

**+** STABILITY  
VERSATILITY



## ZA SERIES

Reliable expert for roofs

- » Opens and closes roof windows and skylights in case of fire or for natural ventilation
- » Powerful and yet economical:  
up to 1500 N at a maximum of 2.5 A
- » Individually configurable thanks to cutting-edge  
ACB technology
- » NSHEV certified in accordance with EN 12101-2 with  
various profile series



# + EFFICIENCY ENDURANCE

## Maximum safety at great heights

Where others cannot climb, ZA Series drives exude absolute sovereignty: They open windows and skylights in the roof area fully automatically, efficiently and safely. Equipped with robust racks and pinions, they have a high pressure resistance, which enables them to open even heavy sashes without any difficulty. Whether for the life-saving smoke vent in case of fire or for everyday natural ventilation: The toxic gases escape quickly through the wide openings - the drives make stroke lengths up to 1500 mm possible - and fresh air flows into the buildings. External conditions do not affect these drives. Optionally integrated heating resistors ensure that the electronics work even under severely fluctuating climatic conditions. Thanks to the special WS design, the ZA drives are corrosion-resistant and thus prove their compact reliability even in outdoor areas. The ZA Series embodies the perfect balance of force and current consumption. At a low current draw of a maximum of 2.5 A,

the slender rack and pinion drives are capable of high forces up to 1500 N. Thus, they are the optimal solution for the highest demands for safety and convenience, even from an economical perspective. And, if one single ZA drive should not suffice, up to 8 drives can be used in synchronous operation. The drives can be configured from a PC or Windows tablet using the D+H Software SCS. Separately configure the drive functions, performance features, stroke lengths, opening widths and speeds for opening and closing entirely according to your requirements and applications. According to customer requirements, the rack and pinion drives can be ordered in different colours, and their lengths can be adapted. You note: Nothing is too high or too heavy for these drives. Not for nothing that they are certified in accordance with EN 12101-2 NSHEV and also approved by VdS and DEKRA.

### Efficient drive technology

- » Can be used for openings for smoke exhaust, NSHEV in accordance with EN 12101-2 and for daily ventilation
- » With motor electronics controlled via microprocessor
- » High speed function (HS) for especially fast opening of the windows in case of fire
- » Option of up to 8 drives and 4 locking drives in one synchronous group
- » Low current consumption thanks to high efficiency
- » Drive unit can be changed from left to right
- » Extreme flexibility thanks to the easy configuration of the functions on a PC using the D+H Software SCS
- » Running speed in CLOSED direction reduced to 5 mm/s (passive closing edge protection)
- » Time-controlled reversing if an obstacle is detected in the CLOSED direction (active closing edge protection)

## ACB

### Live communication with the drive

The ZA Series already works with the intelligent ACB technology (Advanced Communication Bus).

- » Bidirectional bus communication between D+H controllers and D+H drives
- » Can be configured using D+H controllers and D+H Software SCS on a PC or tablet with a Windows operating system
- » Drive group: Multiple drives can be combined in one drive group in synchronous operation
- » The rack and pinion can be extended or retracted down to the millimetre thanks to the controller with its perfect positioning
- » By means of the ACB, all status messages, such as the exact opening stroke, OPEN and CLOSED status, etc. can be read out

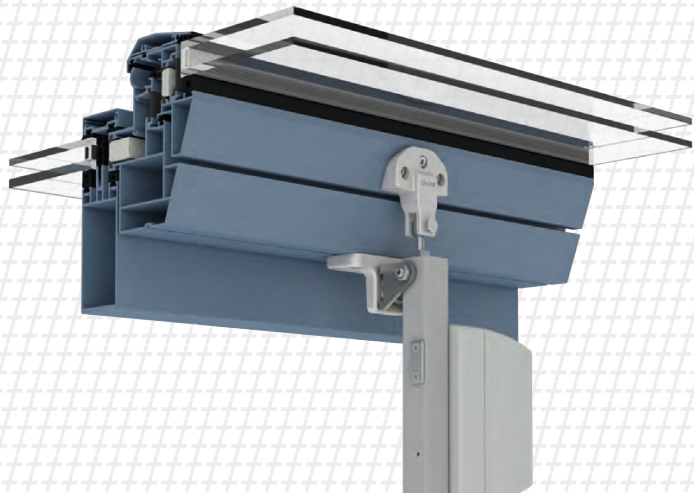


Fig.: ZA Series on the Schüco AWS profile

# + DRIVE BRACKET

## Convenient and optimally adjusted: Installation of the ZA

Whether roof windows or skylights are concerned, the ZA Series offers various solutions for its assembly. Profile-specific bracket sets consisting of a frame bracket and a sash bracket make fast and easy installation possible - without further adjustment work to the fitting.

Each solution has its advantages. If installed on the side, for example, shorter strokes are necessary for the same opening area than if the drives are installed opposite the hinge. On the other hand, drives installed opposite the hinge require less force. Thanks to our expertise, D+H is the ideal contact for you. With the myCalc program, we have a platform allowing to carry out such calculations optimally.

If you should be interested or if you have questions about the software, feel free to contact us at: [mycalc.support@dh-partner.com](mailto:mycalc.support@dh-partner.com)



## System-specific variety

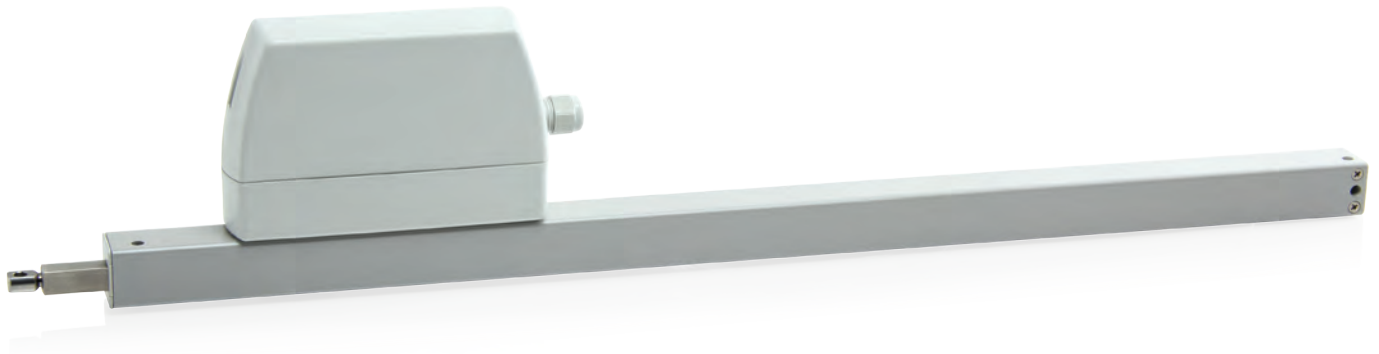
Extensive, system-specific bracket solutions are available with the ZA Series.  
Get an overview:

