

aumüller

Assembly and Commissioning Instructions

according to Machinery Directive 2006/42/EC (annex VI)



PL6 S1 24V DC AND PL10 S1 24V DC SPINDLE DRIVE FOR WINDOWS **CE**

Spindle drive without internal cutt-off switch -
external cutt-off switch required
(control module USKM or locking drive FV3 / FVR3 / FVB3 / OFV)



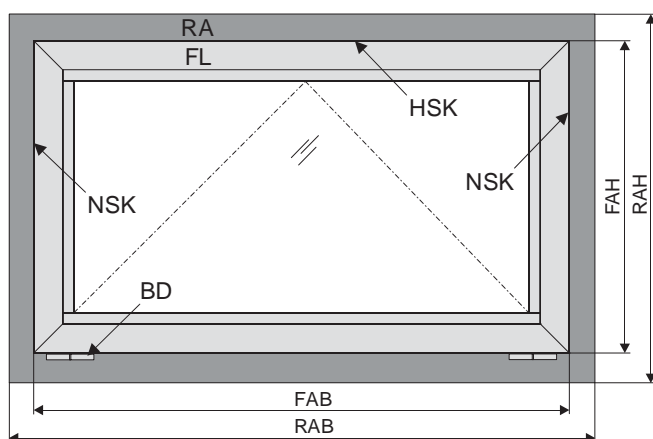
01	<p>Abbreviations Target Groups Warning and Safety Symbols Intended Use Safety Instructions</p>	3 - 8
02	<p>Data sheet PL6 S1 24V DC Data sheet PL10 S1 24V DC Explanations on the product label</p>	9 - 10
03	<p>Areas of Application and Casement Sizes Mounting applications</p>	11
04	<p>INSTALLATION STEP 1: Inspection before the installation INSTALLATION STEP 2: Installation prerequisite and Installation preparation</p>	12 - 13
05	<p>INSTALLATION STEP 3A: Determine the casement brackets INSTALLATION STEP 3B: Determine the frame brackets INSTALLATION STEP 4: Hole layout and planning for side-closing edge operation</p>	14 - 21
06	<p>INSTALLATION STEP 5: Assembly for side-closing edge operation - activation on NSK</p>	22 - 23
07	<p>INSTALLATION STEP 6: Electric Connection INSTALLATION STEP 7: Supply lines of drives to the control unit INSTALLATION STEP 8: Safety check and Test run Troubleshooting, Service and Repair Maintenance and Modification</p>	24 - 26
08	<p>Removal and Disposal Liability Warranty and After-Sales Service Certificates</p>	27 - 31

ABBREVIATIONS

Index of abbreviations

These abbreviations are used consistently throughout these assembly & operating instructions. Unless stated differently, all dimensions indicated in this document are in mm. General tolerances in accordance with DIN ISO 2768-m.

A	drive
AK	connection cable / drive cable
AP	cover cap
BD	hinge
Fxxx	casement bracket
FAB	overall width of casement
FAH	overall height of casement
FG	casement weight
FL	casement
FÜ	casement overlap
HSK	main closing edge
Kxxx	frame bracket
L	construction length of drive
MB	central hinge
NSK	side closing edge
RA	frame
RAB	overall width of frame
RAH	overall height of frame
SL	snow load
→	opening direction



TARGET GROUP

These instructions are intended for trained personnel and operators of systems for natural smoke ventilation (NRA / SHEV) (natural smoke exhaust system / smoke and heat exhaust system) and natural ventilation via windows, who are knowledgeable of operating modes as well as the remaining risks of the system.

WARNING AND SAFETY SYMBOLS IN THESE INSTRUCTIONS:

The symbols used in the instructions shall be strictly observed and have the following meaning:



DANGER

Failure to comply with the warning notes results in irreversible injuries or death.



WARNING

Failure to comply with the warning notes can result in irreversible injuries or death.



CAUTION

Failure to comply with the warning notes can result in minor or moderate (reversible) injuries.



NOTE

Failure to comply with the warning notes can lead to damage to property.



Caution / Warning

Danger due to electric current.



Caution / Warning

Risk of crushing and entrapment during device operation (is provided as a sticker with the drive).



Attention / Warning

Risk of damage to / destruction of drives and / or windows.



WARNING

This device is not intended for use by persons (including children) with physical, sensory or mental limitations or lacking experience and / or knowledge, unless they are supervised by a person who is responsible for the safety or were instructed by him on the usage of this equipment. Children should be supervised to ensure that they are not playing with this device. Cleaning and operator's maintenance may not be performed by children without supervision.

INTENDED USE

Area of application / Scope of application

This drive is intended for the electromotive opening and closing of windows in facade and roof areas.

The prime task of this product, in combination with a window and a suitable external control unit, **is to evacuate hot smoke and combustion gases in case of fire**, to save human lives and protect material assets. Furthermore, combined with a suitable external control unit, the electromotive operated window ensures **fresh air supply for the natural ventilation** of the building.

By attaching the drive to a movable element of the window a so-called "power-operated window" is created which, according to the Machinery Directive 2006 / 42 / EG, represents a machine.

NOTE

Intended use according to the Declaration of Conformity

The drive is intended for stationary installation and electrical connection at the window as part of a building.

In accordance with the attached Declaration of Conformity the drive, in combination with an external Control Unit from AUMÜLLER, is released for its intended use at a power-operated window **without an additional on-site risk assessment** for the following use:

- Application for natural ventilation
 - with an installation height of the drive of at least 2,5 m above the floor, or
 - with an opening width at the HSK of the operated element of < 200 mm by a simultaneous speed of < 15 mm/s at the HSK in closing direction.
- Application as NSHEV (natural smoke and heat exhaust ventilators) for ventilation without dual function for ventilation in accordance with EN12101-2.

⚠ WARNING

Attention must be paid to possible hazards when used with tilting or rotating windows, whose secondary closing edges are located at less than 2,5 m installation height above the floor, under consideration of the Control Unit and usage!

We as manufacturers are well aware of our duties and responsibilities regarding the development, manufacturing and placing of safe window drives on the market and consistently implement them. Ultimately, however, we have no direct influence on the usage of our drives. Therefore, as a precaution, we point out the following:

- The **constructor or his agent** (architect, specialist planner) **are obligated** by law **to evaluate the hazards to persons**, originating from the usage, installation position, opening parameters as well as the planned type of installation of the power operated window and the external Control Unit, **already in the planning phase and to establish necessary protective measures.**
- The **constructor / manufacturer** of the machine "power-operated window" **must implement** the planned **protective measures** at the installation site or, if not yet established, **determine them** by their own responsibility and detect or **minimize possible remaining risks.**

The need for a risk assessment at the installation site due to the reasonably foreseeable misuse.

A risk assessment in accordance with the Machinery Directive 2006 / 42 / EG for the usage of the power-operated window for natural ventilation is absolutely necessary under the following conditions:

- the installation height of the drive is < 2,5 m above the floor **and**
- the opening width at the HSK > 200 mm, **or**
- the closing speed at the HSK is > 15 mm/s, **or**
- the opening speed at the HSK is > 50 mm/s, **or**
- the closing force at the HSK is > 150 N

The following flow chart can be applied, which also includes the protective measures in accordance with EN 60335-2-103/2016-05.

SAFETY INSTRUCTIONS



It is important to follow these instructions for the safety of persons. These instructions shall be kept in a safe place for the entire service life of the products.

**Risk of crushing and entrapment!
Window can close automatically!**

The integrated load cut-off stops the drive during closing and opening when the drive is overloaded.

The compressive force is absolutely sufficient to crush fingers in case of carelessness.



Area of application

The drive shall only be used according to its intended use. For additional applications consult the manufacturer or his authorized dealer.

Do not misuse the drive for other lifting operations! Do not allow children to play with this drive or its regulating and / or control units, including the remote control!



Always check whether the system complies with current regulations. Special attention must be paid to the opening width, the opening area, the opening time and the opening speed of the window, the temperature range of the drives / external devices and cables as well as the cross section of the connecting cables as function of the cable length and power consumption.



All devices must be permanently protected from dirt and moisture, if the drive is not explicitly suitable for use in wet areas (see technical data).

Installation

These instructions address expert and safety-conscious electricians and / or qualified personnel knowledgeable in electrical and mechanical drive installation.

The safe operation, avoidance of injury to persons and damage to property, as well as risks, is only guaranteed by proper installation and setting according to these installation instructions.



All specifications for installation must be checked independently and, if necessary, adjusted at the installation site. The connection assignment, the electrical supply data (see machine plate) and performance limits (see technical data) as well as the mounting and installation instructions of the drive must be strictly observed and adhered to!



Never connect 24 V DC drives to 230 V AC mains voltage!
Danger to life!

Do not reach into the window rabbet or the operating element (chain or spindle) during installation and operation! Ensure that, based on the installation position and the opening movement of the casement, persons cannot be trapped between the driven part of the window and surrounding fixed components (e.g. wall).

Mounting material

The required mounting material must be modified to fit the drive and occurring load and, if necessary, supplemented.



Before installing the drive, check whether the casement is in good mechanical condition, the weight in balance and whether it opens and closes easily!

Danger spots by crush and shear points

<p>Side-hung</p>	<p>Bottom-hung</p>	<p>Roof windows / skylight domes</p>	<p>Louvre windows</p>
<p>○ Danger spots: crush and shear points according to DIN EN 60335-2-103</p>			

Crush and shear points

To avoid injuries, **crushing and shear points** between casement and frame must be secured **against entrapment up to an installation height of 2,5 meters above the floor** with appropriate measures. This can be achieved e.g. by using contact-based or contactless protective devices against entrapment, which stop the motion through contact or through interruption by a person. At a force higher than 150 N at the main closing edge the motion must stop within 20 mm. A warning symbol at the opening element must indicate this clearly.

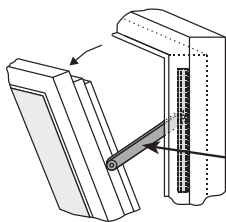
Unintentional or independent opening or falling

Casements are to be hinged or secured such way that in case one of the mounting elements fails it will not crash / slam down or move in an uncontrolled manner by e.g. using double suspensions, safety scissors, casement stays. Tilting windows shall be equipped with safety scissors or similar devices to avoid damages and risks of injury for persons through improper installation and operation. The safety scissors must be adjusted to the opening stroke of the drive (see technical data) to avoid blocking. The opening width of the safety scissors must be bigger than the drive stroke.



