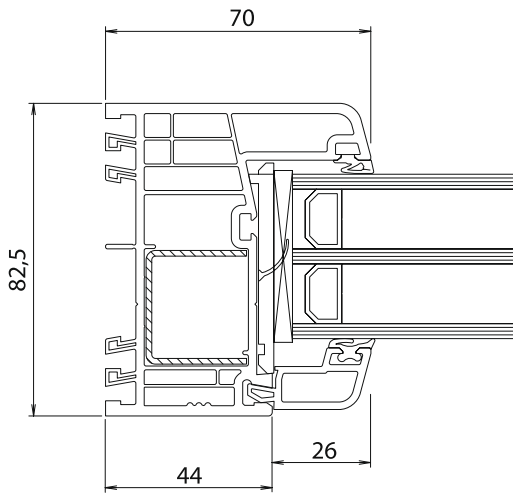
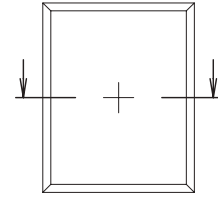
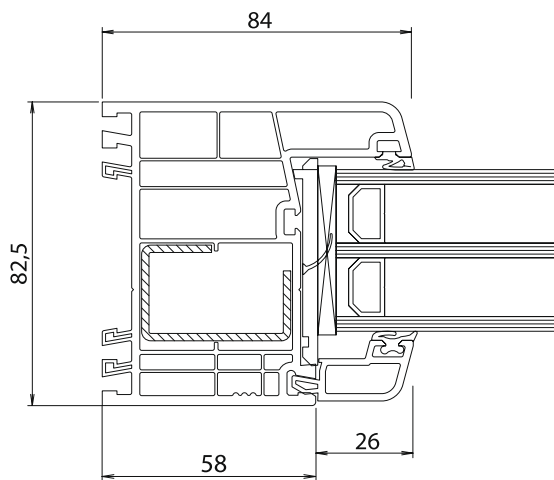


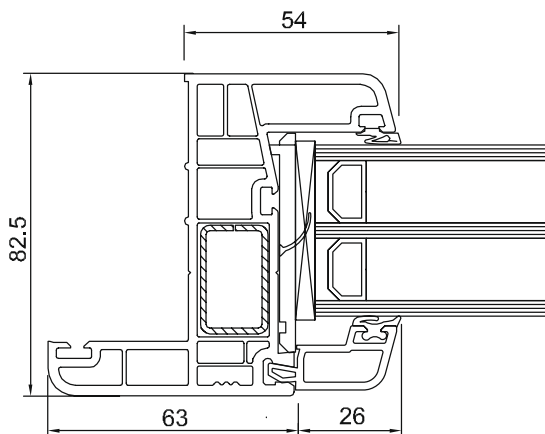
**Fixed light / Festfeld / Fissa / Fix**



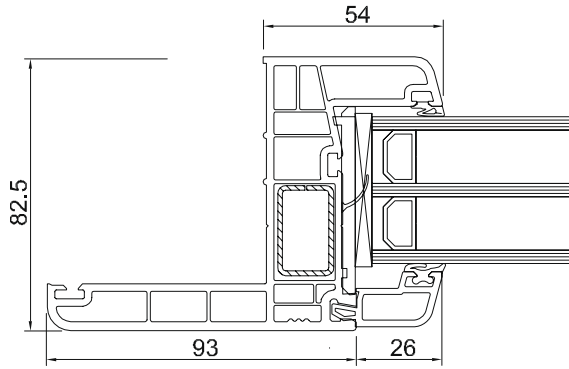
Frame	6002	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
Steel	6706	
	30x26.5 t=2mm	



Frame	6016	$I_x=1,76 \text{ cm}^4$ $I_y=4,23 \text{ cm}^4$
Steel	6716	
	26x40.5 t=2mm	

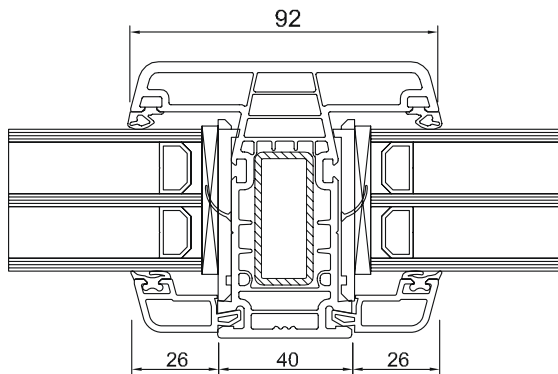
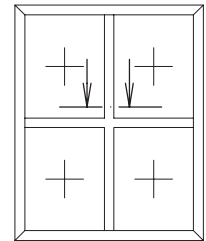


Frame	6048	$I_x=1,24 \text{ cm}^4$ $I_y=0,59 \text{ cm}^4$
Steel	6744	
	28x17,5 t=1.5 mm	

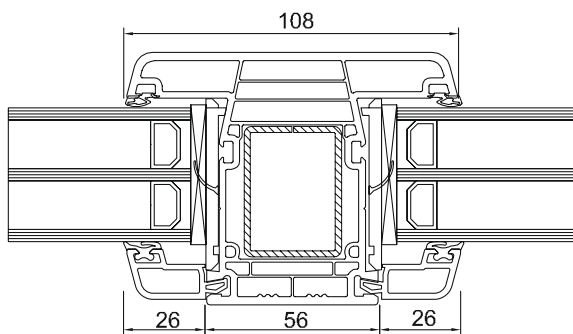


Frame	6032	$I_x=1,24 \text{ cm}^4$ $I_y=0,59 \text{ cm}^4$
Steel	6744	
	28x17,5 t=1.5 mm	

**Fixed light with transom** / Festfeld Pfosten /  
*Fissa con montate* / Fix cu montant

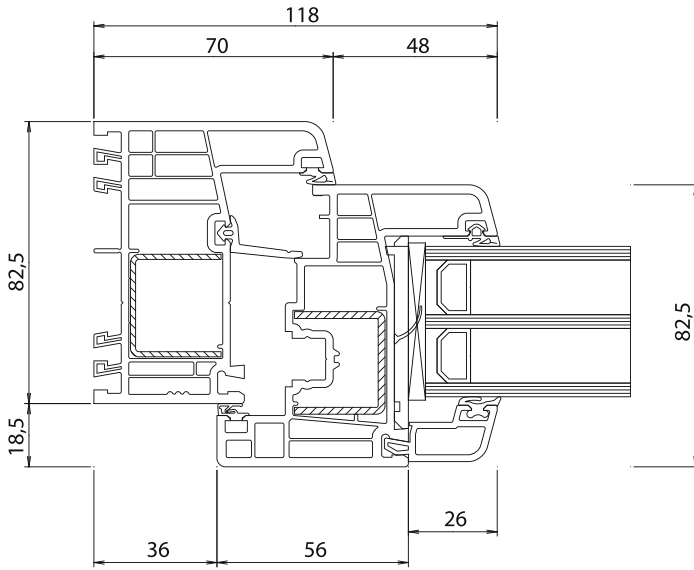
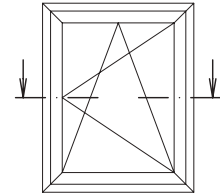


Transom	6050	$I_x=3,89 \text{ cm}^4$ $I_y=1,01 \text{ cm}^4$
Steel	6712	
	40x17,5 t=2mm	

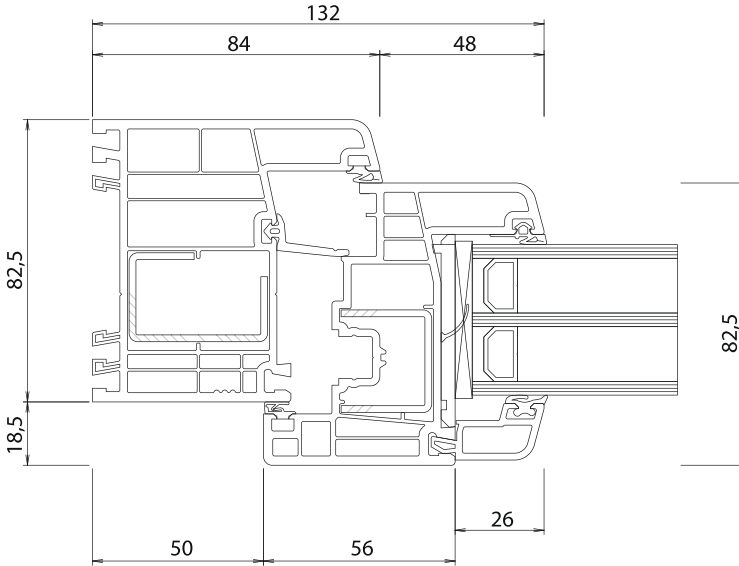


Transom	6022	$I_x=7,09 \text{ cm}^4$ $I_y=4,48 \text{ cm}^4$
Steel	6727	
	43x32 t=2mm	

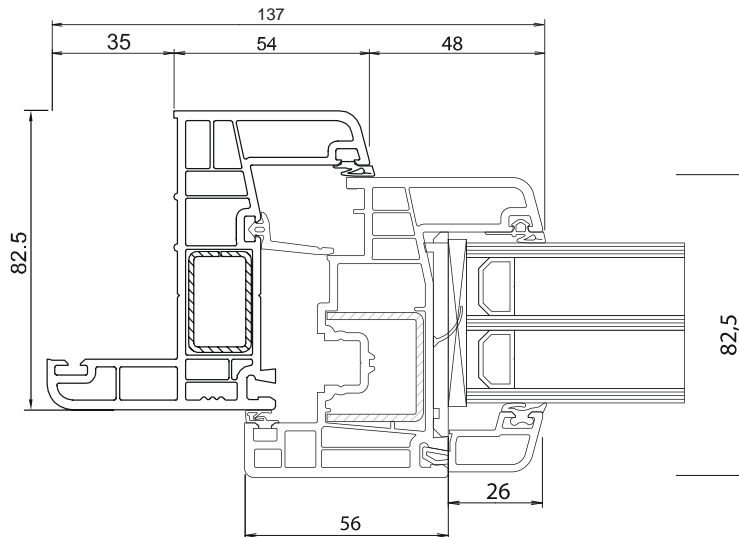
**Frame - Sash / Blendrahmen - Flügel /**  
*Telaio - Anta / Toc - Cercevea*



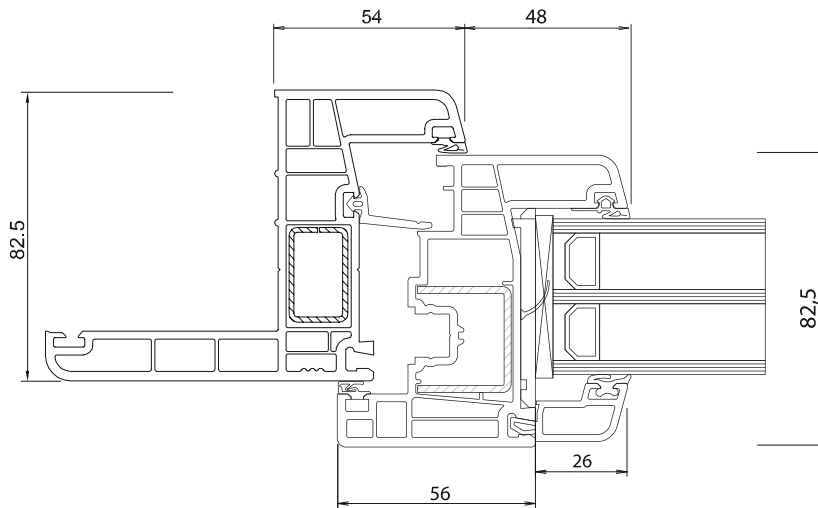
Frame	6002	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
Steel	6706 30x26.5 t=2mm	
Sash	6003	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
Steel	6706 30x26.5 t=2mm	



Frame	6016	$I_x=1,76 \text{ cm}^4$ $I_y=4,23 \text{ cm}^4$
Steel	6716 26x40.5 t=2mm	
Sash	6003	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
Steel	6706 30x26.5 t=2mm	

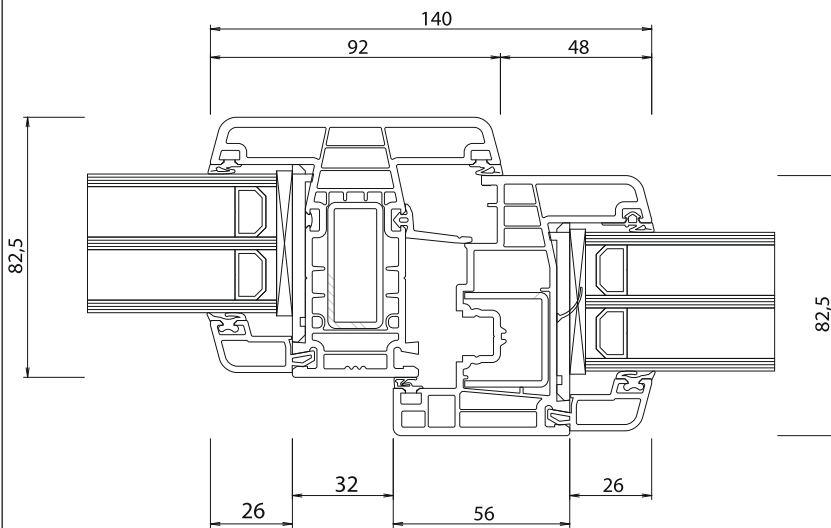
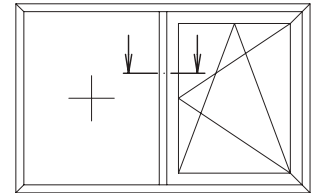


Frame	6048	$I_x=1,24 \text{ cm}^4$ $I_y=0,59 \text{ cm}^4$
Steel	6744 28x17,5 t=1.5 mm	
Sash	6003	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
Steel	6706 30x26.5 t=2mm	

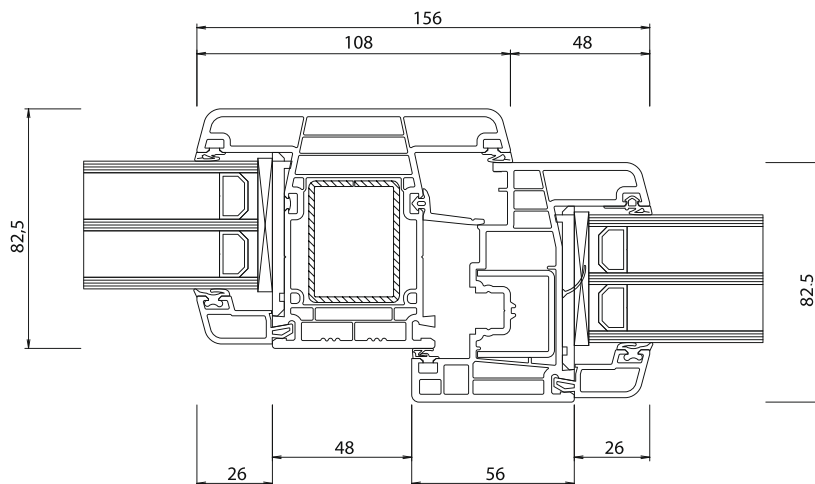


Frame Steel	6032	$I_x=1,24 \text{ cm}^4$ $I_y=0,59 \text{ cm}^4$
	6744 28x17,5 t=1.5 mm	
Sash Steel	6003	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
	6706 30x26.5 t=2mm	

**Fixed light - Transom - Sash / Festfeld - Pfosten - Flügel /  
Fisso - Montante - Anta / Fix - Montant - Cercevea**

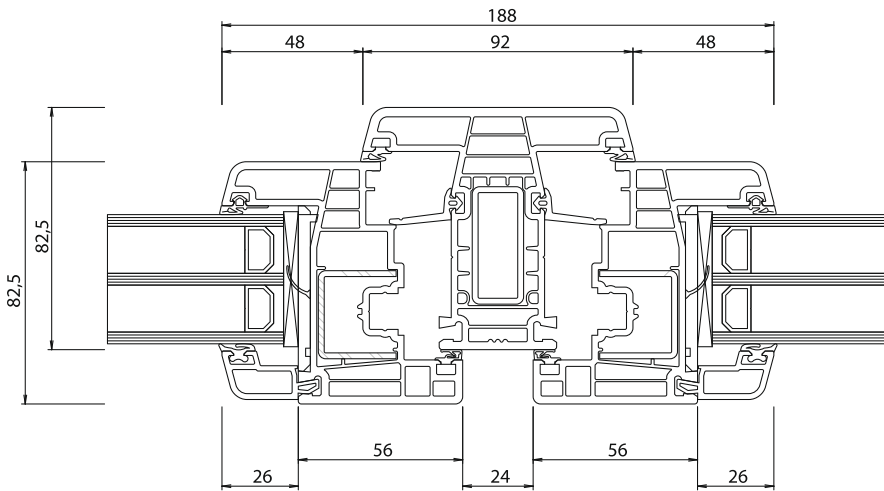
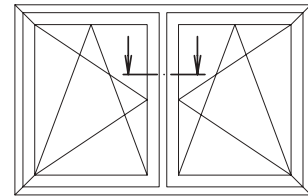


Transom Steel	6050	$I_x=3,89 \text{ cm}^4$ $I_y=1,01 \text{ cm}^4$
	6712 40x17.5 t=2mm	
Sash Steel	6003	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
	6706 30x26.5 t=2mm	

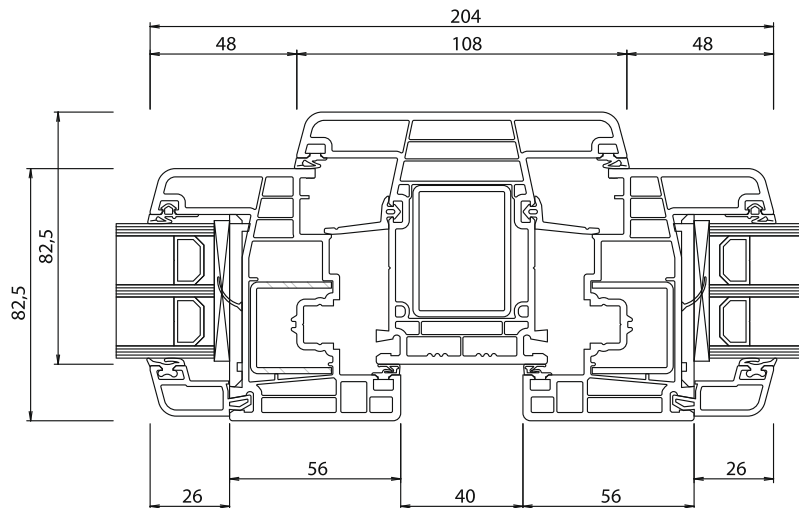


Transom Steel	6022	$I_x=7,09 \text{ cm}^4$ $I_y=4,48 \text{ cm}^4$
	6727 43x32 t=2mm	
Sash Steel	6003	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
	6706 30x26.5 t=2mm	

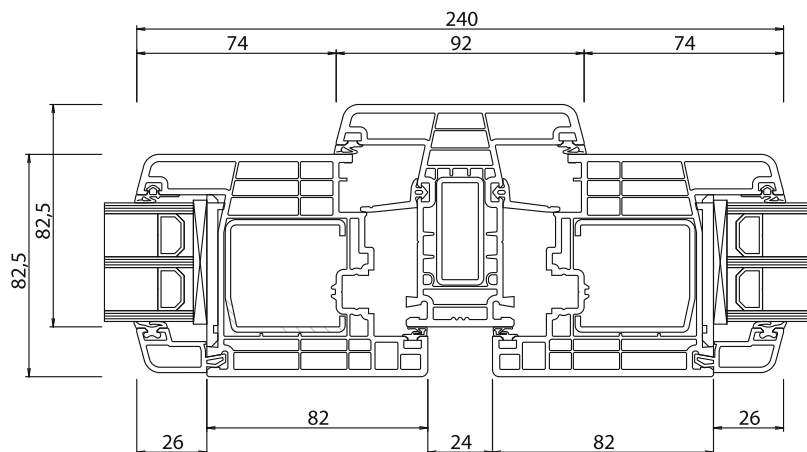
**Sash - Transom - Sash / Flügel Pfosten Flügel /  
Anta - Montante Anta / Cercevea - Montant - Cercevea**



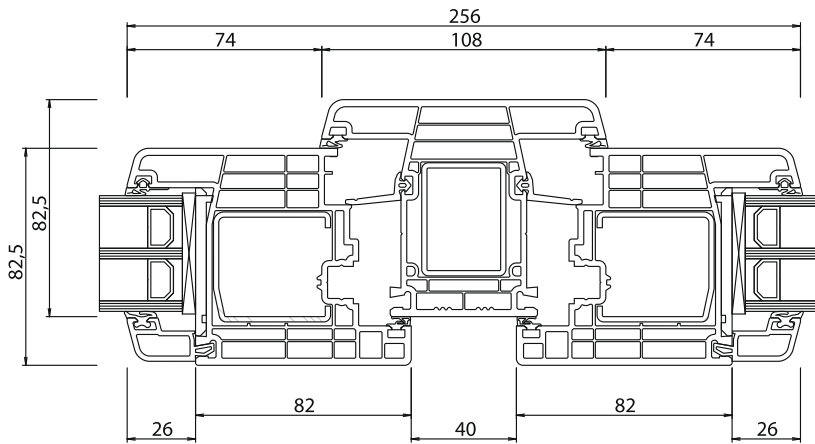
Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$
Transom	6050	
Steel	6712	
	40x17.5	$I_x=3,89 \text{ cm}^4$
	t=2mm	$I_y=1,01 \text{ cm}^4$
Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$



Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$
Transom	6022	
Steel	6727	
	43x32	$I_x=7,09 \text{ cm}^4$
	t=2mm	$I_y=4,48 \text{ cm}^4$
Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$

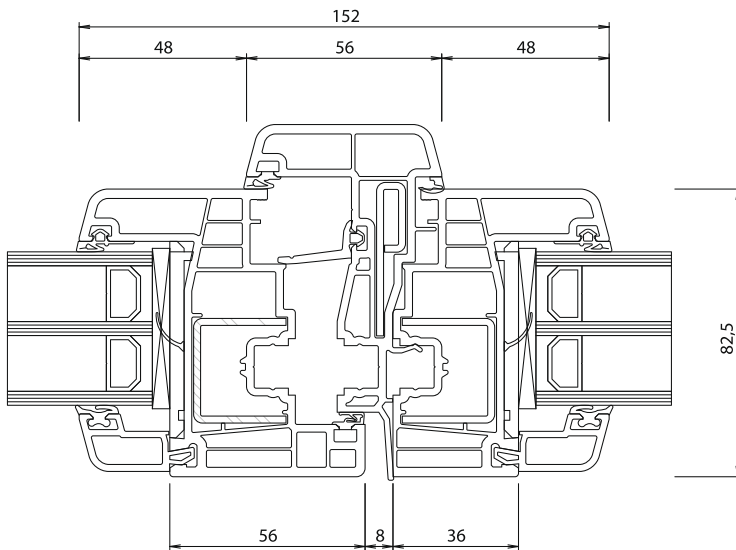
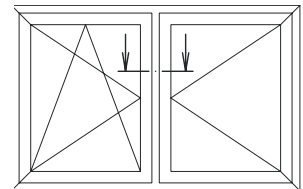


Sash	6017	
Steel	6720	
	42x44.5	$I_x=7,98 \text{ cm}^4$
	t=2mm	$I_y=6,01 \text{ cm}^4$
Transom	6050	
Steel	6712	
	40x17.5	$I_x=3,89 \text{ cm}^4$
	t=2mm	$I_y=1,01 \text{ cm}^4$
Sash	6017	
Steel	6720	
	42x44.5	$I_x=7,98 \text{ cm}^4$
	t=2mm	$I_y=6,01 \text{ cm}^4$

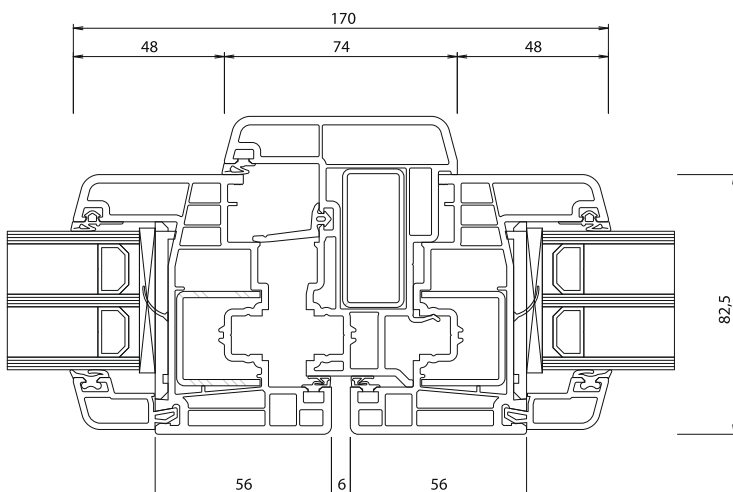


Sash	6017	
Steel	6720	
	42x44.5	$I_x=7,98 \text{ cm}^4$
	t=2mm	$I_y=6,01 \text{ cm}^4$
Transom	6022	
Steel	6727	
	43x32	$I_x=7,09 \text{ cm}^4$
	t=2mm	$I_y=4,48 \text{ cm}^4$
Sash	6017	
Steel	6720	
	42x44.5	$I_x=7,98 \text{ cm}^4$
	t=2mm	$I_y=6,01 \text{ cm}^4$

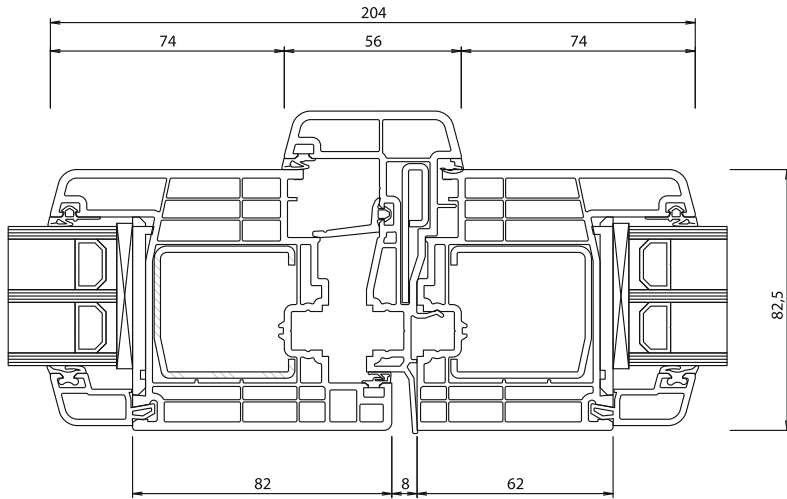
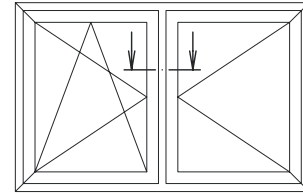
**Sash - Floating Mullion - Sash / Flügel - Stulp - Flügel /  
Anta - Profilo Riporto - Anta / Cercevea - Ştulp - Cercevea**



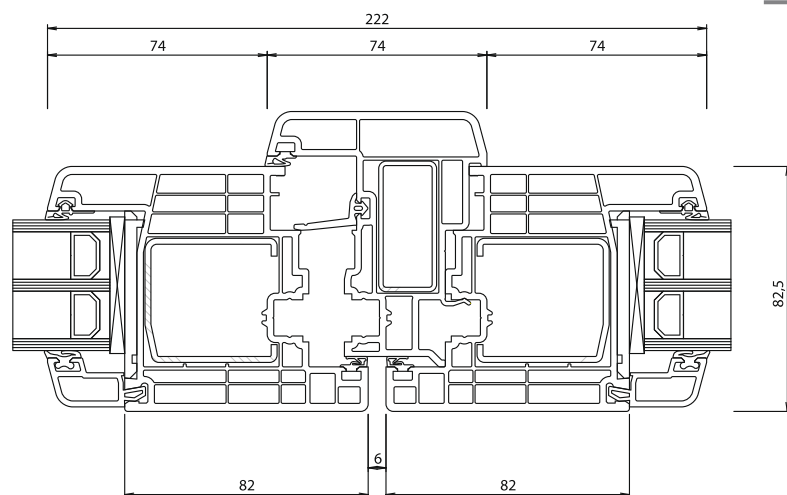
Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$
Floating Mullion	6020	
Steel	6730	
	44x8.5	$I_x=2,12 \text{ cm}^4$
	t=2mm	$I_y=0,11 \text{ cm}^4$
Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$



Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$
Floating Mullion	6012	
Steel	6711	
	44x19.5	$I_x=2,12 \text{ cm}^4$
	t=1,5 mm	$I_y=0,11 \text{ cm}^4$
Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$

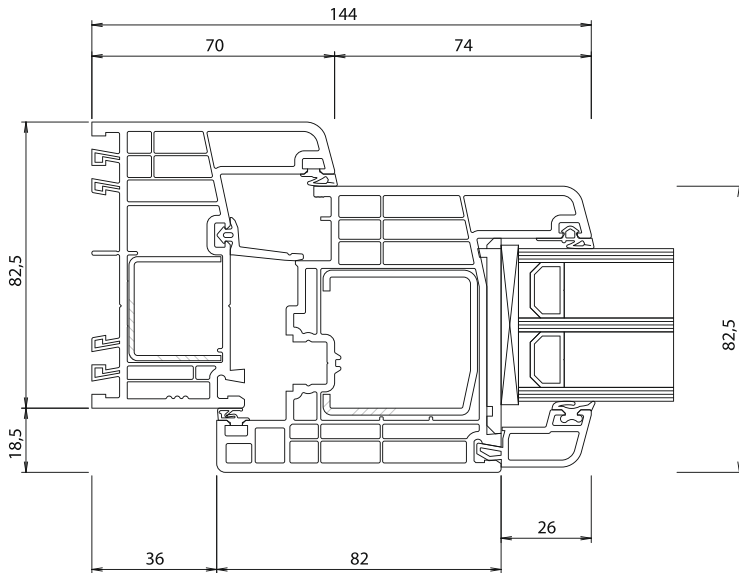
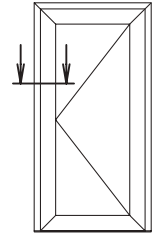


Sash	6017	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
Steel	6720 42x44.5 t=2mm	
Floating Mullion	6020	$I_x=2,12 \text{ cm}^4$ $I_y=0,11 \text{ cm}^4$
Steel	6730 44x8.5 t=2mm	
Sash	6017	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
Steel	6720 42x44.5 t=2mm	

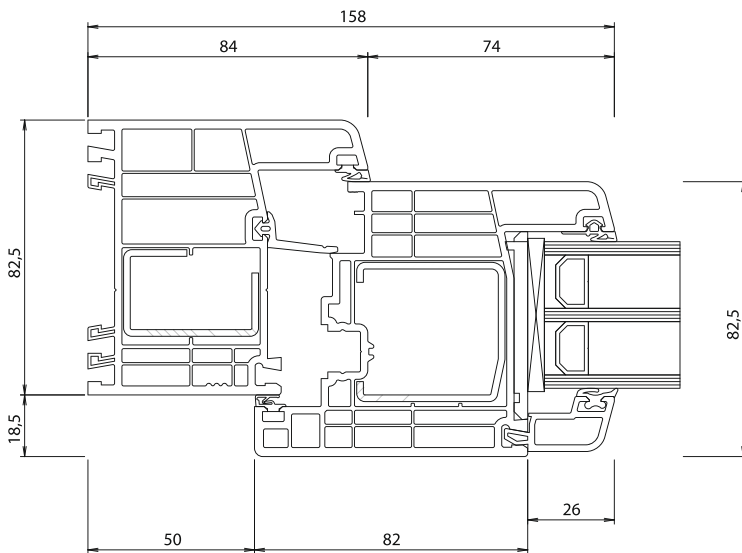


Sash	6017	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
Steel	6720 42x44.5 t=2mm	
Floating Mullion	6012	$I_x=2,12 \text{ cm}^4$ $I_y=0,11 \text{ cm}^4$
Steel	6711 44x19.5 t=1,5 mm	
Sash	6017	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
Steel	6720 42x44.5 t=2mm	

**Frame - Sash / Blendrahmen Flügel /  
Telaio - Anta / Toc - Cercevea**



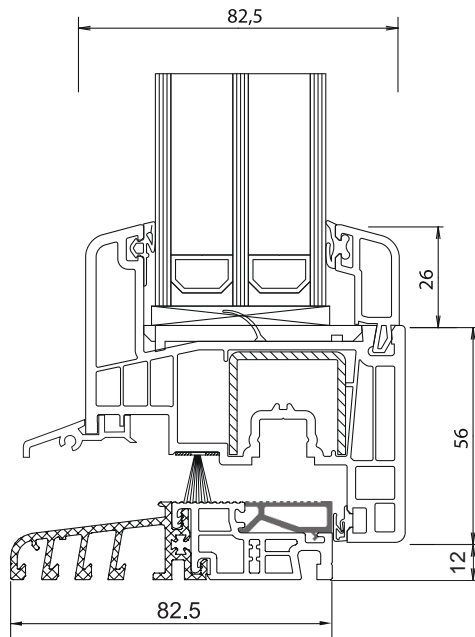
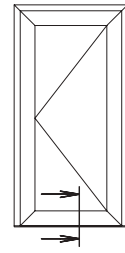
<b>Frame</b>	<b>6002</b>	
<b>Steel</b>	<b>6706</b>	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
	30x26.5 t=2mm	
<b>Sash</b>	<b>6017</b>	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
<b>Steel</b>	<b>6720</b>	
	42x44.5 t=2mm	



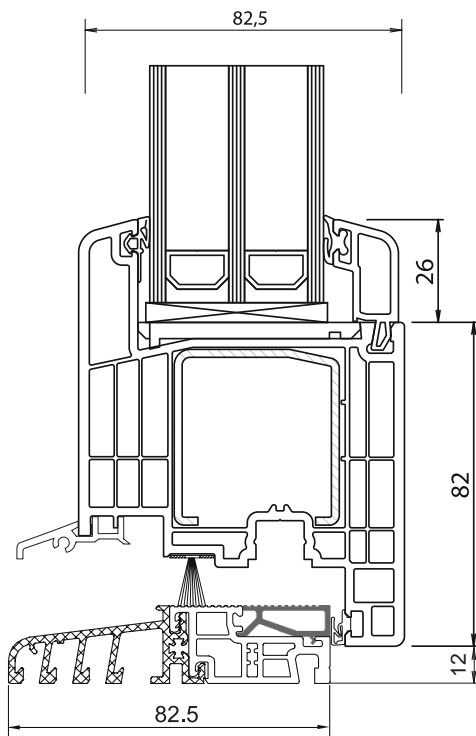
<b>Frame</b>	<b>6016</b>	
<b>Steel</b>	<b>6716</b>	$I_x=1,76 \text{ cm}^4$ $I_y=4,23 \text{ cm}^4$
	26x40.5 t=2mm	
<b>Sash</b>	<b>6017</b>	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
<b>Steel</b>	<b>6720</b>	
	42x44.5 t=2mm	



**Threshold - Sash / Schwellenprofil - Flügel /**  
**Soglia - Anta / Prag - Cercevea**

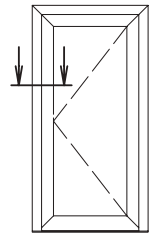
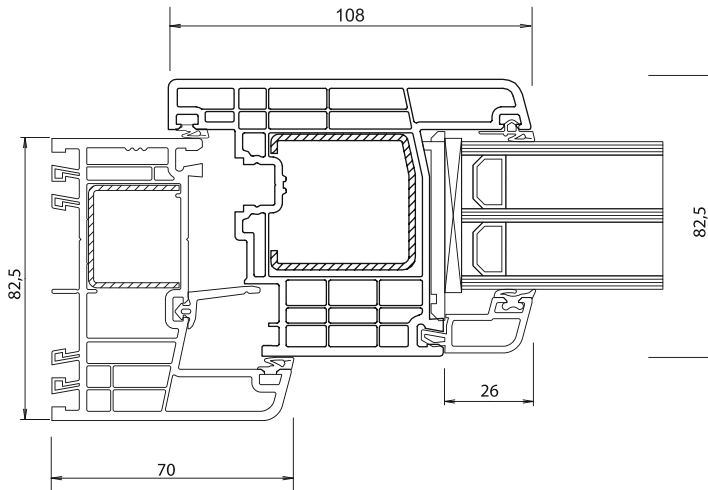


Threshold	2596	
Sash	6003	
Steel	6706	
	30x26.5	$I_x=2,32 \text{ cm}^4$
	t=2mm	$I_y=1,13 \text{ cm}^4$

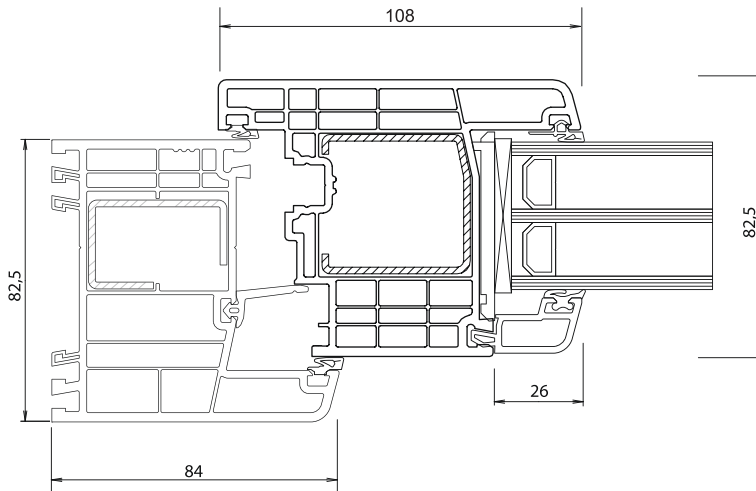


Threshold	2596	
Sash	6017	
Steel	6720	
	42x44.5	$I_x=7,98 \text{ cm}^4$
	t=2mm	$I_y=6,01 \text{ cm}^4$

**Frame - Sash outside opening / Blendrahmen - Flügel außen öffnend /**  
*Telaio - Anta apertura esterna / Toc - Cercevea deschidere exterioară*

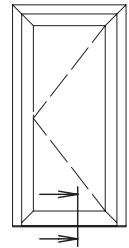
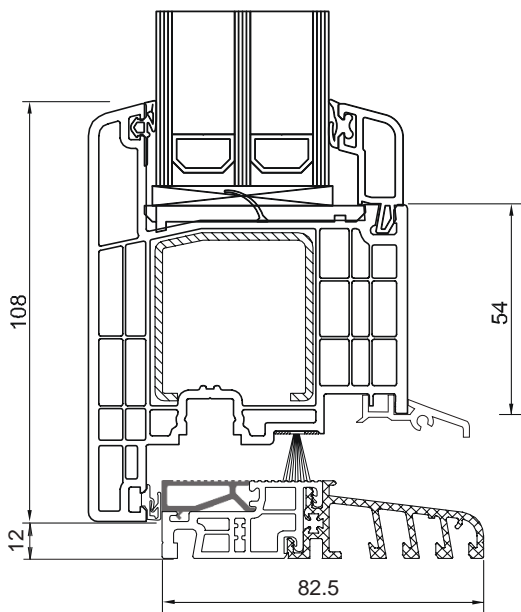


Frame Steel	6002	$I_x=2,32 \text{ cm}^4$ $I_y=1,13 \text{ cm}^4$
	6706 30x26.5 t=2mm	
Sash Steel	6033	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
	6720 42x44.5 t=2mm	



Frame Steel	6016	$I_x=1,76 \text{ cm}^4$ $I_y=4,23 \text{ cm}^4$
	6716 26x40.5 t=2mm	
Sash Steel	6033	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
	6720 42x44.5 t=2mm	

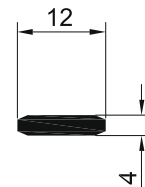
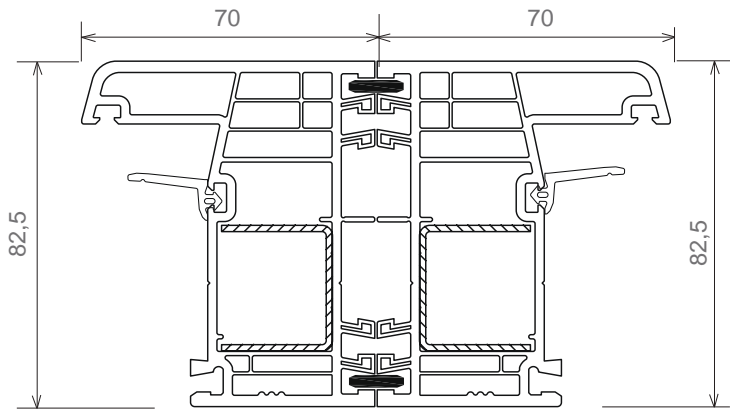
**Threshold - Sash outside opening / Schwellenprofil - Flügel außen öffnend /**  
*Soglia - Anta apertura esterna / Prag - Cercevea deschidere exterioară*



Threshold	2596	$I_x=7,98 \text{ cm}^4$ $I_y=6,01 \text{ cm}^4$
Sash Steel	6033 6720 42x44.5 t=2mm	

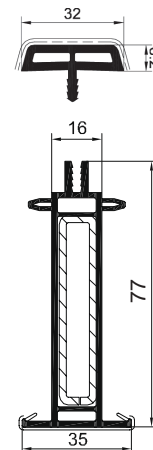
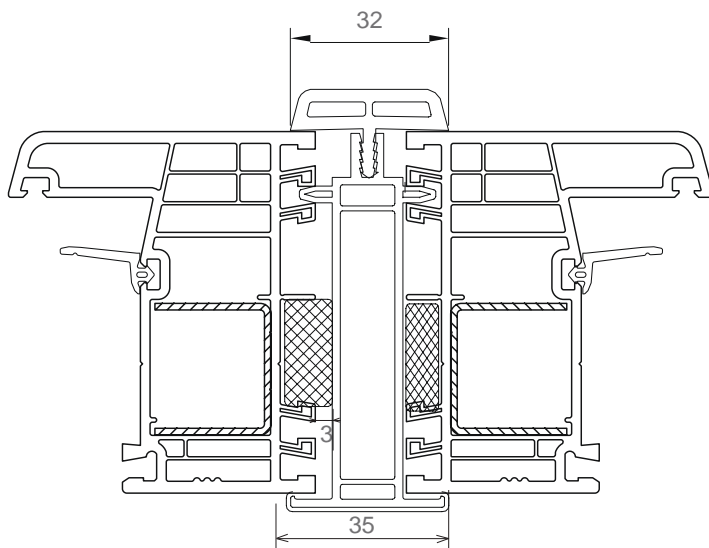
**Coupling profiles / Kopplungsprofile /  
Profili di accoppiamento / Profile de cuplare**

**Coupling profile gasket / Kopplungsdichtung /  
Guarnizione giunto / Garnitură de cuplare**



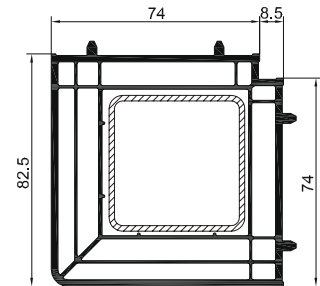
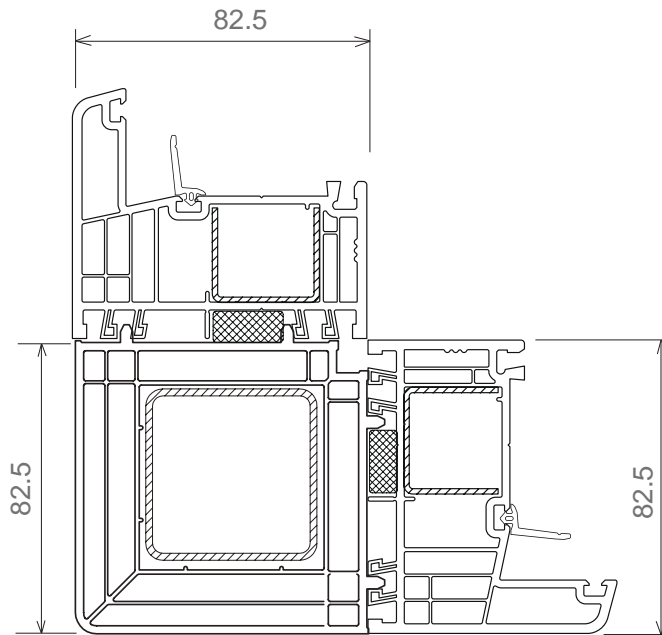
500730

**H coupler / H Kopplung / Profilo di accoppiamento /  
Profil cuplare ranforsat**



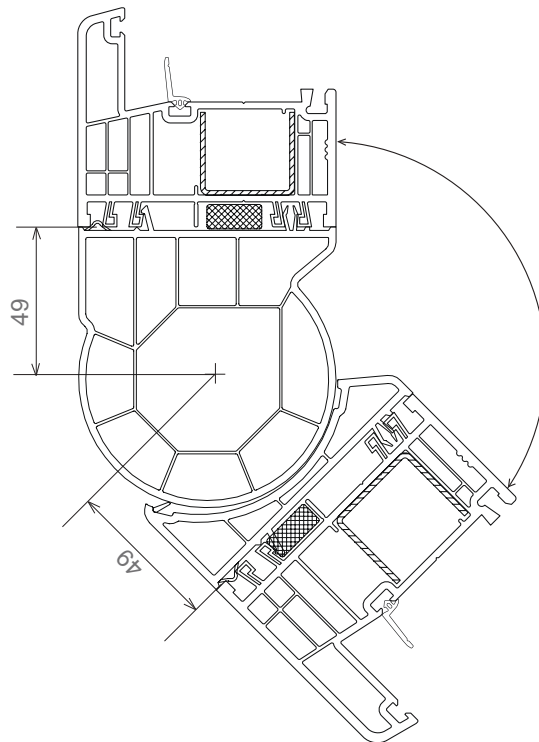
6281  
Steel 7796  
 $I_x=9,19\text{cm}^4$

**Corner coupling 90° / Eckkopplung 90° /  
Giunto angolare 90° / Profil cuplare 90°**

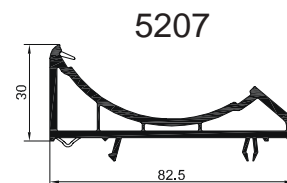
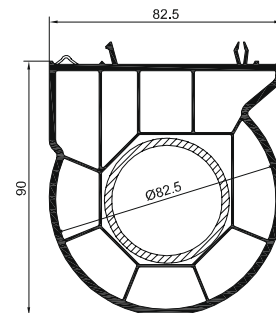


**2304**  
Steel 7718  
 $I_x = 7,11 \text{ cm}^4$

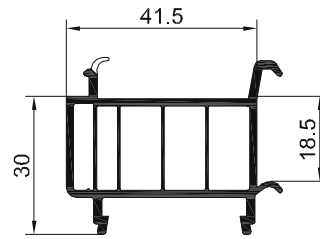
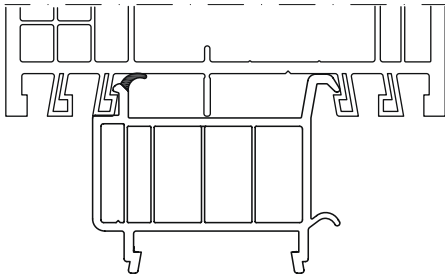
**Bay pole / Eckkopplung variabel / Giunto angolare variabile / Profil cuplare unghi variabil**



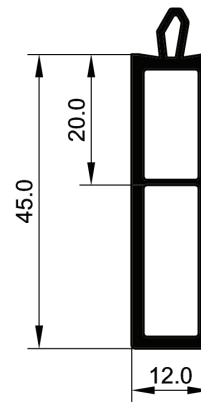
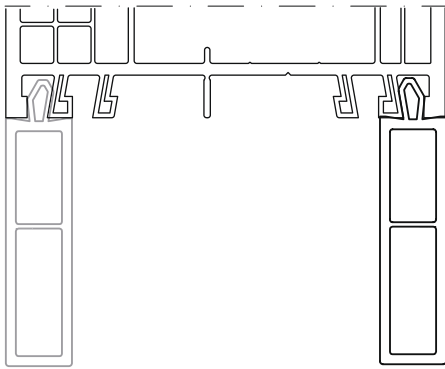
**Profile: 5206**  
Steel 7711  
 $I_x = 7,54 \text{ cm}^4$



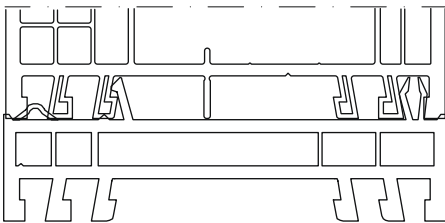
**Base profiles / Sohlbankprofile /  
Profilo appoggio inferiore / Profile supraînălțare pervaz**



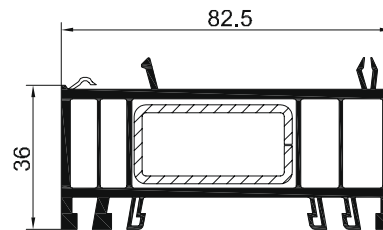
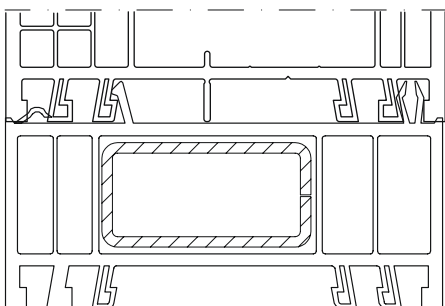
7205



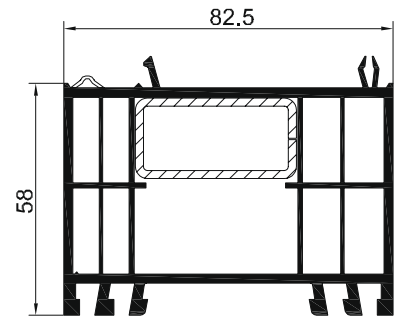
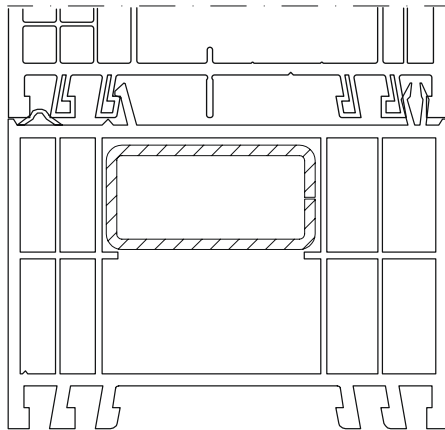
3217



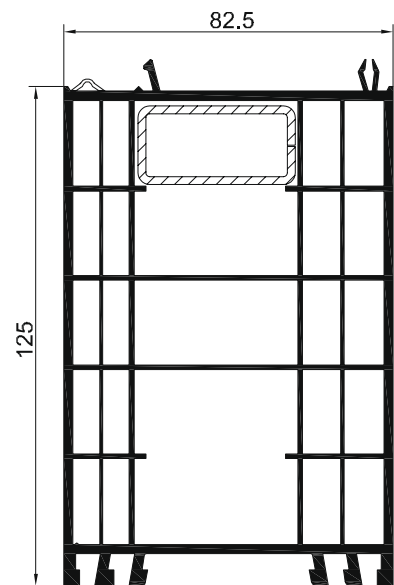
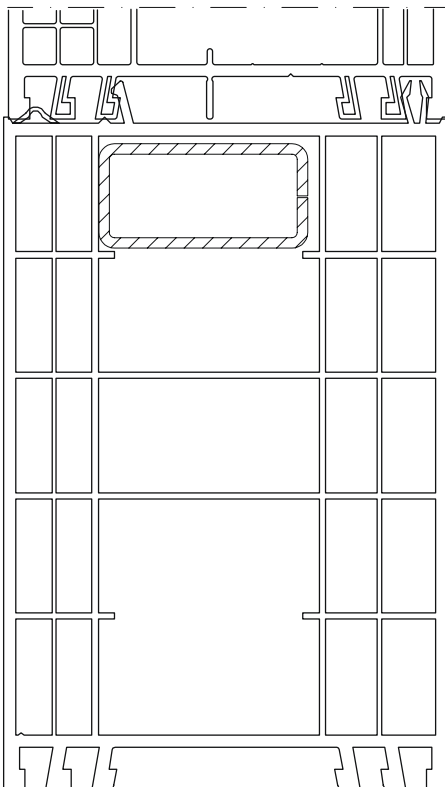
5201



5213  
Steel 2724\*  
\*Optional



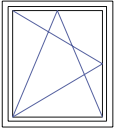
5202  
Steel 2724\*  
\*Optional



5203  
Steel 2724\*  
\*Optional

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

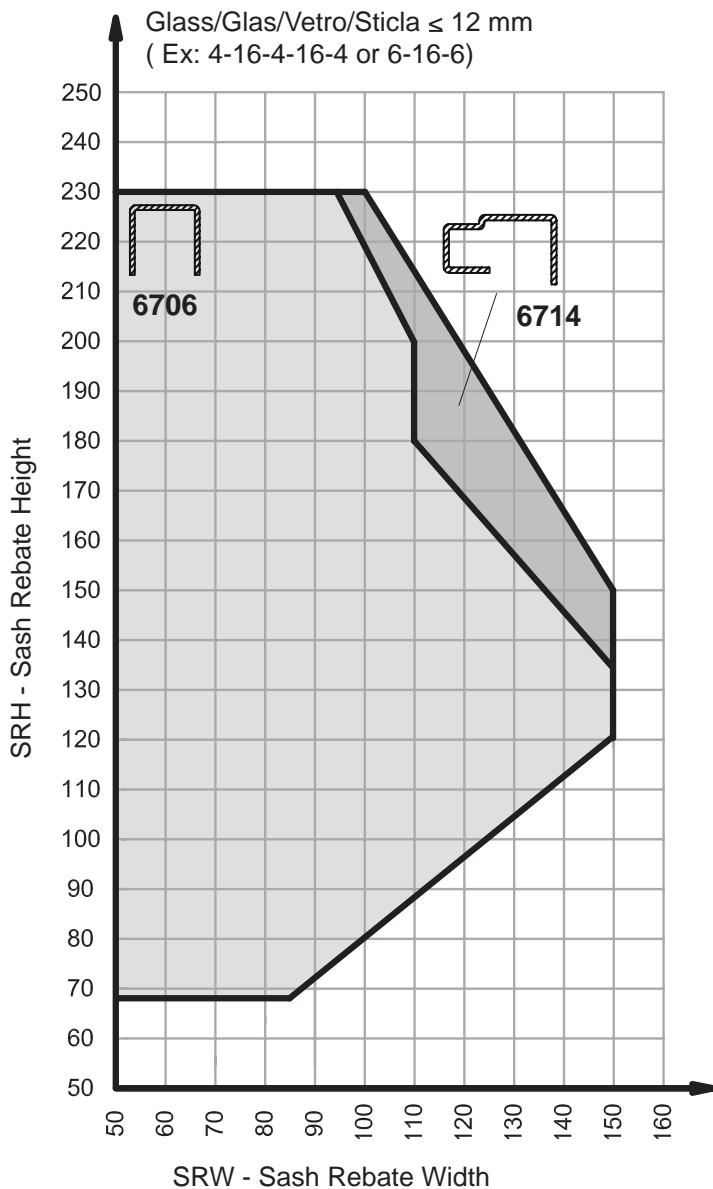
Opening types



Profile: **WHITE** / WEISS / BIANCO / ALB

Glass:  $\leq 30 \text{ kg/m}^2$

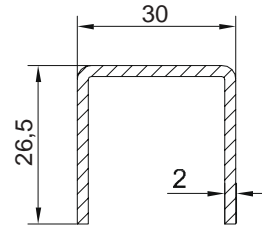
Sash: Standard



Steel

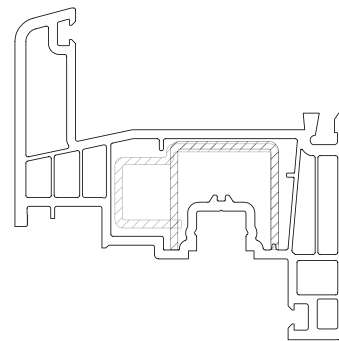
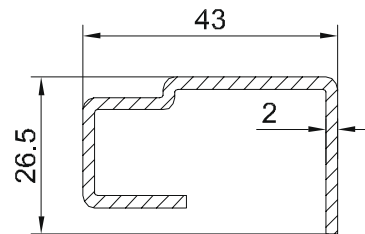
6706

30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm

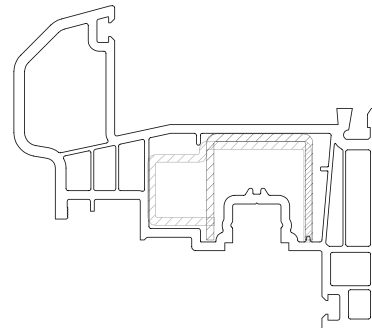


6714

43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003



Sash 6023

**The sash width must not be greater than the sash height by more than 25%**

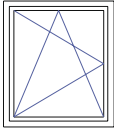
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră

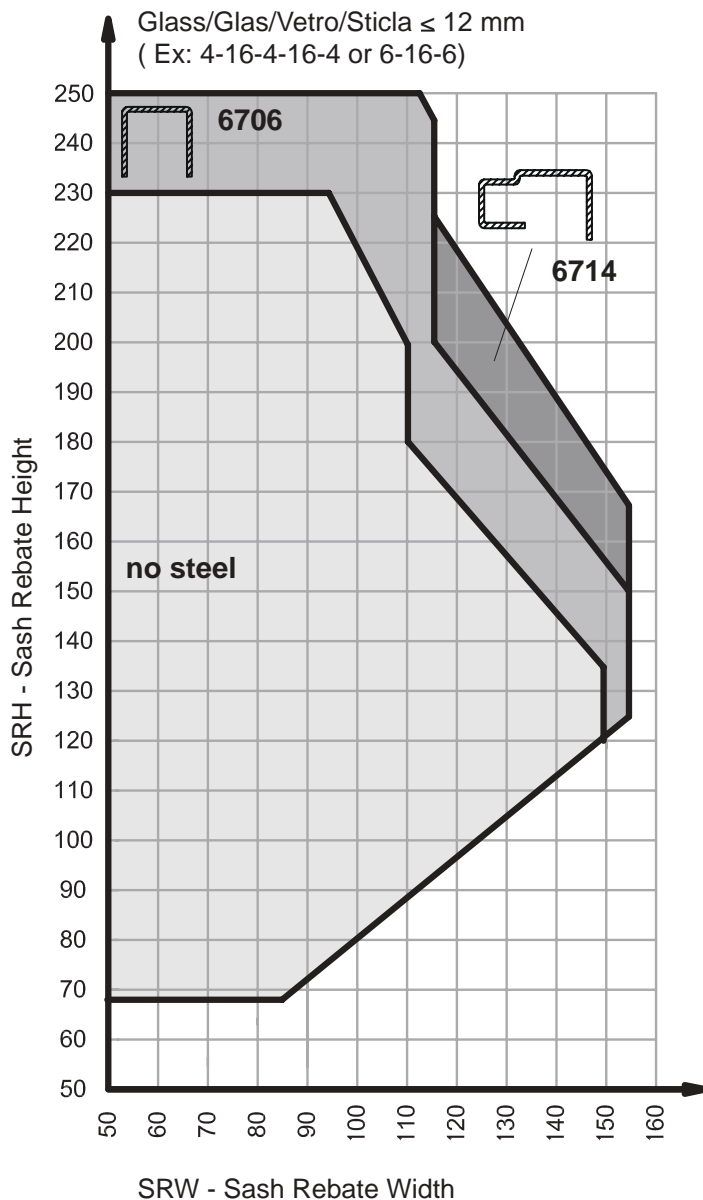
Opening types



Profile: **WHITE / WEISS / BIANCO / ALB**

Glass:  $\leq 30 \text{ kg/m}^2$

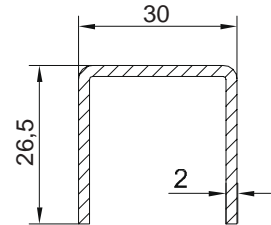
Sash: STV



Steel

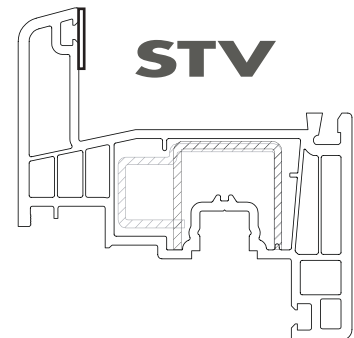
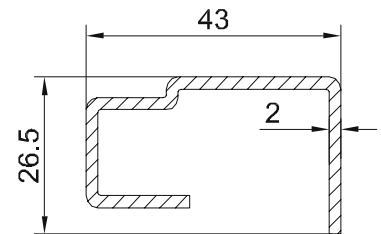
**6706**

30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm

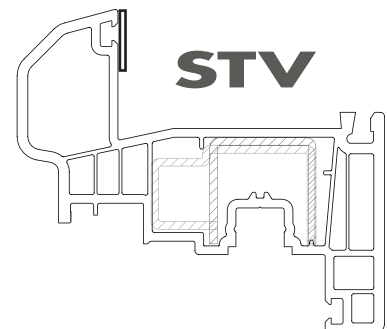


**6714**

43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003A



Sash 6023A

**The sash width must not be greater than the sash height by more than 25%**

Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

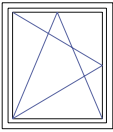
La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%



**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră

Opening types



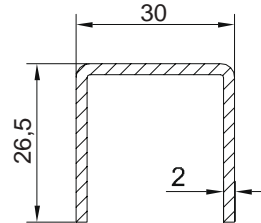
Profile: **COLOR** / FARBE / PELLICOLATO / COLOR

Glass:  $\leq 30 \text{ kg/m}^2$

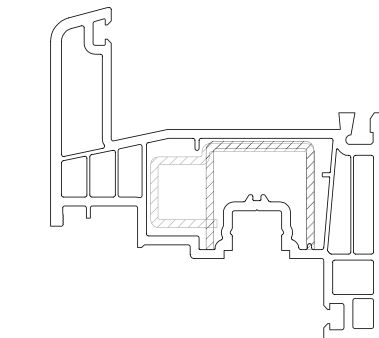
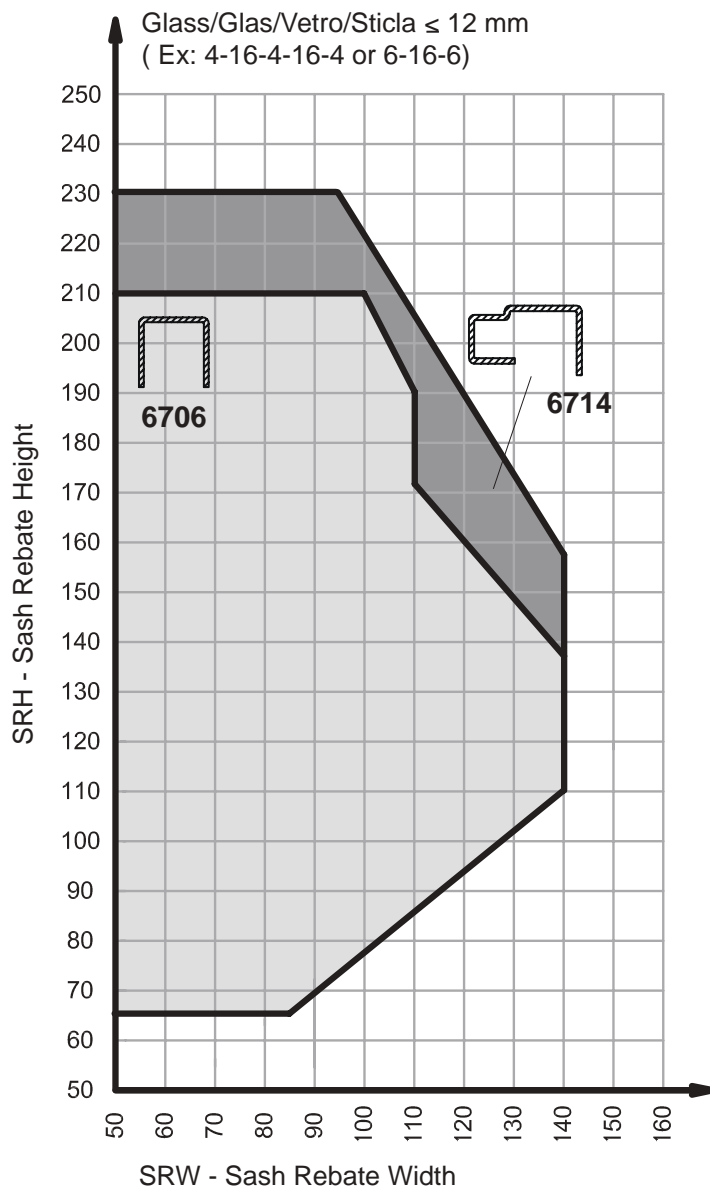
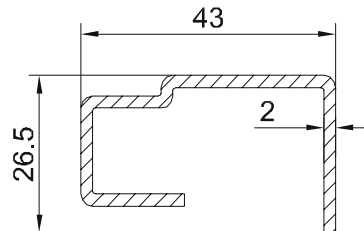
Sash: Standard

Steel

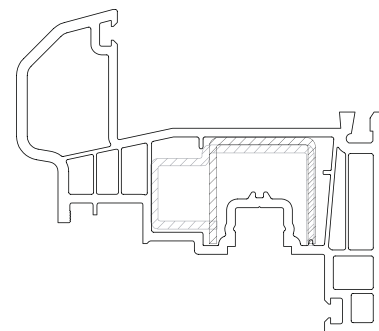
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003



Sash 6023

**The sash width must not be greater than the sash height by more than 25%**

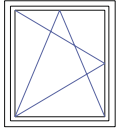
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /  
Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră**

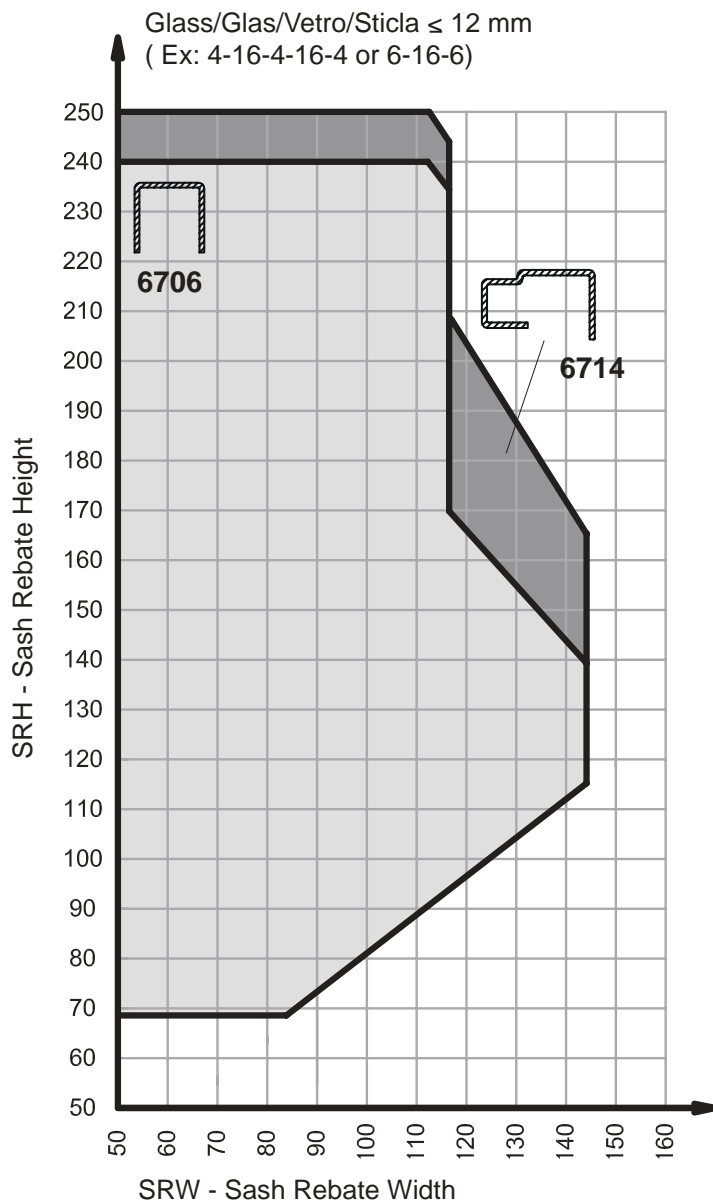
Opening types



Profile: **COLOR / FARBE / PELLICOLATO / COLOR**

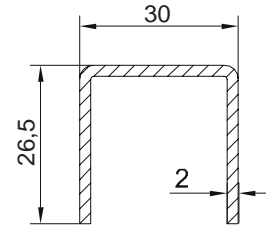
Glass:  $\leq 30 \text{ kg/m}^2$

Sash: STV

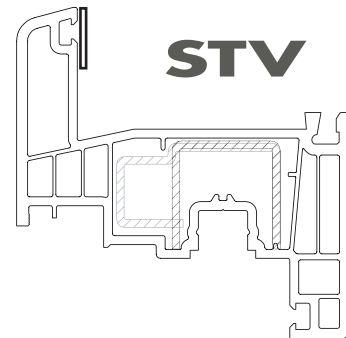
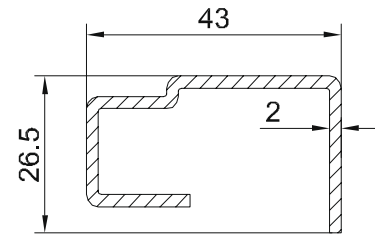


Steel

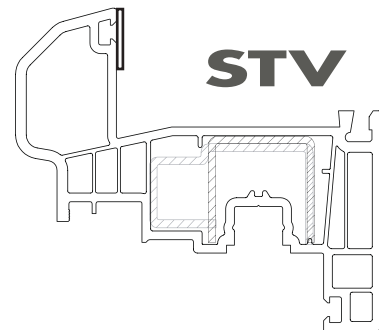
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003A



Sash 6023A

**The sash width must not be greater than the sash height by more than 25%**

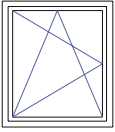
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

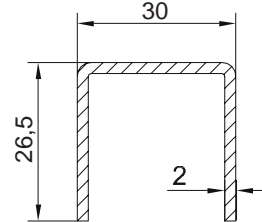
Opening types



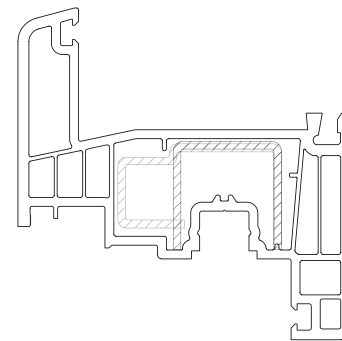
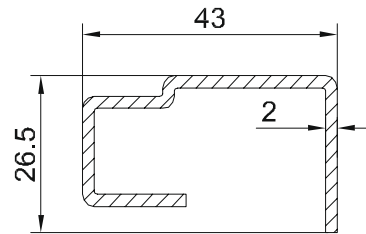
Profile: **WHITE and COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO / ALB si COLOR*  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: Standard

Steel

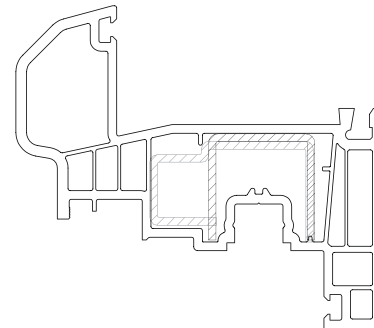
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



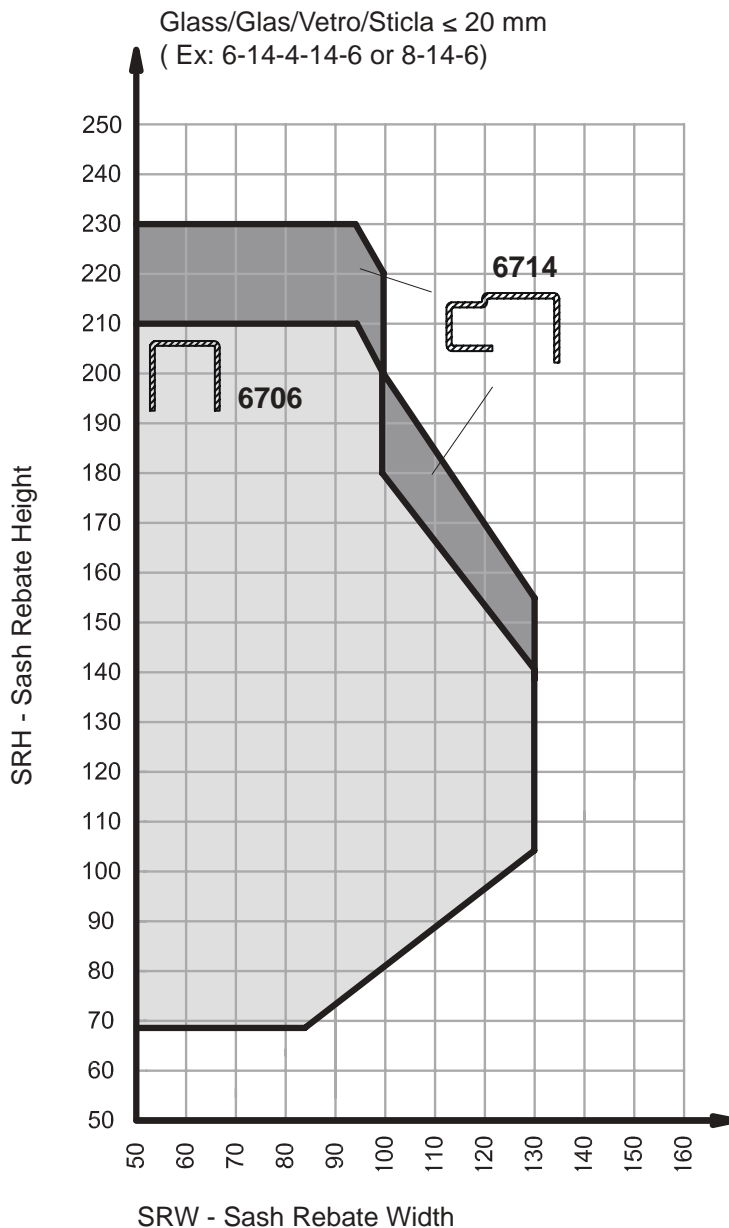
**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003



Sash 6023



**The sash width must not be greater than the sash height by more than 25%**

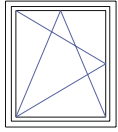
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

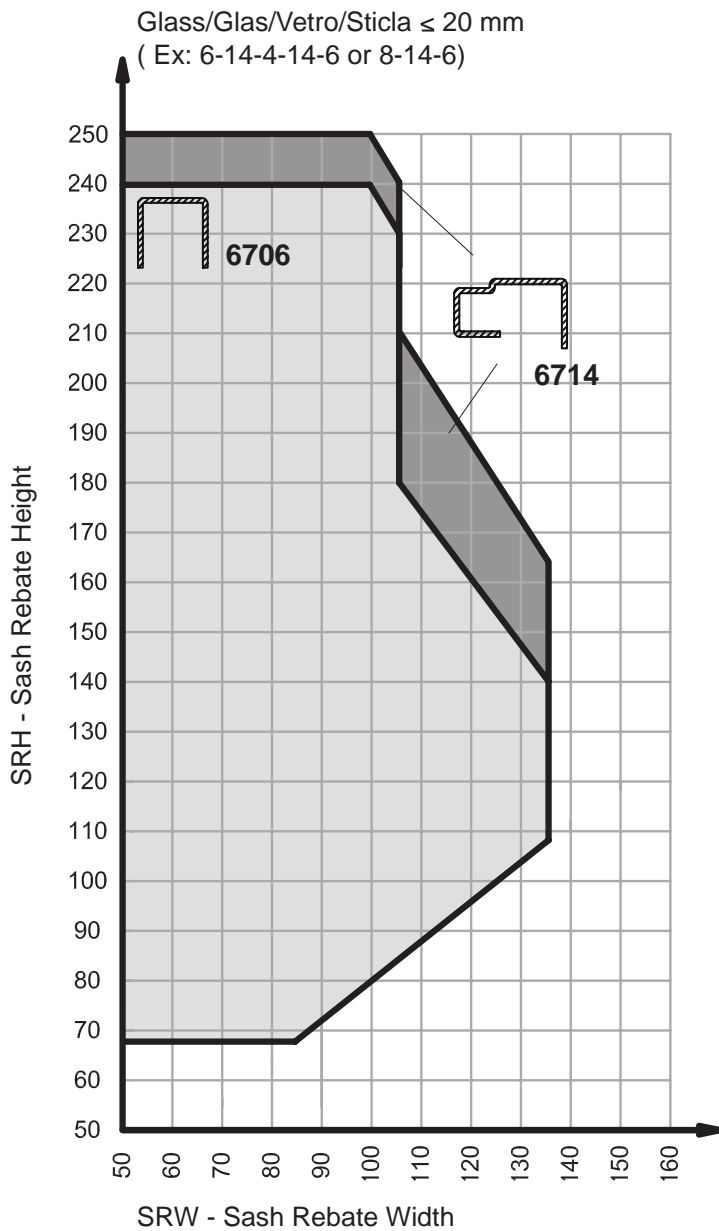
Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

Opening types

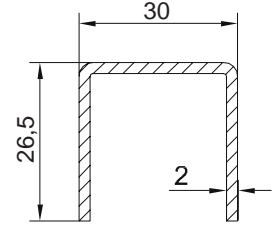


Profile: **WHITE and COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO* / ALB si COLOR  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: STV

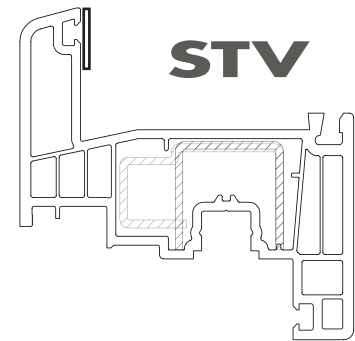
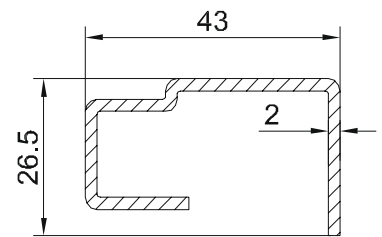


Steel

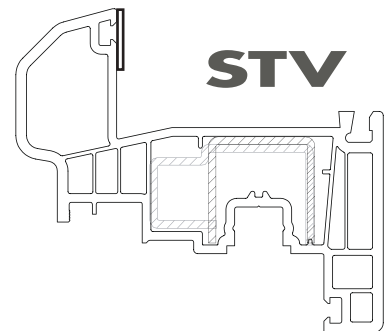
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003A



Sash 6023A

**The sash width must not be greater than the sash height by more than 25%**

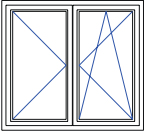
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

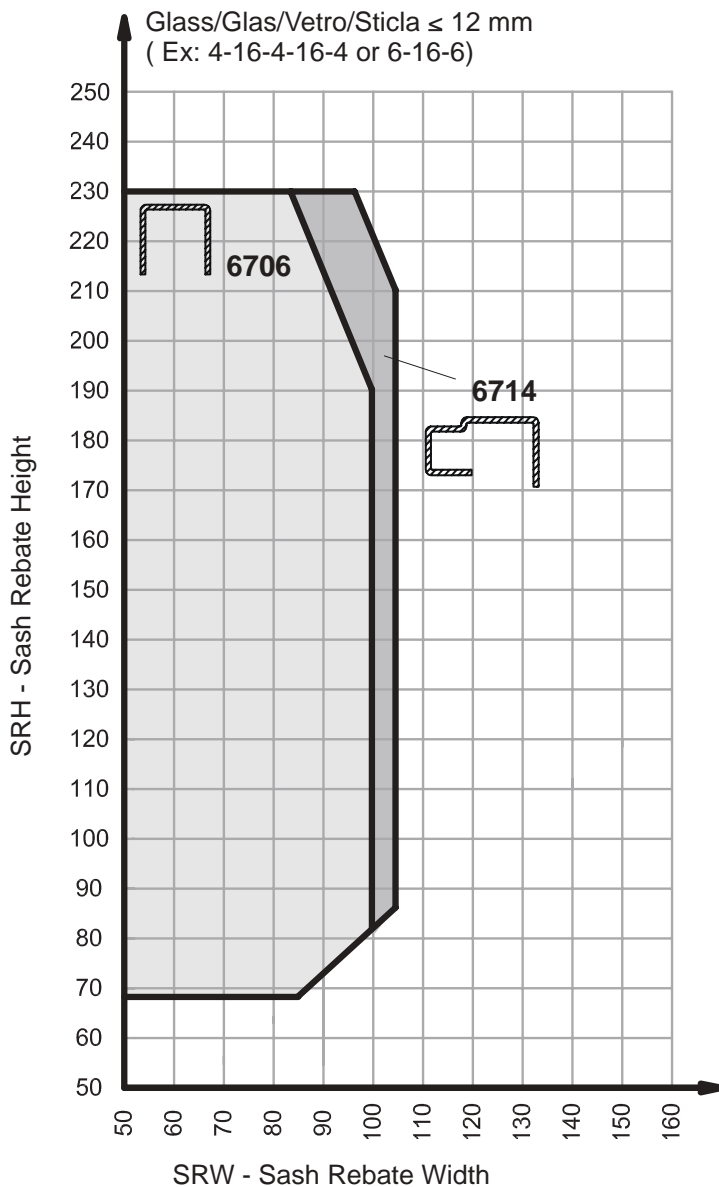
Opening types



Profile: **WHITE** / WEISS / BIANCO / ALB

Glass: ≤ 30 kg/m<sup>2</sup>

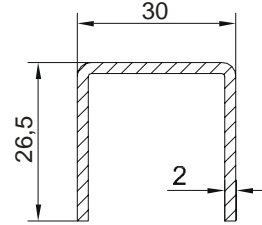
Sash: Standard



Steel

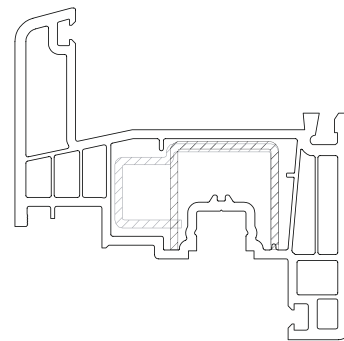
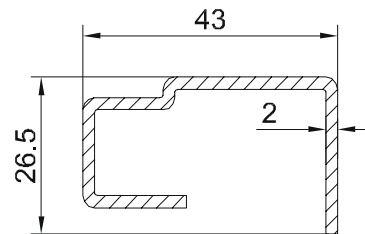
6706

30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm

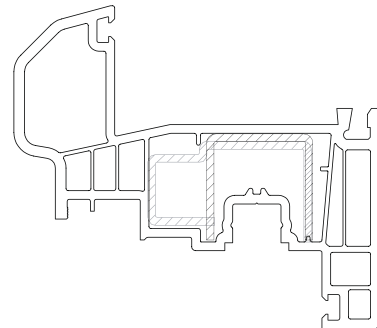


6714

43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003



Sash 6023

**The sash width must not be greater than the sash height by more than 25%**

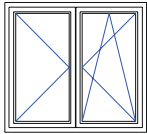
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

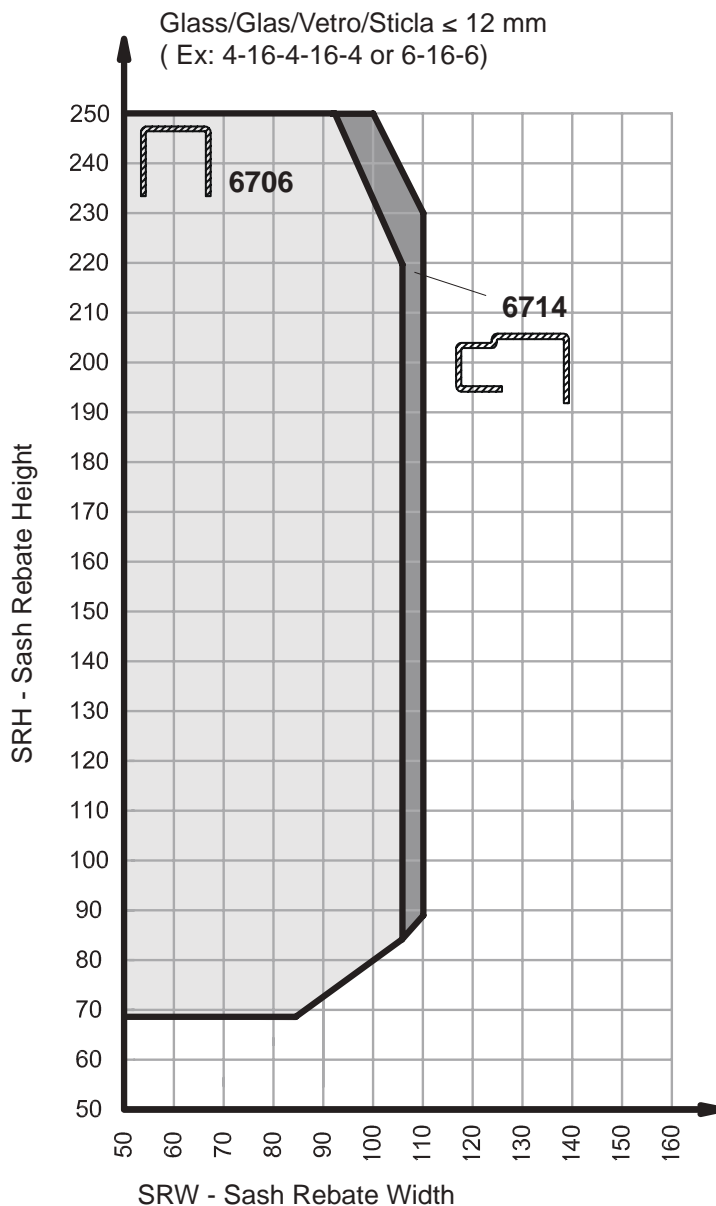
Opening types



Profile: **WHITE / WEISS / BIANCO / ALB**

Glass:  $\leq 30 \text{ kg/m}^2$

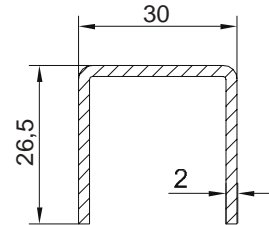
Sash: STV



Steel

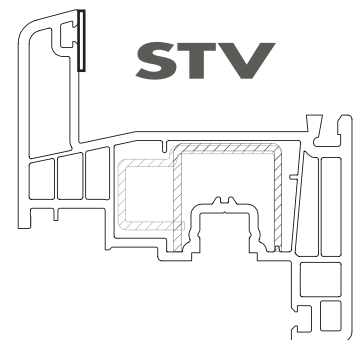
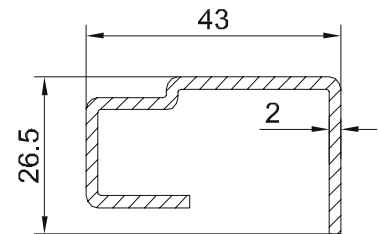
**6706**

30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm

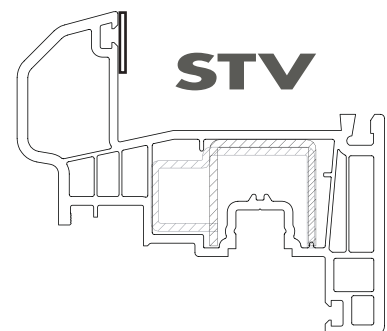


**6714**

43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003A



Sash 6023A

**The sash width must not be greater than the sash height by more than 25%**

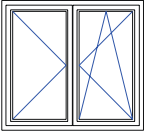
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensioni maxime cercevea fereastră*

Opening types



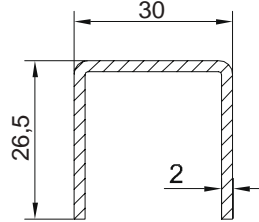
Profile: **COLOR / FARBE / PELLICOLATO / COLOR**

Glass:  $\leq 30 \text{ kg/m}^2$

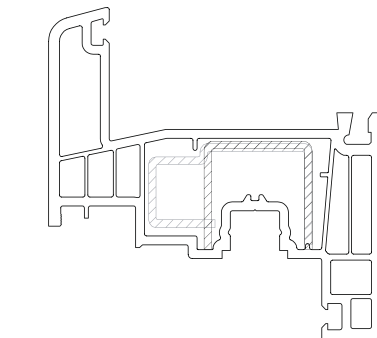
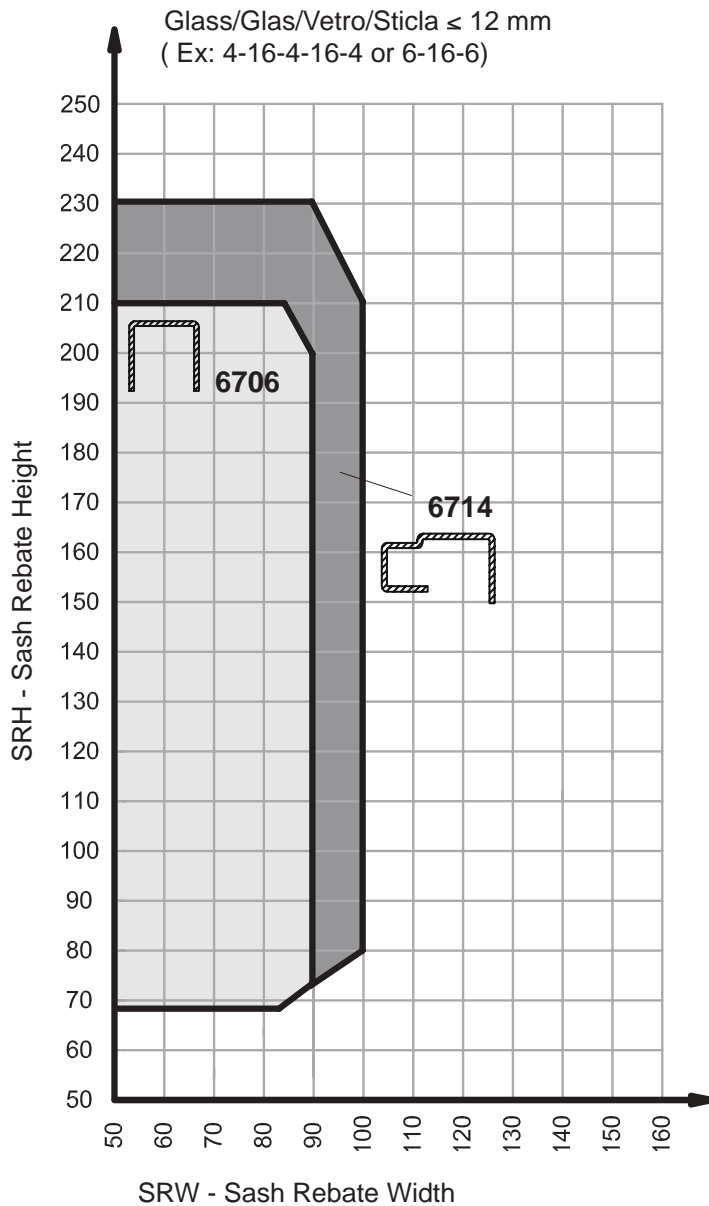
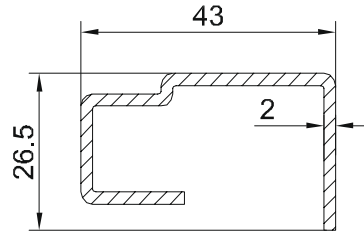
Sash: Standard

Steel

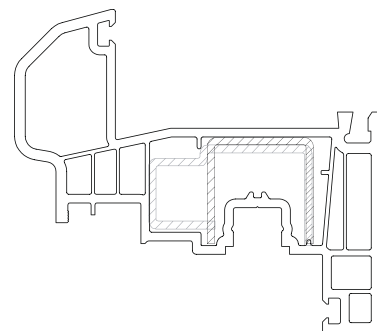
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003



Sash 6023

**The sash width must not be greater than the sash height by more than 25%**

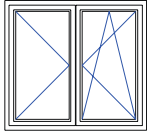
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

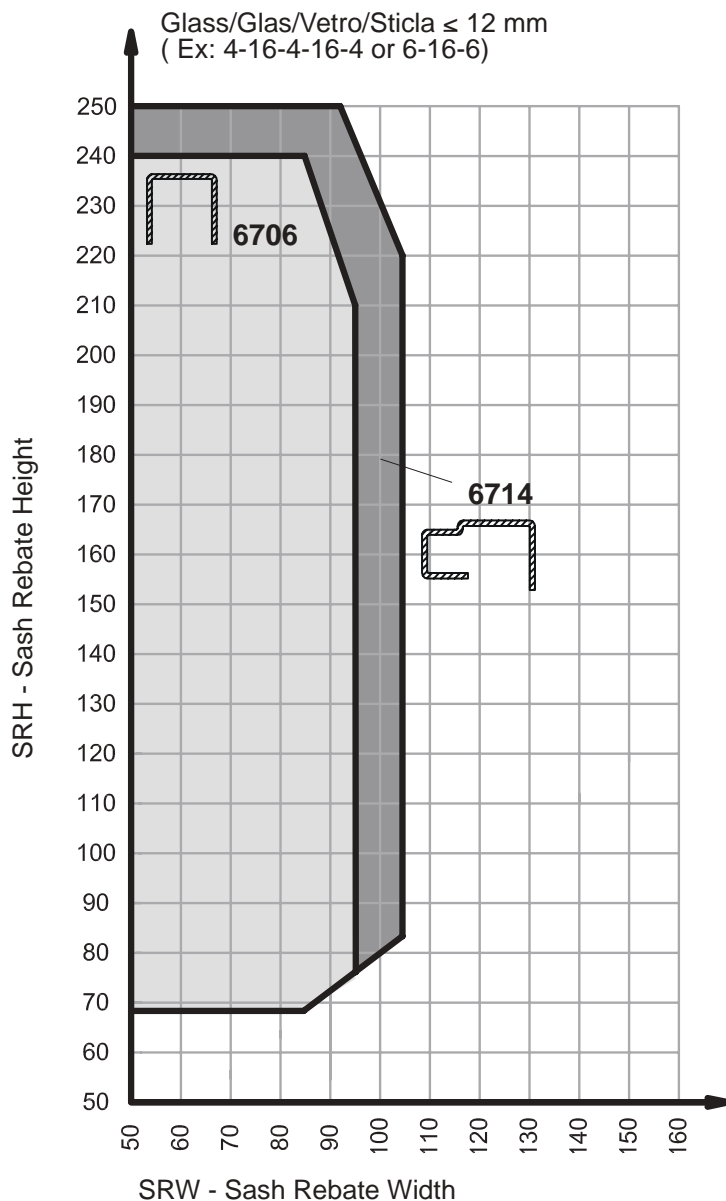
Opening types



Profile: **COLOR / FARBE / PELLICOLATO / COLOR**

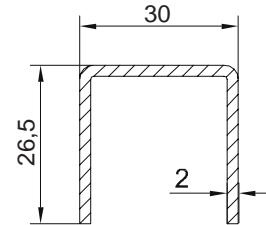
Glass:  $\leq 30 \text{ kg/m}^2$

Sash: STV

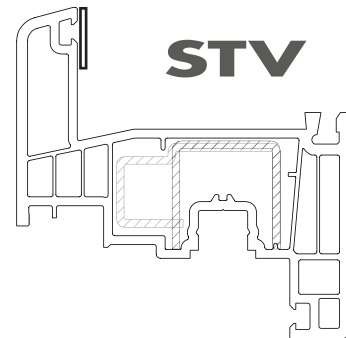
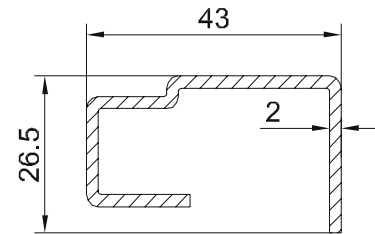


Steel

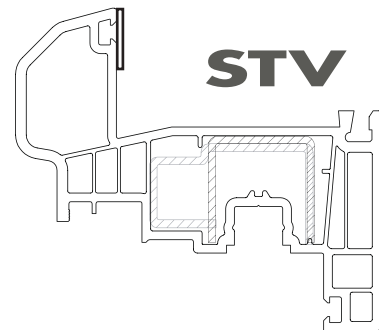
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003A



Sash 6023A

**The sash width must not be greater than the sash height by more than 25%**

Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

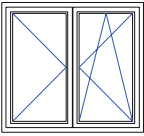
*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%



**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

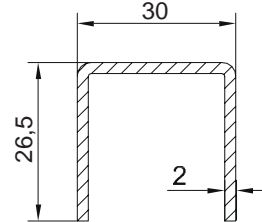
Opening types



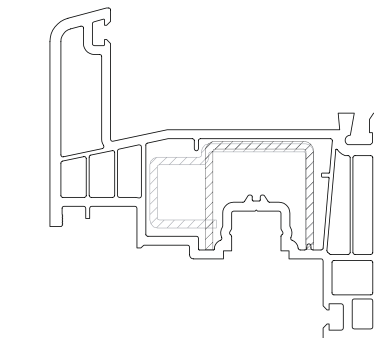
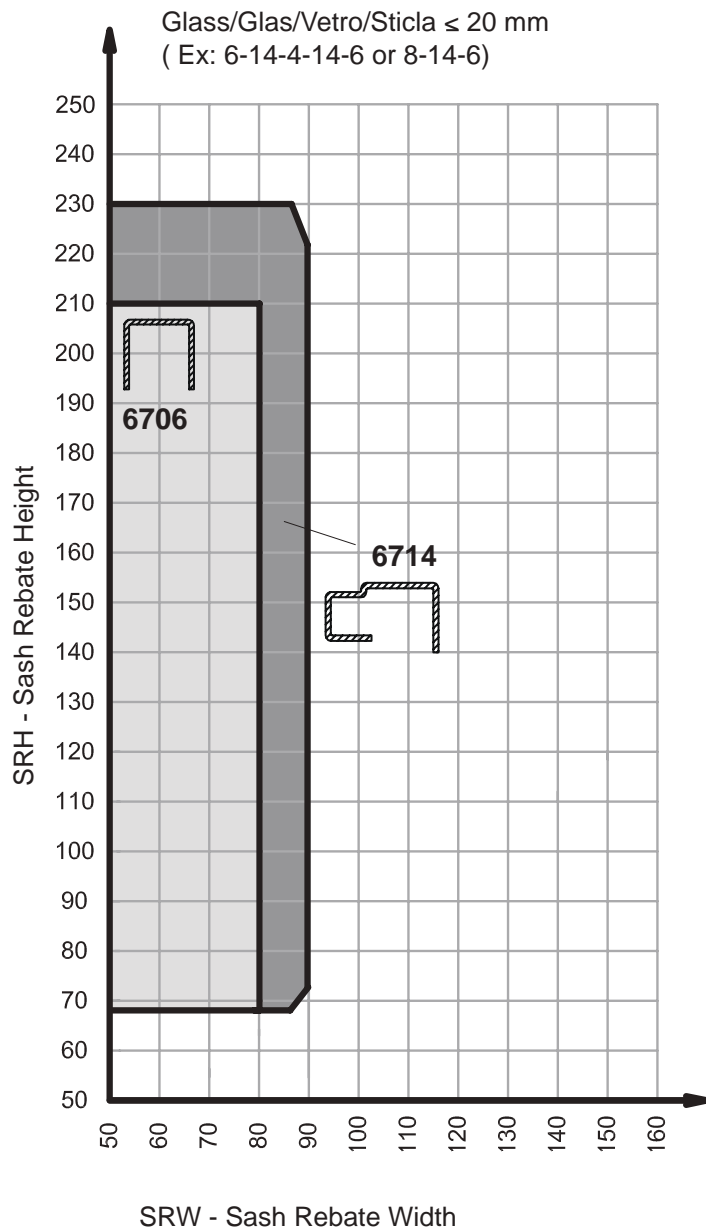
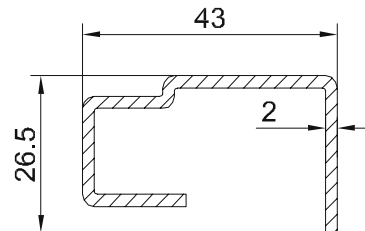
Profile: **WHITE and COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO / ALB si COLOR*  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: Standard

Steel

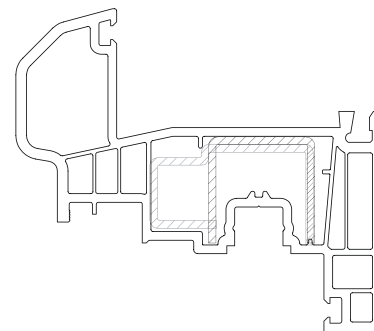
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003



Sash 6023

**The sash width must not be greater than the sash height by more than 25%**

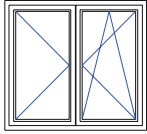
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

