Leave a separation of between 2 & 3 mm between the top guide stop and the top interior corner of the frame in order to allow for a possible height adjustment.

For fixing the friction stays, ALL the available holes must be used. Adjust the friction devices screws in order to obtain the desired degree of resistance.

Consult in the annex pages of **ADDITIONAL INFORMATION**, for **INSTALLATION INSTRUCTIONS** of the projecting friction stays.



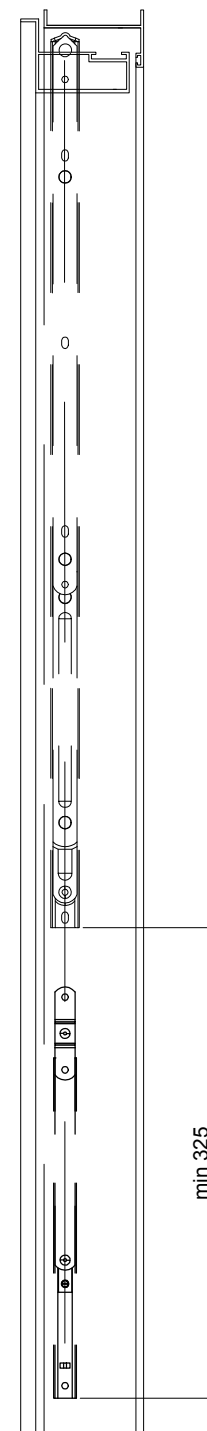
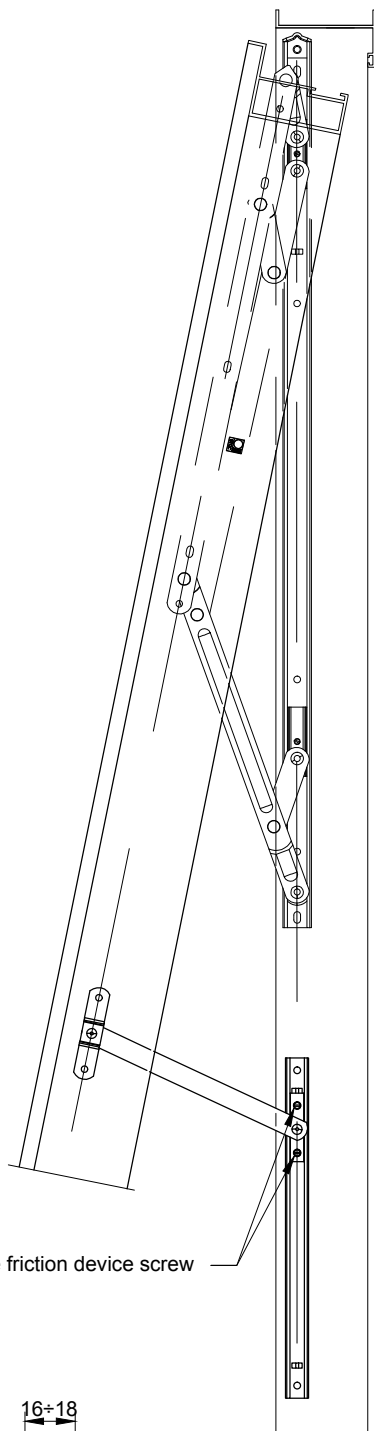
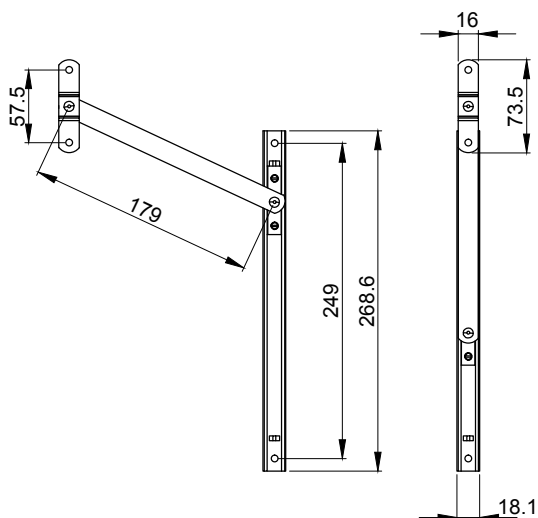
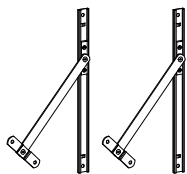
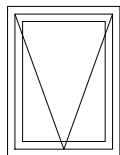
Set of 80 kg. projecting friction stays



Set of height adjustment components



POSITIONING FRICTION STAY RESTRICTOR SET REF 18010



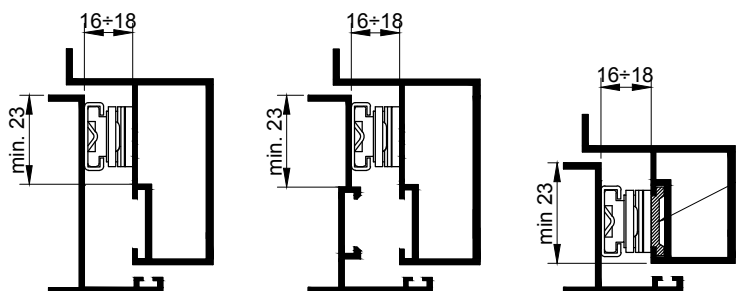
INSTALLATION INSTRUCTIONS:

For fixing the friction stay restrictors, ALL the available holes must be used.
Adjust the friction device screws in order to obtain the required degree of resistance.

Depending on what height they are to be fitted, the sash opening angle will be limited to a lesser or greater measurement.
The restrictor friction stays must be used as from a sash height of 1800 mm and furthermore in areas exposed to strong winds or with restrictions in opening limits.

Consult in the annex pages of ADDITIONAL INFORMATION, for INSTALLATION INSTRUCTIONS of the projecting friction stays.

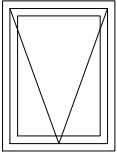
Adjust the friction device screw



Use an aluminium operating rod to support the friction stay.

Set of restrictor friction stays

	18010
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ADDITIONAL INFORMATION

INSTALLATION INSTRUCCION

Hidden locking points for projecting windows:

1- The hidden locking points for projecting windows must be fitted in the same plane as the friction stays (in line with the friction stays).

2- Fixing of both pieces is carried out using M5(*) blind rivet nuts and DIN7985 M5 screws of corresponding length. This type of fixing is obligatory if the sash or frame wall thickness is less than 2 mm.

(*) Please consult with your supplier catalogue of blind rivet nuts in order to obtain information concerning the compatible profile thicknesses and the necessary tools.