WARNING

The movable casement must be secured against unintentional or independent opening as well as falling down.



safety scissors

Routing cables and electrical connection

Routing or installing electrical lines and connections may be performed only by approved specialist companies. Never operate drives, control units, operating elements and sensors at operating voltages and connections contrary to the specifications of the manufacturer.

All relevant instructions shall be observed for the installation, specifically:

- VDE 0100 Setting up high-voltage systems up to 1000 V
- VDE 0815 Wiring cables
- Specimen Guideline on Conduits German designation (MLAR).



All-pole disconnecting devices shall be installed in the permanent electrical installation or external Control Unit for the drive.

The mains supply lines 230 V / 400 V AC shall be protected separately!



WARNING

Damaged mains supply lines of drives with plug connectors may only be replaced by the manufacturer or qualified service / maintenance personnel!

Power cables which are fixed to the drive casing cannot be replaced. If the cable is damaged the device must be scrapped!

The types of cable, cable lengths and cross-sections shall be selected in accordance with the manufacturer's technical data. If necessary, the cable types shall be coordinated with the competent local authorities and energy supply companies. Low-voltage lines (24 V DC) shall be routed separate from the high-voltage lines. Flexible cables may not be flush-mounted. Freely suspended cables shall be equipped with strain reliefs.



Cables must be laid such way that they cannot be sheared off, twisted or bent during operation. Drive cables laid into closed window profiles must be protected by insulating tubes with a sufficient temperature resistance. Through holes shall be equipped with cable sleeves!

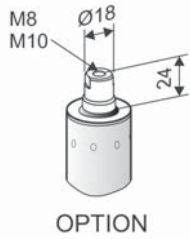
Clamping points shall be checked for tightness of threaded connections and cable ends. Access to junction boxes, clamping points and external drive control systems shall be ensured for maintenance work.

Commissioning, operation and maintenance

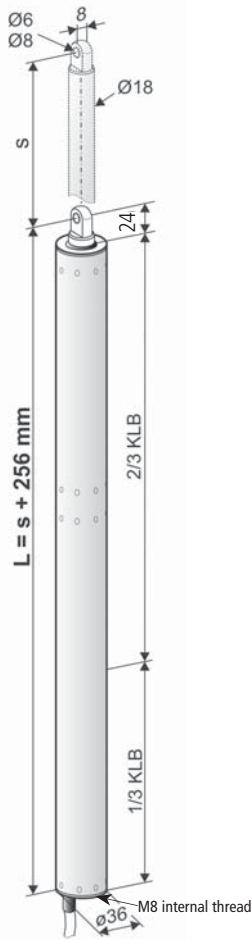
After the installation and after each modification in the set up all functions shall be checked with a trial run. It shall be ensured that drive and casement are set correctly and that security systems, if available, are functioning properly. After the installation of the system is completed the end-user shall be introduced to all important operating steps. If necessary, he must be advised of all remaining risks / dangers.

The end-user shall be instructed in intended use of the drives and, if necessary, the safety instructions. The end-user shall be specifically instructed that no additional forces, except for the pressure and tension in the opening and closing direction of the casement, may be applied to the spindle, chain or lever of the drive.

DATA SHEET PL6 / PL10 S1 24V DC



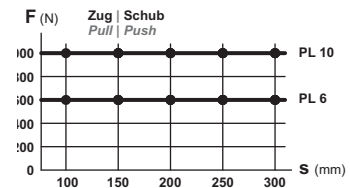
- Application: natural ventilation, SHEV, ferralux®-NSHEV
 - Force: PL6 = 600 N / PL10 = 1000 N
 - Without internal cut-off switch – external cutt-off switch required!
(control module USKM or locking drive FV3 / FVR3 / FVB3 / OFV1)
- Options**
- Rear eye bolt, spindle tube with interior thread for clevis



TECHNICAL DATA

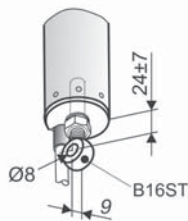
U_N	Rated voltage	24V DC ($\pm 20\%$), max. 2 Vpp
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	15 W
ED	Duty cycle	20 % (ON: 2 min. / OFF: 8 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +75 °C
F_Z	Pulling force max.	PL6 = 600 N PL10 = 1000 N

F_A Pushing force



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 2 x 0,75 mm ² , ~ 3 m
v	Speed	PL6 \curvearrowright 5,8 mm/s \curvearrowleft 5,8 mm/s PL10 \curvearrowright 2,6 mm/s \curvearrowleft 2,6 mm/s
s	Stroke	100 – 300 mm ($\pm 5\%$)
L	Length	s + 256 mm see order data

OPTION



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.
100	356	PL6 100 S1	E6/C-0	1	562010
		PL10 100 S1		1	565010
150	406	PL6 150 S1	E6/C-0	1	562015
		PL10 150 S1		1	565015
200	456	PL6 200 S1	E6/C-0	1	562020
		PL10 200 S1		1	565020
250	506	PL6 250 S1	E6/C-0	1	562025
		PL10 250 S1		1	565025
300	556	PL6 300 S1	E6/C-0	1	562030
		PL10 300 S1		1	565030

OPTIONS

Special model	PU/pcs.	Part.-No.
Front suspension		
Pushing rod end with interior thread M8	1	515061
Pushing rod end with interior thread M10	1	515060
Drive housing painted/powder coated in other RAL colours		
Lump sum for coating		516030
Specify at order stage:	1 - 20	516004
	21 - 50	516004
	51 - 100	516004
	up 101	516004
Extra length connecting cable:		
5 m – non-halogen, grey – 2 x 0,75 mm ²		501024
10 m – non-halogen, grey – 2 x 0,75 mm ²		501026
Accessories for fron / rear suspension		
	PU/pcs.	Part.-No.
Rear Suspension		
B16ST Eyebolt Ø8 mm, galvanized	1	100044
B16VA Eyebolt Ø8 mm, stainless steel	1	100144
B27ST clevis M8x16 mm, galvanized, Grubscrew M8x45 mm	1	105510
External cutt-off switch		
Control module USKM (up to max. s 300 mm)	1	512140

EXPLANATIONS ON THE PRODUCT LABEL

The product label provides information about:

- manufacturer,
- article reference number and name,
- technical characteristics,
- date of manufacturing with firmware version,
- serial number.

NOTE Never install and operate damaged products.

In the event of any complaints, please indicate the product serial number (SN) (see product label).

without internal cutt-off switch

external cutt-off switch required
control module USKM or
locking drive FV3 / FVR3 / FVB3 / OFV

stroke

date of manufacturing
with firmware version

symbols see
„Technical data“

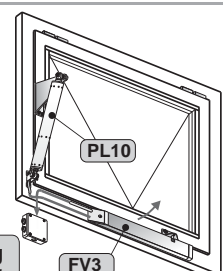
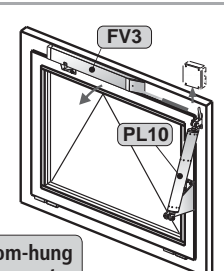
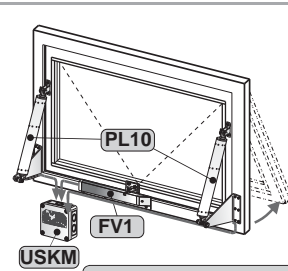
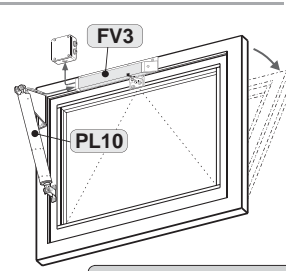
Duty cycle
ON: 3 minutes
OFF: 7 minutes

serial number
article reference
number

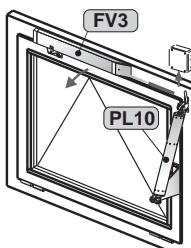
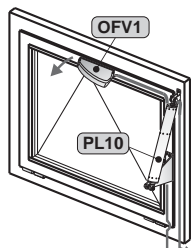
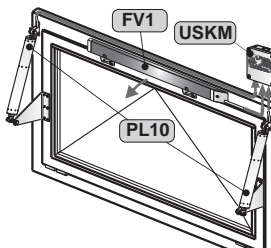
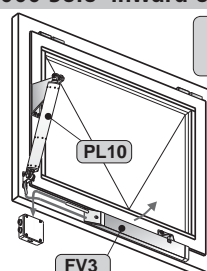
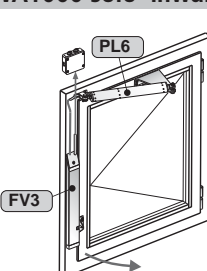
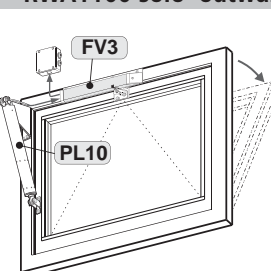
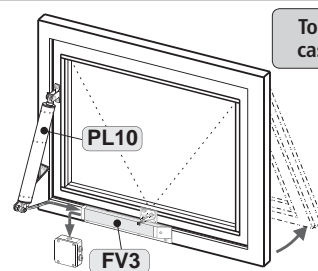
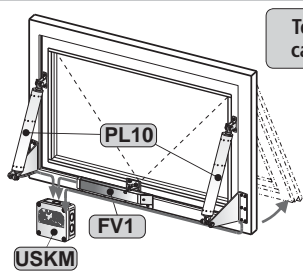
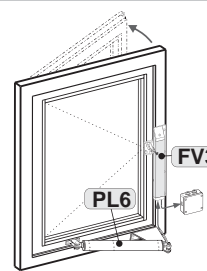
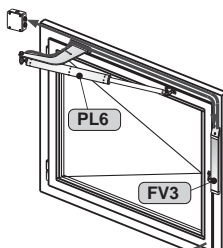
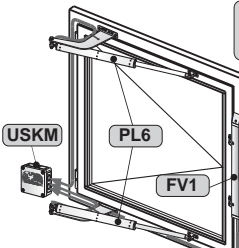
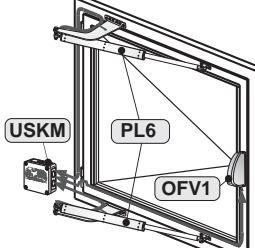
MOUNTING APPLICATIONS, CASEMENT SIZES AND MOUNTING APPLICATIONS

Areas of application and casement sizes:

Mounting of drives up to a casement size of max. 4m² (depending on the system)

Top-hung and bottom-hung casement - inward opening		Top-hung and bottom-hung casement - outward opening	
FAB max. = 1200 mm / solo = 2500 mm / tandem	FAH max. = 2500 mm	FAB max. = 1200 mm / solo = 2500 mm / tandem	FAH max. = 2500 mm
			
Top-hung casement	Bottom-hung casement	Top-hung casement	Bottom-hung casement

Mounting applications

RWA1000 solo -inward opening  Bottom-hung casement	RWA1000 solo -inward opening  Bottom-hung casement	RWA1000 tandem -inward opening  Bottom-hung casement
RWA1000 Solo -inward opening  Top-hung casement	RWA1000 solo -inward opening  Side-hung casement	RWA1100 solo -outward opening  Bottom-hung casement
RWA1100 solo -outward opening  Top-hung casement	RWA1100 tandem -outward opening  Top-hung casement	RWA1100 solo -outward opening  Side-hung casement
RWA1050 solo -inward opening  Side-hung casement	RWA1050 tandem -inward opening  Side-hung casement	RWA1050 tandem -inward opening  Side-hung casement

INSTALLATION STEP 1: INSPECTION BEFORE THE INSTALLATION

WARNING

Important instructions for a safe installation. Observe all instructions, wrong installation may result in serious injury!