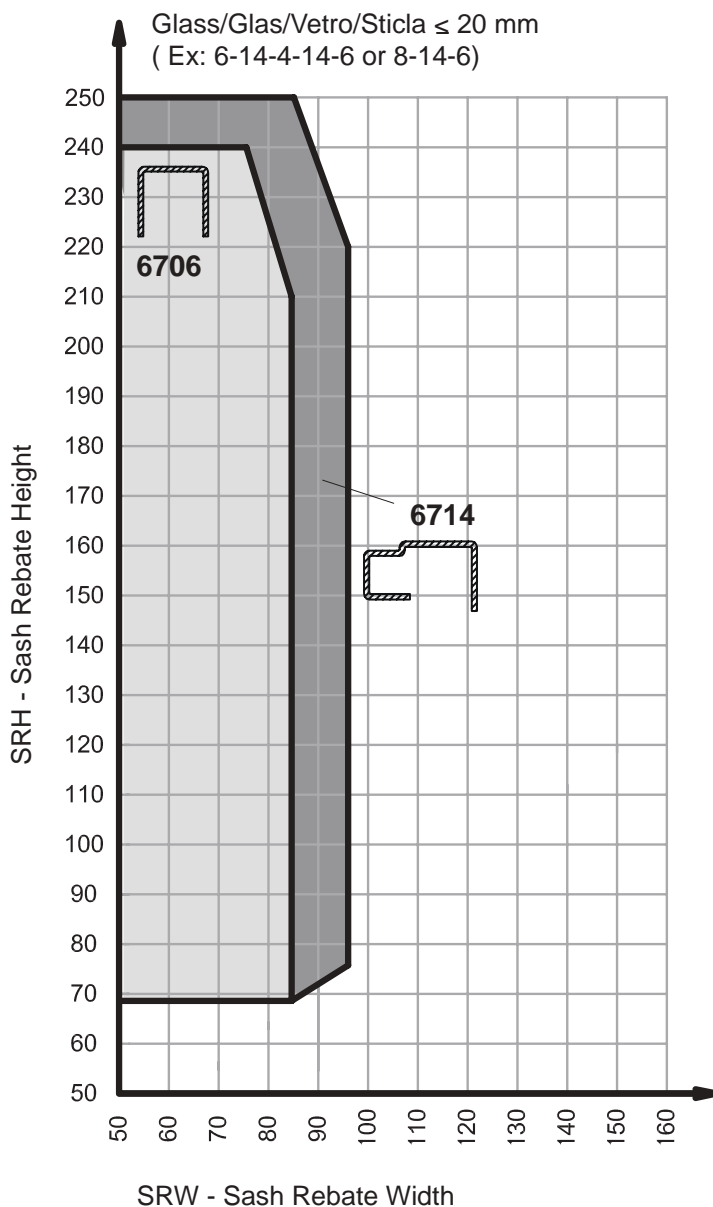
Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

Opening types

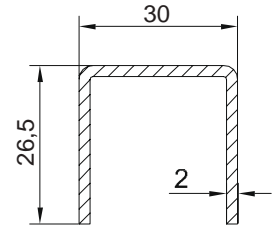


Profile: **WHITE and COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO* / ALB și COLOR  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: STV

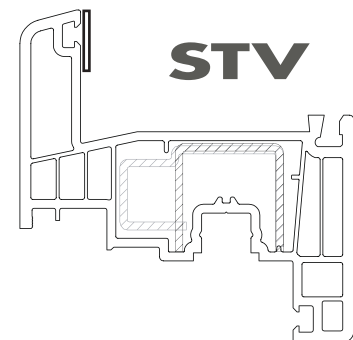
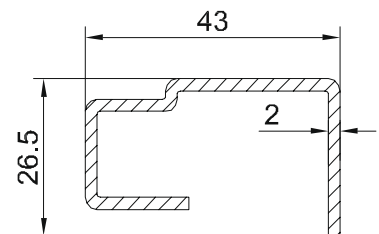


Steel

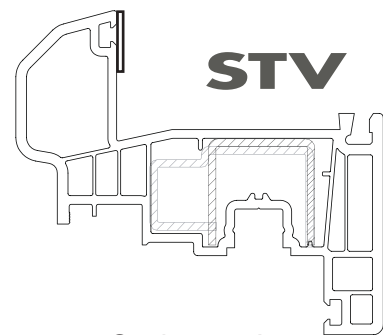
**6706**  
30x26,5  $I_x=2,32 \text{ cm}^4$   
t=2mm



**6714**  
43x26,5  $I_x=5,18 \text{ cm}^4$   
t=2mm



Sash 6003A



Sash 6023A

**The sash width must not be greater than the sash height by more than 25%**

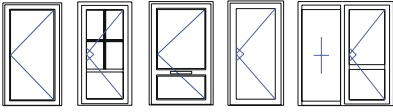
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

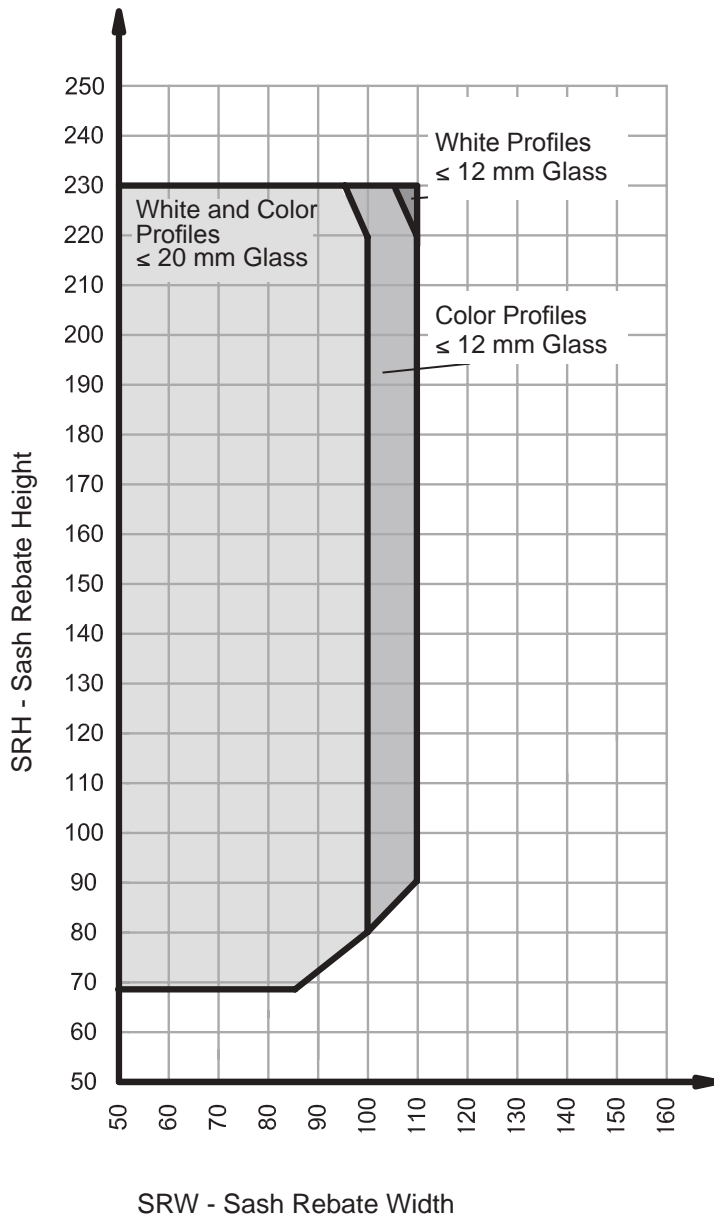
Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Door Sash Maximum Sizes** / Türen Flügelgrößen Diagramme / *Campi d'applicazione*  
*Anta Porta* / Dimensiuni maxime cercevea ușă

Opening types

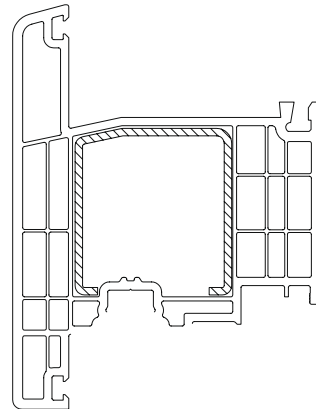
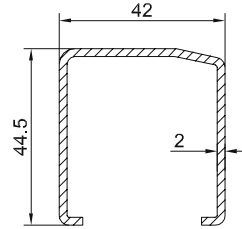


Profile: **WHITE** and **COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO* / ALB și COLOR  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: Standard

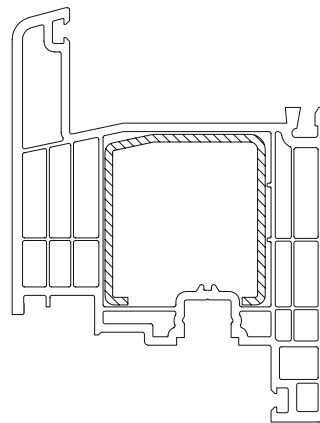


Steel

6720  
42x44,5  $I_x=7,98 \text{ cm}^4$   
t=2mm



Sash 6033



Sash 6017

**The sash width must not be greater than the sash height by more than 25%**

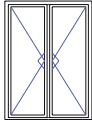
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Door Sash Maximum Sizes** / Türen Flügelgrößen Diagramme / *Campi d'applicazione*  
*Anta Porta* / Dimensiuni maxime cercevea ușă

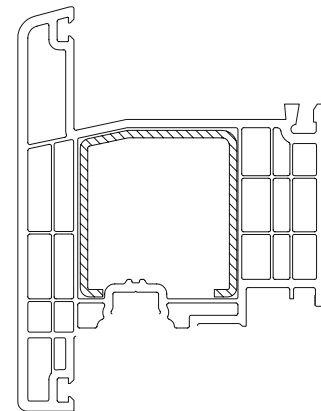
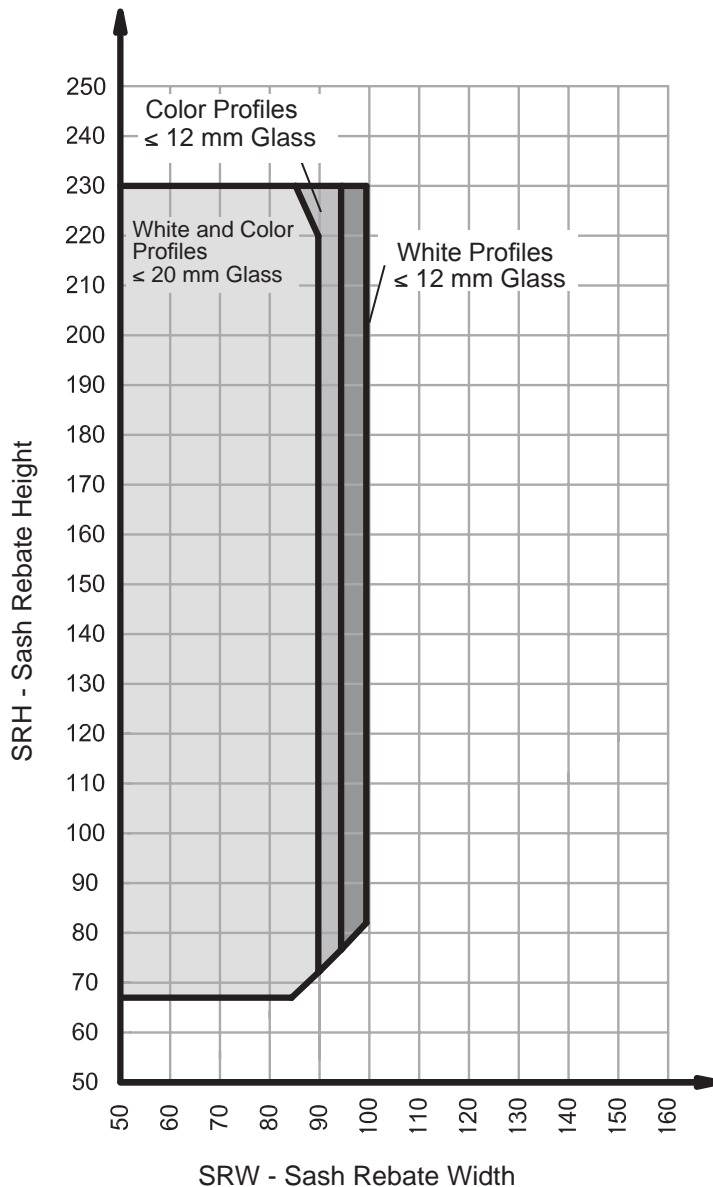
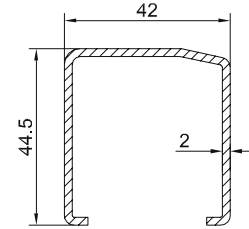
Opening types



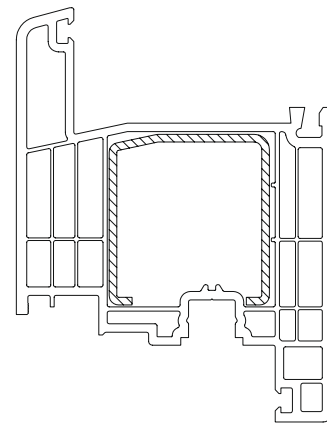
Profile: **WHITE and COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO* / ALB și COLOR  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: Standard

Steel

6720  
42x44,5  $I_x=7,98 \text{ cm}^4$   
t=2mm



Sash 6033



Sash 6017

**The sash width must not be greater than the sash height by more than 25%**

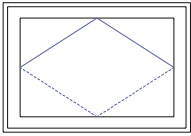
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

Opening types

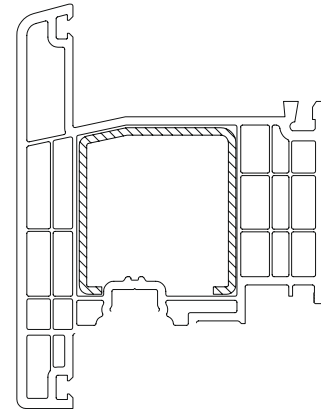
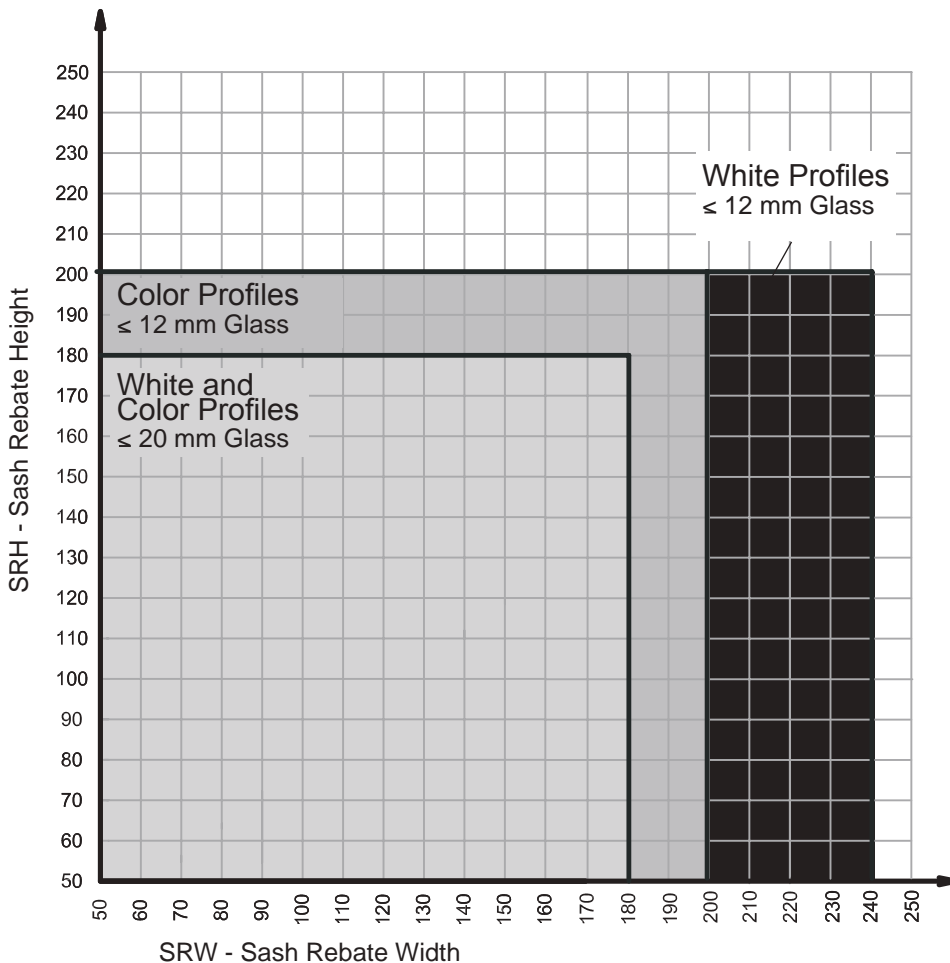
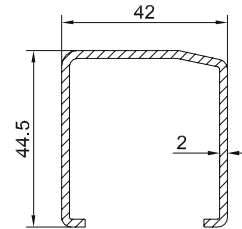


Profile: **WHITE** and **COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO / ALB si COLOR*  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: Standard

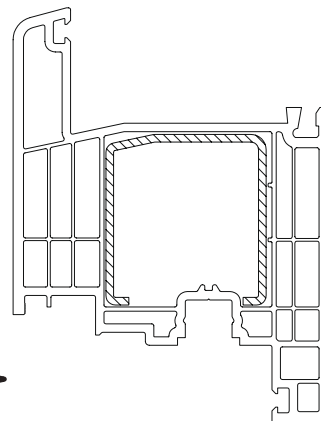
Steel

6720

42x44,5  $I_x=7,98 \text{ cm}^4$   
t=2mm



Sash 6033



Sash 6017

**The sash width must not be greater than the sash height by more than 25%**

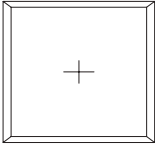
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

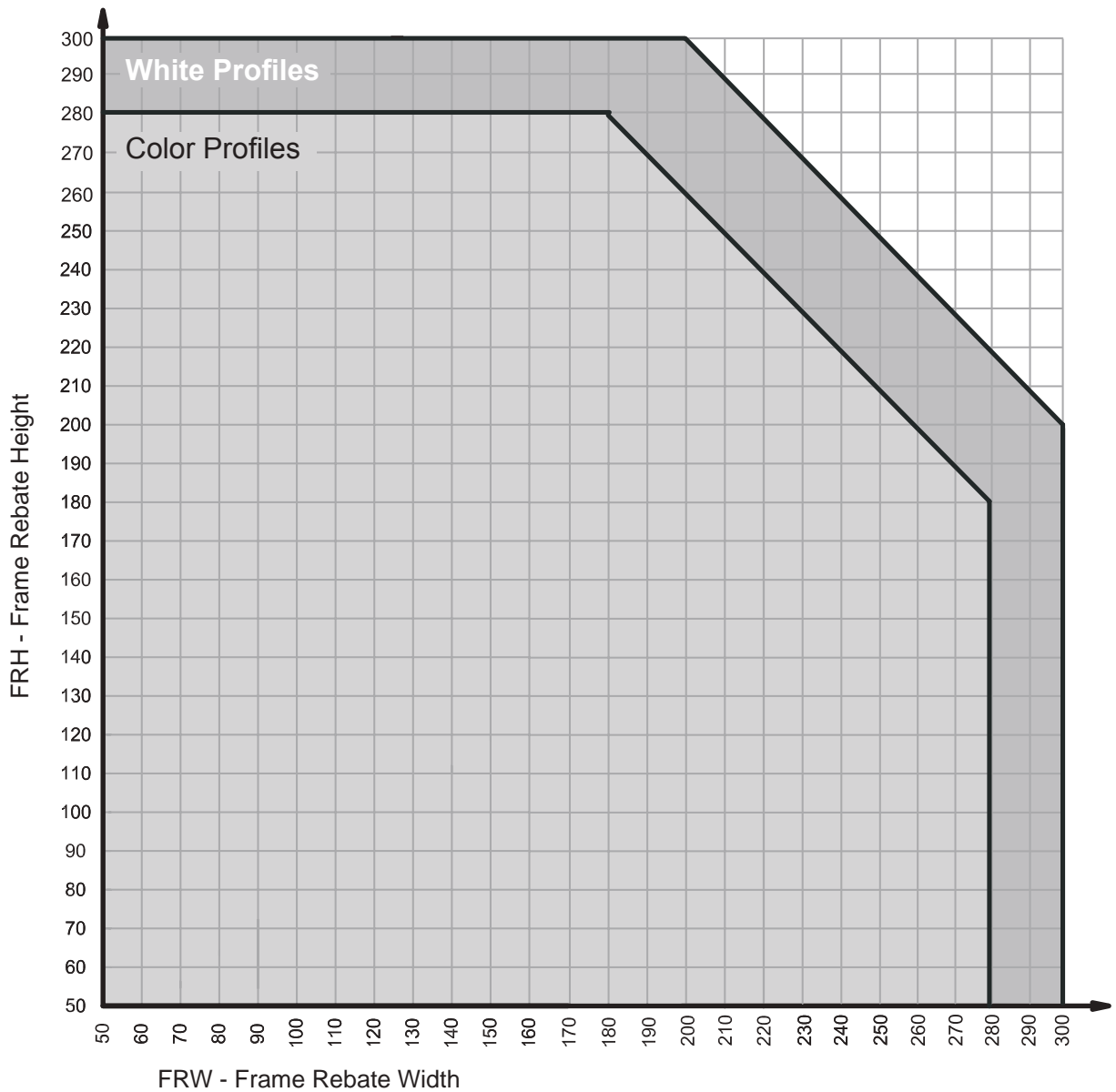
Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Frame Maximum Sizes / Fenster Blendrahmengrößen Diagramme /**  
*Campi d'applicazione Telaio Finestra / Dimensiuni maxime toc fereastră*

Opening types

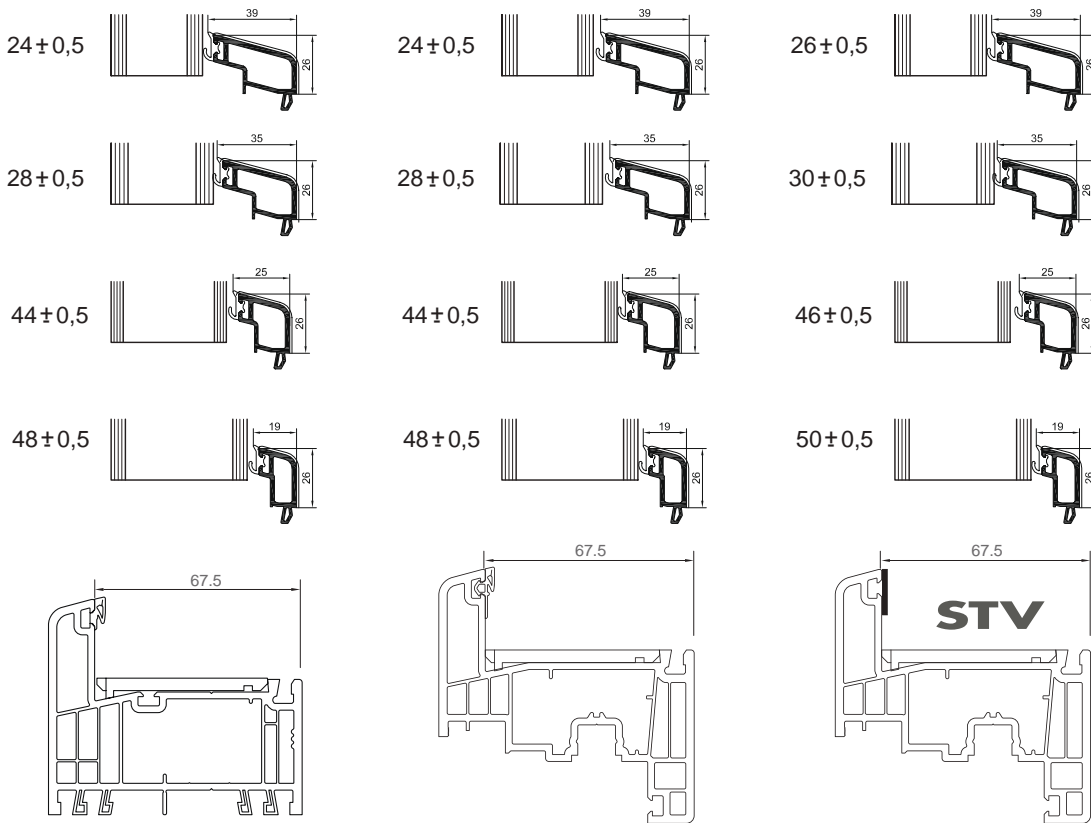



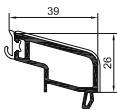

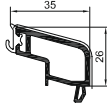

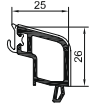

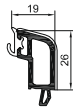
Profile: **WHITE** and **COLOR** / WEISS und FARBE /  
BIANCO e PELLICOLATO / ALB și COLOR

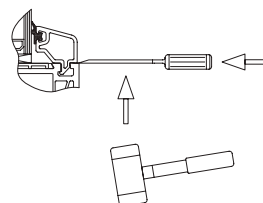
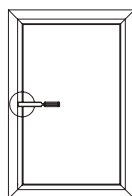
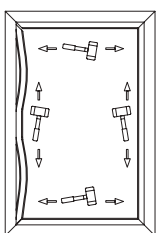


PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOR 76  
PREMIDOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

**Glazing Beads / Glasleiste / Fermavetri / Baghete de fixare geam**

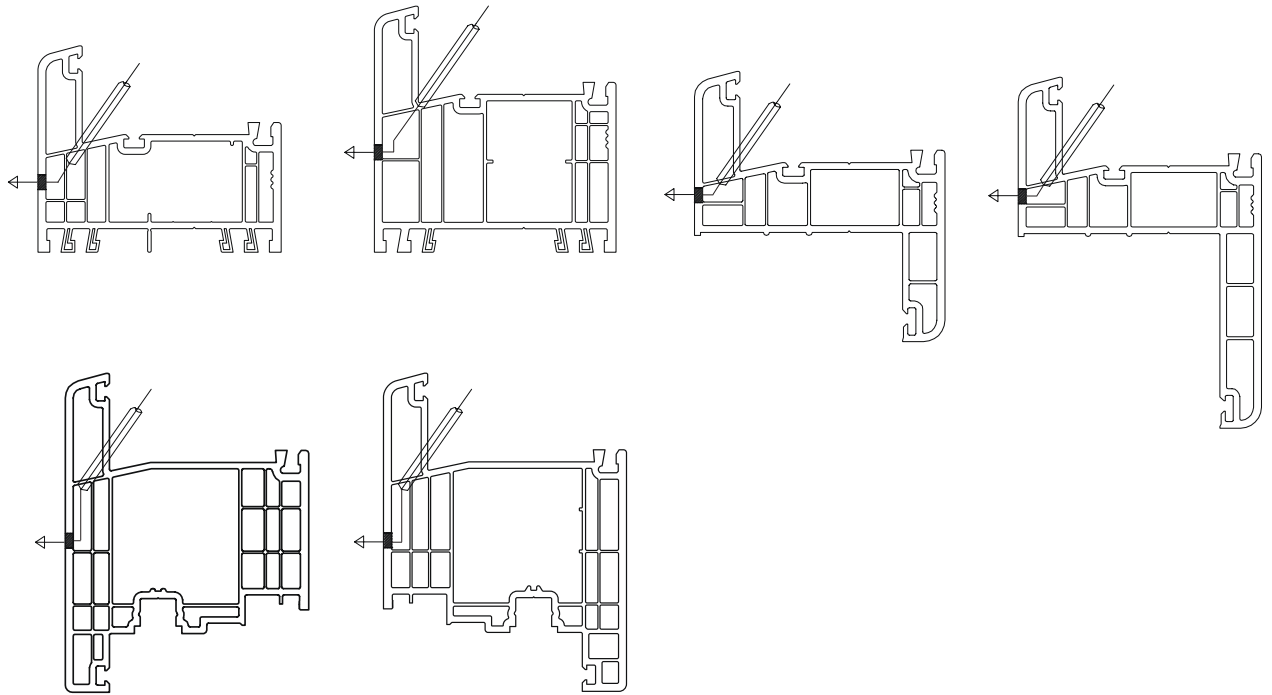


Profile	Glass / Glas / Vetro / Sticlă	Glazing bead / Glasleiste Fermavetro / Baghetă	Gasket / Dichtung Guarnizione / Garnitură
Frame 6002, 6048, 6032, 6016 Sash 6003, 6023, 6017, 6033 Mullion 6012, 6020	 24 mm	<b>6124</b> 	black or gray
Frame 6002, 6048, 6032, 6016 Sash 6003, 6023, 6017, 6033 Mullion 6012	 28 mm	<b>6128</b> 	black or gray
Frame 6002, 6048, 6032, 6016 Sash 6003, 6023, 6017, 6033 Mullion 6012	 44 mm	<b>6138</b> 	black or gray
Frame 6002, 6048, 6032, 6016 Sash 6003, 6023, 6017, 6033 Mullion 6012	 48 mm	<b>6144</b> 	black or gray

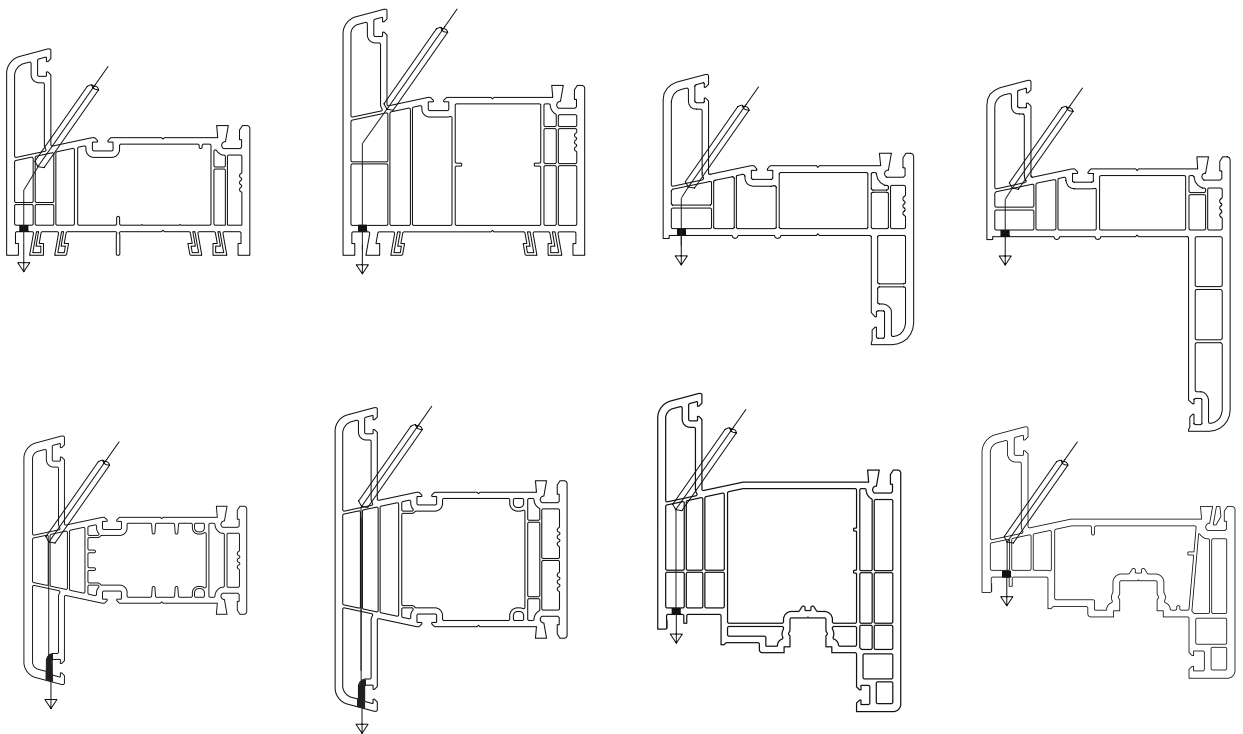


**Drainage / Entwässerung / Drenaggio / Drenajul**

**Front drainage / Entwässerung nach vorne / Drenaggio frontale / Drenaj frontal**

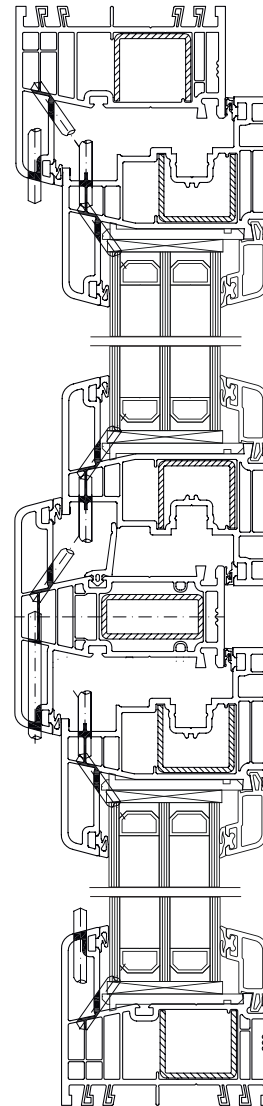
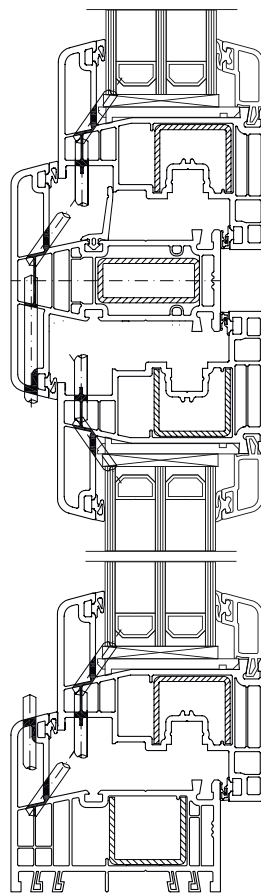
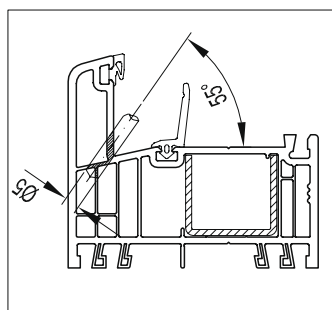
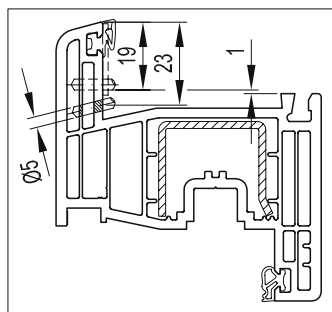
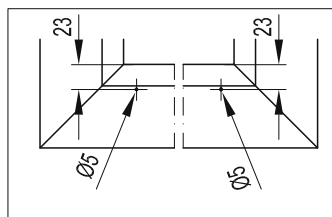
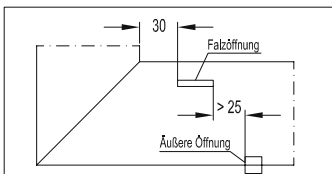
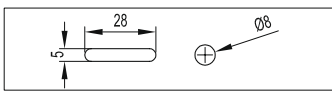
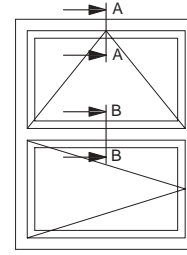
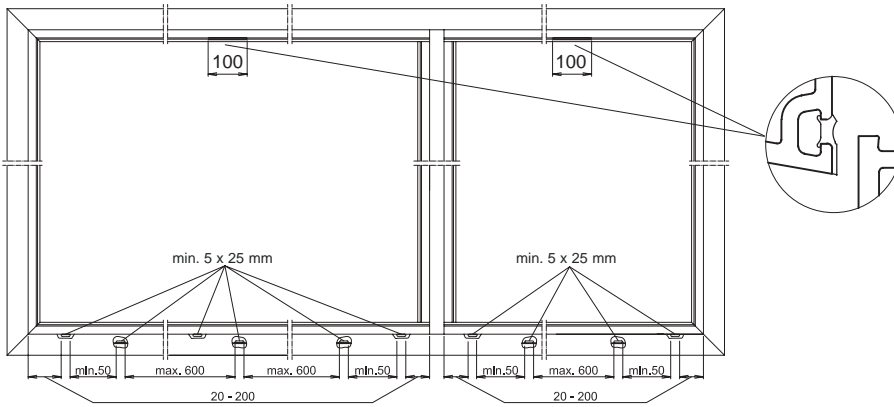


**Hidden drainage / Entwässerung nach unten / Drenaggio nascosto / Drenaj inferior**





**Ventilation / Entlüftung / Ventilazione / Ventilarea**



\* The antechamber must be ventilated if heat is to be prevented from accumulating in non-white profiles.

\* Um einen Hitzestau zu vermeiden, belüften Sie bei nicht weißen Profilen die Vorkammern.

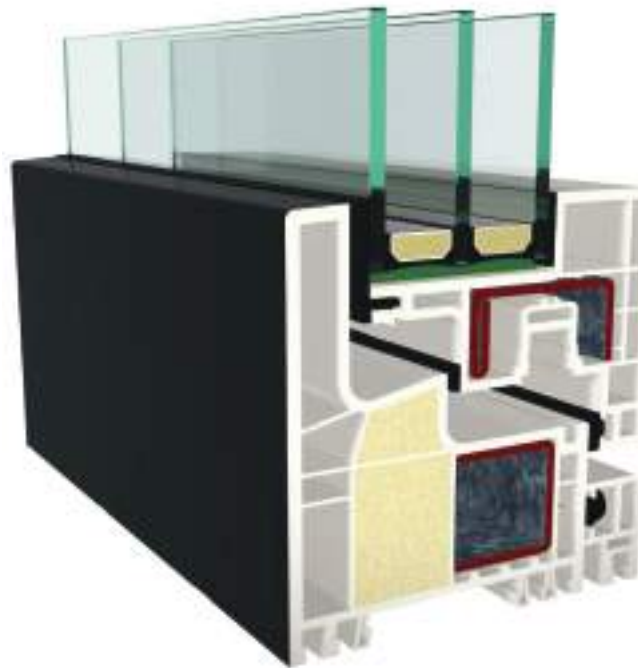
\* Per evitare un ristagno di calore la precamera dei profili non bianchi deve essere ventilata

\* Pentru a evita acumularea de caldura, precamerile profilelor non-albe trebuie ventilate.

# KUBUS

**Profile system Gealan KUBUS**  
Profilsystem Gealan KUBUS  
*Sistema di profili Gealan KUBUS*  
Sistemul de profile Gealan KUBUS

Profile System Manufacturer  
Gealan Fenster-Systeme GmbH  
Hofer Strasse 80, Oberkotzau  
Deutschland



**Heat transfer coefficient**  
Wärmedurchgangskoeffizient  
*Trasmittanza termica*  
Transmitanta termica

**up to**  
bis  
*fino a*  
pana la  $U_f = 0,96 \text{ W/(m}^2\text{K)}$



**Resistance to wind load**  
Widerstandsfähigkeit  
gegen Windlast  
*Resistenza ai carichi di vento*  
Rezistentă la încărcarea din vant

**up to**  
bis  
*fino a*  
pana la Clasa C5/B5



**Tightness against driving rain - unprotected (A)**  
Schlagregendichtheit - Ungeschützt (A)  
*Tenuta all'acqua metodo di prova A*  
Etanșeitatea la apă expunere directă

**up to**  
bis  
*fino a*  
pana la 9A



**Air permeability**  
Luftdurchlässigkeit  
*Tenuta all'aria*  
Permeabilitatea aerului

**up to**  
bis  
*fino a*  
pana la Clasa 4



**Sound insulation**  
Schallschutz  
*L'isolamento acustico*  
Izolarea acustică

**up to**  
bis  
*fino a*  
pana la 48 dB



**Burglar-resistant**  
Einbruchhemmung  
*Resistenza antieffrazione*  
Rezistentă antiefracție

**up to**  
bis  
*fino a*  
pana la RC 2 (WK 2)

PERFORMER 74

RONDO

STYLE 76

PASIV 82

**KUBUS**

PREMIDOOR 76

PREMIDOOR 88

PREMILINE

BESCHLÄG

GLAS

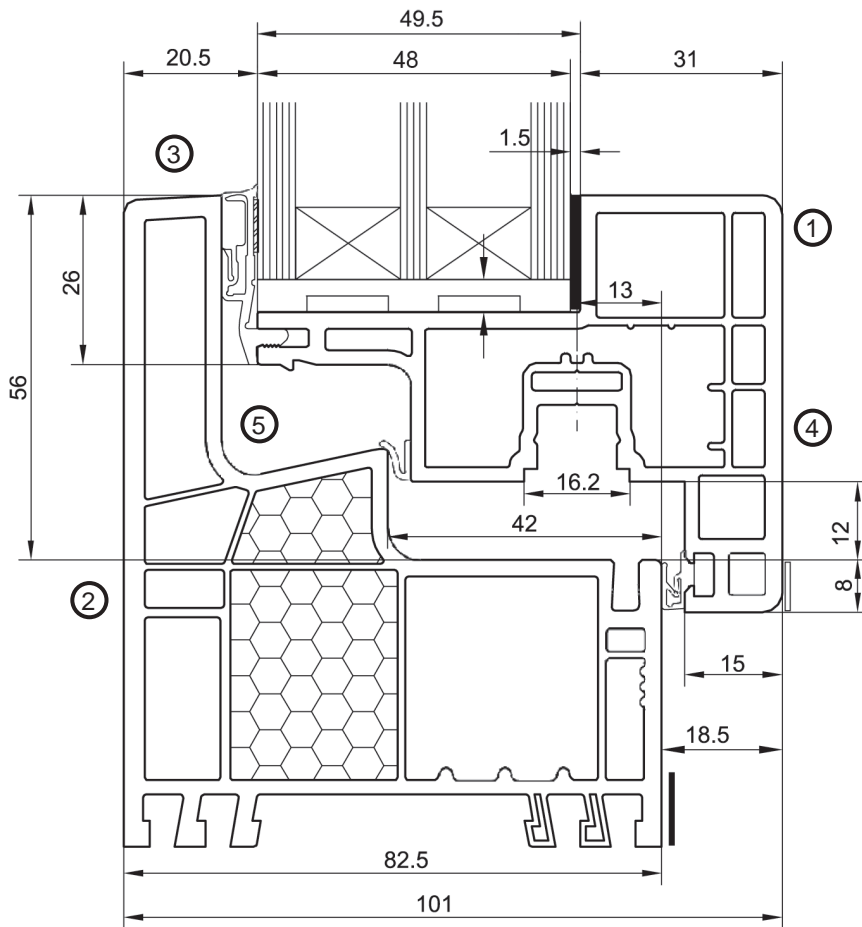
ROLLO TOP

ROLLO FRONT

BORA

HERCULES 70

System features / Systemmerkmale / Caratteristiche del sistema / Caracteristici Sistem



EN

1. The KUBUS® system is characterized by a rectangular appearance around and inside.
2. More is not possible! The system of KUBUS windows open the largest number of design possibilities and, consequently, new perspectives.
3. Brightness does not only imply a better visibility of spaces. It is important for health and well-being, it positively affects the functioning of the body throughout the day.
4. Acrylic color windows are appreciated for surface longevity and inalterability.
5. Developing a system with the best thermal insulation properties is not a coincidence, it is the result of research and development.

GER

1. Das KUBUS®-System zeichnet sich durch eine reduzierte Ansichtgröße aus. Der Flügel ist von Aussen nicht sichtbar, nur die Rahmengröße von 100 x 100 mm kann man sehen.
2. Das Design des KUBUS-fenstersystem bietet Architekten eine Vielzahl von Gestaltungsmöglichkeiten und damit neue Perspektiven an.
3. Helligkeit bedeutet nicht nur eine bessere Sichtbarkeit von Räumen.
4. Die Fenster mit der bewährten Acrylcolor-Oberfläche überzeugen durch Langlebigkeit und Langlebigkeit der Oberfläche.
5. Die Entwicklung eines Systems mit den besten Wärmedämmeigenschaften ist kein Zufall, sondern das Ergebnis gezielter Forschungs- und Entwicklungsarbeit.

ITL

1. Il sistema KUBUS® è caratterizzato da una dimensione ridotta dell'anta e della cornice della grandezza di 100 x 100 mm.
2. Il sistema finestre di design KUBUS apre agli architetti il maggior numero di possibilità di progettazione e di conseguenza nuove prospettive.
3. La luminosità non implica soltanto una migliore visibilità degli spazi.
4. Le finestre con l'apprezzata superficie in acrylcolor convincono per longevità ed inalterabilità della superficie.
5. Lo sviluppo di un sistema con le migliori caratteristiche di isolamento termico non è un caso, ma il risultato di un lavoro mirato di ricerca e sviluppo.

ROM

1. Sistemul KUBUS® este caracterizat de un aspect rectangular de jur-imprejur atat in interior cat si in exterior.
2. Mai mult nu este posibil! Sistemul de ferestre KUBUS deschide cel mai mare număr de posibilități de proiectare și, în consecință, noi perspective.
3. Luminozitatea nu implică doar o mai bună vizibilitatea spațiilor. Este important pentru sănătate și bunăstare, afectează pozitiv funcționarea a corpului pe tot parcursul zilei.
4. Ferestrele cu suprafața acrylcolor sunt apreciate pentru longevitate și inalterabilitate la suprafață.
5. Dezvoltarea unui sistem cu cele mai bune proprietăți de izolare termică nu este o coincidență, este rezultatul cercetării și dezvoltării.

**Color program / Dekorübersicht / Programma Colori / Program colori**
**Outside ACRYL colors**

Color	Tiefschwarz	Schiefergrau	Anthrazitgrau	Fenstergrau	Sepiabraun
RAL Code	RAL 9005	RAL 7015	RAL 7016	RAL 7040	RAL 8014

Color	Weißaluminium	Silber ähnlich	Quarzgrau	Reinweiß	DB703
RAL Code	RAL 9006	RAL 9007	RAL 7039	RAL 9010	-

**Interior RENOLIT colors**

Dekore Pellicola Folie	Color shades  Farbbezeichnung Colore Denumire culoare	Laminated		Suport material  Trägermaterial Colore Massa Material Bază	Renolit code  Renolit Code Codice Renolit Cod Renolit	Gasket  Dichtung Guarnizione Garnitura
		ext	int			
Wood grain / Holzdekore / Effetto Legno / Imitatie Lemn	Sheffield Oak Light	x	x	braun	F456-3081	gray
	Sheffield Oak Grey	x	x	braun	F436-3086	gray
	Eiche Natur	x	x	braun	9.03118076-116800	gray
	Bergkiefer	x	x	braun	9.3069041-116700	gray
	Oregon	x	x	braun	9.1192001-116700	gray
	Streifen-Douglasie	x	x	braun	9.3152009-116700	gray
	Winchester XA	x	x	braun	9.0049240-114800	gray
	Golden Oak	x	x	braun	9.2178001-116700	black
	Soft Cherry	x	x	braun	9.3214009-119500	gray
	Siena PR	x	x	braun	9.0049233-114800	gray
	Siena PN	x	x	braun	9.0049237-114800	black
	Nussbaum V	x	x	braun	9.2178007-116700	black
	Eiche Dunkel FL-F1	x	x	braun	9.2052089-116700	black
	Mooreiche ST-F	x	x	braun	9.3167004-116700	black
	Macore	x	x	braun	9.3162002-116700	black
	Sapeli	x	x	braun	9.2065021-116700	black
	Black Cherry	x	x	braun	9.3202001-116700	black
	Desert Oak	x	x	braun	2.0057.004-130300	black
Mountain Oak	x	x	braun	2.0057.006-130300	black	
Single Colors / Uni-Farben / Uni-colore / Colori Uni	Crystal White Ash	x	x	white	47 852-117900	gray
	Cremeweiss	x	x	white	02.20.11.000001-116700	gray
	Lichtgrau 7251	x	x	white	725105-116700	gray
	Grau 7155	x	x	white	715505-116700	gray
	Basaltgrau 7012	x	x	white	701205-116700	gray
	Anthrazitgrau	x	x	white	701605-116700	black
	Anthrazitgrau 7016 Glatt	x	x	white	701605-808300	black
	Dunkelrot 3081	x	x	white	308105-116700	black
	Winerot 3005	x	x	white	300505-116700	black
	Moosgrun 6005	x	x	white	600505-116700	black
	Dunkelgrun 6125	x	x	white	612505-116700	black
	Schwarzbraun 8518	x	x	white	851805-116700	black
	Metbrush Aluminium	x	x	white	F436-1001	gray
	Metbrush Messing	x	x	white	F436-1007	gray

**Nachweis**  
Wärmedurchgangskoeffizient

Prüfbericht  
Nr. 16-004321-PR05  
(PB-K20-08-08-01)



Auftraggeber  
**GEALAN**  
Fenster-Systeme GmbH  
Hofer Str. 80  
95145 Oberkotzau  
Deutschland

Grundlagen<sup>1)</sup>  
EN 14351-1:2000+A1:2010-03  
EN 12412-2:2003-07

<sup>1)</sup> und entsprechende nationale Fassungen  
z.B. DIN EN

Produkt **Kunststoffprofil, Profilkombination: Flügelrahmen –  
Blendrahmen**  
Bezeichnung **KUBUS**

**Darstellung**



Leistungsrelevante  
Produktdetails  
Material **Kunststoff – PVC hart**; Absichtsbreite B in mm **100**;  
**Blendrahmen**; Profilschnitt, Breite in mm **100**; Profilschnitt,  
Dicke in mm **83**; **Aussteifung**; Material **Metall - Stahl**  
**verzinkt**; **Einlage**; Material **Polyurethan-Spritzschäum**  
**„IKD“**; Rohdicke in kg/m<sup>3</sup> **32**; **Flügelrahmen**; Profilschnitt,  
Breite in mm **64**; Profilschnitt, Dicke in mm **81**; **Aussteifung**;  
Material **Metall - Stahl verzinkt**; **Ersatzpaneel**; Dicke in  
mm **48**; **Einstand** in mm **14**

**Verwendungshinweise**

Die ermittelten Ergebnisse können vom Hersteller zur Erstellung der Leistungserklärung entsprechend der Bauproduktverordnung 305/2011/EU verwendet werden. Die Festlegungen der geltenden Produktnorm sind zu beachten.

Besonderheiten **-/-**

**Ergebnis**

Wärmedurchgangskoeffizient



$U_T = 0,96 \text{ W/(m}^2\text{K)}$

**Gültigkeit**

Die genannten Daten und Einzelergebnisse beziehen sich ausschließlich auf den geprüften/beschriebenen Probekörper. Diese Prüfung/Bewertung ermöglicht keine Aussage über weitere Leistungs-/qualitätsbestimmende Eigenschaften des Produkts; insbesondere Witterungs- und Abtragungseinflüsse werden nicht berücksichtigt.

**ift Rosenheim**  
20.02.2017

**Veröffentlichungshinweise**

Es gilt das "Merktblatt zur Benutzung von Ift-Prüfprotokollen/berichten". Das Deckblatt kann als Kurzfassung verwendet werden.

*Konrad Huber*  
Konrad Huber, Dipl.-Ing. (FH)  
Prüfleitender  
Bauphysik

*S. Junker*  
Stefan Junker, Dipl.-Ing. (FH)  
Prüfingenieur  
Bauphysik

**Inhalt**

Der Nachweis umfasst insgesamt 6 Seiten und Anlage (1 Seite).

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Prüfung und Kalibrierung – Ift Rosenheim / 17003  
Ispolac – EN ISO/IEC 17020  
Zertifizierung Porenbeton – EN ISO/IEC 17065  
Zertifizierung Managementsysteme – DIN ISO/IEC 17021



## Nachweis

Luftdurchlässigkeit, Schlagregendichtheit, Widerstandsfähigkeit bei Windlast, Dauerfunktion, Stoßfestigkeit, Bedienungskräfte, Mechanische Beanspruchung, Tragfähigkeit von Sicherheitsvorrichtungen



### Prüfbericht

Nr. 16-002300-PR09  
(PB-A06-0203-de-01)

**Auftraggeber** GEALAN Fenster-Systeme GmbH  
Hofstr. 80  
95145 Oberkotzau  
Deutschland

**Produkt** Einfügiges Drehkippfenster

**Bezeichnung** Systembezeichnung: KUBUS®

**Leistungsrelevante Produktdetails** Material: PVC-U / weiß

**Klebesystem** Überschlagsklebung mit statischer Trockenverglasung, Art. Nr. 216396

**Außenmaß (BxH)** 1422 mm x 1572 mm

**Besonderheiten** Die Festigkeit, Dauerhaftigkeit und Materialverträglichkeit des Klebesystems ist besonders nachzuweisen. Das Element ist aus Profilen der Klasse B, gemäß EN 12006:2003, Wanddicken des Hauptprofils, hergestellt. Der Prüflauf erfolgte entsprechend ift-Richtlinie VE-093. Die Anforderungen nach RAL-GZ 716:2013-04 Teil 2 werden damit abgedeckt.

### Grundlagen

ift-Richtlinie VE-093:2014-08

Prüfnormen:  
EN 1026:2015-03  
EN 1027:2015-03  
EN 1191:2012-12  
EN 12046-1:2003-11  
EN 12211:2015-03  
EN 13049:2003-04  
EN 14608:2004-05  
EN 14009:2004-05

Entsprechende nationale Fassungen (z.B. DIN EN)

### Darstellung



### Verwendungshinweise

Die ermittelten Ergebnisse können vom Hersteller zur Erstellung der Leistungserklärung entsprechend der Baustoffkennzeichnung 309/2011/EU verwendet werden. Die Festlegungen der geltenden Produktnorm sind zu beachten.

### Gültigkeit

Die genannten Daten und Einzelergebnisse beziehen sich ausschließlich auf den geprüften beschriebenen Probekörper. Die Klassifizierung gilt so lange das Produkt unverändert ist und die o.g. Grundlagen sich nicht geändert haben. Das Ergebnis kann unter Beachtung entsprechender Festlegungen der Produktnorm in Eigenverantwortung des Herstellers übertragen werden. Diese Prüfung/Bewertung ermöglicht keine Aussage über weitere leistungs- und qualitätsbestimmende Eigenschaften der vorliegenden Konstruktion.

### Veröffentlichungshinweise

Es gilt das ift-Merkblatt "Verbung mit ift-Prüfdokumentationen". Das Deckblatt kann als Kurzfassung verwendet werden. Der Nachweis umfasst insgesamt 47 Seiten.

### Ergebnis

Luftdurchlässigkeit nach EN 12207:2016-12



**Klasse 4**

Schlagregendichtheit nach EN 12206:1999-11



**Klasse 9A**

Widerstandsfähigkeit bei Windlast nach EN 12210:2016-03



**Klasse C5 / B5**

Dauerfunktion nach EN 12400:2002-10



**Klasse 2**

Stoßfestigkeit nach EN 13049:2003-04



**Klasse 2**

Bedienungskräfte nach EN 13115:2001-07



**Klasse 1<sup>\*)</sup>**

Mechanische Beanspruchung nach EN 13115:2001-07



**Klasse 4**

Tragfähigkeit von Sicherheitsvorrichtungen nach EN 14351-1:2006+A2:2016



**Anforderung erfüllt**

<sup>\*)</sup> Begrenzung der Kippweite auf 130 mm

ift Rosenheim

28.02.2017

Thomas Stier, Dipl.-Ing. (FH)  
Prüfingenieur  
Bauteilprüfung

Franz Gruber  
Prüfingenieur  
Bauteilprüfung

Verf. No. 1000-04

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Theodor-Geisel-Str. 7/8  
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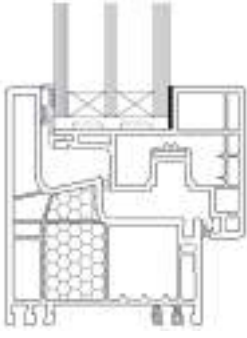
Kontakt  
Tel. +49 89 91 261 5-5  
Fax +49 89 91 261 516  
www.ift-rosenheim.de

Prüfung und Zertifizierung – EN ISO/IEC 17025  
Inbetriebnahme – EN ISO/IEC 17025  
Zertifizierung Profiservice – DIN ISO/IEC 17005  
Zertifizierung Normenlaborsysteme – EN ISO/IEC 17021

Normenlabor WST  
WST-Online-BAW 04

DAKAS  
Labor für  
mechanische Prüfungen  
DIN EN ISO 9001

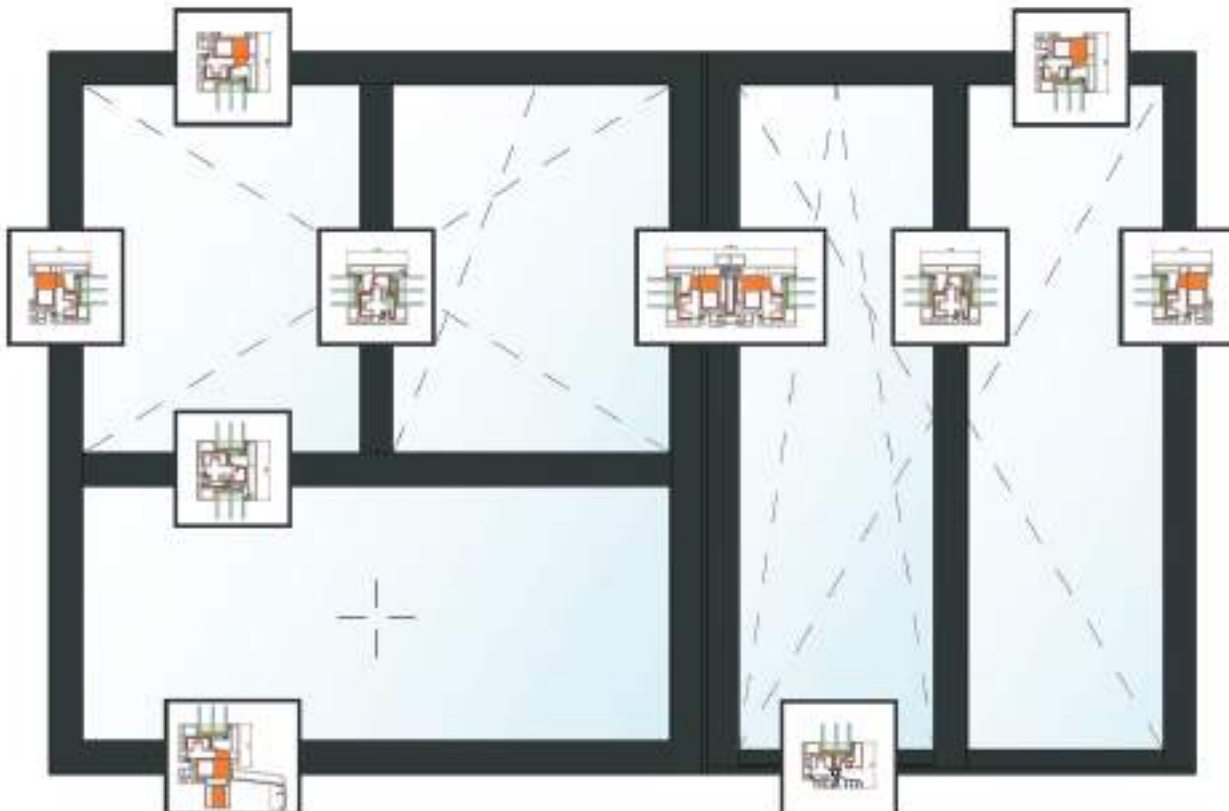
**Sound insulation test reports / Übersicht Schallprüfzeugnisse / Certificati d'isolamento acustico /**  
 Certificate izolare fonica

Element description Elementbeschreibung Descrizione elemento Descrivere element	Pane structure (mm) Scheibenaufbau (mm) Struttura vetro (mm) Structura geam (mm)	Obtained values $R_w.P=dB$ Erreichte Werte $R_w.P=dB$ Valori raggiunti $R_w.P=dB$ Valori obtinute $R_w.P=dB$
	4-18-4-18-4	34
	4-18-4-16-6	39
	8VSG-14-4-14-8VSG	40
	10-14-4-14-6	42

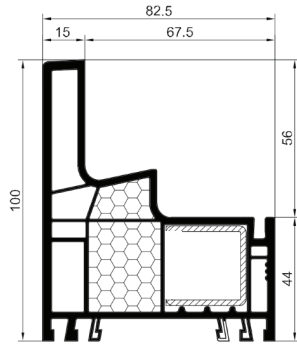
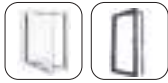
**\*VSG - Laminated glass** / Verbundsicherheitsglas / *Vetro stratificato* / Sticla laminata

**\*VSG SI - Acoustic laminated glass** / Schallschutz-Verbundsicherheitsglas / *Vetro stratificato acustico* / Sticla laminata cu control acustic

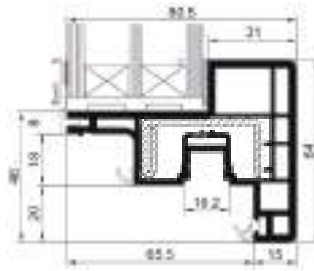
**Types of Openings** / Öffnungsarten / *Tipologie aperture* / Tipologie deschideri



**Frame: 5060**  
Steel 8727



**Sash: 5061**  
Steel 5760

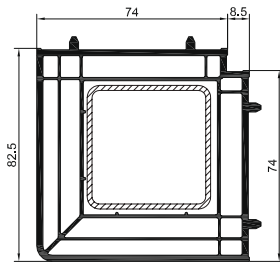


**Transom: 5260/5062**  
Steel 5763/5762



**Profile: 2304**

Steel 7718  
 $I_x=7,11 \text{ cm}^4$

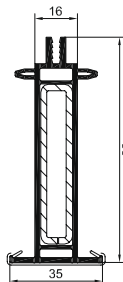


**Profile: 6281**

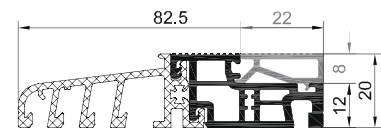
Steel 7796  
 $I_x=9,19 \text{ cm}^4$



**3282**



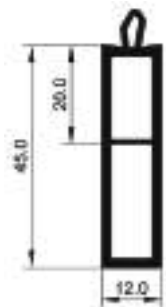
**Profile: 2596**



**2596**

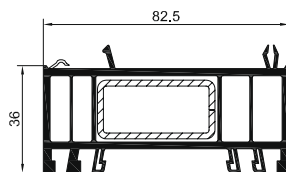
**Extension profile / Verbreiterung profile / Allargatori / Extensii toc**

**Profile: 3217**



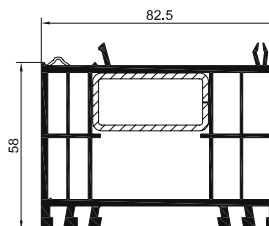
**Profile: 5213**

Steel 2724\*  
\*Optional



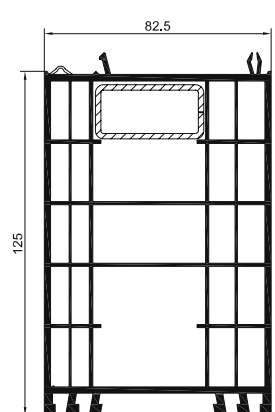
**Profile: 5202**

Steel 2724\*  
\*Optional



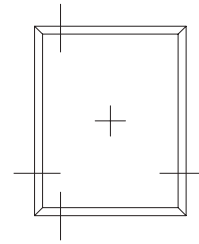
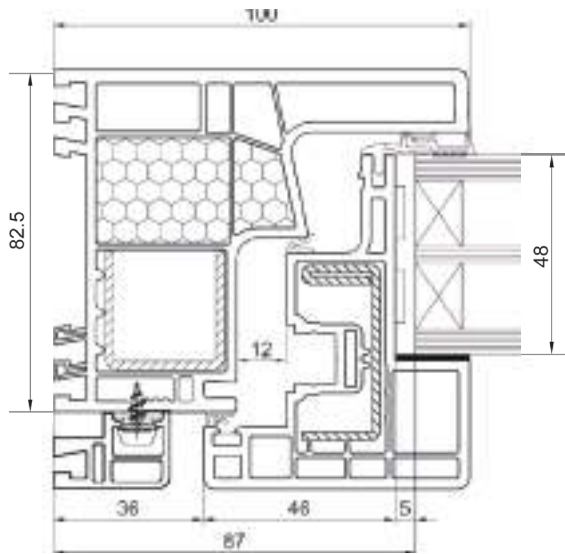
**Profile: 5203**

Steel 2724\*  
\*Optional

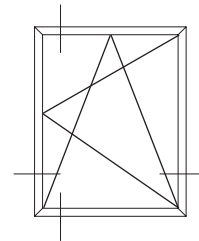
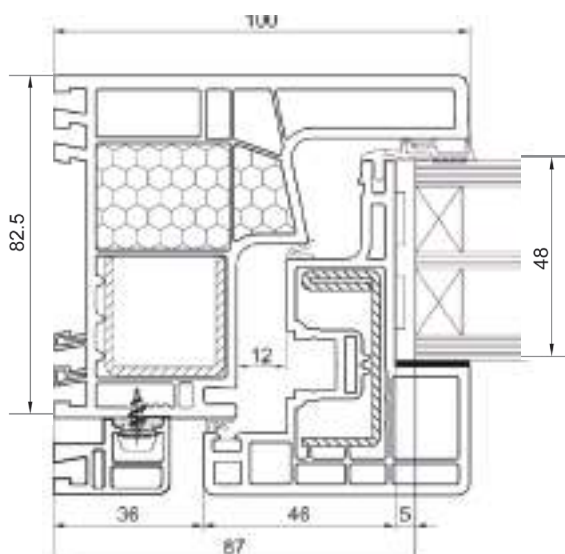




**Frame - Sash** / Blendrahmen - Flügel /  
Telaio - Anta / Toc - Cercevea

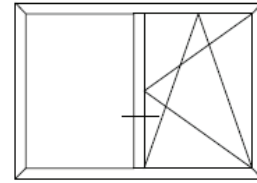
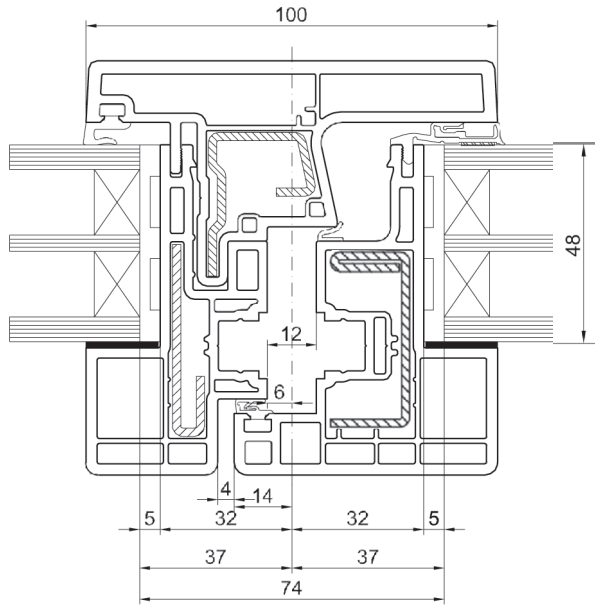


Frame	5060	$I_x=2,20 \text{ cm}^4$ $I_y=1,35 \text{ cm}^4$
Steel	8727 28.5x28.5 t=2 mm	
Sash	5061	$I_x=4,88 \text{ cm}^4$ $I_y=0,77 \text{ cm}^4$
Steel	5760 t=2 mm	



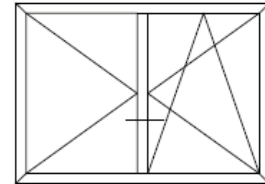
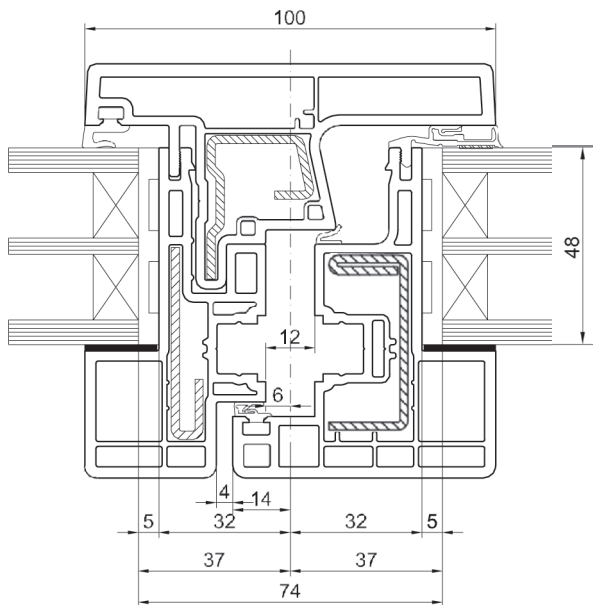
Frame	5060	$I_x=2,20 \text{ cm}^4$ $I_y=1,35 \text{ cm}^4$
Steel	8727 28.5x28.5 t=2 mm	
Sash	5061	$I_x=4,88 \text{ cm}^4$ $I_y=0,77 \text{ cm}^4$
Steel	5760 t=2 mm	

**Fixed light - Transom - Transom** / Festfeld - Pfosten - Pfosten /  
Fisso - Montante - Montante / Fix - Montant - Montant



Sash Steel	5061 5760 t=2 mm	$I_x=4,88 \text{ cm}^4$ $I_y=0,77 \text{ cm}^4$
Transom Transom	5062 5762 t=2 mm	$I_x=2,49 \text{ cm}^4$ $I_y=0,08 \text{ cm}^4$
Transom Steel	5260 5763 t=2 mm	$I_x=1,51 \text{ cm}^4$ $I_y=1,34 \text{ cm}^4$

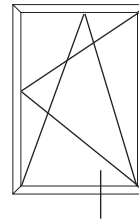
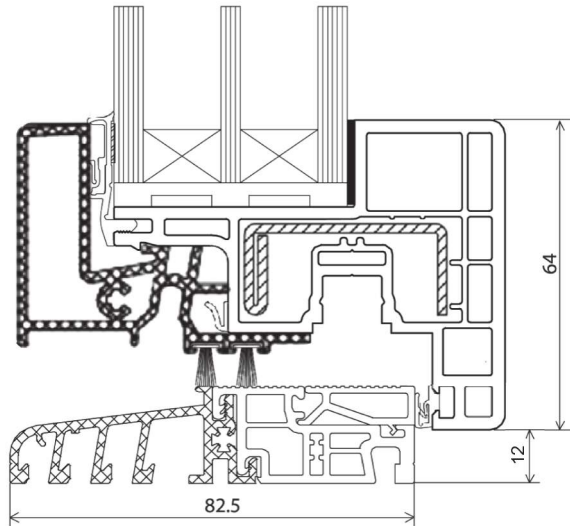
**Fixed light - Transom - Transom** / Festfeld - Pfosten - Pfosten /  
Fisso - Montante - Montante / Fix - Montant - Montant



Sash Steel	5061 5760 t=2 mm	$I_x=4,88 \text{ cm}^4$ $I_y=0,77 \text{ cm}^4$
Transom Transom	5062 5762 t=2 mm	$I_x=2,49 \text{ cm}^4$ $I_y=0,08 \text{ cm}^4$
Transom Steel	5260 5763 t=2 mm	$I_x=1,51 \text{ cm}^4$ $I_y=1,34 \text{ cm}^4$

PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOR 76  
PREMIDOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
GLAS  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

**Threshold - Sash outside opening** / Schwellenprofil - Flügel außen öffnend /  
Soglia - Anta apertura esterna / Prag - Cercevea deschidere exterioară

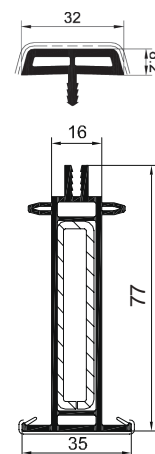
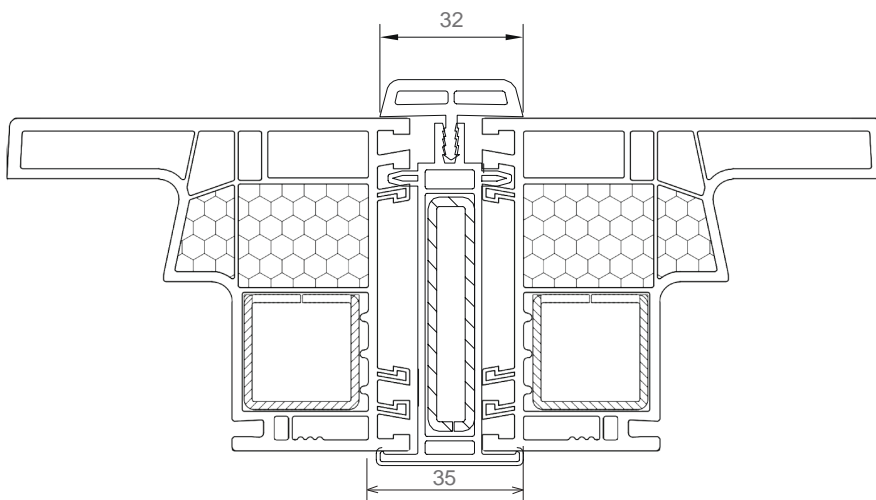


Threshold 2596  
Sash 5061  
Steel 5760  
t=2 mm

$I_x=4,88 \text{ cm}^4$   
 $I_y=0,77 \text{ cm}^4$

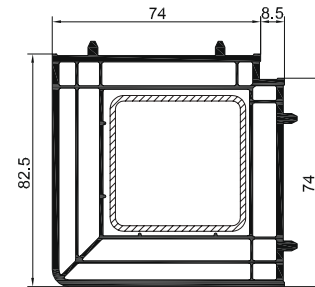
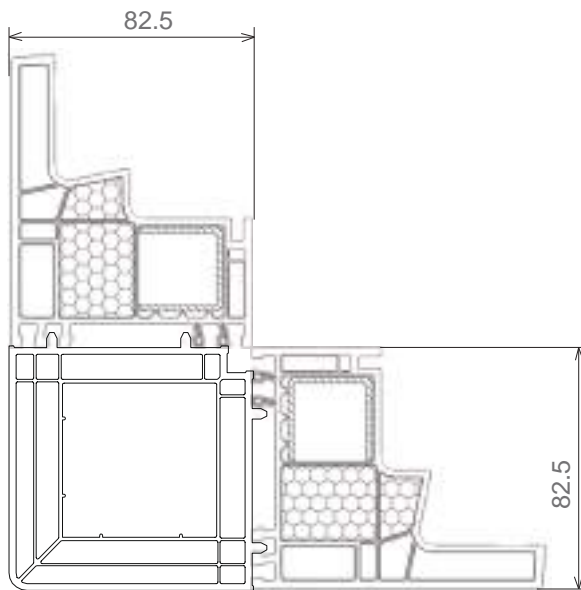
**Coupling profiles** / Kopplungsprofile /  
Profili di accoppiamento / Profile de cuplare

**H coupler** / H Kopplung / Profilo di accoppiamento / Profil cuplare ranforsat



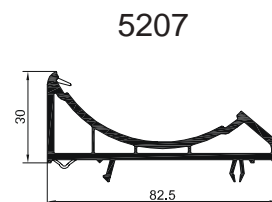
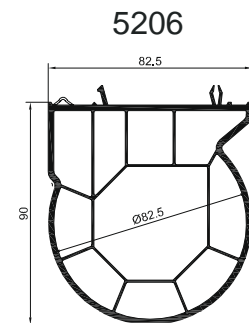
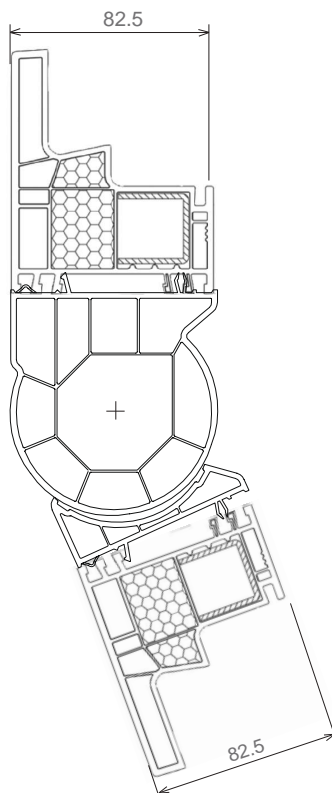
6281  
Steel 7796  
 $I_x=9,19 \text{ cm}^4$

**Corner coupling 90° / Eckkopplung 90° /  
Giunto angolare 90° / Profil cuplare 90°**



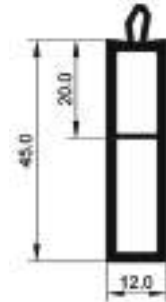
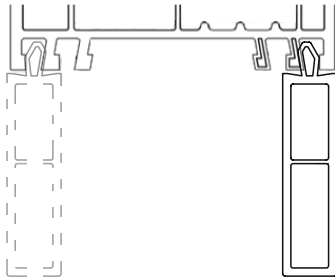
**2304**  
Steel 7718  
 $I_x=7,11 \text{ cm}^4$

**Bay pole / Eckkopplung variabel / Giunto angolare variabile / Profil cuplare unghi variabil**

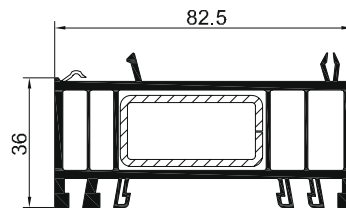
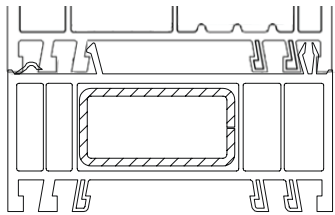


HERCULES 70	BORA	ROLLO FRONT	ROLLO TOP	GLASS	BESCHLÄG	PREMIDORE 88	PREMIDORE 76	KUBUS	PASIV 82	STYLE 76	RONDO	PERFORMER 74
				GLASS	HARDWARE							

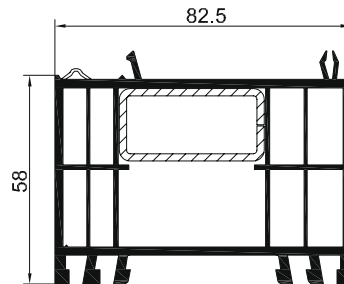
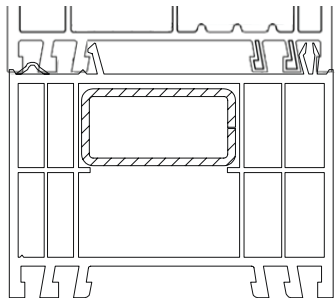
Extension profile / Verbreiterung profile / Allargatori / Extensii toc



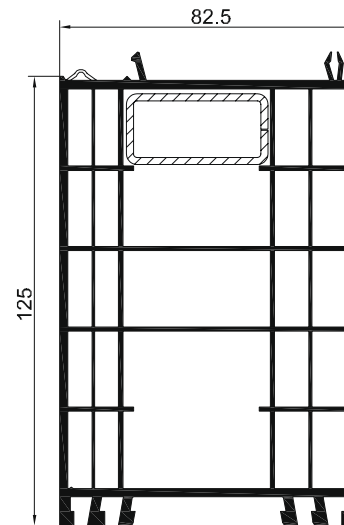
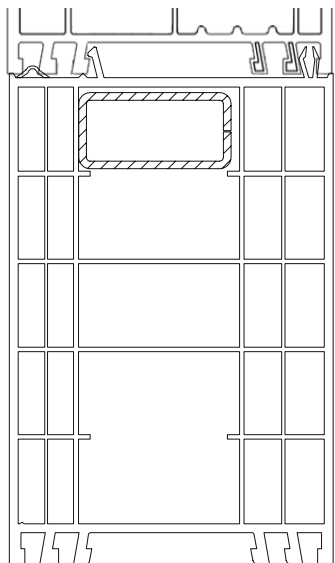
3217



5213  
Steel 2724\*  
\*Optional



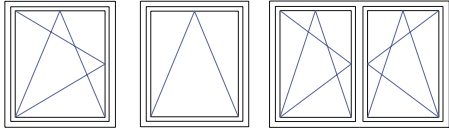
5202  
Steel 2724\*  
\*Optional



5203  
Steel 2724\*  
\*Optional

**Window Sash Maximum Sizes** / Fenster Flügelgrößen Diagramme /  
Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră

Opening types



Profile: **COLOR** / FARBE / PELLICOLATO / COLOR

Glass:  $\leq 30 \text{ kg/m}^2$

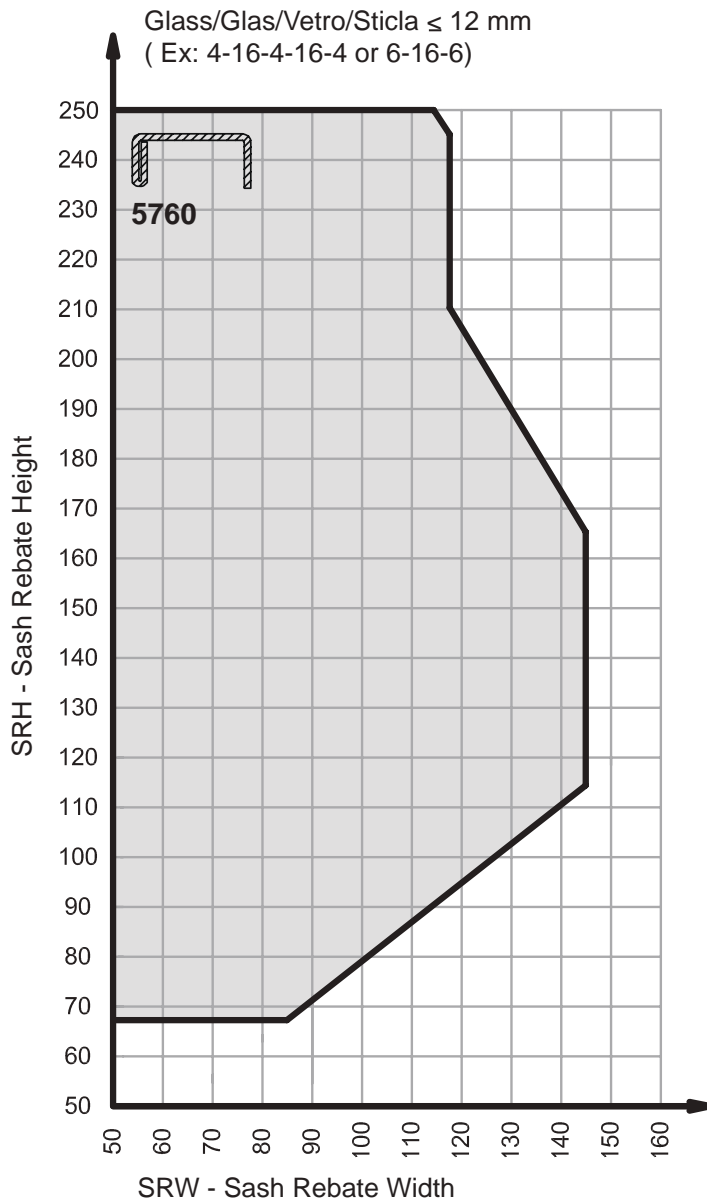
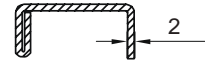
Sash: STV

Steel

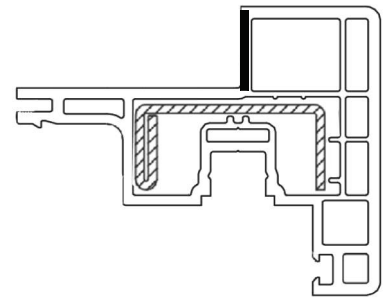
5760

t=2 mm

$I_x=4,88 \text{ cm}^4$



**STV**



Sash 5061

**The sash width must not be greater than the sash height by more than 25%**

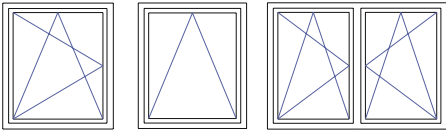
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

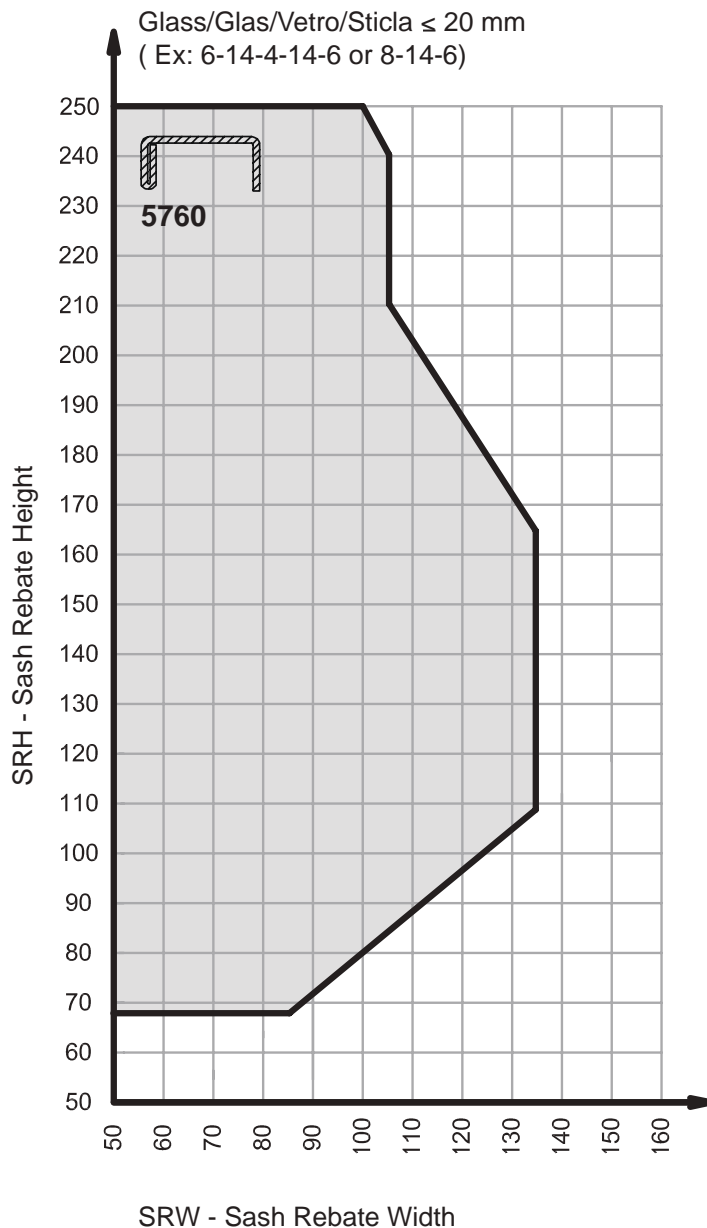
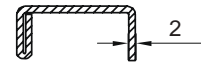
Opening types



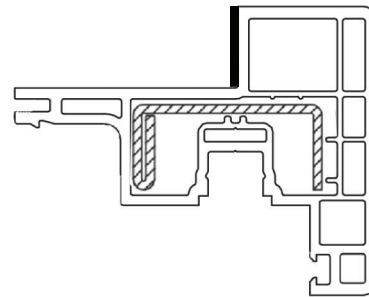
Profile: **WHITE** and **COLOR** / WEISS und FARBE /  
*BIANCO e PELLICOLATO* / ALB și COLOR  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: STV

Steel

5760  
t=2 mm  $I_x=4,88 \text{ cm}^4$



**STV**



Sash 5061

**The sash width must not be greater than the sash height by more than 25%**

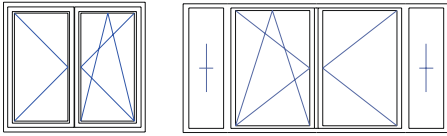
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

Opening types



Profile: **COLOR / FARBE / PELLICOLATO / COLOR**

Glass:  $\leq 30 \text{ kg/m}^2$

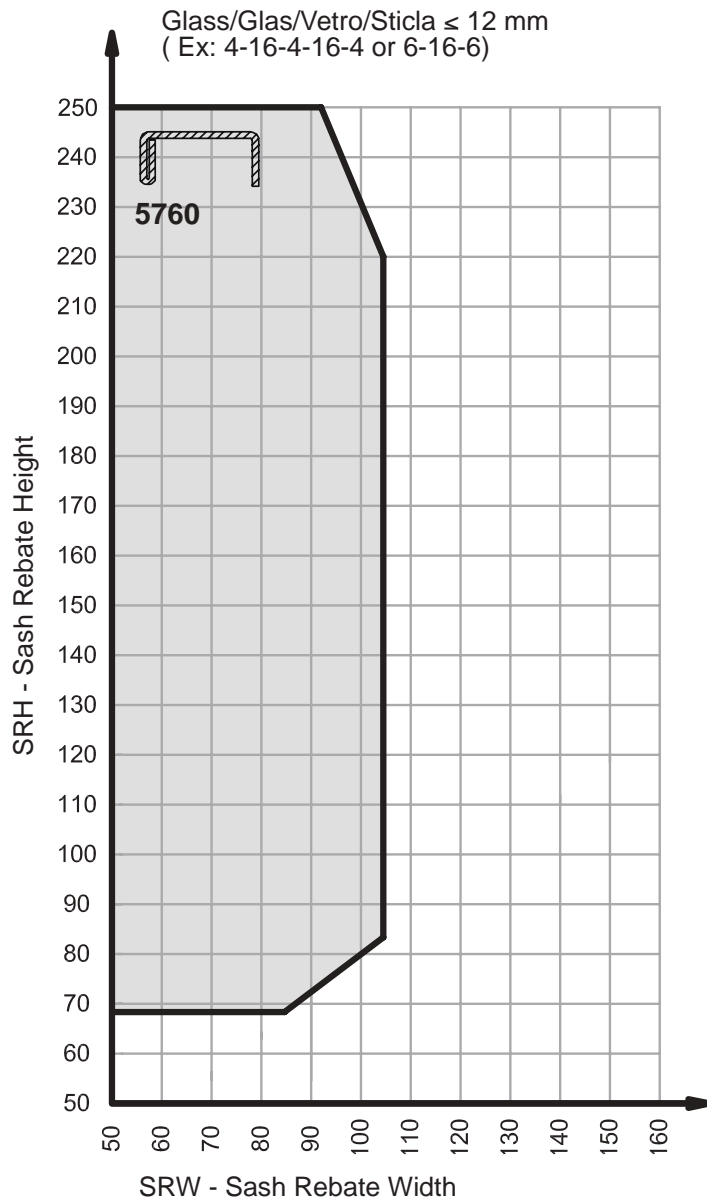
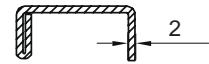
Sash: STV

Steel

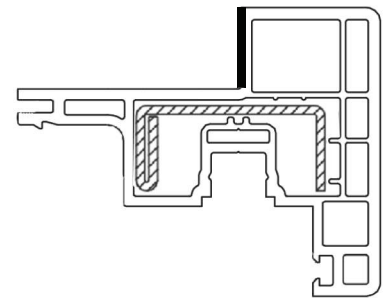
5760

$t=2 \text{ mm}$

$I_x=4,88 \text{ cm}^4$



**STV**



Sash 5061

**The sash width must not be greater than the sash height by more than 25%**

Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

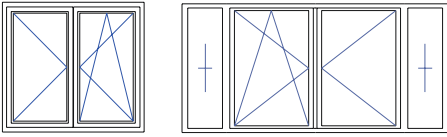
*La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%*

Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%



**Window Sash Maximum Sizes / Fenster Flügelgrößen Diagramme /**  
*Campi d'applicazione Anta Finestra / Dimensiuni maxime cercevea fereastră*

Opening types

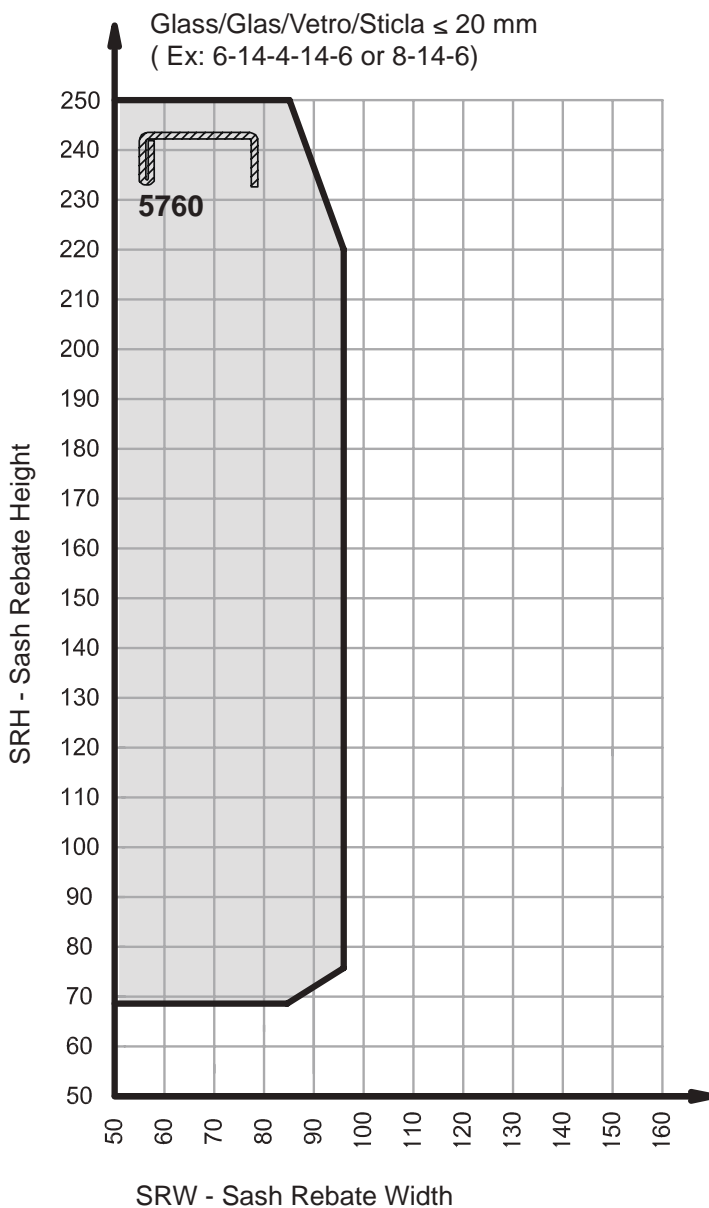
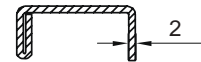


Steel

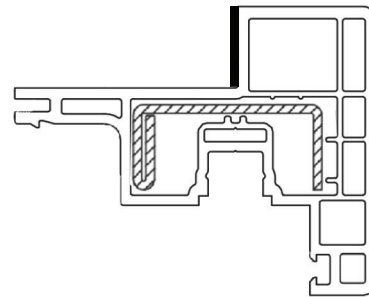
5760

t=2 mm  $I_x=4,88 \text{ cm}^4$

Profile: **WHITE** and **COLOR** / WEISS und FARBE /  
BIANCO e PELLICOLATO / ALB si COLOR  
Glass:  $\leq 50 \text{ kg/m}^2$   
Sash: STV



**STV**



Sash 5061

**The sash width must not be greater than the sash height by more than 25%**

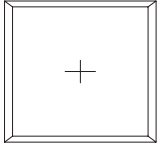
Die Flügelbreite darf die Flügelhöhe um nicht um mehr als 25% überschreiten.

La larghezza dell'anta non deve superare l'altezza della medesima di oltre il 25%

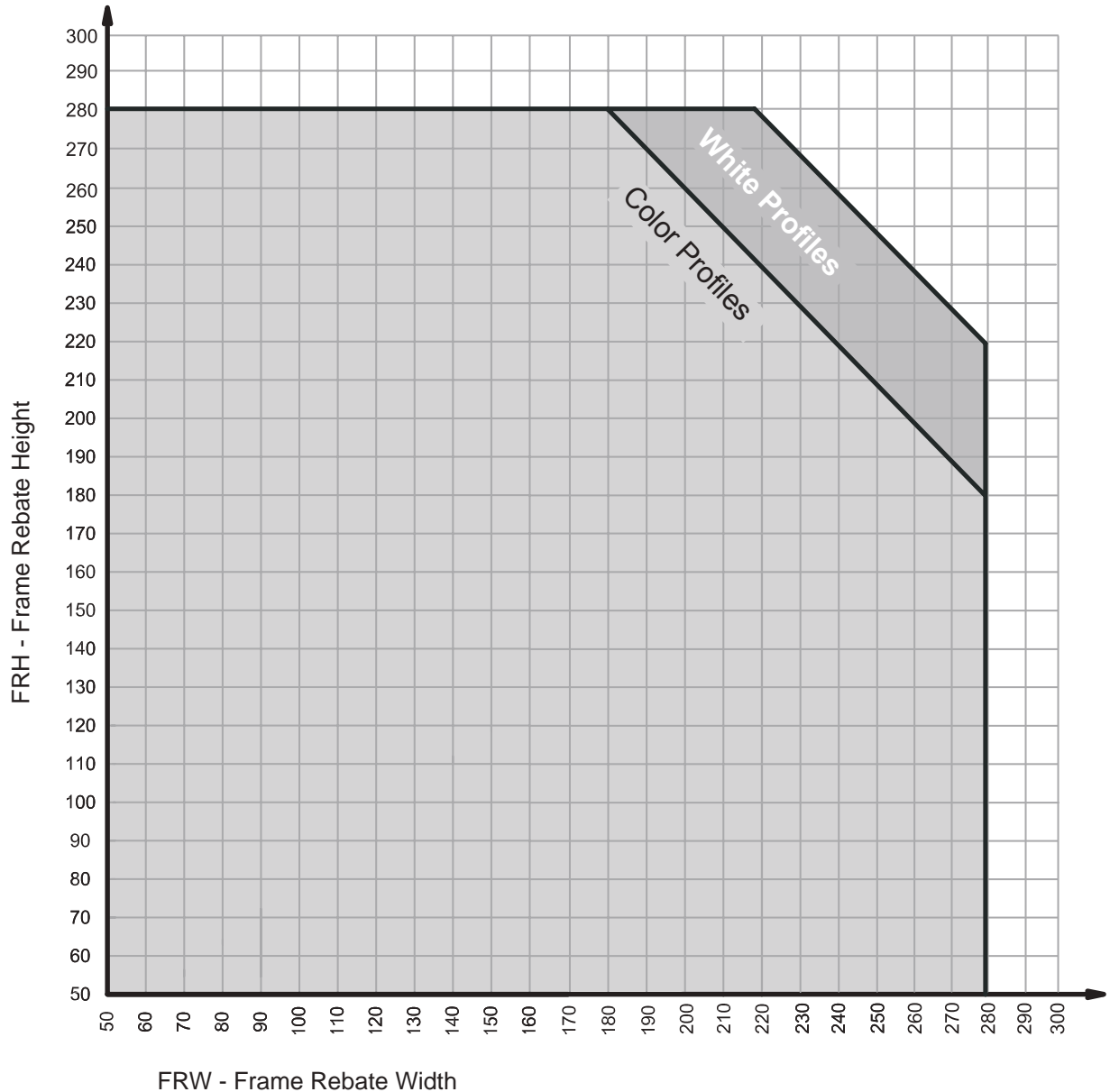
Lățimea cercevelei nu trebuie să depășească înălțimea acesteia cu mai mult de 25%

**Window Frame Maximum Sizes / Fenster Blendrahmengrößen Diagramme /**  
*Campi d'applicazione Telaio Finestra / Dimensiuni maxime toc fereastră*

Opening types



Profile: **WHITE** and **COLOR** / WEISS und FARBE /  
BIANCO e PELLICOLATO / ALB si COLOR



PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOR 76  
PREMIDOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

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# PREMIDOOR 76

**Profile system Kömmerling Premidoor 76 with 5 chambers**  
 Profilsystem Kömmerling Premidoor 76 mit 5 Kammer  
 Sistema di profili Kömmerling Premidoor 76 con 5 camere  
 Sistemul de profile cu 5 camere Kömmerling Premidoor 76

Profile System Manufacturer  
 Kömmerling  
 Pirmasens  
 Deutschland



**Heat transfer coefficient** up to  
 Wärmedurchgangskoeffizient bis  
 Trasmittanza termica fino a  
 Transmitanta termica pana la  $U_f = 1,4 \text{ W}/(\text{m}^2\text{K})$



**Resistance to wind load** up to  
 Widerstandsfähigkeit gegen Windlast bis  
 Resistenza ai carichi di vento fino a  
 Rezistentă la încărcarea din vant pana la C1/B2



**Tightness against driving rain - unprotected (A)** up to  
 Schlagregendichtheit - Ungeschützt (A) bis  
 Tenuta all'acqua metodo di prova A fino a  
 Etanșeitatea la apă expunere directă pana la 9A



**Air permeability** up to  
 Luftdurchlässigkeit bis  
 Tenuta all'aria fino a  
 Permeabilitatea aerului pana la Clasa 4



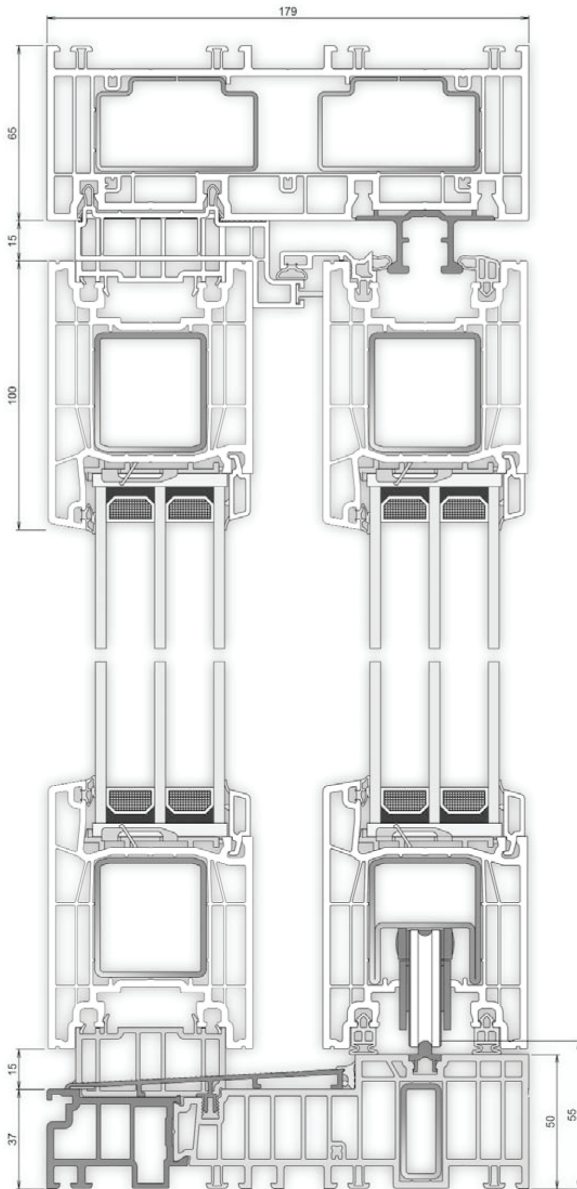
**Sound insulation** up to  
 Schallschutz bis  
 L'isolamento acustico fino a  
 Izolarea acustica pana la 43 dB



**Burglar-resistant** up to  
 Einbruchhemmung bis  
 Resistenza antieffrazione fino a  
 Rezistentă antifracție pana la RC 2 (WK 2)

 HERCULES 70 BORA ROLLO FRONT ROLLO TOP GLASS GLASSWARE BESCHLÄG  
 PREMIDOOR 88 PREMIDOOR 76 KUBUS PASIV 82 STYLE 76 RONDO PERFORMER 74

**System features / Systemmerkmale / Caratteristiche del sistema / Caracteristici Sistem**



ENG

1. High insulation five chamber profile cross section with 76 mm construction depth,  $U_f = 1.4 \text{ W/(m}^2\text{K)}$ .
2. Large scale steel reinforcements for optimised positive action connections, possible use of two steel profiles in the casement.
3. Peripheral EPDM glazing gasket.
4. High quality sealing elements for efficient sealing.
5. For diverse glass thicknesses up to 50 mm.
6. Backset glazing bead with shortened coextruded seal lip for enhanced visual appeal and easier cleaning.
7. Concealed casement screw unions in preformed receivers.
8. Threshold designed for the perfect thermal properties.
9. Barrier-free building possible with a track variant.
10. Special receiving groove for 76 mm extension profiles.