Screw size DIN7981 Ø 4.8 (13 mm minimum length) can be used if the sash and frame wall profile wall thickness is more than or equal to 2 mm. Use a Ø 4 mm drill bit to drill the holes.

Projecting friction stays:

1- The projecting friction stays must be fitted between the two flat parallel faces in the correct cavity. They must be installed in such a way that in the closed position, the friction stay arms coincide with a parallel position to the window.

2- First make the relative drilling points in the adjustable position and do the rest on site with the friction stay adjusted in the sash. Leave a space of between 2 & 3 mm between the top guide stop and the top internal corner so that a possible adjustment can be made. It is very important to ensure that no fabrication debris or other dirt elements enter in to the the top guide stops.

3- All the available holes must be used.

4- Fixing of the friction stays and the height adjustment components are carried out using M5(*) blind rivet nuts and an M5 DIN7985 screw of corresponding length, except for the countersunk holes where DIN965 M5 screws are used of the same length. This type of fixing must be used and is obligatory if the sash or frame profile thickness is less than 4 mm and/or the sash weight is greater than or equal to 80 kgs.

(*) Please consult with your supplier catalogue of blind rivet nuts in order to obtain information concerning the compatible profile thicknesses and the necessary tools.

DIN 7981 Ø 4.8 (13 mm min. length) screws can also be used except where countersunk holes are used and in which case DIN7982 Ø 4.8 (13 mm min. length) screws are to be used always and when the sash and frame thickness in the fixing area is more or equal to 4 mm and the sash weight is less than 80 kgs. Use a Ø 4,25 mm drill bit to carry out all of the drilling with the exception of the teat component of the height adjustment ref. 18200 where a Ø 7 mm bit is to be used.

With respect to public works projects, the fixing must always be carried out using blind rivet nuts no matter the profile thickness and sash weight.

5- Adjust the screw over the friction device to obtain the desired degree of resistance.

6- Lubricate all the pivot points with light machine oil while installing.

Check the initial tables in this document regarding the recommended accessories with respect to the sash measurements.

GENERAL INFORMATION REGARDING INSTALLATION AND MAINTENCE OF THE PROJECTING WINDOWS

All of the parts have been manufactured using the highest quality standards.

We recommend that during installation and to maintain optimum performance, the following:

- 1- Remove any type of dust or dirt that could obstruct the working of the moving parts, especially in the friction stays. Clean any dirt from the channel, the slider block and the top guide stop. If this is not done it could adversely affect the performance of this product.
- 2- Lubricate all the moving parts during installation and at least each year or 5000 opening cycles.
- 3- Check regularly that the friction regulating screws and re-tighten whenever necessary.

IMPORTANT:

The recommended dimensions and weight restrictions for each type of friction stay must be strictly respected and should there be any doubts, please consult with STAC.

All of the parts must be installed according to the assembly instructions detailed in this catalogue

The dimension and weight values expressed in this catalogue refer to the window sash and the measurements are taken from the channel. These values have been obtained from tests carried out with 4 mm thick profiles in the area where the friction stays are fixed, both in the frame as in the sash.

Always check the limits indicated by the system manufacturer for these types of openings especially in cases of maximum dimensions and weights for the sash.

It is the responsibility of the window fabricator to ensure that the finished window complies with the required security and performance specifications.

The discounts indicated in all of the configurations are for guidance only having been obtained using STAC hardware. It is expressly recommended that the client checks before carrying out the work.

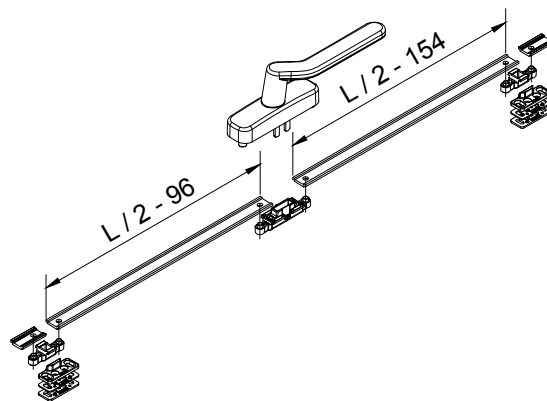
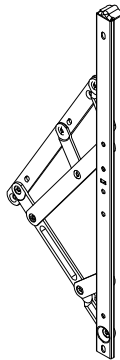
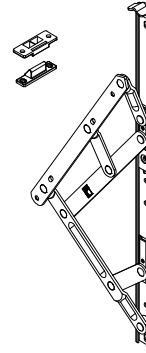
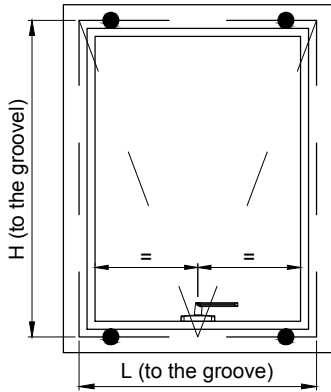
STAC S.L. will not be responsible for the malfunction of the projecting opening system if any part that does not belong to STAC is used.

STAC S.L reserves the right to modify or eliminate any data or accessory presented in this document without prior notification and will not be responsible for possible errors in the printing of this catalogue.