Storage of drives at the construction site

Protective measures against damages, dust, moisture or contamination shall be taken. Store drives intermediately only in dry and well ventilated rooms.

Inspection of drives before installation

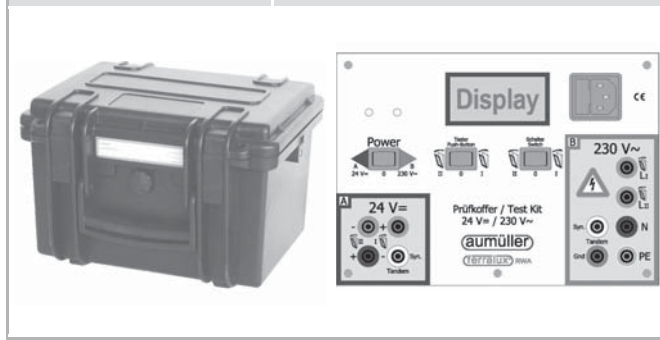
Check drives and window before installation for good mechanical condition and completeness. The chains / spindles of the drives must be extendable or retractable easily. The casement must run smoothly and the weight must be in balance.

NOTE

We recommend the use of our test kit for the inspection of drives with the rated voltage 24V= / 230V~ (see table below). Damaged products may not be operated under any circumstance.

Test kit for drives

Order number:	533981
Application:	Test kit to check running direction and communication of drives 24V DC or 230V AC (including batteries)
Supply voltage:	230V AC
Drive types:	24V DC / 230V AC
Drive current:	max. 3 A
Display:	drive current, battery charge
Ambient temperature:	-5 °C ... + 75 °C
Plastic housing:	250 x 220 x 210 mm
Weight:	approx. 3,6 kg
Feature / equipment:	Control elements: 2 switches + 1 button



The test procedure of drives may only be performed on a non-slip and secured mat or a test fixture. During the test run the test element must not be interfered with. The test may only be conducted by or under the supervision of expert personnel.

For testing chain drives the chain must be extended and retracted at an angle of approx. 90°. The spindle tubes of spindle drives in round housing tubes must be secured against independent spinning before starting the test to avoid deviations in the position encoder.

Inspection of the intended use

The planned use of the drive must be checked for compliance with its intended use. If used otherwise the liability and warranty claim expires.

Predictable misuse

It is imperative that foreseeable misuse of drives is avoided! Here are a few examples:

- do not connect 24 V DC drives to a 230 V AC mains voltage,
- observe synchronous run and sequence control by drives with multiple interconnection,
- use drives only indoors,
- avoid additional force influences, e.g. transverse forces.

Testing mechanical requirements

Prior to the start of the installation check whether :

- the support surface and the profile static for the load transmission is sufficient,
- a support construction for the secure fastening of the drives is required,
- cold bridges (thermal separation) are avoidable at action points,
- there is sufficient space for the swivel movement of the drive.

If not, counter measures must be taken!



The support surface of the frame brackets or casement brackets must rest completely on the window or frame profile. There must be no tilting of the fastening elements during extension and retraction of the drives. A safe and solid fastening must be ensured at the window profile.

CAUTION

It is imperative that the sufficiently mechanical stiffness of the fastener type as well as of the swivel range of the drive is observed.

If this is not guaranteed another type of fastening or another type of drive must be selected.

INSTALLATION STEP 2: INSTALLATION PREREQUISITE AND INSTALLATION PREPARATION

The following conditions must be fulfilled for the installation of the drives so they can be properly assembled with other parts and constructed to a complete machine at the window without impairing the safety and health of persons:

1. The design of the drive must fulfill the requirements.
2. The fastening accessories (casement brackets or frame brackets) must fit the window profile; the profile-dependent hole lay-out must be complied with.
3. The space required for the installation of the drive on the frame and casement profile must be sufficient.
4. The window must be in perfect mechanical condition before the installation. It should open and close easily.
5. The fastening material for the installation of the drive must fit the window material (see table).

Wood windows	<p>wood screws: i.e. DIN 96, DIN 7996, DIN 571</p> <p>with head-type: round head with slot, round head with cross, hex head, special type</p>
steel, stainless steel, aluminum windows	<p>self-tapping screws, thread screws, sheet-metal screws i.e. ISO 4762, ISO 4017, ISO 7049, ISO 7085, DIN 7500</p> <p>with head-type: cylinder head with hex socket, internal serration (Torx), Phillips head or external hex head</p> <p>blind rivet nut</p>
plastic windows	<p>screws for plastic i.e. DIN 95606, DIN 95607, ISO 7049, ISO 7085, DIN 7500</p> <p>with head-type: round head with cross, external hex head, Torx</p>
	Recommendation: if possible, screw through two cavity webs

Tools required

- Marker,
- Grains,
- Hammer,
- Screwdriver (slotted-head, cross or Torx),
- Hexagonal wrench,
- Torque wrench,
- Power drill,
- Threadlock adhesive,
- possibly a tool for blind rivet nuts (size 6).

Check window data on site

- Measure FAB and FAH.
- Check / calculate weight of casement.
If unknown, it can be determined approximately with the following formula:

$$G \text{ (Casement weight) [kg]} = \frac{FAB \text{ [m]} \cdot FAH \text{ [m]} \cdot \text{Glass thickness [mm]} \cdot 2,5 \cdot 1,1}{\text{glass-density} \cdot \text{frame share}}$$

- Check / calculate the required drive force and compare with drive data. If unknown, it can be determined approximately with the following formula:

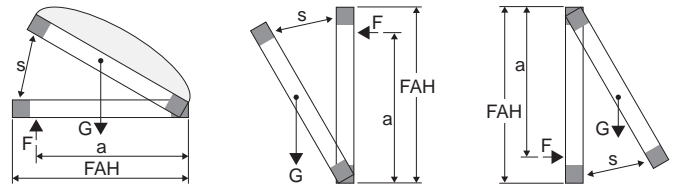
$$F \text{ [N]} = \frac{5,4 \cdot G \text{ [kg]} \cdot s \text{ [m]}}{a \text{ [m]}}$$

Facade

$$F \text{ [N]} = \frac{5,4 \cdot G \text{ [kg]} \cdot FAH \text{ [m]}}{a \text{ [m]}}$$

Roof

- a = Distance of action point to hinges
- F = Drive force
- s = Stroke



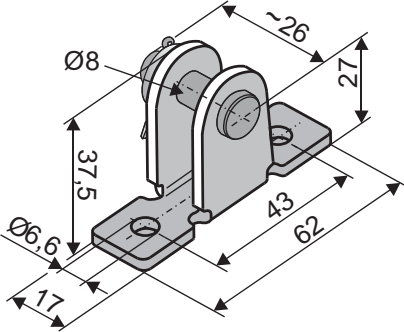
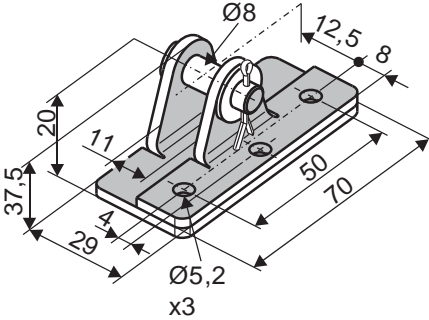
Scope of delivery:

Prior to assembly, check items quantity in the delivery for completeness.

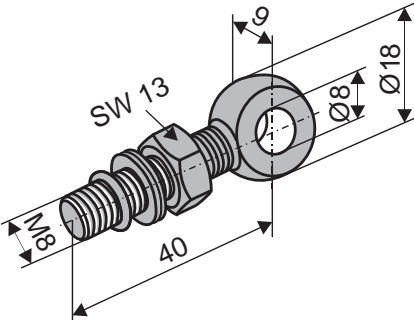
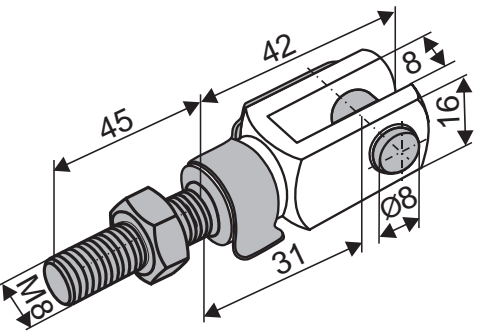
Accessories for Spindle Drive	
	Assembly and Commissioning Instructions
	Warning sign sticker „Risk of entrapment“ (1x)

INSTALLATION STEP 3A: DETERMINE THE CASEMENT BRACKETS

Hole layout for casement brackets

Casement bracket F11ST / F11VA	Casement bracket F13
<p>NSK</p> 	<p>NSK</p> 
<p>Suspension with bore Ø 8 mm</p>	<p>Suspension with bore Ø 8 mm</p>

