

## duoPort PAS

The Slide Fitting System with Parallel Action

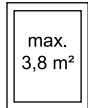


in  
windows

Product Catalogue 07/2013

1

## Declaration of symbols

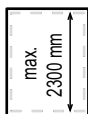


Max. sash size: 3.8 m<sup>2</sup>



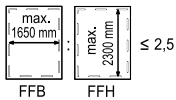
FFB

Max. sash rebate width (FFB): 1650 mm

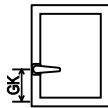


FFH

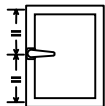
Max. sash rebate height 2300 mm



The ratio between sash rebate width (FFB) and sash rebate height (FFH) is less than or equal to 2.5 : 1.



Fixed handle height



Central handle height



Parallel action



Item for use on PVC-U windows



Item for use on wooden windows with 12 mm airgap



Item for use on aluminium windows

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## 1 duoPort PAS – Innovative room ventilation with the sliding door closed.

The innovative duoPort PAS slide fitting provides sliding doors with a new functional dimension. The parallel opening setting conceived by Winkhaus enables a natural and smooth room ventilation, even when you're not at home. Operation is intuitive and utmost convenient. Just see for yourself.

### Sliding doors with added value.

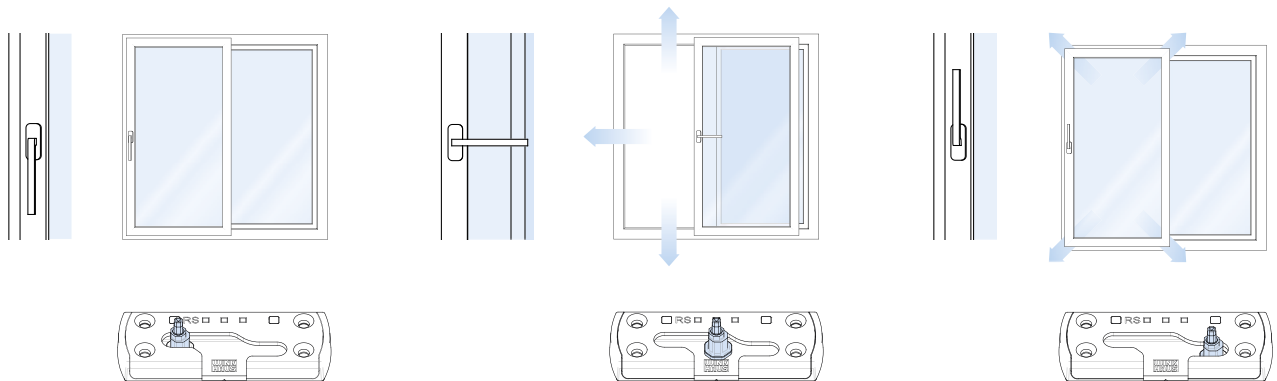
The duoPort PAS fitting system brings sliding doors to the third dimension: The activPilot central locking system not only allows the opening, sliding and locking functions, but the door can also be opened to the parallel position. All these functions are controlled by a single handle. Supported by an energy storage device and an integrated damper function, sliding doors up to 160 kg can be easily operated. The special construction of shears and bogies as well as the time-tested fail-safe device FSF make the handling very easy and intuitive.

### Efficient installation of large windows.

Pre-assembled modules ensure duoPort PAS components are easily installed. Quick and efficient mounting is enabled by the modular activPilot fitting system.

The combination of the activPilot octagonal locking bolt with steel ventilation lock components provides enhanced basic security even in the standard design.

The duoPort PAS fitting system allows sliding doors to be implemented according to DIN EN 1627–1630 up to resistance class RC 2. The special fittings provide efficient intrusion resistance even in the parallel ventilation position.



Sliding door closed

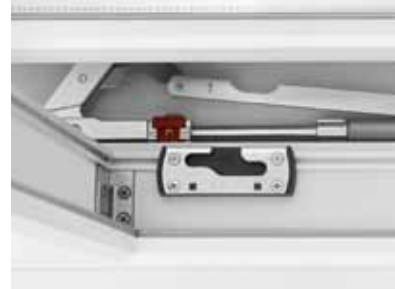
Sliding door open

Sliding door with parallel opening up to 6 mm

## Overview of product advantages.

### Wide range of uses

- Even for deep sash profiles – e. g. for highly heat-insulating window systems
- For sash weights up to 160 kg
- For sliding doors with two, three or four sashes
- Frame parts matched to numerous window profiles for efficient mounting



### Convenient and secure operation

- Smooth and gentle running capacities due to well-proven shear and bogie construction
- Fail safe device FSF prevents faulty operation
- Safe operating convenience during the sliding process and during ventilation
- Silent closing and opening of the sash, supported by special energy storage units



### Frame and sash components can be used for different system types

- Concealed central locking system from the modular activPilot system
- Compatible with activPilot frame components
- Cost-effective warehousing
- Minimises capital that is tied up
- Position of locking elements identical to activPilot fitting system



### Advantages in logistics

- Ready-to-use, compact rail sets in different sizes
- Elaborate assembly concept for optimum production processes
- Central locking system and locking elements from the activPilot range can be used in different systems
- Gradual adaption to stringent security requirements



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# Many windows, many formats, one single fitting system.

## From established standards to the next generation standard

In designing activPilot we created all the solutions needed for the next-generation window fitting standard within a single system. An intelligent, clearly-structured modular system with far less components than was previously typical, activPilot meets all your requirements from a modern range of fittings. activPilot is suitable for any shape of window, any window material and any level of automation, from manual mounting to fully automated serial production. The high level of flexibility, the attractive auxiliary functions, the new locking system and the functional design all ensure that your business is perfectly geared today to meet your customers' needs and future requirements.

## Modular design

activPilot optimises window construction. For the window builder, less components and multifunctionality mean uncomplicated and fast processing and rational mounting. Premounted components and the unique design furthermore ensure that additional functions and safety classes can be achieved easily by retrofitting. activPilot thus sets the scene for sustainably cutting your production, warehousing, logistics and administration costs.

## The locking system with octagonal locking bolts

activPilot enhances comfort. The functionally perfect locking mechanism not only guarantees precise entry of the locking bolt into the frame keep, but also a perfect seal. This is ensured by the excellent air gap tolerance of 9.8 to 14 mm and the octagonal locking bolt which allows easy adjustment of the contact pressure. Even adjusting forces and the non-positive and positive system fit of the components give this fitting the required stability and long-term functionality.

## Surface

activPilot fittings feature a surface refinement finish based on nanotechnology, which is applied in our in-house electroplating facility. This surface stands out due to its very high resistance to all environmental influences. This is verified by quality controls consisting of alternate climate and salt spray testing according to DIN EN ISO 9227:2006-10 and is certified on a regular basis by tests. Winkhaus also carries out tests in outside areas, thus testing component behaviour under realistic conditions. This enables Winkhaus to offer a ten-year warranty for functions and surfaces.

## Effective security

Thanks to the unique modular system, any window can be modified to achieve the required security standard – easily, quickly and cost-efficiently. There is no need for custom parts. Depending on the number and type of keeps, various security

levels are achievable using the same platform.

At our works, comprehensive and strict tests – along with on-going functional monitoring – ensure maximum security for customers. Approval marks and certificates by independent test authorities confirm our results. You can therefore be sure that activPilot meets the requirements customers place on a secure fitting system. Locking bolts are made of high-strength steel; even standard types guarantee effective basic security. Depending on the number and type of keeps, the fitting system can be enhanced for compliance with stricter security classes – including burglar protection to DIN V ENV 1627-1630, resistance class 2 / DIN EN 1627-1630, RC2.

## Quality standard

The Winkhaus group successfully passed a group certification of production sites according to DIN ISO 9001:2008.

The group certification ensures that we use the same criteria and procedures in all Winkhaus subsidiaries and thus we can always offer consistent quality for our customers.



## Important note

### Product liability

To ensure compliance with German product liability laws (article 4 ProdHaftG), please observe our manufacturer's information on turn-tilt fittings for windows and glazed doors. Failure to observe releases the manufacturer from any liability. Please consult your Winkhaus contact person for further information on this topic.

Please also observe the guidelines issued by Gütegemeinschaft Schlösser und Beschläge e.V. (Association for Quality Control of Locks and Fittings).

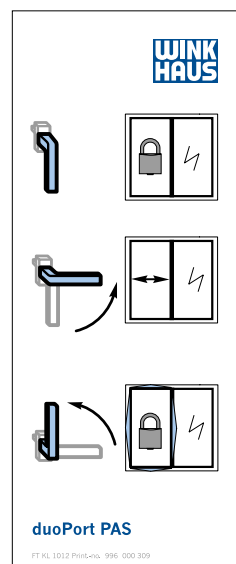
This information can be obtained at the following Internet addresses: <http://www.winkhaus.de> (Products & Services/ Notices about products and liability) or <http://www.beschlagindustrie.de/ggsb/richtlinien.asp>

### Safety instructions

- CAUTION: There is a risk of fingers becoming trapped when the glide shears open and close!
- The pressurised energy storage units in the duoPort PAS fitting system must not be opened. You are at risk of injury if you open them. Return any defective fitting components to Winkhaus.

### User information and obligations to provide instructions

- In line with the specifications/notices on the product and liability, you can find out under "Obligation to give instructions" which documents and information regarding compliance with the obligation to give instructions must be passed on to/by the respective target groups.
- An operating instruction sticker is supplied with each fitting set. This should be attached to the installed window sash where it is clearly visible.
- You must keep the installation instructions in a safe place.



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# 1 duoPort PAS

## Application diagram for ascertaining the admissible sash sizes

Max. sash weight 160 kg



For PVC-U windows with 12 mm airgap



Sliding window design with parallel action

### Aspect ratio and additional load

Value calculated without additional load for a width-to-height ratio of 2.5:1

The application diagrams were established without considering additional loads. For ascertaining the max. sash sizes with additional loads, please ask your Winkhaus contact partners for comprehensive advice!

### Observe instructions on window profile

You must specifically take into account information provided by the profile manufacturer or system owner when determining the maximum sash sizes!

### Advice for use

The range of applications approved for use of Winkhaus fittings is highlighted in colour in the application graphs. You must comply with the limits regarding areas of use specified here and not exceed them. The colour section to the left of the curve for the corresponding in-fill weight in the graph indicates the maximum sash rebate height and width.

The respective fitting may only consist of the original Winkhaus proPilot fitting parts. We do not assume any liability in case third-party or non-approved system components are used.

### Application range

- Min. sash rebate width 750 mm
- Max. sash rebate width: 1,650 mm
- Min. sash rebate height: 650 mm
- Max. sash rebate height 2300 mm
- Max. sash weight 160 kg
- Height-to-width ratio  $\leq 2.5:1$
- Airgap 12 mm
- Groove centre position 13 mm
- Frame rebate depth min. 29 mm

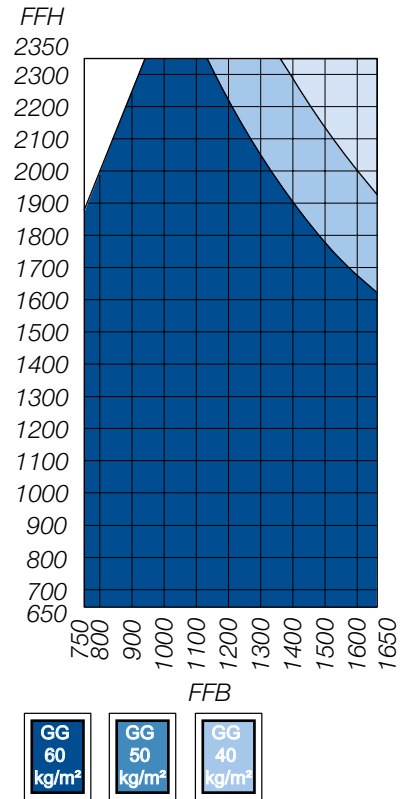
• **I = areas of application valid for an i value of  $50 \pm 10$  mm**

### Abbreviations

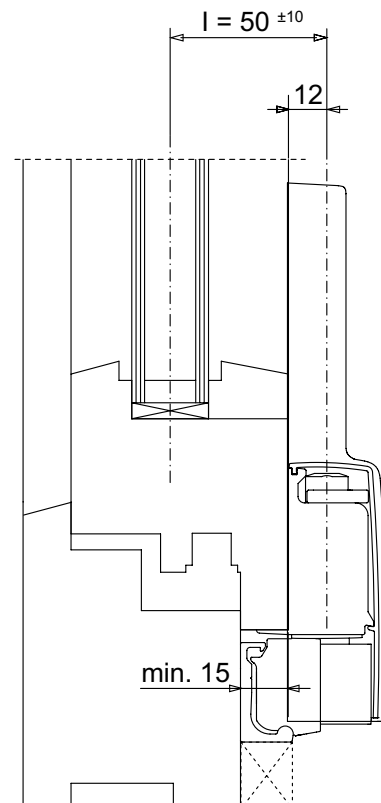
- FFH = Sash rebate height [mm]
- FFB = Sash rebate width [mm]
- GG = Glass weight per square metre [ $\text{kg}/\text{m}^2$ ]
- I = areas of application valid for an i value of  $50 \pm 10$  mm

### Basics

- 1 mm Glass  $\approx 2.5 \text{ kg}/\text{m}^2$



duoPort\_PAS\_AWD


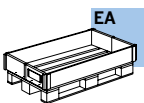

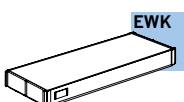

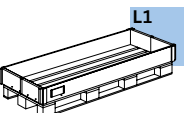

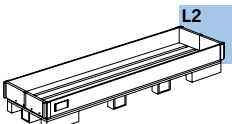

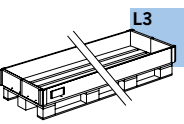

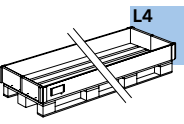

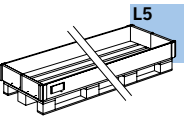
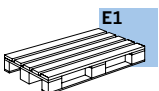
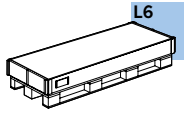
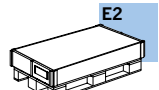
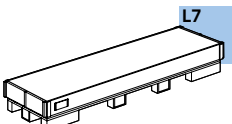
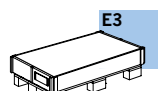
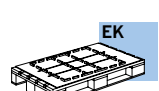




## Packing key in the Winkhaus logistics system

The shipping units were chosen in a way that our products can be handled without any problems at your works, ranging from cardboard packaging to complete pallet units. For instance, we provide KLTs (small load carriers) in different sizes which are eco-friendly and facilitate logistics. The reusable packaging units, which can be stacked on a europallet, have a bar code and enable optimal stock organisation and easy transport to the relevant workstations.

The packaging used for the products in question can be found on the corresponding product pages.

	BL Goods packed in PE bags with bar code		EA Europallet with frame and bar code Pallet size 800 x 1,200 mm
	KT Goods packed in cardboard boxes with bar code		EWK Disposable cardboard box E3, L6 or L7
	BD Tied goods		L1 Reusable pallet for long goods with frame and bar code Pallet size 800 x 1,800 mm
	K3 Small cardboard box with bar code Dim.: 395 x 295 x 205 mm		L2 Reusable pallet II for long goods with frame and bar code Pallet size 800 x 2,400 mm
	K4 Big cardboard box with bar code Dim: 595 x 395 x 205 mm		L3 Reusable pallet III for long goods with frame and bar code Pallet size 800 x 3,500 mm
	KK Small KLT 4321 Dim: 400 x 300 x 214 mm with cover, bar code, sealed, stackable		L4 Reusable pallet IV for long goods with frame and bar code Pallet size 800 x 4,200 mm
	GK Big KLT 6412 Dim: 600 x 400 x 214 mm with cover, bar code, sealed, stackable		L5 Reusable pallet V for long goods with frame and bar code Pallet size 800 x 6,500 mm
	E1 europallet with KLT Pallet size 800 x 1,200 mm		L6 One-way pallet with cover box for long goods with bar code Pallet size 800 x 1,800 mm
	E2 europallet with cover box and bar code Pallet size 800 x 1,200 mm		L7 One-way pallet with cover box for long goods with bar code Pallet size 800 x 2,400 mm
	E3 One-way pallet with cover box and bar code		
	EK Europallet with KLT and fixing plate (avoids shifting of goods) Pallet size 800 x 1,200 mm		

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## Design variations

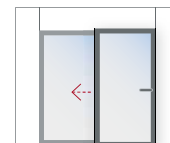
2

3

### Two-panel element System A

1 sliding sash (L or R), glazed frame

- Winkhaus left-hand design = DIN EN 12519 right-hand (opening towards the right)
- Winkhaus right-hand design = DIN EN 12519 left-hand (opening towards the left)



4

5

6

### Three-panel element System G

1 sliding sash (L or R), glazed frame



7

8

### Four-panel element System C

2 sliding sashes (L and R), glazed frames (also for elements without mullion)

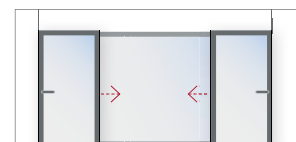


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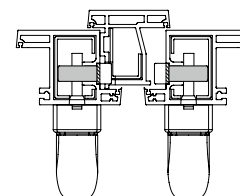
### Three-panel element System K

2 sliding sashes (L and R)  
Glazed frame

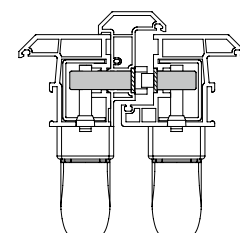


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### Profile cross-section: double sash with mullion



### Profile cross-section double sash without jamb

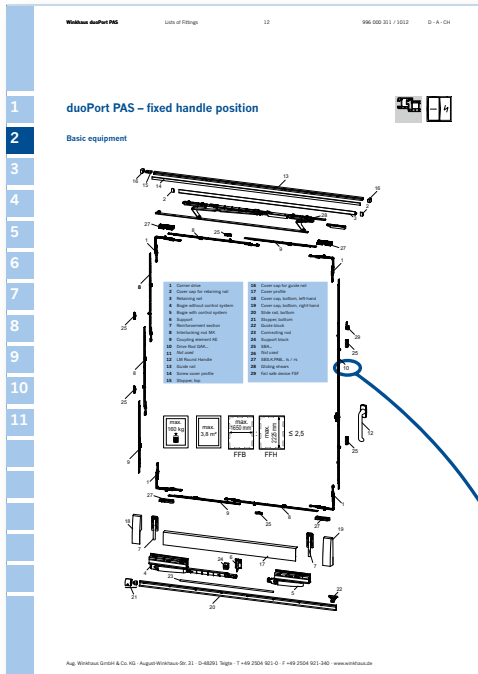


This product catalogue contains fitting configurations for standard sliding doors. Ask for further information about other design variants if required.

# Fitting configuration instructions

## Procedure

- Decide on system type (single or double-sash variation)
- Select height and width
- Select items from the overview of fittings
- Look for the corresponding number in table (in 'pos.' column)
- Use the number to find the item number and the required quantity of the item on the right-hand side.
- You can find the fitting set that you need to order for the sliding element by matching it with the basic requirement items in the same table.



