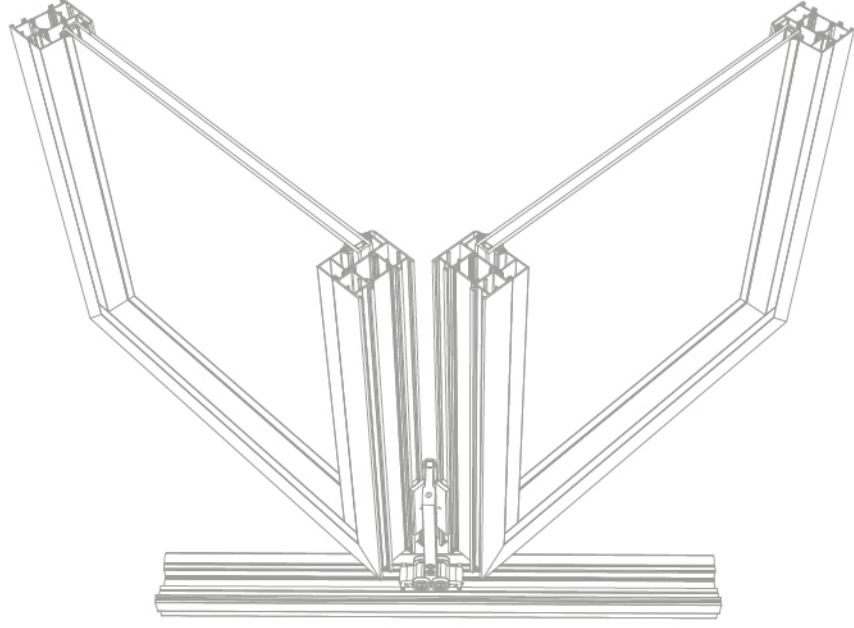


**F
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7
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YALITIMLI KATLANIR SİSTEM INSULATED FOLDING SYSTEM	FW77+	KASA	FRAME	100	FW77.15.101	
		ORTA KAYIT	MULLION	200		
		KANAT	SASH	300		
		ADAPTÖR, BAĞL. PR	ADAPTER	400		
		EPDM GRUP	EPDM GROUP	500		
		PVC GRUP	PVC GROUP	600		
		AÇILIM GRUP	OPENING GROUP	700		

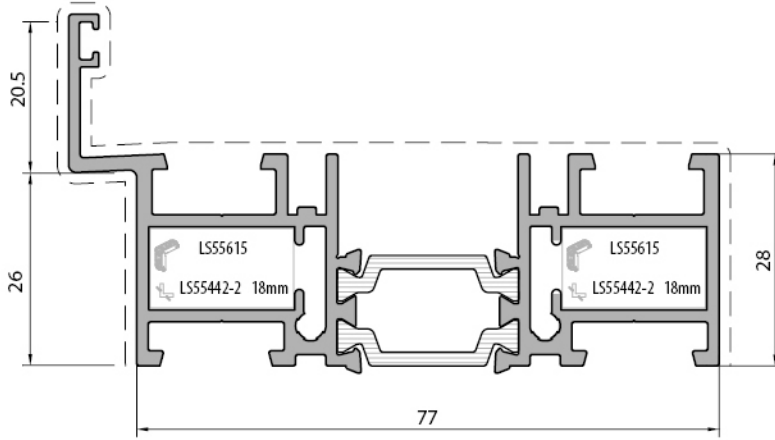
PROFİL ET KALINLIĞI	PROFILE THICKNESS	1.6-2 mm
KASA YÜKSEKLİĞİ	FRAME HEIGTH	77 mm
KANAT YÜKSEKLİĞİ	SASH HEIGTH	77 mm
ISI BARIYERİ	THERMAL ISULATION BAR	24-32 mm
CAM KALINLIĞI	GLASS THICKNESS	6-54 mm
MAX. KANAT YÜKSEKLİK	MAX. SASH HEIGHT	3500 mm
MAX. KANAT GENİŞLİK	MAX. SASH WIDTH	1200 mm
MAX. KANAT AĞIRLIK	MAX. SASH WEIGHT	120 kg

ALAŞIM ÖZELLİKLERİ
ALLOY PROPERTIES

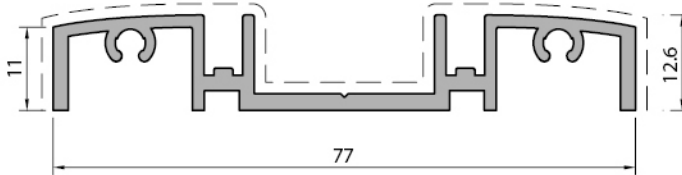
EN AW 6060 (AlMgSi0,5 F22)
EN AW 6063 (AlMg0,7Si F22)

ÜRETİM VE MEKANİK STANDARTLAR
PRODUCTION AND MECANICAL STANDARDS

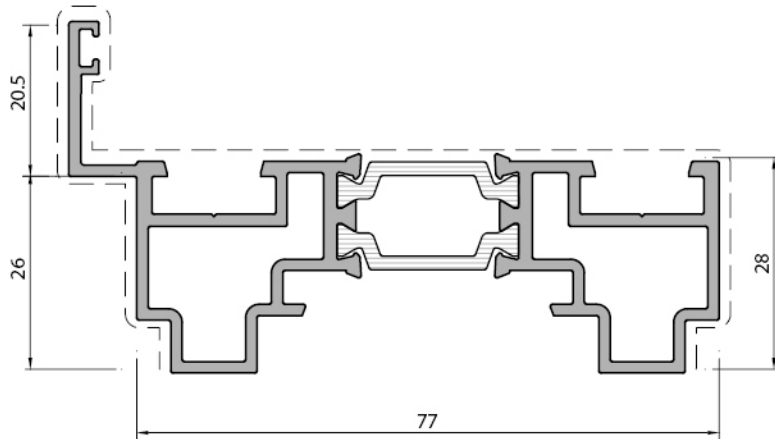
EN 12020-2 EN 755-9 EN 755-2



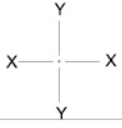
Kasa Profili Frame profile	
FW77+15.101	
Weight : 1,580 kg/m	
lx : 32,78 cm ⁴	Wx : 1,04 cm ³
ly : 40,23 cm ⁴	Wy : 0,93 cm ³



Eşiksiz Kasa Profili Non-threshold frame profile	
FW77+15.102	
Weight : 0,762 kg/m	
lx : 6,50 cm ⁴	Wx : 2,42 cm ³
ly : 15,73 cm ⁴	Wy : 0,17 cm ³

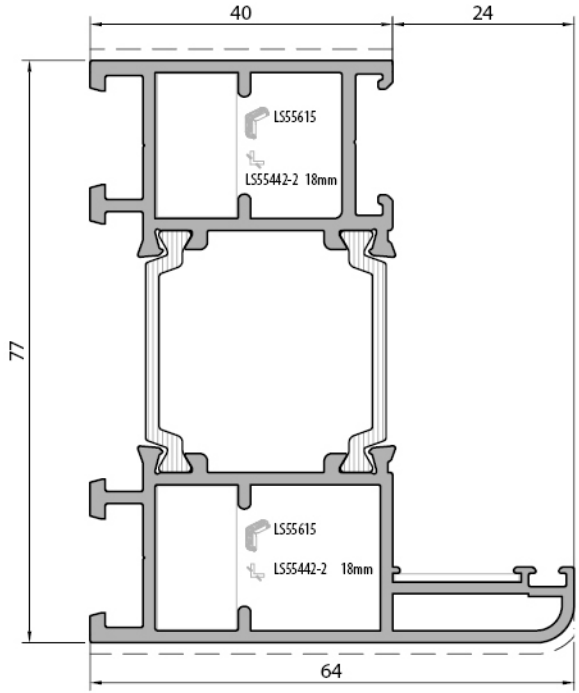


Ayarlı Kasa Profili Adjustable frame profile	
FW77+15.103	
Weight : 1,425 kg/m	
lx : 31 cm ⁴	Wx : 1,1 cm ³
ly : 37 cm ⁴	Wy : 0,90 cm ³

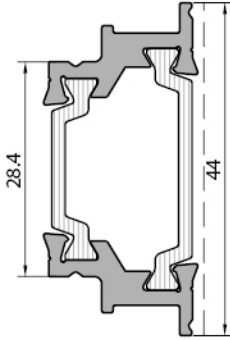


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

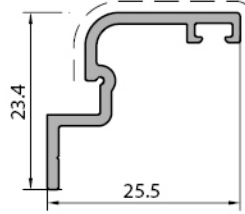
ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES



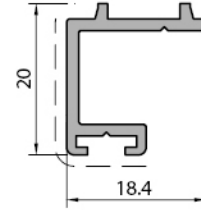
Kanat Profili Sash profile	
FW77+15.301	
Weight : 1,750 kg/m	
lx : 41,54 cm ⁴	Wx : 1,50 cm ³
ly : 14,50 cm ⁴	Wy : 0,35 cm ³



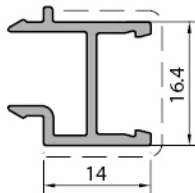
Kilit Adaptör Profili Lock adapter profile
FW77+15.401
Weight : 0,621 kg/m



Kanat Bini Adaptör Profili Sash gasket adapter profile
FW77+15.402
Weight : 0,213 kg/m

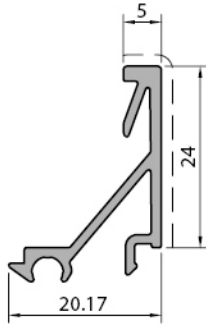
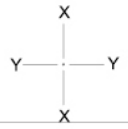


Fırça Profili Brush profile
FW77+15.403
Weight : 0,213 kg/m



Kanat Adaptör Profili Sash adapter profile
FW77+15.404
Weight : 0,208 kg/m

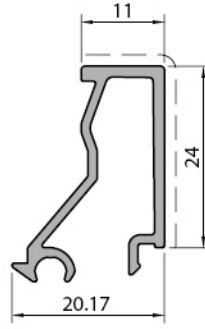
Profil değerleri teoriktir. Ağırlık olarak teslimde yapılan tartım geçerlidir. Profil imalatları TS EN 12020-02 ve TS EN 755-9 toleransı, Moment değerleri EN 14024'e göre hesaplanmıştır.
Profile values are theoretical pre-shipment weight will be valid. The tolerances of Profile manufacturing are calculated according to EN 12020-2 and TS EN 755-9; moment values are calculated according to EN 14024.



Cam Çıtası Profili
Glazing bead profile

LS55430

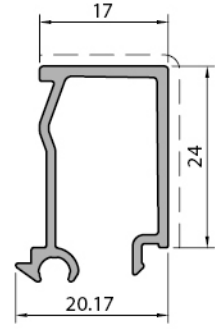
Weight : 0,258 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55431

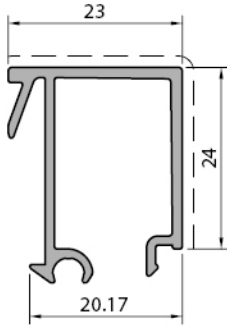
Weight : 0,282 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55432

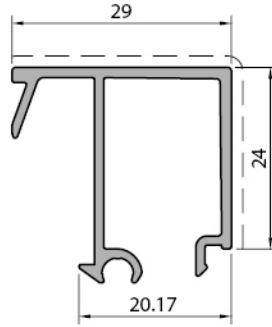
Weight : 0,294 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55433

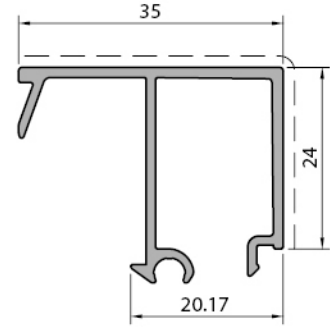
Weight : 0,341 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55434

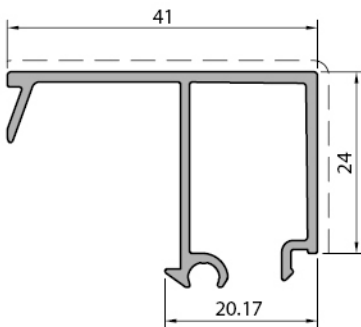
Weight : 0,363 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55435

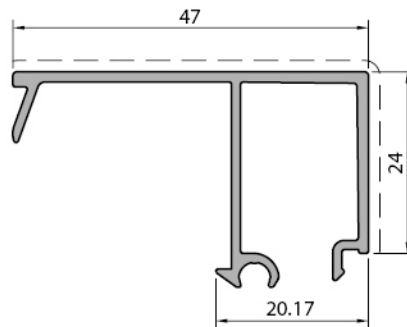
Weight : 0,385 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55436

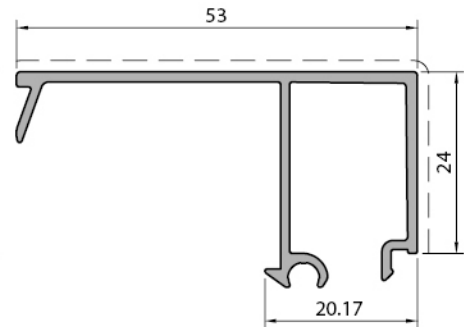
Weight : 0,408 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55437

Weight : 0,429 kg/m



Cam Çıtası Profili
Glazing bead profile

LS55438

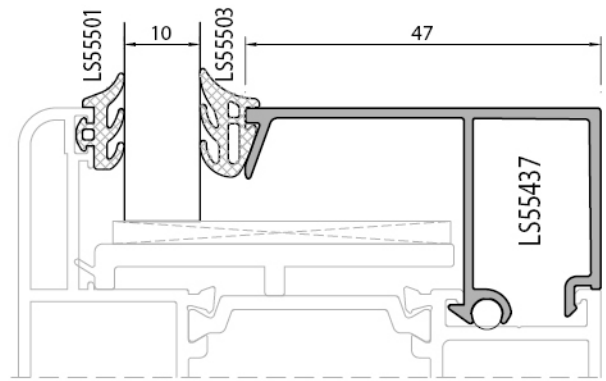
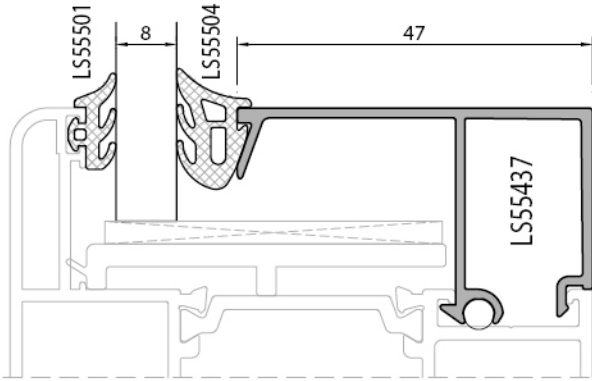
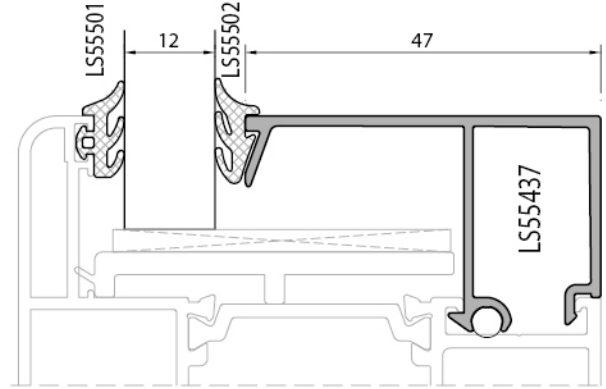
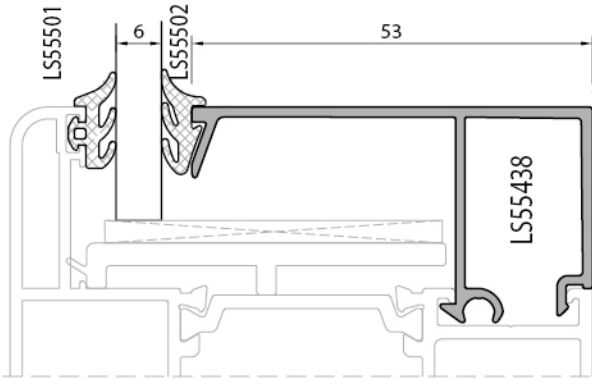
Weight : 0,451 kg/m

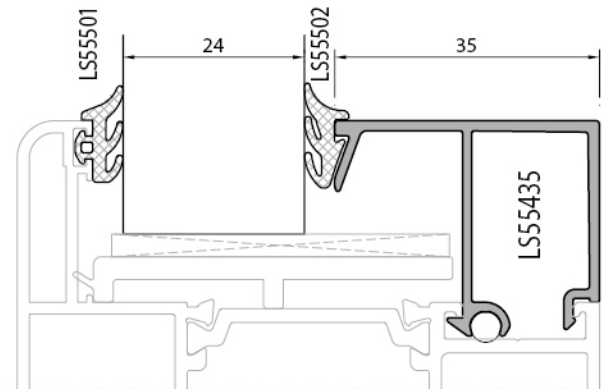
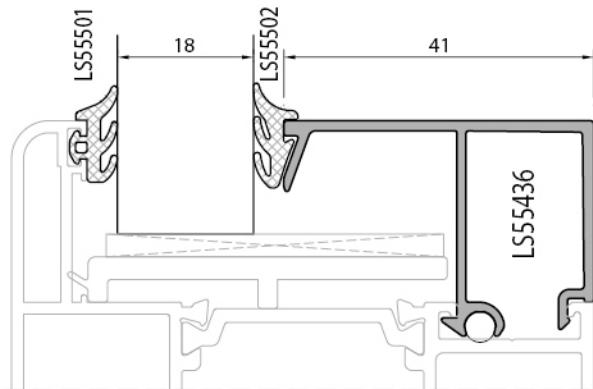
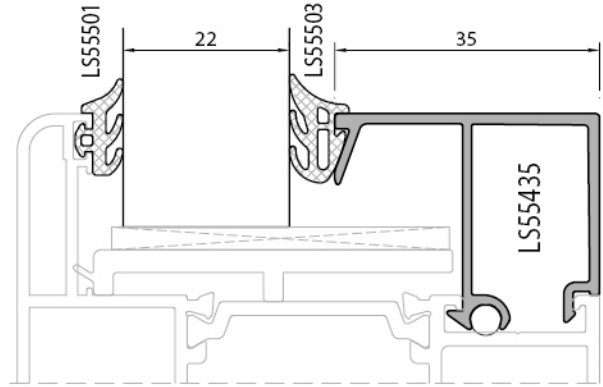
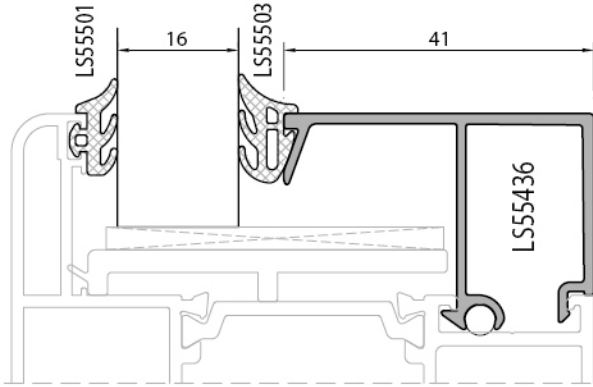
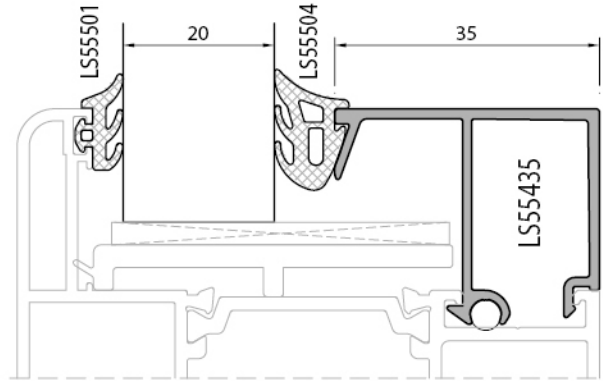
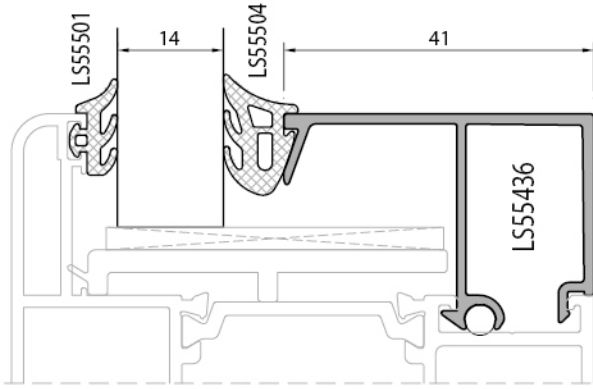
Profil değerleri teoriktir. Ağırlık olarak teslimde yapılan tartım geçerlidir. Profil imalatları TS EN 12020-02 ve TS EN 755-9 toleransı, Moment değerleri EN 14024'e göre hesaplanmıştır.

Profile values are theoretical pre-shipment weight will be valid. The tolerances of Profile manufacturing are calculated according to EN 12020-2 and TS EN 755-9; moment values are calculated according to EN 14024.

FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

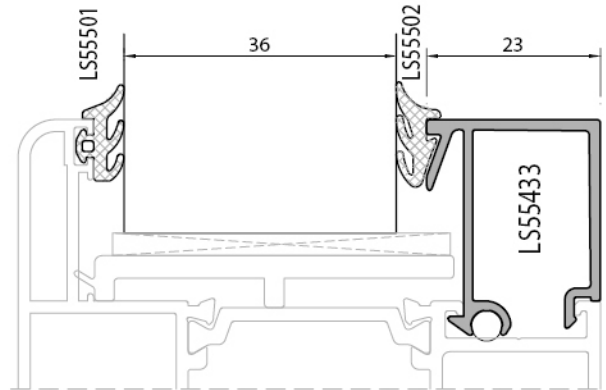
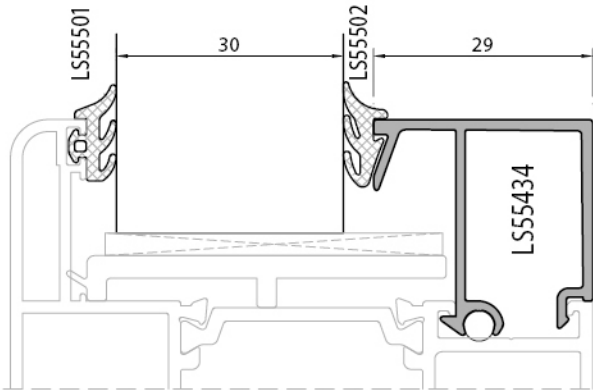
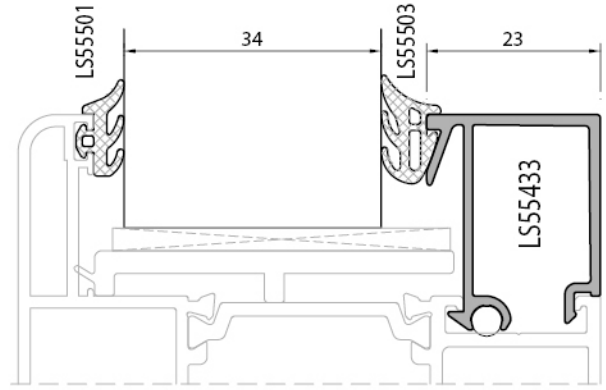
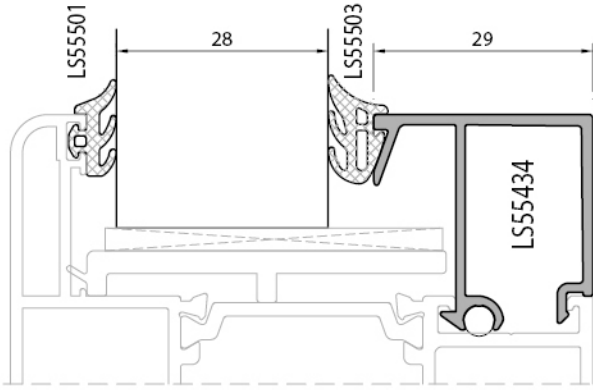
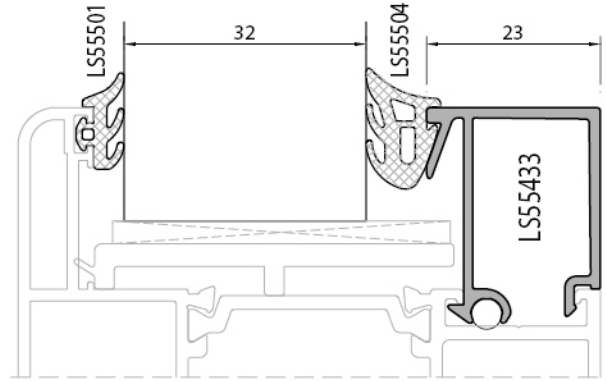
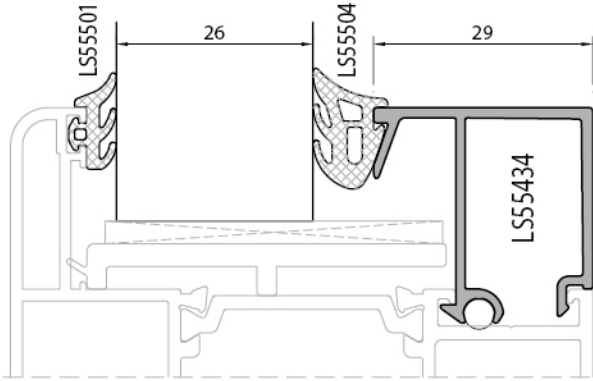
ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES



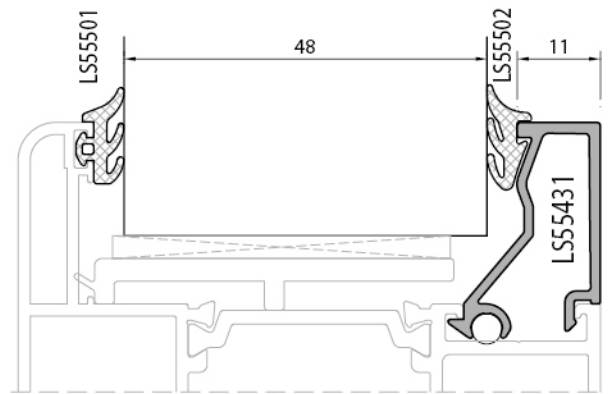
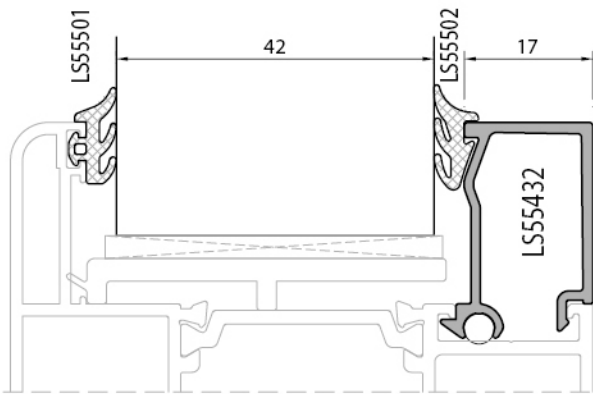
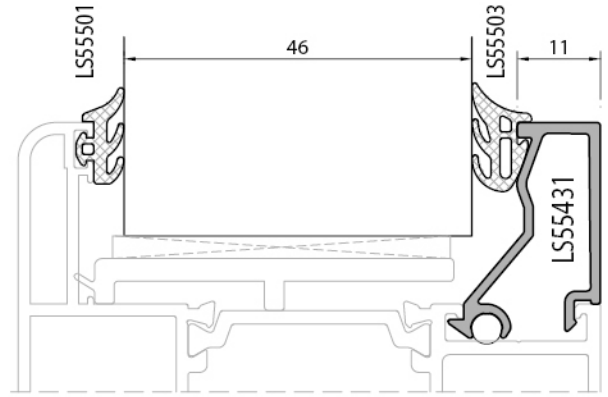
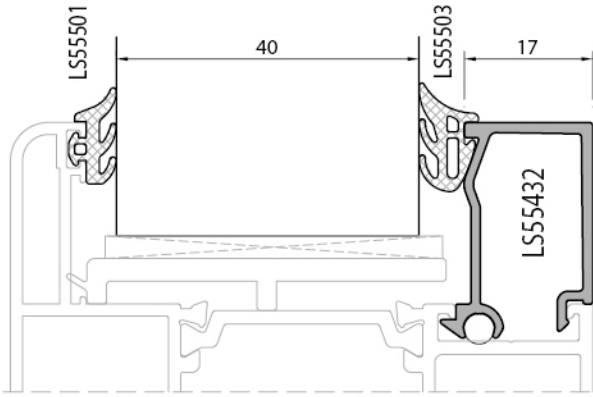
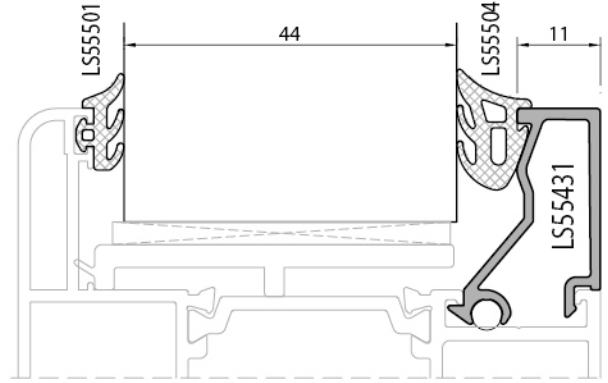
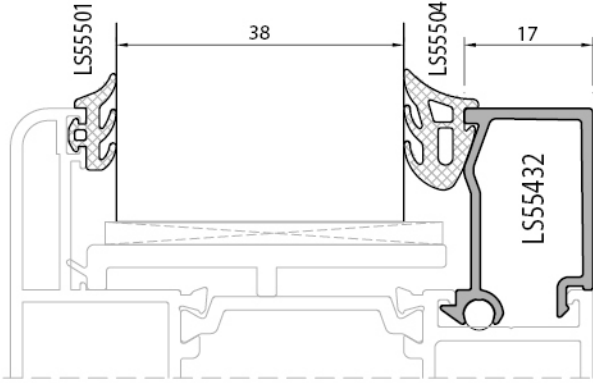


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES

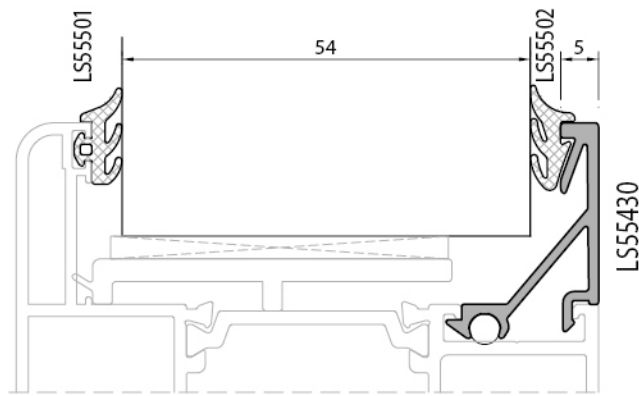
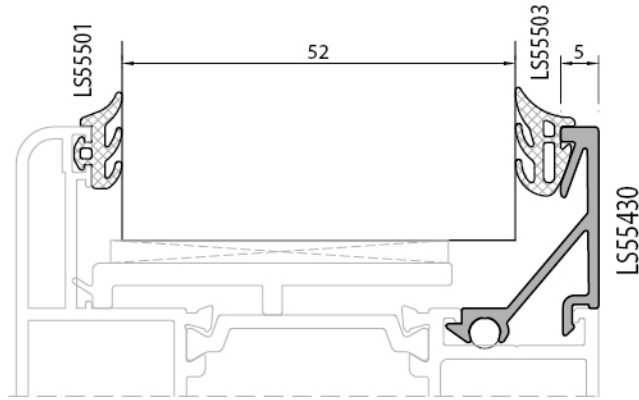
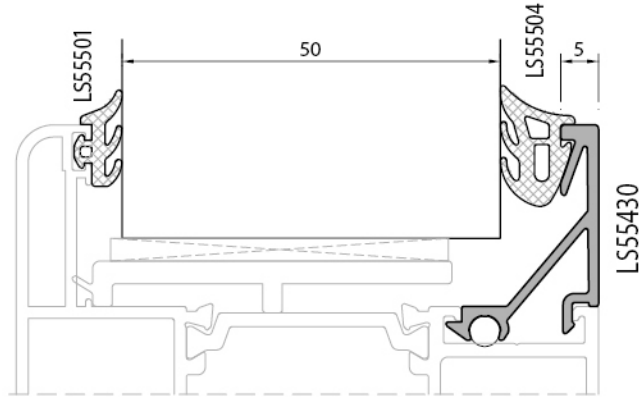


Profil değerleri teoriktir. Ağırlık olarak teslimde yapılan tartım geçerlidir. Profil imalatları TS EN 12020-02 ve TS EN 755-9 toleransı, Moment değerleri EN 14024'e göre hesaplanmıştır.
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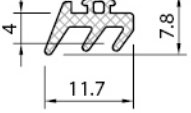
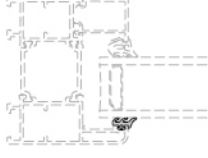
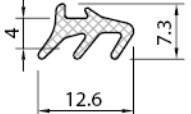
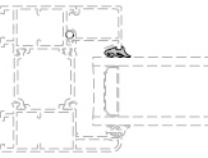
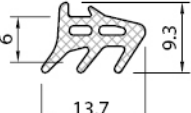


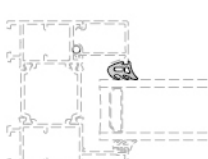


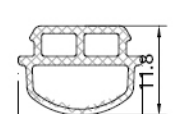
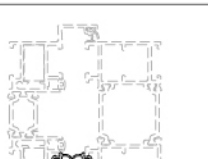
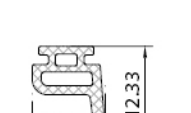
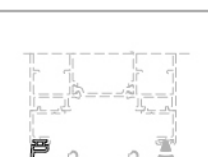
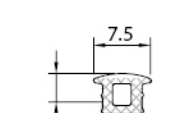
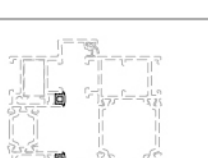


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES



Profil değerleri teoriktir. Ağırlık olarak teslimde yapılan tartım geçerlidir. Profil imalatları TS EN 12020-02 ve TS EN 755-9 toleransı, Moment değerleri EN 14024'e göre hesaplanmıştır.
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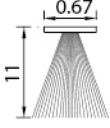
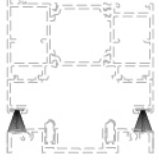
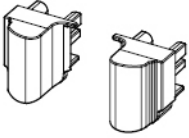
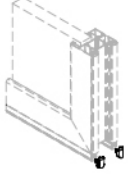

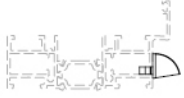
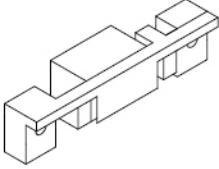
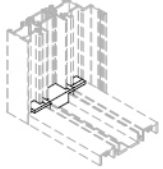
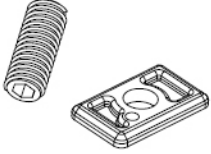
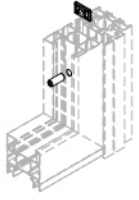
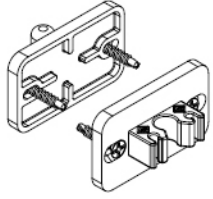
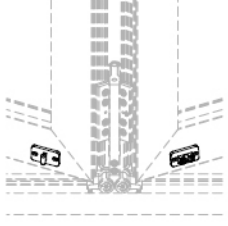
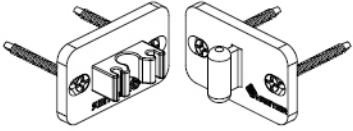
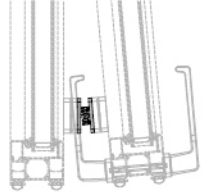
Kod Code	Şekil Drawing	Tanım Description	Teorik Ağırlık Theoretical Weight gr / m	Paket Ağırlığı Package Weight Kg / Package	Paket Metrajı In one Package Metre / Package	Kullanım Yeri Application
LS55501		epdm cam dış fitil glazing gasket outside	55 gr/m	12 kg	220 m	
LS55502		epdm cam iç fitil glazing gasket inside	52 gr/m	12 kg	230 m	
LS55503		epdm cam iç fitil glazing gasket inside	50 gr/m	12 kg	150 m	
LS55504		epdm cam iç fitil glazing gasket inside	92 gr/m	12 kg	130 m	
W55.501		epdm fitil epdm gasket	26 gr/m	12 kg	460 m	
FW77501		epdm fitil epdm gasket	97 gr/m	10 kg	103 m	
FW77502		epdm fitil epdm gasket	50 gr/m	10 kg	200 m	
FW77503		epdm fitil epdm gasket	28 gr/m	12 kg	428 m	

Profil değerleri teoriktir. Ağırlık olarak teslimde yapılan tartım geçerlidir. Profil imalatları TS EN 12020-02 ve TS EN 755-9 toleransı, Moment değerleri EN 14024'e göre hesaplanmıştır.

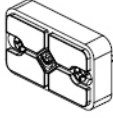
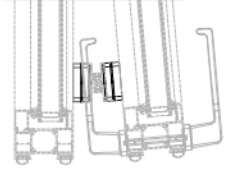
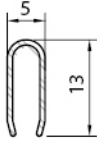
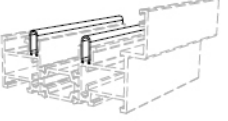
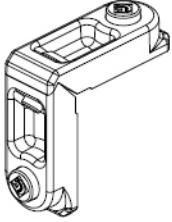
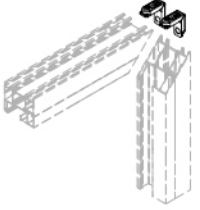
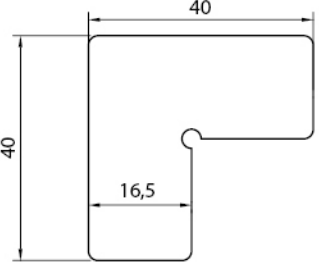
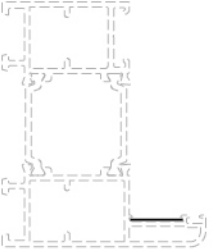
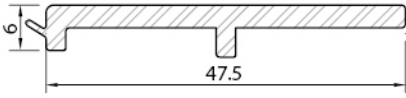
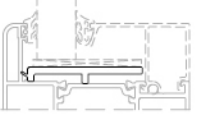
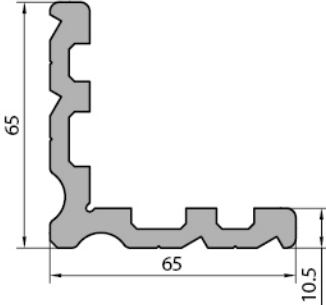
Profile values are theoretical pre-shipment weight will be valid. The tolerances of Profile manufacturing are calculated according to EN 12020-2 and TS EN 755-9; moment values are calculated according to EN 14024.

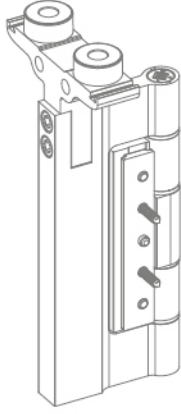
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES

Kod Code	Şekil Drawing	Tanım Description	Paket Metraji In one Package Metre / Package	Kullanım Yeri Application
LS55621		perdeli fırça fitil rabbet brush gasket	250 m/pk	
FW77601		vulkanize köşe fitili vulcanised corner gasket	50 pcs/pk	
FW77602		su tahliye kapağı water drainage plug	100 pcs/pk	
FW77603		90° birleşim adaptörü adapter profile pvc cover	2 pcs/pk	
FW77604		kasa ayar plakası Frame adjusting plate	100 pcs/pk	
FW77605		kanat durdurucu sash stopper	50 pcs/pk	
FW77606		kanat durdurucu sash stopper	50 pcs/pk	

Profil değerleri teoriktir. Ağırlık olarak teslimde yapılan tartım geçerlidir. Profil imalatları TS EN 12020-02 ve TS EN 755-9 toleransı, Moment değerleri EN 14024'e göre hesaplanmıştır.
Profile values are theoretical pre-shipment weight will be valid. The tolerances of Profile manufacturing are calculated according to EN 12020-2 and TS EN 755-9; moment values are calculated according to EN 14024.

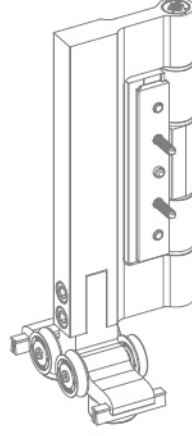
Kod Code	Şekil Drawing	Tanım Description	Paket Metrajı In one Package Metre / Package	Kullanım Yeri Application				
FW77607		kanat durdurucu kalınlık sash stopper thickness	50 pcs/pk					
LS55616		paslanmaz çelik ray profili stainless steel rail profile	6,5 m 10 pcs/pk					
FW77608		kanat ve kasa köşe bağlantı sash and frame corner connection	150 pcs/pk					
FW77609		köşe onbaşı corner cleat for sash	200 pcs/pk					
FW77610		pvc cam destek takoz pvc glazing support cleat	3,0 m 20 pcs/pk					
 <table border="1" data-bbox="821 1753 1129 2000"> <tr> <td>Kasa-Kanat Köşe Takoz Profili frame-sash corner cleat profile</td> </tr> <tr> <td>LS55442</td> </tr> <tr> <td>Weight : 2,345 kg/m</td> </tr> <tr> <td>LS55442-2 18mm</td> </tr> </table>					Kasa-Kanat Köşe Takoz Profili frame-sash corner cleat profile	LS55442	Weight : 2,345 kg/m	LS55442-2 18mm
Kasa-Kanat Köşe Takoz Profili frame-sash corner cleat profile								
LS55442								
Weight : 2,345 kg/m								
LS55442-2 18mm								



Çift Kanat Üst Rulman
Double sash upper roller

FW77.701

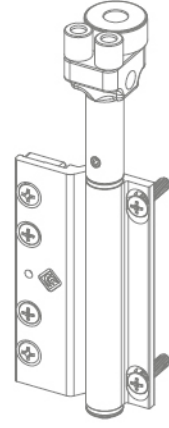
siyah renk
(black)



Çift Kanat Alt Rulman
Double sash lower roller

FW77.702

siyah renk
(black)



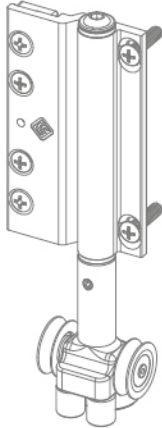
Tek Kanat Üst Rulman
Single sash upper roller

FW77.703

siyah renk
(black)



Farklı renk seçeneği belirtilmelidir.
By selecting different colors, it must be informed.