## System vendors

Aluprof®	Reynaers®
Colt®	Sapa®
Heroal®	Schüco®
Jet-Brakel®	Wicona®
Raico®	



# ZA-1-PLP



## Performance features

- » Can be used for openings for smoke exhaust; D+H Euro SHEV in accordance with EN 12101-2; and for daily ventilation
- » With motor electronics controlled via microprocessor
- » High-speed function (HS) for especially fast opening windows in case of fire (SHEV) (optionally available)
- » Low current consumption thanks to high efficiency
- » Option of cable infeed above and below
- » Drive unit can be changed from left to right
- » Programmable drive functions and different drive parameters
- » Running speed in CLOSED direction decreases to 5 mm/s (passive closing edge protection)
- » Time-controlled reversing when an obstacle is detected in the CLOSED direction (active closing edge protection)

## Potential drive options



You can find the explanations for the icons in the legend.

## Approvals / Certificates

Find out about permission details from your D+H Partner.



G 500001

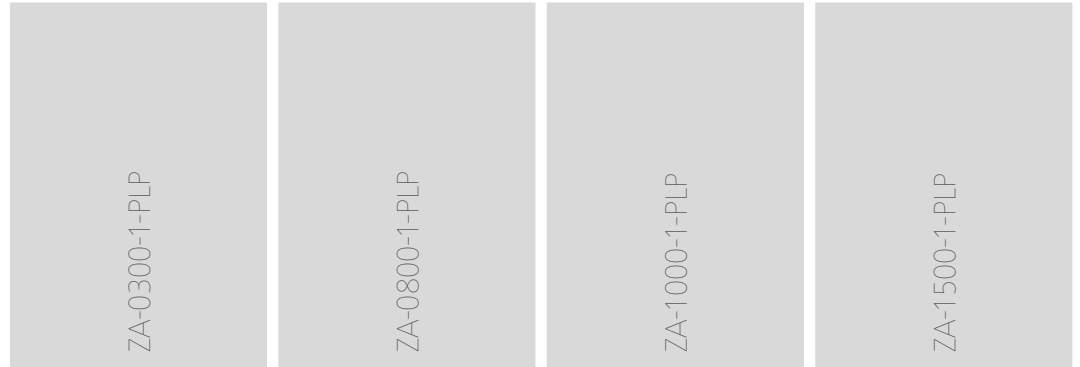


Article also available with the following permissions under other article numbers. Technical data may deviate.



## Technical data

For further information please contact your D+H partner.



Supply	24 V DC / $\pm 15\%$			
Rated input current	0.5 A	1 A	1.2 A	1.4 A
Force of pressure	300 N	800 N	1000 N	1500 N
Tensile force	300 N	800 N	1000 N	1000 N
Nominal locking force **	Max. 1400 N (1100 N ***)			
Service life	20000 double strokes *			
Stroke	100 - 1500 mm			
Type of protection	IP 65			
Emission sound pressure level	LpA $\leq 51$ dB(A)			
Temperature range	-15 °C (-5 °C ***) ... +75 °C			
Housing	Aluminium / Polycarbonate			
Colour	White aluminium (~RAL 9006)			
Dimension A	225 - 1662 mm			

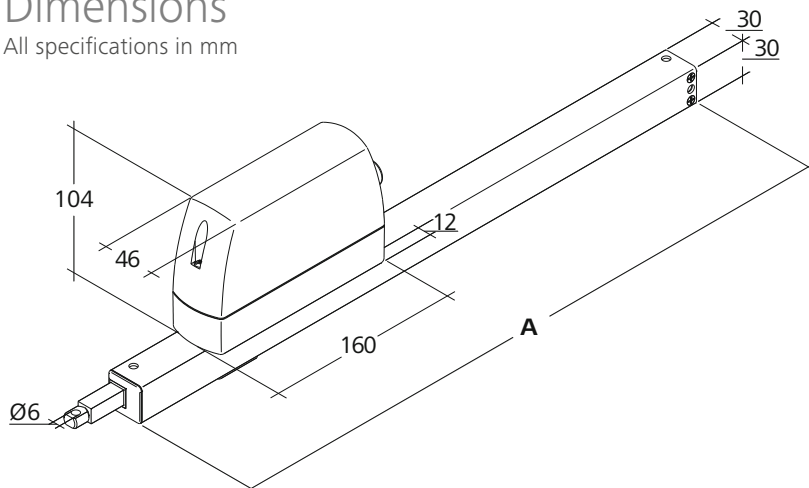


\* For vertical use, please consult with D+H Sales!

\*\* Depending on the mounting, \*\*\* in accordance with VdS 2580

## Dimensions

All specifications in mm





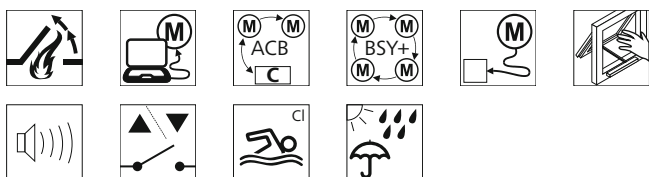
# ZA-1-ACB



## Performance features

- » Can be used for openings for smoke exhaust; D+H Euro SHEV in accordance with EN 12101-2; and for daily ventilation
- » With BSY+ motor and synchronised electronics controlled via microprocessor
- » High-speed function (HS) for especially fast opening windows in case of fire (SHEV) (optionally available)
- » Option of up to 8 drives in one synchronous group
- » Option of cable infeed above and below
- » Drive unit can be changed from left to right
- » Programmable drive functions and different drive parameters
- » Running speed in CLOSED direction decreases to 5 mm/s (passive closing edge protection)
- » Time-controlled reversing when an obstacle is detected in the CLOSED direction (active closing edge protection)
- » Integrated ACB (Advanced Communication Bus) bus interface with Modbus RTU protocol
- » The drive is integrated directly via open bus communication through the ACB (Advanced Communication Bus), e.g. in a building management system

## Potential drive options



You can find the explanations for the icons in the legend.

## Approvals / Certificates

Find out about permission details from your D+H Partner.



