+ PLANNING MANUAL
JANSEN WINDOW SOLUTIONS

Janisol Windows/Janisol Arte 66 Windows

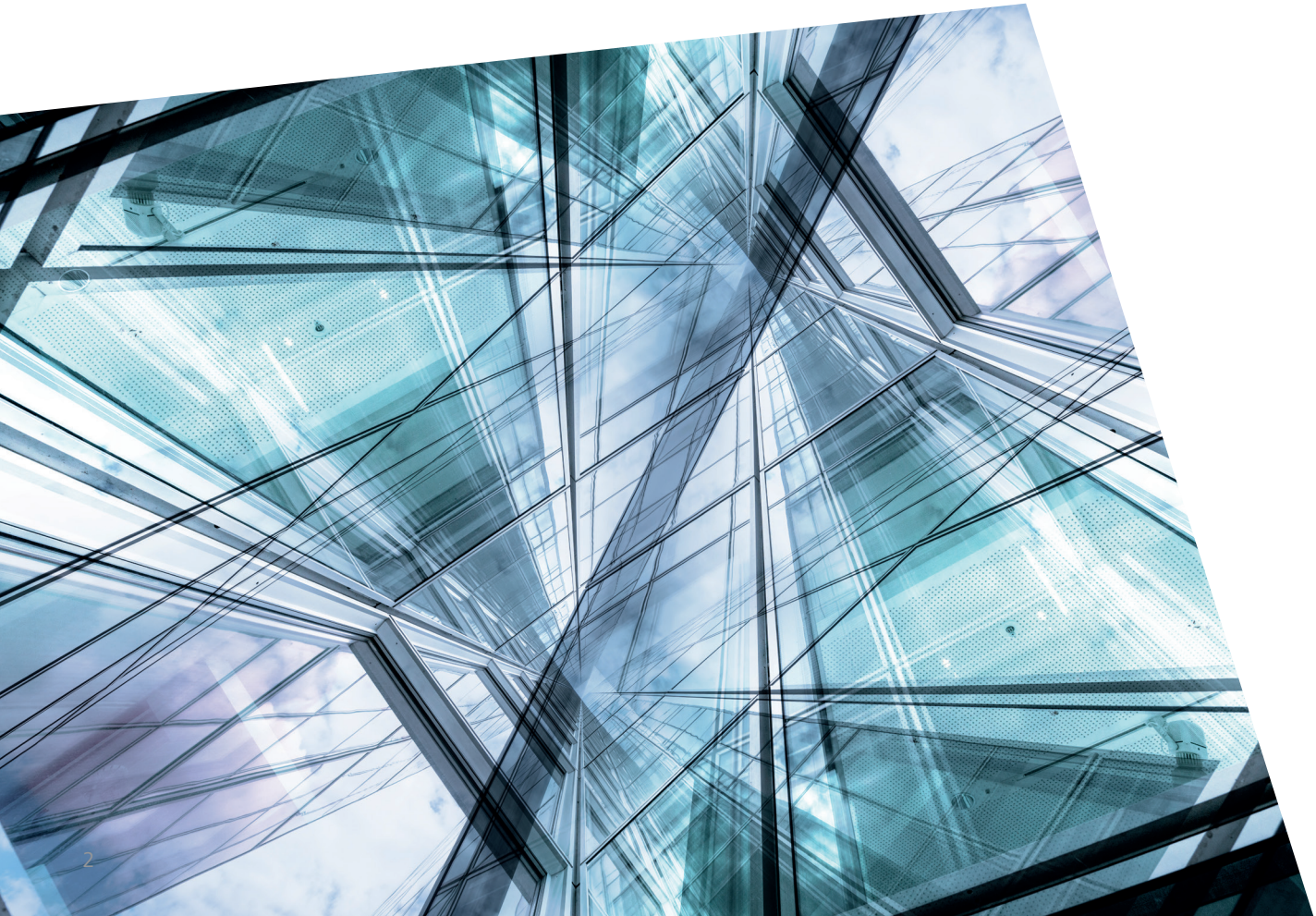
INTRODUCTION

The **planning manual for JANSEN SYSTEMS** assists you as a planner, architect or contractor with the planning and calculation of a natural smoke and heat exhaust ventilator (NSHEV) in accordance with DIN EN 12101-2. This manual has been specially designed for applications of **JANSEN**-windows in combination with D+H drives.

The opening types and output ranges of the NSHEV are clearly defined, so you can quickly and easily gain an overview of the implementation options. The individual chapters are sorted according to the tested opening types and comprise application in the façade area.

Status as at September 2023

Your designated D+H-Partner can quickly and conveniently use the **myCalc EN-TOOL** at mycalc.dh-partner.com to calculate and/or prepare a valid NSHEV, including declaration of performance and CE mark. For detailed information about the standardisation and precise route to obtaining the declaration of performance reliability, consult your D+H contact partner. For comprehensive information on all D+H products, such as drives, controllers etc., visit our website www.dh-partner.com.



CONTENTS

Bottom-hung, top-hung and side-hung sashes

THE JANISOL WINDOW SERIES

Janisol window profile series

Frame profiles	Sash profiles
601.635	630.900
602.635	
603.635	
605.635	
601.685	**Additional/accessory profiles**
602.685	600.005
603.685	600.006
605.685	600.007
601.699	600.002
601.634	600.008
602.634	602.636

Galvanised profiles are also permitted.

Output range of tested NSHEVs as inward-opening bottom-hung and top-hung vents in the façade according to DIN EN 12101-2

Window

Installation angle:	Façade 90°
Installation option:	Integrated element in the vertical façade
Locking mechanism:	NSHEV without locking mechanism
	NSHEV with locking mechanism by VLD 51/038-(BSY+)
	NSHEV with locking mechanism by FRA 11-(BSY+)
External sash dimensions:	Sash width: 575 - 2300 mm
	Sash height: 550 - 2300 mm
	Sash area: max. 3.0 m2
Sash weight:	Max. 150 kg
Filling:	Double-pane insulated glass with min. 6 mm glass thickness per single pane of laminated/toughened glass facing the source of fire. Sandwich panel with min. 2 mm sheet metal thickness on inside and outside, core e.g. Styrodur or similar.
Opening angle:	up to 90°

Drive

Type:	Chain drive
	Rack and pinion drive
	Lock drive
Installation type:	Frame and sash mounting
Installation positions:	Opposite the hinge
	Side installation
Stroke:*	max. 1000 mm

Test results in accordance with DIN EN 12101-2

Wind load range:	max. 4000 Pa
Low ambient temperature:	max. T(-15)
Functional safety:	max. Re 1000 + Le 10000
Resistance to heat:	max. B 300-E

*Depending e.g. on the temperature and choice of drive (e.g. T -15° maximum possible stroke ≤ 1300 mm)

The expression "Façade" normally refers to the vertical installation for stone, transom/mullion structures, masonry and punch holes.

Output range of tested NSHEVs as inward-opening side-hung sashes in the façade according to DIN EN 12101-2

Window

Installation angle:	Façade 90°
Installation option:	Integrated element in the vertical façade
Locking mechanism:	NSHEV without locking mechanism NSHEV with locking mechanism by FRA 11-(BSY+) NSHEV with locking mechanism by VLD 51/038-(BSY+)
External sash dimensions (inward):	Sash width: 450 - 1475 mm Sash height: 575 - 2300 mm Sash area: max. 3.0 m2
Sash weight:	Max. 150 kg
Filling:	Double-pane insulated glass with min. 6 mm glass thickness per single pane of laminated/toughened glass facing the source of fire. Sandwich panel with min. 2 mm sheet metal thickness on inside and outside, core e.g. Styrodur or similar.

