

WINDOWS

Manual ventilation systems

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OVERVIEW

	Manual fanlight openers				Hardware system
	OL 90 N	OL 95	OL 90 N top-hung out- ward opening	OL 320	F 1200
WINDOW SHAPE					
Rectangular windows	●	●	●	●	●
Bespoke angular window	●	●		●	
Triangular window	●	●			
Semicircular arched window	●				
Segmental arch window	●				
TYPE OF OPENING					
Inward opening	●	●		●	●
Outward opening			●		
PROFILE MATERIAL					
Wood	●	●	●	●	
Plastic	●	●	●	●	
Aluminium	●	●	●	●	●
SYSTEM LIMITS*					
Opening width (max.)	170 mm	220 mm	170 mm	320 mm	180 mm
Leaf weight (max.)	80 kg	60 kg	80 kg	250 kg	200 kg
Leaf width (min.) (e.g. for rectangular window)	380 mm	440 mm	400 mm	680 mm	750 mm
Leaf height (min.) (e.g. for rectangular window)	250 mm	350 mm	370 mm	400 mm	750 mm

● = yes

* = The maximum system limits depend on the window shape, panel weight, leaf weight, and the number of scissors.

APPLICATIONS / COMBINATIONS OL 90 N

	Scissors	Scissors with unhinging inhibitor	Scissors with sliding leaf bracket	Hand lever with corner transmission	Hand lever with bendable corner transmission	Crank	Fz 90 corner operating gear left	Fz 90 corner operating gear right	Fz 91 vertical gear with corner transmission	Fz 92 gear
	●			●						
	●					●	1	●		
	●					●			●	
	●					●				
		●		●						
		●				●	1	●		
		●				●			●	
		●				●				
		●				●				
			●			●				
			●			●				2

1 = Selection for DIN left, shown in mirror image | 2 = Can be used on the right or left

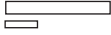
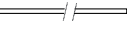
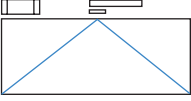
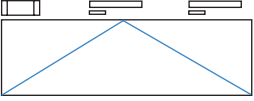
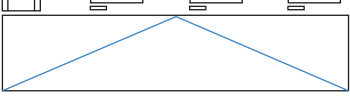
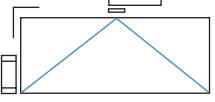
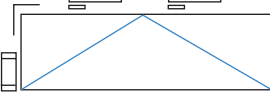
APPLICATIONS / COMBINATIONS OL 90 N WITH E 212 ELECTRIC DRIVE¹⁾

	Leaf width	OL 90 N scissors	Rod Ø 8 mm	Rod coupling	Cover profile	Corner transmission	E 212 electric drive
Illustrations for DIN left, DIN right mirror image		1 2 3	2 m* 3 m*		2 m* 3 m*		
	600 to 1200 mm	•	•	•	•		•
	1201 to 2400 mm	•	•	•	•		•
	1600 to 3600 mm		•	•	•		•
	380 to 1200 mm	•	•	•	•	•	•
	900 to 2400 mm	•	•	•	•	•	•
	1300 to 2400 mm	•	•	•	•	•	•

* = For other lengths, see price list

1 | Information on the E 212 drive can be found in the brochure **Electrical smoke and heat extraction and ventilation systems**.

APPLICATIONS / COMBINATIONS OL 320 WITH E 212 ELECTRIC DRIVE¹⁾

	Leaf width	OL 320 scissors with sliding leaf bracket	Rod Ø 12 mm	Rod coupling	Cover profile	End cover	Corner transmission	Coupling	E 212 electric drive
Illustrations for DIN left, DIN right mirror image									
		1 2 3	2 m* 3 m*		2 m* 3 m*				
	890 to 1340 mm	•	•		•	•		•	•
	1341 to 2400 mm	•	•		•	•		•	•
	2401 to 3600 mm		•	•	•	•		•	•
	680 to 1200 mm	•	•		•	•	•	•	•
	1201 to 2400 mm	•	•		•	•	•	•	•

* = For other lengths, see price list

1) Information on the E 212 drive can be found in the brochure **Electrical smoke and heat extraction and ventilation systems**.





WINDOWS

Manual fanlight openers

With a single motion, manual fanlight openers provide fresh air. So natural ventilation is simple and effective, even when the main window is closed. Fanlight windows make rooms brighter. GEZE fanlight openers open fanlights with large opening widths: window technology that is easy to operate and assemble. We offer mechanical fanlight systems for inward opening bottom-hung leaves and outward opening top-hung leaves. We also have fanlight openers for bespoke angular, triangular, round and segmental arch windows.



OL 90 N



Surface-mounted fanlight opener with an opening width of 170 mm

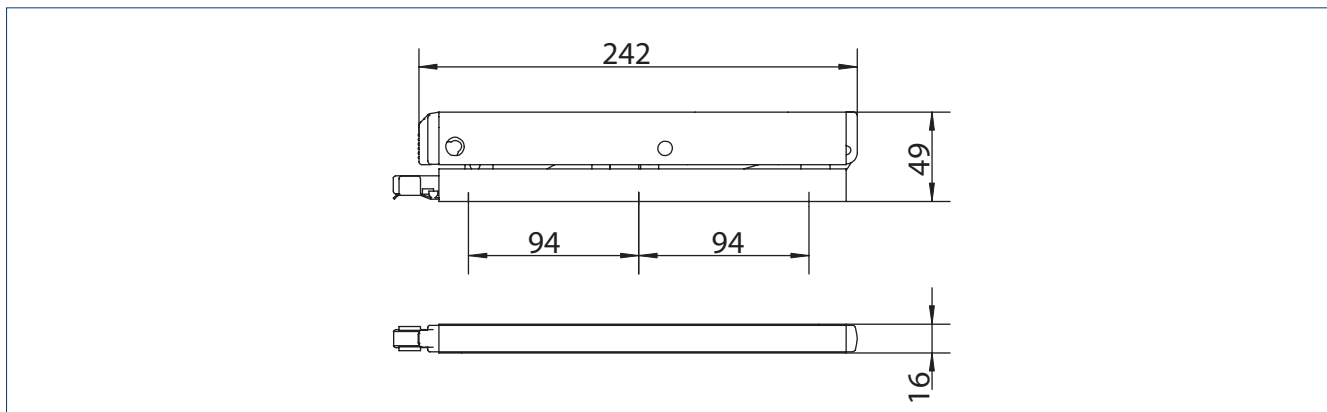
AREAS OF APPLICATION

- Convenient daily ventilation for rooms and staircases
- Inward opening bottom-hung windows
- Can be used with special shapes such as bespoke angular, triangular, round and segmental arch windows
- Individually adjustable for different areas of application (mullion-frame transmissions and reveal transmissions etc.)
- Linking and operation of multiple windows via corner bracket transmission
- Automation using E 212 electric linear drive
- Installation on wooden, PVC or aluminium windows
- Frame installation

PRODUCT FEATURES

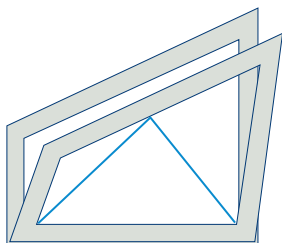
- Achieves the full opening width of 170 mm for all leaf heights
- The opening width can be adjusted
- Little space necessary thanks to flat design of the scissors
- Integrated leaf locking mechanism in the scissors ensures secure locking
- Unhinging inhibitor and lockable hand lever provide additional safety
- Couplings and additional locking mechanisms increase safety and tightness
- Simple scissor hooking and unhooking using a release button enables window cleaning from the inside and outside
- Completely pre-mounted assembly groups facilitate installation

PRODUCT SCALE DRAWING

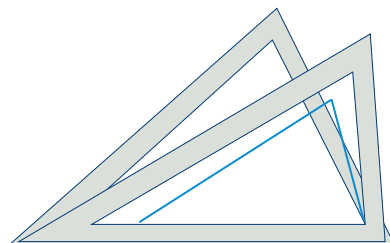


SPECIAL WINDOW SHAPES

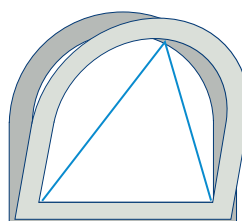
BESPOKE ANGULAR



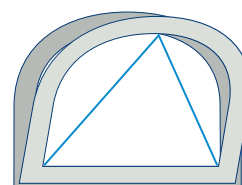
TRIANGULAR



SEMICIRCULAR ARCH

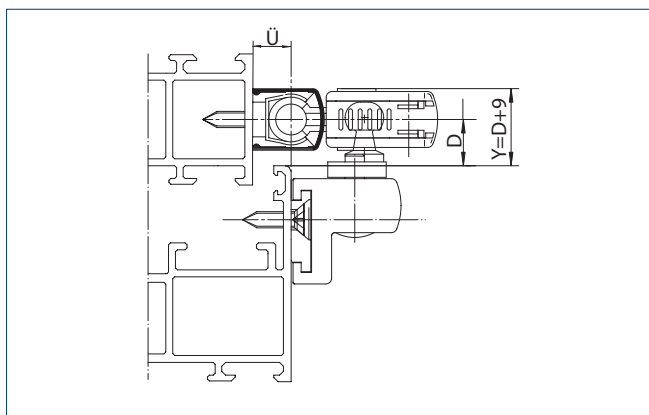


SEGMENTAL ARCH

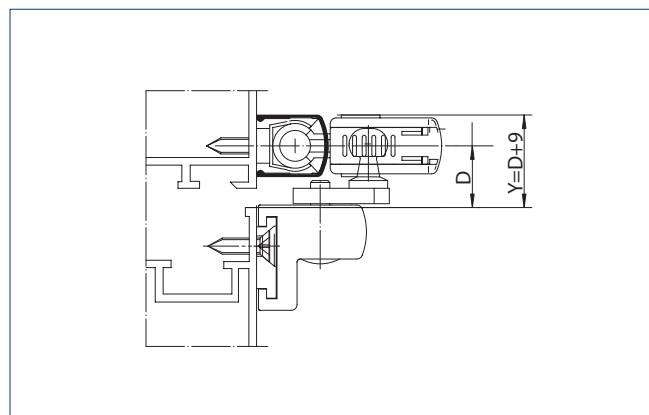


CROSS-SECTIONS IN PROFILE

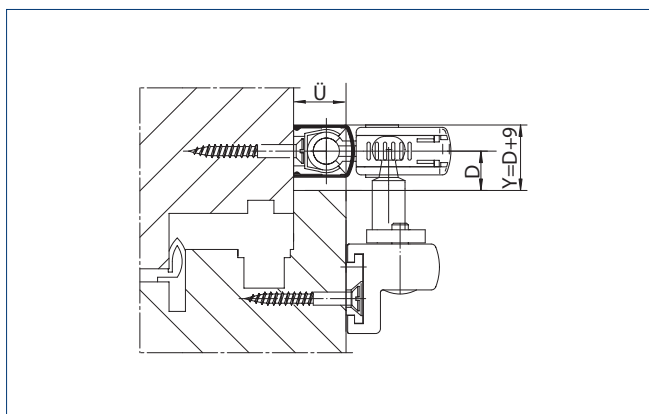
OL 90 N ON ALUMINIUM WINDOW WITH OVERLAP



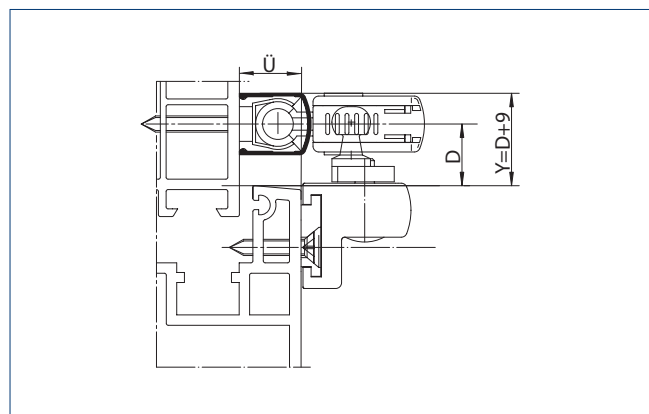
OL 90 N FLUSH-MOUNTED ON ALUMINIUM WINDOW



OL 90 N ON WOODEN WINDOWS WITH EURO-GROOVE



OL 90 N ON PVC WINDOW



D = Distance from outer edge of window leaf to centre of link arm | Y = Upper space requirement | Ü = Overlap height
Illustrations show the area of application for the leaf block variants.

OL 90 N FOR RECTANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 90 N scissors
- 2 Standard leaf bracket with short mounting plate
- 3 Standard corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
(rod guides are needed as from a rod length of 600 mm)
- 6 Hand lever

TECHNICAL DATA**OL 90 N for rectangular windows**

Opening width (max.)	170 mm
Leaf width a (min.)	380 mm
Leaf height b (min.)	250 mm
Leaf weight (max.)	80 kg
Fitting stroke	54 mm

Dimensions of the scissors

Length	242 mm
Depth	49 mm
Height	16 mm

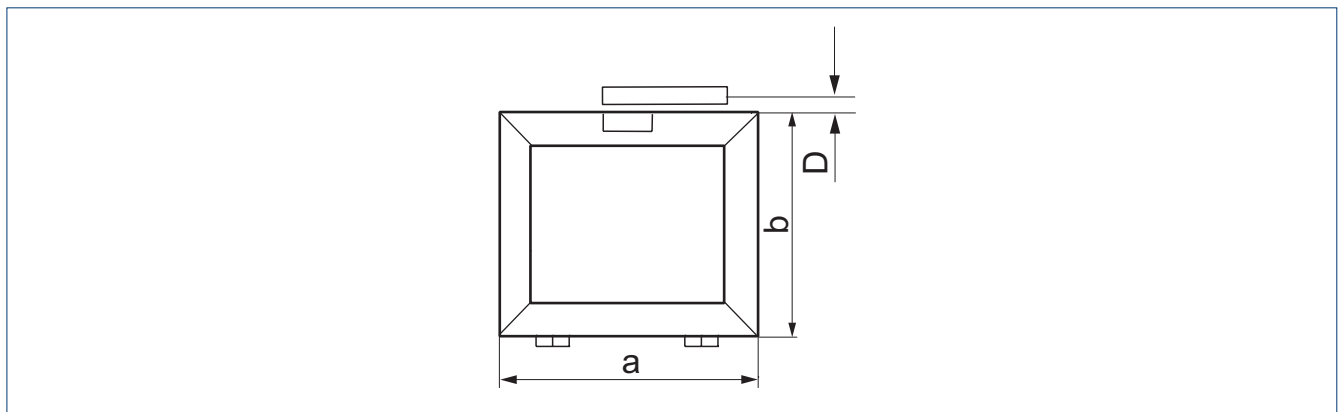
FUNCTIONS

Adjustable opening width (stroke reduction)**	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Burglar-resistant locking mechanism (SKG-certified)*	●
Lockable	●
Unhinging inhibitor	●

● = Yes

* = In conjunction with the coupling and the concealed locking mechanism on site

** = By means of stroke limiter

INSTALLATION DRAWING FOR RECTANGULAR WINDOW**APPLICATION LIMITS**

Number of scissors	Leaf width a (min.)	Leaf width a (max.)	Leaf height b (min.)	Leaf weight (max.)	Panel weight (max.)
1	380 mm	1200 mm			40 kg/m ²
2	1201 mm ¹	2400 mm	250 mm	80 kg	30 kg/m ²
3	2401 mm ²	3600 mm			25 kg/m ²

1 = possible from leaf width a = 900 mm depending on the distance between the scissors | 2 = possible from leaf width a = 1300 mm depending on the distance between the scissors

SETTING DIMENSIONS AND SPACE NEEDED

Leaf height b (min.)	Leaf height b (max.)	Setting dimension D (min.) at top *	Space requirement Y at top
250 mm	300 mm	16 – 18 mm	
301 mm	400 mm	14 – 18 mm	
401 mm	500 mm	12 – 18 mm	
501 mm		10 – 18 mm	

D(min) + 9 mm

* = When using an additional locking mechanism, a D dimension of 16 mm is needed.

OL 90 N FOR BESPOKE ANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 90 N scissors
- 2 Sliding leaf bracket with long mounting plate
- 3 Bendable corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
(rod guides are needed as from a rod length of 600 mm)
- 6 Hand lever

TECHNICAL DATA**OL 90 N for bespoke angular windows**

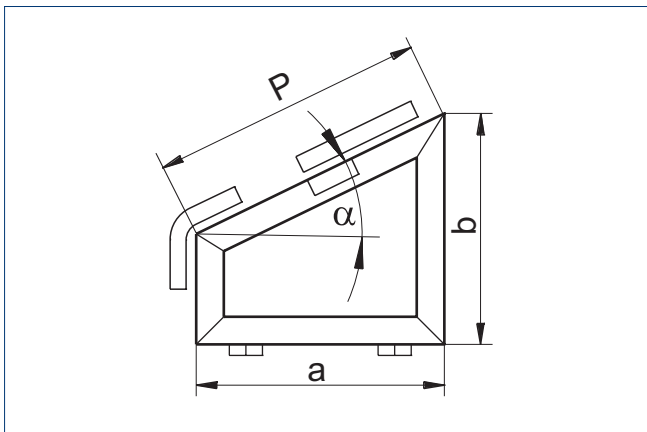
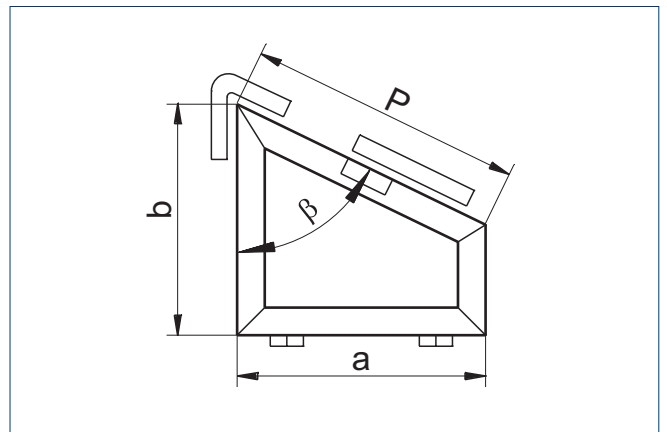
Opening width (max.)	170 mm
Leaf width a (min.) depends on the window's angle of inclination	270 mm
Leaf height b (min.) depends on the window's angle of inclination	400 mm
Leaf weight (max.)	80 kg
Fitting stroke	54 mm
Dimensions of the scissors	
Length	242 mm
Depth	49 mm
Height	16 mm

FUNCTIONS

Adjustable opening width (stroke reduction)*	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Burglar-resistant locking mechanism (SKG-certified)	–
Lockable	●
Unhinging inhibitor	●

● = Yes

* = by means of stroke limiter

INSTALLATION DRAWING FOR BESPOKE ANGULAR WINDOW**BESPOKE ANGULAR WINDOW, $\alpha < 60^\circ$** **BESPOKE ANGULAR WINDOW, SPECIAL CASE, $\beta > 60^\circ$** **APPLICATION LIMITS**

Angle of inclination	Leaf width a (min.)	Leaf height b (min.)	Leaf weight (max.)	Panel weight (max.)	Leg length P
$\alpha \leq 30^\circ$	420 mm	400 mm	80 kg	30 kg/m ²	420 – 2000 mm
$\alpha = 30^\circ - 40^\circ$	360 mm	550 mm			
$\alpha = 40^\circ - 50^\circ$	320 mm	650 mm			
$\alpha = 50^\circ - 60^\circ$	270 mm	750 mm			

SPECIAL CASE

$\beta \geq 60^\circ$	420 mm	600 mm	40 kg	25 kg/m ²	420 – 1000 mm
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SETTING DIMENSIONS AND SPACE NEEDED

	Setting dimension D (min.) at top	Space requirement X at side	Setting dimension D (min.) at side	Space requirement Y at top
Additional locking mechanism	10 – 18 mm	D(min) + 10 mm	–	D(min) + 9 mm
Hand lever	16 mm		10 mm	

OL 90 N FOR TRIANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 90 N scissors
- 2 Sliding leaf bracket with long mounting plate
- 3 Bendable corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
(rod guides are needed as from a rod length of 600 mm)
- 6 Hand lever

TECHNICAL DATA**OL 90 N for triangular windows**

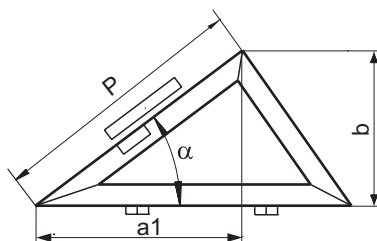
Opening width (max.)	170 mm
Leaf width a1 (min.) depends on the window's angle of inclination	450 mm
Leaf height b (min.) depends on the window's angle of inclination	400 mm
Leaf weight (max.)	80 kg
Fitting stroke	54 mm
Dimensions of the scissors	
Length	242 mm
Depth	49 mm
Height	16 mm

FUNCTIONS

Adjustable opening width (stroke reduction)*	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Burglar-resistant locking mechanism (SKG-certified)	–
Lockable	●
Unhinging inhibitor	●

● = Yes

* = by means of stroke limiter

INSTALLATION DRAWING FOR A TRIANGULAR WINDOW**APPLICATION LIMITS**

Angle of inclination	Leaf width a1 (min.)	Leaf height b (min.)	Leaf weight (max.)	Panel weight (max.)	Leg length P
$\alpha \leq 30^\circ$	700 mm	400 mm	80 kg	30 kg/m ²	420 – 2000 mm
$\alpha = 30^\circ - 40^\circ$	650 mm	550 mm			
$\alpha = 40^\circ - 50^\circ$	550 mm	650 mm			
$\alpha = 50^\circ - 60^\circ$	450 mm	750 mm			

SETTING DIMENSIONS AND SPACE NEEDED

	Setting dimension D (min.) at top	Space requirement X at side	Setting dimension D (min.) at side	Space requirement Y at top
Additional locking mechanism	10 – 18 mm	D(min) + 10 mm	–	D(min) + 9 mm
Hand lever	16 mm		10 mm	

OL 90 N FOR ROUND AND SEGMENTAL ARCH WINDOWS – COMPONENTS OF THE FANLIGHT OPENED SYSTEM



- 1 OL 90 N scissors
- 2 Sliding leaf bracket with long mounting plate
- 3 Flexible link arm – diverter cable
- 4 Safety clamp
- 5 Guide
- 6 Rod guide
- 7 Support
- 8 Hand lever

TECHNICAL DATA

	OL 90 N for semicircular arched windows	OL 90 N for segmental arch windows
Opening width (max.)	170 mm	170 mm
Leaf width a (min.)	500 mm	500 mm
Leaf height b (min.)	300 mm	250 mm
Leaf weight (max.)	80 kg	80 kg
Fitting stroke	54 mm	54 mm

Dimensions of the scissors

Length	242 mm	242 mm
Depth	49 mm	49 mm
Height	16 mm	16 mm

FUNCTIONS

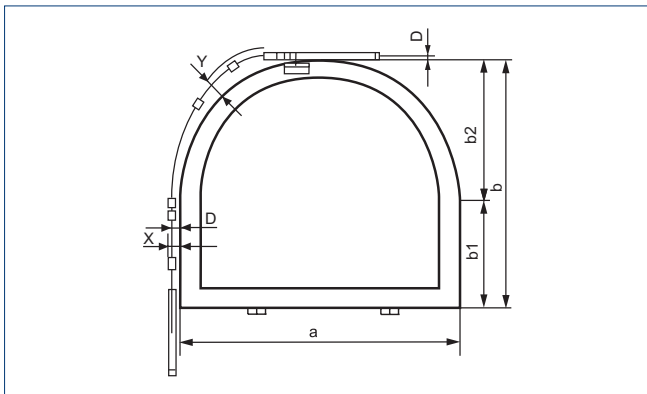
Adjustable opening width (stroke reduction)*	●	●
Leaf locking mechanism integrated in the scissors	●	●
Scissor unhooking by release button	●	●
Burglar-resistant locking mechanism (SKG-certified)	-	-
Lockable	●	●
Unhinging inhibitor	●	●