FLAT FRAME PERIMETER LOCKING
FOUR POINT LOCKING

H	500 - 850
L	500 - 850
Max Weight 80 kg	

TFS CODE
17100

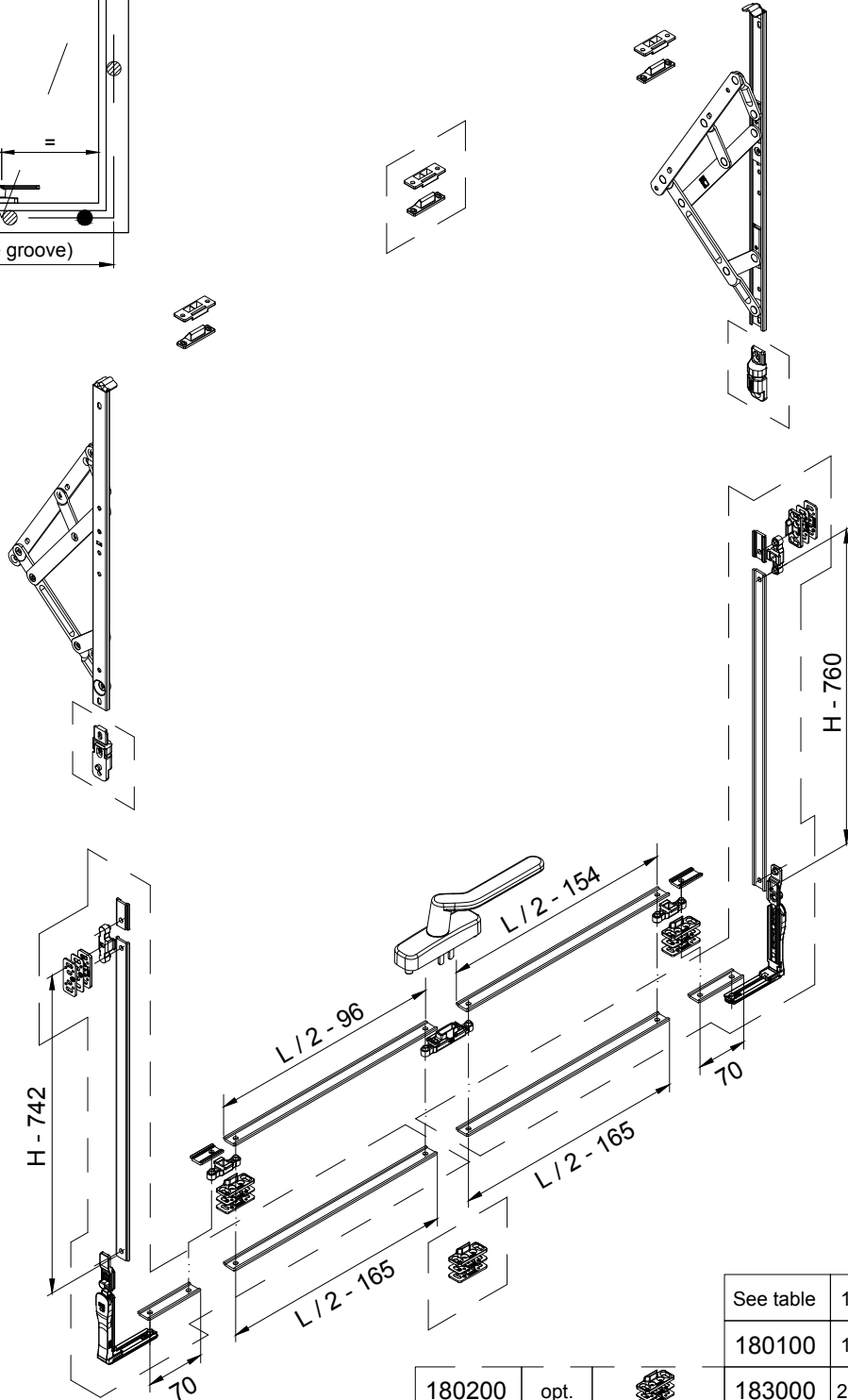
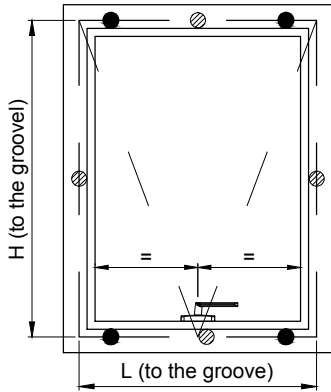


See table	1 units	
180100	1 units	
183000	2 units	
0518015	2 units	
18011	1 ud.	

**FLAT FRAME PERIMETER LOCKING
SIX POINT LOCKING**

H	851 - 1200
L	851 - 1500
Max Weight 80 kg	

TFS CODE
17200

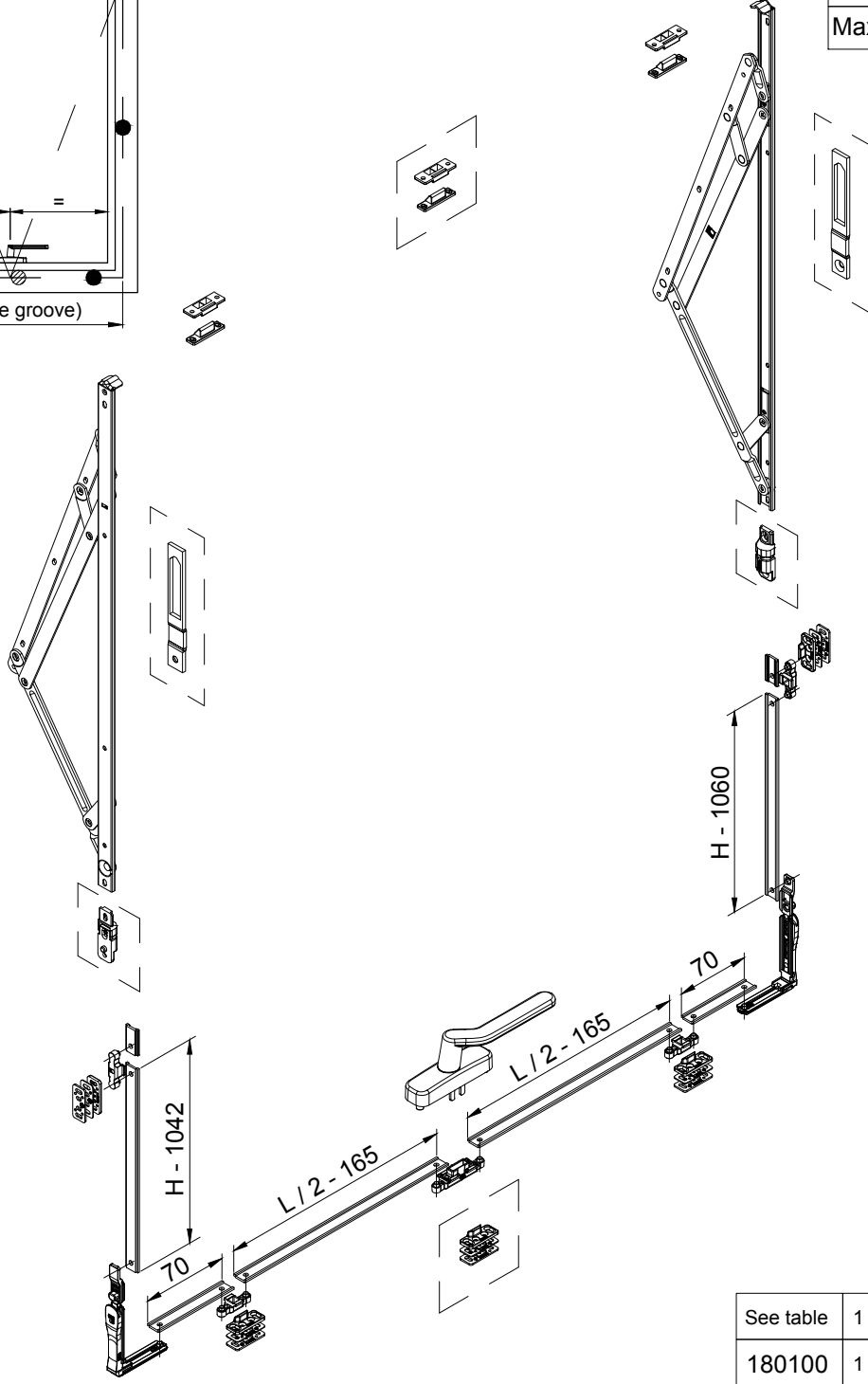
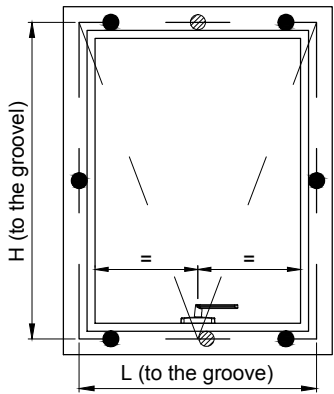