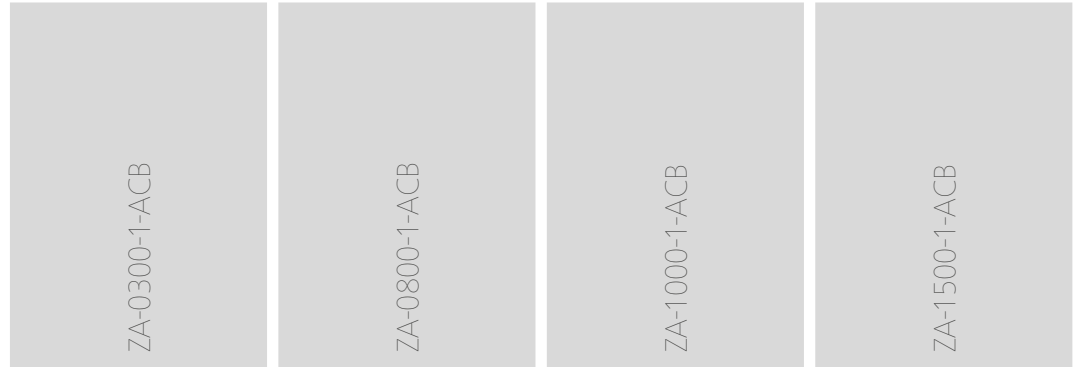
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## Technical data

For further information please contact your D+H partner.



Supply	24 V DC / $\pm 15\%$			
Rated input current	0.5 A	1 A	1.2 A	1.4 A
Force of pressure	300 N	800 N	1000 N	1500 N
Tensile force	300 N	800 N	1000 N	1000 N
Nominal locking force **	Max. 1400 N (1100 N ***)			
Service life	20000 double strokes *			
Stroke	100 - 1500 mm			
Type of protection	IP 65			
Emission sound pressure level	LpA $\leq 51$ dB(A)			
Temperature range	-15 °C (-5 °C ***) ... +75 °C			
Housing	Aluminium / Polycarbonate			
Colour	White aluminium (~RAL 9006)			
Dimension A	225 - 1662 mm			

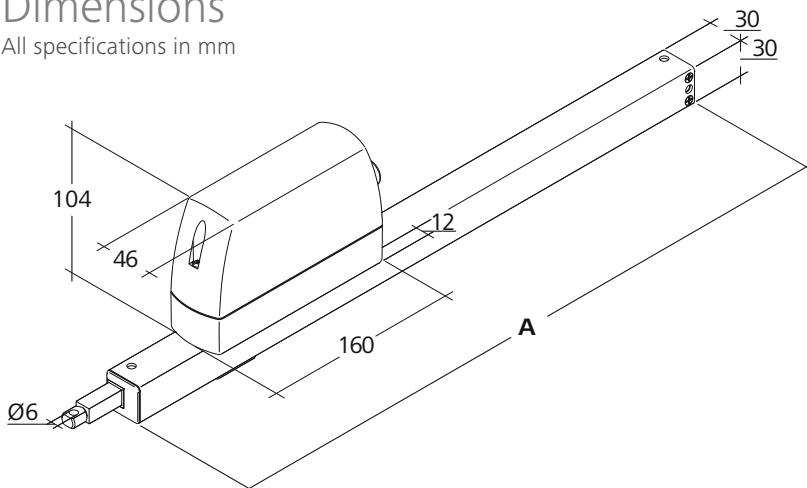


\* For vertical use, please consult with D+H Sales!

\*\* Depending on the mounting, \*\*\* in accordance with VdS 2580

## Dimensions

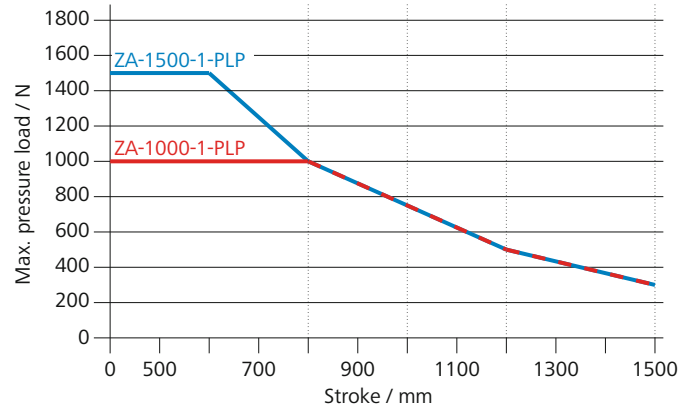
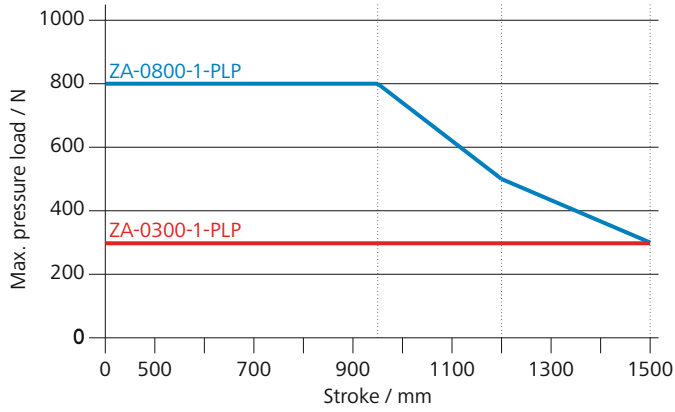
All specifications in mm



## Pressure load diagram

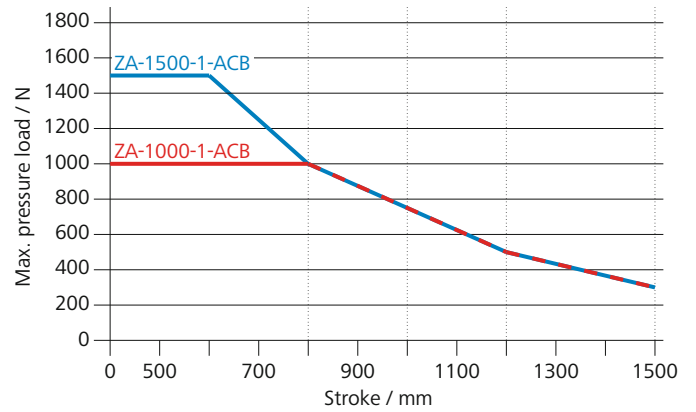
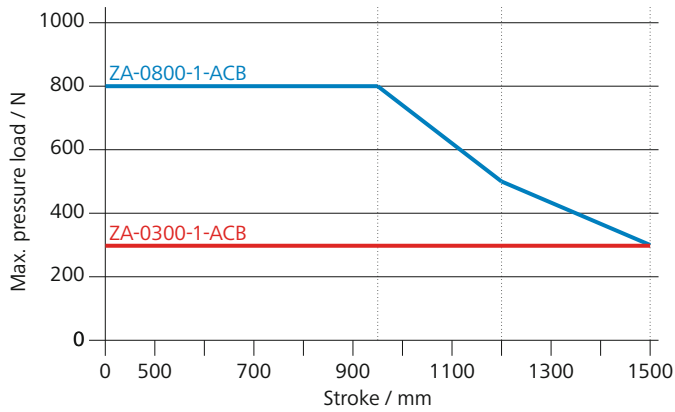
### ZA-1-PLP