● = Yes

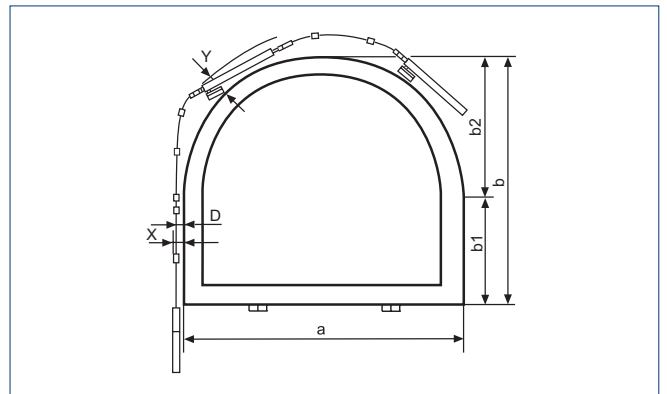
* = by means of stroke limiter

INSTALLATION DRAWING FOR SEMICIRCULAR ARCHED WINDOW

LIMIT STOP OL 90 N SEMICIRCULAR ARCHED WINDOW WITH 1 PAIR OF SCISSORS

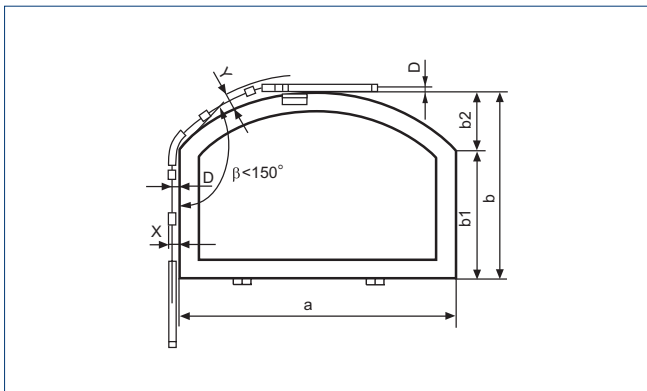


LIMIT STOP OL 90 N SEMICIRCULAR ARCHED WINDOW WITH 2 PAIRS OF SCISSORS

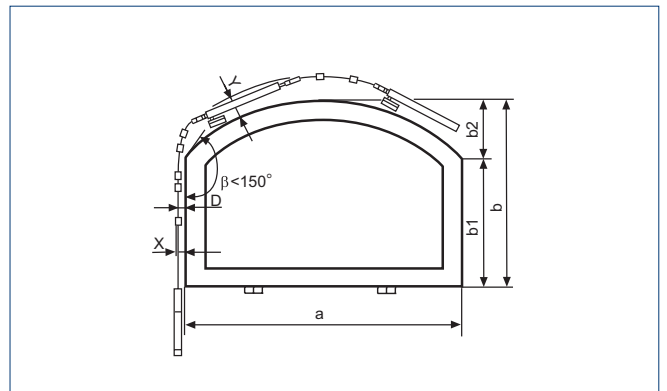


INSTALLATION DRAWING FOR SEGMENTAL ARCH WINDOW

LIMIT STOP OL 90 N SEGMENTAL ARCH WINDOW WITH 1 PAIR OF SCISSORS



LIMIT STOP OL 90 N SEGMENTAL ARCH WINDOW WITH 2 PAIRS OF SCISSORS



APPLICATION LIMITS

Angle β	Number of scissors	Leaf width a (min.)	Leaf width a (max.)	Leaf height b (min.)	Leaf weight (max.)	Panel weight (max.)
Semicircular arch					80 kg	40 kg/m ²
> 150°	1	500 mm	1300 mm	300 mm		
	2	1301 mm	2400 mm	650 mm		
Segmental arch						
< 150°	1	500 mm	1300 mm	250 mm		
	2	1301 mm	2400 mm	500 mm		

SETTING DIMENSIONS AND SPACE NEEDED

Angle β	Leaf height b (min.)	Leaf height b (max.)	Setting dimension D (min.) at top	Space requirement X at side	Setting dimension D (min.) at side
Semicircular arch					
> 150°	250 mm	300 mm	16 mm	19–28 mm*	x – 12 mm
	300 mm	400 mm	12 – 16 mm		
	401 mm	400 mm	10 – 16 mm		
Segmental arch					
< 150°	300 mm	400 mm	12 mm		10 – 14 mm*
	401 mm	2400 mm	10 – 12 mm		

* = depending on type of use

Component options

OL 90 SCISSORS

Scissors with standard leaf bracket (030373, 030377, 074509, 030376)
 Scissors with sliding leaf bracket (030596, 030600, 074511, 030499)
 Scissors without leaf bracket (071203, 071207, 099477, 071206)
 Scissors with standard leaf bracket and unhinging inhibitor (030498, 030502, 030501)
 Lockable scissors with standard leaf bracket (029183, 029187, 029186)

LEAF BRACKET

Standard leaf bracket (074424, 074428, 080228, 074427)
 Sliding leaf bracket (084398, 084401, 084402, 084403)
 Standard leaf bracket for Euro-groove wooden windows (030886, 030890, 099475, 030889)
 Sliding leaf bracket for Euro-groove wooden windows (071198, 071202, 099476, 071201)

CORNER TRANSMISSION + HAND LEVER

Hand lever with standard corner transmission (030611, 030615, 077945, 030614)
 Hand lever with bendable corner transmission (076911, 076915, 080227, 076916)

TRANSMISSION COMPONENTS

Standard corner transmission (070546)
 Bendable corner transmission (071354)
 Flexible link arm (022718, 008481, 022720, 008483, 022721, 008485, 072130, 072131)

HAND LEVER

Standard hand lever (026882, 026887, 079113, 026886)
 Lockable hand lever (083841, 083844, 085230)
 Swivelling hand lever = standard hand lever + swivelling hand lever accessories (030391, 030395, 030394)

CONNECTION COMPONENTS

Rod (016555, 016591, 016592)

COVER ACCESSORIES

Cover profile (030401, 030405, 074537, 030404, 030396, 030400, 074539, 030399)
 Corner bracket cover (071503, 071507, 071506)
 Corner guide flexible link arm (030764, 030763)

FIXING ACCESSORIES

Rod guide (010878)
 Rod coupling (043546)
 Connector plate for hand lever and gear (073758)
 Accessories for flexible link arm (030862, 030861)

OL 95



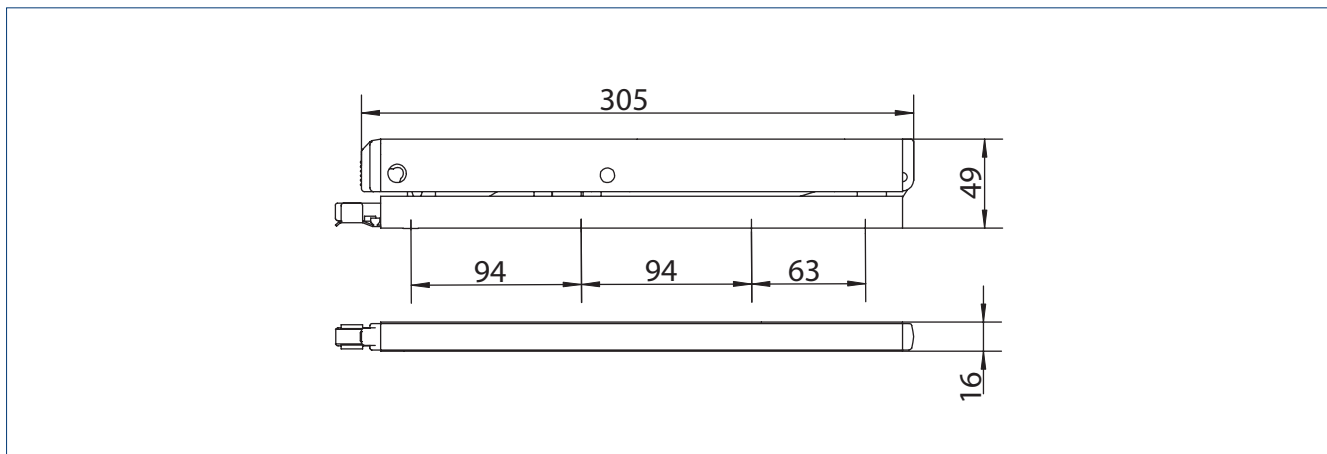
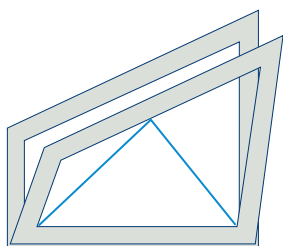
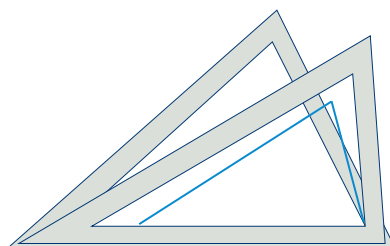
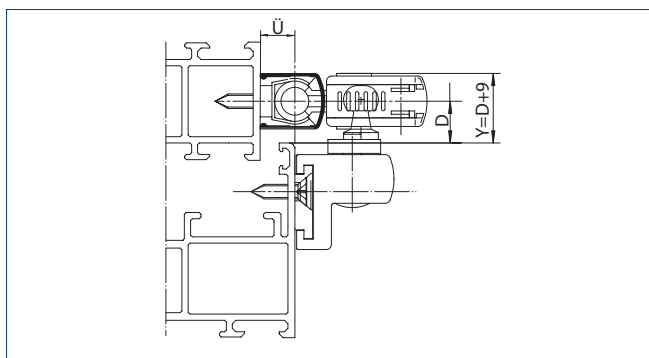
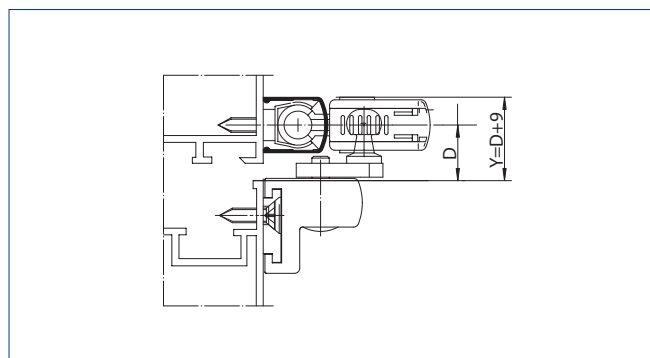
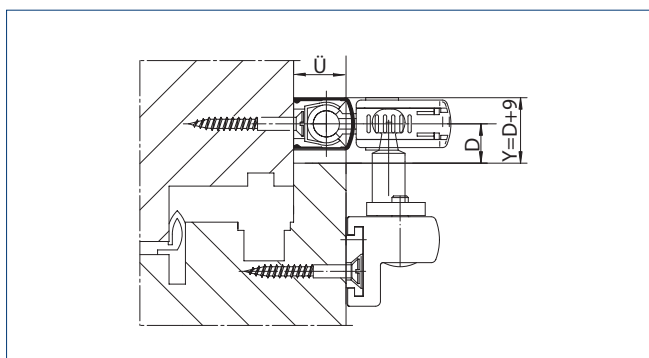
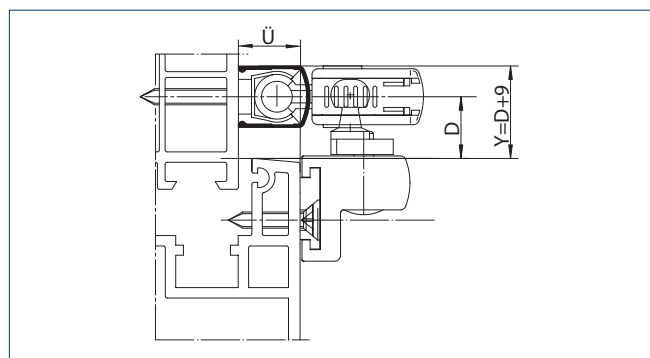
Surface-mounted fanlight opener
with an opening width of 220 mm

AREAS OF APPLICATION

- Convenient daily ventilation for rooms and staircases
- Inward opening bottom-hung windows
- Special shapes possible, such as bespoke angular and triangular windows
- Automation using E 212 electric linear drive
- Installation on wooden, PVC or aluminium windows
- Frame installation

PRODUCT FEATURES

- Achieves the full opening width of 220 mm for all leaf heights
- The opening width can be adjusted
- Little space necessary thanks to flat design of the scissors
- Integrated leaf locking mechanism in the scissors ensures secure locking
- Unhinging inhibitor and lockable hand lever provide additional safety
- The additional locking mechanism increases safety and tightness
- Scissor unhooking by pressing the release button facilitates window cleaning from the inside and outside
- Completely pre-mounted assembly groups facilitate installation

PRODUCT SCALE DRAWING**SPECIAL WINDOW SHAPES****BESPOKE ANGULAR****TRIANGULAR****CROSS-SECTIONS IN PROFILE****OL 95 ON ALUMINIUM WINDOW WITH OVERLAP****OL 95 FLUSH-MOUNTED ON ALUMINIUM WINDOW****OL 95 ON WOODEN WINDOW WITH EURO-GROOVE****OL 95 ON PVC WINDOW**

D = Distance from outer edge of window leaf to centre of link arm | Y = Upper space requirement | Ü = Overlap height
Illustrations show the area of application for the leaf block variants.

OL 95 FOR RECTANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 95 scissors
- 2 Standard leaf bracket with short mounting plate
- 3 Standard corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
(rod guides are needed as from a rod length of 600 mm)
- 6 Hand lever

TECHNICAL DATA

OL 95 for rectangular windows

Opening width (max.)	220 mm
Leaf width a (min.)	440 mm
Leaf height b (min.)	350 mm
Leaf weight (max.)	60 kg
Fitting stroke	54 mm

Dimensions of the scissors

Length	305 mm
Depth	49 mm
Height	16 mm

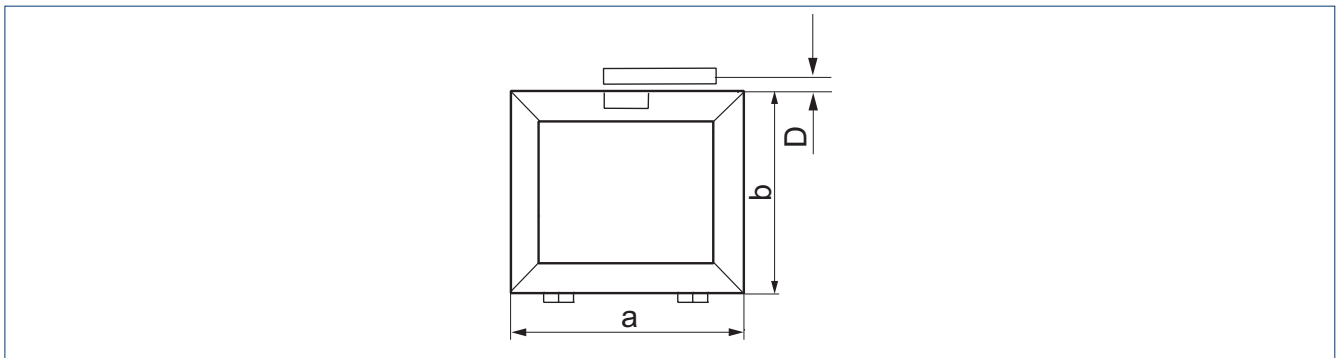
FUNCTIONS

Adjustable opening width (stroke reduction)*	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Burglar-resistant locking mechanism (SKG-certified)	-
Lockable	-
Unhinging inhibitor	●

● = Yes

* = by means of stroke limiter

INSTALLATION DRAWING FOR RECTANGULAR WINDOW



APPLICATION LIMITS

Number of scissors	Leaf width a (max.)	Leaf weight (max.)	Panel weight (max.)
1	1200 mm	60 kg	20 kg/m ²
	1100 mm		25 kg/m ²
	1000 mm		30 kg/m ²
2	2400 mm	60 kg	20 kg/m ²
	2200 mm		25 kg/m ²
	2000 mm		30 kg/m ²
3	3000 mm	60 kg	20 kg/m ²
	2700 mm		25 kg/m ²
	2200 mm		30 kg/m ²

SETTING DIMENSIONS AND SPACE NEEDED

Leaf height b (min.)	Leaf height b (max.)	Setting dimension D (min.) at top	Space requirement Y at top
350 mm	400 mm	18 mm	D(min) + 9 mm
401 mm	450 mm	16 - 18 mm	
451 mm	600 mm	14 - 18 mm	
601 mm	> 601 mm	12 - 18 mm	

OL 95 FOR BESPOKE ANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 95 scissors
- 2 Sliding leaf bracket with long mounting plate
- 3 Bendable corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
(rod guides are needed as from a rod length of 600 mm)
- 6 Hand lever

TECHNICAL DATA**OL 95 for bespoke angular windows**

Opening width (max.)	220 mm
Leaf width a (min.) depends on the window's angle of inclination	400 mm
Leaf height b (min.) depends on the window's angle of inclination	500 mm
Leaf weight (max.)	60 kg
Fitting stroke	54 mm

Dimensions of the scissors

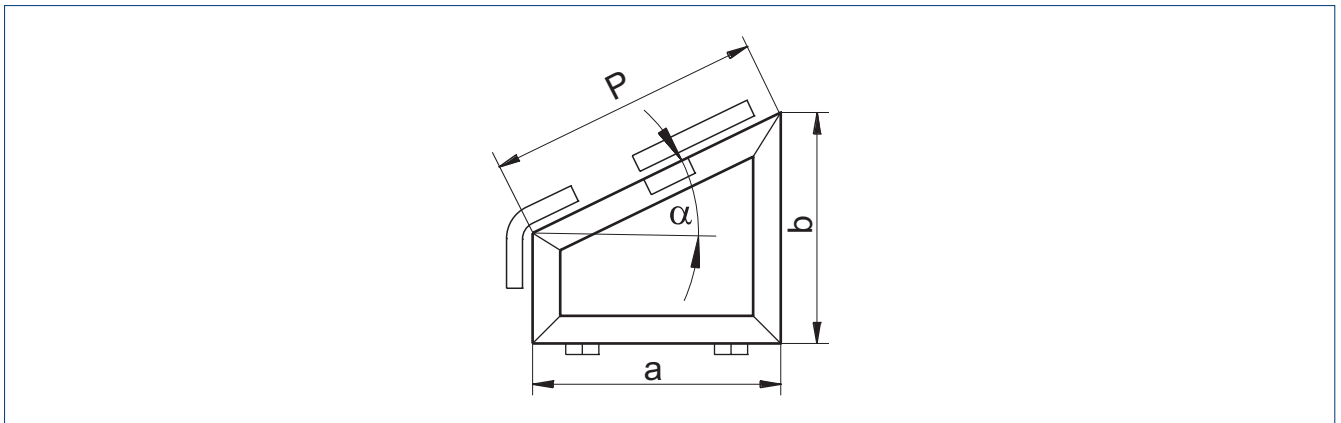
Length	305 mm
Depth	49 mm
Height	16 mm

FUNCTIONS

Adjustable opening width (stroke reduction)*	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Burglar-resistant locking mechanism (SKG-certified)	-
Lockable	-
Unhinging inhibitor	●

● = Yes

* = by means of stroke limiter

INSTALLATION DRAWING FOR BESPOKE ANGULAR WINDOW**BESPOKE ANGULAR WINDOW, $\alpha < 50^\circ$** **APPLICATION LIMITS**

Angle of inclination	Leaf width a (min.)	Leaf height b (min.)	Leaf weight (max.)
$\alpha \leq 30^\circ$	500 mm	500 mm	60 kg
$\alpha = 30^\circ - 40^\circ$	450 mm	660 mm	
$\alpha = 40^\circ - 50^\circ$	400 mm	780 mm	

Leaf width a (max.)	Panel weight (max.)	Leaf weight (max.)
1200 mm	20 kg/m ²	60 kg
1100 mm	25 kg/m ²	
1000 mm	30 kg/m ²	

SETTING DIMENSIONS AND SPACE NEEDED

	Setting dimension D (min.) top	Space requirement X at side	Setting dimension D (min.) at side	Space requirement Y at top
Additional locking mechanism	12 – 18 mm	D(min) + 9 mm	–	D(min) + 9 mm
Hand lever	16 mm		10 mm	

OL 95 FOR TRIANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



TECHNICAL DATA**OL 95 for triangular windows**

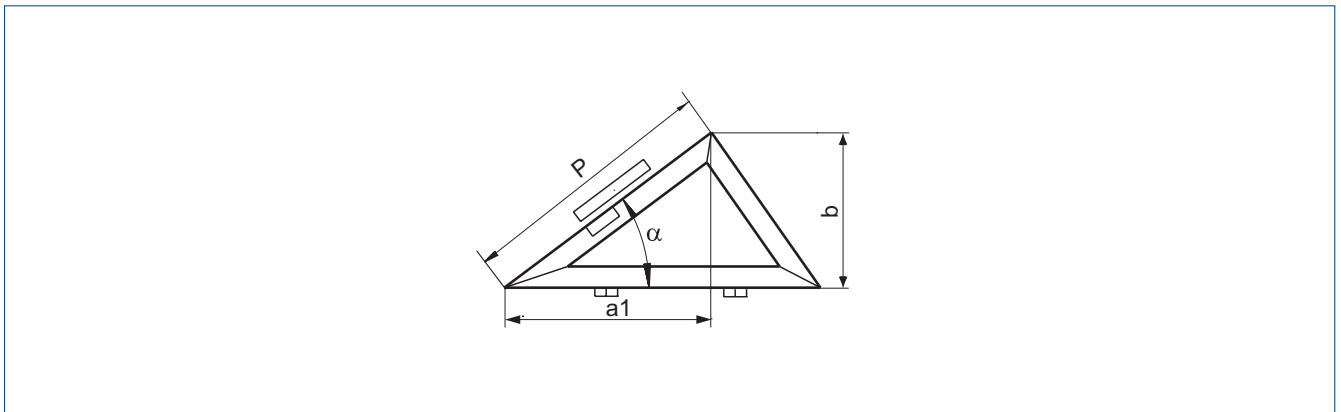
Opening width (max.)	220 mm
Leaf width a1 (min.) depends on the window's angle of inclination	800 mm
Leaf height b (min.) depends on the window's angle of inclination	500 mm
Leaf weight (max.)	60 kg
Fitting stroke	54 mm
Dimensions of the scissors	
Length	305 mm
Depth	49 mm
Height	16 mm

FUNCTIONS

Adjustable opening width (stroke reduction)*	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Burglar-resistant locking mechanism (SKG-certified)	–
Lockable	●
Unhinging inhibitor	●

● = Yes

* = by means of a stroke limiter

INSTALLATION DRAWING FOR A TRIANGULAR WINDOW**APPLICATION LIMITS**

Angle of inclination	Leaf width a1 (min.)	Leaf height b (min.)	Leaf weight (max.)	Leg length P
$\alpha \leq 30^\circ$	1000 mm	500 mm	60 kg	475 – 1800 mm
$\alpha = 30^\circ - 40^\circ$	900 mm	660 mm		
$\alpha = 40^\circ - 50^\circ$	800 mm	780 mm		

Leaf width a (max.)	Panel weight (max.)	Leaf weight (max.)
1200 mm	20 kg/m ²	60 kg
1100 mm	25 kg/m ²	
1000 mm	30 kg/m ²	