GER

1. Hochdämmender 5-Kammer Profilquerschnitt mit 76 mm Bautiefe,  $U_f = 1.4 \text{ W/(m}^2\text{K)}$ .
2. Großdimensionierte Stahlarmierungen für optimalen Formschluss, möglicher Einsatz von 2 Stahlprofilen in der Zarge.
3. Umlaufende EPDM - Verglasungsdichtung.
4. Hochwertige Dichtteile für effiziente Abdichtung.
5. Einsatz unterschiedlicher Glasdicken bis zu 50 mm.
6. Zurückversetzte Glasleiste mit verkürzter anextrudierter Dichtlippe für schönere Optik und leichtere Reinigung.
7. Verdeckt liegende Verschraubung der Zarge in vorgeformte Aufnahmen.
8. Thermisch perfekt ausgelegte Schwelle.
9. Durch Einsatz einer Laufschienvariante ist barrierefreies Bauen gegeben.
10. Spezielle Aufnahme für 76 mm Verbreiterungsprofile.

IT

1. Ottimo isolamento termico grazie alle 5 camere del profilo da 76 mm,  $U_f = 1.4 \text{ W/(m}^2\text{K)}$ .
2. Rinforzo in acciaio di grandi dimensioni, che garantisce una chiusura ottimale; la possibilità di rafforzare il telaio con due profili in acciaio.
3. Guarnizione periferica EPDM.
4. Possibilità spessore vetro fino a 50 mm.
5. Piattina fissaggio vetro guarnizione coestrusa ridotta, per la pulizia visivamente piacevole e facciale.
6. Guida con barriera termica.
8. Disponibile optional: pista sepolto in soglia.
9. La possibilità di accoppiare le estensioni di profilo della serie Trocal 76.

RO

1. Izolare termica excelenta multumita sectiuni penatacamerale a profilului de 76 mm,  $U_f = 1.4 \text{ W/(m}^2\text{K)}$ .
2. Ramforsare de otel supradimensionata, ce asigura o inchidere optima; posibilitate de armare a tocului cu doua profile de otel.
3. Garnitura periferica EPDM.
4. Posibilitate de vitrare cu geam de pana la 50 mm grosime.
5. Sipci de fixare sticla cu garnitura coextrudata redusa, pentru un aspect vizual placut si o curatare facila.
6. Sina de ghidare cu bariera termica.
8. Disponibila optional: cale de rulare ingropata in prag.
9. Posibilitate de cuplare a extensiilor de profil de la seria Trocal 76.

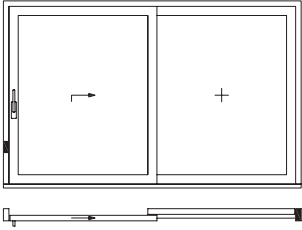
## Color program / Dekorübersicht / Programma Colori / Program culori

Dekore Pellicola Folie	Color shades  Farbbezeichnung Colore Denumire culoare	Laminated		Suport material  Trägermaterial Colore Massa Material Bază	Renolit code  Renolit Code Codice Renolit Cod Renolit	Gasket  Dichtung Guarnizione Garnitura
		ext	int			
Wood grain / Holzdekore / Effetto Legno / Imitatie Lemn	Sheffield Oak Light	x	x	braun	F456-3081	gray
	Sheffield Oak Grey	x	x	braun	F436-3086	gray
	Eiche Natur	x	x	braun	9.03118076-116800	gray
	Bergkiefer	x	x	braun	9.3069041-116700	gray
	Oregon	x	x	braun	9.1192001-116700	gray
	Streifen-Douglasie	x	x	braun	9.3152009-116700	gray
	Winchester XA	x	x	braun	9.0049240-114800	gray
	Golden Oak	x	x	braun	9.2178001-116700	black
	Soft Cherry	x	x	braun	9.3214009-119500	gray
	Siena PR	x	x	braun	9.0049233-114800	gray
	Siena PN	x	x	braun	9.0049237-114800	black
	Nussbaum V	x	x	braun	9.2178007-116700	black
	Eiche Dunkel FL-F1	x	x	braun	9.2052089-116700	black
	Mooreiche ST-F	x	x	braun	9.3167004-116700	black
	Macore	x	x	braun	9.3162002-116700	black
	Sapeli	x	x	braun	9.2065021-116700	black
	Black Cherry	x	x	braun	9.3202001-116700	black
	Desert Oak	x	x	braun	2.0057.004-130300	black
Mountain Oak	x	x	braun	2.0057.006-130300	black	
Single Colors / Uni-Farben / Uni-culore / Culori Uni	Crystal White Ash	x	x	white	47 852-117900	gray
	Cremeweiss	x	x	white	02.20.11.000001-116700	gray
	Lichtgrau 7251	x	x	white	725105-116700	gray
	Grau 7155	x	x	white	715505-116700	gray
	Basaltgrau 7012	x	x	white	701205-116700	gray
	Anthrazitgrau	x	x	white	701605-116700	black
	Anthrazitgrau 7016 Glatt	x	x	white	701605-808300	black
	Dunkelrot 3081	x	x	white	308105-116700	black
	Winerot 3005	x	x	white	300505-116700	black
	Moosgrun 6005	x	x	white	600505-116700	black
	Dunkelgrun 6125	x	x	white	612505-116700	black
	Schwarzbraun 8518	x	x	white	851805-116700	black
	Metbrush Aluminium	x	x	white	F436-1001	gray
	Metbrush Messing	x	x	white	F436-1007	gray

**Types of Openings / Öffnungsarten / Tipologie aperture / Tipologie deschideri**

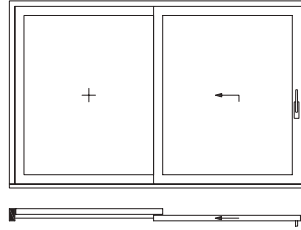
**Schema A left**

- 1 Lift-Sliding sash +1 Fixed pane**  
1 Hebe-Schiebeflügel +1 Festverglasung außen  
1 Porta scorrevole alzante + 1 Telaio fisso esterno  
1 Cercevea Liftant -Glisantă +1 Ramă fixă exterioră



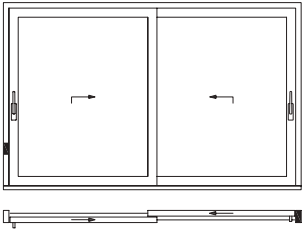
**Schema A right**

- 1 Lift-Sliding sash +1 Fixed pane**  
1 Hebe-Schiebeflügel +1 Festverglasung außen  
1 Porta scorrevole alzante + 1 Telaio fisso esterno  
1 Cercevea Liftant -Glisantă +1 Ramă fixă exterioră



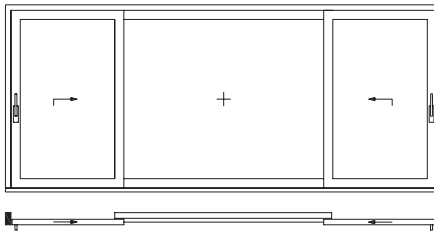
**Schema D\***

- 2 Lift-Sliding sash**  
2 Hebe-Schiebeflügel  
2 Porta scorrevole alzante  
2 Cercevele Liftant-Glisante



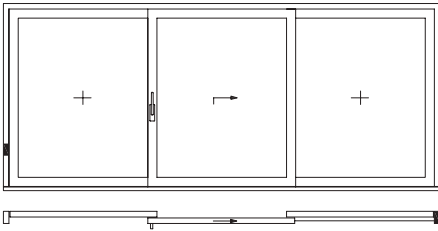
**Schema K**

- 2 Lift - Sliding sashes + 1 Outer centre fixed pane**  
2 Hebe-Schiebeflügel + 1 Festverglasung mittig außen  
2 Porte scorrevoli alzanti + 1 Telaio fisso centrale esterno  
2 Cercevele Liftant-Glisante + 1 Ramă fixă exterioră



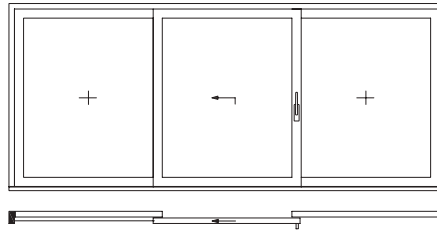
**Schema G left**

- 1 Lift - Sliding sash + 2 Outer fixed panes**  
1 Hebe-Schiebeflügel mittig innen + 2 Festverglasungen außen  
1 Porta scorrevole alzante + 2 Telai fissi esterni  
1 Cercevea Liftant-Glisantă + 2 Rame fixe exterioroare



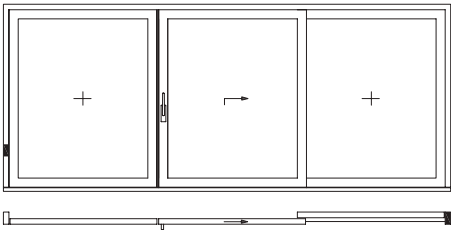
**Schema G right**

- 1 Lift - Sliding sash + 2 Outer fixed panes**  
1 Hebe-Schiebeflügel mittig innen + 2 Festverglasungen außen  
1 Porta scorrevole alzante + 2 Telai fissi esterni  
1 Cercevea Liftant-Glisanta + 2 Rame fixe exterioroare



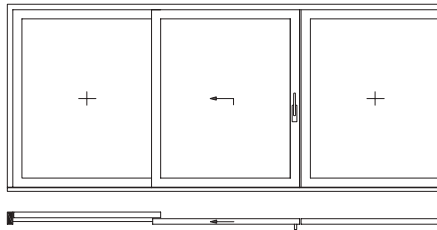
**Schema G left**

- 1 Lift - Sliding sash + 1 Inner and 1 Outer fixed panes**  
1 Hebe-Schiebeflügel mittig innen + 1 innen and 1 außen Festverglasungen  
1 Porta scorrevole alzante + 1 Telaio esterno e 1 Telaio interno fissi  
1 Cercevea Liftant-Glisanta + 1 Ramă interioară și 1 exterioroara fixe



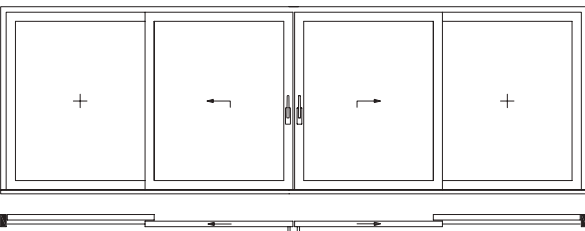
**Schema G right**

- 1 Lift - Sliding sash + 1 Inner and 1 Outer fixed panes**  
1 Hebe-Schiebeflügel mittig innen + 1 innen and 1 außen Festverglasungen  
1 Porta scorrevole alzante + 1 Telaio esterno e 1 Telaio interno fissi  
1 Cercevea Liftant-Glisanta + 1 Ramă interioară și 1 exterioroara fixe



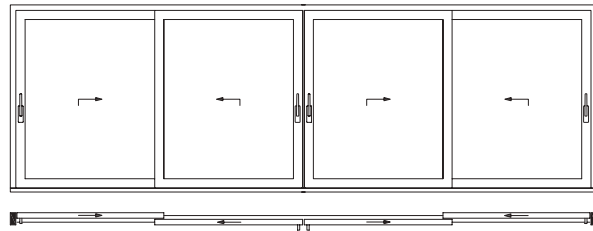
**Schema C**

- 2 Lift - Sliding sashes + 2 Fixed panes**  
2 Hebe-Schiebeflügel + 2 Festverglasungen außen  
2 Porte scorrevoli alzanti + 2 Telai fissi esterni  
2 Cercevele Liftant-Glisante + 2 Rame fixe exterioroare



**Schema F**

- 4 Lift-sliding sashes**  
4 Hebe-Schiebeflügel  
4 Porte scorrevoli alzanti  
4 Cercevele Liftant-Glisante



\* Available from September 2018

**Sound insulation test reports / Übersicht Schallprüfzeugnisse / Certificati d'isolamento acustico /**  
 Certificate izolare fonica

<b>Element description</b> Elementbeschreibung Descrizione elemento Descriere element	<b>Pane structure (mm)</b> Scheibenaufbau (mm) Struttura vetro (mm) Structura geam (mm)	<b>Obtained values Rw,P=dB</b> Erreichte Werte Rw,P=dB Valori raggiunti Rw,P=dB Valori obtinute Rw,P=dB	<b>Test report</b> Prüfbericht Certificati d'isolamento acustico Certificate izolare fonica
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	4-12-4-12-4	31	17-/05-A202-B1 / 17/05-A202-P19
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	4-16-4-12-4	31	17-/05-A202-B1 / 17/05-A202-P18
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	6-16-4	33	17-/05-A202-B1 / 17/05-A202-P17
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	6-12-4-12-4	34	17-/05-A202-B1 / 17/05-A202-P16
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	8-20-4	36	17-/05-A202-B1 / 17/05-A202-P15
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG 44.2-16-4	37	17-/05-A202-B1 / 17/05-A202-P14
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	10-20-4	36	17-/05-A202-B1 / 17/05-A202-P13
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG 44.1-16-4	37	17-/05-A202-B1 / 17/05-A202-P9
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	6-12-4-12-44.1	39	17-/05-A202-B1 / 17/05-A202-P8
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG-SI 44.1/12A/VSG-SI 44.1	40	17-/05-A202-B1 / 17/05-A202-P7
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG SI 44.1-16-VSG 33.1	39	17-/05-A202-B1 / 17/05-A202-P6
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG SI 44.1-16-VSG SI 44.1	40	17-/05-A202-B1 / 17/05-A202-P12
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG SI 44.1-24-8	40	17-/05-A202-B1 / 17/05-A202-P11
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG SI 66.1-24-6	41	17-/05-A202-B1 / 17/05-A202-P10
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG 46.2-20-VSG 44.2	42	17-/05-A202-B1 / 17/05-A202-P2
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG SI 66.2-20-VSG SI44.2	42	17-/05-A202-B1 / 17/05-A202-P4
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG SI 66.2-24-VSG SI 44.2	42	17-/05-A202-B1 / 17/05-A202-P3
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG 86.2-24-VSG 46.2	43	17-/05-A202-B1 / 17/05-A202-P22
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	6-16-4-16-6	34	17-/05-A202-B1 / 17/05-A202-P20
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	6-18-6	33	17-/05-A202-B1 / 17/05-A202-P5
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG 44.1-18-6	39	17-/05-A202-B1 / 17/05-A202-P1
Einflügelige Hebe-Schiebe-Tür Schema A 1653 mm x 2500 mm	VSG 44.1-16-4-14-6	40	17-/05-A202-B1 / 17/05-A202-P21

D-01062018

We reserve the right to make technical changes

10.3

1

PERFORMER 74

RONDO

STYLE 76

PASIV 82

KUBUS

PREMIDOOR 76

PREMIDOOR 88

PREMILINE

BESCHLÄG  
HARDWAREGLAS  
GLASS

ROLLO TOP

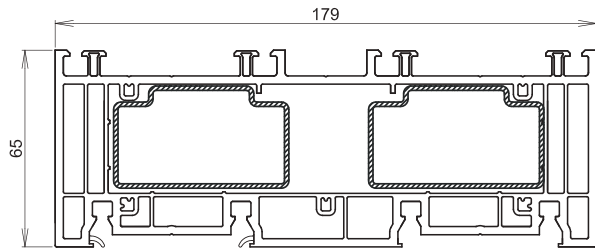
ROLLO FRONT

BORA

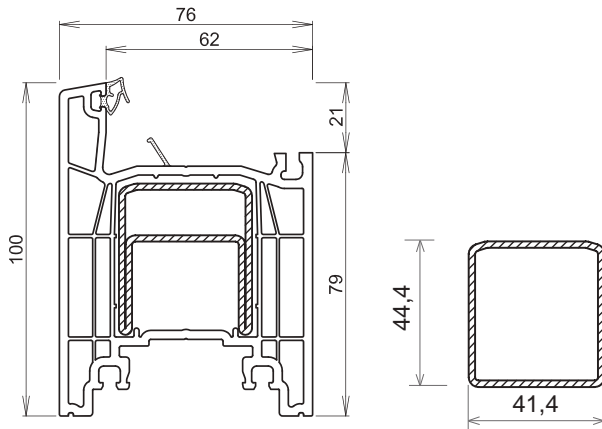
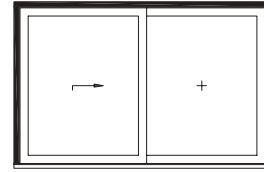
HERCULES 70



**Main profiles / Hauptprofil / Profili base / Profile principale**

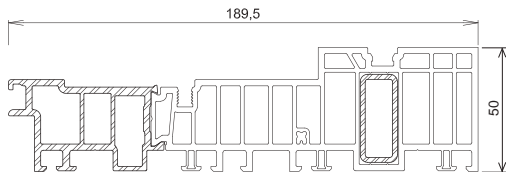
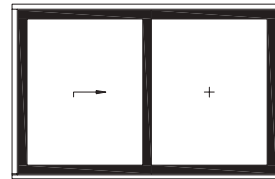


**Profile: 76169**  
Reinforcement: V373

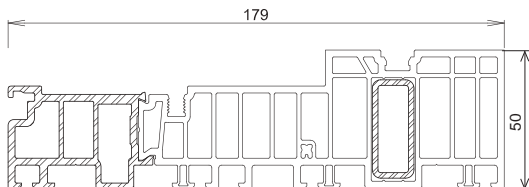
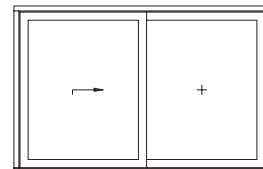


**Profile: 76269**  
Reinforcement: V372

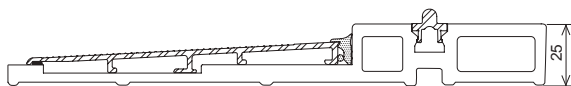
*Alternative Steel*  
V370



**Threshold set: Z007**



**Threshold set: Z006**



**Threshold set: Z112**

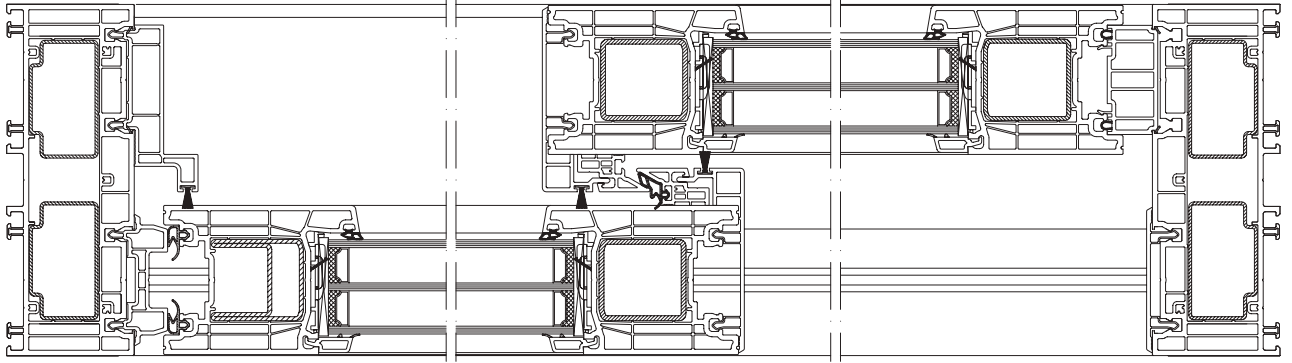
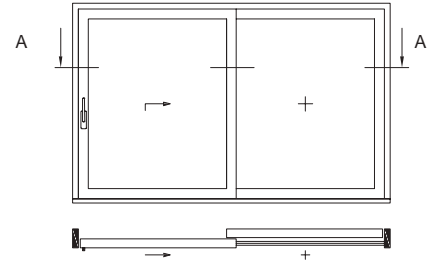
**Schema A**

**1 Lift-Sliding sash +1 Fixed pane**

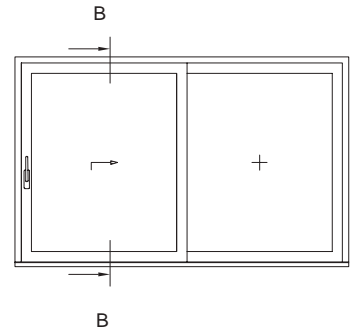
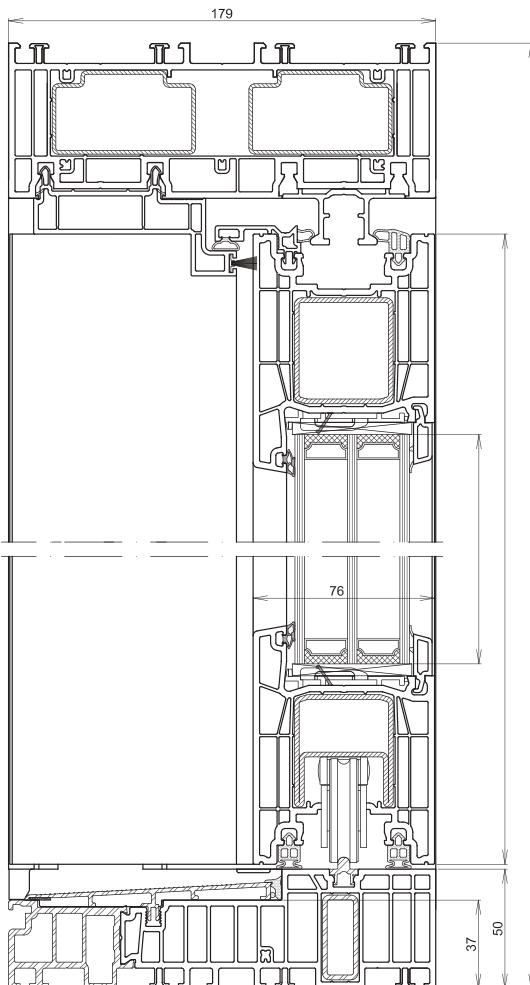
1 Hebe-Schiebeflügel +1 Festverglasung

1 Porta scorrevole alzante + 1 Telaio fisso

1 Cercevea Liftant -Glisantă +1 Rama fixă



**B-B**



Z006

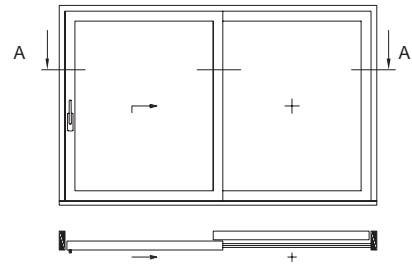
**Schema A + AluClip**

**1 Lift-Sliding sash +1 Fixed pane**

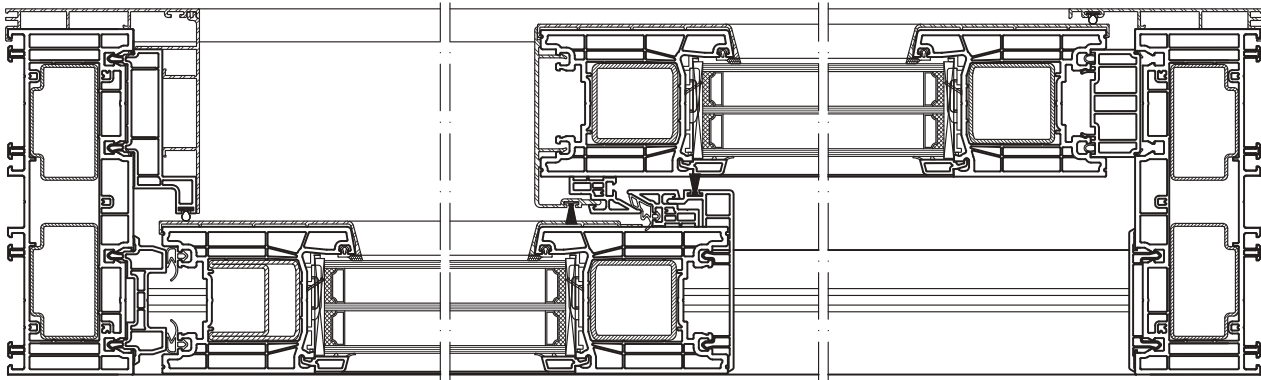
1 Hebe-Schiebeflügel +1 Festverglasung

1 Porta scorrevole alzante + 1 Telaio fisso

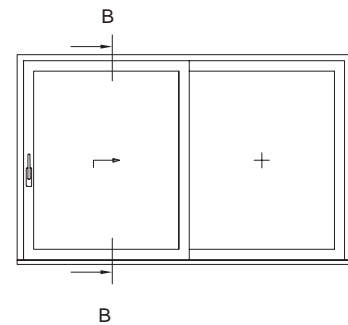
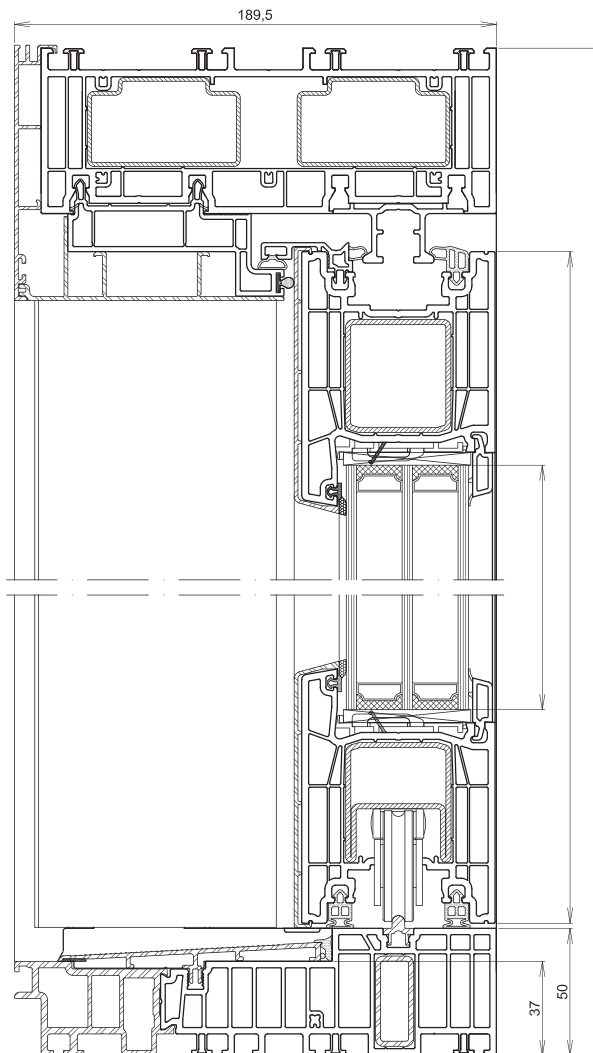
1 Cercevea Liftant -Glisantă +1 Rama fixă



A-A



B-B



Z007

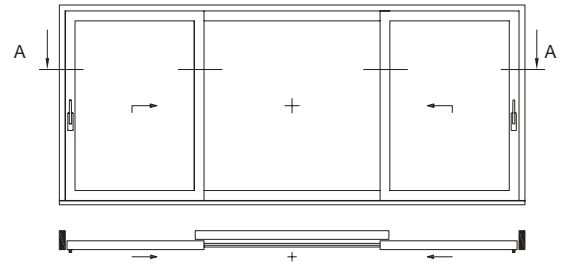
**Schema K**

**2 Lift - Sliding sashes + 1 Outer centre fixed pane**

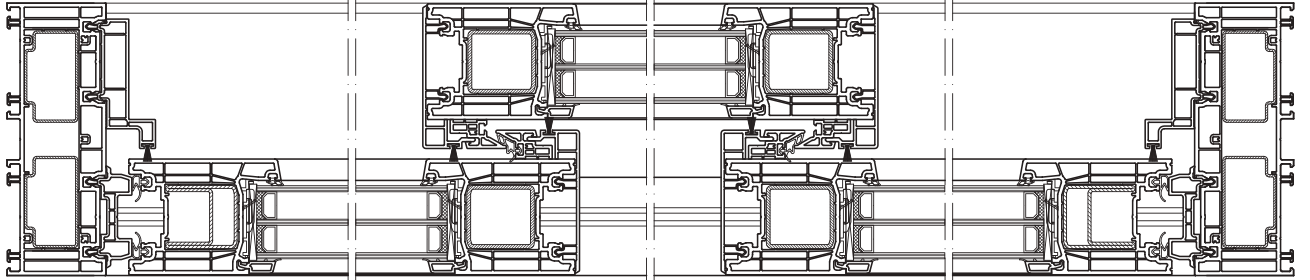
2 Hebe-Schiebeflügel + 1 Festverglasung mittig außen

2 Porte scorrevoli alzanti + 1 Telaio fisso centrale esterno

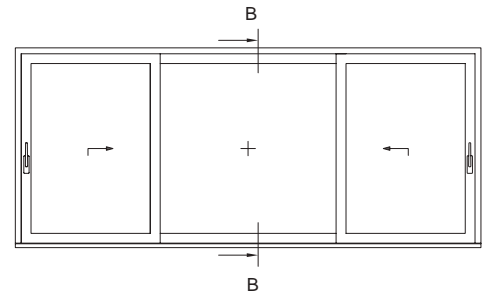
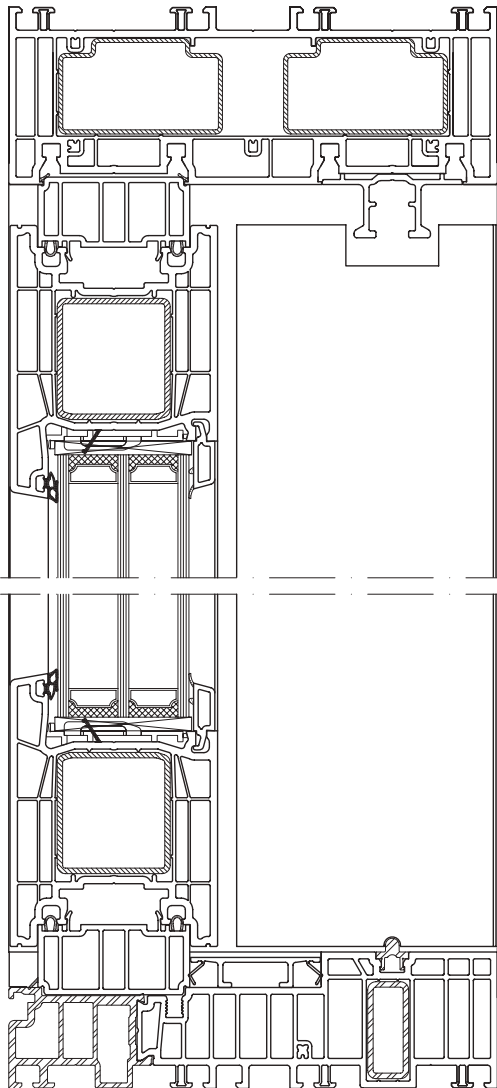
2 Cercevele Liftant-Glisante + 1 Ramă fixă exterioară



**A-A**



**B-B**



Z006

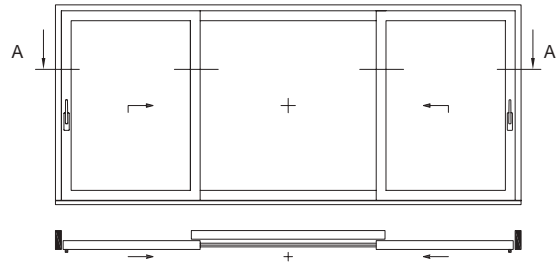
**Schema K + AluClip**

**2 Lift - Sliding sashes + 1 Outer centre fixed pane**

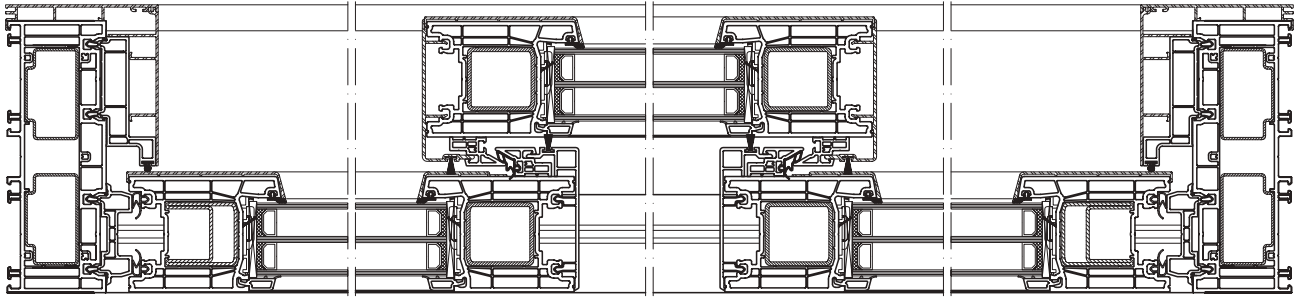
2 Hebe-Schiebeflügel + 1 Festverglasung mittig außen

2 Porte scorrevoli alzanti + 1 Telaio fisso centrale esterno

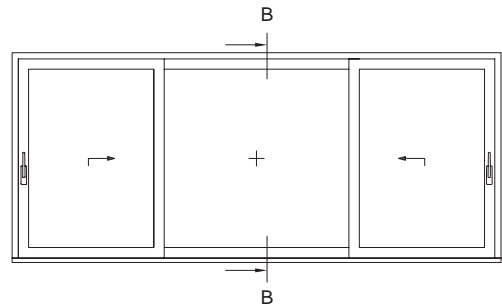
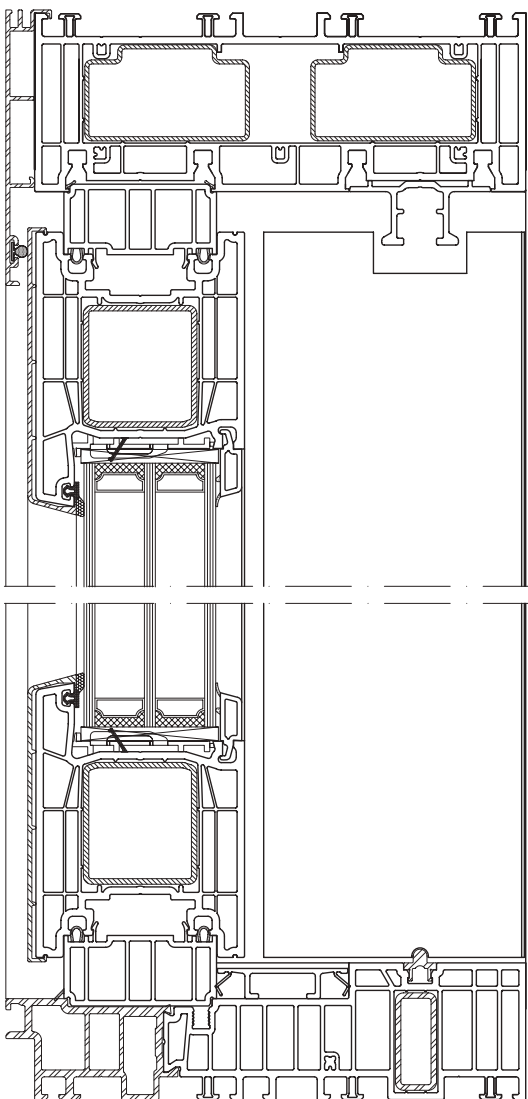
2 Cercevele Liftant-Glisante + 1 Ramă fixă exterioră



A-A



B-B



Z007

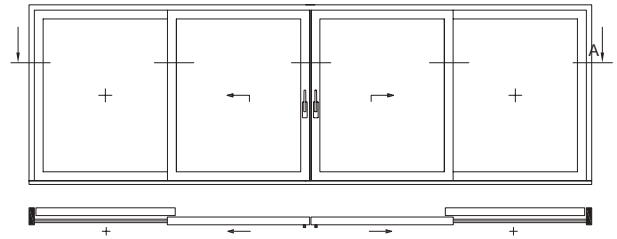
**Schema C**

**2 Lift - Sliding sashes + 2 Fixed panes**

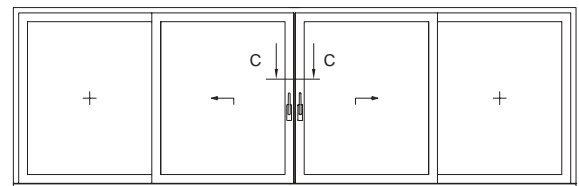
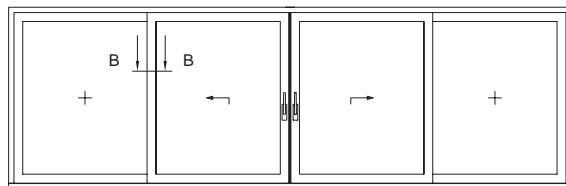
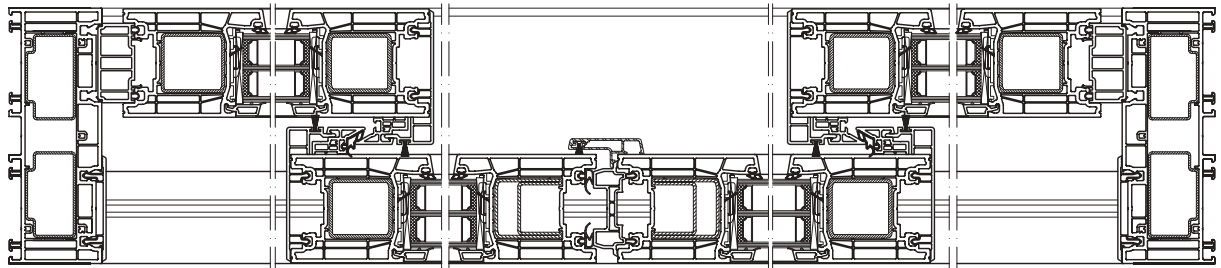
2 Hebe-Schiebeflügel + 2 Festverglasungen außen

2 Porte scorrevoli alzanti + 2 Telai fissi

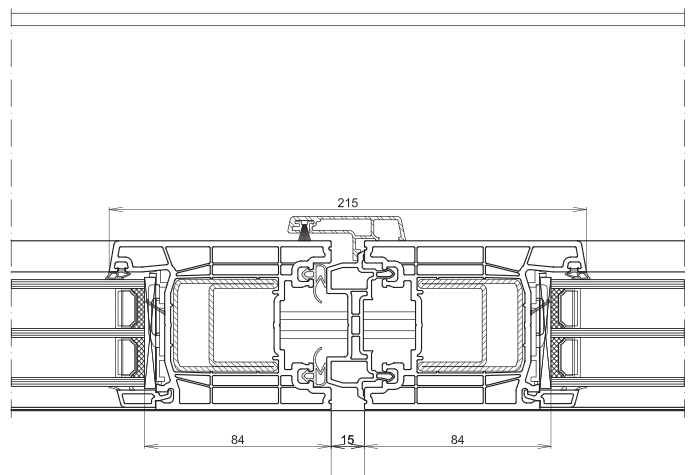
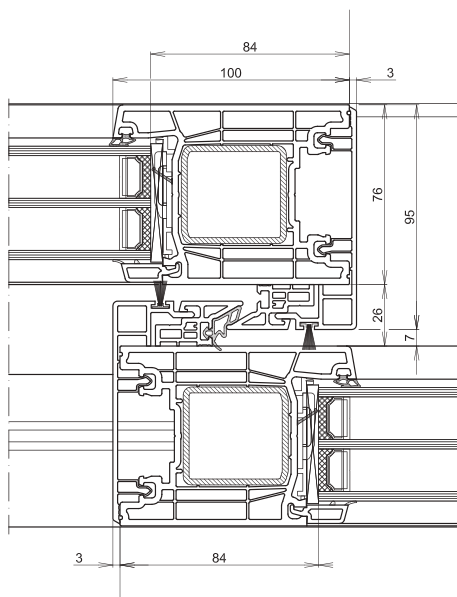
2 Cercevele Liftant-Glisante + 2 Rame fixe exterioare



**A-A**



**B-B**



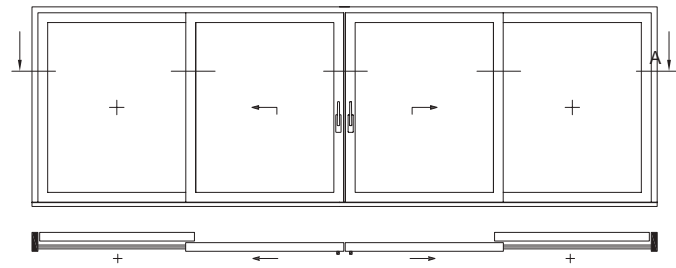
**Schema C + AluClip**

**2 Lift - Sliding sashes + 2 Fixed panes**

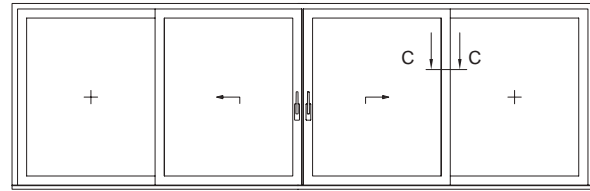
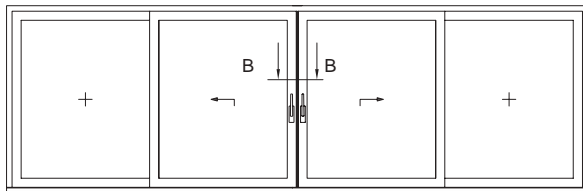
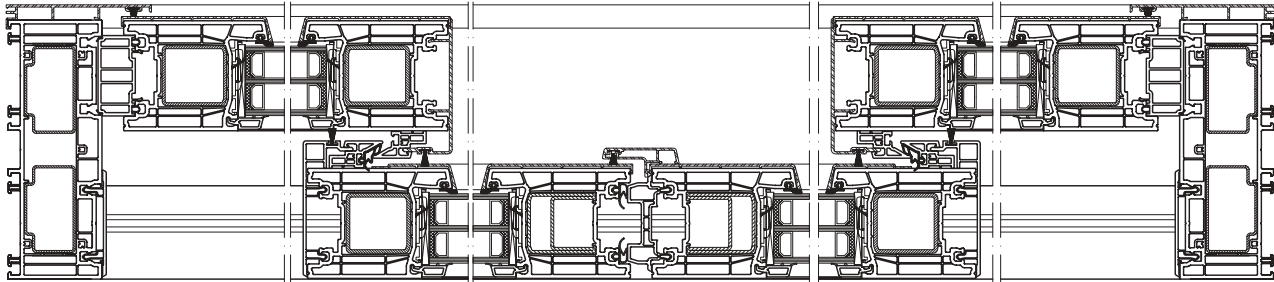
2 Hebe-Schiebeflügel + 2 Festverglasungen außen

2 Porte scorrevoli alzanti + 2 Telai fissi

2 Cercevele Liftant-Glisante + 2 Rame fixe exterioare

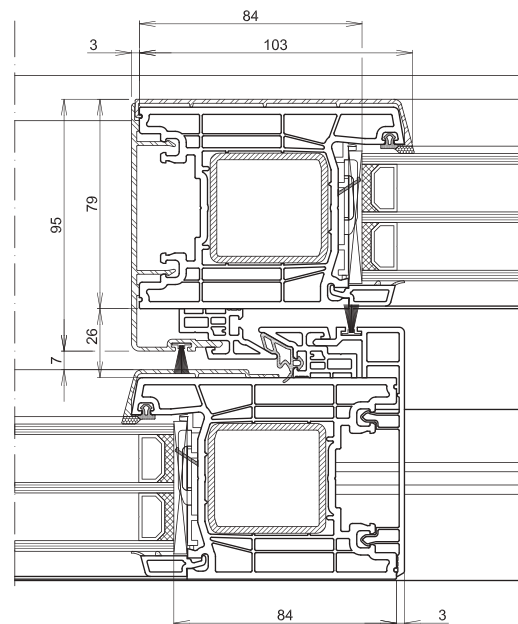
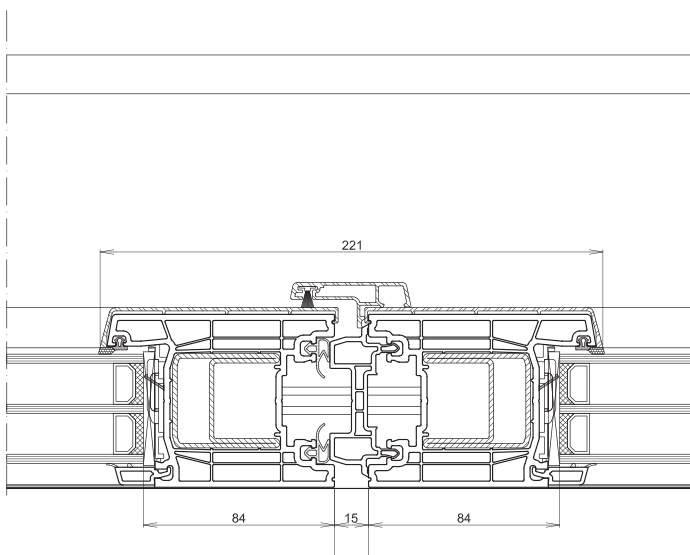


A-A



B-B

C-C



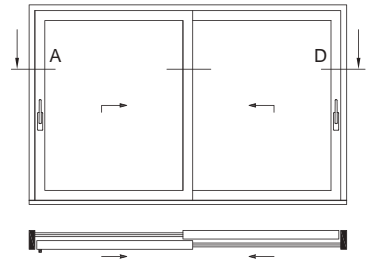
**Schema D**

**2 Lift-Sliding sash**

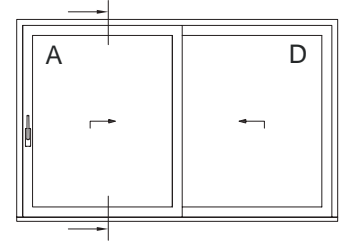
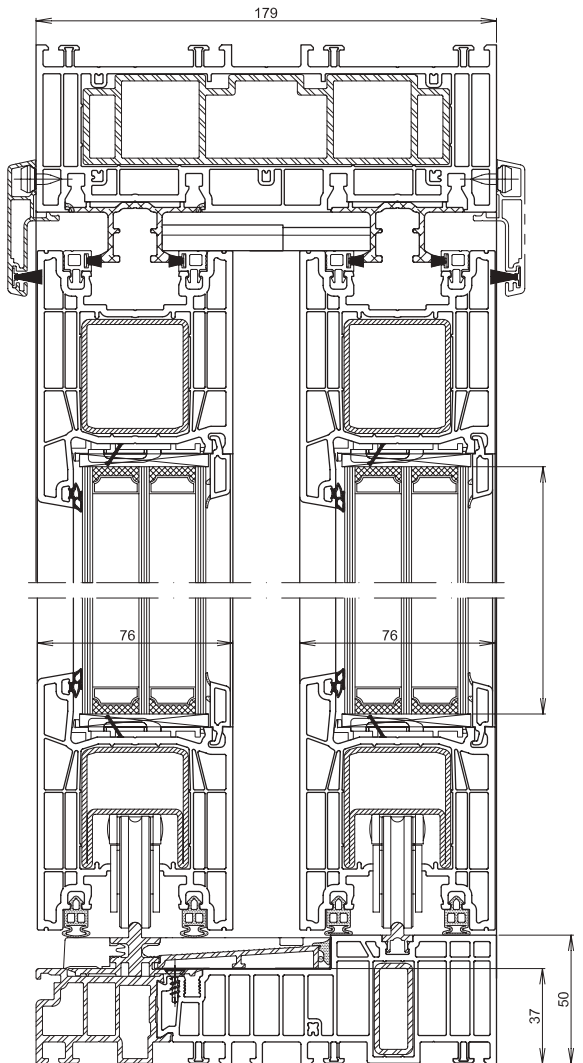
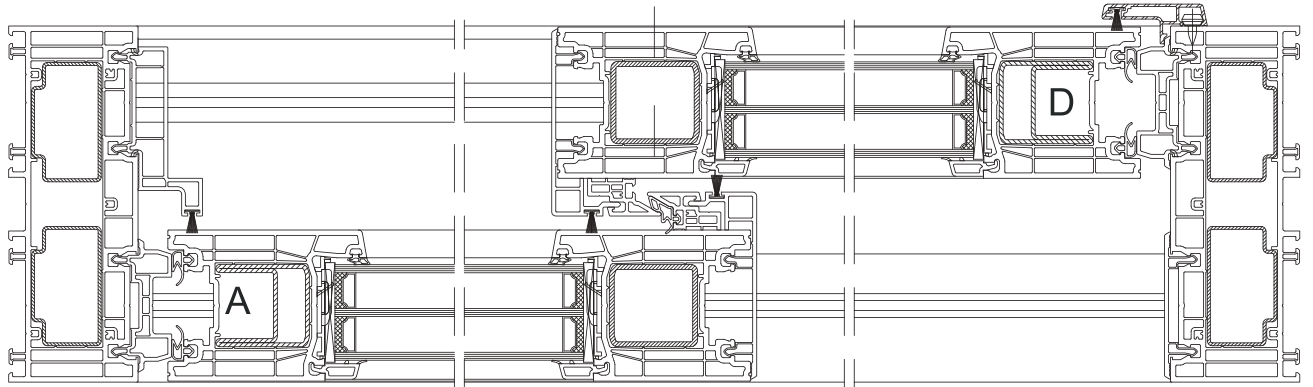
2 Hebe-Schiebeflügel

2 Porta scorrevole alzante

2 Cercevea Liftant -Glisantă



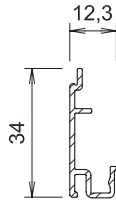
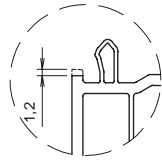
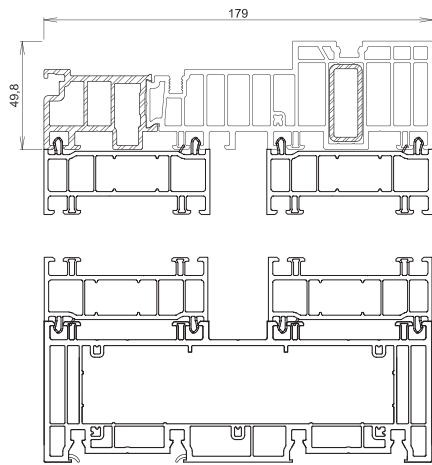
**A-D**



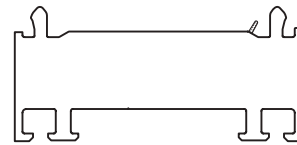
HERCULES 70	BORA	ROLLO FRONT	ROLLO TOP	GLASS	BESCHLÄG	PREMIDOOR 76	KUBUS	PASIV 82	STYLE 76	RONDO	PERFORMER 74
				GLASS	HARDWARE	PREMIDOOR 88	PREMILINE				



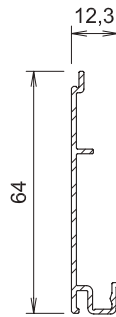
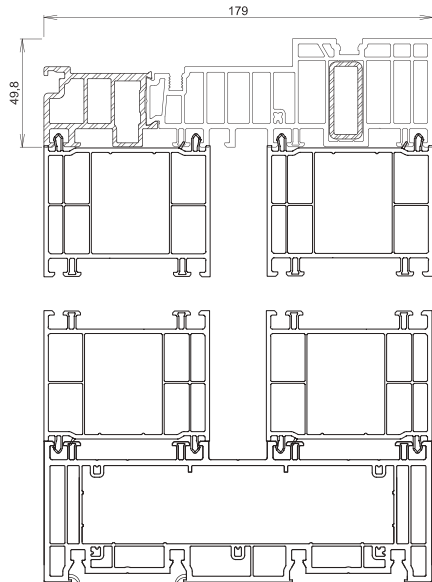
**Outer frame extension** / Blendrahmen Verbreiterung / *Allargatore Telaio* / Profile extensie toc



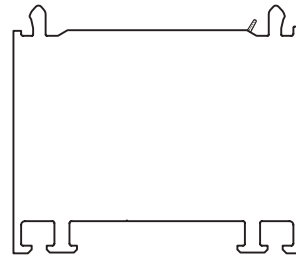
**A120**



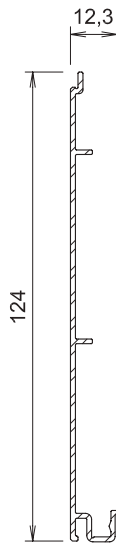
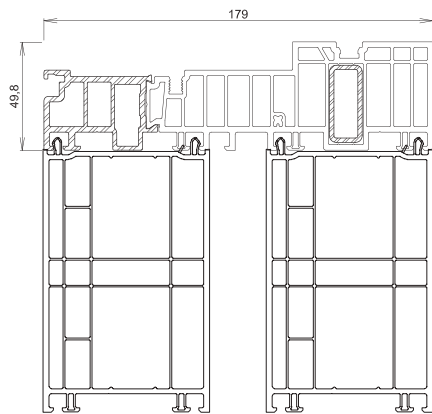
**76701**



**A121**



**76702**

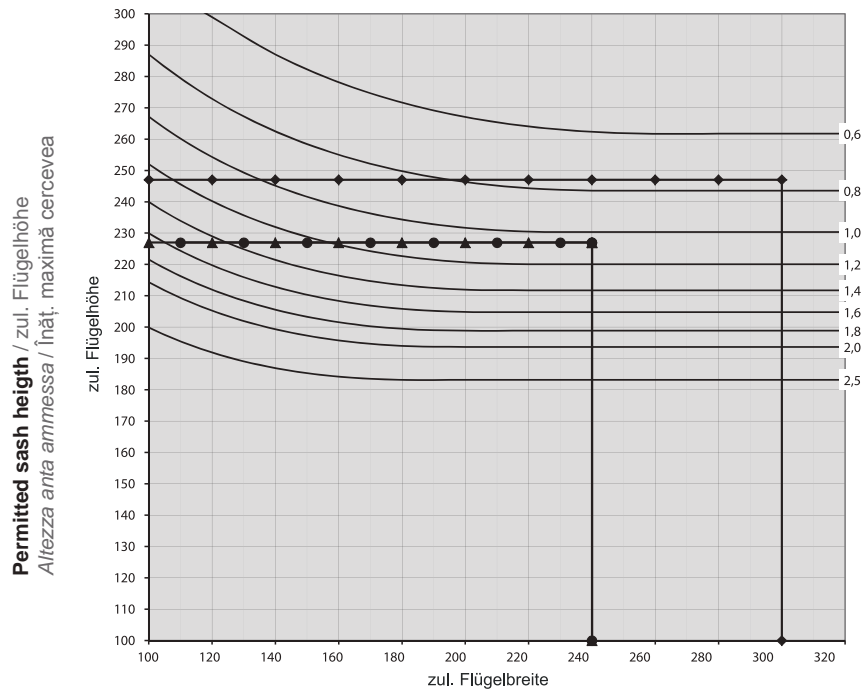


**A124**

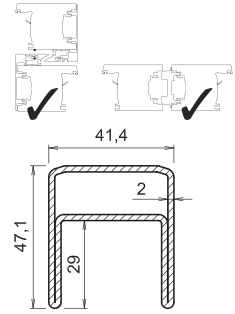


**76703**

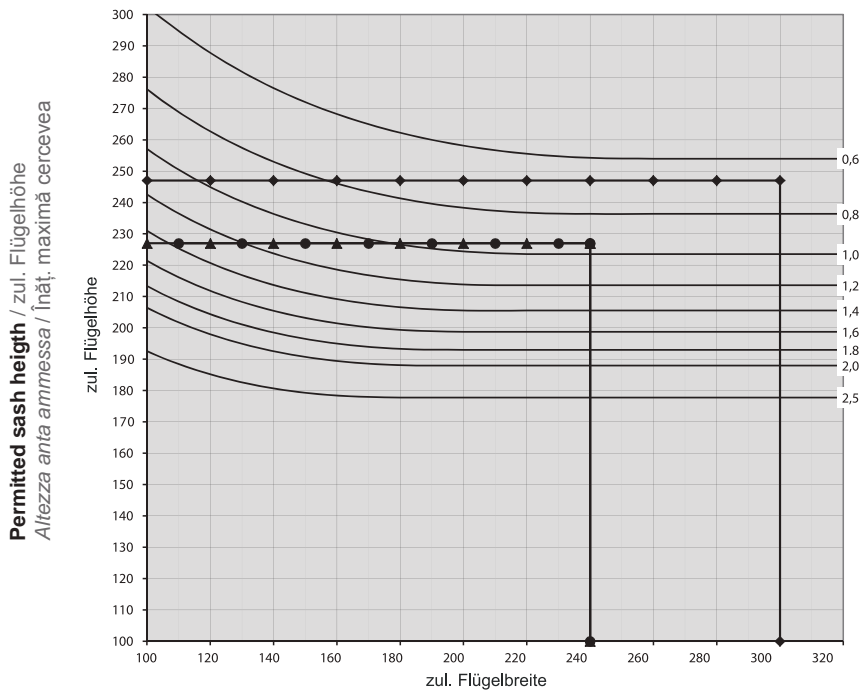
**PremiDoor 76 Sash Maximum Sizes / PremiDoor 76 Flügelgrößen Diagramme / Campi d'applicazione PremiDoor 76 / Dimensiuni maxime cercevea PremiDoor 76**



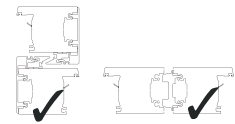
**Permitted sash width / zul. Flügelbreite /  
Larghezza anta ammessa / Lățime maximă cercevea**



- ◆ Weiß
- ▲ Farbe und AluSchale

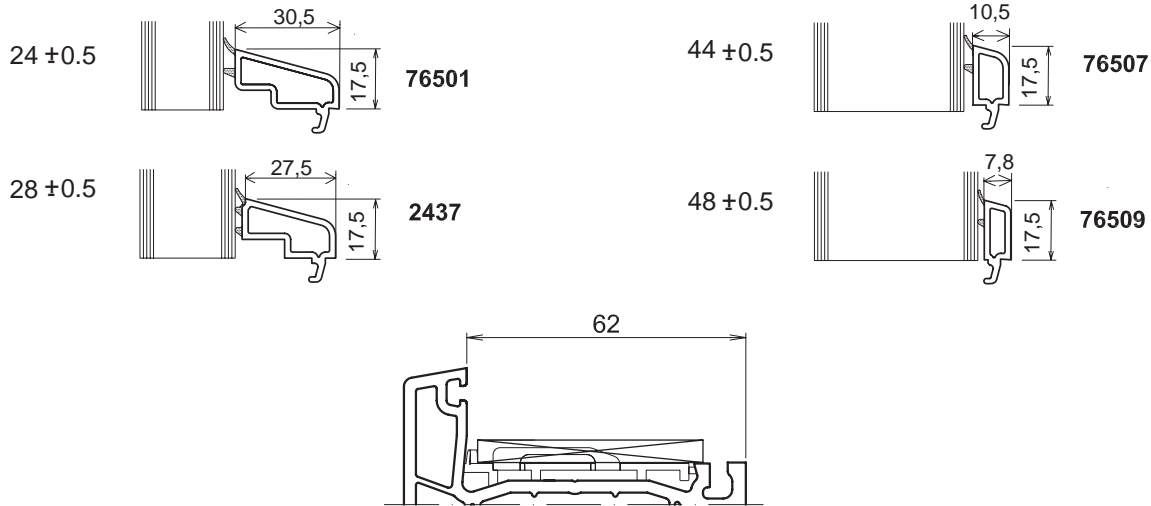



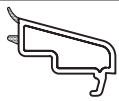
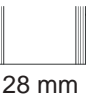

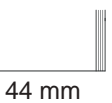

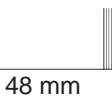
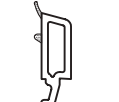
**Permitted sash width / zul. Flügelbreite /  
Larghezza anta ammessa / Lățime maximă cercevea**



**Verstärkungsprofil V371**  
 $I_W = 9,9 * 2 = 19,8$

- ◆ Weiß
- ▲ Farbe und AluSchale



Profile	Glass / Glas / Vetro / Sticlă	Glazing bead / Glasleiste Fermavetro / Baghetă	Gasket / Dichtung Guarnizione / Garnitură
Sash 76269	 24 mm	 76501	black or gray
Sash 76269	 28 mm	 76504	
Sash 76269	 44 mm	 76507	
Sash 76269	 48 mm	 76509	

**Installation of the glazing beads / Einstalen der Glasleiste / Inserimento dei listelli fermavetro / Montare Baghete**

Starting on one of the shortest lengths, fit 3 of the beads moving around the frame using a rubber mallet, finally fitting the last bead by bending into position. It is always best to leave one of the longer beads until last as a long bead will locate and bend more easily.

Beim Verglasen werden die Glasleisten mit dem Rastfuß in die Glasleistennut eingesetzt und mit einem Gummihammer eingeschlagen. Beim Einklipsen der Glasleiste ist darauf zu achten, dass die kürzere Glasleiste zuerst eingesetzt wird. Die längeren Glasleisten durchbiegen und in den Gehrungen beidseitig in die Glasleistennut einsetzen und von der Mitte beginnend einrasten

*Durante il montaggio dei vetri applicare i listelli fermavetro con il bordino di aggancio nell'apposita scanalatura e poi inserirli con un martello di gomma. Inserire sempre prima i listelli fermavetro più corti. Piegare i listelli fermavetro più lunghi, impuntare le due estremità negli angoli della scanalatura ed iniziare l'inserimento a partire dal centro.*

Mai întâi se montează baghete scurte aflate față în față, prima fază fiind îndoirea lor ușoară apoi introducerea și fixarea lor propriu-zisă. În final se montează și celelalte două baghete lungi fixând mai întâi colțurile și apoi mijlocul.

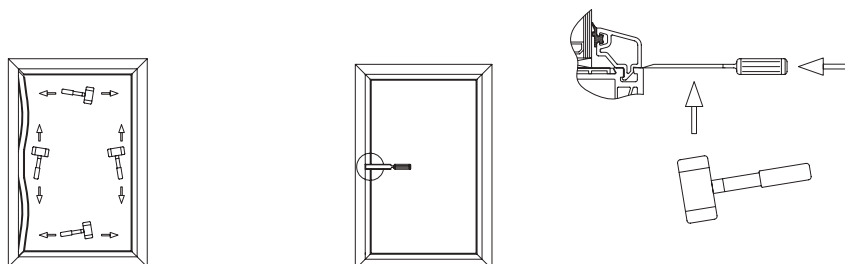
**Uninstalling the glazing beads / Demontage der Glasleiste / Smontaggio dei listelli fermavetro / Demontare Baghete**

Remove the glazing beads by pushing a sharp chisel or a rigid paint scraper between the bead and the frame joint at approximately the center point. It is most important to refit the beads in the same positions as they were removed, they may vary in length slightly, due to the manufacturing process.

Meißel zwischen Glasfalzgrund und Glasleistenunterkante Waagrecht ansetzen und mit einem Gummihammer austrasten

*Inserire orizzontalmente la punta di uno scalpello tra la scanalatura ed il listello fermavetro ed estrarre con l'aiuto di un martello di gomma*

Pentru demontajul baghetelor se utilizează o dală ascuțită. O lovitură scurtă în capăt ar trebui să fie suficientă pentru declipsarea baghetei. Este important ca poziția baghetelor să fie notată pentru a fi montate identic ulterior (pot exista mici diferențe dimensionale între baghetele de lungimi aparent identice)



# PREMIDOOR 88

## Profile system Kömmerling Premidoor 88 with 5 chambers

Profilsystem Kömmerling Premidoor 88 mit 5 Kammer

Sistema di profili Kömmerling Premidoor 88 con 5 camere

Sistemul de profile cu 5 camere Kömmerling Premidoor 88

Profile System Manufacturer  
 Kömmerling  
 Pirmasens  
 Deutschland



**Heat transfer coefficient**  
 Wärmedurchgangskoeffizient  
*Trasmittanza termica*  
 Transmitanta termica

**up to**  
 bis  
*fino a*  
 pana la  $U_f = 1,2 \text{ W}/(\text{m}^2\text{K})$



**Resistance to wind load**  
 Widerstandsfähigkeit  
 gegen Windlast  
*Resistenza ai carichi di vento*  
 Rezistentă la încărcarea din vant

**up to**  
 bis  
*fino a*  
 pana la Clasa C2/B3



**Tightness against driving rain - unprotected (A)**  
 Schlagregendichtheit - Ungeschützt (A)  
*Tenuta all'acqua metodo di prova A*  
 Etanșeitatea la apă expunere directă

**up to**  
 bis  
*fino a*  
 pana la 9A



**Air permeability**  
 Luftdurchlässigkeit  
*Tenuta all'aria*  
 Permeabilitatea aerului

**up to**  
 bis  
*fino a*  
 pana la Clasa 4



**Sound insulation**  
 Schallschutz  
*L'isolamento acustico*  
 Izolarea acustică

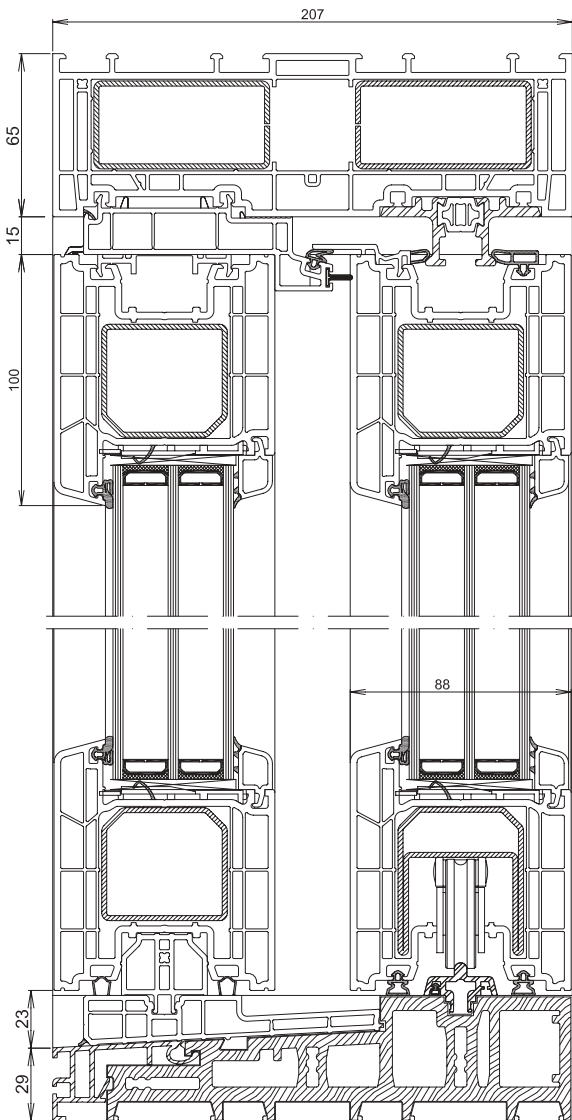
**up to**  
 bis  
*fino a*  
 pana la 45 dB



**Burglar-resistant**  
 Einbruchhemmung  
*Resistenza antieffrazione*  
 Rezistentă antifracție

**up to**  
 bis  
*fino a*  
 pana la RC 2 (WK 2)

PERFORMER 74  
 RONDO  
 STYLE 76  
 PASIV 82  
 KUBUS  
 PREMIDOOR 76  
**PREMIDOOR 88**  
 PREMILINE  
 BESCHLÄG  
 HARDWARE  
 GLAS  
 GLASS  
 ROLLO TOP  
 ROLLO FRONT  
 BORA  
 HERCULES 70

**System features / Systemmerkmale / Caratteristiche del sistema / Caracteristici Sistem**

**ENG**

1. High insulation five chamber profile cross section with 88 mm construction depth,  $U_f = 1.2 - 1.3 \text{ W/(m}^2\text{K)}$ .
2. Large scale steel reinforcements for optimised positive action connections, possible use of two steel profiles in the casement.
3. Peripheral EPDM glazing gasket.
4. High-tech two-component gasket ideal for permanently loaded moving parts.
5. High quality sealing elements for efficient sealing.
6. For diverse glass thicknesses up to 54 mm.
7. Backset glazing bead with shortened coextruded seal lip for enhanced visual appeal and easier cleaning.
8. Concealed casement screw unions in preformed receivers.
9. WPC threshold designed for the perfect thermal properties.
10. Guide rail with thermal break for optimised thermal insulation.
11. Barrier-free building possible with a track variant.
12. Special receiving groove for 88 mm extension profiles.

**GER**

1. Hochdämmender 5-Kammer Profilquerschnitt mit 88 mm Bautiefe,  $U_f = 1,2 - 1,3 \text{ W/(m}^2\text{K)}$ .
2. Großdimensionierte Stahlarmierungen für optimalen Formschluss, möglicher Einsatz von 2 Stahlprofilen in der Zarge.
3. Umlaufende EPDM - Verglasungsdichtung.
4. Hochtechnisierte Zwei-Komponenten-Dichtung bestens geeignet für Dauerbeanspruchung an beweglichen Teilen.
5. Hochwertige Dichtteile für effiziente Abdichtung.
6. Einsatz unterschiedlicher Glasdicken bis zu 54 mm.
7. Zurückversetzte Glasleiste mit verkürzter anextrudierter Dichtlippe für schönere Optik und leichtere Reinigung.
8. Verdeckt liegende Verschraubung der Zarge in vorgeformte Aufnahmen.
9. Thermisch perfekt ausgelegte WPC - Schwelle.
10. Führungsschiene thermisch getrennt zur optimierten Wärmedämmung.
11. Durch Einsatz einer Laufschienevariante ist barrierefreies Bauen möglich.
12. Spezielle Aufnahmenut für 88 mm Verbreiterungsprofile.

**IT**

1. Ottimo isolamento termico grazie alle 5 camere del profilo da 88 mm,  $U_f = 1.2 - 1.3 \text{ W/(m}^2\text{K)}$ .
2. Rinforzo in acciaio di grandi dimensioni, che garantisce una chiusura ottimale; la possibilità di rafforzare il telaio con due profili in acciaio.
3. Guarnizione periferica EPDM.
4. Guarnizione bicomponente High-Tech, ideale per le parti in movimento, che garantiscono tenuta efficace.
5. Possibilità spessore vetro fino a 54 mm.
6. Piattina fissaggio vetro guarnizione coestruso ridotta, per la pulizia visivamente piacevole e facciale.
7. Soglia in WPC (composito legno-plastico) con una maggiore trasmittanza termica.
8. Guida con barriera termica.
9. Disponibile optional: pista sepolto in soglia.
10. La possibilità di accoppiare le estensioni di profilo della serie Trocal 88.

**RO**

1. Izolare termica excelenta multumita sectiuni penatacamerale a profilului de 88 mm,  $U_f = 1.2 - 1.3 \text{ W/(m}^2\text{K)}$ .
2. Ramforsare de otel supradimensionata, ce asigura o inchidere optima; posibilitate de armare a tocului cu doua profile de otel.
3. Garnitura periferica EPDM.
4. Granitura bicomponenta High-Tech, ideala pentru partile aflate in miscare, ce asigura o etansare eficienta.
5. Posibilitate de vitrare cu geam de pana la 54 mm grosime.
6. Sipci de fixare sticla cu garnitura coextrudata redusa, pentru un aspect vizual placut si o curatare facila.
7. Prag din WPC (compzit lemn-plastic) cu o transmitanta termica sporita.
8. Sina de ghidare cu bariera termica.
9. Disponibila optional: cale de rulare ingropata in prag.
10. Posibilitate de cuplare a extensiilor de profil de la seria Trocal 88.

## Color program / Dekorübersicht / Programma Colori / Program culori

Dekore Pellicola Folie	Color shades Farbbezeichnung Colore Denumire culoare	Laminated		Suport material Trägermaterial Colore Massa Material Bază	Renolit code Renolit Code Codice Renolit Cod Renolit	Gasket Dichtung Guarnizione Garnitura
		ext	int			
Wood grain / Holzdekore / Effetto Legno / Imitatie Lemn	Sheffield Oak Light	x	x	braun	F456-3081	gray
	Sheffield Oak Grey	x	x	braun	F436-3086	gray
	Eiche Natur	x	x	braun	9.03118076-116800	gray
	Bergkiefer	x	x	braun	9.3069041-116700	gray
	Oregon	x	x	braun	9.1192001-116700	gray
	Streifen-Douglasie	x	x	braun	9.3152009-116700	gray
	Winchester XA	x	x	braun	9.0049240-114800	gray
	Golden Oak	x	x	braun	9.2178001-116700	black
	Soft Cherry	x	x	braun	9.3214009-119500	gray
	Siena PR	x	x	braun	9.0049233-114800	gray
	Siena PN	x	x	braun	9.0049237-114800	black
	Nussbaum V	x	x	braun	9.2178007-116700	black
	Eiche Dunkel FL-F1	x	x	braun	9.2052089-116700	black
	Mooreiche ST-F	x	x	braun	9.3167004-116700	black
	Macore	x	x	braun	9.3162002-116700	black
	Sapeli	x	x	braun	9.2065021-116700	black
	Black Cherry	x	x	braun	9.3202001-116700	black
	Desert Oak	x	x	braun	2.0057.004-130300	black
Mountain Oak	x	x	braun	2.0057.006-130300	black	
Single Colors / Uni -Farben / Uni-colore / Culori Uni	Crystal White Ash	x	x	white	47 852-117900	gray
	Cremeweiss	x	x	white	02.20.11.000001-116700	gray
	Lichtgrau 7251	x	x	white	725105-116700	gray
	Grau 7155	x	x	white	715505-116700	gray
	Basaltgrau 7012	x	x	white	701205-116700	gray
	Anthrazitgrau	x	x	white	701605-116700	black
	Anthrazitgrau 7016 Glatt	x	x	white	701605-808300	black
	Dunkelrot 3081	x	x	white	308105-116700	black
	Winerot 3005	x	x	white	300505-116700	black
	Moosgrun 6005	x	x	white	600505-116700	black
	Dunkelgrun 6125	x	x	white	612505-116700	black
	Schwarzbraun 8518	x	x	white	851805-116700	black
	Metbrush Aluminium	x	x	white	F436-1001	gray
	Metbrush Messing	x	x	white	F436-1007	gray

**Nachweis**  
Berechnung des Wärmedurchgangskoeffizienten



**Prüfbericht**  
Nr. 13-001913-PR01  
(PB-K20-06-de-01)

**Auftraggeber** profine GmbH  
Kömmerling Kunststoffe  
Zweibrücker Str. 200  
66954 Pirmasens  
Deutschland

**Grundlagen \*)**  
EN ISO 10077-2:2012-02  
SG 06-verpflichtend  
NB-CPD/SG06/11/083 2011-09  
\*) und entsprechende nationale Fassungen  
(z.B. DIN EN)

**Produkt** Flügelrahmen-Blendrahmen  
Schiebesystem Kunststoff

**Bezeichnung** System: PremiDoor 88  
Lieferbezeichnung: 2880 Rahmenzarge plus Flügel 2883

**Leistungsrelevante Produktdetails** Material Polyvinylchlorid (PVC-U) hart; Ansichtsbreite B in mm 180; Flügelrahmen; Profilquerschnitt, Dicke in mm 88; Profilquerschnitt, Breite in mm 100; Aussteifung; Material Stahl - metallische Oberfläche (allgemein - einschließlich verzinkt); Blendrahmen; Profilquerschnitt, Dicke in mm 207; Profilquerschnitt, Breite in mm 65; Zwischenprofil; Profilquerschnitt, Dicke in mm 79; Profilquerschnitt, Breite in mm 15; Deckprofil Blendrahmen; Profilquerschnitt, Dicke in mm 99; Profilquerschnitt, Breite in mm 29,5; Ersatzpaneel; Einstand in mm 15; Dicke in mm 36;

**Besonderheiten** Teilung des Glasfalzes durch Dichtlippe



**Verwendungshinweise**  
Dieser Prüfbericht dient zum Nachweis des Wärmedurchgangskoeffizienten.

**Ergebnis**  
Berechnung des Wärmedurchgangskoeffizienten  
nach EN ISO 10077-2:2012-02



$$U_f = 1,2 \text{ W/(m}^2\text{K)}$$

Die Berechnung des Wärmedurchgangskoeffizienten der Rahmenprofile berücksichtigt nicht den punktuellen Einfluss der Rollmechanik.

**Gültigkeit**  
Die genannten Daten und Ergebnisse beziehen sich ausschließlich auf den geprüften und beschriebenen Probekörper. Diese Prüfung ermöglicht keine Aussage über weitere leistungs- und qualitätsbestimmende Eigenschaften der vorliegenden Konstruktion.

**Veröffentlichungshinweise**  
Es gilt das "Merkblatt zur Benutzung von ift-Prüfdokumentationen". Das Deckblatt kann als Kurzfassung verwendet werden.

ift Rosenheim  
26. Juni 2013

**Inhalt**  
Der Nachweis umfasst insgesamt 5 Seiten und Anlage (1 Seite).



Manuel Demel, M.BP. Dipl.-Ing. (FH)  
Stv. Prüfstellenleiter  
Bauphysik



Maurice Mayer, Dipl.-Ing. (FH)  
Prüfingenieur  
Rechnergestützte Simulation

## Nachweis

Luftdurchlässigkeit, Schlagregendichtheit, Widerstandsfähigkeit bei Windlast, Bedienungskräfte, Mechanische Beanspruchung



### Prüfbericht

Nr. 13-001589-PR01  
(PB-A01-02-de-03)

**Auftraggeber** profine GmbH  
International Profile Group  
Zweibrücker Straße 200  
66954 Pimasens  
Deutschland

**Produkt** Hebeschiebetür, Schema A

**Bezeichnung** Systembezeichnung: PremiDoor 88

**Leistungsrelevante Produktdetails** Material: PVC / U-weiß

**Außenmaß (BxH)** 5063 mm x 2932 mm

**Besonderheiten** - / -

### Grundlagen

EN 14351-1:2006+A1:2010

### Prüfnormen:

EN 1028:2000-06  
EN 1027:2000-06  
EN 12046-1:2003-11  
EN 12211:2000-08  
EN 14608:2004-08  
Entsprechende nationale Fassungen (z.B. DIN EN)  
Prüfbericht Nr. 13-001589-PR01 (PB-A01-02-de-02) vom 31.07.2013

### Darstellung



### Verwendungshinweise

Die ermittelten Ergebnisse können vom Hersteller als Grundlage für den herstellereigenen zusammenschließenden ITT-Bericht verwendet werden. Die Festlegungen der geltenden Produktnorm sind zu beachten.

### Gültigkeit

Die genannten Daten und Einzelergebnisse beziehen sich ausschließlich auf den geprüften/beschriebenen Probekörper. Die Klassifizierung gilt so lange das Produkt unverändert ist und die o.g. Grundlagen sich nicht geändert haben. Das Ergebnis kann unter Beachtung entsprechender Festlegungen der Produktnorm in Eigenverantwortung des Herstellers übertragen werden. Diese Prüfung/Bewertung ermöglicht keine Aussage über weitere leistungs- und qualitätsbestimmende Eigenschaften der vorliegenden Konstruktion; insbesondere Witterungs- und Alterungseinflüsse wurden nicht berücksichtigt.

### Veröffentlichungshinweise

Es gilt das ift-Merkblatt "Werbung mit ift-Prüfdokumentationen". Das Deckblatt kann als Kurzfassung verwendet werden.

Der Nachweis umfasst insgesamt 29 Seiten.

### Ergebnis

Luftdurchlässigkeit nach EN 12207:1999-11



**Klasse 4**

Schlagregendichtheit nach EN 12208:1999-11



**Klasse 9A**

Widerstandsfähigkeit bei Windlast nach EN 12210:1999-11/AC:2002-08



**Klasse C1 / B2**

Bedienungskräfte nach EN 13115:2001-07



**Klasse 1**

Mechanische Beanspruchung nach EN 13115:2001-07



**Klasse 4**

ift Rosenheim

06.09.2013



Robert Kolaony, Dipl.-Ing. (FH)  
Stv. Prüfstellenleiter  
Bauteile



Thomas Krichbaumer  
Prüfingenieur  
Dichtheit & Windlast

Ve-Pb-1443-de-01.10.2011



ift Rosenheim GmbH  
Geschäftsführer:  
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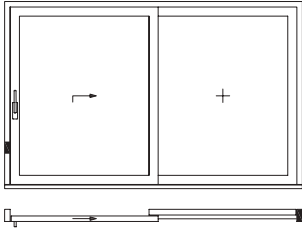
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AG Traunstein, HRB 14763  
Sparkasse Rosenheim  
Kto. 3822  
BLZ 711 500 00

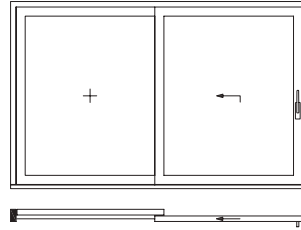
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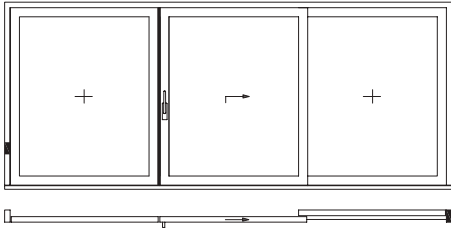


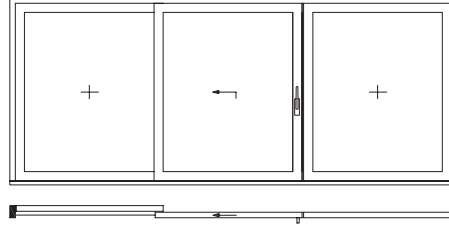


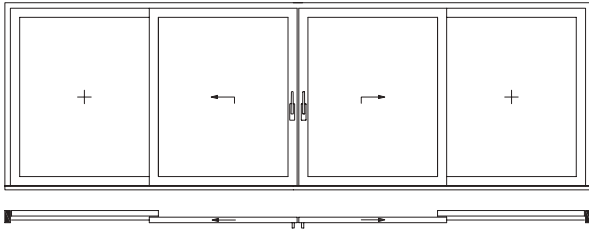
**Types of Openings / Öffnungsarten / Tipologie aperture / Tipologie deschideri**
**Schema A left**
**1 Lift-Sliding sash +1 Fixed pane**

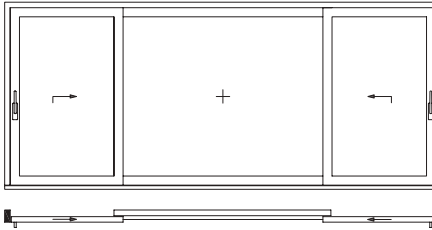
 1 Hebe-Schiebeflügel +1 Festverglasung außen  
 1 Porta scorrevole alzante + 1 Telaio fisso esterno  
 1 Cercevea Liftant -Glisantă +1 Ramă fixă exterioră

**Schema A right**
**1 Lift-Sliding sash +1 Fixed pane**

 1 Hebe-Schiebeflügel +1 Festverglasung außen  
 1 Porta scorrevole alzante + 1 Telaio fisso esterno  
 1 Cercevea Liftant -Glisantă +1 Ramă fixă exterioră

**Schema G left**
**1 Lift - Sliding sash + 1 Inner and 1 Outer fixed panes**

 1 Hebe-Schiebeflügel mittig innen + 1 innen and 1 außen Festverglasungen  
 1 Porta scorrevole alzante + 1 Telaio esterno e 1 Telaio interno fissi  
 1 Cercevea Liftant-Glisanta + 1 Ramă interioară și 1 exterioră fixe

**Schema G right**
**1 Lift - Sliding sash + 1 Inner and 1 Outer fixed panes**

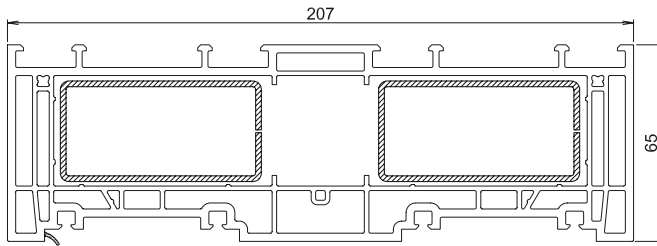
 1 Hebe-Schiebeflügel mittig innen + 1 innen and 1 außen Festverglasungen  
 1 Porta scorrevole alzante + 1 Telaio esterno e 1 Telaio interno fissi  
 1 Cercevea Liftant-Glisanta + 1 Ramă interioară și 1 exterioră fixe

**Schema C**
**2 Lift - Sliding sashes + 2 Fixed panes**

 2 Hebe-Schiebeflügel + 2 Festverglasungen außen  
 2 Porte scorrevoli alzanti + 2 Telai fissi esterni  
 2 Cercevele Liftant-Glisante + 2 Rame fixe exterioroare

**Schema K**
**2 Lift - Sliding sashes + 1 Outer centre fixed pane**

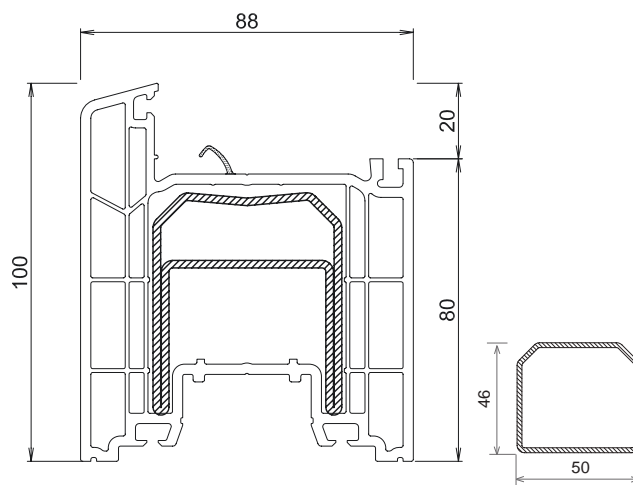
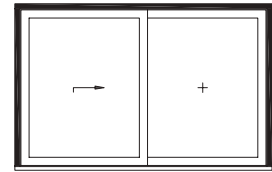
 2 Hebe-Schiebeflügel + 1 Festverglasung mittig außen  
 2 Porte scorrevoli alzanti + 1 Telaio fisso centrale esterno  
 2 Cercevele Liftant-Glisante + 1 Ramă fixă exterioră

**Sound insulation test reports / Übersicht Schallprüfzeugnisse / Certificati d'isolamento acustico /  
 Certificate izolare fonica**

Element description Elementbeschreibung Descrizione elemento Descriere element	Pane structure (mm) Scheibenaufbau (mm) Struttura vetro (mm) Structura geam (mm)	Obtained values Rw,P=dB Erreichte Werte Rw,P=dB Valori raggiunti Rw,P=dB Valori obtinute Rw,P=dB	Test report Prüfbericht Certificati d'isolamento acustico Certificate izolare fonica
Hebe-Schiebeflügel/Festfeld Schema A 3370 mm x 2650 mm	8VSG-14--6-14-12VSG	45	PR 01 PB V01-A01-04-de-01
Hebe-Schiebeflügel/Festfeld Schema A 3370 mm x 2650 mm	8-18-6-16-6	40	PR 01 PB V07-A01-04-de-01
Hebe-Schiebeflügel/Festfeld Schema A 3370 mm x 2650 mm	8VSG-18-6-16-6	42	PR 01 PB V08-A01-04-de-01
Hebe-Schiebeflügel/Festfeld Schema A 3370 mm x 2650 mm	6-18-6-18-6	38	PR 01 PB V09-A01-04-de-01
Hebe-Schiebeflügel/Festfeld Schema A 3370 mm x 2650 mm	6-18-8VSG	41	PR 01 PB V010-A01-04-de-01
Hebe-Schiebeflügel/Festfeld Schema A 3370 mm x 2650 mm	8VSG-18-12VSG	44	PR 01 PB V011-A01-04-de-01
Hebe-Schiebeflügel/Festfeld Schema A 3370 mm x 2650 mm	6-16-6	35	PR 01 PB V012-A01-04-de-01

Main profiles / Hauptprofil / Profili base / Profile principale

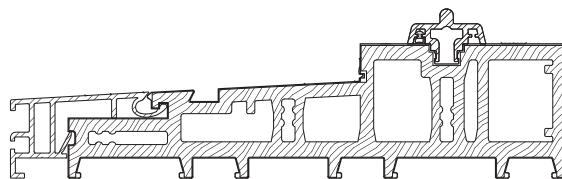
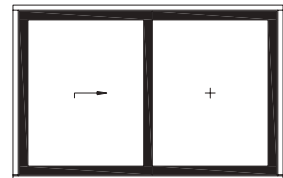


**Profile: 2880**  
Reinforcement: V191

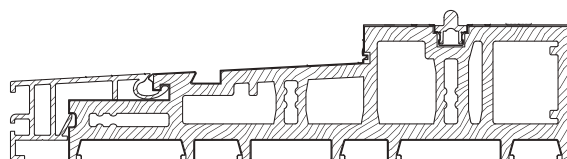
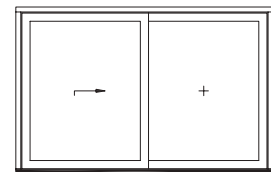


**Profile: 2883**  
Reinforcement: V192

*Alternative Steel*  
V193



**Threshold: 9S79**  
**Guide rail: 9S77**



**Threshold: 9S79**  
**Guide rail: 9S78**

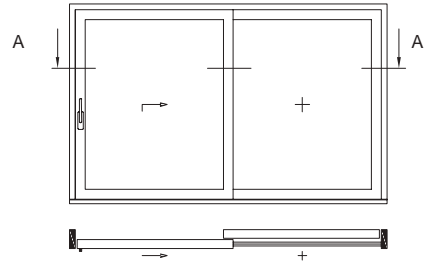
**Schema A**

**1 Lift-Sliding sash +1 Fixed pane**

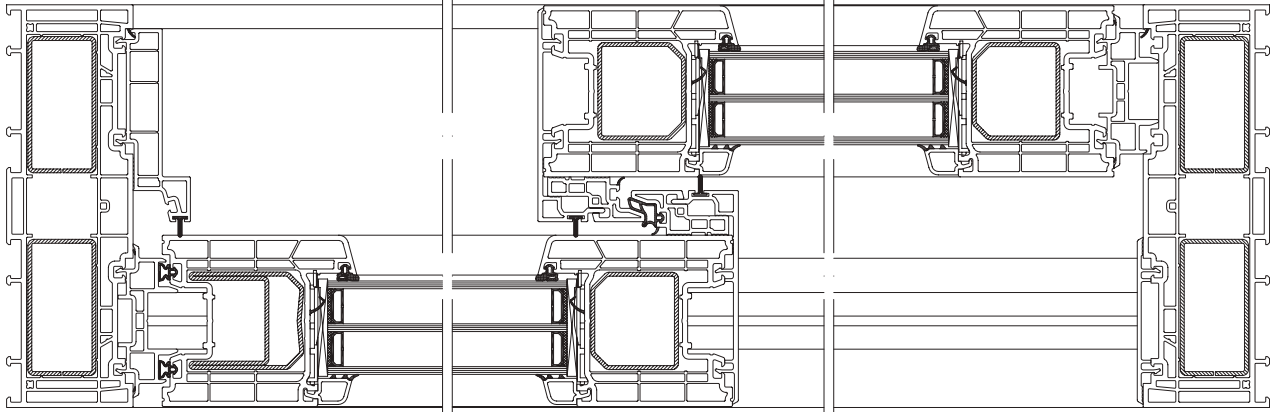
1 Hebe-Schiebeflügel +1 Festverglasung

1 Porta scorrevole alzante + 1 Telaio fisso

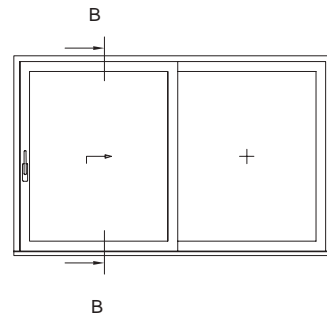
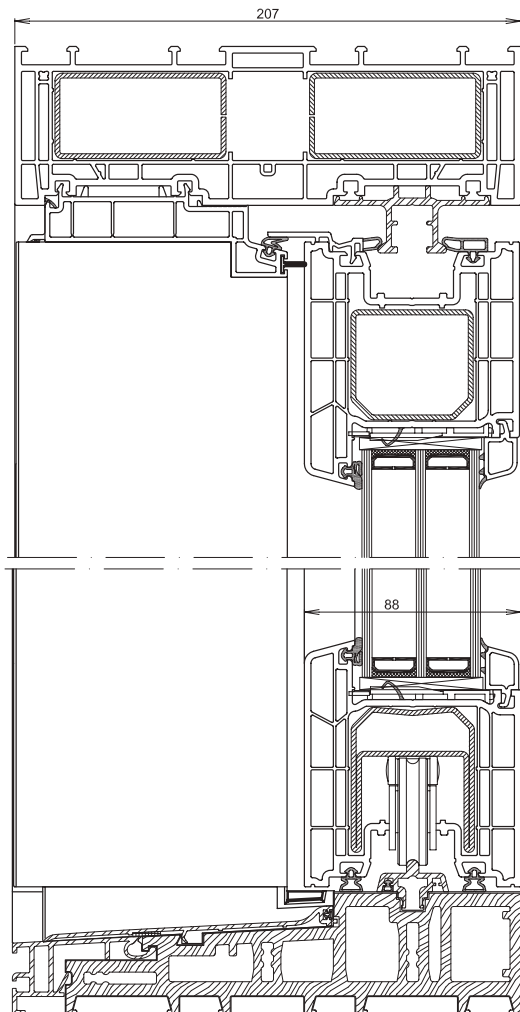
1 Cercevea Liftant -Glisantă +1 Rama fixă



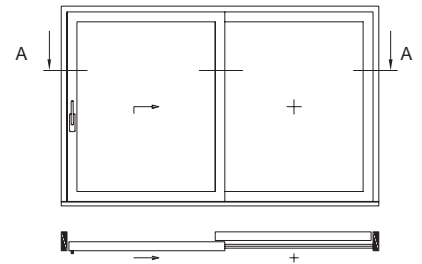
**A-A**



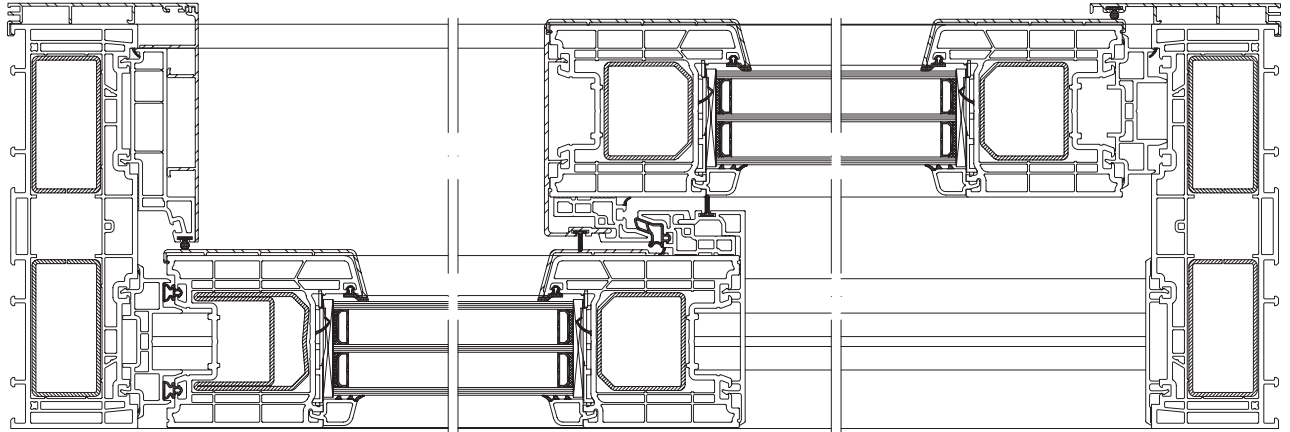
**B-B**



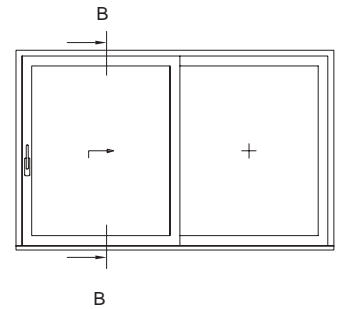
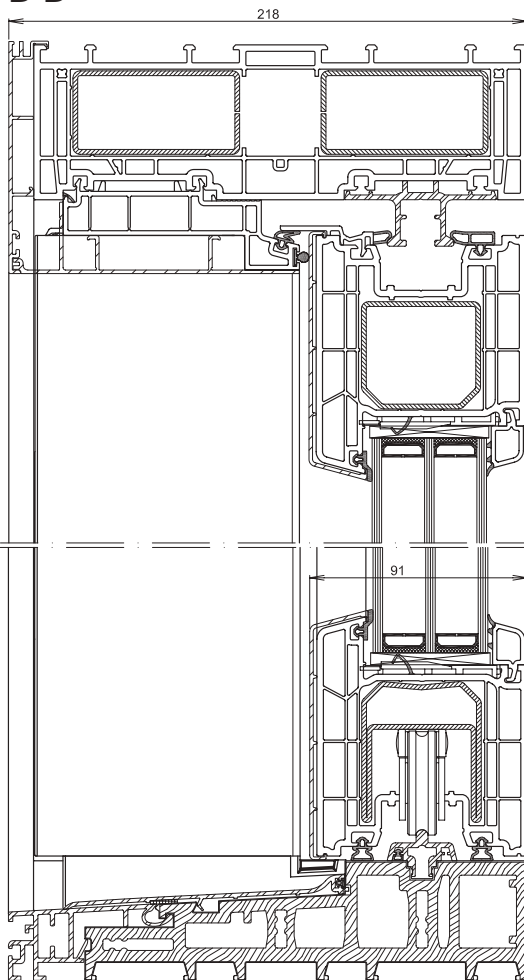
**Schema A + AluClip**  
**1 Lift-Sliding sash +1 Fixed pane**  
 1 Hebe-Schiebeflügel +1 Festverglasung  
 1 Porta scorrevole alzante + 1 Telaio fisso  
 1 Cercevea Liftant -Glisantă +1 Rama fixă



A-A



B-B



PERFORMER 74  
 RONDO  
 STYLE 76  
 PASIV 82  
 KUBUS  
 PREMIDOOR 76  
 PREMIDOOR 88  
 PREMILINE  
 BESCHLÄG  
 HARDWARE  
 GLASS  
 GLASS  
 ROLLO TOP  
 ROLLO FRONT  
 BORA  
 HERCULES 70