Pos.	Bezeichnung	Artikelbezeichnung	Artikelnummer	Anzahl Pos. für Rahmen	General product information
		links	rechts	A   G   C   R	
<b>Grundbedarf</b>					
6, 8, 7	SET SK.08.1000 N, N / n	4997100	4997100	1   1   2	
18, 19	BL.06.ACH...	4997423	4997424	4997420	1   1   2
20	SE	4997420			1   1   2
21	SEA		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
22	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
23	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
24	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
25	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
26	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
27	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
28	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
29	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
30	SEA.PRS. N / n		profildring, sash D-rings & Rahmenstreifen	X   X   X	1   1   2
<b>Bedarf nach FFH</b>					
620-710	620-710	620-710			1   1   2
711-860	711-860	711-860			1   1   2
861-1000	861-1000	861-1000			1   1   2
1001-1390	1001-1390	1001-1390			1   1   2
1391-1960	1391-1960	1391-1960			1   1   2
1961-2210	1961-2210	1961-2210			1   1   2
2211-2520	2211-2520	2211-2520			1   1   2
2521-2920	2521-2920	2521-2920			1   1   2
<b>Bedarf nach FFB</b>					
620-710	620-710	620-710			1   1   2
711-860	711-860	711-860			1   1   2
861-1000	861-1000	861-1000			1   1   2
1001-1390	1001-1390	1001-1390			1   1   2
1391-1960	1391-1960	1391-1960			1   1   2
1961-2210	1961-2210	1961-2210			1   1   2
2211-2520	2211-2520	2211-2520			1   1   2
2521-2920	2521-2920	2521-2920			1   1   2
<b>Bedarf nach BRB</b>					
1680-1930	SET SK.05.000	4941000	4941000	4941000	4941000
1931-2230	SET SK.05.000	4941000	4941000	4941000	4941000
2231-2530	SET SK.05.000	4941000	4941000	4941000	4941000
2531-2830	SET SK.05.000	4941000	4941000	4941000	4941000
2831-3130	SET SK.05.000	4941000	4941000	4941000	4941000
3131-3430	SET SK.05.000	4941000	4941000	4941000	4941000

## Abbreviations for measurement details

- FFB = Sash rebate width [mm]
- FFH = Sash rebate height [mm]
- BRB = frame width [mm]

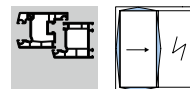
## Article description

- ...RS Fitting direction right
- ...LS Fitting direction left
- ...BR brown, similar to RAL 8019
- ...EV1 anodised silver
- ...SL silver coloured
- ...WS white, similar to RAL 9016
- ...CW creme white, similar to RAL 9001

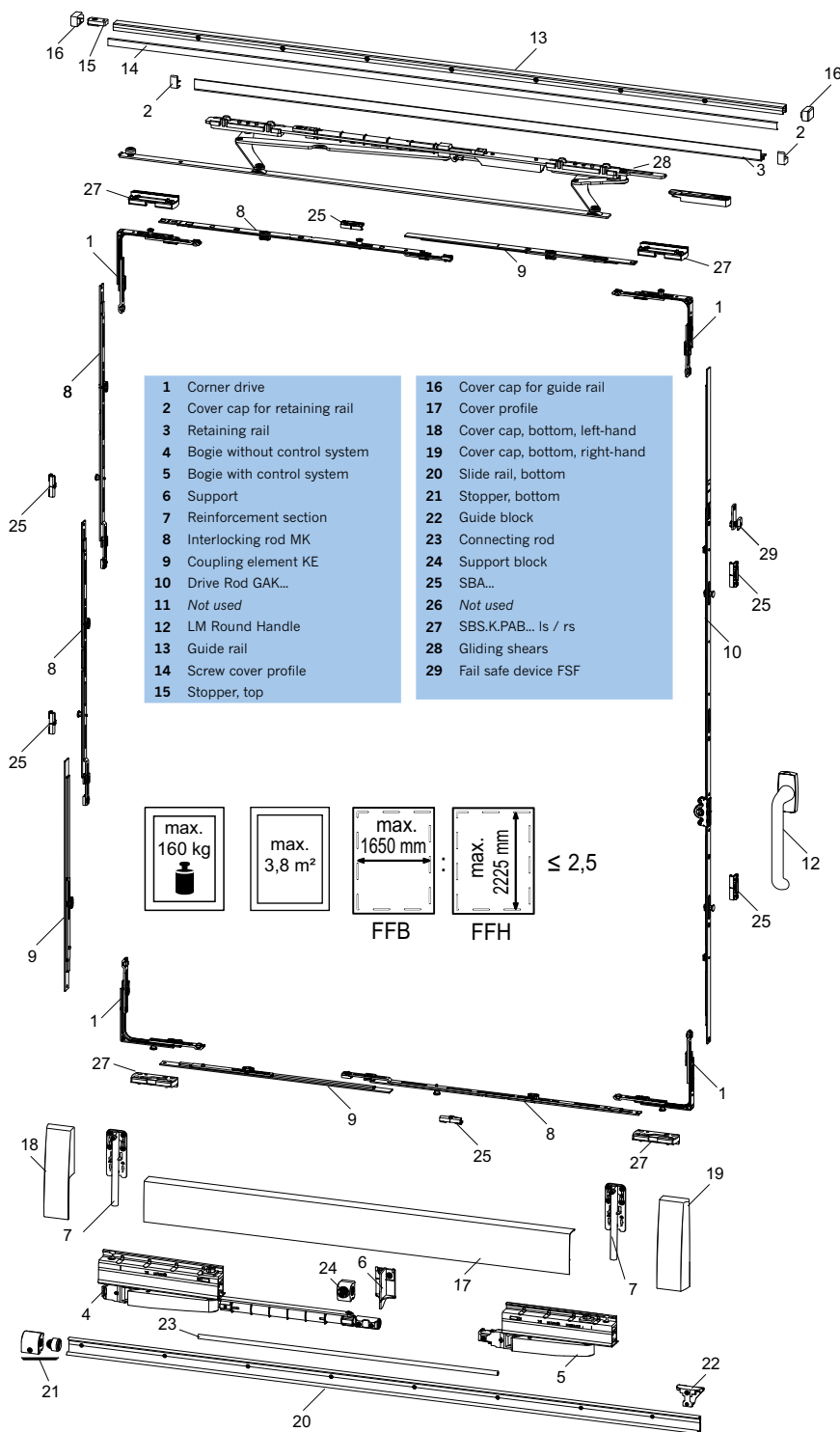
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# duoPort PAS – constant handle position



## Basic equipment



Position	Dimensions	Article description	Item number					Quant. for system		
			Left-hand			Right-hand		A	G	K
<b>Basic requirement</b>										
4, 5, 7		SET SK.LW.160.PA. ls / rs	4997393			4997390		1	1	2
			<b>White</b>	<b>Brown</b>	<b>EV1</b>	<b>CW</b>				
18, 19		BL.SK.ADK....	4997433	4997434	4997436	4997435	1	1	2	
1		E1	2841823				4	4	8	
25		SBA.K...	Profile-dependent, see group 5, frame parts table				X	X	X	
27		SBS.K.PAB... ls / rs	Profile-dependent, see group 5, frame parts table				4	4	8	
29		FSF	4968753				1	1	2	
9		KE	4982891				3	3	6	
12		LM-RG	1468449	1468318	1468300	4969580	1	1	2	
<b>Drive side</b>										
<b>Required acc. to sash rebate height (FFH)</b>										
10	650 - 710	GAK.710	*				1	1	2	
	711 - 945	GAK.945-1	*							
	946 - 1100	GAK.1100-1	*							
	1101 - 1325	GAK.1325-1	*							
	1326 - 1550	GAK.1550-1	*							
	1551 - 1775	GAK.1775-2	*							
	1776 - 2000	GAK.2000-2	*							
	2001 - 2225	GAK.2225-2	*							
<b>Opposite drive side (KE from basic requirement + ...)</b>										
8	710 - 960	MK.250-1	*				1	1	2	
	961 - 1210	MK.500-1	*				1	1	2	
	1211 - 1460	MK.750-1	*				1	1	2	
	1461 - 1710	MK.500-1	*				2	2	4	
	1711 - 1960	MK.500-1	*				1	1	2	
		MK.750-1	*				1	1	2	
	1961 - 2210	MK.750-1	*				2	2	4	
	2211 - 2225	MK.500-1	*				2	2	4	
	MK.750-1	*				1	1	2		
<b>Required acc. to sash rebate width (FFB)</b>										
8	750 - 960	MK.250-1	*				2	2	4	
	960 - 1210	MK.500-1	*				2	2	4	
	1210 - 1460	MK.750-1	*				2	2	2	
	1460 - 1650	MK.500-1	*				4	4	8	
2, 3, 28	750 - 900	SET SK.GS.PA.900 ls ..	4997395	4997397	4997402	4997399	1	1	2	
	750 - 900	SET SK.GS.PA.900 rs ..	4997394	4997396	4997400	4997398				
	901 - 1250	SET SK.GS.PA.1250 ls ..	4997406	4997410	4997414	4997412				
	901 - 1250	SET SK.GS.PA.1250 rs ..	4997403	4997408	4997413	4997411				
	1251 - 1650	SET SK.GS.PA.1650 ls ..	4997416	4997418	4997432	4997430				
	1251 - 1650	SET SK.GS.PA.1650 rs ..	4997415	4997417	4997431	4997419				
<b>Required acc. to BRB (outside frame width)</b>										
6, 13...17, 20...24	1480 - 1930	SET SK.SS.900 ..	4941093	4941094	4941095	4965692	1	1	2	
	1931 - 2230	SET SK.SS.1050 ..	4941096	4941097	4941098	4965693				
	2231 - 2630	SET SK.SS.1250 ..	4941099	4941110	4941111	4965694				
	2631 - 3030	SET SK.SS.1450 ..	4941112	4941113	4941114	4965695				
	3031 - 3430	SET SK.SS.1650 ..	4941115	4941116	4941117	4965696				

duoPort PAS konstanter Griffsitz\_TAB\_EN\_indd

**Caution:** SBS.K.PAB...rs locking components must be used for elements featuring a "Winkhaus left-hand design" (opening towards the right).

SBS.K.PAB...ls locking components must be used for elements featuring a "Winkhaus right-hand design" (opening towards the left).

X = Requirement depends on size \* Items from the modular activPilot system

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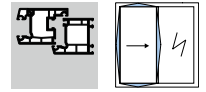
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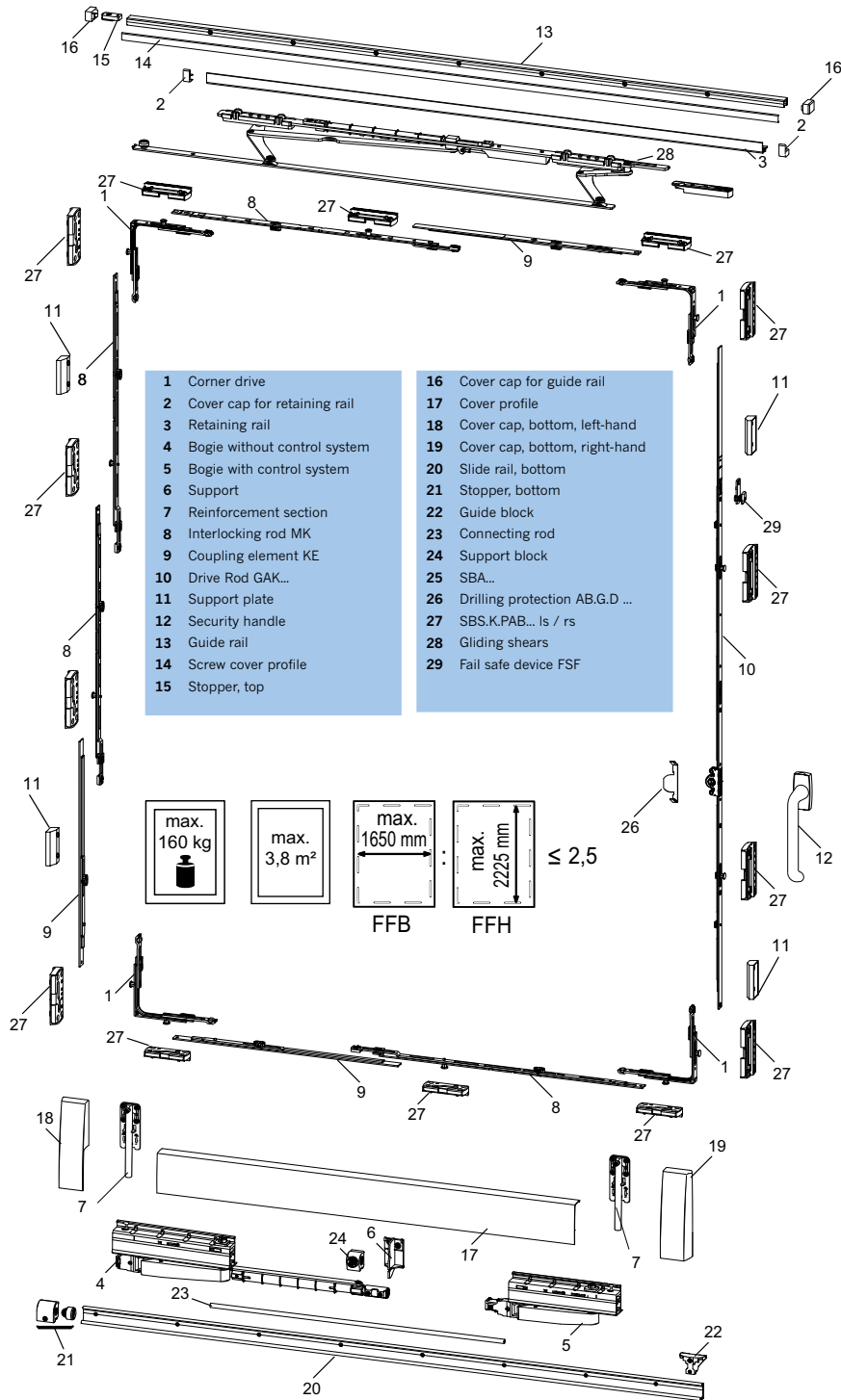
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# duoPort PAS – constant handle position



Suitable for RC2 burglary-resistant windows



The processing details RC2 can be gathered from the RC2 system tests. The RC2 fitting lists in this catalogue are only application examples. Please turn to your Winkhaus contact person.

Position	Dimensions	Article description	Item number				Quant. for system		
			Left-hand		Right-hand		A	G	K
<b>Basic requirement</b>									
4, 5, 7		SET SK.LW.160.PA. ls / rs	4997393		4997390		1	1	2
			<b>White</b>	<b>Brown</b>	<b>EV1</b>	<b>CW</b>			
18, 19		BL.SK.ADK....	4997433	4997434	4997436	4997435	1	1	2
1		E11	4936017				4	4	8
26		AB.G.D...	4939745 (D=15,5) / 4939747 (D=7,5)				1	1	2
27		SBS.K.PAB... ls / rs	Profile-dependent, see group 5, frame parts table				X	X	X
9		KE	4982891				3	3	6
11		Support plate					4	4	8
12		Security handle					1	1	2
29		FSF	4968753				1	1	2
<b>Drive side</b>									
<b>Required acc. to sash rebate height (FFH)</b>									
10	650 - 710	GAK.710	*				1	1	2
	711 - 945	GAK.945-1	*						
	946 - 1100	GAK.1100-1	*						
	1101 - 1325	GAK.1325-1	*						
	1326 - 1550	GAK.1550-1	*						
	1551 - 1775	GAK.1775-2	*						
	1776 - 2000	GAK.2000-2	*						
	2001 - 2225	GAK.2225-2	*						
<b>Opposite drive side (KE from basic requirement + ...)</b>									
8	710 - 960	MK.250-1	*				1	1	2
	961 - 1210	MK.500-1	*				1	1	2
	1211 - 1460	MK.750-1	*				1	1	2
	1461 - 1710	MK.500-1	*				2	2	4
	1711 - 1960	MK.500-1	*				1	1	2
		MK.750-1	*				1	1	2
	1961 - 2210	MK.750-1	*				2	2	4
	2211 - 2225	MK.500-1	*				2	2	4
	MK.750-1	*				1	1	2	
<b>Required acc. to sash rebate width (FFB)</b>									
8	750 - 960	MK.250-1	*				2	2	4
	960 - 1210	MK.500-1	*				2	2	4
	1210 - 1460	MK.750-1	*				2	2	2
	1460 - 1650	MK.500-1	*				4	4	8
2, 3, 28	750 - 900	SET SK.GS.PA.900 ls ..	4997395	4997397	4997402	4997399	1	1	2
	750 - 900	SET SK.GS.PA.900 rs ..	4997394	4997396	4997400	4997398			
	901 - 1250	SET SK.GS.PA.1250 ls ..	4997406	4997410	4997414	4997412			
	901 - 1250	SET SK.GS.PA.1250 rs ..	4997403	4997408	4997413	4997411			
	1251 - 1650	SET SK.GS.PA.1650 ls ..	4997416	4997418	4997432	4997430			
	1251 - 1650	SET SK.GS.PA.1650 rs ..	4997415	4997417	4997431	4997419			
<b>Required acc. to BRB (outside frame width)</b>									
6, 13...17, 20...24	1480 - 1930	SET SK.SS.900 ..	4941093	4941094	4941095	4965692	1	1	2
	1931 - 2230	SET SK.SS.1050 ..	4941096	4941097	4941098	4965693			
	2231 - 2630	SET SK.SS.1250 ..	4941099	4941110	4941111	4965694			
	2631 - 3030	SET SK.SS.1450 ..	4941112	4941113	4941114	4965695			
	3031 - 3430	SET SK.SS.1650 ..	4941115	4941116	4941117	4965696			

duoPort PAS RC2 konstanter Griffsitz\_TAB\_EN\_indd

**Caution: SBS.K.PAB...rs locking components must be used for elements featuring a "Winkhaus left-hand design" (opening towards the right).****SBS.K.PAB...ls locking components must be used for elements featuring a "Winkhaus right-hand design" (opening towards the left).****X = Requirement depends on size \* Items from the modular activPilot system**

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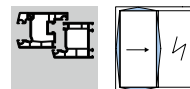
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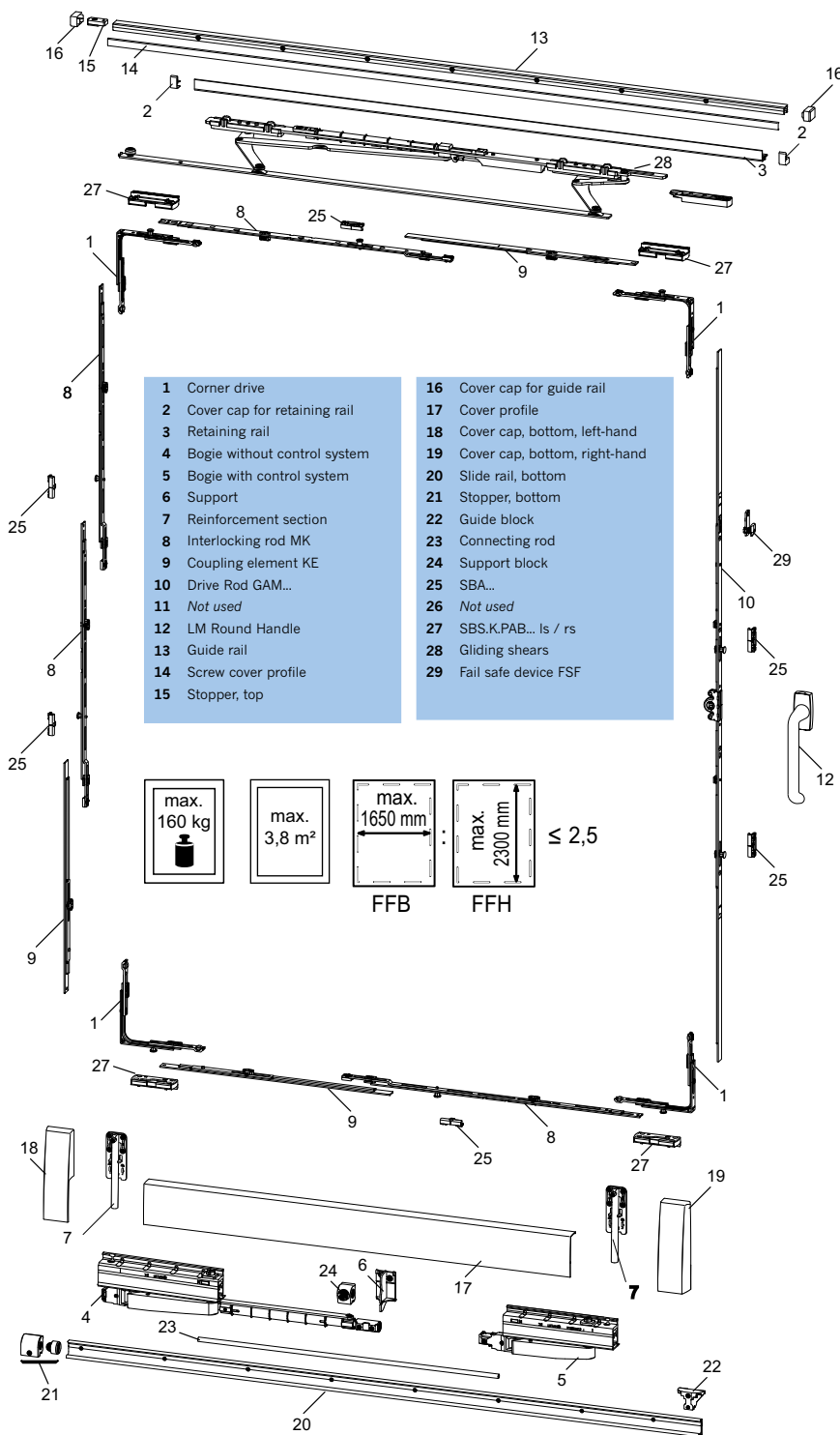
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# duoPort PAS – central handle position



## Basic equipment





Position	Dimensions	Article description	Item number				Quant. for system		
			Left-hand		Right-hand		A	G	K
4, 5, 7		SET SK.LW.160.PA. ls / rs	4997393		4997390		1	1	2
			White	Brown	EV1	CW			
18, 19		BL.SK.ADK...	4997433	4997434	4997436	4997435	1	1	2
1		E1	2841823				4	4	8
25		SBA.K...	Profile-dependent, see group 5, frame parts table				X	X	X
27		SBS.K.PAB... ls / rs	Profile-dependent, see group 5, frame parts table				4	4	8
9		KE	4982891				3	3	6
12		LM-RG	1468449	1468318	1468300	4969580	1	1	2
29		FSF	4968753				1	1	2
<b>Drive side</b>									
<b>Required acc. to sash rebate height (FFH)</b>									
10	650 - 800	GAM.800	*				1	1	2
	801 - 1050	GAM.1050-1	*						
	1051 - 1400	GAM.1400-1	*						
	1401 - 1800	GAM.1800-2	*						
	1801 - 2300	GAM.2300-3	*						
		GAM.2300-3	*						
<b>Opposite drive side (KE from basic requirement + ...)</b>									
8	710 - 960	MK.250-1	*				1	1	2
	961 - 1210	MK.500-1	*				1	1	2
	1211 - 1460	MK.750-1	*				1	1	2
	1461 - 1710	MK.500-1	*				2	2	4
	1711 - 1960	MK.500-1	*				1	1	2
		MK.750-1	*				1	1	2
	1961 - 2210	MK.750-1	*				2	2	4
	2211 - 2300	MK.500-1	*				2	2	4
	MK.750-1	*				1	1	2	
<b>Required acc. to sash rebate width (FFB) (KE from basic requirement + ...)</b>									
8	750 - 960	MK.250-1	*				2	2	4
	961 - 1210	MK.500-1	*				2	2	4
	1211 - 1460	MK.750-1	*				2	2	2
	1460 - 1650	MK.500-1	*				4	4	8
2, 3, 28	750 - 900	SET SK.GS.PA.900 ls ..	4997395	4997397	4997402	4997399	1	1	2
	750 - 900	SET SK.GS.PA.900 rs ..	4997394	4997396	4997400	4997398			
	901 - 1250	SET SK.GS.PA.1250 ls ..	4997406	4997410	4997414	4997412			
	901 - 1250	SET SK.GS.PA.1250 rs ..	4997403	4997408	4997413	4997411			
	1251 - 1650	SET SK.GS.PA.1650 ls ..	4997416	4997418	4997432	4997430			
	1251 - 1650	SET SK.GS.PA.1650 rs ..	4997415	4997417	4997431	4997419			
<b>Required acc. to BRB (outside frame width)</b>									
6, 13...17, 20...24	1480 - 1930	SET SK.SS.900 ..	4941093	4941094	4941095	4965692	1	1	2
	1931 - 2230	SET SK.SS.1050 ..	4941096	4941097	4941098	4965693			
	2231 - 2630	SET SK.SS.1250 ..	4941099	4941110	4941111	4965694			
	2631 - 3030	SET SK.SS.1450 ..	4941112	4941113	4941114	4965695			
	3031 - 3430	SET SK.SS.1650 ..	4941115	4941116	4941117	4965696			

duoPort PAS mittiger Griffsitz\_TAB\_EN\_Indi

**Caution:** SBS.K.PAB...rs locking components must be used for elements featuring a "Winkhaus left-hand design" (opening towards the right).