SETTING DIMENSIONS AND SPACE NEEDED

	Setting dimension D (min.) at top	Space requirement X at side	Setting dimension D (min.) at side	Space requirement Y at top
Additional locking mechanism	12 – 18 mm	D(min) + 9 mm	–	D(min) + 9 mm
Hand lever	16 mm		10 mm	

Component options

OL 95 SCISSORS

Scissors with standard leaf bracket (082445, 082448, 082449)

Scissors without leaf bracket (084194, 084197, 084199)

Scissors with standard leaf bracket and unhinging inhibitor (082638, 082641, 082643)

LEAF BRACKET

Standard leaf bracket (074424, 074428, 080228, 074427)

Sliding leaf bracket (084398, 084401, 084402, 084403)

Standard leaf bracket for Euro-groove wooden windows (030886, 030890, 099475, 030889)

Sliding leaf bracket for Euro-groove wooden windows (071198, 071202, 099476, 071201)

CORNER TRANSMISSION + HAND LEVER

Hand lever with standard corner transmission (030611, 030615, 077945, 030614)

Hand lever with bendable corner transmission (076911, 076915, 080227, 076916)

TRANSMISSION COMPONENTS

Standard corner transmission (070546)

Bendable corner transmission (071354)

HAND LEVER

Standard hand lever (026882, 026887, 079113, 026886)

Lockable hand lever (083841, 083844, 085230)

Swivelling hand lever = standard hand lever + swivelling hand lever accessories (030391, 030395, 030394)

CONNECTION COMPONENTS

Rod (016555, 016591, 016592)

COVER ACCESSORIES

Cover profile (030401, 030405, 074537, 030404, 030396, 030400, 074539, 030399)

Corner bracket cover (071503, 071507, 071506)

FIXING ACCESSORIES

Rod guide (010878)

Rod coupling (043546)

Connector plate for hand lever and gear (073758)

OL 90 N

top-hung outward opening



Fanlight opener for outward-opening top-hung leaves
with an opening width of 170 mm

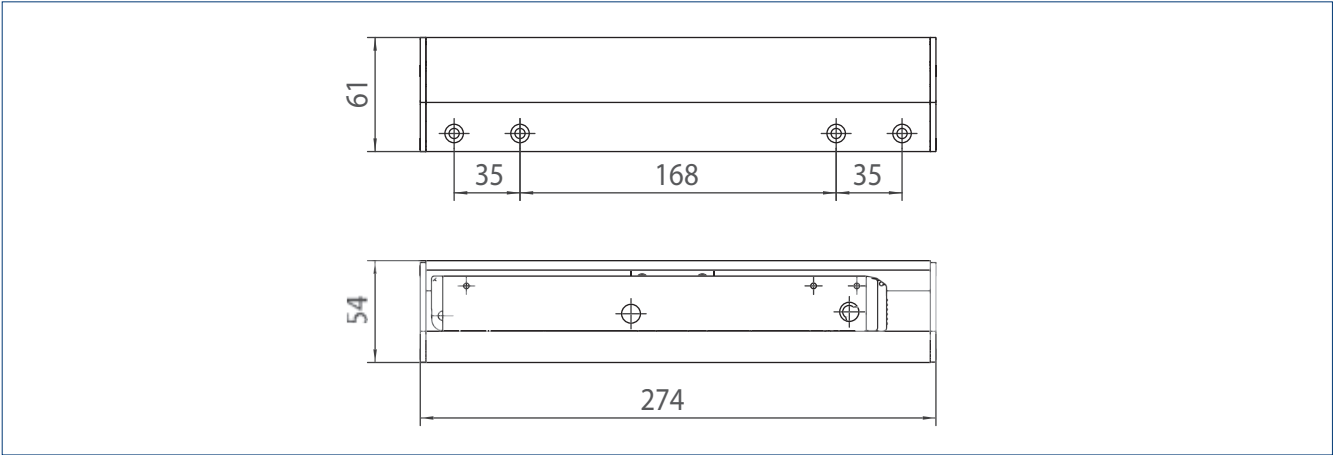
AREAS OF APPLICATION

- Convenient daily ventilation for rooms and staircases
- Outward opening top-hung windows with a reveal depth of 0-60 mm
- Automation using E 212 electric linear drive
- Installation on wooden, PVC or aluminium windows
- Leaf installation

PRODUCT FEATURES

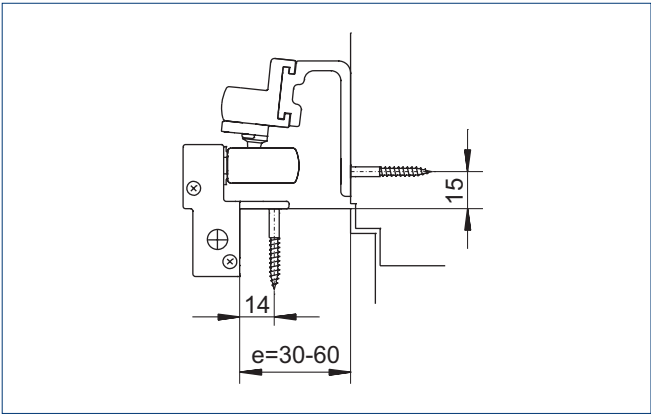
- Achieves the full opening width of 170 mm for all leaf heights
- The opening width can be adjusted
- Integrated leaf locking mechanism in the scissors ensures secure locking
- Special locking mechanism increases safety and tightness
- Simple scissor hooking and unhooking using a release button enables window cleaning from the inside and outside
- Completely pre-mounted assembly groups facilitate installation
- Leaf bracket suitable for all overlap heights and materials

PRODUCT SCALE DRAWING



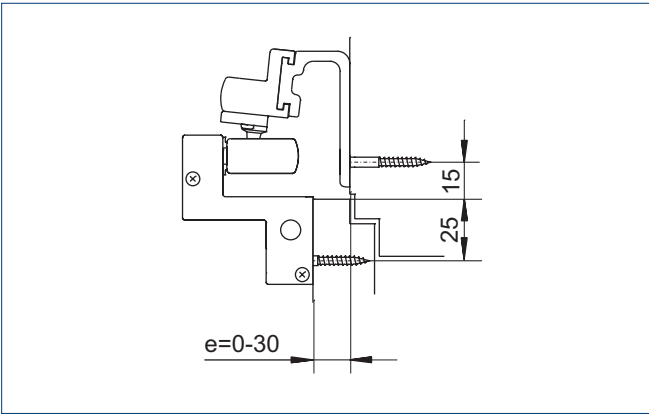
CROSS-SECTIONS IN PROFILE

OL 90 N TOP-HUNG OUTWARD OPENING ON WOODEN
WINDOWS WITH EURO-GROOVE, REVEAL DEPTH 30-60 MM



e = reveal depth

OL 90 N TOP-HUNG OUTWARD OPENING ON WOODEN
WINDOWS WITH EURO-GROOVE, REVEAL DEPTH 0-30 MM



OL 90 N TOP-HUNG OUTWARD OPENING FOR RECTANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 90 N top-hung outward opening scissors
- 2 Leaf bracket with short mounting plate
- 3 Standard corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
- 6 Hand lever

TECHNICAL DATA

	OL 90 N top-hung outward opening for rectangular windows	OL 90 N top-hung outward opening for rectangular windows with locking mechanism
Opening width (max.)	170 mm	170 mm
Leaf width a (min.)	400 mm	600 mm
Leaf height b (min.)	370 mm	370 mm
Leaf weight (max.)	80 kg	80 kg
Fitting stroke	54 mm	54 mm
Scissors		
Length	274 mm	274 mm
Depth	54 mm	54 mm
Height	61 mm	61 mm

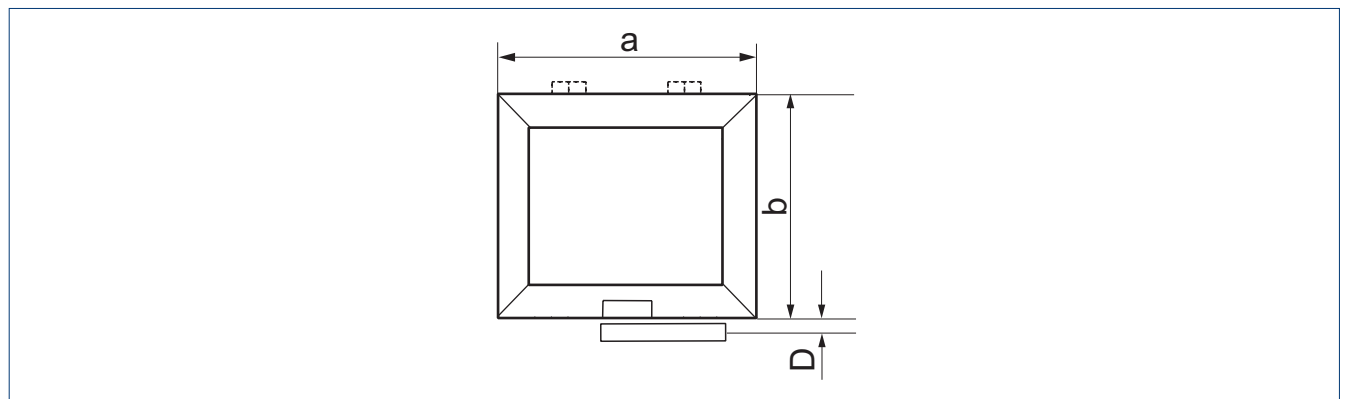
FUNCTIONS

Adjustable opening width (stroke reduction)*	●	●
Leaf locking mechanism integrated in the scissors	●	●
Scissor unhooking by release button	●	●
Burglar-resistant locking mechanism (SKG-certified)	-	●

● = Yes

* = by means of stroke limiter

INSTALLATION DRAWING FOR RECTANGULAR WINDOW



APPLICATION LIMITS

Number of scissors	Leaf width a (min.)	Leaf width a (max.)	Leaf height b (min.)	Leaf weight (max.)	Panel weight (max.)
1	400 mm 400 mm	1200 mm 800 mm (only in the case of PVC)	370 mm	80 kg	30 kg/m ²
2	1201 mm 801 mm	2400 mm 1600 mm (only in the case of PVC)			

SETTING DIMENSIONS AND SPACE NEEDED

	Setting dimension D (min.) at top	Space requirement X at side	Setting dimension D (min.) at side
Additional locking mechanism	28 mm	depending on type of operation	
Hand lever		D(min) + 10 mm	12 mm
Fz 90 with fixed crank rod		D(min) + 10 mm	12 mm
Fz 90 with removable crank rod		D(min) + 14 mm	12 mm

Component options

OL 90 N TOP-HUNG OUTWARD OPENING SCISSORS

Scissors with reveal depth 0–30 (118060, 117700, 118081, 117771, 118082, 117772)

Scissors with reveal depth 30–60 (118083, 117773, 118084, 117774, 118085, 117775)

LOCKING MECHANISM

For reveal depth 30–60 (117776, 117777, 117778)

CORNER TRANSMISSION + HAND LEVER

Hand lever with standard corner transmission (030611, 030615, 077945, 030614)

Hand lever with bendable corner transmission (076911, 076915, 080227, 076916)

TRANSMISSION COMPONENTS

Standard corner transmission (070546)

Bendable corner transmission (071354)

HAND LEVER

Standard hand lever (026882, 026887, 079113, 026886)

Lockable hand lever (083841, 083844, 085230)

Swivelling hand lever = standard hand lever + swivelling hand lever accessories (030391, 030395, 030394)

CONNECTION COMPONENTS

Rod (016555, 016591, 016592)

COVER ACCESSORIES

Cover profile (030401, 030405, 074537, 030404, 030396, 030400, 074539, 030399)

Corner bracket cover (071503, 071507, 071506)

FIXING ACCESSORIES

Rod guide (010878)

Rod coupling (043546)

Connector plate for hand lever and gear (073758)



WINDOWS

Individual solutions

OL 90, OL 95 AND OL 90 TOP-HUNG OUTWARD OPENING

No matter where they are installed, our fanlight openers must be versatile – and we've got the right solutions to ensure that they are. We provide operating elements for all areas of application. Different crank rods and gears ensure optimal power transmission and make opening and closing the windows really easy. Mullion-frame transmissions are the best choice for mullion-transom façades because here too daily ventilation should be simple and convenient. Do you want your windows to provide increased safety? Then additional locking mechanisms are just what you need to improve tightness and safety.



Swivelling hand lever



Solutions for operating the windows with a hand lever

AREAS OF APPLICATION

- Convenient and flexible operation of windows in cramped situations (recesses)
- Can be used in combination with an OL 90 N scissor
- Installation on wooden, PVC or aluminium windows

PRODUCT FEATURES

- Can be combined with an OL 90 N hand lever

SYSTEM ILLUSTRATION

Component options

SOLUTIONS FOR OPERATING THE WINDOWS WITH A HAND LEVER

HAND LEVER

Hand lever for OL 90 N / OL 95 (026882, 026887, 079113, 026886)

LOCKABLE HAND LEVER

Lockable hand lever for OL 90 N / OL 95 (083841, 083844, 085230)

ACCESSORIES FOR SWIVELLING HAND LEVER

Accessories for swivelling hand lever (030391, 030395, 030394)

Fz 90 corner operating gear



Corner operating gear for operating a window with a crank rod

AREAS OF APPLICATION

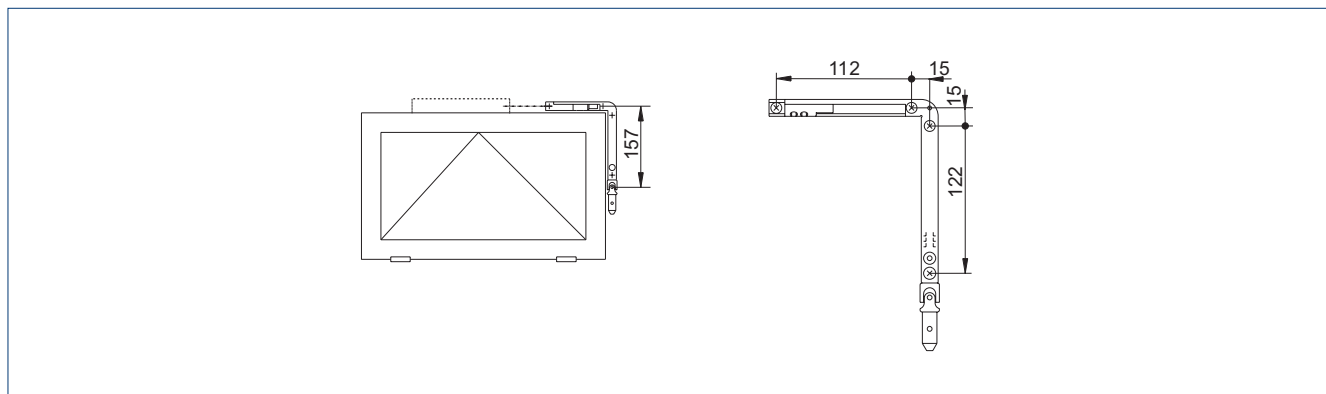
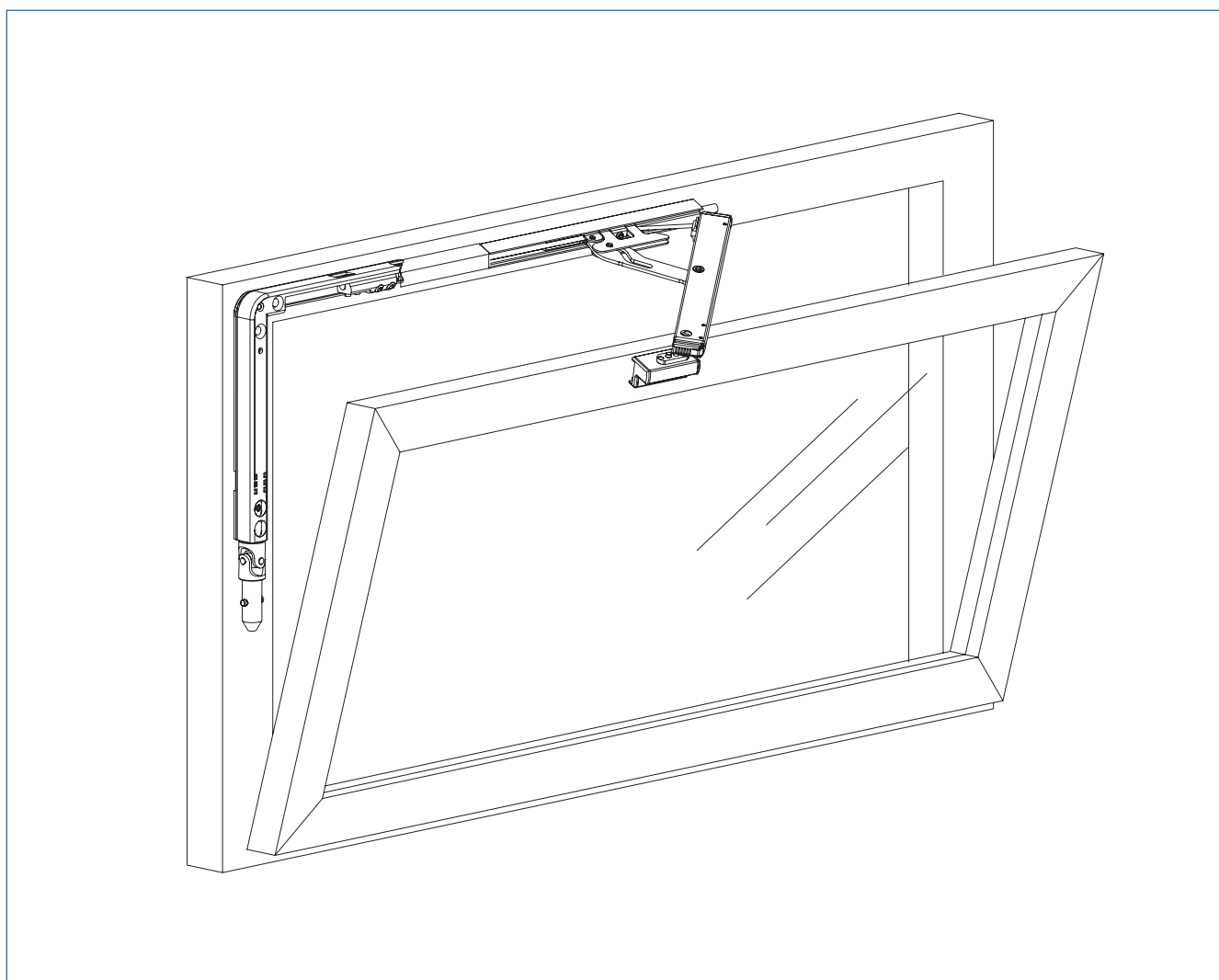
- For the convenient operation of a rectangular window using a fixed or removable crank rod
- Can be used in combination with an OL 90 N and an OL 95 scissor on inward opening bottom-hung windows
- Can be used with a fixed or removable crank rod
- Can be used in combination with an OL 90 N top-hung outward opening scissor on top-hung outward opening windows
- Installation on wooden, PVC or aluminium windows
- Frame installation

PRODUCT FEATURES

- Corner transmission with integrated gear
- Variable adjustment of bottom opening width
- Full bottom opening width can be limited by using an optional stroke limiter
- Nine rotations of the crank are needed to fully open the window
- Additional operational safety provided by overload protection option

TECHNICAL DATA**Fz 90 corner operating gear**

Width	16 mm
Hub	54 mm
Rod diameter (clamp connection)	8 mm
Crank rotations for max. opening	9

INSTALLATION DRAWING FOR RECTANGULAR WINDOW**SYSTEM ILLUSTRATION**

Fz 91 vertical gear



Vertical gear for operating a window with a crank rod

AREAS OF APPLICATION

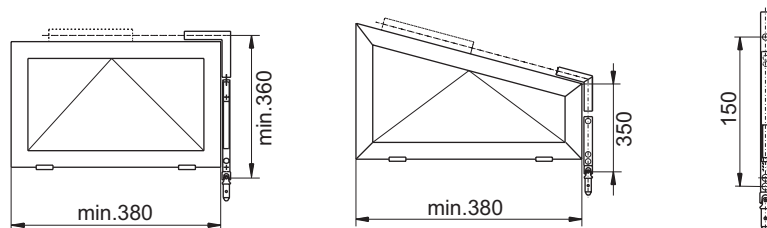
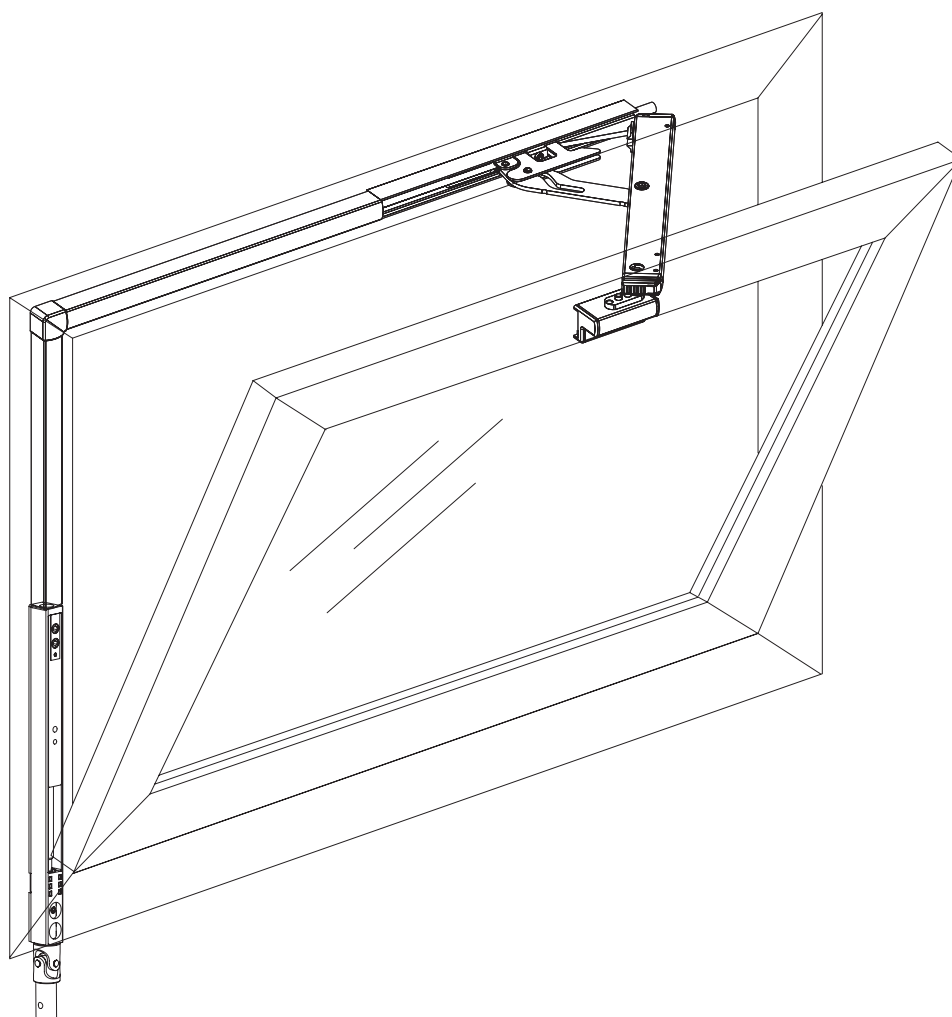
- For the convenient operation of a rectangular, bespoke angular or triangular window using a fixed or removable crank rod
- Can be used in combination with an OL 90 N and an OL 95 scissor on inward opening bottom-hung windows
- Can be used in combination with an OL 90 N top-hung outward opening scissor on top-hung outward opening windows
- Installation on wooden, PVC or aluminium windows
- Frame installation