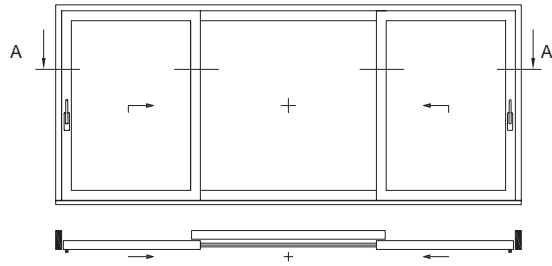
**Schema K**

**2 Lift - Sliding sashes + 1 Outer centre fixed pane**

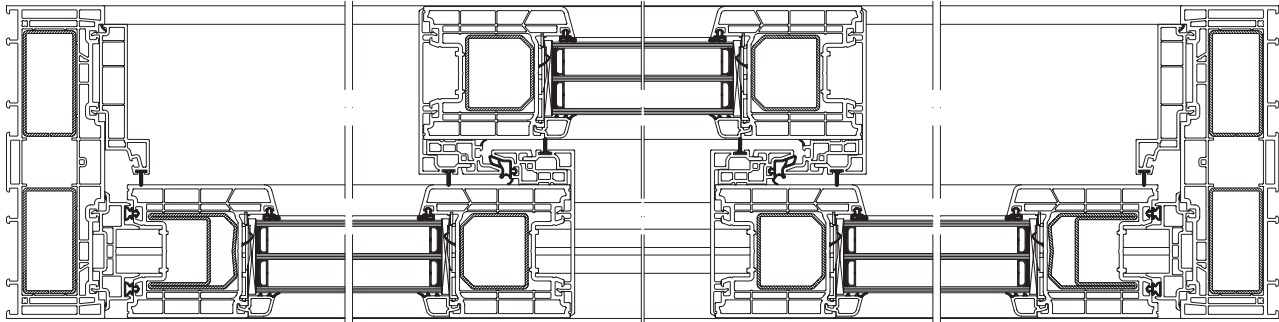
2 Hebe-Schiebeflügel + 1 Festverglasung mittig außen

2 Porte scorrevoli alzanti + 1 Telaio fisso centrale esterno

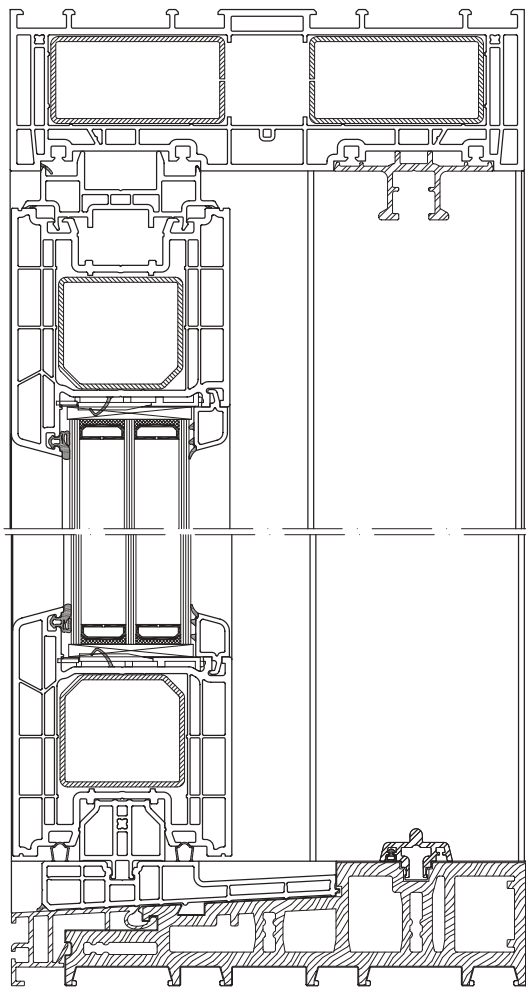
2 Cercevele Liftant-Glisante + 1 Ramă fixă exterioră



**A-A**

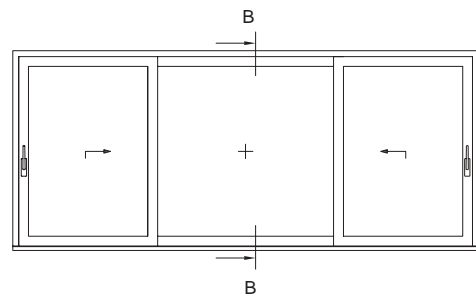


**B-B**



C2

C3



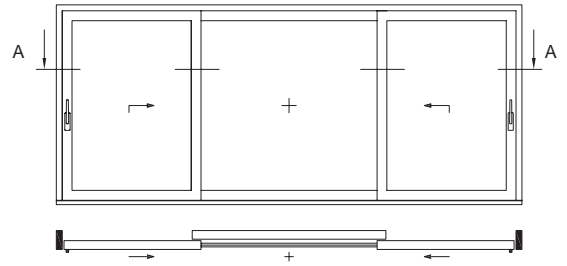
**Schema K + AluClip**

**2 Lift - Sliding sashes + 1 Outer centre fixed pane**

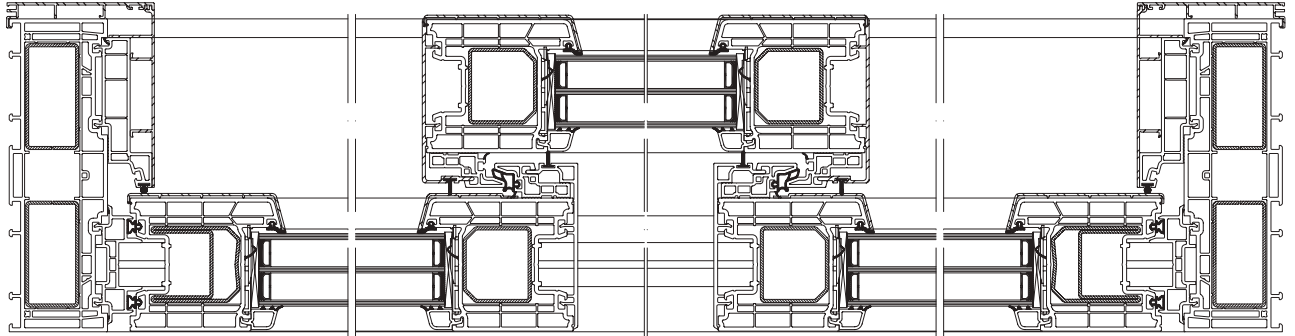
2 Hebe-Schiebeflügel + 1 Festverglasung mittig außen

2 Porte scorrevoli alzanti + 1 Telaio fisso centrale esterno

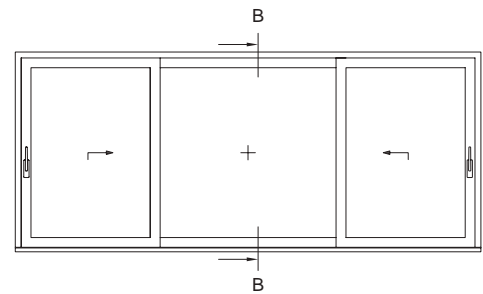
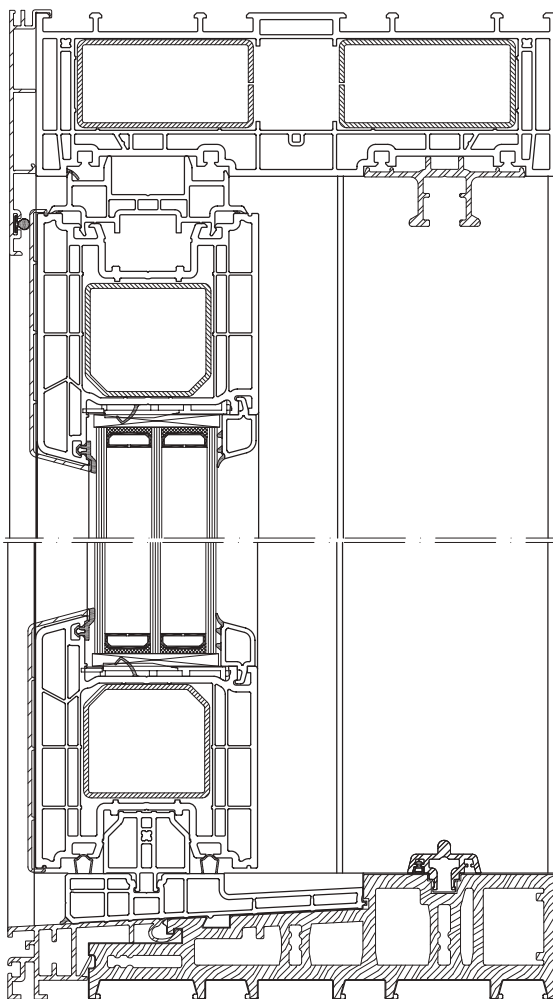
2 Cercevele Liftant-Glisante + 1 Ramă fixă exterioară



A-A



B-B



PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOR 76  
PREMIDOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

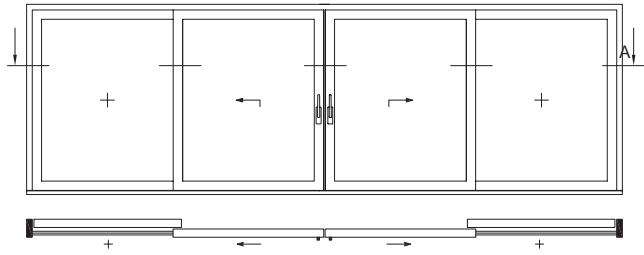
**Schema C**

**2 Lift - Sliding sashes + 2 Fixed panes**

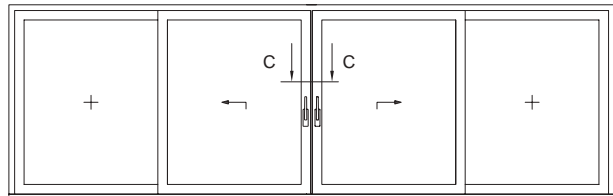
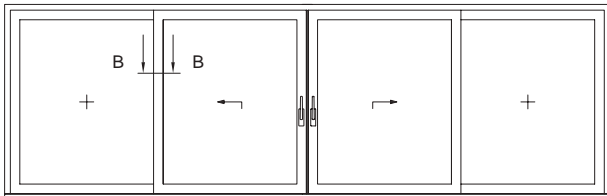
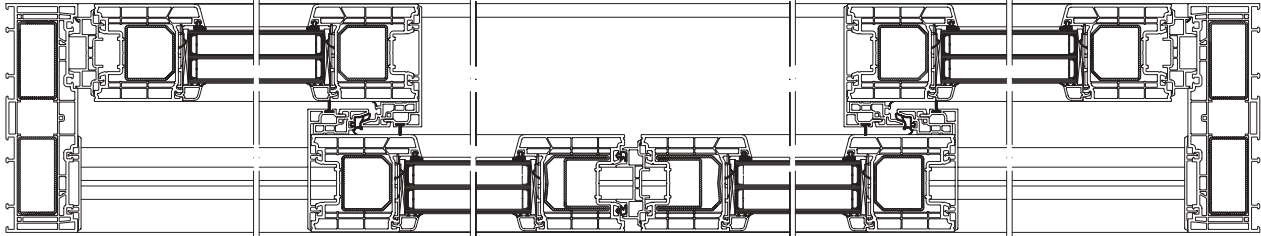
2 Hebe-Schiebeflügel + 2 Festverglasungen außen

2 Porte scorrevoli alzanti + 2 Telai fissi

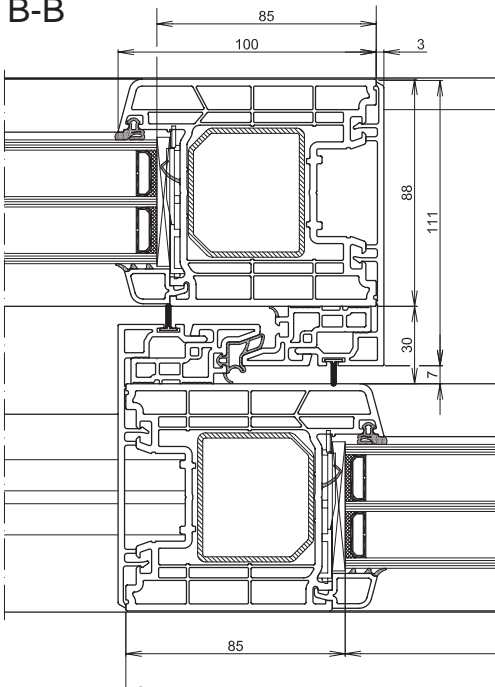
2 Cercevele Liftant-Glisante + 2 Rame fixe exterioare



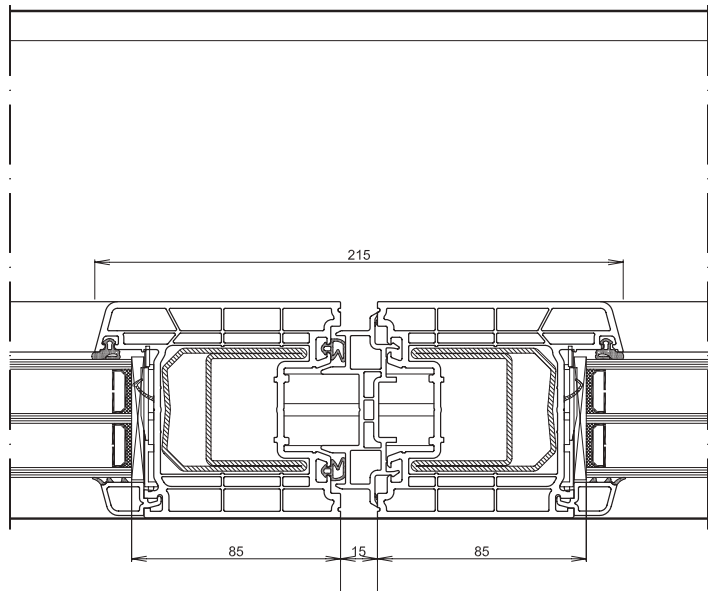
**A-A**



**B-B**



**C-C**



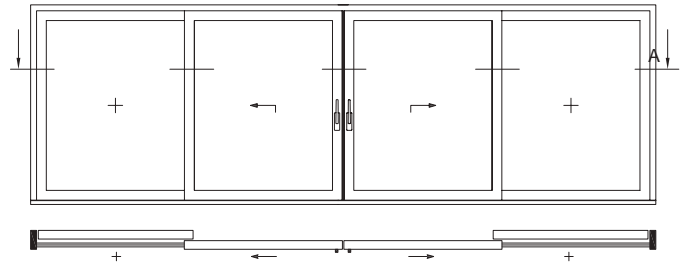
**Schema C + AluClip**

**2 Lift - Sliding sashes + 2 Fixed panes**

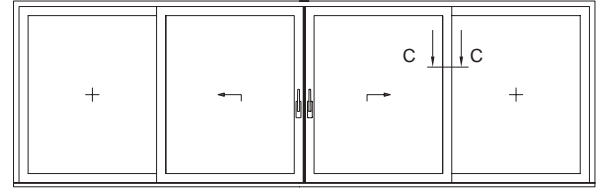
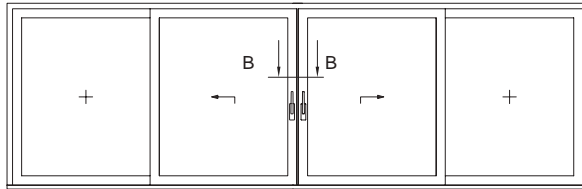
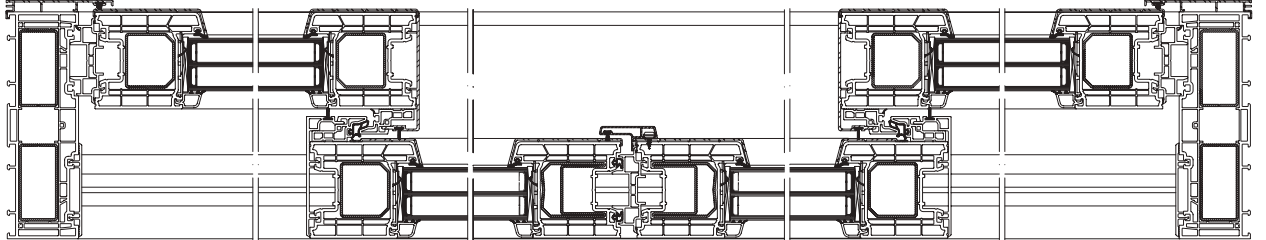
2 Hebe-Schiebeflügel + 2 Festverglasungen außen

2 Porte scorrevoli alzanti + 2 Telai fissi

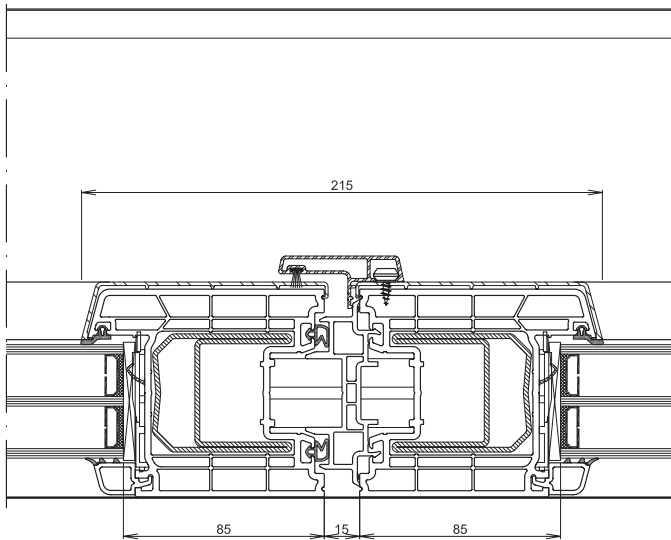
2 Cercevele Liftant-Glisante + 2 Rame fixe exterioare



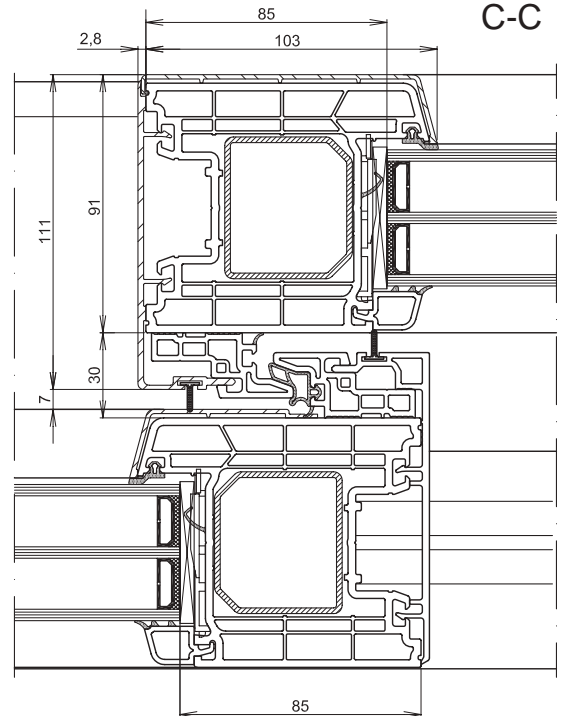
A-A



B-B

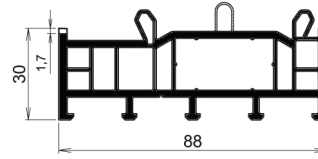
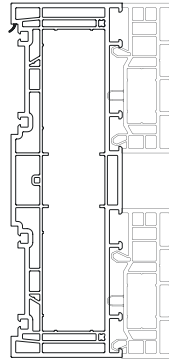
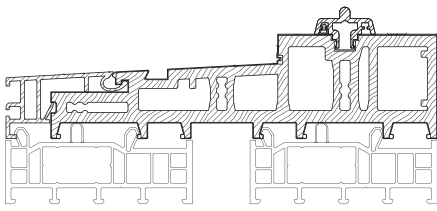


C-C

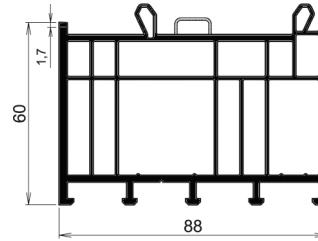
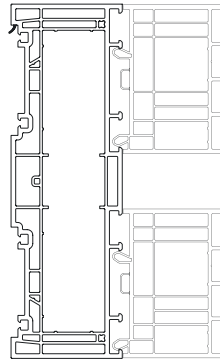
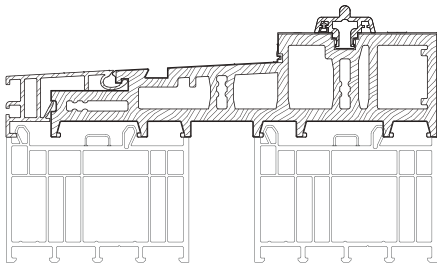




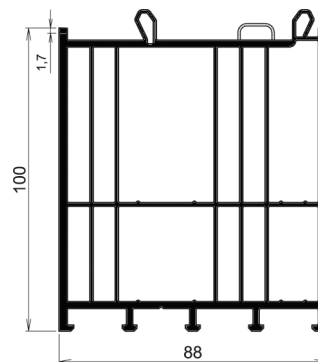
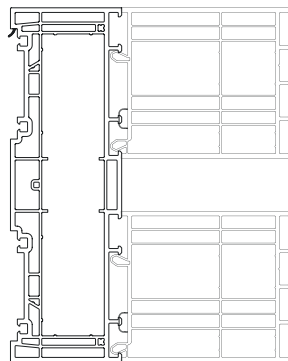
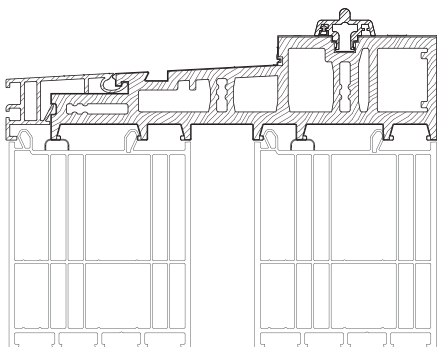
Outer frame extension / Blendrahmen Verbreiterung / Allargatore Telaio / Profile extensie toc



6403  
Aluclip 579797



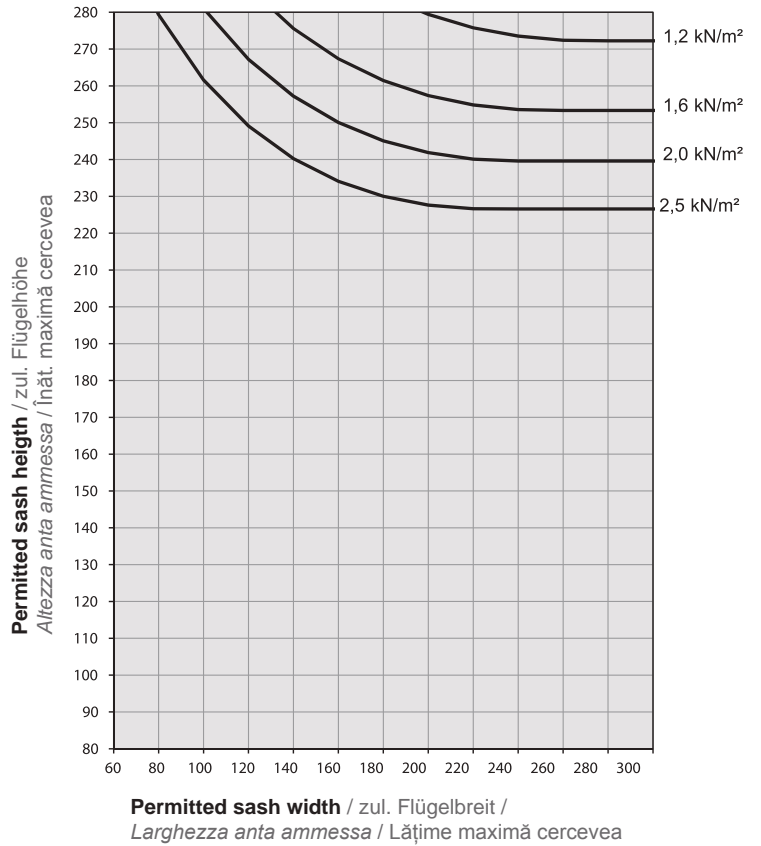
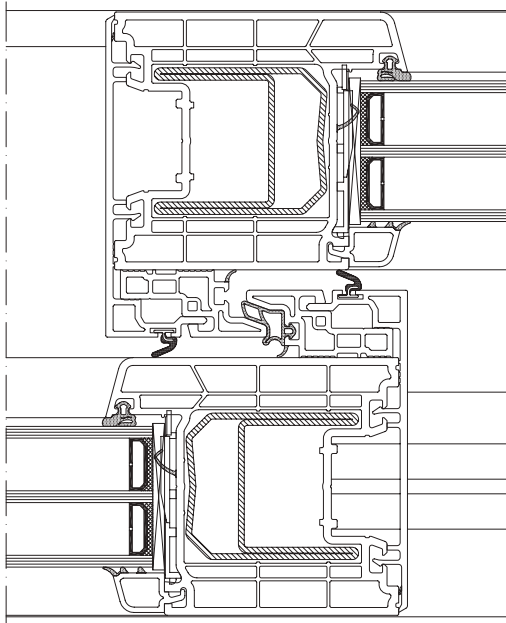
6406  
Aluclip 579807



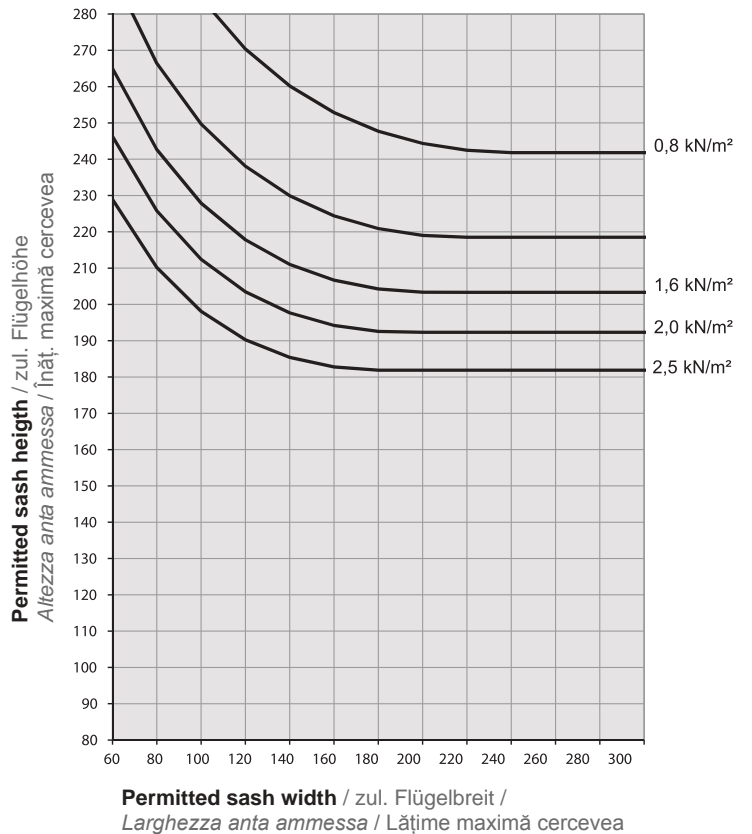
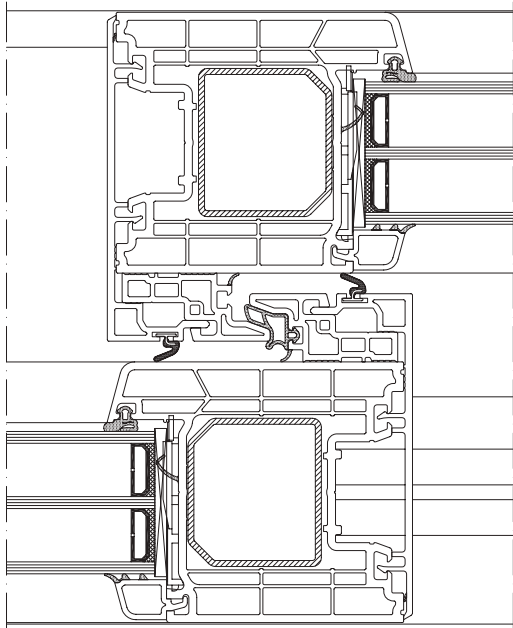
6404  
Aluclip 579907

**PremiDoor 88 Sash Maximum Sizes / PremiDoor 88 Flügelgrößen Diagramme / Campi d'applicazione PremiDoor 88 / Dimensiuni maxime cercevea PremiDoor 88**

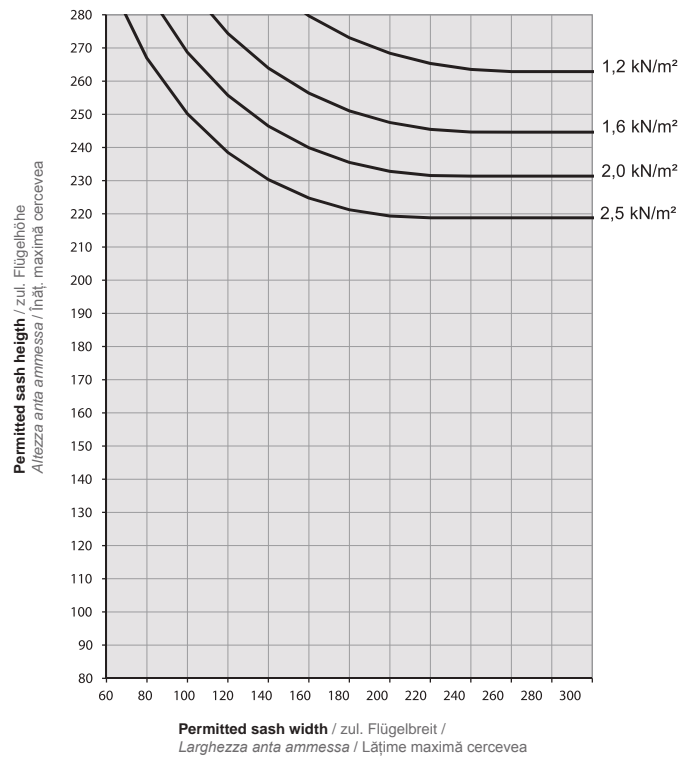
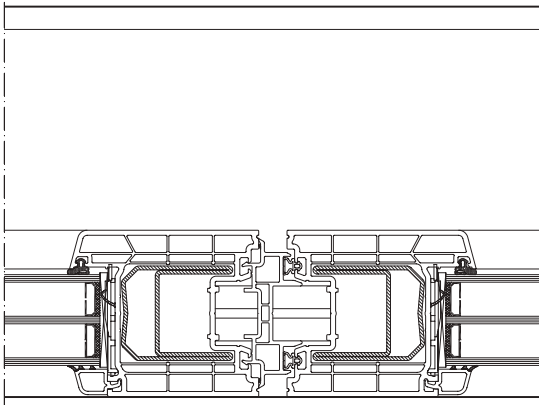
**Standard centre section Systems A - Steel V192**



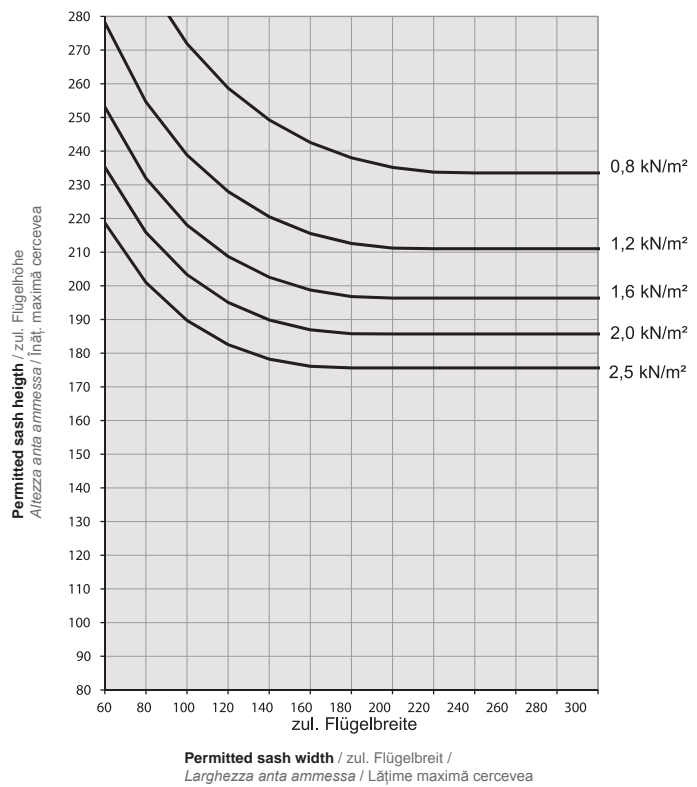
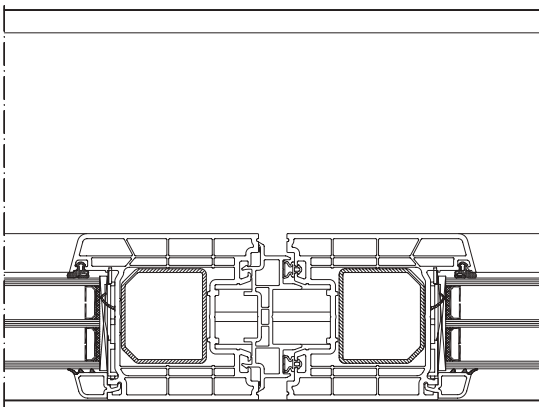
**Standard centre section Systems A - Steel V193**



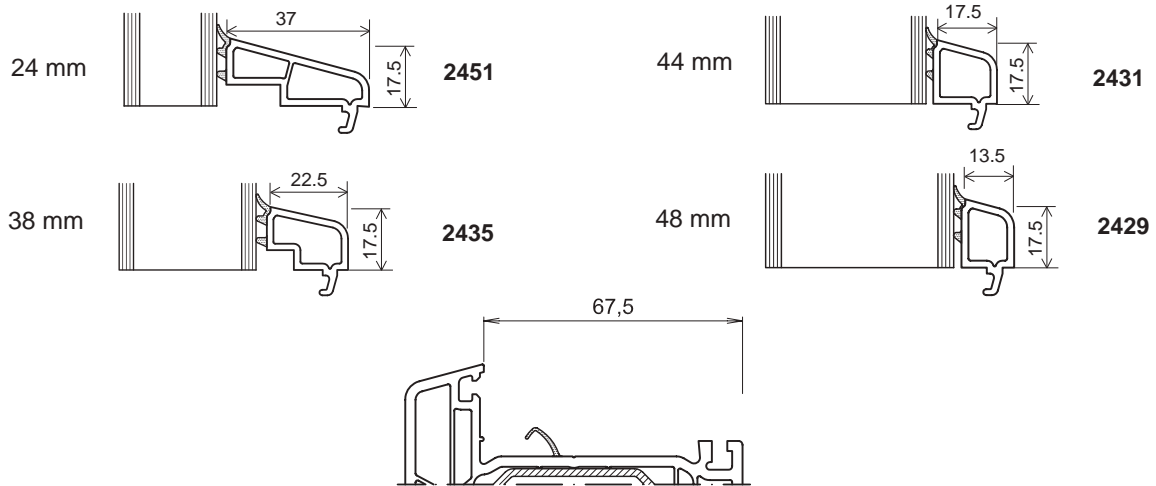
Standard centre section Systems C **Steel V192**


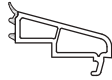

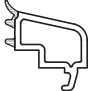






Standard centre section Systems C **Steel V193**



**Glazing Beads / Glasleiste / Fermavetri / Baghete de fixare geam**



Profile	Glass / Glas / Vetro / Sticlă	Glazing bead / Glasleiste / Fermavetro / Baghetă	Gasket / Dichtung / Guarnizione / Garnitură
Sash 2883	 24 mm	 2451	black or gray
Sash 2883	 38 mm	 2435	
Sash 2883	 44 mm	 2431	
Sash 2883	 48 mm	 2429	

**Installation of the glazing beads / Einstalen der Glasleiste / Inserimento dei listelli fermavetro / Montare Baghete**

Starting on one of the shortest lengths, fit 3 of the beads moving around the frame using a rubber mallet, finally fitting the last bead by bending into position. It is always best to leave one of the longer beads until last as a long bead will locate and bend more easily.

Beim Verglasen werden die Glasleisten mit dem Rastfuß in die Glasleistennut eingesetzt und mit einem Gummihammer eingeschlagen. Beim Einklipsen der Glasleiste ist darauf zu achten, dass die kürzere Glasleiste zuerst eingesetzt wird. Die längeren Glasleisten durchbiegen und in den Gehrungen beidseitig in die Glasleistennut einsetzen und von der Mitte beginnend einrasten.

Durante il montaggio dei vetri applicare i listelli fermavetro con il bordino di aggancio nell'apposita scanalatura e poi inserirli con un martello di gomma. Inserire sempre prima i listelli fermavetro più corti. Piegare i listelli fermavetro più lunghi, impuntare le due estremità negli angoli della scanalatura ed iniziare l'inserimento a partire dal centro.

Mai întâi se montează baghete scurte aflate față în față, prima fază fiind îndoirea lor ușoară apoi introducerea și fixarea lor propriu-zisă. În final se montează și celelalte două baghete lungi fixând mai întâi colțurile și apoi mijlocul.

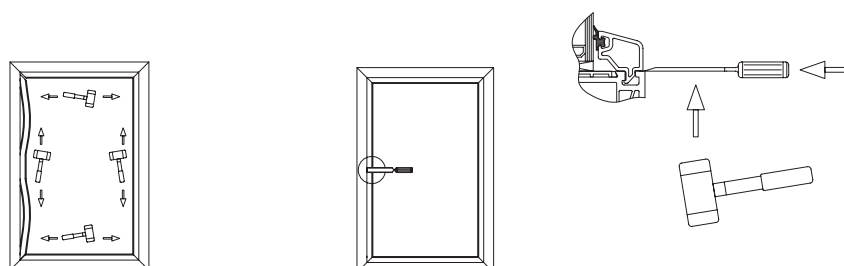
**Uninstalling the glazing beads / Demontage der Glasleiste / Smontaggio dei listelli fermavetro / Demontare Baghete**

Remove the glazing beads by pushing a sharp chisel or a rigid paint scraper between the bead and the frame joint at approximately the center point. It is most important to refit the beads in the same positions as they were removed, they may vary in length slightly, due to the manufacturing process.

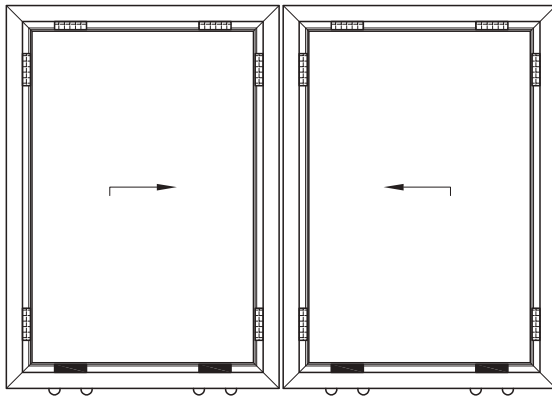
Meißel zwischen Glasfalzgrund und Glasleistenunterkante Waagrecht ansetzen und mit einem Gummihammer austrasten.

Inserire orizzontalmente la punta di uno scalpello tra la scanalatura ed il listello fermavetro ed estrarre con l'aiuto di un martello di gomma.

Pentru demontajul baghetelor se utilizează o dală ascuțită. O lovitură scurtă în capăt ar trebui să fie suficientă pentru declipsarea baghetei. Este important ca poziția baghetelor să fie notată pentru a fi montate identic ulterior (pot exista mici diferențe dimensionale între baghetele de lungimi aparent identice).



**Lift-sliding door blocking** / Hebe - Schiebetür Verklotzung / *Spessoramento del vetro* / Calarea geamurilor la usile Liftant - Glisante



 = spacer blocks

 = bearing blocks

**NOTE** Spacer blocks 20 cm from the inside corner (e.g. to allow for thermal expansion of the window element)

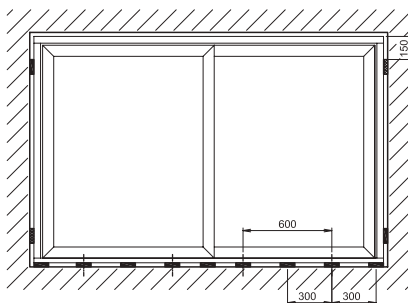
**Installation instructions** / Einbaurichtlinien / *Applicazione di tasselli di supporto* / Instructiuni montaj

Support blocks are applied at the positions marked on the diagram. Good practical experience has been gained from a general spacing of 300 mm. The threshold is secured with commercially available mounting brackets

Der Einsatz von Stützklötzen erfolgt wie aus der Skizze ersichtlich an den eingezeichneten Stellen. Ein Allgemeiner Abstand von 300 mm hat sich hier bewährt. Die Befestigung der Bodenschwelle erfolgt mittels handelsüblicher Montagewinkel

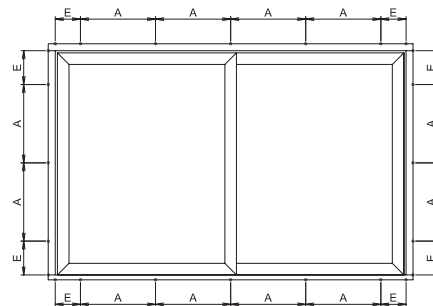
*I tasselli di supporto vengono applicati nei punti indicati sullo schizzo. Per avere buoni risultati si consiglia di mantenere una distanza generale di 300 mm. Le viti di fissaggio dovrebbero essere applicate ad una distanza minima di 600 mm*

Calele suport se aplică la fel ca în desenul de mai jos în punctele marcate. Este recomandat ca distanța dintre punctele de susținere să nu depășească 300 mm. Pragul se fixează de pardosea prin intermediul unui cornier disponibil în comerț.



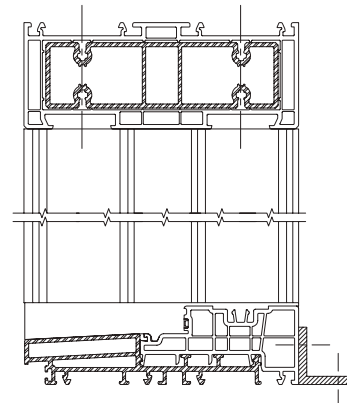
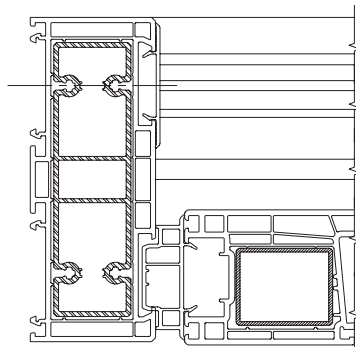
 = support/breaking box

 = spacer blocks



A = 700 mm

E = approx. 150 mm



# PREMILINE

## Profile system Kömmerling Premiline with 3 chambers

Profilsystem Kömmerling Premiline mit 3 Kammer

Sistema di profili Kömmerling Premiline con 3 camere

Sistemul de profile cu 3 camere Kömmerling Premiline



Profile System Manufacturer  
 Kömmerling  
 Pirmasens  
 Deutschland



**Heat transfer coefficient**  
 Wärmedurchgangskoeffizient  
 Trasmittanza termica  
 Transmitanta termica

up to  
 bis  
 fino a  
 pana la  $U_f = 2,1 \text{ W/(m}^2\text{K)}$



**Resistance to wind load**  
 Widerstandsfähigkeit  
 gegen Windlast  
 Resistenza ai carichi di vento  
 Rezistentă la încărcarea din vant

up to  
 bis  
 fino a  
 pana la Clasa C1/B2



**Tightness against driving rain - unprotected (A)**  
 Schlagregendichtheit - Ungeschützt (A)  
 Tenuta all'acqua metodo di prova A  
 Etanșeitatea la apă expunere directă

up to  
 bis  
 fino a  
 pana la 5A



**Air permeability**  
 Luftdurchlässigkeit  
 Tenuta all'aria  
 Permeabilitatea aerului

up to  
 bis  
 fino a  
 pana la Clasa 4



**Sound insulation**  
 Schallschutz  
 L'isolamento acustico  
 Izolarea acustică

up to  
 bis  
 fino a  
 pana la 36 dB

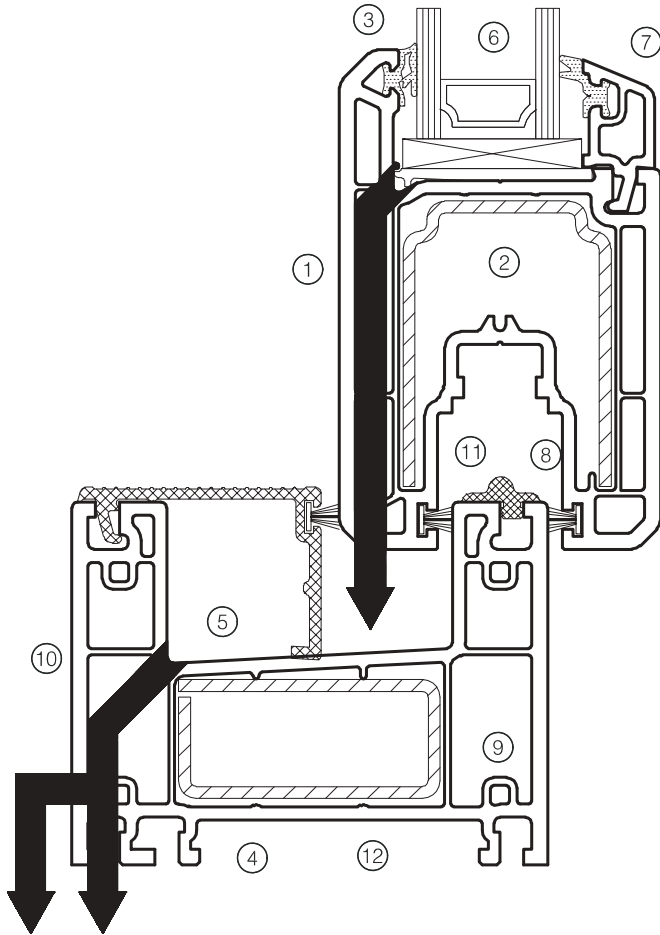


**Burglar-resistant**  
 Einbruchhemmung  
 Resistenza antieffrazione  
 Rezistentă antifracție

up to  
 bis  
 fino a  
 pana la RC 1 (WK 1)

HERCULES 70 | BORA | ROLLO FRONT | ROLLO TOP | GLASS | GLASSWARE | BESCHLÄG | HARDWARE | PREMILINE | PREMIDOOR 88 | PREMIDOOR 76 | KUBUS | PASIV 82 | STYLE 76 | RONDO | PERFORMER 74

System features / Systemmerkmale / *Caratteristiche del sistema* / Caracteristici Sistem



ENG

1. Three chamber profile cross section with 54 mm building depth
2. Large scale steel reinforcements with high static properties and precision fit in hardware
3. Preinstalled brush pile and coextruded PCE glazing gasket
4. Compatible with all 70 mm standard systems and add-on box
5. Special sealing elements for efficient sealing
6. For diverse glass thicknesses up to 28 mm
7. Backset glazing bead with shortened coextruded gasket for enhanced visual appeal and easier cleaning
8. Support lobes position the steel reinforcement and secure it at a distance as a measure to counteract heat transfer.
9. Concealed casement screw unions in preformed receivers
10. The outer frame art. no. 6052 can be welded or connected mechanically.
11. A track variant facilitates barrier-free building.
12. Perfectly prepared building connection. Existing couplings, extensions, and other ancillary parts can be used without problems

GER

1. 3 Kammer Profilquerschnitt mit 54 mm Bautiefe
2. Großdimensionierte Stahlarmierungen mit hoher Statik und passgenauem Einsatz der Beschlagteile.
3. Ab Werk integrierte Bürstendichtung sowie einextrudierte PCE Verglasungsdichtung
4. Kompatibel mit allen 70mm Standardsystemen und Aufsatzkasten
5. Spezielle Dichtteile für effiziente Abdichtung.
6. Einsatz unterschiedlicher Glasdicken bis zu 28 mm.
7. Zurückversetzte Glasleiste für schönere Optik und leichtere Reinigung.
8. Stütznocken positionieren die Stahlarmierung und halten sie auf Abstand um Wärmeübertragung zu erschweren.
9. Verdecktliegende Verschraubung der Zarge in vorgeformte Aufnahmen.
10. Der Blendrahmen Art.-Nr. 6052 kann verschweißt oder mechanisch verbunden werden.
11. Durch Einsatz einer Laufschienenvariante ist barrierefreies Bauen möglich.
12. Bautechnisch perfekt vorbereiteter Anschluss. Bestehende Kopplungen, Verbreiterungen und andere Zubehörteile sind problemlos nutzbar

IT

1. Sistema tricamerale profondità anta 54 mm
2. Rinforzi in acciaio per una statica eccezionale
3. Guarnizioni spazzolino
4. Compatibile con tutti sistemi Trocal, profondità telaio 70 mm.
5. Protezione speciale
6. Possibilità di vetraggio, fino a 28 mm
7. Fermavetro necoplanare piu elegante e piu facile da pulire
8. Dei denti di supporto posizionano il rinforzo in acciaio e la mantengono alla giusta distanza per impedire il più possibile il trasferimento di calore
9. Canale nascosto di fissaggio con viti
10. Telaio con possibilita di fissaggio meccanico o saldatura
11. Guide applicati che permettono ottenere un ottimo coefficiente termico
12. Profili d'accoppiamento e allargatori possono utilizzarsi senza problemi.

ROM

1. Sistem tricameral si adâncime constructivă de 54 mm.
2. Armături supradimensionate pentru o statică de excepție
3. Sistem de etanșare cu perii premontate pe profil
4. Compatibilitate cu toate sistemele Trocal cu adâncime constructivă de 70 mm
5. Element de protecție special pentru o etanșare eficientă
6. Posibilitate de montare a geamului termoizolant cu grosime de până la 28 mm
7. Bagheta de fixare a geamului înclinată pentru un aspect estetic elegant și o întreținere ușoară
8. Nervuri de ghidare a armaturii pentru poziționarea într-o manieră ce asigură un transfer termic optim
9. Canal ascuns de fixare a șuruburilor de prindere
10. Toc cu posibilitate de fixare mecanică sau prin sudură
11. Cale de rulare aplicată ce permite obținerea unui coeficient de transfer termic optim
12. Gamă largă de cuplaje, extensii și profile auxiliare ce pot fi utilizate fără problemă

Color program / Dekorübersicht / Programma Colori / Program culori

Dekore Pellicola Folie	Color shades	Laminated		Support material	Renolit code	Gasket
	Farbbezeichnung Colore Denumire culoare	ext	int	Trägermaterial Colore Massa Material Bază	Renolit Code Codice Renolit Cod Renolit	Dichtung Guarnizione Garnitura
Wood grain / Holzdekore / Effetto Legno / Imitatie Lemn	Sheffield Oak Light	x	x	braun	F456-3081	gray
	Sheffield Oak Grey	x	x	braun	F436-3086	gray
	Eiche Natur	x	x	braun	9.03118076-116800	gray
	Bergkiefer	x	x	braun	9.3069041-116700	gray
	Oregon	x	x	braun	9.1192001-116700	gray
	Streifen-Douglasie	x	x	braun	9.3152009-116700	gray
	Winchester XA	x	x	braun	9.0049240-114800	gray
	Golden Oak	x	x	braun	9.2178001-116700	black
	Soft Cherry	x	x	braun	9.3214009-119500	gray
	Siena PR	x	x	braun	9.0049233-114800	gray
	Siena PN	x	x	braun	9.0049237-114800	black
	Nussbaum V	x	x	braun	9.2178007-116700	black
	Eiche Dunkel FL-F1	x	x	braun	9.2052089-116700	black
	Mooreiche ST-F	x	x	braun	9.3167004-116700	black
	Macore	x	x	braun	9.3162002-116700	black
	Sapeli	x	x	braun	9.2065021-116700	black
	Black Cherry	x	x	braun	9.3202001-116700	black
	Desert Oak	x	x	braun	2.0057.004-130300	black
Mountain Oak	x	x	braun	2.0057.006-130300	black	
Single Colors / Uni -Farben / Uni-culore / Culori Uni	Crystal White Ash	x	x	white	47 852-117900	gray
	Cremeweiss	x	x	white	02.20.11.000001-116700	gray
	Lichtgrau 7251	x	x	white	725105-116700	gray
	Grau 7155	x	x	white	715505-116700	gray
	Basaltgrau 7012	x	x	white	701205-116700	gray
	Anthrazitgrau	x	x	white	701605-116700	black
	Anthrazitgrau 7016 Glatt	x	x	white	701605-808300	black
	Dunkelrot 3081	x	x	white	308105-116700	black
	Winerot 3005	x	x	white	300505-116700	black
	Moosgrun 6005	x	x	white	600505-116700	black
	Dunkelgrun 6125	x	x	white	612505-116700	black
	Schwarzbraun 8518	x	x	white	851805-116700	black
	Metbrush Aluminium	x	x	white	F436-1001	gray
	Metbrush Messing	x	x	white	F436-1007	gray

PERFORMER 74

RONDO

STYLE 76

PASIV 82

KUBUS

PREMIDOOR 76

PREMIDOOR 88

PREMILINE

BESCHLAG

HARDWARE

GLAS

GLAS

ROLLO TOP

ROLLO FRONT

BORA

HERCULES 70



istituto sperimentale per l'edilizia s.p.a.

**ISTEDIL**

0220 L'EDILIZIA - UFFICI E LABORATORI: 00612 Guidonia M. (Roma) Loc. Sottesele - Via Tiziana Per. 10/30 - Tel. 0774 55260 - Fax 0774 55270  
 PERUGIA - 06100 S. Sebastiano, G. Andrea della Fratte - Via R. Sordani, 56 - Tel. 075 5271717 - Fax 075 5271700  
 LATINA SCALO - 04013 Loc. San Tomaso - Via Caracciolo, 12/a - Tel. 0773 66207 - Fax 0773 66207  
 SASSARI - 07100 Loc. Prada Nevada - Strada 25 - Tel. 079 2000381 - Tel. e Fax 079 2000381  
 www.istedil.it  
 e-mail: istedil@istedil.it  
 DIRETTIVA EUROPEA COSTRUZIONE 89/106 - Lato cliente verificare che il prodotto possiede l'etichetta con valore garantito UNI EN 10251-17

**RAPPORTO DI PROVA n° 818/2010-ZL**

Guidonia M., 26/05/2010

Risultato del calcolo della trasmittanza termica lineare di un telaio per serramenti eseguito il giorno 26/05/2010 con metodo numerico.

Le caratteristiche geometriche e strutturali del telaio sono riportate nel disegno allegato, fornito dal Committente, che costituisce parte integrante del presente rapporto di prova.

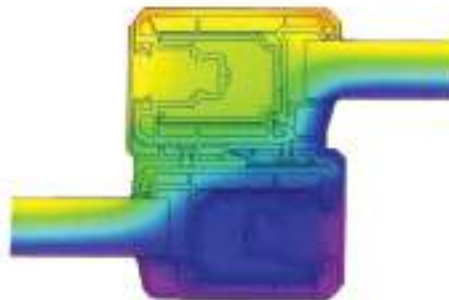
**COMMITTENTE : PROFINE ITALIA s.r.l. - Bosaro (RO)**

**DATI DICHIARATI**

Denominazione : PROFINE 6041 6061  
 Struttura telaio : PVC

Conducibilità termica dei materiali ed emissività delle cavità presenti:

Materiale	$\lambda$ W/(m·K)
■ ALLUMINIO	160,000
■ Acciaio (1)	50,000
■ CAVITA ESTERNE Eps. 0,9	Eps=0,940,9
■ CAVITA INTERNE Eps. 0,9	Eps=0,940,9
■ Mohair rivestito di poliestere	0,140
■ PVC	0,170
■ PVC Morbido	0,130
■ Pannello ISOLANTE	0,035



**MODALITA' DI PROVA**

Normativa di riferimento : UNI EN ISO 10077-2  
 Programma di calcolo : FLIXO 6.00.492.1

**RISULTATO DELLA MISURA**

FLIXO data file : 6041\_6061.flx

**TRASMITTANZA TERMICA DEL TELAIO (UNI EN ISO 10077-2)**

$$U_{M,T} = \frac{\frac{\Phi}{\Delta T} - U_{e1} \cdot b_{e1} - U_{e2} \cdot b_{e2}}{b_f} = \frac{\frac{13,567}{20,000} - 1,209 \cdot 0,203 - 1,209 \cdot 0,203}{0,089} = 2,12 \text{ W/(m}^2 \cdot \text{K)}$$

PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOOR 76  
PREMIDOOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
GLASS  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

**Elementklassifizierung**  
Fenster nach EN 14351-1



Dokumentnummer: C 09-KB-001-04-MPA-BS

**Auftraggeber:** Profine GmbH  
International Profile Group  
Zweibrücker Straße 200  
66954 Pirmasens

**Projektnummer:** C003/008/08

**System:** PremiLine

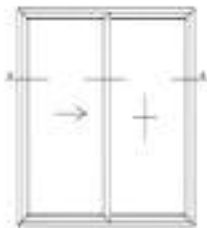
**Elementausführung:** 2-teilige Schiebetür mit festen und beweglichen Flügel

**Elementaußenmaß (BxH):** 1986 mm x 2470 mm

**Profilkombination / Material:** 6050 / 6041L PVC - U

**Grundlage:** Produktnorm EN 14351-1:2006

Zeichnung **Leistungseigenschaften** **Klasse / Wert**



**Widerstandsfähigkeit:** C1, B2  
bei Windlast nach EN 12210

**Schlagregendichtheit:** 5A  
nach EN 12208



**Luftdurchlässigkeit:** 4  
nach EN 12207

Braunschweig den 11.03.2009

*A. Gutsch*  
Dr.-Ing. A. Gutsch  
Leiter der Prüfstelle



*H. Trenkler*  
i.A. Dipl.-Ing. H. Trenkler  
Prüfleid CPS

**Hinweise:**

Dieses Dokument ist eine Zusammenfassung der Werte und Klassen, die durch Einzelprüfungen, Berechnungen oder Bewertungen nach EN 14351-1:2006 bei der MPA Braunschweig und dem Fraunhofer WKI oder in deren Auftrag ermittelt wurden und sich ausschließlich auf die geprüfte Probekörperausführung beziehen. Sofern nicht anders beschrieben, ist der Anwendungsbereich dieser Ergebnisse entsprechend der EN 14351-1:2006 zu bestimmen. Die Gültigkeitsdauer ist unbegrenzt, sofern sich die Normen und das Produkt nicht ändern. Es sind die nationalen baurechtlichen Bestimmungen zu beachten. Diese Elementklassifizierung umfasst 9 Seiten.

Materialprüfanstalt (MPA)  
Er des Bauwesens - CPS  
Beethovenstraße 52  
D-38109 Braunschweig  
Fax +49 (0)531-391-8284  
Fax +49 (0)531-391-8900

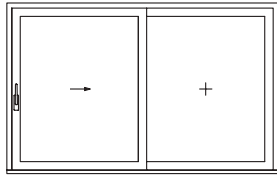
Niedersächsische LB Hannover  
106 020 083 BLZ 250 000 00  
SWIFT-Code: NOLADE 211  
USt.-ID-Nr. DE 183593054  
Steuer-Nr. 14/201/02859  
IBAN DE56 2506 0000 0010 0020 0000

info@cps-ba.de  
www.cps-ba.de

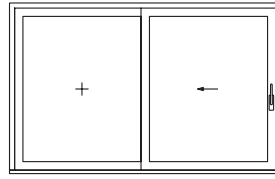
CPS Braunschweig ist eine Kooperation der  
MPA Braunschweig (NR 0761) und des  
Fraunhofer WKI (NR 0765)



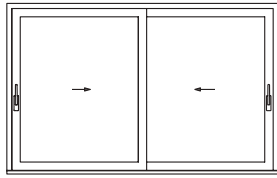
Types of Openings / Öffnungsarten / Tipologie aperture / Tipologie deschideri



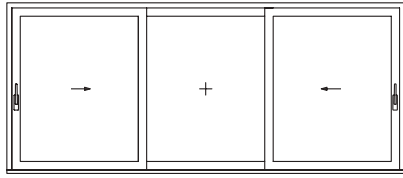
**1 Fixed pane, 1 Sliding sash**  
1 Schiebeflügel 1 Festverglasung  
1 Porta scorrevole 1 Telaio fisso  
1 Cercevea glisantă 1 Ramă fixă



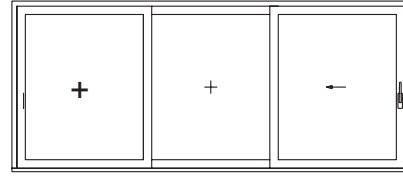
**1 Fixed pane, 1 Sliding sash**  
1 Schiebeflügel 1 Festverglasung  
1 Porta scorrevole 1 Telaio fisso  
1 Cercevea glisantă 1 Ramă fixă



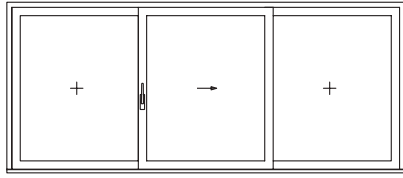
**2 Sliding sashes**  
2 Schiebeflügel  
2 Porte scorrevole  
2 Cercevele glisante



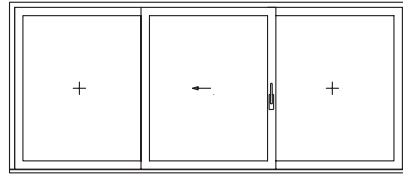
**2 Sliding sashes 1 Fixed pane**  
1 Schiebeflügel 1 Festverglasung  
2 Porte scorrevole 1 Telaio fisso  
2 Cercevele glisante 1 Ramă fixă



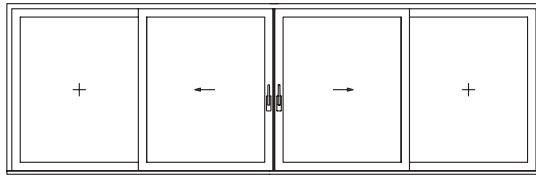
**2 Fixed pane, 1 Sliding sash**  
1 Schiebeflügel 2 Festverglasung  
1 Porta scorrevole 2 Telai fissi  
1 Cercevea glisantă 2 Rame fixe



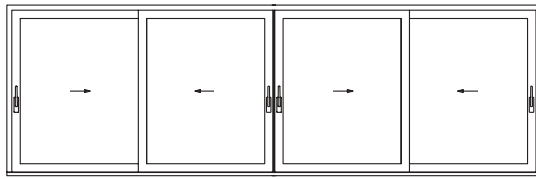
**2 Fixed panes, 1 Sliding sash**  
1 Schiebeflügel 2 Festverglasung  
1 Porta scorrevole 2 Telai fissi  
1 Cercevea glisantă 2 Rame fixe



**2 Fixed panes, 1 Sliding sash**  
1 Schiebeflügel 2 Festverglasung  
1 Porta scorrevole 2 Telai fissi  
1 Cercevea glisantă 2 Rame fixe

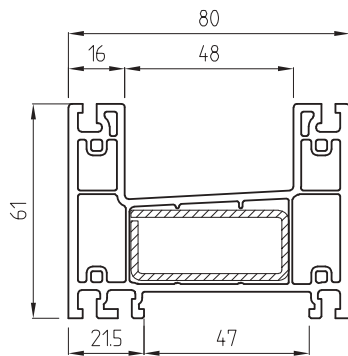


**2 Fixed panes, 2 Sliding sashes**  
2 Schiebeflügel 2 Festverglasung  
2 Porte scorrevole 2 Telai fissi  
2 Cercevele glisante 2 Rame fixe

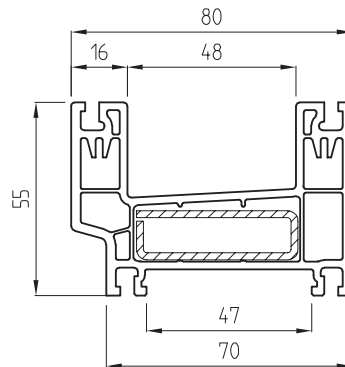


**4 Sliding sashes**  
4 Schiebeflügel  
4 Porte scorrevole  
4 Cercevele glisante

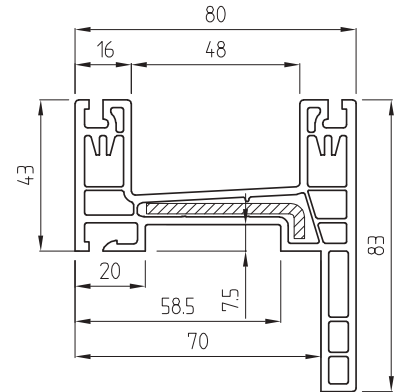
**Main profiles / Hauptprofil / Profili base / Profile principale**



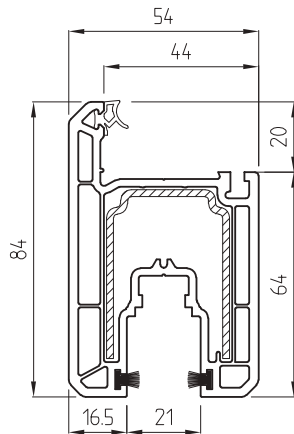
**Profile: 6052**  
Steel V 107  
44x20- 2mm



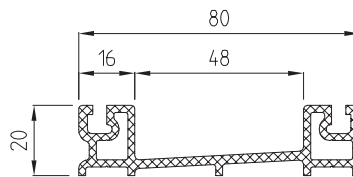
**Profile: 6054**  
Steel V 109  
46x14- 2mm



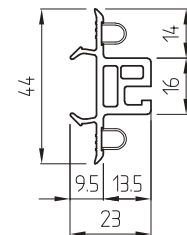
**Profile: 6051**  
Steel V 110  
45x10- 3 mm



**Profile: 6041**  
Steel V 106  
35x48- 2mm



**Profile: 9C66**



**Profile: 6067**

PERFORMER 74

RONDO

STYLE 76

PASIV 82

KUBUS

PREMIDOOR 76

PREMIDOOR 88

PREMILINE

BESCHLÄG  
HARDWARE

GLAS  
GLASS

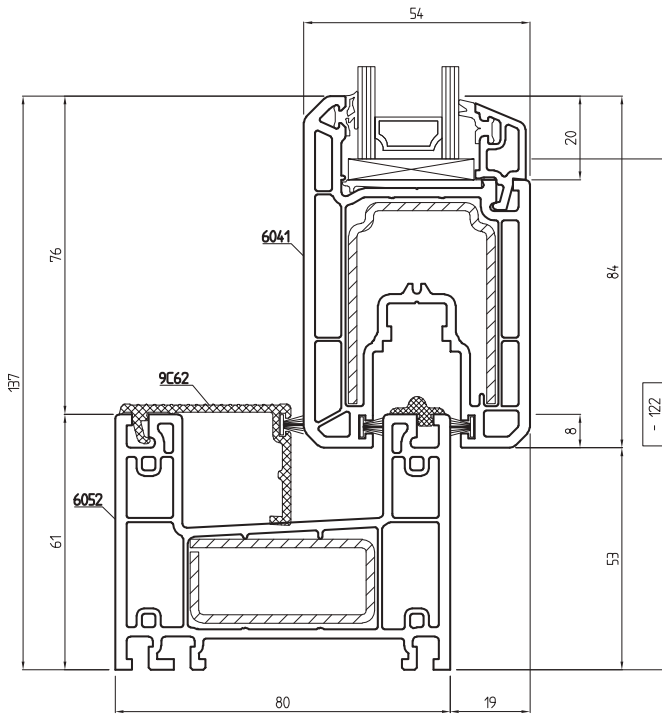
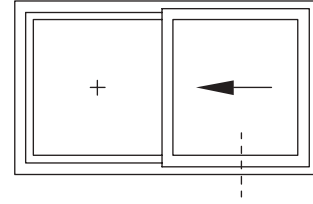
ROLLO TOP

ROLLO FRONT

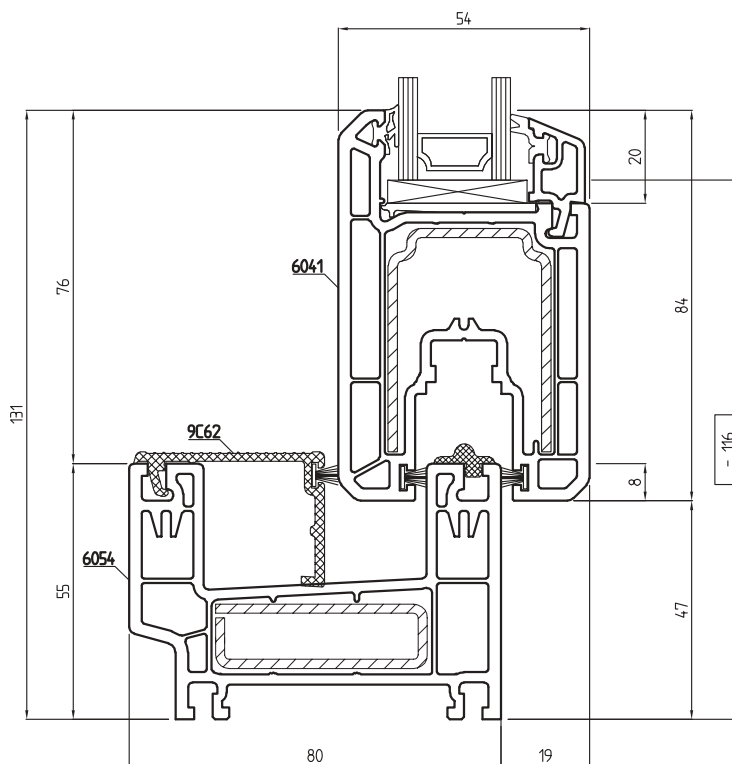
BORA

HERCULES 70

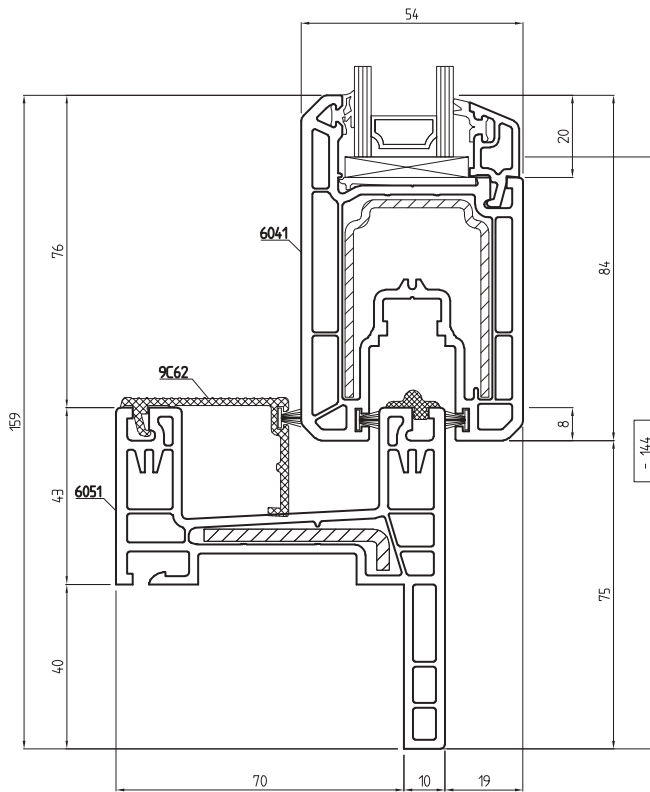
**Outer frame and sash combination / Blendrahmen-Flügel-Kombination / Combinazione**  
*Telaio-Anta / Combinație Toc-Cercevea*



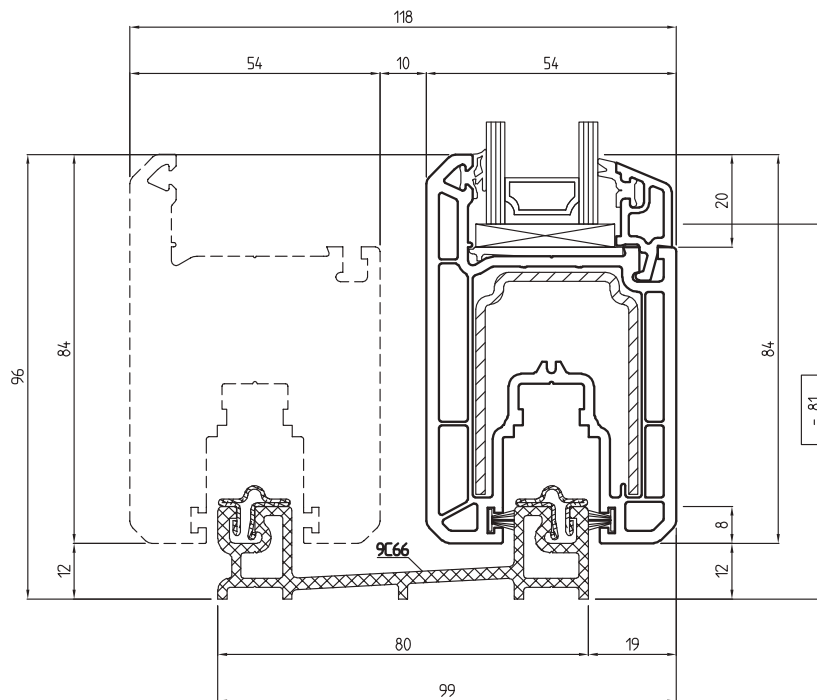
Frame	6052	I <sub>x</sub> =5,3 cm <sup>4</sup>
Steel	V 107 44x20 t = 2 mm	
Sash	6041	
Steel	V 106 36x48 t = 2 mm	I <sub>x</sub> =5,3 cm <sup>4</sup>



Frame	6054	I <sub>x</sub> =4,8 cm <sup>4</sup>
Steel	V 109 46x14 t = 2 mm	
Sash	6041	I <sub>x</sub> =5,3 cm <sup>4</sup>
Steel	V 106 36x48 t = 2 mm	

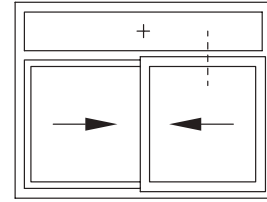
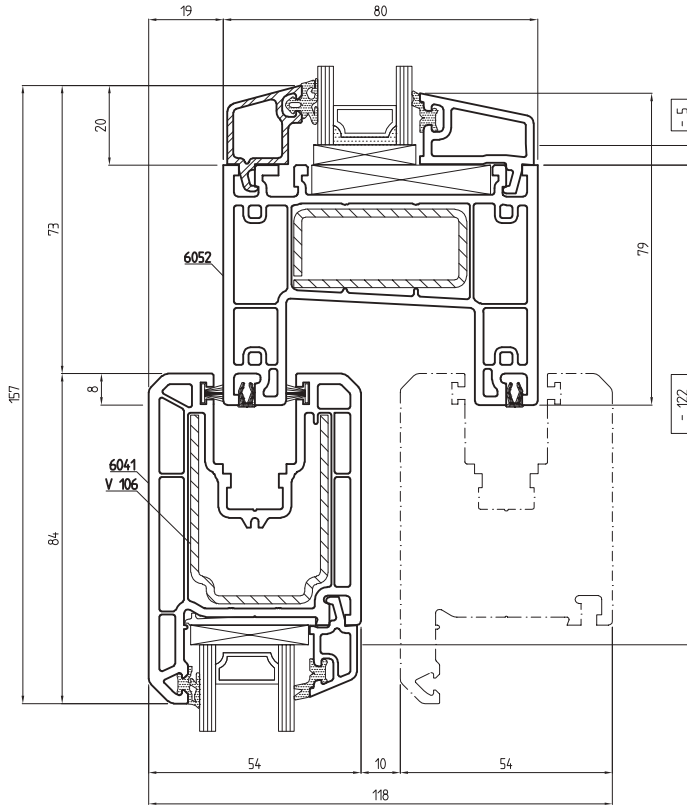


Frame	6051	
Steel	V 110	$I_x=3,0 \text{ cm}^4$
	45x10	
	t = 3 mm	
Sash	6041	
Steel	V 106	$I_x=5,3 \text{ cm}^4$
	36x48	
	t = 2 mm	

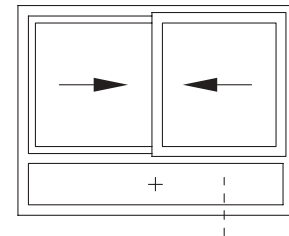
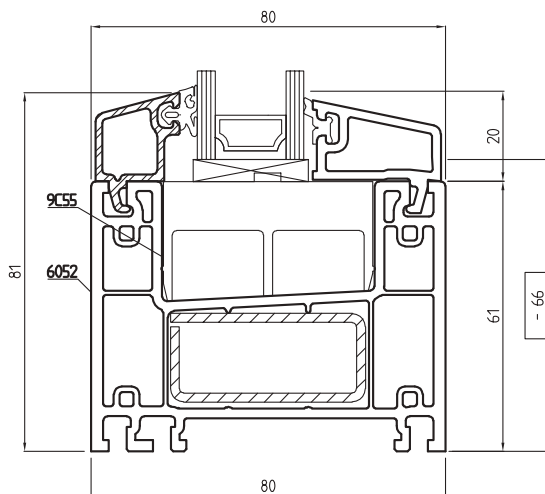


Threshold	9C66	
Sash	6041	
Steel	V 106	$I_x=5,3 \text{ cm}^4$
	36x48	
	t = 2 mm	

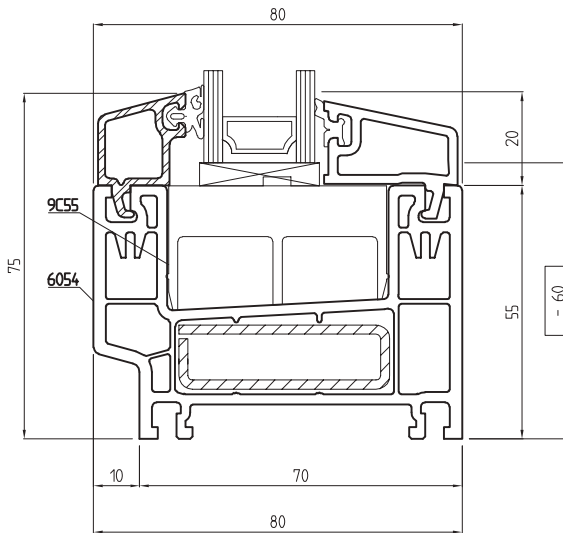
**Fixed-moving combination / Fest-Bewegend-Kombination / Fisso-Scorrevole combinazione /**  
Combinatie Fix – Mobil



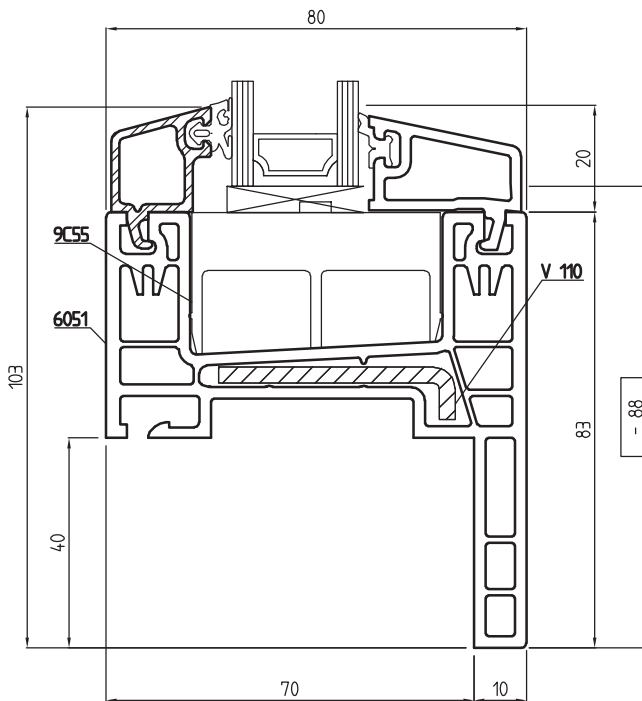
<b>Transom</b>	<b>6052</b>	
<b>Steel</b>	<b>V 107</b>	$I_x=5,3 \text{ cm}^4$
	44x20	
	t = 2 mm	
<b>Sash</b>	<b>6041</b>	
<b>Steel</b>	<b>V 106</b>	$I_x=5,3 \text{ cm}^4$
	36x48	
	t = 2 mm	



<b>Frame</b>	<b>6052</b>	
<b>Steel</b>	<b>V 107</b>	$I_x=5,3 \text{ cm}^4$
	44x20	
	t = 2 mm	



Frame	6054	$I_x=4,8 \text{ cm}^4$
Steel	V 109	
	46x14 t = 2 mm	

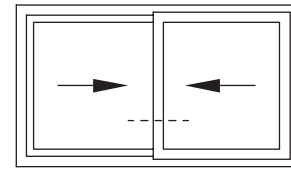
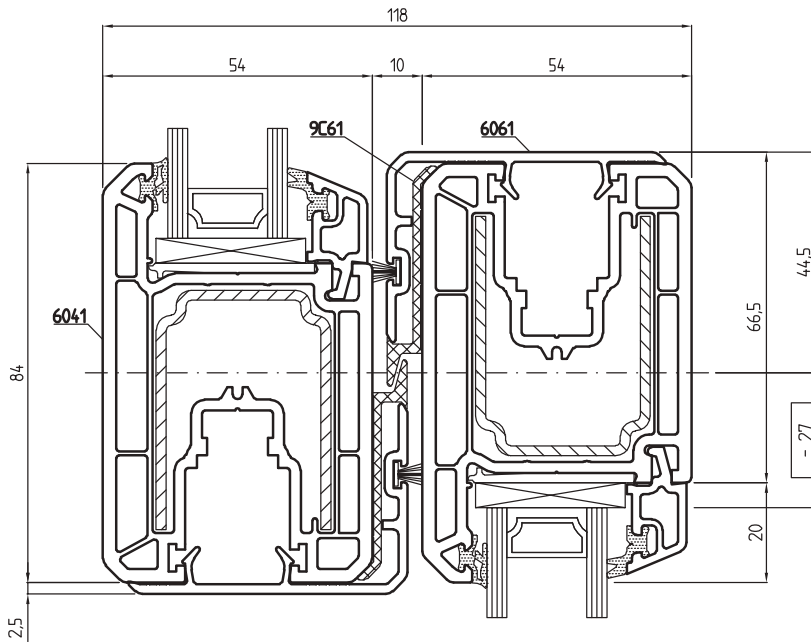


Frame	6051	$I_x=3,0 \text{ cm}^4$
Steel	V 110	
	45x10 t = 3 mm	

HERCULES 70 BORA ROLLO FRONT ROLLO TOP GLASS GLASS BESCHLÄG HARDWARE  
PREMIDOR 88 PREMIDOR 76 KUBUS PASIV 82 STYLE 76 RONDO PERFORMER 74

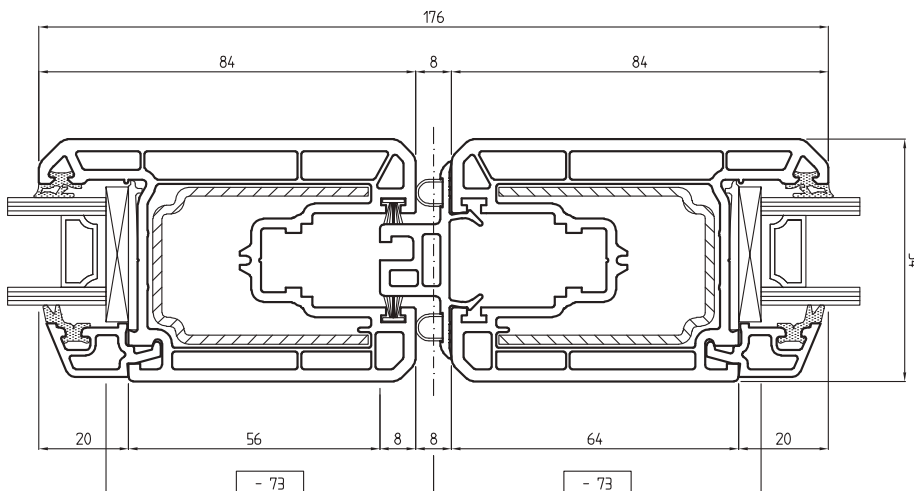
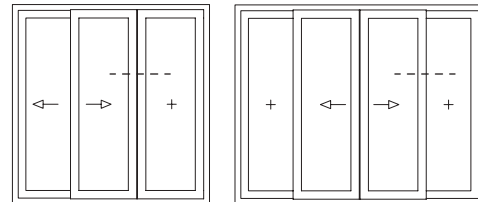


**Intellock Sash combination** / Interlock Flügel-Kombination / *Combinazione Interlock Anta* /  
Combinatie Interlock cercevea



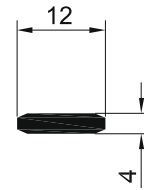
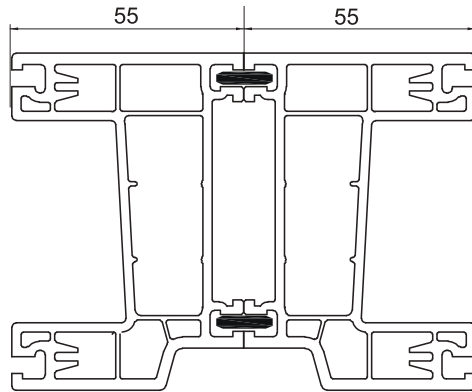
Frame	6041	$I_x=5,3 \text{ cm}^4$
Steel	V 106	
	36x48 t = 2 mm	

**Floating mullion and sash combination** / Stulp-Flügel-Kombination / *Battuta Centrale - Anta Combinazione* / Combinatie Ștulp-Cercevea



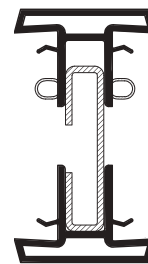
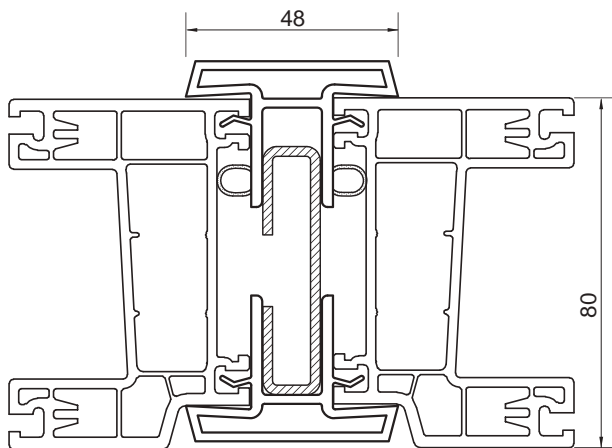
Frame	6041	$I_x=5,3 \text{ cm}^4$
Steel	V 106	
	36x48 t = 2 mm	

**Coupling profiles** / Kopplungsprofile / *Profili di accoppiamento* / Profile de cuplare



500730

**Coupling profile gasket** / Kopplungs dichtung  
*Guarnizione giunto* / Garnitura de cuplare



943940

Steel 940108  
 $I_x=8,4 \text{ cm}^4$

PERFORMER 74

RONDO

STYLE 76

PASIV 82

KUBUS

PREMIDOOR 76

PREMIDOOR 88

PREMILINE

BESCHLÄG  
HARDWARE

GLAS  
GLASS

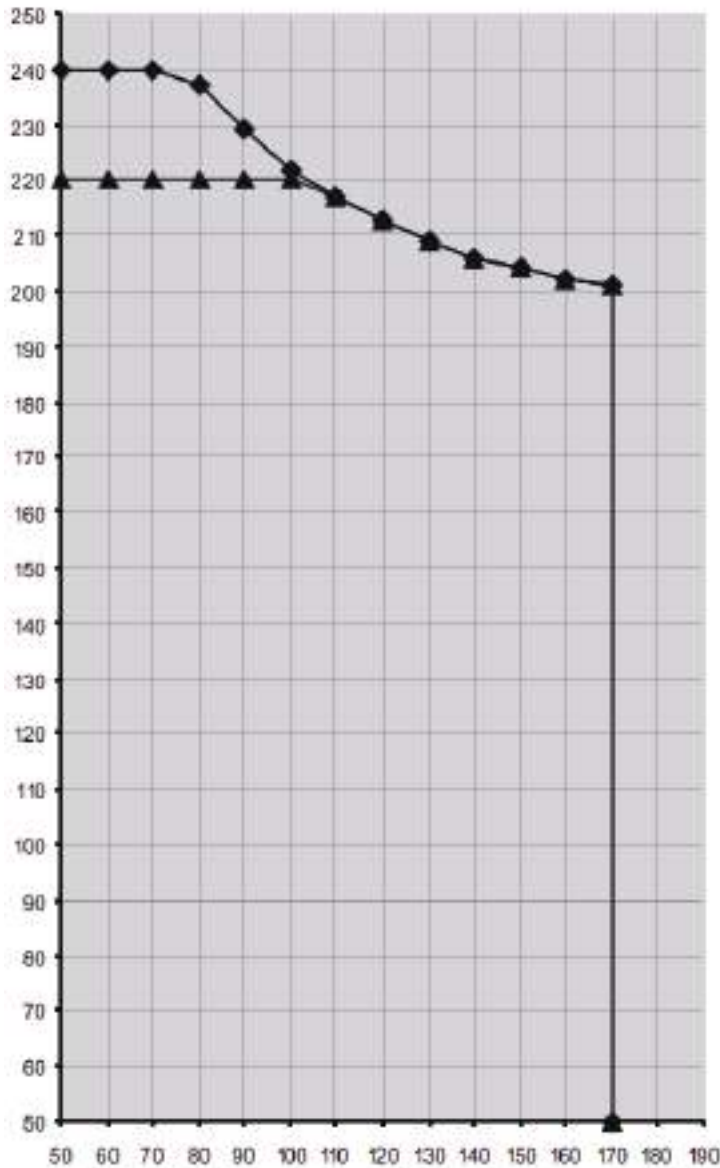
ROLLO TOP

ROLLO FRONT

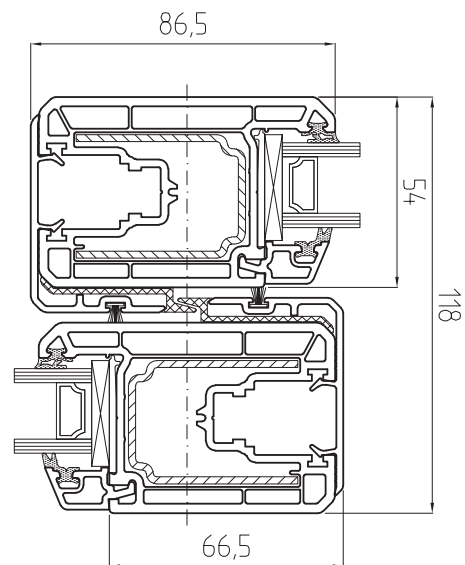
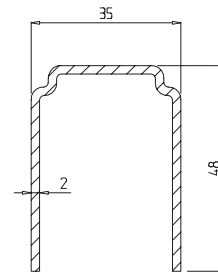
BORA

HERCULES 70

**Maximus Sash Sizes / Flügelgrößen Diagramme / Campi d'applicazione Anta /**  
Dimensiuni maxime cercevea



Steel V106  $I_x=5,3 \text{ cm}^4$   
36x48  
t=2mm



Sash 6041

Windlast: 0,8 kN/m<sup>2</sup>



**Maximum outerframe size /** Maximales Blendrahmenaußenmaß / *Dimensione massima del telaio /*  
Dimensiune Maxima Toc:

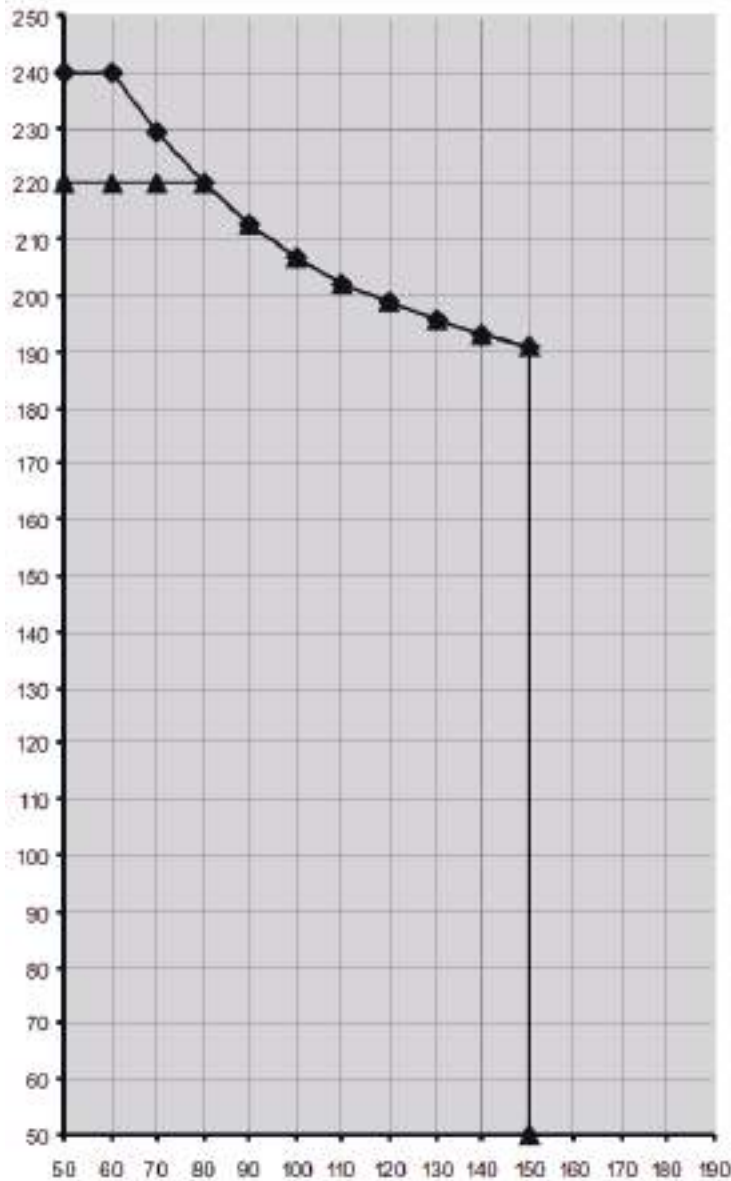
**White Profiles /** Weiss Profile / *Profili Bianco / Profile Albe*  
**Color Profiles /** Dekor Profile / *Profili Pellicolati / Profile Color*

**4500 x 2500 mm**  
**3500 x 2300 mm**

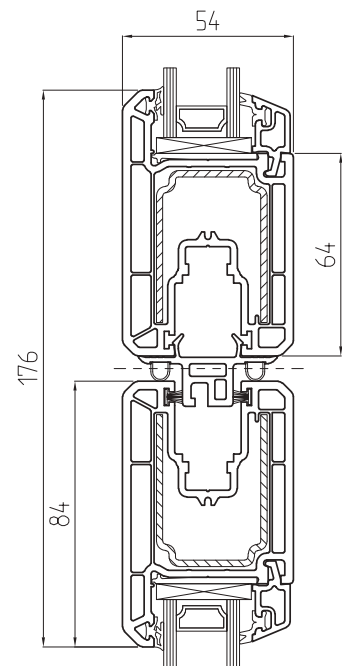
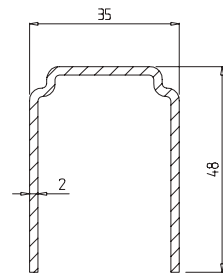
**Maximum Sash Weight 120 kg**

Flügelgewicht bis 120 kg  
Peso Anta fino a 120 kg  
Greutate maximă cercevea 120 kg

**Maximus Sash Sizes** / Flügelgrößen Diagramme / *Campi d'applicazione Anta* /  
Dimensiuni maxime cercevea



Steel V106  $I_x=5,3 \text{ cm}^4$   
36x48  
t=2mm



- ◆ weiß
- ▲ Dekor

Windlast: 0,8 kN/m<sup>2</sup>

**Maximum outerframe size** / Maximales Blendrahmenaußenmaß / *Dimensione massima del telaio* /  
Dimensiune Maxima Toc:

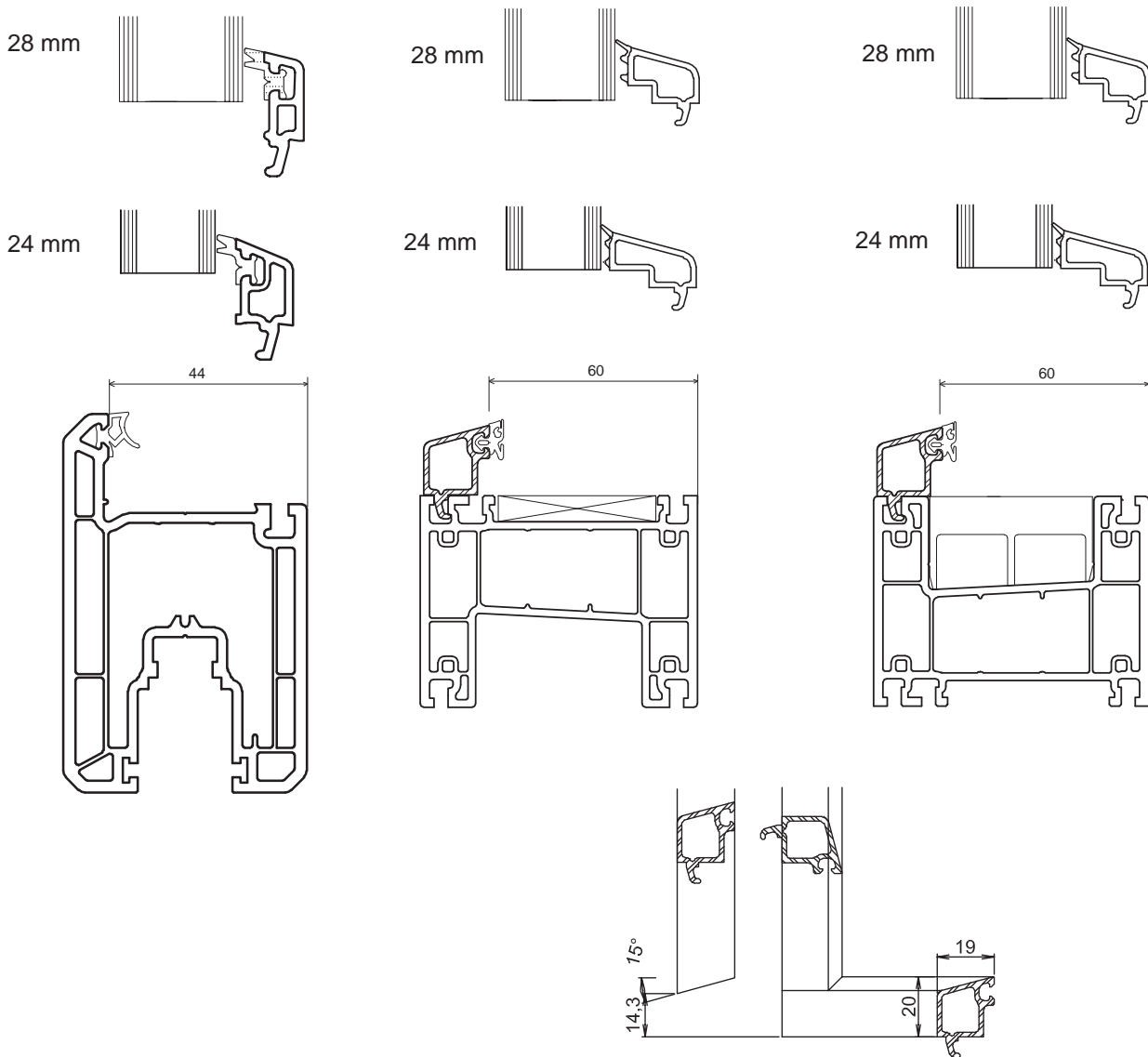
**White Profiles** / Weiss Profile / *Profili Bianco* / Profile Albe  
**Color Profiles** / Dekor Profile / *Profili Pellicolati* / Profile Color





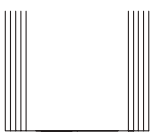


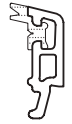
**4500 x 2500 mm**  
**3500 x 2300 mm**

**Maximum Sash Weight 120 kg**  
Flügelgewicht bis 120 kg  
Peso Anta fino a 120 kg  
Greutate maximă cercevea 120 kg

PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOR 76  
PREMIDOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

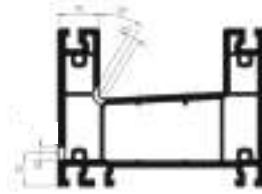
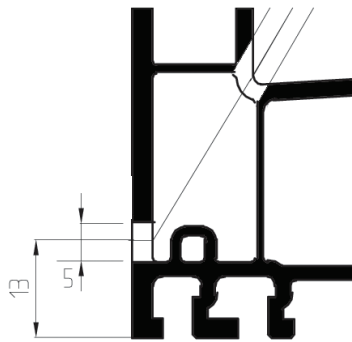
**Glazing Beads / Glasleiste / Fermavetri /**  
Baghete de fixare geam



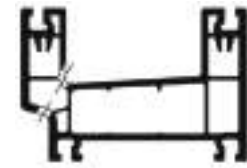
Profile	Glass / Glas / Vetro / Sticlă	Glazing bead / Glasleiste / Fermavetro / Baghetă	Gasket / Dichtung / Guarnizione / Garnitură
Frame 6052	 24 mm	 9C00 +  2437	black or gray
Sash 6041		 012.04	
Frame 6054, 6052, 6051	 28 mm	 9C00 +  2435	black
Sash 6041		 008.04	

**Drainage** / Entwässerung / *Drenaggio* / Drenajul

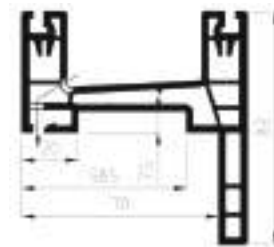
**Front drainage** / Entwässerung nach vorne / *Drenaggio frontale* / Drenaj frontal



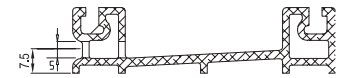
Profile 6052



Profile 6054

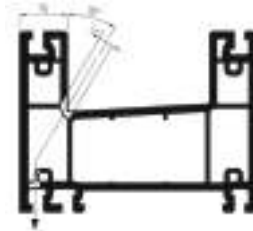
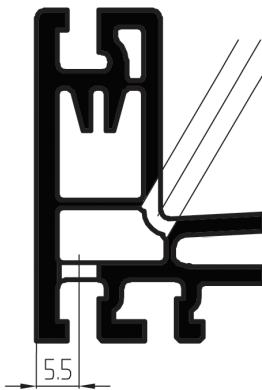


Profile 6051

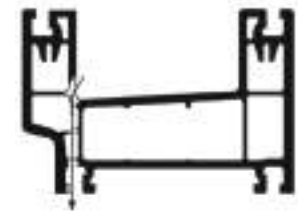


Profile 9C66

**Hidden drainage** / Entwässerung nach unten / *Drenaggio nascosto* / Drenaj inferior



Profile 6052

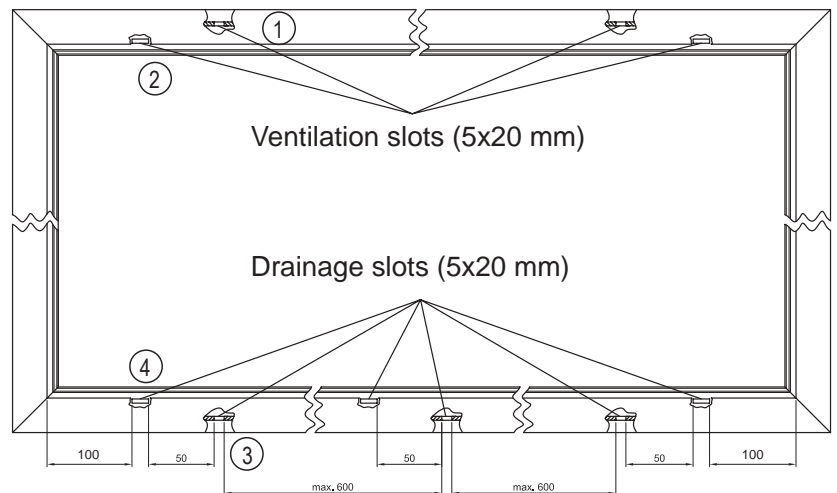


Profile 6054

**Ventilation** / Entlüftung / *Ventilazione* / Ventilarea

**Sash**

- ① slots 5 x 25 mm for equalizing the pressure at the upper part of the sash, positioned at 50 -100 mm from the corner;
- ② slots 5 x 25 mm for equalizing the pressure upper part of the sash positioned at 50 -100 mm from the corner;
- ③ slots 5 x 25 mm for drainage/equalizing the pressure at the lower part of the sash, positioned at 50 -100 mm from the corner;
- ④ slots 5 x 25 mm for drainage/ equalizing the pressure at lower part of the sash positioned at 50 -100 mm from the corner;



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# HARDWARE BESCHLÄG FERRAMENTA FERONERIE





**MACO certificate of conformity**



# VERLEIHUNGS-URKUNDE

Die Gütegemeinschaft Schlösser und Beschläge e.V. verleiht hiermit aufgrund der  
ihrem Güteausschuss vorliegenden Prüfbericht dem Drehkippschlag

Based upon the test report which has been released by their quality assurance commission the quality assurance  
association of locks and hardware hereby awards "Tilt and Turn Hardware"

**MACO Multi Matic Kunststoff, System TR. 7**

der Mitgliedsfirma  
the membership company

**Mayer & Co. Beschläge GmbH,  
A-5020 Salzburg**

das von RAL (Deutsches Institut für Gütesicherung und Kennzeichnung e.V.) anerkannte  
und durch Eintragung beim Deutschen Patentamt als Kollektivmarke geschützte

Gütezeichen Schlösser und Beschläge mit der Inschrift "Drehkippschlag"

the RAL-quality label shown below, having been recognized by the German RAL Institute for Quality Assurance and labelling  
and trademark-legally protected by the registration in the German Patent Agency "Tilt and Turn Hardware"



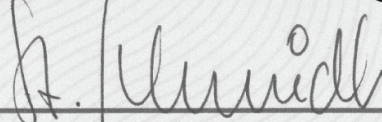
in der Klasse 120 kg, geprüft nach RAL-GZ 607/3, Ausgabe 2009  
approved in class 120 kg, according to RAL-GZ 607/3, version 2009

Die Führung des Zeichens setzt die Einhaltung und Überwachung nach dieser Güte- und Prüfbestimmung  
voraus. Die Kennzeichnung, die Gültigkeit und die wesentlichen Bestandteile des geprüften Produktes  
sind in dem gleichlautenden Prüfbericht Nr. 4-35/09 beschrieben.