Drive

Type:	Chain drive Rack and pinion drive Lock drive
Installation type:	Frame and sash mounting
Installation positions:	Opposite the hinge Side installation
Stroke:*	max. 1000 mm

Test results in accordance with DIN EN 12101-2

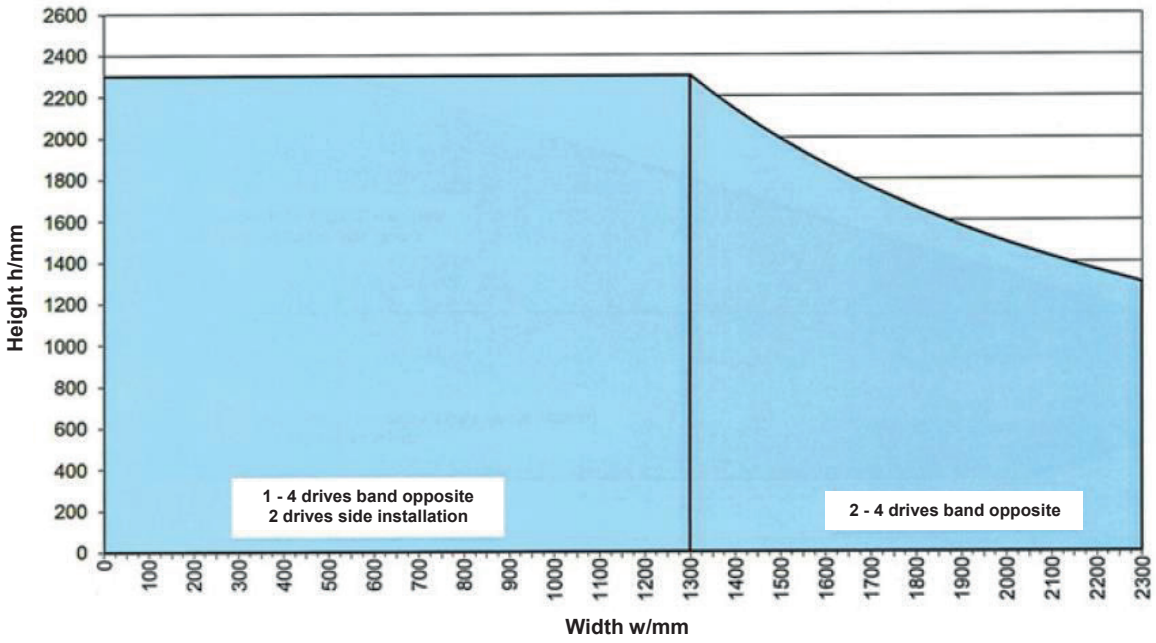
Wind load range:	max. 4000 Pa
Low ambient temperature:	max. T(-15)
Functional safety:	max. Re 1000 + Le 10000
Resistance to heat:	max. B 300-E

*Depending e.g. on the temperature and choice of drive (e.g. T -15° maximum possible stroke ≤ 1300 mm)

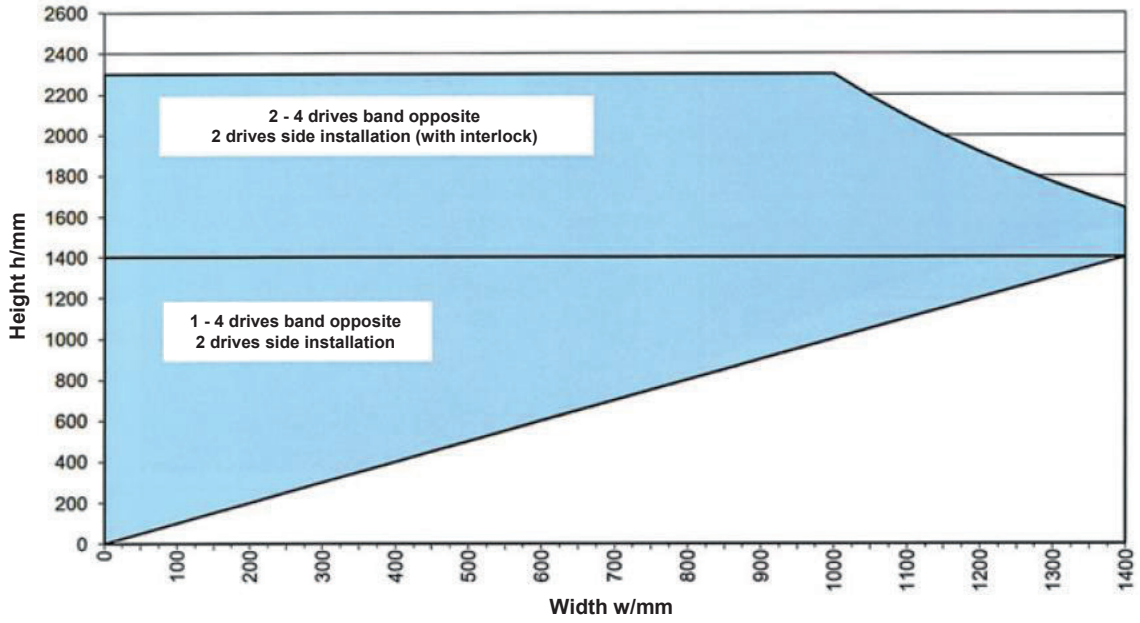
The expression "Façade" normally refers to the vertical installation for stone, transom/mullion structures, masonry and punch holes.

Width/height ratio for bottom-, top- and side-hung windows

Bottom- and top-hung windows
Width- / height ratio; h=f(b) at Ag wing max= 3,0 m²



Side-hung windows
Width- / height ratio; h=f(b) at Ag wing max= 2,3 m²



The maximum sash size depends e.g. on the wind load, drive type, drive installation and number of drives.
The precise and binding calculations and dynamic parameter adjustment are performed in the D+H software myCalc.

SOLUTIONS WITH THE CDC CHAIN DRIVE

- 24 V and 230 V
- 250 N force/power
- Up to 800 mm stroke for NSHEV in accordance with DIN EN 12101-2
- Up to 1300 mm stroke for smoke exhaust and ventilation
- Inward-opening window: Bottom-hung, top-hung and side-hung windows
- Mounted installation
- Single and multiple drives, with and without lock drive

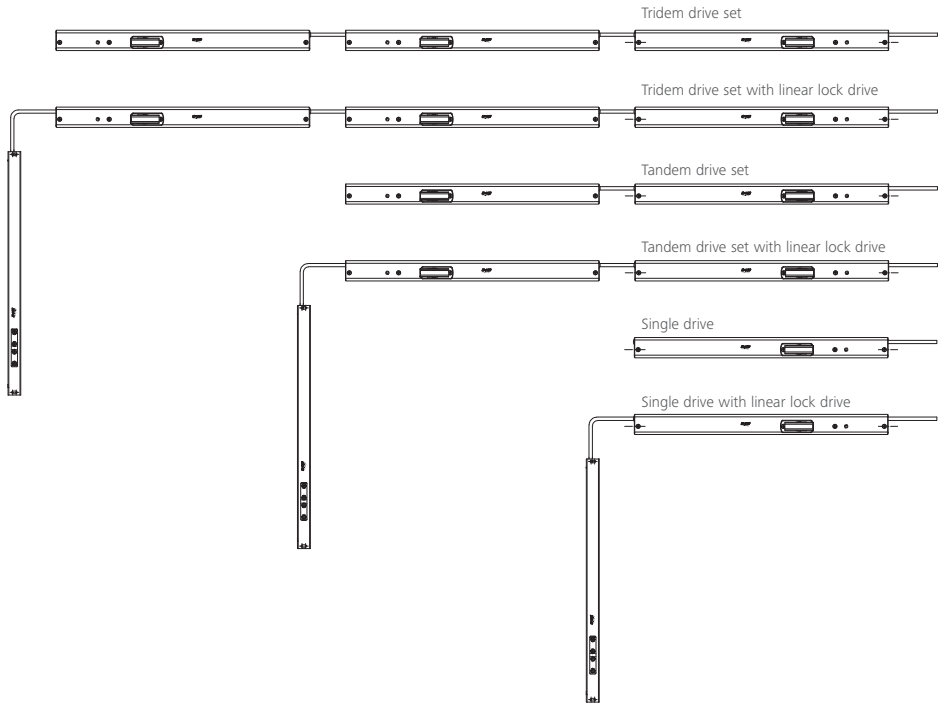
CDC series product overview

Options

- R "right" design / L "left" design
- HP Stroke programming
- SBD/U Side bow chain
- Trapezoidal application
- ZB Drawbridge application
- VP Signal programming for connecting with lock drive VLD BSY+
- KM Powerful 400 N motor gearbox unit in opening range O1 and closing range C1
- LS Low-speed programming in CLOSED direction (5 mm/s) – corresponding to protection class 3
- AS2 Audible signal – corresponding to protection class 2
- AS3 Audible signal – corresponding to protection class 3
- SKS connection of an external sensor for closing edge protection – corresponding to protection class 4
- Longer connection cable max. 10 m for 24 V motors, max. 7.5 m for 230 V motors
- Cable colours light grey, black and white