Tek Kanat Alt Rulman
Single sash lower roller

FW77.704

siyah renk
(black)



Yaprak Menteşe
Leaf hinge

FW77.705

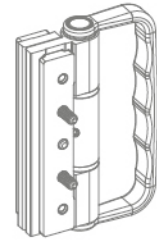
siyah renk
(black)



İçe Katlanır için
Çekme Menteşe
For fold in pulling hinge

FW77.706

siyah renk
(black)



Dışa Katlanır için
Çekme Menteşe
For fold out pulling hinge

FW77.707

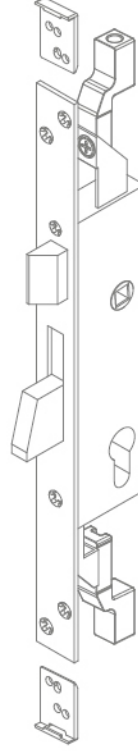
siyah renk
(black)



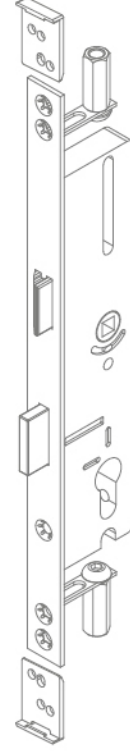
iki yönlü mekanizma
Two way mechanism
FW77.708



iki yönlü kilitli mekanizma
Two way locking mechanism
FW77.709



iki yönlü kilitli mekanizma
Two way locking mechanism
FW77.710



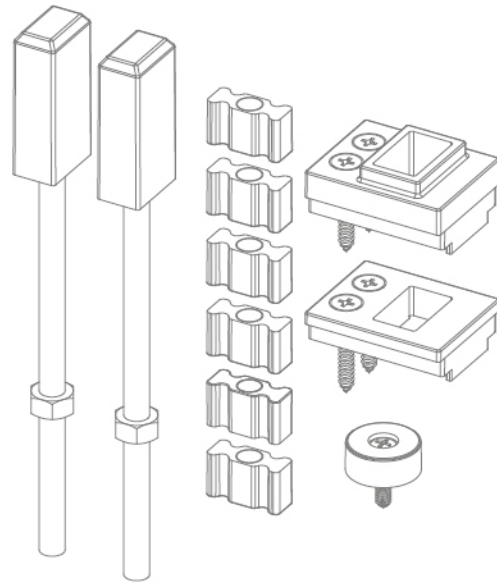
iki yönlü kilitli mekanizma
Two way locking mechanism
FW77.720



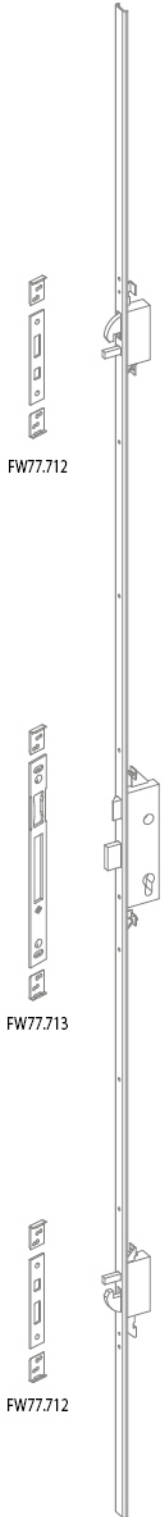
Kilit karşılığı
Counterplate for lock
FW77.712



Kilit karşılığı
Counterplate for lock
FW77.713



Dişli çubuk L=2 m, çubuk uçları ve bar için kılavuz
Threaded rod L=2m, rod ends and guide for the bar
FW77.714



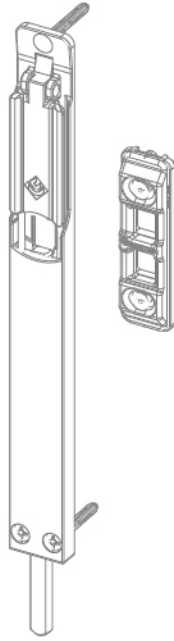
FW77.712

FW77.713

FW77.712

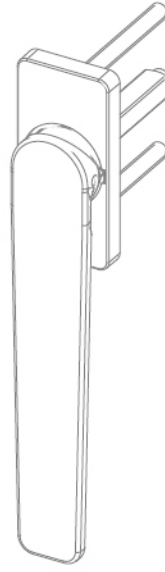
Çok noktalı kilit
Multipoint lock

FW77.711



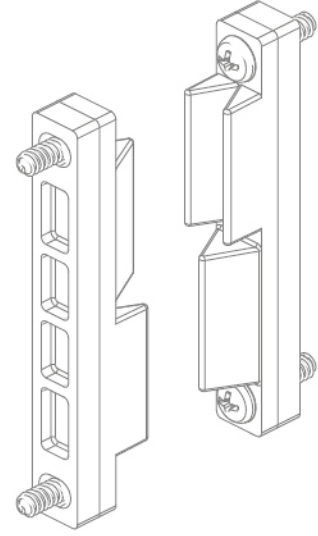
FW77.715

220x8 mm Mandallı sürgü
Lever latch 220x8mm with striker



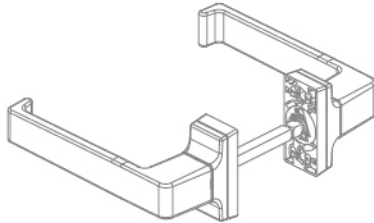
FW77.716

Kapı Kolu
Door handle
siyah renk
(black)



FW77.718

Ek üçüncü kilitleme noktası
Additional third locking point

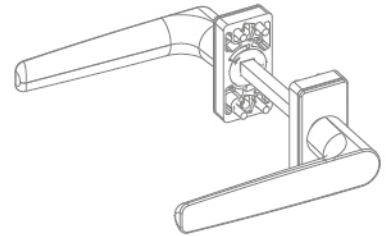


FW77.717

Çift taraflı kapı kolu
Double side door handle
siyah renk
(black)

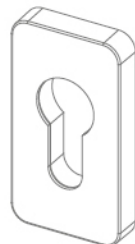


Farklı renk seçeneği belirtilmelidir.
By selecting different colors, it must be informed.



FW77.721

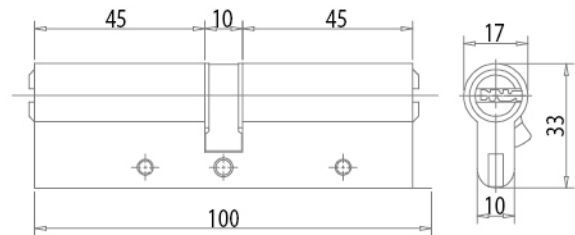
Çift taraflı kapı kolu
Double side door handle
siyah renk
(black)



Barel kapağı
Cylinder cover

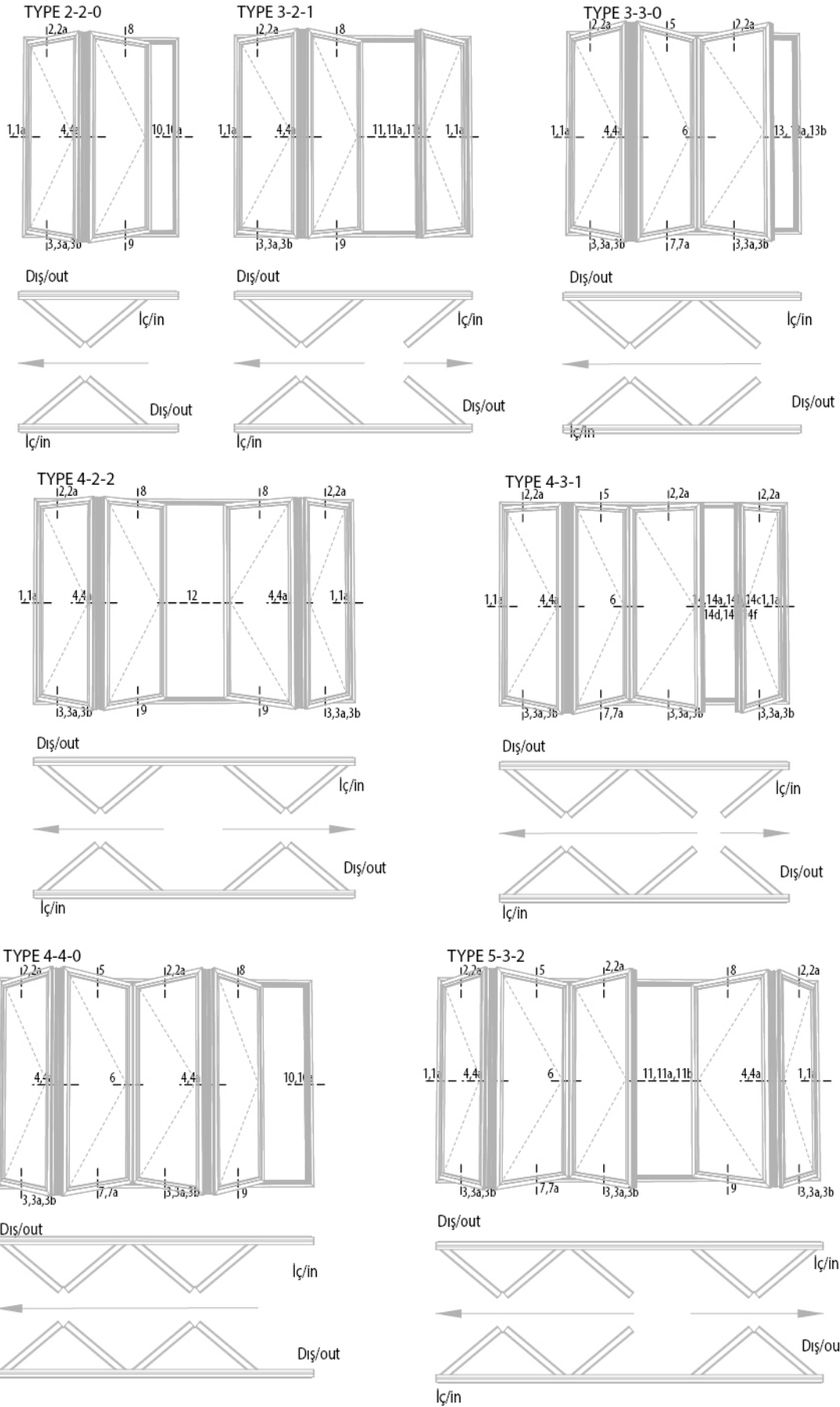
FW77.719

siyah renk
(black)



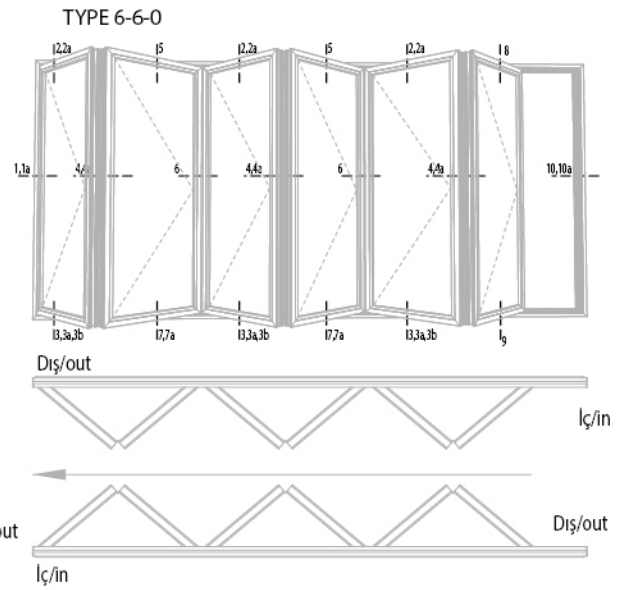
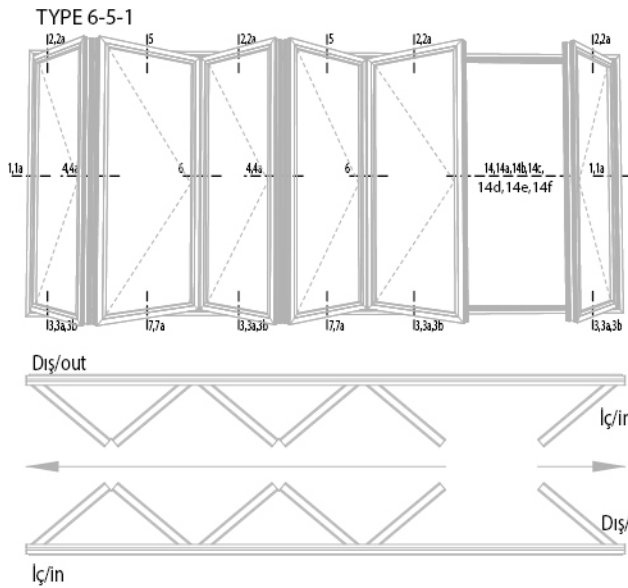
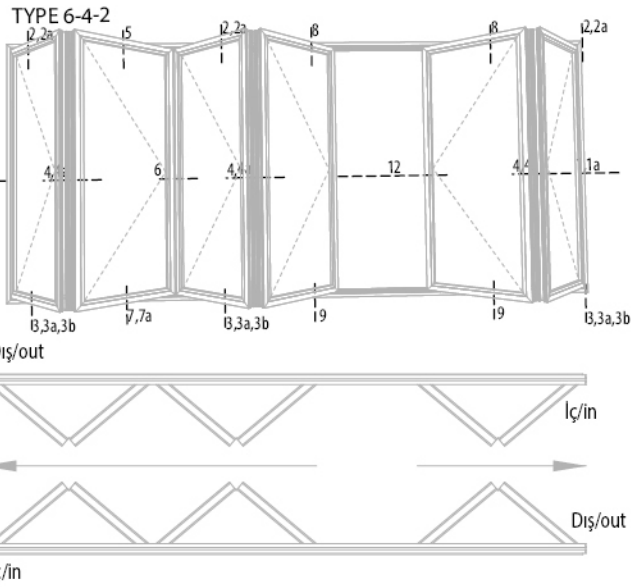
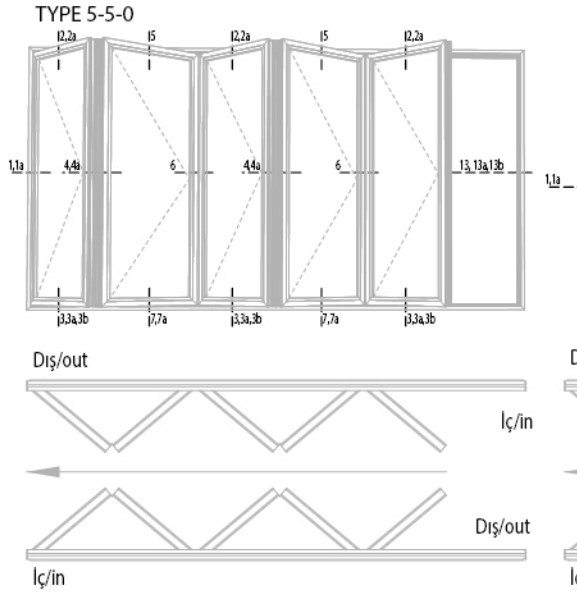
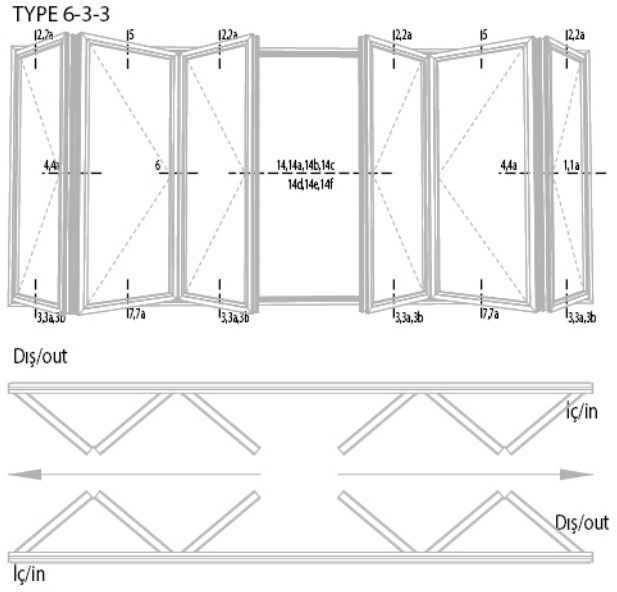
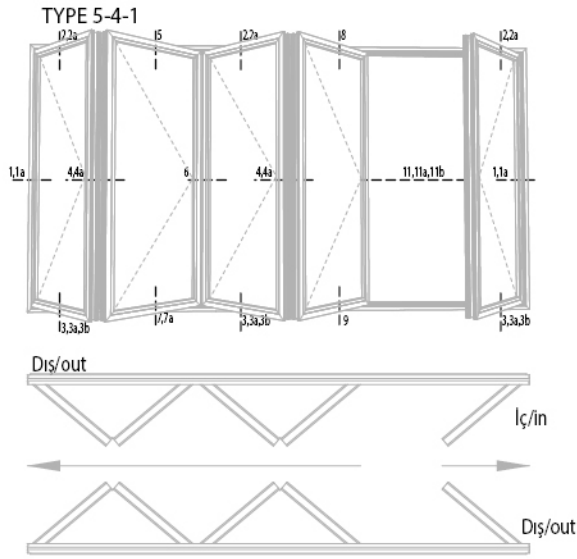
FW77.784

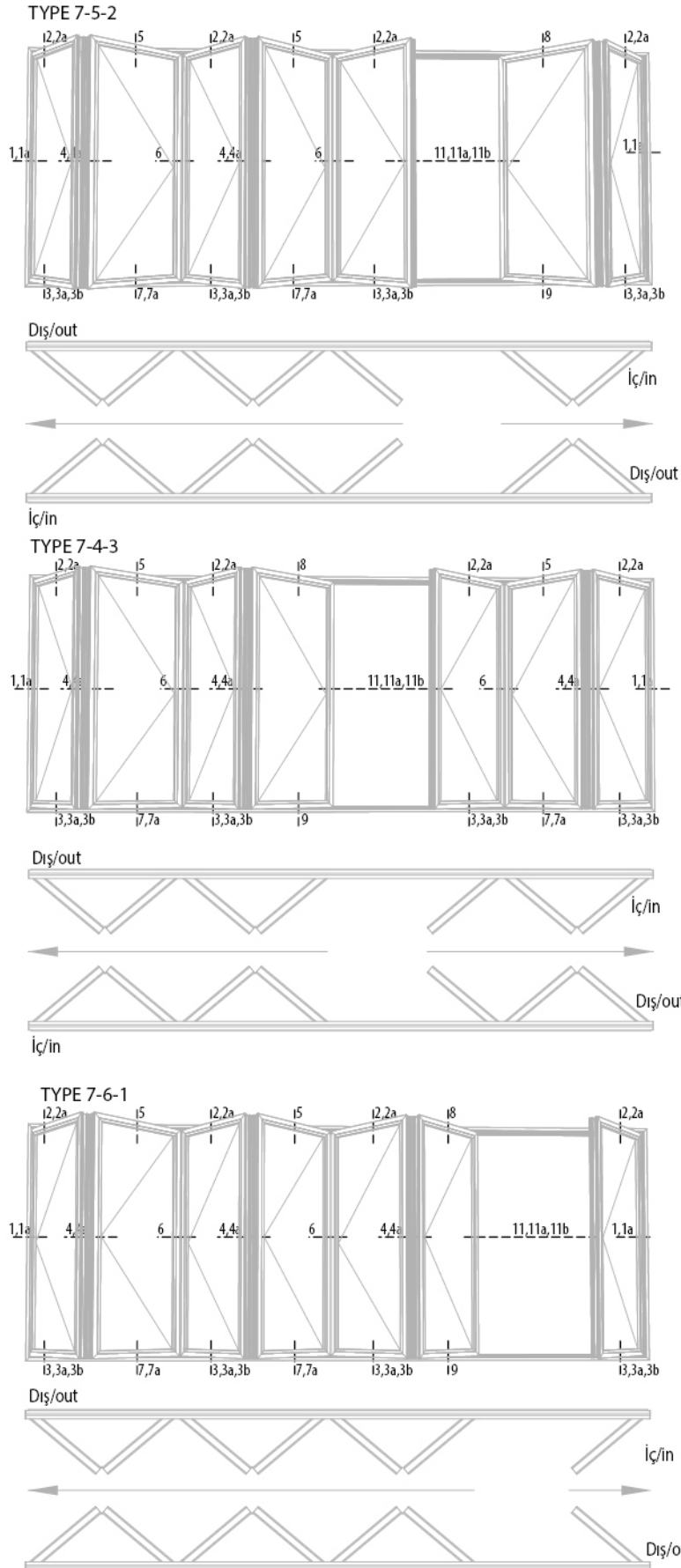
Barel
Cylinder



FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

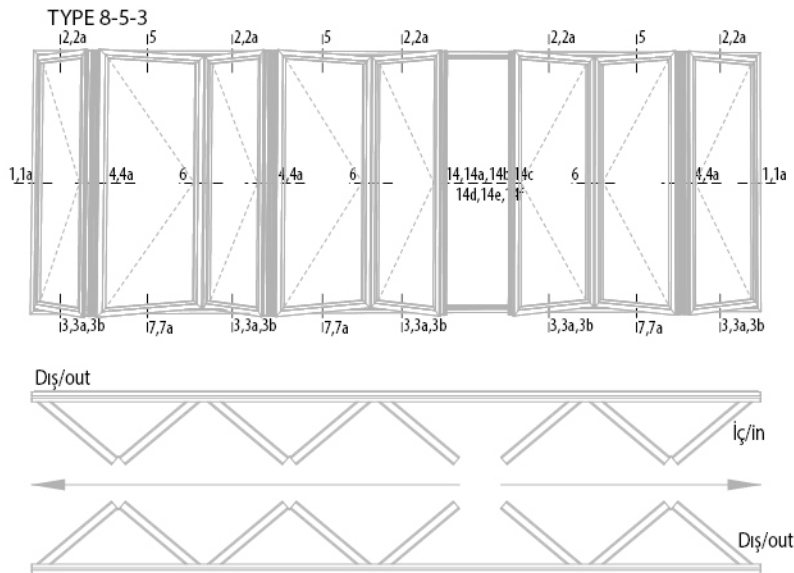
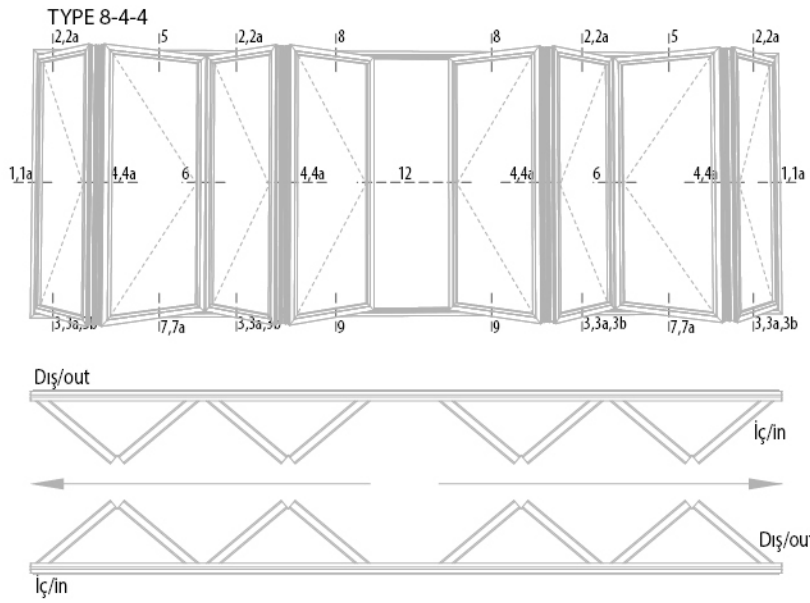
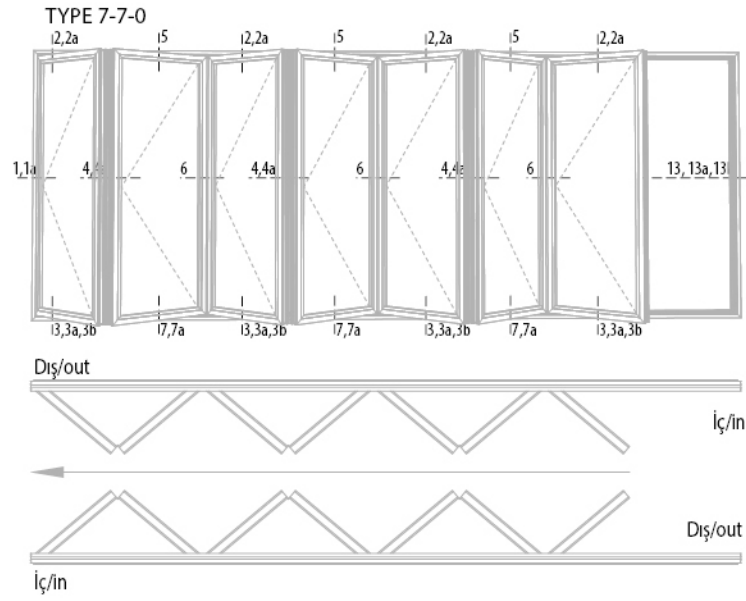
ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES

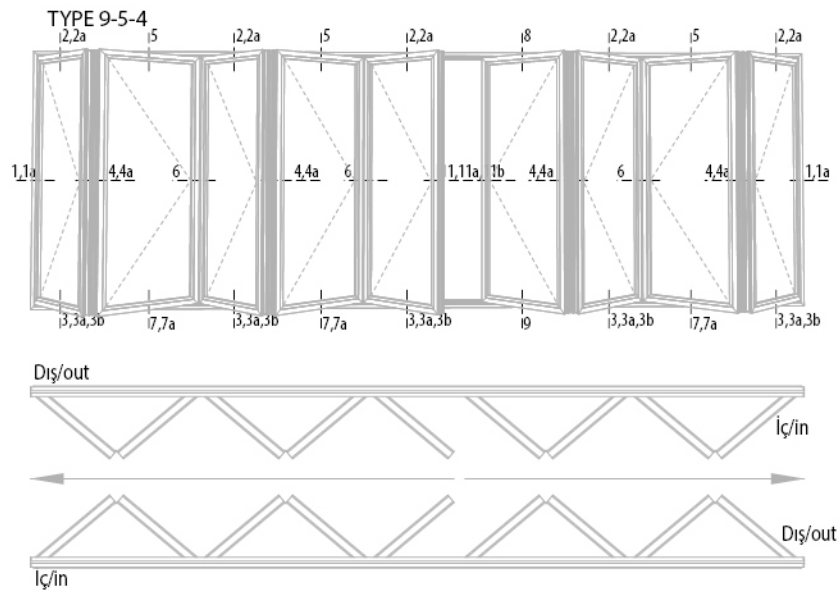
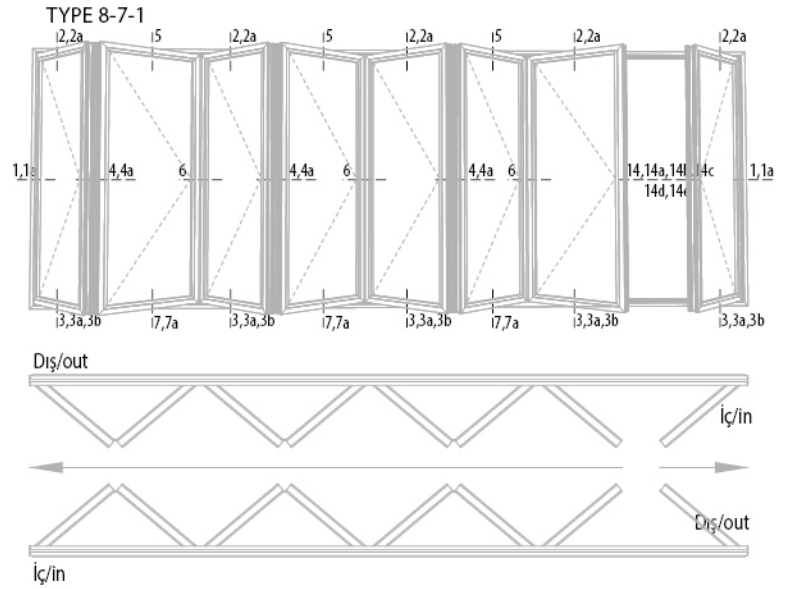
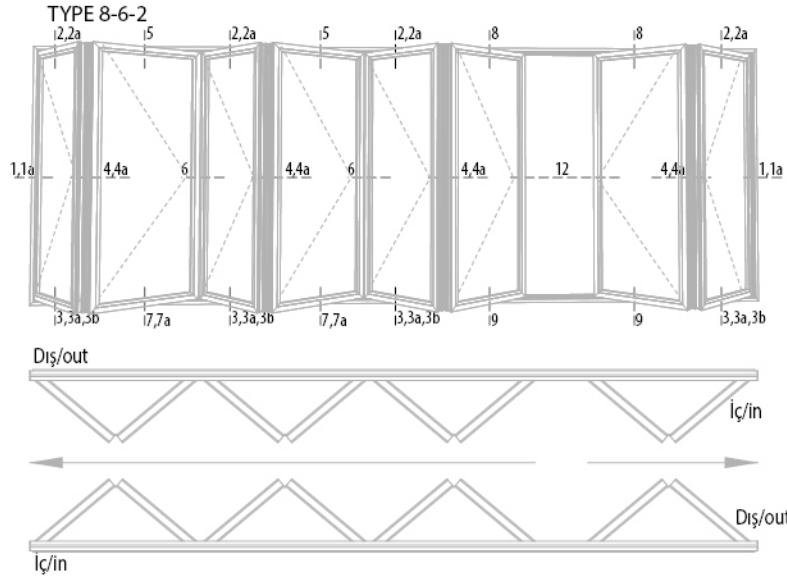




FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

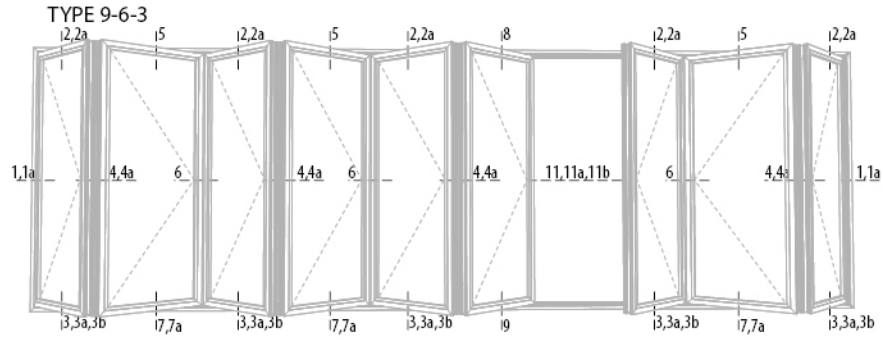
ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES



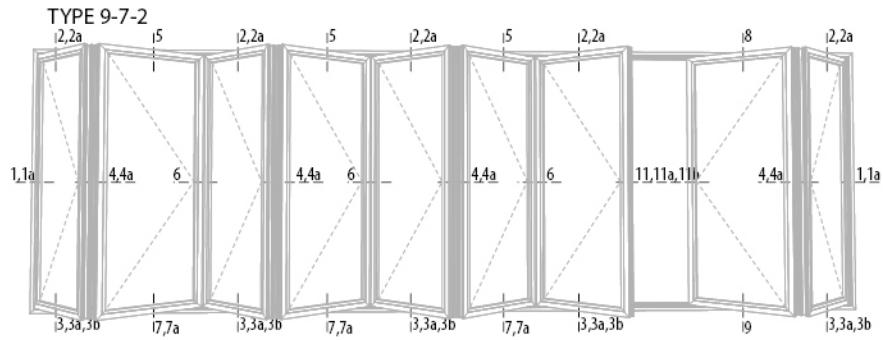


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

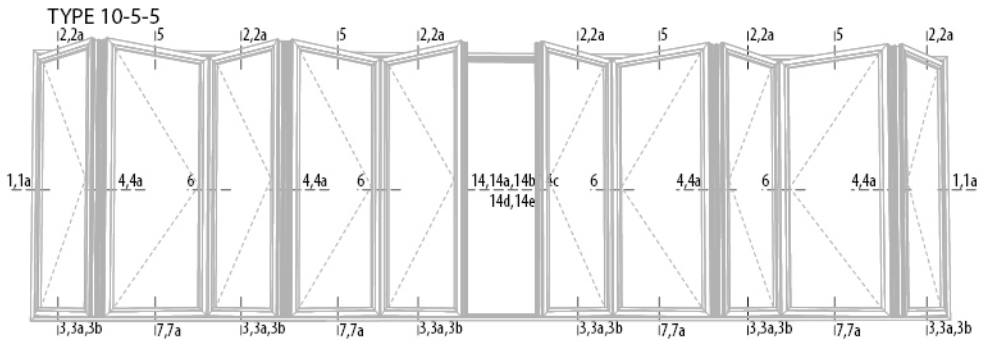
ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES



Dış/out



Dış/out

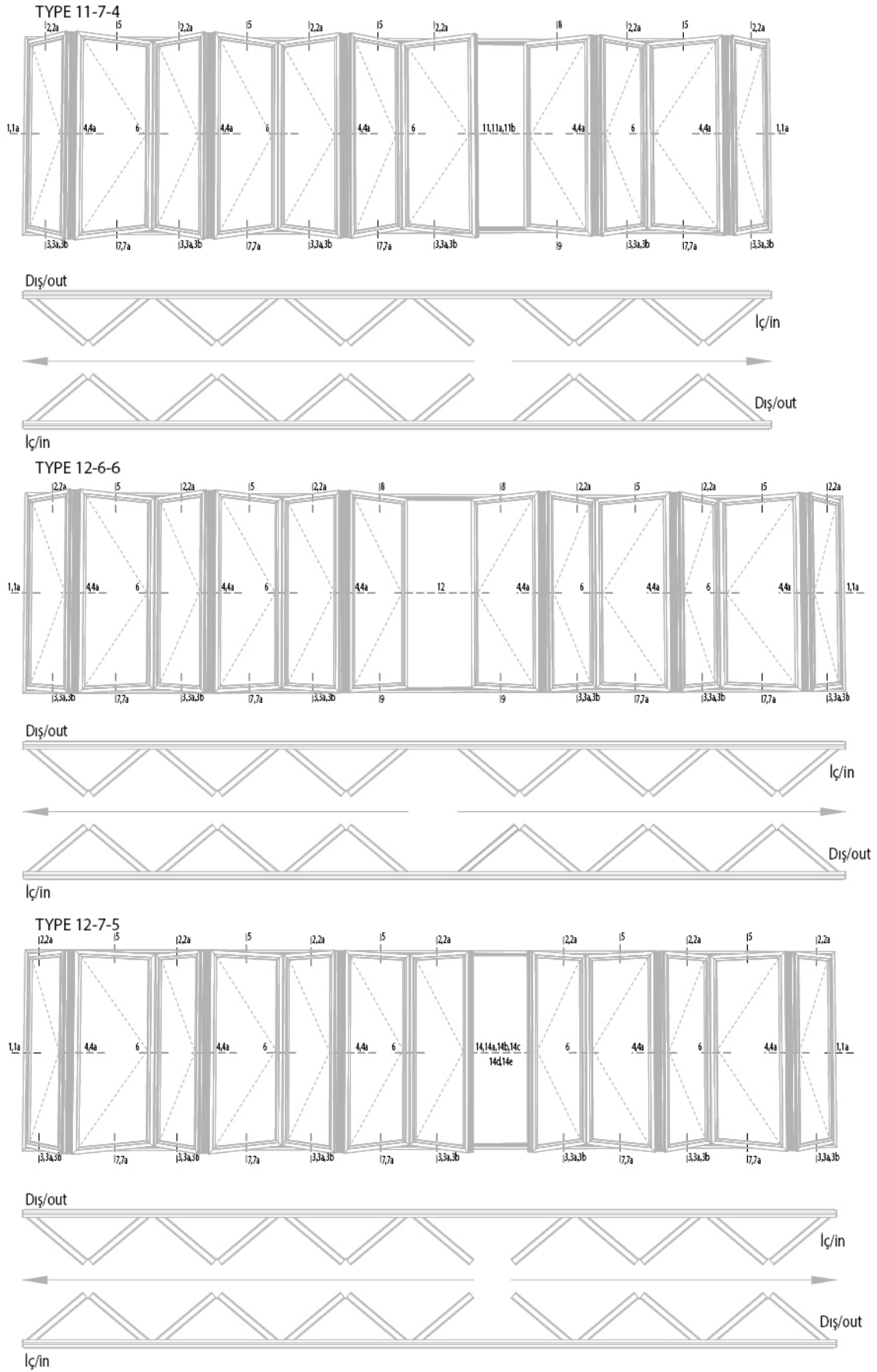


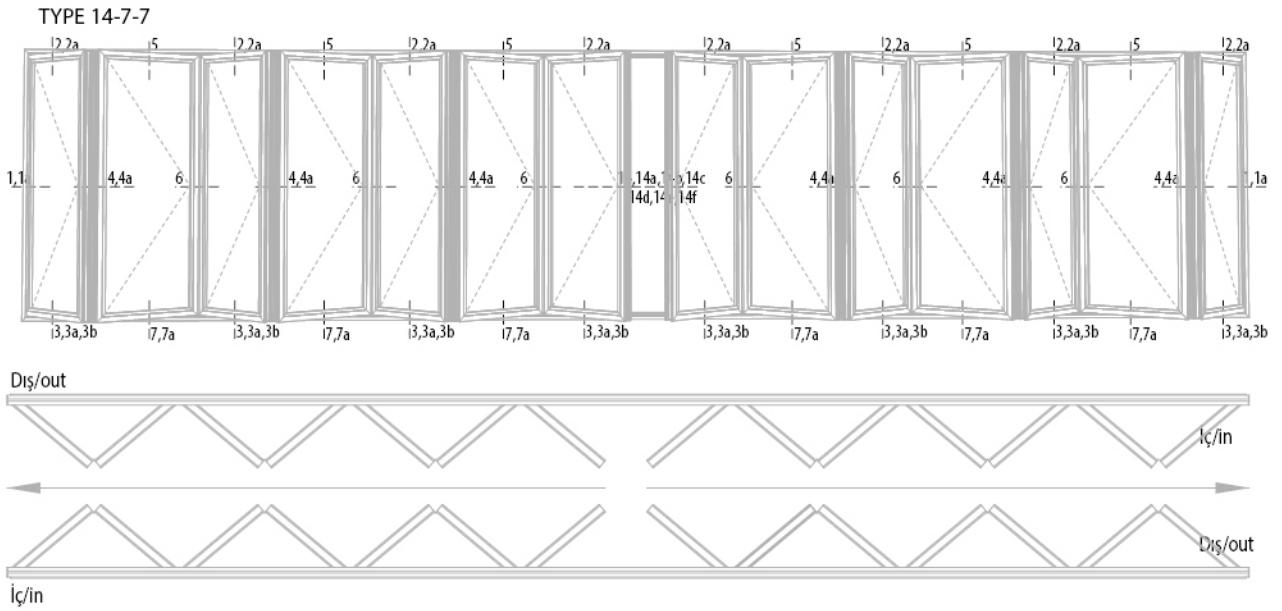
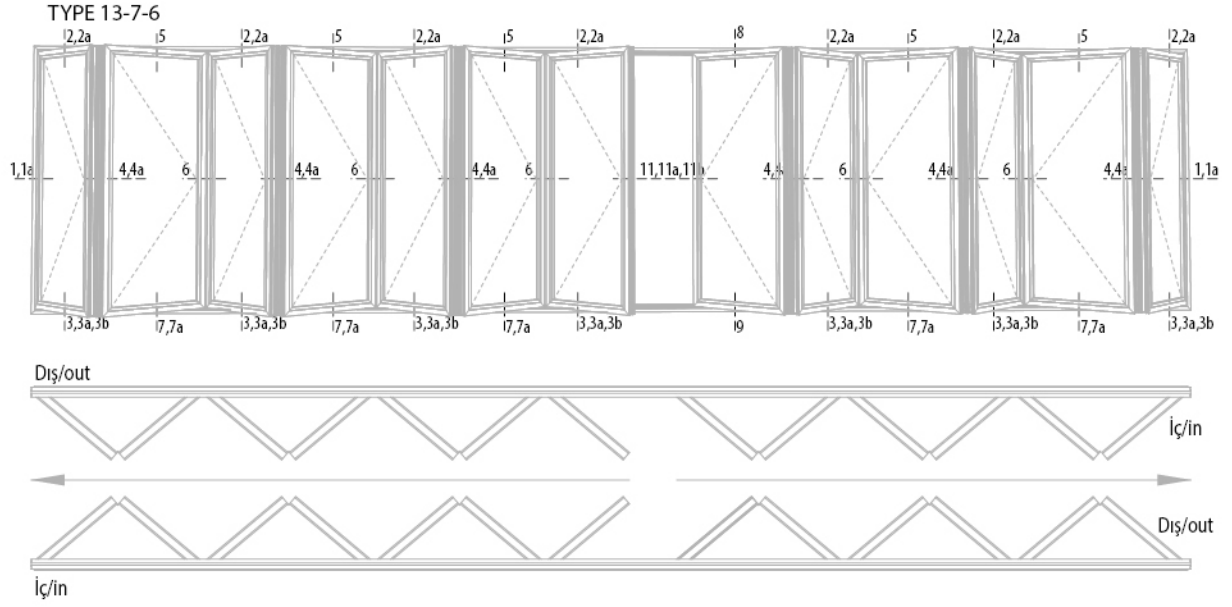
Dış/out



FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

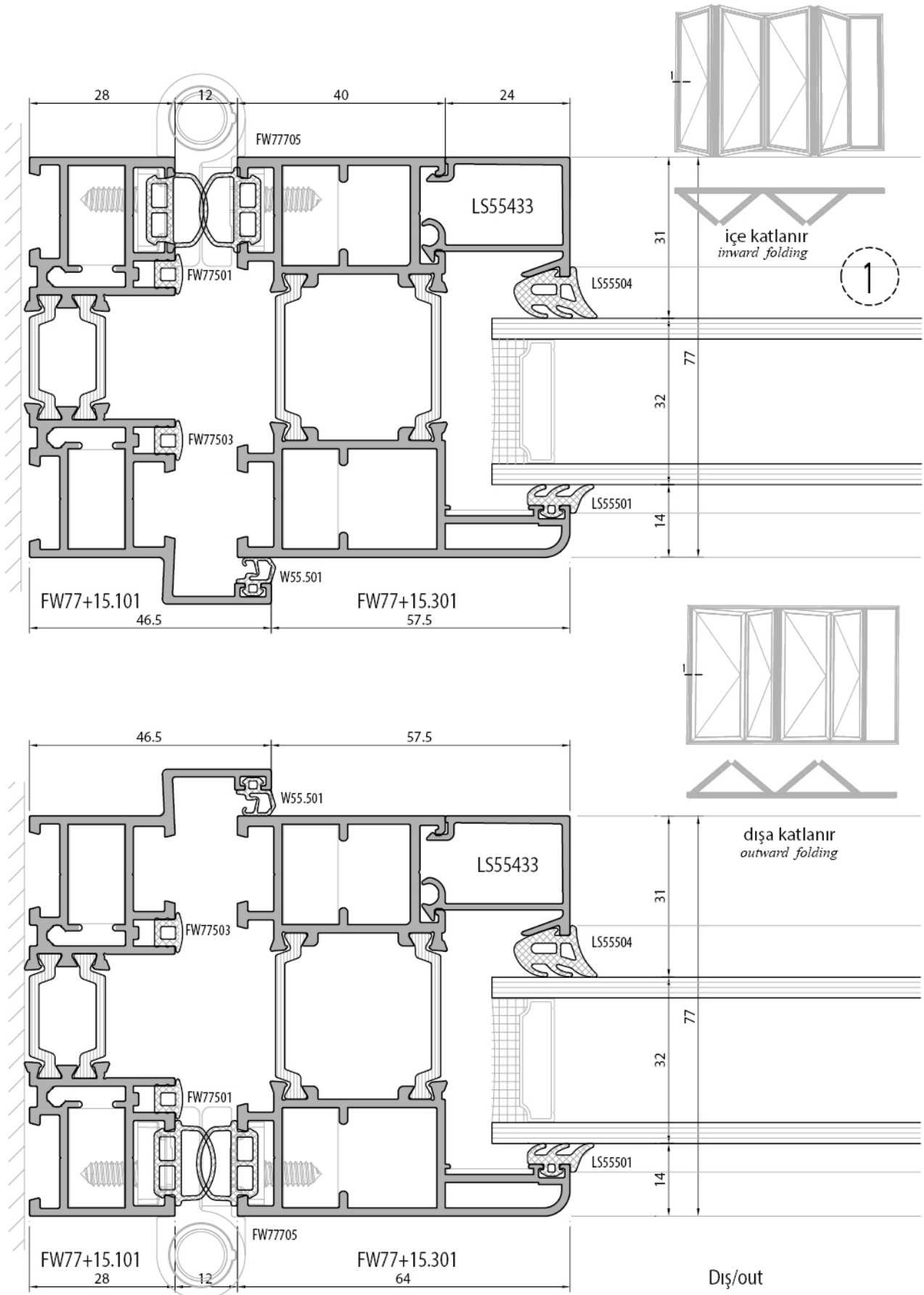
ÜRÜN TEKNİK ÖZELLİKLERİ / PRODUCT TECHNICAL FEATURES

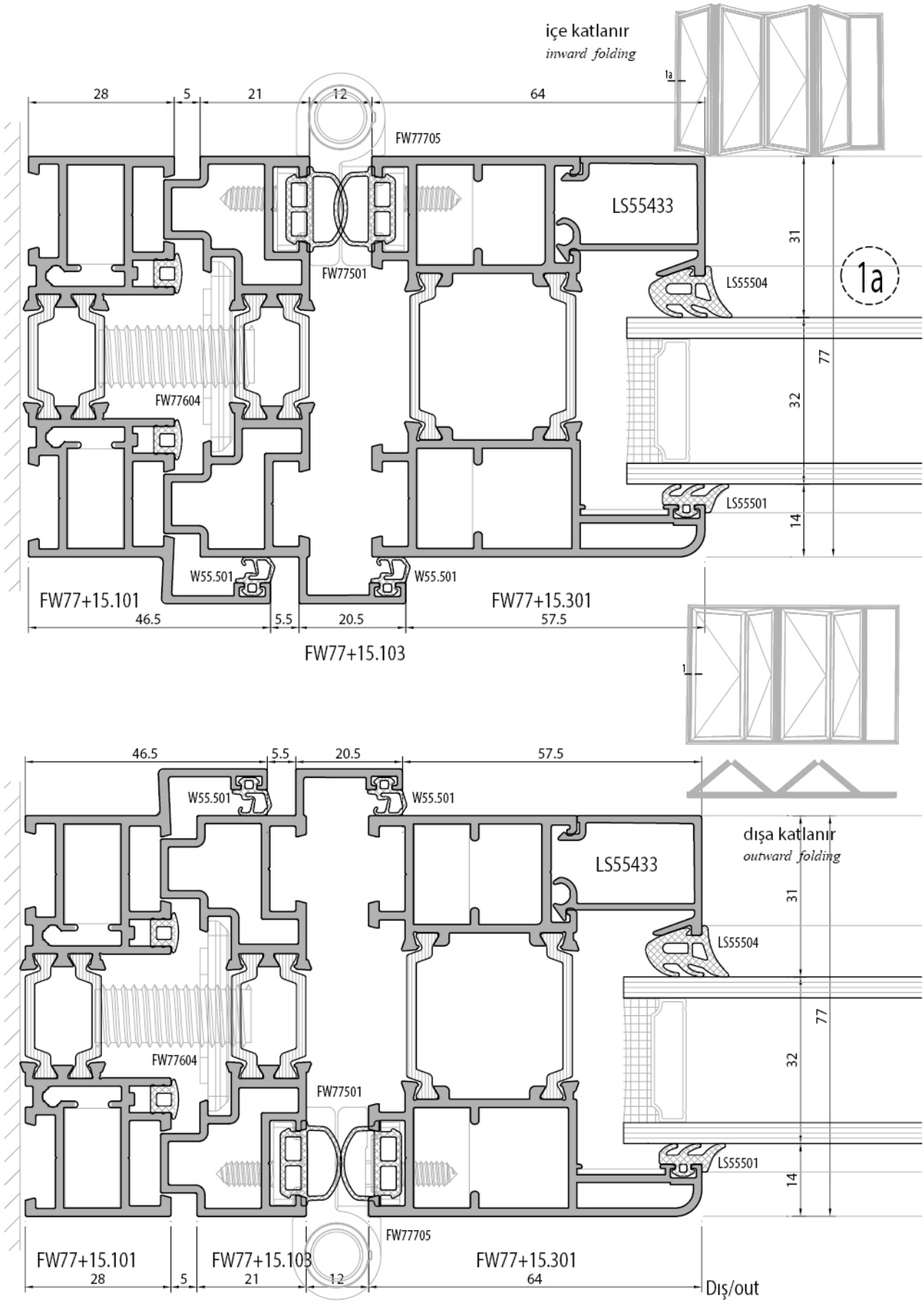




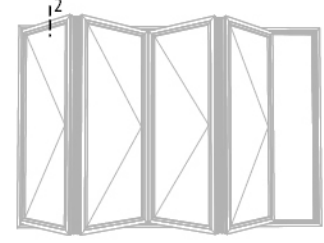
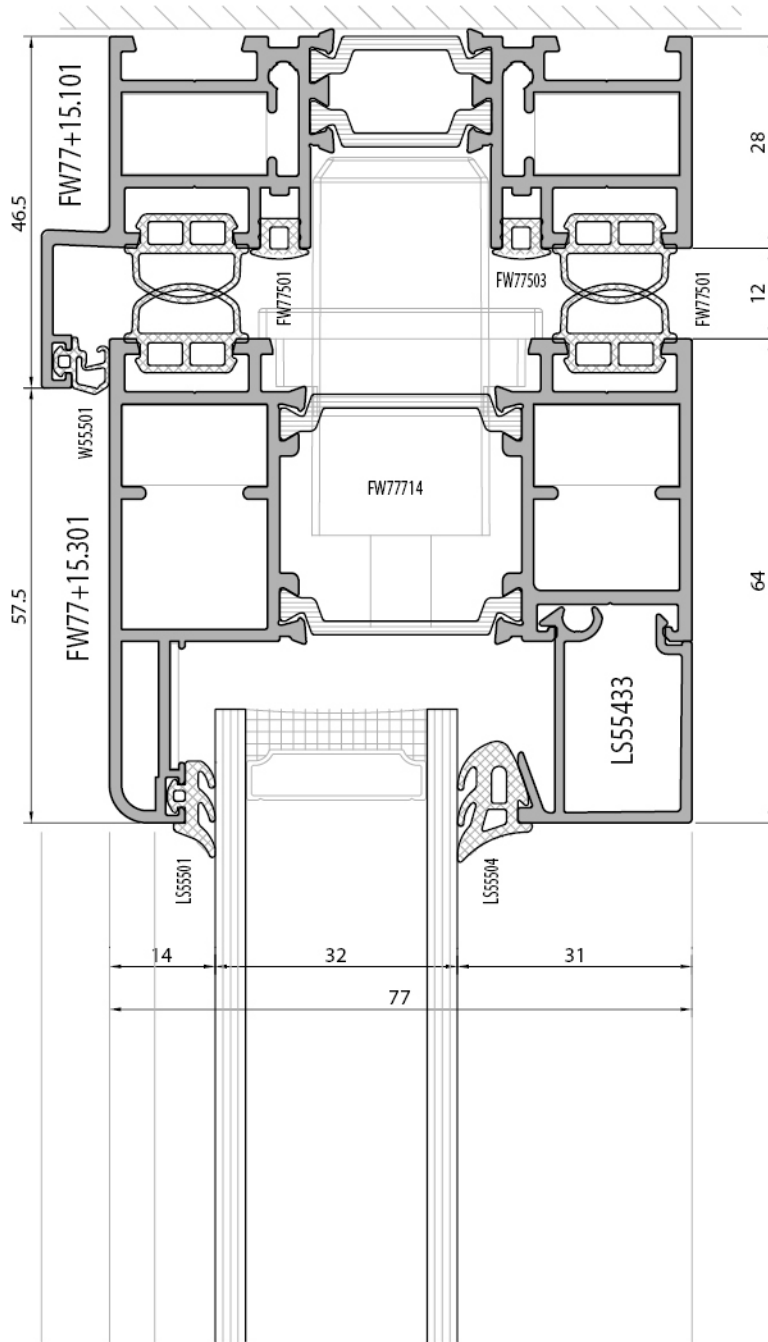
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

SİSTEM DETAYLARI / SYSTEM DETAILS



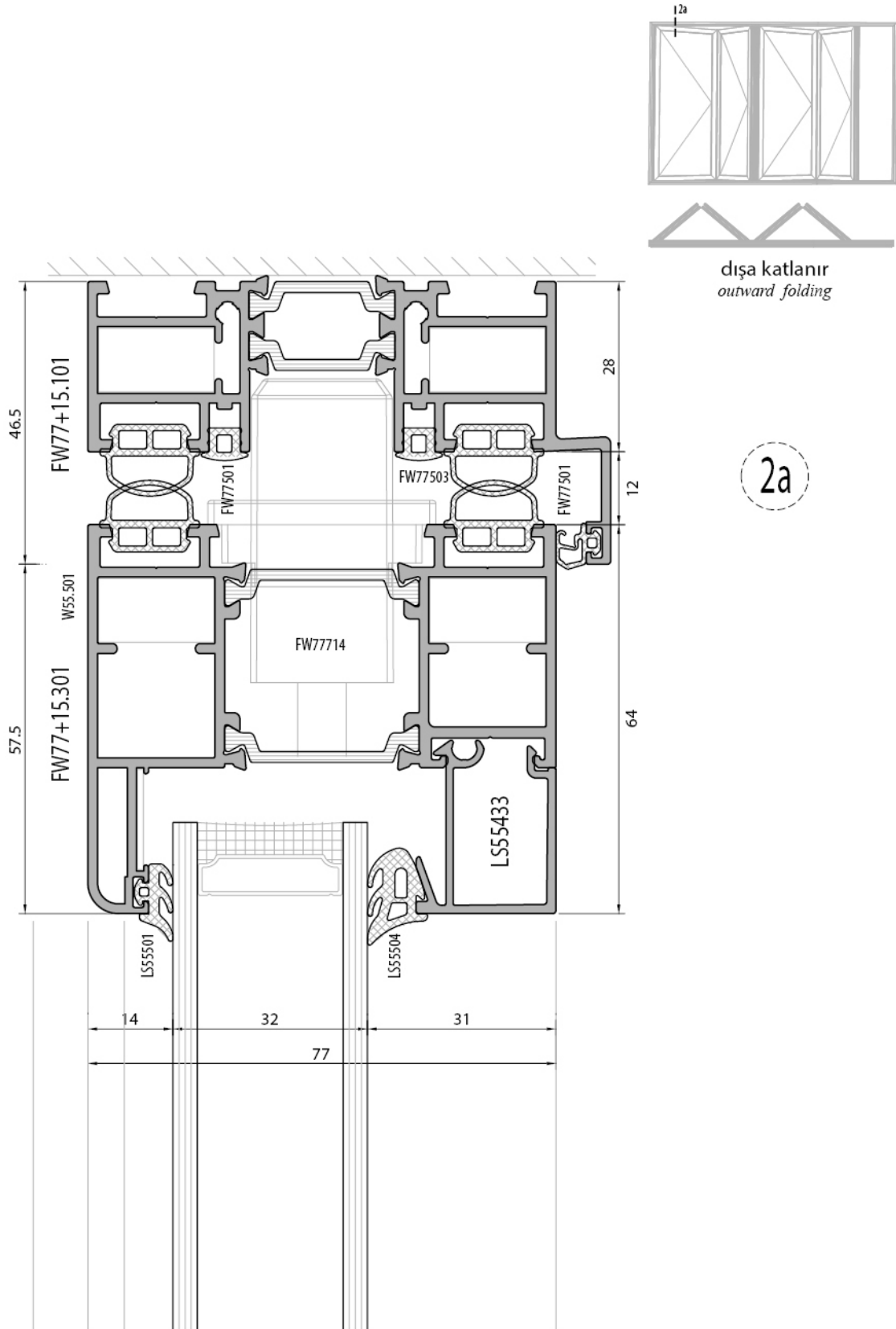


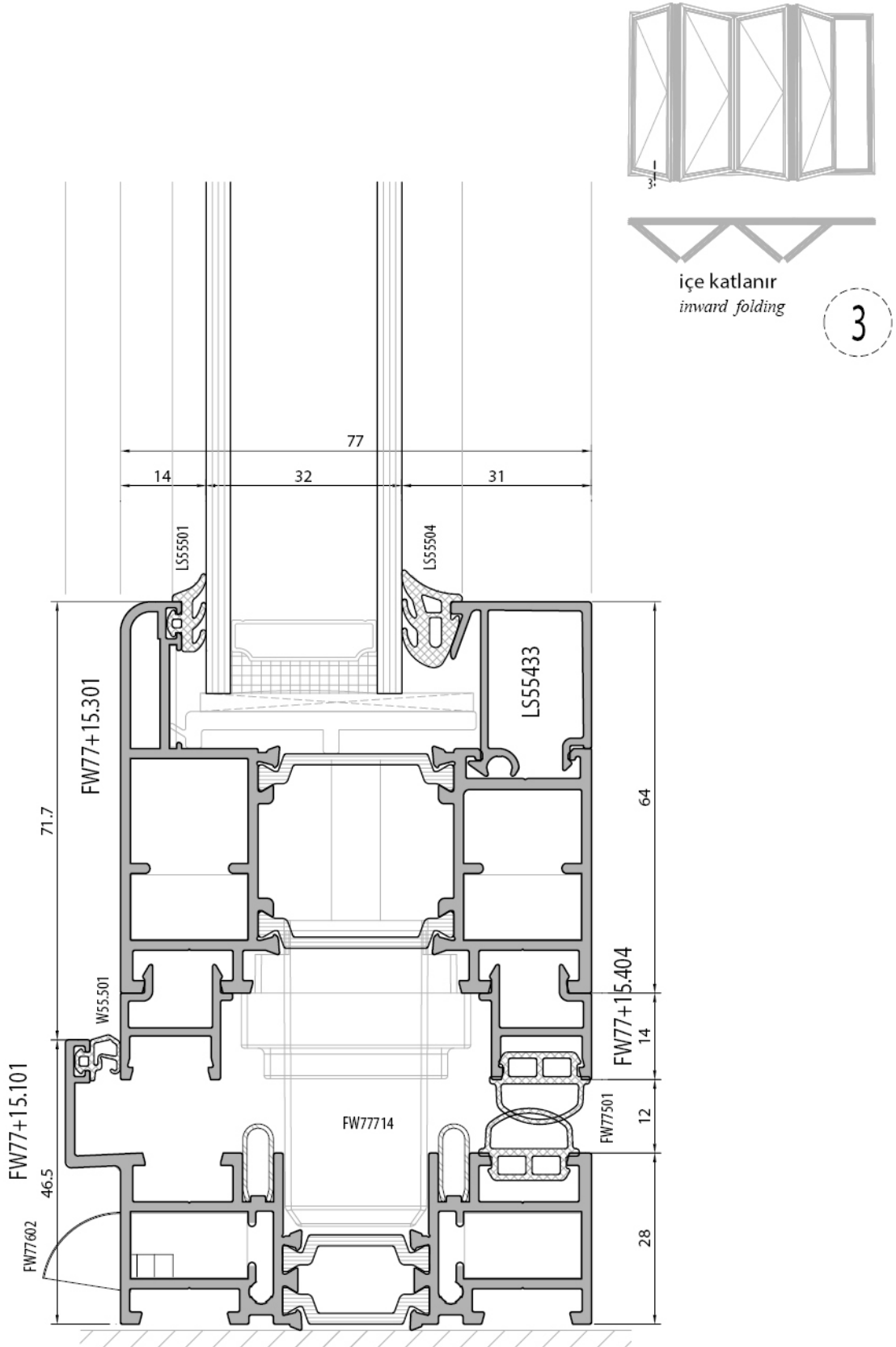
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS

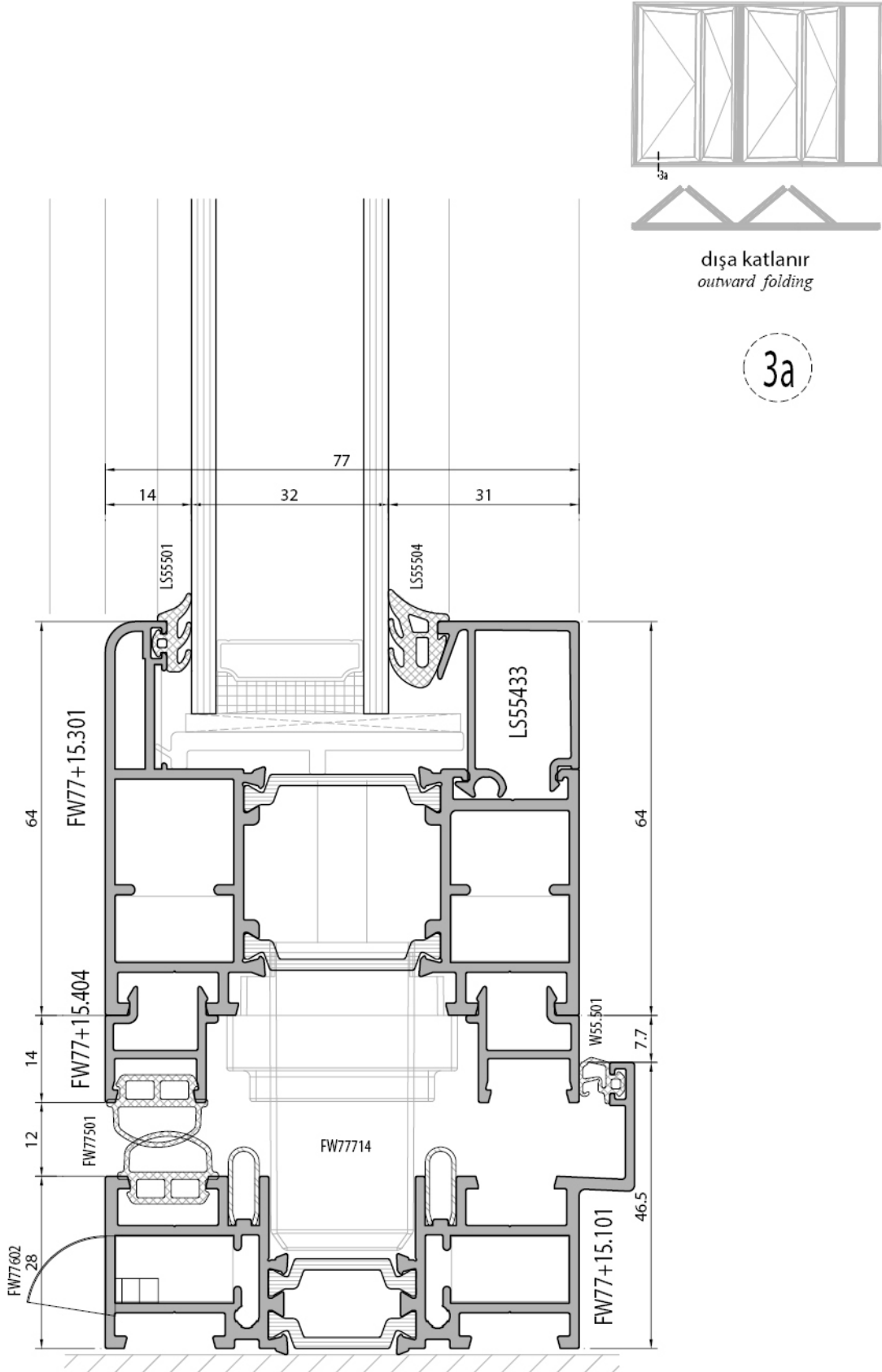


içe katlanır
inward folding

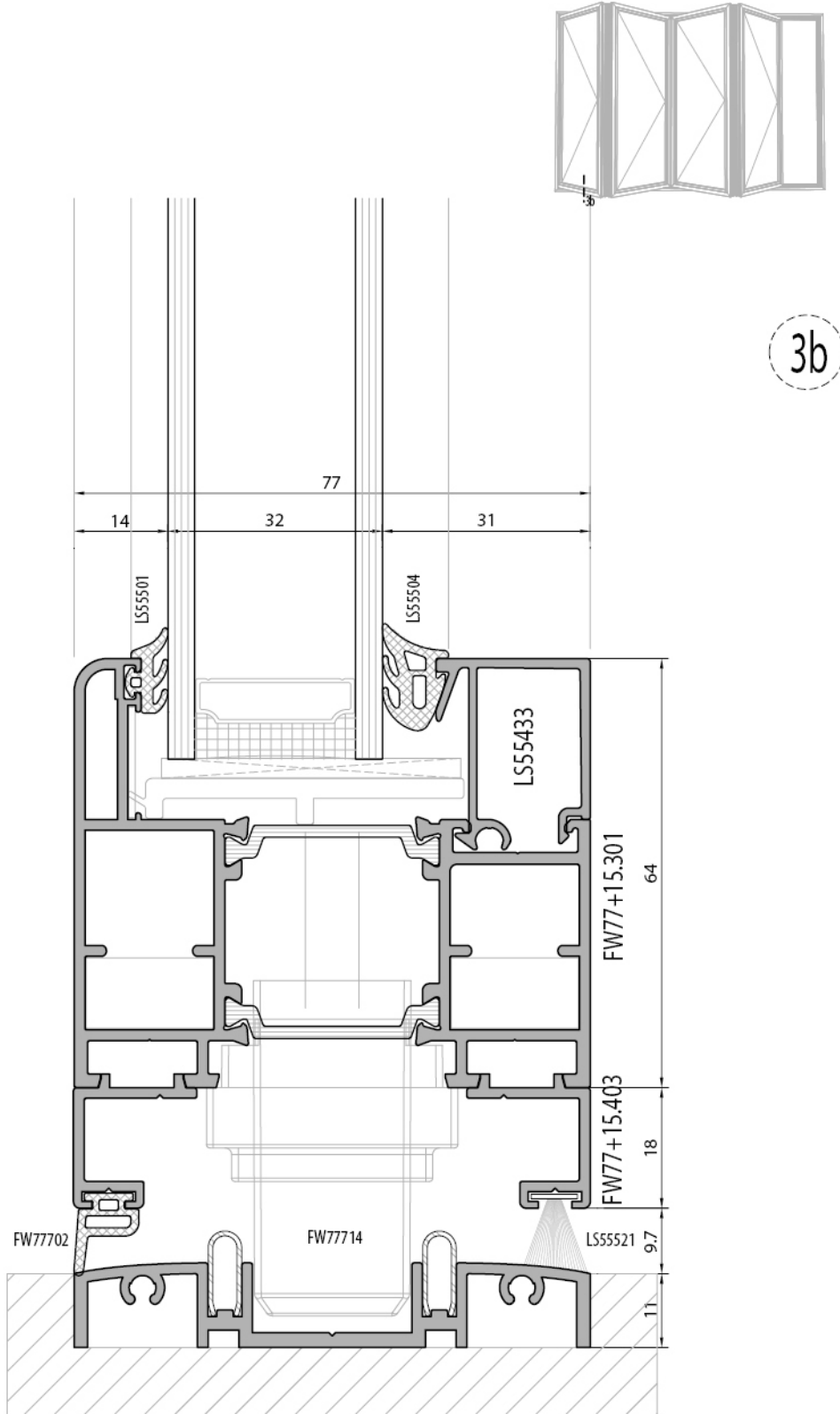
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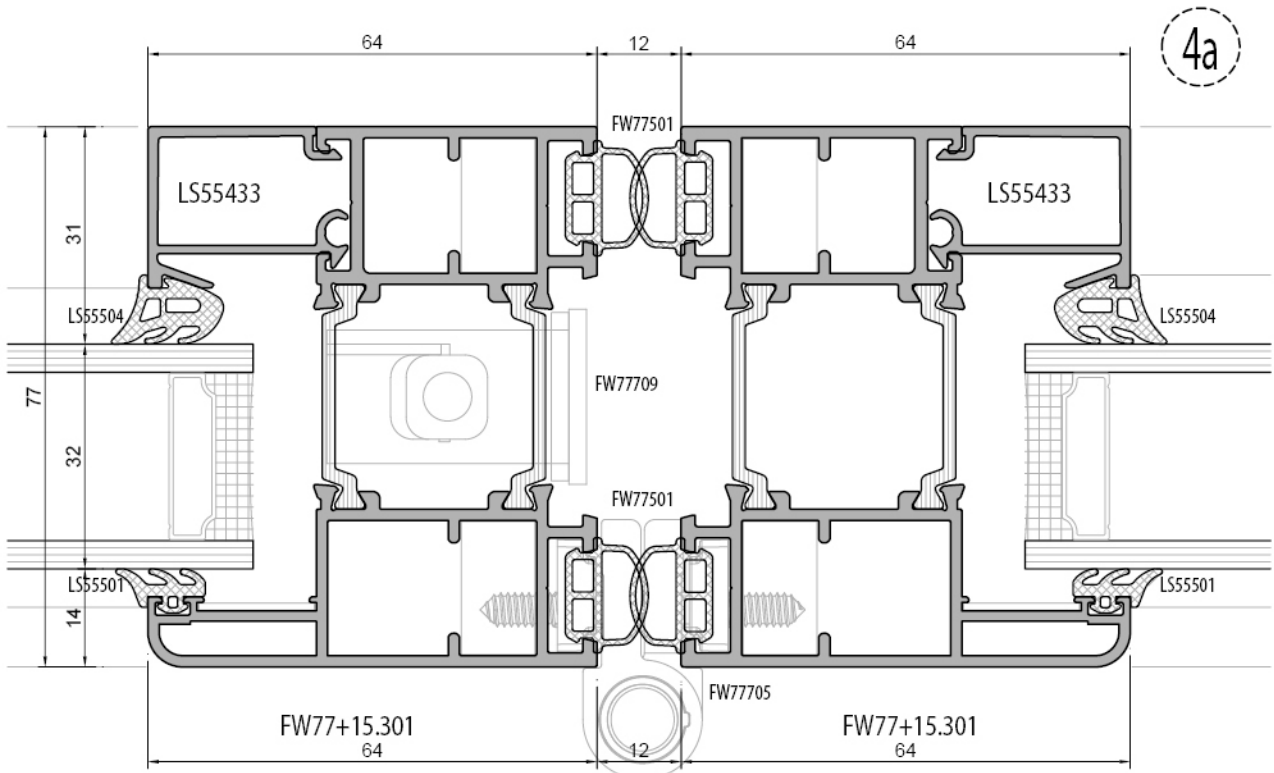
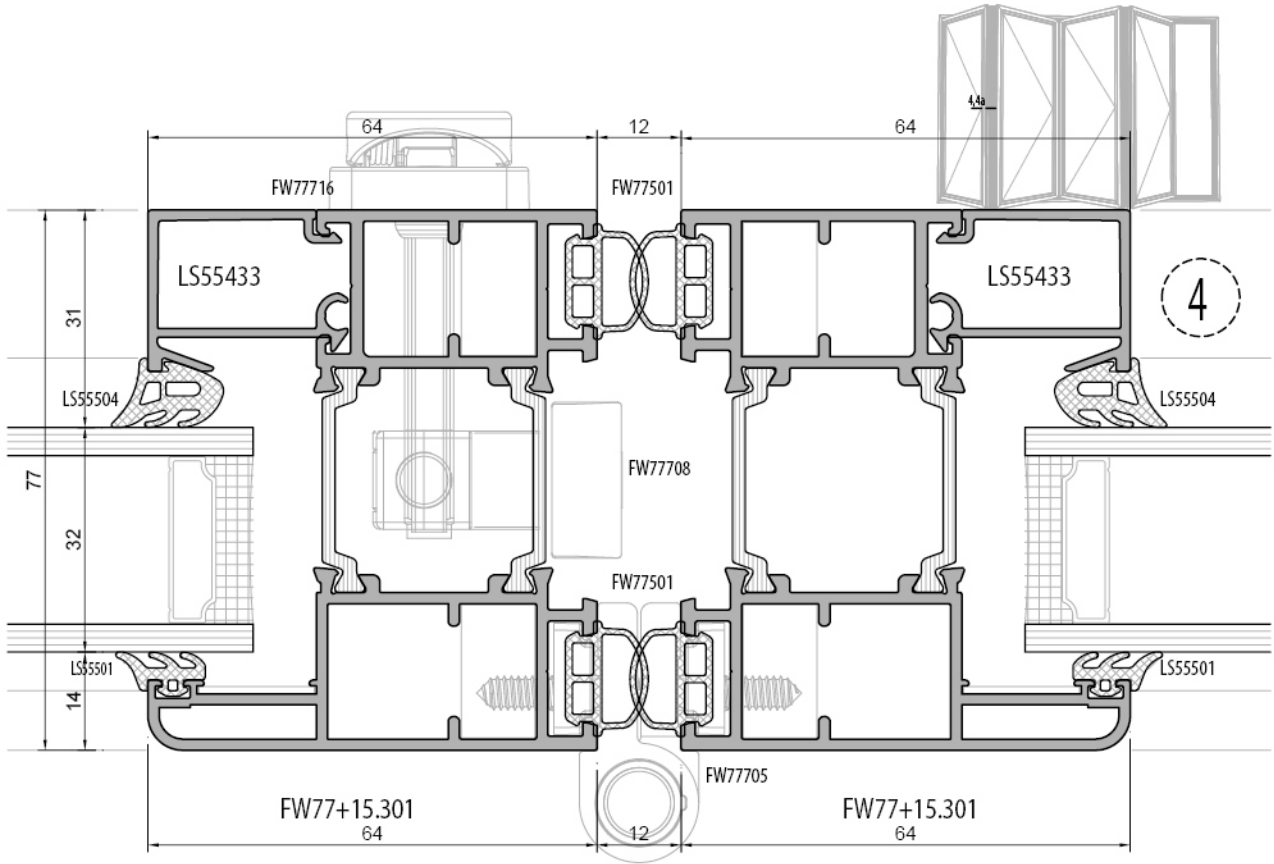






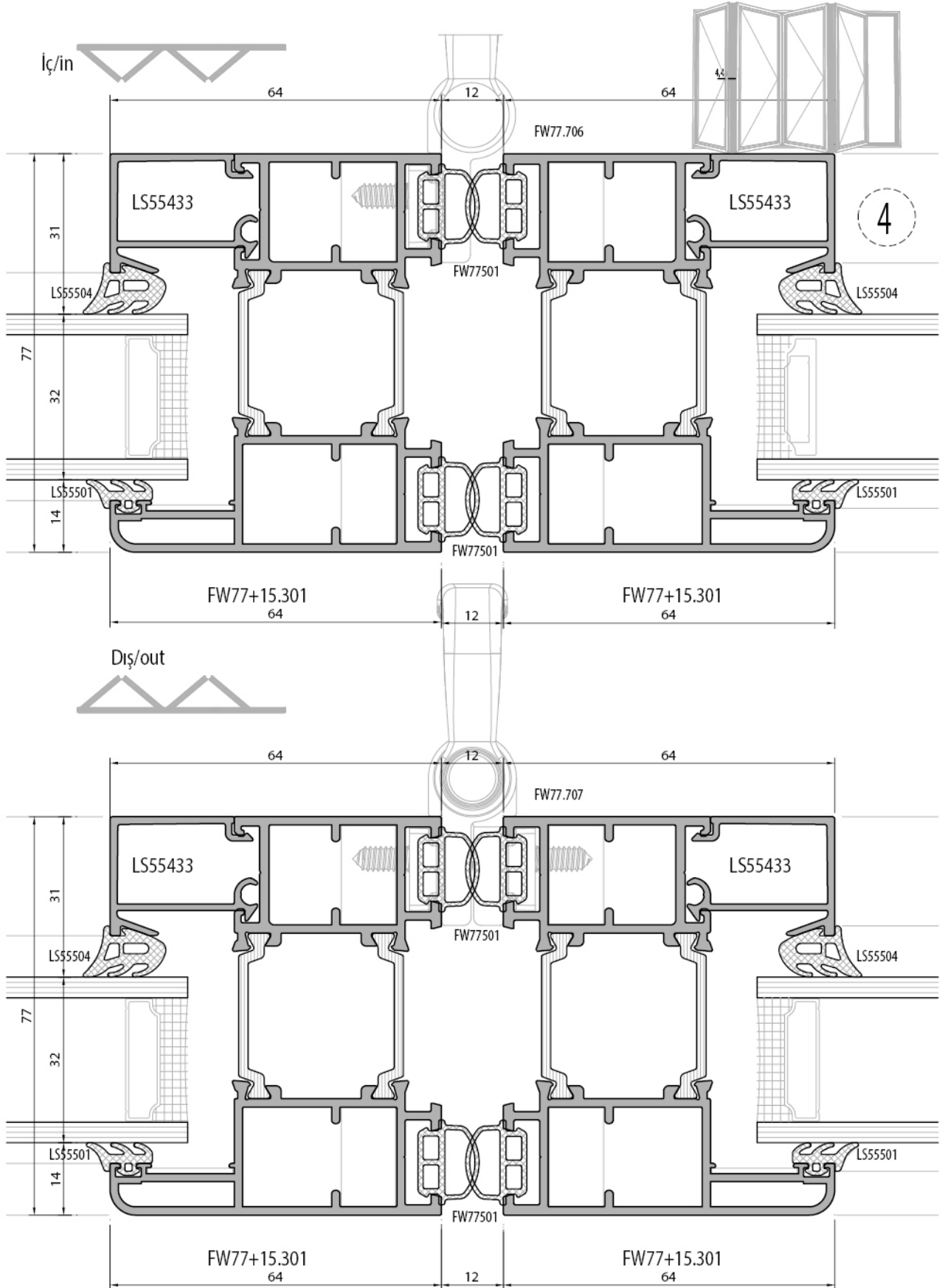
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS

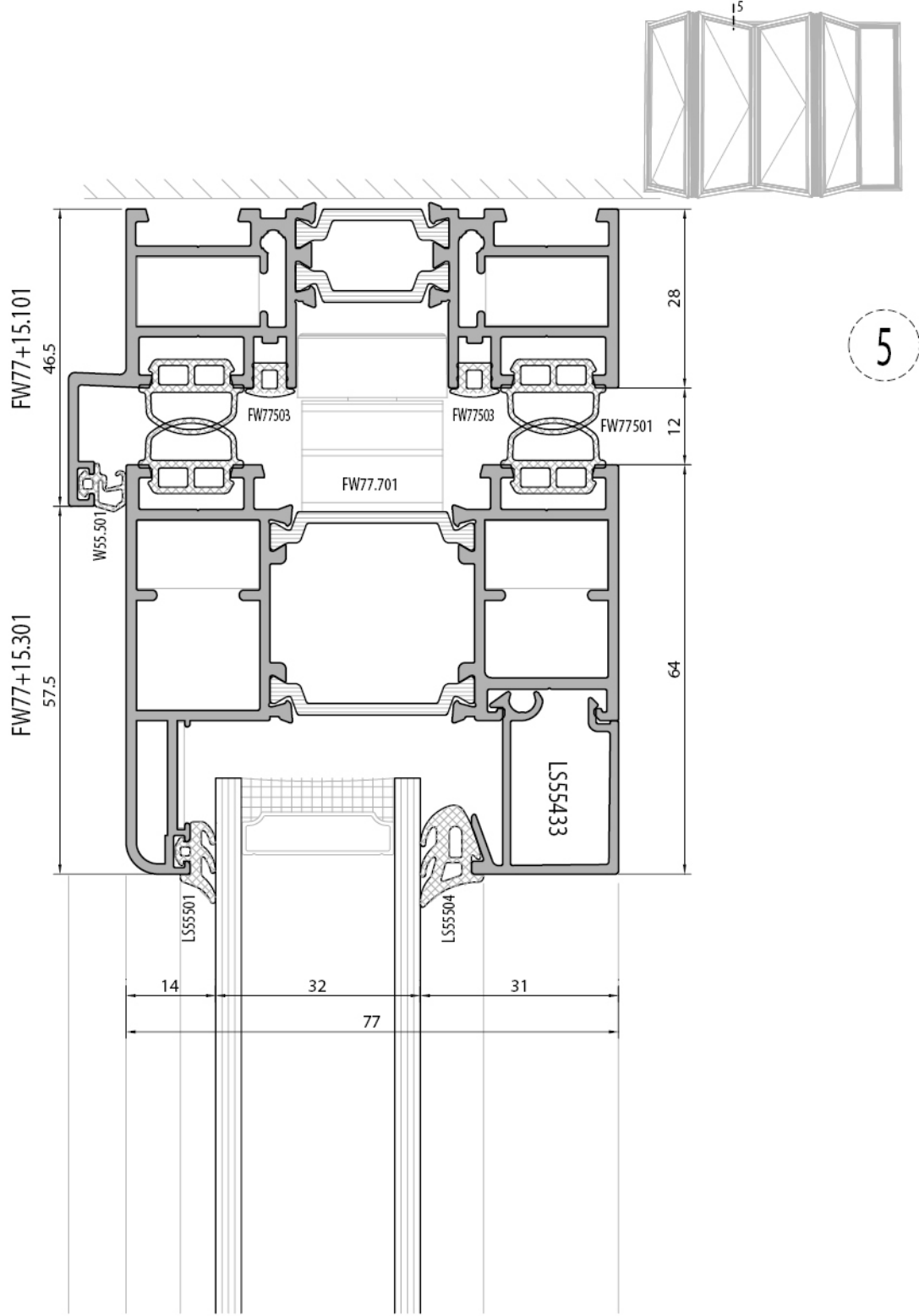




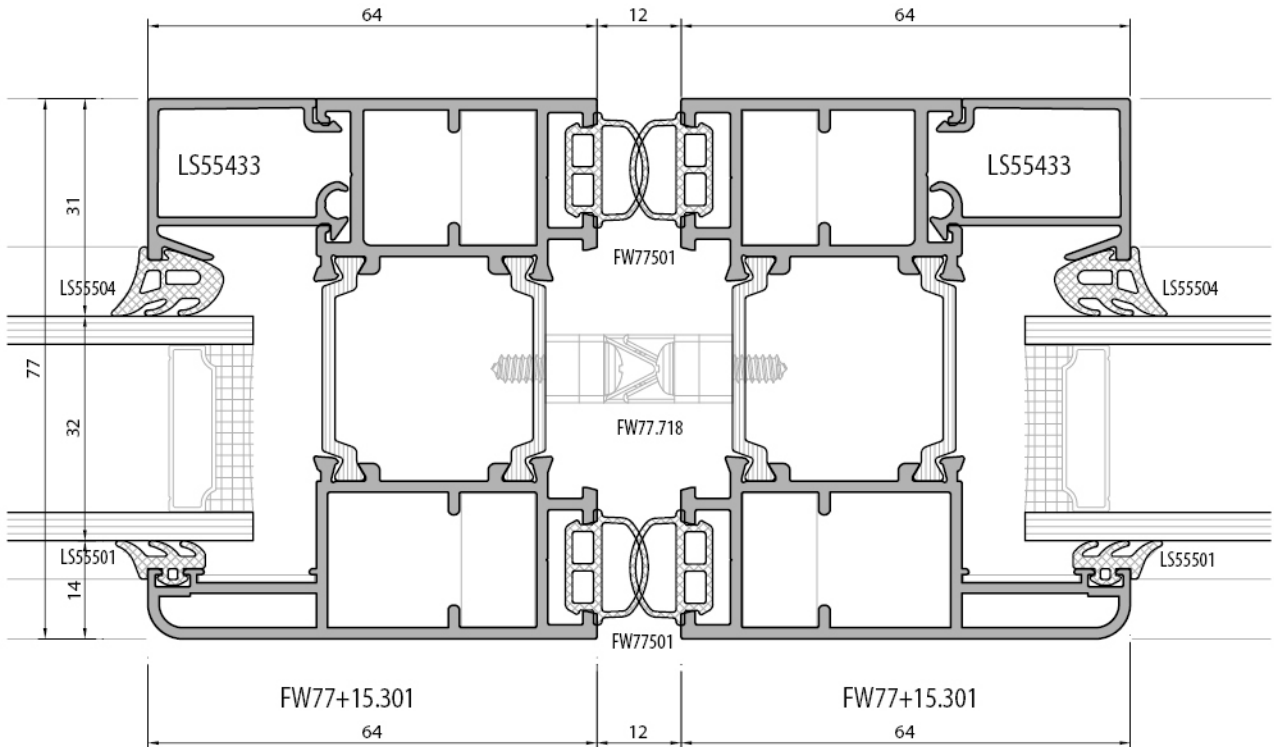
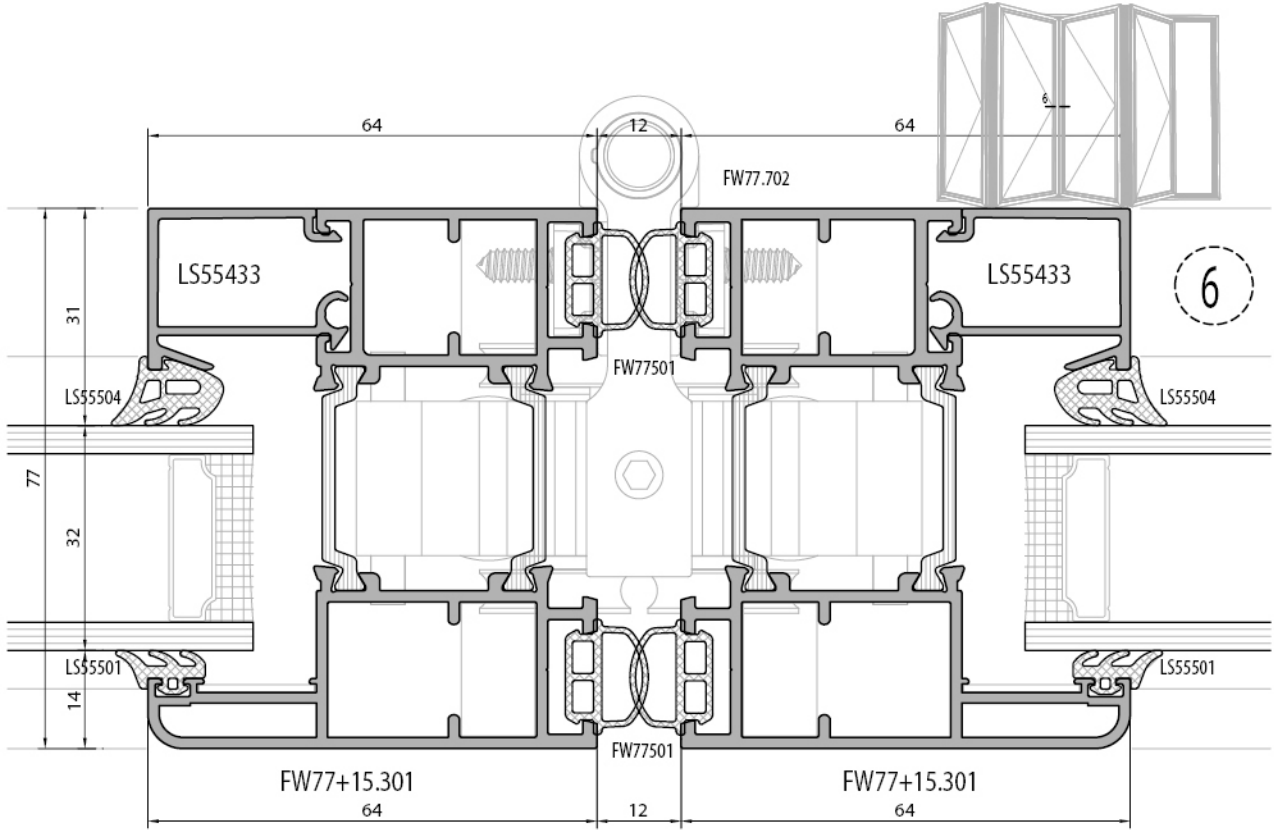
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

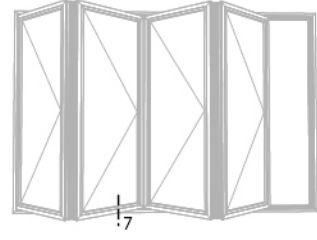
SİSTEM DETAYLARI / SYSTEM DETAILS



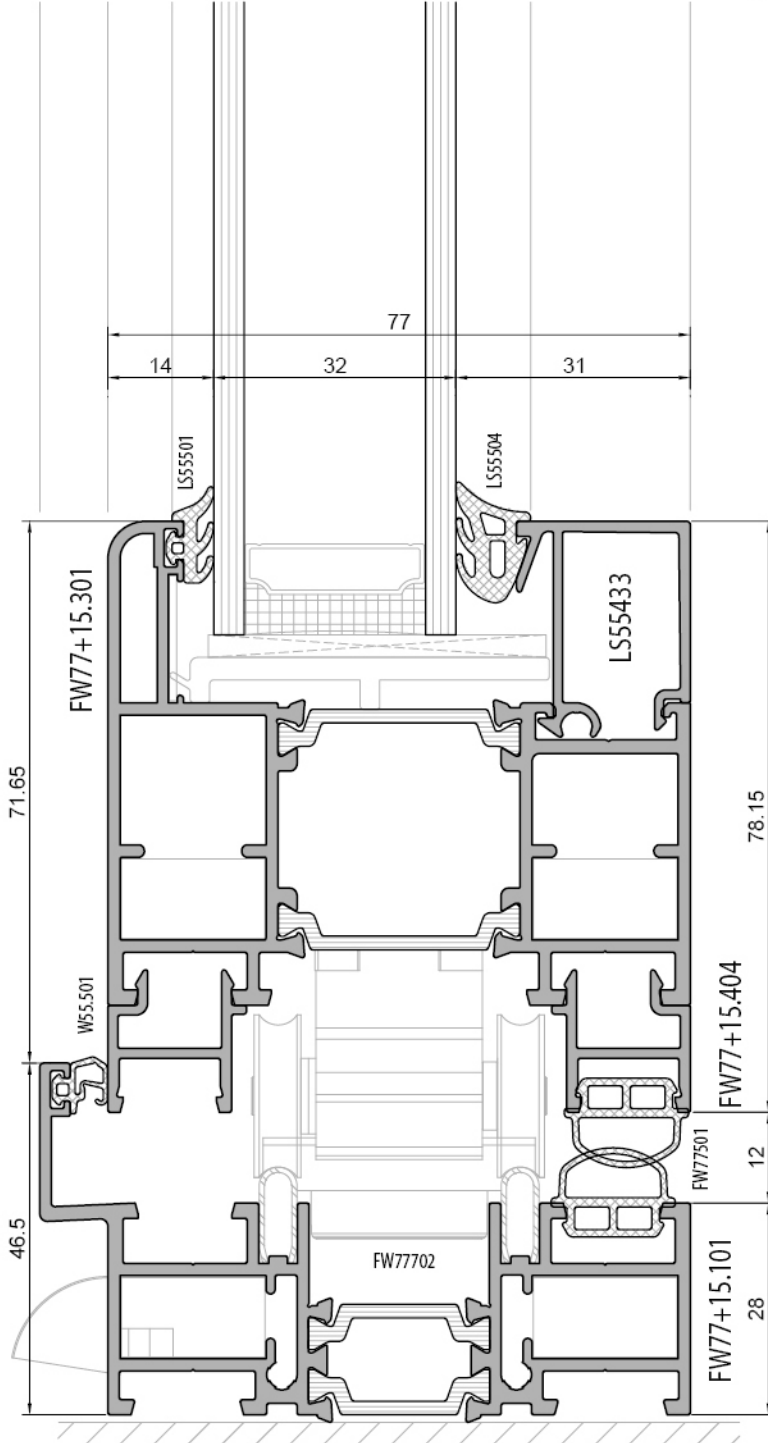


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS

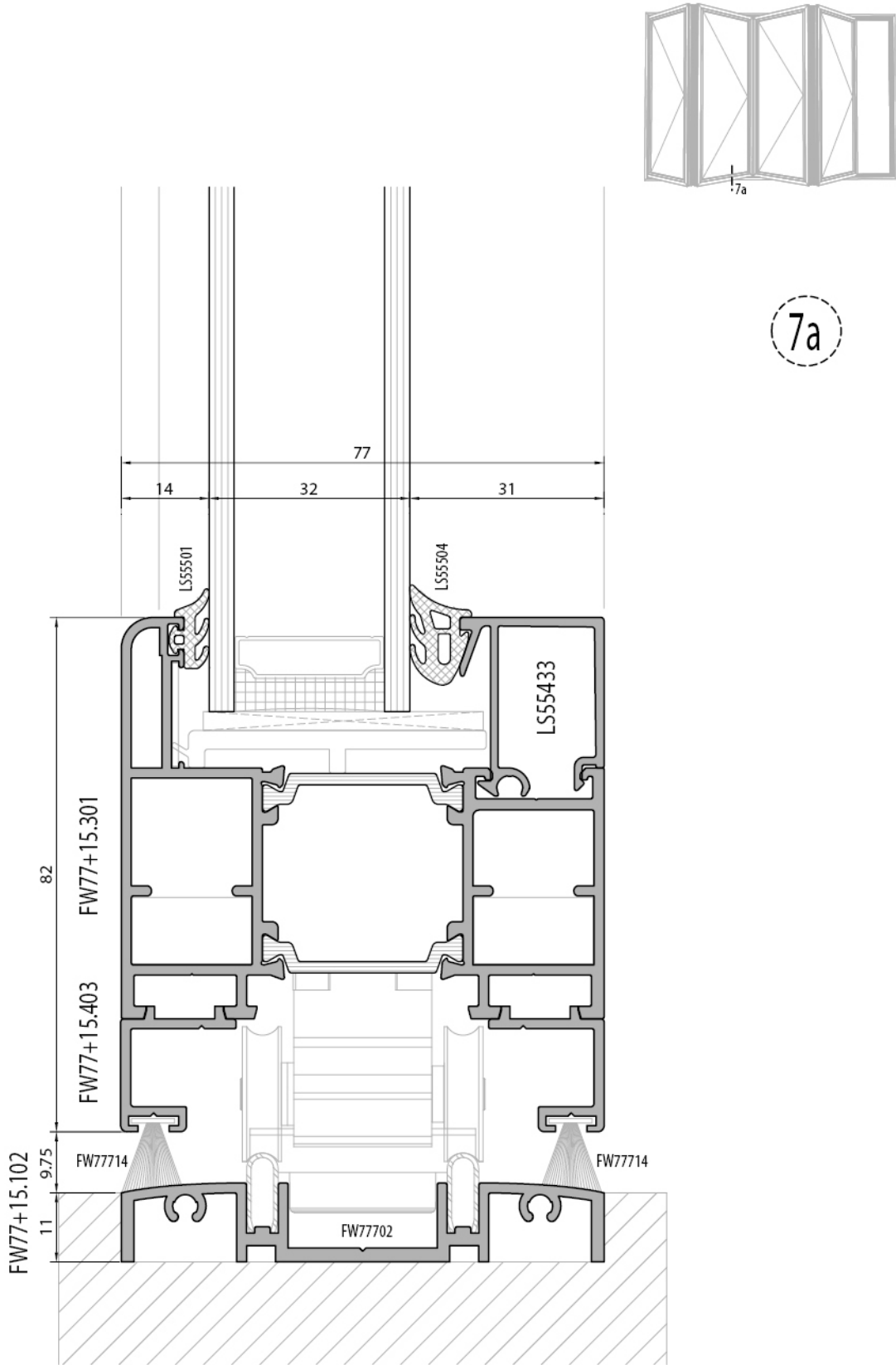


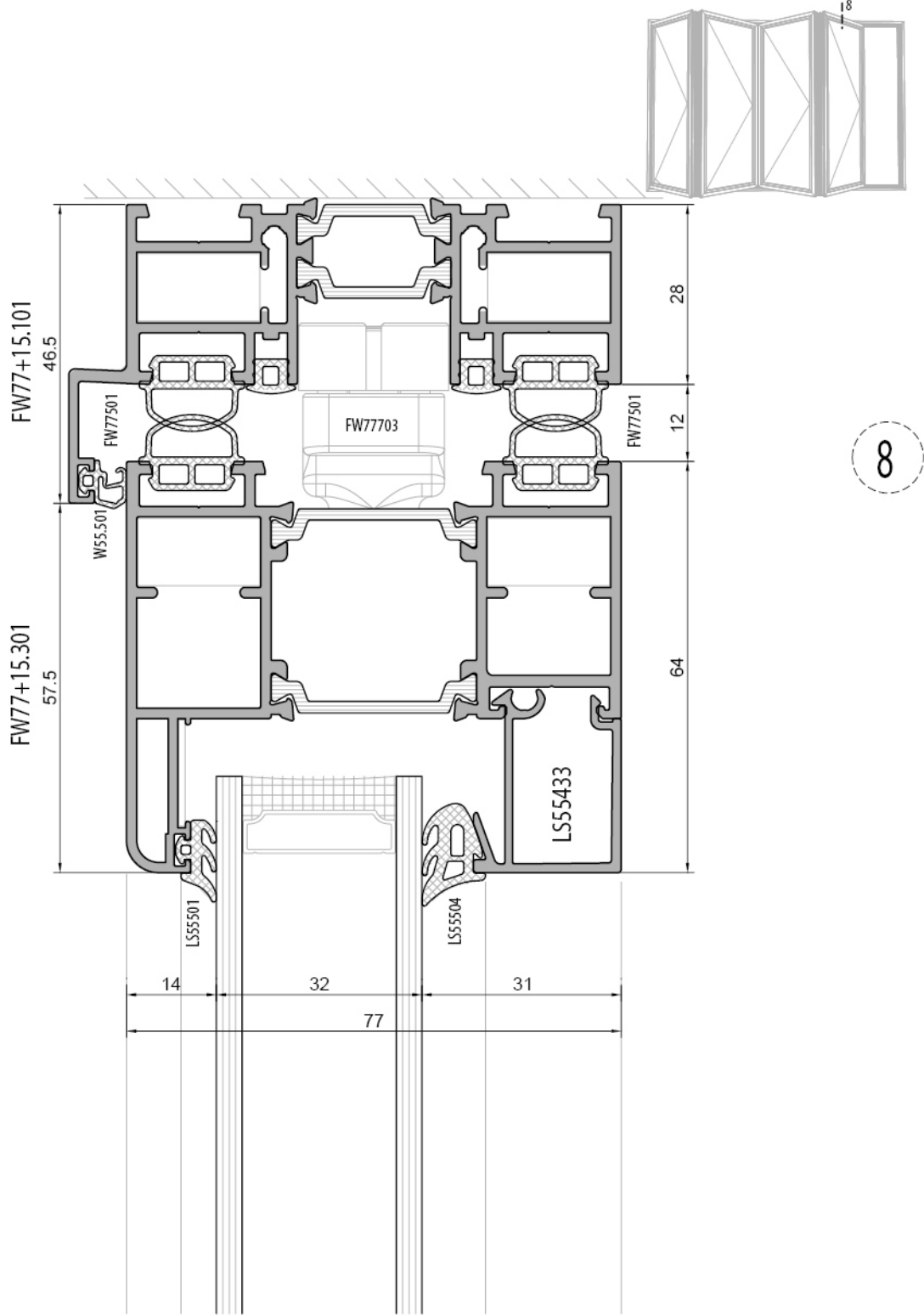


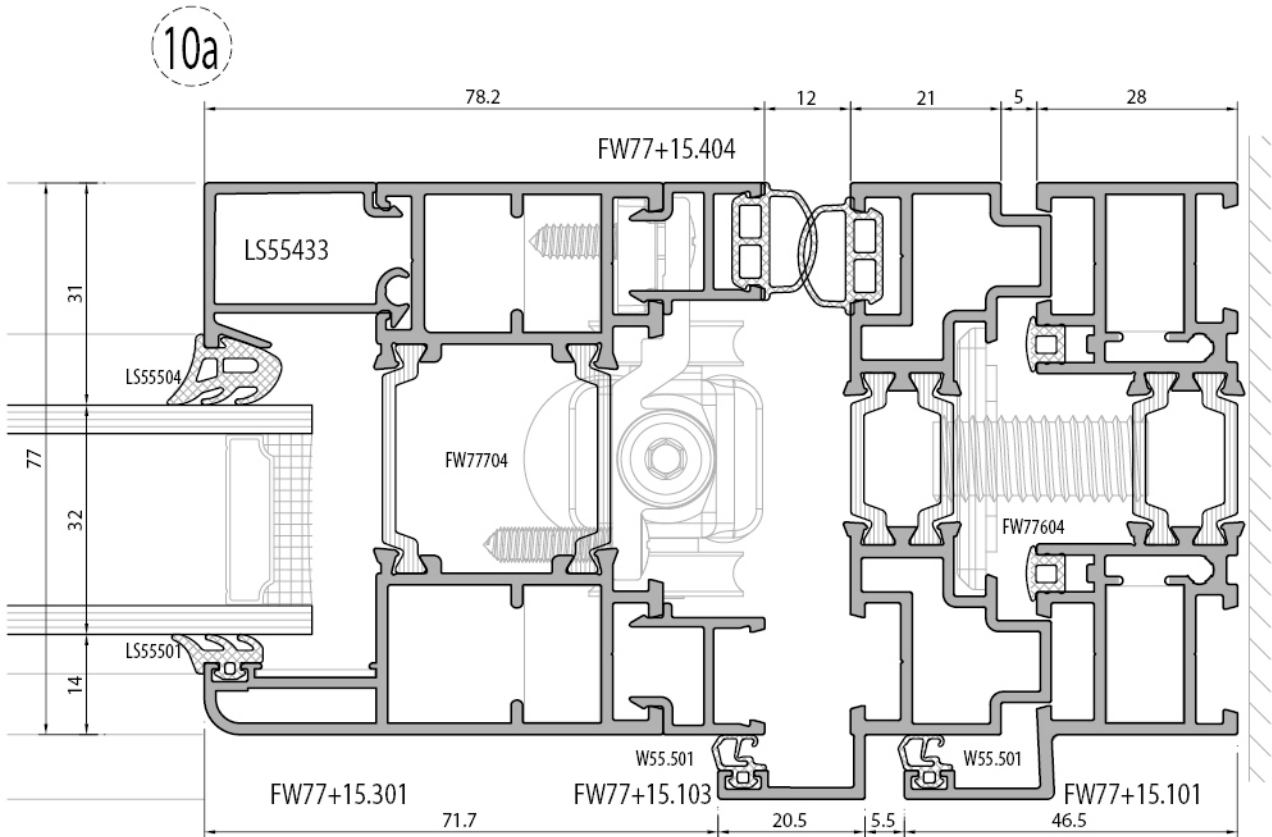
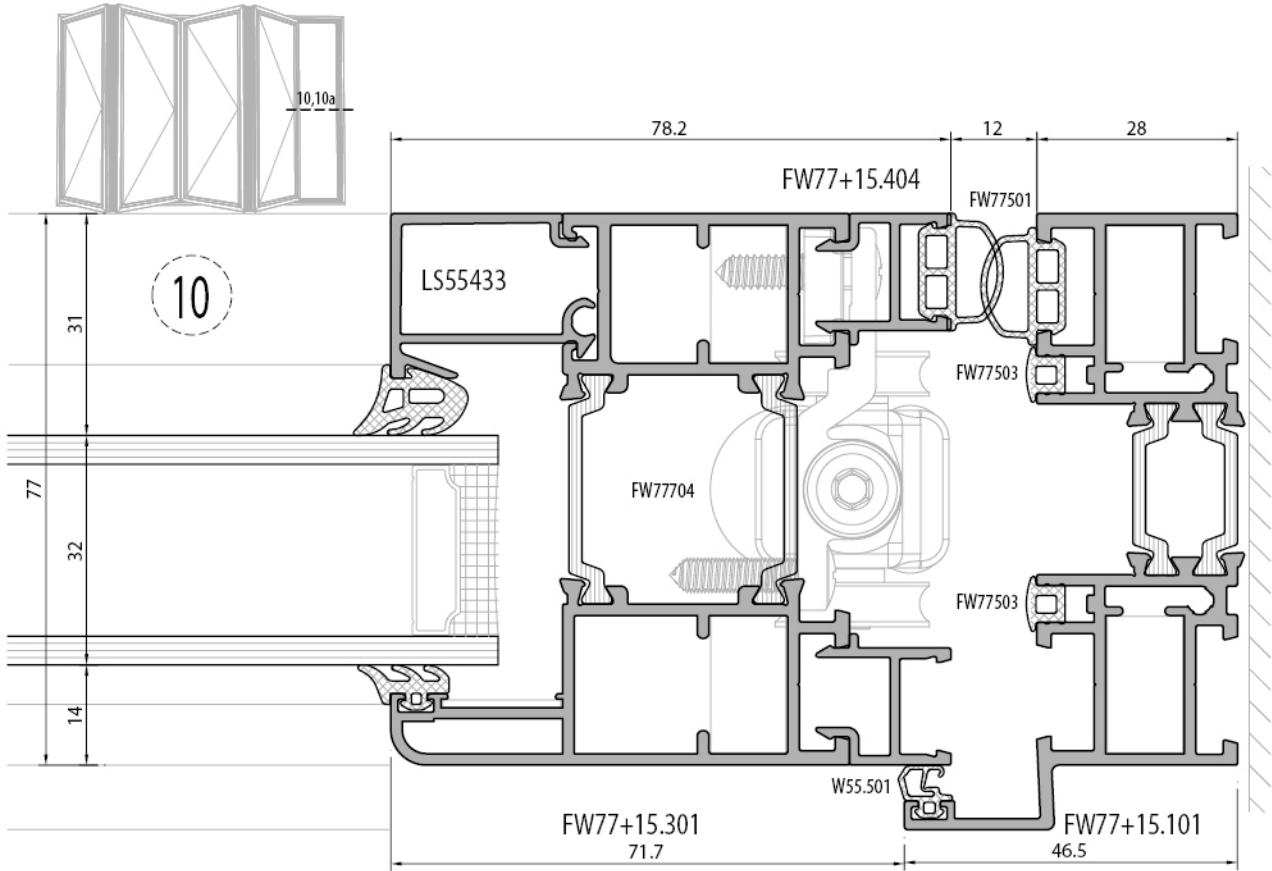
7



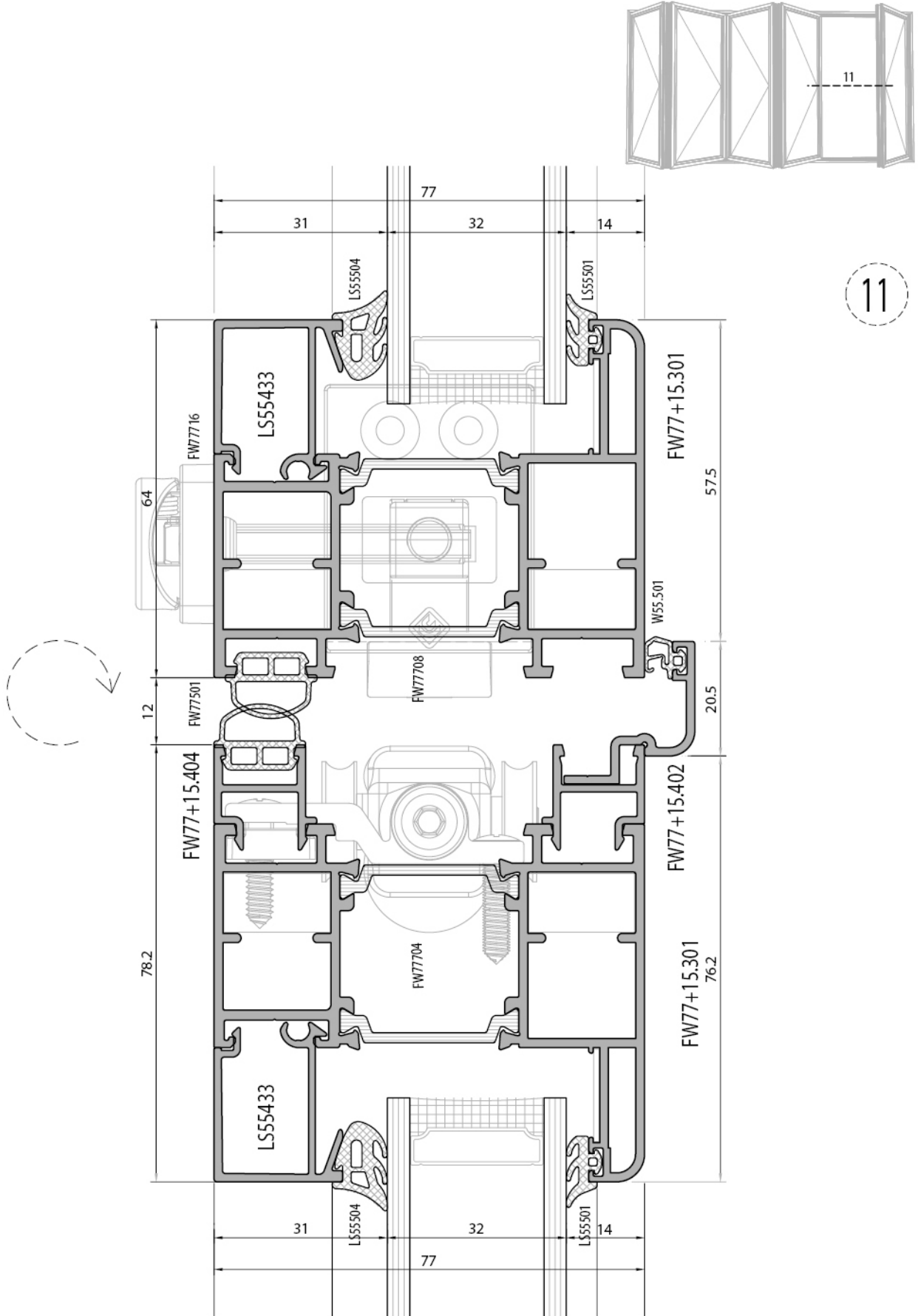
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS

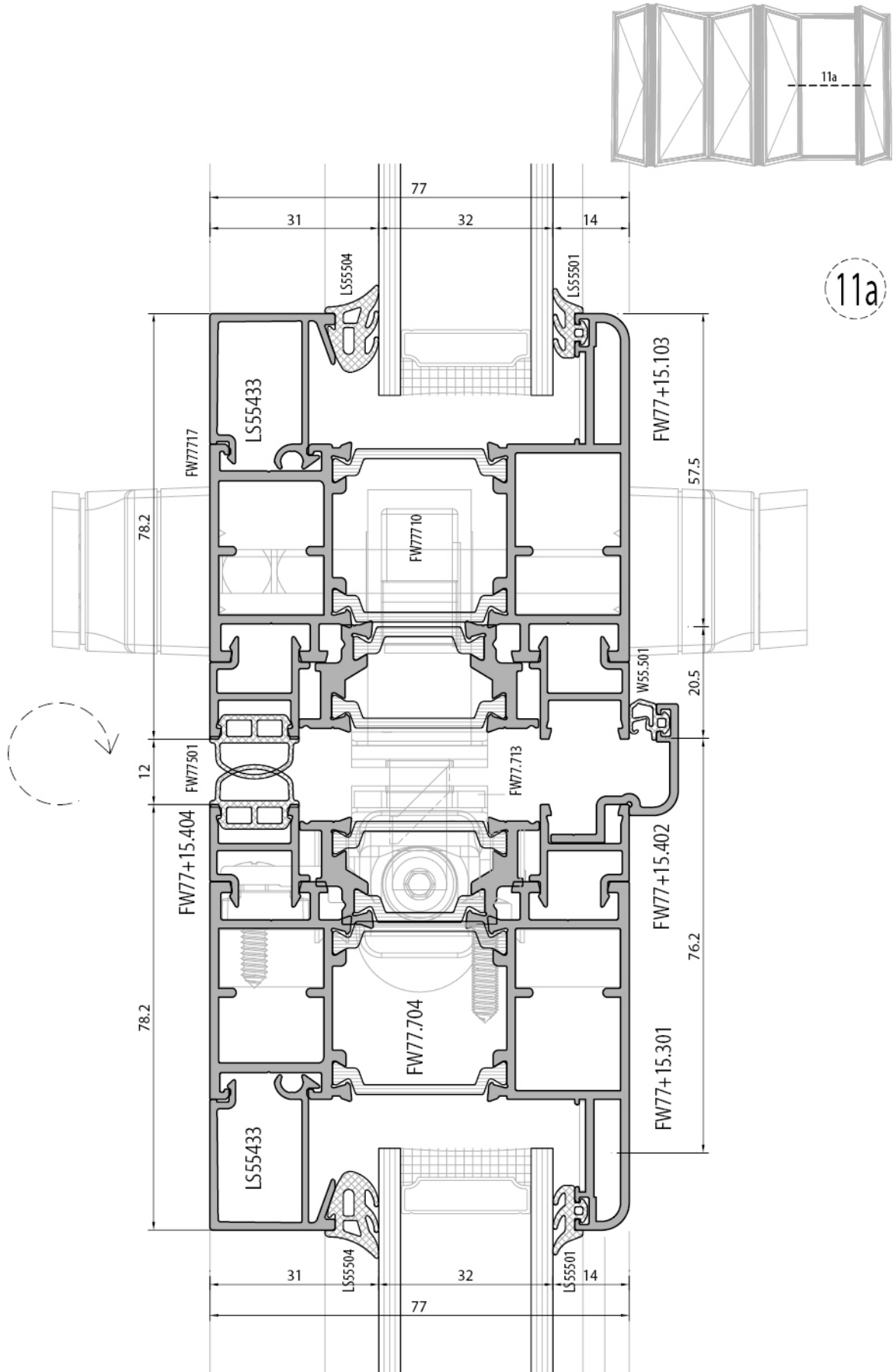




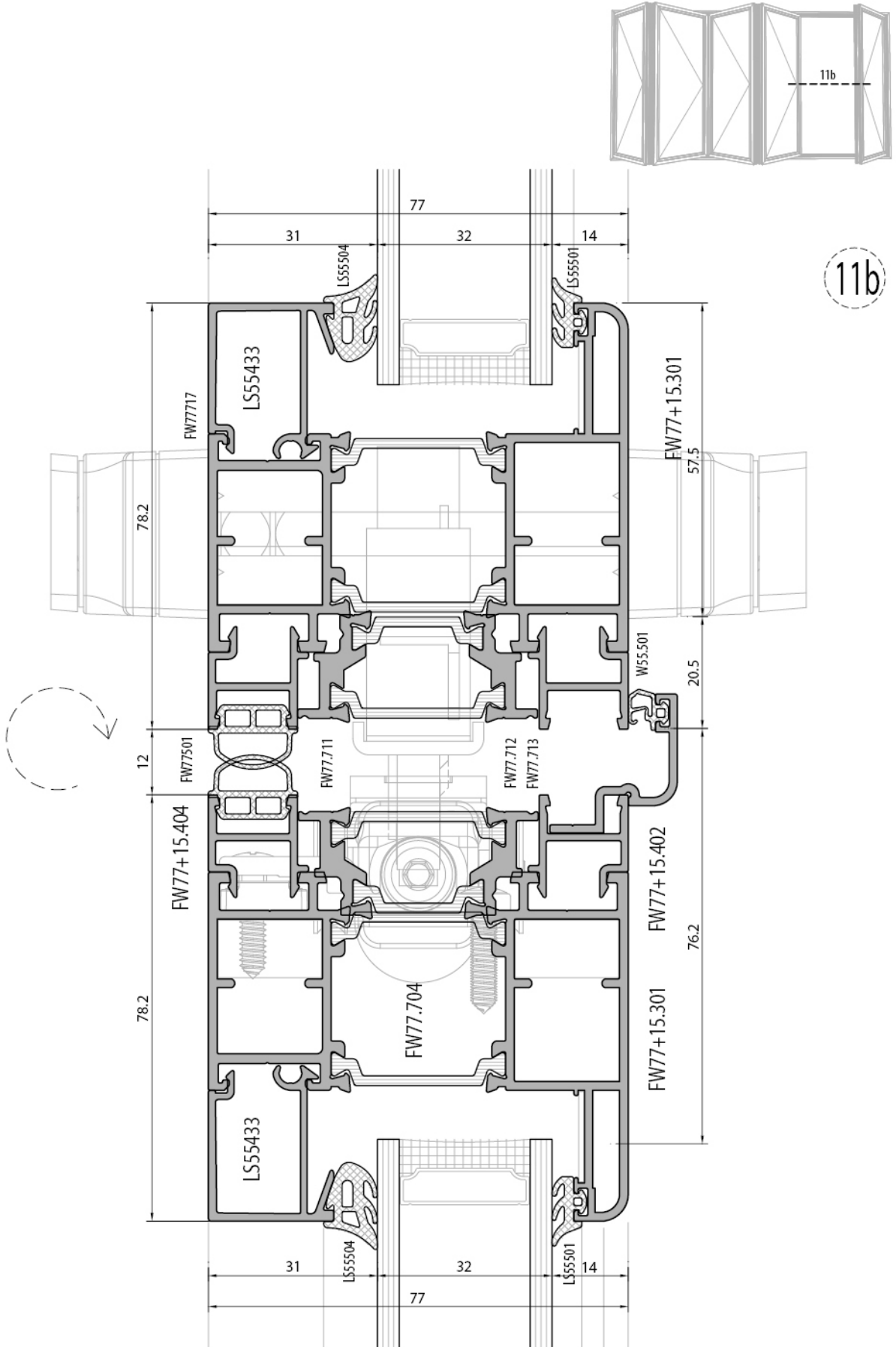


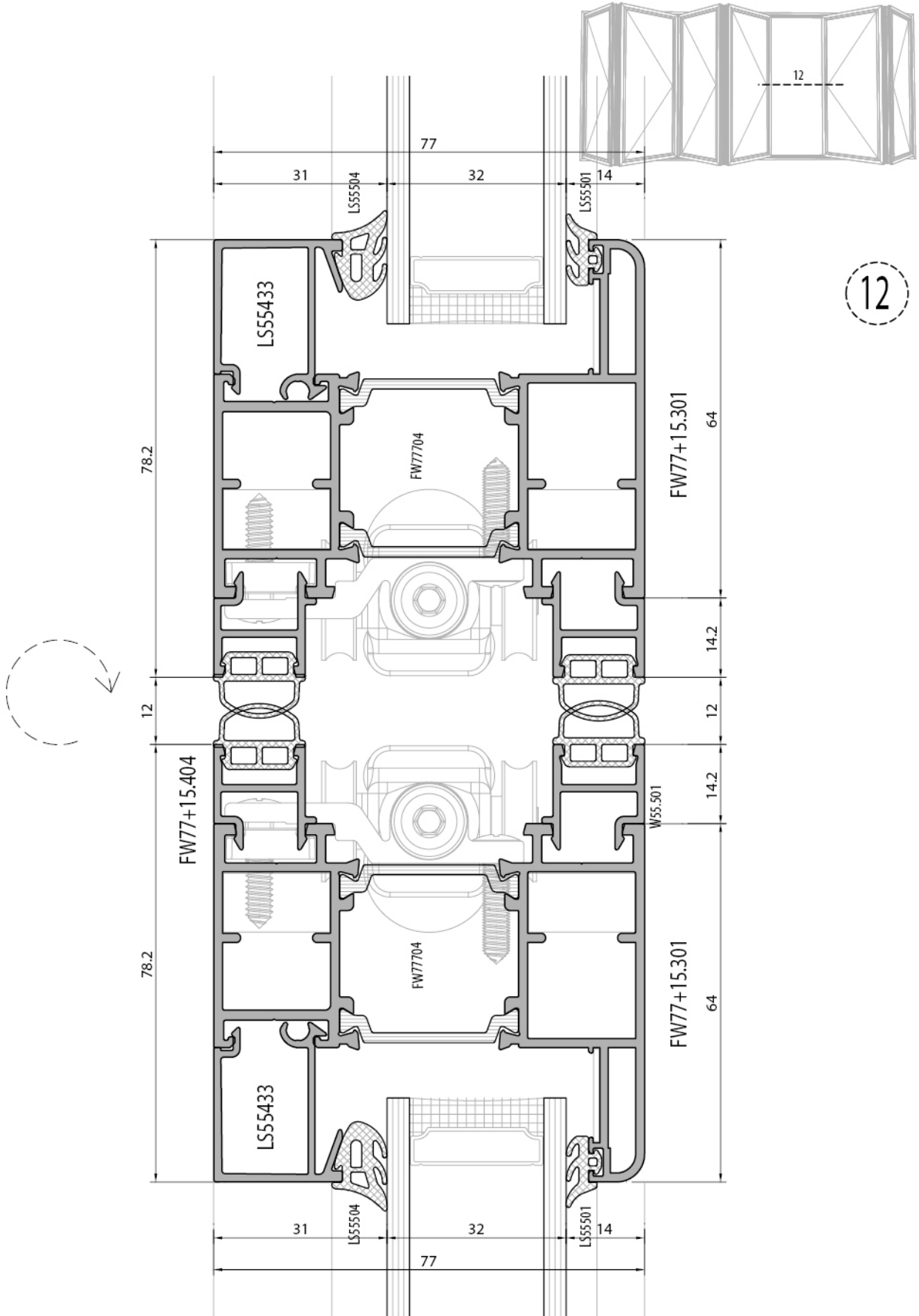
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS



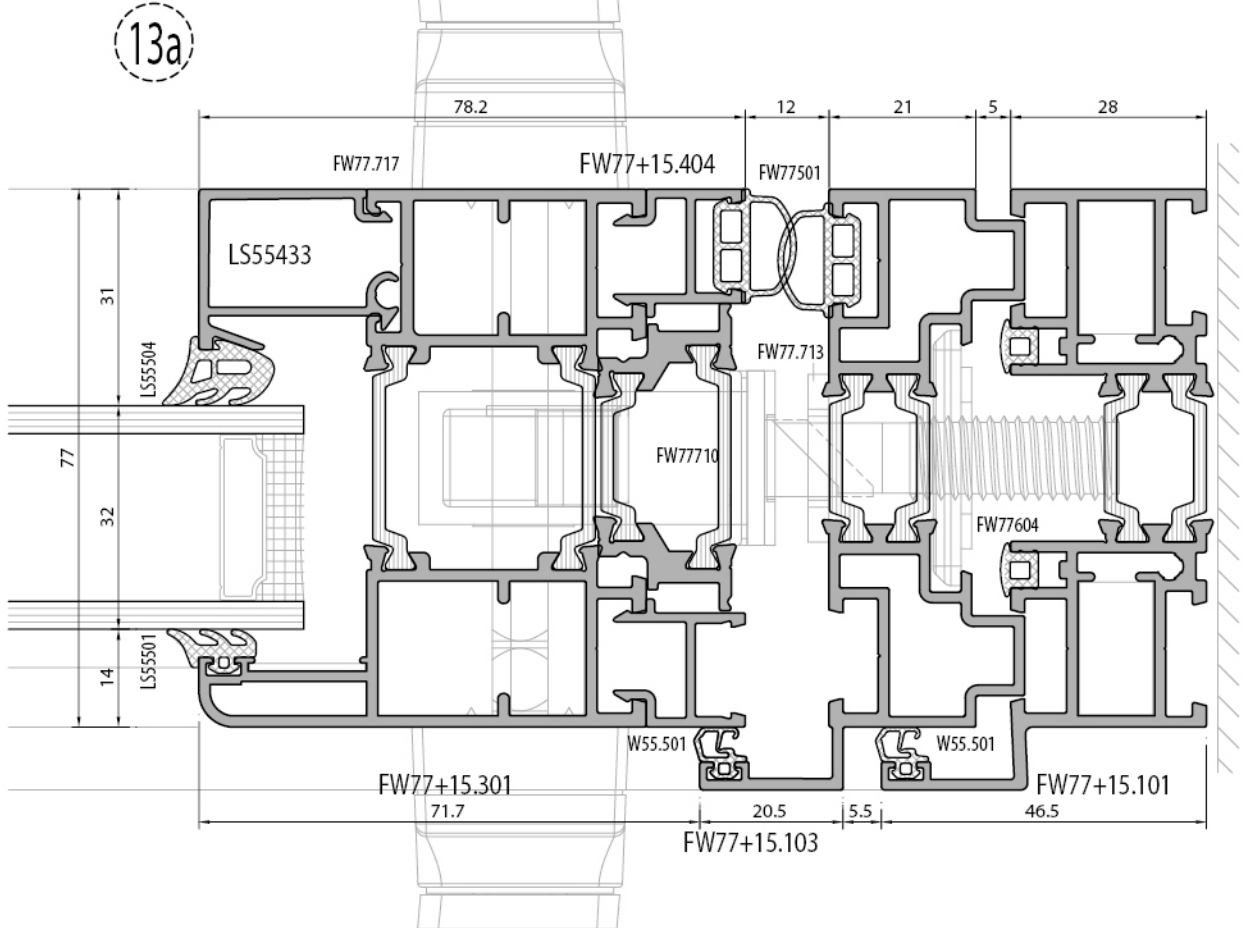
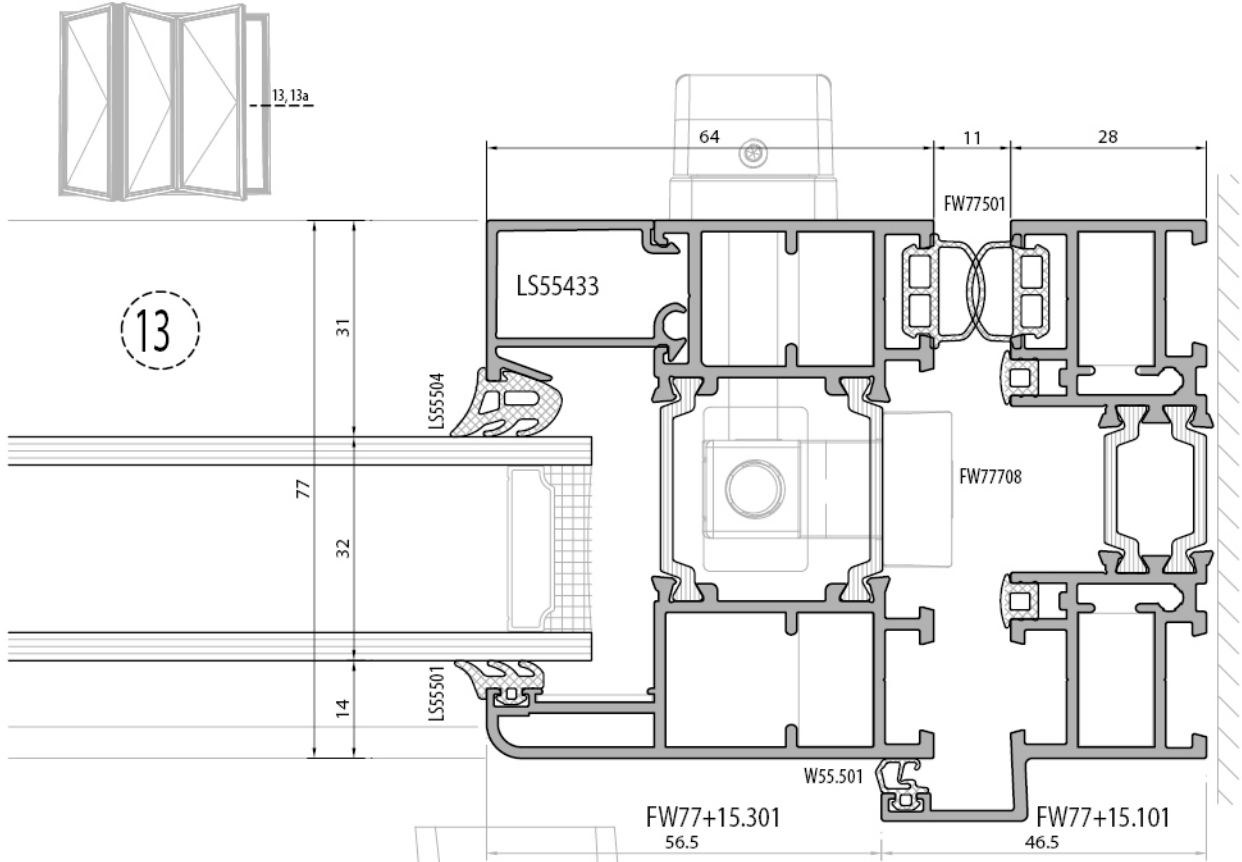


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS

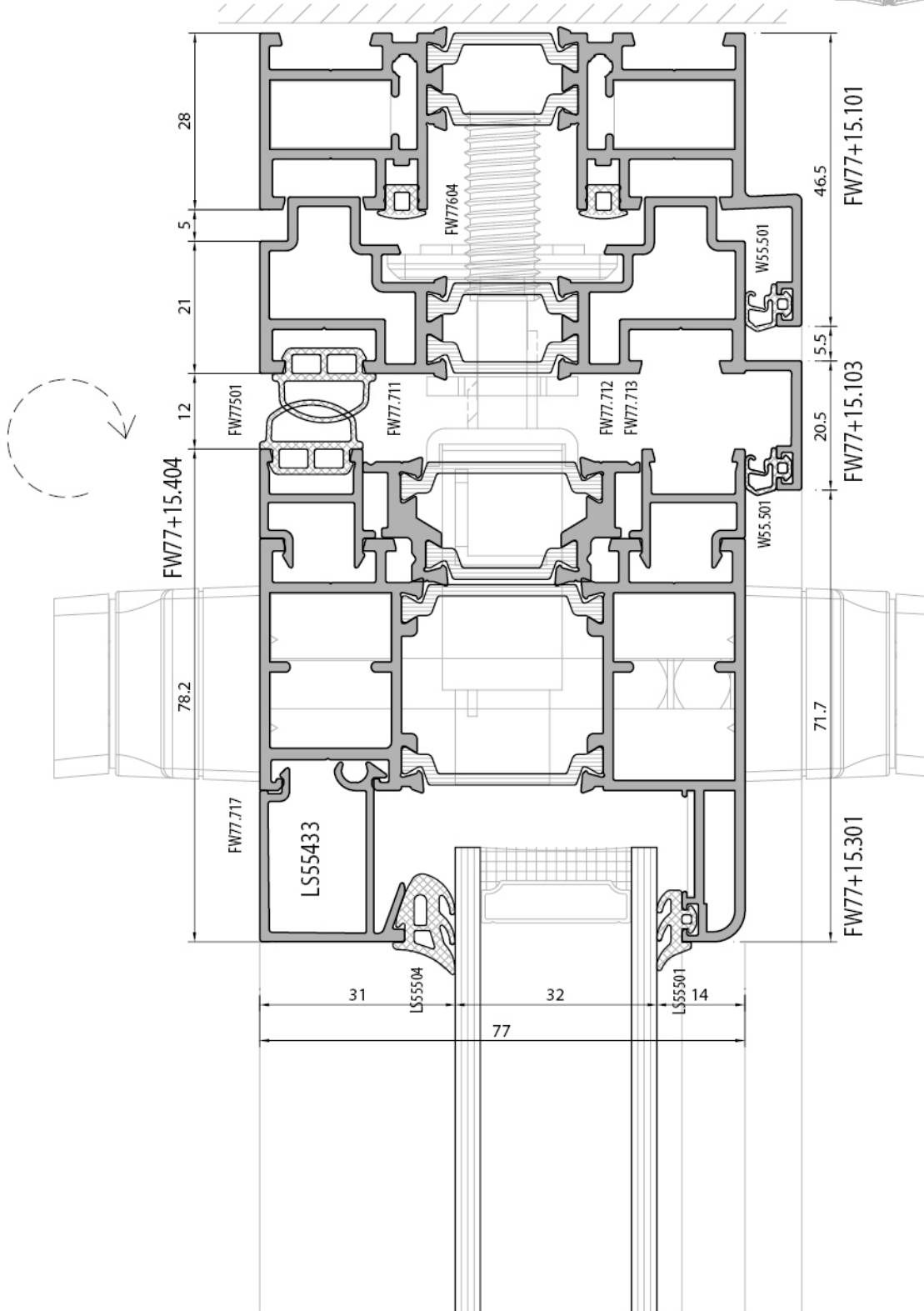
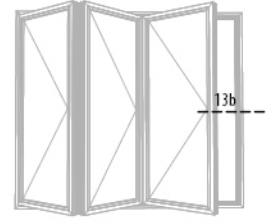




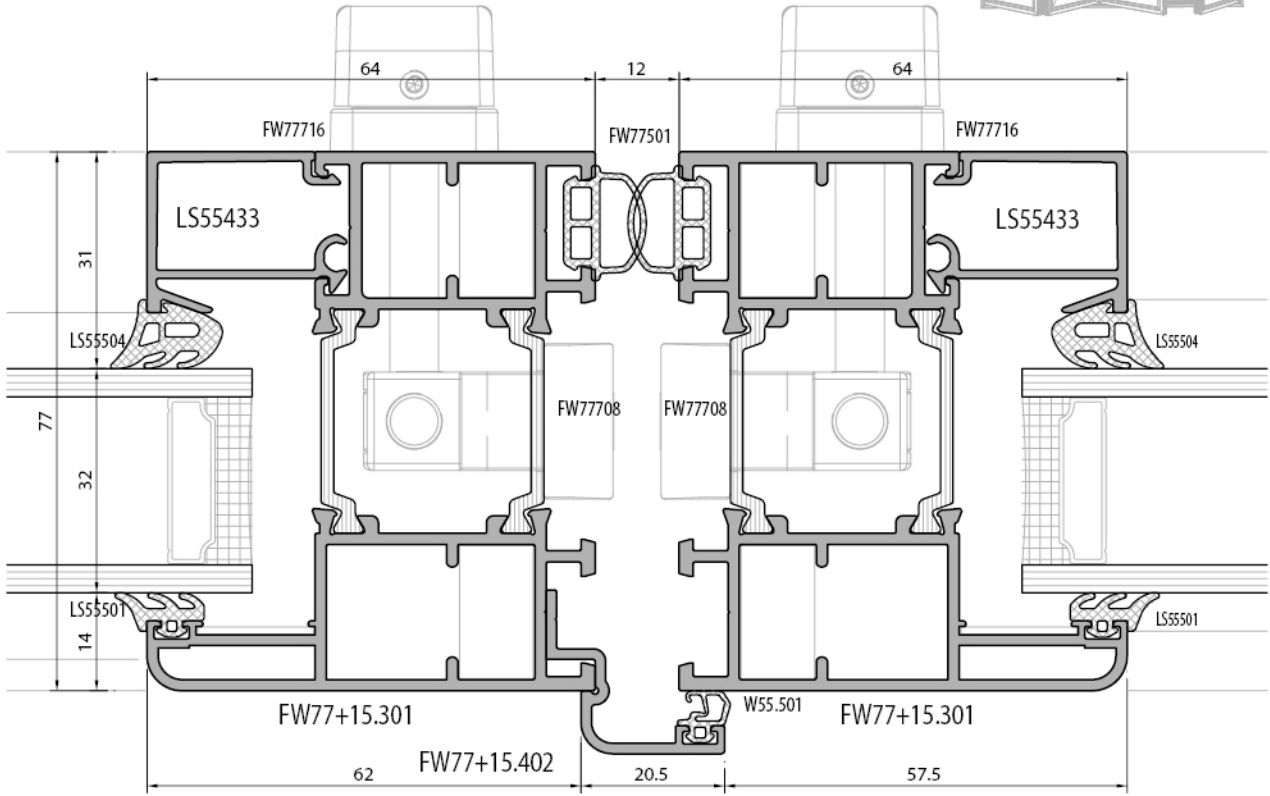
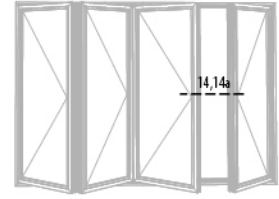
FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS



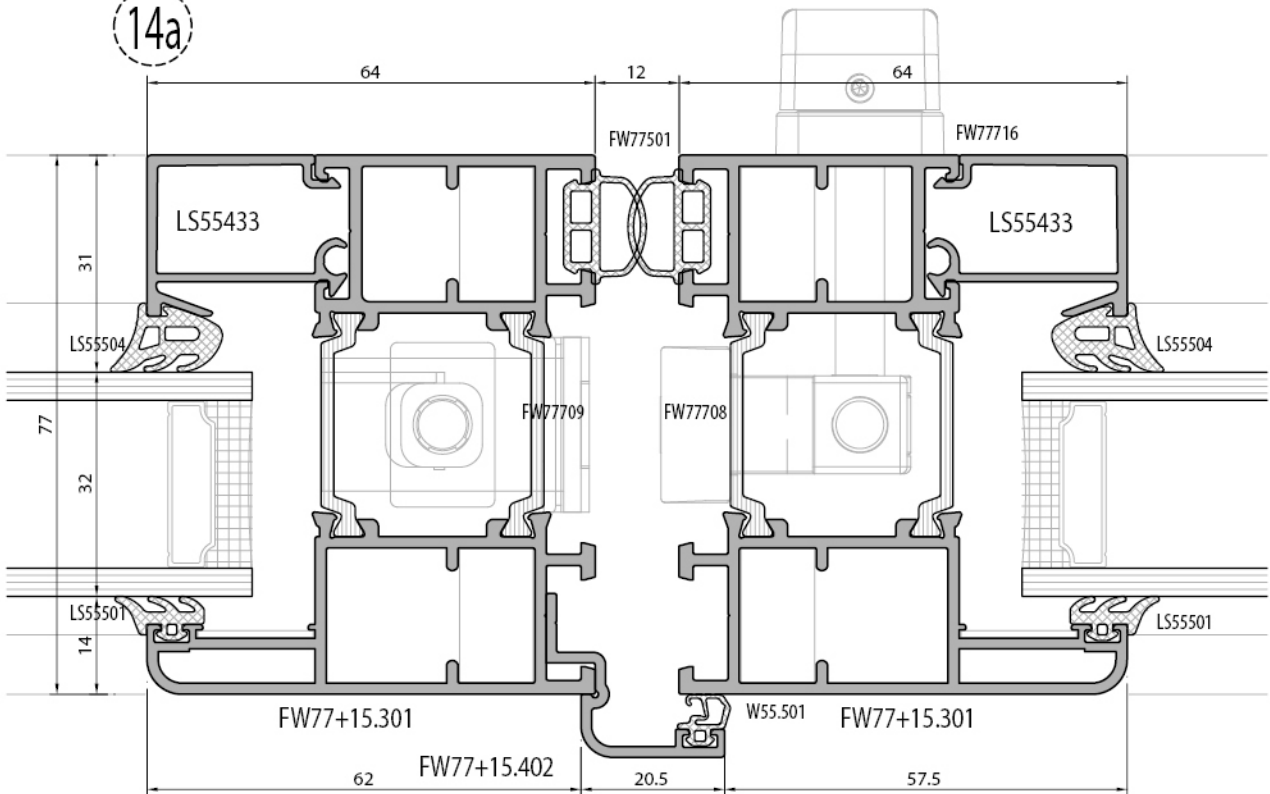
13b



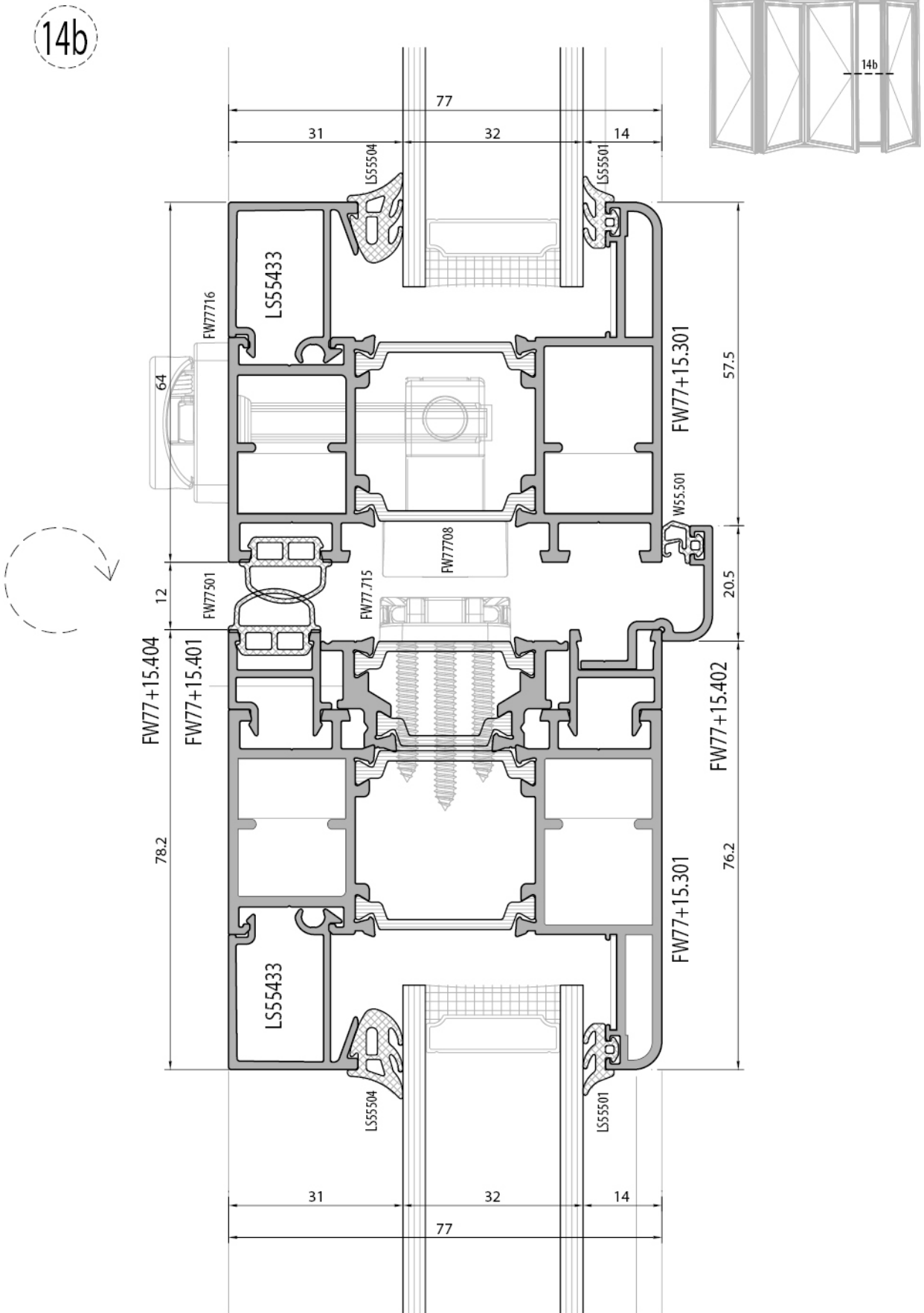
14



14a

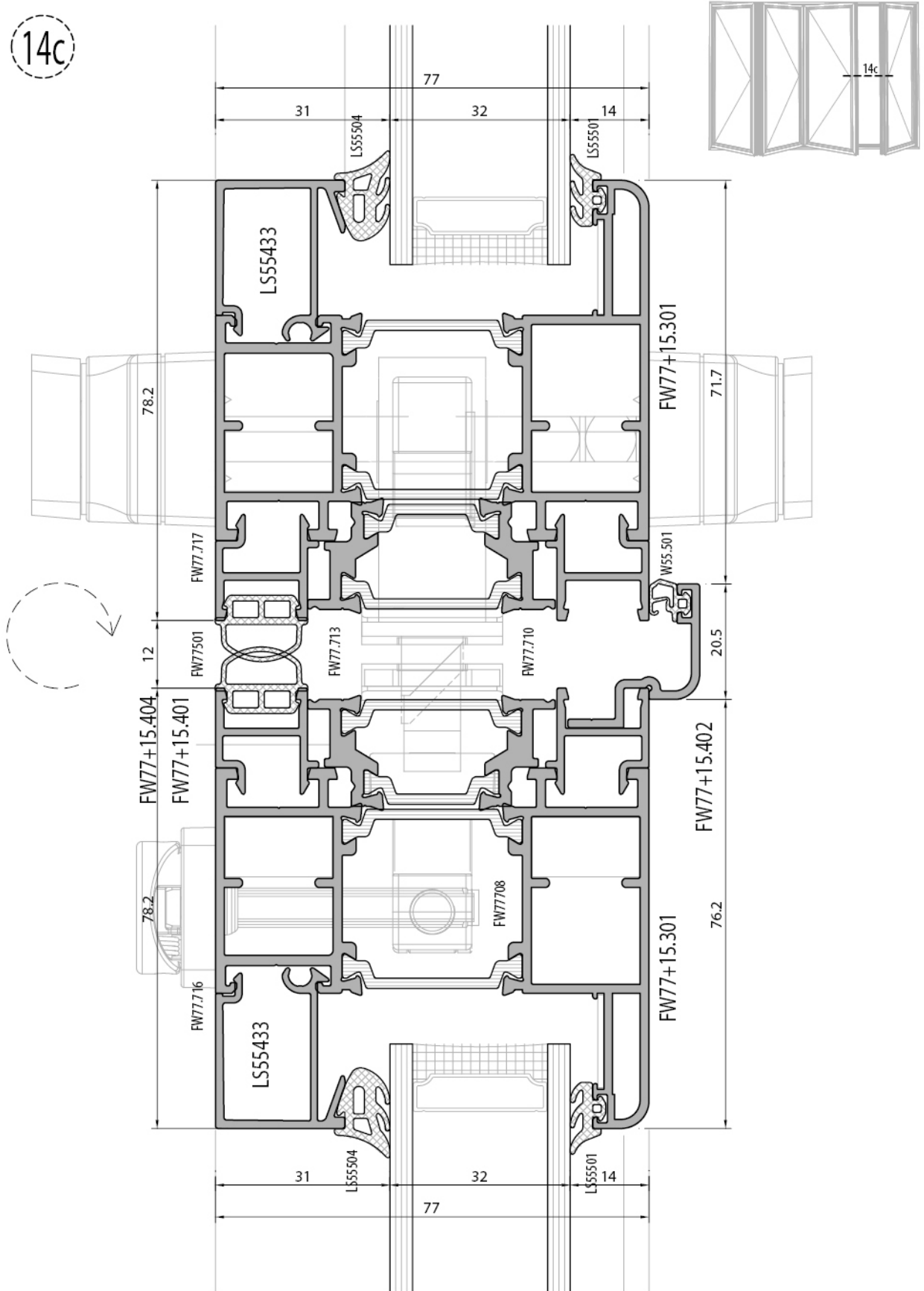


14b

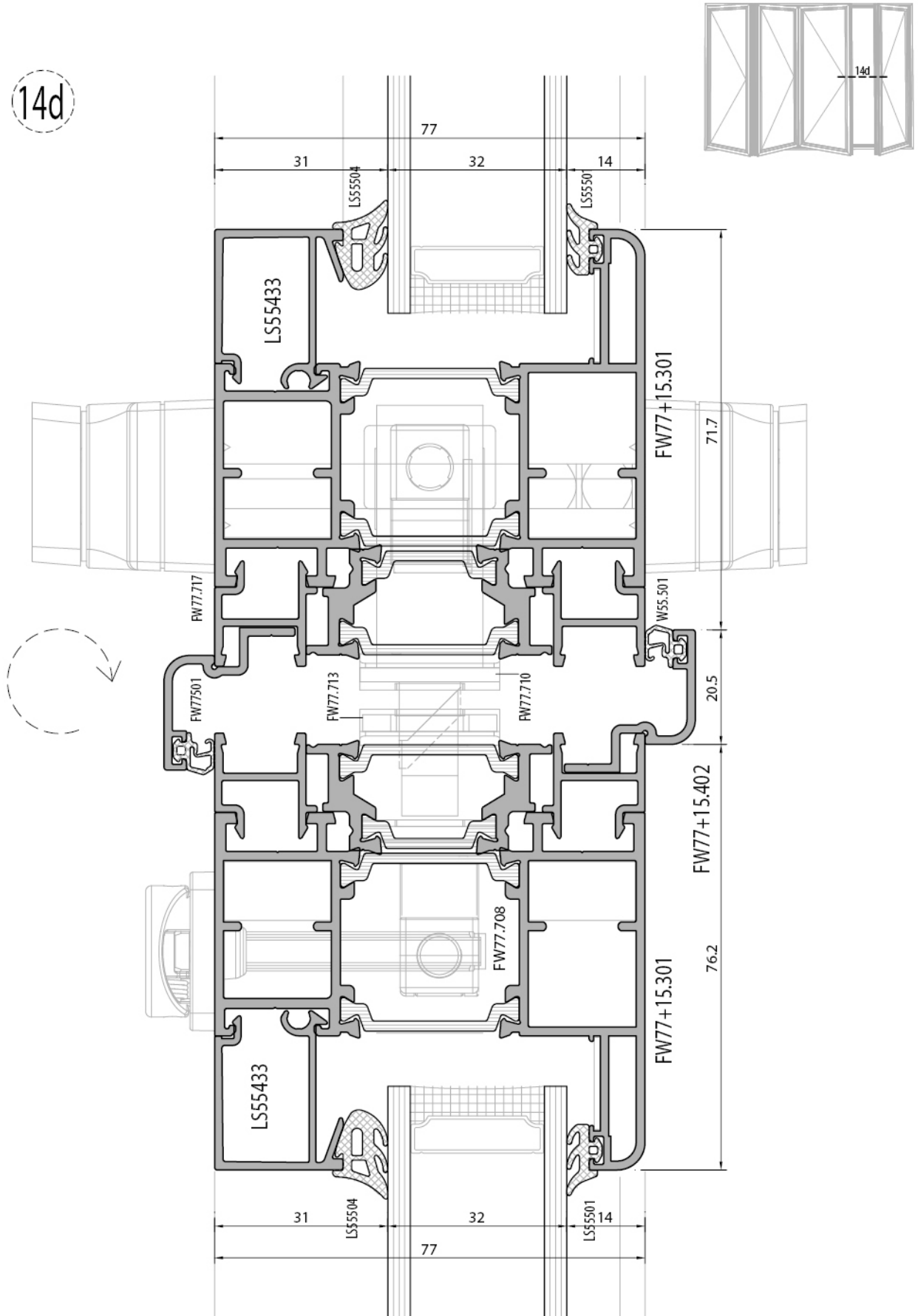


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM
SİSTEM DETAYLARI / SYSTEM DETAILS

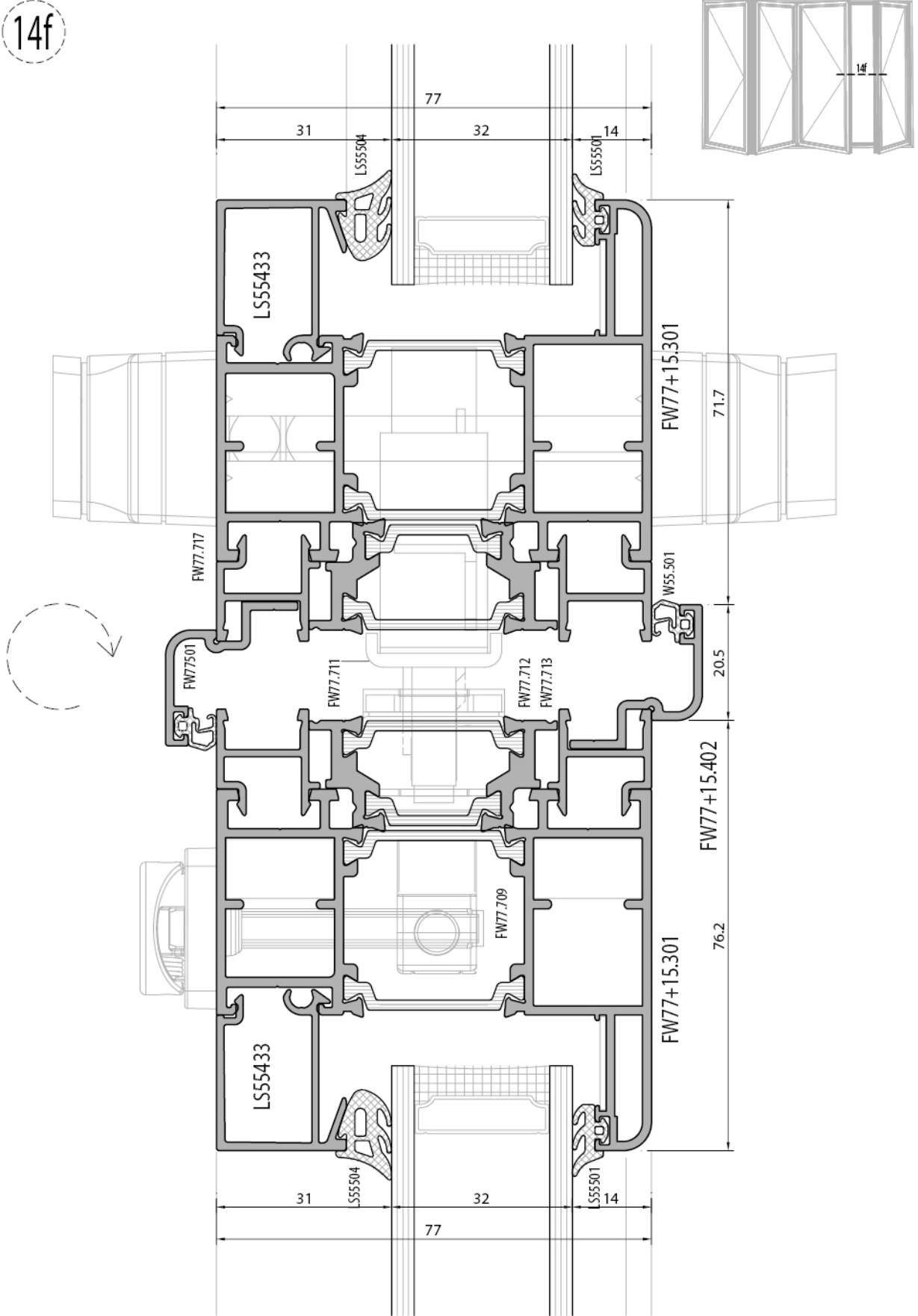
14c



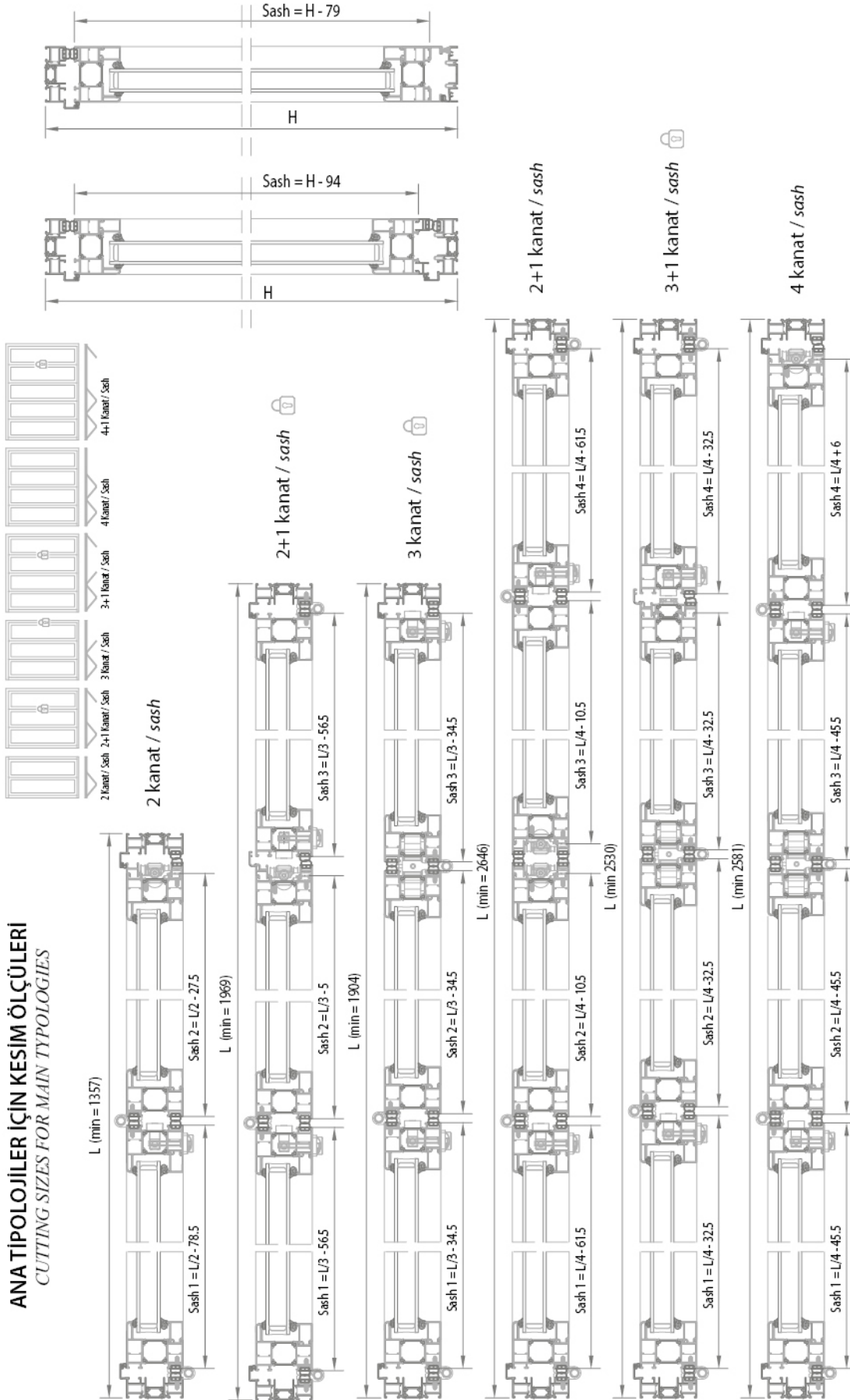
14d



14f



ANA TİPOLOJİLER İÇİN KESİM ÖLÇÜLERİ
CUTTING SIZES FOR MAIN TYPOLOGIES

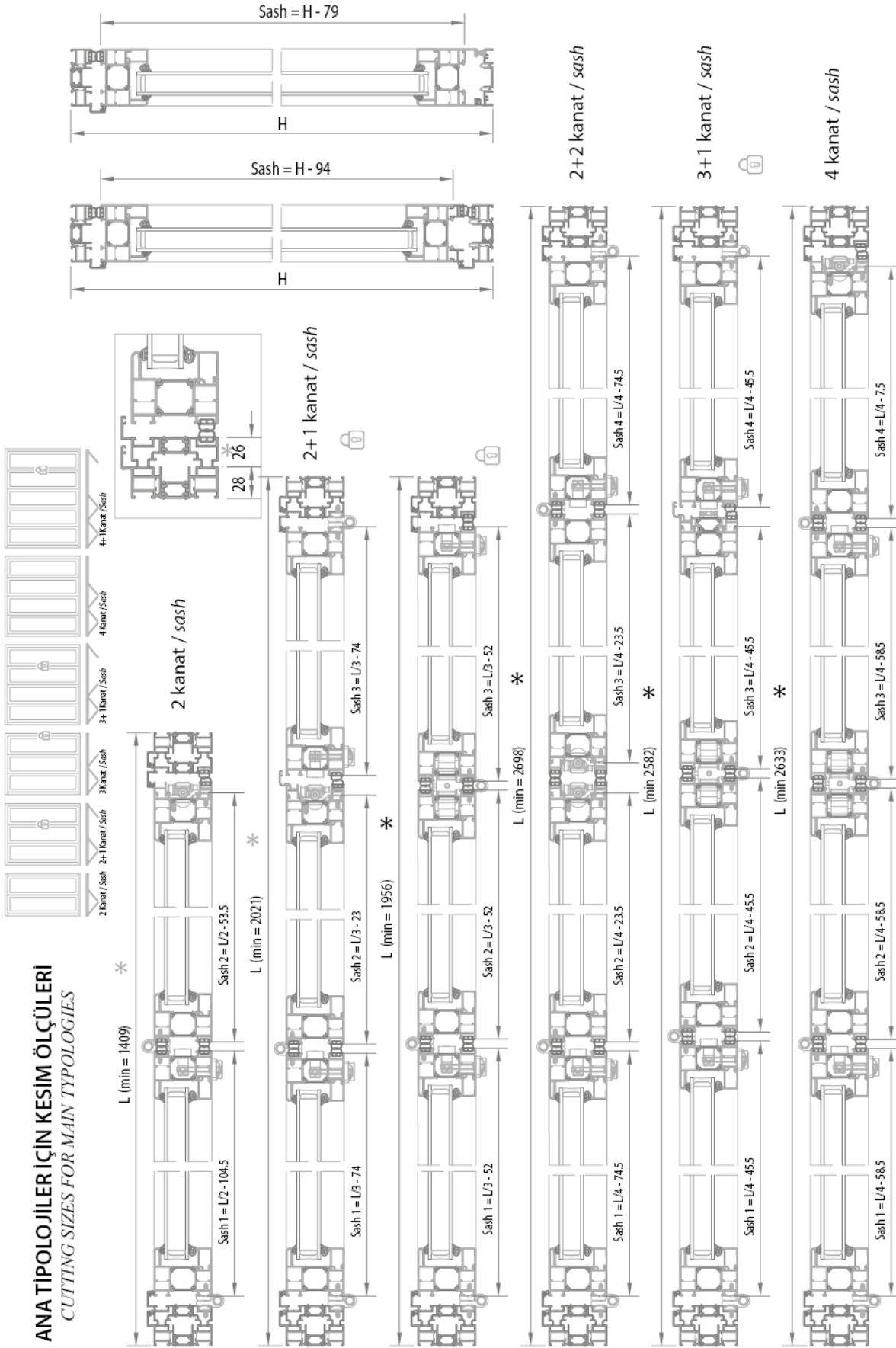


☑ Güvenlik kiliti uygulanabilir.

Minimum tek kanat genişliği = 600mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm)
Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

☑ Security lock applicable

Minimum odd sash = 600mm - Minimum even sash 651 mm (odd sash + 51 mm)
For a correct sash cutting, it is recom mended to cut the last one after mounting the other ones.

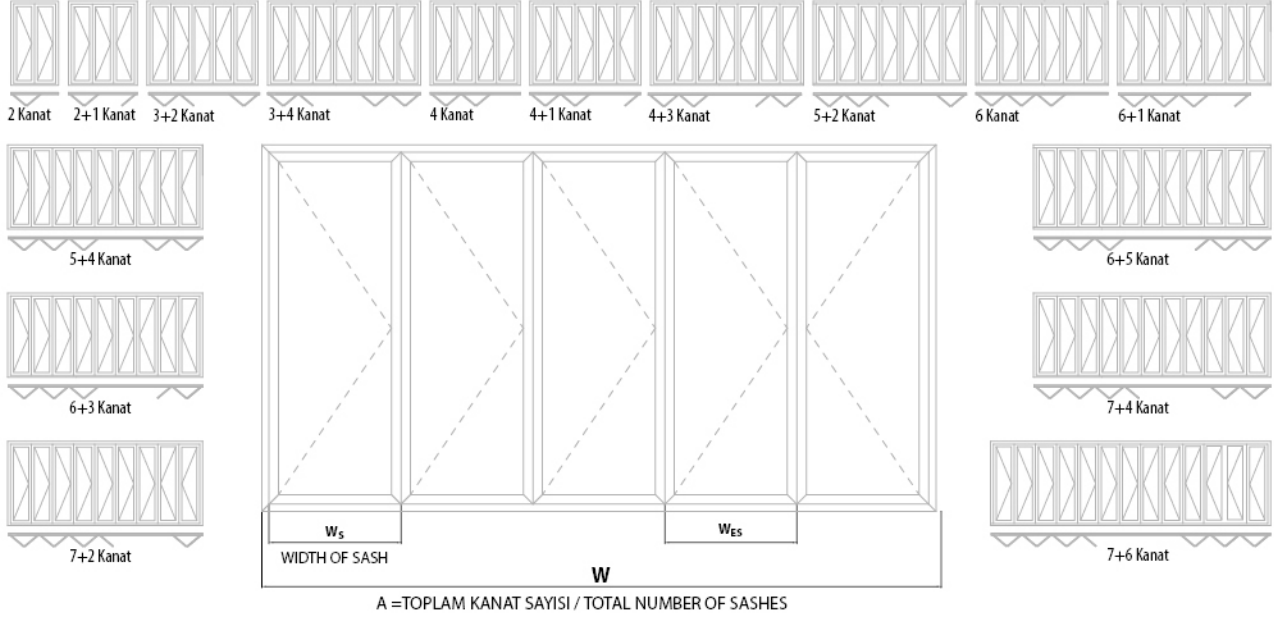


☑ Güvenlik kilidi uygulanabilir.
Minimum tek kanat genişliği = 600 mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm)
Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

☑ Security lock applicable
Minimum odd sash = 600 mm - Minimum even sash 651mm (odd sash + 51mm)
For a correct sash cutting, it is recom mended to cut the last one after mounting the other ones.