— Permanent



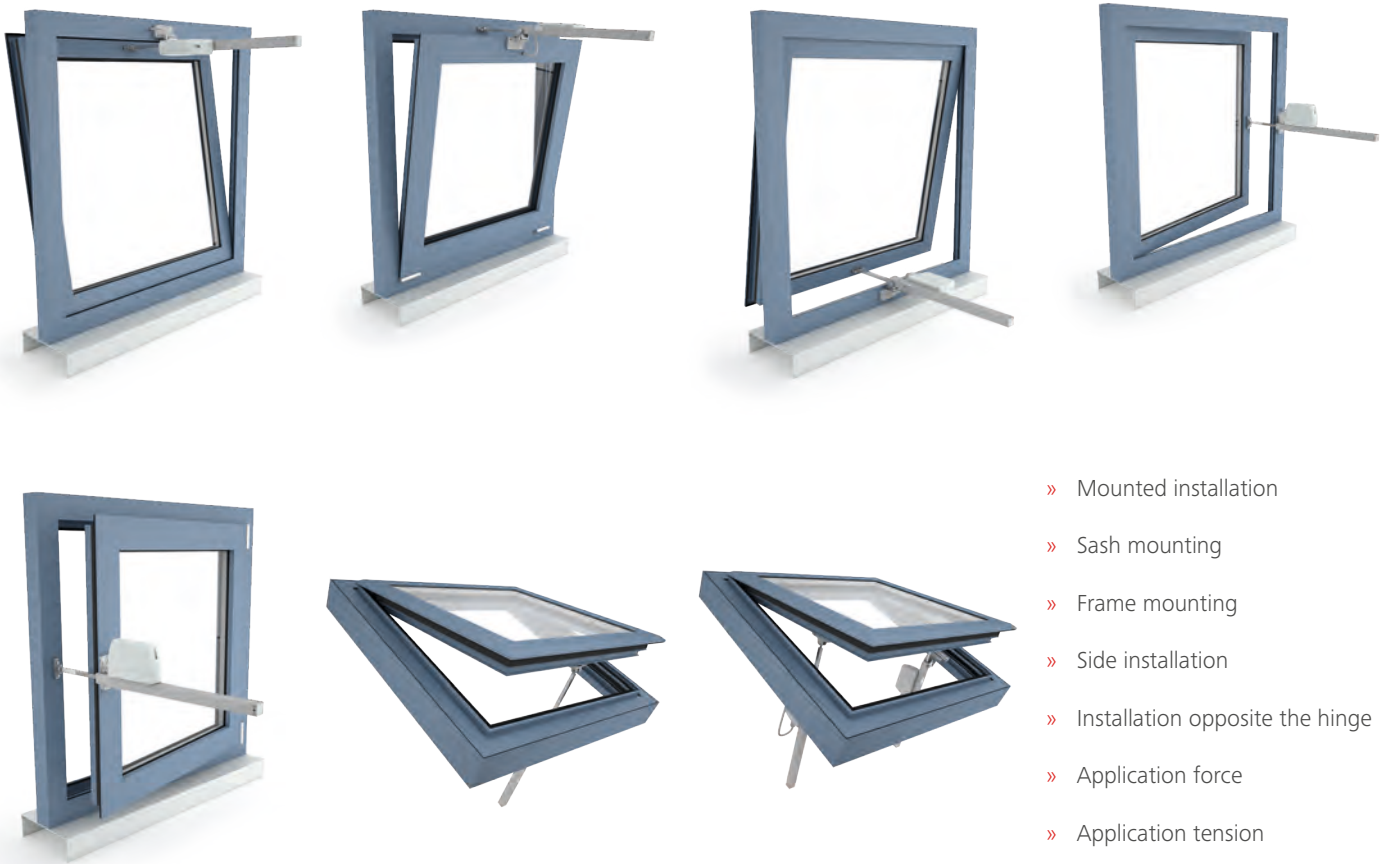
### ZA-1-ACB

— Permanent



## Possible applications

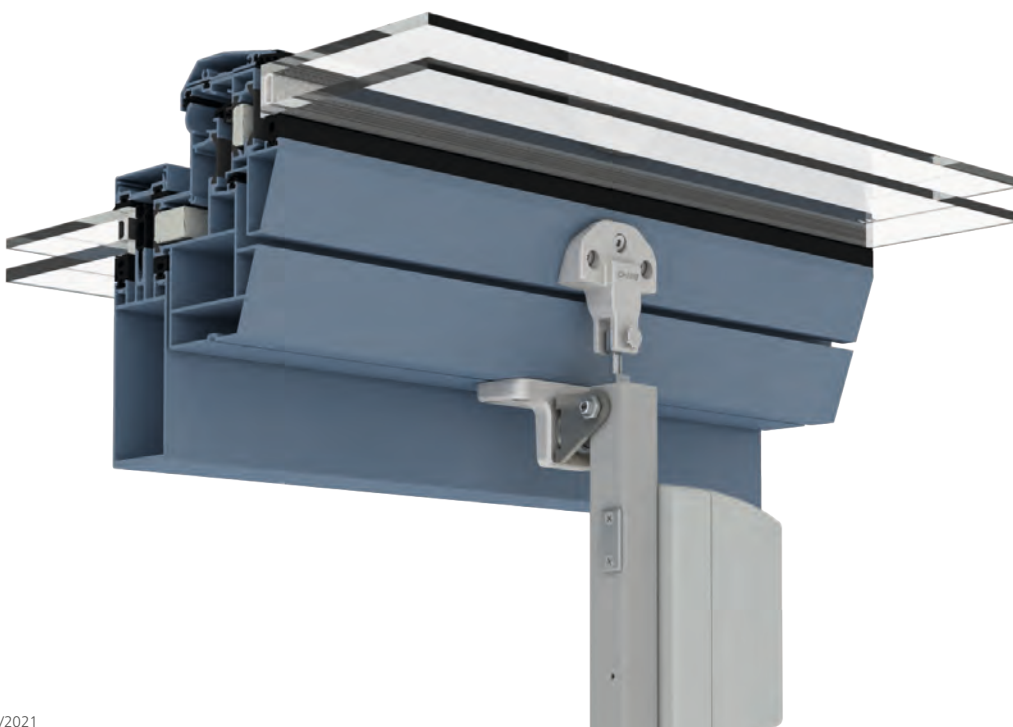
Illustration provided as an example



- » Mounted installation
- » Sash mounting
- » Frame mounting
- » Side installation
- » Installation opposite the hinge
- » Application force
- » Application tension
- » Trapezoidal application (ACB drives)

## Installation example

ZA-0800-0600-1-PLP-R (side installation)



Brackets are not included and have to be ordered separately.