SBS.K.PAB...ls locking components must be used for elements featuring a "Winkhaus right-hand design" (opening towards the left).

X = Requirement depends on size \* Items from the modular activPilot system

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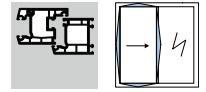
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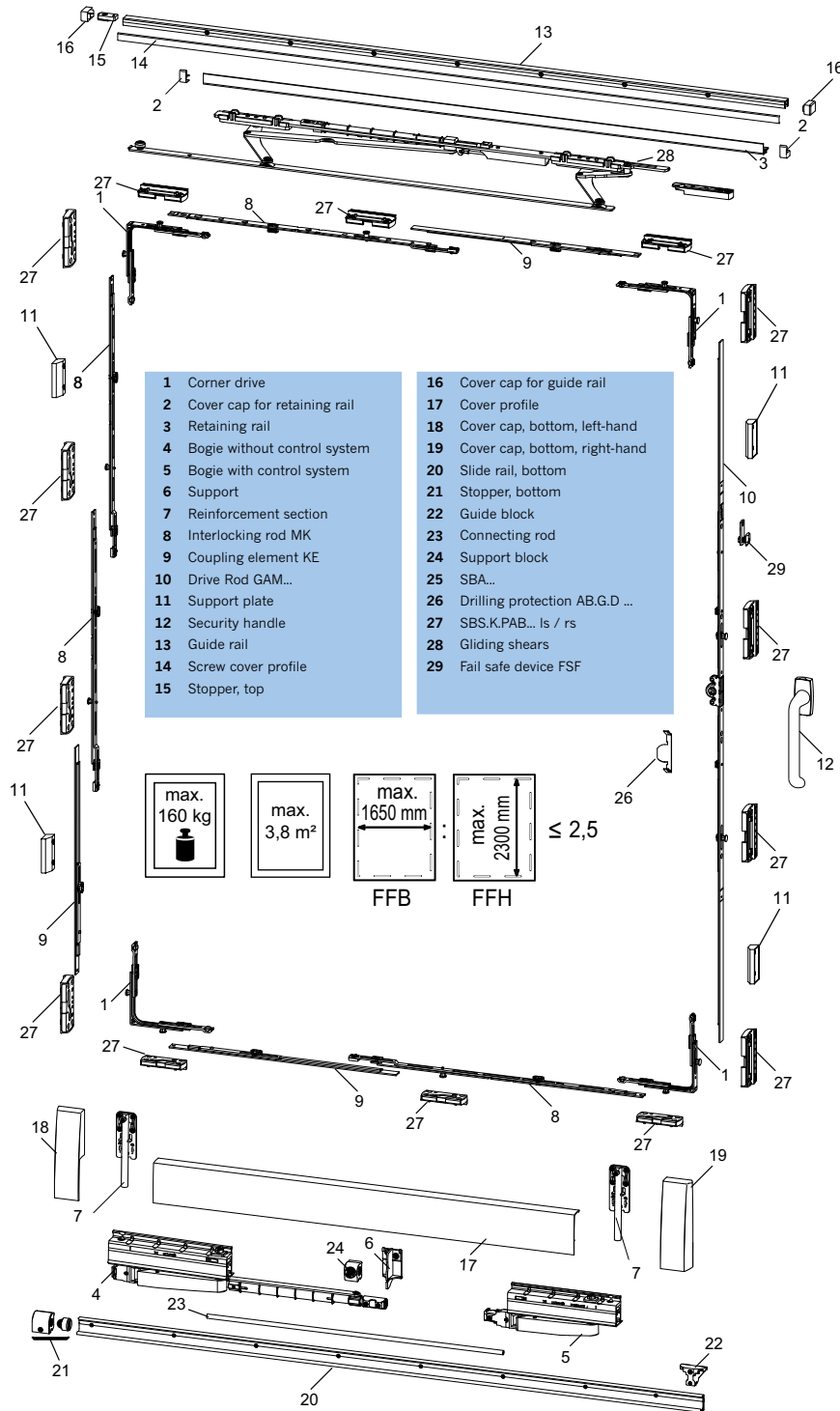
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# duoPort PAS – central handle position



Suitable for RC2 burglary-resistant windows



The processing details RC2 can be gathered from the RC2 system tests. The RC2 fitting lists in this catalogue are only application examples. Please turn to your Winkhaus contact person.

Position	Dimensions	Article description	Item number					Quant. for system		
			Left-hand			Right-hand		A	G	K
4, 5, 7		SET SK.LW.160.PA. ls / rs	4997393			4997390		1	1	2
			White	Brown	EV1	CW				
18, 19		BL.SK.ADK...	4997433	4997434	4997436	4997435	1	1	2	
1		E11	4936017				4	4	8	
26		AB.G.D...	4939745 (D=15,5) / 4939747 (D=7,5)				1	1	2	
27		SBS.K.PAB... ls / rs	Profile-dependent, see group 5, frame parts table				X	X	X	
9		KE	4982891				3	3	6	
11		Support plate					4	4	8	
12		Security handle					1	1	2	
29		FSF	4968753				1	1	2	
<b>Drive side</b>										
<b>Required acc. to sash rebate height (FFH)</b>										
10	650 - 800	GAM.800	*				1	1	2	
	801 - 1050	GAM.1050-1	*							
	1051 - 1400	GAM.1400-1	*							
	1401 - 1800	GAM.1800-2	*							
	1801 - 2300	GAM.2300-3	*							
		GAM.2300-3	*							
<b>Opposite drive side (KE from basic requirement + ...)</b>										
8	710 - 960	MK.250-1	*				1	1	2	
	961 - 1210	MK.500-1	*				1	1	2	
	1211 - 1460	MK.750-1	*				1	1	2	
	1461 - 1710	MK.500-1	*				2	2	4	
	1711 - 1960	MK.500-1	*				1	1	2	
			MK.750-1	*				1	1	2
			MK.750-1	*				2	2	4
			MK.500-1	*				2	2	4
		MK.750-1	*				1	1	2	
<b>Required acc. to sash rebate width (FFB) (KE from basic requirement + ...)</b>										
8	750 - 960	MK.250-1	*				2	2	4	
	961 - 1210	MK.500-1	*				2	2	4	
	1211 - 1460	MK.750-1	*				2	2	2	
	1460 - 1650	MK.500-1	*				4	4	8	
2, 3, 28	750 - 900	SET SK.GS.PA.900 ls ..	4997395	4997397	4997402	4997399	1	1	2	
	750 - 900	SET SK.GS.PA.900 rs ..	4997394	4997396	4997400	4997398				
	901 - 1250	SET SK.GS.PA.1250 ls ..	4997406	4997410	4997414	4997412				
	901 - 1250	SET SK.GS.PA.1250 rs ..	4997403	4997408	4997413	4997411				
	1251 - 1650	SET SK.GS.PA.1650 ls ..	4997416	4997418	4997432	4997430				
	1251 - 1650	SET SK.GS.PA.1650 rs ..	4997415	4997417	4997431	4997419				
<b>Required acc. to BRB (outside frame width)</b>										
6, 13...17, 20...24	1480 - 1930	SET SK.SS.900 ..	4941093	4941094	4941095	4965692	1	1	2	
	1931 - 2230	SET SK.SS.1050 ..	4941096	4941097	4941098	4965693				
	2231 - 2630	SET SK.SS.1250 ..	4941099	4941110	4941111	4965694				
	2631 - 3030	SET SK.SS.1450 ..	4941112	4941113	4941114	4965695				
	3031 - 3430	SET SK.SS.1650 ..	4941115	4941116	4941117	4965696				

duoPort PAS RC2 mittiger Griffsitz\_TAB\_EN\_indd

**Caution:** SBS.K.PAB...rs locking components must be used for elements featuring a "Winkhaus left-hand design" (opening towards the right).

SBS.K.PAB...ls locking components must be used for elements featuring a "Winkhaus right-hand design" (opening towards the left).

X = Requirement depends on size \* Items from the modular activPilot system

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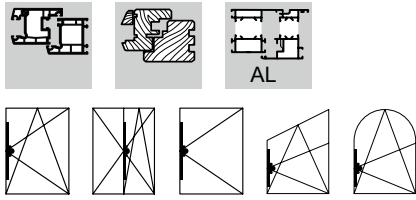
Frame parts 7

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## Drive rod GAK

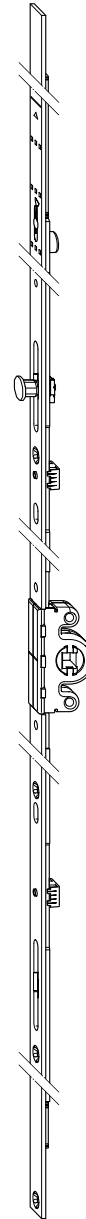
- Constant handle position GK
- Backset 15.5 mm
- Clampable in fitting groove
- Functional parts such as DFE and TFE retrofittable (see table), does not apply to activPilot Comfort PADK/PADM
- Handle position with reference to the sash rebate edge, in conformity with "dimension GK" (see table)
- For drilling and milling instructions see Group 15 installation drawings B-3-1
- Useable left and right hand
- Safety locking pin as an adjustable octagonal bolt
- Gear case for milling from rebate
- Gear case for mounting in drilled hole
- Fasten the window handle attachment with M5 x ..., DIN 965, 43 mm screw centres
- Central fastening as standard
- Turn position is the factory default
- Drive stroke approx. 37 mm with window handle rotation by 180°
- Faceplate width 16 mm
- Overlapping system linkage without connecting plates


### Drive rod GAK ... BK

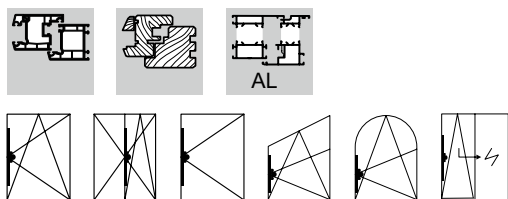
- With pre-assembled balcony door catch bolt
- Not suitable for activPilot Comfort PADK/PADM / duoPort PAS

### Drive rod GAK ... C

- incl. reinforced clamping mechanism within the profile groove

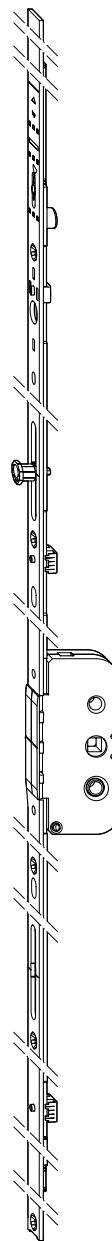



Article description	Article No.	Scope of application		Dimension GK	DFE	TFE	VPA1 Qty.	Type	VPA2 Qty.	Type	VPA3 Qty.	Type
GAK.465	4926221	FFH 420 - 520	0	210			10	BD	100	KK	800	EK
GAK.465.C	4935841	FFH 420 - 520	0	210			10	BD	100	KK	800	EK
GAK.710	4926207	FFH 460 - 710	1	210			20	BD	600	EA		
GAK.710.C	4935843	FFH 460 - 710	1	210			20	BD	600	EA		
GAK.830	4926230	FFH 580 - 830	2	260			20	BD	600	EA		
GAK.830-1	4926231	FFH 580 - 830	2	260			20	BD	600	EA		
GAK.945	4926208	FFH 695 - 945	3	260	•	•	20	BD	400	EA		
GAK.945-1	4926209	FFH 695 - 945	3	260	•	•	20	BD	400	EA		
GAK.1100-1	4926234	FFH 850 - 1100	3	375	•	•	20	BD	360	EA		
GAK.1195-1	4926236	FFH 945 - 1195	4	470	•	•	20	BD	360	EA		
GAK.1195-2	4926237	FFH 945 - 1195	4	470	•	•	20	BD	360	EA		
GAK.1325-1	4978659	FFH 1075 - 1325	4	550	•	•	20	BD	360	EA		
GAK.1325-1.G500	4937485	FFH 1075 - 1325	4	500	•	•	20	BD	360	EA		
GAK.1325-2	4978670	FFH 1075 - 1325	4	550	•	•	20	BD	360	EA		
GAK.1550-1	4926224	FFH 1300 - 1550	5	550	•	•	10	BD	360	L1		
GAK.1550-2	4926225	FFH 1300 - 1550	5	550	•	•	10	BD	360	L1		
GAK.1775-2	4926228	FFH 1525 - 1775	7	550	•	•	10	BD	400	L1		
GAK.1775-3	4926229	FFH 1525 - 1775	7	550	•	•	10	BD	400	L1		
GAK.2000-2	4938089	FFH 1750 - 2000	8	1050	•	•	10	BD	360	L2		
GAK.2000-2.BK	4942670	FFH 1750 - 2000	8	1050	•	•	10	BD	360	L2		
GAK.2000-4	4938120	FFH 1750 - 2000	8	1050	•	•	10	BD	360	L2		
GAK.2000-4.BK	4942671	FFH 1750 - 2000	8	1050	•	•	10	BD	360	L2		
GAK.2225-2	4938122	FFH 1975 - 2225	9	1050	•	•	10	BD	360	L2		
GAK.2225-2.BK	4942672	FFH 1975 - 2225	9	1050	•	•	10	BD	360	L2		
GAK.2225-4	4938123	FFH 1975 - 2225	9	1050	•	•	10	BD	360	L2		
GAK.2225-4.BK	4942673	FFH 1975 - 2225	9	1050	•	•	10	BD	360	L2		



## Drive rod GAK... D 25 - 50

- Constant handle position GK
- The backset is optionally 25, 30, 35, 40, 45 or 50 mm
- Clampable in fitting groove
- Functional parts such as DFE and TFE retrofittable (see table), does not apply to activPilot Comfort PADK/PADM
- Extensible with extension rods
- Handle position with reference to the sash rebate edge, in conformity with "dimension GK" (see table)
- For drilling and milling instructions see group 15, installation drawings B-3-4
- Useable left and right hand
- Safety locking pin as an adjustable octagonal bolt
- Gear case for milling from rebate
- Fasten the window handle attachment with M5 x ..., DIN 965, 43 mm screw centres
- Central fastening as standard
- Turn position is the factory default
- Drive stroke approx. 37 mm with window handle rotation by 180°
- Faceplate width 16 mm
- Overlapping system linkage without connecting plates



Article description	Article No.	Scope of application		Dimension GK	DFE	TFE	VPA1 Qty.	Type	VPA2 Qty.	Type
GAK.1325-1.D25	4978671	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAK.1325-1.D30	4978672	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAK.1325-1.D35	4978673	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAK.1325-1.D40	4978674	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAK.1325-1.D45	4978675	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAK.1325-1.D50	4978676	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAK.2000-4.D25	4938143	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAK.2000-4.D30	4938150	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAK.2000-4.D35	4938151	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAK.2000-4.D40	4938152	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAK.2000-4.D45	4938153	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAK.2000-4.D50	4938154	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAK.2225-4.D25	4938145	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAK.2225-4.D30	4938146	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAK.2225-4.D35	4938147	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAK.2225-4.D40	4938148	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAK.2225-4.D45	4938149	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAK.2225-4.D50	4938160	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2

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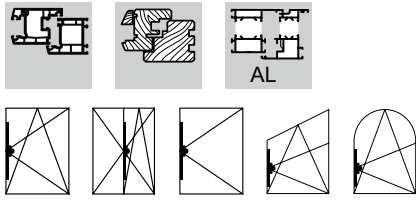
Frame parts 7

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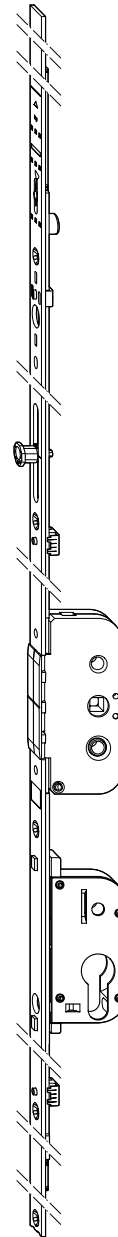
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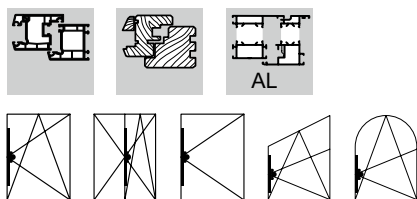


## Drive rod GAKA

- Constant handle position GK
- The backset is optionally 25, 30, 35, 40, 45 or 50 mm
- Lockable, suitable for turn-tilt patio doors
- Clampable in fitting groove
- Extensible with extension rods
- Functional parts such as DFE and TFE retrofittable (see table)
- Handle position with reference to the sash rebate edge, in conformity with "dimension GK" (see table)
- For drilling and milling instructions see Group 15 installation drawings B-3-3
- Handle set see Group 10, accessories
- Useable left and right hand
- Safety locking pin as an adjustable octagonal bolt
- Gear case for milling from rebate
- Central fastening as standard
- Turn position is the factory default
- Drive stroke approx. 37 mm with window handle rotation by 180°
- Faceplate width 16 mm
- Overlapping system linkage without connecting plates



Article description	Article No.	Scope of application		Dimension GK	DFE	TFE	VPA1 Qty.	Type	VPA2 Qty.	Type
GAKA.1325-1.D25	4933449	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAKA.1325-1.D30	4933473	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAKA.1325-1.D35	4933474	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAKA.1325-1.D40	4933475	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAKA.1325-1.D45	4933479	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAKA.1325-1.D50	4933490	FFH 1075 - 1325	4	550	•	•	10	BD	200	EA
GAKA.2000-4.D25	4929007	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAKA.2000-4.D30	4929008	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAKA.2000-4.D35	4929009	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAKA.2000-4.D40	4929010	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAKA.2000-4.D45	4929011	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAKA.2000-4.D50	4929012	FFH 1750 - 2000	8	1050	•	•	10	BD	200	L2
GAKA.2225-4.D25	4929013	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAKA.2225-4.D30	4929014	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAKA.2225-4.D35	4929015	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAKA.2225-4.D40	4929016	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAKA.2225-4.D45	4929017	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2
GAKA.2225-4.D50	4929018	FFH 1975 - 2225	9	1050	•	•	10	BD	200	L2

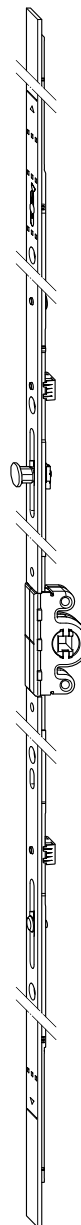



## Drive rod GAM

- Central handle position
- Backset 15.5 mm
- Clampable in fitting groove
- Functional parts such as DFE and TFE retrofittable (see table), does not apply to activPilot Comfort PADK/PADM
- For drilling and milling instructions see Group 15 installation drawings B-3-1
- Useable left and right hand
- Safety locking pin as an adjustable octagonal bolt
- Gear case for milling from rebate
- Gear case for mounting in drilled hole
- Fasten the window handle attachment with M5 x ..., DIN 965, 43 mm screw centres
- Central fastening as standard
- Turn position is the factory default
- Drive stroke approx. 37 mm with window handle rotation by 180°
- Faceplate width 16 mm
- Overlapping system linkage without connecting plates

### Drive rod GAM ... BK

- With pre-assembled balcony door catch bolt
- Not suitable for activPilot Comfort PADK/PADM / duoPort PAS