PRODUCT FEATURES

- Vertical gear can be linked by the rod to the standard corner transmission and the bendable corner transmission
- Bottom opening width is adjustable
- Full bottom opening width can be limited by using an optional stroke limiter
- Just nine rotations of the crank are needed to fully open the window
- Additional operational safety provided by overload protection option

TECHNICAL DATA**Fz 91 vertical gear**

Width	16 mm
Hub	54 mm
Rod diameter (clamp connection)	8 mm
Crank rotations for max. opening	9

INSTALLATION DRAWING FOR RECTANGULAR AND BESPOKE ANGULAR WINDOWS**SYSTEM ILLUSTRATION**

Fz 92 gear



Gear for operating a window with a crank rod

AREAS OF APPLICATION

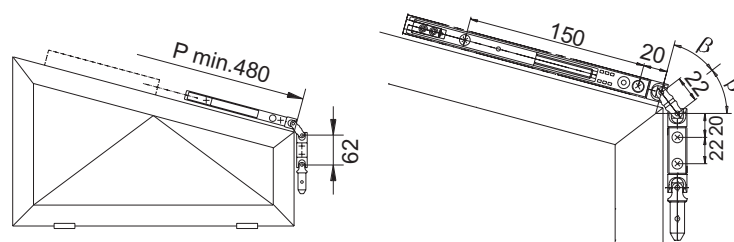
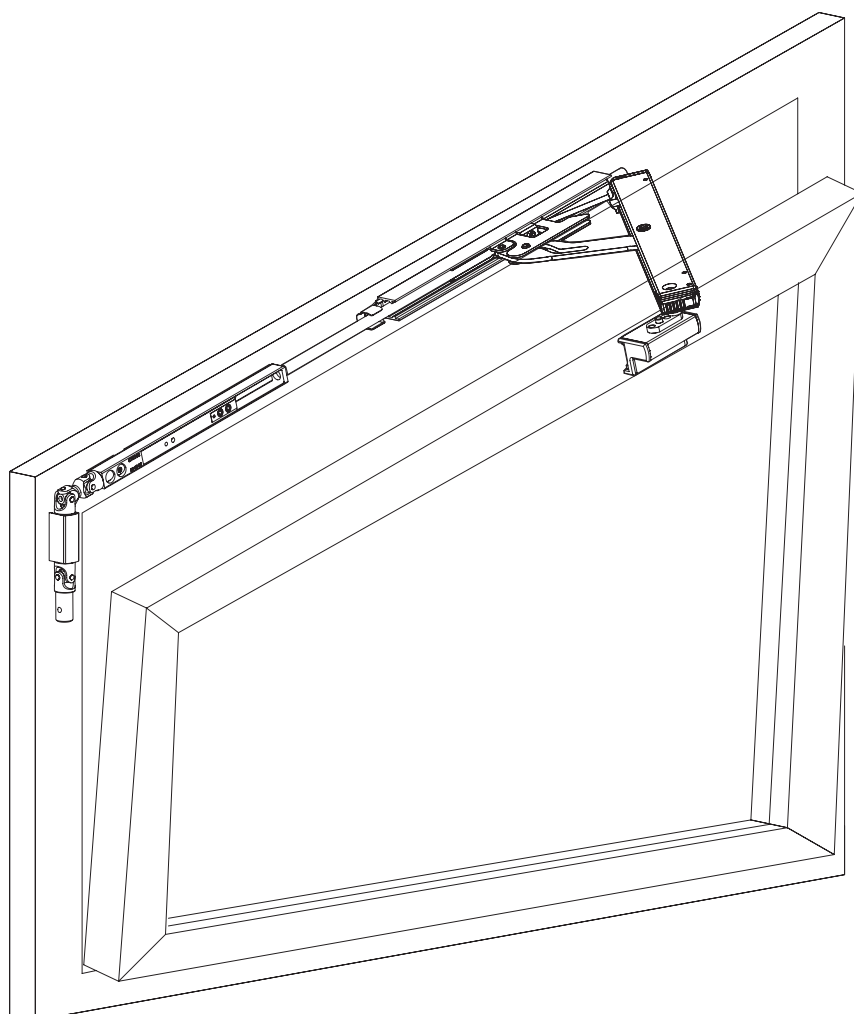
- For the convenient operation of a bespoke angular or triangular window using a fixed or removable crank rod
- Can be used in combination with an OL 90 N and an OL 95 scissor on inward opening bottom-hung windows
- Installation on wooden, PVC or aluminium windows
- Frame installation

PRODUCT FEATURES

- Gear with double universal joint for flexible adjustment of the window's angle of inclination
- Bottom opening width is adjustable
- Full bottom opening width can be limited by using an optional stroke limiter
- Just nine rotations of the crank are needed to fully open the window
- Additional operational safety provided by overload protection option

TECHNICAL DATA**Fz 92 gear**

Width	16 mm
Hub	54 mm
Rod diameter (clamp connection)	8 mm
Crank rotations for max. opening	9
Angle of twist	90°–160°

INSTALLATION DRAWING FOR BESPOKE ANGULAR WINDOW**SYSTEM ILLUSTRATION**

Overload protection



For protecting the gear in the event of overload or forcible activation

AREAS OF APPLICATION

- Can be combined with Fz 90, Fz 91, Fz 92, Fz 100 and Fz 101 gears

PRODUCT FEATURES

- Prevents the gear from being damaged in the event of overload or forcible activation
- Torque is adjustable – factory pre-set to 7 ± 2 Nm
- Can be installed between the Fz cone and the crank rod

Fixed crank rod



Solutions for operating the windows with a crank rod

AREAS OF APPLICATION

- For the simple operation of a rectangular, bespoke angular or triangular window
- For the operation of inward opening bottom-hung windows or outward opening top-hung windows

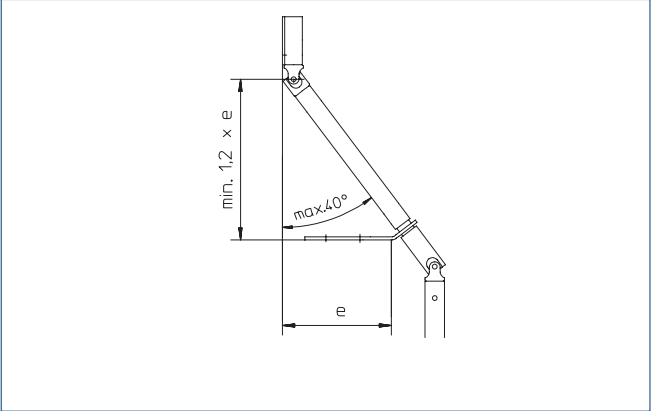
PRODUCT FEATURES

- Crank rotations make variable ventilation settings possible
- Can be linked with Fz 90, Fz 91, Fz 92, Fz 100 and Fz 101 gears
- The crank rod is firmly attached to the gear by means of a dowel pin so that it can't be removed

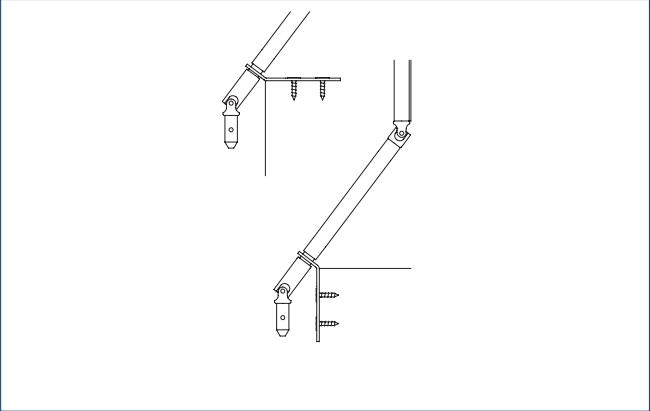
TECHNICAL DATA

Diameter	Fixed crank rod
	15 mm

INSTALLATION DRAWING



Swivel joint fixed crank rod | e = reveal depth



Swivel joint for gears and crank rods

Removable crank rod



Solutions for operating the windows with a crank rod

AREAS OF APPLICATION

- For the simple operation of a rectangular, bespoke angular or triangular window
- For the operation of inward opening bottom-hung windows or outward opening top-hung windows

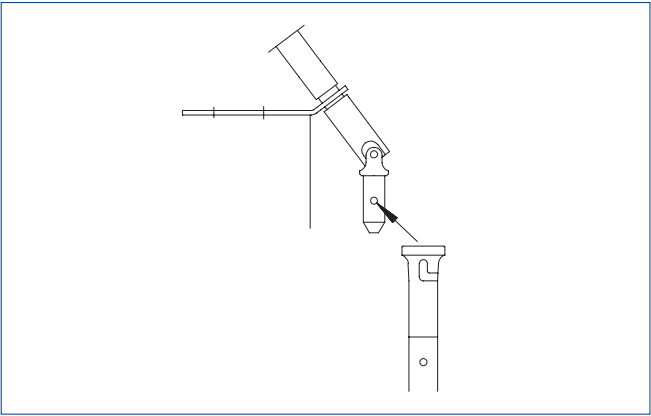
PRODUCT FEATURES

- Crank rotations make variable ventilation settings possible
- Can be linked with Fz 90, Fz 91, Fz 92, Fz 100 and Fz 101 gears
- The crank rod can be removed by using the coupling socket if necessary

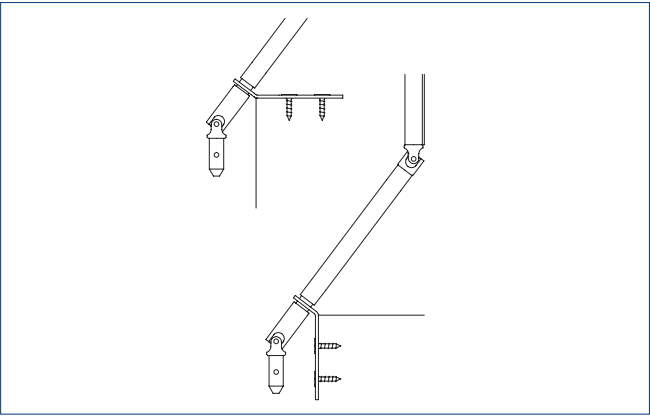
TECHNICAL DATA

Diameter	Removable crank rod
	15 mm

INSTALLATION DRAWING



Swivel joint Removable crank rod



Swivel joint for gears and crank rods

Component options

SOLUTIONS FOR OPERATING THE WINDOWS WITH A CRANK ROD

CORNER TRANSMISSION

Fz 90 gear with corner transmission (030809, 030811, 030810, 030812)

Fz 91 gear with corner transmission (030817, 030818)

Fz 91 gear without corner transmission (030822, 030823)

Fz 92 gear (030778)

CRANK RODS

Fixed crank rod (050857, 015864, 015986, 077433, 108476, 108477)

Removable crank rod (050856, 015879, 015987, 077434, 108480, 108491)

Crank rod for DIY installation (053262, 014706, 015982, 109482, 109485, 109846)

ACCESSORIES/COMBINATION OPTIONS

Standard corner transmission (070546)

Bendable corner transmission (071354)

Flexible link arm (022718, 008481, 022720, 008483, 022721, 008485, 072130, 072131)

Stroke limiter (012335)

Overload protection (020226, 020223, 020224)

Angled crank (056951, 014795, 056952)

Coupling socket (042963)

Swivel joint with sole plate (022934, 022933)

FIXING ACCESSORIES

Rod guide (010878)

Rod coupling (043546)

Connector plate for hand lever and gear (073758)

Accessories for flexible link arm (030862, 030861)

Crank rod holder (054560, 014794, 054561)

Spring pin (022932)

Mullion-frame transmission



Solutions for operating the windows in a mullion-transom façade,
on an rectangular window

AREAS OF APPLICATION

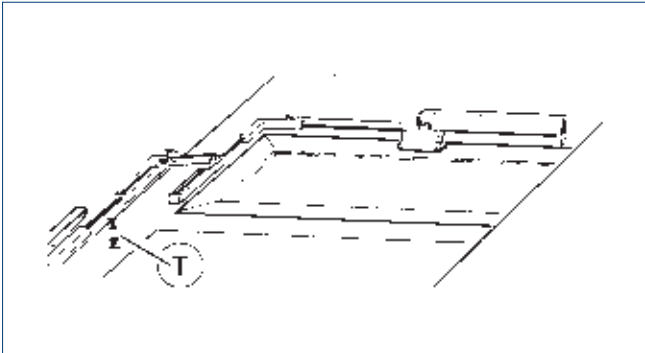
- Convenient daily ventilation of windows in mullion-transom façade
- Can be used in combination with an OL 90 N scissor on inward opening bottom-hung windows
- Automation using E 212 electric linear drive
- Installation on wooden, PVC or aluminium windows
- Frame installation

PRODUCT FEATURES

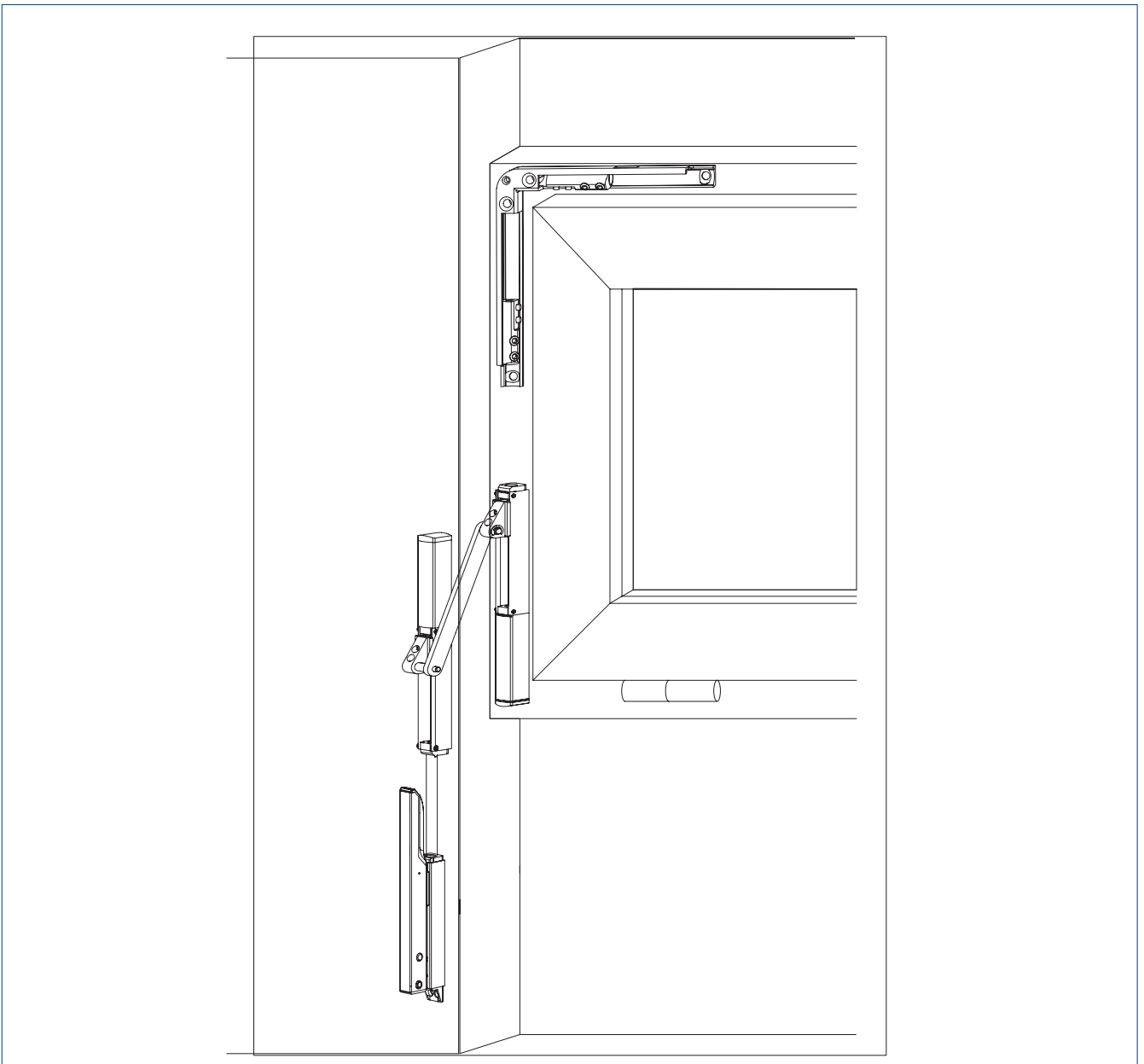
- Achieves the full opening width of 170 mm for all leaf heights
- The opening width can be adjusted
- Post protrusion bridged by a joint plate
- Can be installed on the secondary or main closing edge
- Completely pre-mounted assembly group facilitates installation

TECHNICAL DATA

	Mullion-frame transmission
Mullion/rail projection, size 75	D = 0 – 75 mm
Mullion/rail projection, size 150	D = 0 – 150 mm

INSTALLATION DRAWING

Transmission via pull rod
T = mullion/rail projection from window frame

SYSTEM ILLUSTRATION

Component options

SOLUTIONS FOR OPERATING THE WINDOWS IN A MULLION-TRANSOM FAÇADE

MULLION-FRAME TRANSMISSION

Mullion-frame transmission (030744, 030748, 030747, 030749, 030753, 030752)

MULLION-FRAME TRANSMISSION WITH FLEXIBLE LINK ARM

Flexible link arm (022718, 008481, 022720, 008483, 022721, 008485, 072130, 072131)

FIXING ACCESSORIES

Accessories for flexible transmission (030798, 030797)

Connector plate for hand lever (073758)

Corner bracket transmission



Solution for connecting and operating multiple windows

AREAS OF APPLICATION

- Convenient daily ventilation of multiple windows through the use of an operating element
- Can be used in combination with an OL 90 N scissor on inward opening bottom-hung windows
- Automation using E 212 electric linear drive
- Installation on wooden, PVC or aluminium windows
- Can be installed on the secondary closing edge or main closing edge
- Frame installation

PRODUCT FEATURES

- Up to five windows each with a maximum leaf weight of 80 kg can be operated via an operating element
- Completely pre-mounted assembly group facilitates installation

SYSTEM ILLUSTRATION



Component options

SOLUTION FOR CONNECTING AND OPERATING MULTIPLE WINDOWS

CORNER BRACKET TRANSMISSION

Corner bracket transmission for OL 90 N (030902, 030906, 074510, 030905)

Flexible link arm



Reveal transmission solutions

AREAS OF APPLICATION

- Can be used as a solution for mullion-frame transmission and reveal transmission on rectangular windows.
- Can be used for reveal depths of up to 650 mm
- Segmental and semicircular arched windows can be opened/closed by using the flexible link arm
- Can be used in combination with an OL 90 N scissor
- Installation on wooden, PVC or aluminium windows
- Frame installation or installation on the masonry

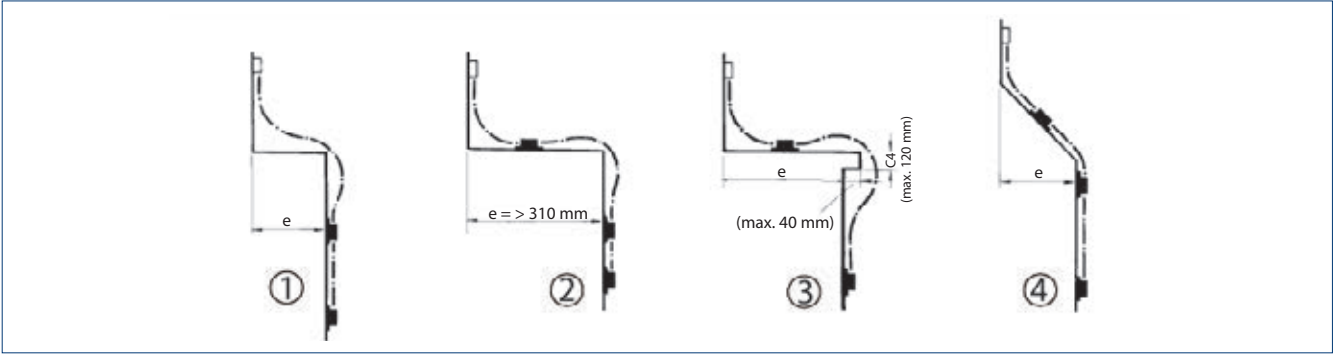
PRODUCT FEATURES

- Accessories enable neat fixing to the window reveal and masonry
- Can be operated with the hand lever

TECHNICAL DATA

	Flexible link arm
Pull length = 700 mm	e= 0 – 350 mm
Pull length = 1000 mm	e= 0 – 650 mm
Pull length = 1250 mm	e= 0 – 850 mm
Window reveal protrusion	0 – 40 mm

INSTALLATION DRAWING

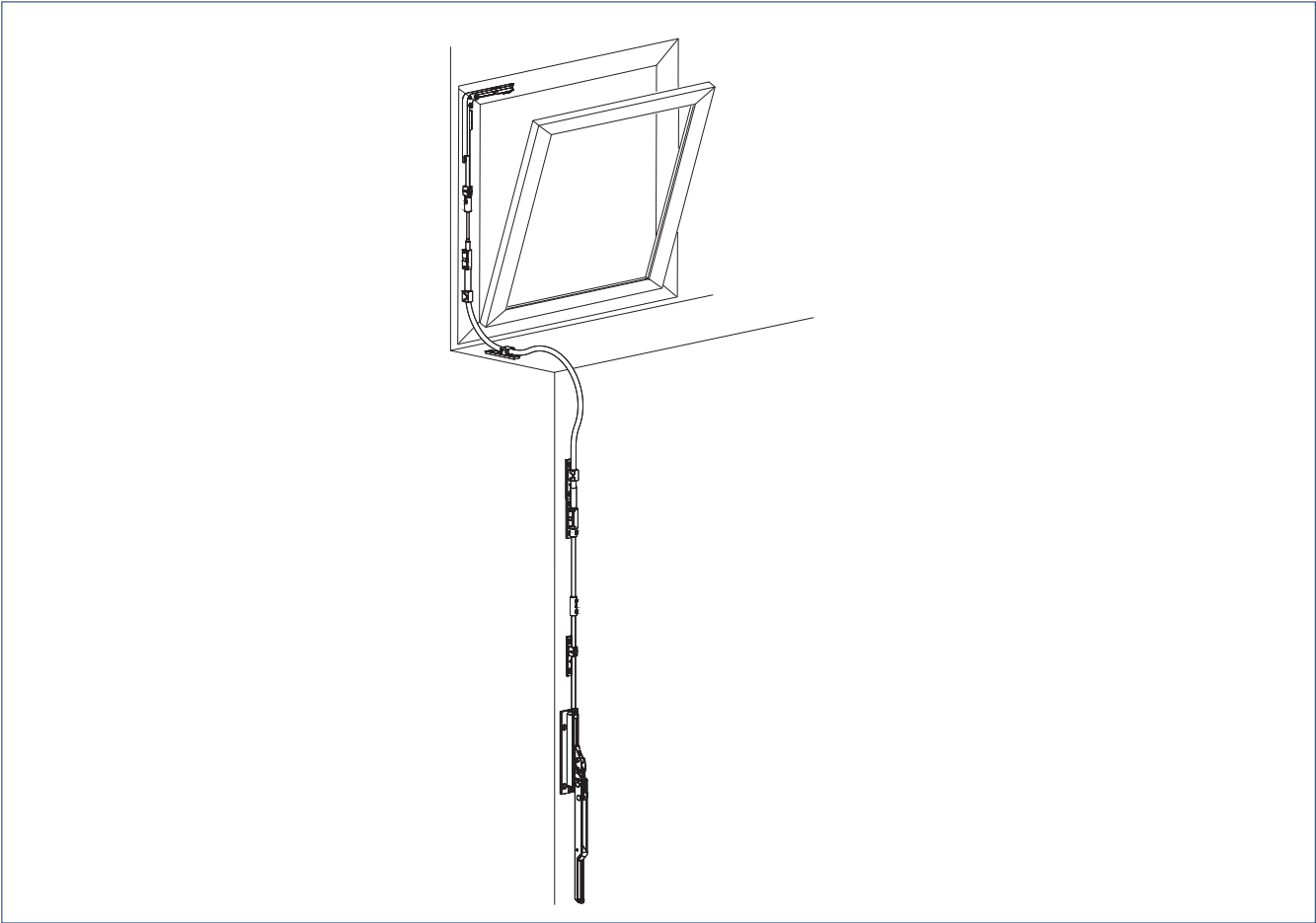


e = Reveal depth 1 = Window sill with reveal depth e = up to 310 mm (pull length 700 mm) | 2 = Window sill with reveal depth e = over 310 mm (pull length 700 mm to e = 380 mm) / (pull length 1000 mm to e = 680 mm) | 3 = Window sill with reveal depth (pull length 700 mm to e+e1 = 310 mm) / (pull length 1000 mm to e+e1 = 610 mm) | 4 = Sloping window sill (pull length 700 mm to e = 380 mm) / (pull length 1000 mm to e = 680 mm)