Permission of using this RAL label is based on correct observation of RAL-GZ 607/3 - quality and testing instructions. Labelling,  
validity and main components of tested product are detailed in test report no. 4-35/09 having same reference number

D-42551 Velbert, den 09. Dezember/ December 2009

Gütegemeinschaft Schlösser und Beschläge e.V.

  
Geschäftsführer



Gütegemeinschaft Schlösser und Beschläge e.V. · Offerstraße 12 · D - 42551 Velbert · Fon 02051/9506-0 · Fax 02052/9506-20

## Tilt and turn System descriptions



The Mondo Style windows are equipped with MACO fittings. Thanks to this fittings our windows ensure optimal thermal and acoustic isolation, anti-burglar protection and comfort.

Die Mondo-Style Fenster sind mit MACO-Beschlag ausgestattet. Diese Beschlag bietet ausgezeichnete Wärme - , Schall - , und Einbruchschutz

*Le finestre Mondo Style sono dotati con ferramenta MACO. Questa ferramenta e adattata per soddisfare l'esigente riguardando l'isolamento termico, acustico e antieffrazione.*

Ferestrele Mondo Style sunt echipate cu feronerie MACO. Aceasta feronerie este adaptata sa satisfaca cele mai exigente cerinte de izolare termica, fonica si de protectie antiefracție.



### Sash lifter

Hebesicherung  
*Dispositivo alza anta*  
 Inaltator Cercevea



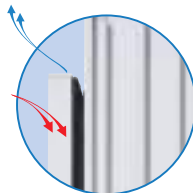
### Mullion Drive Gear

Stulpflügelgetriebe  
*Comanda centrale a leva*  
 Canat secundar cu inchidere centralizata



### Additional security points on the bottom of the window as standard

i.S.-Sicherheits-Rollzapfen sind im Anpressdruck regulierbar  
*Minimo un punto di sicurezza sotto*  
 Minim un punct de sigurata cu blocator tip ciuperca, la partea inferioara



### Ventilation Position (night vent)

Extra zusätzliche Kippstellung als "Sparlüftung"  
*Microaerazione (notturna)*  
 Microventilatie (nocturna)



### The revolutionary MACO TRICOAT fittings provide excellent protection against corrosion (optional)

Die Tricoat Oberfläche: Korrosionsschutz auf höchster Stufe (optional)  
*Superficie trattata con sistema duplex TRICOAT: zincatura + verniciatura (opzionale)*  
 Protectie anticoroziva TRICOAT (optional)

## Adjusting the window

The removal and installation of the opening sashes are only to be carried out by qualified personnel.

Adjusting the sash lifter: Slacken screw adjust and re-tighten.



Re-setting the sash lifter:  
1. Press the spring with an Allen key.  
2. Re-centre the sash lifter

Rising or lowering the sash: Allen key 4 mm.



Scissor stay compression: Allen key 4 mm.



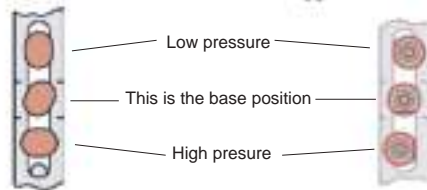
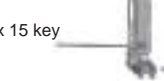
Scissor stay compression: Allen key 4 mm.



Bottom corner hinge: Vertical and horizontal Allen key 4 mm



Compression: Screwdriver or Tarx Tx 15 key



## Einstellarbeiten am Fenster

Diese Einstellarbeiten an den Beschlägen sowie das Aus- und Einhängen der Flügel sind ausschließlich von Fachbetrieb durchzuführen

Einstellen der Hebsicherung: durch Drehen der Einstellschraube (TX 15) die gewünschte Höhe wählen



Re-setting the sash lifter:  
1. Press the spring with an Allen key.  
2. Re-centre the sash lifter

Anheben bzw. Absenken der Schere: Winkelbandschere Inbusschlüssel 4 mm



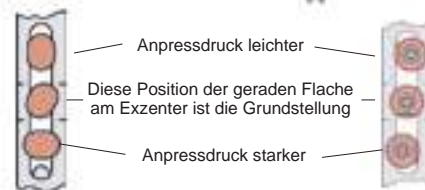
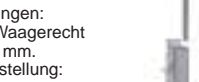
Anpressdruck der Sparluftungsschere Inbusschlüssel 4 mm



Anpressdruck der Schere: Inbusschlüssel 4 mm

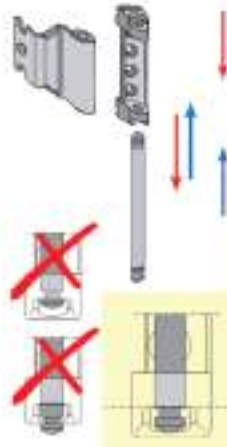


Ecklagereinstellungen: Senkrecht oder Waagrecht Inbusschlüssel 4 mm. Anpressdruckeinstellung: TX 15



## Installation of the sash

### Removal and installation of the sash:



Removal: Close the window, remove the scissor stay hinge pin and lift out the sash.

Installation: Locate the sash on the bottom hinge and close the sash. Push the scissor stay hinge pin fully in.

Optical control of the stay hinge pin

We only recommend to the buyer of windows and doors to seek for personnel help in order to complete the assembly

## Für Fensterbau - und Montagebetriebe

Den folgenden Ausführungen muss durch die Fachbetriebe besondere Aufmerksamkeit gewidmet werden, da die Montage nicht mehr im Einflussbereich des Beschlagherstellers liegt!

### Aus- bzw. Einhängen des Flügels:



Aushängen: Scherenlagerslift bei geschlossenem Flügel nach unten ziehen.

Einhängen: Flügel einhängen und Fenster schließen (nicht verriegeln) Scherenlagerslift bis zum Einrasten der Feder eindrücken

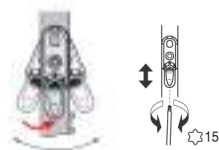
Optische Kontrolle der Position des Scherenlagerstiftes unbedingt notwendig (siehe Abbildung)! Bei Nichtbeachtung: Herausfallen des Fensterflügels möglich!

Den Kaufern von Fenster- und Türelementen empfehlen wir den Einbau und Montage der Elemente nur von befugten Fachleuten vornehmen zu lassen.

## Regolazione finestra

Le regolazioni sui meccanismi devono essere effettuate da personale competente!

Regolazione dell'alza anta



Sollevamento o abbassamento dell'anta con chiave a brugola da 4



Pressione della forcice con chiave a brugola da 4



Pressione della forcice con chiave a brugola da 4

Regolazioni sulla cerniera in orizzontale o verticale: con chiave a brugola da 4



Regolazione della pressione con chiave Tx 15



## Sgancio e riaggancio dell'anta

Sgancio ad anta chiusa tirare verso il basso il perno del supporto forcice

Riaggancio: inserire l'anta sul perno della cerniera e quindi accostarla al telaio (senza chiudere con la martellina). Spingere verso l'alto il perno del supporto forcice

Verificare la posizione del perno del supporto forcice! Diversamente, c'è la possibilità che l'anta puo cadere!



## Operațiile de reglare a ferestrelor

Aceste reglaje la feronerie, precum și prinderea și desprinderea canatelor, trebuie executate numai de personal specializat!

Reglarea siguranței - ridicator prin rotirea șurubului de reglare (TX 15), alegeți înălțimea dorită.



Daca se intampla sa actionati grasit in ciuda siguranței: apasati siguranța si manerul se poate misca acum in orice pozitie

Ridicarea respectiv coborârea prin foarfecă: la foarfecă echer cu cheia inbus 4 mm

Surubul permite poziționarea din milimetru in milimetru

Forța de presare în foarfecă aerisire economică: cu cheia inbus 4 mm



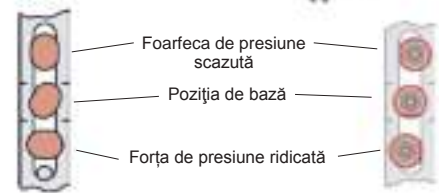
Forța de presare în foarfecă cu cheia inbus 4 mm



Reglarea balamalei inferioare de cercevea: vertical sau orizontal cu cheia inbus 4 mm



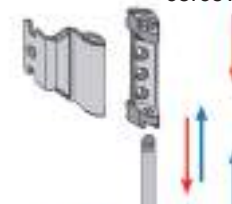
Reglarea forței de presiune cu cheia TX 15



## Montarea cercevelei

Urmatorele aspecte sunt în beneficiul personalului specializat și trebuie să se acorde o atenție deosebită deoarece montajul nu se mai află în responsabilitatea producătorului de feronerie

Prindere și desprinderea cercevelei:



Desprinderea: După ce cerceveaua este închisă, știftul se trage în jos

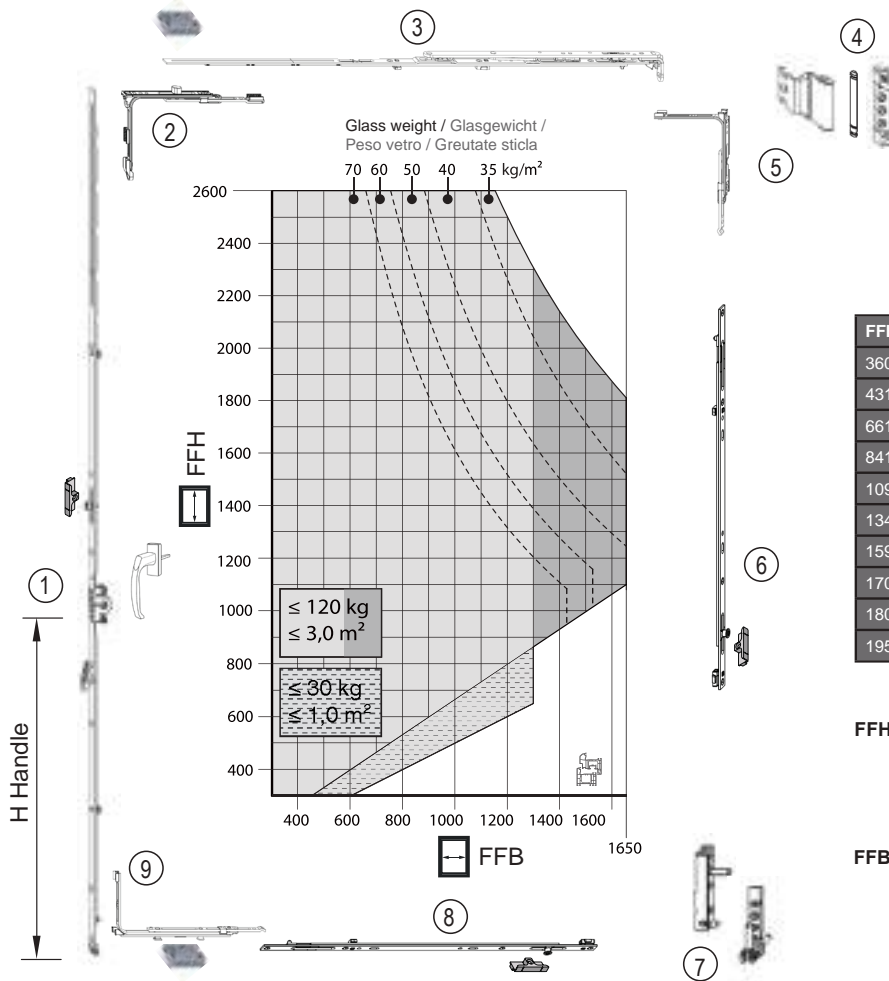
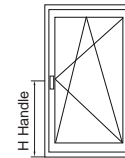
Prinderea: Cerceveaua se agață și fereastra se închide (nu se zăvonește) Știftul se introduce prin apăsare până ce se blochează în siguranță.

Conturul optic asupra fixării știftului este necesar. (vezi figura)!



Cumpărătorului de ferestre și uși îi recomandăm să apeleze numai la personal specializat în vederea executării montajului

**Single Sash Tilt-turn Fixed Handle Height / Einteilige Elemente DK,  
K Getriebe / 1 Anta - Ribalta Maniglia Ribassata / Fereastra Într-un  
Canat Oscilo - Batantă Mâner Constant**



FFH	H Handle
360-430 mm	125 mm
431-660 mm	190 mm
661-840 mm	300 mm
841-1090 mm	400 mm
1091-1340 mm	500 mm
1341-1590 mm	500 mm
1591-1700 mm	500 mm
1701-1800 mm	500 mm
1800-1950 mm	1050 mm
1951-2450 mm	1050 mm

**FFH - Flügel Falz Höhe**  
Sash rebate height  
Flügel Falz Höhe  
Altezza battente in battuta  
Înălțimea falțului cercevelei

**FFB - Flügel Falz Breite**  
Sash rebate width  
Larghezza battente in battuta  
Lățimea falțului cercevelei

GETRIEBE	FFH	STANDARD	OPTIONAL
Getriebe 430	275-430 mm	1x	
Getriebe 660	431-660 mm	1x	
Getriebe 840	661-840 mm	1x	
Getriebe 1090	841 - 1090 mm	1x	
Getriebe 1340	1091 - 1340 mm	1x	
Getriebe 1590	1341-1590 mm	2x	
Getriebe 1700	1591-1700 mm	2x	
Getriebe 1340*	1701-1800 mm	2x	
Getriebe 1950	1801-1950 mm	2x	
Getriebe 2200	1951-2200 mm	3x	
Getriebe 2450	2201-2450 mm	4x	

\* + Mittelverschlüsse 1280

ECKUMLENKUNG	FFB	STANDARD
Eckumlenkung 222203	275-360 mm	1x
Eckumlenkung 222201	>360 mm	1x

ECKUMLENKUNG	FFB	STANDARD
Eckumlenkung 222214	800-2450 mm	1x

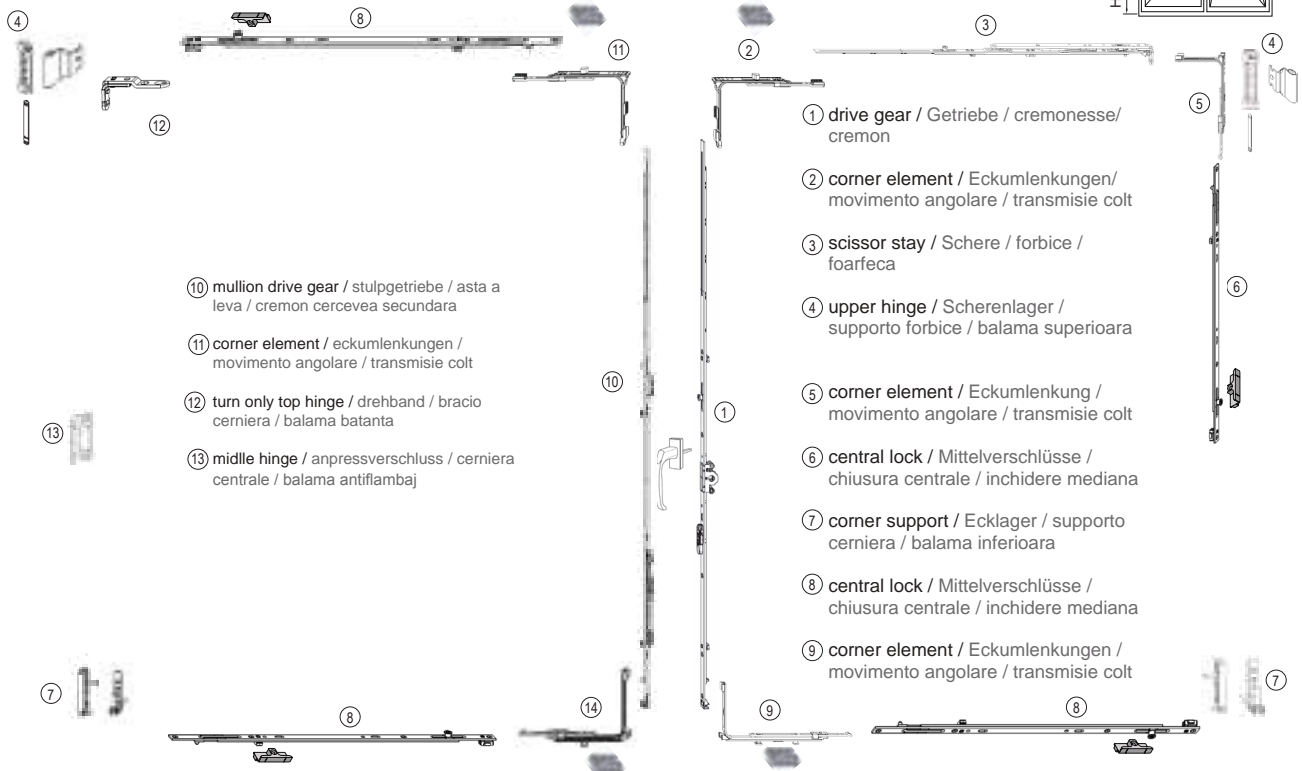
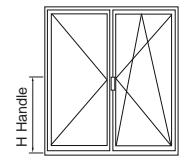
MITTELVERSCHLÜSSE	FFH	STANDARD	OPTIONAL
Mittelverschlüsse 1280	801-1280 mm	1x	
Mittelverschlüsse 1500	1281-1500 mm	1x	
Mittelverschlüsse 2200	1501-2000 mm	2x	
Mittelverschlüsse 2200 Mittelverschlüsse 1280	2001-2200 mm	2x	
Mittelverschlüsse 2200 Mittelverschlüsse 1500	2201-2450 mm	2x	

SCHEREN	FFB	STANDARD
Scheren 400	320-400 mm	-
Scheren 600	401-600 mm	-
Scheren 800	601-800 mm	-
Scheren 1050 1VZ	801-1050 mm	1x
Scheren 1300 1VZ	1051-1300 mm	1x

MITTELVERSCHLÜSSE	FFB	STANDARD	OPTIONAL
Mittelverschlüsse 1280	801-1280 mm	1x	
Mittelverschlüsse 1500	1281-1400 mm	1x	

ECKUMLENKUNG	FFB	STANDARD
Eckumlenkung 222205	360-2450 mm	1x

**Double Sash Tilt-turn Fixed Handle Height / Zweitelige Elemente DK,**  
K Getriebe / 2 Ante - Ribalta Maniglia Ribassata / Fereastră În Două  
Canate Oscilo - Batantă Mâner Constant



- ⑩ mullion drive gear / stulpgetriebe / asta a leva / cremon cercevea secundara
- ⑪ corner element / eckumlenkungen / movimento angolare / transmisie colt
- ⑫ turn only top hinge / drehband / bracio cerniera / balama batanta
- ⑬ middle hinge / anpressverschluss / cerniera centrale / balama antilambaj

- ① drive gear / Getriebe / cremonesse/ cremon
- ② corner element / Eckumlenkungen/ movimento angolare / transmisie colt
- ③ scissor stay / Schere / forbice / foarfeca
- ④ upper hinge / Scherenlager / supporto forbice / balama superioara
- ⑤ corner element / Eckumlenkung / movimento angolare / transmisie colt
- ⑥ central lock / Mitterverschlüsse / chiusura centrale / inchidere mediana
- ⑦ corner support / Ecklager / supporto cerniera / balama inferioara
- ⑧ central lock / Mitterverschlüsse / chiusura centrale / inchidere mediana
- ⑨ corner element / Eckumlenkungen / movimento angolare / transmisie colt

①	GETRIEBE	FFH	STANDARD	OPTIONAL
	Getriebe 430	275-430 mm	1x	
	Getriebe 660	431-660 mm	1x	
	Getriebe 840	661-840 mm	1x	
	Getriebe 1090	841 - 1090 mm	1x	
	Getriebe 1340	1091 - 1340 mm	1x	
	Getriebe 1590	1341-1590 mm	2x	
	Getriebe 1700	1591-1700 mm	2x	
	Getriebe 1340*	1701-1800 mm	2x	
	Getriebe 1950	1801-1950 mm	2x	
	Getriebe 2200	1951-2200 mm	3x	
	Getriebe 2450	2201-2450 mm	4x	

\* + Mitterverschlüsse 1280

⑥	MITTELVERSCHLÜSSE	FFH	STANDARD	OPTIONAL
	Mitterverschlüsse 1280	801-1280 mm	1x	
	Mitterverschlüsse 1500	1281-1500 mm	1x	
	Mitterverschlüsse 2200	1501-2000 mm	2x	
	Mitterverschlüsse 2200	2001-2200 mm	2x	
	Mitterverschlüsse 1280			
	Mitterverschlüsse 2200	2201-2450 mm	2x	
	Mitterverschlüsse 1500			

⑧	MITTELVERSCHLÜSSE	FFB	STANDARD	OPTIONAL
	Mitterverschlüsse 1280	801-1280 mm	1x	
	Mitterverschlüsse 1500	1281-1400 mm	1x	

⑨	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222205	360-2450 mm	1x

②	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222203	275-360 mm	1x
	Eckumlenkung 222201	>360 mm	1x

③	SCHEREN	FFB	STANDARD
	Scheren 400	320-400 mm	-
	Scheren 600	401-600 mm	-
	Scheren 800	601-800 mm	-
	Scheren 1050 1VZ	801-1050 mm	1x
	Scheren 1300 1VZ	1051-1300 mm	1x

⑤	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222214	800-2450 mm	1x

⑭	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222209	>430 mm	1x

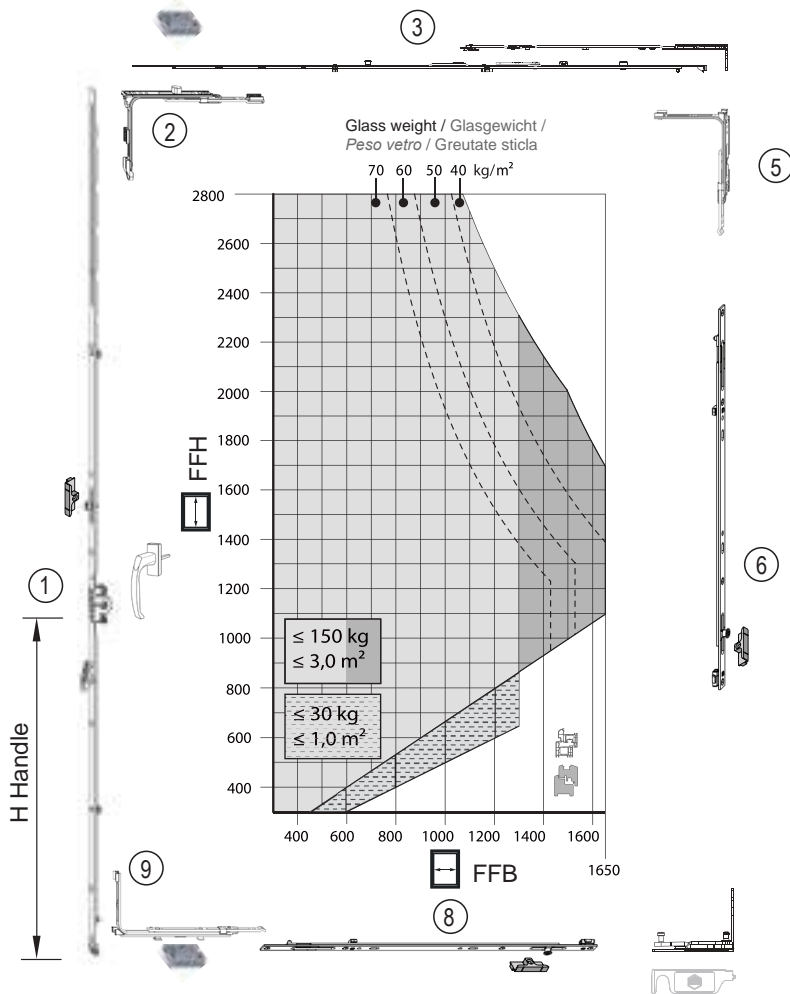
⑩	STULPGETRIEBE	SRH	DESCRIPTION
	Stulpflügelverschluss waagrecht	275-430 mm	
	Stulpgetriebe KS 660	430-660 mm	
	Stulpgetriebe KS 840	661-840 mm	
	Stulpgetriebe KS 1090	841-1090 mm	
	Stulpgetriebe KS 1340	1091-1340 mm	
	Stulpgetriebe KS 1590	1341-1590 mm	
	Stulpgetriebe KS 1340	1591-1800 mm	
	Mitterverschlüsse 1280		
	Stulpgetriebe KS 1950	1801-1950 mm	
	Stulpgetriebe KS 2200	1951-2200 mm	
	Stulpgetriebe KS 2450	2201-2450 mm	

⑪	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222201	660-2450 mm	1x

**Single Sash Tilt-turn Concealed hinges** / Einteilige Elemente DK,  
Verdeckter Beschläge / 1 Anta - Ribalta Cernriere a scomparsa / Fereastră Într-un  
Canat Oscilo - Batantă Balamale ascuse



**MACO Multipower  
Concealed hinge**  
Verdeckter Beschläge  
Ferramenta a scomparsa  
Balamale ascuse



FFH	H Handle
360-430 mm	125 mm
431-660 mm	190 mm
661-840 mm	300 mm
841-1090 mm	400 mm
1091-1340 mm	500 mm
1341-1590 mm	500 mm
1591-1700 mm	500 mm
1701-1800 mm	500 mm
1800-1950 mm	1050 mm
1951-2450 mm	1050 mm

**FFH - Flügel Falz Höhe**  
Sash rebate height  
Flügel Falz Höhe  
Altezza battente in battuta  
Înălțimea falțului cercevelei

**FFB - Flügel Falz Breite**  
Sash rebate width  
Larghezza battente in battuta  
Lățimea falțului cercevelei

GETRIEBE	FFH	STANDARD	OPTIONAL
Getriebe 430	275-430 mm	1x	
Getriebe 660	431-660 mm	1x	
Getriebe 840	661-840 mm	1x	
Getriebe 1090	841 - 1090 mm	1x	
Getriebe 1340	1091 - 1340 mm	1x	
Getriebe 1590	1341-1590 mm	2x	
Getriebe 1700	1591-1700 mm	2x	
Getriebe 1340*	1701-1800 mm	2x	
Getriebe 1950	1801-1950 mm	2x	
Getriebe 2200	1951-2200 mm	3x	
Getriebe 2450	2201-2450 mm	4x	

\* + Mittelverschlüsse 1280

ECKUMLENKUNG	FFB	STANDARD
Eckumlenkung 222203	275-360 mm	1x
Eckumlenkung 222201	>360 mm	1x

ECKUMLENKUNG	FFB	STANDARD
Eckumlenkung 222214	800-2450 mm	1x

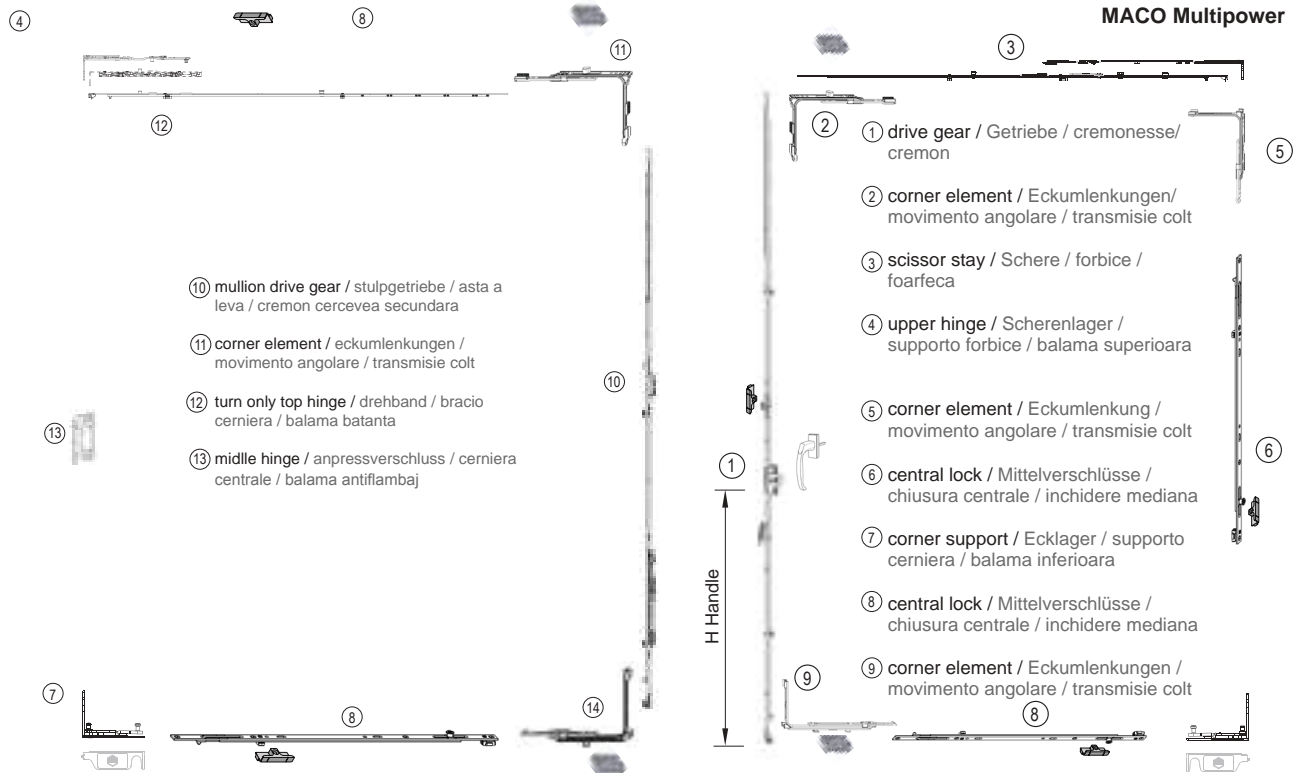
MITTELVERSCHLÜSSE	FFH	STANDARD	OPTIONAL
Mittelverschlüsse 1280	801-1280 mm	1x	
Mittelverschlüsse 1500	1281-1500 mm	1x	
Mittelverschlüsse 2200	1501-2000 mm	2x	
Mittelverschlüsse 2200 Mittelverschlüsse 1280	2001-2200 mm	2x	
Mittelverschlüsse 2200 Mittelverschlüsse 1500	2201-2450 mm	2x	

SCHEREN	FFB	STANDARD
Scheren 400	320-400 mm	-
Scheren 600	401-600 mm	-
Scheren 800	601-800 mm	-
Scheren 1050 1VZ	801-1050 mm	1x
Scheren 1300 1VZ	1051-1300 mm	1x

MITTELVERSCHLÜSSE	FFB	STANDARD	OPTIONAL
Mittelverschlüsse 1280	801-1280 mm	1x	
Mittelverschlüsse 1500	1281-1400 mm	1x	

ECKUMLENKUNG	FFB	STANDARD
Eckumlenkung 222205	360-2450 mm	1x

**Double Sash Tilt-turn Concealed hinges / Zweifelige Elemente DK,**  
Verdeckter Beschläge / 2 Ante - Ribalta Cerniere a scomparsa / Fereastra în  
Două Canate Oscilo - Batantă Balamale ascunse



1	GETRIEBE	FFH	STANDARD	OPTIONAL
	Getriebe 430	275-430 mm	1x	
	Getriebe 660	431-660 mm	1x	
	Getriebe 840	661-840 mm	1x	
	Getriebe 1090	841 - 1090 mm	1x	
	Getriebe 1340	1091 - 1340 mm	1x	
	Getriebe 1590	1341-1590 mm	2x	
	Getriebe 1700	1591-1700 mm	2x	
	Getriebe 1340*	1701-1800 mm	2x	
	Getriebe 1950	1801-1950 mm	2x	
	Getriebe 2200	1951-2200 mm	3x	
	Getriebe 2450	2201-2450 mm	4x	

\* + Mittelverschlüsse 1280

2	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222203	275-360 mm	1x
	Eckumlenkung 222201	>360 mm	1x

3	SCHEREN	FFB	STANDARD
	Scheren 400	320-400 mm	-
	Scheren 600	401-600 mm	-
	Scheren 800	601-800 mm	-
	Scheren 1050 1VZ	801-1050 mm	1x
	Scheren 1300 1VZ	1051-1300 mm	1x

5	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222214	800-2450 mm	1x

14	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222209	>430 mm	1x

6	MITTELVERSCHLÜSSE	FFH	STANDARD	OPTIONAL
	Mittelverschlüsse 1280	801-1280 mm	1x	
	Mittelverschlüsse 1500	1281-1500 mm	1x	
	Mittelverschlüsse 2200	1501-2000 mm	2x	
	Mittelverschlüsse 2200	2001-2200 mm	2x	
	Mittelverschlüsse 1280			
	Mittelverschlüsse 2200	2201-2450 mm	2x	
	Mittelverschlüsse 1500			

8	MITTELVERSCHLÜSSE	FFB	STANDARD	OPTIONAL
	Mittelverschlüsse 1280	801-1280 mm	1x	
	Mittelverschlüsse 1500	1281-1400 mm	1x	

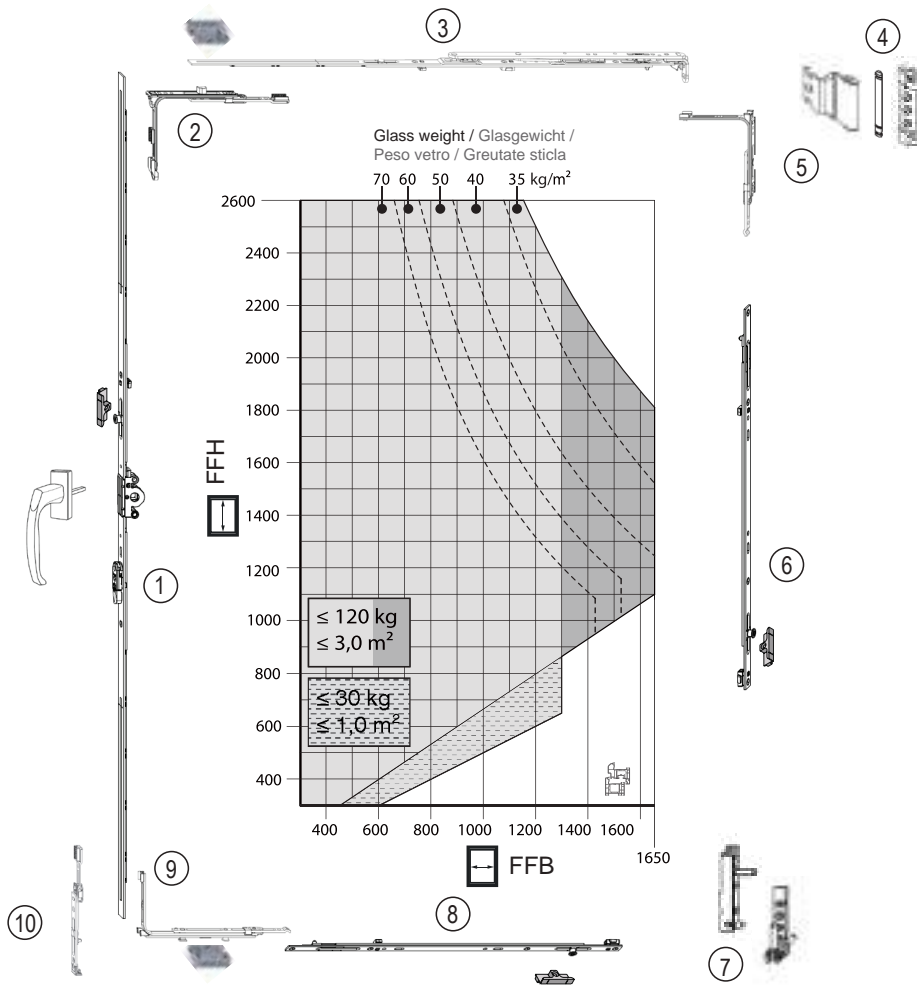
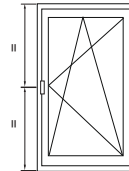
9	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222205	360-2450 mm	1x

10	STULPGETRIEBE	SRH	DESCRIPTION
	Stulpflügelverschluss waagrecht	275-430 mm	
	Stulpgetriebe KS 660	430-660 mm	
	Stulpgetriebe KS 840	661-840 mm	
	Stulpgetriebe KS 1090	841-1090 mm	
	Stulpgetriebe KS 1340	1091-1340 mm	
	Stulpgetriebe KS 1590	1341-1590 mm	
	Stulpgetriebe KS 1340	1591-1800 mm	
	Mittelverschlüsse 1280		
	Stulpgetriebe KS 1950	1801-1950 mm	
	Stulpgetriebe KS 2200	1951-2200 mm	
	Stulpgetriebe KS 2450	2201-2450 mm	

11	ECKUMLENKUNG	FFB	STANDARD
	Eckumlenkung 222201	660-2450 mm	1x



**Single Sash Tilt-Turn Variable Handle Height / Einteilige Elemente DK,**  
Getriebe Mittig / 1 Anta - Ribalta Maniglia Centrale /  
Fereastră într-un Canat Oscilo - Batantă Mâner Central



**FFH - Flügel Falz Höhe**  
Sash rebate height  
Flügel Falz Höhe  
Altezza battente in battuta  
Înălțimea falțului cercevelei

**FFB - Flügel Falz Breite**  
Sash rebate width  
Larghezza battente in battuta  
Lățimea falțului cercevelei

①	GETRIEBE	FFH	STANDARD	OPTIONAL
	Getriebe 800	360-800 mm	1x	
	Getriebe 1250	801-1250 mm	1x	
	Getriebe 1750	1251-1750 mm	2x	
	Getriebe 2250	1751-2200 mm	3x	
	Getriebe 2450*	2201-2450 mm	4x	

\* Fixed handle height / Getriebe Konstant /  
Maniglia ribassata / Mâner constant  
**H = 1050 mm**

⑤	ECKUMLENKUNGEN	FFH	STANDARD
	Eckumlenkung 222214	800-2450 mm	1x

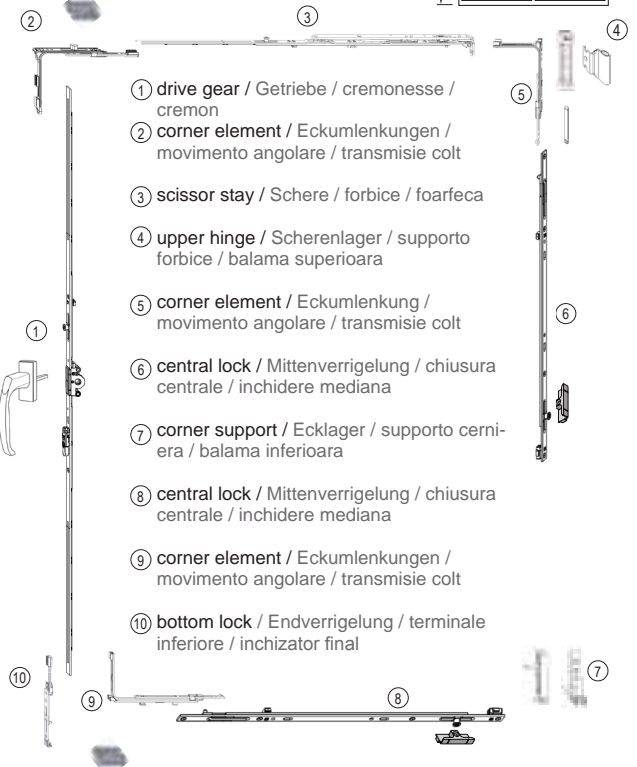
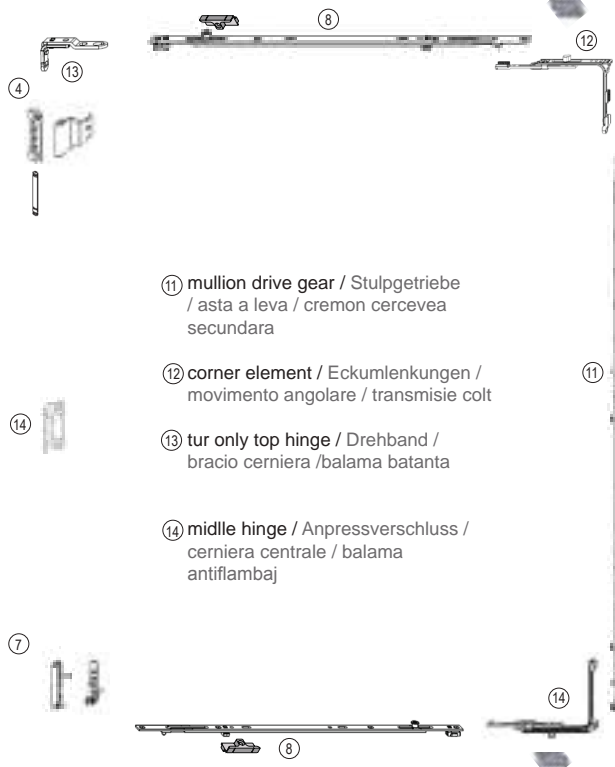
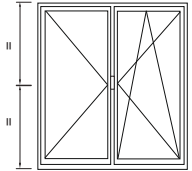
⑥	MITTELVERSCHLÜSSE	FFH	STANDARD	OPTIONAL
	Mittelverschlüsse 1280	801-1280 mm	1x	
	Mittelverschlüsse 1500	1281-1500 mm	1x	
	Mittelverschlüsse 2200	1501-2000 mm	2x	
	Mittelverschlüsse 2200	2001-2200 mm	2x	
	Mittelverschlüsse 1280			
	Mittelverschlüsse 2200	2201-2450 mm	2x	

⑧	MITTELVERSCHLÜSSE	FFB	STANDARD	OPTIONAL
	Mittelverschlüsse 1280	801-1280 mm	1x	
	Mittelverschlüsse 1500	1281-1400 mm	1x	

⑨	ECKUMLENKUNGEN	FFH	STANDARD
	Eckumlenkung 206860	360-470 mm	1x
	Eckumlenkung 222205	470-2450 mm	1x

③	SCHEREN	FFB	STANDARD
	Scheren 400	360-400 mm	-
	Scheren 600	401-600 mm	-
	Scheren 800	601-800 mm	-
	Scheren 1050 1VZ	801-1050 mm	1x
	Scheren 1300 1VZ	1051-1300 mm	1x

**Double Sash Tilt-Turn Variable Handle Height / Zweiteilige Elemente DK,**  
Getriebe Mittig / 2 Ante - Ribalta Maniglia Centrale /  
Fereastră în Două Canate Oscilo - Batantă Mâner Central



- ⑪ mullion drive gear / Stulpgetriebe / asta a leva / cremon cercevea secundara
- ⑫ corner element / Eckumlenkungen / movimento angolare / transmisie colt
- ⑬ tur only top hinge / Drehband / bracio cerniera / balama batanta
- ⑭ middle hinge / Anpressverschluss / cerniera centrale / balama antiflambaj

- ① drive gear / Getriebe / cremonesse / cremon
- ② corner element / Eckumlenkungen / movimento angolare / transmisie colt
- ③ scissor stay / Schere / forbice / foarfeca
- ④ upper hinge / Scherenlager / supporto forbice / balama superioara
- ⑤ corner element / Eckumlenkung / movimento angolare / transmisie colt
- ⑥ central lock / Mittenverriegelung / chiusura centrale / inchidere mediana
- ⑦ corner support / Ecklager / supporto cerniera / balama inferoara
- ⑧ central lock / Mittenverriegelung / chiusura centrale / inchidere mediana
- ⑨ corner element / Eckumlenkungen / movimento angolare / transmisie colt
- ⑩ bottom lock / Endverriegelung / terminale inferiore / inchizator final

①	GETRIEBE	FFH	STANDARD	OPTIONAL
	Getriebe 800	360-800 mm	1x	
	Getriebe 1250	801-1250 mm	1x	
	Getriebe 1750	1251-1750 mm	2x	
	Getriebe 2250	1751-2200 mm	3x	
	Getriebe 2450*	2201-2450 mm	4x	

\* Fixed handle height / Getriebe Konstant /  
Maniglia ribassata / Mâner constant  
H = 1050 mm

②	ECKUMLENKUNGEN	FFH	STANDARD
	Eckumlenkung 222203	360-470 mm	1x
	Eckumlenkung 222201	470-2450 mm	1x

③	SCHEREN	FFB	STANDARD
	Scheren 400	360-400 mm	-
	Scheren 600	401-600 mm	-
	Scheren 800	601-800 mm	-
	Scheren 1050 1VZ	801-1050 mm	1x
	Scheren 1300 1VZ	1051-1300 mm	1x

⑭	ECKUMLENKUNGEN	FFH	STANDARD
	Eckumlenkung 222209	660-800/920-1250 mm	1x
	Eckumlenkung 222201	1250-2450 mm	1x
	Eckumlenkung 202475	800-920 mm	1x

⑫	ECKUMLENKUNGEN	FFH	STANDARD
	Eckumlenkung 222201	660-2450 mm	1x

⑤	ECKUMLENKUNGEN	FFH	STANDARD
	corner element 222214	800-2450 mm	1x

⑥	MITTELVERSCHLÜSSE	FFH	STANDARD	OPTIONAL
	Mittelverschlüsse 1280	801-1280 mm	1x	
	Mittelverschlüsse 1500	1281-1500 mm	1x	
	Mittelverschlüsse 2200	1501-2000 mm	2x	
	Mittelverschlüsse 2200	2001-2200 mm	2x	
	Mittelverschlüsse 1280			
	Mittelverschlüsse 2200	2201-2450 mm	2x	
	Mittelverschlüsse 1500			

⑧	MITTELVERSCHLÜSSE	FFB	STANDARD	OPTIONAL
	Mittelverschlüsse 1280	801-1280 mm	1x	
	Mittelverschlüsse 1500	1281-1400 mm	1x	

⑨	ECKUMLENKUNGEN	FFH	STANDARD
	corner element 206860	360-470 mm	1x
	corner element 222205	470-2450 mm	1x

⑩	STULPGETRIEBE	FFH	
	Kantriegel	360-660 mm	
	Stulpgetriebe KS 840 1VZ	469-800 mm	
	Stulpgetriebe 1250 VZ	801-1250 mm	
	Stulpgetriebe 1250 VZ	1251-1750 mm	
	Stulpgetriebe 1750 VZ	1751-2200 mm	
	Stulpgetriebe KS 2450	2201-2450 mm	

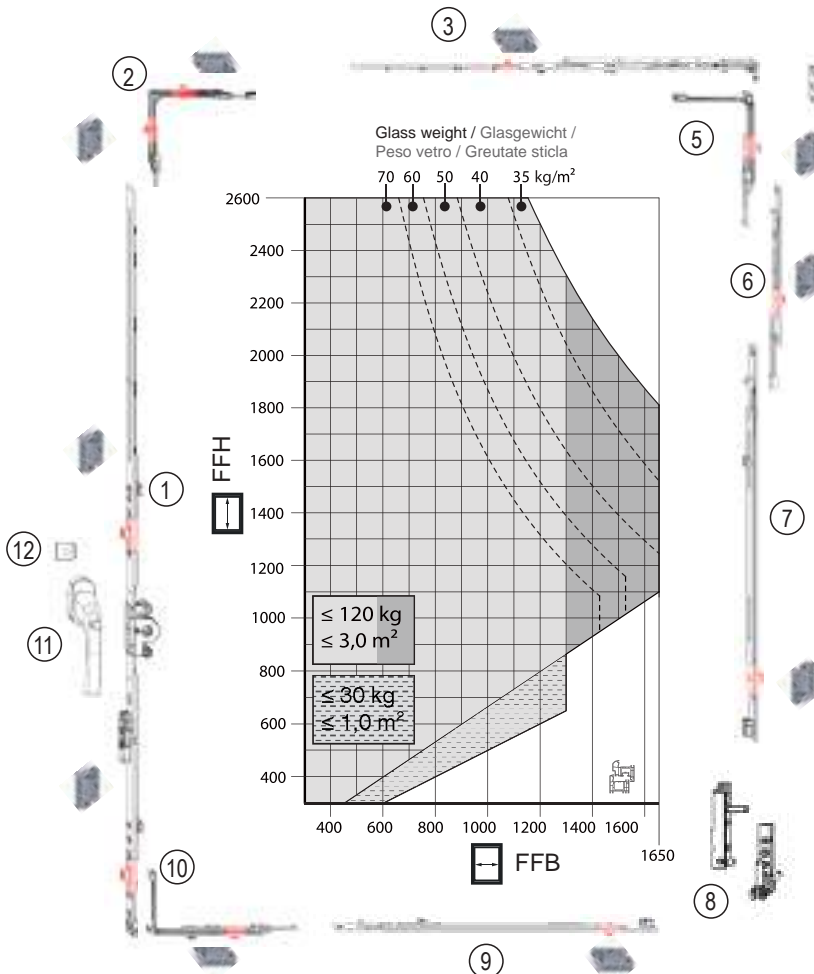
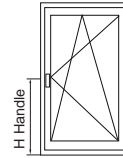
**Single Sash Tilt-Turn Fixed Handle Height RC2 (WK2)**

Einteilige Elemente DK, K-Getriebe RC2 (WK2)

1 Anta - Ribalta Maniglia Ribassata RC2 (WK2)

Fereastră Într-un Canat Oscilo - Batantă Mâner Constant RC2 (WK2)

**WK2**



**FFH - Flügel Falz Höhe**

Sash rebate height  
Flügel Falz Höhe  
Altezza battente in battuta  
Înălțimea falțului cercevelei

**FFB - Flügel Falz Breite**

Sash rebate width  
Larghezza battente in battuta  
Lățimea falțului cercevelei

**Handle height**

FFH	H Handle
660-840 mm	300 mm
841-1090 mm	400 mm
1091-1340 mm	500 mm
1341-1590 mm	600 mm
1591-1700 mm	700 mm
1701-1950 mm	1050 mm
1951-2200 mm	1050 mm
2200-2450 mm	1050 mm

3	SCHEREN	FFB	STANDARD
	Scheren 400	320-400 mm	
	Scheren 600	400-600 mm	
	Scheren 800	600-800 mm	
	Scheren 1050	800-1050 mm	1x
	Scheren 1300	1050-1300 mm	1x
	Scheren 1300	1300-1425 mm	1x

6	MITTELVERSCHLÜSSE	FFH	STANDARD
	Mittelverschlüsse 235	480-700 mm	1x
	Mittelverschlüsse 1280	700-840 mm	1x
	Mittelverschlüsse 140	840-1090 mm	
	Mittelverschlüsse 1280		1x
	Mittelverschlüsse 140	1090-1200 mm	
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 1280V	1200-1340 mm	1x
	Mittelverschlüsse 1280		1x
	Mittelverschlüsse 1500	1340-1450 mm	1x
	Mittelverschlüsse 140		
	Mittelverschlüsse 235		1x
	Mittelverschlüsse 1280V	1450-1950 mm	1x
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 1280V	1950-1700 mm	1x
	Mittelverschlüsse 140		
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 2200V	1700-1850 mm	2x
	Mittelverschlüsse 2200V	1850-1950 mm	2x
	Mittelverschlüsse 140		1x
	Mittelverschlüsse 2200V	1950-2000 mm	2x
	Mittelverschlüsse 235		1x
	Mittelverschlüsse 2200V	2000-2100 mm	2x
	Mittelverschlüsse 140		
	Mittelverschlüsse 235		1x
	Mittelverschlüsse 2200V	2100-2200 mm	2x
	Mittelverschlüsse 1280V		1x
	Mittelverschlüsse 2200V	2200-2300 mm	2x
	Mittelverschlüsse 1280		1x
	Mittelverschlüsse 2200V	2300-2450 mm	2x
	Mittelverschlüsse 140		
	Mittelverschlüsse 1280V		1x
	Mittelverschlüsse 2200V	2450-2500 mm	2x
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 2200V	2500-2600 mm	2x
	Mittelverschlüsse 140		
	Mittelverschlüsse 1500		1x

1	GETRIEBE	FFH	STANDARD
	Getriebe 660	430-660 mm	1x
	Getriebe 840	661-840 mm	2x
	Getriebe 1090	841-1090 mm	2x
	Getriebe 1340	1091-1340 mm	2x
	Getriebe 1590	1341-1590 mm	3x
	Getriebe 1700	1591-1700 mm	3x
	Getriebe 1950	1701-1950 mm	3x
	Getriebe 2200	1951-2200 mm	3x
	Getriebe 2450	2201-2450 mm	4x
	Getriebe 2450	2450-2600 mm	4x

9	MITTELVERSCHLÜSSE	FFH	STANDARD
	Mittelverschlüsse 235	480-700 mm	1x
	Mittelverschlüsse 140	700-800 mm	
	Mittelverschlüsse 325		1x
	Mittelverschlüsse 1280	800-900 mm	1x
	Mittelverschlüsse 140	900-1050 mm	
	Mittelverschlüsse 1280		1x
	Mittelverschlüsse 1500	1050-1150 mm	1x
	Mittelverschlüsse 140	1150-1300 mm	
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 325	1300-1425 mm	2x
	Mittelverschlüsse 1500		

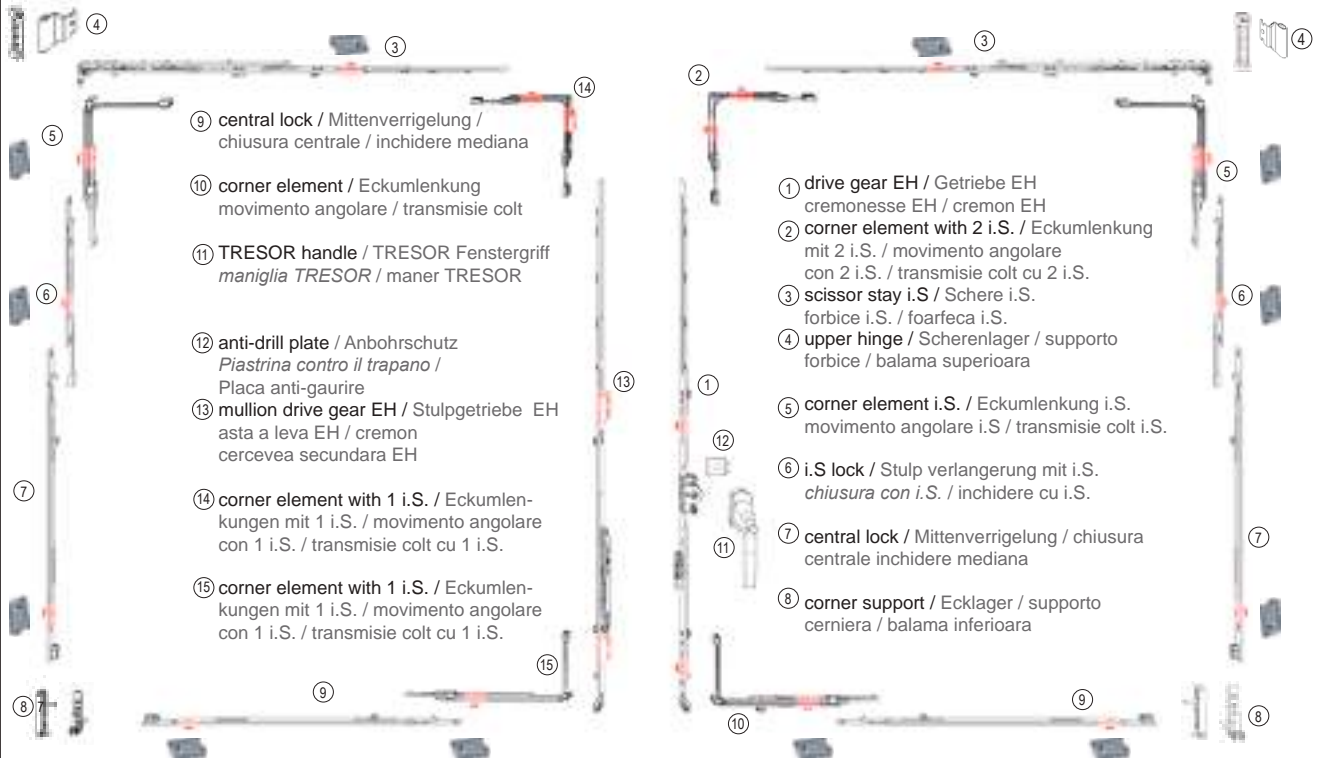
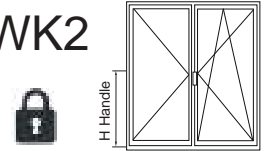
**Double Sash Tilt-Turn Fixed Handle Height RC2 (WK2)**

Zweiteilige Elemente DK, K-Getriebe RC2 (WK2)

2 Ante - Ribalta Maniglia Ribassata RC2 (WK2)

Fereastră in doua Canate Oscilo - Batantă Mâner Constant RC2 (WK2)

**WK2**



⑨ central lock / Mittenverriegelung /  
chiusura centrale / inchidere mediana

⑩ corner element / Eckumlengung  
movimento angolare / transmisie colt

⑪ TRESOR handle / TRESOR Fenstergriff  
maniglia TRESOR / maner TRESOR

⑫ anti-drill plate / Anbohrschutz  
Plastrina contro il trapano /  
Placa anti-gaurire

⑬ mullion drive gear EH / Stulpgetriebe EH  
asta a leva EH / cremon  
cercevea secundara EH

⑭ corner element with 1 i.S. / Eckumleng-  
kungen mit 1 i.S. / movimento angolare  
con 1 i.S. / transmisie colt cu 1 i.S.

⑮ corner element with 1 i.S. / Eckumleng-  
kungen mit 1 i.S. / movimento angolare  
con 1 i.S. / transmisie colt cu 1 i.S.

① drive gear EH / Getriebe EH  
cremonesse EH / cremon EH

② corner element with 2 i.S. / Eckumlengung  
mit 2 i.S. / movimento angolare  
con 2 i.S. / transmisie colt cu 2 i.S.

③ scissor stay i.S. / Schere i.S.  
forbice i.S. / foarfeca i.S.

④ upper hinge / Scherenlager / supporto  
forbice / balama superioara

⑤ corner element i.S. / Eckumlengung i.S.  
movimento angolare i.S. / transmisie colt i.S.

⑥ i.S lock / Stulp verlängerung mit i.S.  
chiusura con i.S. / inchidere cu i.S.

⑦ central lock / Mittenverriegelung / chiusura  
centrale inchidere mediana

⑧ corner support / Ecklager / supporto  
cerniera / balama inferioara

①	GETRIEBE	FFH	STANDARD
	drive gear 840	660-840 mm	2x
	drive gear 1090	841-1090 mm	2x
	drive gear 1340	1091-1340 mm	2x
	drive gear 1590	1341-1590 mm	3x
	drive gear 1700	1591-1700 mm	3x
	drive gear 1950	1701-1950 mm	3x
	drive gear 2200	1951-2200 mm	3x
	drive gear 2450	2201-2450 mm	4x
	drive gear 2450	2450-2600 mm	4x

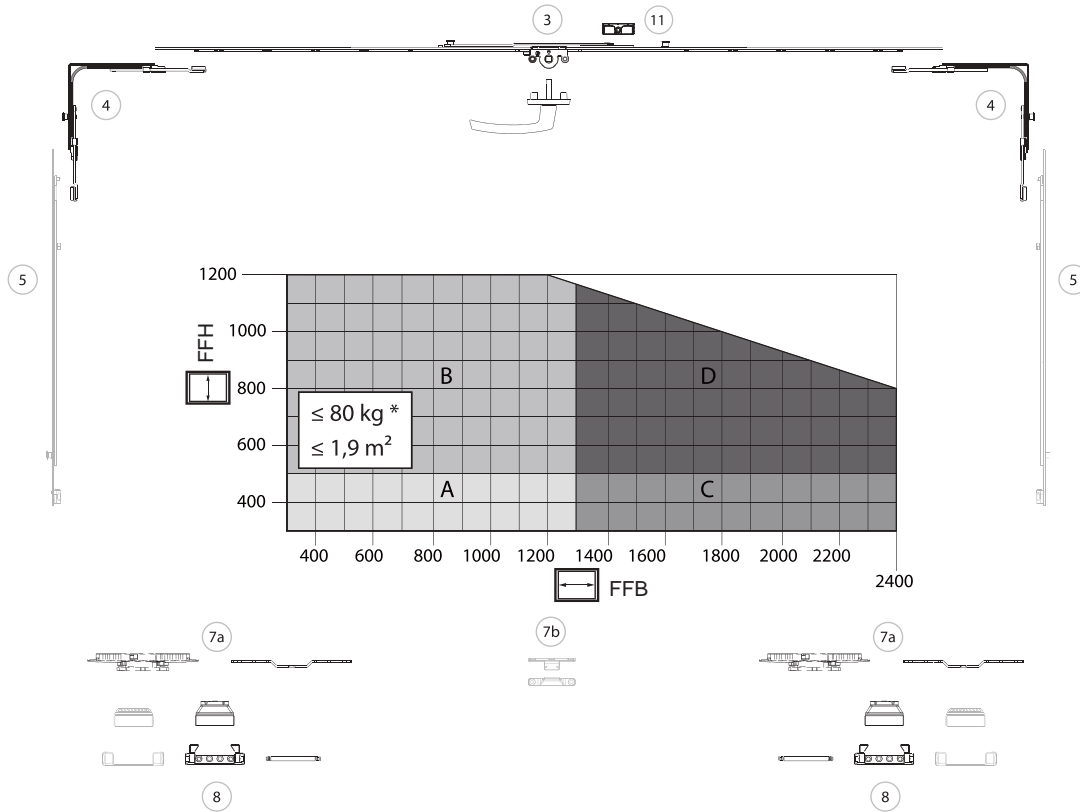
③	SCHEREN	FFB	STANDARD
	Scheren 400	320-400 mm	
	Scheren 600	400-600 mm	
	Scheren 800	600-800 mm	
	Scheren 1050 i.S.	800-1050 mm	1x
	Scheren 1300 i.S.	1050-1300 mm	1x

⑨	MITTELVERSCHLÜSSE	FFH	STANDARD
	Mittelverschlüsse 235	480-700 mm	1x
	Mittelverschlüsse 140	700-800 mm	
	Mittelverschlüsse 235	700-800 mm	1x
	Mittelverschlüsse 1280	800-900 mm	1x
	Mittelverschlüsse 140	900-1050 mm	
	Mittelverschlüsse 1280	900-1050 mm	1x
	Mittelverschlüsse 1500	1050-1150 mm	1x
	Mittelverschlüsse 140	1150-1300 mm	
	Mittelverschlüsse 1500	1150-1300 mm	1x
	Mittelverschlüsse 235	1300-1425 mm	1x
	Mittelverschlüsse 1500	1300-1425 mm	1x

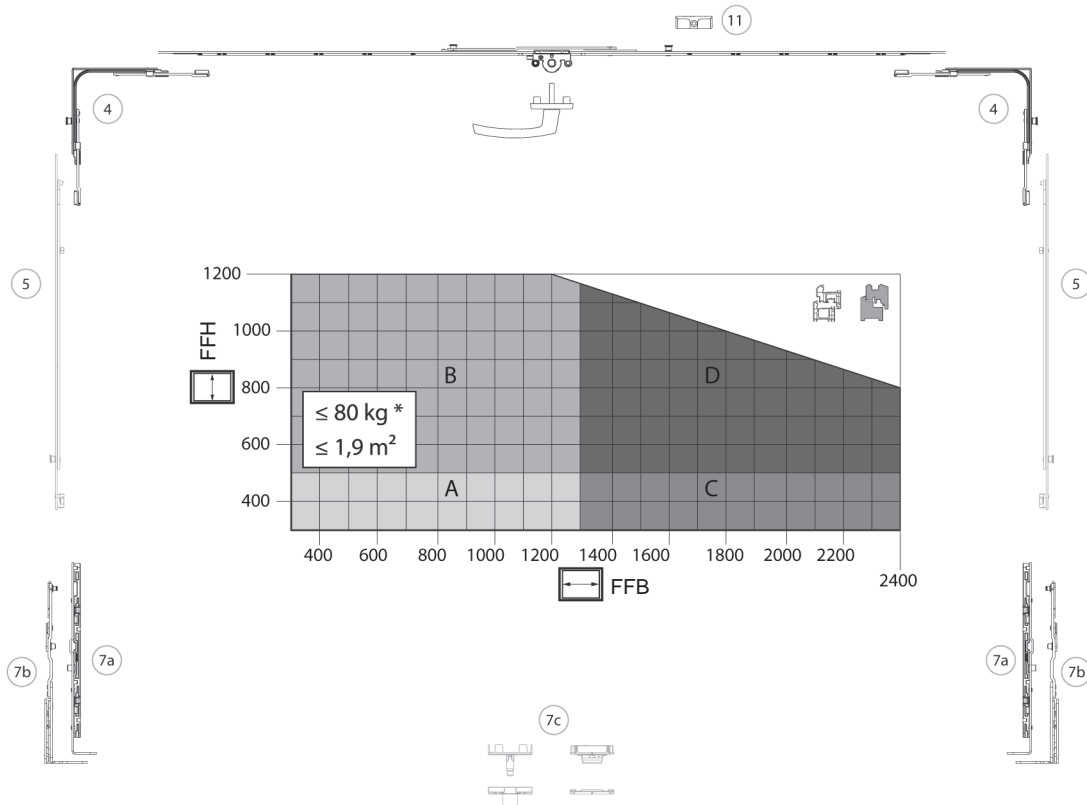
⑬	STULPGETRIEBE	FFH	
	Stulpgetriebe 840	660-840 mm	
	Stulpgetriebe 1090	841-1090 mm	
	Stulpgetriebe 1340	1091-1340 mm	
	Stulpgetriebe 1590	1341-1590 mm	
	Stulpgetriebe 1700	1591-1700 mm	
	Stulpgetriebe 1950	1701-1950 mm	
	Stulpgetriebe 2200	1951-2200 mm	
	Stulpgetriebe 2450	2201-2450 mm	
	Stulpgetriebe 2450	2450-2600 mm	

⑥	MITTELVERSCHLÜSSE	FFH	STANDARD
	Mittelverschlüsse 235	480-700 mm	1x
	Mittelverschlüsse 1280	700-840 mm	1x
	Mittelverschlüsse 140	840-1090 mm	
	Mittelverschlüsse 1280		1x
	Mittelverschlüsse 140	1090-1200 mm	
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 1280V	1200-1340 mm	1x
	Mittelverschlüsse 1280		1x
	Mittelverschlüsse 1500	1340-1450 mm	1x
	Mittelverschlüsse 140		
	Mittelverschlüsse 235		1x
	Mittelverschlüsse 1280V	1450-1950 mm	1x
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 1280V	1950-1700 mm	1x
	Mittelverschlüsse 140		
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 2200V	1700-1850 mm	2x
	Mittelverschlüsse 2200V	1850-1950 mm	2x
	Mittelverschlüsse 140		1x
	Mittelverschlüsse 2200V	1950-2000 mm	2x
	Mittelverschlüsse 235		1x
	Mittelverschlüsse 2200V	2000-2100 mm	2x
	Mittelverschlüsse 140		
	Mittelverschlüsse 235		1x
	Mittelverschlüsse 2200V	2100-2200 mm	2x
	Mittelverschlüsse 1280V		1x
	Mittelverschlüsse 2200V	2200-2300 mm	2x
	Mittelverschlüsse 1280		1x
	Mittelverschlüsse 2200V	2300-2450 mm	2x
	Mittelverschlüsse 140		
	Mittelverschlüsse 1280V		1x
	Mittelverschlüsse 2200V	2450-2500 mm	2x
	Mittelverschlüsse 1500		1x
	Mittelverschlüsse 2200V	2500-2600 mm	2x
	Mittelverschlüsse 140		
	Mittelverschlüsse 1500		1x

**Tilt only / Kipp - Fenster /**  
*Vasistas / Deschidere basculantă*



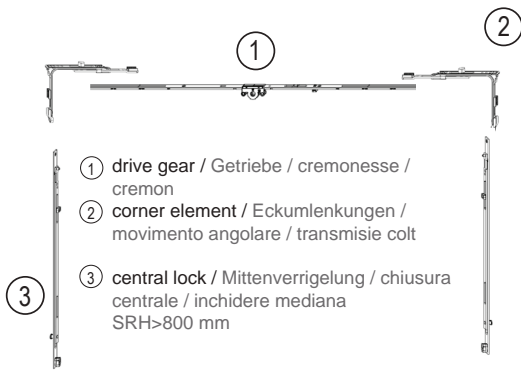
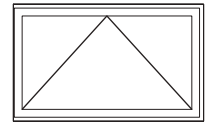
**Tilt only Concealed hinges / Kipp - Fenster Verdeckter Beschläge /**  
*Vasistas Cerniere a scomparsa / Deschidere basculantă Balamale ascunse*



- A = 1 tilt stay + restrictor and cleaning stay size 1.
- B = 1 tilt stay + restrictor and cleaning stay size 2.
- C = 2 tilt stays + restrictor and cleaning stay size 1.
- D = 2 tilt stays + restrictor and cleaning stay size 2.

**Tilt only / Kipp - Fenster /  
Vasistas / Deschidere basculantă**

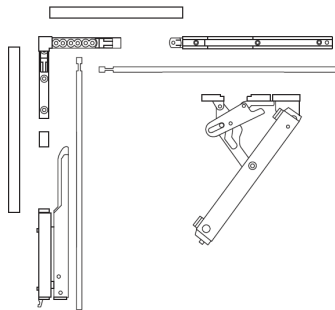
**Fan light opener with handle / Oberlichtbeschlag mit griffe / Vasistas con maniglia /  
Deschidere basculantă cu mâner**



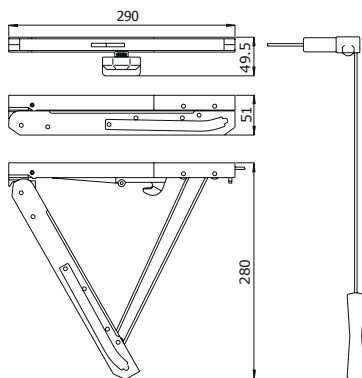
- ① drive gear / Getriebe / cremonesse / cremon
- ② corner element / Eckumlenkungen / movimento angolare / transmisie colt
- ③ central lock / Mittenerriegelung / chiusura centrale / inchidere mediana SRH>800 mm



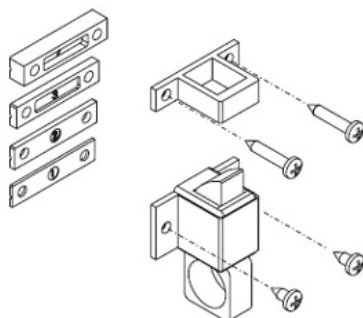
**Fan light opener with rod / Oberlichtöffner / Vasistas con asta /  
Deschidere basculantă cu Tijă**



**Fan light opener with cord / Schnurzug-Oberlichtöffner / Vasistas con corda /  
Deschidere basculantă cu coardă**

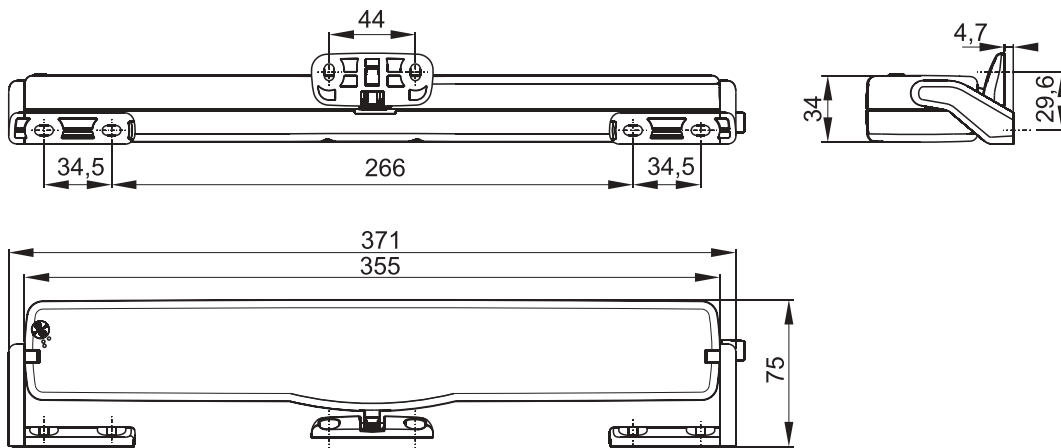
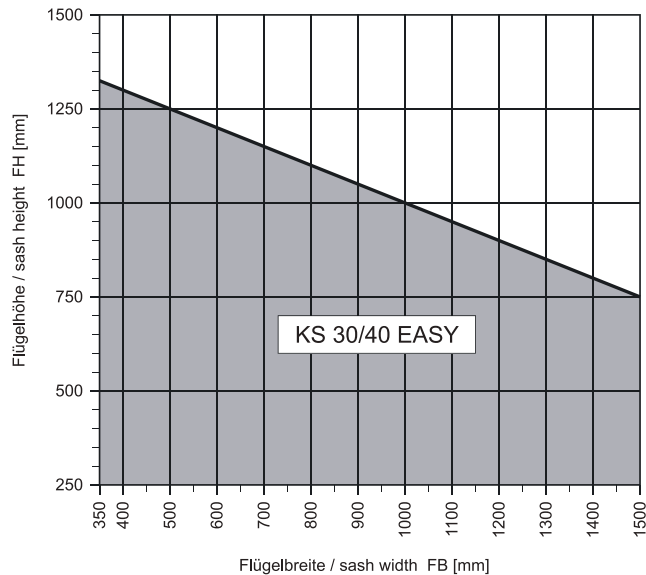


**Fanlight Catch / Oberlicht Schnapper / Vasistas con cricchetto / Deschidere basculantă cu snaper**

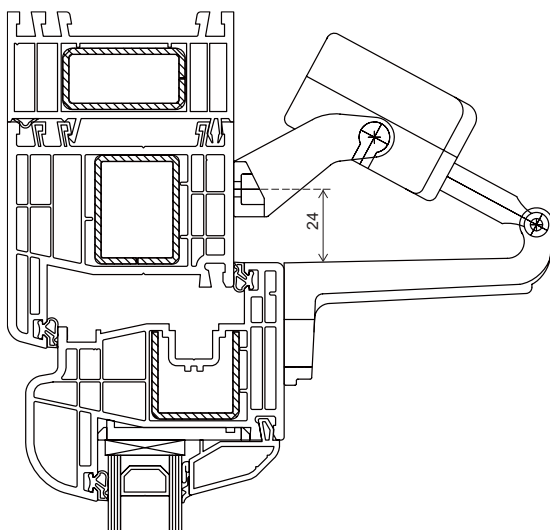


**Chain drives for Tilt-opening / Kattenantrieb für Kipp-Fenster /**  
Attuatore a catena per apertura vasistas / Motor cu lant pentru deschidere batanta

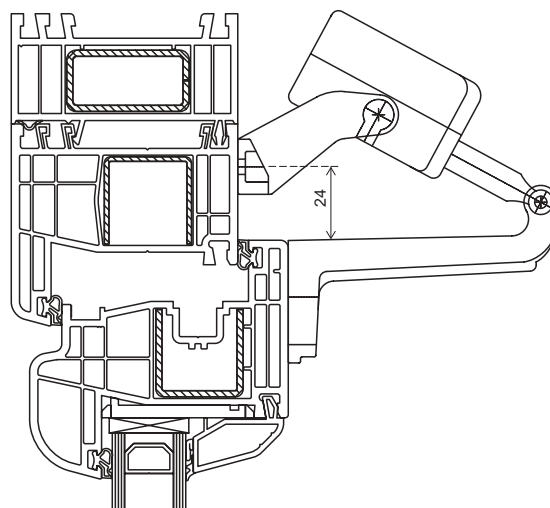
- Wide range of applications – Awning, Skylights up to 110kg and Hopper Windows
- Simplified installation, all mounting hardware is included
- Standard 240VAC with built-in transformer and 24VDC versions available
- Variable Stroke Adjustment: 110, 200, 300 and 400mm via DIP Switch setting
- High torque motor allows for large double glazed sashes while maintaining excellent sash pull-in
- Pivot mounts allow for low-height sashes (150mm Min.)
- Chain can be easily disconnected in case of emergency
- Torque-sensing integrated Microprocessor with Safety feature
- Self-diagnosis with LED indication of function or fault
- Single Remote Control allows for independent operation of up to 4 drive units
- Electronically Synchronised twin drive version for wide sashes
- Simultaneous operation of multiple drives electrically connected in parallel
- Multi-layer corrosion protection for the chain



1. Door frame profile



2. Window frame profile



**Chain drives for Tilt-opening / Kattenantrieb für Kipp-Fenster /**  
 Attuatore a catena per apertura vasistas / Motor cu lant pentru deschidere batanta

Chain drive, 230V	Code	Push/pull force	Stroke speed	Current consumption at nominal load	FI
<b>Eltral KS 30/40 EASY, Stroke (adjustable) 240 mm or 360 mm</b>					
Eltral KS 30/40 easy, white	K-18171-00-0-7	250 N	13.5 mm/s	0.18 A	1,000 N
Eltral KS 30/40 easy, black	K-18171-00-0-6	250 N	13.5 mm/s	0.18 A	1,000 N
Eltral KS 30/40 easy, gray	K-18171-00-0-1				1000 N
<b>Eltral KS 30/40, Stroke (adjustable) 100/200/300/400 mm</b>					
Eltral KS 30/40, color white	K-17433-00-0-7	300 N	12.0 mm/s	0.12 A	1,000 N
Eltral KS 30/40, color black	K-17433-00-0-6	300 N	12.0 mm/s	0.12 A	1,000 N
Eltral KS 30/40, color gray	K-17433-00-0-1				1000 N
<b>Eltral KS 30/40 FUNK, Stroke (adjustable) 100/200/300/400 mm with remote control</b>					
Eltral KS 30/40 FUNK-remote, color white	K-19045-00-0-7	300 N	12.0 mm/s	0.12 A	1,000 N
Eltral KS 30/40 FUNK-remote, color black	K-19045-00-0-6	300 N	12.0 mm/s	0.12 A	1,000 N
Eltral KS 30/40 FUNK-remote, color gray	K-19045-00-0-1	300 N	12.0 mm/s	0.12 A	1,000 N
Remote control (4 actuators)	K-19046-00-0-0				
<b>Eltral KS 30/40, Stroke (adjustable) 100/200/300/400 mm syncro</b>					
Eltral KS 30/40-set 2 drives, white	K-17435-02-0-7	300 N	12.0 mm/s	0.12 A	1,000 N
Eltral KS 30/40-set 2 drives, black	K-17435-02-0-6	300 N	12.0 mm/s	0.12 A	1,000 N
Eltral KS 30/40-set 2 drives, gray	K-17435-02-0-1	300 N	12.0 mm/s	0.12 A	1,000 N
<b>Eltral K 30, Stroke (adjustable) 200/300/400/500 mm</b>					
Eltral K 30, zinc case, silver	K-17834-00-0-1	300 N	12.5 mm/s	0.16 A	2,000 N
Eltral K 30, zinc case, black	K-17834-00-0-6	300 N	12.5 mm/s	0.16 A	2,000 N
Eltral K 30, zinc case, white	K-17834-00-0-7	300 N	12.5 mm/s	0.16 A	2,000 N
Sash console	K-17841-00-0-1				
Frame console	K-18157-00-0-1				
<b>Eltral K 30, Stroke (adjustable) 200/300/400/500 mm-syncro</b>					
Eltral K 30- zinc case, silver	K-17835-00-0-1	300 N	12.5 mm/s	0.16 A	2,000 N
Eltral K 30- zinc case, black	K-17835-00-0-6	300 N	12.5 mm/s	0.16 A	2,000 N
Eltral K 30- zinc case, white	K-17835-00-0-7	300 N	12.5 mm/s	0.16 A	2,000 N
Sash console	K-17841-00-0-1				
Frame console	K-18157-00-0-1				
<b>Eltral K 60</b>					
Eltral K 60, drive 250 mm, silver	K-17649-25-0-1	600 N	10.0 mm/s	0.20 A	3,000 N
Eltral K 60, drive 400 mm, silver	K-17649-40-0-1	600 N	10.0 mm/s	0.20 A	3,000 N
Common console	K-17596-00-0-8				

Chain drive, 24V	Code	Push/pull force	Stroke speed	Current consumption at nominal load	FI
<b>Eltral KS 30/40, Stroke (adjustable) 100/200/300/400 mm NO CERTIFICATE</b>					
Eltral KS 30/40, color white	K-17434-00-0-7	300 N	12.0 mm/s	0.90 A	1,000 N
Eltral KS 30/40, color black	K-17434-00-0-6	300 N	12.0 mm/s	0.90 A	1,000 N
Eltral KS 30/40, color gray	K-17434-00-0-1	300 N	12.0 mm/s	0.90 A	1,000 N
<b>Eltral KS 30/40, Stroke (adjustable) 100/200/300/400 mm syncro</b>					
Eltral KS 30/40-set 2 drives, white	K-17436-02-0-7	300 N	12.0 mm/s	1.80 A	1,000 N
Eltral KS 30/40-set 2 drives, black	K-17436-02-0-6	300 N	12.0 mm/s	1.80 A	1,000 N
Eltral KS 30/40-set 2 drives, gray	K-17436-02-0-1	300 N	12.0 mm/s	1.80 A	1,000 N
<b>Eltral K 30, Stroke (adjustable) 200/300/400/500 mm WITH CERTIFICATE</b>					
Eltral K 30, zinc case, silver	K-17832-00-0-1	300 N	12.5 mm/s	0.90 A	2,000 N
Eltral K 30, zinc case, black	K-17832-00-0-6	300 N	12.5 mm/s	0.90 A	2,000 N
Eltral K 30, zinc case, white	K-17832-00-0-7	300 N	12.5 mm/s	0.90 A	2,000 N
Sash console	K-17841-00-0-1				
Frame console	K-18157-00-0-1				
<b>Eltral K 30, Stroke (adjustable) 200/300/400/500 mm-syncro</b>					
Eltral K 30- zinc case, silver	K-17833-00-0-1	300 N	12.5 mm/s	1.80 A	2,000 N
Eltral K 30- zinc case, black	K-17833-00-0-6	300 N	12.5 mm/s	0.16 A	2,000 N
Eltral K 30- zinc case, white	K-17833-00-0-7	300 N	12.5 mm/s	0.16 A	2,000 N
Sash console	K-17841-00-0-1				
Frame console	K-18157-00-0-1				
<b>Eltral K 60</b>					
Eltral K 60, drive 250 mm, silver	K-17648-25-0-1	600 N	10.0 mm/s	0.80 A	3,000 N
Eltral K 60, drive 400 mm, silver	K-17648-40-0-1	600 N	10.0 mm/s	0.80 A	3,000 N
Eltral K 60, drive 500 mm, silver	K-17648-50-0-1	600 N	10.0 mm/s	0.80 A	3,000 N
Eltral K 60, drive 600 mm, silver	K-17648-60-0-1	600 N	10.0 mm/s	0.80 A	3,000 N
Eltral K 60, drive 800 mm, silver	K-17648-80-0-1	600 N	10.0 mm/s	0.80 A	3,000 N
Common console	K-17596-00-0-8				
<b>Eltral K 60 syncro</b>					
Eltral K 60, drive 250 mm, silver	K-17583-25-0-1	600 N	10.0 mm/s	1.60 A	3,000 N
Eltral K 60, drive 400 mm, silver	K-17583-40-0-1	600 N	10.0 mm/s	1.60 A	3,000 N
Eltral K 60, drive 500 mm, silver	K-17583-50-0-1	600 N	10.0 mm/s	1.60 A	3,000 N
Eltral K 60, drive 600 mm, silver	K-17583-60-0-1	600 N	10.0 mm/s	1.60 A	3,000 N



**UNITAS Horizontal Pivot hardware** / Schwingbeschläge UNITAS / *Ferramenta per bilico orizzontale*  
 UNITAS / Feronerie pivotantă orizontal UNITAS


**Useful and practical: The sash can be pivoted by 180° in one go. When turned inside, the outside can be cleaned very conveniently.**

- An adjustable sash brake in the pivot holds the sash safely in any ventilation position
- Superior tightness thanks to a silicone gasket on the pivot
- With ferGUard\*silver surface sealing for durable corrosion protection

Besonders praktisch: Der Flügel lässt sich in einem Zug um 180° schwingen. Die Außenseite kommt nach innen und lässt sich bequem reinigen.

- Eine einstellbare Flügelbremse im Schwinglager hält den Flügel sicher in jeder Lüftungsstellung
- Hohe Dichtigkeit durch Silikondichtung
- Mit Oberflächenversiegelung ferGUard\*silber für dauerhaften Korrosionsschutz

*Massima praticità: con un solo movimento l'anta oscilla intorno all'asse orizzontale. La parte esterna diventa interna e può essere pulita in modo facile e agevole.*

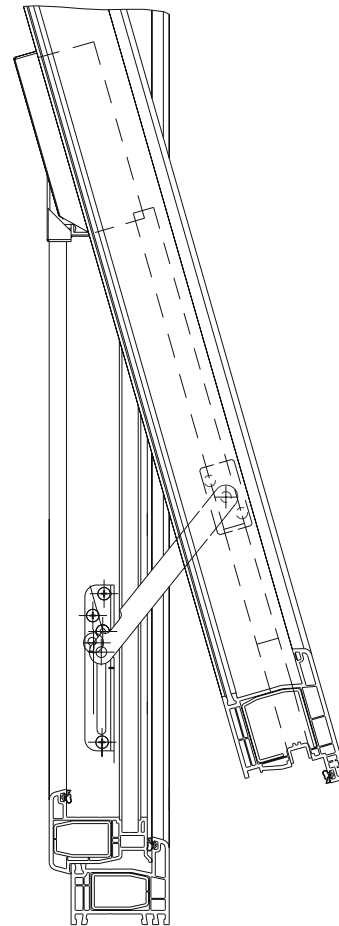
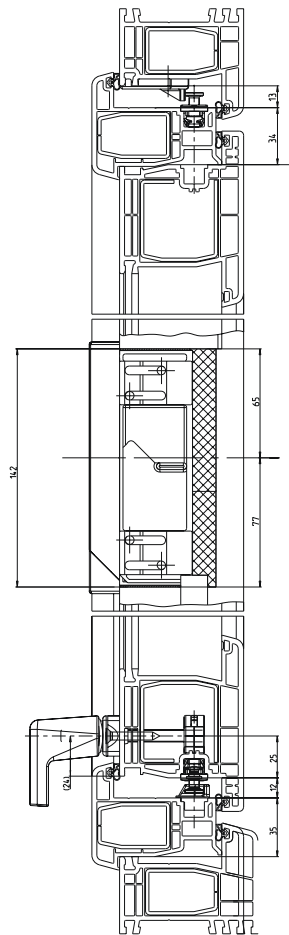
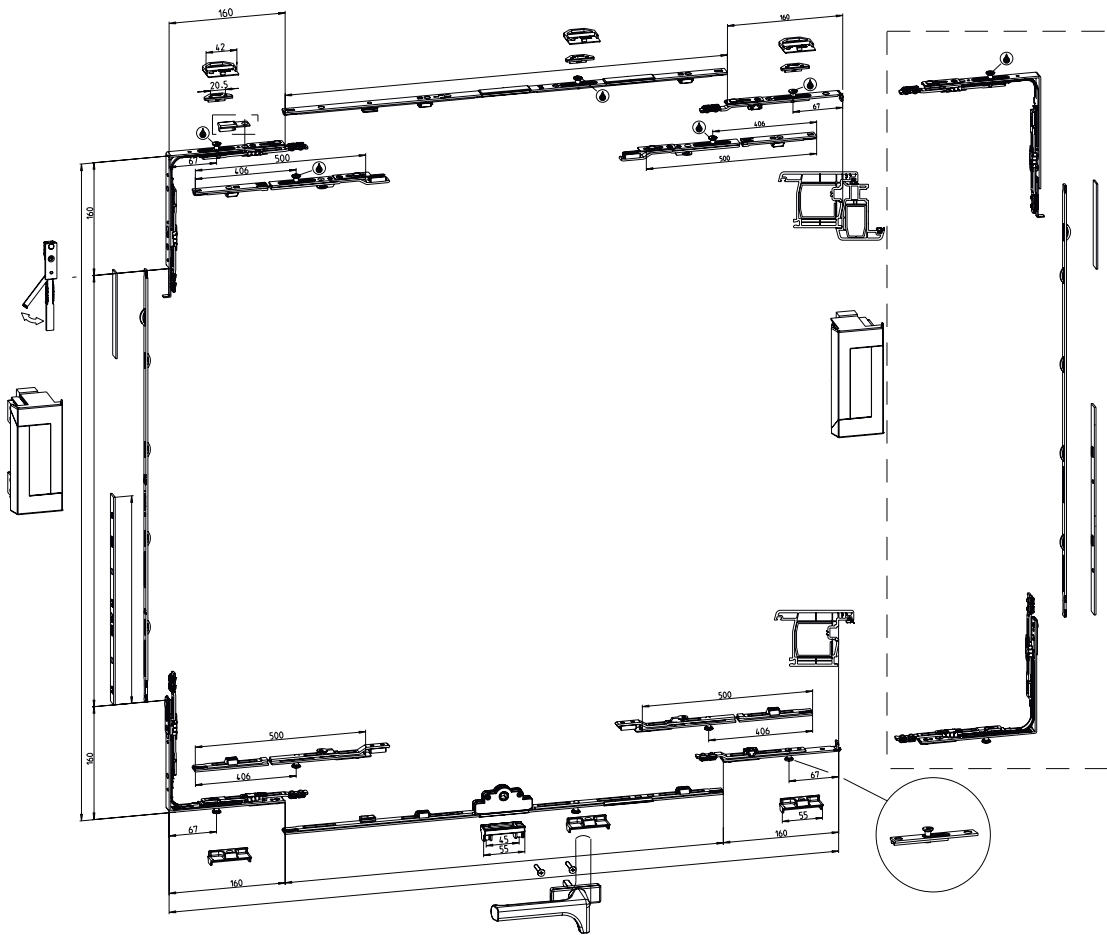
- *Il freno regolabile nel bilico orizzontale mantiene l'anta in ogni posizione di aerazione in modo sicuro*
- *Elevata tenuta grazie alla guarnizione in silicone*
- *Con sigillatura della superficie ferGUard\*silver per una protezione anticorrosione duratura*

Deosebit de practic: canatul poate fi pivotat orizontal cu 180° cu o singură mișcare. Partea exterioară va ajunge în interior și poate fi curățată foarte comod.

- O frână reglabilă a canatului, aflată în lagărul de pivotare, menține canatul în siguranță în orice poziție de ventilare
- Grad înalt de etanșare datorită garniturilor de etanșare din silicon
- Cu sigilare de suprafață ferGUard\* argintiu pentru o protecție anticorozivă de durată

**Technical data** / Technische daten / *Dati tecnici* / Date tehnice

Designation/ Bezeichnung/ Descrizione/ Denumire	Max. sash weight [kg] / Max Flügel gewicht/ <i>Peso massimo anta</i> / Greutatea maxima a canaturilor	Max. sash rebate weight [mm] / Max Flügelfalz breite/ <i>Max. laghezza batante in batuta</i> / Latimea maxima a faltului canatului	Max. sash rebate height [mm] / Max Flügelfalzhöhe/ <i>Max. altezza batante in batuta</i> / Inaltimea maxima a faltului canatului
<b>UNITAS 16</b>	<b>175</b>	<b>2950</b>	<b>2200</b>



**Parallel Slide-Tilt door / Parallel-Schiebe-Kipptür /**  
Scorrevole a ribalta / Culisant - Batantă în plan paralel

# ATRIUM HKS® 160 S

Tilt and slide fitting ATRIUM HKS® 160 S, upgradable to Resistance category RC2, or SKG\*\*.  
All-around URZ cam with automatic adjustment to fittings cavity tolerances.  
With one-hand operation.  
For window elements made of timber or PVC profiles for sash weights up to 160 kg, assembly-ready screw-on components.  
Central locking concealed and installed fixed with adjustable sash closing pressure.  
Free choice between locking and not locking when sash is closed.

Upper stay system separated from the central locking, lower corners with spring-loaded catches for automatic sash engagement, anti-slam device in both stay arms.  
Bogies with cleaning brushes for clean bottom track.  
Sliding sash adjustable thanks to height adjustment, upper guide track with PVC cover profile, flat aluminium bogie cover (31 mm), LM handle.

Kipp-Schiebe-Beschlag ATRIUM HKS® 160 S aufrüstbar auf Widerstandsklasse RC2, bzw. SKG\*\*.  
Umlaufender Universal-Riegel-Zapfen URZ mit automatischer Anpassung an Falzluft-Toleranzen.  
Mit Eingriff-Bedienung.  
Für Fensterelemente aus normalen Holz oder Kunststoff-Profilen bis 160 kg Flügelgewicht, montagefertige Bauteile zum Aufschrauben. Montagefixierter, verdeckt liegender Zentralverschluss mit einstellbarem Flügelndruck.  
Freie Wahl zwischen Einrasten und Nichteinrasten beim Schließen.

Oberes Gleitscheren-Bauteil vom Zentralverschluss getrennt, untere Eckumlenkungen mit Schnäpper für automatisches Einrasten des Flügels, Zuschlagsicherung in beiden Scherenarmen.  
Laufwerke mit Reinigungsbürsten für saubere Laufschienenspur.  
Schiebeflügel durch Höhenverstellung einregulierbar, obere Führungsschiene mit PVC-Abdeckprofil, flache Alu-Abdeckung der Laufwerke (31 mm), LM-Griff.