# ZA 105-K



## Performance features

- » Can be used for openings for smoke exhaust; D+H Euro SHEV in accordance with EN 12101-2; and for daily ventilation
- » Direct control via 230 V AC
- » Low current consumption thanks to high efficiency
- » Option of cable infeed above and below
- » Drive unit can be changed from left to right
- » Running speed in CLOSED direction decreases to 5 mm/s (passive closing edge protection)
- » Time-controlled reversing when an obstacle is detected in the CLOSED direction (active closing edge protection)

## Potential drive options



You can find the explanations for the icons in the legend.

## Approvals / Certificates

Find out about permission details from your D+H Partner.



5014068.16001



## Technical data

For further information please contact your D+H partner.



Supply	230 V AC / +10 % ... -15 %
Input frequency	50 Hz
Performance	27 W / 30 VA
Force of pressure	1000 N
Tensile force	1000 N
Nominal locking force **	Max. 1400 N (1100 N ***)
Service life	20000 double strokes *
Stroke	100 - 1500 mm
Type of protection	IP 65
Emission sound pressure level	LpA ≤ 51 dB(A)
Temperature range	-15 °C (-5 °C ***) ... +75 °C
Housing	Aluminium / Polycarbonate
Colour	White aluminium (~RAL 9006)
Dimension A	225 - 1662 mm

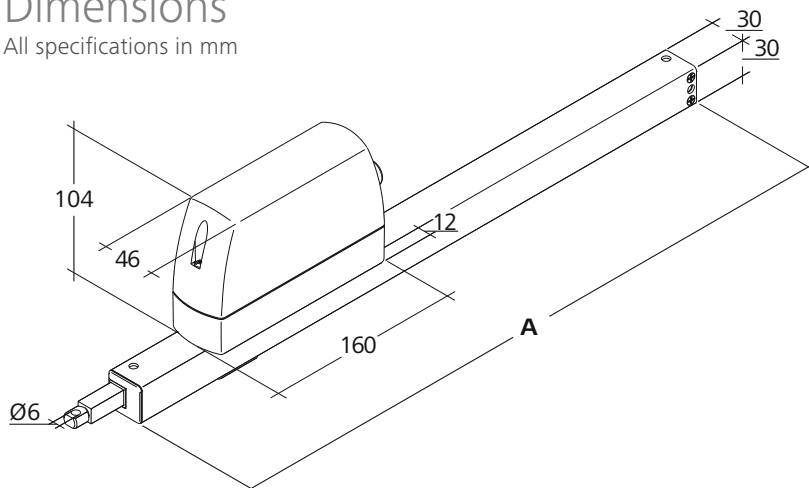


\* For vertical use, please consult with D+H Sales!

\*\* Depending on the mounting, \*\*\* in accordance with VdS 2580

## Dimensions

All specifications in mm



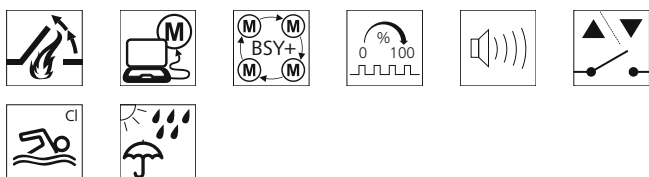
# ZA-K-BSY+



## Performance features

- » Can be used for openings for smoke exhaust; D+H Euro SHEV in accordance with EN 12101-2; and for daily ventilation
- » With BSY+ motor and synchronised electronics controlled via microprocessor
- » High-speed function (HS) for especially fast opening windows in case of fire (SHEV) (optionally available)
- » Direct control via 230 V AC
- » Option of up to 4 drives in one synchronous group
- » Low current consumption thanks to high efficiency
- » Option of cable infeed above and below
- » Drive unit can be changed from left to right
- » Running speed in CLOSED direction decreases to 5 mm/s (passive closing edge protection)
- » Time-controlled reversing when an obstacle is detected in the CLOSED direction (active closing edge protection)

## Potential drive options



You can find the explanations for the icons in the legend.

## Approvals / Certificates

Find out about permission details from your D+H Partner.

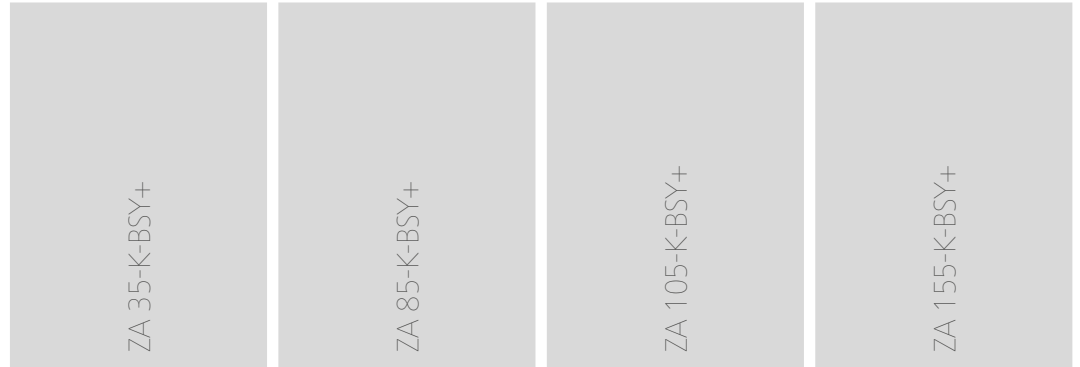


5014068.16001



## Technical data

For further information please contact your D+H partner.