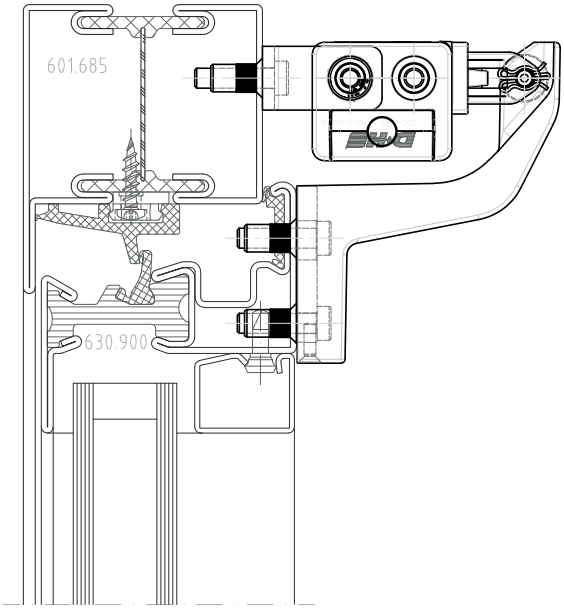
Examples of motor arrangement / wiring

24 V and 230 V CDC drives with and without lock drive



Assembly options of the CDC

Example of frame mounting on bottom-hung vent



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BS-CDC-PI01-M-VFI
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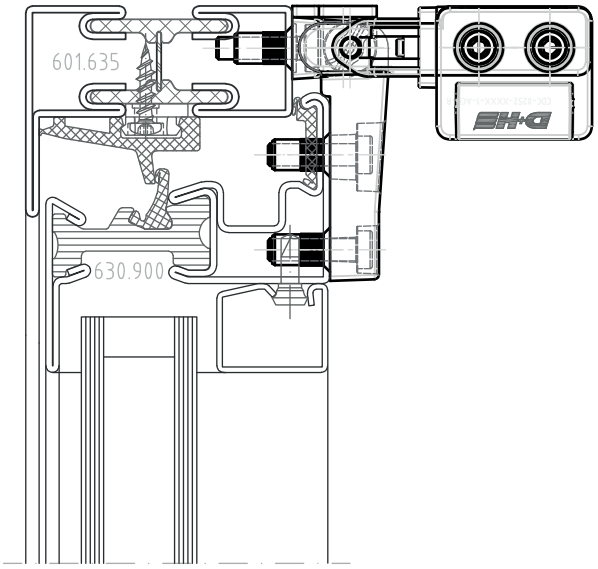
Example of sash mounting on bottom-hung vent



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You can download further wiring diagrams and data sheets directly from downloads.dh-partner.com.

SOLUTIONS WITH THE KA CHAIN DRIVE

- 24 V and 230 V
- 350 N or 500 N force/power
- Up to 1000 mm stroke for NSHEV in accordance with DIN EN 12101-2
- Up to 1300 mm stroke for smoke exhaust and ventilation
- Inward-opening window: Bottom-hung, top-hung and side-hung windows
- Mounted installation
- Single and multiple drives, with and without lock drive

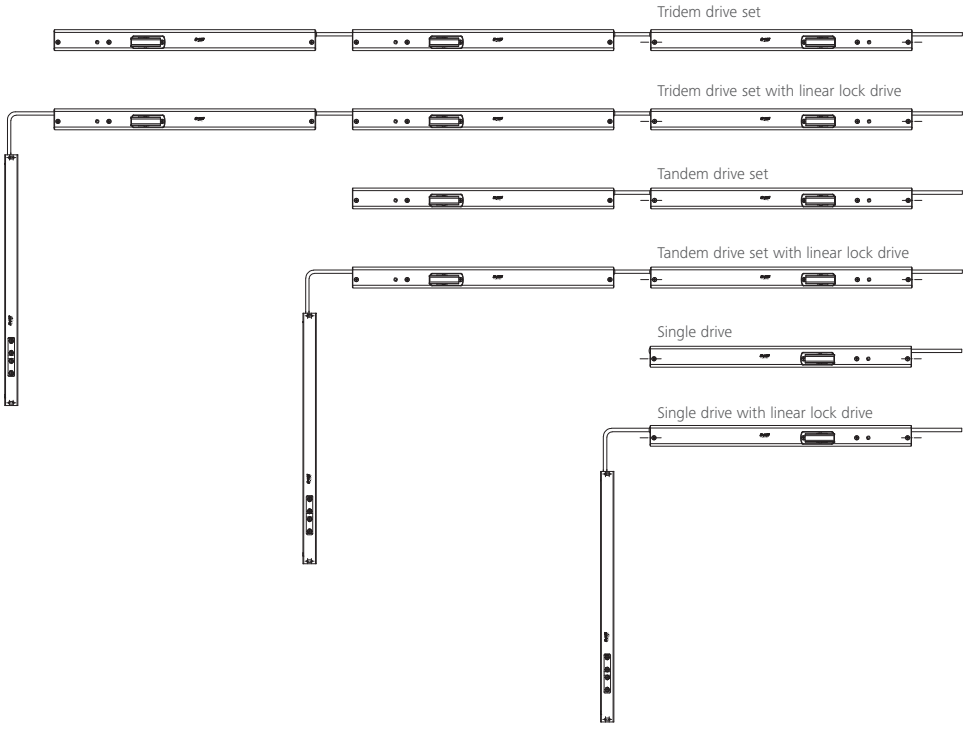
KA series product overview

Options

- KA 34 (300N) and KA 54 (500N) design
- R "right" design / L "left" design
- HP Stroke programming
- SBD/U Side bow chain
- ZB Drawbridge application
- VP Signal programming for connecting with lock drive VLD BSY+
- SA-SZ OPEN and CLOSED signal
- LS Low-speed programming in CLOSED direction (5 mm/s) – corresponding to protection class 3
- AS2 Audible signal – corresponding to protection class 2
- AS3 Audible signal – corresponding to protection class 3
- SKS connection of an external sensor for closing edge protection – corresponding to protection class 4
- Longer connection cable max. 12.5 m for 24 V PLP motors, max. 15 m for 24 V BSY+ motors, max. 8 m for 230 V motors
- Cable colours light grey, black and white

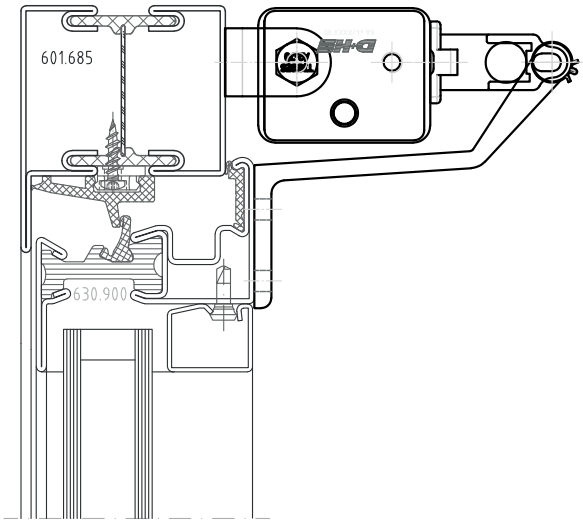
Examples of motor arrangement / wiring

24 V and 230 V KA drives with and without lock drive



Assembly options of the KA

Example of frame mounting on bottom-hung vent



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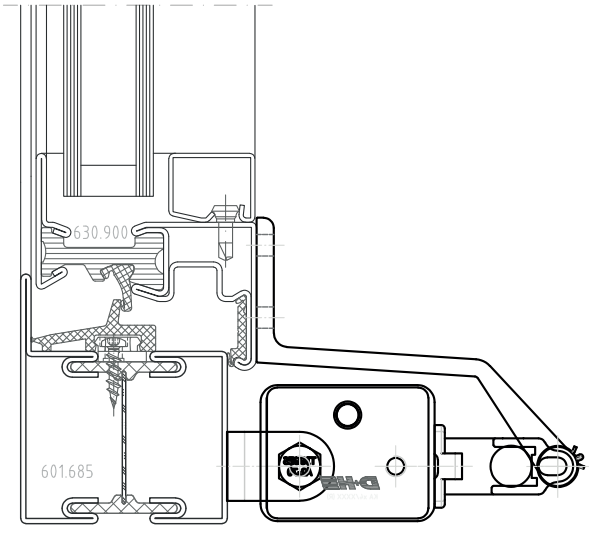
Example of frame mounting on top-hung vent



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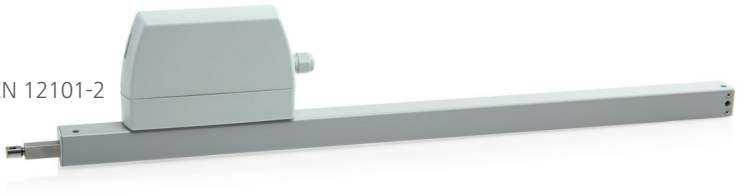
SOLUTIONS WITH THE ZA RACK AND PINION DRIVE

- 24 V and 230 V
- 300 N up to 1500 N force/power
- Up to 1000 mm stroke for NSHEV in accordance with DIN EN 12101-2
- Up to 1500 mm stroke for smoke exhaust and ventilation
- Single and multiple drives, with and without lock drives with 24 V drives
- Single and multiple drives for 230 V drives