BİR TARAF ÇİFT, DİĞER TARAF TEK SAYIDAKİ KANATLAR İÇİN KANAT GENİŞLİĞİ KESİM HESABI

SASH WIDTH CUTTING CALCULATION FOR ONE SIDE EVEN, OTHER SIDE ODD NUMBER OF SASHES



W = TOPLAM GENİŞLİK / TOTAL WIDTH

W_S = KANAT GENİŞLİĞİ / WIDTH OF SASH

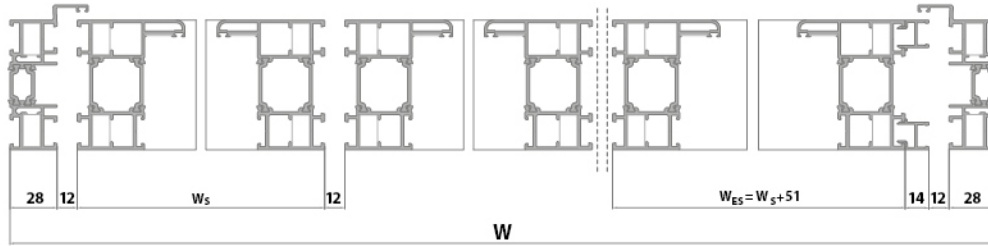
W_{ES} = ÇİFT KANAT GENİŞLİĞİ / WIDTH OF EVEN SASH

A = TOPLAM KANAT SAYISI / TOTAL NUMBER OF SASHES

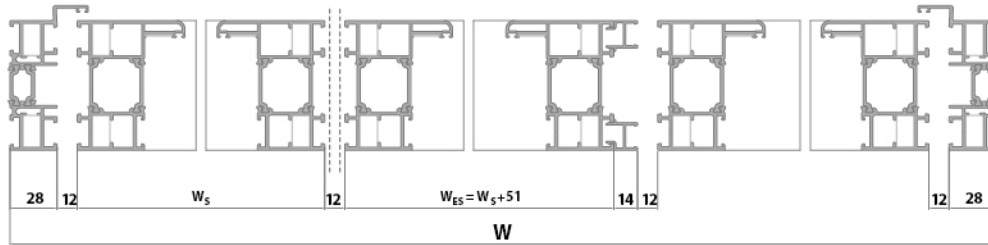
$$W_S = \frac{W - (A \times 12.0\text{mm} + 133 \text{ mm})}{A}$$

$$W_{ES} = W_S + 51 \text{ mm}$$

Detail 10



Detail 11



$$W_B = W_S - 80 \quad W_B = \text{ÇİTA GENİŞLİĞİ / WIDTH OF GLAZING BEAD}$$

$$W_{EB} = W_{ES} - 80 \quad W_{EB} = \text{ÇİFT KANAT ÇİTA GENİŞLİĞİ / WIDTH OF GLAZING BEAD EVEN SASH}$$

$$H_B = H_S - 128 \quad H_B = \text{ÇİTA YÜKSEKLİĞİ / HEIGHT OF GLAZING BEAD}$$

$$W_G = W_S - 98 \quad W_G = \text{CAM GENİŞLİĞİ / WIDTH OF GLAZING}$$

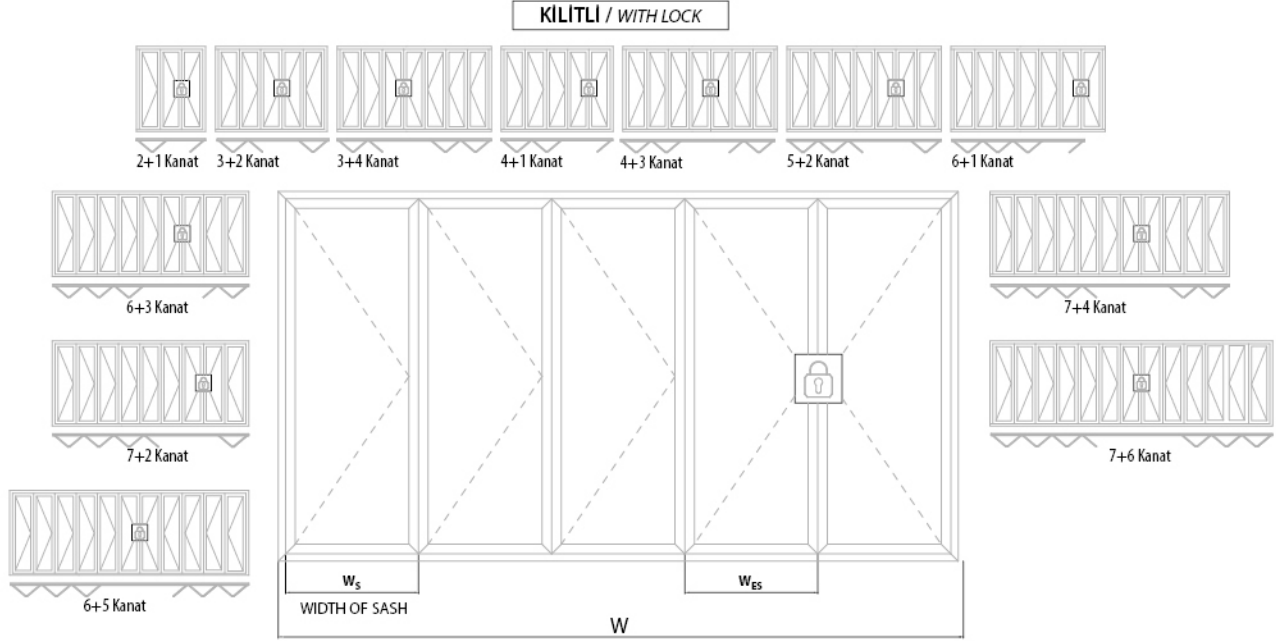
$$W_{EG} = W_{ES} - 98 \quad W_{EG} = \text{ÇİFT KANAT CAM GENİŞLİĞİ / WIDTH OF GLAZING EVEN SASH}$$

$$H_G = H_S - 98 \quad H_G = \text{CAM YÜKSEKLİĞİ / HEIGHT OF GLAZING}$$

* Minimum tek kanat genişliği = 600mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm) Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

Minimum odd sash = 600mm - Minimum even sash 651mm (odd sash + 51mm) For a correct sash cutting, it is recom mended to cut the last one after mounting the other ones.

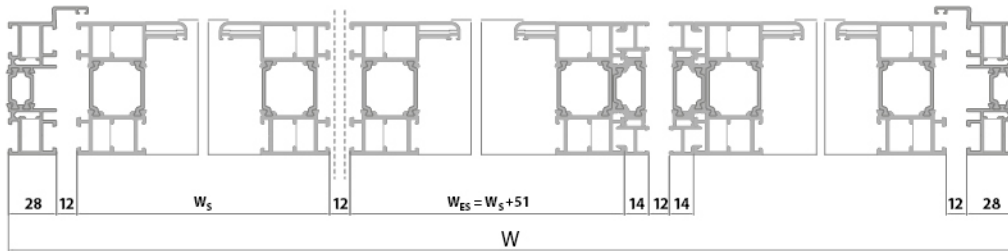
BİR TARAF ÇİFT, DİĞER TARAF TEK SAYIDAKİ KANATLAR İÇİN KANAT GENİŞLİĞİ KESİM HESABI
SASH WIDTH CUTTING CALCULATION FOR ONE SIDE EVEN, OTHER SIDE ODD NUMBER OF SASHES



A = TOPLAM KANAT SAYISI / TOTAL NUMBER OF SASHES

W = TOPLAM GENİŞLİK / TOTAL WIDTH	$W_s = \frac{W - (A \times 12.0\text{mm} + 147 \text{ mm})}{A}$
W_s = KANAT GENİŞLİĞİ / WIDTH OF SASH	
W_{Es} = ÇİFT KANAT GENİŞLİĞİ / WIDTH OF EVEN SASH	$W_{Es} = W_s + 51 \text{ mm}$
A = TOPLAM KANAT SAYISI / TOTAL NUMBER OF SASHES	

Detail (11a) (11b)



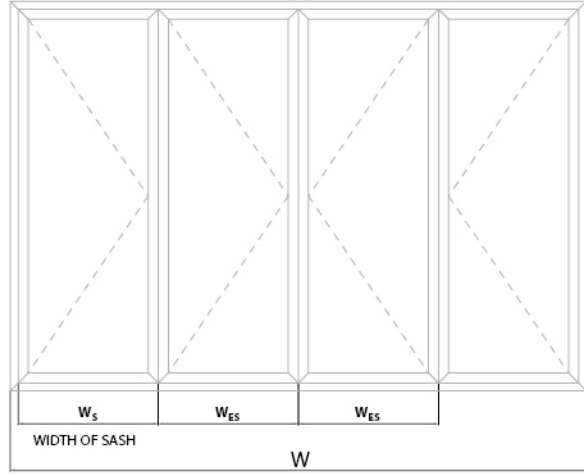
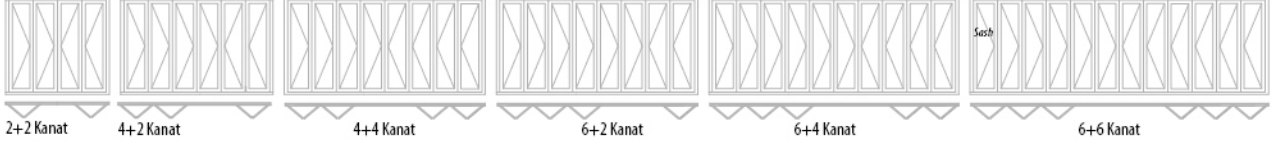
$W_B = W_s - 80$	W_B = ÇİTA GENİŞLİĞİ / WIDTH OF GLAZING BEAD
$W_{EB} = W_{Es} - 80$	W_{EB} = ÇİFT KANAT ÇİTA GENİŞLİĞİ / WIDTH OF GLAZING BEAD EVEN SASH
$H_B = H_s - 128$	H_B = ÇİTA YÜKSEKLİĞİ / HEIGHT OF GLAZING BEAD
$W_G = W_s - 98$	W_G = CAM GENİŞLİĞİ / WIDTH OF GLAZING
$W_{EG} = W_{Es} - 98$	W_{EG} = ÇİFT KANAT CAM GENİŞLİĞİ / WIDTH OF GLAZING EVEN SASH
$H_G = H_s - 98$	H_G = CAM YÜKSEKLİĞİ / HEIGHT OF GLAZING

* Güvenlik kilidi uygulanabilir.
Minimum tek kanat genişliği = 600mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm)
Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

Security lock applicable.
Minimum odd sash = 600mm - Minimum even sash 651mm (odd sash + 51mm)
For a correct sash cutting, it is recommended to cut the last one after mounting the other ones.

İKİSİ DE ÇİFT SAYIDAKİ KANAT İÇİN KANAT GENİŞLİĞİ KESİM HESABI

SASH WIDTH CUTTING CALCULATION FOR BOTH SIDE EVEN



W = TOPLAM GENİŞLİK / TOTAL WIDTH

W_S = KANAT GENİŞLİĞİ / WIDTH OF SASH

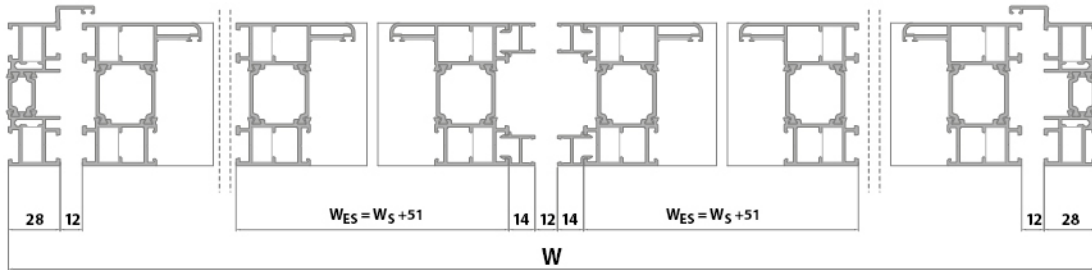
W_{ES} = ÇİFT KANAT GENİŞLİĞİ / WIDTH OF EVEN SASH

A = TOPLAM KANAT SAYISI / TOTAL NUMBER OF SASHES

$$W_S = \frac{W - (A \times 12.0\text{mm} + 198 \text{ mm})}{A}$$

$$W_{ES} = W_S + 51 \text{ mm}$$

Detail 12



$$W_B = W_S - 80 \quad W_B = \text{ÇİTA GENİŞLİĞİ / WIDTH OF GLAZING BEAD}$$

$$W_{EB} = W_{ES} - 80 \quad W_{EB} = \text{ÇİFT KANAT ÇİTA GENİŞLİĞİ / WIDTH OF GLAZING BEAD EVEN SASH}$$

$$H_B = H_S - 128 \quad H_B = \text{ÇİTA YÜKSEKLİĞİ / HEIGHT OF GLAZING BEAD}$$

$$W_G = W_S - 98 \quad W_G = \text{CAM GENİŞLİĞİ / WIDTH OF GLAZING}$$

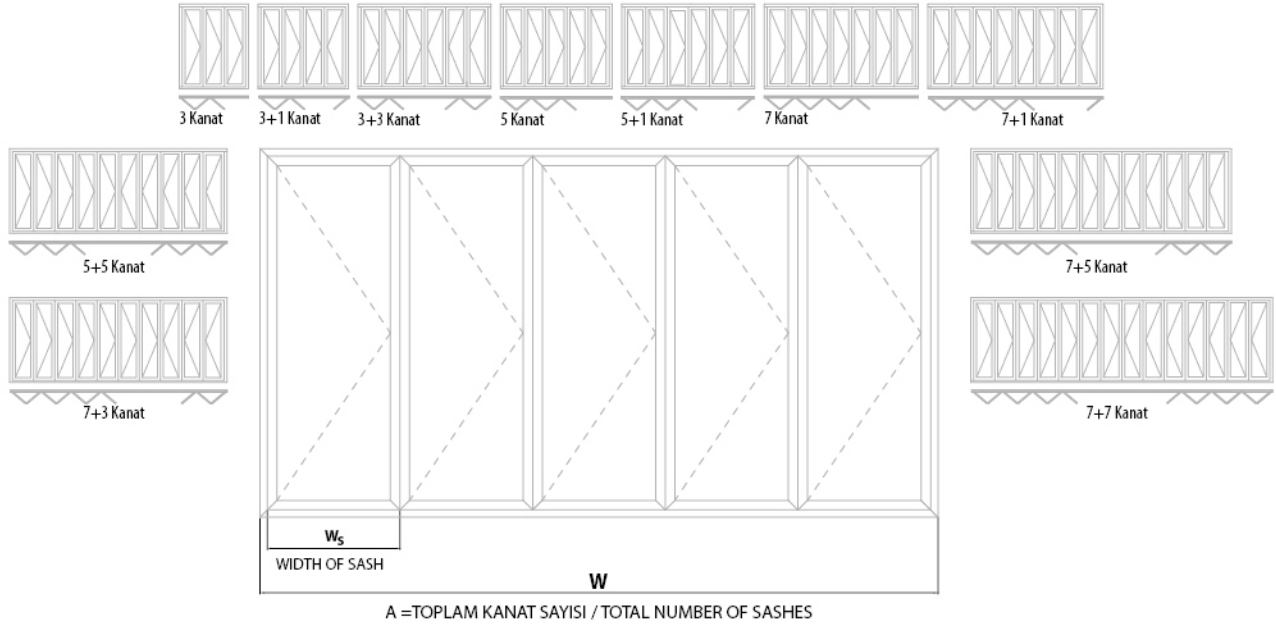
$$W_{EG} = W_{ES} - 98 \quad W_{EG} = \text{ÇİFT KANAT CAM GENİŞLİĞİ / WIDTH OF GLAZING EVEN SASH}$$

$$H_G = H_S - 98 \quad H_G = \text{CAM YÜKSEKLİĞİ / HEIGHT OF GLAZING}$$

* Minimum tek kanat genişliği = 600 mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm) Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

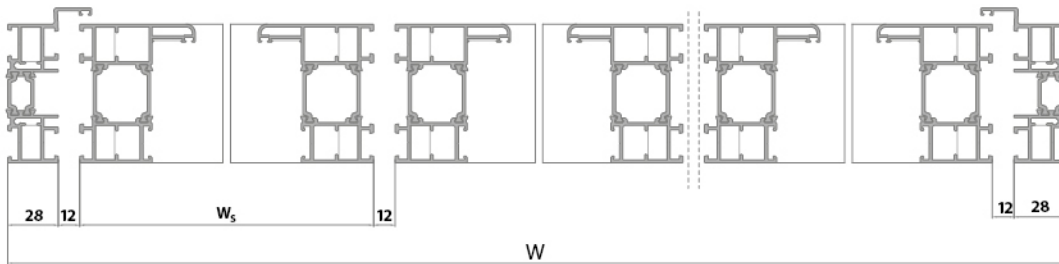
Minimum odd sash = 600mm - Minimum even sash 651 mm (odd sash + 51 mm) For a correct sash cutting, it is recommended to cut the last one after mounting the other ones.

TEK KANAT SAYISI İÇİN KANAT GENİŞLİĞİ KESİM HESABI
SASH WIDTH CUTTING CALCULATION FOR ODD NUMBER OF SASHES



<p>W = TOPLAM GENİŞLİK / TOTAL WIDTH</p> <p>W_s = KANAT GENİŞLİĞİ / WIDTH OF SASH</p> <p>A = TOPLAM KANAT SAYISI / TOTAL NUMBER OF SASHES</p>	$W_s = \frac{W - \{ (A + 1) (12.0\text{mm} + 56 \text{ mm}) \}}{A}$
--	---

Detail 13 14 14a

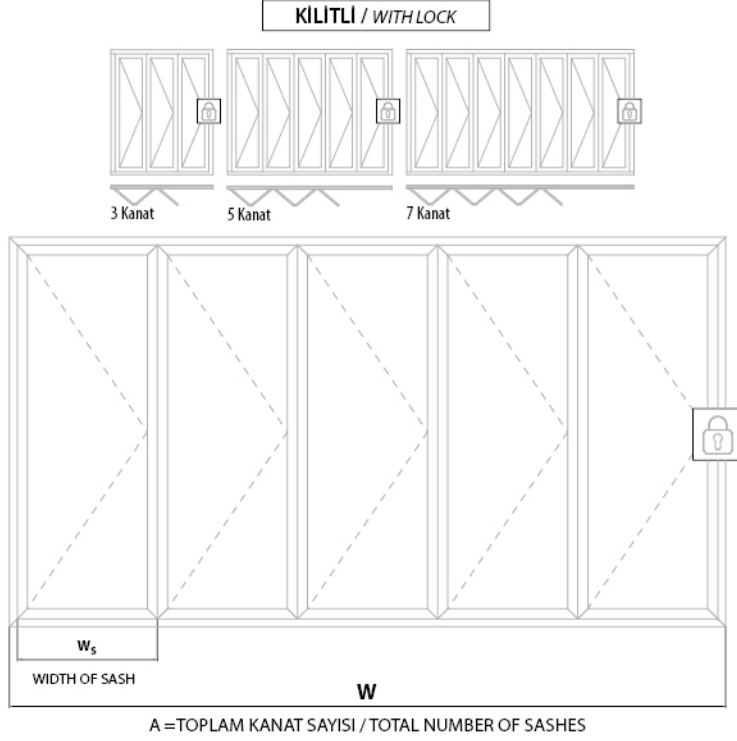


W_B = W_s - 80	w_B = ÇITA GENİŞLİĞİ / WIDTH OF GLAZING BEAD
H_B = H_s - 128	H_B = ÇITA YÜKSEKLİĞİ / HEIGHT OF GLAZING BEAD
W_G = W_s - 98	w_G = CAM GENİŞLİĞİ / WIDTH OF GLAZING
H_G = H_s - 98	H_G = CAM YÜKSEKLİĞİ / HEIGHT OF GLAZING

* Minimum tek kanat genişliği = 600mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm)
Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

*Minimum odd sash = 600mm - Minimum even sash 651mm (odd sash + 51mm)
For a correct sash cutting, it is recommended to cut the last one after mounting the other ones.*

TEK KANAT SAYISI İÇİN KANAT GENİŞLİĞİ KESİM HESABI
SASH WIDTH CUTTING CALCULATION FOR ODD NUMBER OF SASHES



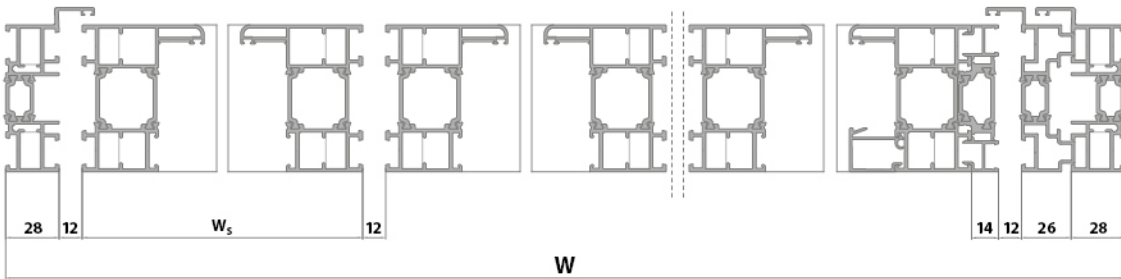
W = TOPLAM GENİŞLİK / TOTAL WIDTH

W_s = KANAT GENİŞLİĞİ / WIDTH OF SASH

A = TOPLAM KANAT SAYISI / TOTAL NUMBER OF SASHES

$$W_s = \frac{W - \{ (A + 1) (12.0\text{mm} + 96 \text{ mm}) \}}{A}$$

Detail (13a) (13b)



$$W_B = W_s - 80 \quad W_B = \text{ÇITA GENİŞLİĞİ} / \text{WIDTH OF GLAZING BEAD}$$

$$H_B = H_s - 128 \quad H_B = \text{ÇITA YÜKSEKLİĞİ} / \text{HEIGHT OF GLAZING BEAD}$$

$$W_G = W_s - 98 \quad W_G = \text{CAM GENİŞLİĞİ} / \text{WIDTH OF GLAZING}$$

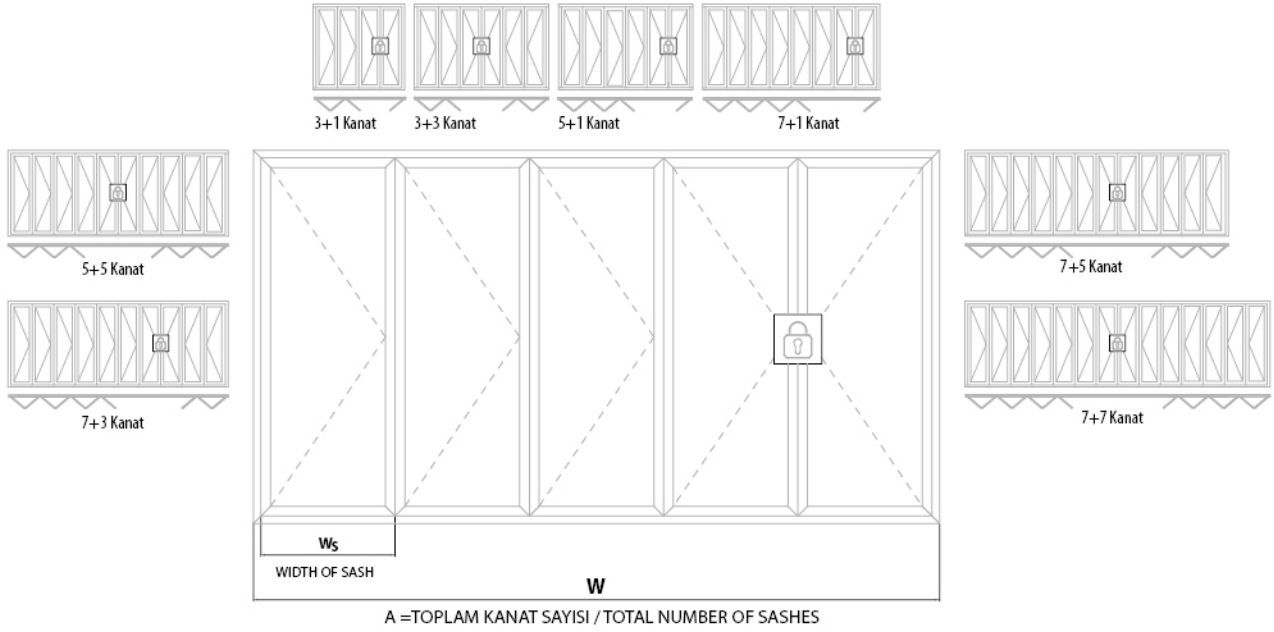
$$H_G = H_s - 98 \quad H_G = \text{CAM YÜKSEKLİĞİ} / \text{HEIGHT OF GLAZING}$$

* Güvenlik kilidi uygulanabilir.
Minimum tek kanat genişliği = 600mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm)
Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

Security lock applicable.
Minimum odd sash = 600mm - Minimum even sash 651mm (odd sash + 51mm)
For a correct sash cutting, it is recommended to cut the last one after mounting the other ones.

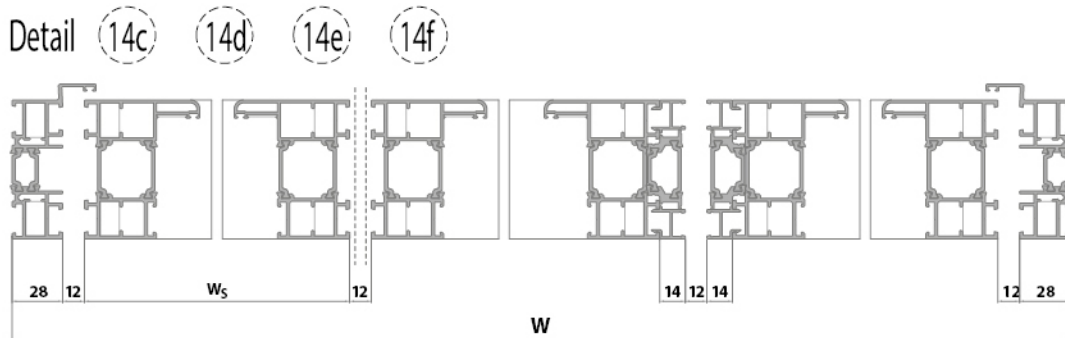
TEK KANAT SAYISI İÇİN KANAT GENİŞLİĞİ KESİM HESABI
SASH WIDTH CUTTING CALCULATION FOR ODD NUMBER OF SASHES

KİLİTLİ / WITH LOCK



W = TOPLAM GENİŞLİK / TOTAL WIDTH
W_s = KANAT GENİŞLİĞİ / WIDTH OF SASH
A = TOPLAM KANAT SAYISI / TOTAL NUMBER OF SASHES

$$W_s = \frac{W - \{ (A + 1) (12.0\text{mm} + 84 \text{ mm}) \}}{A}$$



W_B = W_s - 80 W_B = ÇITA GENİŞLİĞİ / WIDTH OF GLAZING BEAD
H_B = H_s - 128 H_B = ÇITA YÜKSEKLİĞİ / HEIGHT OF GLAZING BEAD
W_G = W_s - 98 W_G = CAM GENİŞLİĞİ / WIDTH OF GLAZING
H_G = H_s - 98 H_G = CAM YÜKSEKLİĞİ / HEIGHT OF GLAZING

* Güvenlik kilidi uygulanabilir.
Minimum tek kanat genişliği = 600mm - Minimum çift kanat genişliği 651 mm (tek kanat + 51 mm)
Doğru bir kanat kesimi için, diğerlerinin montajından sonra sonuncusunun kesilmesi tavsiye edilir.

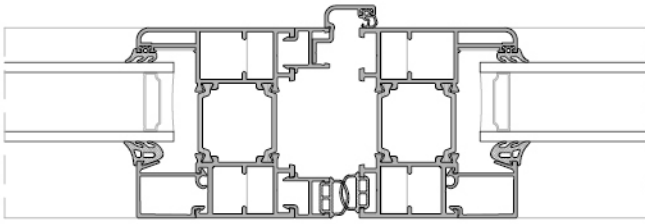
Security lock applicable.
Minimum odd sash = 600mm - Minimum even sash 651 mm (odd sash + 51 mm)
For a correct sash cutting, it is recommended to cut the last one after mounting the other ones.

FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS

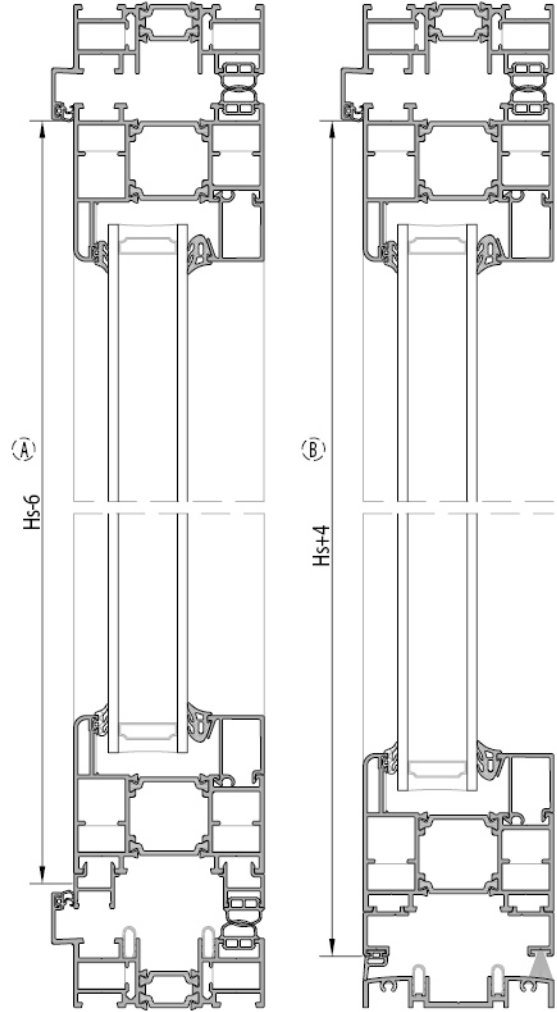


FW77+15.402

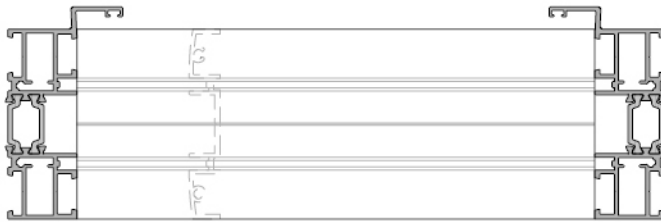


(A) Hs-6

(B) Hs+4

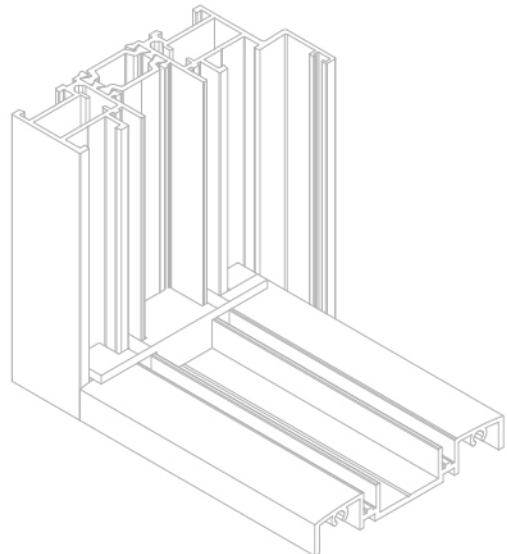


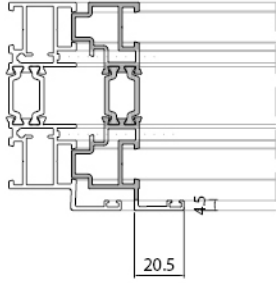
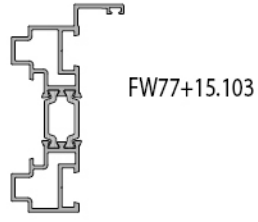
FW77+15.102



FW77+15.102=Ls-56

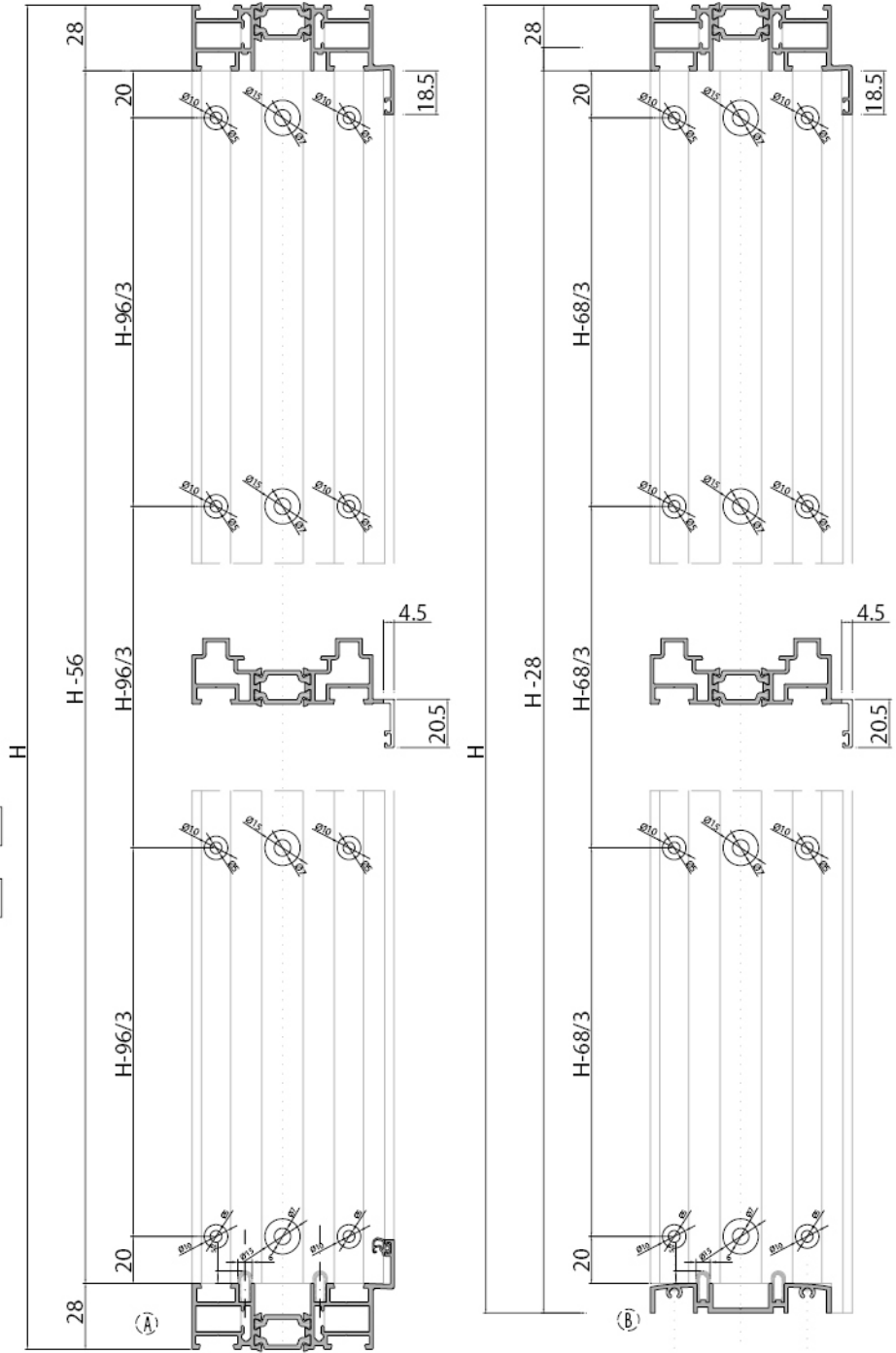
Ls = Kanat genişliği /sash width
Hs = Kanat yüksekliği /sash height



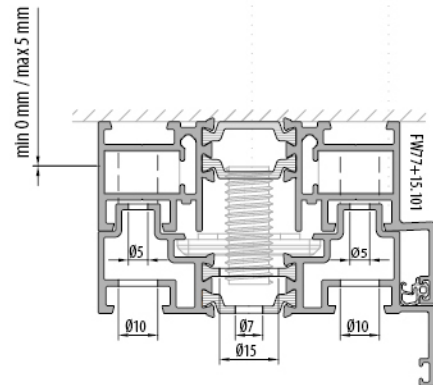
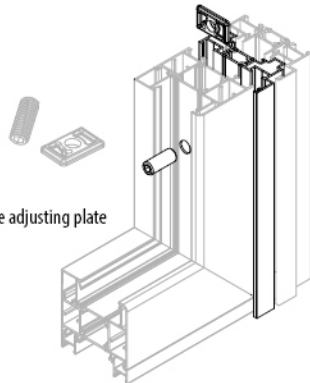


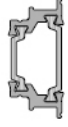
(A) Hs-56

(B) Hs-28

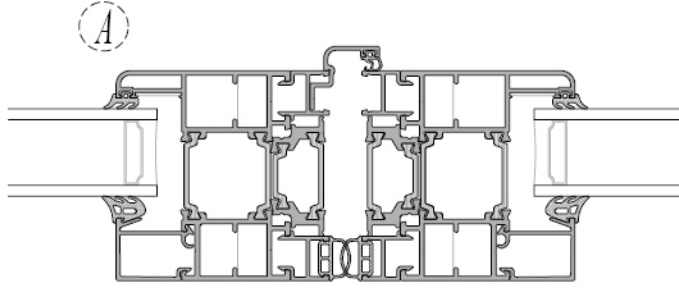


FW77604
Grub screw for frame adjusting plate
M12x30mm



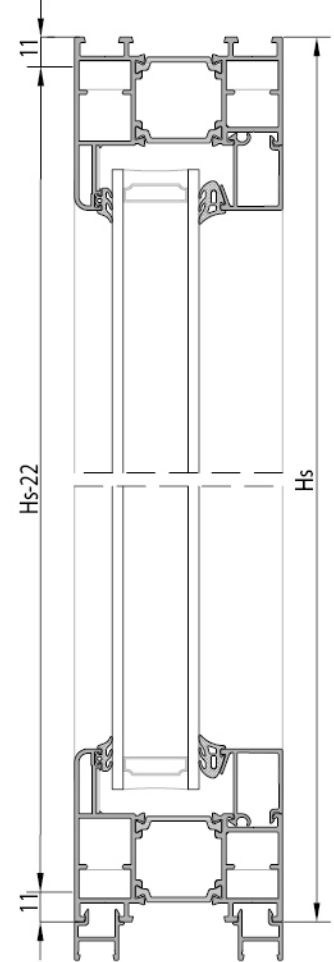
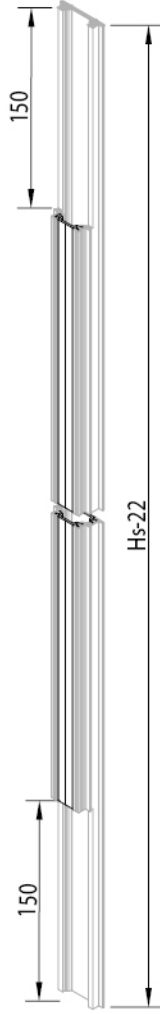
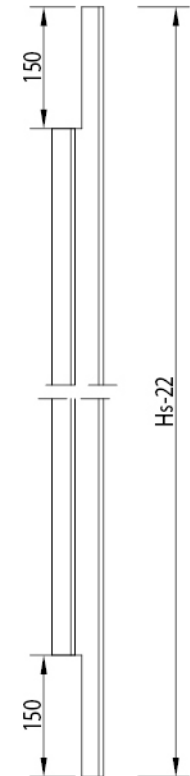
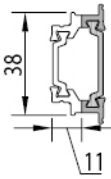


FW77+15.401

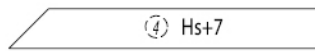
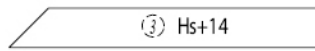
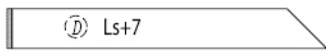
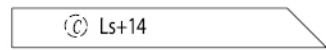
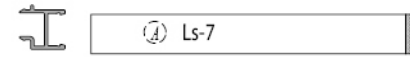
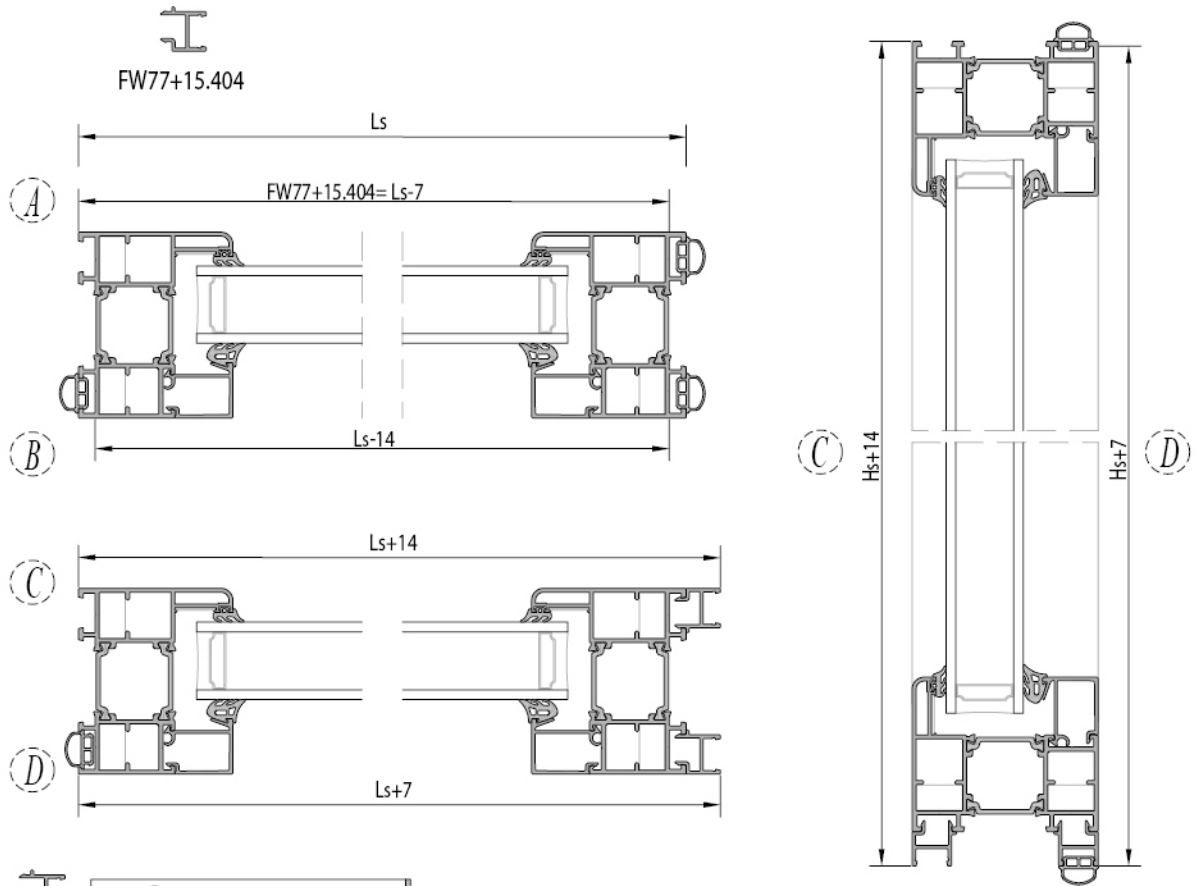