ACCESSORIES

Accessories	
Eye bolt B16ST / B16VA	Clevis B27ST
	
<p>with M8 thread</p>	<p>with M8 thread</p>

INSTALLATION STEP 3B: DETERMINE THE FRAME BRACKETS

Hole layout for casement brackets

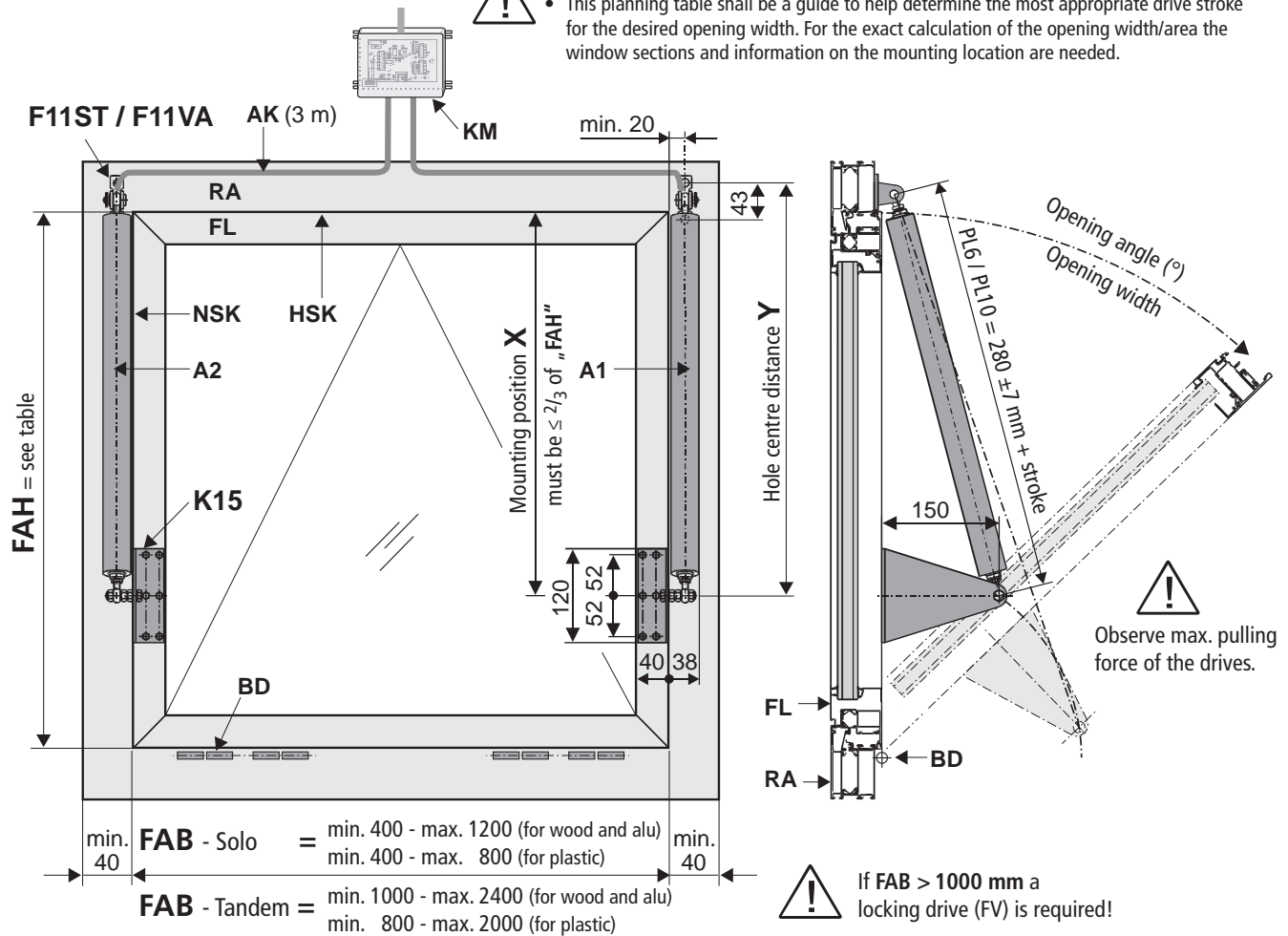
Frame bracket K15	Frame bracket K15-Set	Frame bracket K16	
<p>NSK Required space on frame: 40 mm</p>	<p>NSK Required space on frame: 40 mm</p> <p>K15</p>	<p>NSK Required space on frame: 40 mm</p>	
<p>Suspension with bore Ø 8 mm</p>	<p>Suspension with bore Ø 8 mm</p>	<p>Suspension with bore Ø 8 mm</p>	
Frame bracket K37	Frame bracket K97L	Frame bracket K97R	
<p>NSK Required space on frame: 40 mm</p>	<p>NSK Required space on frame: 22 mm</p>	<p>NSK Required space on frame: 22 mm</p>	
<p>Suspension with bore Ø 8 mm</p>	<p>Suspension with bore Ø 8 mm</p>	<p>Suspension with bore Ø 8 mm</p>	
Frame bracket K1050L		Frame bracket K1050R	
<p>NSK Required space on frame: 22 mm</p>	<p>NSK Required space on frame: 22 mm</p>		
<p>like RWA1050 hardware system</p>	<p>like RWA1050 hardware system</p>		

INSTALLATION STEP 4A: HOLE LAYOUT AND PLANNING FOR SIDE-CLOSING EDGE OPERATION (INWARD OPENING)

Opening width and opening angle for inward opening windows

Bottom-hung / top-hung / side-hung casement - inward opening

- Calculate cable size.
- For tandem operation with control modul „KM“
- This planning table shall be a guide to help determine the most appropriate drive stroke for the desired opening width. For the exact calculation of the opening width/area the window sections and information on the mounting location are needed.



Special features RWA 1000

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Suitable for inwards opening bottom/top/side-hung windows
- Large opening angles realized with short strokes and opening times due to the mounting of the spindle drives at an acute angle to the side closing edge
- Maximum opening angles and balanced force-stroke ratio with K15 mounted on the side closing edge of the casement profile at app. 1/3 of the casement length related to the hinge side
- Other combinations of various spindle drives in SOLO or TANDEM arrangements with locking actuators for actuating of window profile-specific hardware systems on request



MOUNTING DIMENSION OF RWA 1000 FOR BOTTOM-HUNG / TOP-HUNG INWARD OPENING WINDOWS

Mounting dimension of RWA 1000 for bottom-hung / top-hung inward opening windows																			
Hardware set	Frame bracket	Stroke of the opening drive	CASEMENT CLOSED				Mounting dimension „X“ (*1 (*2	FAH (NSK) (side closing edge)	Opening angle	Opening width	CASEMENT OPEN				Weight of the casement (max.)		Required space on the window frame		FAB (HSK)
			Angle of the drive force application	Applied force at the drive fixing point		Angle of the drive force application					Applied force at the drive fixing point								
				PL6	PL10						PL6	PL10							
				[DEG]	[N]						[N]	[DEG]	[N]	[N]					
RWA 1000 (*3	K15	100	19	195	326	200	560	25	242	48	447	745	32	53	40	40	Depends of the used locking drive (*4		
						250	610	22	233	47	442	736	36	60					
						300	660	20	229	47	437	729	40	66					
						400	760	17	225	46	430	717	45	75					
						500	860	15	225	47	442	736	51	86					
						600	960	13	217	45	422	703	53	88					
		150	16	165	276	225	645	34	377	57	503	838	35	58	40	40			
						275	695	30	360	55	490	817	39	65					
						325	745	28	360	54	487	811	42	71					
						450	870	23	347	52	474	790	49	82					
						550	970	20	337	51	467	778	53	88					
						650	1070	18	335	50	462	769	56	93					
		200	15	155	259	250	720	42	516	64	541	902	38	63	40	40			
						300	770	38	501	62	531	885	41	69					
						350	820	35	493	61	523	872	45	74					
						400	870	32	480	59	516	861	47	79					
						500	970	27	453	57	503	839	52	86					
						600	1070	24	445	56	497	829	56	93					
						700	1170	22	446	55	491	818	59	98					
						800	1270	20	441	54	486	810	61	102					
		250	13	135	225	275	795	50	672	71	567	945	39	65	40	40			
						325	845	45	647	68	557	928	43	71					
						375	895	41	627	66	549	915	46	77					
						425	945	38	615	65	544	906	49	81					
						550	1070	31	572	62	528	880	54	90					
						650	1170	28	566	60	519	865	58	96					
						750	1270	25	550	59	513	854	61	101					
						850	1370	23	546	58	507	844	63	105					
		300	12	125	208	300	870	56	817	77	584	973	40	67	40	40			
						350	920	51	792	74	576	959	44	73					
						400	970	46	758	71	569	948	47	78					
						450	1020	43	748	69	561	935	50	83					
						500	1070	40	732	68	555	925	52	86					
						600	1170	35	704	65	544	907	56	93					
						700	1270	31	679	63	536	893	59	98					
						800	1370	28	663	62	529	882	62	103					
900	1470					26	661	61	523	872	64	107							
1000	1570					24	653	60	519	864	66	110							