Article description	Article No.	Scope of application		DFE	TFE	VPA1 Qty.	Type	VPA2 Qty.	Type
GAM.800	4926267	FFH 510 - 800	2			20	BD	400	EA
GAM.1050	4926268	FFH 710 - 1050	2	•	•	20	BD	360	EA
GAM.1050-1	4926269	FFH 710 - 1050	2	•	•	20	BD	360	EA
GAM.1400	4926290	FFH 900 - 1400	4	•	•	20	BD	360	L1
GAM.1400-1	4926291	FFH 900 - 1400	4	•	•	20	BD	360	L1
GAM.1400-2	4926292	FFH 900 - 1400	4	•	•	20	BD	360	L1
GAM.1800	4926293	FFH 1300 - 1800	6	•	•	10	BD	360	L1
GAM.1800-2	4926295	FFH 1300 - 1800	6	•	•	10	BD	360	L1
GAM.2300	4938161	FFH 1800 - 2300	8	•	•	10	BD	360	L2
GAM.2300-3	4938163	FFH 1800 - 2300	8	•	•	10	BD	360	L2
GAM.2300-3.BK	4942674	FFH 1800 - 2300	8	•	•	10	BD	360	L2

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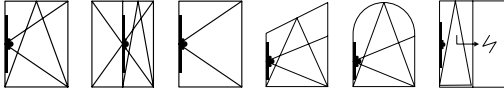
Frame parts **7**

Mounting accessories **8**

Mounting instructions **9**

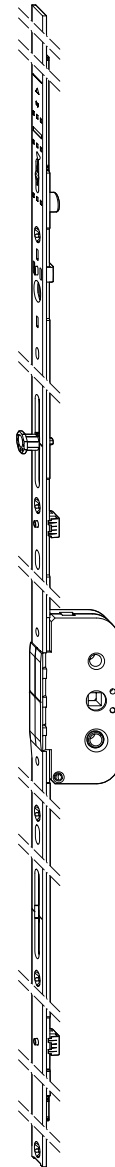
Adjustment/maintenance **10**


Installation drawings **11**



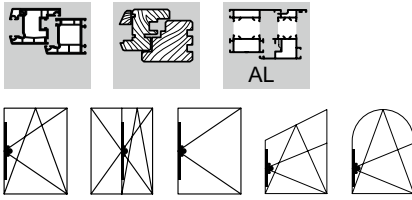
## Drive rod GAM ... D25 - 50

- Central handle position
- The backset is optionally 25, 30, 35, 40, 45 or 50 mm
- Clampable in fitting groove
- Functional parts such as DFE and TFE retrofittable (see table), does not apply to activPilot Comfort PADK/PADM
- For drilling and milling instructions see group 15, installation drawings B-3-4
- Extensible with extension rods
- Useable left and right hand
- Safety locking pin as an adjustable octagonal bolt
- Gear case for milling from rebate
- Central fastening as standard
- Turn position is the factory default
- Drive stroke approx. 37 mm with window handle rotation by 180°
- Faceplate width 16 mm
- Overlapping system linkage without connecting plates



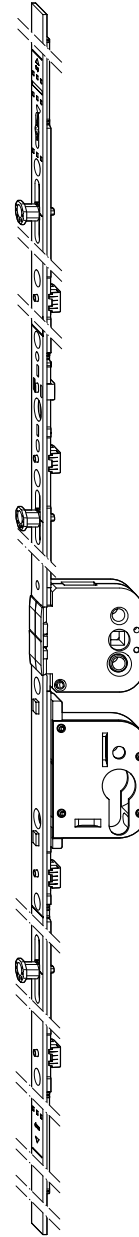
Article description	Article No.	Scope of application		DFE	TFE	VPA1 Qty.	Type	VPA2 Qty.	Type
GAM.800.D25	4941067	FFH 510 - 800	2			10	BD	200	EA
GAM.800.D30	4941069	FFH 510 - 800	2			10	BD	200	EA
GAM.1050-1.D25	4941081	FFH 710 - 1050	2	•	•	10	BD	200	EA
GAM.1050-1.D30	4941082	FFH 710 - 1050	2	•	•	10	BD	200	EA
GAM.1400-1.D25	4927159	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-1.D30	4927171	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-1.D35	4927172	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-1.D40	4927173	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-1.D45	4927174	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-1.D50	4927175	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-2.D25	4933312	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-2.D30	4933313	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-2.D35	4933315	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-2.D40	4933316	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-2.D45	4933317	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1400-2.D50	4933318	FFH 900 - 1400	4	•	•	10	BD	200	L1
GAM.1800-2.D25	4933319	FFH 1300 - 1800	6	•	•	10	BD	200	L1
GAM.1800-2.D30	4933340	FFH 1300 - 1800	6	•	•	10	BD	200	L1
GAM.1800-2.D35	4933341	FFH 1300 - 1800	6	•	•	10	BD	200	L1
GAM.1800-2.D40	4933342	FFH 1300 - 1800	6	•	•	10	BD	200	L1
GAM.1800-2.D45	4933343	FFH 1300 - 1800	6	•	•	10	BD	200	L1
GAM.1800-2.D50	4933344	FFH 1300 - 1800	6	•	•	10	BD	200	L1
GAM.2300-3.D25	4938167	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAM.2300-3.D30	4938168	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAM.2300-3.D35	4938169	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAM.2300-2.D40	4936028	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAM.2300-3.D40	4938170	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAM.2300-3.D45	4938427	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAM.2300-3.D50	4938428	FFH 1800 - 2300	8	•	•	10	BD	200	L2






## Drive rod GAMA

- Central handle position
- The backset is optionally 25, 30, 35, 40, 45 or 50 mm
- Lockable, suitable for turn-tilt patio doors
- Extensible with extension rods
- Clampable in fitting groove
- Handle set see Group 10, accessories
- Functional parts such as DFE and TFE retrofittable (see table)
- For drilling and milling instructions see Group 15 installation drawings B-3-3
- Useable left and right hand
- Safety locking pin as an adjustable octagonal bolt
- Gear case for milling from rebate
- Central fastening as standard
- Turn position is the factory default
- Drive stroke approx. 37 mm with window handle rotation by 180°
- Faceplate width 16 mm
- Overlapping system linkage without connecting plates



Article description	Article No.	Scope of application		DFE	TFE	VPA1 Qty.	Type	VPA2 Qty.	Type
GAMA.2300-3.D25	4927099	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAMA.2300-3.D30	4927160	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAMA.2300-3.D35	4927161	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAMA.2300-3.D40	4927162	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAMA.2300-3.D45	4927164	FFH 1800 - 2300	8	•	•	10	BD	200	L2
GAMA.2300-3.D50	4927166	FFH 1800 - 2300	8	•	•	10	BD	200	L2

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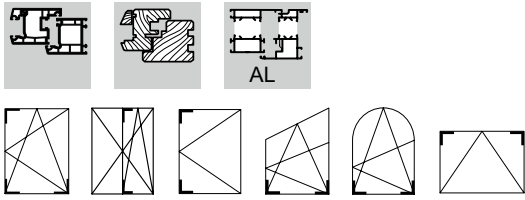
Frame parts **7**

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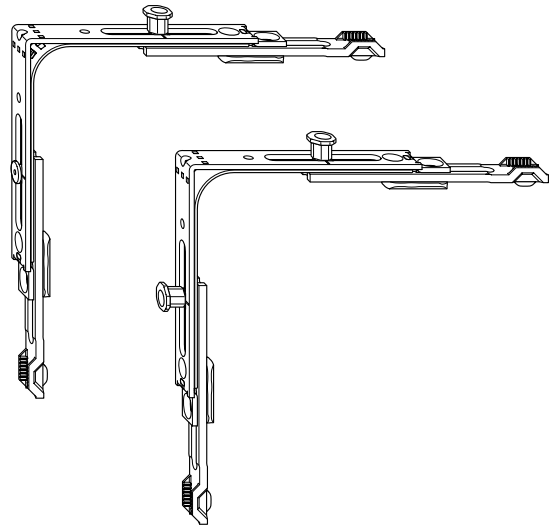
Adjustment/maintenance **10**

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## Corner drive E1

- Useable left and right hand
- Bracket length 98.5 mm
- Safety locking pin as an adjustable octagonal bolt
- Automatic and manual assembly possible
- Smooth operation, due to rust-free spring steel hinges inserted in C-rail
- Central fastening as standard
- Turn position is the factory default
- Faceplate width 16 mm
- Overlapping system linkage without connecting plates



### Corner drive E1.F

- Same design as E1, but clampable

### Corner drive E11

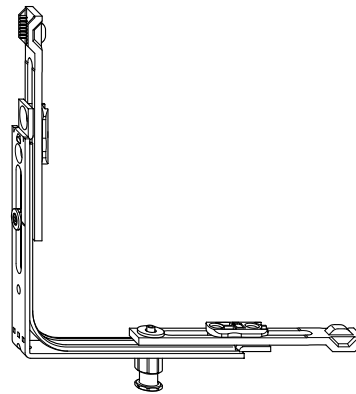
- Same construction as E1 with an additional octagonal bolt on the second arm

### Corner drive E11.F


- Clampable design

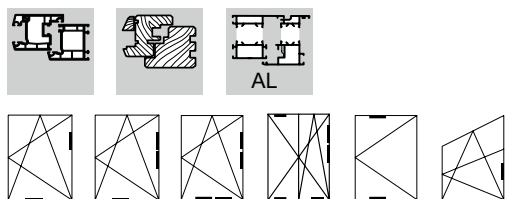
### Corner drive E1.BS

- Bottom corner drive with extended bolt for balcony doors with low threshold
- ...BS13 for airgaps 7 – 9 mm from upper edge of ground sill clip rail
- ...BS16 for airgaps 10 – 12 mm from upper edge of ground sill clip rail
- Not suitable for activPilot Comfort PADK/PADM / duoPort PAS



top (outside): E1  
top (interior): E11  
bottom: E1.BS

Article description	Article No.		VPA1 Qty.	Type	VPA2 Qty.	Type
E1	2841823	4	100	KK	2400	EK
E1.F	4929912	4	100	KK	2400	EK
E11	4936017	4	100	KK	2400	EK
E11.F	4942960	4	100	KK	2400	EK
E1.BS13	4941425	4	100	KK	800	EK
E1.BS16	4926330	4	100	KK	800	EK



## Interlocking rod M

- Useable left and right hand
- Safety locking pin as an adjustable octagonal bolt
- Faceplate width 16 mm
- Central fastening loosens automatically by tightening fitting screw
- Functional both vertically and horizontally
- Overlapping system linkage without connecting plates
- Clampable in fitting groove



## Interlocking rod MK

- Extendable interlocking rod, can be combined with Winkhaus standard gearing
- Otherwise this design is identical to interlocking rod M


## Interlocking rod MK ... BS

- Bottom horizontal interlocking rod with extended bolt for balcony doors with accessible ground sill
- In combination with corner drive E1.BS
- ...BS13 for airgaps 7 – 9 mm from upper edge of ground sill clip rail
- ...BS16 for airgaps 10 – 12 mm from upper edge of ground sill clip rail
- Not suitable for activPilot Comfort PADK/PADM / duoPort PAS

top: interlocking rod M  
 centre: interlocking rod MK  
 bottom: interlocking rod MK.BS

## Interlocking rod M/MK ... C

- Same construction as M/MK..., but clampable

Article description	Article No.		VPA1		VPA2		VPA3	
			Qty.	Type	Qty.	Type	Qty.	Type
M.250-1	2822471	2	20	BD	100	KK	800	EK
M.500-1	4933994	3	20	BD	100	GK	1200	EK
M.500-1.C	4933999	3	20	BD	100	GK	1200	EK
M.750-1	4940652	5	20	BD	500	EA		
MK.250-0	4929185	1	20	BD	100	KK	800	EK
MK.250-1	2824919	1	20	BD	100	KK	800	EK
MK.500-0	4929187	3	20	BD	500	EA		
MK.500-0.C	4932315	3	20	BD	500	EA		
MK.500-1	2824986	3	20	BD	500	EA		
MK.500-1.C	4932287	3	20	BD	500	EA		
MK.750-1	4940653	5	20	BD	500	EA		
MK.500-1.BS13	4941427	3	20	BD	500	EA		
MK.500-1.BS16	4926332	3	20	BD	500	EA		
MK.500-1.BS16.C	4932316	3	20	BD	500	EA		

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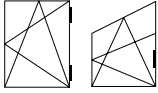
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## Coupling element KE

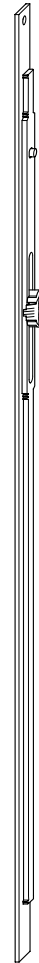
- Application area: connecting two gear ends, e.g. corner drive E1 with an interlocking rod MK
- Useable left and right hand
- Faceplate width 16 mm
- Clampable in fitting groove
- Overlapping system linkage without connecting plates
- Functional both vertically and horizontally
- Central fastening loosens automatically by tightening fitting screw
- Cutting area 250 mm
- Component length 510 mm

### Connection rod VS-RB

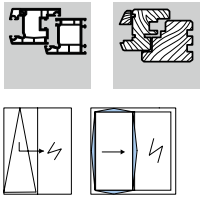
- Connection between round arch set (Chapter 7) and standard gearing

### Connection rod VS RB-K

- Connection between round arch set (Chapter 7) and standard gearing
- For small window heights see Group 1, lists of fittings

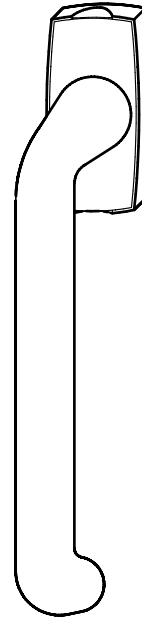


Article description	Article No.	🔩	VPA1		VPA2		VPA3	
			Qty.	Type	Qty.	Type	Qty.	Type
KE SL	4982891	2	10	BD	1000	EA		
VS RB SL	1811411	1	10	BD	100	GK	400	EK
VS RB-K SL	1811420	1	10	BD	100	KK	800	EK



## LM Round Handle

- Plug with  $\varnothing$  10 mm
- 7 mm spindle
- Handle length 170 mm



Article description	Article No.	VPA1		VPA2		VPA3	
		Qty.	Type	Qty.	Type	Qty.	Type
LM-RG WS	1468449	1	BL	20	KK	480	EK
LM-RG BR	1468318	1	BL	20	KK	160	EK
LM-RG EV 1	1468300	1	BL	20	KK	160	EK
LM-RG CW	4969580	1	BL	20	KK	160	EK

WS = white, BR = brown, EV1 = anodised silver, CW = cream white

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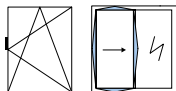
Frame parts 7

Mounting accessories 8

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Adjustment/maintenance 10


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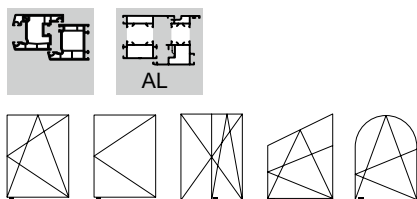


## Fail safe device FSF

- Prevents the operation of the handle while the window is open
- Separate frame part is not necessary (hits the frame)
- Suitable for groove positions from 9 to 13 mm
- Suitable for retrofit installation into drive rods GAK and GAM
- Useable left and right hand



Article description	Article No.		Groove centre position	VPA1 Qty.	Type	VPA2 Qty.	Type	VPA3 Qty.	Type
FSF	4968753	1	9/13	100	BL	500	KK	4000	EK



## Support plate

- For lifting the sash during closing

### Support plate AL.M.F12

- For assembly in the suitable holes of the extension rod or for direct fitting in the sash-side fitting groove
- Installation height 11,5 mm
- Colour: anthracite grey

### Support plate AL FR BN 13/12 FC SL

- Direct fitting in the eurogroove
- Installation height 11,5 mm
- Farbe: silber

### Support plate AL.BN.F12

- Direct fitting in the eurogroove
- Suitable for use on screwdriving units
- Installation height 11,5 mm
- Colour: anthracite grey

### Support plate AL.E.F

- Is fixed to the corner drive on the sash side if no interlocking rod is used
- Suitable for use on screwdriving units
- Installation height 11,5 mm
- Colour: anthracite grey
- Not suitable for activPilot Comfort PADK/PADM / duoPort PAS

### Support plate AL D

- Installation in frame
- Can be used for different profile systems thanks to adapter FT.WSK...
- Installation height 11 mm
- Colour: anthracite grey or white

### Support plate AL D 10 WS

- Installation in frame
- Can be used for different profile systems thanks to adapter FT.WSK...
- Installation height 10 mm
- Colour: anthracite grey

Article description	Article No.	VPA1		VPA2		VPA3		
		Qty.	Type	Qty.	Type	Qty.	Type	
AL.M.F12	4927494	1	100	BL	400	KK	3200	EK
AL FR BN 13/12 FC SL	2295640	1	100	BL	400	KK	3200	EK
AL.BN.F12	4927493	1	100	BL	400	KK	3200	EK
ALE.F	4933076	1	200	KK	1600	EK		
AL D AGR	4969481	2	100	BL	400	KK	3200	EK
AL D WS	1475542	2	100	BL	400	KK	3200	EK
AL D 10 WS	2091583	2	100	BL	400	KK	3200	EK

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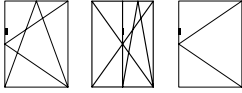
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## Drilling protection AB.G.D

- Protects drive rods against drilling open from the outside in line with DIN EN 1627-1630
- Useable left and right hand
- Material: Steel 1 mm thick, hardened

### Drilling protection AB.G.D.15.5

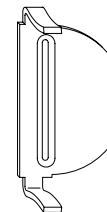
- Backset 15.5 mm

### Drilling protection AB.G.D.7.5

- Backset 7.5 mm



AB.G.D.15,5



AB.G.D.7,5

Article description	Article No.	VPA1		VPA2		VPA3	
		Qty.	Type	Qty.	Type	Qty.	Type
AB.G.D.15,5	4939745	100	BL	1000	KK	8000	EK
AB.G.D.7,5	4939747	50	BL	250	KK	2000	EK





## duoPort PAS frame parts

### Security Keep SBS.K.PAB.1

- Frame part, profile-neutral
- Serves as routing variant for order-specific profile adjustment: without adjustment it cannot be used.
- Material: steel bridge with plastic lower section
- Available for mounting left and right hand

### Security Keep SBS.K.PAB

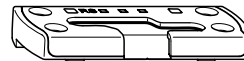
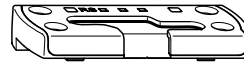
- Frame section with profile-specific contours
- Material: steel bridge with plastic lower section
- Available for mounting left and right hand


### Keep SBAK

- Standard pressure keep
- Frame section with profile-specific contours
- Material: zinc diecast
- Useable left and right hand

### Spacer FT WSK

- Spacers with profile-specific contours for universal frame parts, such as the sash support plate
- Material: PVC-U
- Useable left and right hand



Article description	Article No.		VPA1		VPA2	
			Qty.	Type	Qty.	Type
SBS.K.PAB.1.RS	4966472	4	50	KK	400	EK
SBS.K.PAB.1.LS	4966473	4	50	KK	400	EK

You will find the specifications for the frame part / spacer series for the respective profile systems in the "Profile/Frame Parts assignment table".