**Windows Sash Maximum Sizes PSK / PSK Fenster Flügelgrößen Diagramme / Campi**  
d'applicazione Anta Finestra PSK / Dimensiuni Maximale Cercevea PSK

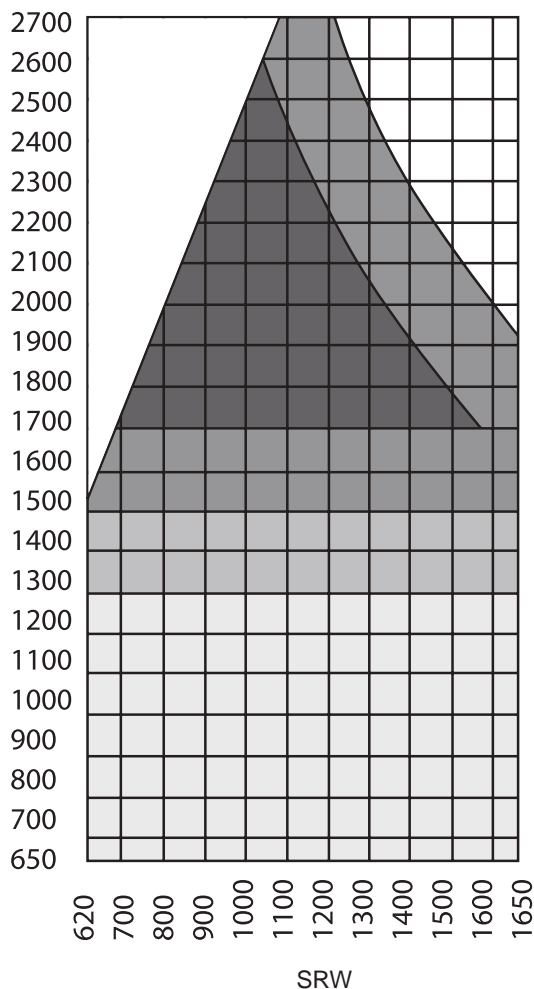
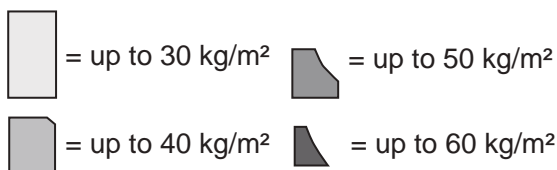
**Sash weight / < 160 kg**  
Flügelgewicht /  
Peso anta /  
Greutate cercevea

**Sash rebate Width / = 620 -1650 mm**  
Flügelalzbreite /  
Larghezza anta /  
Lățime falț cercevea

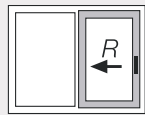
**Sash rebate Height / = 650 -2700 mm**  
Flügelalzhöhe /  
Altezza anta /  
Înălțime falț cercevea

SRH - Sash Rebate height  
SRW - Sash Rebate width

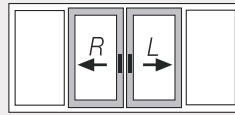
SRH



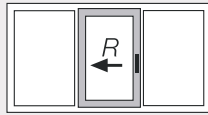
Opening Types / Öffnungsarten / Tipologie di aperture / Tipologie deschideri



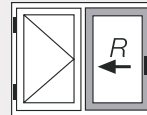
**Scheme A**  
Two-part element:  
1 Sliding sash (L or R)



**Scheme C**  
Four-part element:  
2 sliding sashes (L and R) WITH  
mounting posts between HKS elements



**Scheme G**  
Three-part element:  
1 Sliding sash (L or R)



**Scheme C\***  
Four-part element:  
2 sliding sashes (L and R) WITHOUT  
mounting posts between HKS elements

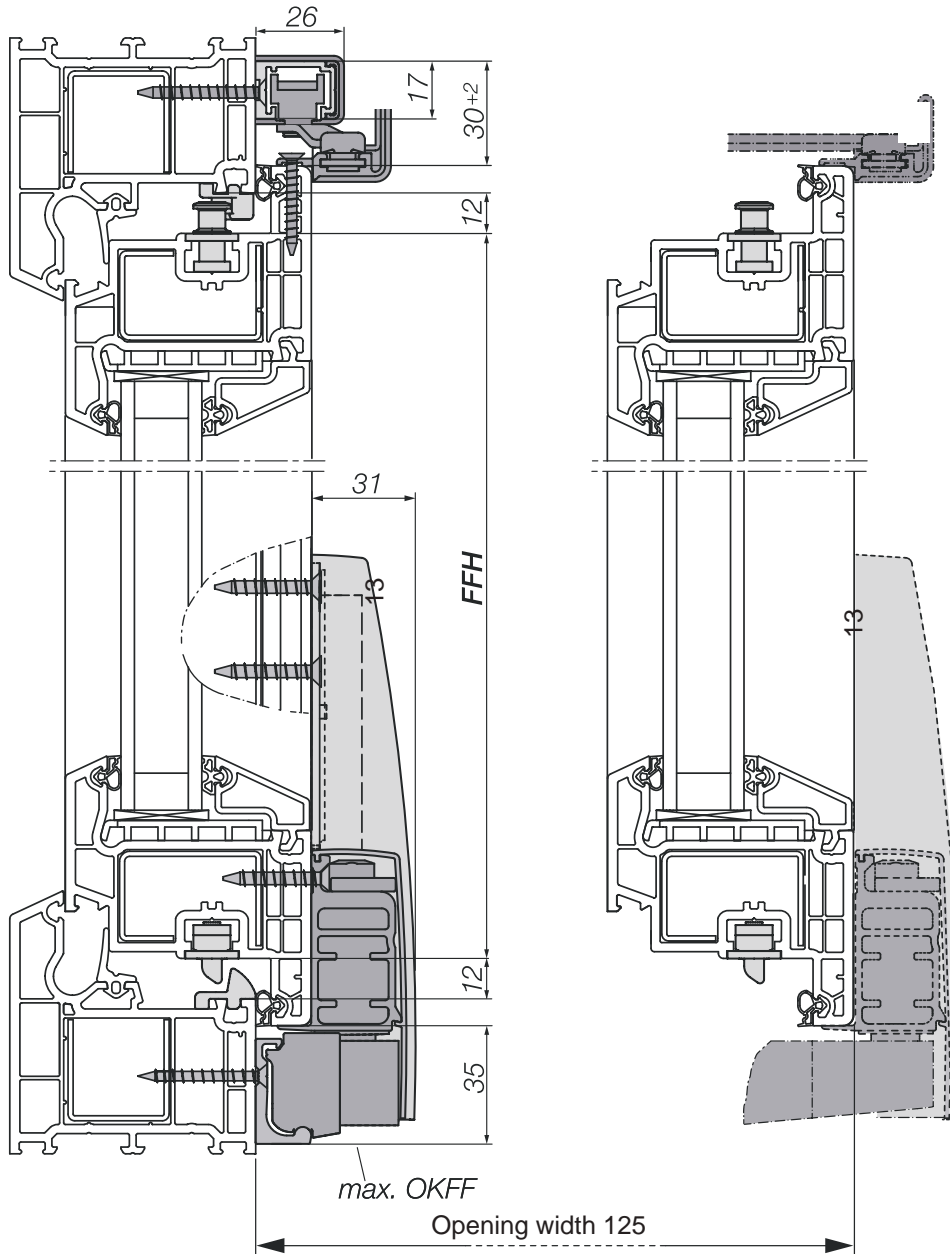
**Scheme A**  
Two-part element:  
1 sliding sash (L or R)  
1 side hung sash



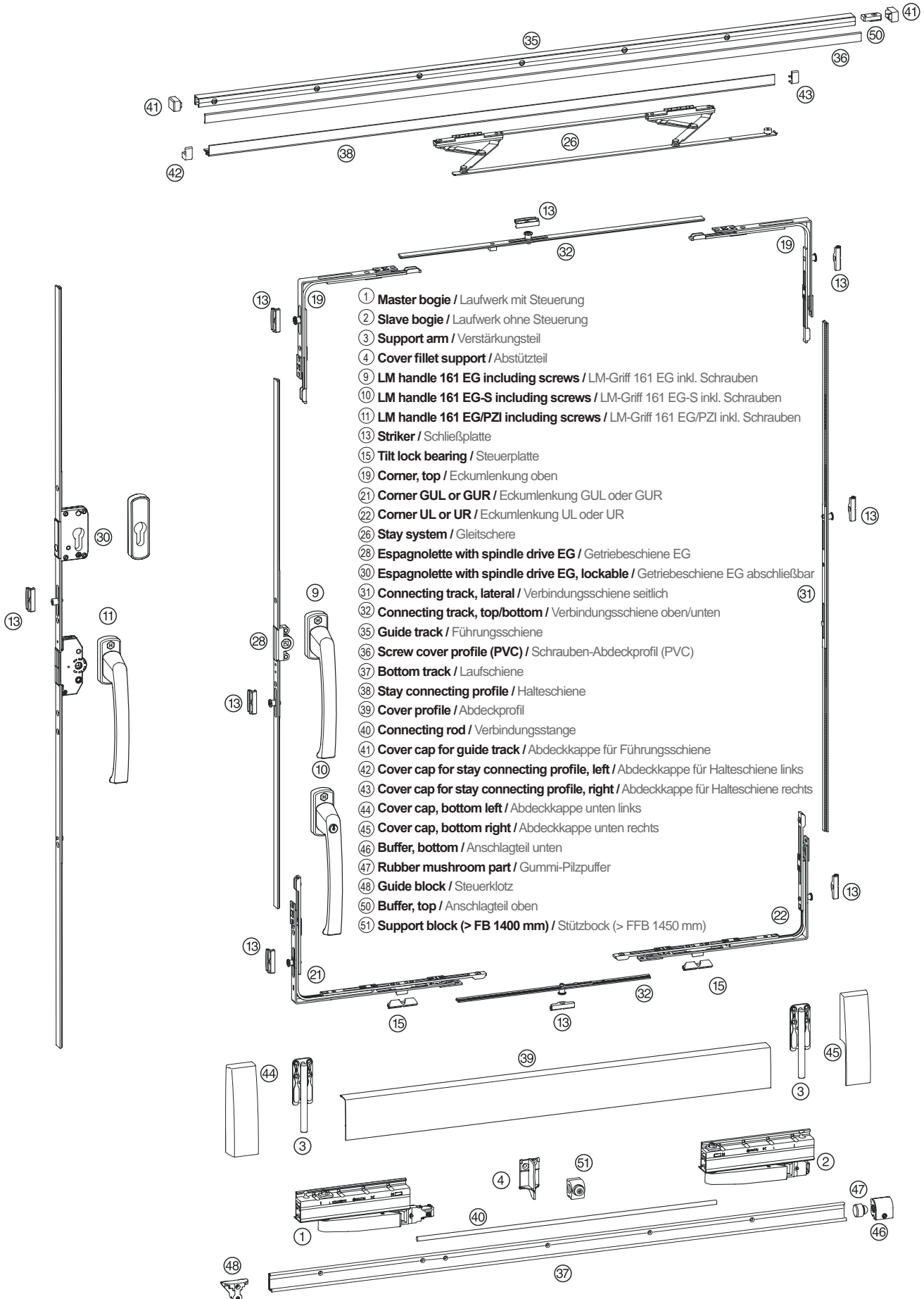
**Scheme K**  
Three-part element:  
2 Sliding sashes (L and R)



Sliding element in front of the wall  
Scheme A



**ATRIUM HKS® 160 S**



**Parallel Slide-Tilt door / Parallel-Schiebe-Kipptür /**  
*Scorrevole a ribalta / Culisant - Batantă în plan paralel*

# ATRIUM HKS® 200 Z

**Tilt and slide fitting ATRIUM HKS® 200 Z, upgradable to Resistance category RC2, or SKG\*\*.**  
**All-around URZ cam with automatic adjustment to fittings cavity tolerances.**  
**With one-hand operation.**  
**For door and window elements made of timber and PVC profiles for sash weights up to 200 kg, assembly-ready screw-on components. Central locking concealed and installed fixed with adjustable sash closing pressure.**

Kipp-Schiebe-Beschlag ATRIUM HKS® 200 Z aufrüstbar auf Widerstandsklasse RC2, bzw. SKG\*\*.  
Umlaufender Universal-Riegel-Zapfen URZ mit automatischer Anpassung an Falzluft-Toleranzen.  
Mit Eingriff-Bedienung.  
Für Tür- und Fensterelemente aus normalen Holz oder Kunststoff-Profilen bis 200 kg Flügengewicht, montagefertige Bauteile zum Aufschrauben. Montagefixierter, verdeckt liegender Zentralverschluss mit einstellbarem Flügelandruck.

**Automatically operated stays with locked tilt position, free choice between locking and not locking when sash is closed.**  
**Automatic locking in the stays.**  
**Anti-mishandling device HAUTAU onTop.**  
**Sliding sash adjustable thanks to height adjustment, bogies with cleaning brushes for clean bottom track, upper guide track with PVC cover profile, flat aluminium bogie cover (31 mm), LM handle "HAUTAU-Design".**

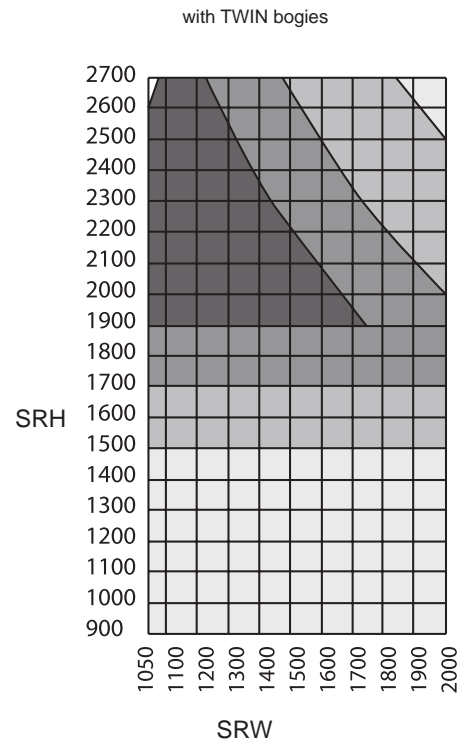
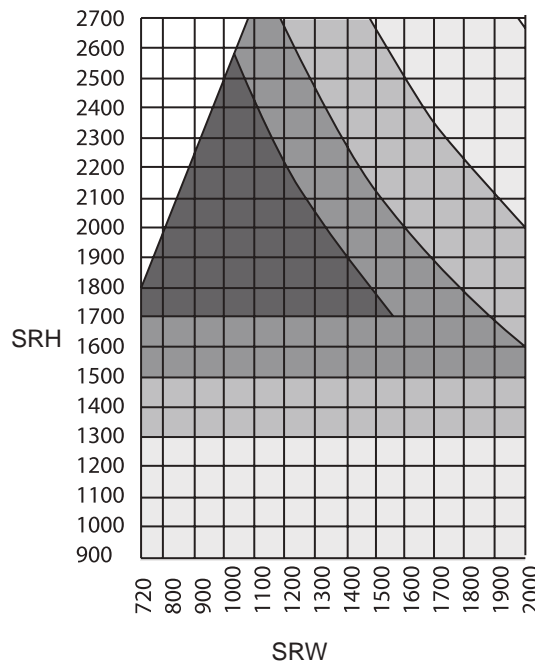
Zwangsgesteuerte Scheren und verriegelte Kippstellung, freie Wahl zwischen Einrasten und Nichteinrasten beim Schließen.  
Zwangsverriegelung in den Scheren.  
Fehlbedienungssperre HAUTAU onTop.  
Schiebeflügel durch Höhenverstellung einregulierbar, Laufwerke mit Reinigungsbürsten für saubere Laufschienspur,  
obere Führungsschiene mit PVC-Abdeckprofil, flache Alu-Abdeckung der Laufwerke (31 mm), LM-Griff "HAUTAU-Design".

**Windows Sash Maximum Sizes PSK / PSK Fenster Flügelgrößen Diagramme / Campi d'applicazione Anta Finestra PSK / Dimensiuni Maximale Cercevea PSK**

**Sash weight**  
I < 160 kg (<200 kg)\*  
Flügelgewicht /  
Peso anta /  
Greutate cercevea

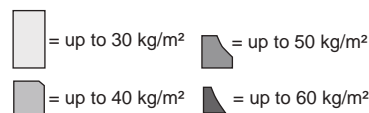
**Sash rebate Width**  
I = 720 -2000 mm  
(1050-2000 mm)\*  
Flügelfalzbreite /  
Larghezza anta /  
Lățime falț cercevea

**Sash rebate Height**  
I = 900 -2700 mm  
(900-2700 mm)\*  
Flügelfalzhöhe /  
Altezza anta /  
Înălțime falț cercevea

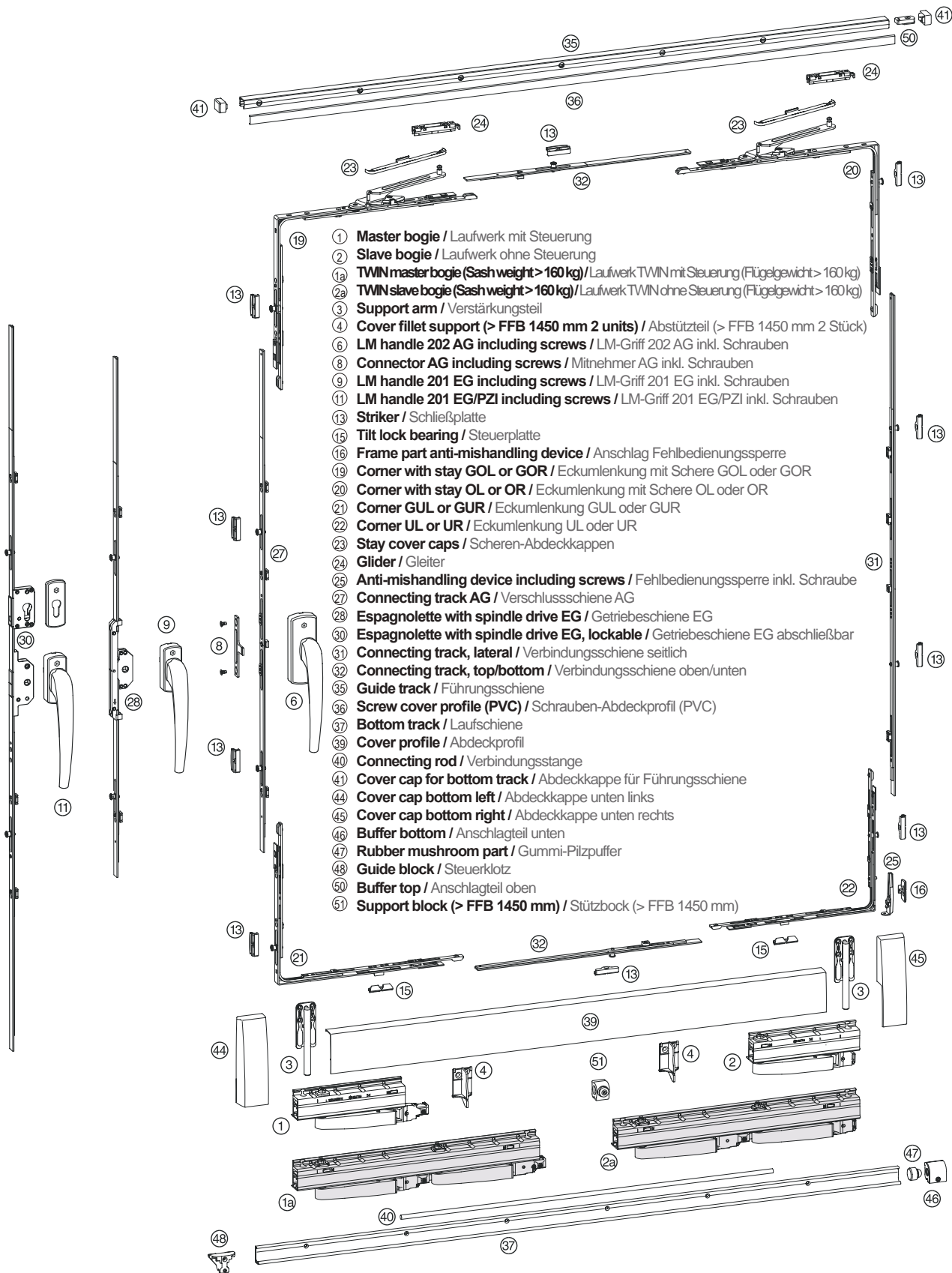


\*with TWIN bogies

SRH - Sash Rebate height  
SRW - Sash Rebate width

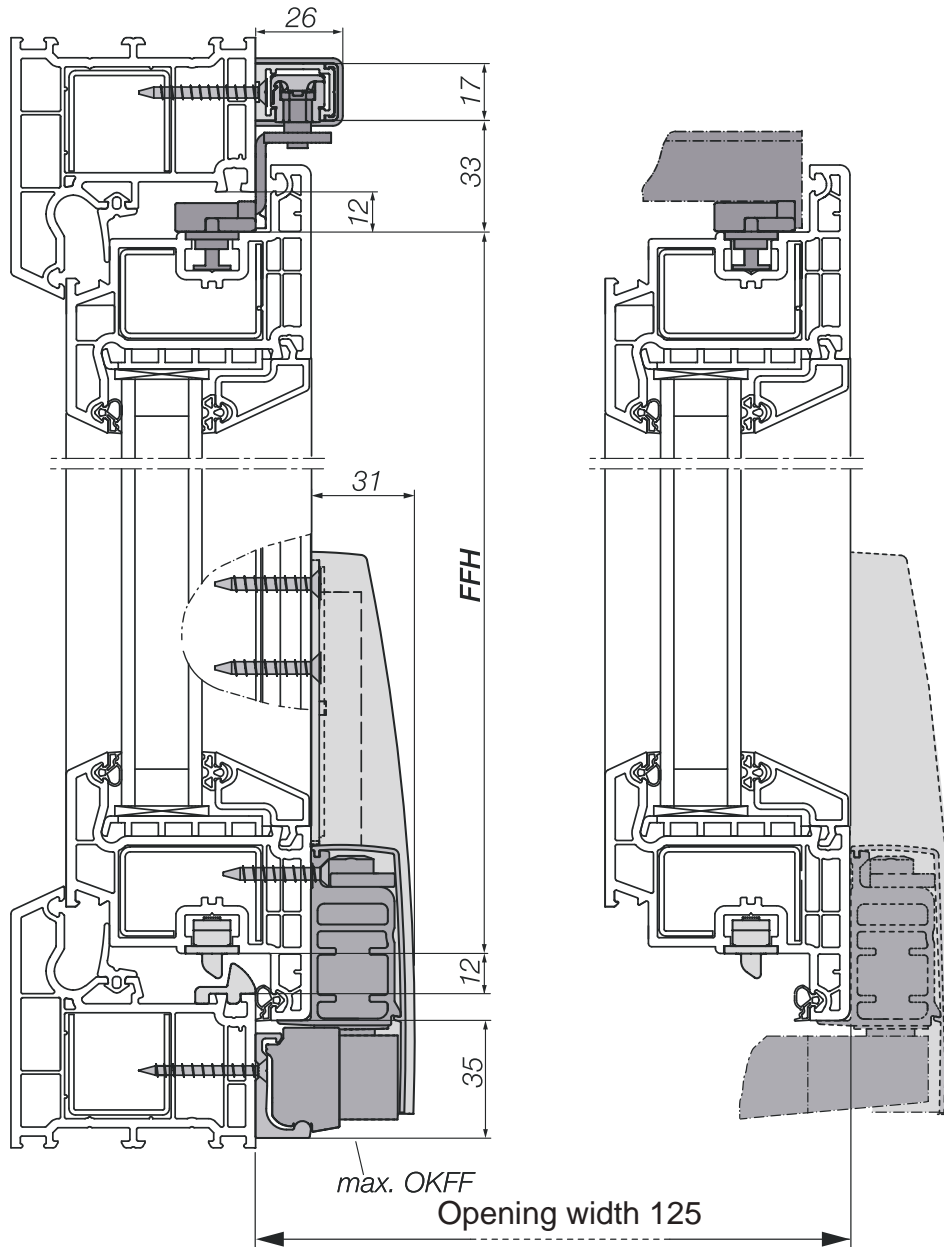
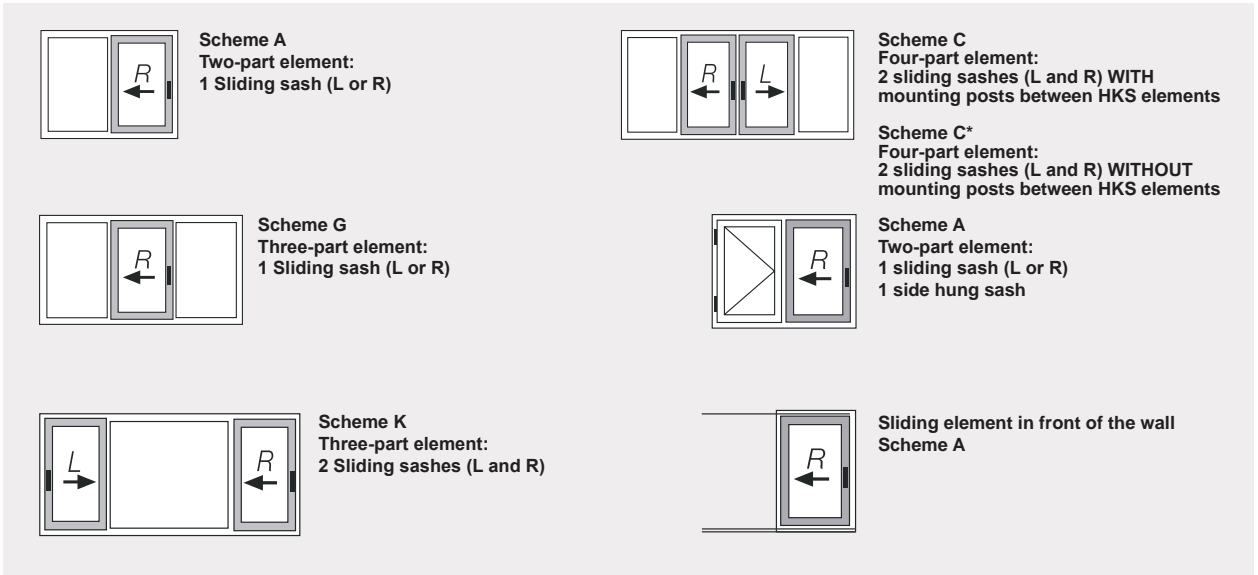


ATRIUM HKS® 200 Z



- ① Master bogie / Laufwerk mit Steuerung
- ② Slave bogie / Laufwerk ohne Steuerung
- ①a TWIN master bogie (Sash weight > 160 kg) / Laufwerk TWIN mit Steuerung (Flügelgewicht > 160 kg)
- ②a TWIN slave bogie (Sash weight > 160 kg) / Laufwerk TWIN ohne Steuerung (Flügelgewicht > 160 kg)
- ③ Support arm / Verstärkungsteil
- ④ Cover fillet support (> FFB 1450 mm 2 units) / Abstützteil (> FFB 1450 mm 2 Stück)
- ⑥ LM handle 202 AG including screws / LM-Griff 202 AG inkl. Schrauben
- ⑧ Connector AG including screws / Mitnehmer AG inkl. Schrauben
- ⑨ LM handle 201 EG including screws / LM-Griff 201 EG inkl. Schrauben
- ⑪ LM handle 201 EG/PZI including screws / LM-Griff 201 EG/PZI inkl. Schrauben
- ⑬ Striker / Schließplatte
- ⑮ Tilt lock bearing / Steuerplatte
- ⑯ Frame part anti-mishandling device / Anschlag Fehlbedienungssperre
- ⑲ Corner with stay GOL or GOR / Eckumlenkung mit Schere GOL oder GOR
- ⑳ Corner with stay OL or OR / Eckumlenkung mit Schere OL oder OR
- ㉑ Corner GUL or GUR / Eckumlenkung GUL oder GUR
- ㉒ Corner UL or UR / Eckumlenkung UL oder UR
- ㉓ Stay cover caps / Scheren-Abdeckkappen
- ㉔ Gliders / Gleiter
- ㉕ Anti-mishandling device including screws / Fehlbedienungssperre inkl. Schraube
- ㉗ Connecting track AG / Verschlusschiene AG
- ㉘ Espagnolette with spindle drive EG / Getriebeschiene EG
- ㉚ Espagnolette with spindle drive EG, lockable / Getriebeschiene EG abschließbar
- ㉛ Connecting track, lateral / Verbindungsschiene seitlich
- ㉜ Connecting track, top/bottom / Verbindungsschiene oben/unten
- ㉝ Guide track / Führungsschiene
- ㉞ Screw cover profile (PVC) / Schrauben-Abdeckprofil (PVC)
- ㉟ Bottom track / Laufschiene
- ㊱ Cover profile / Abdeckprofil
- ㊲ Connecting rod / Verbindungsstange
- ㊳ Cover cap for bottom track / Abdeckkappe für Führungsschiene
- ㊴ Cover cap bottom left / Abdeckkappe unten links
- ㊵ Cover cap bottom right / Abdeckkappe unten rechts
- ㊶ Buffer bottom / Anschlagteil unten
- ㊷ Rubber mushroom part / Gummi-Pilzpuffer
- ㊸ Guide block / Steuerklotz
- ㊹ Buffer top / Anschlagteil oben
- ㊺ Support block (> FFB 1450 mm) / Stützbock (> FFB 1450 mm)

Opening Types / Öffnungsarten / Tipologie di aperture / Tipologie deschideri



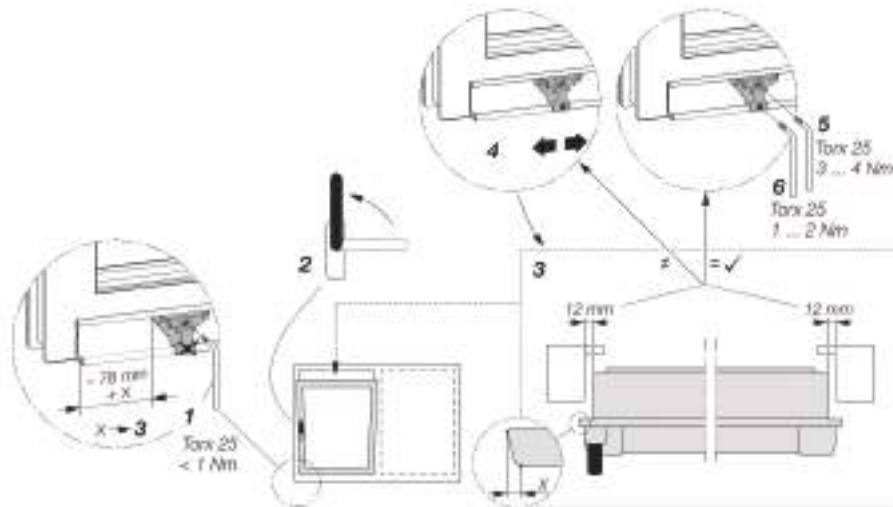


**Fittings adjustments** / Einstellungsmöglichkeiten / *Regolazioni sui meccanismi* /  
Reglajul mecanismelor

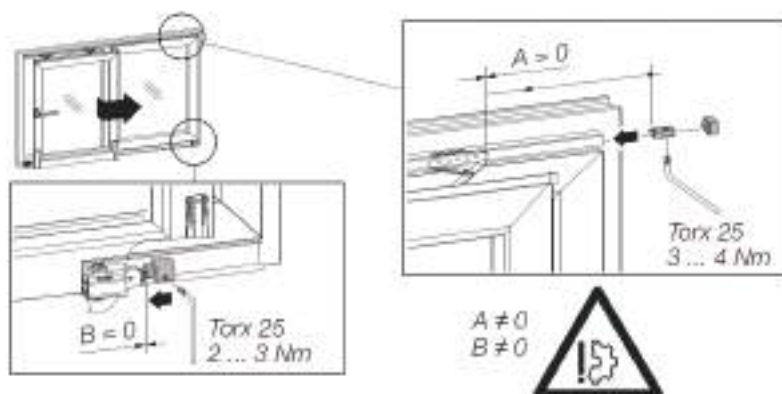
**Installation of the sliding sash** / Einsetzen des Schiebeflügels / *Sgancio dell'anta scorrevole* /  
Prinderea cercevelei culisantă



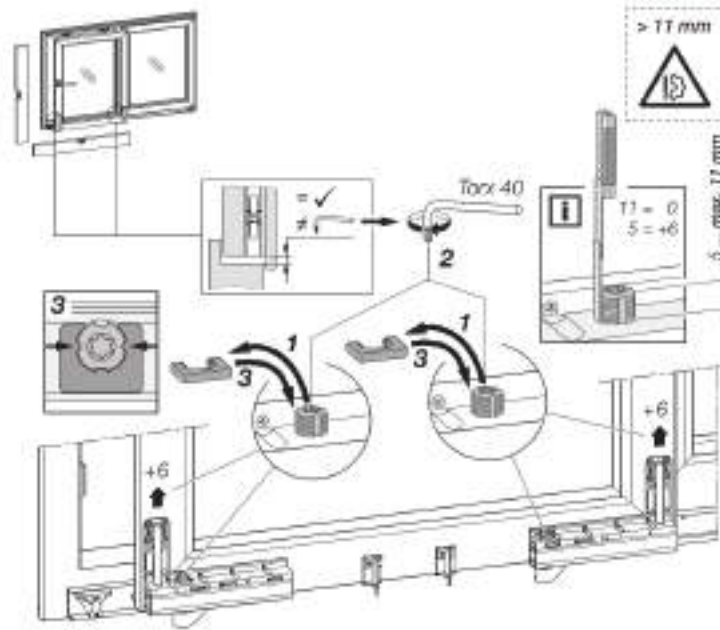
**Adjustment of buffers** / Einstellen des Steuerklotzes / *Regolazione del blocco di controllo* / Ajustarea opritorilor



**Adjustment of guide block** / Einstellen des Steuerklotzes / *Regolazione del blocco di controllo* / Reglajul modulului de ghidare

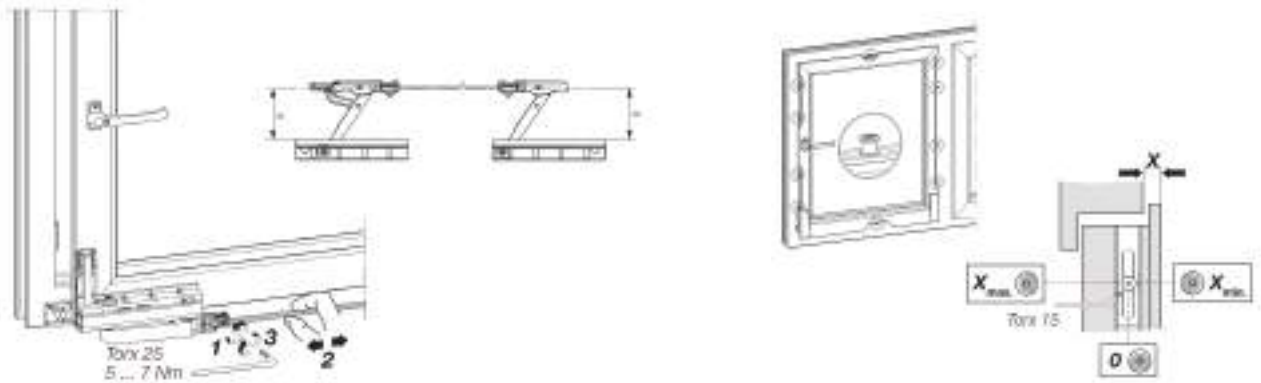


**Horizontal alignment of sash / Horizontales Ausrichten des Flügels / Regolazione orizzontale dell'anta / Reglajul cercevelei**



**Alignment of bogies / Ausrichten der Laufwerke /**  
Regolazione dei carrelli / Reglajul carucioarelor

**Adjustment of overrebate height / Einstellen der Überschlaghöhe /**  
Regolazione altezza battuta / Reglajul blocatorilor perimetrali




**Removing of sash / Aushängen des Flügels / Sganciamento dell'anta / Scoaterea cercevelei**




**Windows Accessories / Fenster Zubehör / Accessori per le finestre / Accesorii ferestre**

Article	Code	Color	Description
 <p><b>Window handle</b>                      Fenstergriff                      Maniglia finestra                      Mâner fereastră</p>	<b>1033023</b>	<b>White</b>	<p><b>The windows are equipped standard with white handle for light colour joinery and brown handle for dark colours joinery</b></p> <p>Die Fenster sind Standard mit weißen Griff für hellfarben und braunen Griff für dunkle Farben ausgestattet</p> <p><i>Le finestre sono dotate di serie con maniglie bianche per colori chiari e maniglie marrone per colori scuri</i></p> <p>Ferestrele sunt dotate Standard cu manere albe la culorile deschise si manere maro la culorile inchise</p>
	<b>1033032</b>	<b>Brown</b>	
	<b>1035205</b>	<b>Brass</b>	
	<b>1035204</b>	<b>Chrom</b>	
	<b>1035209</b>	<b>Bronze</b>	
	<b>1035208</b>	<b>Satin</b>	
	<b>1035206</b>	<b>Grey/Braun</b>	
	<b>1035207</b>	<b>Stainless Steel</b>	
<b>1035210</b>	<b>Titan Satin</b>		

Article	Code	Color	Description
 <p><b>Handle locking key</b>                      Abschließbare Fenstergriffe                      Maniglia con chiave                      Mâner cu cheie pentru fereastră</p>	<b>10315130</b>	<b>White</b>	<p><b>Available only in white and braun</b></p> <p>Erhältlich nur in weiß und braun</p> <p><i>Disponibile solo nei colori bianco e marrone</i></p> <p>Disponibil doar pe alb și maro</p>
	<b>10315120</b>	<b>Brown</b>	

Article	Code	Color	Description
 <p><b>Double sided door handle with cylinder</b>                      Fenstergriffe mit Arretierung                      Maniglia esterna e cilindro passante                      Mâner dublu cu cilindru yala</p>	<b>1060003</b>	<b>White</b>	<p><b>Available only for balcony door sash</b></p> <p>Nur für Balkontürflügelprofil</p> <p><i>Disponibile solo per anta maggiorata</i></p> <p>Disponibil doar pentru cerceveaua dreaptă de ușă balcon</p>
	<b>1060002</b>	<b>Brown</b>	
	<b>1060001</b>	<b>Silver</b>	

Article	Code	Color	Description
 <p><b>Double sided door handle with cylinder - flat outside</b>                      Fenstergriffe mit Arretierung                      Maniglia esterna e cilindro passante - ribassata esterno                      Mâner dublu cu cilindru yală - plat la exterior</p>	<b>1060113</b>	<b>White</b>	<p><b>Available only for balcony door sash</b></p> <p>Nur für Balkontürflügelprofil</p> <p><i>Disponibile solo per anta maggiorata</i></p> <p>Disponibil doar pentru cerceveaua dreaptă de ușă balcon</p>
	<b>1060112</b>	<b>Brown</b>	
	<b>1060111</b>	<b>Silver</b>	

Article	Code	Color	Description
 <p><b>Parallel slide Tilt Door handle</b>                      PSK Griff                      Maniglia finestra scorrevole a ribalta                      Mâner fereastră culisantă în plan paralel</p>		<b>White</b>	<p><b>Available also in version double sided</b></p> <p>Erhältlich auch beidseitig</p> <p><i>Disponibile anche come maniglia doppia</i></p> <p>Disponibil și în varianta de mâner pe ambele părți</p>
		<b>Brown</b>	
		<b>Silver</b>	

**Windows Accessories / Fenster Zubehör / Accessori per le finestre / Accesorii ferestre**

Article	Code	Color	Description
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**Balcony door exterior handle - small**  
 Fenstergriff aussen - klein  
*Maniglia da tiro - piccola*  
 Mâner de tragere ușă balcon - mic

**White**  
**Brown**

**The set includes the handle and the snapper**  
 Das Set beinhaltet den Griff und den Schnapper  
*Il set include la maniglia e il snapper*  
 Setul include mânerul de tragere și sanapperul

Article	Code	Color	Description
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**Balcony door exterior handle - large**  
 Fenstergriff aussen - groß  
*Maniglia da tiro - grande*  
 Mâner de tragere ușă balcon - mare

**White**  
**Brown**

**Available only for balcony door sash**  
 Nur für Balkontürlügelprofil  
*Disponibile solo per anta maggiorata*  
 Disponibil doar pentru cerceveaua dreaptă de ușă balcon.

Article	Code	Color	Description
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**Chain operated electrical actuator for windows**  
 Elektrokettenträger  
*Attuatore elettrico a catena per finestre*  
 Motor electric cu lanț pentru ferestre

**White**  
**Grey**

**Available for 24V or 230V**  
 Erhältlich für 24V oder 230V  
*Disponibile in 24V o 230V*  
 Disponibil în varianta 24V sau 230V

Article	Code	Color	Description
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**Window ventilation system REGEL-air**  
 Fensterfalz -Lüfter  
 REGEL-air  
*Sistema di aerazione regolabile REGEL-air*  
 Sistem de ventilatie REGEL-air

**White**

**Available for double and triple gasket systems**  
 Erhältlich für AD un MD Profil-Systeme  
*Disponibile per i sistemi con dopia e tripla guarnizione*  
 Disponibil pentru sistemele cu două sau trei garnituri

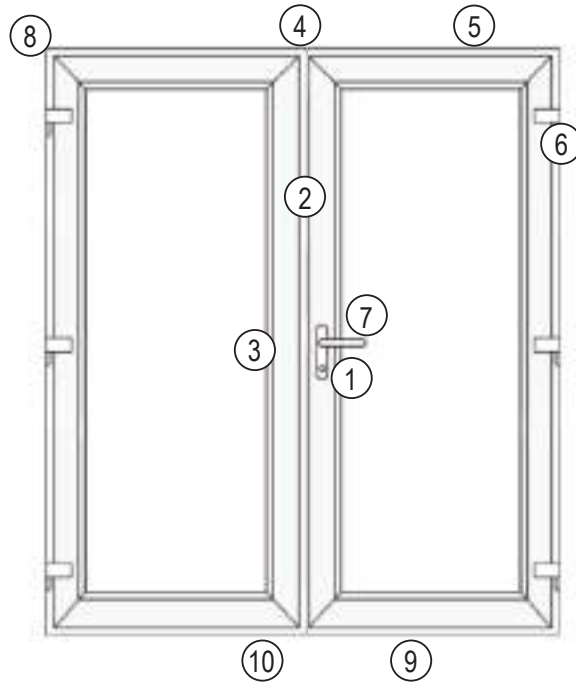
Article	Code	Color	Description
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**Window ventilator in glaze-in**  
 Fensterlüftungen im dem Rahmen  
*Sistema di aerazione in telaio*  
 Grila de aerisire montată în toc

**White**  
**Brown**  
**Silver**  
  
**All RAL colours**

**Available only for 24 mm insulating glass**  
 Nur für 24 mm dickes Isolierglas  
*Disponibile solo per vetrocamere 24 mm*  
 Disponibil doar pentru geam termoizolant 24 mm



**1 Cylinder lock**  
Profilzylinder  
*Cilindro Yale*  
Cilindru yală



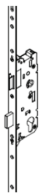
**6 Door hinge**  
Haustürband  
*Cerniera pesante*  
Balama ușă



**2 Locking part**  
Riegelschließteil  
*Scontro*  
Contraplacă broască



**7 Door handle**  
Drückergarnituren  
*Maniglia*  
Mâner



**3 Door Lock**  
Einsteckschloss  
*Bloccoporta*  
Broască multipunct



**8 Cornerconetor**  
Schweisseckverbinder  
*Rinforzi angolare*  
Elemente consolidare colț



**4 Shootbolt**  
VHT-Riegel  
*Chiavistello*  
Zăvor



**9. Automatic door seals**  
Automatische Türdichtungen  
*Parafreddo*  
Prag Automat



**5 Overhead door closer**  
Obentürschließer  
*Chiudiporta*  
Braț amortizor



**10 Door-stopper**  
Türfeststeller  
*Fermaporta*  
Opritor ușă

**Door accessories / Türzubehör / Accessori per porte / Accesorii usi**


Article	Code	Details	Description
<b>1. Cylinder lock</b> Profilzylinder <i>Cilindro Yale</i> Cilindru yala		40/40 Gealan S3000 40/55 Gealan S8000 40/50 Innonova AD 40/50 Innonova MD 40/60 Trocal 88 40/65 Trocal 88 Aluclip	<b>Cylinder lock made of brass, nickel plated, with 5 pins</b> Zylindergehäuse aus Messing, vernickelt, mit 5 Stifzuhaltungen ausgestattet <i>Cilindro in ottone, nickel placcato, con 5 pistoncini</i> Cilindru yală din alamă, nichelat, cu 5 pini



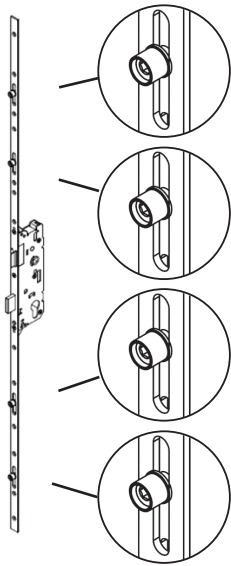
Article	Code	Details	Description
<b>2 Locking part</b> Riegelschließteil <i>Scontro</i> Contraplață broască		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Width: 29 mm Length: 252,5 mm Depth: 20,5 mm	<b>Standard Locking part</b> Standard Riegelschließteil <i>Scontro per la bloccoporta con nottolini</i> Contraplață broască Standard



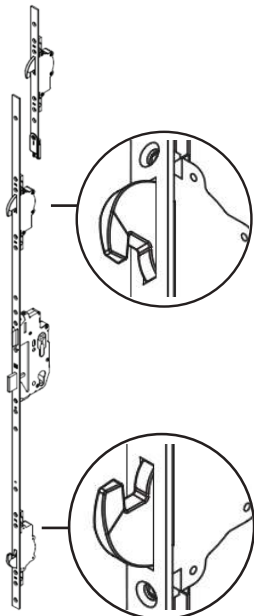
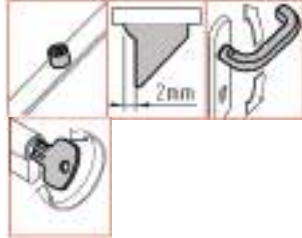
Article	Code	Details	Description
<b>2 Locking part</b> Riegelschließteil <i>Scontro</i> Contraplață broască		<b>Surface Type: Black</b> Oberflächen: Schwarz <i>Colore: Nero</i> Culoare: Negru  Width: 27 mm Length: 149 mm	<b>Security Locking part</b> Sicherheit Riegelschließteil <i>Scontro per la bloccoporta con ganci</i> Contraplața broască de siguranță



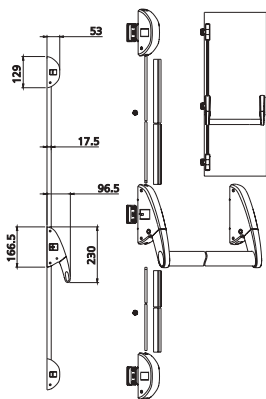
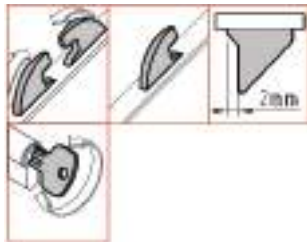
Article	Code	Details	Description
<b>2 Locking part</b> Riegelschließteil <i>Scontro</i> Contraplață broască		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Power suply: 6-12V Width: 17,5 mm Length: 78,1 mm Depth: 31,5 mm	<b>Electric door opener</b> Elektrischer- Türöffner <i>Scontro elettrico</i> Contrabroască electromagnetă



Article	Code	Details	Description
<b>3. Door Lock</b> Haustürverschluss <i>Bloccoporta</i> Broască multipunct		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Length: 2100 mm	<b>Standard Door-lock with 4 adjustable roller cams and closing by handle</b> Standard Türverschluss mit 4-facher Zusatzverriegelung durch Rollzapfen <i>Bloccoporta con 4 nottolini regolabili e maniglia alzante</i> Broască Standard cu patru role de închidere



Article	Code	Details	Description
<b>3. Door Lock</b> Haustürverschluss <i>Bloccoporta</i> Broască multipunct		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Length: 2100 mm	<b>Security Door-lock with 2/3 hook bolts</b> Sicherheits Türverschluss mit 2/3 Schließhaken <i>Bloccoporta di sicurezza con 2/3 ganci</i> Broască de siguranță cu 2/3 cârlige

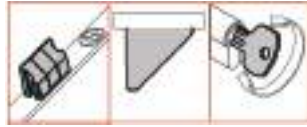


Article	Code	Details	Description
<b>3. Door Lock</b> Haustürverschluss <i>Bloccoporta</i> Broască multipunct		<b>Surface Type: White</b> Oberflächen: Weiss <i>Colore: Bianco</i> Culoare: Alb  Width: 27 mm Length: 149 mm	<b>Antipanic door-lock with 3 locking points</b> Panik-Verschluß <i>Maniglione antipanico verticale con chiusure laterali a 3 punti di chiusura</i> Mâner antipanică cu închidere laterală în trei puncte

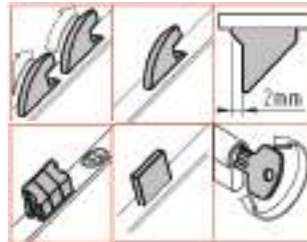




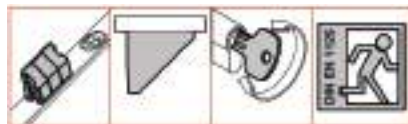
Article	Code	Details	Description
<b>3. Door Lock</b> Haustürverschluss <i>Bloccoporta</i> Broască multipunct		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Length: 2100 mm	<b>GU-SECURY multi-point locking</b> GU-SECURY Mehrfachverriegelungen <i>GU-SECURY con 3 scrochi</i> Broasca multipunct GU-SECURY



Article	Code	Details	Description
<b>3. Door Lock</b> Haustürverschluss <i>Bloccoporta</i> Broască multipunct		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Length: 2100 mm	<b>Three-latch door-lock</b> Türverschluss Drei-Fallen-Verriegelung <i>Serratura con 3 scrochi e 2 ganCI</i> Broasca cu 3 limbi si 2 carlige



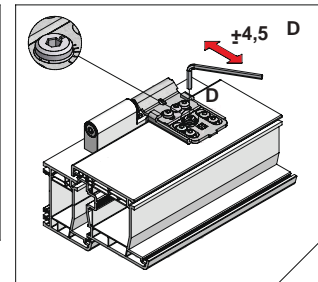
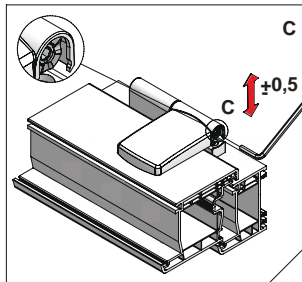
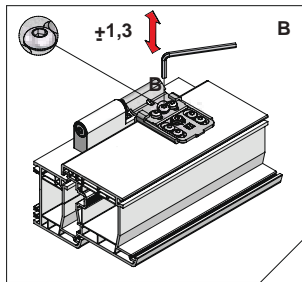
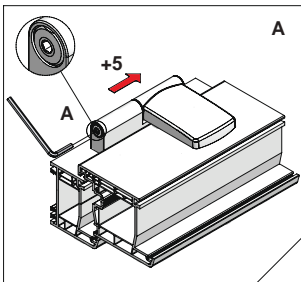
Article	Code	Details	Description
<b>3. Door Lock</b> Haustürverschluss <i>Bloccoporta</i> Broască multipunct		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Length: 2100 mm	<b>Automatic door-lock</b> Automatisch verriegeln, motorisch öffnen <i>Serratura motorizzata</i> Broasca automata cu actionare motorizata



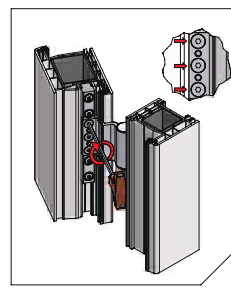
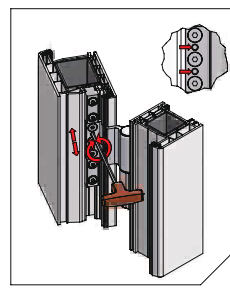
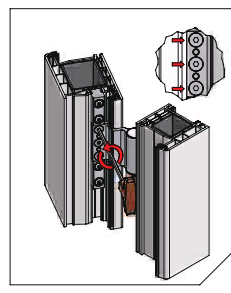
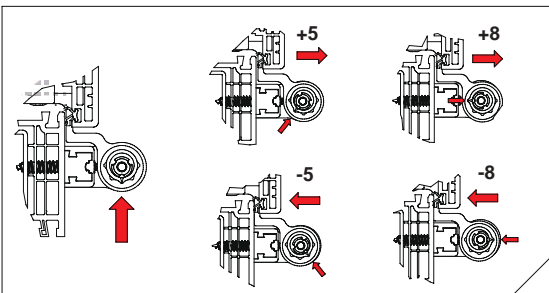
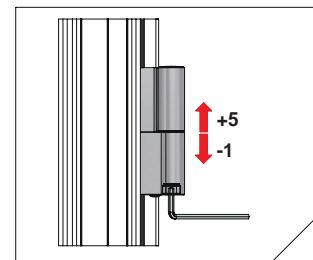
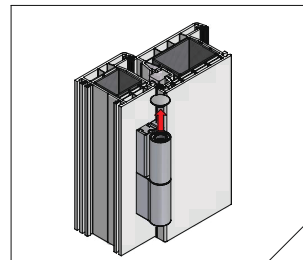
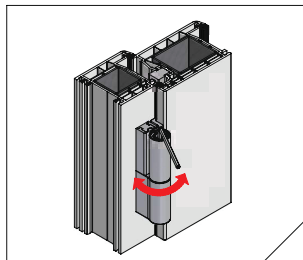
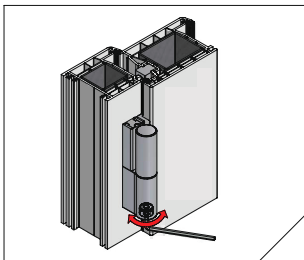




Article	Code	Details	Description
<b>6. Door hinge</b> Haustürband <i>Cerniera pesante</i> Balama ușă		Optional: - Antilift device - Security set for outside opening door  Adjustment ranges: • laterally adjustment $\pm 4.5$ mm • contact pressure $\pm 1.8$ mm • height adjustment: $+ 5 / - 1$ mm  <b>Surface Type:</b> Oberflächen: Colore: Culoare: - Silver - White - Brown - Gold	<b>Flag hinge with 120 kg load capacity, M-tec I</b> Haustürband 120 kg Tragkraft <i>Cerniera pesante con portata 120 kg</i> Balama ușă cu portanță 120kg



Article	Code	Details	Description
<b>6. Door hinge</b> Haustürband <i>Cerniera pesante</i> Balama ușă		Adjustment ranges: • laterally adjustment $\pm 3.0$ mm • contact pressure $\pm 0.8$ mm • height adjustment: $+ 4.5 / - 1$ mm  <b>Surface Type:</b> Oberflächen: Colore: Culoare: - EV1 - White - Brown - Gold	<b>Door hinge with 100 kg load capacity, M-tec I</b> Rollenband 100 kg Tragkraft <i>Cerniera tubolare con portata 100 kg</i> Balama tubulara ușă cu portanță 100kg





Article	Code	Details	Description
<b>4 Shootbolt</b> VHT-Riegel Chiavistello Zăvor	<b>05 00 10 15</b>	<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Throw: 20 mm Stulpwidth: 16 mm Length: 150 mm	<b>Concealed bottom-shootbolt in the Euronut hardware groove</b> VHT Riegel verdeckt liegend in der Euronut einfräsbar <i>Chiavistello superiore nascosto in canalino euronut</i> Zăvor superior ascuns în canalul euronut



Article	Code	Details	Description
<b>4 Shootbolt</b> VHT-Riegel Chiavistello Zăvor		<b>Surface Type: Silver</b> Oberflächen: Silber <i>Colore: Argento</i> Culoare: Argintiu  Throw: 20 mm Stulpwidth: 16 mm Length: 150 mm	<b>Concealed top-shootbolt in the Euronut hardware groove</b> VHT Riegel verdeckt liegend in der Euronut Einfräsbar <i>Chaivistelo inferiore nascosto in canalino euronut</i> Zăvor inferior ascuns în canalul euronut




Article	Code	Details	Description
<b>5. Overhead door closer</b> Obentürschließer <i>Chiudiporta</i> Braț amortizor	<b>27654010</b> <b>27654030</b> <b>27654020</b>	Stepless valve adjustment for: • Closing speed • Latching force • Delayed closing action  <b>Surface Type</b> Oberflächen <i>Colore</i> Culoare - E V1 - White - Brown  Closing force 20-40 Nm Max. door opening 180° Max. Sash Width 1100 mm	<b>Overhead door closer Standard 430 with scissor action arm</b> Obentürschließer Standard 430 mit Scherenarm <i>Chiudiporta Standard 430 con braccio a forbice</i> Braț amortizor Standard 430 cu blocare




Article	Code	Details	Description
<b>6. Automatic door seals</b> Automatische Türdichtungen <i>Parafreddo</i> Prag Automat		Automatic door seals from the GU group can be installed on timber, aluminium or PVC doors. They are the perfect seal between door leaf and floor as they avoid draughts and keep out insects, dust, and soil.	

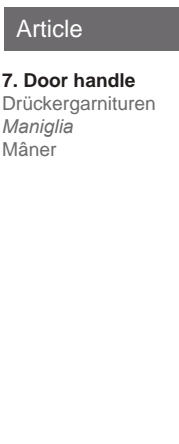


Article	Code	Details	Description
<b>7. Door handle</b> Drückergarnituren Maniglia Mâner		<b>MTS Series</b>	
		<b>25 mm</b>	
		<b>Surface Type:</b>	
		Oberflächen: Colore: Culoare:	
	21.651.15	- EV1	
	21.651.35	- White	
	21.651.95	- Gold	
		Backplate dimensions: 195x25x10 mm	
		Spindle Size: 8 mm Distance: 92 mm	

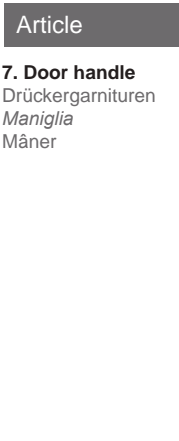







Article	Code	Details	Description
<b>7. Door handle</b> Drückergarnituren Maniglia Mâner		<b>MTS Series</b>	
		<b>25 mm</b>	
		<b>Surface Type:</b>	
		Oberflächen: Colore: Culoare:	
	28.640.15	- EV1	
	28.640.35	- White	
	28.640.25	- Brown	
		Backplate dimensions: 195x35x10 mm	
		Spindle Size: 8 mm Distance: 92 mm	

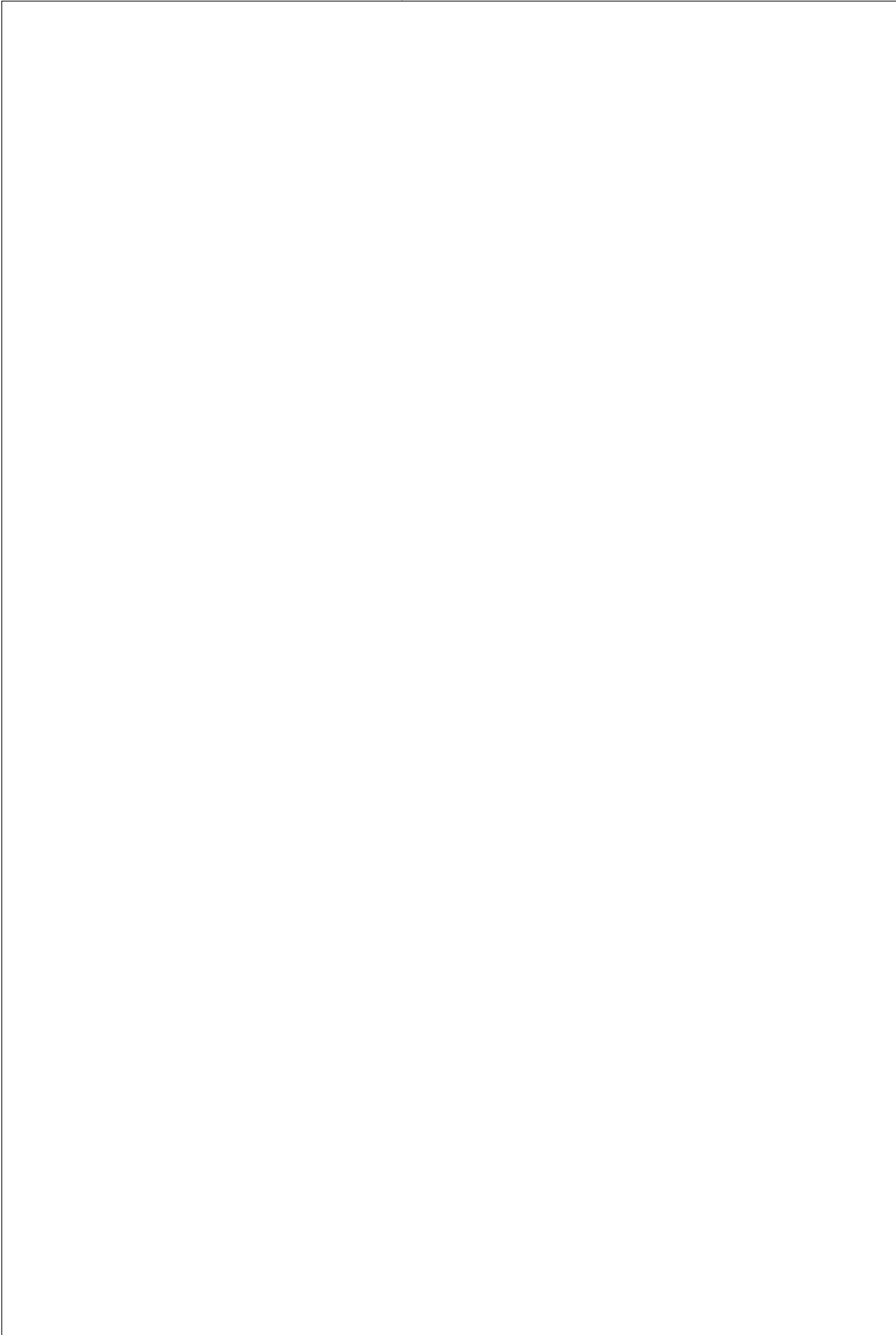


Article	Code	Details	Description
<b>7. Door handle</b> Drückergarnituren Maniglia Mâner		<b>MTS Series</b>	
		<b>25 mm</b>	
		<b>Surface Type:</b>	
		Oberflächen: Colore: Culoare:	
	21.651.10	- EV1	
	21.651.30	- White	
	21.651.20	- Brown	
	21.651.90	- Gold Matt	
	Backplate dimensions: 195x25x10 mm		
		Spindle Size: 8 mm Distance: 92 mm	

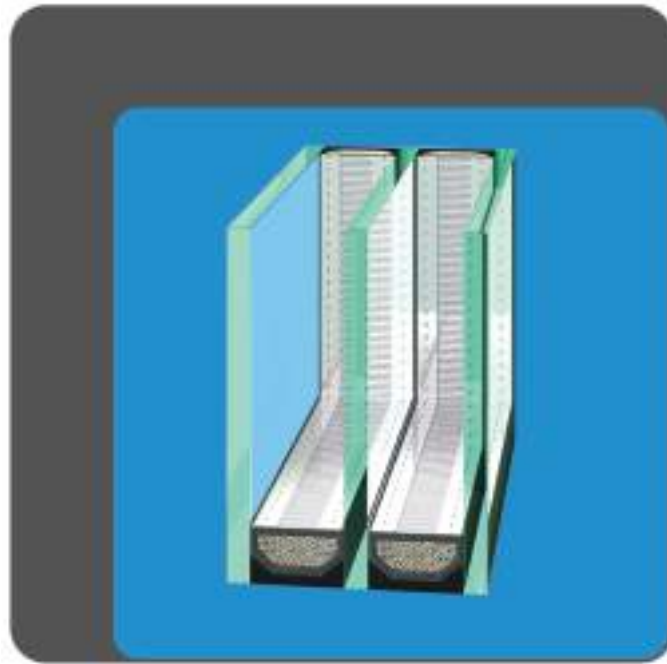


Article	Code	Details	Description
<b>7. Door handle</b> Drückergarnituren Maniglia Mâner		<b>MTS Series</b>	
		<b>33 mm</b>	
		<b>Surface Type:</b>	
		Oberflächen: Colore: Culoare:	
	21.623.10	- EV1	
	21.623.30	- White	
	21.623.20	- Brown	
	21.623.90	- Gold Matt	
	Backplate dimensions: 195x33x10 mm		
		Spindle Size: 8 mm Distance: 92 mm	

Article	Code	Details	Description	
	<b>7. Door handle</b>			
	Drückergarnituren			
	<i>Maniglia</i>			
	Mâner			
	<b>28.640.10</b>	<b>COVERLINE Series</b>	<b>Surface Type:</b>	
	<b>28.640.30</b>	Oberflächen: / Colore: / Culoare:	- EV1	
	<b>28.640.20</b>	- White	- Brown	
	<b>28.640.40</b>	- Inoxal	Backplate dimensions: 210x35x10 mm Spindle Size: 8 mm Distance: 92 mm	
	<b>7. Door handle</b>			
	Drückergarnituren			
	<i>Maniglia</i>			
	Mâner			
	<b>21.674.92</b>	<b>COLORPLUS Series</b>	<b>P Type</b>	
	<b>21.674.301</b>	<b>Surface Type:</b>	Oberflächen: / Colore: / Culoare:	
	<b>21.674.201</b>	- Stainless steel	- White	
		- Brown	- Stainless Steel	
		Backplate dimensions: 218x35x10 mm Spindle Size: 8 mm Distance: 92 mm		
	<b>7. Door handle</b>			
	Drückergarnituren			
	<i>Maniglia</i>			
	Mâner			
	<b>21.694.10</b>	<b>CLASIC-ART Series</b>	<b>mit Handhabe</b>	
	<b>21.694.20</b>	<b>Surface Type:</b>	Oberflächen: / Colore: / Culoare:	
		- Gold	- Gold PVD	
		Backplate dimensions: 230x35x10 mm Spindle Size: 8 mm Distance: 92 mm		
	<b>7. Door handle</b>			
	Drückergarnituren			
	<i>Maniglia</i>			
	Mâner			
	<b>21.692.10</b>	<b>CLASIC-ART</b>	<b>Surface Type:</b>	
	<b>21.692.20</b>	Oberflächen: / Colore: / Culoare:	- Gold	
		- Gold PVD	Backplate dimensions: 230x35x10 mm Spindle Size: 8 mm Distance: 92 mm	
	<b>7. Door handle</b>			
	Drückergarnituren			
	<i>Maniglia</i>			
	Mâner			
			<b>STAINLESS STEEL Series</b>	
			Width	70 mm
			Depth	80 mm
			Diameter	30 mm
			Length	Fixing distance
		<b>21.153.03</b>	300 mm	100 mm
		<b>21.153.04</b>	400 mm	300 mm
		<b>21.153.05</b>	500 mm	300 mm
		<b>21.153.07</b>	800 mm	560 mm
	<b>21.153.08</b>	1000 mm	700 mm	
	<b>21.153.09</b>	1200 mm	900 mm	
	<b>21.153.10</b>	1400 mm	1200 mm	
	<b>21.153.11</b>	1600 mm	1200 mm	
	<b>21.153.12</b>	1800 mm	1600 mm	
	<b>21.153.13</b>	2000 mm	1800 mm	



# GLASS GLAS VETRO STICLA



**Insulated Glass main factors / Isolierglas Koeffizienten / Principali coefficienti vetro termoisolante / Coeficient principali geam termoizolant**

**The main factors that characterize an insulating glass are as follows:**

Die Koeffizienten, die eine Isolierglas Charakterisieren sind:  
*I principali coefficienti che caratterizzano un vetro termoisolante sono i seguenti:*  
Principali coeficienti ce caracterizează geamul termoizolant sunt:

**Ug [W/m<sup>2</sup>K]**

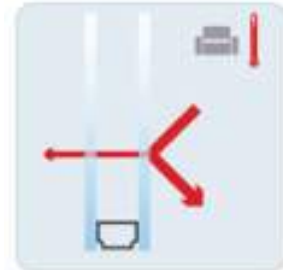
**The Ug-value is measured in the centre of the unit and is referred to as the center point value. The value is stated as: W/m<sup>2</sup>K a low figure means that the unit offers good protection against heat loss.**

Der Wärmedurchgangskoeffizient (Ug-Wert) ist die Masseinheit zur Ermittlung des Wärmeverlustes. Der U-Wert gibt die Wärmemenge an, die pro Zeiteinheit durch 1 m<sup>2</sup> eines Bauteils bei einem Temperaturunterschied der angrenzenden Raum- und Aussenluft von 1 K hindurchgeht. Je kleiner der Ug-Wert, desto besser also die Wärmedämmung. Die Masseinheit ist W/m<sup>2</sup>K.

*Ug (coefficiente di trasmittanza termica) rappresenta il valore del trasferimento termico e mostra come è condotto il calore dal vetro termoisolante. Se il valore è più piccolo, l'isolamento termico del vetro termoisolante è migliore, e le perdite di calore e i consumi energetici sono più bassi.*

Coeficientul Ug definește fluxul de căldură care trece printr-un geam, cu o suprafață de 1 m<sup>2</sup>, ce separă două ambianțe ale căror temperaturi diferă cu 1 grad Kelvin. O valoare mică a acestui coeficient echivalează cu o bună izolare termică.

**Energy saving**



**Daylight transmission**



**LT [%]**

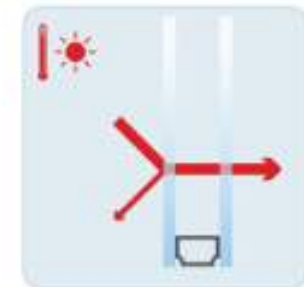
**The Light transmission value is stated in percent expressing the amount of light which is admitted through the glass. A high figure indicates a high degree of light transmission.**

Der Lichttransmissionsgrad einer Verglasung bezeichnet den prozentualen Anteil der Sonnenstrahlung im Bereich des sichtbaren Lichtes (380 - 780 nm), der von aussen nach innen übertragen wird. Ein niedriger Wert bedeutet ein dunkles Glas, also ein weniger belichteter Raum.

*La trasmissione della luce: rappresenta la qualità di luce che passa tramite un vetro termoisolante. Se questo valore è più piccolo, il vetro è più scuro e l'interno è meno luminoso.*

Coeficientul de transmisie luminoasă reprezintă procentul de flux luminos transmis direct prin geam. O valoare mică indică o sticlă întunecoasă și implicit o cameră mai puțin luminată.

**Solar protection**



**g-value [%]**

**The Total Solar Energy Transmittance or Solar Energy Transmission value is stated in percent expressing the amount of solar energy (thermal energy) which is admitted through the glass. A high figure indicates a large admittance of solar energy.**

Der gesamtenergiedurchlassgrad (g-Wert) von Verglasungen beschreibt, welcher Anteil der Energie, die auf die transparente Fläche trifft, durch diese nach innen gelangt. Ein niedriger Wert zeigt eine geringe thermische Behaglichkeit.

*Il fattore solare di un vetro esprime la quantità totale di energia (quindi di calore) che attraversa il vetro. Se il valore del coefficiente è più basso, il conforto termico durante l'estate è più alto.*

Factorul solar reprezintă fracțiunea de radiație solară incidentă care intră într-o încăpere și este transmisă de sticlă (transmisie + re-emisie energetică a geamului spre încăpere). Aceasta este una dintre caracteristicile esențiale ale sticlei cu strat de control solar. O valoare mare indică un confort termic scăzut.

**Noise protection**



**Rw [dB]**

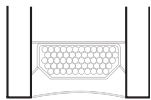
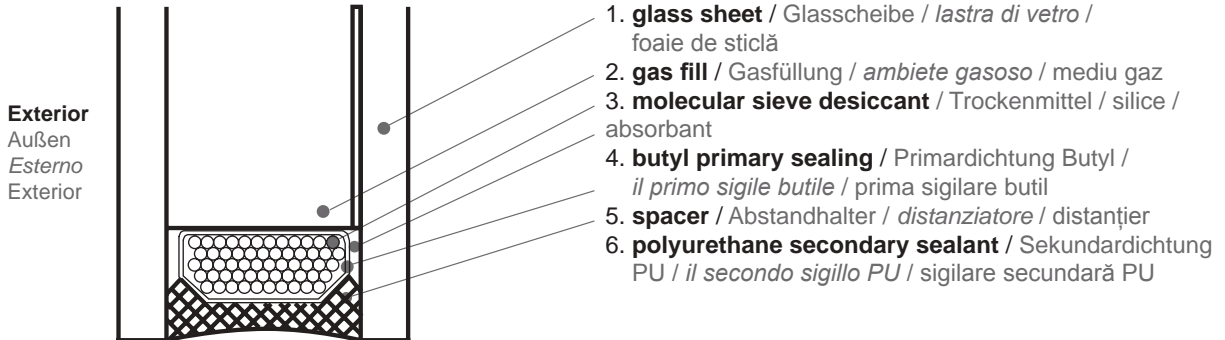
**Sound reduction factor is stated in decibel and describes the glass' ability to reduce discomforting noise. A high figure indicates a high degree of sound reduction. The figure is not calculated as a percentage reduction, but as a fixed figure in relation to the structure of the unit**

Das Schalldämmmaß gibt an, wie gut das Glas den Lärm von draußen abhält. Es beschreibt die Dämmwirkung als Differenz zwischen den Lärmpegel draußen und drinnen. Ein hoher Wert deutet auf enge gute Schalldämmung.

*Il coefficiente d'isolamento fonico indica il livello d'isolamento fonico del vetro W termoisolante rispetto i rumori dall'ambiente esterno. Se il valore è più alto, l'isolamento fonico è migliore.*

Indicele de atenuare acustică caracterizează proprietățile acustice ale unui geam. El indică diferența de niveluri sonore de o parte și de cealaltă a geamului, pentru un spectru de zgomot normalizat (de exemplu, zgomot rutier). O valoare ridicată indică o izolare fonică bună.

**Insulated glass description / Isolierglas Beschreibung / Descrizione del vetro isolato /**  
Descrivere geam termoizolant



**1. Depending on the requirements there are several types of glass available: monolithic float glass, laminated glass, coated glass, ornamental glass**

Es gibt verschiedene Arten von Glas, die verschiedene Anforderungen erfüllen: monolithisches Floatglas, Verbundglas, Glas mit oxidische Beläge, Ornamentglas

*Esistono vari tipi di vetri per diverse esigenze : vetro monolitico, vetro laminato, vetro rivestito, vetro ornamentale*

Există mai multe tipuri de geam care să raspundă diverselor exigențe: sticlă monolitică, sticlă laminată, sticlă cu depuneri de oxizi, sticlă ornamentală.



**2. The space between the glass panes can be filled with Air or Argon. The Argon gas is used to increase the thermal and sound performances. Unless otherwise requested, the insulated glass that have a low-e layer are 90% Argon filled.**

Der Raum zwischen den beiden Glasscheiben kann mit Luft oder Argon gefüllt werden. Argon wird verwendet, um die Wärme-und Schalldämmleistung zu verbessern. Standard, alle Low-E Glas Fenster sind mit 90% Argon gefüllt

*Lo spazio tra le lastre di vetro puo essere Aria o Argon. Il Argon Gass è usato per aumentare l'isolamento termico e acustico. Di serie, tutti vetri isolante che hanno un vetro basso emissivo sono con 90% Argon.*

Spațiul dintre cele două foi de sticlă poate fi umplut cu Aer sau Argon. Argonul este utilizat pentru îmbunătățirea performanțelor de izolare termică și fonică. Satndard, toate geamurile ce au o sticlă Low-e sunt încărcate 90% cu Argon.



**3. We use a high quality desiccant that has the role to absorb the water vapors from the sealed space between the panes. The quantity of molecular sieve for one insulated glass unit is in accordance with the desiccant absorption proprieties; usually only the long lengths of the spacers are filled.**

Bei der Herstellung von Isolierglas ist eine gute Qualität der Trockenngsmittel erforderlich. Nur dadurch kann der Wasserdampf in dem dichten Raum zwischen die zwei Glasscheiben absorbiert werden. In der Regel sind nur die längere Seiten des rechteckigen Umfangs mit Trockenmittel gefüllt

*Si usa una buona qualita di silice quale assorbe i vapori di aqua tra i vetri. Normalmente solo i lati piu lunghi del perimetro rettangolare sono riempiti di silice.*

La confecționarea geamurilor termoizolante se utilizează un desicant de bună calitate, ce are rolul de a absorbi vaporii de apă din spațiul etanș delimitat de cele două foi de sticlă. Cantitea de absorbant utilizată la confecționarea unui geam depinde de proprietățile sitei moleculare; în mod obișnuit doar laturile mai lungi ale perimetrului rectangular sunt umplute cu desicant.





**4. The primary seal is made with hot butyl. This layer acts as the first seal and keeps the spacer bar at place, sticking both panes of glass together separated by a uniform distance. It is also a thermal barrier preventing the heat loss through the aluminum spacer.**

Die erste Butyl-Versiegelung spielt eine Doppelrolle: einerseits eine Abdichtung des Raums zwischen den zwei Glasscheiben und zum anderen formt sie eine thermische Barriere, die der Wärmeverlust durch Aluminium-Abstandhalter verhindert

*Il primo sigillo è realizzato con l'aiuto del butile e ha un ruolo doppio, assicurando sia un buon isolamento termico (riducendo il trasferimento termico tra le due lastre di vetro ed il telaio distanziatore) che una buona strettezza / ermeticità dell'ambiente di gas all'interno del vetro termoisolante.*

Prima sigilare se realizează cu butil aceasta având un dublu rol: pe de o parte asigură sigilarea spațiului dintre cele două foi de sticlă iar pe de altă parte formează o barieră termică ce împiedică pierderea de caldură prin distanțierul de aluminiu.

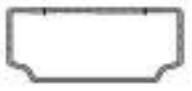





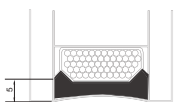
**5. The spacer used is Aluminum or on request Warm Edge for a better thermal insulation on the edge of the glass. The aluminium spacers are connected with plastic corner connector corner that incorporate argon-filling holes if the IG unit is filled with rare gases. For the warm edge spacer normal plastic connectors are used together with special Gas Collars and Plugs.**

Für die Herstellung der Isolierglass sind Standard Aluminium-Abstandhalter verwendet. Auf Anfrage kann man „Warm Edge“-Abstandhalter verwenden, die eine bessere thermische Isolierung beim Glasrand versichern. Zum Verbinden der Aluminium-Abstandhalter-Ecken werden perforierte Kunststoff-Stecker verwendet, die das Befüllen mit Argon ermöglichen. Im Falle Warm Edge Abstandhalter, wird eine Kunststoffbuchse verwendet.

*Il distanziere usato è d'alluminio o a richiesta Warm Edge per uno migliore isolamento termico ai confini del vetro. Il distanziere a dei angolari in plastica perforati che permette di riempire con argon. Per Warm Edge i angolari di plastica non sono perforati, il riempimento si fa con boccole speciali.*

Standard, pentru geamurile termoizolante este utilizat distanțierul din aluminiu iar la cerere distanțierul Warm Edge ce conferă o mai bună izolare termică în zona periferică a sticlei. Pentru distanțierul de aluminiu îmbinarea la colțuri se face cu conectori de plastic perforați pentru a permite umplerea cu argon. În cazul distanțierului Warm Edge îmbinarea la colțuri se face cu colțari de plastic neperforați, umplerea cu argon făcându-se cu ajutorul unor bușe de plastic.

 <b>Aluminium spacer</b>	 <b>Corner Connector</b>	Double or Triple glazing 0.066 Ψ [W/mK]
 stainless steel highly insulating plastic <b>Warme Edge</b>	 <b>Corner Connector</b>	Double glazing 0.041 Ψ [W/mK]  Triple glazing 0.038 Ψ [W/mK]



**6. The second sealing is made with bicomponent polyurethane. This type of sealant offers the advantages of good adhesion as well as good mechanical properties. The depth of secondary sealing cord is 5 mm.**

Die sekundäre Versiegelung wird mit Zweikomponenten-Polyurethan erreicht. Dieser Art Versiegelung hat den Vorteil, gute Haftung auf Glas und Aluminium-Oberflächen und gute mechanische Eigenschaften zu haben

*Il secondo sigillo è di poliuretano. Questo tipo di sigillo a una buona aderenza e buone proprietà meccaniche. La profondità di secondo sigillo è di 5mm.*

Sigilarea secundară este realizată cu poliuretan bicomponent. Acest tip de sigilant prezintă avantajul unei bune aderențe la suprafețele de sticlă și aluminiu precum și bune proprietăți mecanice

**Glazing Codification / Kodierung des Glases / Codificare vetraggio /  
Codificare geam**

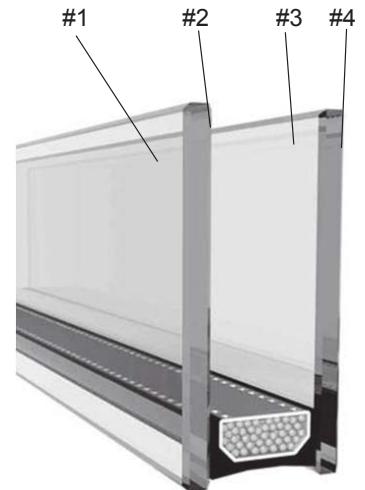
- **Glass surfaces / Oberflächennummerierung / Superficie vetro /  
Numerotarea suprafetelor**

**The exterior pane of glass is defined as the first glass layer (with surface #1 on exterior and surface #2 on the inside of the glazing), while the other pane is second glass layer (it follows that a three-layer triple glazing unit will have a third layer of glass)**

Äußere Glasscheibe von Isolierglas ist definiert als „die erste“ Glasscheibe (davon äußere Oberfläche # 1 und innere Oberfläche # 2, wie in Bild). Dem entsprechend ist die andere Glasscheibe als „die zweite“ Glasscheibe definiert, usw

La lastra esteriore di vetro e definita come primo piano di vetro (con superficie #1 esterna e #2 interna), l'altra lastra di vetro e il secondo piano (#3 interno, #4 esterno), nel caso di vetro triplo ce ancora una lastra il terzo piano.

Foia exterioară a geamului termiozolant este definită ca primul strat de sticlă (cu suprafața #1 la exterior și #2 în interiorul geamului termoizolant) iar celalată foaie de sticlă este considerată ca fiind foaia a doua (urmată de o a treia foaie în cazul geamului termoizolant).



- **Double and triple glazing codification / Codierung der Zwei- und Dreifachverglasung /  
Codificare i vetri doppio e triplo / Codificarea geamurilor dublu si triplu strat**

**4/WE-G 16ar/4: Ug = 1.1**

**Interior pane of glass – the number represents glass thickness expressed in mm**  
Innere Glasscheibe - Die Zahl gibt die Stärke der Glasscheibe in mm an  
*La lastra interna di vetro - il numero rappresenta la grossezza in mm*  
Foaia interioară de sticlă – numărul reprezintă grosimea sticlei în mm

**Space between panes:** - **WE-G or WE-B before the number signifies that the spacer is Warm Edge color Grey or Black instead of aluminum**  
- **“ar” after the number signifies that the space is filled with Argon (90%) instead of air**  
- **“16” the number represents the distance between panes expressed in mm**

Abgedichteter Raum zwischen den Glasscheiben - Die Angaben WE-G oder WE-B vor der Nummer, geben beide an, dass der Abstandhalter vom Typ Warme Edge Randverbund ist, entweder grau oder schwarz statt aus Aluminium.  
- “16” die Nummer gibt den Abstand zwischen den Glasscheiben in mm an.

*Il spazio fra i vetri:* - *WE-G o WE-B avanti del numero rappresenta il distanziere Warm Edge colorato G Grey o B Nero invece d'alluminio*  
- *“ar” dopo il numero significa che il spazio e riempito di argon (90%) invece di aereo*  
- *“16” il numero rappresenta la distanze tra i vetri in mm.*

Spatiu etans dintre geamuri: - WE-G sau WE-B înainte de numar indică faptul că distanțierul este Warme Edge culoare Gri sau Negru în loc de aluminiu  
- **“ar” după numar desemnează faptul că spațiul este umplut cu Argon (90%) în loc de aer**  
- **“16” numărul reprezintă distanța dintre sticle în mm**

**Exterior pane of glass – the number represents glass thickness expressed in mm**  
Aussere Glasscheibe – die Zahl gibt die Stärke der Glasscheibe in mm an  
*La lastra esteriore di vetro – il numero rappresenta la grossezza in mm*  
Foaia exterioară de sticlă – numărul reprezintă grosimea sticlei în mm

The same rule is available for triple glass where definition 6:/11Ar/4/13Ar/4: means that the triple glazing consist of an exterior 6 mm pane with Low-e coating, a 13mm argon filled space with aluminum spacer, an 4mm float pane, a second 13 mm argon filled space with aluminum spacer and an interior 4 mm pane with Low-e coating.

Gleiche Regel gilt auch für die Dreifachverglasung. Insofern bezeichnet die Codierung 6:/11Ar/4/13Ar/4: ein Dreifachfenster mit aussere Glasscheibe von 6 mm und Low-E wellenlängenselektiver Beschichtung, einen ersten Zwischenraum von 11 mm mit Abstandhalter aus Aluminium sowie Argongasbefüllung, eine mittlere Glasscheibe von 4 mm, einen zweiten Zwischenraum von 13 mm mit Abstandhalter aus Aluminium sowie Argongasbefüllung und schließlich eine innere Glasscheibe von 4 mm und Low-E wellenlängenselektiver Beschichtung.

Le stesse regole sono anche per triplo vetro dove 6:/11Ar/4/13Ar/4: significa chei I triplo a esteriore 6mm con basso emissivo, 11mm argon con distanziere d'alluminio, una lastra di vetro di 4mm, 13mm argon con distanziere d'alluminio e una lastra di vetro di 4mm con basso emisivo al interiore.

Aceeasi regulă este valabilă și pentru geamul triplustrat. Astfel codificarea 6:/11Ar/4/13Ar/4: definește un geam triplustrat cu foaia exterioară de 6 mm cu depunere de strat Low-e, un spațiu intermediar de 11 mm delimitat de un distanțier de aluminiu și umplut cu argon, o foaie mediană de 4 mm, un al doilea spațiu intermediar de 13 mm delimitat de un distanțier de aluminiu și umplut cu argon și o foaie interioară de 4 mm cu depunere de strat Low-e.

• **Low-e coated glass codification / Codierung der Glasscheiben mit Low-E wellenlängenselektiver Beschichtung / Codificare i vetri basso emissivi / Codificarea geamurilor cu strat Low-E**

**4/16Ar/4: Ug = 1.1**

**4 mm pane of float glass with a Low-E layer (EN 673) 1.1W/m<sup>2</sup>K**

Flachglas von 4 mm mit Low-E wellenlängenselektiver Beschichtung (EN 673) 1.1W/m<sup>2</sup>K

4mm lastra di vetro con BE (EN 673) 1.1 W/m<sup>2</sup>K

sticlă float de 4 mm cu depunere de strat Low-E (EN 673) 1.1W/m<sup>2</sup>K

**4/16Ar/4:+ Ug= 1.0**

**4 mm pane of float glass with a Premium Low-E layer (EN 673) 1.0W/m<sup>2</sup>**

Flachglas von 4 mm mit Low-E wellenlängenselektiver Beschichtung (EN 673) 1.0 W/m<sup>2</sup>K

4mm lastra di vetro con Premium BE (EN 673) 1.0 W/m<sup>2</sup>K

sticlă float de 4 mm cu depunere de strat Low-E (EN 673) 1.0 W/m<sup>2</sup>K

**4/16Ar/4S: Ug= 1.1**

**4 mm pane of float glass with a Solar Low-E layer (EN 673) 1.1W/m<sup>2</sup>K (offers also solar protection)**

Flachglas von 4 mm mit Solar Low-E wellenlängenselektiver Beschichtung (EN 673)

1.1W/m<sup>2</sup>K ( bietet zusätzlichen Sonnenschutz)

4mm lastra di vetro con Solar BE (EN 673) 1.1 W/m<sup>2</sup>K (offre anche protezione solara)

Sticlă float de 4 mm cu depunere de strat Solar Low-E (EN 673) 1.1W/m<sup>2</sup>K (oferă suplimentar protecție solară)

• **Laminated glass codification (VSG) / Codierung der Verbundglasscheiben / Codificare i vetri laminati / Codificarea geamurilor laminate**

### 44.2/20ar/44.1:

**8,38 mm pane of glass made from two sheets of 4mm stick together with a simple PVB layer with 0.38 mm thickness, with Low-E coating**

Glasscheibenstärke von 8,38 mm, bestehend aus: zwei mittels einer einfachen 0,38 mm Polyvinylbutyral PVB-Folie zusammengeklebten Glasscheiben von jeweils 4 mm und Low-E wellenlängenselektiver Beschichtung

*8,38 mm vetro fatto da 2 lastre di 4mm accoppiate con una foglia di 0,38mm PVB e con BE*

Sticlă de 8,38 mm grosime formată din două foi de 4 mm lipite împreună cu o folie simplă de PVB cu grosime de 0,38 mm, cu depunere de strat Low-E

**8,76 mm glass made from two sheets of 4 mm stick together with a double PVB layer with 0.76 mm thickness (2 x 0.38 mm)**

Glasscheibe von 8,76 mm bestehend aus zwei Flachglasscheiben von jeweils 4 mm zusammengeklebt mittels einer doppelten Polyvinylbutyral PVB-Folie von 0,76 mm (2 x 0,38 mm)

*8,76mm vetro fatto da 2 lastre di 4mm accoppiate con doppia foglia di 0,76mm PVB (2x0,38mm)*

Sticla de 8,76 mm grosime formată din două foi de sticlă float cu grosime de 4 mm lipite împreună cu o folie dublă de PVB cu grosime 0.76 mm (2 x 0.38 mm)

• **Solar control glass codification / Sonnenschutzglas / Codificare vetro controllo solare / Sticlă cu control solar**

**The solar control glass that we use is of SunGuard range, and is symbolized as following:**

Das von uns verwendete Sonnenschutzglas entspricht der SunGuard-Ausführung und ist wie folgt codiert:

*Il vetro con controllo solare che usiamo e tipo SunGuard, e il simbolo e:*

Sticla cu control solar utilizată de noi aparține gamei SunGuard și are următoarea codificare:

### SG-HP-6 Green 62/34

**Light transmission / Lichttransmissionsgrad / trasmissione luce / transmisia luminoasă**

**Solar factor / g-Wert / fattore solare / factorul solar**

**Glass Color / Glasfarbe / colore del vetro / culoare sticlă**

**Glass thickness / Glasdicke / Sposore vetro / Grosime sticlă**

**Glass range / Glasscheibenausführung / Gamma di vetro / Gama de sticle**

**S- Solar; HP – High Performance; HS – High Selective**

**SunGuard**

• **Sound control Glass codification / Codierung für das Schallschutzglas / Codificare vetro acustico / Codificare sticlă izolare fonică**

**The definition 44.1 SLA/22Ar/6 Rw=43 dB means that the double glaze consist of an laminated glass 8.38 mm thickness with an Acoustic-PVB-Interlayer (SLA) and a 6 mm pane of Low-E coated glass, with an IG unit sound reduction factor Rw=43 dB**

Die Codierung 44.1 SLA/22Ar/6: Rw=43 dB bezeichnet eine Doppelbeschichtung bestehend aus einer laminierten Glasscheibe von 8.38 mm Polyvinylbutyral PVB Schallschutzfolie (SLA) sowie eine 6mm starke Glasscheibe mit Low-E wellenlängenselektiver Beschichtung, und Schallschutzindizes von Rw=43 dB.

*La definizione 44.1 SLA/22ar/6: Rw=43dB significa che contiene un vetro laminato di 8,38 mm con Acoustic-PVB-Interlayer (SLA) e una lastra di vetro di 6mm con BE, con fattore acustico Rw=43dB.*

Codificarea 44.1 SLA/22Ar/6: Rw=43 dB definește un geam dublu format dintr-o foaie de sticlă laminată de 8.38 mm cu folie PVB-Acustică și o sticlă de 6mm cu strat Low-E, cu un indice de atenuare acustică Rw=43 dB

**Thermal insulated glass / Wärmeschutzglas / Vetro termoizolante / Geam termoizolant**

There are two types of Low Emission layers used:

- Standard Low-E - symbolized “:” with  $U_g = 1.1 \text{ W/m}^2\text{K}$  (in combination 4/16Ar/4:)
- Special Low-E - symbolized “:+” with  $U_g = 1.0 \text{ W/m}^2\text{K}$  (in combination 4/16Ar/4:+)

All the insulated glasses that have a Low-e layer are 90% argon filled.

The most used combinations of insulated glass are shown in the table below:

Es werden zwei wellenlängenselektive Beschichtungen (Low-E) verwendet:

- Low-E Standard - gekennzeichnet “:” mit  $U_g = 1.1 \text{ W/m}^2\text{K}$  (in der Kombination als 4/16Ar/4:)
- Low-E Special - gekennzeichnet “:+” mit  $U_g = 1.0 \text{ W/m}^2\text{K}$  (in der Kombination als 4/16Ar/4:+)

Für alle Glasscheiben mit wellenlängenselektiver Beschichtung Low-E ist der Scheibeninnenraum mit Edelgas Argon 90% befüllt. Die meist verwendeten Wärmeschutzfenster sind in der nachstehender Tabelle aufgeführt:

Si usano 2 tipi di vetri basso emissivi :

- standard BE simbolizzato „:” con  $U_g=1.1\text{W/m}^2\text{K}$  (nella combinazione 4/16Ar/4: )
- special BE simbolizzato „:+” con  $U_g=1.0\text{W/m}^2\text{K}$  (nella combinazione 4/16Ar/4:+ )

Tutti vetri termoisolanti che anno BE sono riempiti con 90% argon.

I piu usati tipi di vetri sonno nella tabella di sotto:

Există două tipuri de straturi de joasă emisivitate (Low-E) utilizate:

- Low-E Standard - simbolizat “:” ce are valoarea  $U_g = 1.1 \text{ W/m}^2\text{K}$  (in combinatia 4/16Ar/4:)
- Low-E Special - simbolizat “:+” ce are valoarea  $U_g = 1.0 \text{ W/m}^2\text{K}$  (in combinatia 4/16Ar/4:+)

Toate geamurile ce au în compoziție o sticlă cu strat Low-E sunt încărcate cu argon 90%.

Cele mai utilizate combinații de geam termoizolant sunt prezentate în tabelul de mai jos:

Nr.	Composition	Thickness [mm]	$U_g$ [W/m <sup>2</sup> K]	g [%]	TV [%]	TUV [%]
1	4/16Ar/4	24	2,6	80	83	59
2	4/16Ar/4:	24	1,1	63	80	35
3	4/16Ar/4:+	24	1,0	53	70	26
4	4/16Ar/4S	24	1,0	48	67	26
5	4/16Ar/4nrG	24	1,3	74	81	31
6	4/16Ar/6	26	2,6	79	82	57
7	4/16Ar/6:	26	1,1	63	80	34
8	4/16Ar/6:+	26	1,0	53	70	26
9	4/16Ar/33.1	26	2,6	78	82	5
10	4/16Ar/33.1:	26	1,1	63	80	4
11	4/16Ar/33.1:+	26	1,0	53	70	3
12	33.1/14Ar/33.1:	26	1,1	59	79	1
13	33.1/14Ar/33.1:+	26	1,1	50	70	1
14	33.1/16Ar/33.1:	28	1,1	59	79	1
15	33.1/16Ar/33.1:+	28	1,0	50	70	1
16	4:/16Ar/4/16Ar/4:	44	0,6	50	70	20
17	4:+/16Ar/4/16Ar/4:+	44	0,5	37	55	12
18	4S/16Ar/4/16Ar/4:+	44	0,5	35	53	12
19	4nrG/16Ar/4/16Ar/4nrG	44	0,7	62	73	17
20	4:/14Ar/4/16Ar/33.1	44	0,9	53	73	3
21	4:/14Ar/4/16Ar/33.1:	44	0,6	49	70	3
22	33.1:/14Ar/4/14Ar/33.1:	44	0,6	47	70	1
23	33.1:+/14Ar/4/14Ar/33.1:+	44	0,6	36	54	0
24	33.1S/14Ar/4/14Ar/33.1:+	44	0,6	33	52	0

**Sound reduction glass / Schallschutzglas / Vetro fonoisolante / Geam fonoizolant**

To obtain a soundproof window, thicker glass or laminated glass is required. There are two types of laminated glass that we use:

- with PVB interlayer - Polyvinyl-Butyral-Interlayer
- with SLA interlayer - Acoustic-Interlayer

The most used combination of sound reduction glass are in shown the table below:

Um ein Schallschutzfenster zu erhalten wird eine dickere oder eine laminierte Glasscheibe eingebaut.

Es gibt zwei Arten von laminierten Glasscheiben :

- PVB-beschichtet – mit Polyvinyl-Butyral-Schallschutzfolie.
- SLA-beschichtet – mit Akustikfolie, eine mineralisch gefüllte Polymerfolie.

Die meist verwendeten Schallschutzfenster sind in der nachstehender Tabelle aufgeführt:

*Per ottenere vetro fonoisolante e necessario vetro grosso o laminato. Sono 2 tipi di vetri laminati:*

- Con strato PVB – Polyvinyl-Butyral-Interlayer
- Con strato SLA –Acoustic-Interlayer

*I piu usati tipi di vetri sonno nella tabella di sotto:*

Pentru a obține o ferestră fonoizolantă este necesară utilizarea unui geam mai gros sau laminat. Există două tipuri de geam laminat :

- cu PVB – folie Polyvinyl-Butyral
- cu SLA – folie Acustică

Cele mai utilizate combinații de geam fonoizolant sunt prezentate în tabelul de mai jos:

Nr.	Composition	Thickness [mm]	Rw [dB]	C [dB]	Ctr [dB]	Ug [W/m²K]
1	4/16Ar/4:	24	31	-2	-5	1,1
2	6/16Ar/6:	28	33	-2	-4	1,1
3	6:/16Ar/33.1	28	37	-2	-6	1,1
4	6:/16Ar/33.2	28	37	-2	-6	1,1
5	4/16Ar/6:	26	35	-2	-6	1,1
6	4:/16Ar/33.1	26	36	-2	-5	1,1
7	4:/16Ar/33.2	26	36	-2	-5	1,1
8	33.1/16Ar/33.1:	28	37	-1	-5	1,1
9	33.1:/16Ar/33.2	28	37	-1	-5	1,1
10	4:/16Ar/44.1	28	37	-1	-6	1,1
11	8/14Ar/33.1:	28	38	-2	-6	1,1
12	6:/14Ar/44.1	28	39	-2	-6	1,1
13	33.1:/14Ar/44.1	28	39	-3	-7	1,1
14	44.1SLA/14Ar/6:	28	42	-2	-6	1,1
15	44.1SLA/14Ar/33.1:	28	42	-2	-6	1,1
16	44.1SLA/20Ar/10:	38	46	-2	-6	1,1
17	4:/16Ar/4/16Ar/4:	44	32	-1	-5	0,6
18	4:/14Ar/4/16Ar/33.1:	44	36	-1	-5	0,6
19	6:/14Ar/4/14Ar/33.1:	44	37	-2	-8	0,6
20	33.1:/14Ar/4/14Ar/33.1:	44	38	-2	-7	0,6
21	6:/12Ar/44.1SLA/12Ar/33.1:	44	44	-2	-7	0,7
22	33.1:/12Ar/44.1SLA/12Ar/33.1:	44	44	-2	-7	0,8

**Safety glass / Sicherheitsglas / Vetro di sicurezza / Sticla de siguranta**
**The safety glass used is a laminated glass with one or more interlayers of PVB.**

Das verwendete Sicherheitsglas besteht aus einer laminierten Glasscheibe mit einfacher oder mehrfacher PVC Polyvinylchlorid-Kunststoffschicht

*Il vetro di sicurezza usato e il vetro laminato con uno o di piu stratti di PVB.*

Sticla de siguranta utilizata este o sticla laminata cu unul sau mai multe straturi de folie PVC.

Description	Interlayer	Low-E coating	Safety Class EN356
33.1	0.38 mm	No	-
33.1:	0.38 mm	Yes	-
33.2:	0.76 mm	Yes	P1A
44.1	0.38 mm	No	-
44.1:	0.38 mm	Yes	-
44.2:	0.76 mm	Yes	P2A
44.4	1.52 mm	No	P4A

**The most used combination of safety glass are in shown the table below:**

Die meisst verwendeten Kombinationen von Sicherheitsfenster sind in der nachstehender Tabelle aufgeföhrt:

*I piu usati tipi di vetri di sicurezza sonno nella tabella di sotto:*

Cele mai utilizate combinatii de geam de siguranta sunt prezentate în tabelul de mai jos:

Nr.	Composition	Thickness [mm]	Rw [dB]	C [dB]	Ctr [dB]	Ug [W/m <sup>2</sup> K]
1	4:/18Ar/33.1	28	36	-2	-5	1,1
2	4:/18Ar/33.2	28	36	-2	-5	1,1
3	6:/16Ar/33.1+	28	34	-1	-5	1,0
4	6:/16Ar/33.2	28	34	-1	-5	1,1
5	33.1/16Ar/33.1:	28	37	-2	-6	1,1
6	33.2/16Ar/33.1:	28	37	-2	-6	1,1
7	33.1/16Ar/33.1:+	28	37	-2	-6	1,0
8	33.2/16Ar/33.1:+	28	37	-2	-6	1,0
9	44.1/14Ar/33.1:	28	38	-2	-6	1,1
10	44.1/14Ar/33.1:+	28	38	-2	-6	1,1
11	44.2/14Ar/33.1:	28	38	-2	-6	1,1
12	44.2/14Ar/33.1:+	28	38	-2	-6	1,1
13	44.2/14Ar/33.2:	28	38	-2	-6	1,1
14	44.2/12Ar/44.2:	28	39	-2	-6	1,3
15	44.4/14Ar/33.1:	28	39	-1	-5	1,1
16	44.4/14Ar/33.2:	28	39	-1	-5	1,1
17	44.4/14Ar/33.1:+	28	39	-1	-5	1,1
18	33.1:/14Ar/4/14Ar/33.1:	44	39	-2	-7	0,6
19	33.1:+/14Ar/4/14Ar/33.1:+	44	39	-2	-7	0,6
20	33.1:/16Ar/4/16Ar/33.1:	48	39	-2	-7	0,6
21	33.1:+/16Ar/4/16Ar/33.1:+	48	39	-2	-7	0,5
22	44.2:/15Ar/4/15Ar/33.1:	48	40	-2	-7	0,6
23	44.2:/15Ar/4/15Ar/33.1:+	48	40	-2	-7	0,6

**Solar control glass / Sonnenschutzglas / Vetro riflettente a controllo solare /**  
 Geam cu protectie solara

**Our Solar control glass is designed to provide varying levels of solar control for use in different climates and building designs.**

Unser Sonnenschutzglas bietet mehrfachen Schutzgrad gegen die Sonneneinstrahlung in verschiedenen Farbausführungen.