18200	opt.		See table	1 unit	
180200	opt.		180100	1 unit	
183500	opt.		183000	2 units	
0518015	opt.		0518015	2 units	
			18011	1 unit	

FLAT FRAME PERIMETER LOCKING
SIX POINT LOCKING

H	1201 - 1500
L	1201 - 1500
Max Weight 130 kg	

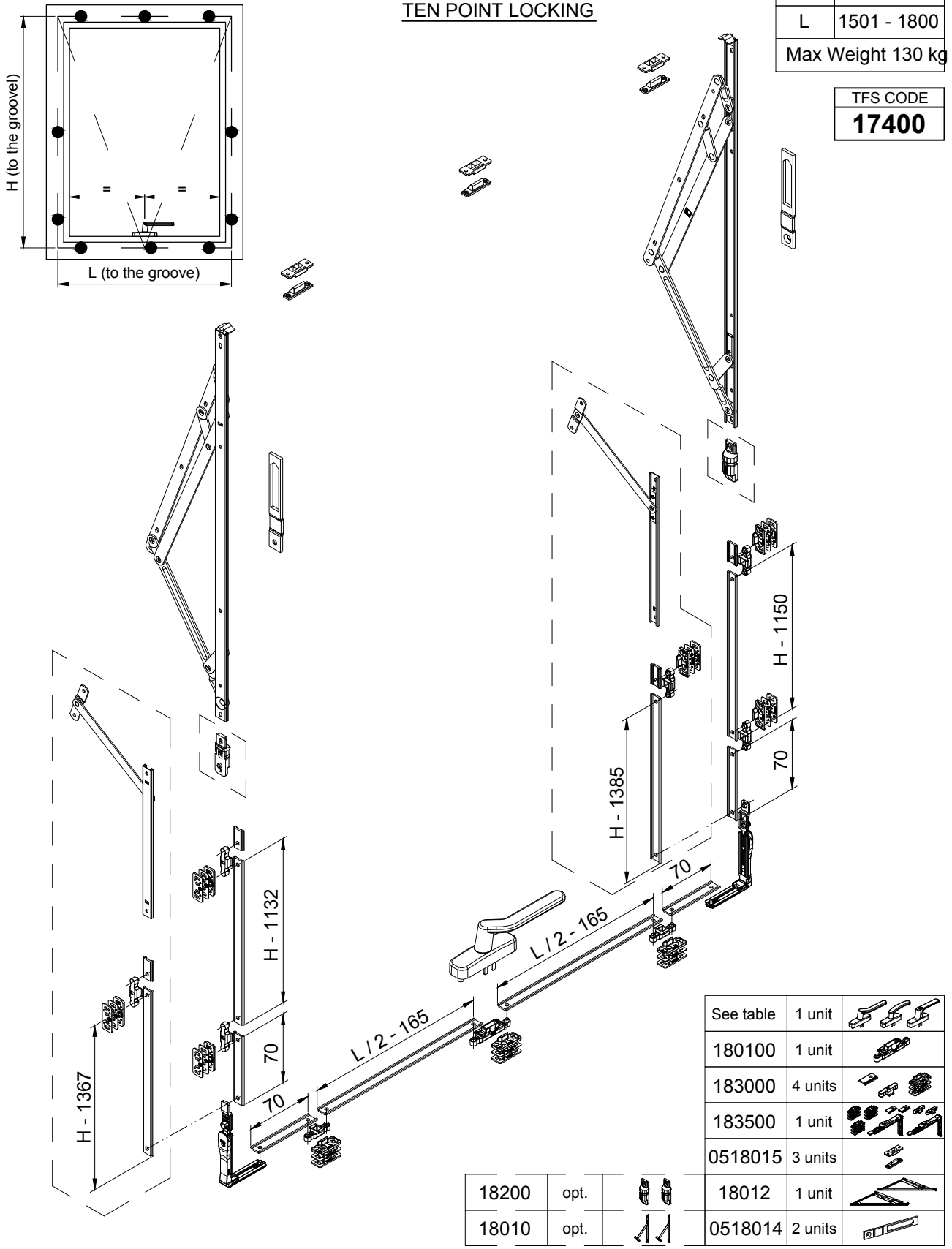
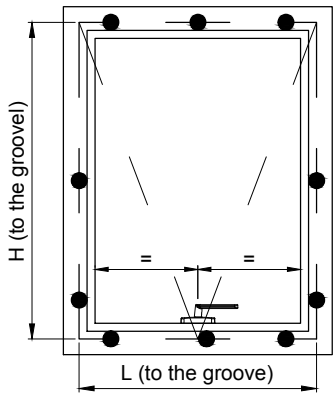
TFS CODE	17300
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See table	1 unit	
180100	1 unit	
183000	2 units	
0518015	opt.	
18200	opt.	
0518014	opt.	
183500	1 unit	
0518015	2 units	
18012	1 unit	