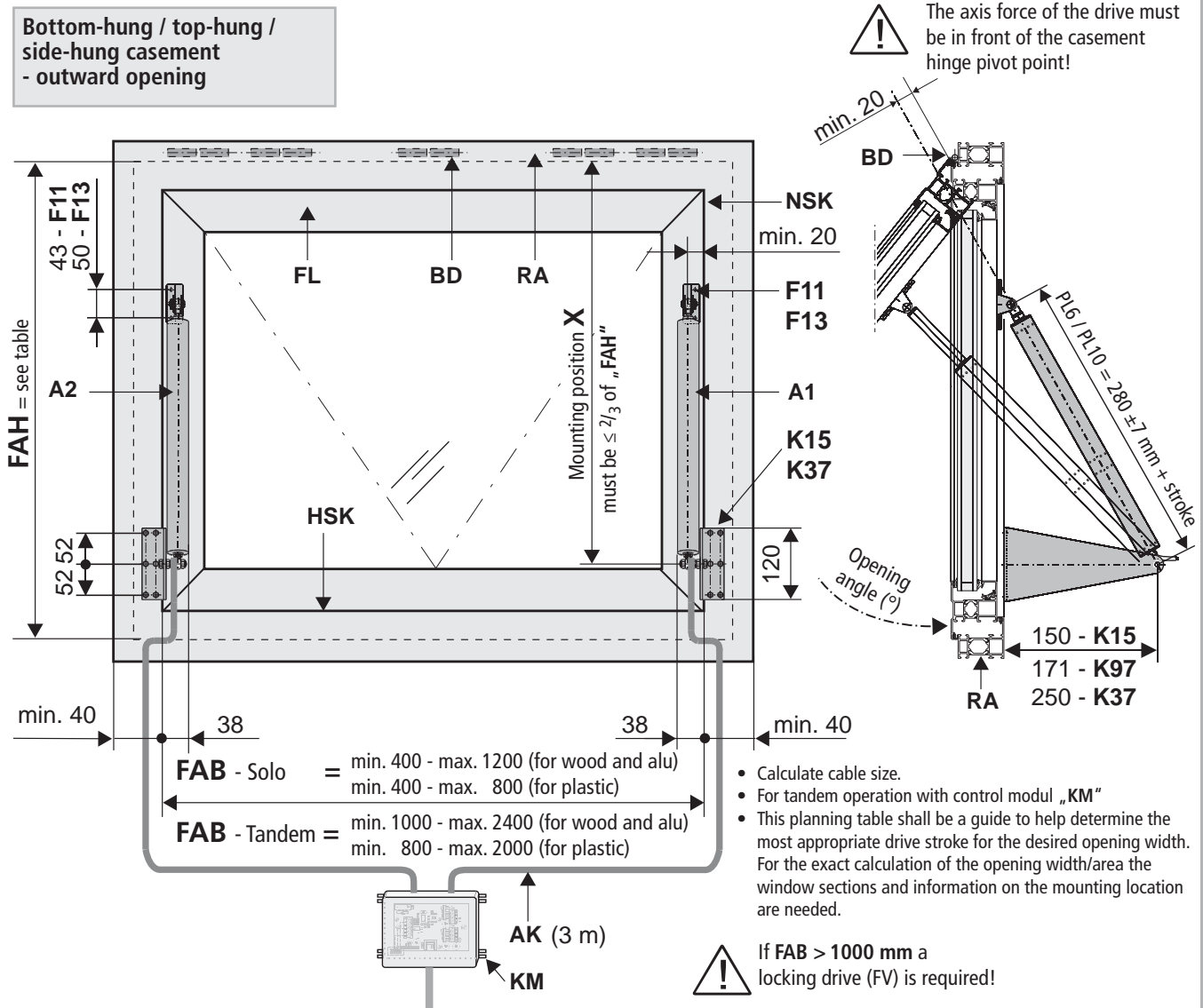
(*1 Mounting measure „X“ = distance K15 to HSK (≥ 1/3 FAH)
 (*2 Other mounting measure and wing heights on request

(*3 For RWA1000TE (tandem) the drive forces and the max. window weights are doubled!
 (*4 FV1 – 1x = 450 mm
 FV1 – 2x = 1200 or 2000 mm
 FV1 – 3x = 2000 mm

INSTALLATION STEP 4B: HOLE LAYOUT AND PLANNING FOR SIDE-CLOSING EDGE OPERATION (OUTWARD OPENING)

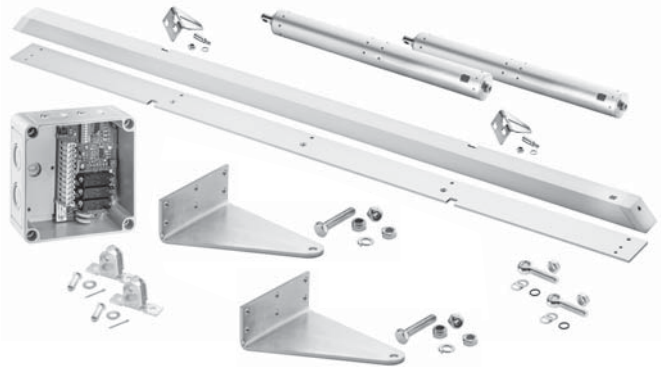
Opening width and opening angle for outward opening windows

Bottom-hung / top-hung / side-hung casement - outward opening



Special features RWA 1100

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Suitable for outward opening bottom/top/side-hung windows
- Large opening angles realized with short strokes and opening times due to the mounting of the spindle drives at an acute angle to the side closing edge
- Maximum opening angle and balanced force-stroke ratio with casement bracket F11 mounted on the side closing edge of the casement profile at:
 - app. 1/2 of the casement length if using K15
 - app. 1/3 of the casement length related to the hinge side if using K37
- Other combinations of various spindle drives in SOLO or TANDEM arrangements with locking actuators for actuating of window profile-specific hardware systems on request
- Use for skylights on request



MOUNTING DIMENSION OF RWA 1100 FOR BOTTOM-HUNG / TOP-HUNG OUTWARD OPENING WINDOWS

Mounting dimension of RWA 1100 for bottom-hung / top-hung outward opening windows																			
Hardware set	Frame bracket	Stroke of the opening drive	CASEMENT CLOSED				Mounting dimension „X“	FAH (NSK) (side closing edge)	Opening angle	Opening width	CASEMENT OPEN				Weight of the casement (max.)		Required space on the window frame		FAB (HSK)
			Angle of the drive force application	Applied force at the drive fixing point		Angle of the drive force application					Applied force at the drive fixing point								
				PL6	PL10						PL6	PL10							
													[DEG]	[N]					
RWA 1100 (*1)	K15	100	19	194	324	400	800	26	365	67	554	923	55	92	40	40			
						500	900	23	360	64	537	896	60	100					
						600	1000	18	320	60	519	865	62	104					
		150	17	171	286	450	900	33	516	75	580	966	58	97	40				
						550	1000	28	479	69	559	932	61	103					
						650	1100	24	450	66	549	914	65	108					
						750	1200	21	429	63	536	894	67	112					
		200	15	153	255	500	1000	38	648	79	590	983	59	98	40	40			
						600	1100	32	608	74	577	962	63	105					
						700	1200	28	577	71	566	943	66	110					
						800	1300	25	554	88	600	999	74	123					
						900	1400	22	534	66	546	910	70	117					
	250	13	139	232	550	1100	41	778	82	595	991	60	99	40	40				
					650	1200	36	736	78	586	976	63	106						
					750	1300	31	704	74	576	961	66	111						
					850	1400	28	684	72	571	952	69	116						
					950	1500	25	657	69	559	932	71	118						
					1050	1600	23	638	67	552	921	72	121						
	250	12	127	211	600	1200	44	907	85	598	996	60	100	40	40				
					700	1300	39	861	80	591	985	64	106						
					800	1400	34	828	77	584	973	67	111						
					900	1500	31	799	74	576	960	69	115						
					1000	1600	28	777	72	569	948	71	119						
					1100	1700	26	756	70	563	938	73	121						
					1200	1800	24	742	68	557	928	74	124						
	K37	100	36	352	586	200	600	42	425	94	599	998	40	67	40	40			
						300	700	28	342	80	591	985	51	84					
						400	800	21	296	73	573	955	57	96					
150		31	312	520	250	650	42	527	97	595	992	46	76	40	40				
					350	750	35	452	85	598	996	56	93						
					450	850	28	407	78	586	976	62	103						
					550	950	23	376	73	573	955	66	111						
200		28	279	465	300	750	52	659	99	593	988	47	79	40	40				
					400	850	40	583	88	600	999	56	94						
					500	950	24	390	81	593	988	62	104						
					600	1050	28	499	76	583	972	67	111						
					800	1150	24	474	73	573	956	70	116						
250		25	253	421	350	850	55	786	100	591	984	49	81	40	40				
					450	950	44	712	90	600	1000	57	95						
					550	1050	37	661	84	596	994	62	104						
					650	1150	31	622	79	589	982	67	111						
					750	1250	28	594	76	581	969	70	116						
					850	1350	25	573	73	573	956	72	120						
300	23	231	384	400	1000	58	962	101	589	982	47	79	40	40					
				500	1100	47	879	92	600	999	55	91							
				600	1200	40	821	86	598	997	60	100							
				700	1300	35	775	81	593	988	64	106							
				800	1400	31	741	78	587	978	67	112							
				900	1500	28	713	75	580	967	70	116							
				1000	1600	25	693	73	574	957	72	120							

Depends of the used locking drive (*2)

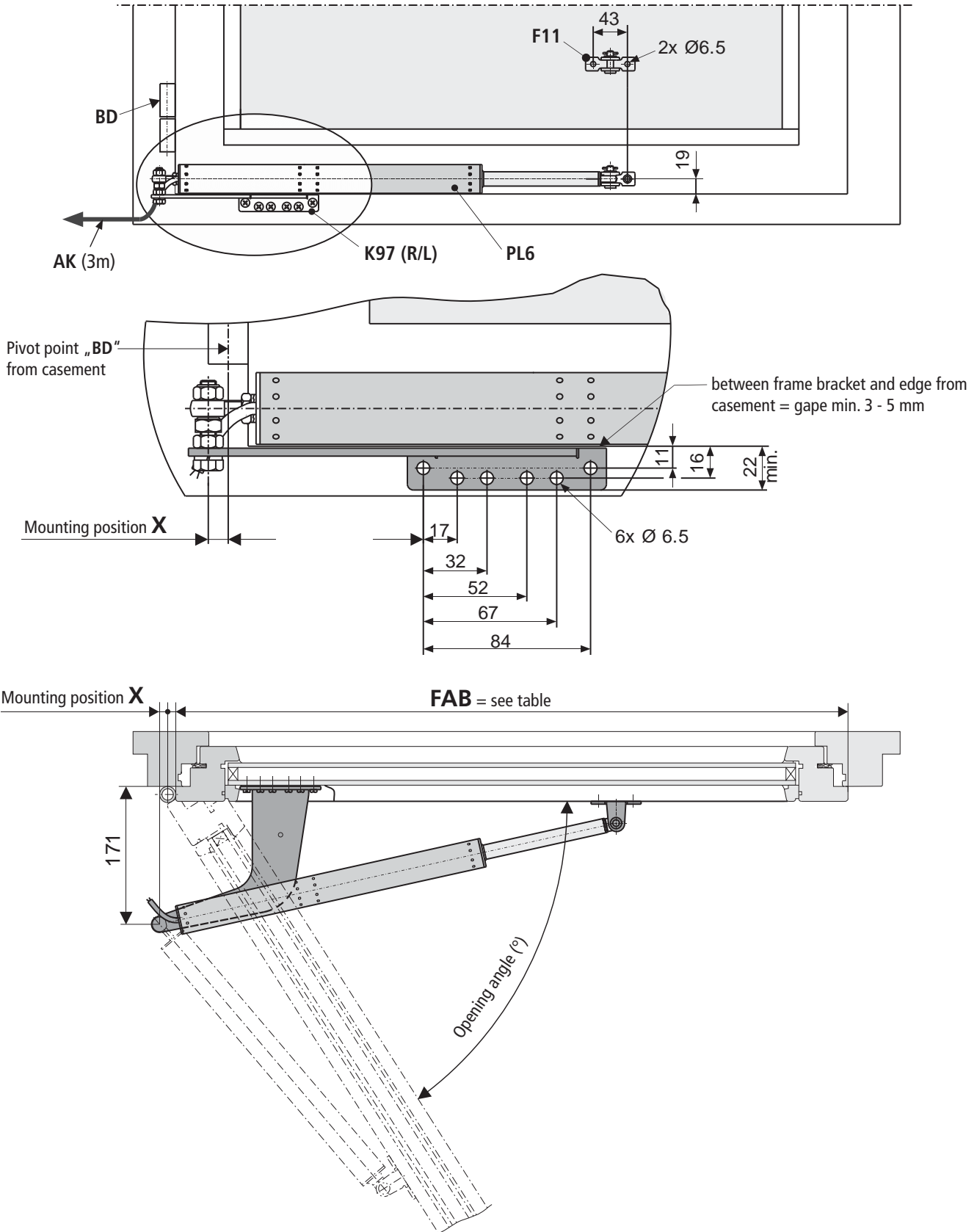
(*1) For the tandem sets RWA1100TE the drive forces and the max. window weights will be correspondingly higher. At outward opening windows the opening drives force axis needs to pass the hinge axis on its outward side with min. 25 mm. The above indicated mounting dimensions are valid for profile depths <75 mm.