APPLICATION LIMITS

Total leaf width	Panel weight (max.)	Leaf weight (max.)
380–1200 mm	40 kg/m²	60 kg

SYSTEM ILLUSTRATION



Window sill transmission with rod



Reveal transmission solutions

AREAS OF APPLICATION

- Can be used for reveal transmission on rectangular windows
- Can be used for reveal depths of up to 150 mm
- Can be used in combination with an OL 90 N scissor
- Installation on wooden, PVC or aluminium windows
- Frame installation or installation on the masonry

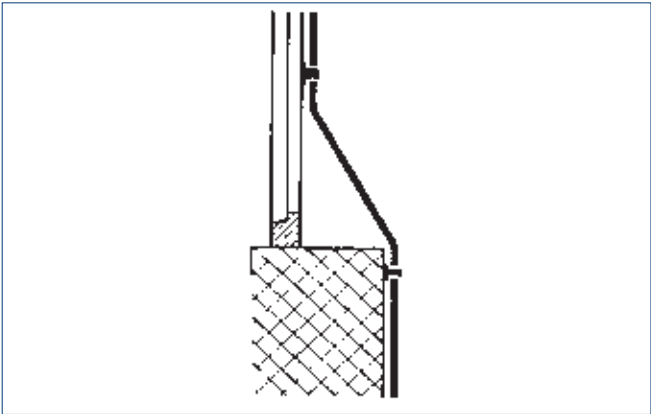
PRODUCT FEATURES

- Fastening on the window reveal is not necessary
- Can be operated with the hand lever

TECHNICAL DATA

	Rod
Reveal depth	50–150 mm
Pull rod Ø	10 mm
Length	2000 mm

INSTALLATION DRAWING



Transmission with cranked rod

APPLICATION LIMITS

Total leaf width	Panel weight (max.)	Leaf weight (max.)
380–1200 mm	40 kg/m²	60 kg

SYSTEM ILLUSTRATION



Component options

REVEAL TRANSMISSION SOLUTIONS

FLEXIBLE LINK ARM

Flexible link arm (022718, 008481, 022720, 008483, 022721, 008485, 072130, 072131)

ACCESSORIES FOR MOUNTING FLEXIBLE LINK ARM

Accessories for flexible transmission (030798, 030797)

Connector plate for hand lever (73758)

WINDOW SILL TRANSMISSION WITH ROD

Bearing rod Ø10 (004892)

Additional pack for transmission 10/10A (058124)

Additional locking mechanism OL 90 N/OL 95



Locking mechanism for improving tightness and safety

AREAS OF APPLICATION

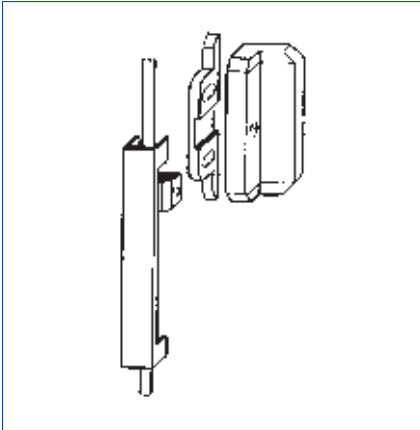
- Locking mechanism on the rectangular, bespoke angular or triangular window
- Can be used in combination with OL 90 N and OL 95 scissors
- Installation on wooden, PVC or aluminium windows
- Frame and leaf installation

PRODUCT FEATURES

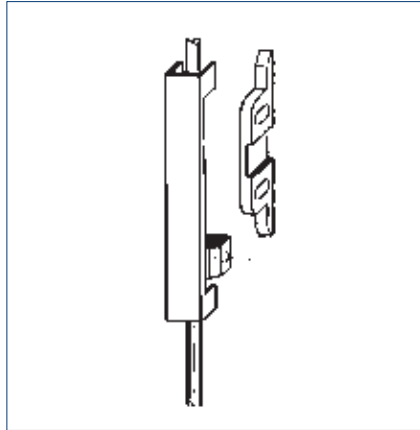
- Visible locking mechanism – component on the frame engages with component on the leaf
- Improvement of tightness and safety
- No on-site central locking mechanism is needed for secure locking
- Can be operated with a hand lever, crank or an E 212 electric linear drive

TECHNICAL DATA**Additional locking mechanism OL 90 N/OL 95**

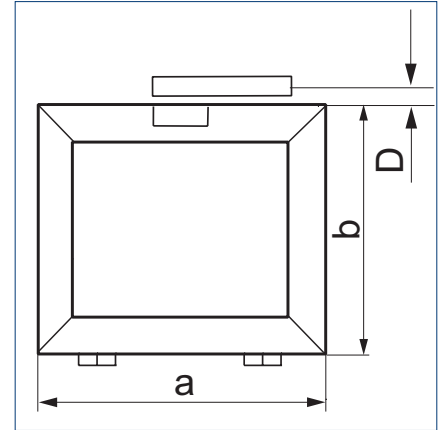
Opening width (max.)	170 mm
Leaf width a (min.)	580 mm
Leaf height b (min.)	600 mm
Fitting stroke	54 mm
Locking force (max.)	150 N

CROSS-SECTIONS IN PROFILE

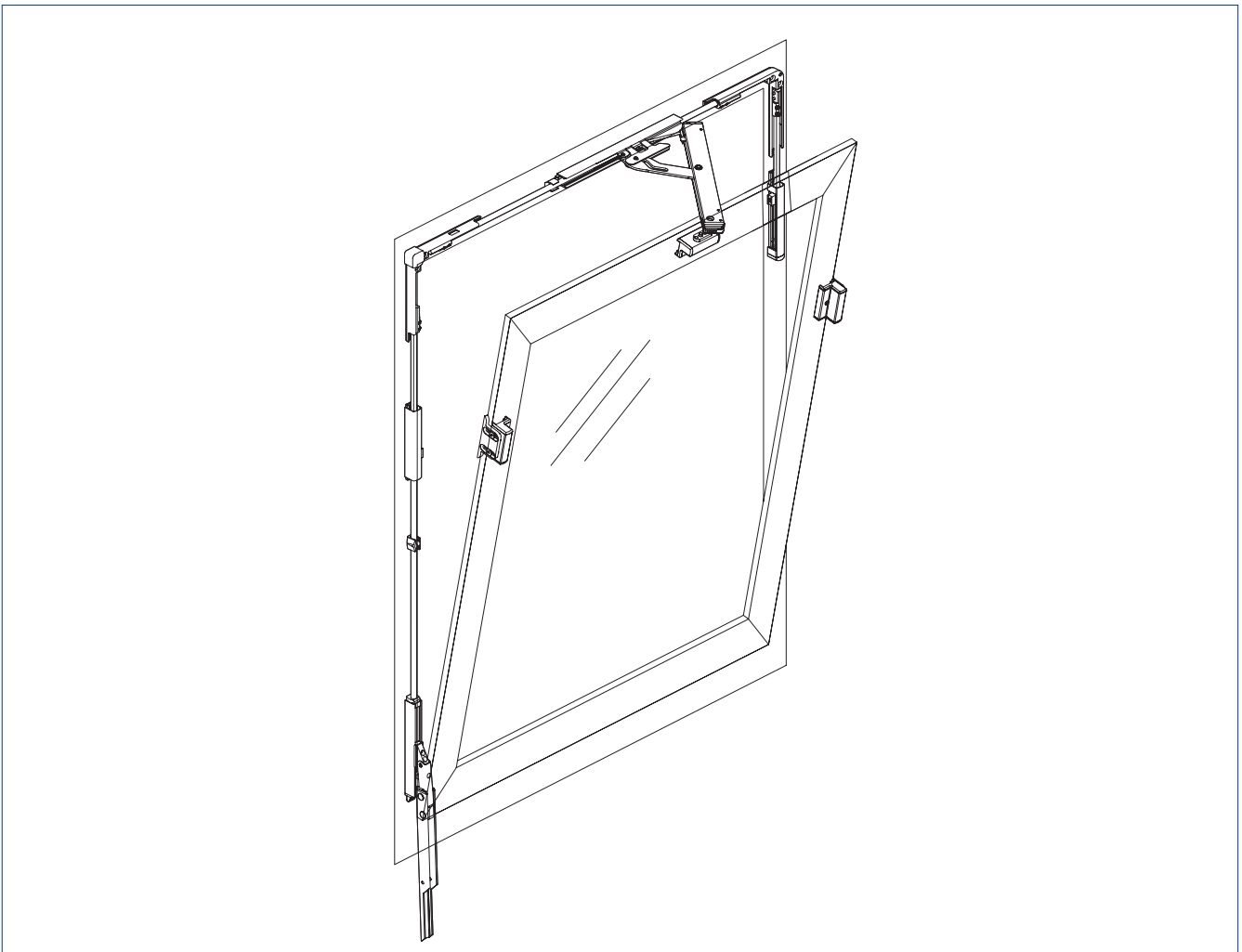
Overlap height 0 – 17 mm



Overlap height 14 – 25 mm



→ **Note:** The additional locking mechanism can be installed on leaves with a minimum width of 580 mm and a minimum height of 600 mm.

SYSTEM ILLUSTRATION

Coupling OL 90 N



Locking mechanism for improving tightness and safety

AREAS OF APPLICATION

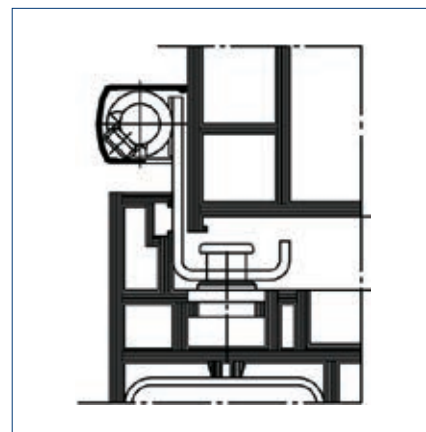
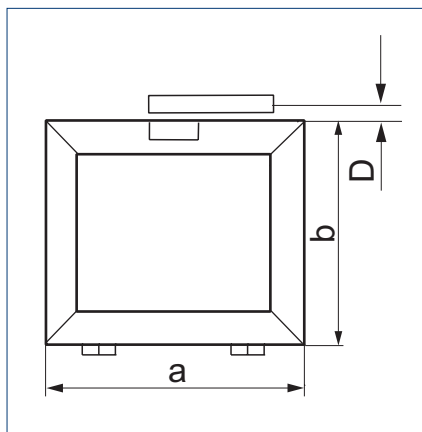
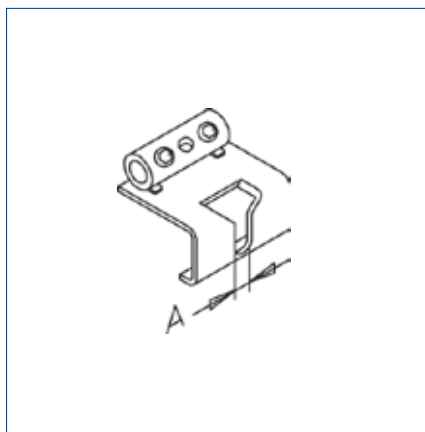
- Locking mechanism on the rectangular window
- Can be used in combination with an OL 90 N scissor
- Installation on wooden, PVC or aluminium windows
- Installation on rod

PRODUCT FEATURES

- Concealed locking mechanism – on-site fitting pins engage in driver
- Improvement of tightness and safety

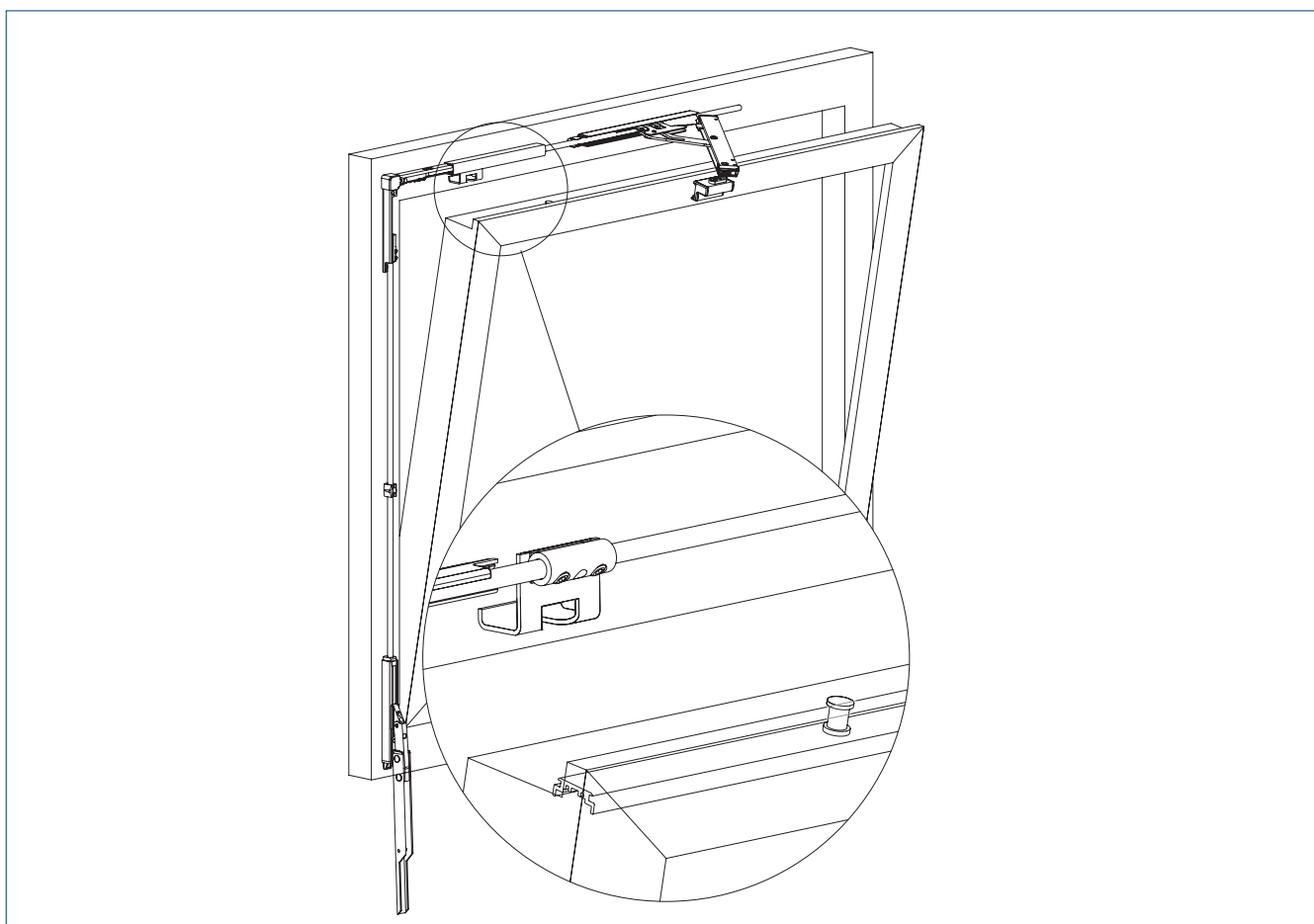
TECHNICAL DATA**Coupling OL 90 N**

Opening width	170 mm
Leaf width a (min.)	480 mm
Leaf height b (min.)	250 mm
Fitting stroke	54 mm

INSTALLATION DRAWING AND CROSS-SECTION IN PROFILE

A = diameter of various locking bolts

→ **Note:** The concealed locking mechanism can be installed on leaves with a minimum height of 250 mm.

SYSTEM ILLUSTRATION

Component options

SOLUTIONS FOR ADDITIONAL PROTECTION

ADDITIONAL LOCKING MECHANISM

Additional locking mechanism for OL 90 N / OL 95 for overlap height 0 – 17 mm (030519, 030523, 030522)

Additional locking mechanism for OL 90 N / OL 95 for overlap height 14 – 25 mm (030524, 030528, 030527)

COUPLING

Coupling for OL 90 N / OL 95 (024953, 029722, 030294)

ORDER INFORMATION

Designation	Version	ID No.
OL SCISSORS		
OL 90 N scissors With standard leaf bracket (fixed pack of 25 pieces)	EV1	030574
	white RAL 9016	030578
	acc. to RAL	030577
OL 90 N scissors With standard leaf bracket	EV1	030373
	white RAL 9016	030377
	black	074509
	acc. to RAL	030376
OL 90 N scissors With sliding leaf bracket	EV1	030596
	white RAL 9016	030600
	black	074511
	acc. to RAL	030599
OL 90 N scissors Without leaf bracket	EV1	071203
	white RAL 9016	071207
	black	099477
	acc. to RAL	071206
OL 90 N scissors Lockable, with leaf bracket	EV1	029183
	white RAL 9016	029187
	acc. to RAL	029186
OL 90 N scissors With unhinging inhibitor and standard leaf bracket	EV1	030498
	white RAL 9016	030502
	acc. to RAL	030501
OL 95 scissor With standard leaf bracket	EV1	082445
	white RAL 9016	082448
	acc. to RAL	082449
OL 95 scissor Without leaf bracket	EV1	084194
	white RAL 9016	084197
	acc. to RAL	084199
OL 95 scissor With unhinging inhibitor and leaf bracket	EV1	082638
	white RAL 9016	082641
	acc. to RAL	082643
LEAF BRACKETS OL 90 N AND OL 95		
Standard leaf bracket for OL 90 N / OL 95 Suitable for OL 90 N / OL 95 on PVC and aluminium windows	EV1	074424
	white RAL 9016	074428
	black	080228
	acc. to RAL	074427

ORDER INFORMATION

Designation	Type of installation	Version	ID No.
Sliding leaf bracket for OL 90 N / OL 95 Suitable for OL 90 N / OL 95 on special shapes of PVC and aluminium windows		EV1	084398
		white RAL 9016	084401
		black	084402
		acc. to RAL	084403
Standard leaf bracket for OL 90 N / OL 95 Suitable for OL 90 N / OL 95 on wooden windows with Euro-groove		EV1	030886
		white RAL 9016	030890
		black	099475
		acc. to RAL	030889
Sliding leaf bracket for OL 90 N / OL 95 Suitable for OL 90 N / OL 95 on special shapes of wooden windows		EV1	071198
		white RAL 9016	071202
		black	099476
		acc. to RAL	071201
OL 90 N TOP-HUNG OUTWARD OPENING SCISSORS			
OL 90 N scissors For top-hung outward opening, reveal depth 0–30 mm, with leaf bracket	left	EV1	118060
	right	EV1	117700
	left	white RAL 9016	118081
	right	white RAL 9016	117771
	left	acc. to RAL	118082
	right	acc. to RAL	117772
OL 90 N scissors For top-hung outward opening, reveal depth 30–60 mm, with leaf bracket	left	EV1	118083
	right	EV1	117773
	left	white RAL 9016	118084
	right	white RAL 9016	117774
	left	acc. to RAL	118085
	right	acc. to RAL	117775
ACCESSORIES OL 90 N TOP-HUNG OUTWARD OPENING			
Locking mechanism for OL 90 N top-hung outward opening For reveal depth 30 – 60 mm		EV1	117776
		white RAL 9016	117777
		acc. to RAL	117778
ACCESSORIES FOR OL 90 N, OL 95 AND OL 90 N TOP-HUNG OUTWARD OPENING			
Hand lever with corner transmission for OL 90 N / OL 95 Suitable for OL 90 N / OL 95 (fixed pack of 25 pieces)		EV1	030557
		white RAL 9016	030561
		acc. to RAL	030560
Hand lever with corner transmission for OL 90 N / OL 95		EV1	030611
		white RAL 9016	030615
		black	077945
		acc. to RAL	030614
Hand lever with bendable corner transmission for OL 90 N / OL 95 For special window shapes		EV1	076911
		white RAL 9016	076915
		black	080227
		acc. to RAL	076916
Hand lever for OL 90 N / OL 95 Without corner transmission		EV1	026882
		white RAL 9016	026887
		black	079113
		acc. to RAL	026886
Lockable hand lever for OL 90 N / OL 95 Without corner transmission		EV1	083841
		white RAL 9016	083844
		acc. to RAL	085230

ORDER INFORMATION

Designation	Type of installation	Length	Version	ID No.
Corner transmission for OL 90 N / OL 95			galvanised	070546
Bendable corner transmission for OL 90 N / OL 95			galvanised	071354
Bendable for special window shapes				
Accessories for swivelling hand lever			EV1	030391
			white RAL 9016	030395
			acc. to RAL	030394
Fz 90 corner operating gear	left		galvanised	030809
Corner transmission with integrated gear, without crank rod and without crank	right		galvanised	030811
	left		black	030810
	right		black	030812
Fz 91 vertical gear			galvanised	030817
With corner transmission, without crank rod and without crank			black	030818
Fz 91 vertical gear			galvanised	030822
Without corner transmission, without crank rod and without crank			black	030823
Fz 92 gear			EV1	030778
Vertical gear with joint, for inclined mounting, without crank rod and crank				
Fixed crank rod		1400 mm	EV1	050857
With angled crank and crank rod holder		1400 mm	white RAL 9016	015864
		1400 mm	acc. to RAL	015986
Fixed crank rod			EV1	077433
With angled crank and crank rod holder			white RAL 9016	108476
bespoke (per 1000 mm)			acc. to RAL	108477
Removable crank rod		1400 mm	EV1	050856
With angled crank		1400 mm	white RAL 9016	015879
		1400 mm	acc. to RAL	015987
Removable crank rod			EV1	077434
With angled crank cut to size (length in 1000 mm increments)			white RAL 9016	108480
			acc. to RAL	108491
Stroke limiter for reduced opening width			silver-coloured	012335
Overload protection			EV1	020226
For Fz90-92 and Fz 100-101 gears			white RAL 9016	020223
			acc. to RAL	020224
Crank rod for DIY installation		6000 mm	EV1	053262
Connecting tube, 6000 mm		6000 mm	white RAL 9016	014706
		6000 mm	acc. to RAL	015982
Crank rod for DIY installation			EV1	109482
connecting tube cut to size			white RAL 9016	109485
(length in 1000 mm increments)			acc. to RAL	109486