*Il nostro vetro con controllo solare offre diversi gradi di protezione contro la radiazione solare in una variata gama colori.*

*Sticla noastră cu control solar oferă diferite grade de protecție împotriva radiației solare într-o gamă variată de culori.*

Description	Thickness [mm]	Lt [%]	Low-E Coating
4S: (four season glass)	4 mm	69	Yes
SG-S-6-Blue 52	6 mm	52	No
SG-S-6-Green 54	6 mm	54	No
SG-S-6-Grey 32	6 mm	32	No
SG-S-6-Neutral 67	6 mm	67	No

**The most used combination of solar control glass are in shown the table below:**

Die meisst verwendeten Kombinationen von Fenstern mit Sonnenschutzglas sind in nachstehender Tabelle aufgeführt:

*I piu usati tipi di vetri controllo solare sonno nella tabella di sotto:*

Cele mai utilizate combinații de geam cu protecție solară sunt prezentate în tabelul de mai jos:

Nr.	Composition	Thickness [mm]	g [%]	pv [%]	TV [%]	TUV [%]	Ug [W/m²K]
1	4-/16Ar/33.1	26	57	12	80	4	1,1
2	4:+/16Ar/33.1	26	47	23	70	3	1
3	4S/16Ar/33.1	26	42	27	67	3	1
4	4nrG/16Ar/33.1	26	70	13	81	3	1,3
5	33.1/16Ar/33.1:	28	59	12	79	1	1,1
6	33.14S/16Ar/33.1:+	28	36	29	56	1	1
7	SG-S-6 Blue52/16Ar/33.1:	28	35	14	45	2	1,1
8	SG-S-6 Green54/16Ar/33.1:	28	29	14	47	1	1,1
9	SG-S-6 Neutral67/16Ar/33.1:	28	47	19	59	3	1,1
10	SG-S-6 Grey32/16Ar/33.1:	28	23	22	28	2	1,1
11	4-/14Ar/4/16Ar/33.1:	44	49	15	70	2	0,6
12	33.1:4S/14Ar/4/14Ar/33.1:	44	33	33	52	1	0,6
13	33.1:+/14Ar/4/14Ar/33.1:+	44	36	29	54	1	0,6
14	33.1:/14Ar/4/14Ar/33.1:+	44	41	21	61	1	0,6
15	33.1:/14Ar/4/14Ar/33.1:	44	47	15	70	1	0,6
16	33.1nrG/14Ar/4/14Ar/33.1nrG	44	59	16	72	1	0,7
17	SG-S-6 Blue52/14Ar/4/14Ar/33.1:	44	32	16	42	2	0,9
18	SG-S-6 Green54/14Ar/4/14Ar/33.1:	44	27	16	44	1	0,9
19	SG-S-6 Neutral67/14Ar/4/14Ar/33.1:	44	43	22	54	2	0,9
20	SG-S-6 Grey32/14Ar/4/14Ar/33.1:	44	21	23	26	1	0,9



## Ornamental glass / Ornamentglas / Vetro ornamentale / Sticla Ornament

**Our ornament glass lets you choose from a selection of transparent, translucent or opaque glass products depending on the nature of the application.**

Transparent, lichtdurchlässig oder undurchsichtig eröffnet Ihnen das Glas eine Vielzahl an Motiven und Farben um Ihren Wohnraum von klassisch bis modern einzurichten.

*I nostri vetri ornamentali diffondono la luce e proteggono dagli sguardi indiscreti. Gli ambienti sono luminosi e sembrano più spaziosi.*

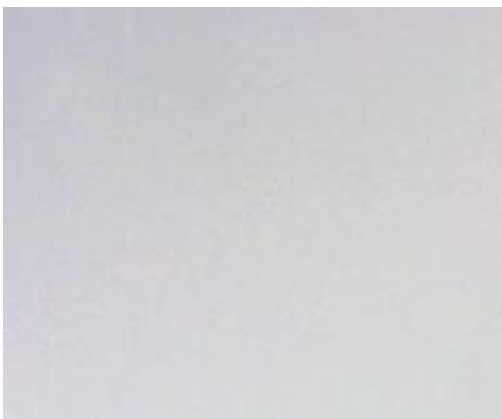
În funcție de aplicația dorită puteți alege dintr-o gamă largă de sticle ornament: transparente, translucide sau opace.



Crepì



Screen



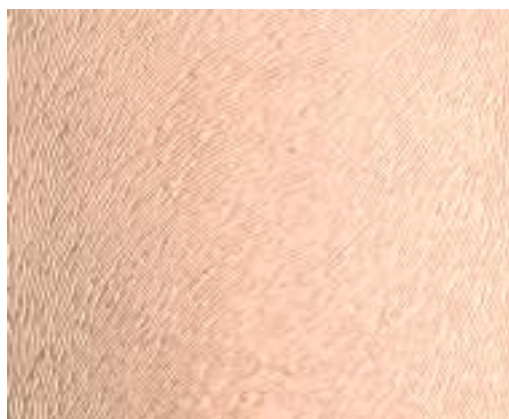
Satinat



Kura



Chinchila



Chinchila Bronze

**Maximal glazing sizes / Maximale Guss-oder Beschichtungsstärke /**  
*Dimensioni massime del vetro / Dimensiuni maxime geamuri*

**The pane thickness according to the insulated glass size results from the table below:**

Die Scheibendicke Abhängig von der Isolierglasgröße ergibt sich aus der nachfolgenden Tabelle:

*Lo spessore delle lastre di vetro in base alla dimensione del vetro termoisolante risulta dalla tabella seguente:*

Grosimea foii de sticlă funcție de dimensiunile geamului termoizolant rezultă din tabelul de mai jos:

		Width / Breite / Larghezza / Latime						
		500	1000	1500	1750	2000	2250	2500
Height / Höhe / Altezza / Înaltime	500						6 4	
	1000		4 4					
	1500			6 4				
	1750				6 6		8 6	
	2000							
	2250		6 4					
	2500							10 6

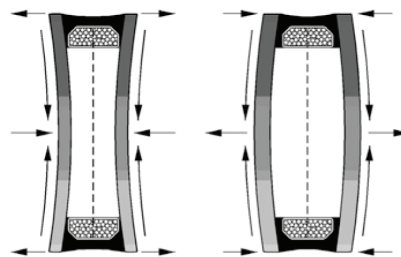
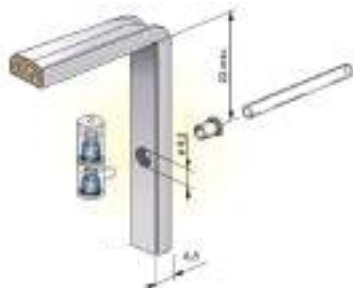
**Insulating glass two way valve / Druckausgleichventil zur Versiegelung des**  
*Scheibenzwischenraumes wegen Klimalast / Valvola altimetrica / Supapa altimetrica*

**To prevent glass from breaking when installed at an altitude higher that 1000 m, an altimetric valve is required. This valve opens when the differential between inner and outer pressure exceeds a range of approximately 80 millibar and shuts itself when this difference is approx. 25 millibar.**

Um einer unzulässigen Belastung des Randverbundes oder gar der Glasscheiben vorzubeugen für den Fall dass das Fenster in einer Höhe von über 1000 m eingebaut wird, ist das Versehen mit einem ein Druckausgleichventil erforderlich. Dieses Ventil öffnet sich wenn der Luftdruckunterschied zwischen Innen und Außen einen Wert von 80 mbar überschreitet, und schließt sich wieder wenn der Unterschied zirka 25 mbar beträgt.

Per evitare la rottura di vetro una volta installato ad alta quota una valvola altimetrica è richiesta. Questa valvola si apre quando il differenziale di pressione tra interno ed esterno supera un intervallo di circa 80 millibar e si chiude quando questo difference e ca. 25 millibar.

Pentru a preveni spargerea geamului atunci când este instalată la o altitudine mai mare de 1000 m, este necesară utilizarea unei supape altimetrice. Această supapă se deschide atunci când diferența de presiune dintre interior și exterior depășește valoarea de aproximativ 80 milibari, și se închide atunci când această diferență este de cca. 25 milibar.



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# ROLLO TOP

## Top mounted roller shutters Aufsatz-Rollladensystem Avvolgibili Sovrapposti Rulouri Suprapuse



System Manufacturer:  
SKS Stakusit Bautechnik  
Duisburg,  
Deutschland

- Prevents heating energy loss during wintertime.
- Discourage intruders and provides burglary resistance.
- Sound insulation - roller shutters minimize all type of sounds, bothersome noises remain outside.
- Wide variety of colors and wood imitation.
- Manual or electric command.
- Insect repelling screens can be integrated in the system.

- Verhindert Warmeverlust im Winter.
- Sicherheit und Schutz vor ungebetenen Gästen. Elektrische Systeme können so programmiert werden um die Anwesenheit in dem Haus zu simulieren.
- Schutz vor neugierigen Blicken, vor allem, wenn die Fenster richtung Straße oder benachbarten Gehäuse orientiert sind
- Große Auswahl von Farben und Holzimitat.
- Manueller oder elektrischer Antrieb.
- Insektenschutz kann in das System integriert werden.

- *Prevencono le perdite della temperatura( caldo) interna durante l'inverno.*
- *Sicurezza e protezione contro gli intrusi. I sistemi di comando elettrico possono essere programmati per aprirsi e chiudersi ad un determinato orario, simulando la presenza dei proprietari in casa.*
- *Isolamento acustico superiore*
- *Possono essere azionate manualmente o in modo elettrico col telecomando.*
- *Si possono realizzare in diversi colori per essere in armonia con la facciata dell' edificio.*
- *Possono avere le zanzariere incluse.*

- Previne pierderile de căldură pe timpul iernii.
- Siguranță și protecție împotriva oaspeților nepoftiți. Sistemele electrice pot fi programate să se ridice și coboare la un anumit interval de timp, pentru a simula prezența în casă.
- Intimitate: protejează de privirile indiscrete, mai ales când ferestrele sunt orientate către stradă sau spre o locuință vecină
- Izolare fonică superioară.
- Se pot acționa manual sau prin intermediul unei telecomenzi.
- Se pot realiza într-o varietate coloristică largă pentru armonizarea cu fațada imobilului.
- Permit integrarea unei plase contra insectelor.

**Nachweis**  
Wärmedurchgangskoeffizient und  
Temperaturfaktor

Prüfbericht 428 38267/1



Auftraggeber **SKS Stakusit Bautechnik GmbH**  
Eisenbahnstr. 2 B

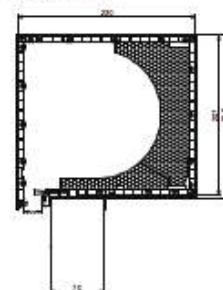
47198 Duisburg-Homberg

Produkt	Rollladenkasten
Bezeichnung	TOP MINI 210 eckig
Außenmaß (H x T)	210 mm x 230 mm
Auslass-Schlitz	22 mm breit, beidseitig mit Bürstendichtung geschlossen
Material des Rollladenkastens	PVC-Hohlprofile EPS-Hartschaum Typ EPS Bemessungswert der Wärmeleitfähigkeit
Einlagematerial	$\lambda = 0,035 \text{ W}/(\text{m} \cdot \text{K})$
Material des Roll- panzers	--
Besonderheiten	--

**Grundlagen**

EN ISO 10077-2 : 2003  
Berechnung des Wärmedurchgangskoeffizienten - Teil 2:  
Numerisches Verfahren für  
Rahmen  
DIN 4108 Beiblatt 2 : 2006-03  
Wärmeschutz und Energieein-  
sparung in Gebäuden - Wär-  
mebrücken - Planungs- und  
Ausführungsbeispiele

**Darstellung**



**Verwendungshinweise**

Dieser Prüfbericht dient zum  
Nachweis des Wärmedurch-  
gangskoeffizienten  $U_{sb}$  und des  
Temperaturfaktors  $f_{Rsi}$ .

**Gültigkeit**

Die genannten Daten und Er-  
gebnisse beziehen sich aus-  
schließlich auf den geprüften  
und beschriebenen Gegen-  
stand.

Die Ermittlung des Wärme-  
durchgangskoeffizienten und  
des Temperaturfaktors ermög-  
licht keine Aussage über wei-  
tere leistungs- und qualitäts-  
bestimmenden Eigenschaften  
der vorliegenden Konstruktion.

**Veröffentlichungshinweise**

Es gilt das ift-Merkblatt „Bedin-  
gungen und Hinweise zur Be-  
nutzung von ift-Prüfdokumen-  
tationen“.

Das Deckblatt kann als Kurz-  
fassung verwendet werden.

**Inhalt**

Der Nachweis umfasst insge-  
samt 7 Seiten

- 1 Gegenstand
- 2 Durchführung
- 3 Einzelergebnissen



Wärmedurchgangskoeffizient  
 $U_{sb} = 0,82 \text{ W}/(\text{m}^2 \cdot \text{K})$



Temperaturfaktor  
 $f_{Rsi} = 0,71$



ift Rosenheim  
23. März 2009

*Klaus Specht*

Klaus Specht, Dipl.-Ing. (FH)  
Prüfingenieur  
ift Zentrum Glas, Baustoffe & Bauphysik

*H. A.*

Horst Kellermann, Dipl.-Phys.  
Prüfingenieur  
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Notified Body Nr. 0757  
Anerkannte PUZ-Stelle: BAY 18  
Deutscher  
Institut für  
Bauphysik  
DIP-PL 0910 05  
DIP-23 2180 01  
104-24 11-01-03  
104-24 11-01-03

**Color program / Dekorübersicht / Programma Colori / Program culori**
**Box & PVC Guide Rails / Kasten & PVC Führungsschienen / Cassettoni & Guide PVC / Caseta & Sine Ghidare PVC**

Finishes / Dekore <i>Pelicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>	Renolit code / Renolit Code <i>Codice Renolit / Cod Renolit</i>
<b>Wood grain</b> / Holzdekore / <i>Effetto Legno</i> / Imitatie Lemn	Golden Oak Nussbaum V Sapeli	9.2178 001-116700 9.2178 007-116700 9.2065021-116700
<b>Uni-Colours</b> / Uni –Farben / <i>Uni-colore / Culori Uni</i>	Cremeweiss Moosgrün Anthrazitgrau Grau Lichtgrau	02.12.11.000011-116701 6005 05-116700 7016 05-116700 7155 05-116700 7251 05-116700

**Colors for 37 mm aluminium slats / Farben für 37 mm aluminium Lamellen / Colori lamella alluminio 37 mm / Culori lamela 37 mm aluminiu**

Finishes / Dekore <i>Pelicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>	Color code / Farbe Code <i>Codice colore / Cod culoare</i>
<b>Wood grain</b> / Holzdekore / <i>Effetto Legno</i> / Imitatie Lemn	Golden Oak Nussbaum V Mahagoni	6105 0010 0011
<b>Uni-Colours</b> / Uni –Farben / <i>Uni-colore / Culori Uni</i>	Hellelfenbine Moosgrün Anthrazitgrau Grau Lichtgrau Silber Weiss Braun	1015 6005 7016 7038 7035 9006 9016 8077

**Colors for 37 mm PVC slats / Farben für 37 mm PVC Lamellen / Colori lamella PVC 37mm / Culori lamela 37 mm PVC**

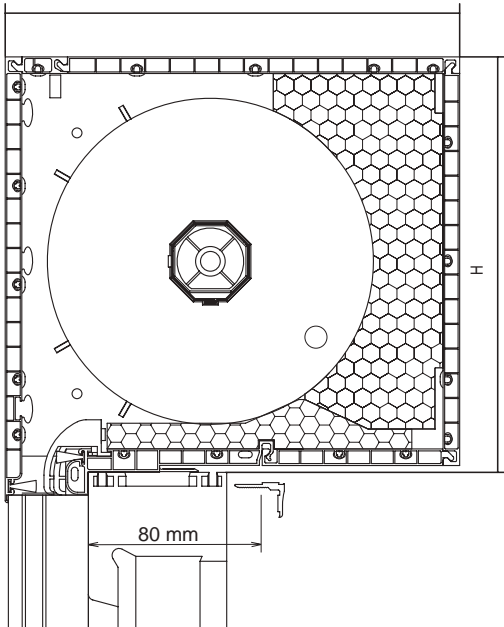
Finishes / Dekore <i>Pelicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>	SKS code / SKS Code / <i>Codice SKS / Cod SKS</i>
<b>Uni-Colours</b> / Uni –Farben <i>Uni-colore / Culori Uni</i>	Weiss Grau	9016 7038

**Colors for 52 mm PVC slats / Farben für 52 mm PVC Lamellen / Colori lamella PVC 52mm / Culori lamela 52 mm PVC**

Finishes / Dekore <i>Pelicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>	SKS code / SKS Code / <i>Codice SKS / Cod SKS</i>
<b>Uni-Colours</b> / Uni –Farben <i>Uni-colore / Culori Uni</i>	Weiss Grau	9016 7038

## ROLLO TOP MINI En Ev

**Inspection from inside or below** / Revision von innen oder unten /  
*Revisione dal basso o dietro* / Vizitare din interior sau de jos

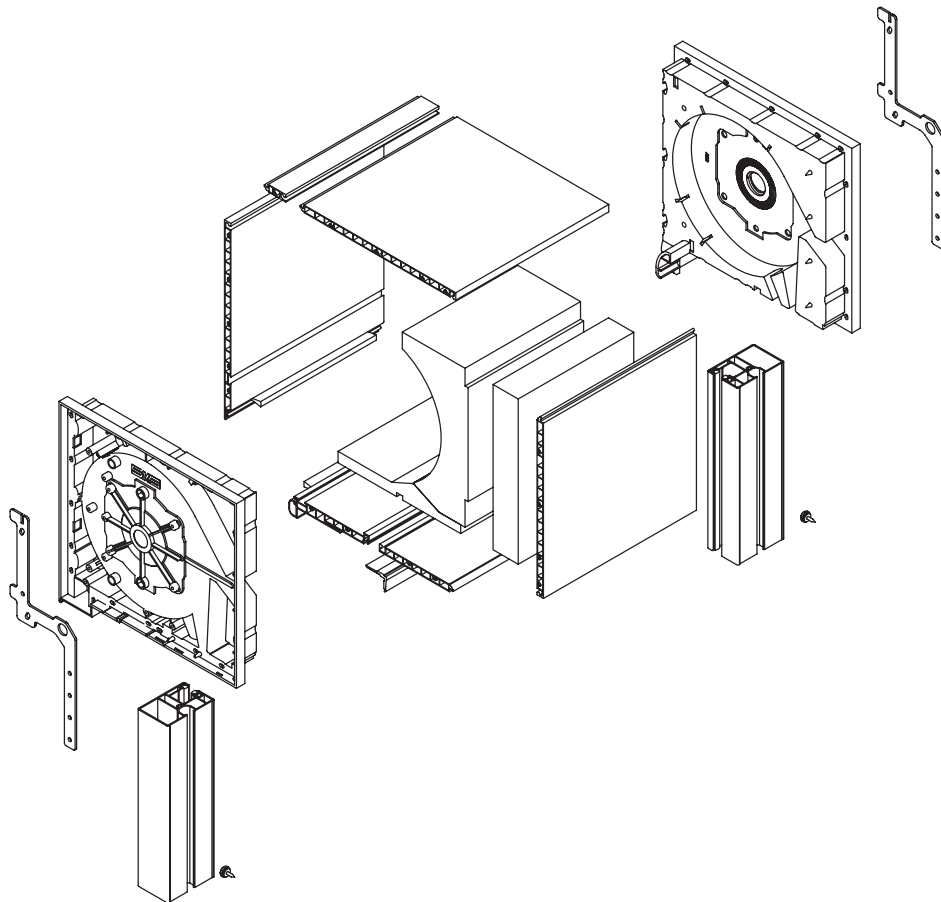
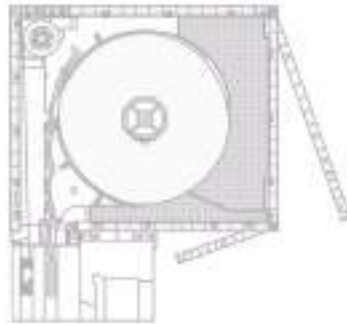


Box size (without insect screen):  
Kastengrößen (ohne Insektenschutz):  
Dimensioni cassettone (senza zanzariera):  
Dimensiuni casetă (fără plasă insecte):

H x T  
170 x 230 mm  
210 x 230 mm

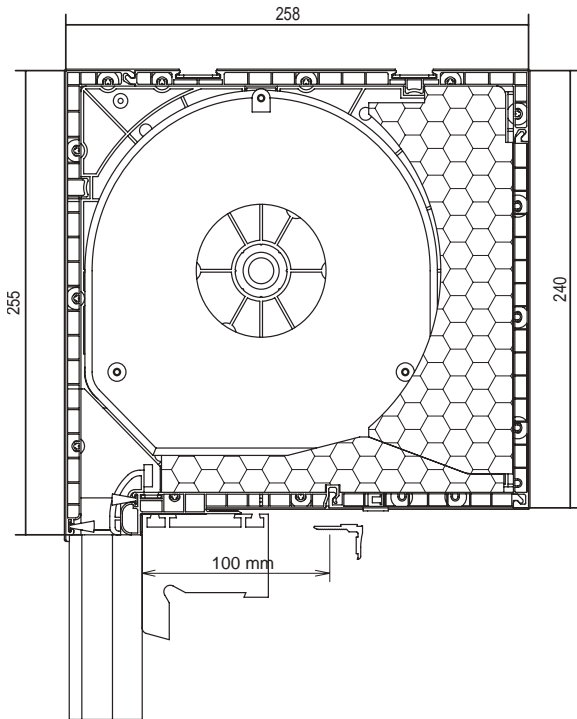
Box size (with insect screen):  
Kastengrößen (mit Insektenschutz):  
Dimensioni cassettone (con zanzariera):  
Dimensiuni casetă (cu plasă insecte):

H x T  
170 x 253 mm  
210 x 253 mm



## ROLLO TOP DUO

**Inspection from inside or below** / Revision von innen oder unten / *Revisione dal basso o dietro* / Vizitare din interior sau de jos

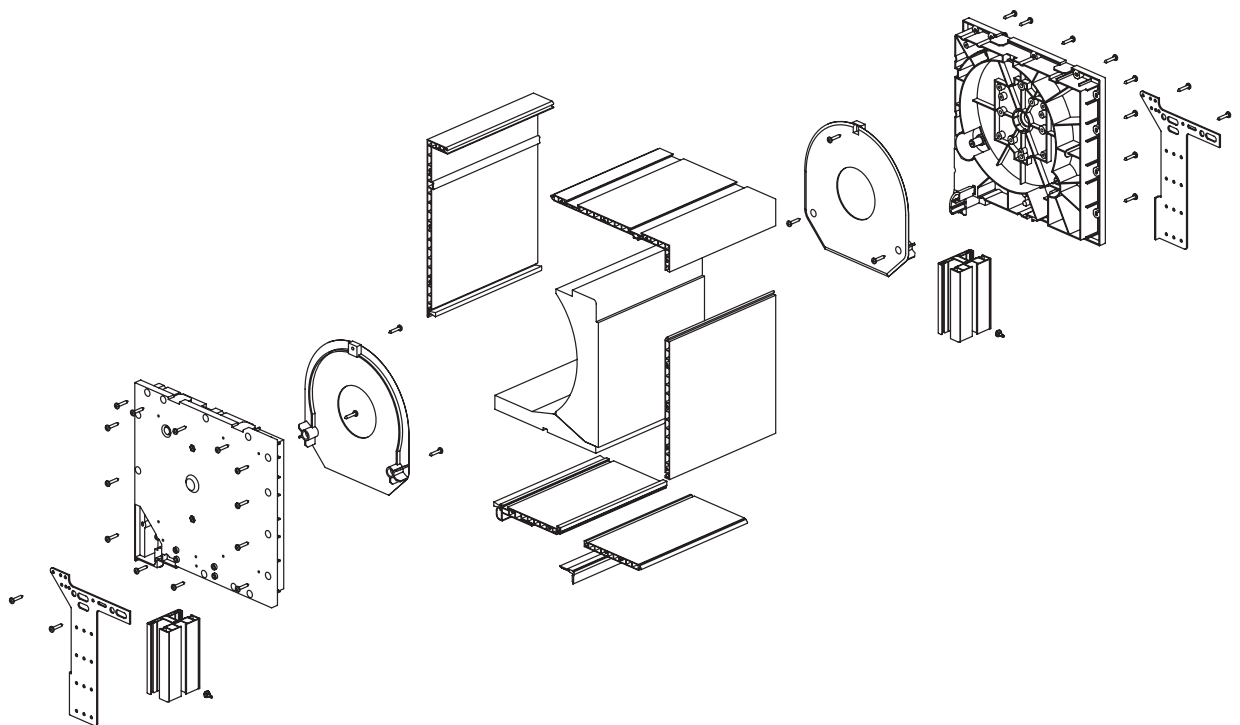
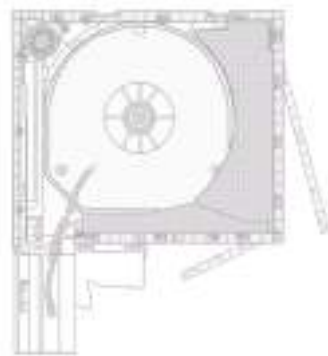


Box size (without insect screen):  
Kastengrößen (ohne Insektenschutz):  
Dimensioni cassettone (senza zanzariera):  
Dimensiuni casetă (fără plasă insecte):

H x T  
240 x 258 mm

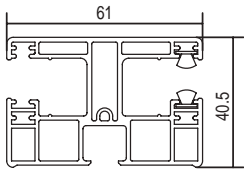
Box size (with insect screen):  
Kastengrößen (mit Insektenschutz):  
Dimensioni cassettone (con zanzariera):  
Dimensiuni casetă (cu plasă insecte):

H x T  
240 x 280 mm

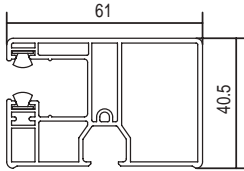


PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOR 76  
PREMIDOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
GLAS  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

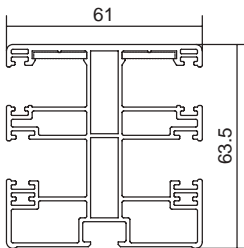


**Roller shutters accessories / Rollladenzubehör / Accessori per Avvolgibili / Accesorii pentru rulouri**


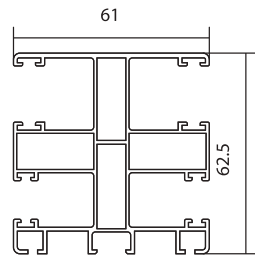
Description	Color	Article Nr.
<b>PVC MINI guide rails double</b> PVC Führungsschiene MINI <i>Guida doppia PVC MINI</i> Șină MINI dublă PVC	<b>white / weiss / bianco / alb</b>  <b>see color table / siehe Farbtabelle / vedi tabella colori / vezi tabel culori</b>	<b>X25052 01 605</b>



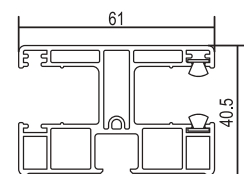
Description	Color	Article Nr.
<b>PVC MINI guide rails simple</b> PVC MINI Führungsschiene einfach <i>Guida semplice PVC MINI</i> Șină MINI simplă PVC	<b>white / weiss / bianco / alb</b>  <b>see color table / siehe Farbtabelle / vedi tabella colori / vezi tabel culori</b>	<b>X25060 01 600</b>



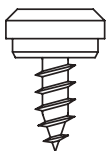
Description	Color	Article Nr.
<b>PVC MINI guide rails double KOMBI</b> PVC MINI KOMBI Führungsschiene doppelt <i>Guida doppia KOMBI PVC MINI</i> Șină MINI dublă PVC KOMBI	<b>white / weiss / bianco / alb</b>  <b>see color table / siehe Farbtabelle / vedi tabella colori / vezi tabel culori</b>	<b>X25081 01 600</b>



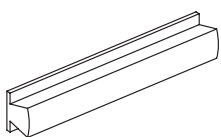
Description	Color	Article Nr.
<b>ALU guide rails double MINI/MAXI, INTEGRA interior</b> ALU Führungsschiene MINI/MAXI, doppelt INTEGRA innen <i>ALU guida doppia MINI/MAXI, INTEGRA interiore</i> Șină dublă ALU MINI/MAXI, INTEGRA interioară	<b>white / weiss / bianco / alb</b>  <b>RAL Colors / RAL Farbe / RAL Colori / Culori RAL</b>	<b>X25085 00 600</b>



Description	Color	Article Nr.
<b>PVC MAXI guide rails double</b> PVC Führungsschiene MAXI <i>Guida doppia PVC MAXI</i> Șină MAXI dublă PVC	<b>white / weiss / bianco / alb</b>  <b>see color table / siehe Farbtabelle / vedi tabella colori / vezi tabel culori</b>	<b>X91104 01 605</b>



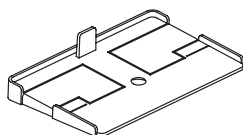
Description	Color	Article Nr.
<b>Clamping screw / Klemmnippelschraube / Testa in metallo / Șurub clipsare șină</b>		<b>X582 00 001</b>



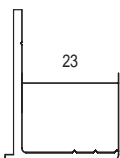
Description	Color	Article Nr.
<b>Brush Gasket 6.6x5.25 -3P / Bürstenprofil Spazzolino / Perie etanșare</b>	<b>black / schwarz / nero / negro</b>	<b>X990 02 350</b>



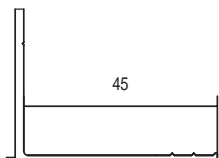
Description	Color	Article Nr.
<b>Weatherstrip gasket ALU guides</b> / Kederprofil für ALU Führungsschiene / Guarnizione per guida ALU Cheder pentru șină rulou ALU	<b>black</b> / schwarz / nero / negro	<b>X71027 06 200</b>



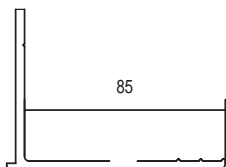
Description	Color	Article Nr.
<b>Cover for guide rail</b> / Endkappe / Tappo pe guida Capac șină rulou	<b>white</b> / weiss / bianco / alb	<b>25059 01 000</b>



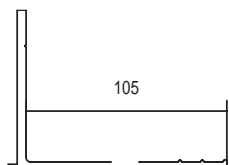
Description	Color	Article Nr.
<b>Plaster base profile 23</b> / Putzträgerprofil 23 Profilo portaintonaco 23 / Profil susținere Termoizolație 23	<b>elox</b>	<b>26019 00 600</b>



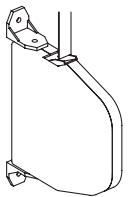
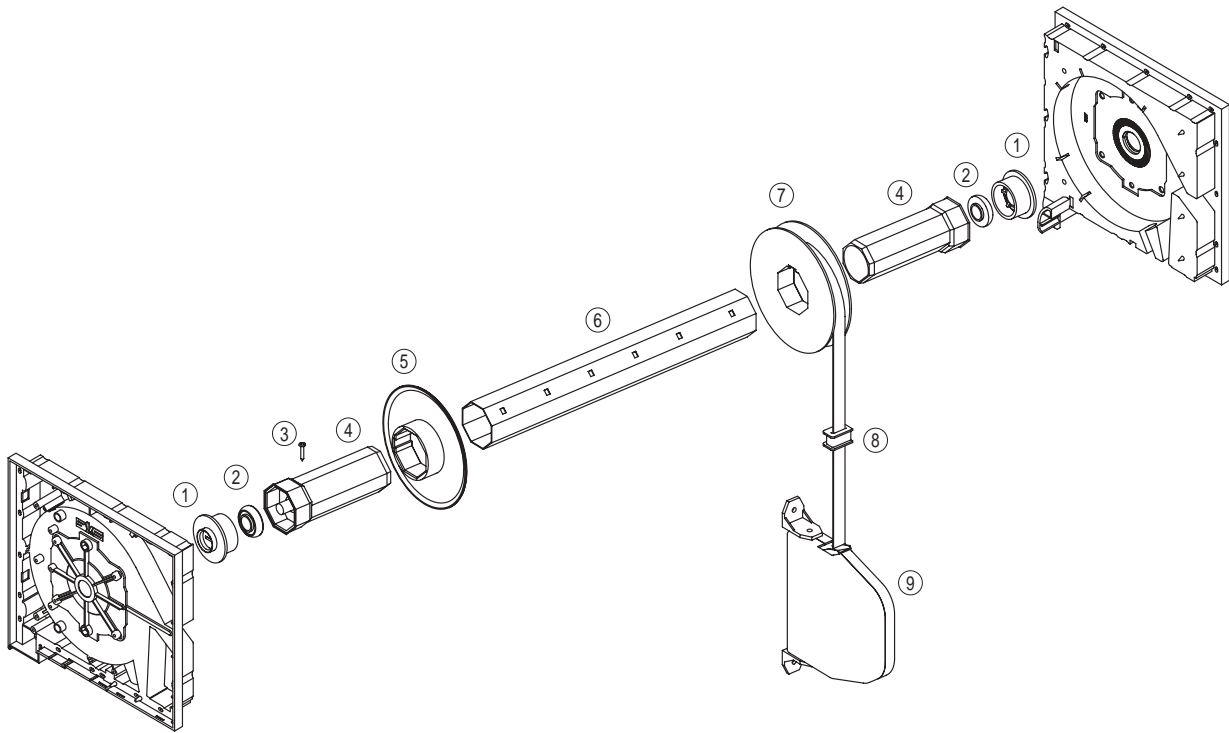
Description	Color	Article Nr.
<b>Plaster base profile 45</b> / Putzträgerprofil 45 Profilo portaintonaco 45 / Profil susținere Termoizolație 45	<b>elox</b>	<b>26020 00 600</b>



Description	Color	Article Nr.
<b>Plaster base profile 85</b> / Putzträgerprofil 85 Profilo portaintonaco 85 / Profil susținere Termoizolație 85	<b>elox</b>	<b>26035 00 600</b>



Description	Color	Article Nr.
<b>Plaster base profile 105</b> / Putzträgerprofil 105 Profilo portaintonaco 105 / Profil susținere Termoizolație 105	<b>elox</b>	<b>26036 00 600</b>

**Belt / Gurtantrieb / Azionamento con cinghia / Acționare cu chingă**

**Description**

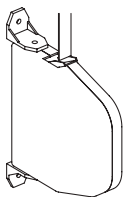
**Surface-mounted strap coiler MINI /**  
 Aufschraubwickler MINI / Avvolgitore fune  
 oscillabile, MINI / Acționare cu chingă  
 aplicată, MINI

**Color**

**white - 5 m**  
**brown - 5 m**  
**white - 7 m**  
**brown - 7 m**

**Article Nr.**

**249 01 000**  
**249 09 000**  
**249 01 007**  
**249 09 007**


**Description**

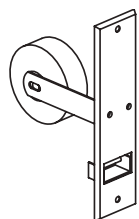
**Surface-mounted strap coiler MAXI /**  
 Aufschraubwickler MAXI / Avvolgitore  
 fune oscillabile, MAXI / Acționare cu  
 cu chingă casetă aplicată, MAXI

**Color**

**white - 6 m**  
**brown - 6 m**

**Article Nr.**

**721 01 001**  
**721 09 001**


**Description**

**Flush-mounted strap coiler MAXI /**  
 Einlasswickler MAXI / Avvolgitore di entrata /  
 Acționare cu chingă casetă îngropată, MAXI

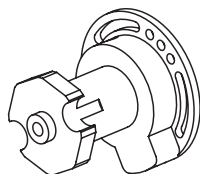
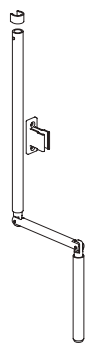
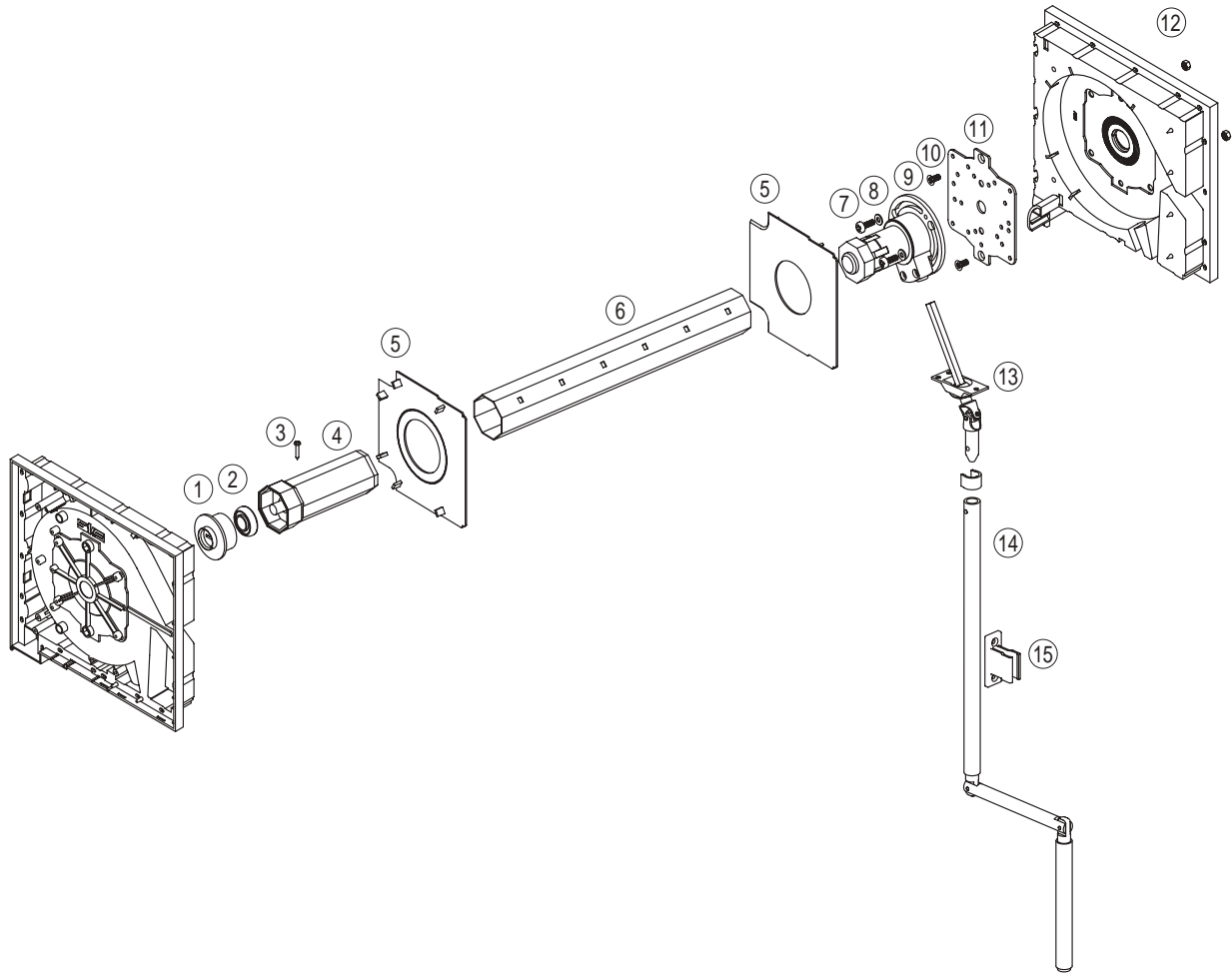
**Color**

**white - 5 m**

**Article Nr.**

**25059 01 000**

**Manual Crank / Kurbelgetriebe / Azionamento a manovella / Acționare cu manivelă**



Description	Color	Article Nr.
-------------	-------	-------------

**Manual Crank / Kurbelstange / Manovela**  
Manivelă

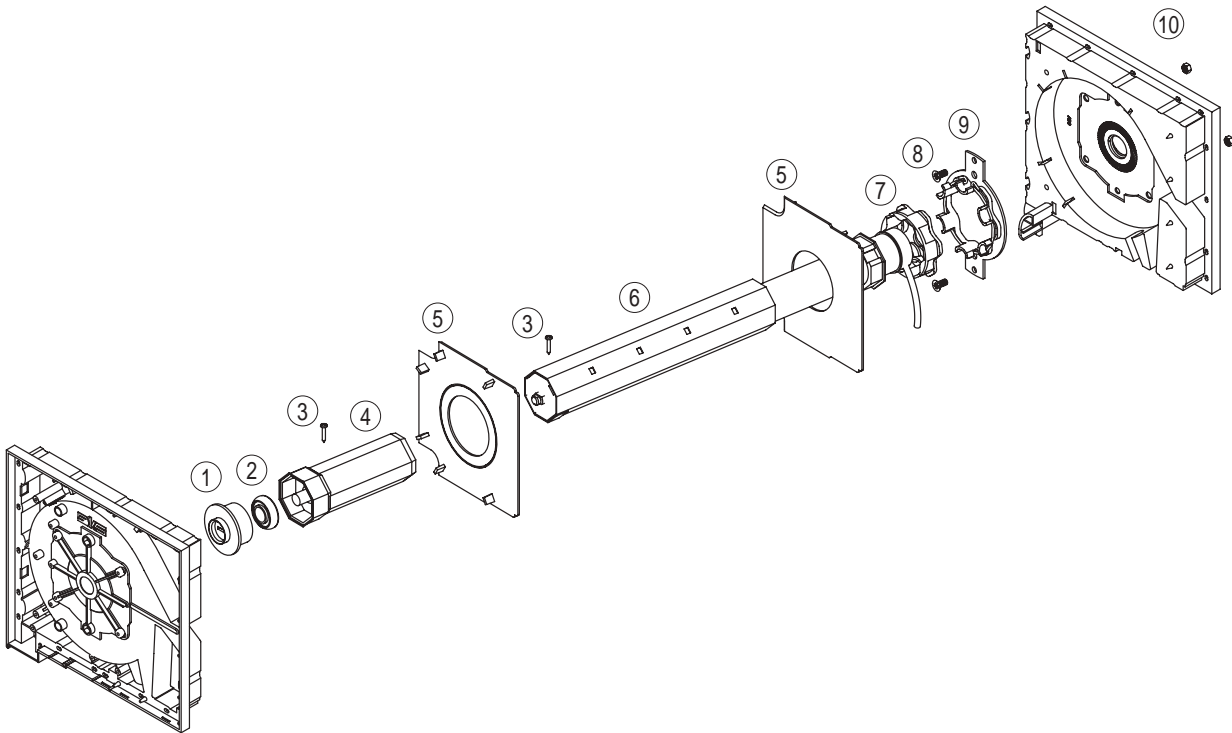
white - 1.2 m  
brown - 1.2 m  
white - 1.5 m  
white - 1.5 m

X711 01 120  
X711 09 120  
X711 01 150  
X711 09 150

Description	Color	Article Nr.
-------------	-------	-------------

**Crank mechanism / Kurbelgetriebe /  
Meccanismo a manovella / Reductor**  
Manivelă

X716 00 000 2:1-SW40-16 kg  
X710 00 000 3:1-SW40-21 kg  
X714 00 000 4:1-SW60-21 kg

**Motor drive / Motorantriebe / Azionamento a motore / Acționare cu motor**


Description	Article Nr.
<b>Electronic limit switching with radio, point to point, jamming detection</b> Antriebe mit Funkempfänger und Punkt zu Punkt Programmierung Motore con radiorecettore integrato, prog. da punto a punto Motor cu radioreceptor integrat, reglare punctuală, senzor de obst.	<b>P 9/16 PR+ SW 40</b> <b>R 20/17 C PR+ SW 60</b>



Description	Article Nr.
<b>Electronic limit switching point to point, jamming detection</b> Antrieb mit elektronischer Endabschaltung und Punkt zu Punkt Prog. Motore con programmazione da punto a punto Motor cu terminal electronic, reglare punctuală, senzor de obst.	<b>P 9/16 PR+ SW 40</b> <b>R 20/17 C PR+ SW 60</b>



Description	Color	Article Nr.
<b>1-channel handheld transmitter /</b> 1-Kanal Handsender / <i>Trasmettitore portatile a 1 canale /</i> Telecomandă 1 canal	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 541-II</b>



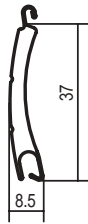
Description	Color	Article Nr.
<b>5-channel handheld transmitter /</b> 5-Kanal Handsender / <i>Trasmettitore portatile a 5 canale /</i> Telecomandă 5 canale	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 545-II</b>



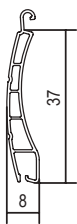
Description	Color	Article Nr.
<b>Flush-mounted switch Ø 58 mm /</b> Unterputz Schalter Ø 58 mm Wandinbau Schalter / <i>Interruttore da incasso Ø 58 mm</i> Intrerupător îngropat Ø 58 mm	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 41</b>



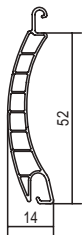
Description	Color	Article Nr.
<b>Surface-mounted switch / Aufputz</b> Schalter / <i>Interruttore a sbalzo /</i> Intrerupator aplicat	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 42</b>

**Roller Slat / Rollladenpanzer / Tapparelle / Lamele Rulou**


Description	Color	Article Nr.
<b>Alu MINI Roller slat</b> / Alu Rollladenprofil MINI / <i>Alu MINI Lamella / Lamelă Alu MINI</i>	<b>golden oak</b>	<b>Profil A37 6105</b>
	<b>nussbaum</b>	<b>Profil A37 0010</b>
	<b>mahagoni</b>	<b>Profil A37 0011</b>
	<b>hellelfenbine</b>	<b>Profil A37 1015</b>
	<b>moosgrün</b>	<b>Profil A37 6005</b>
	<b>anthrazitgrau</b>	<b>Profil A37 7016</b>
	<b>grau</b>	<b>Profil A37 7038</b>
	<b>lichtgrau</b>	<b>Profil A37 7035</b>
	<b>silber</b>	<b>Profil A37 9006</b>
	<b>weiss</b>	<b>Profil A37 9016</b>
	<b>braun</b>	<b>Profil A37 8077</b>



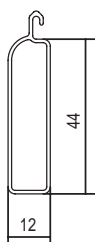
Description	Color	Article Nr.
<b>PVC MINI Roller slat</b> / PVC Rollladenprofil MINI / <i>PVC MINI Lamella / Lamelă PVC MINI</i>	<b>white / weiss / bianco / alb</b>	<b>X837 01 601</b>
	<b>gray / grau / grigio / gri</b>	<b>X837 02 601</b>



Description	Color	Article Nr.
<b>PVC MAXI Roller slat</b> / PVC Rollladenprofil MAXI / <i>PVC MAXI Lamella / Lamelă PVC MAXI</i>	<b>white / weiss / bianco / alb</b>	<b>X851 01 600</b>
	<b>gray / grau / grigio / gri</b>	<b>X851 02 600</b>



Description	Color	Article Nr.
<b>Bottom rail MINI</b> / Endschienenprofil MINI / <i>Asta Finale MINI / Șină capăt MINI</i>	<b>white / weiss / bianco / alb</b>	<b>X280 01 600</b>
	<b>RAL Colors / RAL Farbe / RAL Colori / Culori RAL</b>	<b>X280 00 600</b>

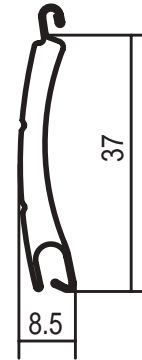


Description	Color	Article Nr.
<b>Bottom rail MAXI</b> / Endschienenprofil MAXI / <i>Asta Finale MAXI / Șină capăt MAXI</i>	<b>white / weiss / bianco / alb</b>	<b>X526 01 600</b>
	<b>RAL Colors / RAL Farbe / RAL Colori / Culori RAL</b>	<b>X526 00 600</b>

**Roller Slat / Rollladenpanzer / Tapparelle / Lamele Rulou**

<b>Roller slat / Rollladenstab</b> <i>Lamella Tapparella / Lamela rulou</i>	<b>H x T</b>	<b>Weight / Gewicht /</b> <i>Peso / Greutate</i>
<b>Profil A37</b>	37 x 8,5	3.0 kg/m <sup>2</sup>

<b>Max. Height (box included)</b> Max. Höhe (Kasten inkl.) <i>Altezza massima (cassettone incl.)</i> Inaltime maxima (caseta inclusa)		
<b>ROLLO TOP</b>	<b>SW 40</b>	<b>SW 60</b>
<b>MINI WD</b>		
145 x 167	1,25	1,07
170 x 207	2,40	2,05
210 x 230	3,00	3,00
<b>ROLLO TOP</b>	<b>SW 40</b>	<b>SW 60</b>
<b>MINI En Ev</b>		
145 x 190	1,07	1,00
170 x 207	1,85	1,85
170 x 230	1,85	1,85
210 x 230	2,70	2,60
<b>ROLLO TOP</b>	<b>SW 40</b>	<b>SW 60</b>
<b>DUO</b>		
240x258	.	3,0



**Maximum size TOP MINI with ALU front plate and TOP DUO with plaster base profile / Maximale Elementbreite TOP MINI mit Alu-Vorderblende und TOP DUO mit Putzträgerprofil**  
*Dimensioni massime TOP MINI con lato esterno ALU e TOP DUO con profilo porta intonaco / Dimensiuni maxime rulou TOP MINI cu placă frontală ALU si TOP DUO cu profil termoizol.*

**Maximum element size TOP MINI with PVC front plate, white / Maximale Elementbreite TOP MINI mit PVC-Vorderblende, weiss /**  
*Dimensioni massime avvolgibile TOP MINI con lato esterno PVC, bianco / Dimensiuni maxime rulou TOP MINI cu placă frontală PVC, alb*

**Max. element size TOP MINI with PVC front plate, colored / Max. Elementbreite TOP MINI mit PVC-Vorderblende, dekor**  
*Dim. max. avvolgibile TOP MINI con lato esterno PVC, pellicolato / Dim. max. rulou TOP MINI cu placă frontală PVC, color*

L [m]	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	4,0		
H [m]	6*				5*				4*				3*				2*				1*				
0,9	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,3	2,4	2,5			
1,0	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8			
1,1	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5	2,6	2,8	2,9	3,0	3,1			
1,2	0,8	1,0	1,1	1,2	1,3	1,4	1,6	1,7	1,8	1,9	2,0	2,2	2,3	2,4	2,5	2,6	2,8	2,9	3,0	3,1	3,2	3,4			
1,3	0,9	1,0	1,2	1,3	1,4	1,6	1,7	1,8	2,0	2,1	2,2	2,3	2,5	2,6	2,7	2,9	3,0	3,1	3,3	3,4	3,5	3,6			
1,4	1,0	1,1	1,3	1,4	1,5	1,7	1,8	2,0	2,1	2,2	2,4	2,5	2,7	2,8	2,9	3,1	3,2	3,4	3,5	3,6	3,8	3,9			
1,5	1,1	1,2	1,4	1,5	1,7	1,8	2,0	2,1	2,3	2,4	2,6	2,7	2,9	3,0	3,2	3,3	3,5	3,6	3,8	3,9	4,1	4,2			
1,6	1,1	1,3	1,4	1,6	1,8	1,9	2,1	2,2	2,4	2,6	2,7	2,9	3,0	3,2	3,4	3,5	3,7	3,8	4,0	4,2	4,3	4,5			
1,7	1,2	1,4	1,5	1,7	1,9	2,0	2,2	2,4	2,6	2,7	2,9	3,1	3,2	3,4	3,6	3,7	3,9	4,1	4,3	4,4	4,6	4,8			
1,8	1,3	1,4	1,6	1,8	2,0	2,2	2,3	2,5	2,7	2,9	3,1	3,2	3,4	3,6	3,8	4,0	4,1	4,3	4,5	4,7	4,9	5,0			
1,9	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9	3,0	3,2	3,4	3,6	3,8	4,0	4,2	4,4	4,6	4,8	4,9	5,1	5,3			
2,0	1,4	1,6	1,8	2,0	2,2	2,4	2,6	2,8	3,0	3,2	3,4	3,6	3,8	4,0	4,2	4,4	4,6	4,8	5,0	5,2	5,4	5,6			
2,1	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9	3,2	3,4	3,6	3,8	4,0	4,2	4,4	4,6	4,8	5,0	5,3	5,5	5,7	5,9			
2,2	1,5	1,8	2,0	2,2	2,4	2,6	2,9	3,1	3,3	3,5	3,7	4,0	4,2	4,4	4,6	4,8	5,1	5,3	5,5	5,7	5,9				
2,3	1,6	1,8	2,1	2,3	2,5	2,8	3,0	3,2	3,5	3,7	3,9	4,1	4,4	4,6	4,8	5,1	5,3	5,5	5,8	6,0					
2,4	1,7	1,9	2,2	2,4	2,6	2,9	3,1	3,4	3,6	3,8	4,1	4,3	4,6	4,8	5,0	5,3	5,5	5,8	6,0						
2,5	1,8	2,0	2,3	2,5	2,8	3,0	3,3	3,5	3,8	4,0	4,3	4,5	4,8	5,0	5,3	5,5	5,8	6,0							
2,6	1,8	2,1	2,3	2,6	2,9	3,1	3,4	3,6	3,9	4,2	4,4	4,7	4,9	5,2	5,5	5,7	6,0								
2,7	1,9	2,2	2,4	2,7	3,0	3,2	3,5	3,8	4,1	4,3	4,6	4,9	5,1	5,4	5,7	5,9									
2,8	2,0	2,2	2,5	2,8	3,1	3,4	3,6	3,9	4,2	4,5	4,8	5,0	5,3	5,6	5,9										

[ m<sup>2</sup> ]

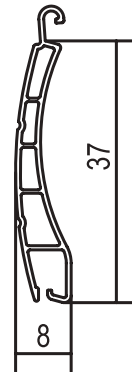
**\*Wind Load Class / Wind Beanspruchungsgruppe / Classe Carico del Vento / Grupa de solicitare la incarcarea din vant**

<b>Motor drive / Motorantriebe</b> <i>Azionamento a motore / Actionare cu motor</i>	<b>see driving torque table / siehe Motor Auswahltable /</b> <i>vedi tabelle scelta motori / vezi tabelul de moment motor</i>
<b>Manual Crank / Kurbelgetriebe / Azionamento a manovella / Actionare cu manivela</b>	2:1=> 5 m <sup>2</sup> , 3:1 => 6.5 m <sup>2</sup>
<b>Belt Mini / Gurtantrieb Mini / Azionamento con cinghia Mini / Actionare cu chinga Mini</b>	=< 3,4 m <sup>2</sup>

**Roller Slat / Rollladenpanzer / Tapparelle / Lamele Rulou**

<b>Roller slat / Rolladenstab</b> <i>Lamella Tapparella / Lamele rulou</i>	<b>H x T</b>	<b>Weight / Gewicht /</b> <i>Peso / Greutate</i>
<b>Profil X837</b>	37 x 8	3.0 kg/m <sup>2</sup>

<b>Max. Height (box included)</b> Max. Höhe (Kasten inkl.) <i>Altezza massima (cassettone incl.)</i> Inaltime maxima (caseta inclusa)		
<b>ROLLO TOP MINI WD</b>	<b>SW 40</b>	<b>SW 60</b>
145 x 167	1,35	1,15
170 x 207	2,40	2,07
210 x 230	3,00	3,00
<b>ROLLO TOP MINI En Ev</b>	<b>SW 40</b>	<b>SW 60</b>
145 x 190	1,29	1,15
170 x 207	2,17	1,87
170 x 230	2,17	1,87
210 x 230	3,00	2,70
<b>ROLLO TOP DUO</b>	<b>SW 40</b>	<b>SW 60</b>
240x258	.	3,00



**Maximum size TOP MINI with ALU front plate and TOP DUO with plaster base profile** / Maximale Elementbreite TOP MINI mit Alu-Vorderblende und TOP DUO mit Putzträgerprofil  
*Dimensioni massime TOP MINI con lato esterno ALU e TOP DUO con profilo porta intonaco / Dimensiuni maxime rulou TOP MINI cu placă frontală ALU si TOP DUO cu profil termoizol.*

**Maximum element size TOP MINI with PVC front plate, white** / Maximale Elementbreite TOP MINI mit PVC-Vorderblende, weiss /  
*Dimensioni massime avvolgibile TOP MINI con lato esterno PVC, bianco / Dimensiuni maxime rulou TOP MINI cu placă frontală PVC, alb*

**Max. element size TOP MINI with PVC front plate, colored** / Max. Elementbreite TOP MINI mit PVC-Vorderblende, dekor  
*Dim. max. avvolgibile TOP MINI con lato esterno PVC, pellicolato / Dim. max. rulou TOP MINI cu placă frontală PVC, color*

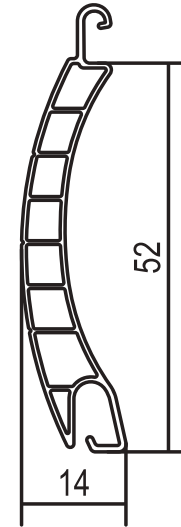
L [m]	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	2,1	2,8	4,0
H [m]	6*		5*			4*		3*		2*		1*	
0,9	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,4	[m] <sup>2</sup>		
1,0	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6			
1,1	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,7	1,8			
1,2	0,8	1,0	1,1	1,2	1,3	1,4	1,6	1,7	1,8	1,9			
1,3	0,9	1,0	1,2	1,3	1,4	1,6	1,7	1,8	2,0	2,1			
1,4	1,0	1,1	1,3	1,4	1,5	1,7	1,8	2,0	2,1	2,2			
1,5	1,1	1,2	1,4	1,5	1,7	1,8	2,0	2,1	2,3				
1,6	1,1	1,3	1,4	1,6	1,8	1,9	2,1	2,2	2,4				
1,7	1,2	1,4	1,5	1,7	1,9	2,0	2,2	2,4	2,6				
1,8	1,3	1,4	1,6	1,8	2,0	2,2	2,3	2,5	2,7				
1,9	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,7					
2,0	1,4	1,6	1,8	2,0	2,2	2,4	2,6	2,8					
2,1	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9					
2,2	1,5	1,8	2,0	2,2	2,4	2,6	2,9	3,1					
2,3	1,6	1,8	2,1	2,3	2,5	2,8	3,0						
2,4	1,7	1,9	2,2	2,4	2,6	2,9	3,1						
2,5	1,8	2,0	2,3	2,5	2,8	3,0							
2,6	1,8	2,1	2,3	2,6	2,9	3,1							
2,7	1,9	2,2	2,4	2,7	3,0								
2,8	2,0	2,2	2,5	2,8	3,1								
2,9	2,0	2,3	2,6	2,9									
3,0	2,1	2,4	2,7	3,0									

**\*Wind Load Class / Wind Beanspruchungsgruppe / Classa Carico del Vento / Octagonal shaft SW 40 or SW 60** / Acthkantwelle SW 40 bzw. SW 60  
*Grupa de solicitare la incarcarea din vant / Albero SW 40 o SW 60 / Octobara SW 40 sau SW 60*

<b>Motor drive / Motorantriebe</b> <i>Azionamento a motore / Actionare cu motor</i>	<b>see driving torque table</b> / siehe Motor Auswahltable / vedi tabelle scelta motori / vezi tabelul de moment motor
<b>Manual Crank / Kurbelgetriebe / Azionamento a manovella</b> / Actionare cu manivela	2:1=> 5 m <sup>2</sup> ; 3:1 => 6.5 m <sup>2</sup>
<b>Belt Mini / Gurtantrieb Mini / Azionamento con cinghia Mini</b> / Actionare cu chinga Mini	=< 3,4 m <sup>2</sup>



<b>Roller slat / Rolladenstab</b> <i>Lamella Tapparella / Lamela rulou</i>	H x T	<b>Weight / Gewicht /</b> <i>Peso / Greutate</i>
<b>Profil X851</b>	52 x 14	3.5 kg/m <sup>2</sup>



Max. Height (box included) Max. Höhe (Kasten inkl.) Altezza massima (cassettone incl.) Inaltime maxima (caseta inclusa)		
ROLLO TOP MINI WD	SW 40	SW 60
145 x 167	-	-
170 x 207	-	1,35
210 x 230	-	2,55
ROLLO TOP MINI En Ev	SW 40	SW 60
145 x 190	-	-
170 x 207	-	1,25
170 x 230	-	1,35
210 x 230	-	1,8
ROLLO TOP DUO	SW 40	SW 60
240x258	.	2,50

**Maximum size TOP MINI with ALU front plate and TOP DUO with plaster base profile / Maximale Elementbreite TOP MINI mit Alu-Vorderblende und TOP DUO mit Putzträgerprofil**  
*Dimensioni massime TOP MINI con lato esterno ALU e TOP DUO con profilo porta intonaco / Dimensiuni maxime rulou TOP MINI cu placa frontală ALU si TOP DUO cu profil termoizol.*

**Maximum element size TOP MINI with PVC front plate, white / Maximale Elementbreite TOP MINI mit PVC-Vorderblende, weiss /**  
*Dimensioni massime avvolgibile TOP MINI con lato esterno PVC, bianco / Dimensiuni maxime rulou TOP MINI cu placa frontală PVC, alb*

**Max. element size TOP MINI with PVC front plate, colored / Max. Elementbreite TOP MINI mit PVC-Vorderblende, dekor**  
*Dim. max. avvolgibile TOP MINI con lato esterno PVC, pellicolato / Dim. max. rulou TOP MINI cu placă frontală PVC, color*

L [m]	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,8	4,0
H [m]	6*						5*			4*		3*			2*		1*		
0,9	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	[m] <sup>2</sup>	
1,0	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3		
1,1	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5		
1,2	0,8	1,0	1,1	1,2	1,3	1,4	1,6	1,7	1,8	1,9	2,0	2,2	2,3	2,4	2,5	2,6	2,8		
1,3	0,9	1,0	1,2	1,3	1,4	1,6	1,7	1,8	2,0	2,1	2,2	2,3	2,5	2,6	2,7	2,9	3,0		
1,4	1,0	1,1	1,3	1,4	1,5	1,7	1,8	2,0	2,1	2,2	2,4	2,5	2,7	2,8	2,9	3,1	3,2		
1,5	1,1	1,2	1,4	1,5	1,7	1,8	2,0	2,1	2,3	2,4	2,6	2,7	2,9	3,0	3,2	3,3	3,5		
1,6	1,1	1,3	1,4	1,6	1,8	1,9	2,1	2,2	2,4	2,6	2,7	2,9	3,0	3,2	3,4	3,5			
1,7	1,2	1,4	1,5	1,7	1,9	2,0	2,2	2,4	2,6	2,7	2,9	3,1	3,2	3,4	3,6	3,7			
1,8	1,3	1,4	1,6	1,8	2,0	2,2	2,3	2,5	2,7	2,9	3,1	3,2	3,4	3,6	3,8				
1,9	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9	3,0	3,2	3,4	3,6	3,8	4,0				
2,0	1,4	1,6	1,8	2,0	2,2	2,4	2,6	2,8	3,0	3,2	3,4	3,6	3,8	4,0					
2,1	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9	3,2	3,4	3,6	3,8	4,0	4,2					
2,2	1,5	1,8	2,0	2,2	2,4	2,6	2,9	3,1	3,3	3,5	3,7	4,0	4,2						
2,3	1,6	1,8	2,1	2,3	2,5	2,8	3,0	3,2	3,5	3,7	3,9	4,1	4,4						
2,4	1,7	1,9	2,2	2,4	2,6	2,9	3,1	3,4	3,6	3,8	4,1	4,3							
2,5	1,8	2,0	2,3	2,5	2,8	3,0	3,3	3,5	3,8	4,0	4,3	4,5							

**\*Wind Load Class / Wind Beanspruchungsgruppe / Classe Carico del Vento /**  
 Grupa de solicitare la încărcarea din vânt

**Octagonal shaft SW 60 / Achtkantwelle SW 60**  
 Albero SW 60 / Octobara SW 60

<b>Motor drive / Motorantriebe</b> <i>Azionamento a motore / Acționare cu motor</i>	<b>see driving torque table / siehe Motor Auswahltablelle /</b> vedi tabelle scelta motori / vezi tabelul de moment motor
<b>Manual Crank / Kurbelgetriebe / Azionamento a manovella / Acționare cu manivelă</b>	4:1=> 6 m <sup>2</sup>
<b>Belt Maxi / Gurtantrieb Maxi / Azionamento con cinghia Maxi / Acționare cu chingă Maxi</b>	<= 3,2 m <sup>2</sup>
<b>Belt Mini / Gurtantrieb Mini / Azionamento con cinghia Mini / Acționare cu chingă Mini</b>	<= 2,8 m <sup>2</sup>

**Motor selection tabel / Motor Auswahltabelle / Tabella scelta motori / Tabel Selectare Motor**
**MAXI Slats / MAXI Rollladenstab / Lamella MAXI / Lamelă MAXI**
**Required Driving Torque for motor drive with octagonal shaft SW60 and slats X851 / Erforderliches Drehmoment für Motorantrieb mit Achtkantwelle SW60 und Rollladenstab X851 / Tabella Coppia per motori con albero 60 mm e lamella X851 / Tabelul de Moment pentru cu motor cu octobară SW 60 și lamelă X851**

SW 60		L [ mm ]																														
		700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700
H [ mm ]	750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1250	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1500	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2250	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2500	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	3000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

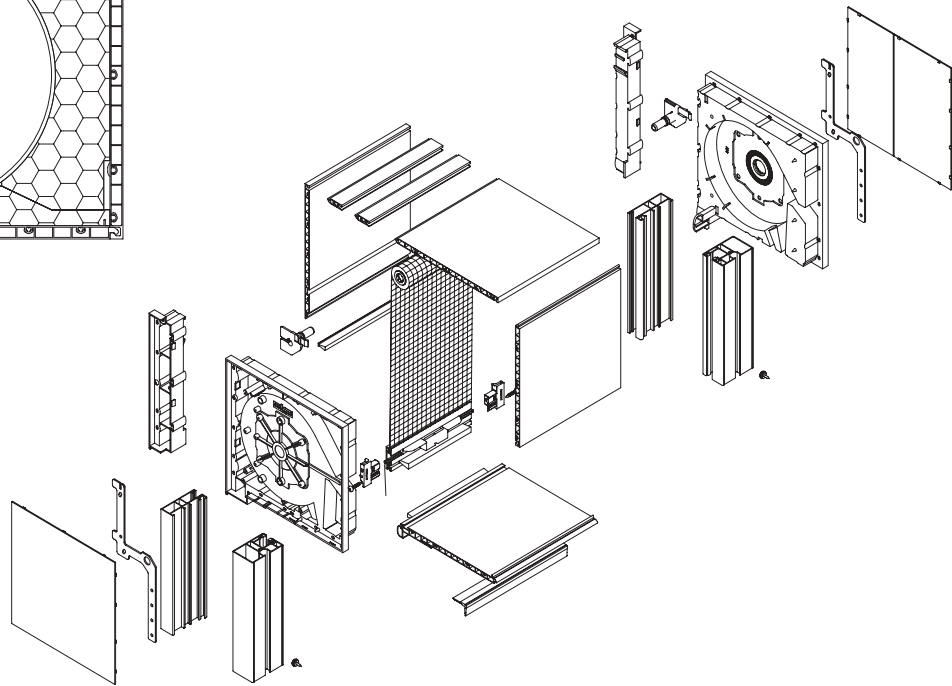
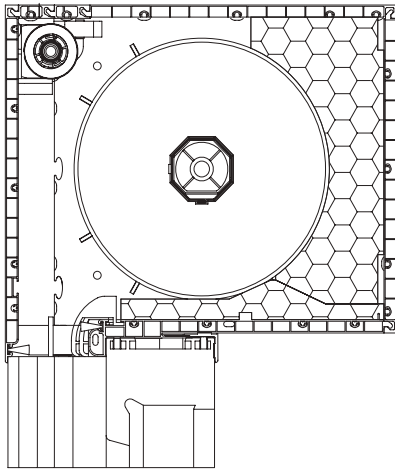
**MINI Slats / MINI Rollladenstab / Lamella MINI / Lamelă MINI**
**Required Driving Torque for motor drive with octagonal shaft SW40 and slats A37 , X837 / Erforderliches Drehmoment für Motorantrieb mit Achtkantwelle SW40 und Rollladenstab A37, X837 / Tabella Coppia motori con albero 40 e lamella X851 / Tabelul de Moment pentru motor cu octobară SW 40 și lamele A 37, X837**

SW 40		L [ mm ]																														
		700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700
H [ mm ]	750	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	1000	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	1250	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	1500	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	1750	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	2000	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	2250	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	2500	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	2750	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	3000	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

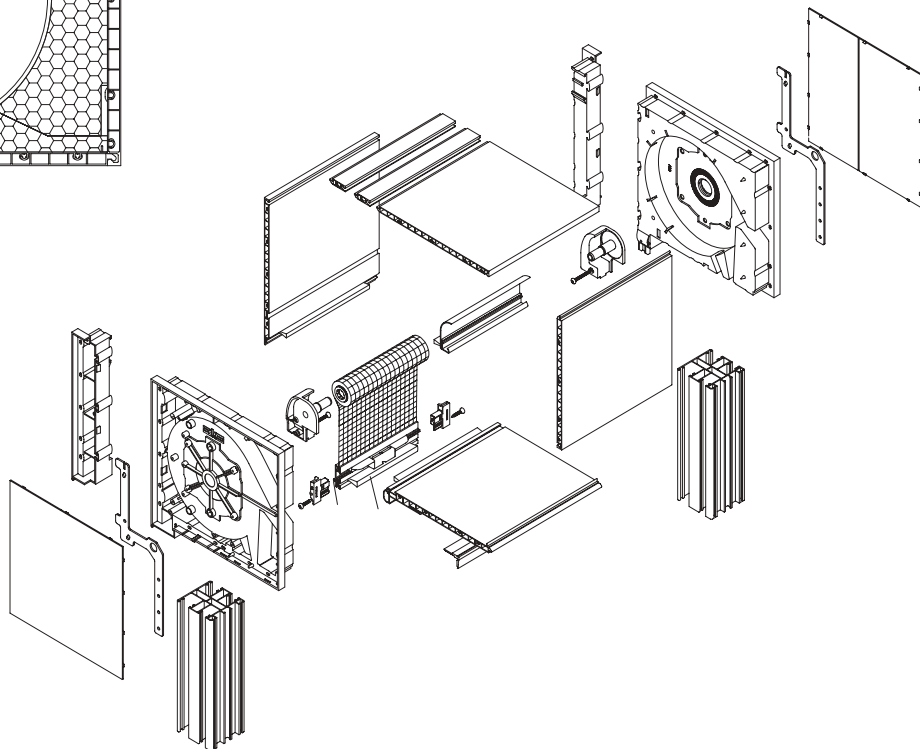
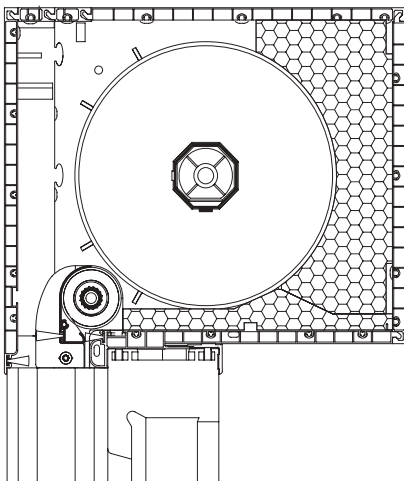
**MINI Slats / MINI Rollladenstab / Lamella MINI / Lamelă MINI**
**Required Driving Torque for motor drive with octagonal shaft SW60 and slats A37 , X837 / Erforderliches Drehmoment für Motorantrieb mit Achtkantwelle SW60 und Rollladenstab A37, X837 / Tabella Coppia motori con albero 40 e lamella X851 / Tabelul de Moment pentru motor cu octobară SW 60 și lamele A 37, X837**

SW 60		L [ mm ]																														
		700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700
H [ mm ]	750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	1000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1250	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1500	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2250	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2500	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	3000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

**Insect screen INTEGRA exterior** / Insektenschutz INTEGRA  
Aussen / Zanzariera INTEGRA esterno /  
Plasă insecte INTEGRA exterioră



**Insect screen INTEGRA interior** / Insektenschutz INTEGRA  
Innen / Zanzariera INTEGRA interno /  
Plasă insecte INTEGRA interioară



**Insect screen INTEGRA exterior with "Stop & Go" / Insektenschutz INTEGRA Aussen mit "Stop & Go" / Zanzariera INTEGRA esterno con "Stop & Go" / Plasă insecte INTEGRA exterioră cu "Stop & Go"**

Width / Breite / Larghezza / Lățime

	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0
0,6	19	19	19	19	19	19	19	19	19	19	19	19	19
0,7	19	19	19	19	19	19	19	19	19	19	19	19	19
0,8	19	19	19	19	19	19	19	19	19	19	19	19	19
0,9	19	19	19	19	19	19	19	19	19	19	19	19	19
1,0	19	19	19	19	19	19	19	19	19	19	19	19	19
1,1	19	19	19	19	19	19	19	19	19	19	19	19	19
1,2	19	19	19	19	19	19	19	19	19	19	19	19	19
1,3	19	19	19	19	19	19	19	19	19	19	19	19	19
1,4	19	19	19	19	19	19	19	19	19	19	19	19	19
1,5	19	19	19	19	19	19	19	19	19	19	19	19	19
1,6	19	19	19	19	19	19	19	19	19	19	19	19	19
1,7	19	19	19	20	20	20	20	22	22	22	22	22	22
1,8	19	19	19	20	20	20	20	22	22	22	22	22	22
1,9	19	19	19	20	20	20	20	22	22	22	22	22	22
2,0	19	19	19	20	20	20	20	22	22	22	22	22	22
2,1	19	19	19	20	20	20	20	22	22	22	22	22	22
2,2	19	19	19	20	20	20	20	22	22	22	22	22	22
2,3	19	19	19	20	20	20	20	22	22	22	22	22	22
2,4	19	19	19	20	20	20	20	22	22	22	22	22	22
2,5	19	19	19	20	20	20	20	22	22	22	22	22	22

Height / Höhe / Altezza / Înălțime

**Insect screen INTEGRA interior with "Stop & Go" / Insektenschutz INTEGRA Innen mit "Stop & Go" / Zanzariera INTEGRA interno con "Stop & Go" / Plasă insecte INTEGRA interioară cu "Stop & Go"**

Width / Breite / Larghezza / Lățime

	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0
0,6	18	19	20	21	22	23	24	25	26	27	28	29	30
0,7	18	19	20	21	22	23	24	25	26	27	28	29	30
0,8	18	19	20	21	22	23	24	25	26	26	27	28	29
0,9	18	19	20	21	21	22	23	24	25	26	27	28	29
1,0	18	18	19	20	21	22	23	24	25	25	26	27	28
1,1	17	18	19	20	21	22	23	24	25	25	26	27	28
1,2	17	18	19	20	20	21	22	23	24	24	25	26	27
1,3	17	18	19	20	20	21	22	23	24	24	25	26	27
1,4	17	17	18	19	20	21	22	22	23	23	24	25	26
1,5	17	17	18	19	19	20	21	22	23	23	24	25	26
1,6	16	17	18	19	19	20	21	21	22	22	23	24	25
1,7	16	17	17	18	19	20	21	21	22	22	23	24	25
1,8	16	16	17	18	18	19	20	20	21	21	22	23	24
1,9	16	16	17	18	18	19	20	20	21	21	22	23	24
2,0	16	16	16	17	18	18	19	19	20	20	21	22	23
2,1	15	16	16	17	17	18	19	19	20	20	21	22	23
2,2	15	15	16	17	17	17	18	18	19	19	20	21	22
2,3	15	15	15	16	17	17	18	18	19	19	20	21	22
2,4	15	15	15	16	16	16	17	17	18	18	19	20	21
2,5	15	15	15	16	16	16	17	17	18	18	19	20	21

Height / Höhe / Altezza / Înălțime

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# ROLLO FRONT

## Front mounted roller shutters

Vorsatz-Rollladensysteme

*Avvolgibili Monoblocco*

Rulouri apliccate



System Manufacturer:  
 SKS Stakusit Bautechnik  
 Duisburg,  
 Deutschland

- **Precise dosing of the incoming light**
- **Control of a pleasant room ventilation**
- **Exceptional design flexibility for the architectural overall visual effect**
- **Great energy savings thanks to heat and cold insulation**
- **Perfect protection against light, view and noise**
- **Modifications like, for example, the automation of the roller shutter can be carried out easily**
- **Comprehensive range of colours**
- **Long lifespan**

- Feine Dosierung des einfallenden Lichtes
- Steuerung einer angenehmen Raumbelüftung
- Einzigartige Gestaltungsfreiheit im architektonischen Gesamtbild
- Große Energieeinsparung durch Wärme- und Kälte­dämmung
- Optimalen Licht-, Sicht- und Lärmschutz
- Umrüstungen, wie z. B. die Automatisierung des Rollladens sind möglich
- Umfangreiches Farbangebot
- Lange Lebensdauer

- *Fine dosaggio della luce infiltrante*
- *Azionamento di una piacevole ventilazione ambientale*
- *Libertà di creazione unica nel quadro architettonico generale*
- *Elevato risparmio energetico grazie all'isolamento dal calore e dal freddo*
- *Protezione ottimale dalla luce, dagli sguardi e dai rumori*
- *Modifiche come p.es. l'automatizzazione dell'avvolgibile sono possibili facilmente*
- *Vasta offerta colori*
- *Lunga durata*

- Control fin al luminii infiltrate
- Posibilitate de ventilare controlată a încăperilor
- Flexibilitate constructivă și a efectului vizual
- Protecție termică, intimitate și control solar
- Gamă largă de culori
- Durată lungă de viață

**Color program / Dekorübersicht / Programma Colori / Program culori**
**Box & ALU Guide Rails / Kasten & ALU Führungsschienen / Cassettone & ALU Guide / Caseta & Şine Ghidare ALU**

Finishes / Dekore <i>Pellicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>
<b>Uni-Colours</b> / Uni –Farben / <i>Uni-colore / Culori Uni</i>	RAL Colors

**Colors for 37 mm aluminium slats / Farben für 37 mm aluminium Lamellen / Colori lamella alluminio 37 mm / Culori lamelă 37 mm aluminiu**

Finishes / Dekore <i>Pellicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>	Color code / Farbe Code <i>Codice colore / Cod culoare</i>
<b>Wood grain</b> / Holzdekore / Effetto Legno / <i>Imitație Lemn</i>	Golden Oak Nussbaum V Mahagoni	6105 0010 0011
<b>Uni-Colours</b> / Uni –Farben / <i>Uni-colore / Culori Uni</i>	Hellelfenbein Moosgrün Anthrazitgrau Grau Lichtgrau Silber Weiss Braun	1015 6005 7016 7038 7035 9006 9016 8077

**Colors for 37 mm PVC slats / Farben für 37 mm PVC Lamellen / Colori lamella PVC 37mm / Culori lamela 37 mm PVC**

Finishes / Dekore <i>Pellicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>	SKS code / SKS Code / <i>Codice SKS / Cod SKS</i>
<b>Uni-Colours</b> / Uni –Farben <i>Uni-colore / Culori Uni</i>	Weiss Grau	9016 7038

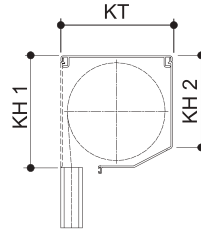
**Colors for 52 mm PVC slats / Farben für 52 mm PVC Lamellen / Colori lamella PVC 52 mm / Culori lamelă 52 mm PVC**

Finishes / Dekore <i>Pellicola / Folie</i>	Color shades / Farbbezeichnung / <i>Colore / Denumire culoare</i>	SKS code / SKS Code / <i>Codice SKS / Cod SKS</i>
<b>Uni-Colours</b> / Uni –Farben <i>Uni-colore / Culori Uni</i>	Weiss Grau	9016 7038

## ROLLO FRONT NVR

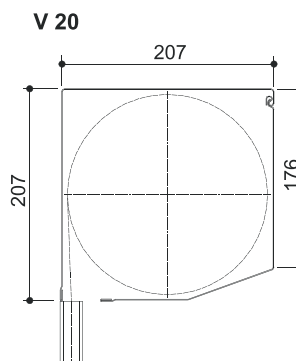
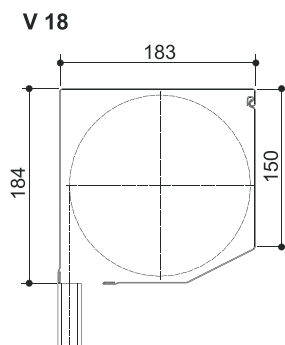
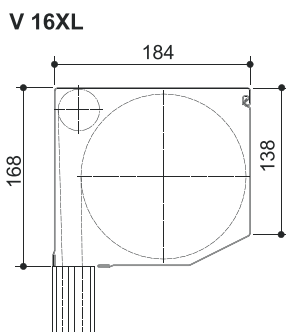
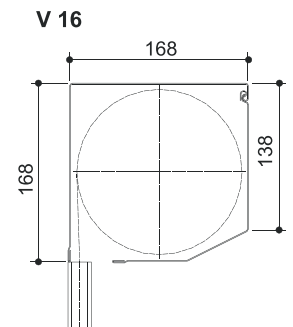
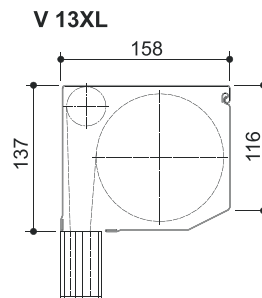
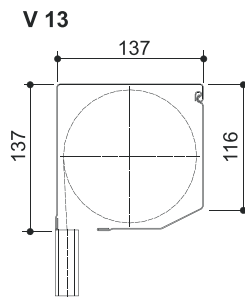
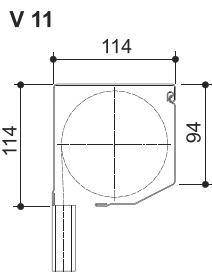
Roll Formed Box / Rollgeformter Kasten / Avvolgibile Monoblocco Rullato /

Casetă Ambutisată



Type	Box height 1 (KH 1) (mm)	Box height 2 (KH 2) (mm)	Box depth (KT) (mm)
V11	114	94	114
V13	138	117	138
V13 XL *	138	117	158
V16	168	139	168
V16 XL *	168	139	186
V18	184	151	184
V20	208	177	208

\*box for insect screen / kasten für insektenschutz / cassettone per zanzariera / caseta pentru plasa insecte



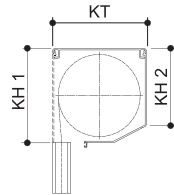


## ROLLO FRONT NVS

Extruded Box / Extrudiertes Kasten / Avvolgibile Monoblocco, Estruso / Caseta Extrudată

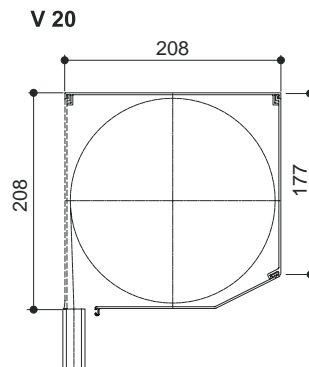
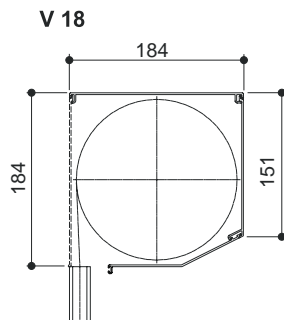
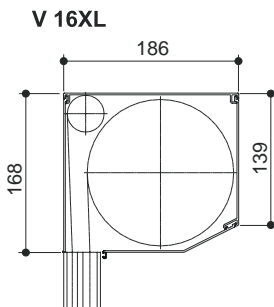
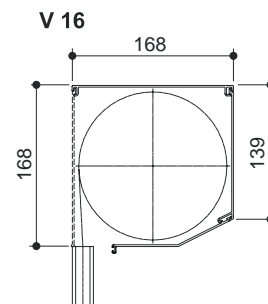
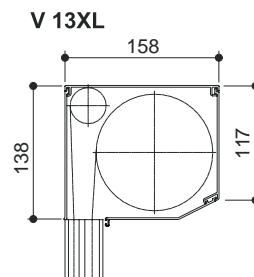
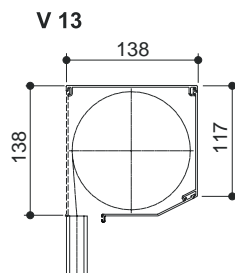
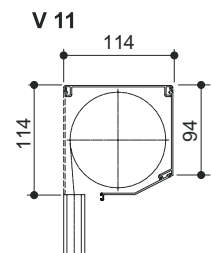


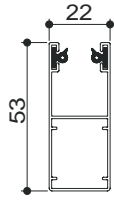
with plaster base profile  
mit Putzträgerprofil  
con elemento portaintonaco  
cu profil susținere termoizolație



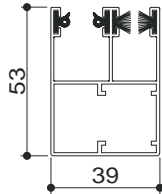
Type	Box height 1 (KH 1) (mm)	Box height 2 (KH 2) (mm)	Box depth (KT) (mm)
V11	114	94	114
V13	138	117	138
V13 XL*	138	117	158
V16	168	139	168
V16 XL*	168	139	186
V18	184	151	184
V20	208	177	208

\*box for insect screen / kasten für insektenschutz /  
cassettone per zanzariera / casetă pentru plasă insecte



**Roller shutters accessories / Rollladenzubehör / Accessori per Avvolgibili / Accesorii pentru rulouri**


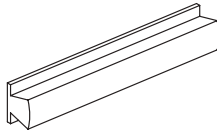
Description	Color	Article Nr.
<b>ALU guide rails with gasket /</b> ALU Führungsschiene mit keder / <i>ALU guida con guarnizione /</i> Sina ALU cu keder	<b>RAL Colors / RAL Farbe /</b> <i>RAL Colori / Culori RAL</i>	<b>02610904</b>



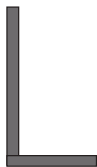
Description	Color	Article Nr.
<b>ALU guide rails double with gasket and brush</b> ALU doppel Führungsschiene mit burste und Keder <i>ALU guida doppia con guarnizione e spazzolino</i> Sina dubla ALU cu keder si garnitura perie	<b>RAL Colors / RAL Farbe /</b> <i>RAL Colori / Culori RAL</i>	<b>02600900</b>



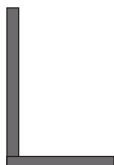
Description	Color	Article Nr.
<b>Weatherstrip gasket</b> Kederprofil für Führungsschiene <i>Guarnizione per guida</i> Keder pentru sina rulou	<b>black / schwarz / nero /</b> negru	<b>15100009/10</b>



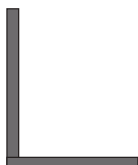
Description	Color	Article Nr.
<b>Brush Gasket 6.7x6.25 -3P</b> Burstenprofil 6.7x6.25 - 3P <i>Spazzolino 6.7x6.25 - 3P</i> Perie etansare 6.7x6.25 - 3P	<b>black / schwarz / nero /</b> negru	<b>15010009</b>



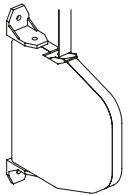
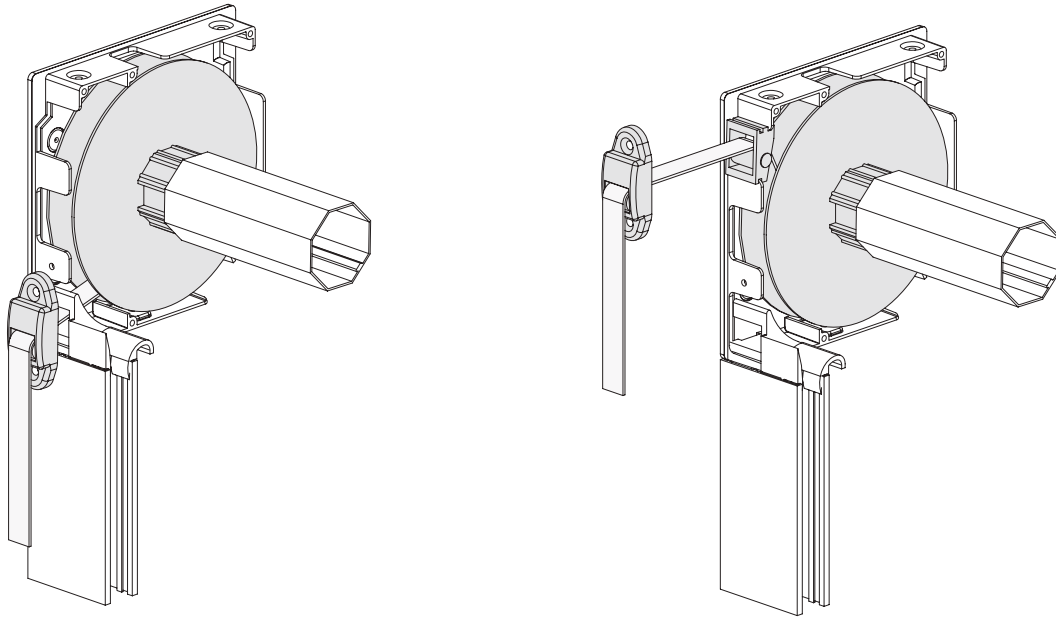
Description	Color	Article Nr.
<b>Plaster base profile 30x15</b> Putzträgerprofil 30x15 <i>Profilo portaintonaco 30x15</i> Profil sustinere, termoizolatie 30x15	<b>elox</b>	<b>74000011</b>



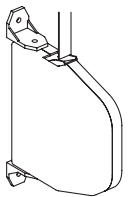
Description	Color	Article Nr.
<b>Plaster base profile 30x20</b> Putzträgerprofil 30x20 <i>Profilo portaintonaco 30x20</i> Profil sustinere, termoizolatie 30x20	<b>elox</b>	<b>74000016</b>



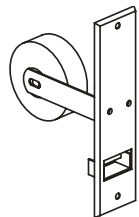
Description	Color	Article Nr.
<b>Plaster base profile 30x25</b> Putzträgerprofil 30x25 <i>Profilo portaintonaco 30x25</i> Profil sustinere, termoizolatie 30x25	<b>elox</b>	<b>74000012</b>

**Belt / Gurtantrieb / Azionamento con cinghia / Acționare cu chingă**


Description	Color	Article Nr.
<b>Surface-mounted strap coiler MINI /</b> Aufschraubwickler MINI / <i>Avvolgitore fune oscillabile, MINI</i> / Acționare cu chingă aplicată, MINI	white - 5 m	249 01 000
	brown - 5 m	249 09 000
	white - 7 m	249 01 007
	brown - 7 m	249 09 007

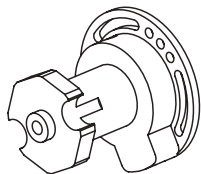
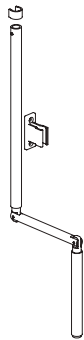
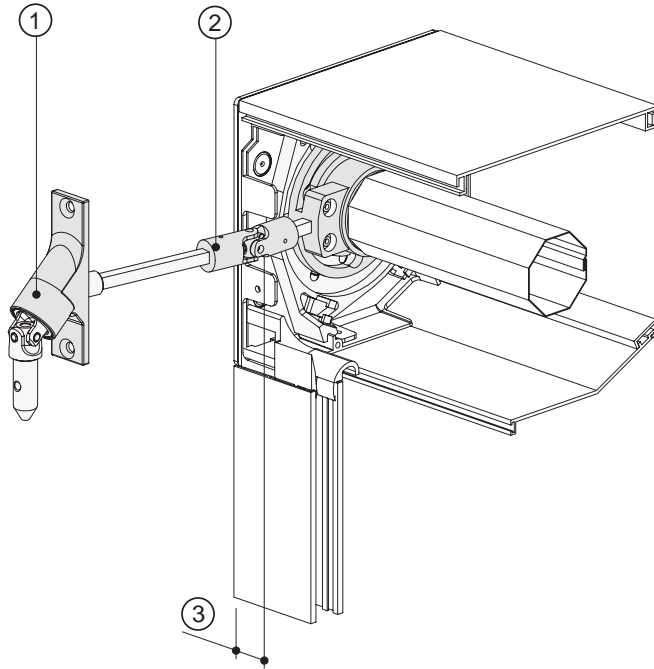


Description	Color	Article Nr.
<b>Surface-mounted strap coiler MAXI /</b> Aufschraubwickler MAXI / <i>Avvolgitore fune oscillabile, MAXI</i> / Acționare cu chingă casetă aplicată, MAXI	white - 6 m	721 01 001
	brown - 6 m	721 09 001



Description	Color	Article Nr.
<b>Flush-mounted strap coiler MAXI /</b> Einlasswickler MAXI / <i>Avvolgitore di entrata</i> / Acționare cu chingă casetă îngropată, MAXI	white - 5 m	X520 00 001

**Manual Crank / Kurbelgetriebe / Azionamento a manovella / Acționare cu manivelă**



Description	Color	Article Nr.
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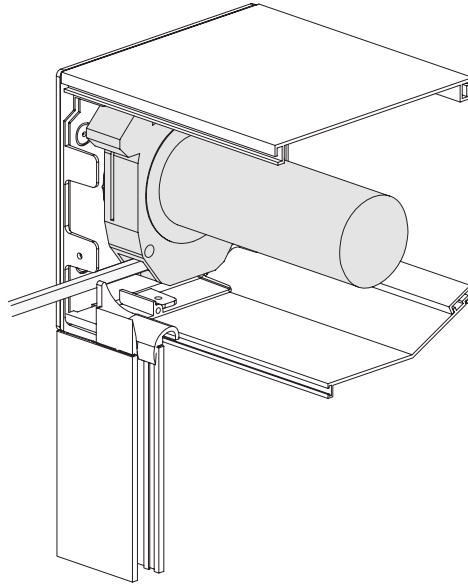
**Manual Crank / Kurbelstange / Manovella**  
Manivela

white - 1.2 m	X711 01 120
brown - 1.2 m	X711 09 120
white - 1.5 m	X711 01 150
white - 1.5 m	X711 09 150

Description	Color	Article Nr.
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**Crank mechanism / Kurbelgetriebe / Meccanismo a manovella / Reductor**  
Manivela

X716 00 000	2:1-SW40-16 kg
X710 00 000	3:1-SW40-21 kg
X714 00 000	4:1-SW60-21 kg

**Motor drive / Motorantriebe / Azionamento a motore / Acționare cu motor**


Description	Article Nr.
<b>Electronic limit switching with radio, point to point, jamming detection</b> Antriebe mit Funkempfänger und Punkt zu Punkt Programmierung Motore con radiorecettore integrato, prog. da punto a punto Motor cu radioreceptor integrat, reglare punctuală, senzor de obst.	<b>P 9/16 PRF+ SW 40</b> <b>R 20/17 C PRF+ SW 60</b>



Description	Article Nr.
<b>Electronic limit switching point to point, jamming detection</b> Antrieb mit elektronischer Endabschaltung und Punkt zu Punkt Prog. Motore con programmazione da punto a punto Motor cu terminal electronic, reglare punctuală, senzor de obst.	<b>P 9/16 PR+ SW 40</b> <b>R 20/17 C PR+ SW 60</b>



Description	Color	Article Nr.
<b>1-channel handheld transmitter /</b> 1-Kanal Handsender / <i>Trasmittitore portatile a 1 canale / Telecomandă 1 canale</i>	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 541-II</b>



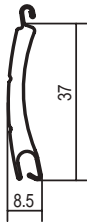
Description	Color	Article Nr.
<b>5-channel handheld transmitter /</b> 5-Kanal Handsender / <i>Trasmittitore portatile a 5 canale / Telecomandă 5 canal</i>	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 545-II</b>



Description	Color	Article Nr.
<b>Flush-mounted switch Ø 58 mm /</b> Unterputz Schalter Ø 58 mm Wandeinbau Schalter / <i>Interruttore da incasso Ø 58 mm</i> Întrerupător îngropat Ø 58 mm	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 41</b>



Description	Color	Article Nr.
<b>Surface-mounted switch /</b> <i>Aufputz Schalter / Interruttore a sbalzo / Întrerupător aplicat</i>	<b>white / weiss / bianco / alb</b> <b>black / schwarz / nero / negru</b>	<b>EC 42</b>

**Roller Slat / Rollladenpanzer / Tapparelle / Lamele Rulou**

**Description**

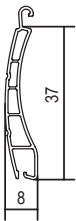
**Alu MINI Roller slat** / Alu Rollladenprofil MINI /  
*Alu MINI Lamella / Lamelă Alu MINI*

**Color**

**golden oak**  
**nussbaum**  
**mahagoni**  
**hellelfenbine**  
**moosgrün**  
**anthrazitgrau**  
**grau**  
**lichtgrau**  
**silber**  
**weiss**  
**braun**

**Article Nr.**

**Profil A37 6105**  
**Profil A37 0010**  
**Profil A37 0011**  
**Profil A37 1015**  
**Profil A37 6005**  
**Profil A37 7016**  
**Profil A37 7038**  
**Profil A37 7035**  
**Profil A37 9006**  
**Profil A37 9016**  
**Profil A37 8077**


**Description**

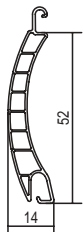
**PVC MINI Roller slat** / PVC Rollladenprofil MINI /  
*PVC MINI Lamella / Lamelă PVC MINI*

**Color**

**white / weiss / bianco / alb**  
**gray / grau / grigio / gri**

**Article Nr.**

**X837 01 601**  
**X837 02 601**


**Description**

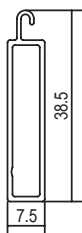
**PVC MAXI Roller slat** / PVC Rollladenprofil MAXI /  
*PVC MAXI Lamella / Lamelă PVC MAXI*

**Color**

**white / weiss / bianco / alb**  
**gray / grau / grigio / gri**

**Article Nr.**

**X851 01 600**  
**X851 02 600**


**Description**

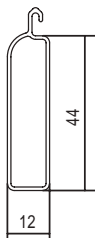
**Bottom rail MINI** / Endschiennenprofil MINI /  
*Asta Finale MINI / Șină capăt MINI*

**Color**

**white / weiss / bianco / alb**  
**RAL Colors / RAL Farbe /**  
**RAL Colori / Culori RAL**

**Article Nr.**

**X280 01 600**  
**X280 09 600**


**Description**

**Bottom rail MAXI** / Endschiennenprofil MAXI /  
*Asta Finale MAXI / Șină capăt MAXI*

**Color**

**white / weiss / bianco / alb**  
**RAL Colors / RAL Farbe /**  
**RAL Colori / Culori RAL**

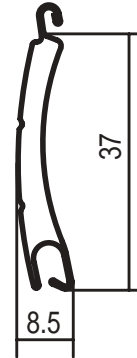
**Article Nr.**

**X526 01 600**  
**X526 09 600**

**Roller Slat / Rollladenpanzer / Tapparelle / Lamele Rulou**

<b>Roller slat / Rollladenstab</b> <i>Lamella Tapparella / Lamele rulou</i>	<b>H x T</b>	<b>Weight / Gewicht /</b> <i>Peso / Greutate</i>
<b>Profil A37</b>	37 x 8,5	3.0 kg/m <sup>2</sup>

<b>Max. Height (box included) / Max. Höhe (Kasten inkl.) / Altezza massima (cassettoni incl.) / Înălțime maximă (caseta inclusă)</b>				
	SW 40		SW 60	
11	1050			
13	1700		1300	
13XL	1700	1600*	1300	1300*
16	2800	1700*	2500	1650*
16XL	2800	2500*	2500	2200*
18	3200	2500*	3000	2250*
20	4000		4000	



**\*with insect screen / mit insektenschutz /**  
*con zanzariera / cu plasă insecte*

**Maximum size ROLLO FRONT NVS**
**Maximum size ROLLO FRONT NVR**

L [m]	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	4,0		
H [m]	6*				5*				4*				3*				2*				1*				
0,9	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,3	2,4	2,5			
1,0	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8			
1,1	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5	2,6	2,8	2,9	3,0	3,1			
1,2	0,8	1,0	1,1	1,2	1,3	1,4	1,6	1,7	1,8	1,9	2,0	2,2	2,3	2,4	2,5	2,6	2,8	2,9	3,0	3,1	3,2	3,4			
1,3	0,9	1,0	1,2	1,3	1,4	1,6	1,7	1,8	2,0	2,1	2,2	2,3	2,5	2,6	2,7	2,9	3,0	3,1	3,3	3,4	3,5	3,6			
1,4	1,0	1,1	1,3	1,4	1,5	1,7	1,8	2,0	2,1	2,2	2,4	2,5	2,7	2,8	2,9	3,1	3,2	3,4	3,5	3,6	3,8	3,9			
1,5	1,1	1,2	1,4	1,5	1,7	1,8	2,0	2,1	2,3	2,4	2,6	2,7	2,9	3,0	3,2	3,3	3,5	3,6	3,8	3,9	4,1	4,2			
1,6	1,1	1,3	1,4	1,6	1,8	1,9	2,1	2,2	2,4	2,6	2,7	2,9	3,0	3,2	3,4	3,5	3,7	3,8	4,0	4,2	4,3	4,5			
1,7	1,2	1,4	1,5	1,7	1,9	2,0	2,2	2,4	2,6	2,7	2,9	3,1	3,2	3,4	3,6	3,7	3,9	4,1	4,3	4,4	4,6	4,8			
1,8	1,3	1,4	1,6	1,8	2,0	2,2	2,3	2,5	2,7	2,9	3,1	3,2	3,4	3,6	3,8	4,0	4,1	4,3	4,5	4,7	4,9	5,0			
1,9	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9	3,0	3,2	3,4	3,6	3,8	4,0	4,2	4,4	4,6	4,8	4,9	5,1	5,3			
2,0	1,4	1,6	1,8	2,0	2,2	2,4	2,6	2,8	3,0	3,2	3,4	3,6	3,8	4,0	4,2	4,4	4,6	4,8	5,0	5,2	5,4	5,6			
2,1	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9	3,2	3,4	3,6	3,8	4,0	4,2	4,4	4,6	4,8	5,0	5,3	5,5	5,7	5,9			
2,2	1,5	1,8	2,0	2,2	2,4	2,6	2,9	3,1	3,3	3,5	3,7	4,0	4,2	4,4	4,6	4,8	5,1	5,3	5,5	5,7	5,9				
2,3	1,6	1,8	2,1	2,3	2,5	2,8	3,0	3,2	3,5	3,7	3,9	4,1	4,4	4,6	4,8	5,1	5,3	5,5	5,8	6,0					
2,4	1,7	1,9	2,2	2,4	2,6	2,9	3,1	3,4	3,6	3,8	4,1	4,3	4,6	4,8	5,0	5,3	5,5	5,8	6,0						
2,5	1,8	2,0	2,3	2,5	2,8	3,0	3,3	3,5	3,8	4,0	4,3	4,5	4,8	5,0	5,3	5,5	5,8	6,0							
2,6	1,8	2,1	2,3	2,6	2,9	3,1	3,4	3,6	3,9	4,2	4,4	4,7	4,9	5,2	5,5	5,7	6,0								
2,7	1,9	2,2	2,4	2,7	3,0	3,2	3,5	3,8	4,1	4,3	4,6	4,9	5,1	5,4	5,7	5,9									
2,8	2,0	2,2	2,5	2,8	3,1	3,4	3,6	3,9	4,2	4,5	4,8	5,0	5,3	5,6	5,9										

[ m<sup>2</sup> ]



**\*Wind Load Class / Wind Beanspruchungsgruppe / Classe Carico del Vento / Grupa de solicitare la încărcarea din vânt**

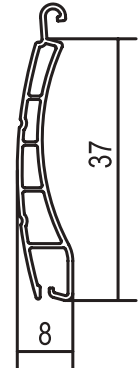
<b>Motor drive / Motorantriebe</b> <i>Azionamento a motore / Actionare cu motor</i>	<b>see driving torque table / siehe Motor Auswahltabelle /</b> <i>vedi tabelle scelta motori / vezi tabelul de moment motor</i>
<b>Manual Crank / Kurbelgetriebe / Azionamento</b> <i>a manovella / Actionare cu manivela</i>	2:1 => 5 m <sup>2</sup> , 3:1 => 6.5 m <sup>2</sup>
<b>Belt Mini / Gurtantrieb Mini / Azionamento con cinghia Mini /</b> <i>Actionare cu chinga Mini</i>	=< 3,4 m <sup>2</sup>

**Roller Slat / Rollladenpanzer / Tapparelle / Lamele Rulou**

<b>Roller slat / Rollladenstab</b> <i>Lamella Tapparella / Lamela rulou</i>	<b>H x T</b>	<b>Weight / Gewicht /</b> <i>Peso / Greutate</i>
<b>Profil X837</b>	37 x 8	3.0 kg/m <sup>2</sup>

**Max. Height (box included) / Max. Höhe (Kasten inkl.) / Altezza massima (cassettoni incl.) /**  
*Înălțime maximă (caseta inclusă)*

	SW 40		SW 60	
11	1050			
13	1700		1300	
13XL	1700	1600*	1300	1300*
16	2800	1700*	2500	1650*
16XL	2800	2500*	2500	2200*
18	3200	2500*	3000	2250*
20	4000		4000	



**\*with insect screen / mit insektenschutz /**  
*con zanzariera / cu plasă insecte*

**Maximum size ROLLO FRONT NVS**
**Maximum size ROLLO FRONT NVR**

L [m]	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	2,1	2,8	4,0
H [m]	6*		5*		4*	3*	2*		1*				
0,9	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,4			
1,0	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6			
1,1	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,7	1,8			
1,2	0,8	1,0	1,1	1,2	1,3	1,4	1,6	1,7	1,8	1,9			
1,3	0,9	1,0	1,2	1,3	1,4	1,6	1,7	1,8	2,0	2,1			
1,4	1,0	1,1	1,3	1,4	1,5	1,7	1,8	2,0	2,1	2,2			
1,5	1,1	1,2	1,4	1,5	1,7	1,8	2,0	2,1	2,3				
1,6	1,1	1,3	1,4	1,6	1,8	1,9	2,1	2,2	2,4				
1,7	1,2	1,4	1,5	1,7	1,9	2,0	2,2	2,4	2,6				
1,8	1,3	1,4	1,6	1,8	2,0	2,2	2,3	2,5	2,7				
1,9	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,7					
2,0	1,4	1,6	1,8	2,0	2,2	2,4	2,6	2,8					
2,1	1,5	1,7	1,9	2,1	2,3	2,5	2,7	2,9					
2,2	1,5	1,8	2,0	2,2	2,4	2,6	2,9	3,1					
2,3	1,6	1,8	2,1	2,3	2,5	2,8	3,0						
2,4	1,7	1,9	2,2	2,4	2,6	2,9	3,1						
2,5	1,8	2,0	2,3	2,5	2,8	3,0							
2,6	1,8	2,1	2,3	2,6	2,9	3,1							
2,7	1,9	2,2	2,4	2,7	3,0								
2,8	2,0	2,2	2,5	2,8	3,1								
2,9	2,0	2,3	2,6	2,9									
3,0	2,1	2,4	2,7	3,0									

[m]<sup>2</sup>

**\*Wind Load Class / Wind Beanspruchungsgruppe / Classa Carico del Vento /**  
*Grupa de solicitare la încărcarea din vânt*

**Octagonal shaft SW 40 or SW 60 / Achtkantwelle SW 40 bzw. SW 60**  
*Albero SW 40 o SW 60 / Octobara SW 40 sau SW 60*

<b>Motor drive / Motorantriebe</b> <i>Azionamento a motore / Acționare cu motor</i>	<b>see driving torque table / siehe Motor Auswahltable /</b> <i>vedi tabelle scelta motori / vezi tabelul de moment motor</i>
<b>Manual Crank / Kurbelgetriebe / Azionamento a manovella / Acționare cu manivelă</b>	2:1=> 5 m <sup>2</sup> , 3:1 => 6.5 m <sup>2</sup>
<b>Belt Mini / Gurtantrieb Mini / Azionamento con cinghia Mini / Acționare cu chingă Mini</b>	=< 3,4 m <sup>2</sup>



Motor selection tabel / Motor Auswahltabelle / *Tabella scelta motori* / Tabel Selectare Motor

**MAXI Slats / MAXI Rollladenstab / Lamella MAXI / Lamelă MAXI**

Required Driving Torque for motor drive with octagonal shaft SW60 and slats X851 / Erforderliches Drehmoment für Motorantrieb mit Achtkantwelle SW60 und Rollladenstab X851 / Tabella Coppia per motori con albero 60 e lamella X851 / Tabelul de Moment cu motor cu octobară SW 60 și lamelă X851

SW 60		L [ mm ]																															
		700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	
H [ mm ]	750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	1000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1250	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10
	1500	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10
	1750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2000	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	17	17	17
	2250	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17
	2500	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17	17	17	17
	2750	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17	17	17	20	20	20
	3000	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17	17	17	17	17	20	20	20	20	20

**MINI Slats / MINI Rollladenstab / Lamella MINI / Lamelă MINI**

Required Driving Torque for motor drive with octagonal shaft SW40 and slats A37 , X837 / Erforderliches Drehmoment für Motorantrieb mit Achtkantwelle SW40 und Rollladenstab A37, X837 / Tabella Coppia motori con albero 40 e lamella X851 / Tabelul de Moment pentru motor cu octobară SW 40 și lamele A 37, X837

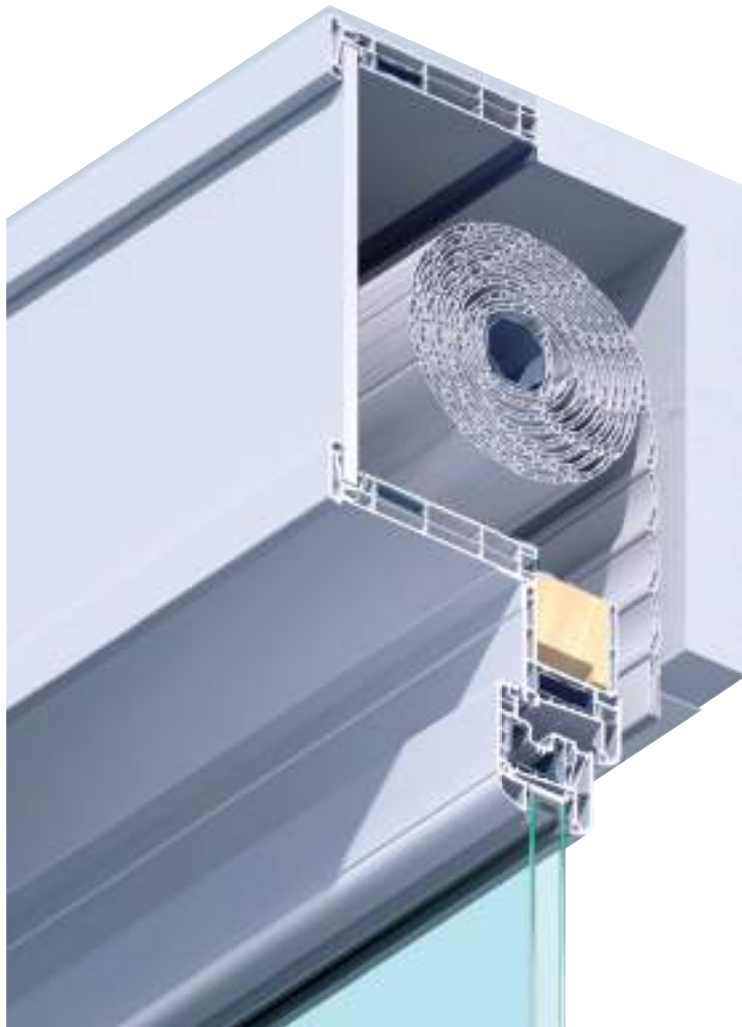
SW 40		L [ mm ]																															
		700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	
H [ mm ]	750	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	1000	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	1250	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	9	9	9	9	9	9	9
	1500	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9
	1750	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9	9	9	13	13	13
	2000	4	4	4	4	4	4	4	4	4	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9	9	9	9	13	13	13	13	13
	2250	4	4	4	4	4	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9	9	9	9	13	13	13	13	13	13	13	13	13
	2500	4	4	4	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9	9	13	13	13	13	13	13	13	13	13	13	13	13	13
	2750	4	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9	9	9	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	3000	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9	9	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

**MINI Slats / MINI Rollladenstab / Lamella MINI / Lamelă MINI**

Required Driving Torque for motor drive with octagonal shaft SW60 and slats A37 , X837 / Erforderliches Drehmoment für Motorantrieb mit Achtkantwelle SW60 und Rollladenstab A37, X837 / Tabella Coppia motori con albero 40 e lamella X851 / Tabelul de Moment pentru motor cu octobară SW 60 și lamele A 37, X837

SW 60		L [ mm ]																															
		700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	
H [ mm ]	750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	1000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1250	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	1500	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10
	1750	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2000	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	17	17	17	17
	2250	6	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17	17
	2500	6	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17	17	17	17	17
	2750	6	6	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17	17	17	17	17	17	17
	3000	6	6	6	6	6	6	6	10	10	10	10	10	10	10	10	10	10	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17

# CASSONETTO BORA

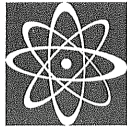


Produttore Sistema:  
Kommerling  
Pirmasens  
Deutschland

Window systems  
Kommerling Premiline

*Il sistema di profili in PVC per cassetto Bora è adatto a contenere avvolgibili di dimensioni variabili, anche di notevole ingombro. Bora, è particolarmente indicato nelle ristrutturazioni di cassette preesistenti di qualsiasi tipologia e nelle nuove costruzioni provviste di veletta.*

PERFORMER 74
RONDO
STYLE 76
PASIV 82
KUBUS
PREMIDOOR 76
PREMIDOOR 88
PREMILINE
BESCHLÄG
HARDWARE
GLAS
GLASS
ROLLO TOP
ROLLO FRONT
<b>BORA</b>
HERCULES 70



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Registro Imprese di Rimini n.00 549 540 409  
Organismo Europeo notificato n.0407  
Accreditamenti: SINCERT (057A e 082B) - SIT (20)

**RICONOSCIMENTI UFFICIALI MINISTERI ITALIANI:**

- Legge 108/71 con D.M. 27/11/82 n. 22913 "Prove sui materiali da costruzione"
- D.M. 09/11/89 "Certificazione CE per le unità da diporto"
- D.M. 04/08/84 "Certificazione CEE sulle macchine"
- Notifica n. 757890 del 15/12/98 "Certificazione CEE per gli apparecchi a gas"
- D.M. 09/07/93 "Certificazione CEE in materia di recipienti semplici a pressione"
- D.M. 08/07/93 "Certificazione CEE concernente la sicurezza dei giocattoli"
- Incarichi di verifica della sicurezza e conformità dei prodotti nell'ambito della sorveglianza sul mercato e tutela del consumatore.
- D.M. 02/04/98 "Rilascio di attestazioni di conformità delle caratteristiche e prestazioni energetiche dei componenti degli edifici e degli impianti"
- Legge 818/84 e D.M. 26/03/85 con autorizzazione del 21/03/86 "Prove di reazione al fuoco secondo D.M. 26/06/84"
- Legge 818/84 e D.M. 26/03/85 con autorizzazione del 10/07/86 "Prove di resistenza al fuoco secondo Circolare n. 91 del 14/09/81"
- Legge 818/84 e D.M. 26/03/85 con autorizzazione del 03/07/92 "Prove di resistenza al fuoco secondo Circolare n. 7 del 02/04/91 norma CWWF/CCI UNI 9723"
- Legge 818/84 e D.M. 26/03/85 con autorizzazione del 12/04/88 "Prove su estintori d'incendio portatili secondo D.M. 20/12/82"
- Legge 46/82 con D.M. 09/10/85 "Immissione nell'albo dei laboratori autorizzati a svolgere ricerche di carattere applicativo a favore delle piccole e medie industrie"
- Protocollo n. 116 del 27/03/87 "Iscrizione allo Schedario Anagrafe Nazionale delle ricerche con codice N.E0490Y9Y"
- Decreto 24/05/02 "Certificazione CE di rispondenza della conformità delle attrezzature a pressione"
- Decreto 14/02/02 "Certificazione CE di conformità in materia di emissione acustica ambientale per macchine e attrezzature"
- Decreto 05/02/03 "Esecuzione delle procedure di valutazione della conformità dell'equipaggiamento marittimo"
- G.U.R.I. n. 236 del 07/10/04 "Certificazione CE sugli ascensori"
- Notifica per le attività di attestazione della conformità alle norme armonizzate della Direttiva 89/106 sui prodotti da costruzione.