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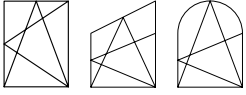
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# Assignment table – Profiles/frame parts

For duoPort PAS sliding doors with activPilot central locking mechanism

<b>Aluplast</b>		<b>KBE</b>		<b>Schüco</b>	
<b>Ideal 4000 - 8000</b>		<b>70 AD / 70 MD</b>		<b>Corona 70 / Corana SI 82</b>	
FT WSK 66	1530185	FT WSK 205	1809590	FT WSK 61	1497653
SBA.K.161	2824071	SBA.K.205	2922210	SBA.K.166	4930272
SBS.K.PAB.161.RS	4989274	SBS.K.PAB.205.RS	4989304	SBS.K.PAB.166.RS	4978119
SBS.K.PAB.161.LS	4989275	SBS.K.PAB.205.LS	4989305	SBS.K.PAB.166.LS	4978140
<b>Brüggmann</b>		<b>Kömmerling</b>		<b>Trocal</b>	
<b>System AD / MD</b>		<b>Classic, Elegance, Avantgarde</b>		<b>InnoNova 2000 / 88+</b>	
FT WSK 152	1787079	FT WSK144	1326221	FT WSK 226	2304155
SBA.K.94	4927716	SBA.K.144	2920652	SBA.K.126	4926196
SBS.K.PAB.94.RS	5005940	SBA.K.144.V	4927431	SBS.K.PAB.126.RS	4989256
SBS.K.PAB.94.LS	5005499	SBS.K.PAB.144.RS	4989262	SBS.K.PAB.126.LS	4989257
<b>Deceuninck</b>		<b>Rehau</b>		<b>InnoNova A5 / M5</b>	
<b>Zendow</b>		<b>Geneo</b>		<b>InnoNova A5 / M5</b>	
FT WSK 169	2356596	FT WSK 60	1345393	FT WSK 226	2304155
SBA.K.169	4926362	SBA.K.160	4933116	SBA.K.226	2921090
SBS.K.PAB.169.RS	4989288	SBS.K.PAB.160.RS	4966466	SBS.K.PAB.226.RS	4966468
SBS.K.PAB.169.LS	4989289	SBS.K.PAB.160.LS	4966467	SBS.K.PAB.226.LS	4966469
<b>Gealan</b>		<b>S735, Brillant, Thermo-Design, Brillant-Design, Basic-Design</b>		<b>VEKA</b>	
<b>6000, 7000, 8000</b>		<b>70 AD / MD, Topline AD, Swingline, Alphaline</b>		<b>Softline 70 AD/MD, Topline AD, Swingline, Alphaline</b>	
FT WSK 62	1348121	FT WSK 60	1345393	FT WSK 152	1787079
SBA.K.162	4929796	SBA.K.60	2824046	SBA.K.152	2824062
SBS.K.PAB.162.RS	4989280	SBS.K.PAB.60.RS	4989250	SBS.K.PAB.152.RS	4989268
SBS.K.PAB.162.LS	4989281	SBS.K.PAB.60.LS	4989251	SBS.K.PAB.152.LS	4989269
<b>Inoutic</b>		<b>Salamander</b>			
<b>Arcade, Prestige, Deluxe, Elite, MD100, Eforte</b>		<b>2D / 3D / MD / Streamline</b>			
FT WSK 192	1330722	FT WSK 134	1537651		
SBA.K.192	4932272	SBA.K.28	4926452		
SBS.K.PAB.192.RS	4984289	SBS.K.PAB.28.RS	4966470		
SBS.K.PAB.192.LS	4984400	SBS.K.PAB.28.LS	4966471		



## Punch BST AP/FS

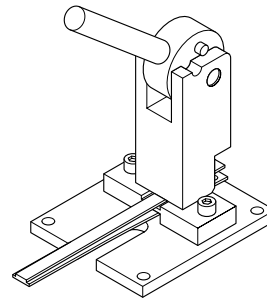
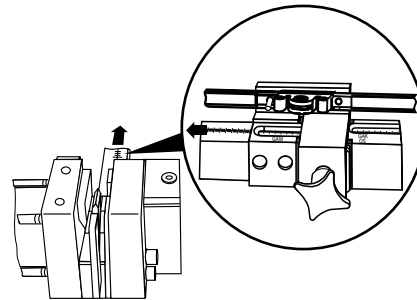
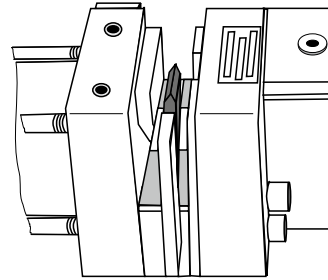
- Used to cut fitting elements
- Punch including footswitch
- Pedal operated
- Can be used together with fitting ruler
- Required operating pressure 6 bar

### Ruler LIN AP/FS

- Dimensional positioning of the fitting elements to be cut
- Cutting of both central and constant parts

### Fitting punch, lever AP.HH

- Used to cut fitting elements
- Manual operation
- Serves as repair punch – not suitable for permanent use



Article description	Article No.	VPA1		VPA2	
		Qty.	Type	Qty.	Type
BST AP/FS	1466339	1	GK	12	EK
LIN AP/FS	1466321	20	L2		
AP.HH	4970430	1	KT	48	EA

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## duoPort PAS mounting jigs/templates

### BL.SK.LW

- Drill jig for bogies, supports and reinforcement sections

### ASH.SK

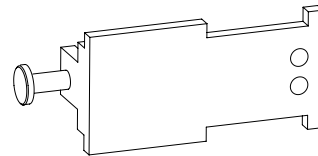
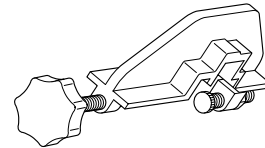
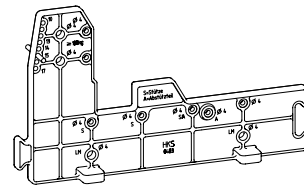
- Mounting jig to position slide and guide rails

### LE.SK.STKL

- Jig for guide block

### BZ.HKS

- Drill hole centring piece



Article description	Article No.	VPA1		VPA2		VPA3	
		Qty.	Type	Qty.	Type	Qty.	Type
BL.SK.LW	4949650	1	KT	12	EA		
ASH.SK	4949651	2	KT	48	EA		
LE.SK.STKL	4949652	1	KT	25	KK	200	EK
BZ.HKS	4949653	1	KT	25	KK	200	EK

Mounting jigs from the activPilot fitting system can be used to position frame parts for the central locking mechanism.

## Notes on these assembly instructions

### Sliding doors duoPort PAS with activPilot central locking mechanism

The installation instructions are intended for mounting Winkhaus fittings onto PVC-U windows only.

Slide elements with duoPort PAS in the RC2 burglary-resistant design sometimes require additional/different installation work.

Information on RC2 processing is found in the RC2 system tests. Get in touch with your Winkhaus contact partner for more details.

Persons involved in mounting fittings must have read and understood this fitting guide. For all work with fittings, always follow Winkhaus' Product Liability Information. The manufacturer will accept no liability in case of failure to comply with this guide, deployment of insufficiently qualified staff and unauthorised alterations.

The respective fitting may only consist of the original Winkhaus proPilot fitting parts. We do not assume any liability in case third-party or non-approved system components are used.

### Application range

Fittings are designed for the following sash rebate sizes and sash weights:

- Sash rebate width: 750 – 1,650 mm
- Sash rebate height: 650 – 2,300 mm
- Max. sash weight 160 kg

### Profile system recommendation

The fitting system with the parallel position setting can be used with a weatherboard in centre seal systems or rebate seal systems.

### Fastening screws for fitting components



Winkhaus does not supply any fastening screws for fitting components. Use screws which are long enough to reach the steel reinforcement in PVC-U profiles.

### Screw dimensioning

- Countersunk screws 3.9 x ... mm
- Countersunk screws 4.0 x ... mm with head diameter of 7 mm
- Countersunk screws 4.8 x ... mm

### Standard profile dimensions

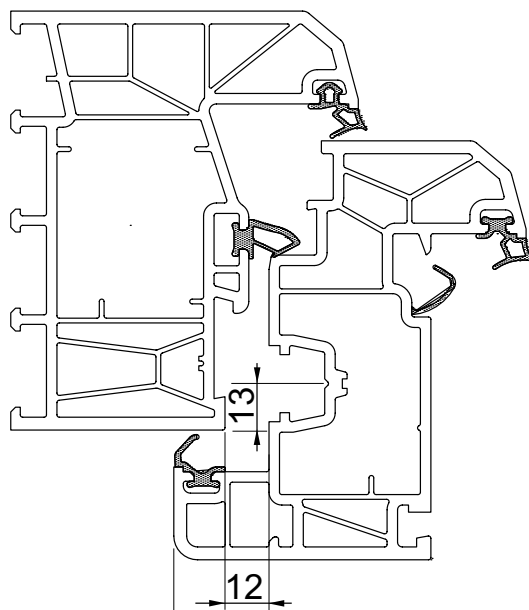
See figure: Profile cross-section

The fitting can be used on PVC-U windows with a standard euro-groove.

- Airgap 12 mm
- Overlap 20 mm
- Groove centre position 13 mm
- Frame rebate depth min. 29 mm



Note: In order to ascertain the permissible sash size, please refer to the diagrams in the chapter "General Product Information"



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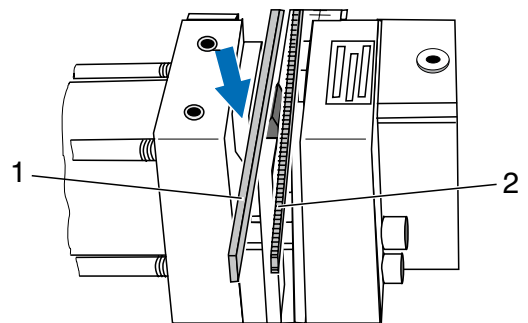
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## 1 Shortening the fittings

A detailed description on shortening of fittings is available here. This description will be referred to in these assembly instructions.

See figure: Fittings prior to punching

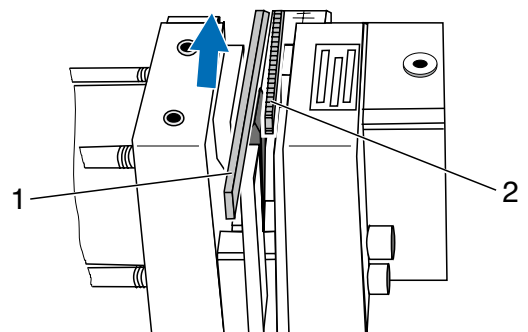
- Always insert the face plate (1) and drive rod (2) perpendicularly from the top with the face plate (1) pointing to the pressure cylinder.



Fittings prior to punching

See figure: Fittings after punching

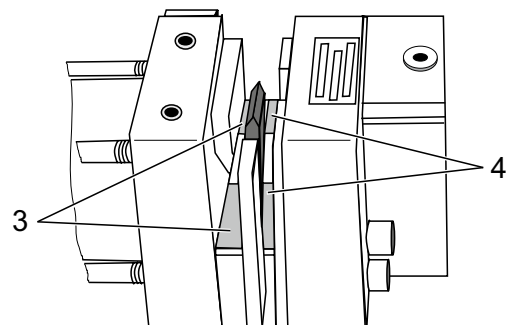
- After punching, always remove the face plate (1) and drive rod (2) perpendicularly in an upwards direction.



Fittings after punching

See figure: Cleaning the supporting surfaces

- Keep the supporting surfaces (3) and (4) clean.



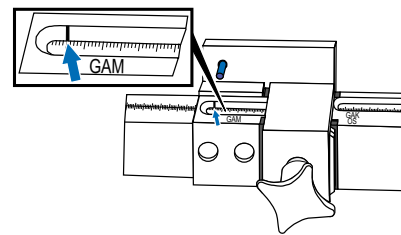
Cleaning the supporting surfaces

See figure: Marking GAM

- Adjust the measured value FFH to the GAM mark on the measuring device.



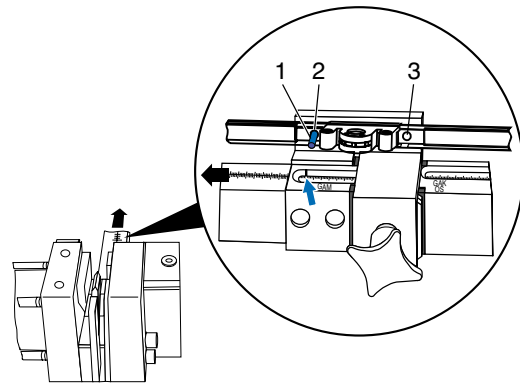
Attention! If the GAM scale is displaced by one submarking, this corresponds to a longitudinal shift of 2 mm.



Marking GAM

See figure: Position for shortening drive rod

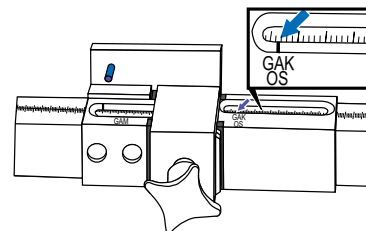
- Position the GAM drive rod at the scale; slot drill hole (2) onto bolt (1).
- Turn the GAM drive rod around, and slot the drill hole (3) onto the bolt (1), then trim the other side.
- Shorten the drive rod using the fitting punch.



Position for shortening drive rod

See figure: Markings GAK and OS

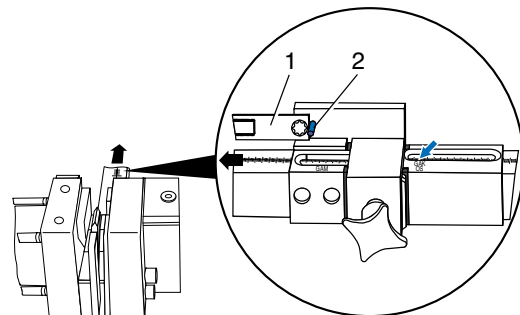
- Set the measuring value FFH (GAK/GASK) or FFH (OS) on the measuring device to the GAK/OS mark.



Markings GAK and OS

See figure: Position for shortening drive rod

- Position Drive Rod GAK (constant handle position) (1) on the bolt (2).
- Shorten the drive rod using the fitting punch.



Position for shortening drive rod

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# 1 Mounting of fittings on sash

## 2 Sliding doors duoPort PAS with activPilot central locking mechanism

Prepare the window for fitting. Then proceed as follows:



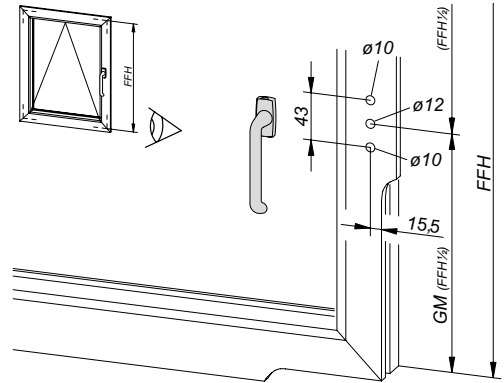
Note: The following diagrams show the design variation for a right-hand handle position (looking at the window from the inside). If you fit a left-hand model, the diagrams would be the reverse.

### 5 Handle height for drive rod GAM

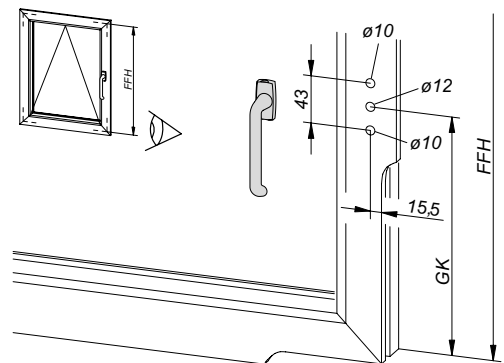
See figure: Central handle position

Determine the handle height:

If you use a GAM drive rod ... (central handle position), dimension GM is half the sash rebate height FFH.



Central handle position



Constant handle position GK

### 10 Handle height for drive rod GAK

See figure: Constant handle position GK

If you use a GAK drive rod ... (constant handle position), dimension GK changes to reflect the sash rebate height FFH. The exact dimensions are specified in the following table.

Sash rebate height FFH (mm)

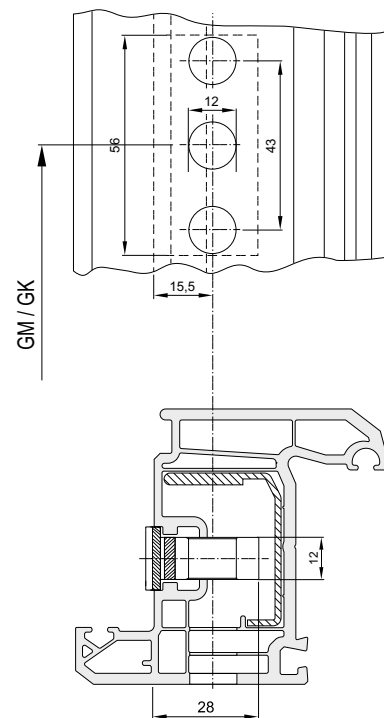
Handle position GK (mm)

Sash rebate height FFH (mm)	Drive rod	Handle position GK (mm)
650 – 710	GAK.710	GK = 210
711 – 945	GAK.945-1	GK = 260
946 – 1100	GAK.1100-1	GK = 375
1101 – 1325	GAK.1325-1	GK = 550
1326 – 1550	GAK.1550-2	GK = 550
1551 – 1775	GAK.1775-2	GK = 550
1776 – 2000	GAK.2000-2	GK = 1050
2001 – 2225	GAK.2225-2	GK = 1050

See figure: Scale drawing "Gear lock" for backset = 15.5 mm

Mill the gear housing from the rebate side.

Drill holes for gear case (ø 12 mm) as per scale drawing.



Scale drawing "Gear lock"



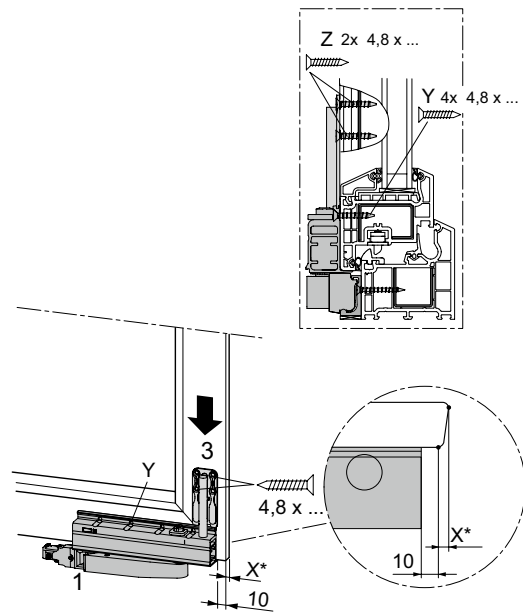
## Installing bogies

See figure: Bogie for drive side

- Insert reinforcement part (3) into the bogie (1) from above.
- Position bogie and the reinforcement section on the sash.
- Ensure that the bogie lies fully against the sash frame.
- Ensure gap of at least 10 mm between the bogie and the outer edge radius or bevel (see close-up diagram).
- Pre-drill  $\varnothing$  4.2 mm holes through the first wall.
- Screw on reinforcement section (3) with  $\varnothing$  4.8 mm screws.
- Fasten bogie (1) with 4 screws,  $\varnothing$  4.8 x ..., so it is flush with lower edge of frame.
- When choosing the screw length, you must take into account that screws will be fastened into the steel reinforcement (see Fig. 1: Z and Y).
- The measurement X\* is required when installing the guide block at a later stage.

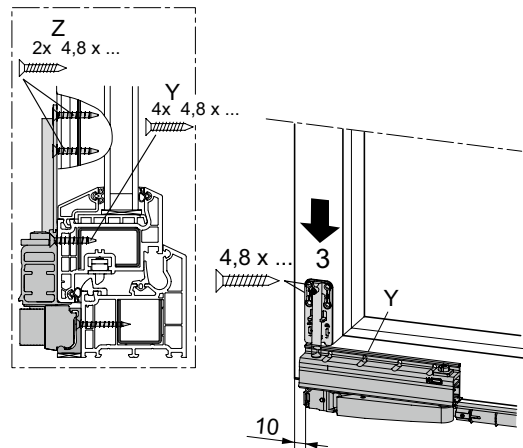


**CAUTION!** The reinforcement section must not protrude beyond the overlap radius.



Bogie for drive side

See figure: Bogie opposite the drive side



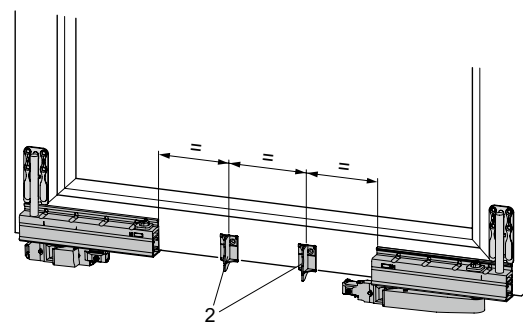
Bogie opposite the drive side

## Installing the support or supports

See figure: Supports

The number of supports (2) which should be used depends on the sash width. Position the support(s) in the centre or at equal distances between the fitted bogies and screw into place, so that it is/they are flush with the lower edge of the sash. Two screws, 4.8 x ..., are required for each support. When choosing the length of the screws, you must ensure they can be screwed into the steel reinforcement.

- You must not install any supports with sash rebate widths < 900 mm!



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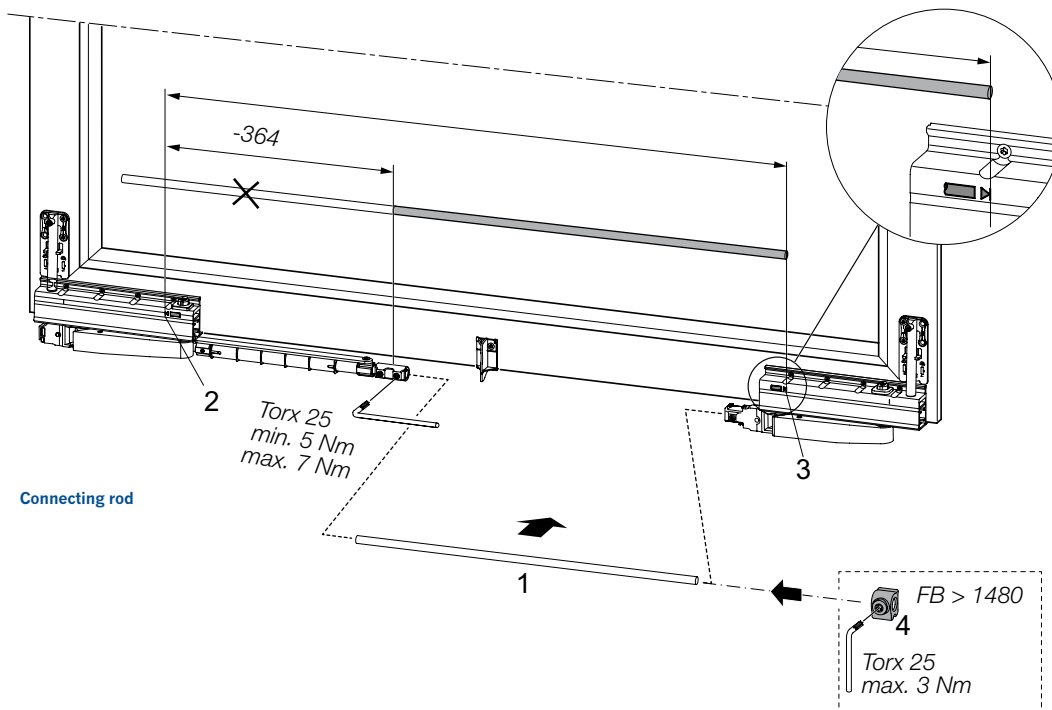
### Inserting the connecting rod

See figure: Connecting rod

- Mark length "B" on the connection rod (1) using the notch marks on the drive mechanisms (2) and (3) [minus 364 mm].
- Cut connecting rod to length and deburr.
- Insert connecting rod into the bogie (2) as far as it will go.
- Tighten locking screw. Tightening torque: 7 Nm
- Push support block (4) onto connecting rod.
- Insert the other end of the connecting rod into the bogie (3) as far as it will go.
- Disengage bogie (3) and place in the retracted position.