ORDER INFORMATION

Designation	Locking dimension	Length	Version	ID No.
Coupling for OL 90 N / OL 95 For concealed locking mechanism	A= 8.5 mm		silver-coloured	024953
	A= 11.5 mm		silver-coloured	029722
	A= 15.5 mm		silver-coloured	030294
Additional locking mechanism for OL 90 N / OL 95 For overlap heights 0–17 mm			EV1	030519
			white RAL 9016	030523
			acc. to RAL	030522
Additional locking mechanism for OL 90 N / OL 95 For overlap heights 14–25 mm			EV1	030524
			white RAL 9016	030528
			acc. to RAL	030527
Mullion-frame transmission size 75 for OL 90 N T=0–75 mm			EV1	030744
			white RAL 9016	030748
			acc. to RAL	030747
Mullion-frame transmission size 150 for OL 90 N T=0–150 mm			EV1	030749
			white RAL 9016	030753
			acc. to RAL	030752
Corner bracket transmission for corner bracket or hinge for OL 90 N			EV1	030902
			white RAL 9016	030906
			black	074510
			acc. to RAL	030905
Flexible link arm without accessories		700 mm	EV1 + white RAL 9016	022718
		700 mm	brown	008481
Flexible link arm without accessories		1000 mm	EV1 + white RAL 9016	022720
		1000 mm	brown	008483
Flexible link arm without accessories		1250 mm	EV1 + white RAL 9016	022721
		1250 mm	brown	008485
Flexible link arm without accessories Special bespoke length		350–3000 mm	EV1 + white RAL 9016	072130
		350–3000 mm	brown	072131
Accessories for flexible link arm For special window shapes			EV1 + white RAL 9016	030862
			brown	030861
Corner guide for flexible link arm			EV1 + white RAL 9016	030764
			brown	030763
Accessories for flexible transmission			EV1 + white RAL 9016	030798
			brown	030797
INSTALLATION MATERIAL				
Rod ø 8 mm		2000 mm	galvanised	016555
		3000 mm	galvanised	016591
		6000 mm	galvanised	016592
Cover profile OL 90 N / OL 95		2000 mm	EV1	030401
		2000 mm	white RAL 9016	030405
		2000 mm	black	074537
		2000 mm	acc. to RAL	030404
Cover profile OL 90 N / OL 95		3000 mm	EV1	030396
		3000 mm	white RAL 9016	030400
		3000 mm	black	074539
		3000 mm	acc. to RAL	030399
Cover profile OL 90 N / OL 95		6000 mm	EV1	027558
		6000 mm	white RAL 9016	027561
		6000 mm	black	074540
		6000 mm	Mill finish	027556

ORDER INFORMATION

Designation	Version	ID No.
Rod guide (fixed pack of 10 pieces)	white	010878
Tie rod guide and connector plate	galvanised	002747
Corner bracket cover for OL 90 N / OL 95	EV1	071503
	white RAL 9016	071507
	acc. to RAL	071506

DRILLING TEMPLATES

Drilling template For wooden windows	yellow RAL 1003	054799
Drilling template For metal and PVC windows	blue	054800
Additional drilling jig for Euronut leaf bracket For wooden windows	silver-coloured	028141
Accessories for multi-section drilling template	silver-coloured	020477
Drilling template For 2 scissors, F45 arched window		071861
Drilling template for metal and PVC For Fz 92 gear	silver-coloured	013770
Drilling template for connecting tube	silver-coloured	059083



OL 90 N with E 212 VGH Insurance Company, Hanover, Germany (Photo: Lothar Wels / GEZE GmbH)

OL 320



Surface-mounted fanlight opener with an opening width of 320 mm

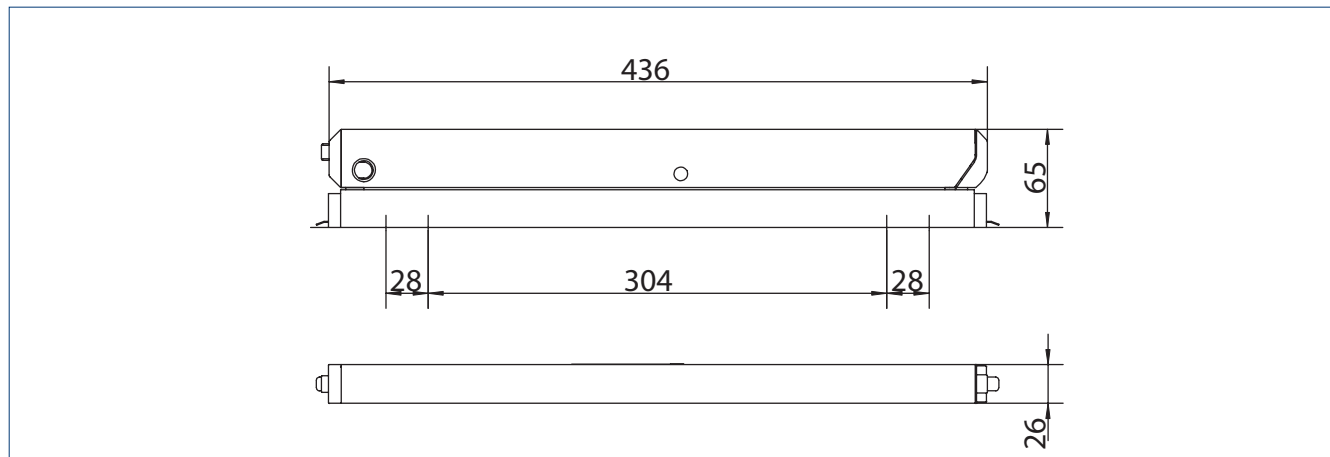
AREAS OF APPLICATION

- Convenient daily ventilation for rooms and staircases
- For windows with heavy leaves weighing up to 250 kg
- Inward opening bottom-hung windows
- Automation using E 212 electric linear drive
- Installation on wooden, PVC or aluminium windows
- Frame installation

PRODUCT FEATURES

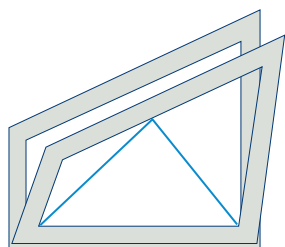
- Achieves the full opening width of 320 mm for all leaf heights
- The opening width can be adjusted
- Little space necessary thanks to flat design of the scissors
- Safety button on the scissors shows scissors engagement in the spherical head of the leaf bracket
- Integrated leaf locking mechanism in the scissors ensures secure locking
- Scissor unhooking by pressing the release button facilitates window cleaning from the inside and outside
- Unhinging inhibitor provides additional safety
- Couplings and additional locking mechanisms increase safety and tightness
- The scissors and the link arm can be installed from the front
- Leaf bracket suitable for all overlap heights and materials

PRODUCT SCALE DRAWING



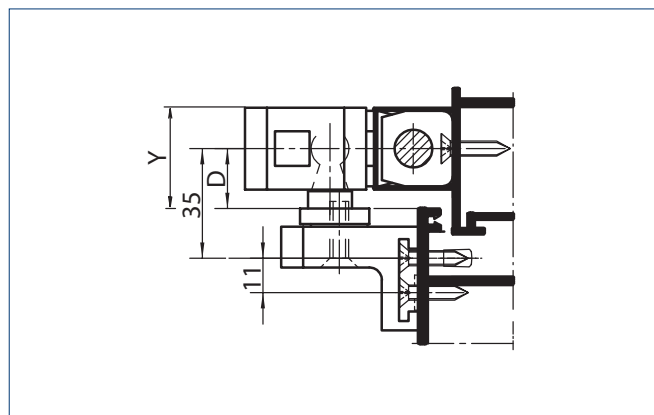
SPECIAL WINDOW SHAPES

BESPOKE ANGULAR

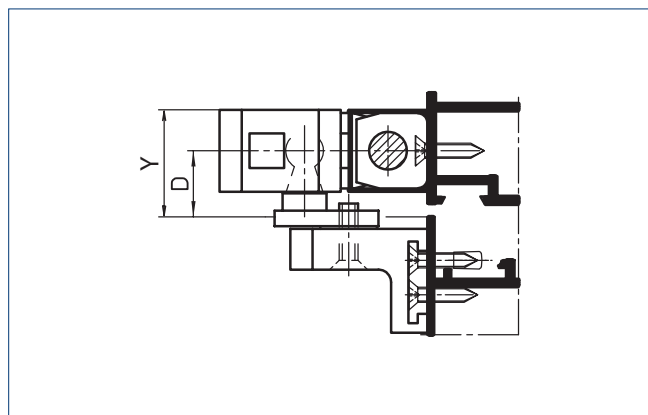


CROSS-SECTIONS IN PROFILE

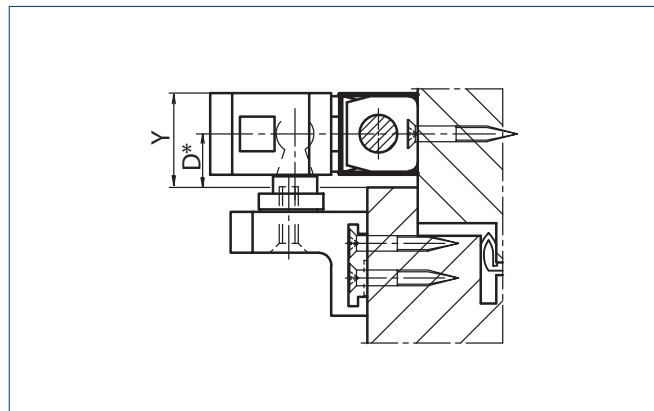
OL 320 ON ALUMINIUM WINDOW WITH OVERLAP



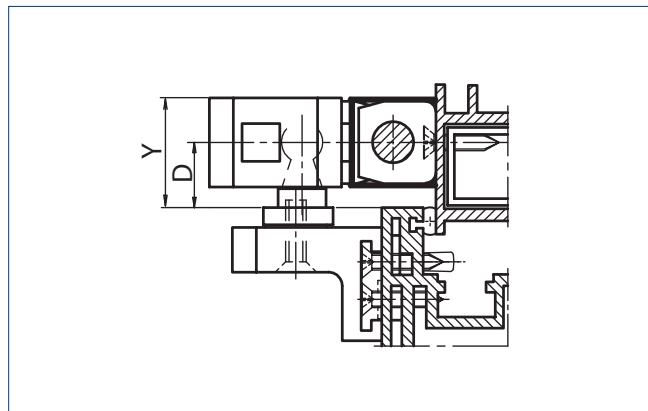
OL 320 FLUSH-MOUNTED ON ALUMINIUM WINDOW



OL 320 ON WOODEN WINDOW



OL 320 ON PVC WINDOW



D = Distance from outer edge of leaf to centre of link arm | D* = Distance from outer edge of leaf to centre of link arm (preferably 17 mm) | Y = Upper space requirement

OL 320 FOR RECTANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 320 scissors
- 2 Leaf bracket with long mounting plate
- 3 Corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
- 6 Hand lever

TECHNICAL DATA

OL 320 for rectangular windows

Opening width (max.)	320 mm
Leaf width a (min.)	680 mm
Leaf height b (min.)	400 mm
Leaf weight (max.)	250 kg
Fitting stroke	70 mm

Scissors

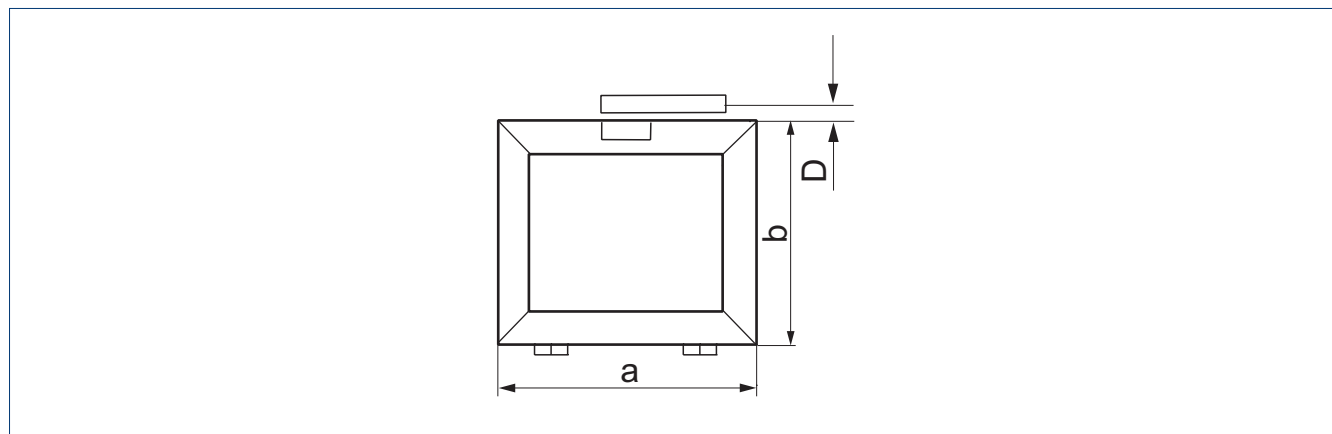
Length	436 mm
Depth	65 mm
Height	26 mm

FUNCTIONS

Adjustable opening width (stroke reduction)	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Unhinging inhibitor	●

● = Yes

INSTALLATION DRAWING FOR RECTANGULAR WINDOW



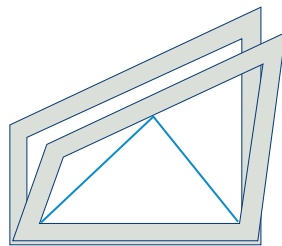
APPLICATION LIMITS

Number of scissors	Leaf width a (min.)	Leaf width a (max.)	Leaf height b (min.)	Leaf weight (max.)
1	680 mm	1200 mm	400 mm	250 kg
2	1201 mm	2400 mm		
3	2401 mm	3600 mm		

SETTING DIMENSIONS AND SPACE NEEDED

Leaf height b (min.)	Leaf height b (max.)	Setting dimension D (min.) at top	Space requirement Y at top
400 mm	499 mm	23 mm	min. 36 mm
500 mm	599 mm	21 – 23 mm	D(min) + 13
600 mm	799 mm	19 – 23 mm	
800 mm		17 – 23 mm	

OL 320 FOR BESPOKE ANGULAR WINDOWS – COMPONENTS OF THE FANLIGHT OPENER SYSTEM



- 1 OL 320 scissors
- 2 Sliding leaf bracket with long mounting plate
- 3 Bendable corner transmission
- 4 Rod (can be covered by cover profile of various colours)
- 5 Rod guide
- 6 Hand lever

TECHNICAL DATA

OL 320 on bespoke angular window

Opening width (max.)	320 mm
Leaf width a (min.)	680 mm
Leaf height b (min.)	400 mm
Leaf weight (max.)	250 kg
Fitting stroke	70 mm

Scissors

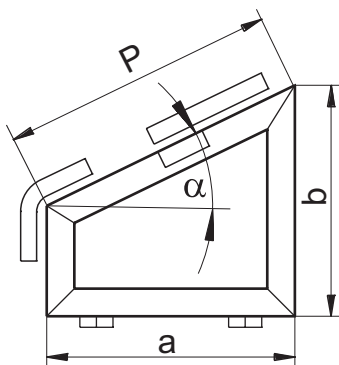
Length	436 mm
Depth	65 mm
Height	26 mm

FUNCTIONS

Adjustable opening width (stroke reduction)	●
Leaf locking mechanism integrated in the scissors	●
Scissor unhooking by release button	●
Unhinging inhibitor	●

● = Yes

INSTALLATION DRAWING FOR BESPOKE ANGULAR WINDOW



APPLICATION LIMITS

Number of scissors	Leaf width a (min.)	Leaf width a (max.)	Leaf height b (min.)	Leaf weight (max.)
1	680 mm	1200 mm	400 mm	250 kg
2	1201 mm	2400 mm		
3	2401 mm	3600 mm		

SETTING DIMENSIONS AND SPACE NEEDED

Leaf height b (min.)	Leaf height b (max.)	Setting dimension D (min.) at top	Space requirement Y at top
400 mm	499 mm	23 mm	min. 36 mm
500 mm	599 mm	21 – 23 mm	D(min) + 13
600 mm	799 mm	19 – 23 mm	
800 mm		17 – 23 mm	

Component options

OL 320 SCISSORS

Scissors with sliding leaf bracket (128211, 128212, 128213)

Scissors with sliding leaf bracket and unhinging inhibitor (131288, 131289, 131290)

SLIDING LEAF BRACKET + MOUNTING PLATE

Sliding leaf bracket with short mounting plate (139179, 139180, 139211)

Mounting plate, long (063923)

CORNER TRANSMISSION + HAND LEVER

Hand lever with corner transmission (131610, 131611, 131612, 139061, 139062, 139058, 139059)

Corner transmission (058648)

Hand lever (131652, 131653, 131654, 131655, 131656, 131657, 131658, 131659, 131660)

CONNECTION COMPONENTS

Rod (053198, 053199, 054116)

COVER ACCESSORIES

Cover profile (058771, 018293, 014258, 058774, 018294, 014259, 058630, 018251)

Corner bracket cover (012560, 018245, 015459)

Additional pack for end cover on end of scissors (058633, 018254, 013816)

FIXING ACCESSORIES

Rod guide (058653)

Connector plate for rod guide (004535)

Rod coupling (059729)

Connector plate for hand lever (139636)



WINDOWS

Individual solutions

OL 320

No matter where they are installed, our fanlight openers must be able to be used flexibly – and we've also got the right solutions in this regard. We provide operating elements for all areas of application. Different crank rods and gears ensure optimal power transmission and make opening and closing the windows really easy. Do you want your windows to provide increased safety? Then additional locking mechanisms are just what you need to improve tightness and safety.



Fz 100 corner operating gear



Corner operating gear for operating the windows with a crank rod

AREAS OF APPLICATION

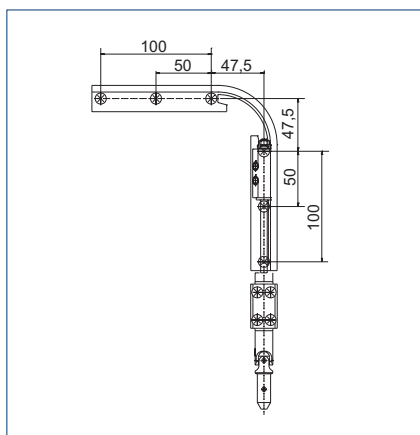
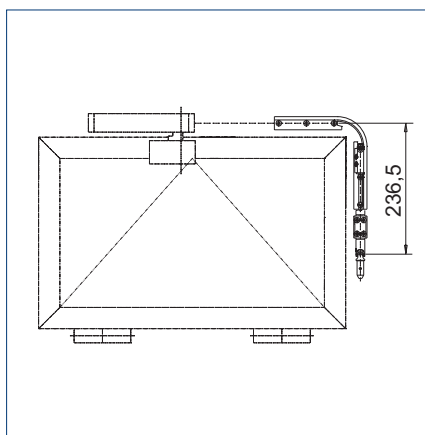
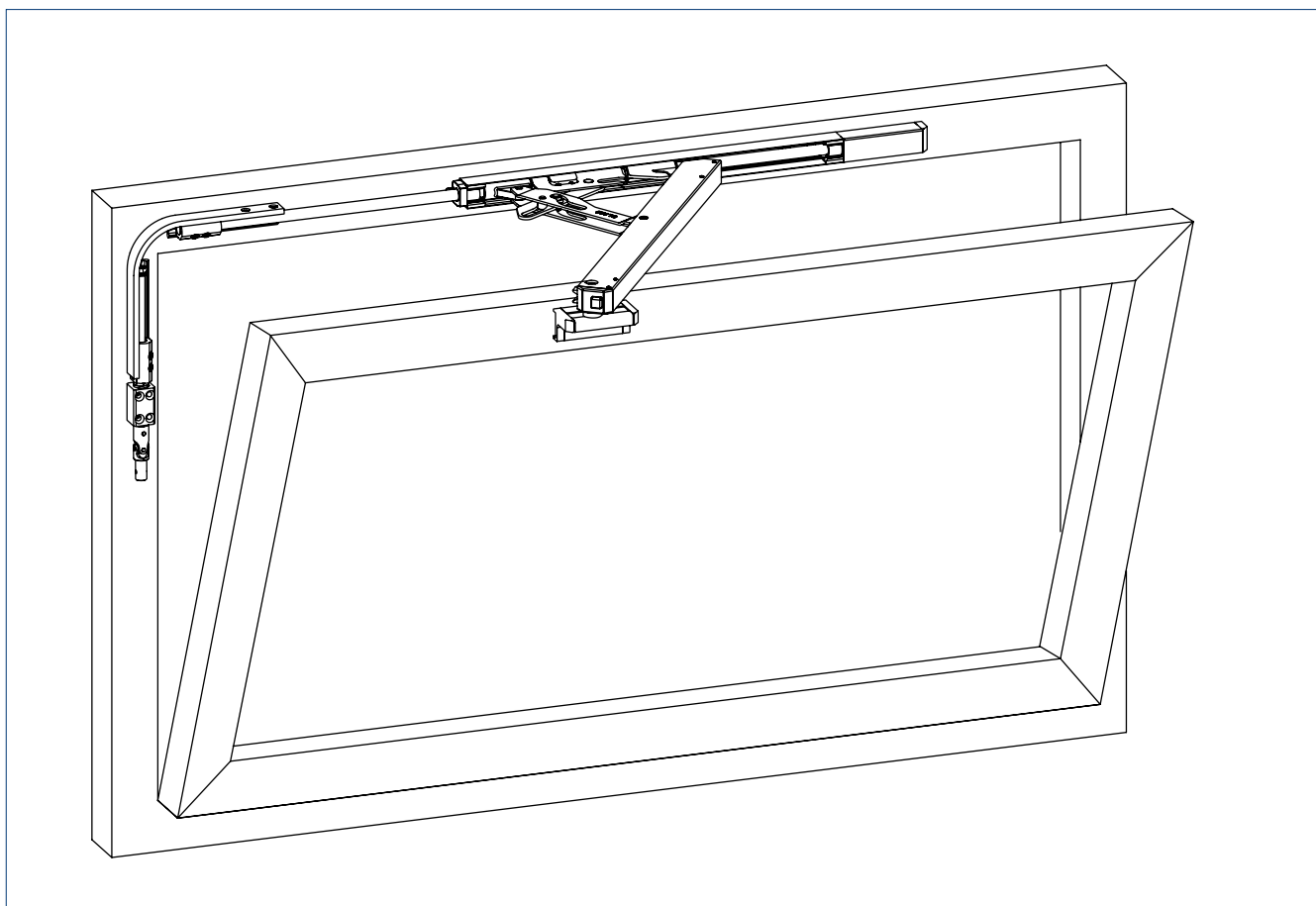
- For the convenient operation of a rectangular or bespoke angular window using a fixed or removable crank rod
- Can be used in combination with an OL 320 scissor on inward opening bottom-hung windows
- Installation on wooden, plastic or aluminium windows
- Frame installation

PRODUCT FEATURES

- Corner transmission pre-mounted with universal joint
- Variable adjustment of bottom opening width
- Restriction of bottom opening by using stroke limiter
- Ten rotations of the crank are needed to fully open the window
- Additional functional safety through overload protection

TECHNICAL DATA**Fz 100 corner operating gear**

Width	26 mm
Hub	70 mm
Rod diameter (clamp connection)	12 mm
Crank rotations for max. opening	10