FLAT FRAME PERIMETER LOCKING
TEN POINT LOCKING

H	1501 - 1800
L	1501 - 1800
Max Weight 130 kg	
TFS CODE	
17400	

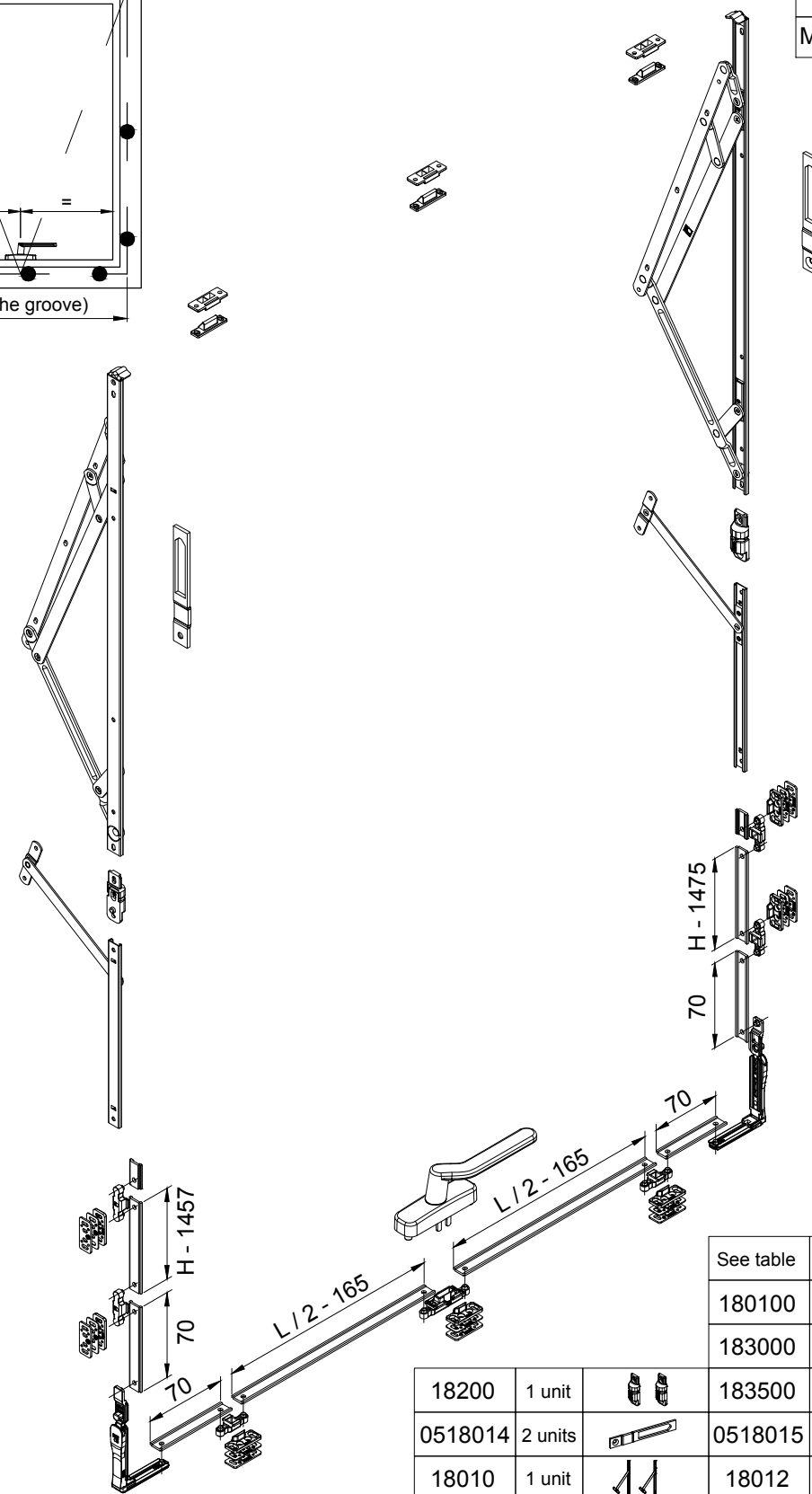
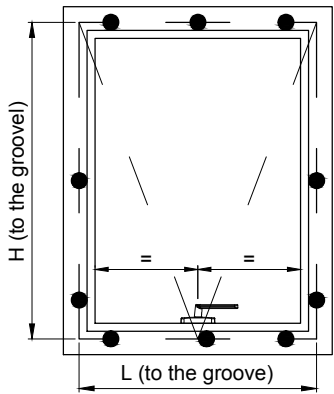


See table	1 unit	
180100	1 unit	
183000	4 units	
183500	1 unit	
0518015	3 units	
18200	opt.	
18010	opt.	
18012	1 unit	
0518014	2 units	

**FLAT FRAME PERIMETER LOCKING
TEN POINT LOCKING**

H	1801 - 2200
L	1801 - 2200
Max Weight 130 kg	

TFS CODE	17500
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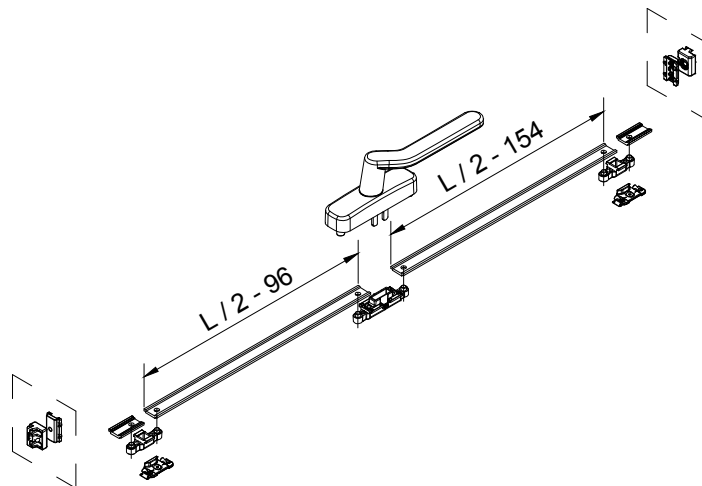
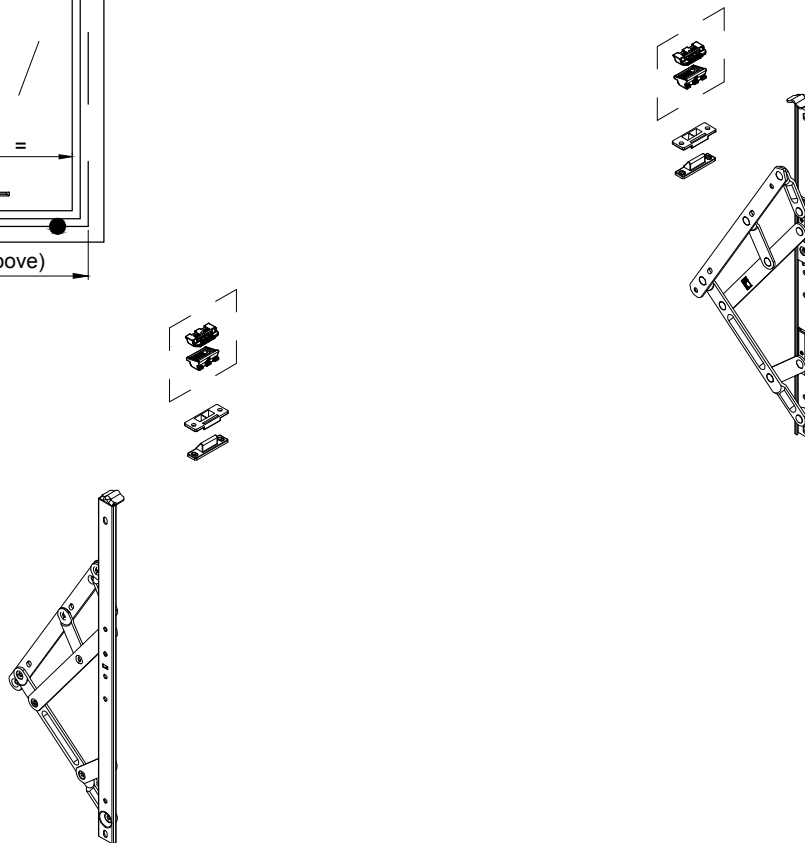
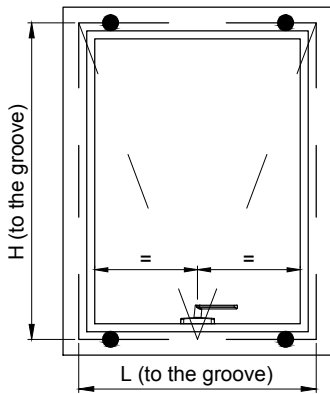