④ Hs-22

Detay 11a/11b için
For detail 11a/11b



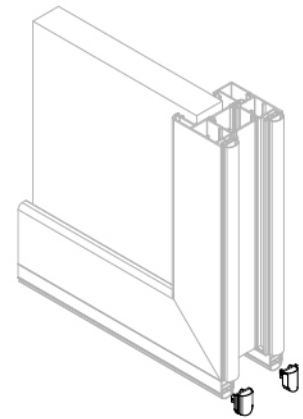
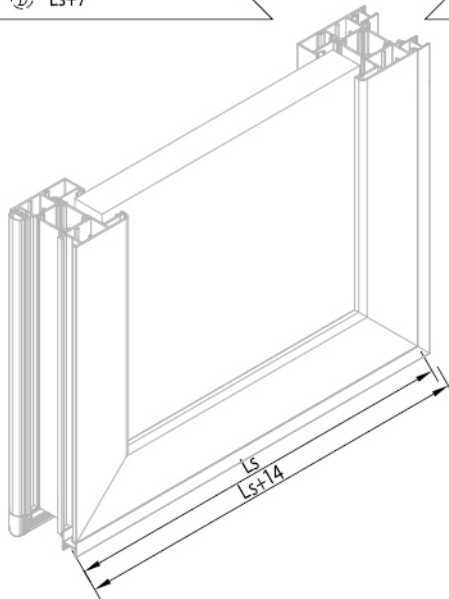
Hs=Kanat yüksekliği/sash height



Ls=Kanat genişliği /sash width
Hs=Kanat yüksekliği / sash height

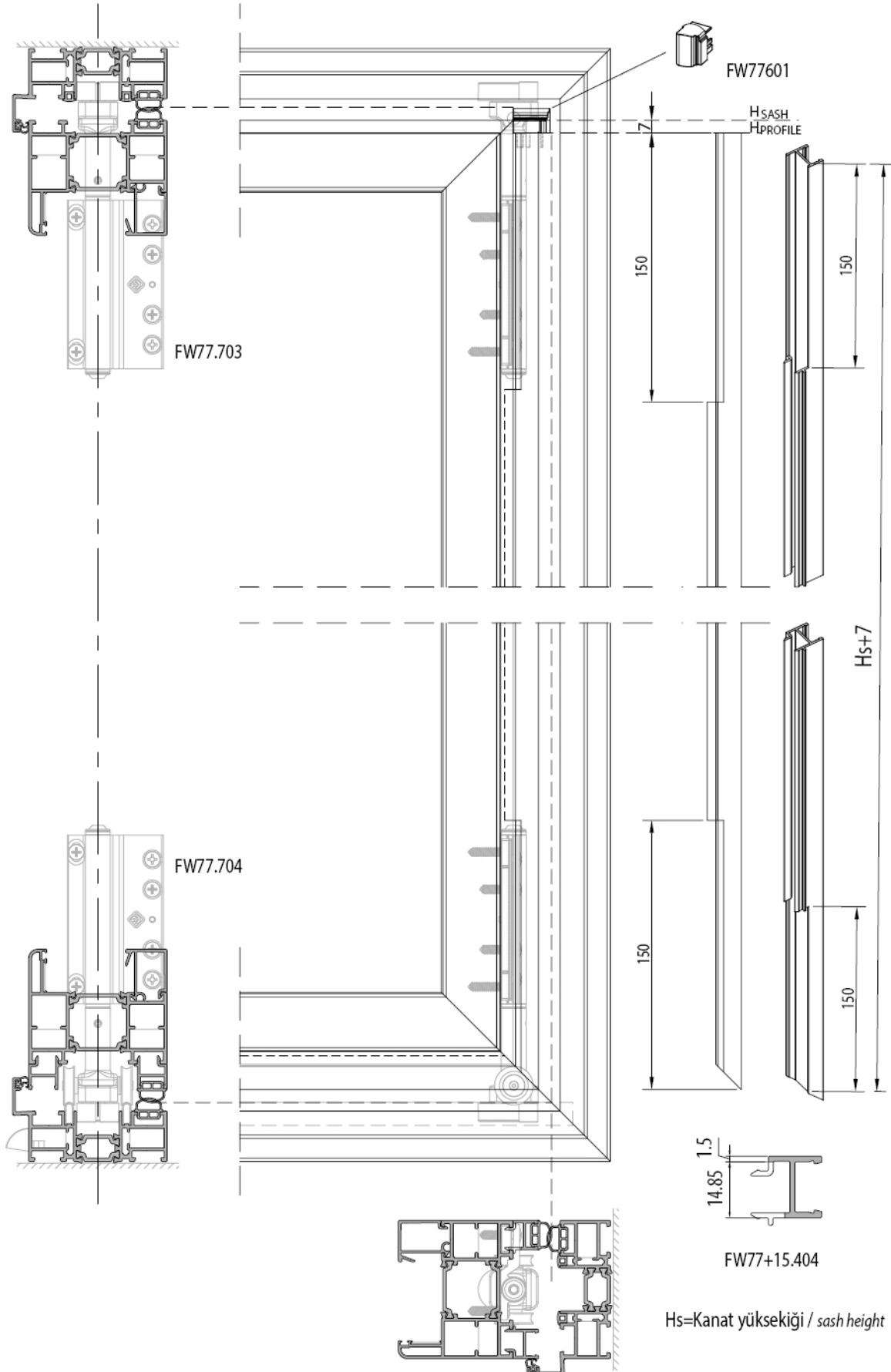


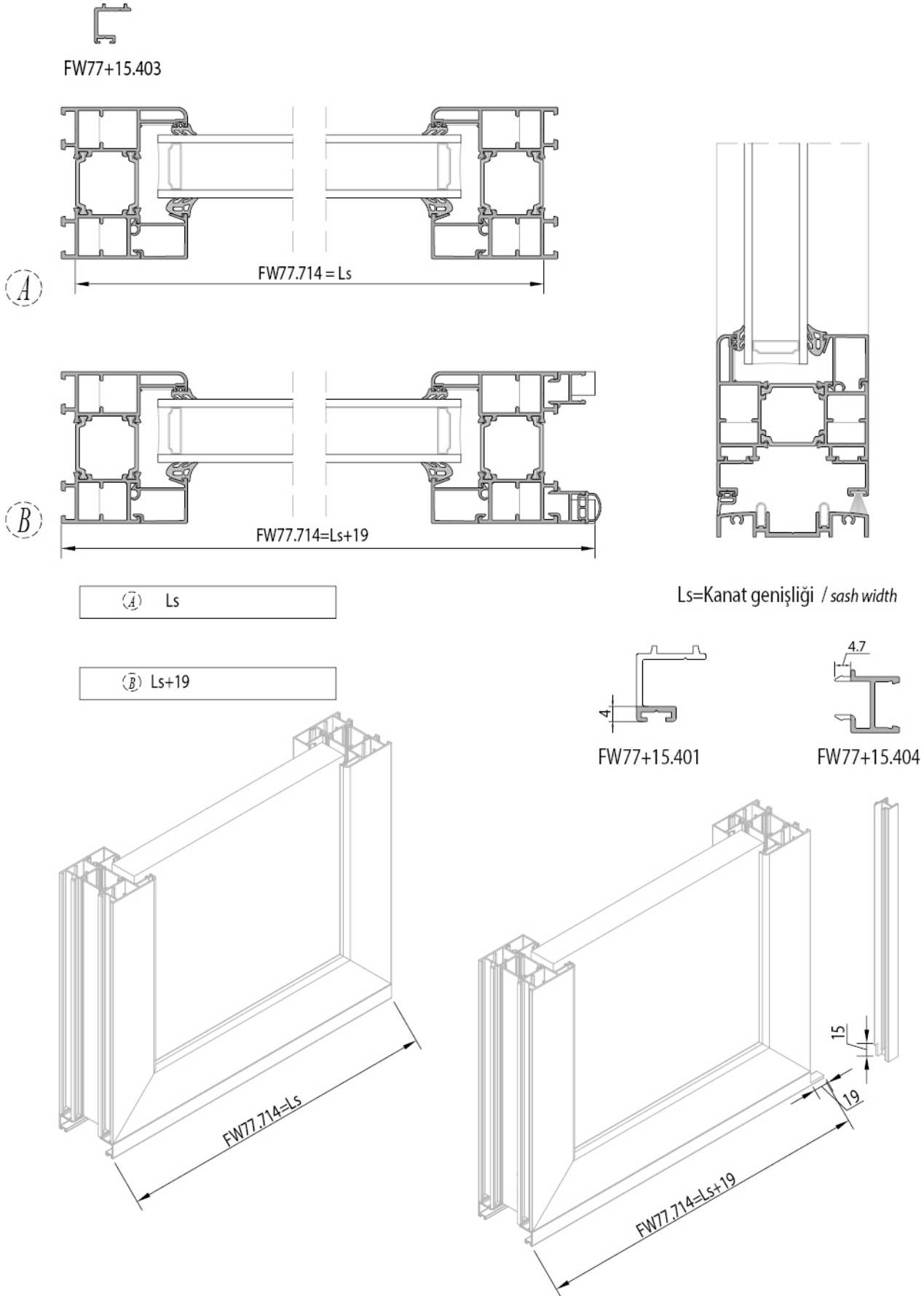
FW77601



FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

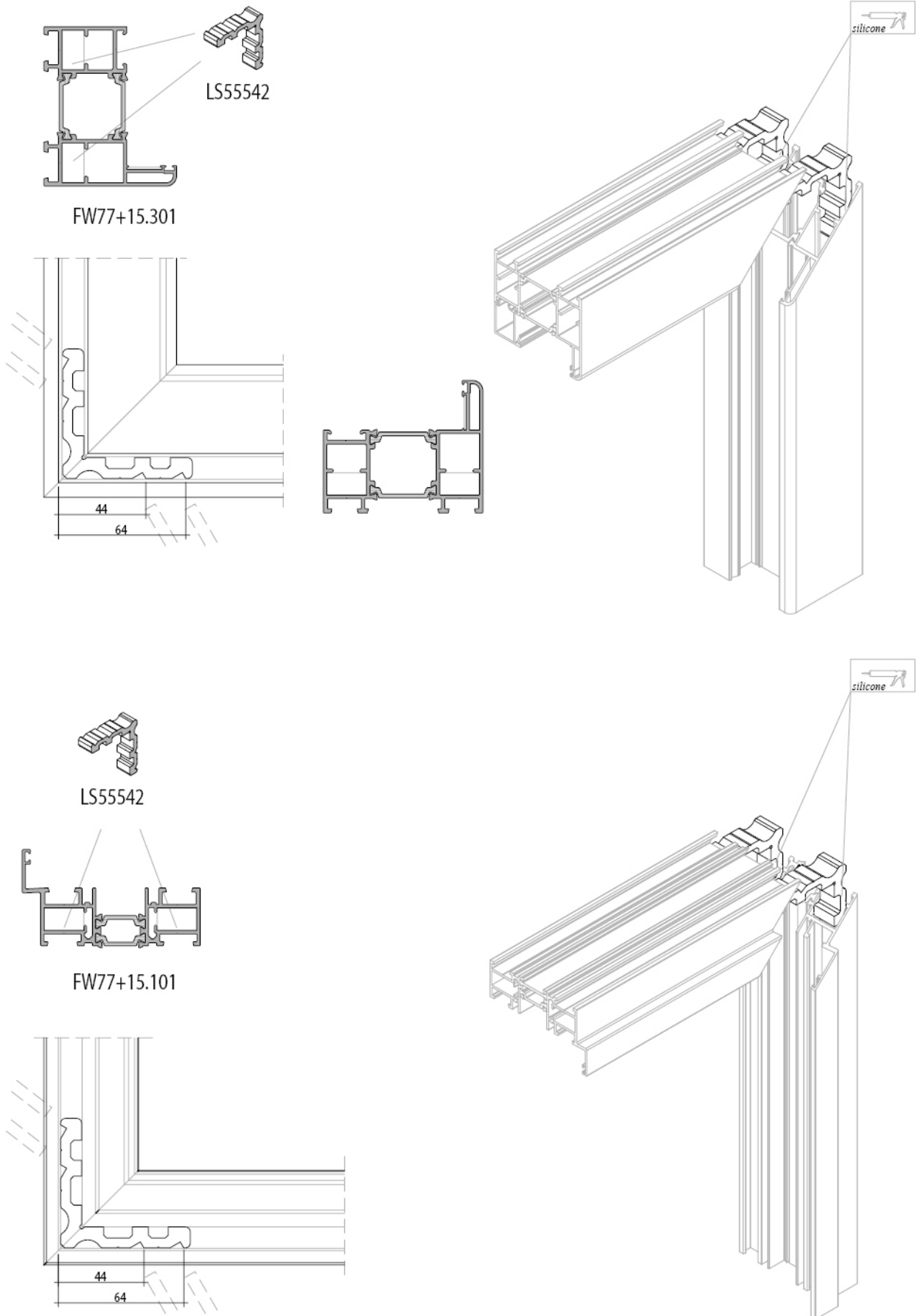
KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS

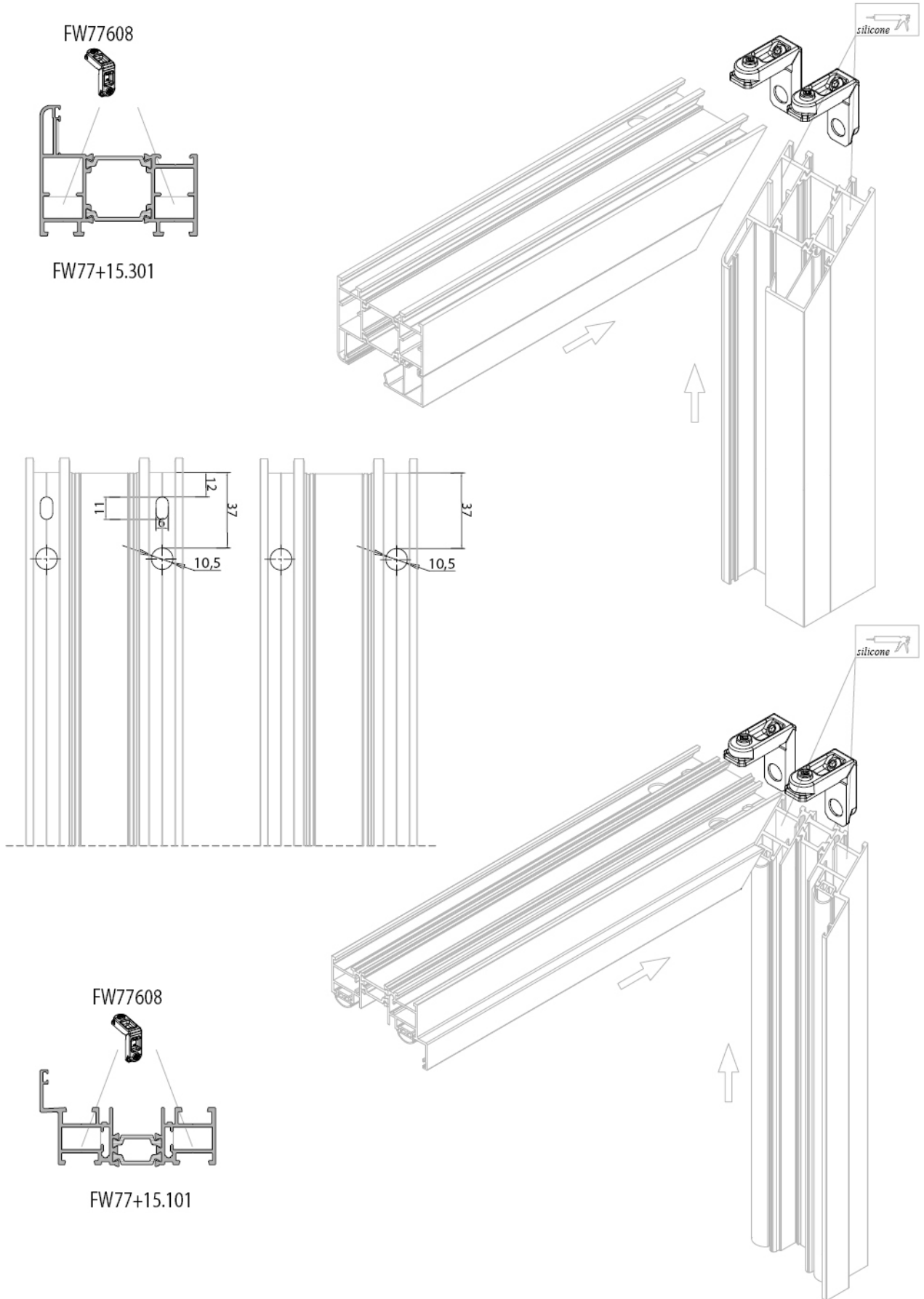




FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

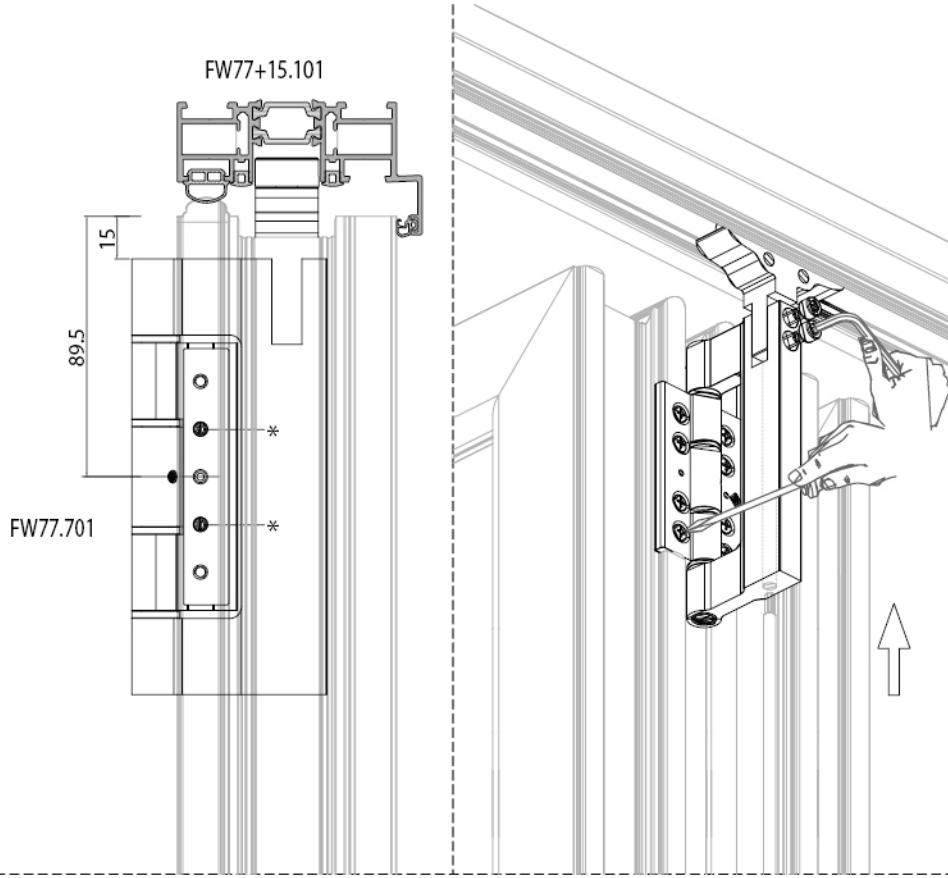
KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS



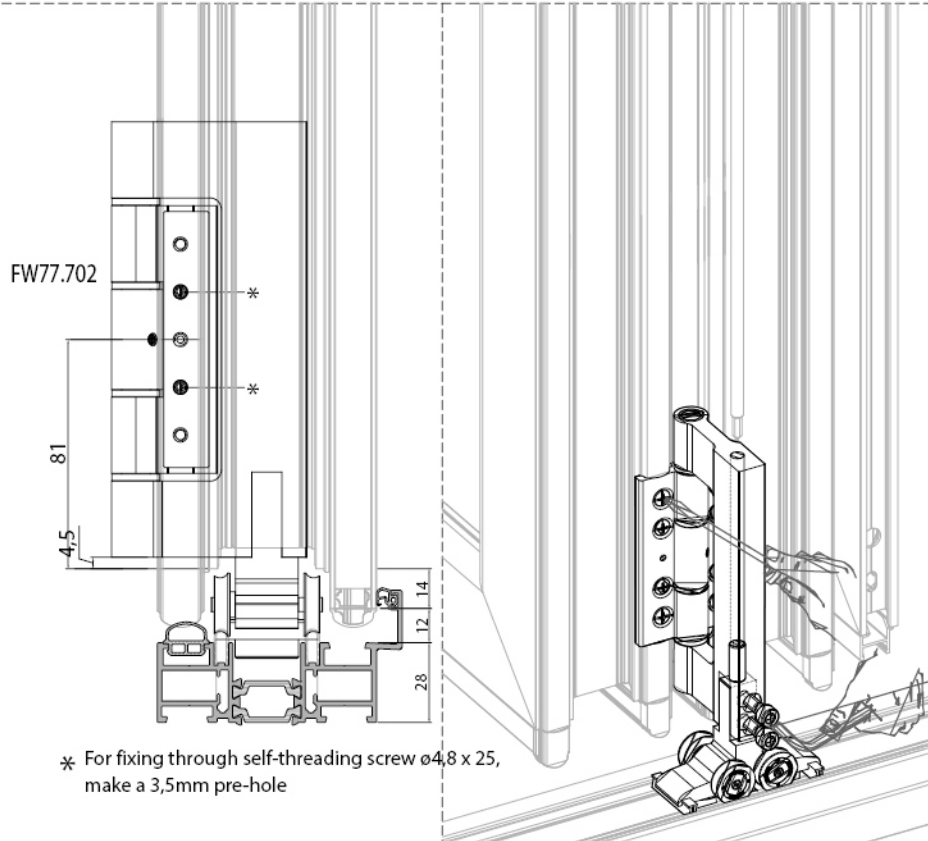


FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

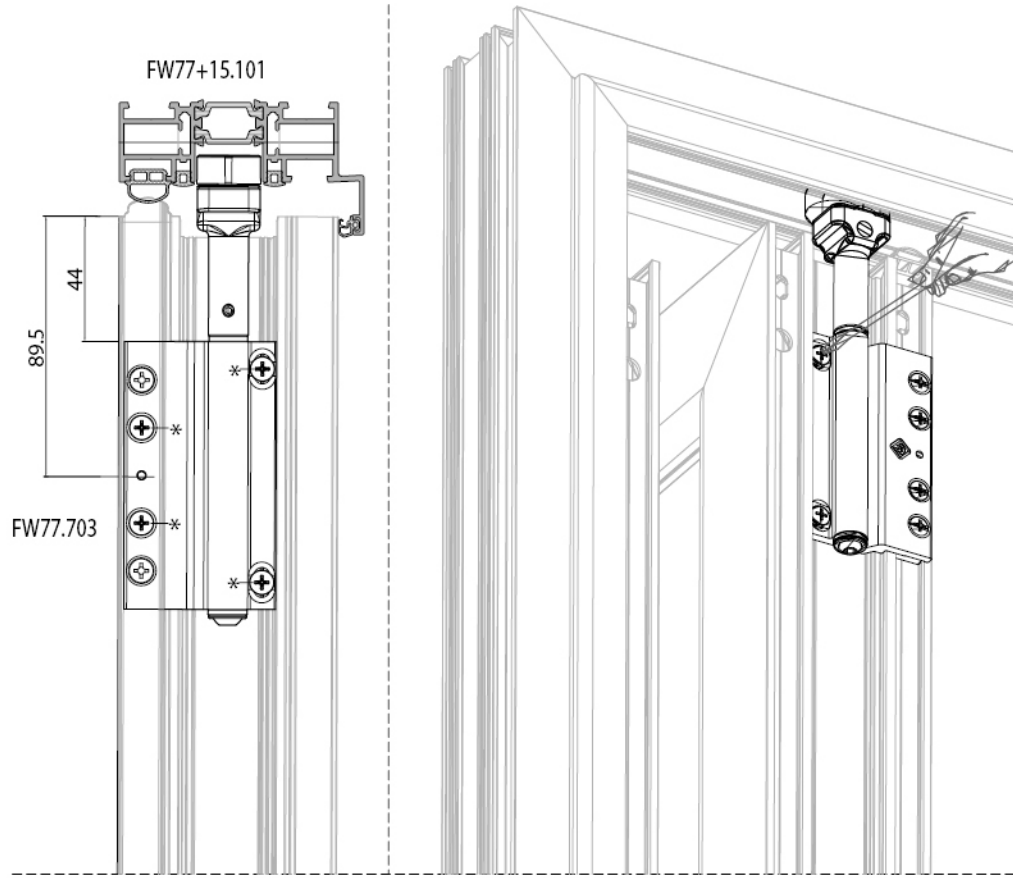
KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS



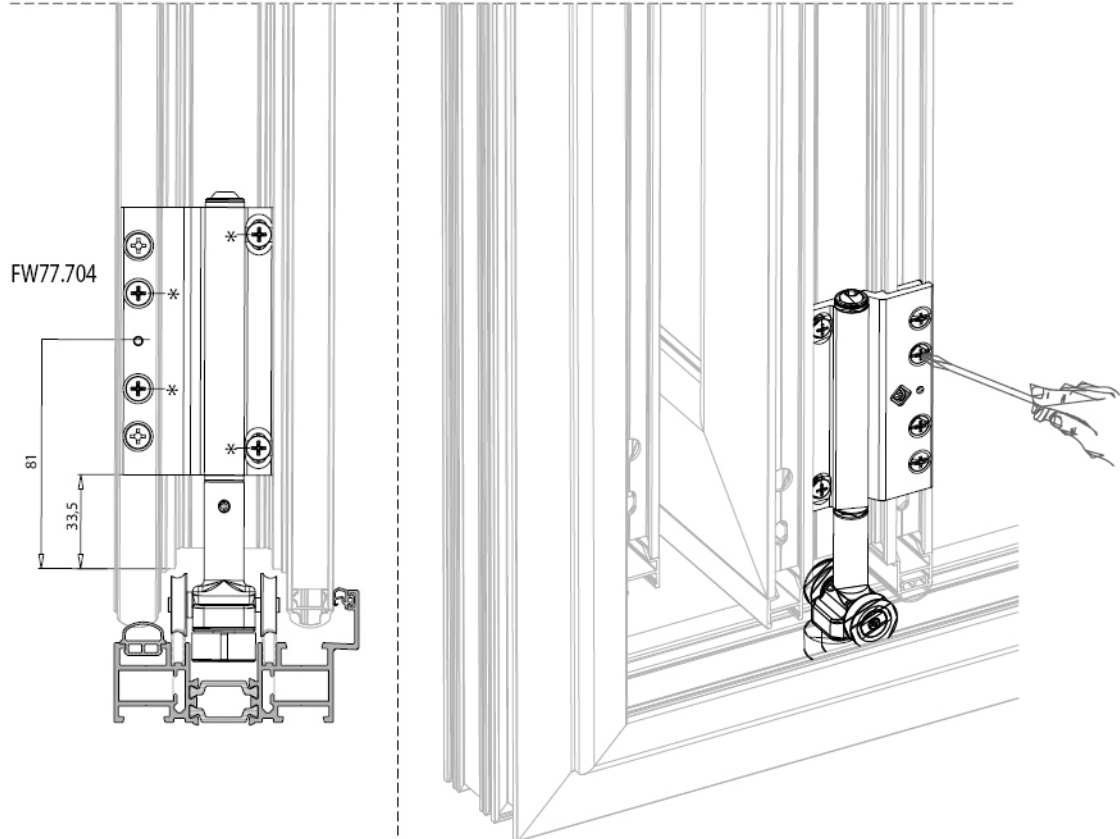
* $\varnothing 4,8 \times 25$ kendinden diş açan vida ile sabitlemek için 3,5 mm'lik bir ön delik açın
For fixing through self-threading screw $\varnothing 4,8 \times 25$, make a 3,5 mm pre-hole

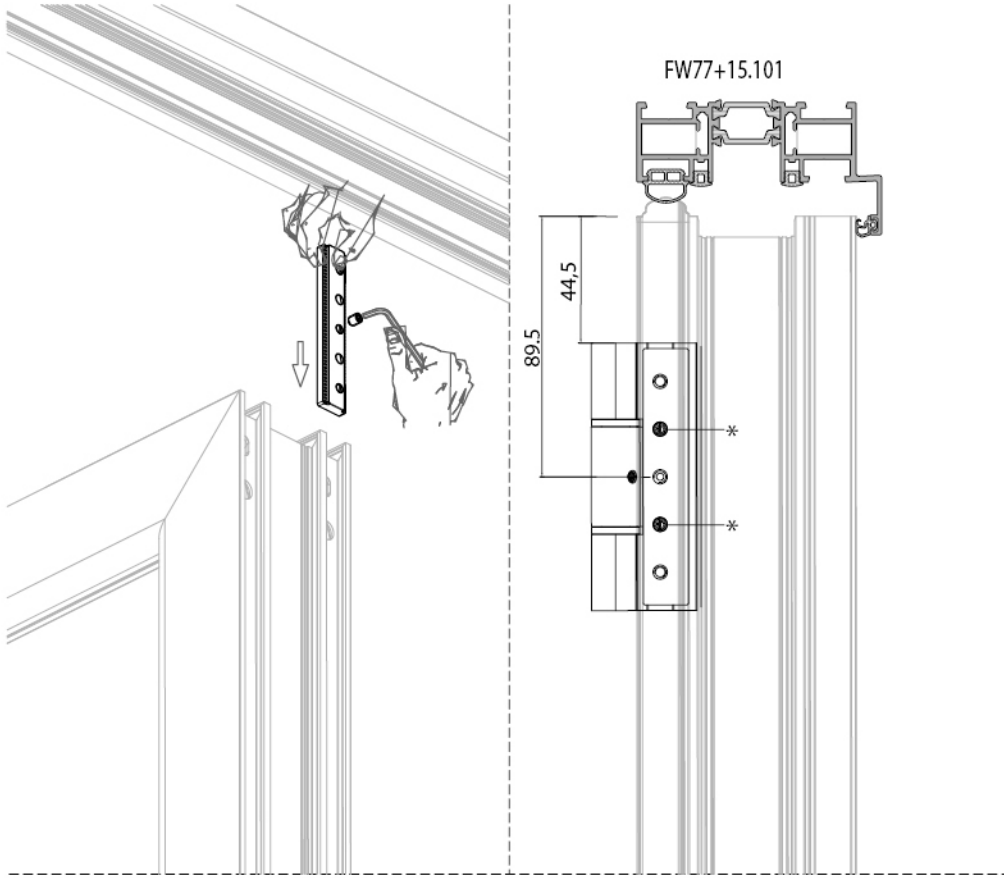


* For fixing through self-threading screw $\varnothing 4,8 \times 25$,
make a 3,5mm pre-hole

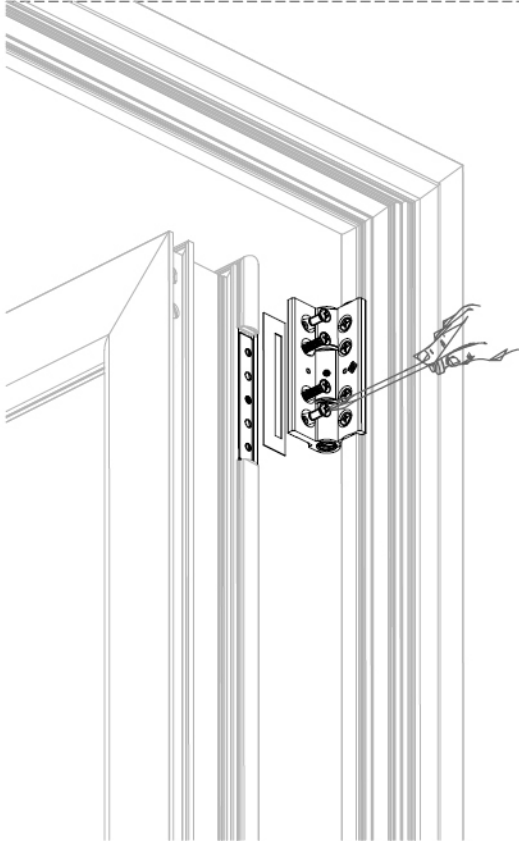


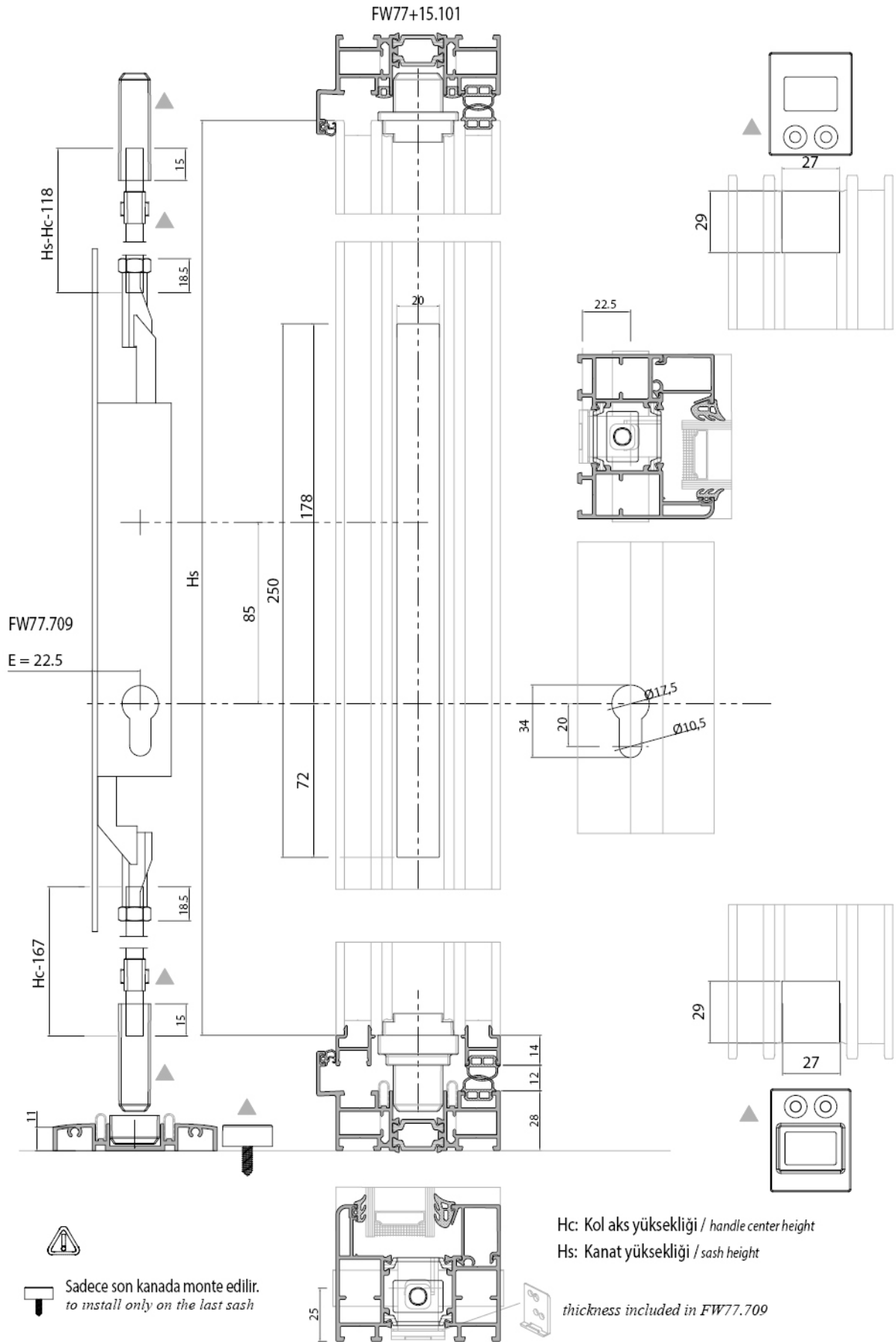
* $\varnothing 4,8 \times 25$ kendinden dış açan vida ile sabitlemek için 3,5 mm'lik bir ön delik açın
For fixing through self-threading screw $\varnothing 4,8 \times 25$, make a 3,5 mm pre-hole





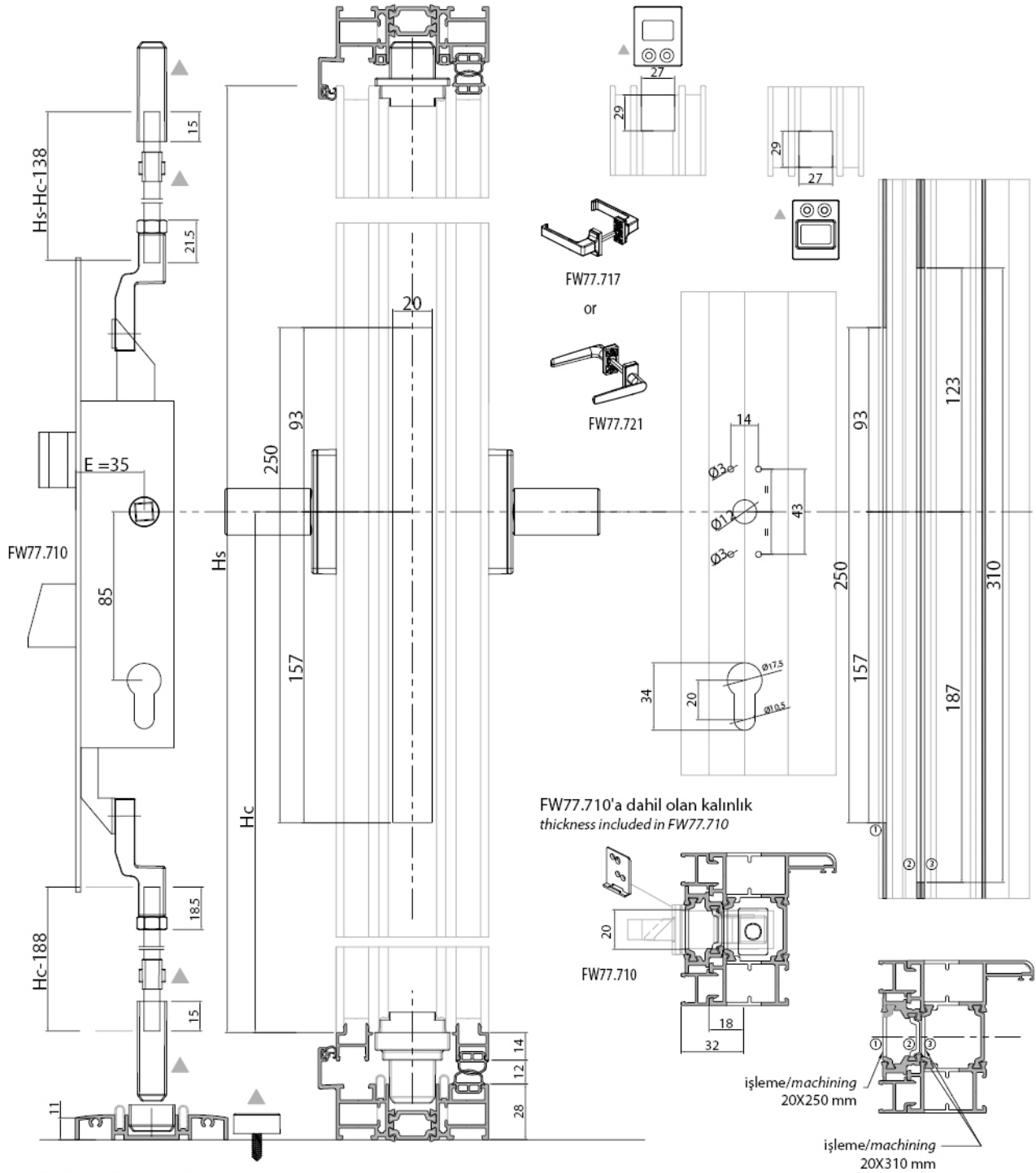
* $\varnothing 4,8 \times 25$ kendinden diş açan vida ile sabitlemek için 3,5 mm'lik bir ön delik açın
For fixing through self-threading screw $\varnothing 4,8 \times 25$, make a 3,5 mm pre-hole





FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS

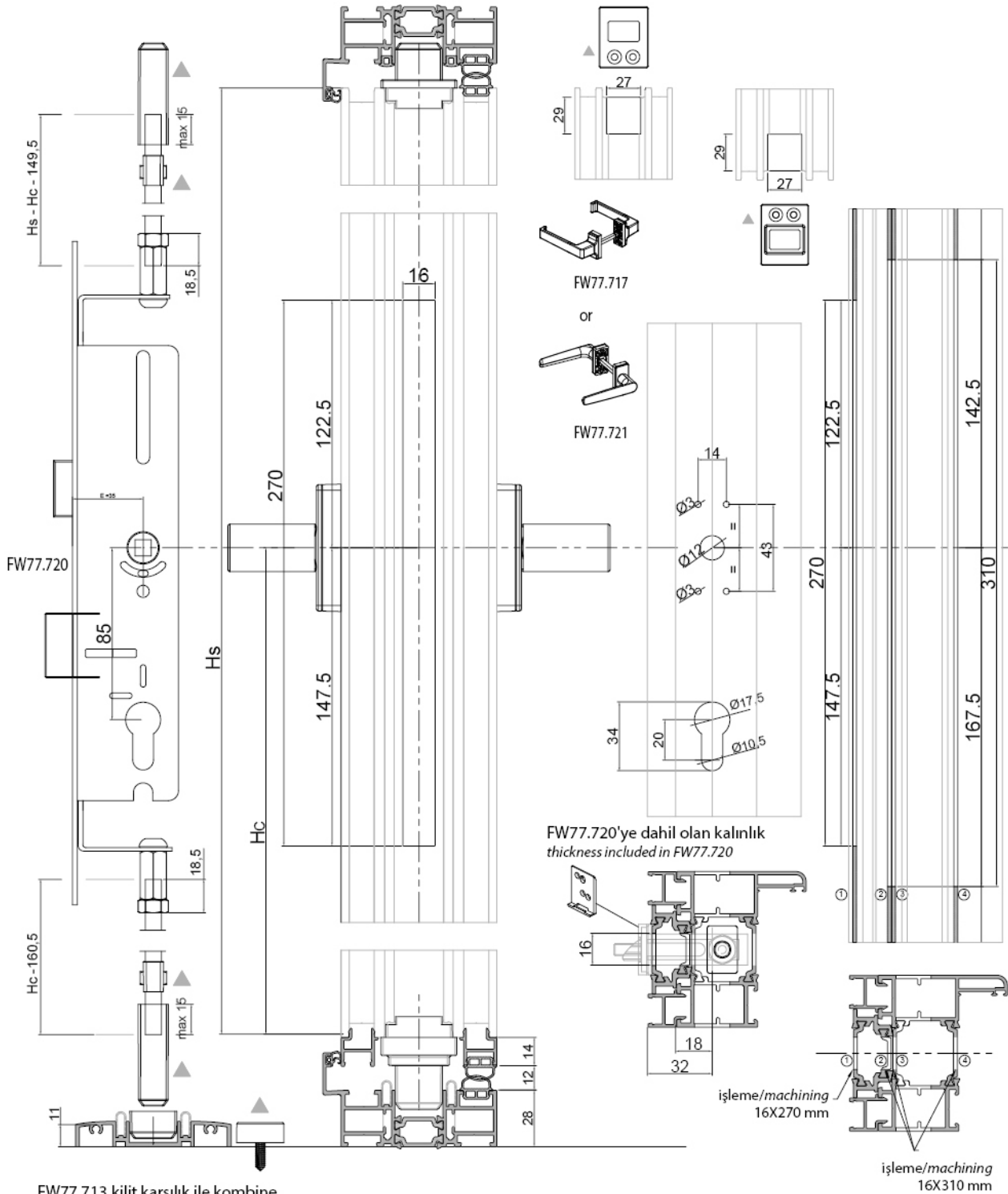


FW77.713 kilit karşılık ile kombine
combined with counterplate FW77.713

Hc: Hc: Kol aks yüksekliği / handle center height
Hs: Hs: Kanat yüksekliği / sash height