(*2) FV1 – 1x = 450 mm
 FV1 – 2x = 1200 oder 2000 mm
 FV1 – 3x = 2000 mm

INSTALLATION STEP 4c: HOLE LAYOUT AND PLANNING FOR SIDE-CLOSING EDGE OPERATION (INWARD OPENING)

Opening width and opening angle for inward opening windows

Side-hung casement
- inward opening



MOUNTING DIMENSION OF RWA 1050 FOR SIDE-HUNG OPENING WINDOWS

Mounting dimension of RWA 1050 for side-hung inward opening windows																		
hardware set	Frame bracket	Stroke of the opening drive	CASEMENT CLOSED				Mounting dimension „X“	min. FAB (NSK) (side closing edge)	Opening angle	Opening width	CASEMENT OPEN			Weight of the casement (max.)		Required space on the frame		FAH (HSK)
			Angle of the drive force application	Applied force at the drive fixing point		Angle of the drive force application					Applied force at the drive fixing point		PL6	PL10	Hinge	NSK		
				[DEG]	PL6						PL10	[N]					[N]	
RWA 1050 (*1)	K97	100	19	167	279	0	510	35	(*2)	16	163	272	90	130	10	22	500 – 1500	
		150	13	139	232	20	600	55		11	112	187	90	130	30	22		
		200	11	119	198	40	680	75		6	60	100	90	130	50	22		
		250	10	103	172	80	740	85		6	60	100	90	130	90	22		

(*1) For the tandem sets RWA1100TE the drive forces and the max. window weights will be correspondingly higher.

(*2) Depends on FAB

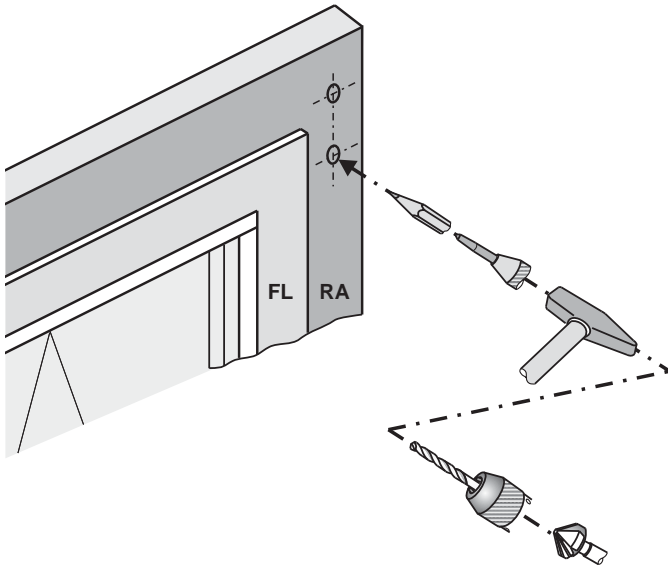
Special features RWA 1050

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Suitable for inward opening side-hung windows
- Opening angles of 90° realized with short strokes and opening times due to the mounting of the spindle drives at an acute angle to the side closing edge and due to the displacement of the pivoted point of the frame bracket behind the mullion/transom construction
- Required space of only 20 mm for the mounting of the frame bracket on the side closing edge of the window frame profile
- Other combinations of various spindle drives in SOLO or TANDEM arrangements with locking actuators for actuating of window profile-specific hardware systems on request

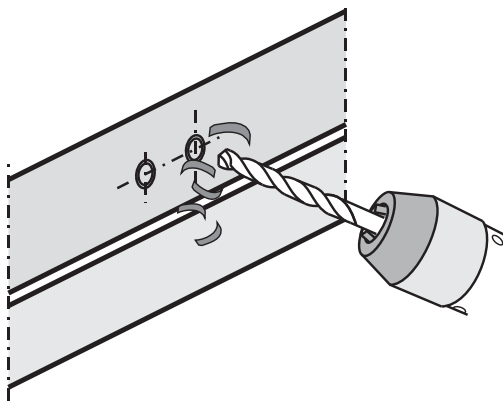


INSTALLATION STEP 5: ASSEMBLY FOR SIDE-CLOSING EDGE OPERATION - ACTIVATION ON NSK

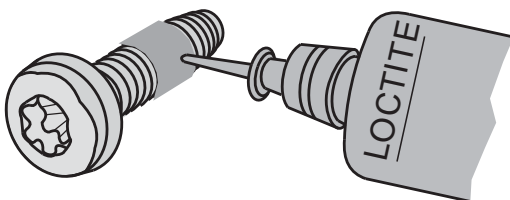
- Determine fastenings.
- Produce drill holes with appropriate cross-section. For the mounting dimensions please refer to the above-mentioned hole layout drawings (see chapter „INSTALLATIONSTEP 3 + 4“) or project-specific documents and drawings).



Carefully clear away drilling swarfs to prevent seals from being damaged. Avoid surface scratches, for example by using masking tape.



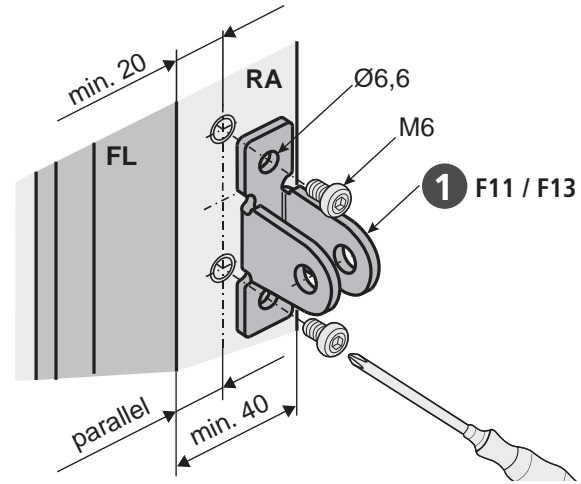
- Secure fasteners against loosening; i. e. by applying removable thread-locking compound such as "Loctite".



- Fit casement bracket F11 / F13 ①.



Make sure it is parallel to casement edge. „Casement bracket“ center and „spindle“ must be in line.



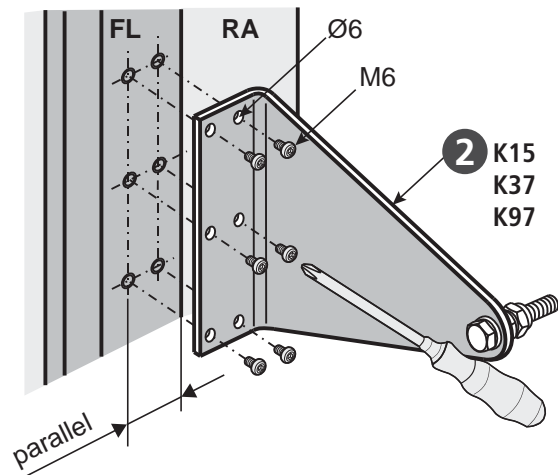
Equipment: Casement bracket F11 / F13 ①

⑤	1x bolt Ø8
⑥	1x washer
⑦	1x cotter pin

- Fit casement bracket K15 / K37 / K97 ②.



Make sure they are parallel to casement edge.



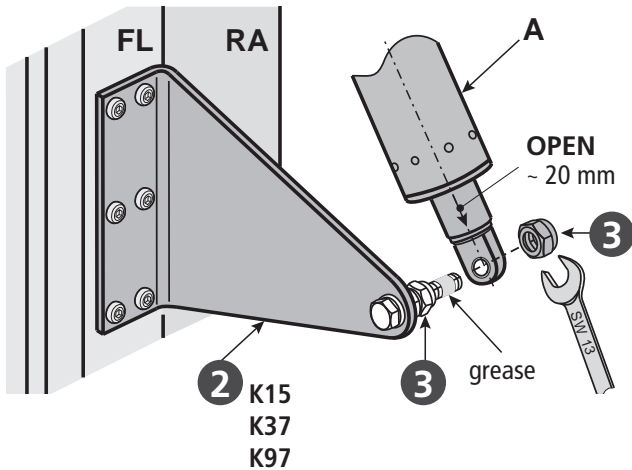
Equipment: Casement bracket K15 / K37 / K97 ②

③	2x even secure nut M8, with polyamide clamping part
	1x screw M8
	1x spring washer
	1x nut M8

- Attach drive to the frame bracket K15 / K37 / K97 ② and tighten with both even secure nut ③.