Supply	230 V AC / +10 % ... -15 %			
Input frequency	50 Hz			
Performance	20 W / 30 VA	30 W / 45 VA	35 W / 55 VA	45 W / 70 VA
Force of pressure	300 N	800 N	1000 N	1500 N
Tensile force	300 N	800 N	1000 N	1000 N
Nominal locking force **	Max. 1400 N (1100 N ***)			
Service life	20000 double strokes *			
Stroke	100 - 1500 mm			
Type of protection	IP 65			
Emission sound pressure level	LpA ≤ 51 dB(A)			
Temperature range	-15 °C (-5 °C ***) ... +75 °C			
Housing	Aluminium / Polycarbonate			
Colour	White aluminium (~ RAL 9006)			
Dimension A	225 - 1662 mm			

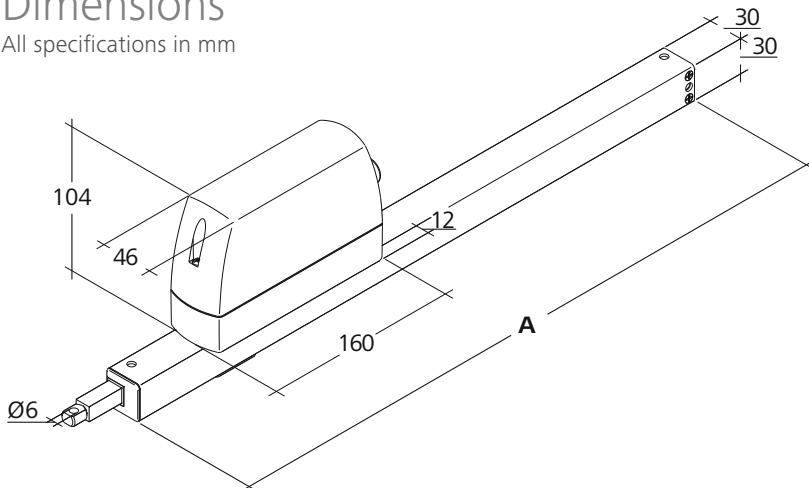


\* For vertical use, please consult with D+H Sales!

\*\* Depending on the mounting, \*\*\* in accordance with VdS 2580

## Dimensions

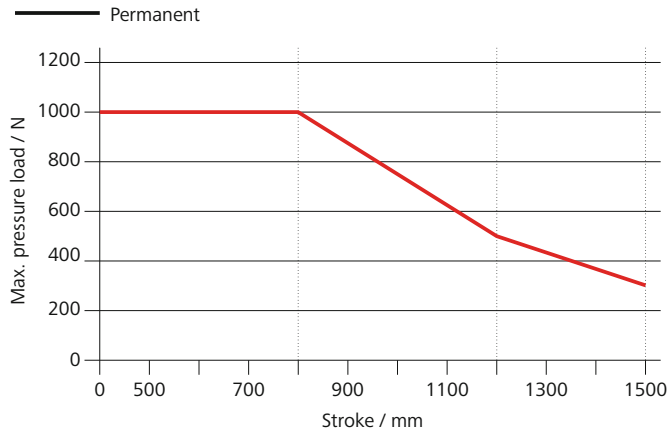
All specifications in mm



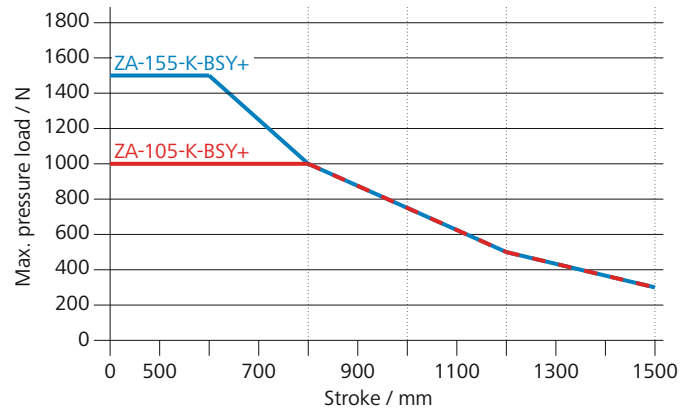
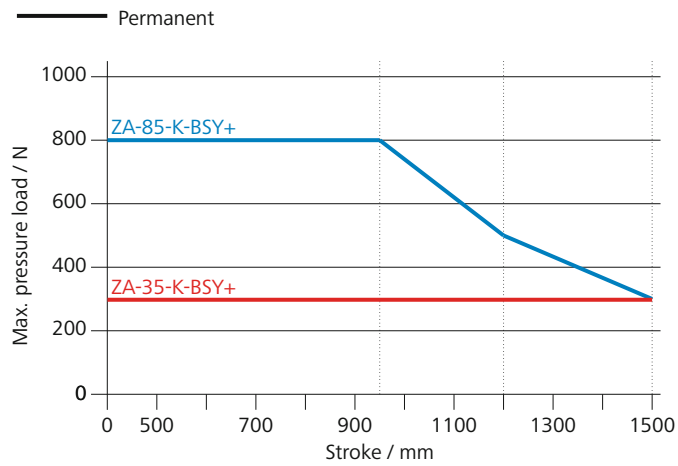