Sadece son kanada monte edilir
to install only on the last sash

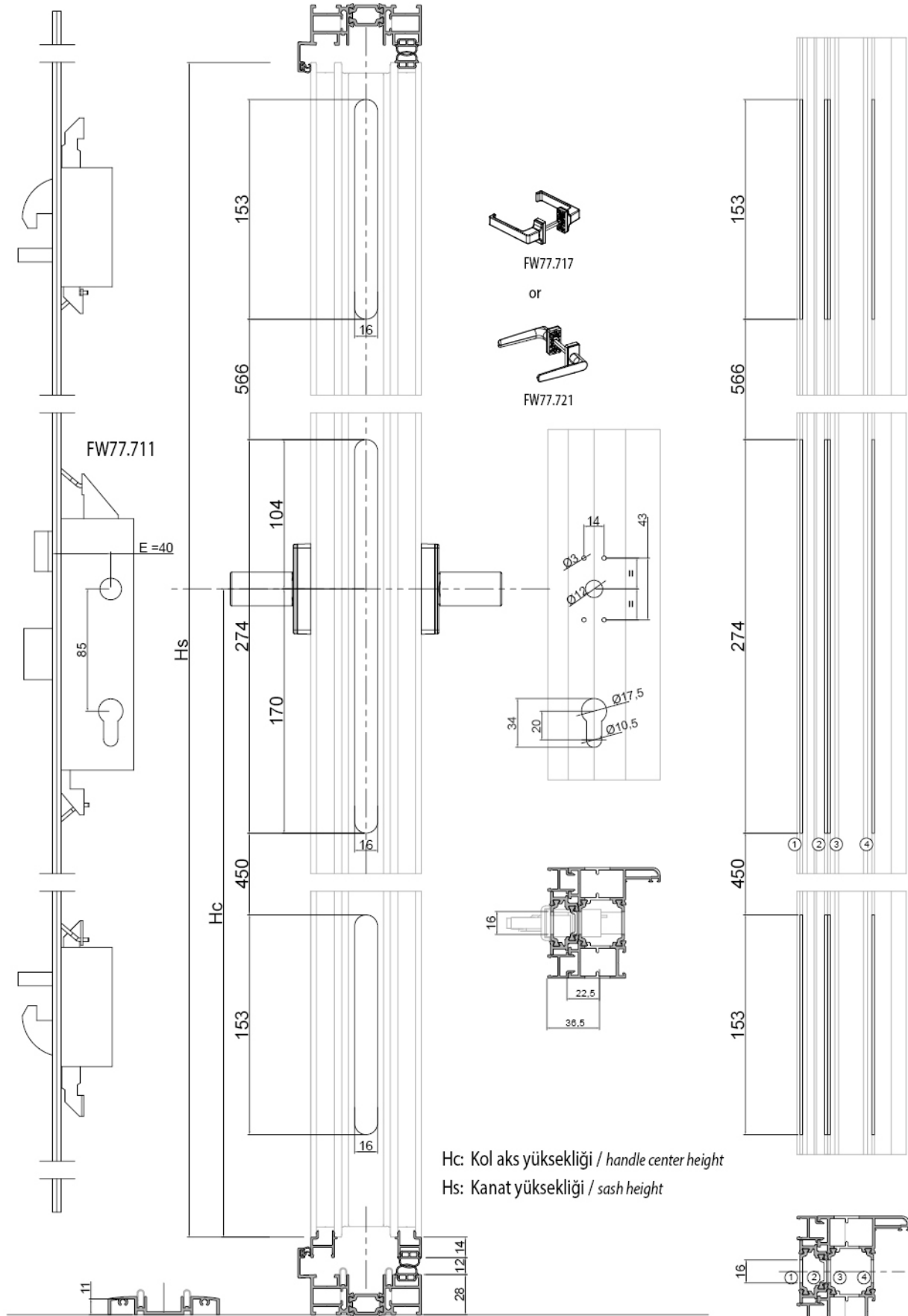


Hc: Hc: Kol aks yüksekliği / handle center height
Hs: Hs: Kanat yüksekliği / sash height


 Sadece son kanada monte edilir
to install only on the last sash

FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS

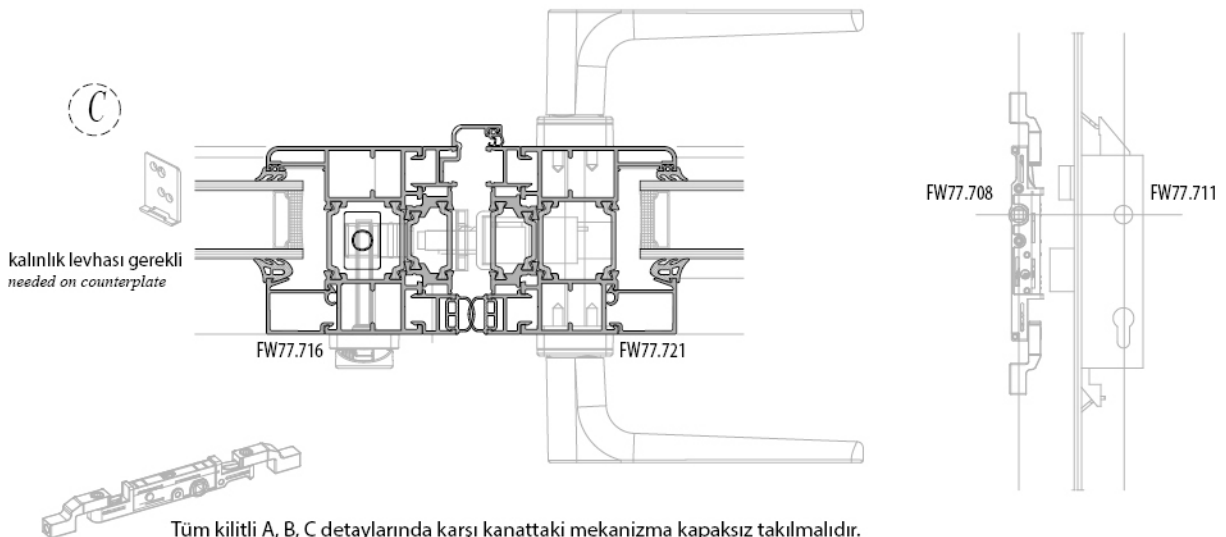
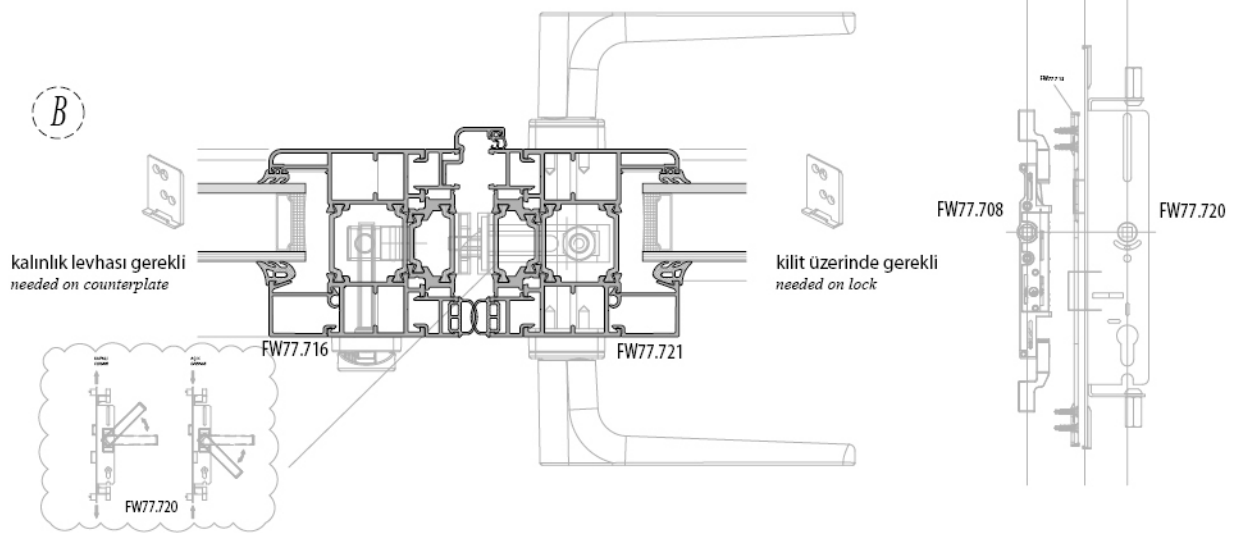
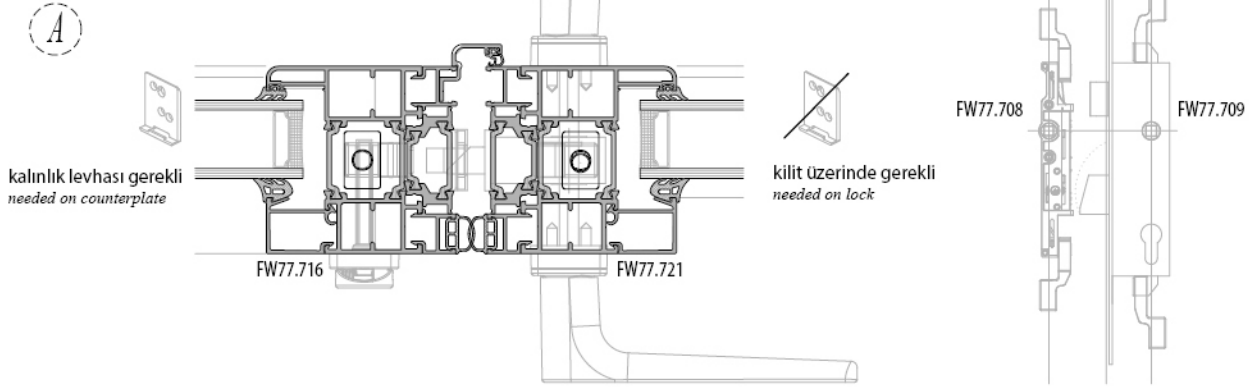


Hc: Kol aks yüksekliği / handle center height

Hs: Kanat yüksekliği / sash height

FW77.713 (1adet) ve FW77.712 (2 adet) kilit karşılık ile kombine / combined with counterplate FW77.713 (1pc) / FW77.712 (2 pcs)

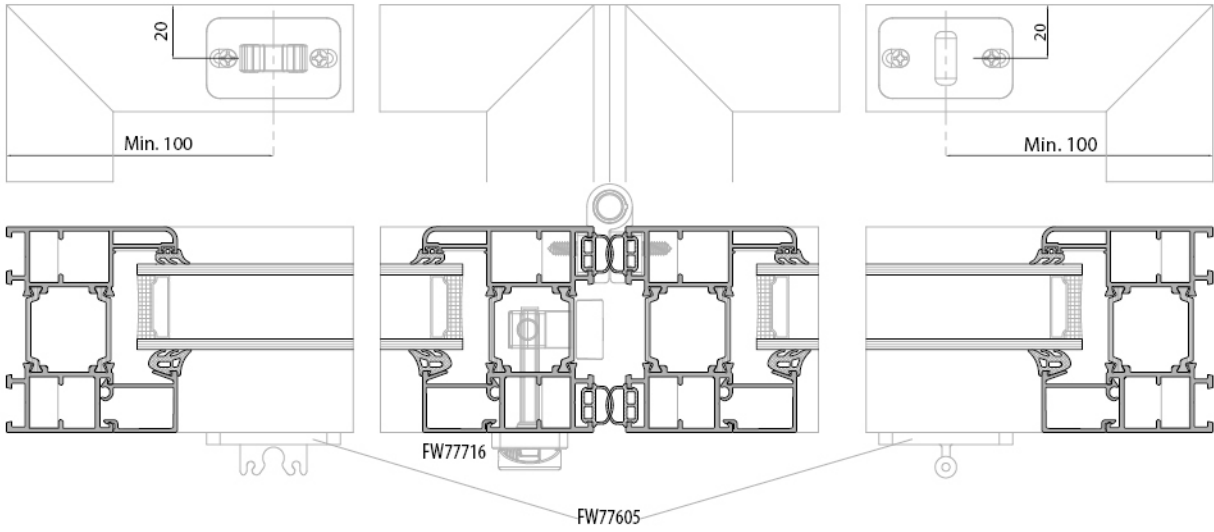
■ Kilit uygulamaları için önemli notlar
Important notes for lock apps



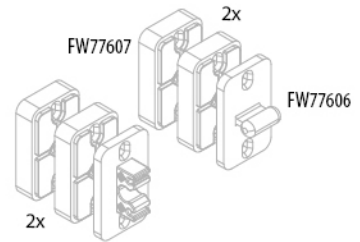
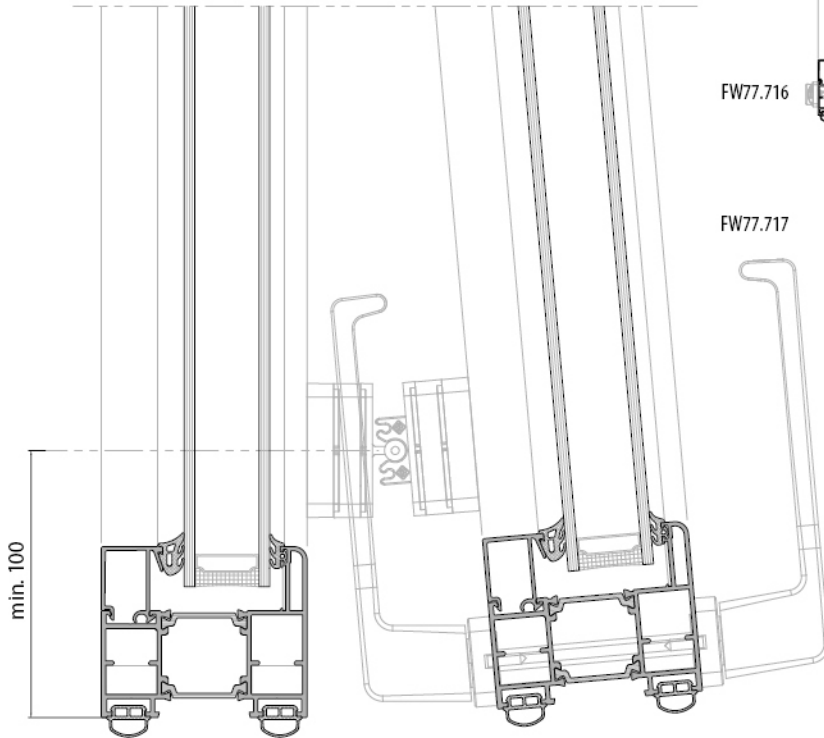
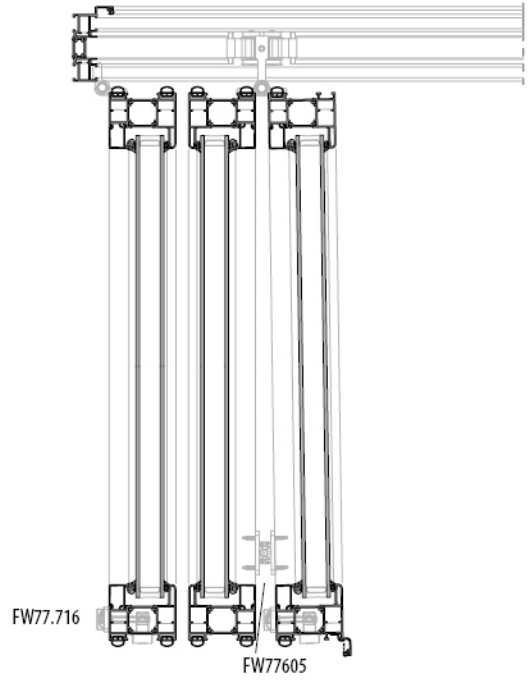
Tüm kilitli A, B, C detaylarında karşı kanattaki mekanizma kapaksız takılmalıdır.
In all locked A, B, C details, the mechanism on the opposite sash must be installed without the cover.

FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

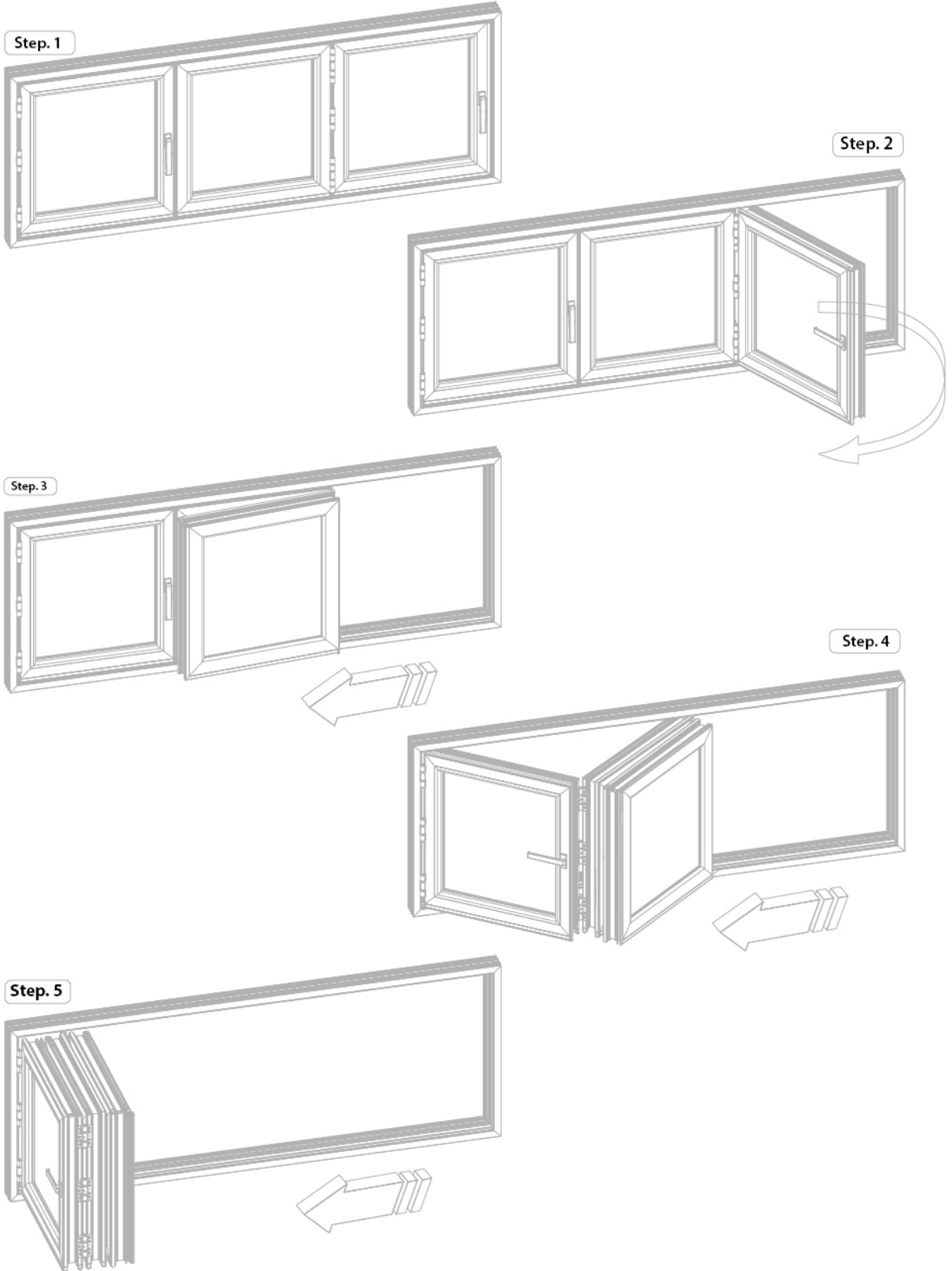
KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS



	Kanat durdurucu Sash stopper		Kalınlık Thickness
	FW77.605	FW77.606	FW77.607
Kol ve Çift Kol Handle and Double Handle			
FW77.716	1 Pc		
FW77.717 FW77.721		1 Pc +	4 Pc

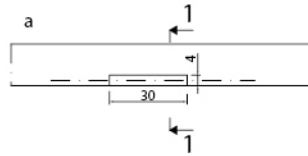
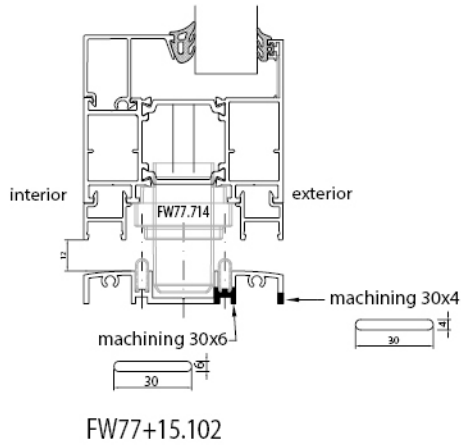
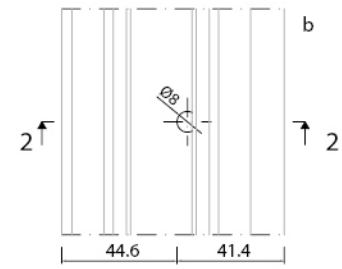
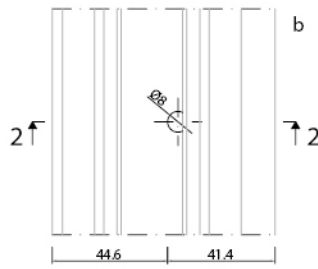
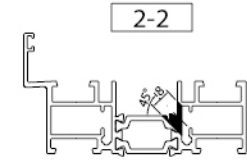
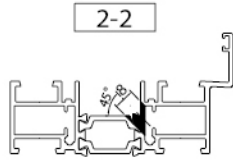
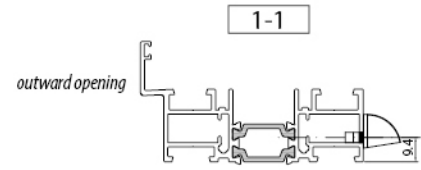
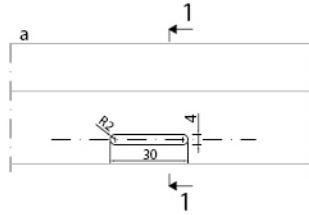
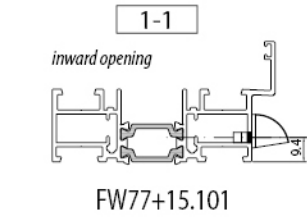


AÇMA / KAPAMA TALİMATLARI
OPENING / CLOSING INSTRUCTIONS



FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

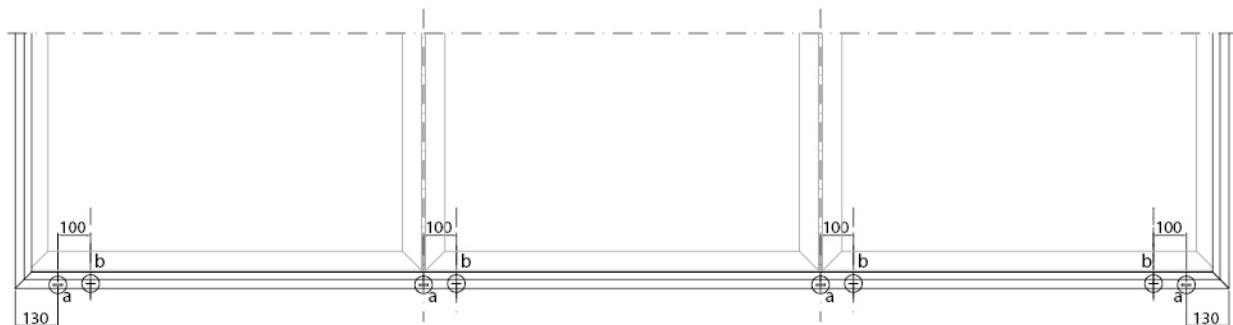
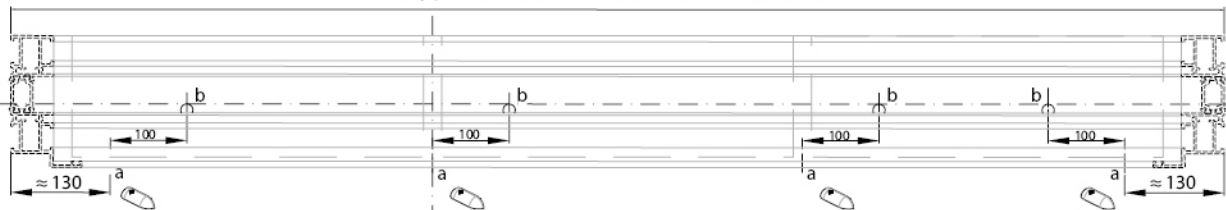
KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS



Kasa Geniřlięi	a	b
$L \leq 1400\text{mm}$	3	3
$L > 1400\text{mm} \leq 2100\text{mm}$	4	4
$L > 2100\text{mm} \leq 2800\text{mm}$	5	5
$L > 2800\text{mm} \leq 3500\text{mm}$	6	6
$L > 3500\text{mm} \leq 4200\text{mm}$	7	7
$L > 4200\text{mm} \leq 4900\text{mm}$	8	8

N water drainage = N sashes + 1

(Type 3 sash) $L > 1400\text{mm} \leq 2100\text{mm}$



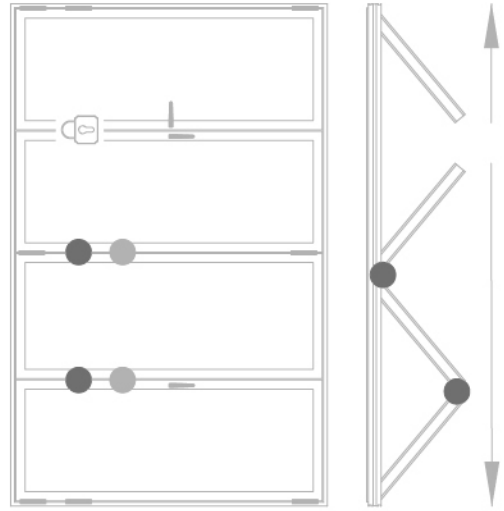
ANA TİPOLOJİLER İÇİN AKSESUAR LİSTESİ / LIST OF ACCESSORIES FOR MAIN TYPOLOGIES

KOD/ÇODE	TANIM / DESCRIPTION	2	2+1	2+2	3	3+1	3+2	3+3	3+4	4	4+1	4+2	4+3	5	5+1	5+2	6	6+1	7
FW77.701	ÇİFT KANAT ÜST RULMAN / DOUBLE SASH UPPER ROLLER	-	-	-	1	1	1	2	2	1	1	1	2	2	2	2	2	2	3
FW77.702	ÇİFT KANAT ALT RULMAN / DOUBLE SASH LOWER ROLLER	-	-	-	1	1	1	2	2	1	1	1	2	2	2	2	2	2	3
FW77.703	TEK KANAT ÜST RULMAN / SINGLE SASH UPPER ROLLER	1	1	2	-	-	-	-	1	1	1	2	1	-	-	1	1	1	-
FW77.704	TEK KANAT ALT RULMAN / SINGLE SASH LOWER ROLLER	1	1	2	-	-	-	-	1	1	1	2	1	-	-	1	1	1	-
FW77.705	İÇE KATLANIR / İNWARD FOLDING YAPRAK MENTEŞE / LEAF HINGE	6	9	12	7	10	13	14	17	10	13	16	17	11	14	17	14	17	15
	DIŞA KATLANIR / OUTWARD FOLDING	5	8	10	6	9	11	12	14	8	11	13	14	9	12	14	11	14	12
FW77.706	İÇE KATLANIR İÇİN ÇEKME MENTEŞE / FOR FOLD IN PULLING HINGE	1	1	2	1	1	2	2	3	2	2	3	3	2	2	3	3	3	3
FW77.707	DIŞA KATLANIR İÇİN ÇEKME MENTEŞE / FOR FOLD OUT PULLING HINGE	1	1	2	1	1	2	2	3	2	2	3	3	2	2	3	3	3	3
FW77.718	EK ÜÇÜNCÜ KİLİTLEME NOKTASI / ADDITIONAL THIRD LOCKING POINT	1	1	2	2	2	3	4	5	3	3	4	5	4	4	5	5	5	6
FW77601	VULKANİZE KÖŞE FITİLİ / VULCANIZED CORNER GASKET	4	6	8	6	8	10	12	14	8	10	12	14	10	12	14	12	14	14
FW77608	KANAT VE KASA KÖŞE BAĞLANTI / SASH AND FRAME CORNER CONNECTION	24	32	40	32	40	48	56	64	40	48	56	64	48	56	64	56	64	64

* FW77.705 menteşe sayıları kanat yüksekliği 2200 mm, kanat ağırlığı ise 90 kg altındaki ölçüler için geçerlidir. Diğer durumlar için sonraki sayfada belirtilen notları dikkate alınır.
FW77.705 hinge numbers are valid for sash height less than 2200 mm and sash weight below 90 kg. For other cases take note of the notes on the next page.

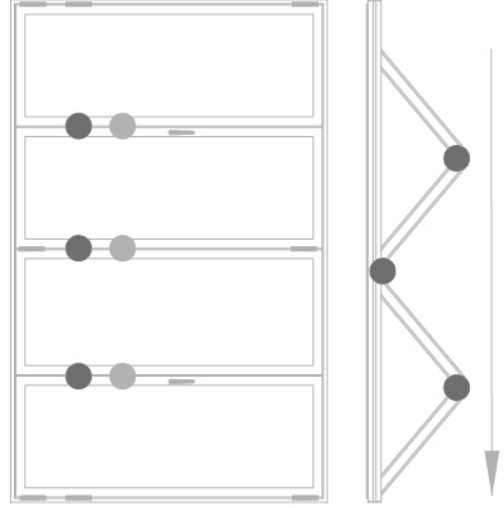
* FW77.718 ek üçüncü kilitleme sayısı Hkanat < 2200 mm ölçüler için geçerlidir. 2200 mm ≤ H, kanat ölçüleri için tabloda verilen adet sayısının 2 katını alınır.
Additional third locking number FW77.718 is valid for H sash < 2200 mm dimensions. For sash dimensions of 2200 mm ≤ H, take twice the number of pieces given in the table.

For example; 3+1



FW77.718
2+2 pcs

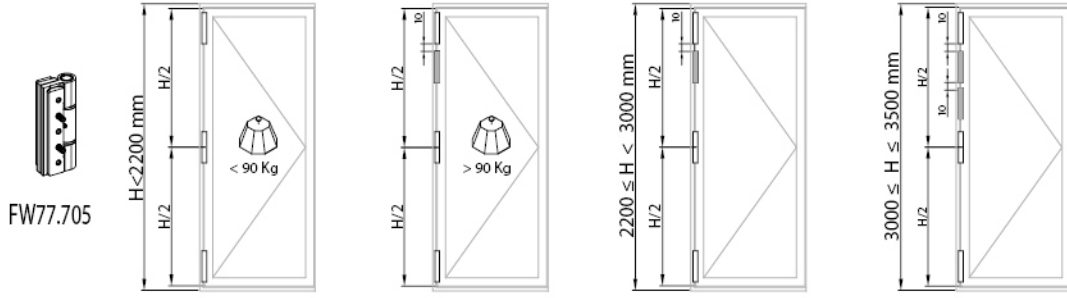
For example; 4+0



FW77.718
3+3 pcs

FW77+ YALITIMLI KATLANIR SİSTEM / INSULATED FOLDING SYSTEM

KESİM - MONTAJ ÇİZİMLERİ / CUTTING ASSEMBLY DRAWINGS

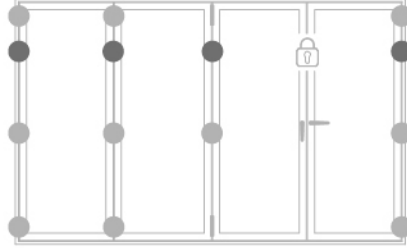


- 90 kg/kanat üzerindeki ağırlıklar için bir menteşe ekleyin.
Add one central hinge for load more than 90 Kg/sash
- 2200 mm den büyük ölçüler için bir menteşe ekleyin.
Add one hinge for dimension more than 2200mm
- Hem 2200 mm den büyük hem de 90 kg/kanat üzerindeki ölçüler için bir menteşe ekleyin.
Add a hinge for both sizes over 2200 mm and over 90 kg/wing
- 3000 mm den büyük ölçüler için iki menteşe ekleyin
Add two hinges for dimension more than 3000mm

For example; 3+1

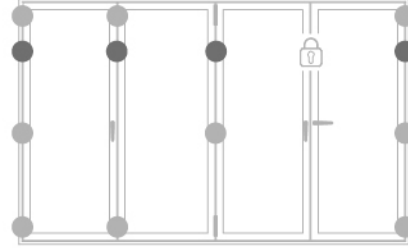


içe katlanır / inward folding

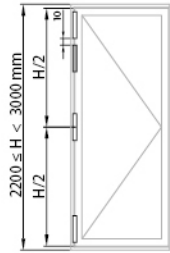


FW77.705
10+4 pcs

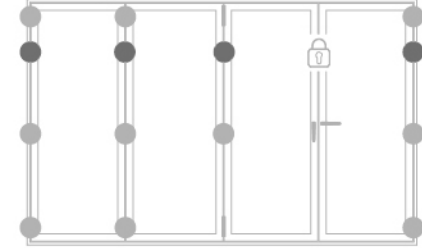
dışa katlanır / outward folding



FW77.705
9+4 pcs

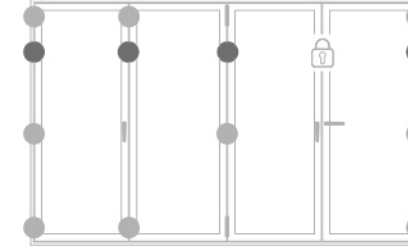


içe katlanır / inward folding

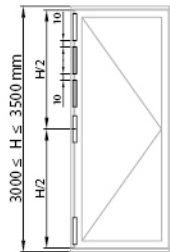


FW77.705
10+4 pcs

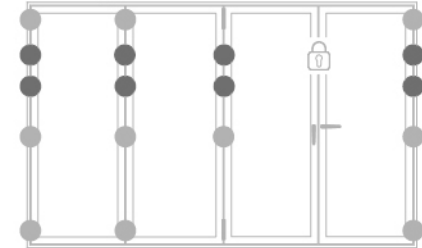
dışa katlanır / outward folding



FW77.705
9+4 pcs

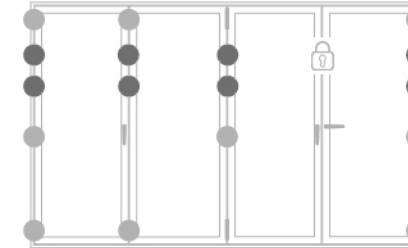


içe katlanır / inward folding



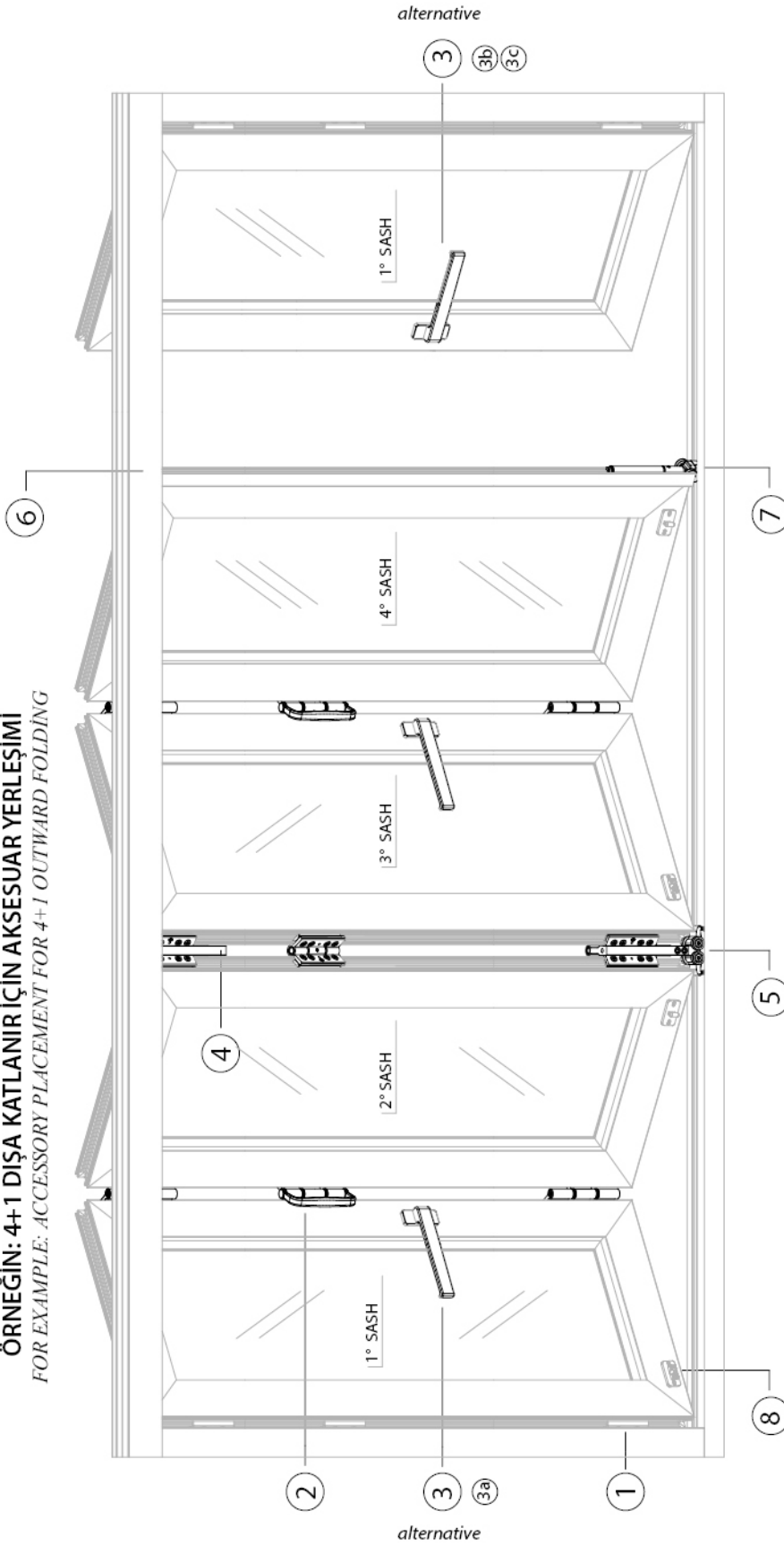
FW77.705
10+8 pcs

dışa katlanır / outward folding



FW77.705
9+8 pcs

ÖRNEĞİN: 4+1 DIŞA KATLANIR İÇİN AKSESUAR YERLEŞİMİ
FOR EXAMPLE: ACCESSORY PLACEMENT FOR 4+1 OUTWARD FOLDING



6		FW77.703 Tek Kanat Üst Rulman Single sash upper roller
7		FW77.704 Tek Kanat Alt Rulman Single sash lower roller
8		FW77.605 Kanat durdurucu Sash stopper

3C		FW77.717 Çift taraflı Kapı Kolu / Double sash door handle FW77.711 Çok Noktalı Kilit / Multi-point lock FW77.712 Kilit Karşılığı / Counterplate for lock FW77.713 Kilit Karşılığı / Counterplate for lock
4		FW77.701 Çift Kanat Üst Rulman Double sash upper roller
5		FW77.702 Çift Kanat Alt Rulman Double sash lower roller

3a		FW77.709 İki yönlü kilitle mekanizma Two way sash mechanism Diğer yönlü=çim, çubuklardan oluşmaktadır / Fitted for L, Z, 2H, two end steel, glass for the bar
3b		FW77.714 Çift taraflı Kapı Kolu Double sash handle İki yönlü kilitle mekanizma Two way sash mechanism Diğer yönlü=çim, çubuklardan oluşmaktadır / Fitted for L, Z, 2H, two end steel, glass for the bar

1		FW77.705 Yaprak Menteşe Leaf hinge
2		FW77.707 Dişe Katlanır için çekme menteşe Single sash roller
3		FW77.716 Kapı Kolu / Door handle FW77.708 İki yönlü mekanizma / Two way mechanism FW77.714 Diğer yönlü=çim, çubuklardan oluşmaktadır / Fitted for L, Z, 2H, two end steel, glass for the bar