Note: if the sash rebate width (FFB) exceeds 1,450 mm, a support block must also be used.

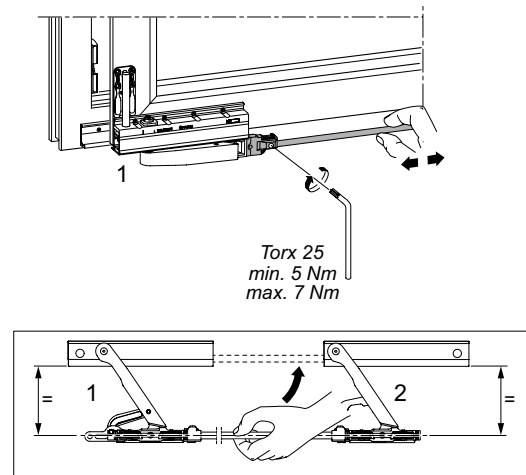


### Position drive rods so they are parallel

See figure: Connecting rod parallel position

Place the drive mechanisms in a parallel position to ensure that the sash is inserted evenly into the frame.

- Take hold of connecting rod in the middle and place in the closed position.
- Fasten the connecting rod to the drive mechanism (1) on the handle side in this position. (Torx 25; min 5 Nm, max. 7 Nm)
- Drive mechanisms (1) and (2) must also be parallel when in the open position.



Connecting rod parallel position

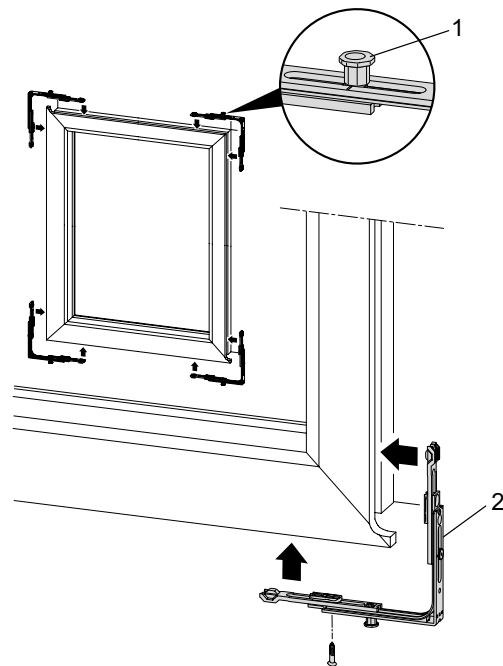
### Installing corner drives

See figure: Corner drives

- Before installing the corner drive (2), ensure that the mushroom head bolt (1) is in the central position.
- Insert corner drive (2) into the fitting groove.
- Fasten the corner drive into place with a screw.
- Fit the other corner drives in the same way.



Note: The centre position is indicated by a notch mark; see close-up diagram.

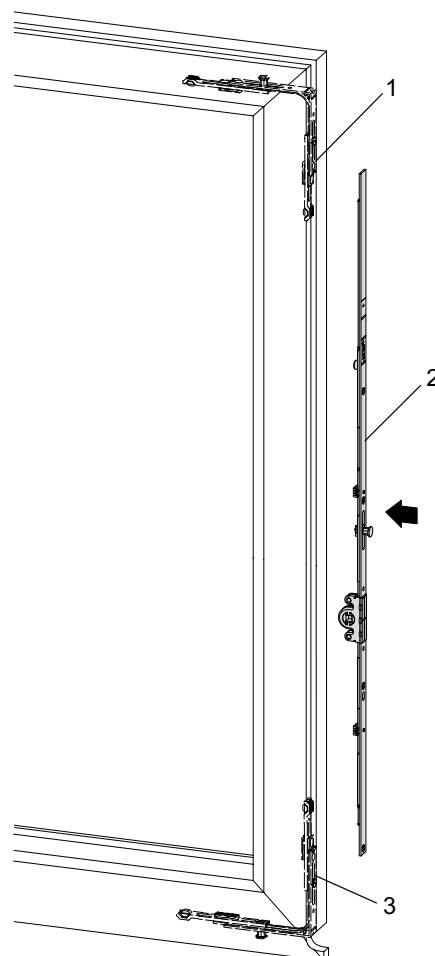


Corner drives

### Inserting the drive rod

See figure: Drive rod

- Measure the sash rebate height (FFH).
- Shorten the drive rod GAM (central handle position) or
- Cutting the Drive Rod GAK to length (constant handle position)
- Abut the drive rod (2) flush against the corner drive (3).
- Allow the teeth on the drive rod to click into position on the gear rack on the corner drive.
- Clip the drive rod into the corner drive (1) in the same way.
- Press the drive rod into the eurogroove.
- Screw the drive rod from the bottom up.



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### Installing the interlocking rod and coupling element opposite the drive side.

See figure: Interlocking rod plus coupling element (vertical)

- Only valid for sash rebate height (FFH) < 710 mm
  - Fit coupling element (4) to the corner drive (1).
  - Allow the teeth on the coupling element to click into position on the gear rack on the corner drive.
  - Press the coupling element into the eurogroove.
  - Screw on the coupling element downwards from the top.
  - Tighten the screw (3) fully to release the central fastening.

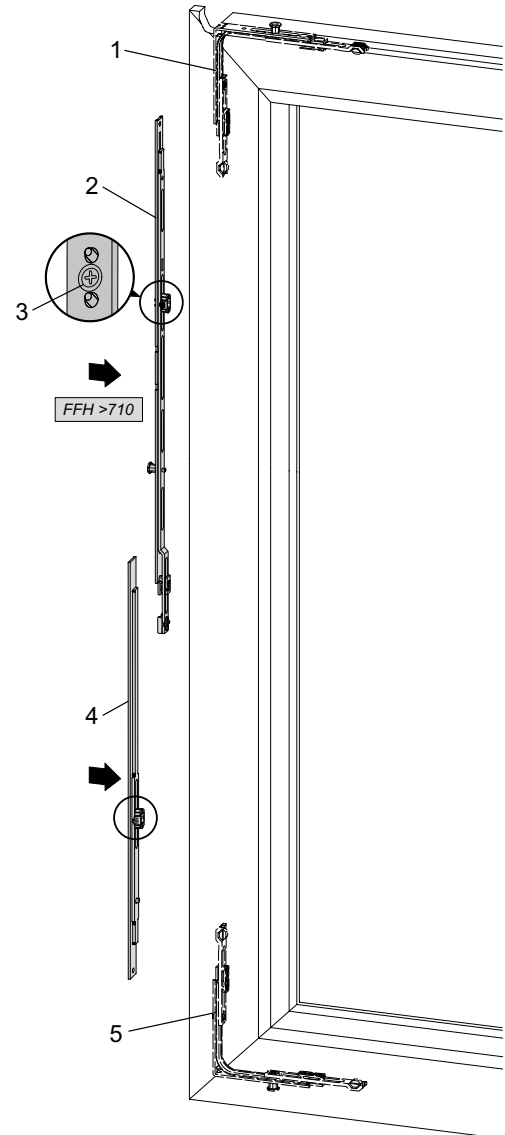


Note: If the sash rebate height (FFH) is greater than 710 mm, one or more interlocking rods must be used.

- Only valid for sash rebate height (FFH) > 710 mm
  - Abut the interlocking rod (2) flush against the corner drive (1).
  - Click the interlocking rod gears into the teeth of the corner drive.
  - Press the interlocking rod into the fitting groove.
  - Screw the interlocking rod from the top down.
  - Tighten the screw (3) fully to release the central fastening.
  - Fit coupling element (4) to the corner drive (5).
  - Allow the teeth on the coupling element to click into position on the gear rack on the corner drive.
  - Press the coupling element into the eurogroove.
  - Screw on the coupling element downwards from the top.



Attention! Damage to fittings. If the central fastening is not released, the gearing cannot be actuated. Use of force will lead to torsion of the fittings. Always insert the screw fully up to the stop.



Interlocking rod plus coupling element (vertical)

### Installing the interlocking rod and coupling element at top and bottom.

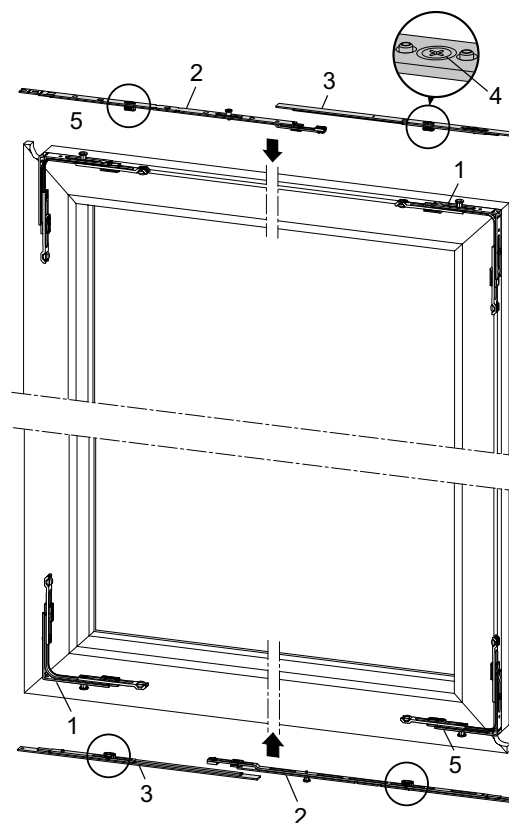
See figure: Interlocking rod plus coupling element (horizontal)

- Only valid up to a sash rebate width < 710 mm
  - Fit coupling element (3) to the corner drive (1).
  - Allow the teeth on the coupling element to click into position on the gear rack on the corner drive.
  - Press the coupling element into the eurogroove.
  - Screw on the coupling element from the drive side outwards.



Note: If the sash rebate is wider than 710 mm, one or more interlocking rods must be used.

- Only valid for sash rebate height (FFH) > 710 mm
  - Fit interlocking rod (2) to the corner drive (1) or (5).
  - Click the interlocking rod gears into the teeth of the corner drive.
  - Press the interlocking rod into the fitting groove.
  - Screw on interlocking rod from the drive side outwards.
  - Fully tighten screw (4) to release the centre fastening.
  - Fit coupling element (3) to the corner drive (1) or (5).
  - Allow the teeth on the coupling element to click into position on the gear rack on the corner drive.
  - Press the coupling element into the eurogroove.
  - Screw on the coupling element from the drive side outwards.



Interlocking rod plus coupling element (horizontal)



Attention! Check if all screws are fixed into place on the fitting parts.



Attention! Damage to fittings. If the central fastening is not released, the gearing cannot be actuated. Use of force will lead to torsion of the fittings. Always insert the screw fully up to the stop.

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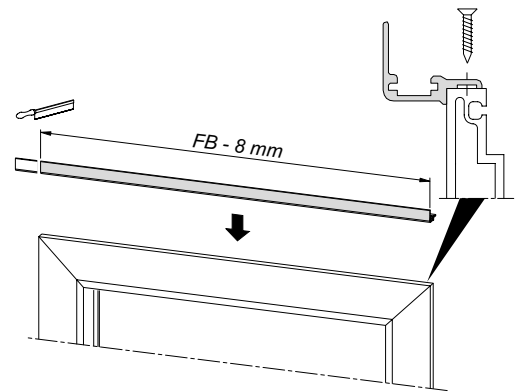
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### Installing the retaining rail

See figure: Retaining rail

- Mark length of the retaining rail (sash width FB - 8 mm).
- Cut retaining rail (1) to length.
- Fasten retaining rail (1) on the sash frame at the top using  $\varnothing$  3,9 mm screw.

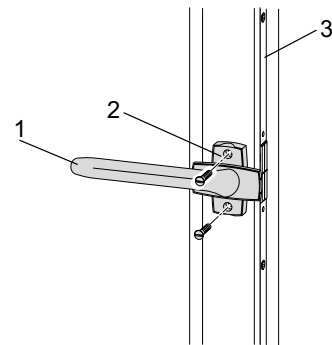


Retaining rail

### Installing the window handle

See figure: Handle set

- Turn handle (1) to 90° position.
- Position handle fitting (2) on the sash and insert it with the spindle into the drive retainer (4).
- Screw on handle set.
- Two M5 screws



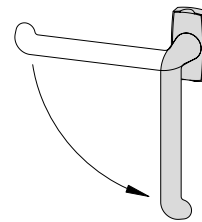
Handle set

See figure: Handle – Initial operation

- Turn handle to release the central fastening.



Note: The handle will be stiffer than normal the first time it is used. You will hear a clicking noise when you turn it.



Handle – Initial operation

# Mounting of fittings on the window frame

## Keep positions

### For duoPort PAS sliding doors with activPilot central locking mechanism

See figure: Keep positions

- Installation procedure:
  - By hand: mark positions on window frame, place keeps in position and fasten with Ø 3.9 mm glazing screws.
  - With mounting jig: see following pages.



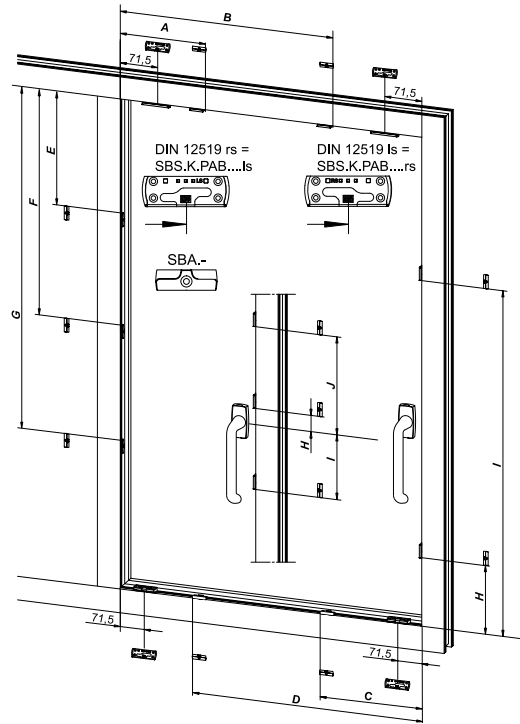
Note: The dimensions in the drawings refer to the frame rebate edge to keep profile edge or the frame rebate edge to the centre of the keep!



Note: The number of keeps varies according to the size of the window!



Caution: SBS.K.PAB...rs locking components must be used for elements featuring a “Winkhaus left-hand design” (opening towards the right). SBS.K.PAB...ls locking components must be used for elements featuring a “Winkhaus right-hand design” (opening towards the left).



Keep positions – A slide sash

FFB = Sash rebate width [mm]	Top		Bottom	
	A	B	C	D
750 – 960	230	–	230	–
961 – 1210	480	–	480	–
1211 – 1460	730	–	730	–
1461 – 1650	480	980	480	980

FFH = Sash rebate height [mm]	Drive side, central handle position		
	H	I	J
801 – 1050	127	–	–
1051 – 1400	127	223	–
1401 – 1800	–	340	260
1801 – 2300	127	520	692

FFH = Sash rebate height [mm]	Opposite drive side		
	E	F	G
710 – 960	250	–	–
961 – 1210	500	–	–
1211 – 1460	750	–	–
1461 – 1710	500	1000	–
1711 – 1960	750	1250	–
1961 – 2210	750	1500	–
2211 – 2300	500	1000	1750

FFH = Sash rebate height [mm]	Drive side, fixed handle position	
	H	I
710 – 945	385	–
946 – 1100	500	–
1101 – 1325	750	–
1326 – 1550	750	–
1551 – 1775	750	1250
1776 – 2000	750	1250
2001 – 2225	750	1500

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## Keep positions double-sash window

### For duoPort PAS sliding doors with activPilot central locking mechanism

See figure: Keep positions double-sash window

- Installation procedure:
  - By hand: mark positions on window frame, place keeps in position and fasten with Ø 3.9 mm glazing screws.
  - With mounting jig: see following pages.



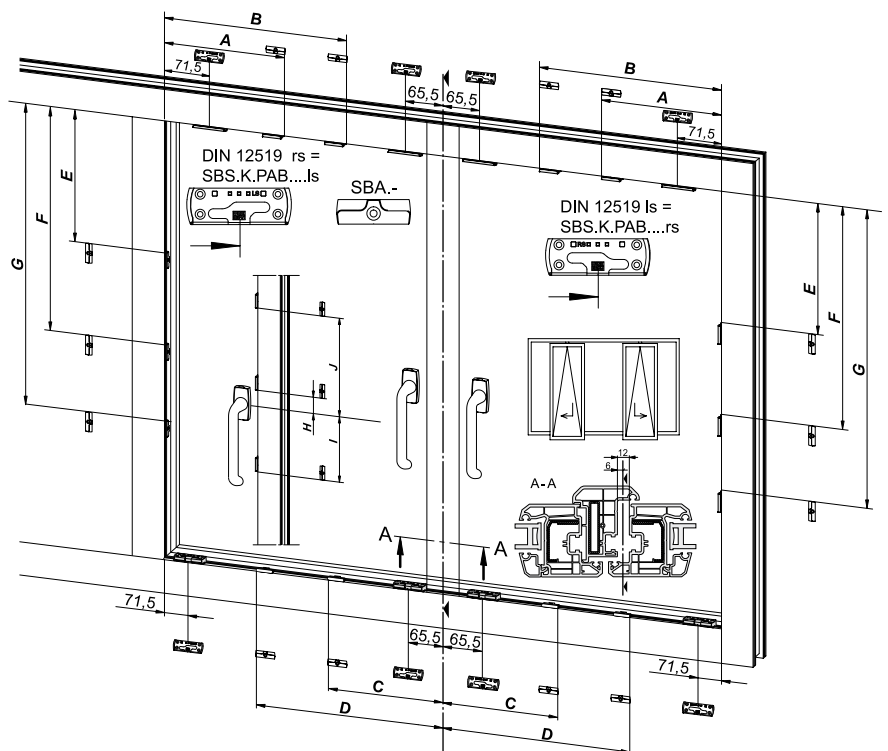
Note: The dimensions in the drawings refer to the frame rebate edge to keep profile edge or the frame rebate edge to the centre of the keep!



Caution: SBS.K.PAB...rs locking components must be used for elements featuring a “Winkhaus left-hand design” (opening towards the right). SBS.K.PAB...ls locking components must be used for elements featuring a “Winkhaus right-hand design” (opening towards the left).



Note: The number of keeps varies according to the size of the window!



#### Keep positions double-sash window

- Two slide sashes (double sash type)


Note: keep positions on the drive sides are the same as for single windows on the previous page


FFB = Sash rebate width [mm]	Top				FFH = Sash rebate height [mm]	Opposite drive side		
	A	B	C	D		E	F	G
750 – 960	230	-	224	-	710 – 960	250	-	-
961 – 1210	480	-	474	-	961 – 1210	500	-	-
1211 – 1460	730	-	724	-	1211 – 1460	750	-	-
1461 – 1650	480	980	474	974	1461 – 1710	500	1000	-
					1711 – 1960	750	1250	-
					1961 – 2210	750	1500	-
					2211 – 2300	500	1000	1750





## Sliding doors duoPort PAS with activPilot central locking mechanism

### Labelling of mounting jigs

 Horizontal attachment = red element (for top rod and interlocking rod)

 Vertical attachment = yellow element (for drive rods and interlocking rods)

 Vertical / horizontal attachment = blue element (for corner drives)

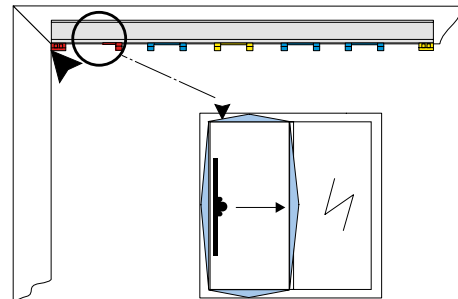
 = Keep run-in

### Keep SBS.K.PAB... top horizontal, drive side

See figure: SBS.K.PAB... top horizontal

Handling of mounting jigs is explained by reference to the LE.N.K. 710-1100 mounting jig in the following. Other mounting jigs are handled in the same way. To position keeps, place the mounting jig on the frame rebate edge.

- Align the mounting jig with the red element in the top corner.
- Place Keep SBS.K.PAB... on the red element labelled "Tilt Keep. SBK".

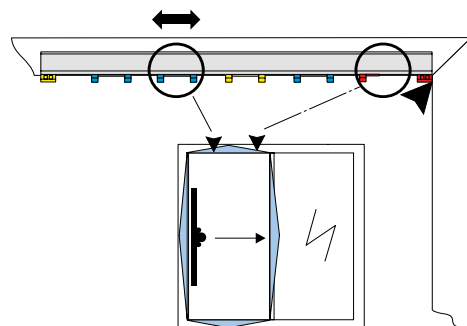


SBS.K.PAB... top horizontal

### Keeps SBS.K.PAB... and SBA.K... top horizontal, opposite drive side

See figure: SBS.K.PAB... and SBA.K... top, horizontal

- Align the mounting jig with the red element in the corner.
- Place Keep SBS.K.PAB... on the red element labelled "Tilt Keep. SBK".
- Position Keep SBA.K... on the blue element labelled ,M' or ,MK'.