## Pressure load diagram

### ZA 105-K

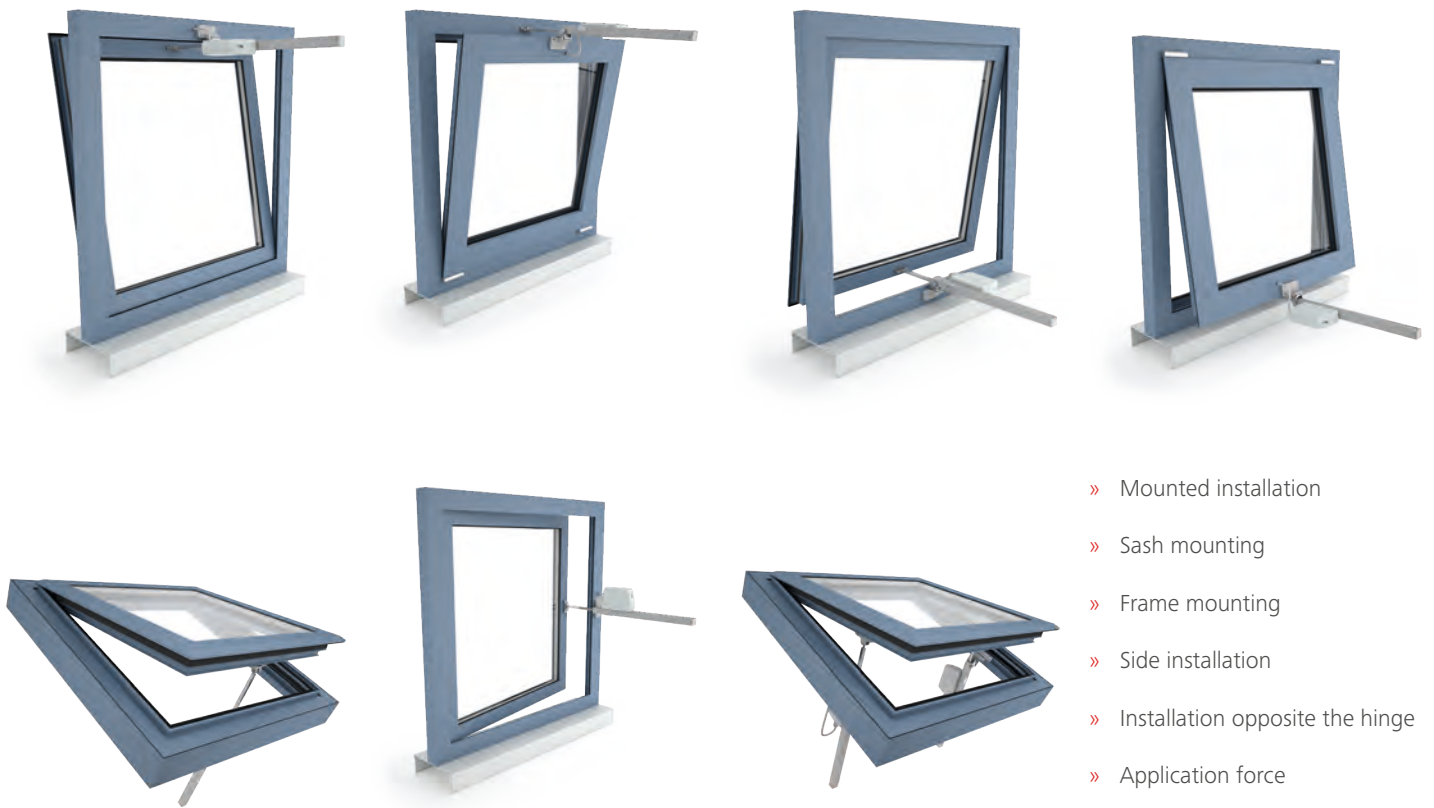


### ZA-K-BSY+



## Possible applications

Illustration provided as an example



- » Mounted installation
- » Sash mounting
- » Frame mounting
- » Side installation
- » Installation opposite the hinge
- » Application force
- » Application tension

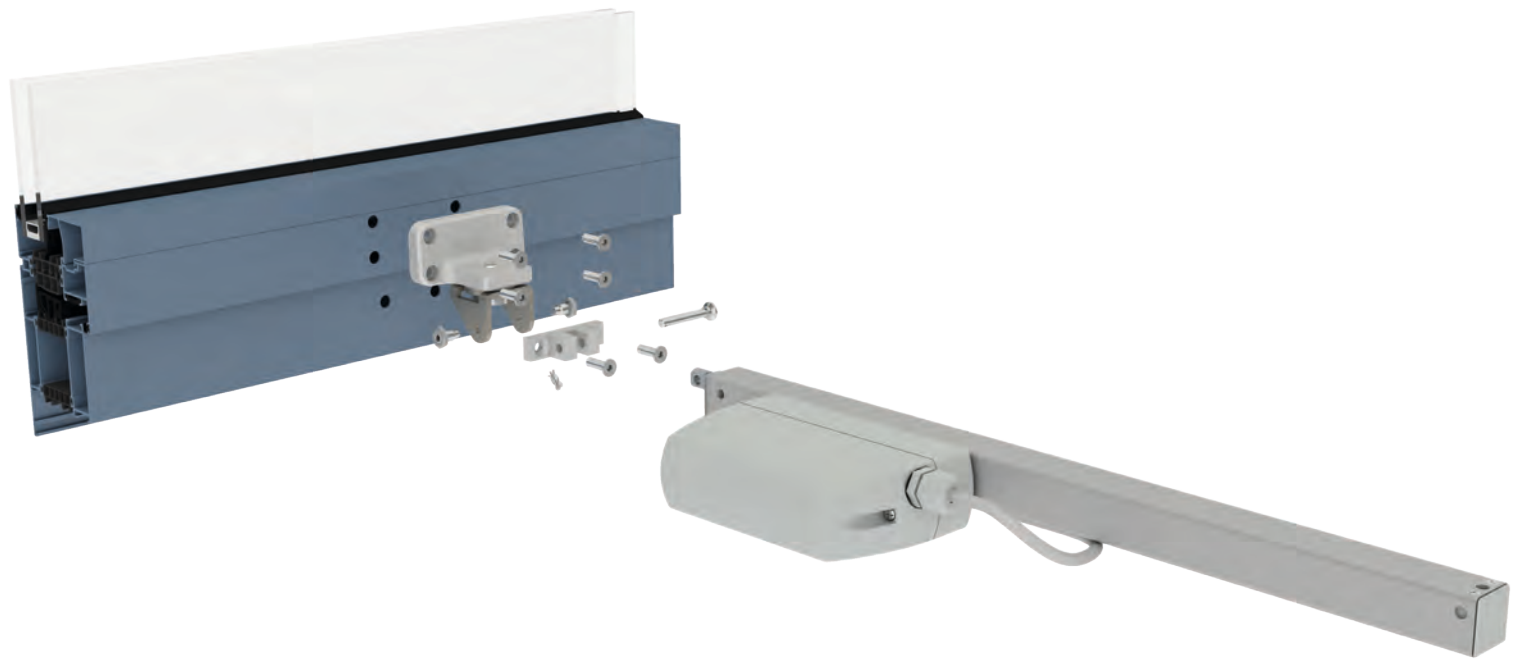
## Installation example

ZA 85/600-K-BSY+ 2x right (installation opposite the hinge)



Brackets are not included and have to be ordered separately.