INSTALLATION DRAWING FOR RECTANGULAR WINDOW**SYSTEM ILLUSTRATION**

Fz 101 vertical gear



Vertical gear for operating the windows with a crank rod

AREAS OF APPLICATION

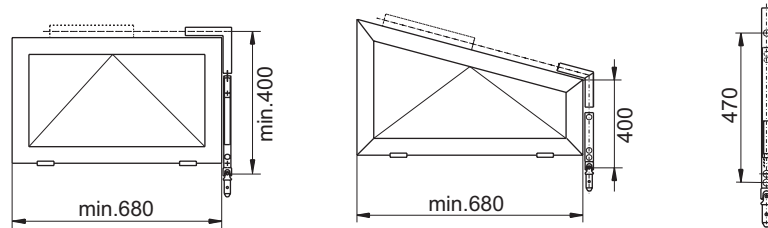
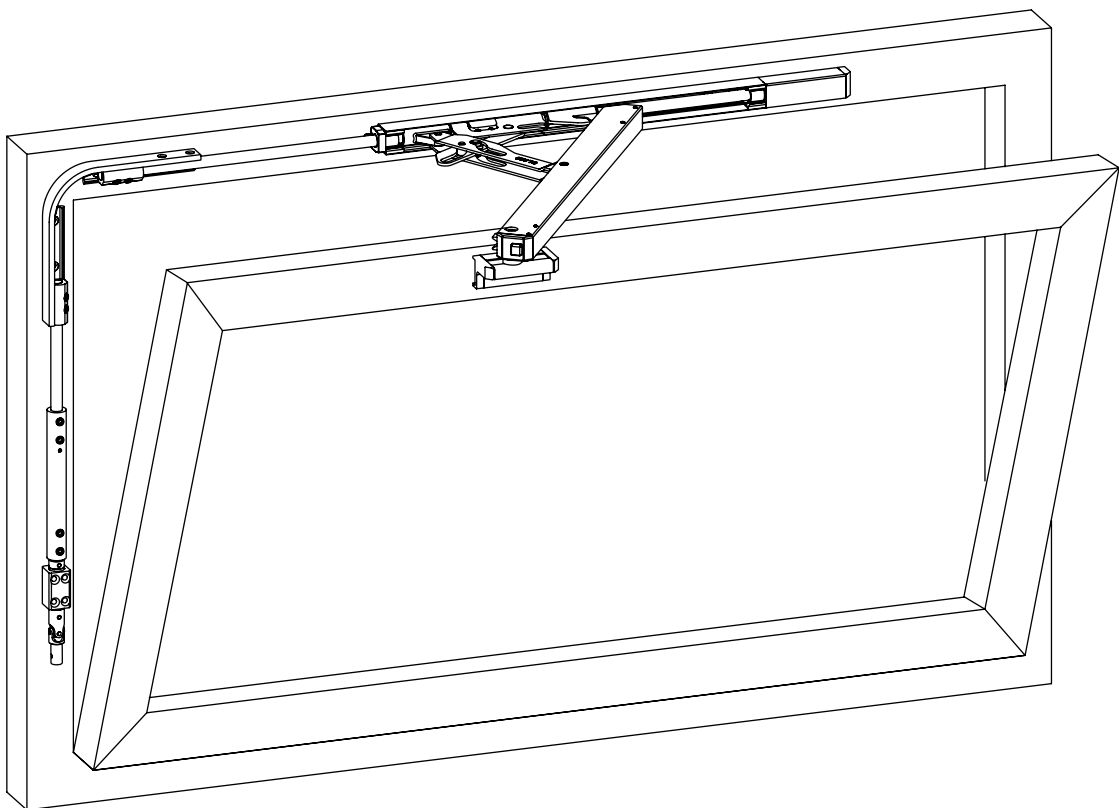
- For the convenient operation of a rectangular or bespoke angular window using a fixed or removable crank rod
- Can be used in combination with an OL 320 scissor on inward opening bottom-hung windows
- Installation on wooden, plastic or aluminium windows
- Frame installation

PRODUCT FEATURES

- Vertical gear can be linked by rod to the corner transmission
- Bottom opening width with variable adjustment
- Restriction of bottom opening by using stroke limiter
- Ten rotations of the crank are needed to fully open the window
- Additional functional safety through overload protection

TECHNICAL DATA

	Fz 101 vertical gear
Width	26 mm
Hub	70 mm
Rod diameter (clamp connection)	12 mm
Crank rotations for max. opening	10

INSTALLATION DRAWING FOR RECTANGULAR AND BESPOKE ANGULAR WINDOWS**SYSTEM ILLUSTRATION**

Component options

SOLUTIONS FOR OPERATING THE WINDOWS WITH A CRANK ROD

GEAR

Fz 100 corner operating gear (018194)
Fz 101 vertical gear (018196)

CRANK RODS

Fixed crank rod (050857, 015864, 015986, 077433, 108476, 108477)
Removable crank rod (050856, 015879, 015987, 077434, 108480, 108491)
Crank rod for DIY installation (053262, 014706, 015982, 109482, 109485, 109846)

ACCESSORIES/COMBINATION OPTIONS

Standard corner transmission (058648),
Stroke limiter (012335)
Overload protection (020226, 020223, 020224)
Angled crank (056951, 014795, 056952)
Coupling socket (042963)
Swivel joint with sole plate (022934, 022933)

FIXING ACCESSORIES

Rod guide (058653)
Rod coupling (059729)
Connector plate for hand lever (139636)
Crank rod holder (054560, 014794, 054561),
Spring pin (022932)

Additional locking mechanism OL 320



Locking mechanism for improving tightness and safety

AREAS OF APPLICATION

- Locking mechanism on the rectangular or bespoke angular window
- Can be used in combination with an OL 320 scissor on inward opening bottom-hung windows
- Installation on wooden, plastic or aluminium windows
- Frame and leaf installation

PRODUCT FEATURES

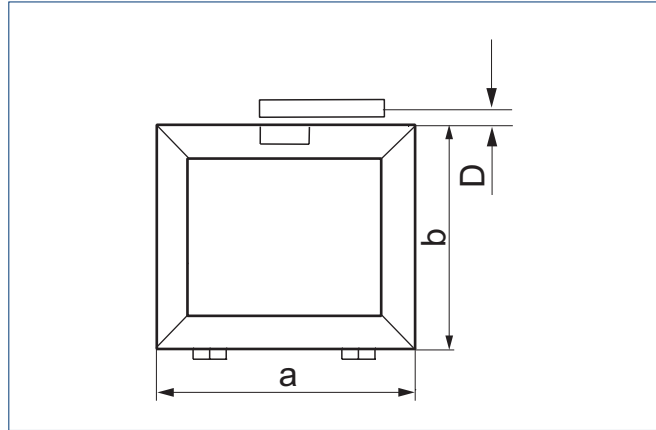
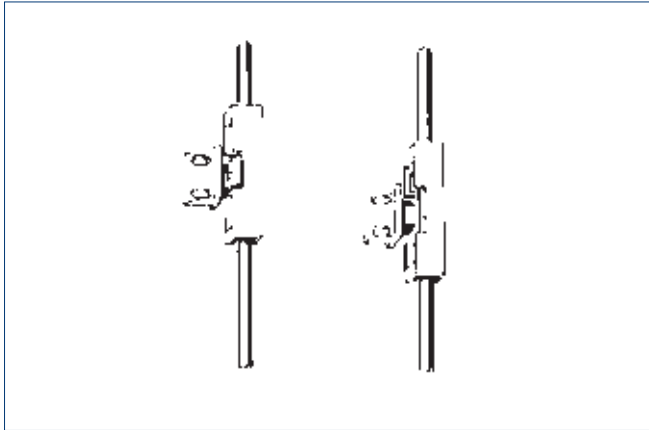
- Visible locking mechanism – component on the frame engages with component on the leaf
- Improvement of tightness and safety
- No on-site central locking mechanism is needed for secure locking
- Can be operated with a hand lever, crank or an E 212 electric linear drive

TECHNICAL DATA

Additional locking mechanism OL 320

Opening width (max.)	320 mm
Leaf width a (min.)	770 mm
Leaf height b (min.)	400 mm
Fitting stroke	70 mm

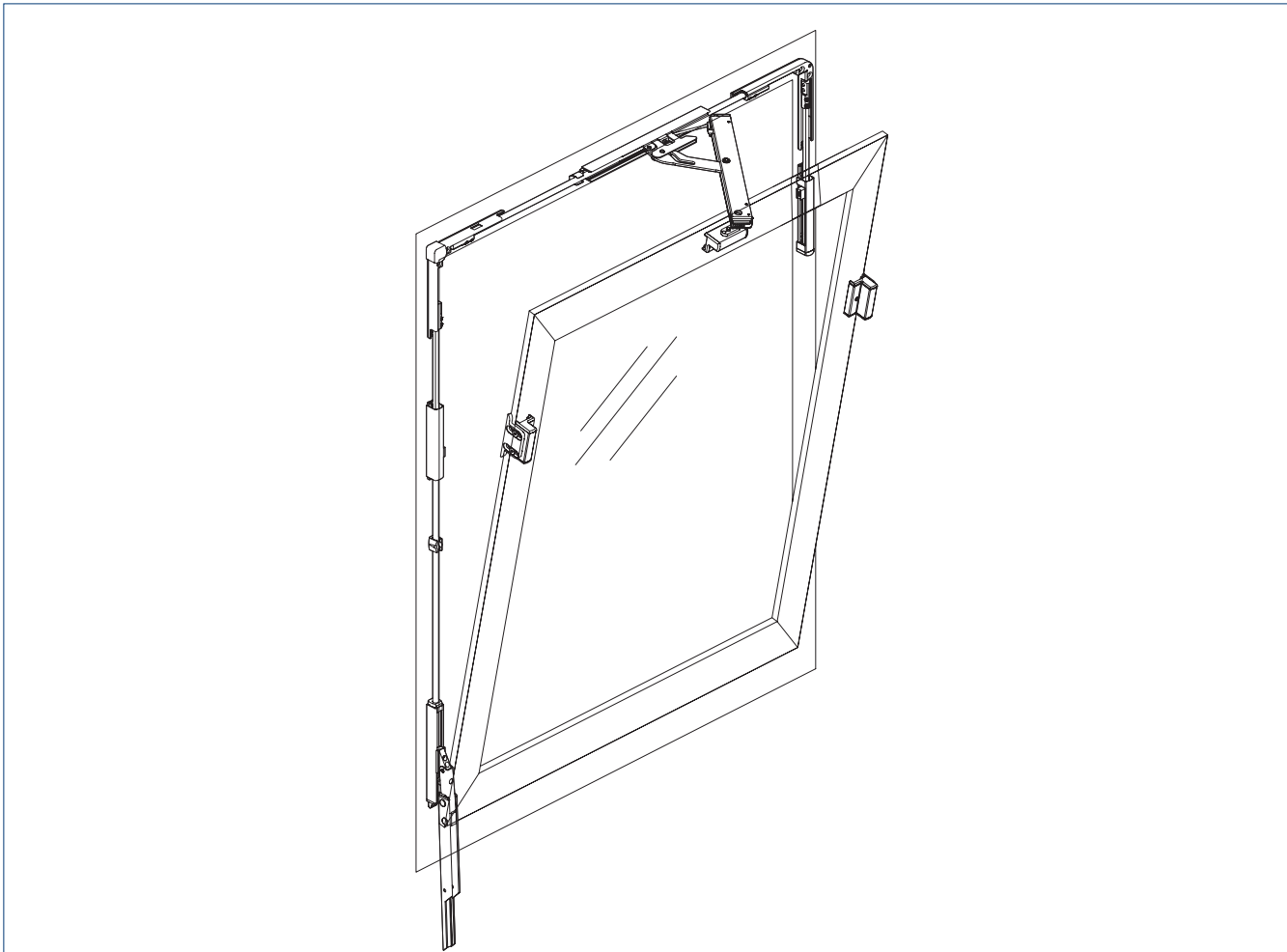
CROSS-SECTIONS IN PROFILE



Overlap height 12 – 25 mm

→ **Note:** The additional locking mechanism can be installed on leaves with a minimum width of 580 mm and a minimum height of 600 mm.

SYSTEM ILLUSTRATION



Coupling OL 320



Locking mechanism for improving tightness and safety

AREAS OF APPLICATION

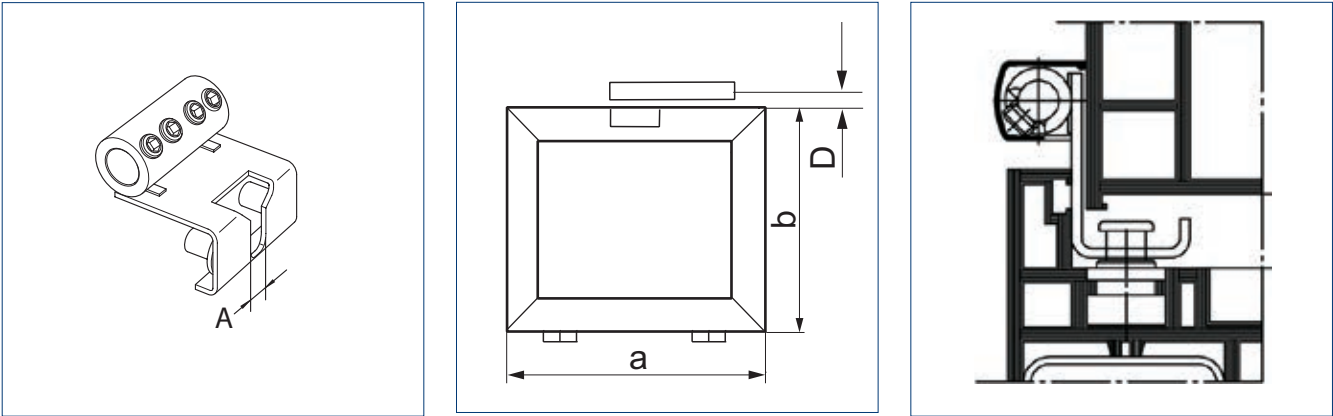
- Locking mechanism on the rectangular window
- Can be used in combination with an OL 320 scissor on inward opening bottom-hung windows
- Installation on wooden, plastic and aluminium windows
- Mounted on the rod

PRODUCT FEATURES

- Concealed locking mechanism – on-site fitting pins engage in driver
- Improvement of tightness and safety
- Can be used with on-site fittings for wooden, PVC and aluminium windows

TECHNICAL DATA	Coupling OL 320
Opening width (max.)	320 mm
Leaf width a (min.)	810 mm
Leaf height b (min.)	500 mm
Fitting stroke	70 mm

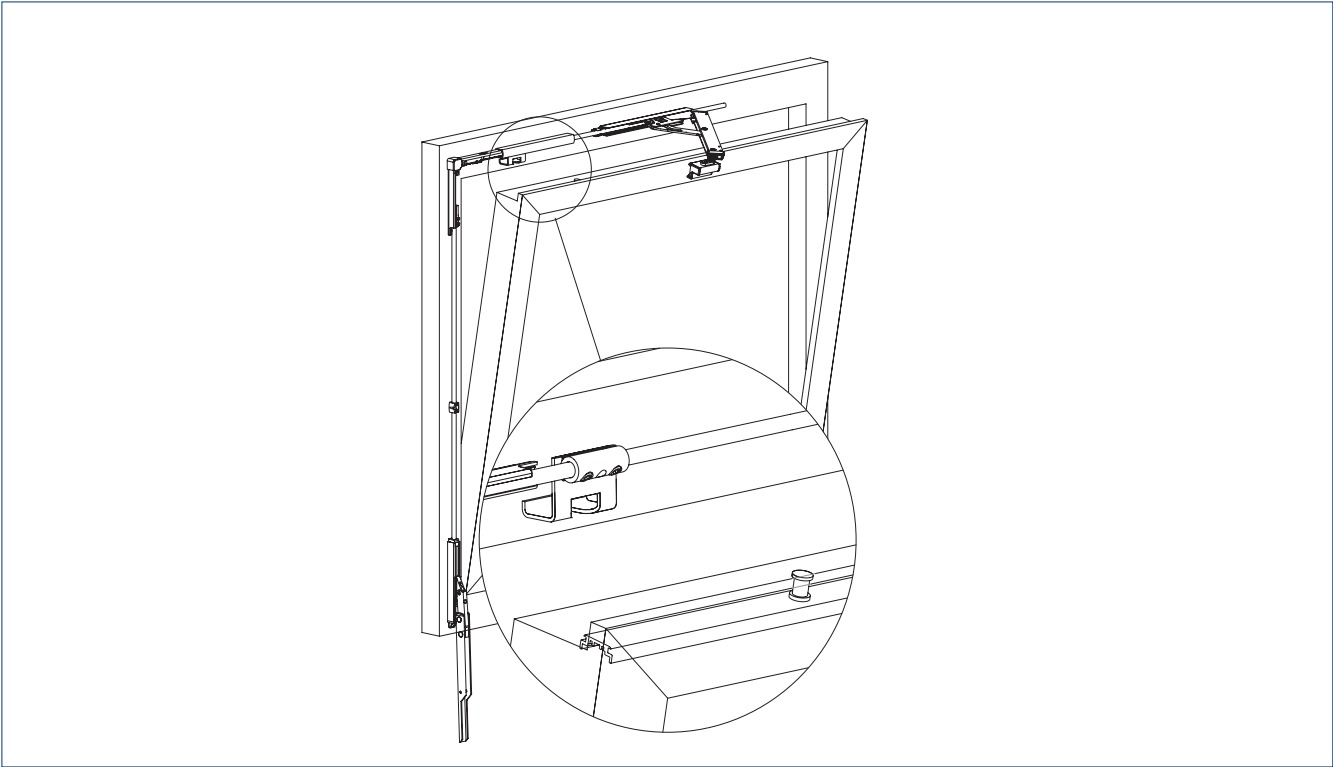
INSTALLATION DRAWING AND CROSS-SECTION IN PROFILE



A = diameter of various locking bolts

→ **Note:** The concealed locking mechanism can be installed on leaves with a minimum height of 500 mm.

SYSTEM ILLUSTRATION



Component options

SOLUTIONS FOR ADDITIONAL PROTECTION

ADDITIONAL LOCKING MECHANISM

Additional locking mechanism for OL 320 (063974, 018257, 013080)

COUPLINGS

Coupling for OL 320 aluminium windows (024954, 029717)

Coupling for OL 320 wooden and PVC windows (029855, 029856, 030295)

Coupling for OL 320 light metal window for cranked turn and tilt profile (028905)

ORDER INFORMATION

Designation	Length	Version	ID No.
OL 320 SCISSORS			
OL 320 scissors With sliding leaf bracket		EV1	128211
		white RAL 9016	128212
		acc. to RAL	128213
OL 320 scissors With unhinging inhibitor and sliding leaf bracket		EV1	131288
		white RAL 9016	131289
		acc. to RAL	131290
ACCESSORIES OL 320			
Sliding leaf bracket suitable for OL 320 With short mounting plate		EV1	139179
		white RAL 9016	139180
		acc. to RAL	139211
Hand lever stroke 42 mm with corner transmission For opening widths up to approx. 220 mm		EV1	139061
		white RAL 9016	139062
Hand lever stroke 54 mm with corner transmission For opening widths up to approx. 280 mm		EV1	139058
		white RAL 9016	139059
Hand lever stroke 70 mm with corner transmission Suitable for OL 320 For opening widths up to approx. 320mm (standard opening width)		EV1	131610
		white RAL 9016	131611
		acc. to RAL	131612
Hand lever stroke 42 mm without corner transmission For opening widths up to approx. 220 mm		EV1	131658
		white RAL 9016	131659
		acc. to RAL	131660
Hand lever stroke 54 mm without corner transmission For opening widths up to approx. 280 mm		EV1	131655
		white RAL 9016	131656
		acc. to RAL	131657
Hand lever stroke 70 mm without corner transmis- sion For opening widths up to approx. 320 mm		EV1	131652
		white RAL 9016	131653
		acc. to RAL	131654
Corner transmission		galvanised	058648
SUITABLE FOR OL 320			
Fz 100 corner operating gear Without crank rod and without crank		galvanised	018194
Fz 101 vertical gear Without crank rod and without crank		galvanised	018196
Fixed crank rod With angled crank and crank rod holder	1400 mm	EV1	050857
	1400 mm	white RAL 9016	015864
	1400 mm	acc. to RAL	015986
Fixed crank rod With angled crank and crank rod holder cut to size (length in 1000 mm increments)		EV1	077433
		white RAL 9016	108476
		acc. to RAL	108477
Removable crank rod With angled crank	1400 mm	EV1	050856
	1400 mm	white RAL 9016	015879
	1400 mm	acc. to RAL	015987
Removable crank rod With angled crank cut to size (length in 1000 mm increments)		EV1	077434
		white RAL 9016	108480
		acc. to RAL	108491
Stroke limiter for reduced opening width		silver-coloured	012335
Overload protection For Fz 90-92 and Fz 100-101 gears		EV1	020226
		white RAL 9016	020223
		acc. to RAL	020222

ORDER INFORMATION

Designation	Locking dimension	Length	Version	ID No.
Crank rod for DIY installation Connecting tube, 6000 mm length		6000 mm	EV1	053262
		6000 mm	white RAL 9016	014706
		6000 mm	acc. to RAL	015982
Crank rod for DIY installation connecting tube cut to size (length in 1000 mm increments)			EV1	109482
			white RAL 9016	109485
			acc. to RAL	109486
Coupling OL 320 For concealed locking mechanism on aluminium windows	A= 8.5 mm		silver-coloured	024954
	A= 11.5 mm		silver-coloured	029717
OL 320 coupling For concealed locking mechanism on light metal windows with cranked turn and tilt profile	A= 8.5 mm		silver-coloured	028905
Coupling for OL 320 Wooden and PVC windows	A= 8.5 mm		silver-coloured	029855
	A= 11.5 mm		silver-coloured	029856
	A= 15.5 mm		silver-coloured	030295
Additional locking mechanism OL 320 Without additional bracket, for overlap heights 12 – 25 mm			EV1	030749
			white RAL 9016	030753
			acc. to RAL	030752
Additional bracket for overlap height 0 – 12 mm			EV1	050727
			white RAL 9016	015519
			acc. to RAL	013077

INSTALLATION ACCESSORIES

Rod ø 12 mm	2000 mm	galvanised	053198
	3000 mm	galvanised	053199
	6000 mm	galvanised	054116
Cover profile OL 320	2000 mm	EV1	058771
	2000 mm	white RAL 9016	018293
	2000 mm	acc. to RAL	014258
Cover profile OL 320	3000 mm	EV1	058774
	3000 mm	white RAL 9016	018294
	3000 mm	acc. to RAL	014259
Cover profile OL 320	6000 mm	EV1	058630
	6000 mm	white RAL 9016	018251
	6000 mm	Mill finish	000824
Connector plate for OL 320 hand lever		silver-coloured	139636
Corner bracket cover		EV1	012560
		white RAL 9016	018245
		acc. to RAL	015459
Additional pack of end covers For end of scissors		EV1	058633
		white RAL 9016	018254
		acc. to RAL	013816

ORDER INFORMATION

DRILLING TEMPLATES

Drilling template for wood	silver-coloured	0137150
Drilling template for metal and PVC	silver-coloured	0137152
Drilling template for connecting tube	silver-coloured	059083

Gripping and cleaning scissor stay (FPS)



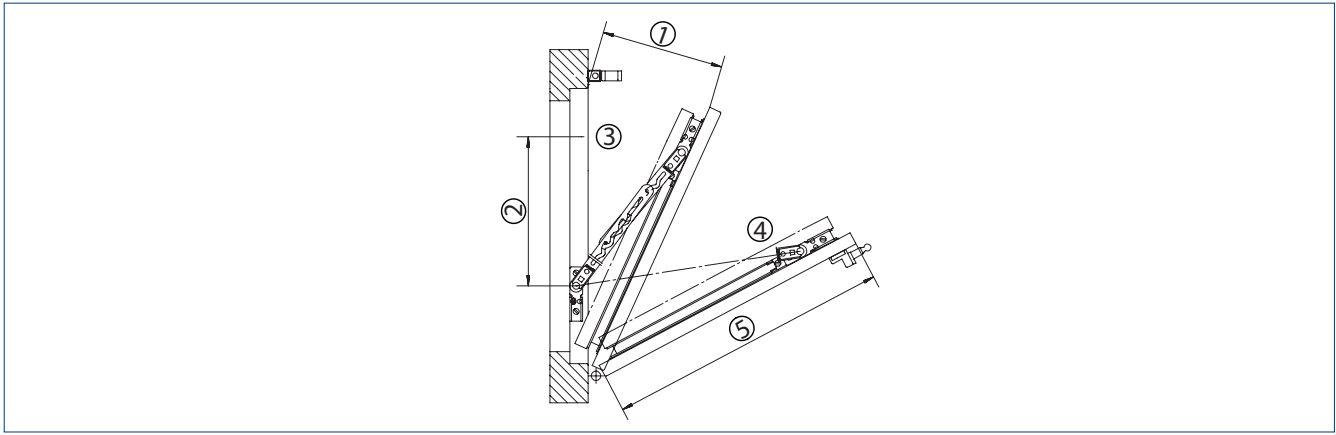
For fanlight openers for the additional securing of bottom-hung leaves