SBS.K.PAB... and SBA.K... top, horizontal

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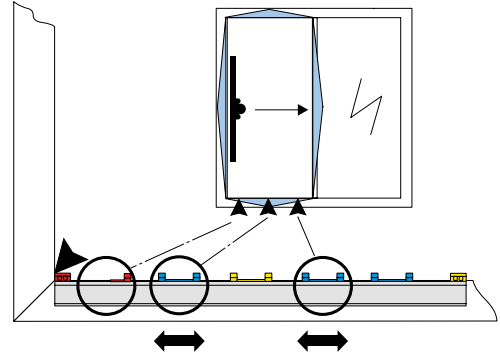
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### Keeps SBS.K.PAB... and SBA.K... bottom horizontal, drive side

See figure: SBS.K.PAB... and SBA.K... bottom horizontal

- Align the mounting jig with the red element in the lower corner.
- Place Keep SBS.K.PAB... on the red element labelled "Tilt Keep. SBK".
- Position Keep SBA.K... on the blue element labelled 'M' or 'MK'.

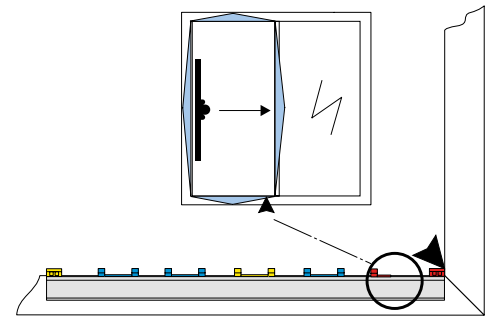


SBS.K.PAB... and SBA.K... bottom horizontal

### Keep SBA.K.PAB... bottom, horizontal, opposite drive side

See figure: SBS.K.PAB... bottom horizontal

- Align the mounting jig with the red element in the lower corner.
- Place Keep SBS.K.PAB... on the red element labelled "Tilt Keep. SBK".



SBS.K.PAB... bottom horizontal

### Keep SBA.K... for Interlocking Rod M or MK, opposite drive side

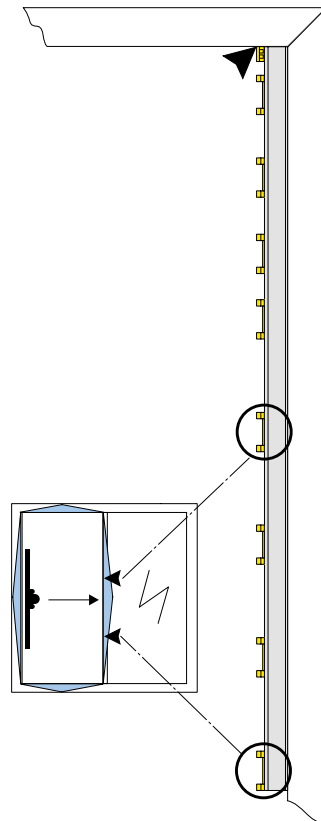
See figure: SBA.K..., top, vertical

Handling of mounting jigs is explained below, using the LE.N.K. 1551-2225 Mounting Jig as an example. Other mounting jigs are used in the same way. To position keeps, place the mounting jig on the frame rebate edge.

- Align the mounting jig with the yellow element in the top corner.
- Position Keep SBA.K... on the yellow element labelled "M." or "MK".



Note: The markings on the interlocking rod must match the marking on the yellow element.

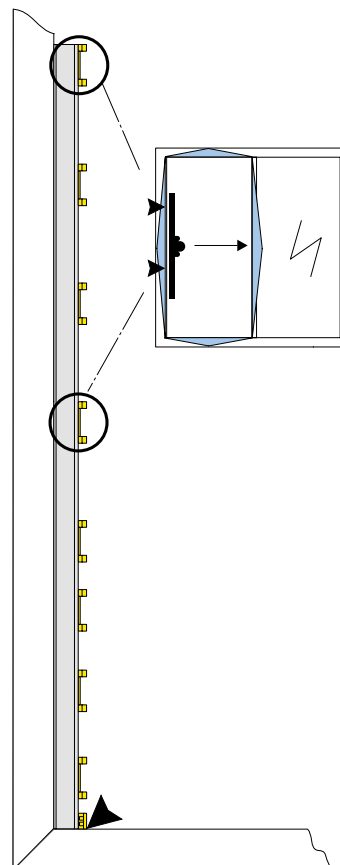


SBA.K..., top, vertical

### Keeps for GAK

See figure: SBA... for vertical GAK

- Align the mounting jig with the yellow element in the bottom corner.
- Position Keep SBA.K... using the yellow or blue elements labelled "GAK. ...".



SBA... for vertical GAK

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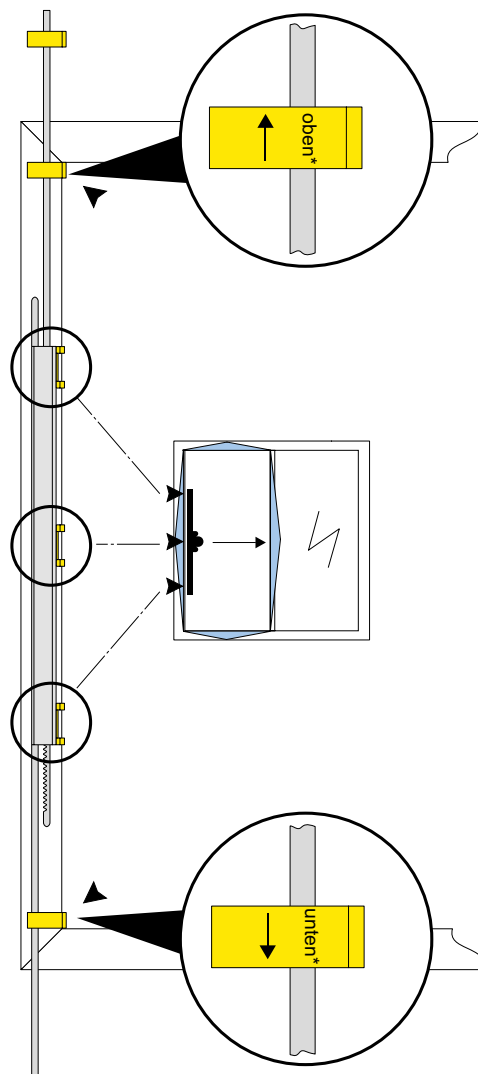
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### Keeps for GAM

See figure: SBA... for GAM, vertical

Handling of mounting jigs is explained below, using the LE.N.T. 1801-2300 Mounting Jig for Drive Rods GAM 2300-3 as an example. Other mounting jigs are used in the same way. To position keeps, place the mounting jig on the frame rebate edge.

- Attach the corresponding mounting jig labelled 'top' or 'bottom'.
- Fit keeps in line with the labelling on the mounting template.



SBA... for GAM, vertical

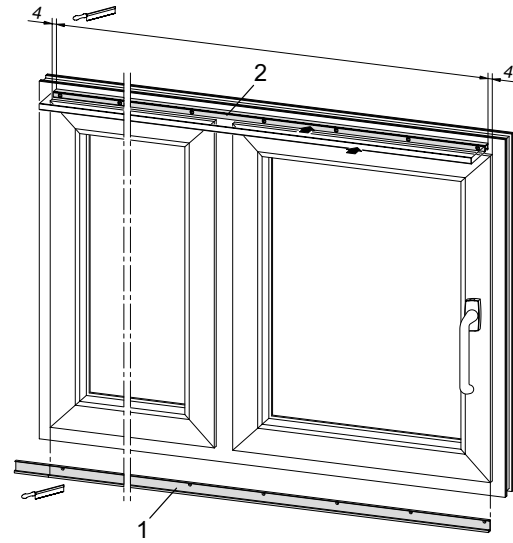
### Cutting the slide and guide rails to length

See figure: Guide rail (top) / slide rail (bottom)

- Mark length on the guide rail (1).
- Cut slide rail to length.
- Mark length on the guide rail (2).
- Cut guide rail to length.



Note: The guide rail (2) is 8 mm shorter than the slide rail (1).



Guide rail (top) / slide rail (bottom)

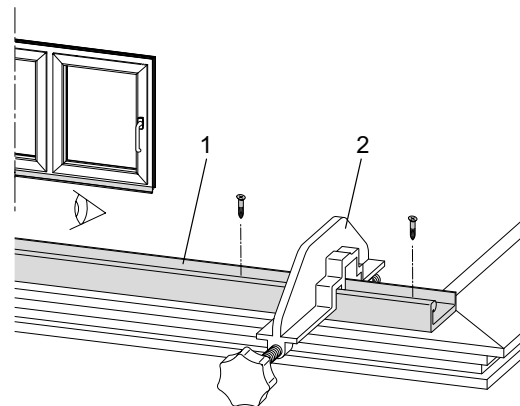
### Installing the slide rail

See figure: Mounting jig for slide rail

- Position slide rail (1)
- Pre-set mounting jig (2), measurement specifications for 12 mm sash-to-rebate clearance; see table
- Position mounting jig (2) near the first screw point.
- Drill fastening hole in the centre with a 3 mm Ø drill bit.
- Fasten slide rail (1) using Ø 3.9 mm screws.
- Attach all other screws to fasten the slide rail in the same way.
- Feed blocks or a strip (2) under the slide rail.



CAUTION! Load on the slide rail. The slide rail must be fed underneath to ensure the weight of the sash does not solely act on the slide rail.



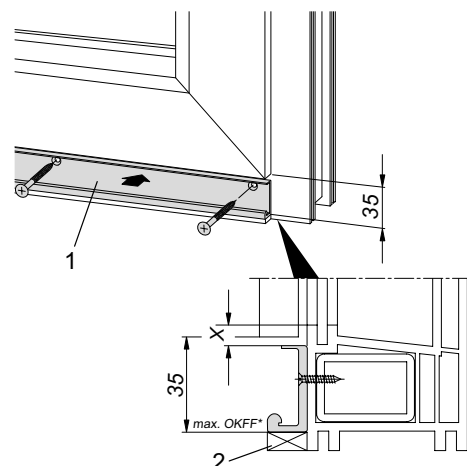
Mounting jig for slide rail

See figure: Installation drawing for slide rail

\* Max. OKFF = Finished floor level



CAUTION: Use countersunk screws with a maximum diameter of 7.5 mm.



Installation drawing for slide rail

Overlap [mm]	Measurement "X" [mm]
18	10
20	12

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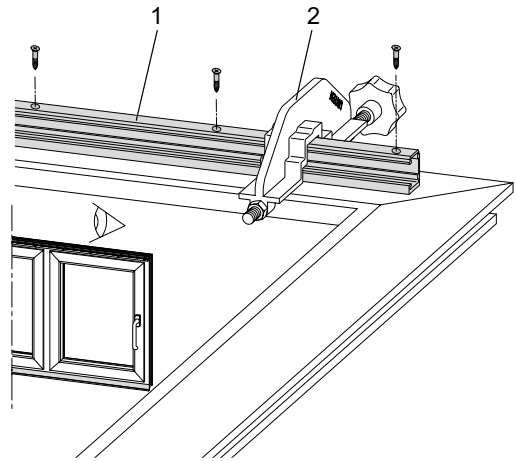
### Installing the guide rail

See figure: Mounting jig for guide rail

- Position guide rail (1) for 12 mm sash-to-frame clearance.
- Pre-set mounting jig (2) acc. to measurement '32'.
- Position mounting jig (2) near the first screw point.
- Drill fastening hole in the centre with a 3 mm Ø drill bit.
- Screw on guide rail (1) using Ø 4,0 mm screws.
- Attach all other screws to fasten the slide rail in the same way.



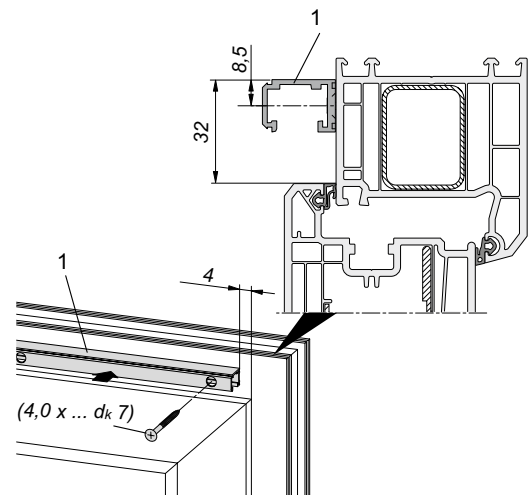
Please note: Use countersunk screws with a maximum head diameter (dk) of 7.0 mm.



Mounting jig for guide rail

### Dimensions specifications for guide rail

See figure: Guide rail Installation drawing



Guide rail Installation drawing

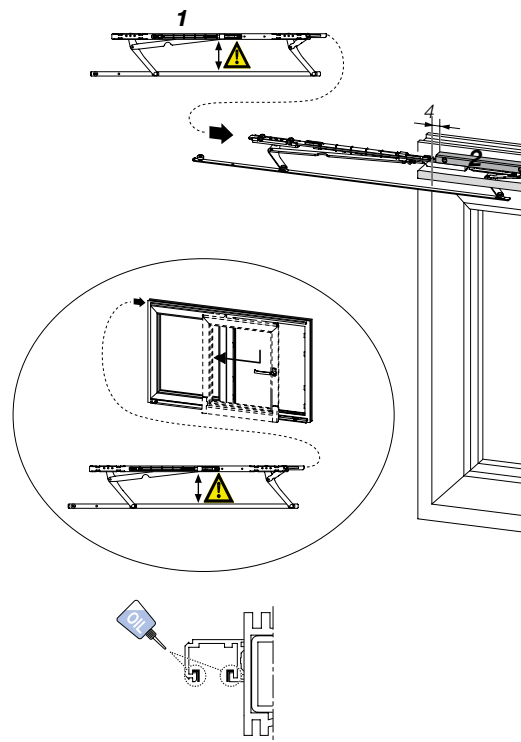
### Fitting the sash

See figure: Insert slide shear

- The gliding surfaces on the guide rail must be oiled over the entire rail length before delivery.
- Insert glide shears (1) into guide rail (2) from the side.



CAUTION: There is a risk of fingers becoming trapped when the glide shears open and close!



Insert slide shear

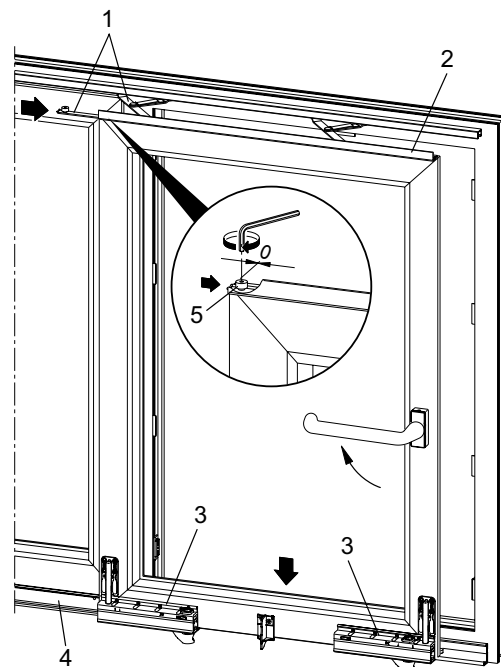
### Place sash frame on slide rail and connect to guide rail.

See figure: Fitting the sash

- Place sash with slide mechanisms (6) into slide rail (7) at an angle of about 10°.
- Place sash in vertical position.
- Place window handle in horizontal position
- Insert glide shears (1), so they are flush with retaining rail (2).
- Secure glide shear (1) with locking screw (5).
- (Tool: Torx 25; min 6 Nm, max. 10 Nm)



CAUTION! Heavy sash weight. As the sash may be heavy, there is a risk of back injury when lifting and a risk of an accident if the sash falls.



Fitting the sash

### Dismounting of the sash

- If required – Removal of the sash
  - Open sash.
  - Undo glide shears (1) using locking screw (5).
  - Push glide shears (1) out of the retaining rail (2).
  - Tilt the disengaged sash and lift from the slide rail. Open sash.
  - Undo glide shears (1) using locking screw (5).
  - Push glide shears (1) out of the retaining rail (2).
  - Tilt the disengaged sash and lift from the slide rail.

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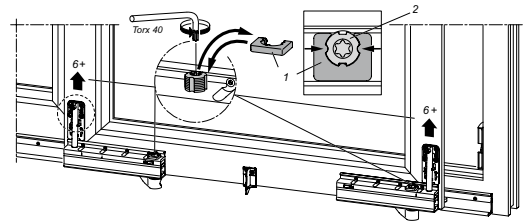
### Adjust bogies in horizontal position

See figure: Adjusting the sash

- Straighten sash after installation:

The bogies are height-adjustable, enabling the sash to be straightened horizontally and vertically after it is attached.

- Check the sash-to-frame clearance on both sides of the sash.
- Then remove the anti-rotation securing device (1) and raise the drive mechanism(s) using the adjustment screw (2) until the sash is aligned.
- Then replace the anti-rotation securing device on the adjustment screws.
- Then install the guide block (see "Installing the guide block")



Adjusting the sash

### Position reinforcement parts

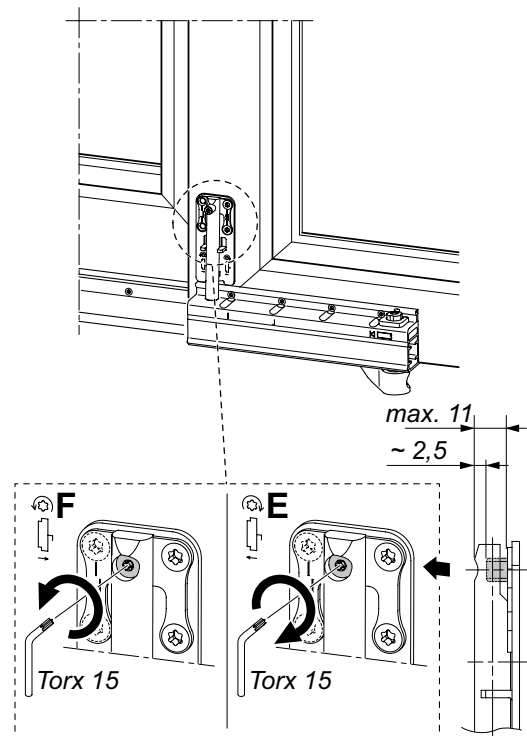
See figure: Position reinforcement parts

The reinforcement parts feature an adjustable design to optimise sash insertion into the frame.

- Rotation Direction E: makes sliding in easier
- Rotation Direction F: makes sliding out easier



Important note: The two reinforcement components should only be moved steadily from their home position in Direction E. If they are moved forcefully, the drive mechanisms may scrape, depending on the profile and sash weight. If they should scrape, the adjustment screws should be rotated in Direction F again to ensure the components run smoothly.



Position reinforcement parts



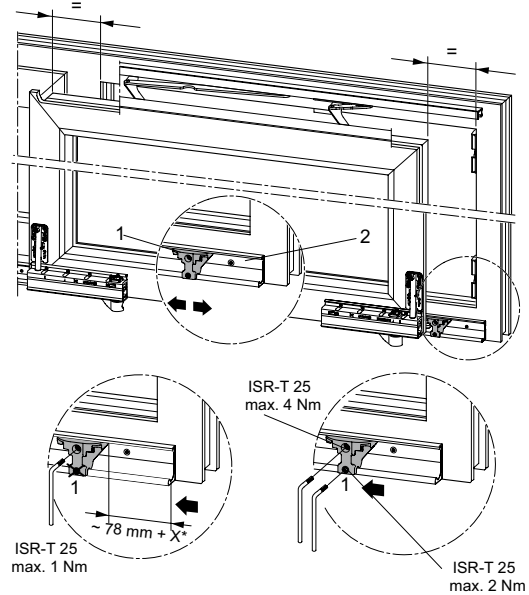
### Installing the guide block at the bottom

See figure: Installing the guide block at the bottom

- Position the guide block (1) on the handle side, about 78 mm + X\* from the end of the guide rail (2).
- (X\* = you will find information on defining the X measurement in "Installing the drive mechanisms, Figure 4: drive mechanism for drive side")
- Gently tighten using the top screw (ISR-T 25, max. 1 Nm)
- Place sash in slide position (touching the guide block) and check sash-to-frame clearance on both sides (12mm).
- Re-position the guide block if necessary.
- Tighten top screw on the guide block (ISR-T 25, max. 4 Nm)
- Firmly tighten lower screw on the guide block (ISR-T 25, max. 2 Nm).



Note: The guide block position for Scheme C differs from the given information. Please request additional information.