See table	1 unit	
180100	1 unit	
183000	4 units	
18200	1 unit	
183500	1 unit	
0518014	2 units	
0518015	3 units	
18010	1 unit	
18012	1 unit	

EURO GROOVE FRAME PERIMETER LOCKING FOUR POINT LOCKING

H	500 - 850
L	500 - 850
Max weight 80 kg	

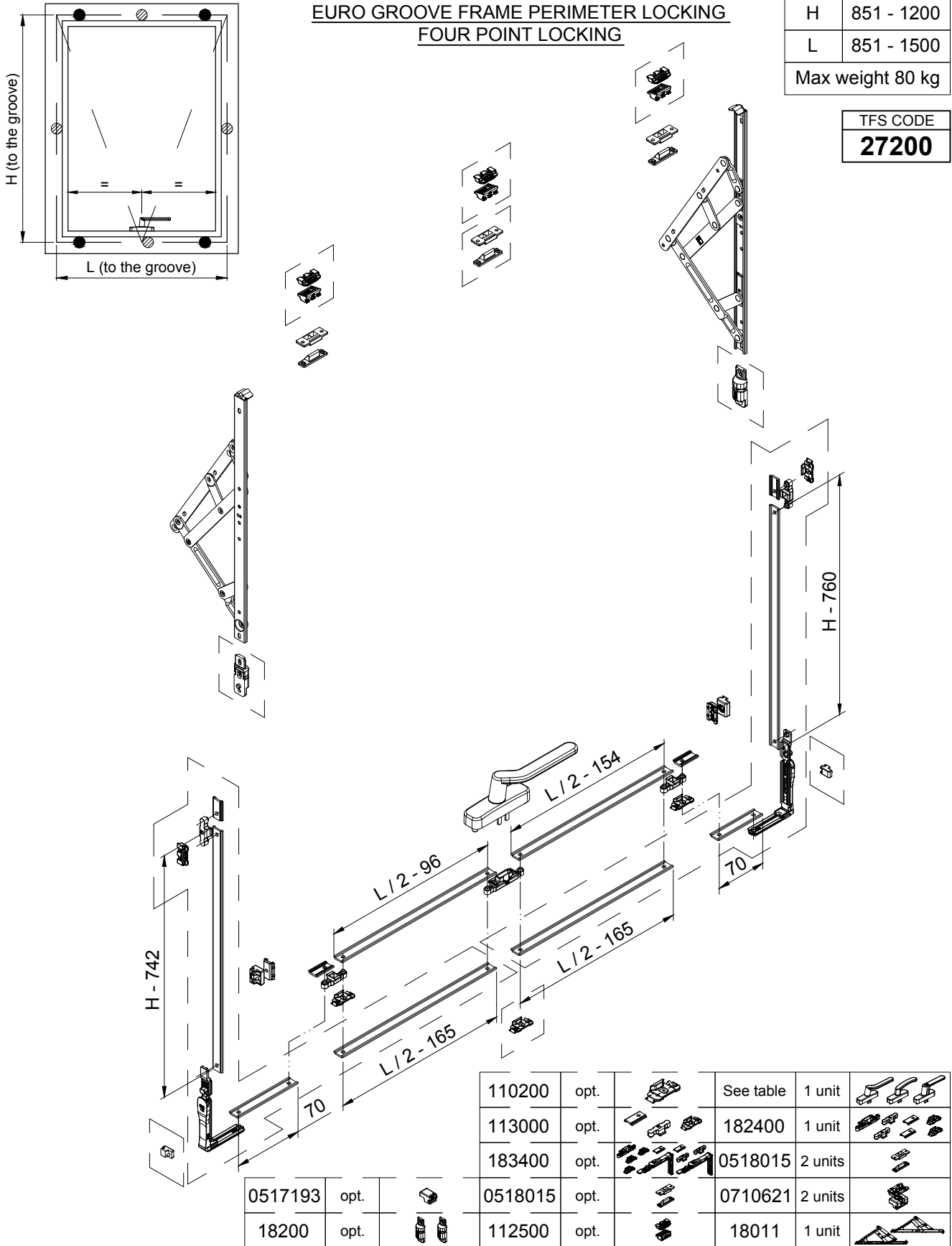
TFS CODE
27100



112500	opt.		See table	1 unit	
0710621	opt.		182400	1 unit	
			0518015	2 units	
			18011	1 unit	