AREAS OF APPLICATION

- Can be used for OL 90 N, OL 95 and OL 320
- Vertically installed bottom-hung rectangular windows

PRODUCT FEATURES

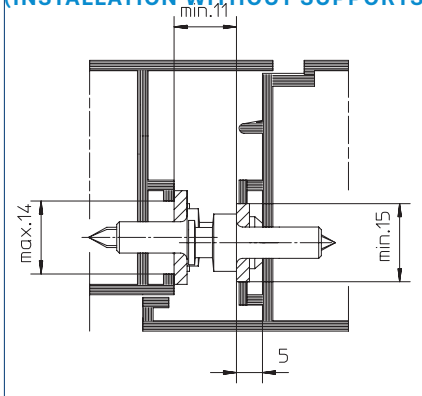
- Limits tilt of the leaf after the unhinging of the scissors (safety position)
- High level of safety provided by multiple safety positions
- Leaf and frame elements can be separated in order to facilitate transportation and installation
- Two gripping and cleaning scissors are needed for each window leaf
- Available in three sizes



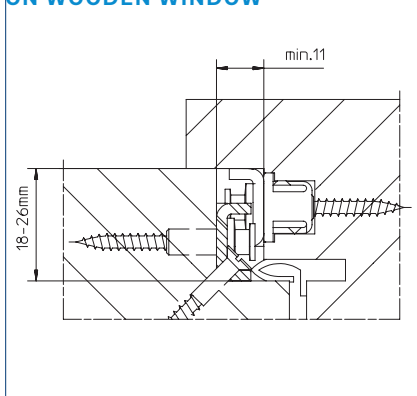
1 = Catch opening width | 2 = Length when closed | 3 = Safety position | 4 = Cleaning position | 5 = Leaf height

CROSS-SECTIONS IN PROFILE

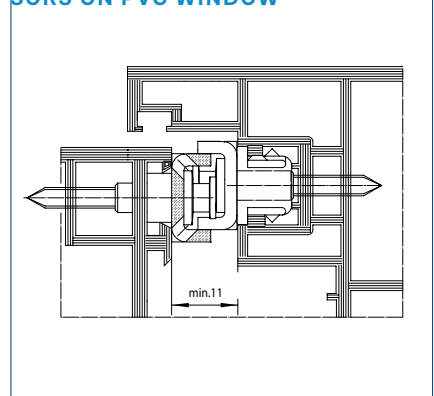
GRIPPING AND CLEANING SCISSORS ON ALUMINIUM WINDOW (INSTALLATION WITHOUT SUPPORTS)



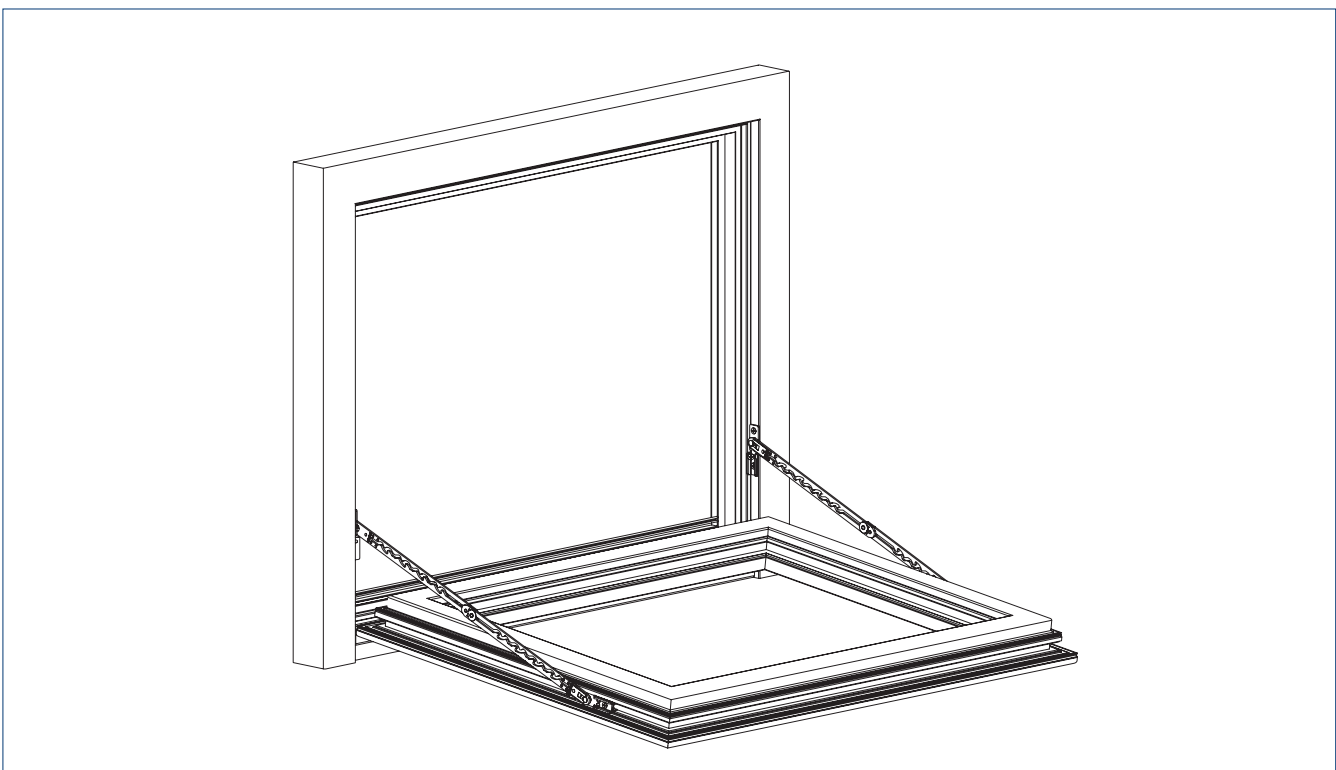
GRIPPING AND CLEANING SCISSORS ON WOODEN WINDOW



GRIPPING AND CLEANING SCIS- SORS ON PVC WINDOW



SYSTEM ILLUSTRATION



ORDER INFORMATION

Designation	Version / thickness	Version	ID No.
Gripping and cleaning scissors FPS 340 size 1		galvanised	030249
Gripping and cleaning scissors FPS 520 size 2		galvanised	030250
Gripping and cleaning scissors FPS 720 size 3		galvanised	030251

INSTALLATION ACCESSORIES

Mounting plates for gripping and cleaning scissors For aluminium windows (mounting fittings for leaf and frame)		galvanised	030252
Mounting plates for gripping and cleaning scissors For PVC windows (mounting fittings for leaf with Euro-groove and frame)		galvanised	070182
Mounting plates for gripping and cleaning scissors For wooden and PVC windows (mounting fittings for leaf with Euro-groove and frame)		white	030253
Frame shim for timber, plastic and light metal windows with 90 x 8 mm	3 mm	silver-coloured	009326
Frame shim for timber, plastic and light metal windows with 90 x 10 mm	5 mm	silver-coloured	009328
Frame shim For PVC and aluminium windows, size 71 x 14 mm	3 mm	silver-coloured	029334
Frame shim For PVC and aluminium windows, size 71 x 10 mm	5 mm	silver-coloured	029335
Frame shim for inclined rebate For PVC and aluminium windows, size 71 x 20 mm	3 mm	silver-coloured	030383
Leaf shim For wooden, PVC and aluminium windows, size 53 x 12 mm	9 mm	silver-coloured	009321
Leaf shim For PVC and aluminium windows, size 53 x 12 mm	8 mm	silver-coloured	25635
Leaf shim For PVC and aluminium windows, size 53 x 12 mm	7 mm	silver-coloured	13305
Leaf shim For PVC and aluminium windows, size 53 x 14 mm	5 mm	silver-coloured	09325
Leaf shim For PVC and aluminium windows, size 53 x 14 mm	4 mm	silver-coloured	09324

DRILLING TEMPLATES / STOP GAUGE

Stop gauge for gripping and cleaning scissors		silver-coloured	024741
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WINDOWS

Hardware system

With the aid of smart hardware you can bring large, heavy windows into a tilted position with very little effort. The window hardware meets exacting standards in terms of robustness and stability. A hardware such as the F 1200 also really enhances the home/work environment. Its ease of use includes ventilation with variable adjustment control – from gap ventilation to tilt-end position, the secure locking and prevention of incorrect operation.



F 1200



Cranked turn-and-tilt hardware system for manual ventilation of large and heavy windows

AREAS OF APPLICATION

- Convenient daily ventilation for rooms and staircases
- Ventilation with variable adjustment – from gap ventilation to the tilt-end position
- Turn-and-tilt windows
- Installation on aluminium windows
- Leaf and frame installation

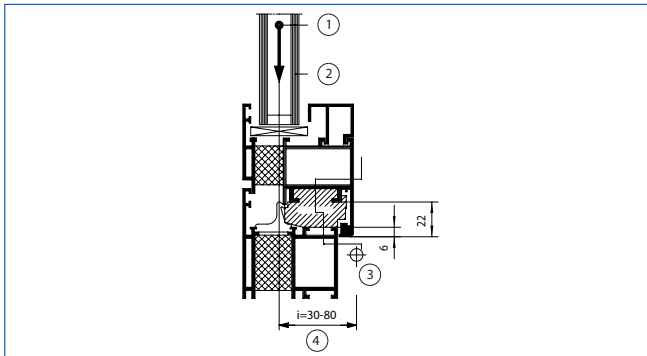
PRODUCT FEATURES

- Achieves the full tilt-opening width of 180 mm for all leaf heights
- Variable adjustment of bottom opening width
- Functional safety due to weight-independent crank activation with control display
- Suitable for leaf weights up to 200 kg
- Functional safety provided by friction coupling to avoid overloading
- Optionally extendible hardware system provided by vertical and horizontal central locking systems that are suitable for the leaf size
- Safe locking mechanism for virtually any chosen number of bolt points

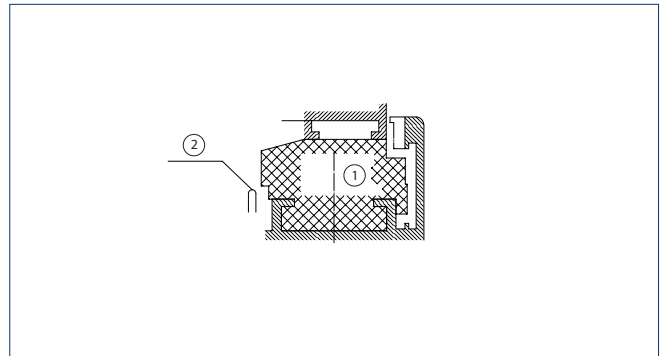
TECHNICAL DATA**F 1200**

Opening width (max.)	180 mm
Leaf width	750 – 2400 mm
Leaf height*	750 – 3500 mm
Leaf weight (max.)	200 kg
Fitting stroke	81 mm

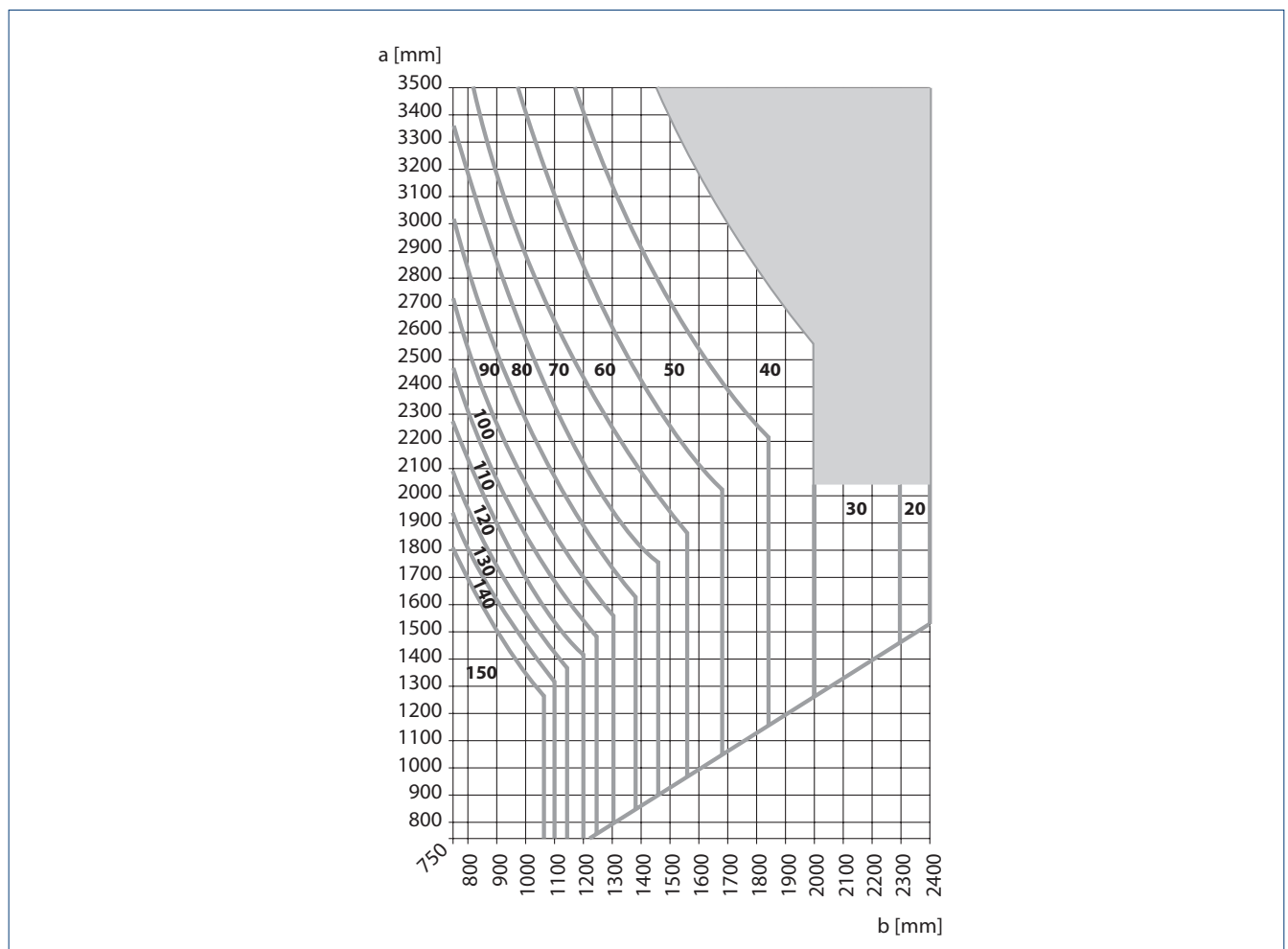
* = The maximum system limits depend on the window shape, the panel weight and the leaf weight.

CROSS-SECTION IN PROFILE**LEAF CENTRE OF GRAVITY**

1 = Leaf centre of gravity | 2 = Glass panel weight kg/m² | 3 = Leaf pivot point |
4 = Distance apart

HARDWARE CHAMBER

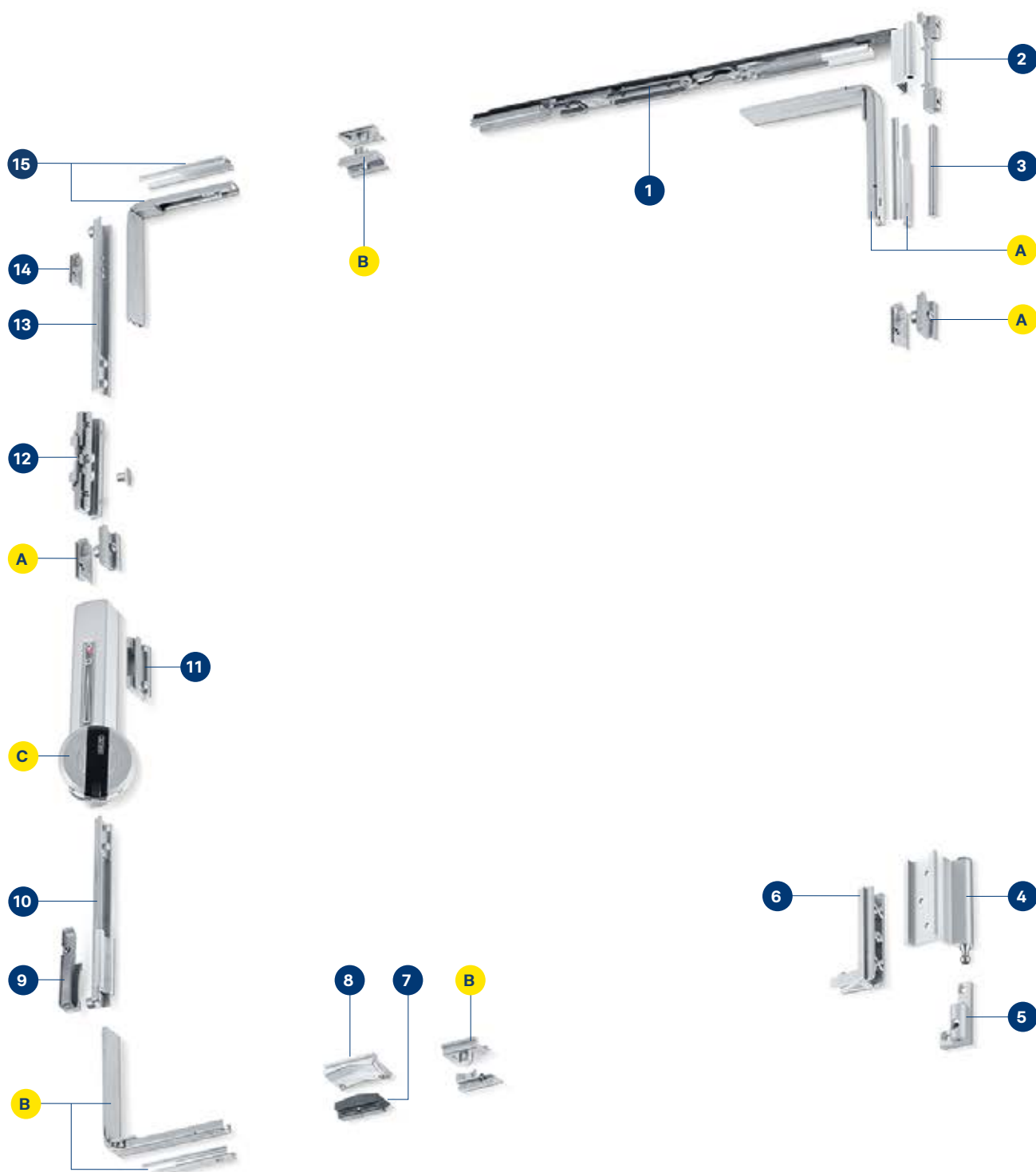
1 = Space needed for F 1200 components | 2 = Seal end face

APPLICATION DIAGRAM

a = Leaf height | b = Leaf width

F 1200 IN THE CASE OF VERTICAL OPERATION – COMPONENTS OF THE HARDWARE SYSTEM

→ **Note:** The blue marking indicates the **basic hardware F 1200** and the yellow marking indicates additional components.



Basic hardware F 1200

1	Cross scissors with scissor hinge	8	Buffer
2	Scissors hinge	9	Tilt locking part
3	Bearing pin	10	Tilt locking slide
4	Turn-and-tilt hinge	11	Driver
5	Turn and tilt bearing	12	Fail safety assembly
6	Clamping rail	13	Locking slide
7	Buffer support	14	Locking part
		15	Corner transmission and slider

Additional components

A	Central locking system F 1200 – horizontal (corner transmission with slider, locking parts + locking pieces)
B	Central locking system F 1200 – vertical (corner transmission with slider, locking parts + locking pieces)
C	Gear with crank

Component options



F 1200 basic hardware
(062910, 062908, 015859,
015865)



F 1200 gear with crank
(063228, 063226, 015867,
015866)



**Gear F 1200, lockable with
crank** (063232, 063230, 015869,
015868)



**Gear F 1200, removable,
with removable crank, without
crank** (063377, 063375, 015871,
015870)



Corner transmission F 1200
(063211)



Central locking system F 1200
(062912)



Additional scissors F 1200
(062914, 062913)



Opening restrictor F 1200
(066035, 066036, 066037)



**Bolt lock with
10 mm overlap**
(068513)



Hook locking device F 1200
(000330)



**Removable operating crank
F 1200 for gear F 1200**
(063332)

ORDER INFORMATION

Designation	Type of installation	Version	ID No.
F 1200 cranked turn-and-tilt hardware			
Basic hardware and gear			
F 1200 basic hardware Without gear	left	silver-coloured	062910
	right	silver-coloured	062908
	left	acc. to RAL	015865
	right	acc. to RAL	015859
F 1200 gear With crank	left	EV1	063228
	right	EV1	063226
	left	acc. to RAL	015867
	right	acc. to RAL	015866
Gear F 1200 Lockable, with crank	left	EV1	063232
	right	EV1	063230
	left	acc. to RAL	015869
	right	acc. to RAL	015868
Gear F 1200 Removable, without crank	left	EV1	063377
	right	EV1	063375
	left	acc. to RAL	015871
	right	acc. to RAL	015870
Operating crank, removable		EV1	063332
Extended operating crank, optional (extension from 10 to 55 mm)		acc. to RAL	207613
ACCESSORIES			
Additional scissors F 1200 For leaf widths from 1400 mm upwards	left	silver-coloured	062914
	right	silver-coloured	062913
Corner transmission		silver-coloured	063211
Central locking system F 1200 Vertical or horizontal		silver-coloured	062912
Opening restrictor F 1200 Size 0, undampened		silver-coloured	066035
Opening restrictor F 1200 Size 1, undampened		silver-coloured	066036
Opening restrictor F 1200 Size 2, dampened		silver-coloured	066037
Locking part		silver-coloured	062944
Locking piece F 1200		silver-coloured	062937
DRILLING TEMPLATES			
Drilling template, 5-piece		silver-coloured	063418

→ **Note:** Other variants available on request.



F 1200, 21 East 22nd Street, New York, USA (Photo: Skyline Windows)



OL 90 N top-hung outward opening, Ecksberg Foundation, Mühl Dorf, Germany (Photo: Robert Sprang / GEZE GmbH)



OL 90 N, Killesberg district, Stuttgart, Germany (Photo: N. Grünwald / GEZE GmbH)



OL 90 N with hand lever at the Alfter Art College, Germany (Photo: Lothar Wels / GEZE GmbH)



OL 90 N with hand lever, Leonberg, Germany (Photo: Jürgen Pollak / GEZE GmbH)



F 1200, 11 Riverside Drive, New York, USA (Photo: Skyline Windows)



F 1200, 90 Riverside Drive, New York, USA (Photo: Skyline Windows)



F 1200, The Assemblage 114 East 25th Street, New York, USA (Photo: Skyline Windows)



F 1200, Walker Tower, 212 West 18th Street, New York, USA (Photo: Skyline Windows)

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For liveable buildings

GEZE stands for innovation, high quality and comprehensive support of building technologies. From the initial idea, planning and operational implementation with standard products to customised system solutions and individual service and maintenance plans. We offer an extensive product range of door, window and safety technology products and are a major driving force behind the digital networking of building automation.

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