### Installing the guide block at the bottom

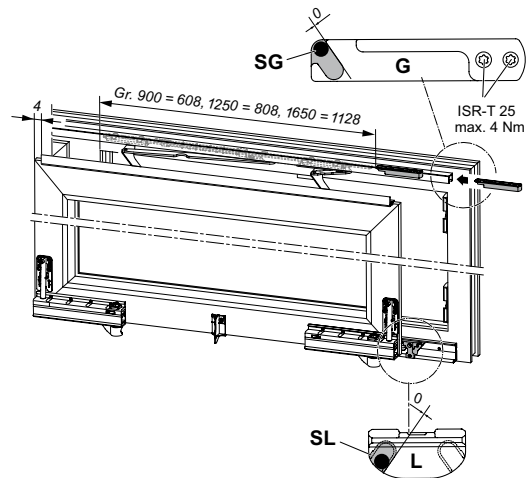
### Installing the guide block at the top

See figure: Installing the guide block at the top. The dimensions are based on the following dimensions and designs:

- Airgap 12 mm
  - Overlap 20 mm wide
  - Correctly positioned retaining rail (4 mm from the sash edge)
  - SET SK.GS.PA.900; SET SK.GS.PA.1250; SET SK.GS.PA.1650
- Push sash onto lower guide block (L) as far as the control pin (SL) on the slide mechanism with controls (on handle side) touches the profile but is NOT yet inserted.
  - Insert the top guide block (G) into the guide rail until the slide rail control pin (SG) is reached.
  - Gently tighten the guide block screws (ISR-T 25)
  - Place sash in the closed position and check sash-to-frame clearance on both sides (12mm).
  - Re-position the guide block if necessary.
  - Tighten both screws on the guide block (ISR-T 25, max. 4 Nm).



Alternatively, the position of the top guide block can also be measured according to the dimensions in the diagram on the right-hand side.



### Installing the guide block at the top

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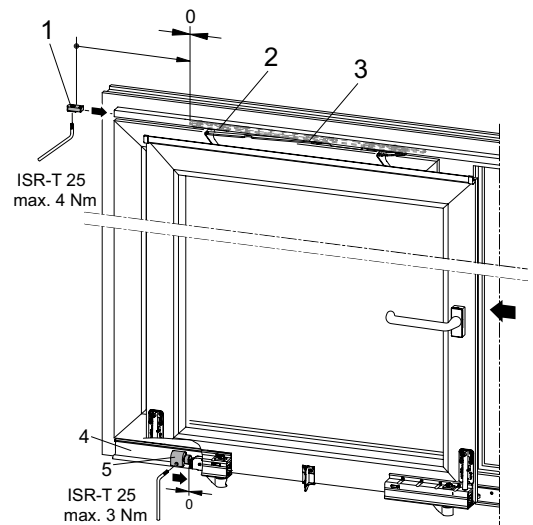
## Installing the stoppers

See figure: Stoppers

- Insert stopper (5) into slide rail (4) below and fasten according to the required sash opening width.
- Open sash and slide into the end position and against the stopper (5).
- Insert stopper (1) into the guide rail (3) and push against the slider (2).
- Screw stopper (1) firmly into position.
- Tightening torque: 4 Nm



Important note: Damage may be caused if the sash does not move towards the bottom and top stop positions at the same time! The end stops are designed to restrict opening and must not be used to stop the sliding sash abruptly.



Stoppers

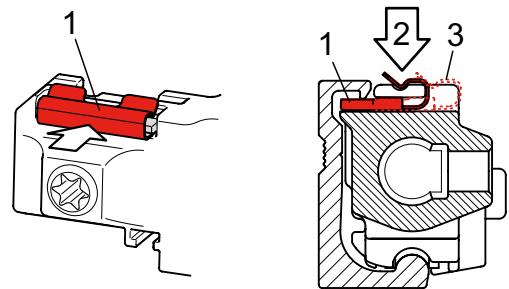
## Attach bogie securing device

See figure: Bogie securing device

- The bogie securing device must be fitted before the sash is put into operation.
- To do so, slide the bogie securing device (1) back until it clicks into the end position (2).



Important: If the bogie securing device is not engaged or not engaged correctly in the position shown in the diagram, the window sash is not adequately secured (3). This may cause serious injury.

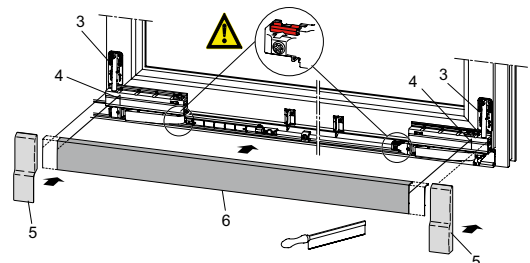
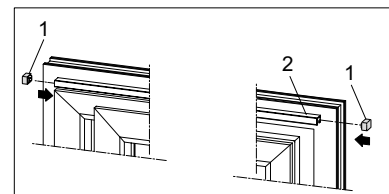


Bogie securing device

## Attaching the covers

See figure: Covers

- Attach a cover cap (1) to either side of the guide rail (2).
- Mark length of the cover profile (6) using the notch marks on the bogies (4).
- (- 0 mm / + 2 mm)
- Cut cover profile to length and click into position.
- Attach a cover cap (5) to either side of the reinforcement sections (3).



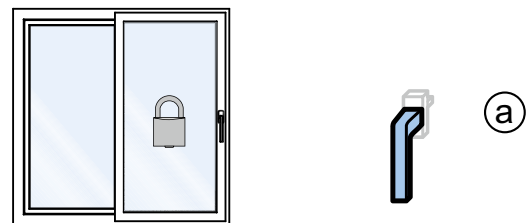
Covers

## Handle positions

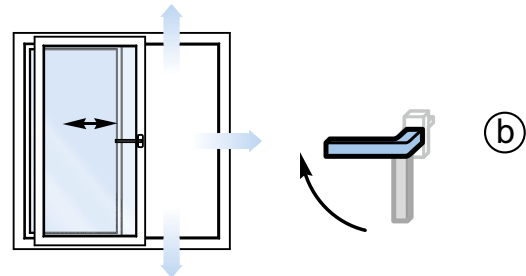
### duoPort PAS sliding doors with activPilot central locking mechanism

See figure: Handle positions

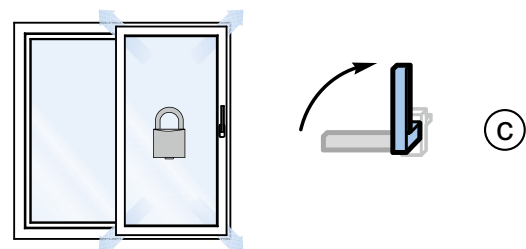
a Locking position



b Slide setting



c Ventilation position



Handle positions

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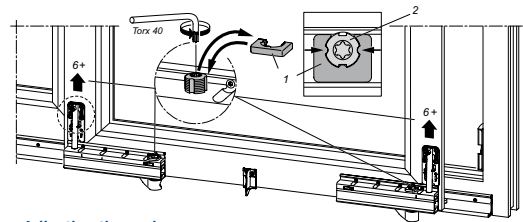
# 1 Adjustment

## Optimising the basic settings on duoPort PAS Slide Fittings

### Adjust bogies in horizontal position

See figure: Adjusting the sash

- Check the sash-to-frame clearance on both sides of the sash.
- Then remove the anti-rotation securing device (1) and raise the drive mechanism(s) using the adjustment screw (2) until the sash is aligned.
- Then replace the anti-rotation securing device on the adjustment screws.



Adjusting the sash



The bogies are height-adjustable, enabling the sash to be straightened horizontally and vertically after it is attached.

### Position reinforcement parts

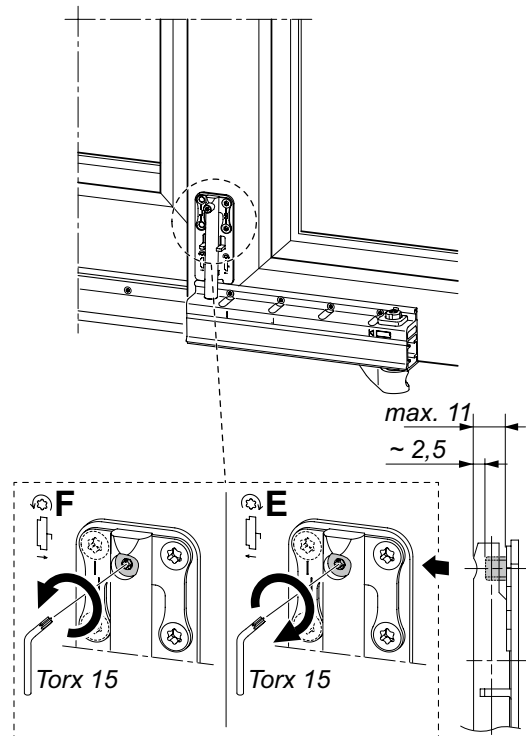
See figure: Position reinforcement parts

The reinforcement parts feature an adjustable design to optimise sash insertion into the frame.

- Rotation Direction E: makes sliding in easier
- Rotation Direction F: makes sliding out easier



Important note: The two reinforcement components should only be moved steadily from their home position in Direction E. If they are moved forcefully, the drive mechanisms may scrape, depending on the profile and sash weight. If they should scrape, the adjustment screws should be rotated in Direction F again to ensure the components run smoothly.

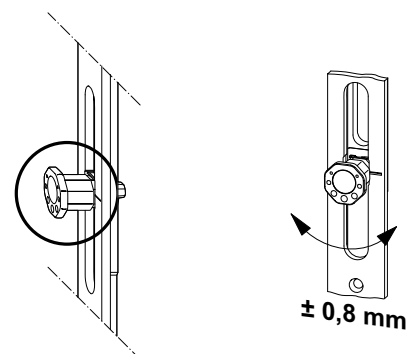


Position reinforcement parts

### Octagonal bolt

See figure: Contact pressure adjustment

Regulate the contact pressure between the sash and the frame (+/- 0.8 mm) by turning the octagonal bolt. The adjustment can be carried by means of the Winkhaus adjustment key.



Contact pressure adjustment

# Maintenance

## Lubrication points on the slide fitting

### duoPort PAS with activPilot central locking mechanism

#### Overview of lubrication points

See figure: Overview of lubrication points

Security-relevant fitting parts are to be inspected at least once a year to check for wear and to ensure they are firmly secured in position. Fastening screws must be tightened and faulty components must be replaced as required. The following servicing work must also be carried out at least once a year.



Please note: The fitting schematic shown adjacent does not necessarily match the existing fitting. The number of locking positions will vary depending on size and type of the window sash.



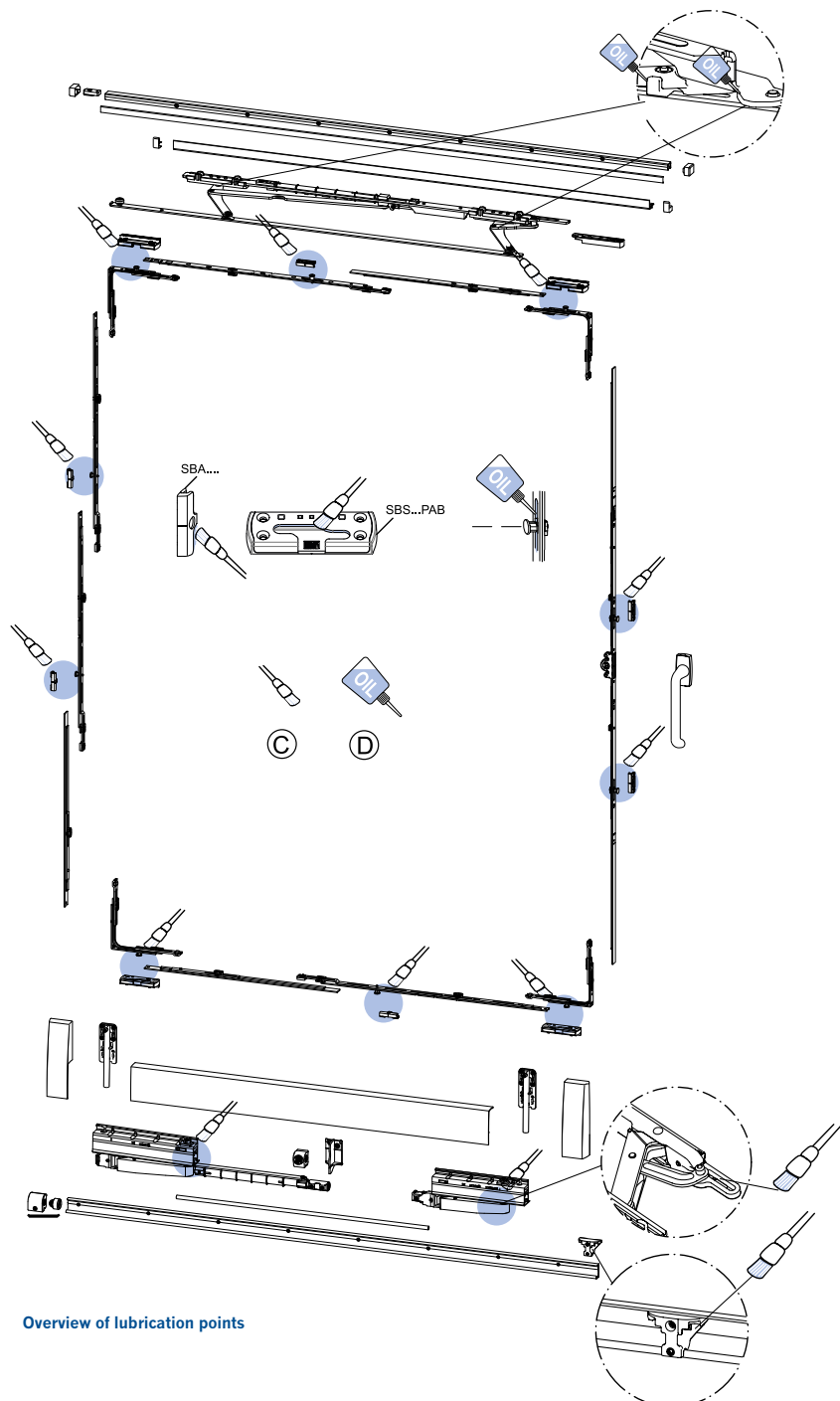
Lubricate the keeps (C) at the run-in side with technical Vaseline or any other suitable grease.



Coat the running surfaces of the locking bolts (D) with an oil that is free of resins and acids.



Attention! Risk of injury. The window could fall on removal and thus injure persons. Do not remove the window for maintenance.



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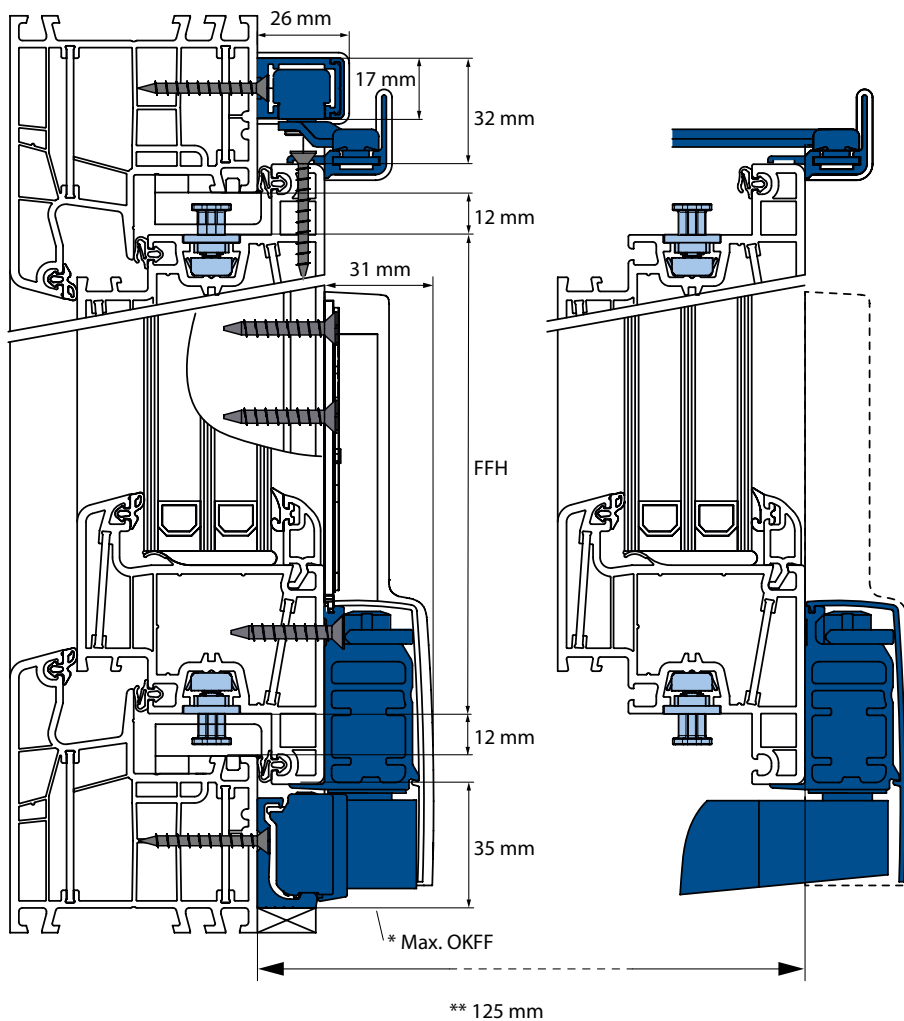
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# 1 Installation drawings

## 2 Cross sections

### 3 duoPort PAS with activPilot central locking mechanism

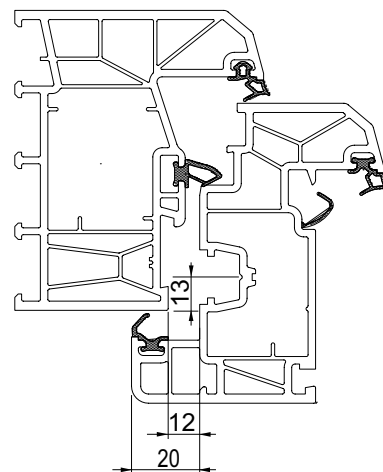


### 4 Standard profile dimensions

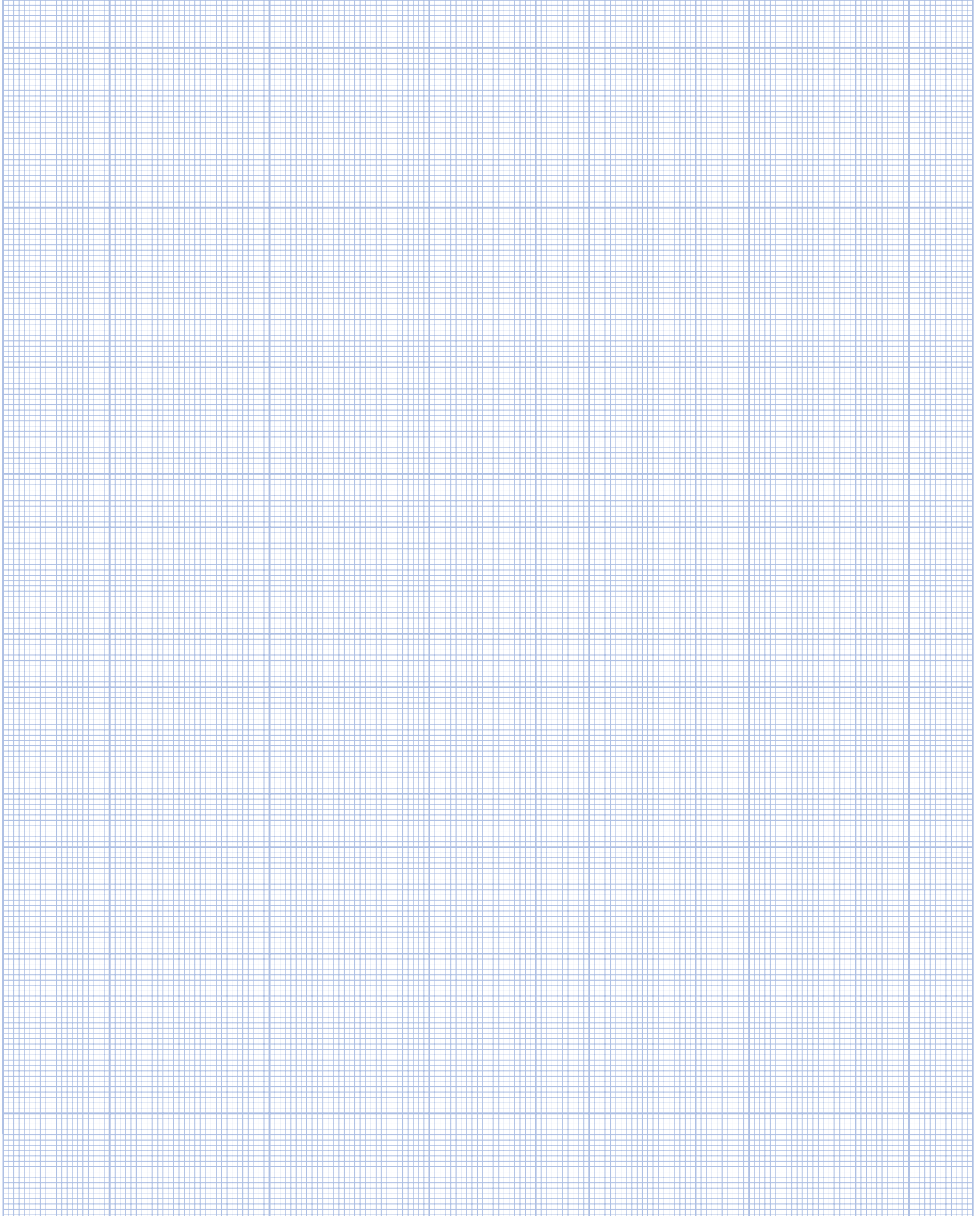
See figure: Profile cross-section

The fitting can be used on PVC-U windows with a standard euro-groove.

- Airgap 12 mm
- Overlap 20 mm
- Groove centre position 13 mm
- Frame rebate depth min. 29 mm



# Notes



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