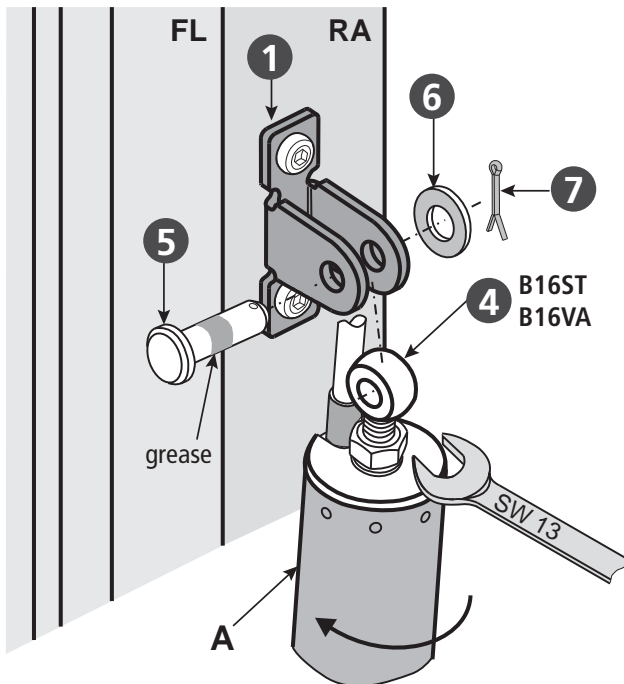
NOTE

For easy mounting to frame brackets / casement brackets, move drives ~ 20 mm open. Operation only by using a test device and both drives at the same time.



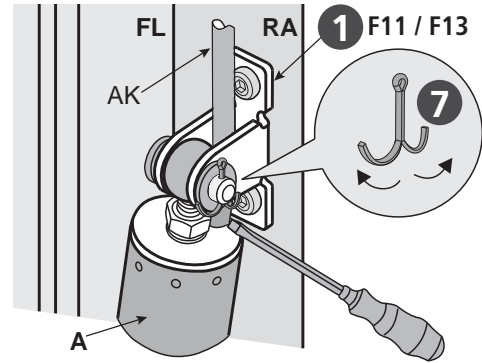
Ensure to align to the casement bracket ①.

- Attach the drive to the casement bracket F11 / F13 ①. Note the cable position.
- Attach drive with bolt ⑤.



Slowly turn the drive clockwise.

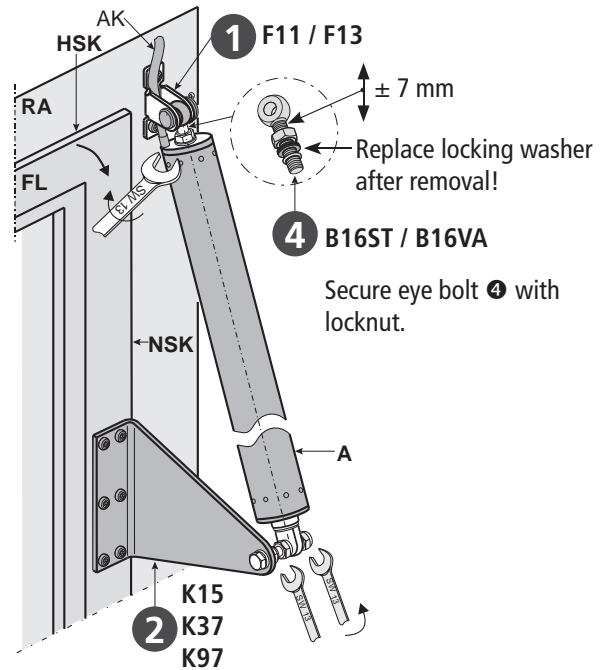
- Secure bolt ⑤ with washer ⑥ and cotter pin ⑦.
- Spread out the cotter pin ⑦.



- Move drives to close the window.
- Adjust casement pressure - using eyebolt B16 ④.



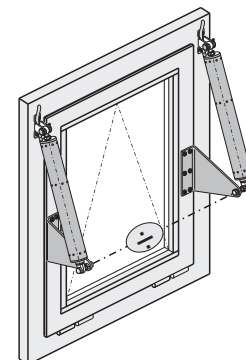
Window must be fully closed.
Drive must be parallel to NSK.
Drive should freely turn in the frame bracket.



- To fit the second drive.



Fit both mounting bracket so that their axes are in line. Check contact pressure of casement.



INSTALLATION STEP 6: ELECTRIC CONNECTION



Make sure when establishing the connection that there is no voltage at the terminals!
Unused wires must be safely insulated!

The running direction of the drive may be changed by interchanging (polarity reversal) the wires „BN – (brown)” - „BU – (blue)”.

In tandem-, tridem-, quattro application, the drives are always supplied in the **set** and must be installed and operated as a **set**!



Drives must be switched by the controller to the opposite direction (pole reversed) when switched off at overload.

Drive version „S1” requires an external disconnection module „KM”.

Please observe description of the external control and regulation electronics and of the programming device.

Connection assignment **S1**

AK made of silicone
2 x 0,75 mm²

	↑	↓
BN	+	-
BU	-	+

Cable junction box (for renewal) **24V**

Order number: 513344
Application: to extend a drive cable
Rated voltage: only for low voltage to max. 50V DC/AC
Material: stainless steel (V2A)
Protection class: IP 40
Dimensions: 25 x 27 x 150 mm
Equipment: with cable gland (grey) including strain relief, with loose ceramic terminals.

Wire colour coding		Direction of travel
Colour	DIN IEC 757	OPEN ↑
black	BK	CLOSE ↓
white	WH	
brown	BN	polarity reversal
blue	BU	
green / yellow	GN / YE	
green	GN	
violet	VT	
grey	GY	

CONNECTION CABLE ROUTING

Connection cable routing on the drive body

ventilation holes

! Cable channel does not stick through the ventilation holes.

Cable duct glued on. Attach connection cable with cable ties.

Control module: USKM **24V**

Order number: 512140
Application: with 3 outputs and individual settable cut-off current, monitored motion run, delayed sequence control.
Rated voltage: 24V DC +/- 20 %, (max. 2 Vpp)
Close circuit current: < 50 mA
Connections: max. 3 drives; s < 300 mm
Rated current per drive: max. 2,5 A
Drive type: S1, S2, S3, S12, MP, FV1, OFV1
Protection rating: IP 54
Ambient temperature range: 0 °C ... +70 °C
Surface mount. plastic housing 110 x 110 x 66 mm

Motion-monitoring up to 3 drives, 2 sequential controls

DIP-Switches for settings, connection terminals: 2,5 mm²

INSTALLATION STEP 7:**SUPPLY LINES OF DRIVES TO THE CONTROL UNIT**

Observe current regulations and guidelines e.g. DIN 4102-12 regarding the "Fire behavior of building materials-circuit integrity maintenance of electric cable systems" (E30, E60, E90) and the "Specimen Guideline on Conduits German designation - MLAR", and also prescribed constructional regulations!

RECOMMENDATION

For safety reasons a cable of the next higher wire cross section should be selected.

Formula to calculate

the required wire cross-section of a supply line

24V

$$A \text{ mm}^2 = \frac{I_{A(\text{total})} * L_m(\text{length supply line}) * 2}{2,0^V(\text{voltage drop}) * 56 \text{ m} / (\Omega * \text{mm}^2)}$$

Calculation exampleAvailable data:

- cut-off current per drive (i. e. 2 x 4.0A) from data sheet
- length to be bridged from the last window to the control unit (i. e. 10 meters)

$$A = \frac{(2 * 4,0A) * 10m * 2}{2,0V * 56m / (\Omega * \text{mm}^2)}$$

$$A = 1,42\text{mm}^2 \rightarrow 1,5\text{mm}^2 \text{ chosen}$$

Laying and connecting the drive cable

- Avoid extreme temperature differences in the installation area (danger of condensation).
- Set clamping point close to window and ensure accessibility.
- Ensure expansion possibilities of the drive and the drive cable.
- Consider the cable length of drives.

INSTALLATION STEP 8:**SAFETY CHECK AND TEST RUN**

Check the mounted system for its safety; perform test run and commissioning.

Safety test:

- Connect operating voltage.
- Check fastening (frame brackets, casement brackets) for firm fit or tightening.

Test run:

- Visual inspection of casement movements.
- Stop immediately by malfunction!
- Pay attention to collision with facade construction and correct installation, if required.

Risk evaluation:

Before operating a power-operated window to which window drives were mounted, which were sold by the manufacturer as incomplete machines according to installation declaration, the possible risk to a hazard of persons must be determined, evaluated and minimized by taking appropriate technical measures in accordance with the Machinery Directive. Separate documents for performing a risk assessment can be downloaded from the homepage of

Firm AUMÜLLER Aumatic GmbH
(www.aumueller-gmbh.de).

Operation of the power-operated window

When operating the power-operated window safety instructions must be observed, specifically those pertaining to commissioning, operation and maintenance.

HELP IN CASE OF MALFUNCTIONS, REPAIRS AND MAINTENANCE

Professional repair of a defect drive can only be performed at the manufacturer's factory or manufacturer-certified specialist company. Unauthorized opening or manipulation of the drive terminates warranty.

1. Exchange defect drives or have them repaired by the manufacturer.
2. In case of problems during installation or normal operation the following table might be useful:

Problem	Possible causes	Possible solutions
Drive does not start	<ul style="list-style-type: none"> • Duration of mains power supply too short • Drive run direction not correct • Connecting cable not connected • Power supply / Control Unit voltage incorrect, too high or too low (see data sheet) • No mains supply to power supply unit / Control Unit (no voltage) • Drive has shut down on overload 	<ul style="list-style-type: none"> • Adjust supply voltage as specified in the technical documentation • Check drive cables change polarity • Check all connection cables • Check power supply unit and replace if necessary • Connect power supply • First move drive in CLOSE position
Drive doesn't start after having been in operation several times	<ul style="list-style-type: none"> • Operating time has been exceeded, drive has been overheated • See possible solutions above associated with „Drive doesn't start“ 	<ul style="list-style-type: none"> • Wait until drive has cooled down and start again • See possible solutions associated with: "Drive doesn't start"

MAINTENANCE AND MODIFICATION

To ensure continuous function and safety of the drive periodic maintenance by a specialist company is required at least once a year (as mandated by law for smoke and heat exhaust systems). Operational readiness must be checked regularly. Frequent inspection of the system for imbalance and signs of wear or damages of cables and fastening elements must be performed.