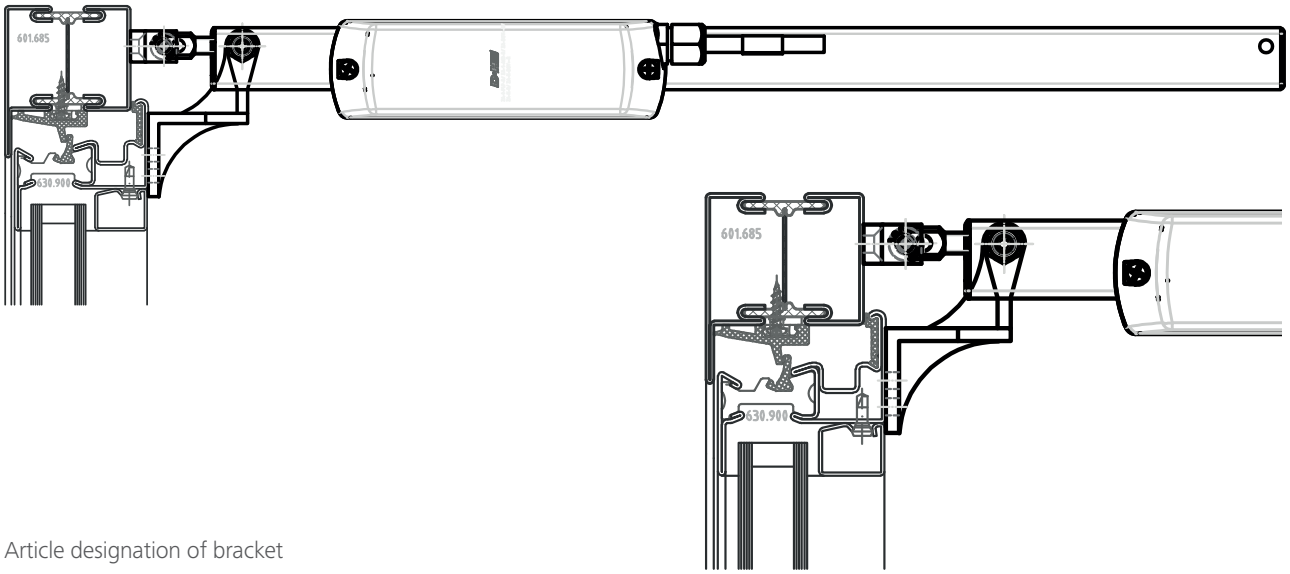
ZA series product overview

Options

- 300 N, 800 N, 1000 N and 1500 N design
- R "right" design / L "left" design
- HS high-speed design
- OT design without tube
- HP Stroke programming
- VP Signal programming for connecting with lock drive VLD BSY+
- SA-SZ OPEN and CLOSED signal
- LS Low-speed programming in CLOSED direction (5 mm/s) – corresponding to protection class 3
- AS2 Audible signal – corresponding to protection class 2
- AS3 Audible signal – corresponding to protection class 3
- SKS connection of an external sensor for closing edge protection – corresponding to protection class 4
- W weatherproof option
- WS weatherproof special option suitable for use in indoor swimming pools (not ZA-OT)
- Longer connection cable max. 12.5 m for 24 V motors, max. 8 m for 230 V motors
- Cable colours light grey, black and white

Assembly options of the ZA

Example of sash mounting on bottom-hung vent



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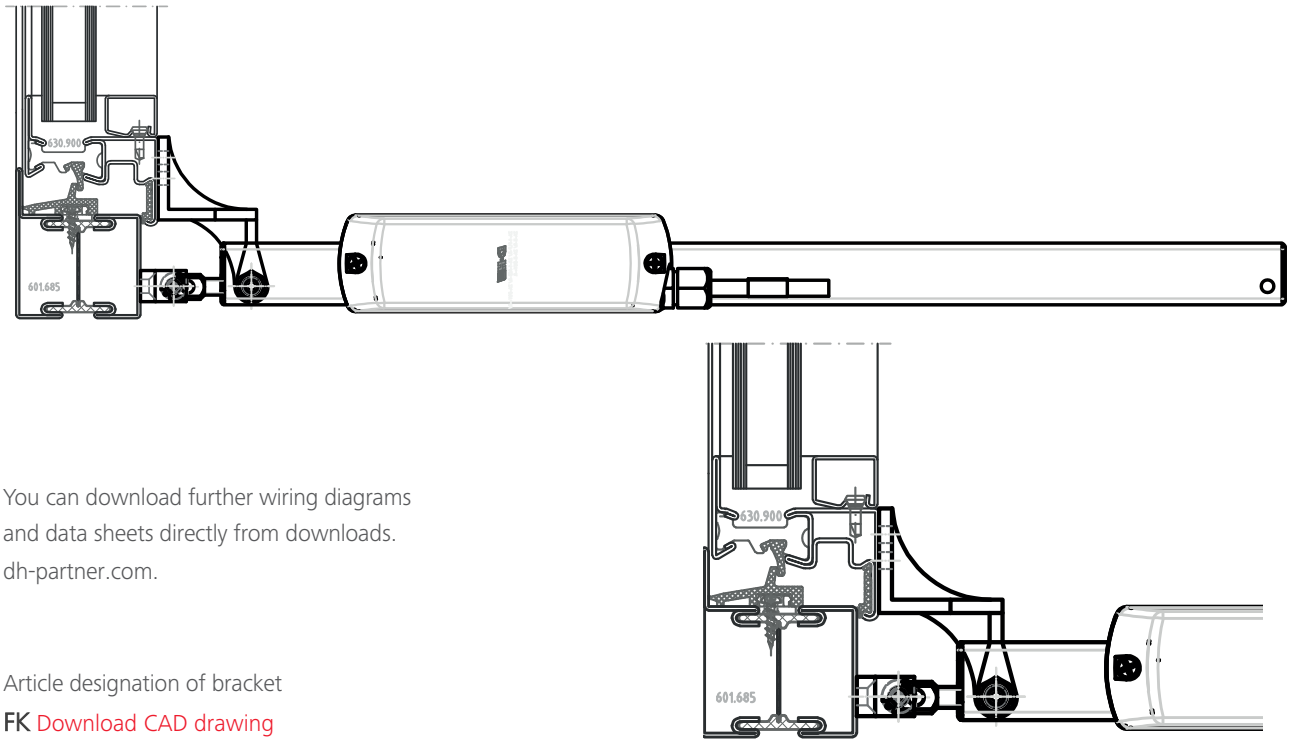
FK Download CAD drawing
ZK 6 Download CAD drawing

Example of sash mounting on top-hung vent



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FK Download CAD drawing
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SOLUTIONS WITH THE FRA 11 LOCK DRIVE

- Application together with 24 V and 230 V CDC and KA drives
- Inward-opening window: Bottom-hung, top-hung and side-hung windows
- Mounted installation

FRA series product overview

- With motor electronics controlled via microprocessor for communication and sequence control of connected BSY+ and PLP window drives for window opening
- To be used in conjunction with an internal chamber gearbox and 43 mm mounting distance
- -BRV (for PLP) or -VP (for BSY+ / ACB) option required for connected window drive
- Up to 4 FRA 11-BSY+ drives are possible on one window
- Position display for the locking mechanism
- LED status display for the drive
- Automatic locking mechanism for the window
- Increased burglary protection
- Consultation with D+H Mechatronic AG is required for the "VLD" variant.

Assembly options and example of a face-fixed sash mounting

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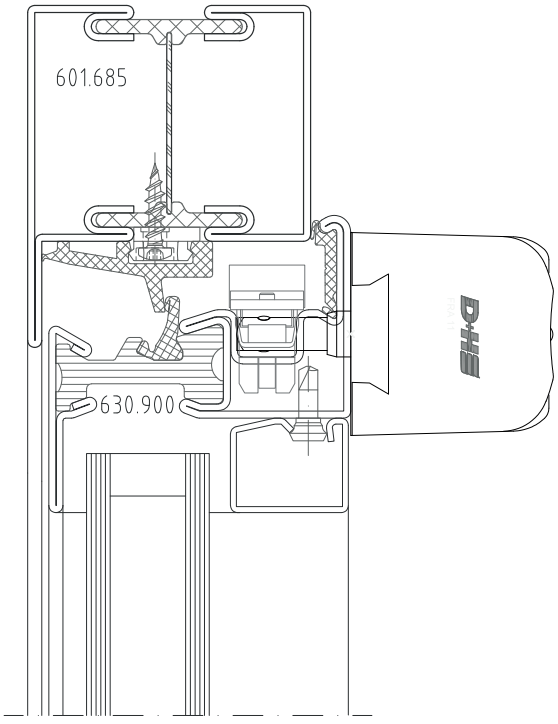


With Jansen special square shaft for the Janisol window series

Bottom-hung, top-hung and side-hung sashes

THE JANISOL ARTE 66 WINDOW SERIES

The Janisol Arte 66 profile series			
Frame profiles		**Sash profiles**	**Additional/accessory profiles**
601.630 Z	601.632 Z	610.900 Z	600.612 Z
601.638 Z	602.638 Z		
602.630 Z	602.632 Z		
603.630 Z	603.632 Z		
605.630 Z	605.632 Z		
602.631 Z	601.645 Z		
601.612 Z	602.645 Z		
602.613 Z	603.645 Z		
603.612 Z	605.645 Z		
605.612 Z	602.633 Z		