**ENTI TERZI:**

- SINCERT: Accreditamenti n. 057A del 19/12/00 "Organismo di certificazione di sistemi di gestione per la qualità" e n. 082B del 12/04/06 "Organismo di certificazione di prodotto"
- SIT: Centro multisede n. 20 (Bellaria - Pomezia) per grandezze termometriche ed elettriche.
- IGM: "Prove di laboratorio nell'ambito degli schemi di Certificazione di Prodotto"
- IMQ: "Prove di laboratorio nell'ambito degli schemi di Certificazione di Prodotto per carne lumarie"
- UNCSAAL: Riconoscimento del 26/03/85 "Laboratorio per le prove di certificazione UNCSAAL su serramenti e fasciate continue"
- IMQ-UNI: "Prove di laboratorio nell'ambito degli schemi di Certificazione di Prodotto per termocamini in legno con flusso a circolazione forzata"
- CSI-UNI: "Prove di laboratorio in ambito degli schemi di Certificazione di Prodotto per serramenti esterni"
- KEYMARK per isolanti termici: "Misure di conduttività termica per materiali isolanti"
- IFT: "Prove di laboratorio e sorveglianza in azienda nell'ambito degli schemi di Certificazione di Prodotto per porte, finestre, chiusure oscuranti (antifabbricazione) e serramenti"
- EFSG: "Prove di laboratorio su casselloni e altri mezzi di custodia"
- AENOR: "Valutazione della conformità ai fini della marcatura CE per alcuni prodotti inerti la direttiva prodotti da costruzione"
- VTT-Finlandia: "Valutazione della conformità ai fini della marcatura CE per alcuni prodotti inerti la direttiva prodotti da costruzione"
- C.C.I.A.A. Rimini: 28/01/04 "Verifica periodica dell'affidabilità metrologica di strumenti metrici in materia di commercio"

**PARTECIPAZIONI ASSOCIATIVE:**

- AIA: Associazione Italiana di Acustica.
- AICARR: Associazione Italiana Condizionamento dell'Aria Riscaldamento Refrigerazione.
- AICQ: Associazione Italiana per la Qualità.
- AIPnd: Associazione Italiana Prove non Distruttive.
- ALIE: Associazioni Laboratori Italiani Fuoco.
- ALPI: Associazione Laboratori di Prove Indipendenti.
- ASHRAE: American Society of Heating, Refrigerating and AirConditioning Engineers Inc.
- ASTM: American Society for Testing and Materials.
- ATIS: Associazione Tecnica Italiana del Gas.
- CTE: Collegio dei Tecnici della Industrializzazione Edilizia.
- CIT: Comitato Termotecnico Italiano.
- EARMA: European Association of Research Managers and Administrators.
- EARTO: European Association of Research and Technology Organisation.
- EGOLF: European Group of Official Laboratories for Fire Testing.
- UNI: Ente Nazionale Italiano di Unificazione.

**RELAZIONE DI CALCOLO N. 239054**

**Luogo e data di emissione:** Bellaria-Igea Marina - Italia, 15/04/2008

**Committente:** PROFINE ITALIA S.r.l. - Via Nazionale, 601 - 45033 BOSARO (RO) - Italia

**Data della richiesta del calcolo:** 15/01/2008

**Numero e data della commessa:** 39756, 15/01/2008

**Data del ricevimento del disegno:** 09/04/2008

**Data dell'esecuzione del calcolo:** dal 09/04/2008 al 14/04/2008

**Oggetto del calcolo:** Calcolo della trasmittanza termica di cassonetto per avvolgibile in PVC secondo la norma UNI EN ISO 10077-2:2004

**Luogo del calcolo:** Istituto Giordano S.p.A. - Blocco 2 - Via Rossini, 2 - 47814 Bellaria-Igea Marina (RN) - Italia

**Provenienza del disegno:** fornito dal Committente

**Denominazione del campione\*.**

Il cassonetto rappresentato dal disegno è denominato "P1077-P1067B".



(\*) secondo le dichiarazioni del Committente.

**CLAUSOLE:**

Il presente documento si riferisce solamente al campione o materiale sottoposto a prova.  
Il presente documento non può essere riprodotto parzialmente, salvo approvazione scritta del laboratorio.

La presente relazione di calcolo è composta da n. 7 fogli.

Foglio  
n. 1 di 7



**Modalità e condizioni di calcolo della trasmittanza termica.**

Il calcolo è stato svolto utilizzando un programma numerico agli elementi finiti conforme alla norma UNI EN ISO 10077-2:2004, con una discretizzazione di n. 182571 punti.

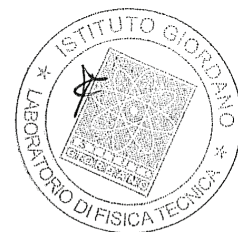
La trasmittanza termica è stata valutata nelle seguenti condizioni:

Temperatura esterna	0 °C
Temperatura interna	20 °C
Resistenza termica superficiale esterna "R <sub>se</sub> "	0,04 m <sup>2</sup> ·K/W
Resistenza termica superficiale interna per superfici con fattore di vista normale "R <sub>si</sub> "	0,13 m <sup>2</sup> ·K/W
Resistenza termica superficiale interna per superfici con fattore di vista ridotto	0,20 m <sup>2</sup> ·K/W

e per le seguenti caratteristiche del cassonetto:

Conduttività termica dell'EPDM	0,25 W/(m·K)
Conduttività termica del PVC	0,17 W/(m·K)
Conduttività termica del truciolare (ρ = 640÷720 Kg/m <sup>3</sup> )	0,156 W/(m·K) *
Conduttività termica del KÖMACEL (ρ = 0,55÷0,60 g/cm <sup>3</sup> )	0,07 W/(m·K)
Conduttività termica dell'intonaco (UNI EN 12524:2001 - Prospetto 1 - Intonaco di massa volumica 1600 kg/m <sup>3</sup> )	0,8 W/(m·K)
Conduttività termica del calcestruzzo armato (UNI EN 12524:2001 - Prospetto 1 - Calcestruzzo armato (con 1% di acciaio))	2,3 W/(m·K)
Conduttività termica del laterizio (UNI EN 1745:2005 e UNI EN 12524:2001 - Laterizio di massa volumica 1800 kg/m <sup>3</sup> (conduttività termica a secco) e contenuto di umidità a 23 °C e 50% UR)	0,526 W/(m·K)

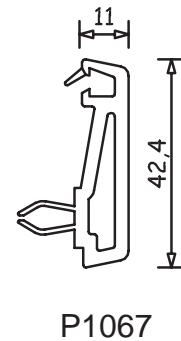
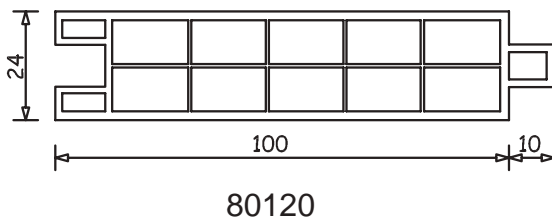
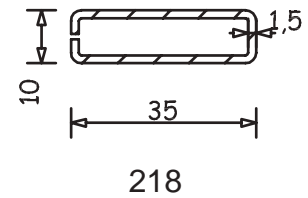
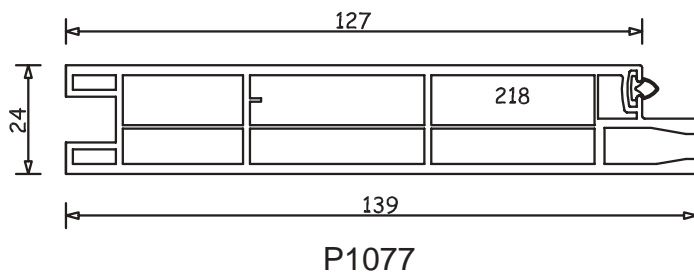
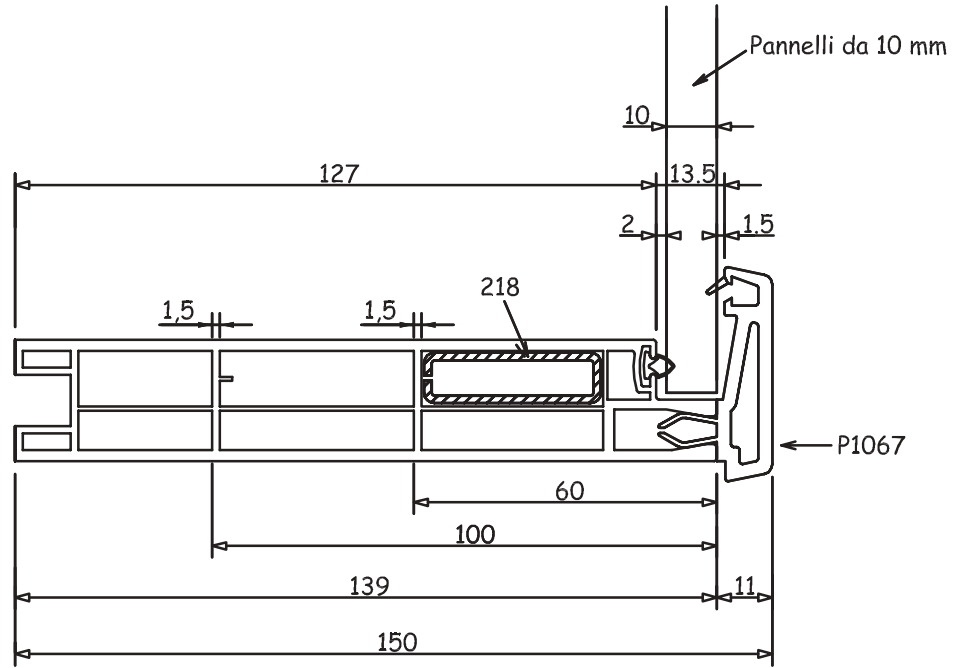
La cavità delimitata dalle pareti del cassonetto è stata considerata come debolmente ventilata attribuendo ad essa una conduttività termica equivalente pari al doppio di quella corrispondente ad intercapedine chiusa e calcolata secondo la formula contenuta nella norma UNI EN ISO 10077-2:2004, assumendo l'emissività dei materiali pari a 0,9.



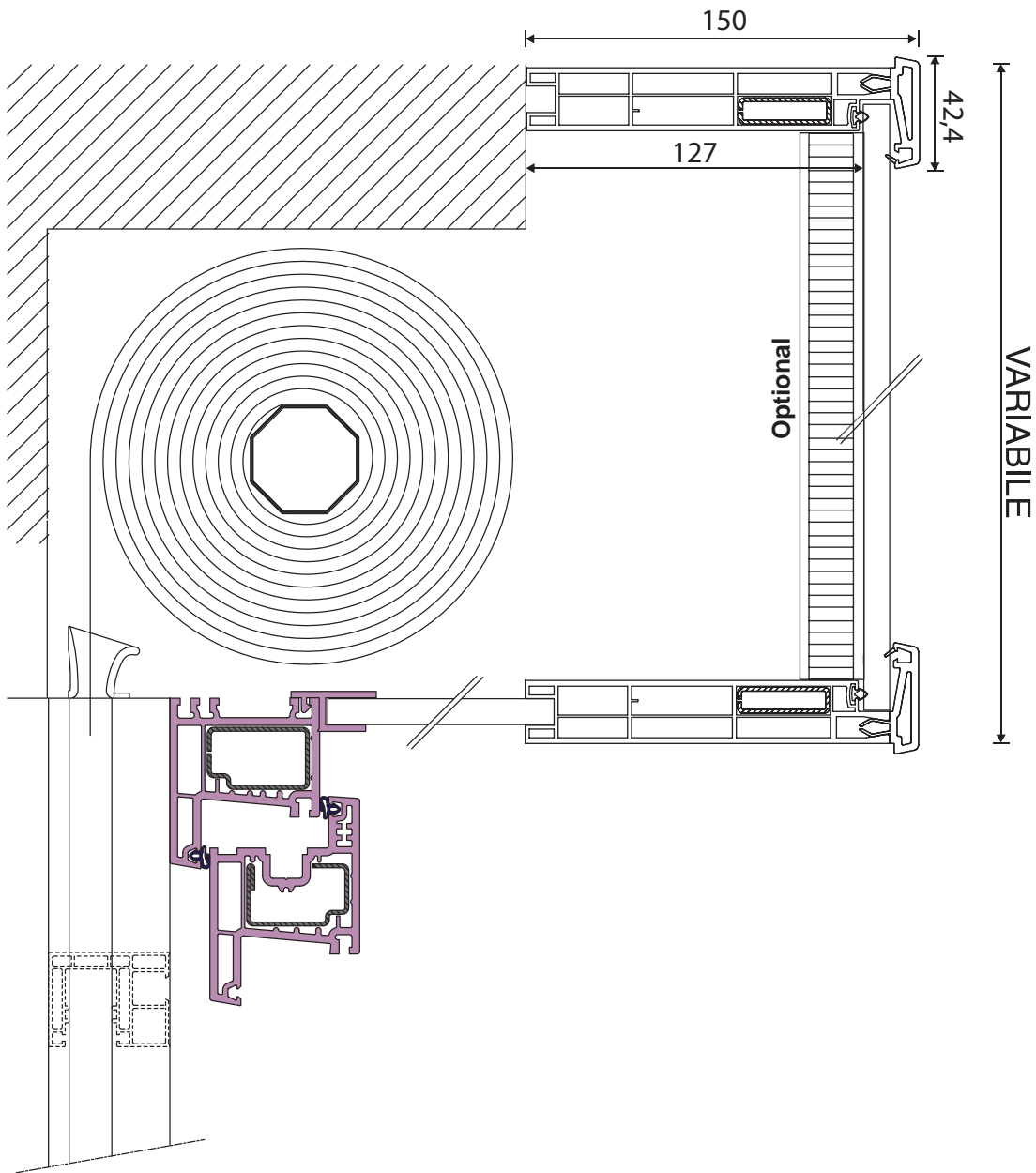
(\*) Conduttività termica ricavata dalla norma, UNI EN 12524:2001 del 30/09/2001 "Materiali e prodotti per edilizia - Proprietà idrometriche - Valori tabulati di progetto, in corrispondenza del limite superiore della massa volumica.

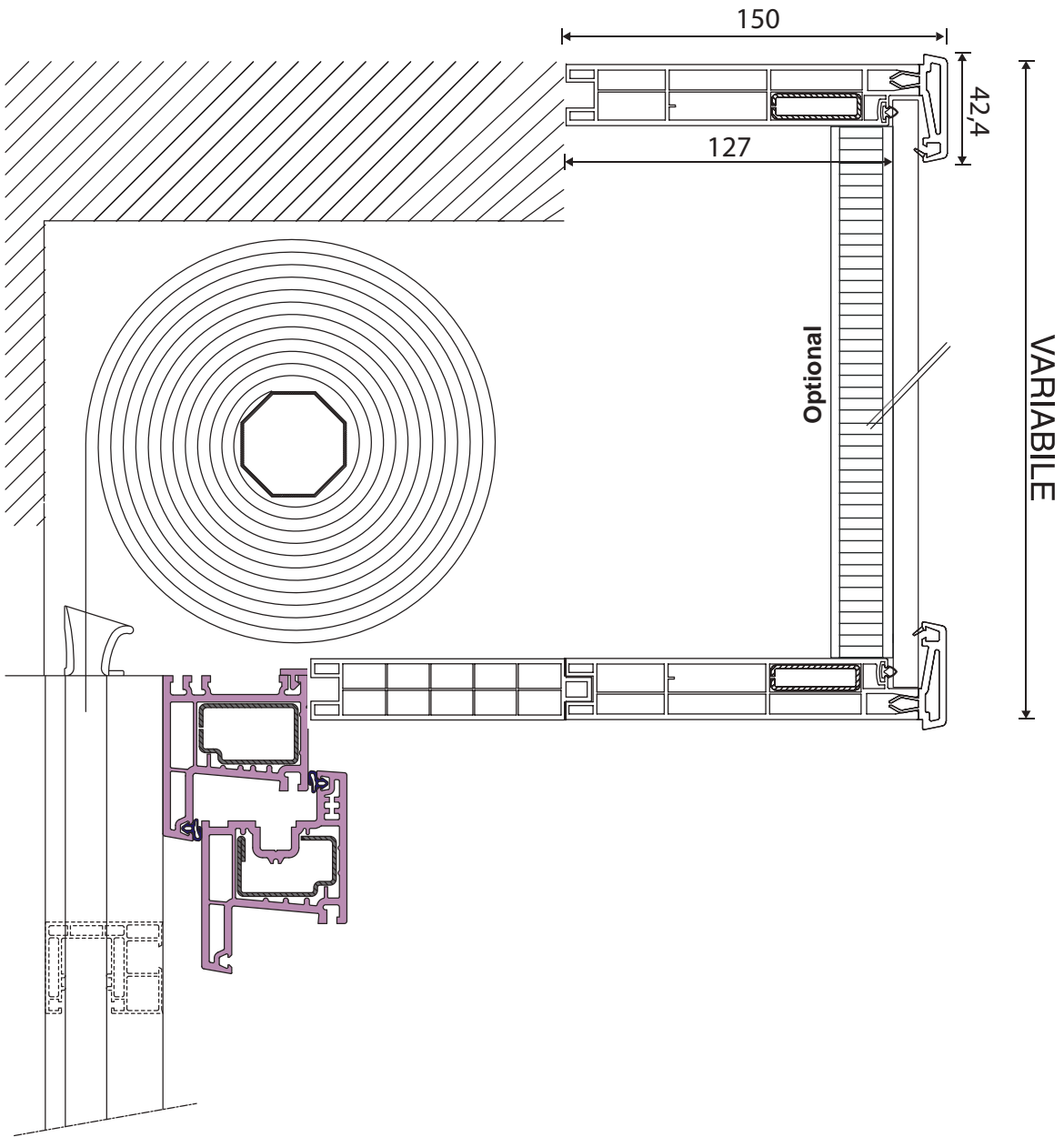
Programma Colori

Pelicola	Colore	Pelicolato	Colore Massa	Codice Renolit	Guarnizione
Wood grain / Holzdekore / Effetto Legno / Imitatie Lemn	Golden Oak	x	bianco	9.2178 001-116700	grigio
	Nussbaum V	x	bianco	9.2178 007-116700	grigio
	Siena PN	x	bianco	9.0049237-114800	grigio
	Siena PR	x	bianco	9.0049233-114800	grigio
	Sapeli	x	bianco	9.2065021-116700	grigio
	Streifen Douglasie	x	bianco	9.3152 009-116700	grigio
	Mooreiche ST-F	x	bianco	9.3167 004-116700	grigio
	Eiche Dunkel FL-F1	x	bianco	9.2052 089-116700	grigio
Single Colors / Uni -Farben / Uni-colore / Culori Uni	Cremeweiss	x	bianco	02.12.11.000011-116701	grigio
	Weiß	x	bianco	02.12.91.000014-116801	grigio
	Dunkelgrün	x	bianco	6125 05-116700	grigio
	Moosgrün	x	bianco	6005 05-116700	grigio
	Anthrazitgrau	x	bianco	7016 05-116700	grigio
	Grau	x	bianco	7155 05-116700	grigio
	Lichtgrau	x	bianco	7251 05-116700	grigio
	Metbrusch Aluminium *	x	bianco	F 436-1001	grigio



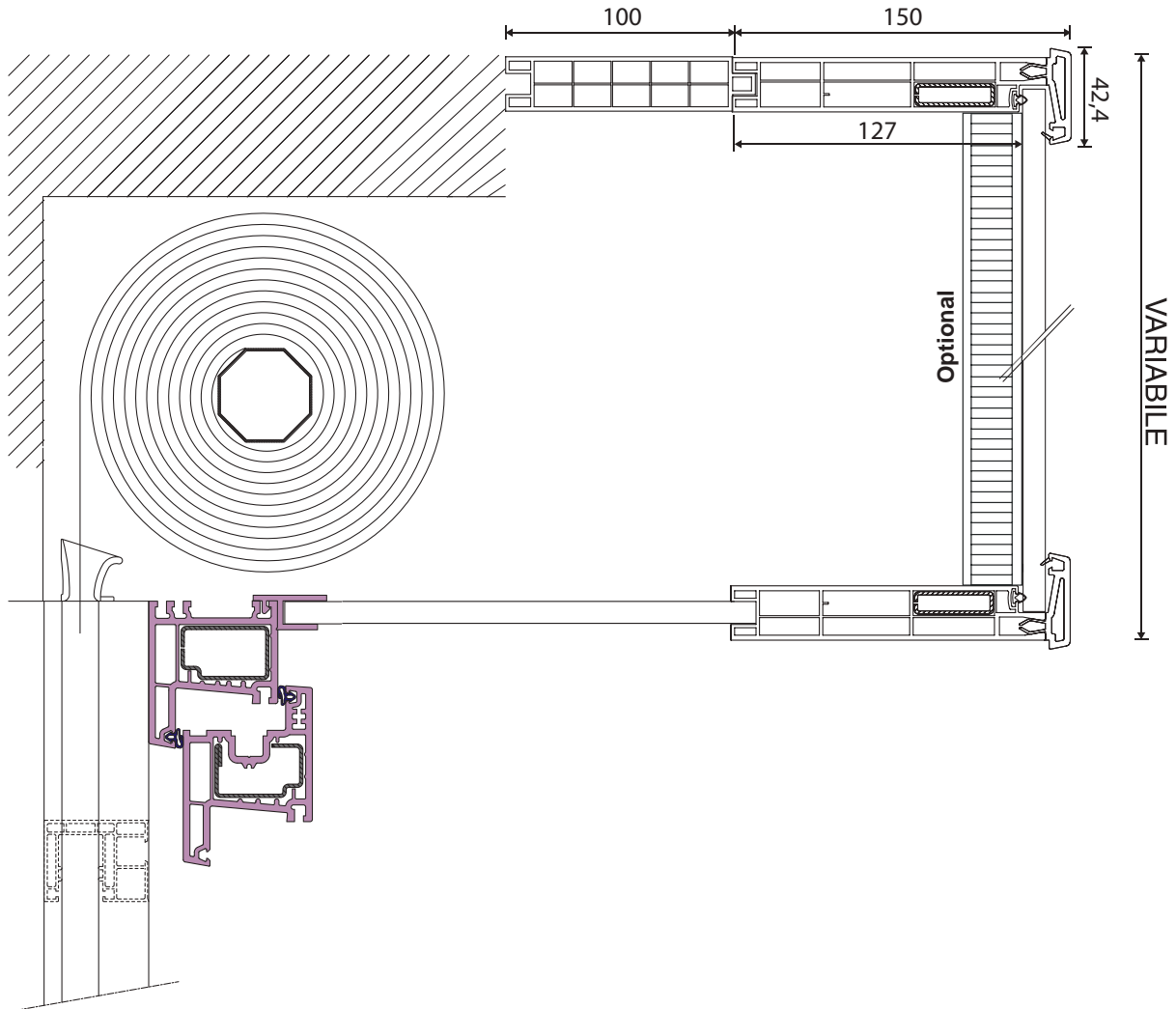
HERCULES 70	BORA	ROLLO FRONT	ROLLO TOP	GLASS	HARDWARE	BESCHLÄG	PREMILINE	PREMIDOOR 88	PREMIDOOR 76	KUBUS	PASIV 82	STYLE 76	RONDO	PERFORMER 74
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HERCULES 70	BORA	ROLLO FRONT	ROLLO TOP	GLASS	BESCHLÄG HARDWARE	PREMILINE	PREMIDOOR 88	PREMIDOOR 76	KUBUS	PASIV 82	STYLE 76	RONDO	PERFORMER 74
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# HERCULES 70



# MILLENNIUM PLUS



**Heat transfer coefficient**  
Wärmedurchgangskoeffizient  
Transmittanza termica  
Transmitanta termica

up to  
bis  
fino a  
pana la Uf = 1,9 W/(m2K)



**Resistance to wind load**  
Widerstandsfähigkeit  
gegen Windlast  
Resistenza ai carichi di vento  
Rezistentă la încărcarea din vant

up to  
bis  
fino a  
pana la Clasa C5



**Tightness against driving rain -  
unprotected (A)**  
Schlagregendichtheit - Ungeschützt (A)  
Tenuta all'acqua metodo di prova A  
Etanșeitatea la apa  
expunere directă

up to  
bis  
fino a  
pana la E1200



**Air permeability**  
Luftdurchlässigkeit  
Tenuta all'aria  
Permeabilitatea aerului

up to  
bis  
fino a  
pana la Clasa 4



**Sound insulation**  
Schallschutz  
L'isolamento acustico  
Izolarea acustica

up to  
bis  
fino a  
pana la 44 dB



**Burglar-resistant**  
Einbruchhemmung  
Resistenza antieffrazione  
Rezistentă antifracție

up to  
bis  
fino a  
pana la RC 2 (WK 2)



**Heat transfer coefficient**  
Wärmedurchgangskoeffizient  
Transmittanza termica  
Transmitanta termica

up to  
bis  
fino a  
pana la Uf = 1,9 W/(m2K)



**Resistance to wind load**  
Widerstandsfähigkeit  
gegen Windlast  
Resistenza ai carichi di vento  
Rezistentă la încărcarea din vant

up to  
bis  
fino a  
pana la Clasa C4



**Tightness against driving rain -  
unprotected (A)**  
Schlagregendichtheit - Ungeschützt (A)  
Tenuta all'acqua metodo di prova A  
Etanșeitatea la apa  
expunere directă

up to  
bis  
fino a  
pana la 6A



**Air permeability**  
Luftdurchlässigkeit  
Tenuta all'aria  
Permeabilitatea aerului

up to  
bis  
fino a  
pana la Clasa 4



**Sound insulation**  
Schallschutz  
L'isolamento acustico  
Izolarea acustica

up to  
bis  
fino a  
pana la 38 dB



**Burglar-resistant**  
Einbruchhemmung  
Resistenza antieffrazione  
Rezistentă antifracție

up to  
bis  
fino a  
pana la RC 2 (WK 2)

BESCHLÄG  
HARDWARE  
GLASS  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

PERFORMER 74

RONDO

STYLE 76

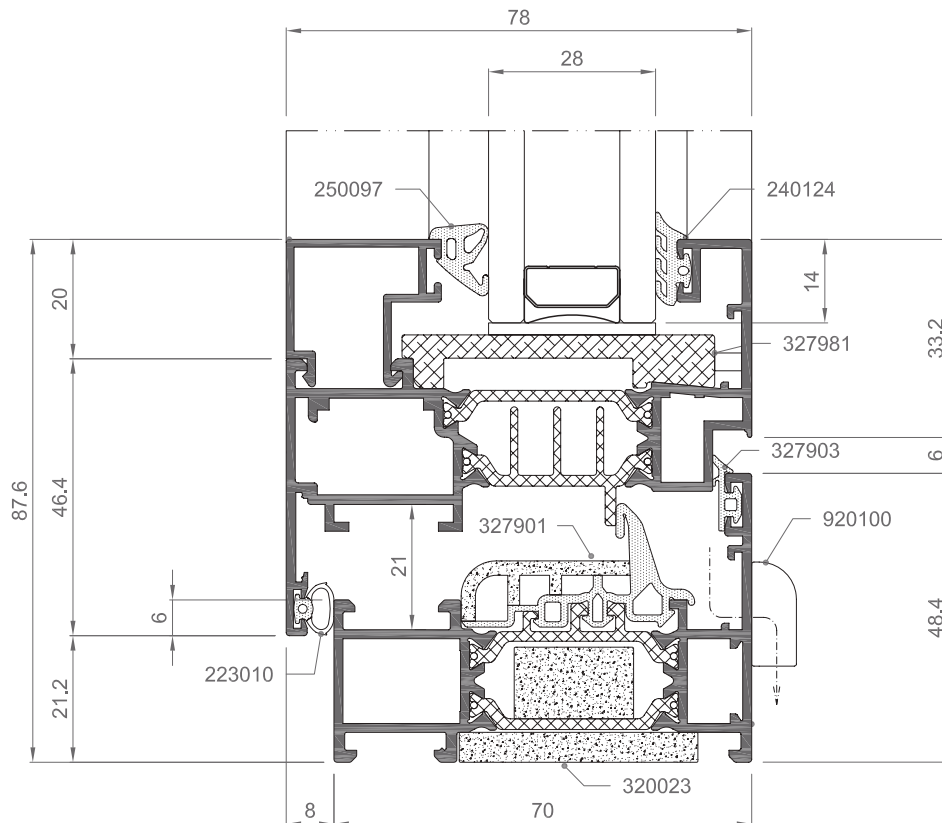
PASIV 82

KUBUS

PREMIDOR 76

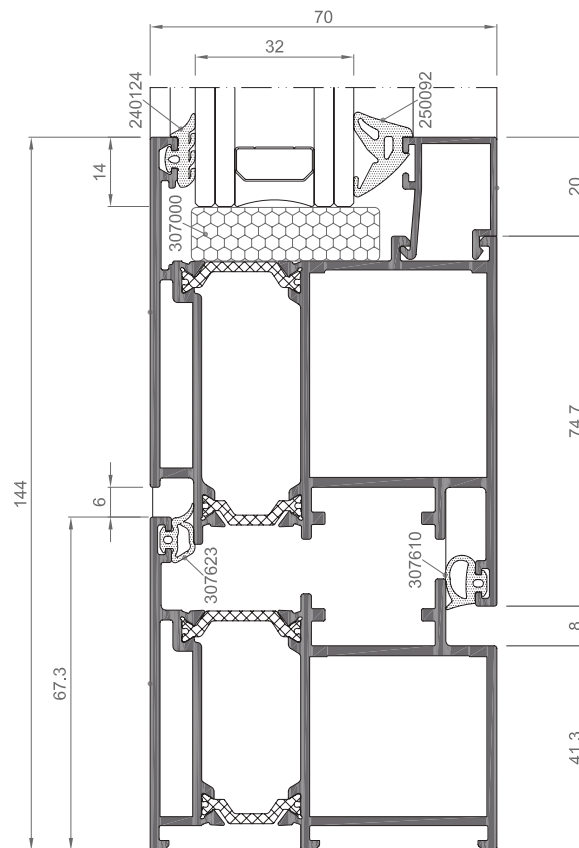
PREMIDOR 88

PREMILINE

**System features / Systemmerkmale / Caratteristiche del sistema / Caracteristici Sistem**
**COR 70**


1. Sistem de fereastră cu balamale dezvoltate cu scopul de a satisface necesitățile unui anumit segment de piață cu o tamplarie economică, simplă și versatilă cu prestații ridicate.
2. Având 70 mm. grosime toc și feronerie de Canal European această inovație a Departamentului de I+D+I cu un coeficient de transfer termic al tocului de doar 1,8 W/m<sup>2</sup>K pentru a se putea adapta la diferite condiții climatice și necesităților în materie de eficiență energetică.
3. Datorită modului simplu de montare și necesitatea redusă de mână de lucru permite producția industrializată de economie de timp și cost.
4. Foaie dreaptă, baghetă dreaptă sau rotundă
5. Posibilitatea de vitrare până la 55 mm care permite utilizarea sticlelor economice energetic și grosimi mari, oferind acestui sistem prestații acustice și termice excelente

1. A hinged window system that was conceived with the object of satisfying the needs of a determined market segment for an economical window system, simple but versatile with many features.
2. With a 70 mm frame depth and Euro Groove opening gearing, this innovation from the R&D Department has thermal transmission from only 0.9 W/m<sup>2</sup>K in order to adapt to distinct climatic severities and material demands on energy efficiency.
3. Its simplicity in fitting and reduced need for labour allows for a more industrialised manufacture resulting with time and cost savings at the end.
4. It features a straight style in both sash and bead.
5. A glazing capacity of up to 65.5 mm that allows the use of energy efficient glazing and compositions with large thicknesses and affords this system excellent acoustic and thermal features

**System features / Systemmerkmale / Caratteristiche del sistema / Caracteristici Sistem**
**MILLENNIUM PLUS**


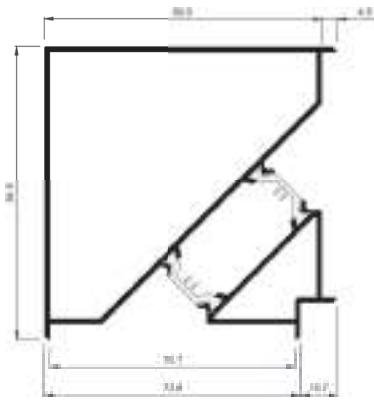
1. Sistem de usa pietonal drept de 70 mm cu Bariera Termica pentru localuri comerciale si cladiri.
2. Cu o valoare de transfer termic a tocului de la 1,8 W/m<sup>2</sup>K, atinge unele prestatii termice foarte bune si posibilitatea de vitrare ii ofera o izolare acustica maxima.
3. Posibilitatea folosirii balamalelor cu rezistenta mare (aplicate sau balamale pe canal refortate) capabile sa suporte pana la 220 Kg. greutate pe foaie.
4. Posibilitatea folosirii balamalelor ascunse cu dimensiuni si greutati maxime pe foaie de 2.700 mm. inaltime, 1.500 mm. latime si 120 Kg. si cu deschidere maxima a foii de 100°.
5. Prezinta solutii de finisare la sol si imbinari compatibile cu sistemele noastre actuale.
6. Se poate folosi ca iesire de urgenta cu dispozitiv antipanica dupa normativa EN 179 si EN 1125

1. Coplanar door entry system with straight 70 mm and thermally broken for commercial premises and buildings.
2. With a frame transmission value from 0.9 W/m<sup>2</sup>K, it reaches unbeatable thermal features and its great glazing capacity guarantees a maximum acoustic insulation.
3. Possibility of high resistance hinges (face fix or re-inforced in to the channel) capable of supporting up to 220 kgs in weight per sash.
4. Possibility of hidden hinges with maximum dimensions and weight per sash of 2700 mm in height, 1500 mm in width and 120 kgs. and with a maximum sash opening of 100°.
5. It presents solutions of finishing to the floor and compatible meeting styles with our actual systems.  
It is valid as a configuration for an emergency exit with anti-panic devices according to EN 179 & EN 1125 norms.

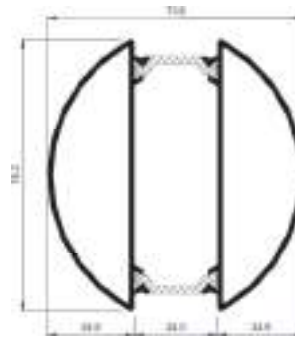






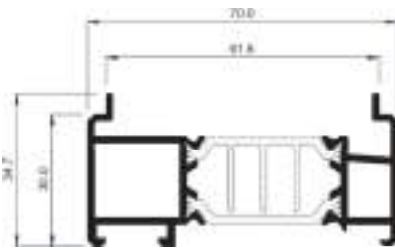


**COR 7359**

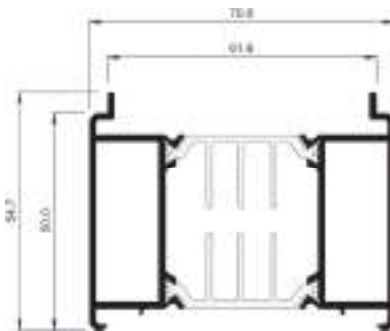


**COR 7980**

**Bank connection profile** / Bankanschluss profile / *Profili di appoggio inferiore* /  
Profile suprainaltare

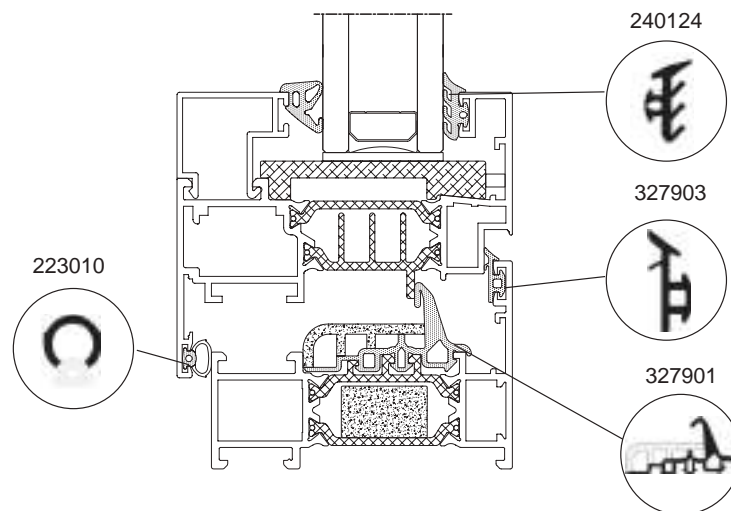


**COR 7390**



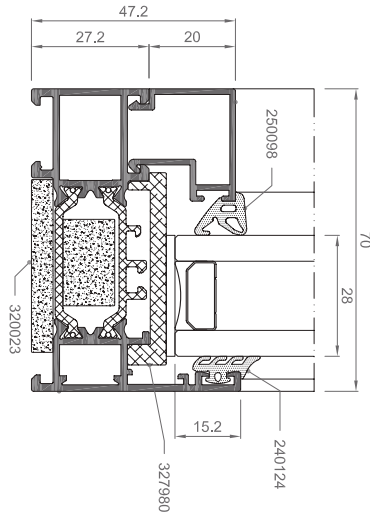
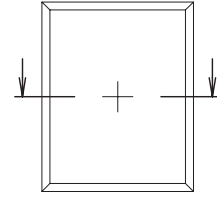
**COR 7391**

**Gasket** / Dichtung / *Guarnizione* / Garnitură



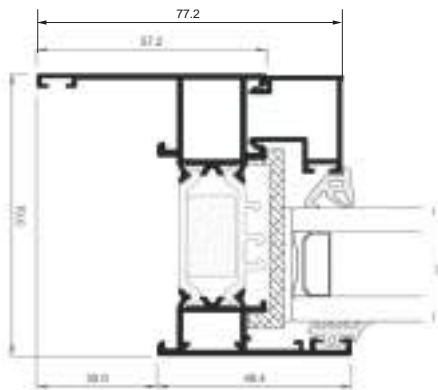


**Fixed light / Festfeld / Fissa / Fix**



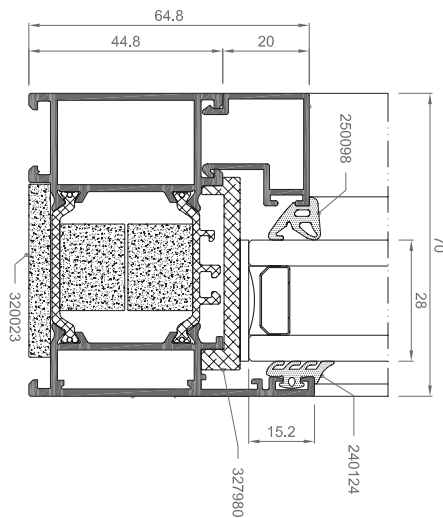
Frame

7931



Frame

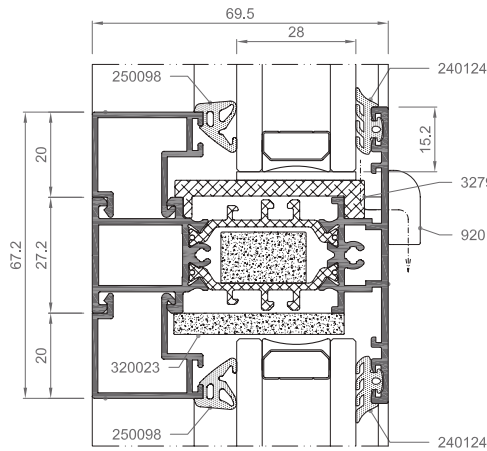
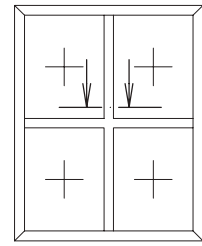
7933



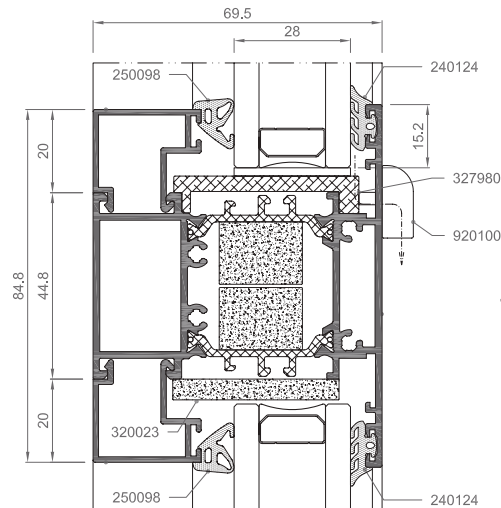
Frame

7937

**Fixed light with transom / Festfeld Pfosten /**  
*Fissa con montate / Fix cu montant*

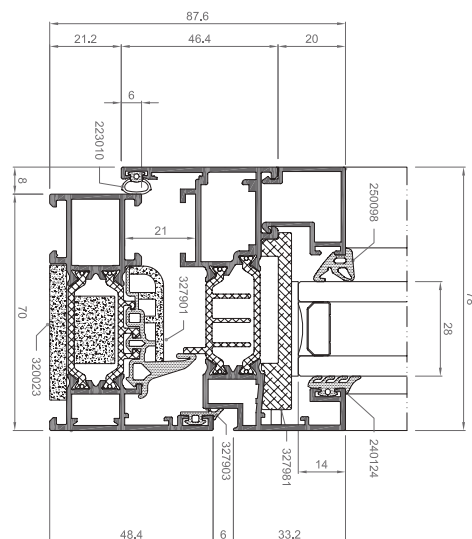
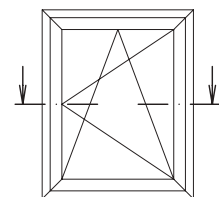


**Transom 7971**

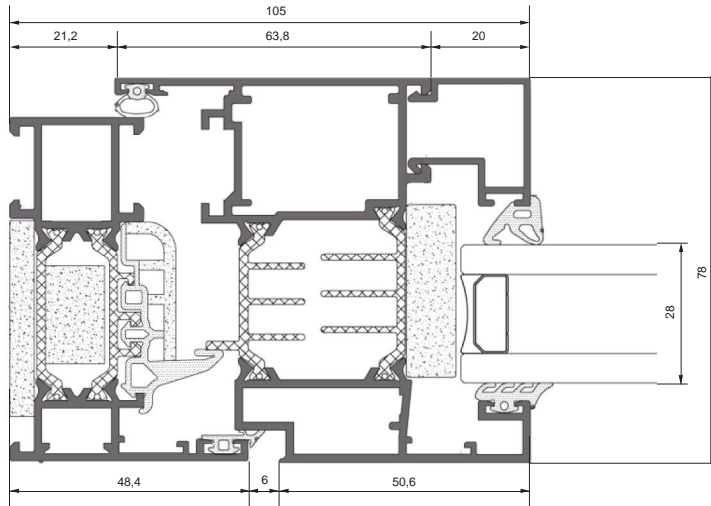


**Transom 7976**

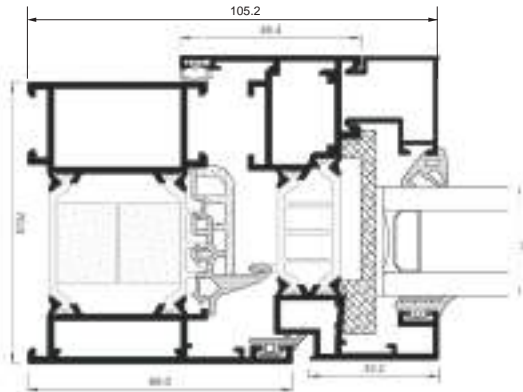
**Frame - Sash / Blendrahmen - Flügel /**  
*Telaio - Anta / Toc - Cercevea*



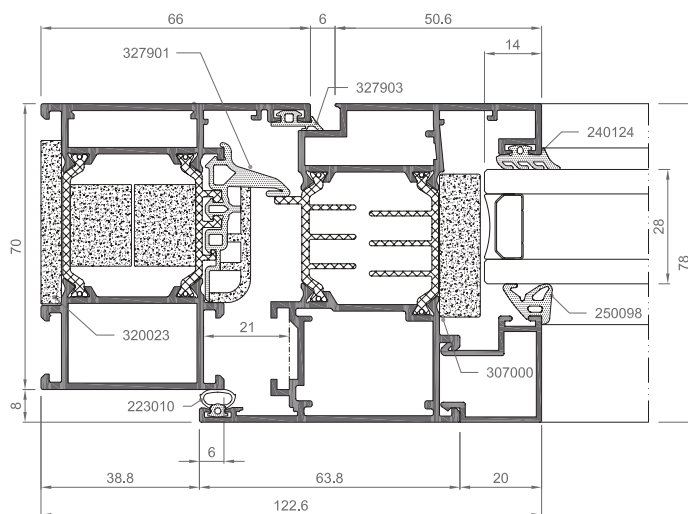
**Frame Sash 7931 7920**



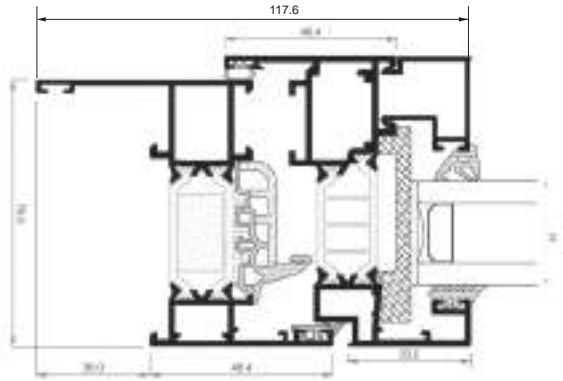
Frame 7931  
Sash 7921



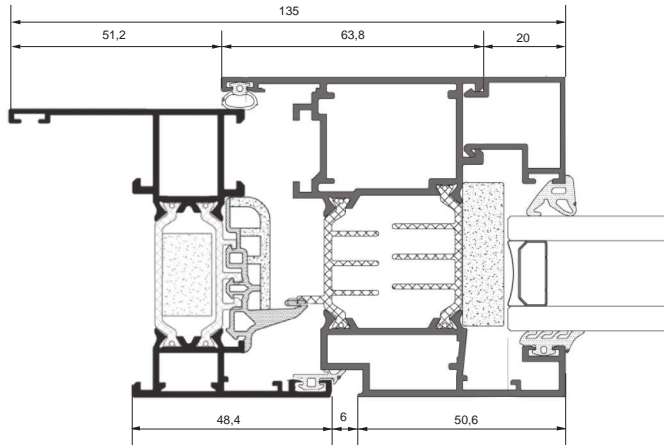
Frame 7937  
Sash 7920



Frame 7937  
Sash 7921



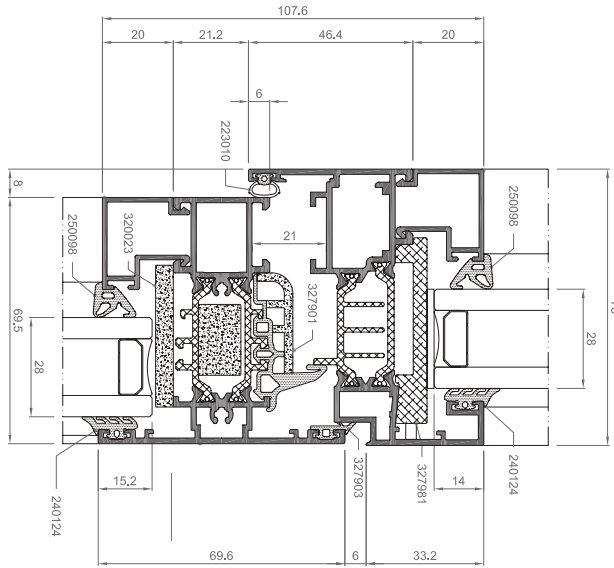
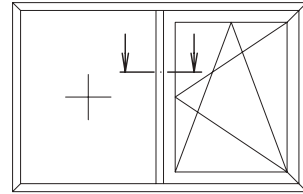
Frame 7933  
Sash 7920



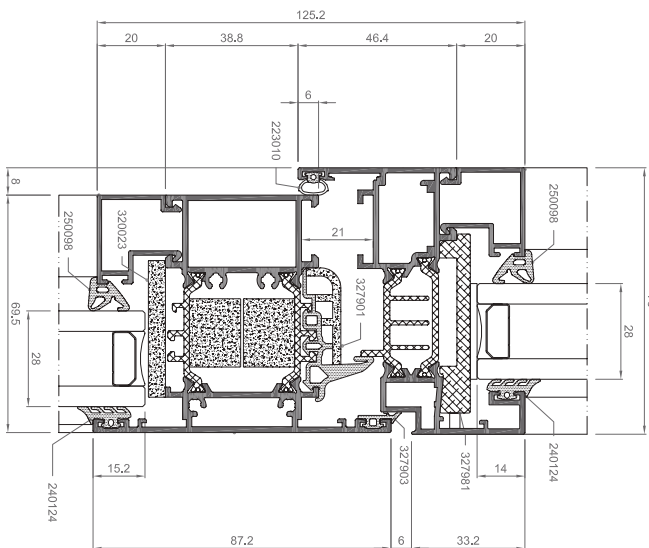
Frame 7933  
Sash 7921

PERFORMER 74
RONDO
STYLE 76
PASIV 82
KUBUS
PREMIDOOR 76
PREMIDOOR 88
PREMILINE
BESCHLÄG
HARDWARE
GLAS
GLASS
ROLLO TOP
ROLLO FRONT
BORA
HERCULES 70

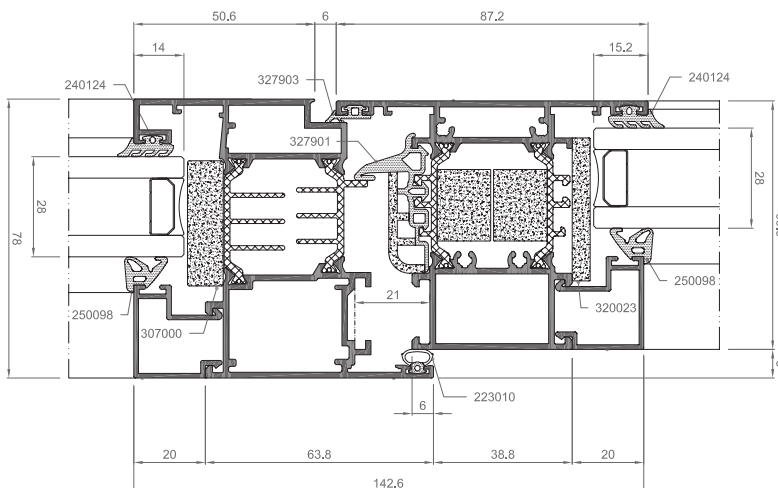
**Fixed light - Transom - Sash / Festfeld - Pfosten - Flügel /  
Fisso - Montante - Anta / Fix - Montant - Cercevea**



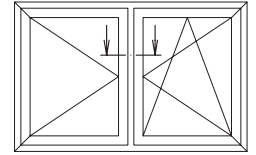
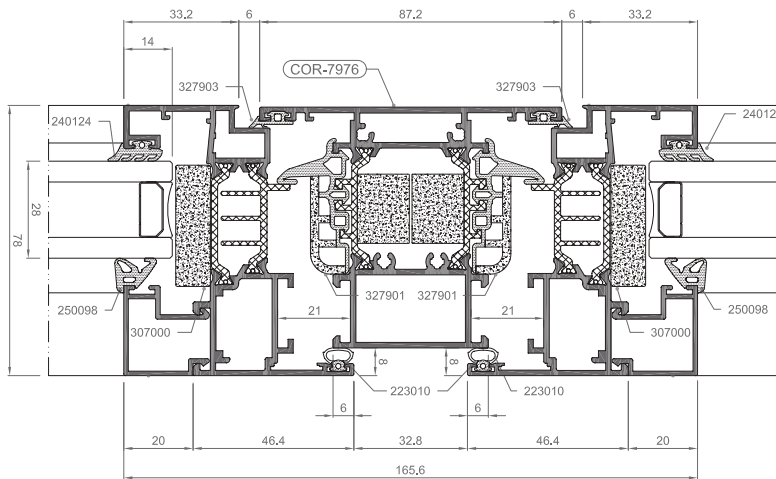
Transom 7971  
Sash 7920



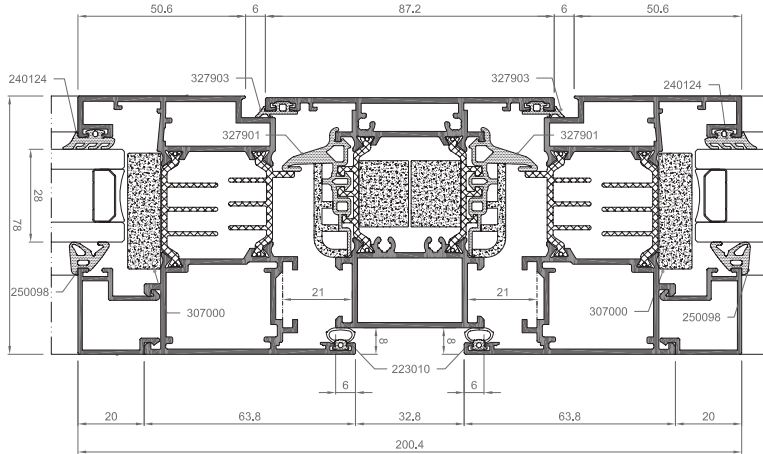
Transom 7976  
Sash 7920



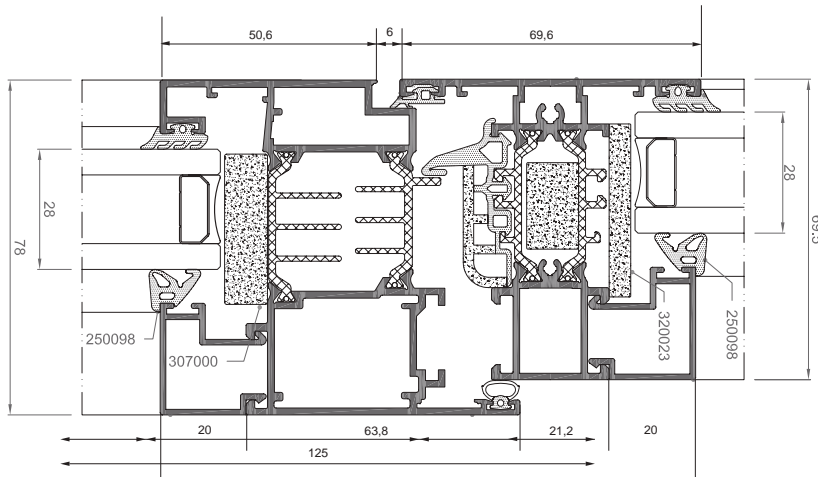
Transom 7976  
Sash 7921



Sash 7920  
Transom 7976  
Sash 7920



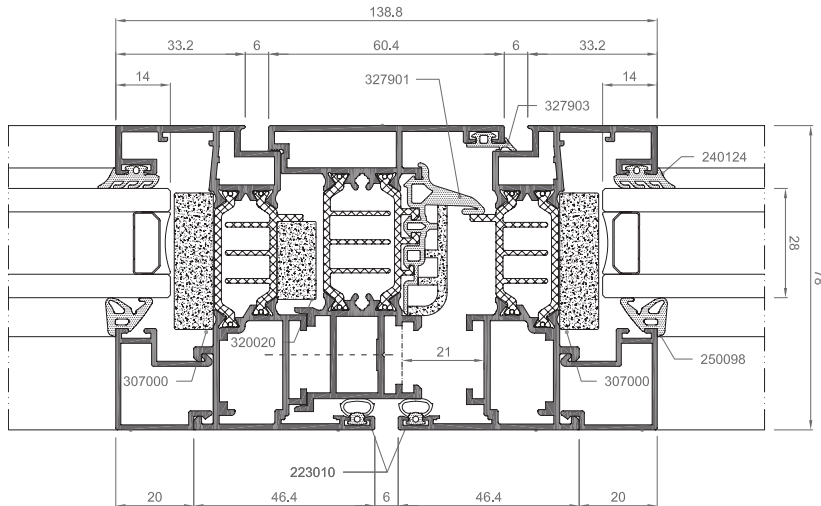
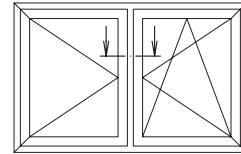
Sash 7921  
Transom 7976  
Sash 7921



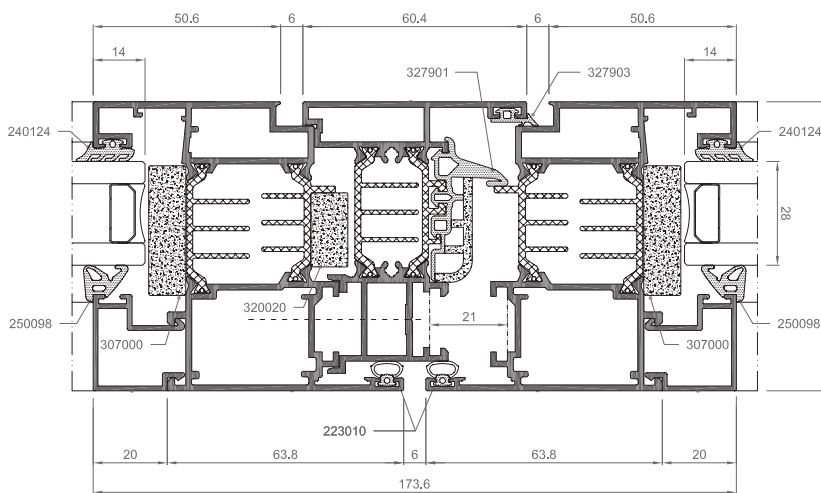
Transom 7971  
Sash 7921

PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDDOOR 76  
PREMIDDOOR 88  
PREMILINE  
BESCHLAG  
HARDWARE  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70

**Sash - Floating Mullion - Sash** / Flügel - Stulp - Flügel /  
Anta - Profilo Riporto - Anta / Cercevea - Ștulp - Cercevea

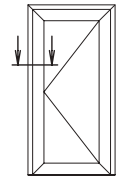
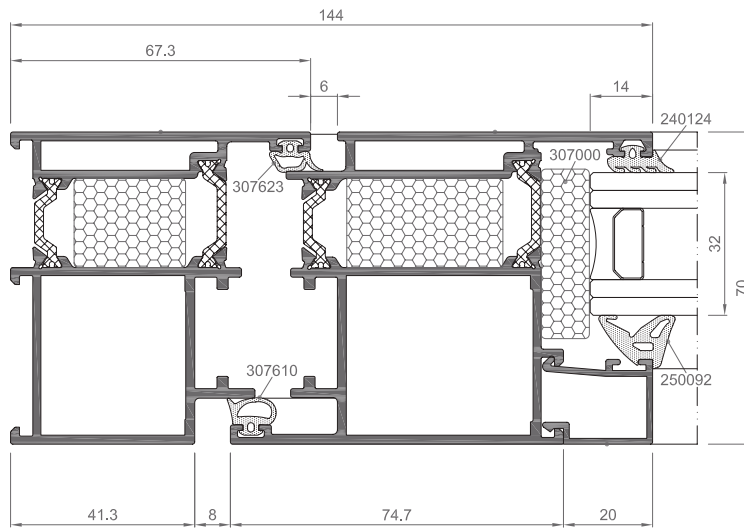


Sash 7920  
Floating Mullion 7940  
Sash 7920



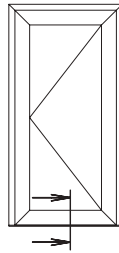
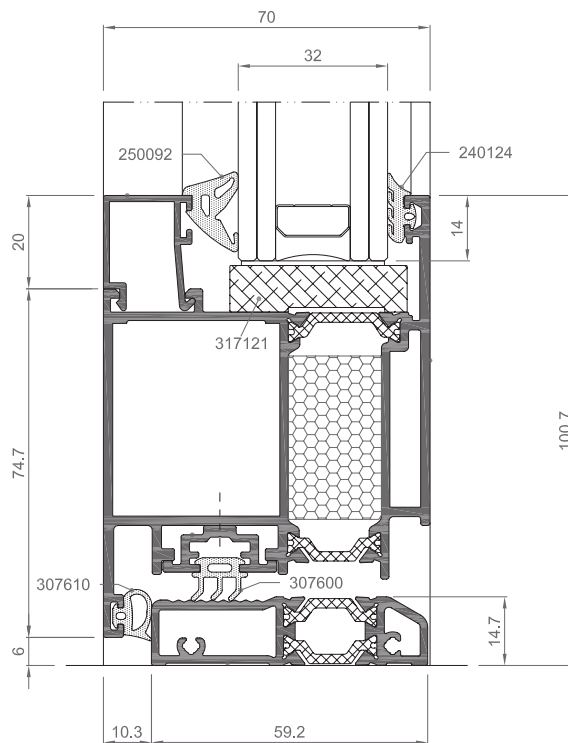
Sash 7921  
Floating Mullion 7940  
Sash 7921

**Frame - Sash / Blendrahmen Flügel /  
Telaio - Anta / Toc - Cercevea**



Frame 7680  
Sash 7685

**Threshold - Sash / Schwellenprofil - Flügel /  
Soglia - Anta / Prag - Cercevea**

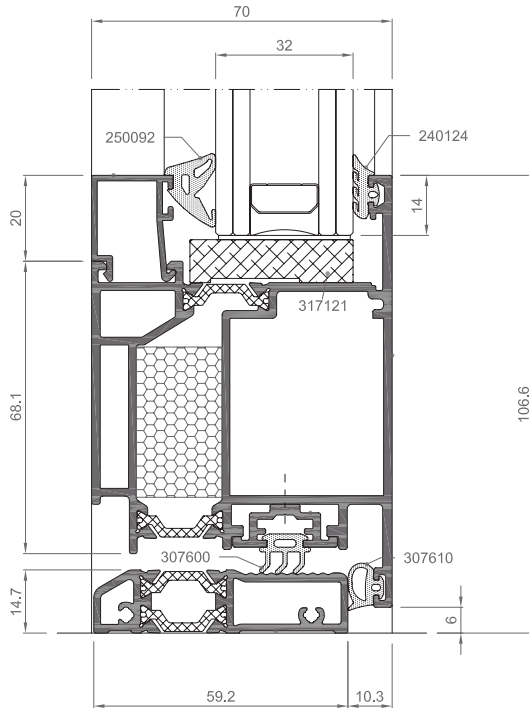
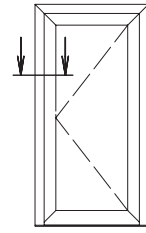


Threshold 7660  
Sash 7685

PERFORMER 74  
RONDO  
STYLE 76  
PASIV 82  
KUBUS  
PREMIDOOR 76  
PREMIDOOR 88  
PREMILINE  
BESCHLÄG  
HARDWARE  
GLAS  
GLASS  
ROLLO TOP  
ROLLO FRONT  
BORA  
HERCULES 70



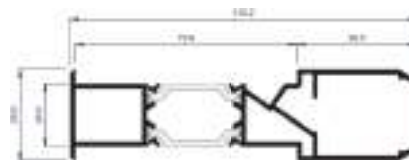
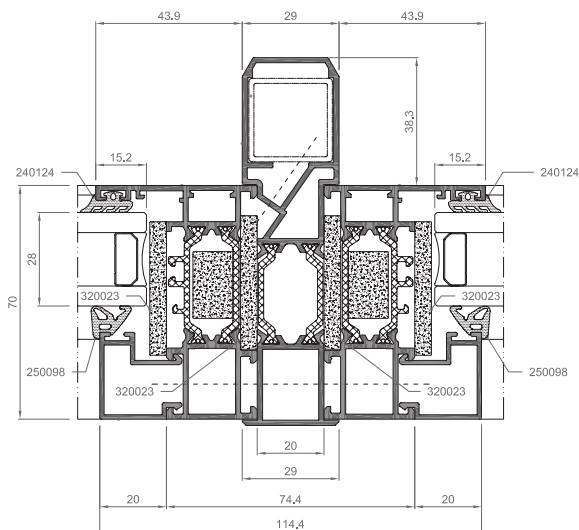
**Threshold - Sash outside opening** / Schwellenprofil - Flügel außen öffnend /  
Soglia - Anta apertura esterna / Prag - Cercevea deschidere exterioară



Threshold 7660  
Sash 7686

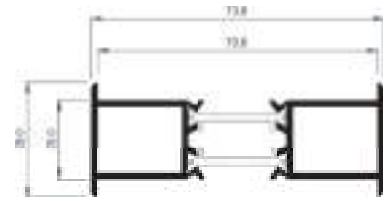
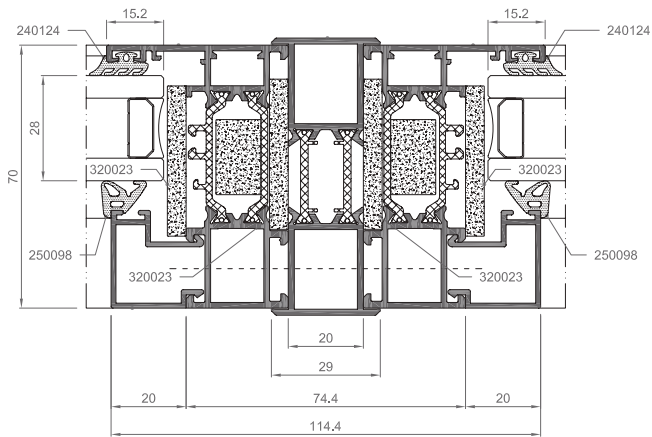
**Coupling profiles** / Kopplungsprofile /  
Profili di accoppiamento / Profile de cuplare

**H coupler** / H Kopplung / Profilo di accoppiamento / Profil cuplare ranforsat



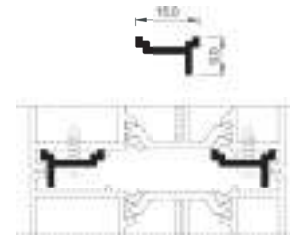
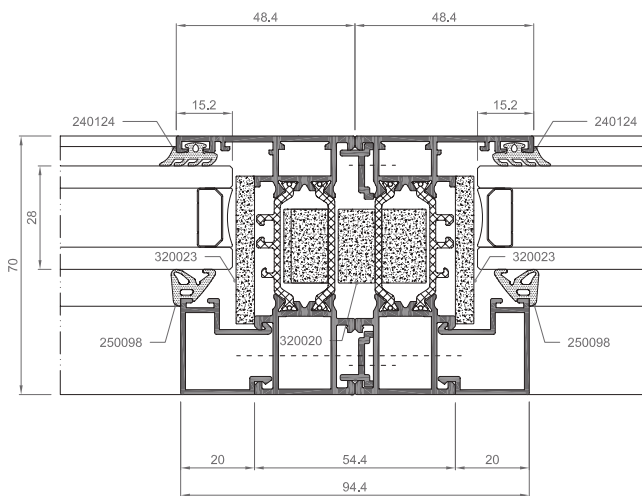
**COR 7355**

$I_x=4,47 \text{ cm}^4$   
 $I_y=61,78 \text{ cm}^4$



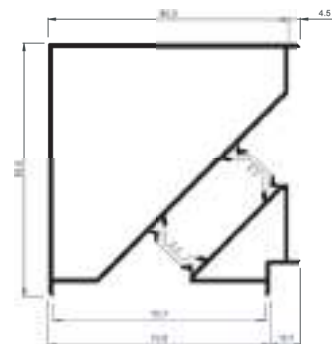
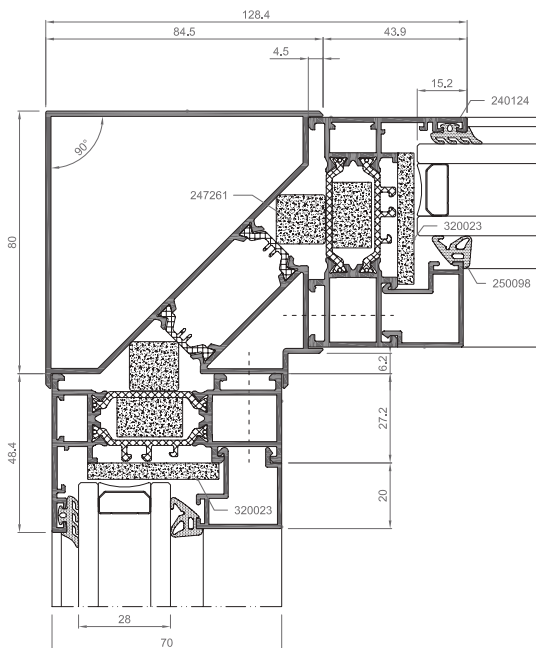
**COR 7354**

$I_x=2,17 \text{ cm}^4$   
 $I_y=22,14 \text{ cm}^4$



**COR 7251**

**Corner coupling 90° / Eckkopplung 90° /  
Giunto angolare 90° / Profil cuplare 90°**



**COR 7359**

$I_x=56,75 \text{ cm}^4$   
 $I_y=56,75 \text{ cm}^4$



**Max. Weight per sash in accordance to dimensions**

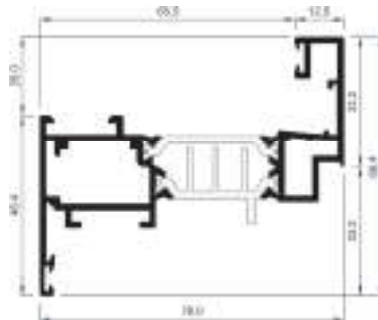
With 2 hinges: 60 kg MAX WEIGHT

H

	H	L											
		400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
BALCONY SASH	2600											53	47
	2500										56	49	45
	2400										52	47	43
	2300									55	49	44	41
	2200									51	46	42	39
	2100								55	48	43	40	38
	2000								51	45	41	38	36
	1900							55	47	42	39	37	35
	1800							50	44	40	37	35	33
WINDOW SASH	1700						54	46	41	38	35	34	32
	1600						49	43	39	36	34	32	31
	1500					53	45	40	37	34	33	31	30
	1400					48	42	38	35	33	31	30	29
	1300				53	44	39	35	33	31	30	29	28
	1200				47	40	36	33	31	30	29	28	27
	1100			51	42	37	34	32	30	29	28	27	26
	1000			45	38	34	32	30	29	28	27	26	26
	900		50	40	35	32	30	29	28	27	26	25	25
	800		43	36	32	30	28	27	26	26	25	25	24
	700	48	38	33	30	28	27	26	25	25	24	24	24
	600	40	33	30	28	27	26	25	24	24	24	--	--
	500	34	30	28	26	25	25	24	--	--	--	--	--
400	30	27	26	25	--	--	--	--	--	--	--	--	

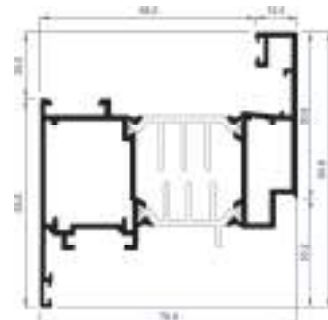
**60 Kg**

WINDOW SASH



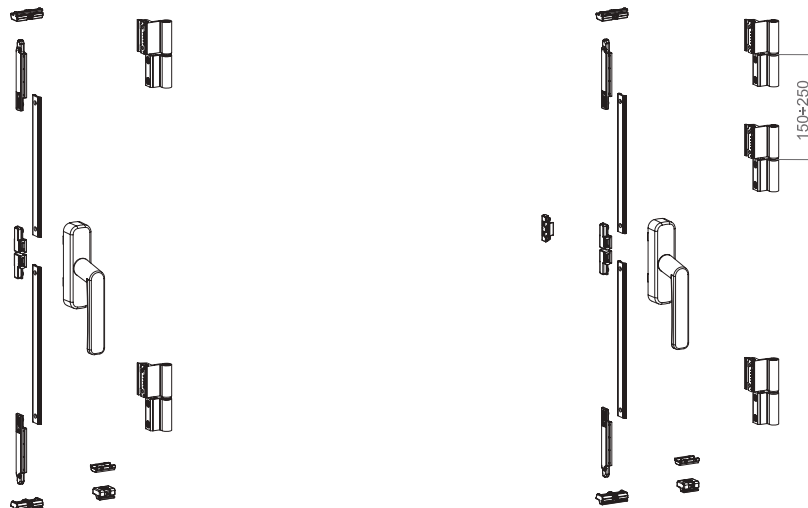
COR 7920

BALCONY SASH



COR 7921

- Configuration with max. Weight
- 3 or more hinges recommended
- Configurations not possible

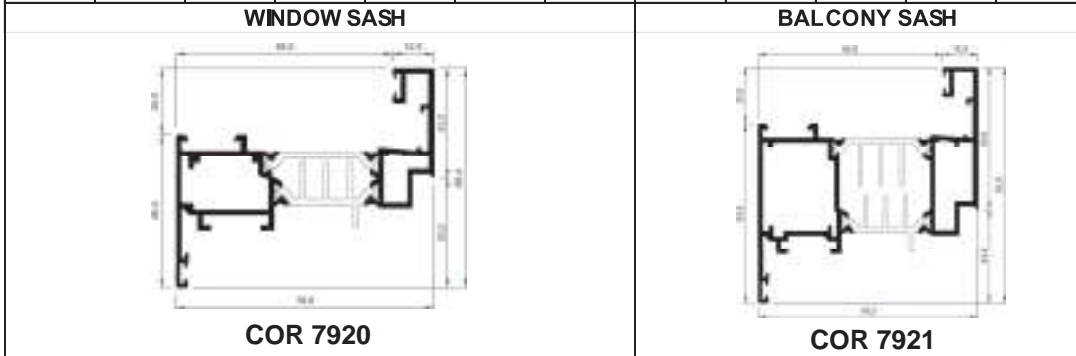


**Max. Weight per sash in accordance to dimensions**

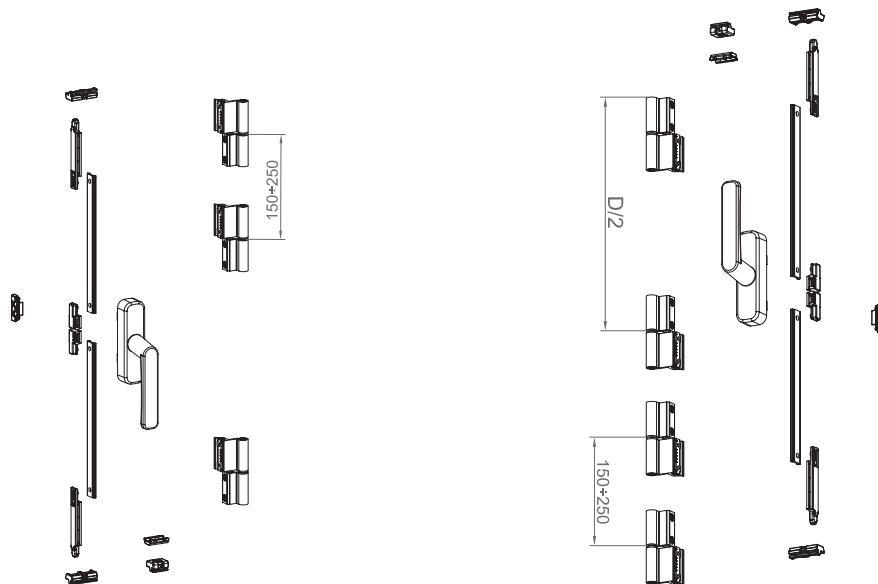
With 3 hinges **MAX. WEIGHT**

		H										
BALCONY SASH	2600											
	2500											
	2400											
	2300											
	2200											
	2100											
	2000											
	1900											
	1800											
	WINDOW SASH	1700										
1600												
1500												
1400												
1300												
1200												
1100												
1000												
900												
800												
700												
600												
500												
400												
L	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500

**75 Kg**



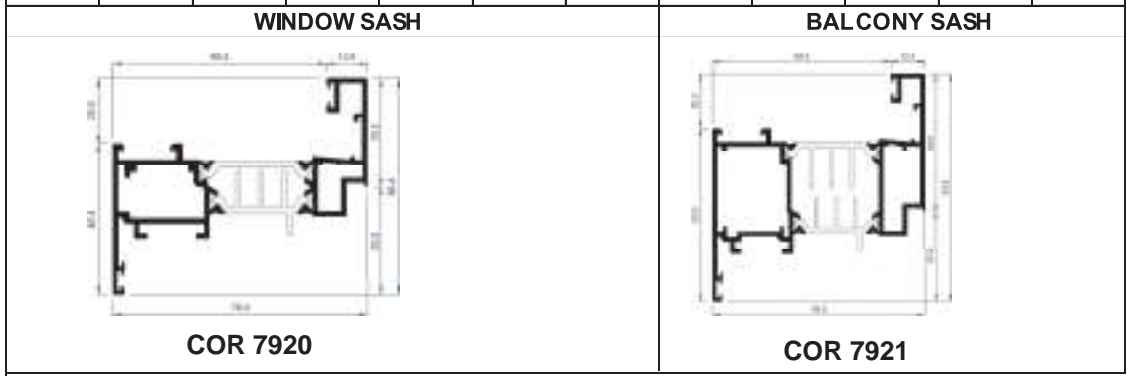
- Configuration with max. weight
- 4 hinges recommended
- Configurations not possible



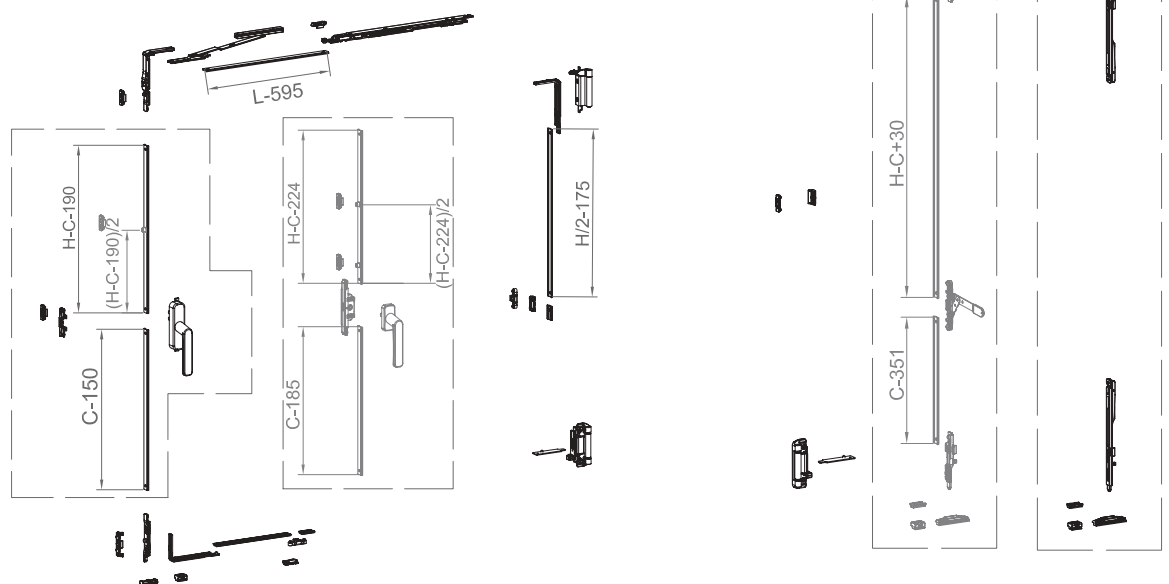
**Max. Weight per sash in accordance to dimensions**

With 3 hinges **MAX. WEIGHT**

		H											
SASH TYPE	H	L											
		400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
BALCONY SASH	2600	<b>75 Kg</b>											
	2500												
	2400												
	2300												
	2200												
	2100												
	2000												
	1900												
	1800												
WINDOW SASH	1700					68	58	52	47	44	42	40	
	1600					61	54	49	45	42	40	39	
	1500				67	56	50	46	43	41	39	38	
	1400				60	52	47	43	41	39	38	36	
	1300			66	55	48	44	41	39	38	36	35	
	1200			58	50	45	42	39	38	36	35	34	
	1100		64	53	46	42	39	38	36	35	34	33	
	1000		56	48	43	40	38	36	35	34	33	32	
	900	63	50	44	40	38	36	34	33	33	32	--	
	800	54	45	40	38	36	34	33	32	--	--	--	
	700	60	47	41	38	35	34	33	--	--	--	--	
	600	50	42	38	35	33	--	--	--	--	--	--	
	500	43	38	35	--	--	--	--	--	--	--	--	
400	38	--	--	--	--	--	--	--	--	--	--		




Configuration with max. weight  
 4 hinges recommended  
 Configurations not possible

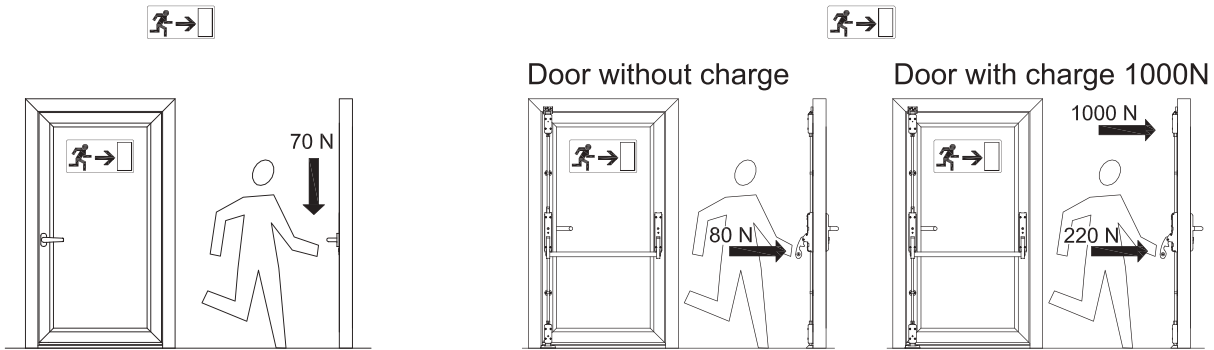


HERCULES 70 BORA ROLLO FRONT ROLLO TOP GLASS GLASS HARDWARE BESCHLÄG  
 PREMIDOOR 88 PREMIDOOR 76 KUBUS PASIV 82 STYLE 76 RONDO PERFORMER 74

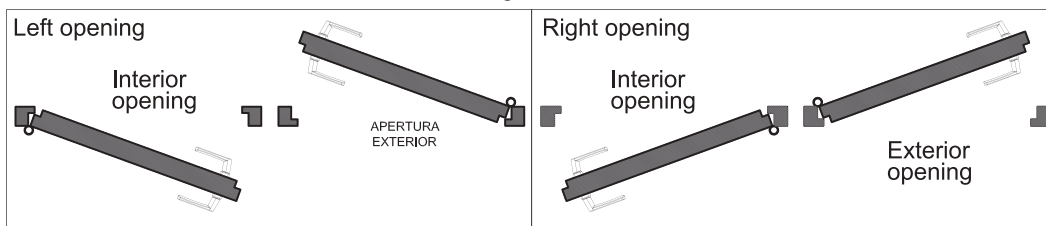
**Max. Weight per sash in accordance to dimensions**

	SASH SIZE			Max weight (kg)
		Width (mm)	Height (mm)	
Door private use	min	650	2000	Up to 220 kg
	max	1800	3000	
Door public use  (aces people with reduced mobility)	min	840	2030	
	max	1800	3000	
Door sanitar use	min	1090	2030	
	max	1800	3000	
Door with antipanic	min	840	2030	
	max	1320	2500	

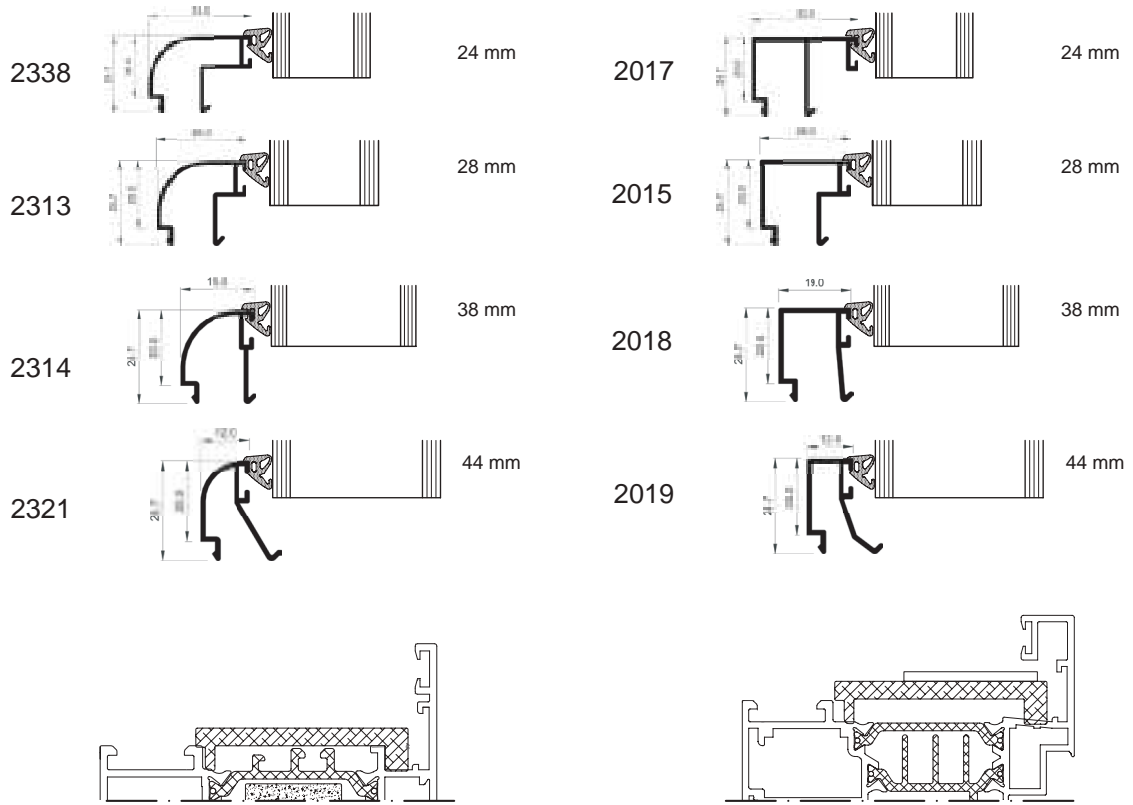
**Door with antipanic (EN1125)**

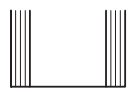
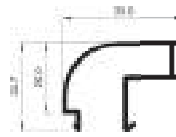
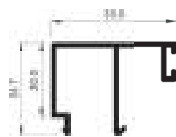


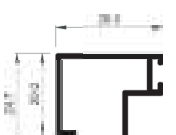

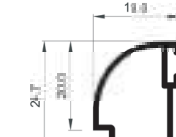



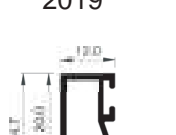


**Door handle according to DIN 107**  
Choosing the hardware



**Glazing Beads / Glasleiste / Fermavetri / Baghete de fixare geam**



Glass / Glas / Vetro / Sticlă	Glazing bead / Glasleiste Fermavetro / Baghetă		Gasket / Dichtung Guarnizione / Garnitură
 24 mm	2338 	2017 	black
 28 mm	2313 	2015 	black
 38 mm	2314 	2018 	black
 44 mm	2321 	2019 	black