**EURO GROOVE FRAME PERIMETER LOCKING
FOUR POINT LOCKING**

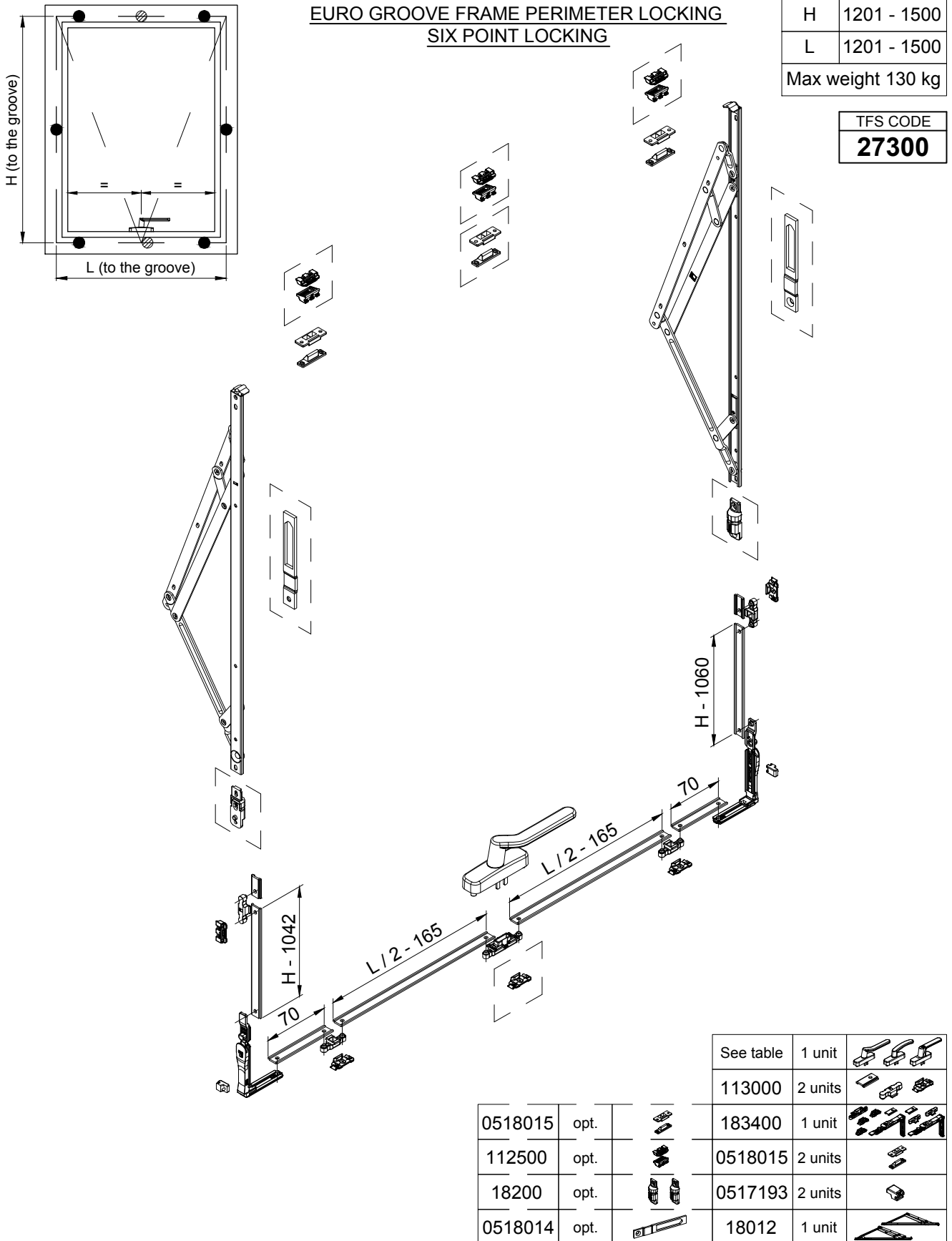
H	851 - 1200
L	851 - 1500
Max weight 80 kg	
TFS CODE	
27200	



EURO GROOVE FRAME PERIMETER LOCKING SIX POINT LOCKING

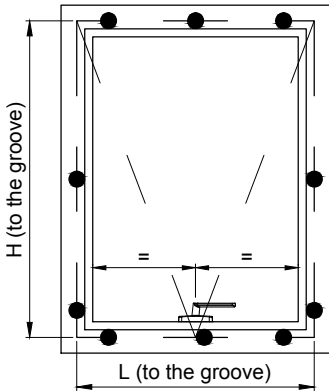
H	1201 - 1500
L	1201 - 1500
Max weight 130 kg	

TFS CODE	27300
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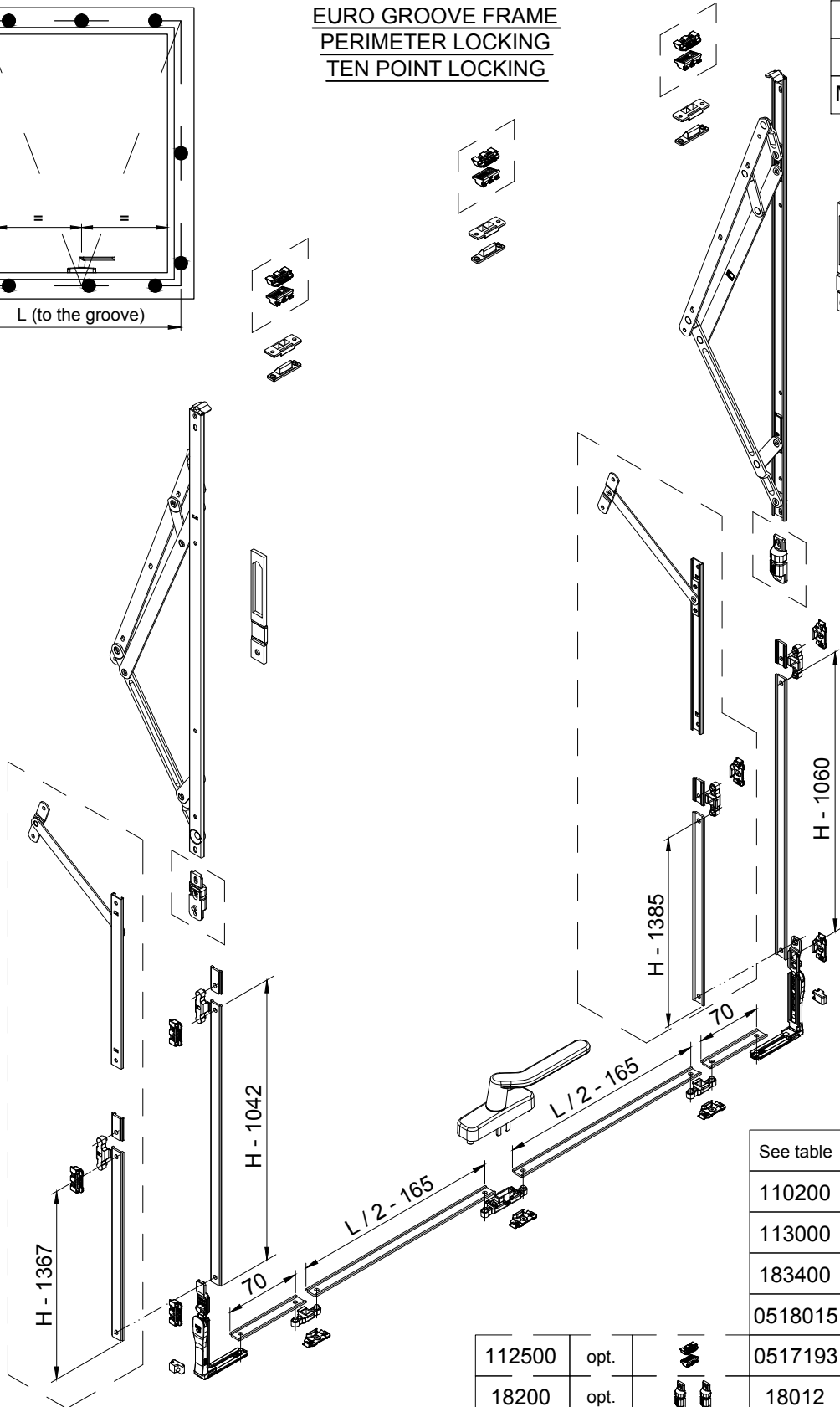
			See table	1 unit	
			113000	2 units	
0518015	opt.		183400	1 unit	
112500	opt.		0518015	2 units	
18200	opt.		0517193	2 units	
0518014	opt.		18012	1 unit	