Output range of tested NSHEVs as inward-opening bottom-hung and top-hung vents in the façade according to DIN EN 12101-2

Window

Installation angle:	Façade 90°
Installation option:	Integrated element in the vertical façade
Locking mechanism:	NSHEV without locking mechanism
	NSHEV with locking mechanism by VLD 51/038-(BSY+)
	NSHEV with locking mechanism by FRA 11-(BSY+)
External sash dimensions:	Sash width: 575 - 2300 mm
	Sash height: 550 - 2300 mm
	Sash area: max. 2.3 m2
Sash weight:	Max. 150 kg
Filling:	Double-pane insulated glass with min. 6 mm glass thickness per single pane of laminated/toughened glass facing the source of fire. Sandwich panel with min. 2 mm sheet metal thickness on inside and outside, core e.g. Styrodur or similar.
Opening angle:	up to 90°

Drive

Type:	Chain drive
	Rack and pinion drive
	Lock drive
Installation type:	Frame and sash mounting
Installation positions:	Opposite the hinge
	Side installation
Stroke:*	max. 1000 mm

Test results in accordance with DIN EN 12101-2

Wind load range:	max. 4000 Pa
Low ambient temperature:	max. T(-15)
Functional safety:	max. Re 1000 + Le 10000
Resistance to heat:	max. B 300-E

*Depending e.g. on the temperature and choice of drive (e.g. T -15° maximum possible stroke ≤ 1300 mm)

The expression "Façade" normally refers to the vertical installation for stone, transom/mullion structures, masonry and punch holes.

Output range of tested NSHEVs as inward-opening side-hung sashes in the façade according to DIN EN 12101-2

Window

Installation angle:	Façade 90°
Installation option:	Integrated element in the vertical façade
Locking mechanism:	NSHEV without locking mechanism NSHEV with locking mechanism by FRA 11-(BSY+) NSHEV with locking mechanism by VLD 51/038-(BSY+)
External sash dimensions (inward):	Sash width: 450 - 1475 mm Sash height: 575 - 2300 mm Sash area: max. 2.3 m2
Sash weight:	max. 150 kg
Filling:	Double-pane insulated glass with min. 6 mm glass thickness per single pane of laminated/toughened glass facing the source of fire. Sandwich panel with min. 2 mm sheet metal thickness on inside and outside, core e.g. Styrodur or similar.

Drive

Type:	Chain drive Rack and pinion drive Lock drive
Installation type:	Frame and sash mounting
Installation position:	opposite the hinge side installation
Stroke:*	max. 1000 mm

Test results in accordance with DIN EN 12101-2

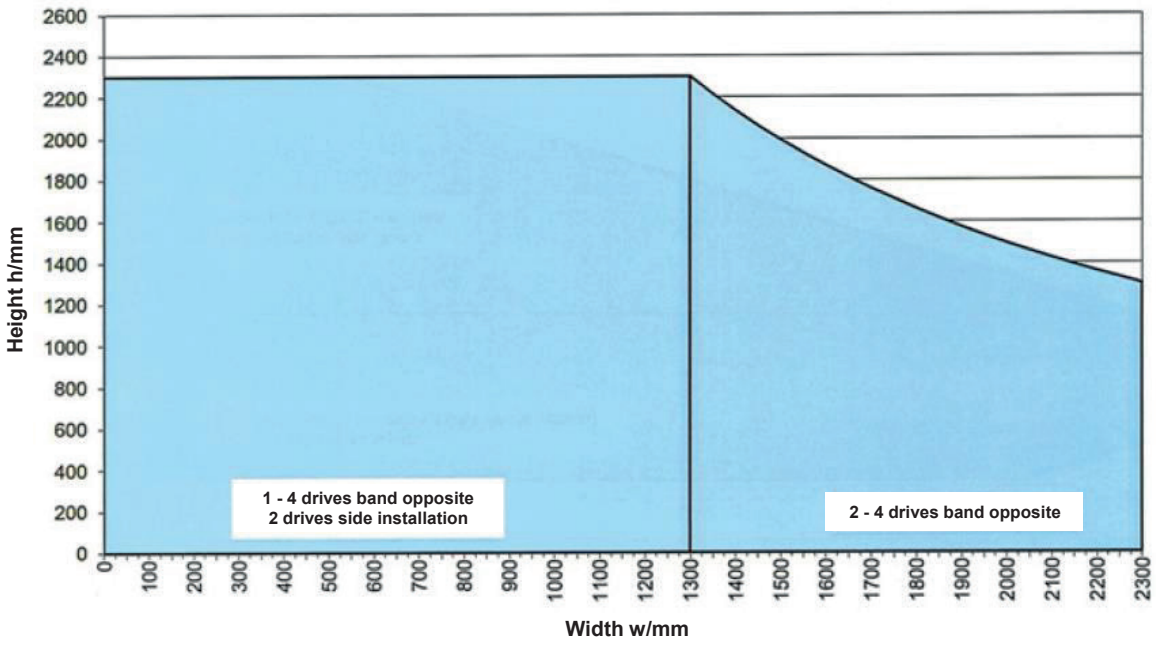
Wind load range:	max. 4000 Pa
Low ambient temperature:	max. T(-15)
Functional safety:	max. Re 1000 + Le 10000
Resistance to heat:	max. B 300-E

*Depending e.g. on the temperature and choice of drive (e.g. T -15° maximum possible stroke ≤ 1300 mm)

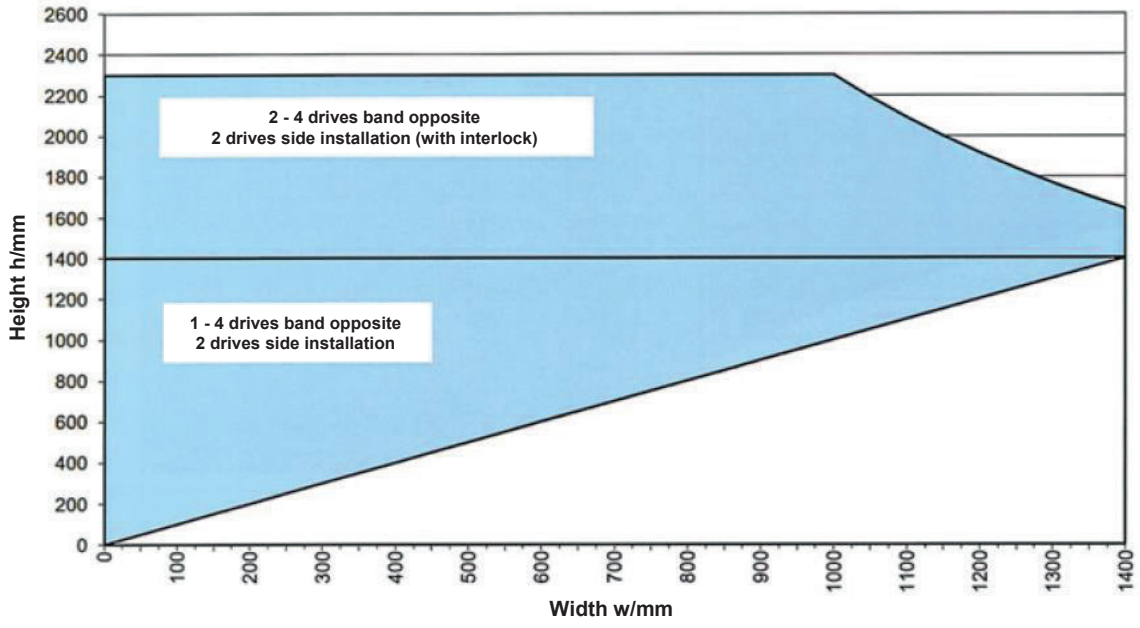
The expression "Façade" normally refers to the vertical installation for stone, transom/mullion structures, masonry and punch holes.