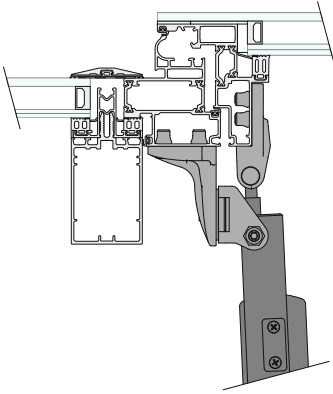
## ZA Series Rack and pinion drives



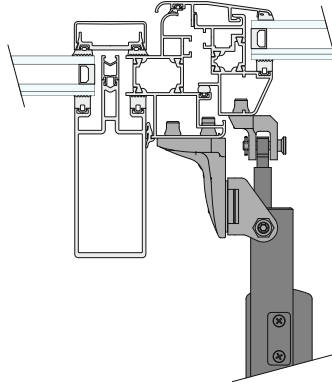
# Bracket applications

Illustration provided as an example

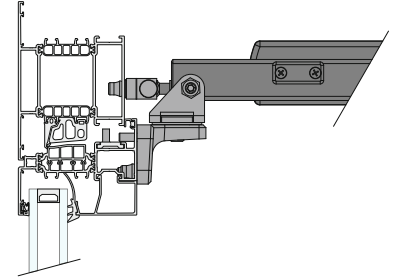
Roof windows, outward opening,  
installation opposite the hinge



Roof windows, outward opening,  
side installation

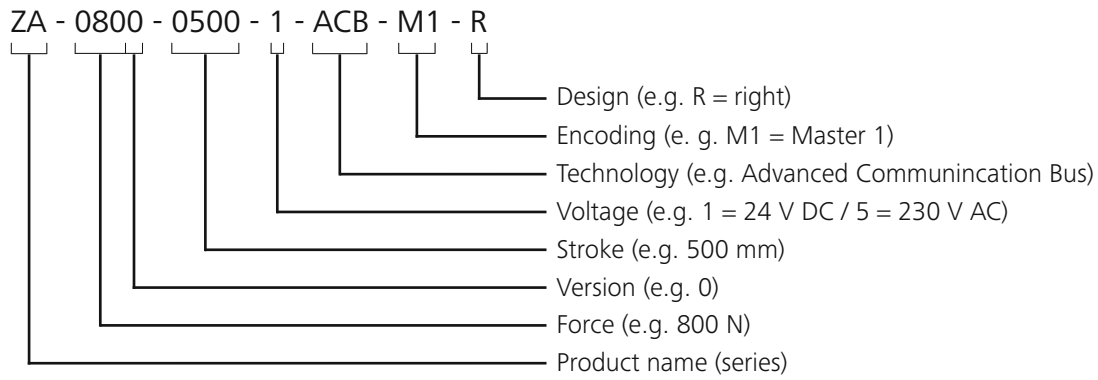


Façade window  
(bottom-hung and top-hung windows)



# Legend

## Product name



## Notice / design



SHEV (Smoke and heat exhaust ventilation)



CNV (Controlled natural ventilation)













230 V AC



24 V DC

## Options icons

-  HS "High speed"  
In the case of SHEV, the high-speed function is used for reliably reaching the defined end position in 60 s. In daily ventilation mode, the drive runs quietly and quickly, as usual.
-  Function programming  
Option for customised configuring of drive parameters (e.g. stroke) via software and associated service tools for drives equipped with PLP, BSY or BSY+ electronics.
-  BRV signal  
Acknowledgement from the drive, via a control cable, to confirm that it has been completely extended or retracted. When used with the AT 41 and ERM 44 modules, this signal is sent to the central building control system, the modules themselves, or to the locking drive. The BRV signal is not isolated.
-  ACB (Advanced Communication Bus)  
Enables direct bus communication between the controller and the drive for, for example, control with perfect positioning or drive feedback. Communication is via the open source Modbus protocol, and it enables the drive to be combined with an ACB-capable control panel or enables it to be directly connected to higher-level controllers such as a building management system.
-  BSY+ (synchronisation of drives)  
BSY+ enables communication and synchronisation between different components in the window. For example between the chain drives, during synchronous operation, or between window and locking drives (e.g. FRA 11 BSY+ or VLD-BSY+).
-  SGI signal (position reporting)  
In combination with the D+H servo plug-in unit SE 622 or the BSY-gateway BSY-GW-024-010-U, the drives can be controlled with perfect positioning.
-  SKS (closing edge protection)  
Drive option, which enables an anti-trap strip or presence detector to be connected directly to the drive (terminal resistor 5.6 kΩ).
-  Audible signal (corresponding to protection class)  
AS2 corresponding to "Protection class 2" in accordance with ZVEI risk assessment through an audible warning signal in the "CLOSED" running direction. AS3 corresponding to "Protection class 3" in accordance with ZVEI risk assessment, in addition to AS2, stops the drive for 11 s with a remaining stroke of 28 mm.
-  End position message (OPEN / CLOSED)  
Drive feedback via an integrated isolated switching contact. This happens if the chain / rack and pinion has moved completely out or in.
-  TM tandem connecting shaft  
Available as an option for rack and pinion drives. The drives are mechanically coupled with the rack and pinion slave units (ZM) with connecting shafts (VW).
-  WS (use in swimming pool)  
Available as an option for rack and pinion drives to make them suitable for use in swimming pools. The drive is equipped with an A4 rack and pinion, A4 eyebolt and a gearbox with hardened stainless steel pinion.

### W (use outdoors)

Available as an option for rack and pinion drives to make them suitable for outdoor use. The drive is equipped with a pressure release vent (depending on installation), condensation protective coating on the electronics and a gearbox with hardened stainless steel pinion.

## Overview of standards

### DIN EN

#### **DIN EN 60335-2-103**

Requirements and test methods for drives for windows

#### **DIN EN 12101-2**

Requirements and test methods for natural smoke and heat exhaust ventilators (NSHEV)

### VdS

#### **VdS directive VdS 2580**

Requirements and test methods for electro-mechanical drives, for natural smoke extraction systems (NSE)

### UL

#### **UL 325**

This test standard defines, among other aspects, the requirements and test methods for electro-mechanical drives, which shall be used for ventilation purposes. The result of this test is a UR certificate.



## Test centres / test symbols

### Dekra

Approvals for the electric safety/security of products (drives and control panels) - particularly regarding Low Voltage Directive approvals for drives in accordance with the EN 60335-2-103 standard.

### VdS Schadenverhütung

Well-established as a test laboratory for fire protection technology in Europe.

Inspection of SHEV control panels in accordance with the standards listed below or VdS directives.

Named as a notified body by DIBt; inspections in accordance with EN 12101-2 European standards for natural smoke and heat exhaust ventilators and subsequent certification.

Inspection of electro-mechanical drives in accordance with the VdS directive VdS 2580.

### EN 12101-2

Drive tested in conjunction with NSHEV in accordance with EN 12101-2.

### Underwriters Laboratory UL

Underwriters Laboratories (abbreviated UL) is an independent organisation which inspects and certifies products in terms of their safety. UL inspects products, components, materials and systems to see whether they conform to US and Canadian market requirements.

### CNBOP

The CNBOP is a Polish test institution which conducts specific function checks for individual components or systems for SHEV systems in accordance with Polish standards and laws and which issues certificates based on these tests.

### CCCF

The CCCF is a Chinese test institution which issues country-specific certificates on the basis of tests conducted at accredited Chinese test institutions for components or systems for SHEV systems in accordance with Chinese standards and laws.





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