EURO GROOVE FRAME
PERIMETER LOCKING
TEN POINT LOCKING



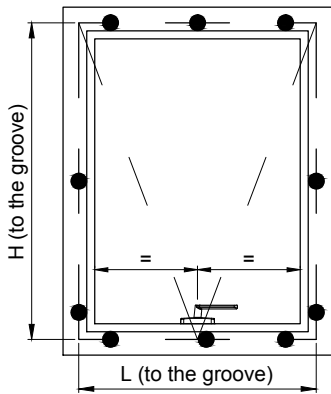
H	1501 - 1800
L	1501 - 1800
Max weight 130 kg	

TFS CODE	27400
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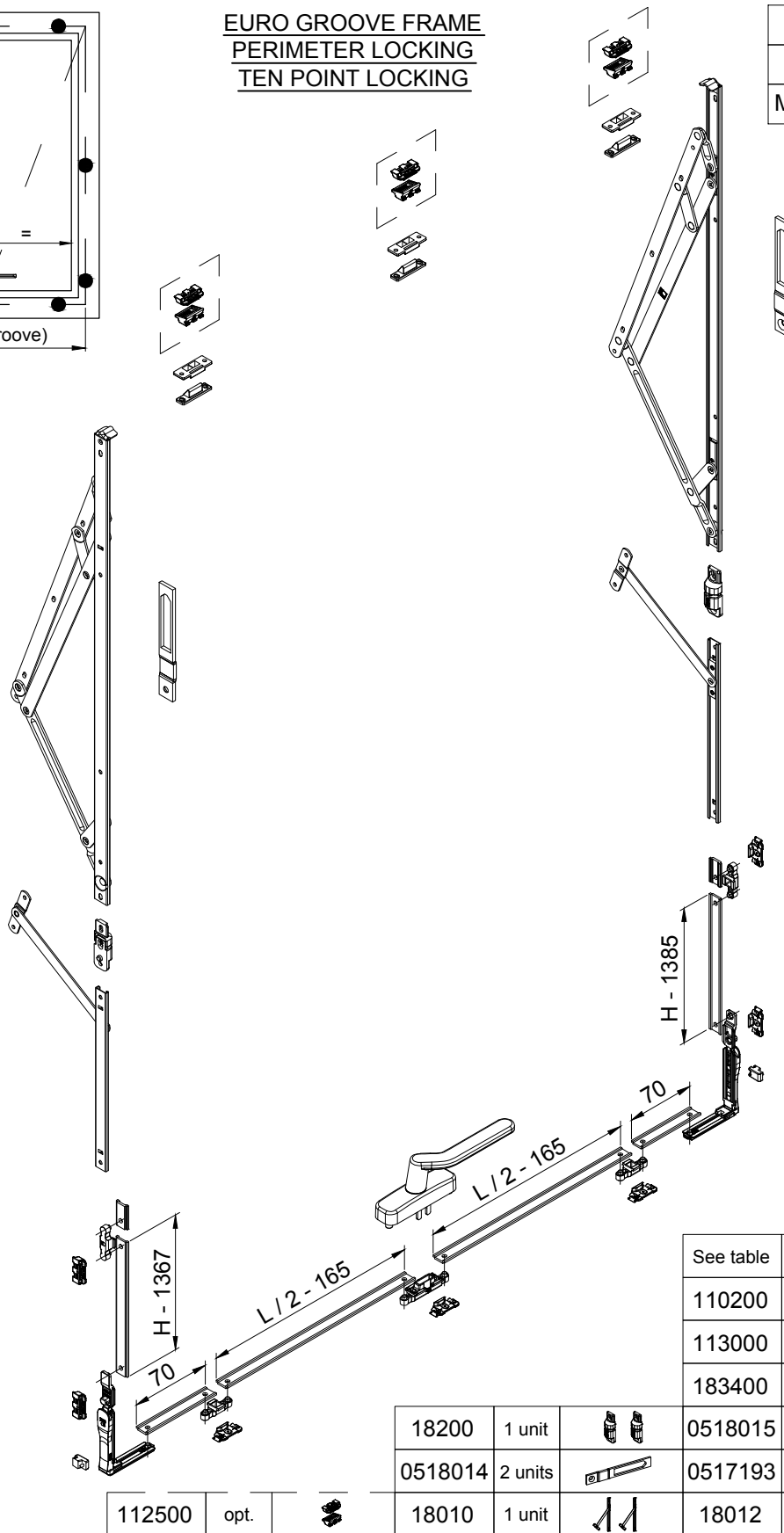
See table	1 unit	
110200	2 units	
113000	2 units	
183400	1 unit	
0518015	3 units	
112500	opt.	
18200	opt.	
18010	opt.	
0517193	2 units	
18012	1 unit	
0518014	2 units	

EURO GROOVE FRAME
PERIMETER LOCKING
TEN POINT LOCKING



H	1801 - 2200
L	1801 - 2200
Max weight 130 kg	

TFS CODE	27500
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See table	1 unit	
110200	2 units	
113000	2 units	
183400	1 unit	
18200	1 unit	
0518014	2 units	
18010	1 unit	
0518015	3 units	
0517193	2 units	
18012	1 unit	