Width/height ratio for bottom-, top- and side-hung windows

Bottom- and top-hung windows
Width- / height ratio; h=f(b) at Ag wing max= 3,0 m²



Side-hung windows
Width- / height ratio; h=f(b) at Ag wing max= 2,3 m²



SOLUTIONS WITH THE CDC CHAIN DRIVE

- 24 V and 230 V
- 250 N force/power
- Up to 800 mm stroke for NSHEV in accordance with DIN EN 12101-2
- Up to 1300 mm stroke for smoke exhaust and ventilation
- Inward-opening window: Bottom-hung, top-hung and side-hung windows
- Mounted installation
- Single and multiple drives, with and without lock drive

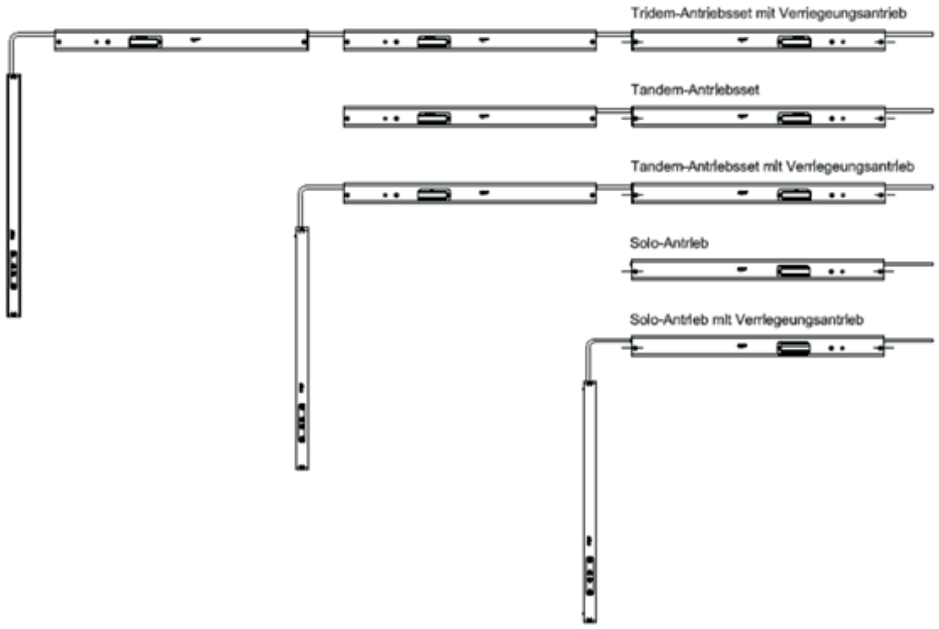
CDC series product overview

Options

- R "right" design / L "left" design
- HP Stroke programming
- SBD/U Side bow chain
- Trapezoidal application
- ZB Drawbridge application
- VP Signal programming for connecting with lock drive VLD BSY+
- KM Powerful 400 N motor gearbox unit in opening range O1 and closing range C1
- LS Low-speed programming in CLOSED direction (5 mm/s) – corresponding to protection class 3
- AS2 Audible signal – corresponding to protection class 2
- AS3 Audible signal – corresponding to protection class 3
- SKS connection of an external sensor for closing edge protection – corresponding to protection class 4
- Longer connection cable max. 10 m for 24 V motors, max. 7.5 m for 230 V motors
- Cable colours light grey, black and white

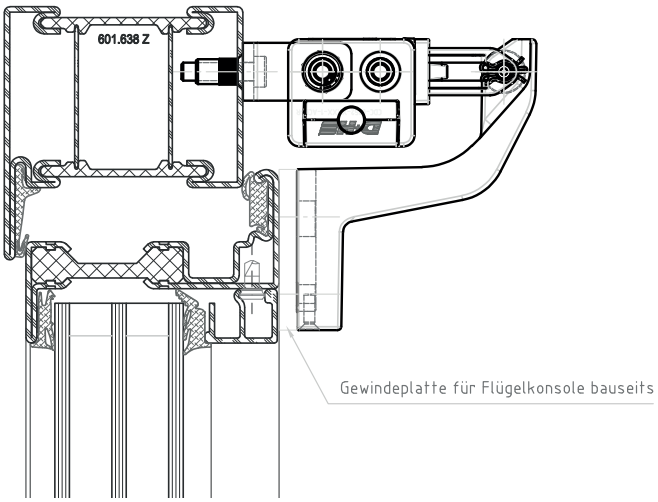
Examples of motor arrangement / wiring

24 V and 230 V CDC drives with and without lock drive



Assembly options of the CDC

Example of frame mounting on bottom-hung vent



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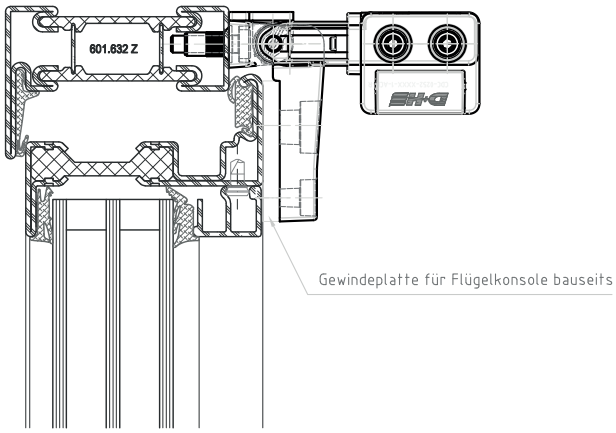
Example of sash mounting on bottom-hung vent



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SOLUTIONS WITH THE KA CHAIN DRIVE

- 24 V and 230 V
- 350 N or 500 N force/power
- Up to 1000 mm stroke for NSHEV in accordance with DIN EN 12101-2
- Up to 1300 mm stroke for smoke exhaust and ventilation
- Inward-opening window: Bottom-hung, top-hung and side-hung windows
- Mounted installation
- Single and multiple drives, with and without lock drive

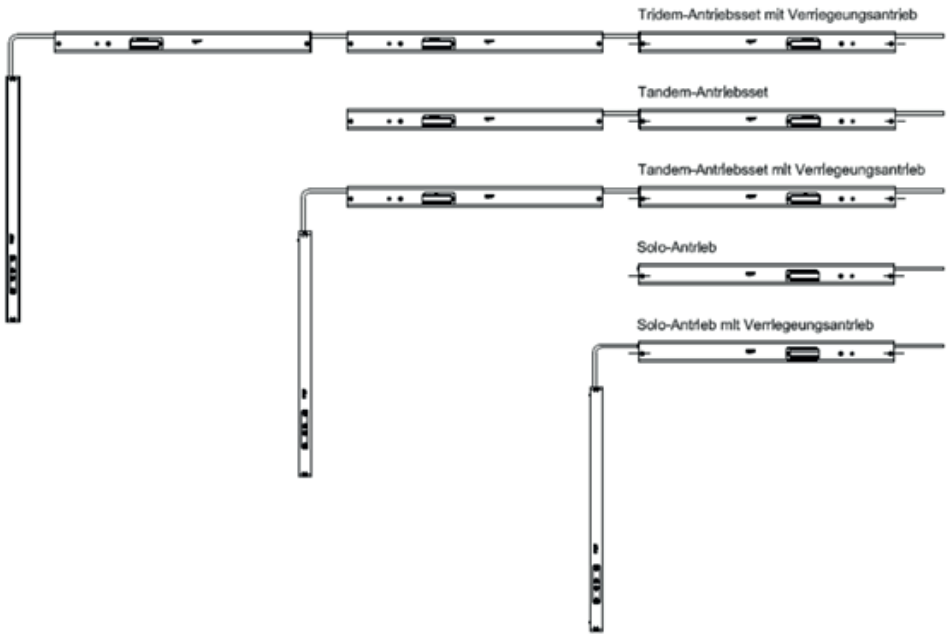
KA series product overview

Options

- KA 34 (300N) and KA 54 (500N) design
- R "right" design / L "left" design
- HP Stroke programming
- SBD/U Side bow chain
- ZB Drawbridge application
- VP Signal programming for connecting with lock drive VLD BSY+
- SA-SZ OPEN and CLOSED signal
- LS Low-speed programming in CLOSED direction (5 mm/s) – corresponding to protection class 3
- AS2 Audible signal – corresponding to protection class 2
- AS3 Audible signal – corresponding to protection class 3
- SKS connection of an external sensor for closing edge protection – corresponding to protection class 4
- Longer connection cable max. 12.5 m for 24 V PLP motors, max. 15 m for 24 V BSY+ motors, max. 8 m for 230 V motors
- Cable colours light grey, black and white

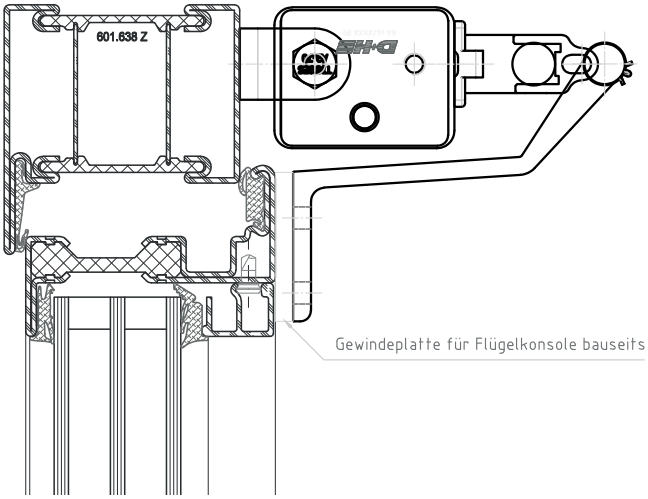
Examples of motor arrangement / wiring

24 V and 230 V KA drives with and without lock drive



Assembly options of the KA

Example of frame mounting on bottom-hung vent



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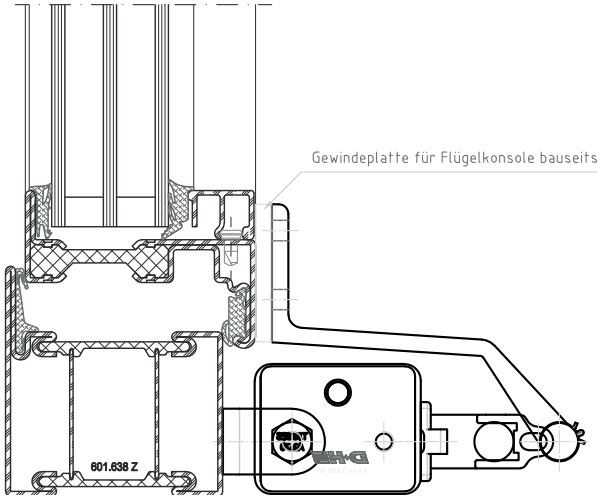
Example of frame mounting on top-hung vent



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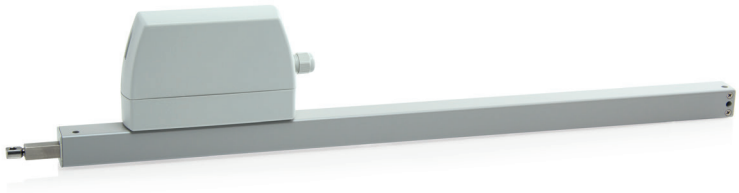
SOLUTIONS WITH THE ZA RACK AND PINION DRIVE



- 24 V and 230 V
- 300 N up to 1500 N force/power
- Up to 1000 mm stroke for NSHEV in accordance with DIN EN 12101-2
- Up to 1500 mm stroke for smoke exhaust and ventilation
- Single and multiple drives, with and without lock drives with 24 V drives
- Single and multiple drives for 230 V drives

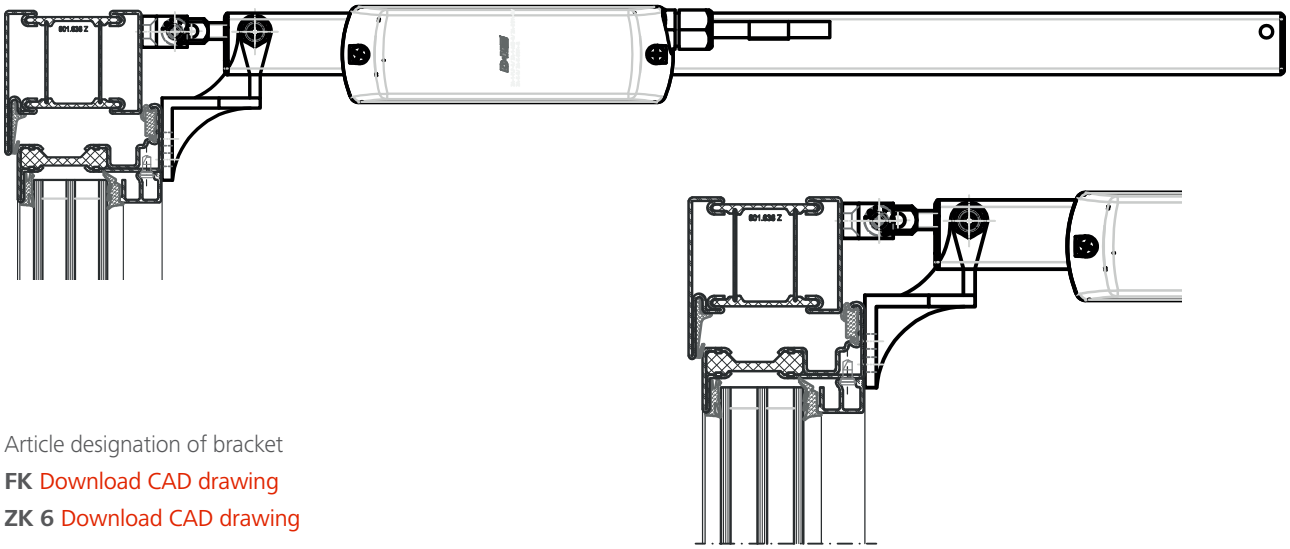
ZA series product overview

Options

- 300 N, 800 N, 1000 N and 1500 N design
- R "right" design / L "left" design
- HS high-speed design
- OT design without tube
- HP Stroke programming
- VP Signal programming for connecting with lock drive VLD BSY+
- SA-SZ OPEN and CLOSED signal
- LS Low-speed programming in CLOSED direction (5 mm/s) – corresponding to protection class 3
- AS2 Audible signal – corresponding to protection class 2
- AS3 Audible signal – corresponding to protection class 3
- SKS connection of an external sensor for closing edge protection – corresponding to protection class 4
- W weatherproof option
- WS weatherproof special option suitable for use in indoor swimming pools (not ZA-OT)
- Longer connection cable max. 12.5 m for 24 V motors, max. 8 m for 230 V motors
- Cable colours light grey, black and white

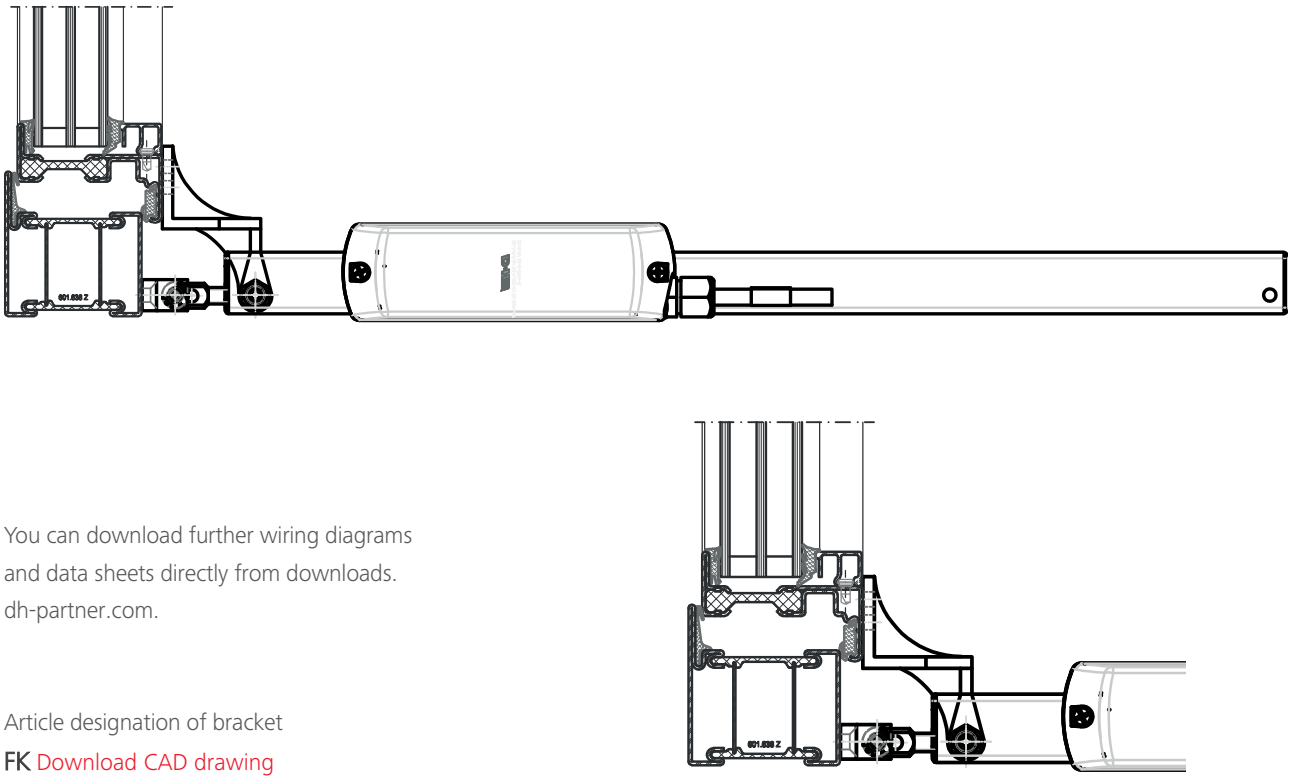
Assembly options of the ZA

Example of sash mounting on bottom-hung vent



Article designation of bracket
FK Download CAD drawing
ZK 6 Download CAD drawing

Example of sash mounting on top-hung vent



You can download further wiring diagrams and data sheets directly from downloads. dh-partner.com.

Article designation of bracket
FK Download CAD drawing
ZK 6 Download CAD drawing

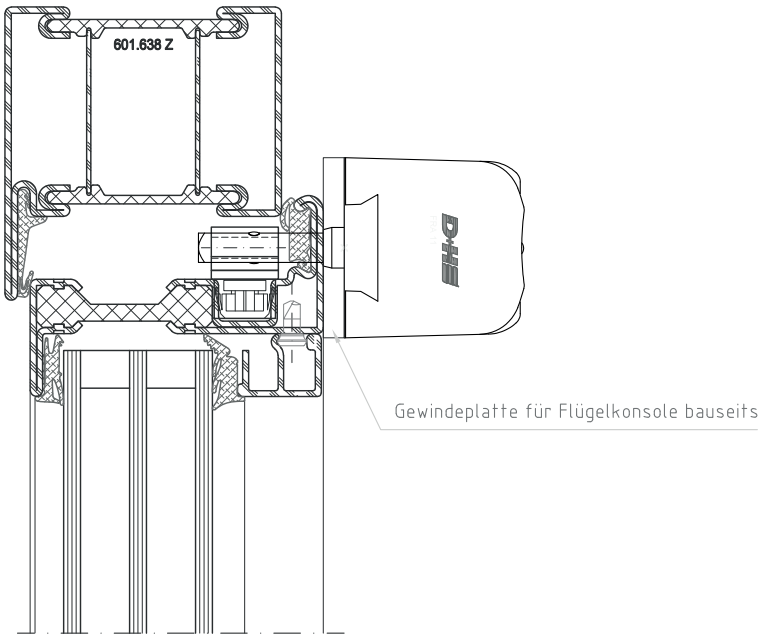
SOLUTIONS WITH THE FRA 11 LOCK DRIVE

- Application together with 24 V and 230 V CDC and KA drives
- Inward-opening window: Bottom-hung, top-hung and side-hung windows
- Mounted installation

FRA series product overview

- With motor electronics controlled via microprocessor for communication and sequence control of connected BSY+ and PLP window drives for window opening
- To be used in conjunction with an internal chamber gearbox and 43 mm mounting distance
- -BRV (for PLP) or -VP (for BSY+ / ACB) option required for connected window drive
- Up to 4 FRA 11-BSY+ drives are possible on one window
- Position display for the locking mechanism
- LED status display for the drive
- Automatic locking mechanism for the window
- Increased burglary protection
- Consultation with D+H Mechatronic AG is required for the "VLD" variant.

Assembly options and example of a face-fixed sash mounting

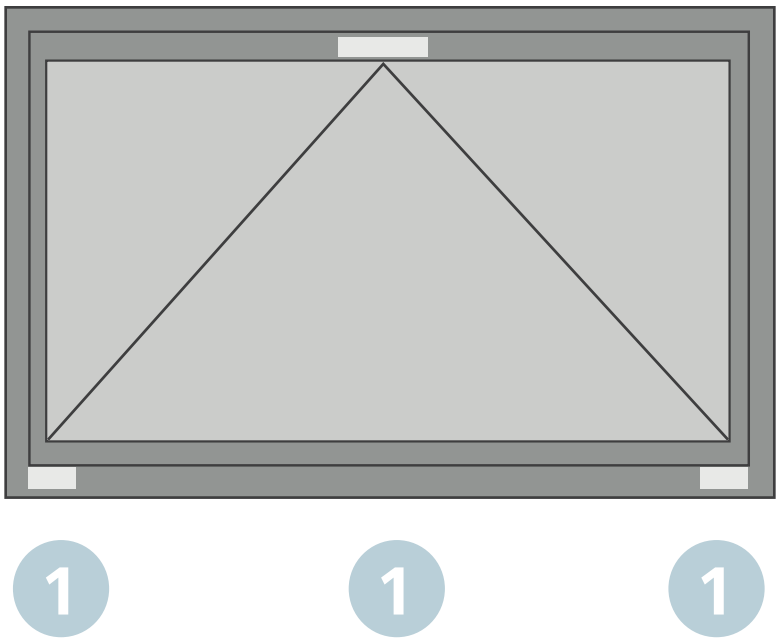


You can download further wiring diagrams and data sheets directly from downloads.dh-partner.com.

Bottom-hung, top-hung and side-hung sashes

OVERVIEW OF HINGE VERSIONS

Inward-opening bottom-hung window



Screw-on hinge version			
Pos.	**Designation**	**Number**	**Article No.**
1	Bottom-hung hinge	2–3	557,216
	Fix. screws sash	4 per hinge	557.045 (PU 100 pcs)
	Fix. screws frame	4 per hinge	557.046 (PU 100 pcs)
	Cover cap		557.210 silver (PU 20 pcs) 557.211 white (PU 20 pcs)

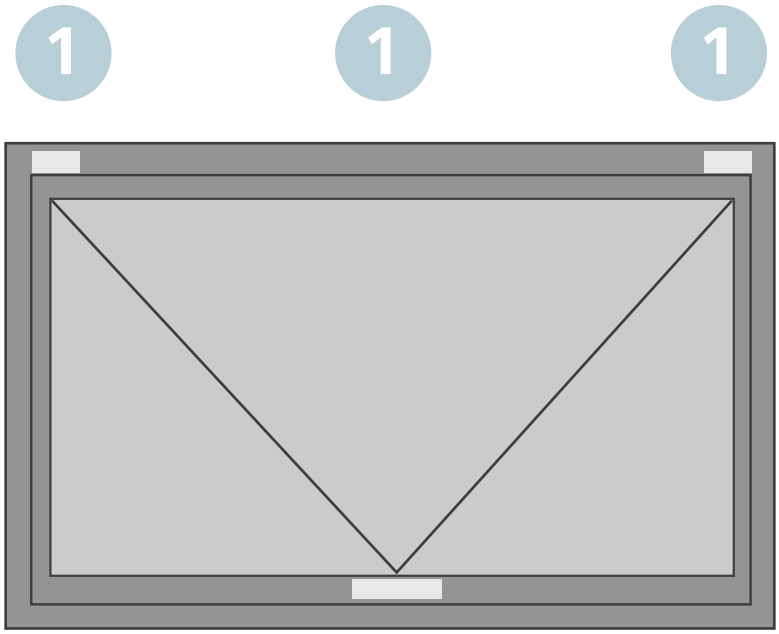
80 kg 2 hinges > 80 kg 3 hinges
Concealed hinges are not approved for Janisol Arte 66 windows.

Weld-on hinge version			
Pos.	**Designation**	**Number**	**Article No.**
1	Weld-on hinge	2–3	559,207

80 kg 2 hinges > 80 kg 3 hinges
Secure weld-on hinge to prevent horizontal movement.

If required: use stays.
Jansen fabrication guidelines must be observed.

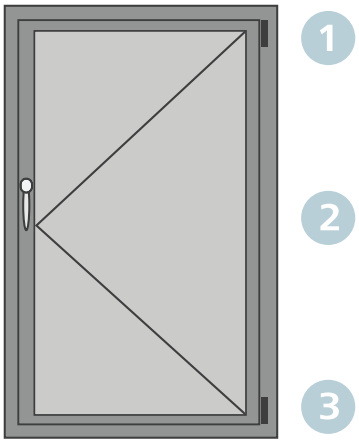
Inward-opening top-hung window



Weld-on hinge version			
Pos.	**Designation**	**Number**	**Article No.**
1	Weld-on hinge	2–3	559,207

80 kg 2 hinges > 80 kg 3 hinges
Jansen fabrication guidelines must be observed.

Inward-opening side-hung window



Screw-on hinge version			
Pos.	**Designation**	**Number**	**Article No.**
1	Sash bearing, top	1	DIN left 599.426 DIN right 599.427
	Stay bearing, top	1	599,443
	Fix. screws sash bearing	4	557.045 (PU 100 pcs)
	Fix. screws stay bearing	4	557.046 (PU 100 pcs)
	Cover top	1	557.210 silver (PU 20 pcs) 557.211 white (PU 20 pcs)
2*	Additional lock sash	1	599,445
	Additional lock window frame	1	599,444
	Fix. screws sash	2	557.045 (PU 100 pcs)
	Fixing screws window frame	2	557.046 (PU 100 pcs)
3	Pivot bearing, bottom	1	DIN left 599.429 DIN right 599.430
	Corner bearing hinge, bottom	1	599,428
	Sash stopper	1	599,433
	Fix. screws	4	557.045 (PU 100 pcs)
	Cover cap, bottom	1	557.212 silver left (PU 20 pcs) 557.213 white left (PU 20 pcs) 557.214 silver right (PU 20 pcs) 557.215 white right (PU 20 pcs)

Concealed hinges are not available for Janisol Arte 66 windows.

Weld-on hinge version			
Pos.	**Designation**	**Number**	**Article No.**
1–3	Weld-on hinge	1–3	559,207

Jansen fabrication guidelines must be observed.

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