During maintenance contaminations must be removed from the drive. Fastenings and clamping screws must be checked for tightness. Test runs during the opening and closing procedure of the devices must be performed.

The drive itself is maintenance-free. Defect devices may only be repaired in our factory. Only replacement parts of the manufacturer may be used. When the connection cable of this device is damaged it must be replaced by the manufacturer or his customer service or a similarly qualified person to avoid endangerment.

It is recommended to conclude a maintenance contract. A sample maintenance contract can be downloaded from the homepage of

Firm Aumüller Aumatic GmbH
(www.aumueller-gmbh.de).

While cleaning the windows, drives may not have direct contact with water or cleaning agents. Drives must be protected from dirt and dust during the construction phase or renovations.

Maintenance process

1. Open or extend power-operated casement completely.
2. Completely disconnect the system from the mains and secure it against automatic or manual activation.
3. Check windows and fittings for damages.
4. Check all mechanical fastenings (if required, observe information on torques in installation instructions).
5. Check electric drives for damages and contaminations.
6. Check connecting cables (drive cable) for:
 - tightness of the cable screw
 - functionality of the strain relief
 - damages
7. Check the mobility of hinges and fittings and re-adjust or apply lubricant, e.g. silicone spray (observe the instructions of the manufacturer of this window system).
8. Check peripheral seal, remove contaminations or replace.
9. Perform cleaning to maintain functionality (e.g. clean extending elements of the drive, such as chains or spindles by damp wiping them with acid or lye-free agents and drying them and, if required, lubricate them with cleansing oil e.g., Ballistol).
10. Turn on operating voltage.
11. Open and close the power-operated window via the operating voltage (functional test).
12. If available, check and re-adjust protection systems of the safe guard fixture.
13. Check the intactness of the CE label at the power-operated system (e.g. SHEV/Natural smoke and heat exhaust ventilators).
14. Check the intactness of warning instructions and labels at the respective drive.
15. Perform a risk assessment in accordance with Machinery Directive 2006 / 42 / EG, if required, e.g. after modifying the machine.

DEMOUNTING AND DISPOSAL

The drives are demounted by reversing the steps, as for the installation. The adjustments are omitted.

1. Completely disconnect the system from the power supply before demounting a drive.
2. After demounting a drive the window must be secured against independent opening.

Dispose of parts according to the locally applicable legal provisions.

LIABILITY

We reserve the right to change or discontinue products at any time without prior notice. Illustrations are subject to change. Although we take every care to ensure accuracy, we cannot accept liability for the content of this document.

WARRANTY AND CUSTOMER SERVICE

In principal apply our:

„General Terms for the Supply of Products and Services of the Electrical Industry (ZVEI)“.

The warranty corresponds with legal provisions and applies to the country in which the product has been acquired.

The warranty includes material and manufacturing defects incurred during normal use.

The warranty period for delivered material is twelve months.

Warranty and liability claims for personal injuries or material damages are excluded, if caused by one or more of the following:

- Improper use of the product.
- Improper installation, commissioning, operation, maintenance or repair of the product.
- Operating the product by defect and improper installed or not functioning safety and protection devices.
- Ignoring instructions and installation requirements in these instructions.
- Unauthorized constructional modifications at the product or accessories.
- Disaster situations due to effects of foreign bodies and Acts of God.
- Wear and tear.

Point of contact for possible warranty claims or for repair parts or accessories is the responsible branch office or the responsible person at

Firm AUMÜLLER Aumatic GmbH.

Contact data are available at our homepage

(www.aumueller-gmbh.de)

KONFORMITÄTSERKLÄRUNG
DECLARATION OF CONFORMITY

Hersteller
 Manufacturer

aumüller

Aumüller Aumatic GmbH
 Gemeindewald 11
 86672 Thierhaupten
 Germany

Produktart | *Product type:* **Antriebs-Beschläge für Fenster** | *Hardware sets for windows*
 Produktbaureihe | *Product series:* **RWA 1000 / 1050 / 1100**
 Geräte | *Parts:* Antriebe | *drives:* **PL 6 / PL10 xxx S1 - 24V**
 Flügelverriegelung | *locking drives:* **FV 1 / FV3 / FVR3 / FVB3 / OFV1**
 Kontrollmodul | *control module:* **USKM**

Ab Seriennummer | *From serial number:* **XXXXXX-XX-XXX**
 Ab Datum | *From date:* (Year-W-Week) **16W10**

Wir bestätigen die Konformität des oben bezeichneten Produktes mit folgend gelisteten EU-Richtlinien sowie Normen:
 We herewith confirm the conformity of the above mentioned product with EC Directives and the standards listed below:

KONFORMITÄT
CONFORMITY

Richtlinie über elektromagnetische Verträglichkeit 2014/30/EU
Directive relating to Electro-Magnetic Compatibility 2014/30/EU
Niederspannungsrichtlinie 2014/35/EU
Low Voltage Directive 2014/35/EU

HARMONISIERTE NORMEN
HARMONIZED STANDARDS

DIN EN 60335-2-102:2016-05
DIN EN 61000-6-1:2007-10
DIN EN 61000-6-2:2006-03
DIN EN 61000-6-3:2011-09
DIN EN 61000-6-4:2011-09

SONSTIGE TECHNISCHE NORMEN UND SPEZIFIKATIONEN
FURTHER TECHNICAL STANDARDS AND SPECIFICATIONS

DIN EN 12101-2:2003-09 (in ferralux® NRWG - 24 V DC)
Montageanweisung | *Installation instructions*

Thierhaupten, 01.03.2016



Geschäftsführer / Verantwortlich für die technische Dokumentation
 Managing Director / Head of technical documentation



Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten!
 The safety instructions of the supplied product documentation are to be observed!

EINBAUERKLÄRUNG

für eine unvollständige Maschine, nach Anhang II-1 B der EG-Richtlinie 2006/42/EG

DECLARATION OF INCORPORATION

for a partly completed machinery, in accordance with Annex II-1 part B of EC-Directive 2006/42/EC

Hersteller
Manufacturer**aumüller**Aumüller Aumatic GmbH
Gemeindewald 11
86672 Thierhaupten
Germany

Produktart | Product type:

Spindelantrieb für Fenster | Spindle drive for windows

Produktbaureihe | Product series:

PL6 / PL10 xxx S1 - 24 VAb Seriennummer | From serial number: **XXXXXX-XX-XXX**Ab Datum | From date: (Year-W-Week) **16W010****Hiermit erklären wir, dass die o. g. unvollständige Maschine den folgenden grundlegenden Sicherheits- und Gesundheitsschutzanforderungen der Maschinenrichtlinie 2006/42/EG entspricht:***Herewith we declare that the above mentioned incomplete machine complies with the following essential health and safety requirements of Machinery Directive 2006/42/EC:*

Anhang I, Artikel | Annex I, sections:

1.1.2; 1.1.3; 1.1.5; 1.3.2; 1.3.4; 1.3.7; 1.5.1; 1.5.11; 1.7.3; 1.7.4; 1.7.4.1; 1.7.4.2; 1.7.4.3Die speziellen technischen Unterlagen nach Anhang VII B sowie die Montageanleitung nach Anhang VI wurden erstellt.
*The relevant technical documentation described in Annex VII part B as well as the assembly instructions described in Annex VI have been compiled.***Weiterhin bestätigen wir die Konformität des Produkts mit folgenden EU Richtlinien oder Normen:***Furthermore we confirm the conformity of the product with EU Directives or standards listed below:***Richtlinie über die elektromagnetische Verträglichkeit 2014/30/EU;***Directive relating to Electro-Magnetic Compatibility 2014/30/EC;***Niederspannungsrichtlinie 2014/35/EU;***Low Voltage Directive 2014/35/EC;*

Das Produkt ist in der von uns gelieferten Ausführung zum Einbau in eine Maschine gemäß der beigefügten Montage- und Installationsanweisung bestimmt. Die Inbetriebnahme des Produktes ist solange untersagt, bis festgestellt wurde, dass die Maschine, in die es eingebaut werden soll, den Bestimmungen der EG Maschinenrichtlinie 2006/42/EG entspricht und die EG-Konformitätserklärung gemäß Anhang II A ausgestellt ist.

The product in the version delivered by us is intended to be integrated in a machine in accordance with the enclosed operating and installation instructions. It is prohibited to put the product into operation until the machine, into which it is to be integrated, has been declared in conformity with the provisions of the EC Machinery Directive 2006/42/EC and until the EC Declaration of Conformity according to annex II A is issued.

Auf Verlangen werden wir den zuständigen staatlichen Behörden die spezielle technische Dokumentation als PDF Dokument übermitteln.

Upon request, we will pass on to the appropriate national authority the relevant technical documentation as PDF file.

Kontakt / Contact:

Tel.: +49 (0)2871 8185 0

Fax: +49 (0)2871 8185 250

Email: info@aumueller-gmbh.de

Thierhaupten: 01.03.2016

Geschäftsführer / Verantwortlich für die technische Dokumentation
Managing Director / Head of technical documentation**Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten!**
The safety instructions of the supplied product documentation are to be observed!

Zertifikat Certificate

VdS Schadenverhütung
bescheinigt die Anwendung eines
Qualitätsmanagementsystems



für

aumüller

Aumüller Aumatic GmbH · Gemeindewald 11 · D-86672 Thierhaupten

Zertifikats-Nr.:	Anzahl der Seiten:	Gültig von:	Gültig bis:
S 814040	1	10.10.2014	09.10.2017

Geltungsbereich des Zertifikates:

Entwicklung, Herstellung und Vertrieb von Produkten und Systemen für Rauch- und Wärmeabzug, natürliche Gebäudelüftung, automatische Tür- und Toranlagen sowie damit verbundene Wartungs-, Dienst- und Serviceleistungen

Das Zertifikat umfasst ausschließlich das Qualitätsmanagementsystem in dem angegebenen Geltungsbereich. Die gegenwärtige Gültigkeit kann unter www.vds.de verifiziert werden.

Das Zertifikat gibt keine Auskunft über die Zertifizierung von Qualitätsmanagementsystemen oder die VdS-Anerkennungen von Errichterfirmen, Wach- und Sicherheitsunternehmen, Produkten, Verfahren, o. ä. Hierfür sind gesonderte Nachweise erforderlich.

Das Zertifikat darf nur unverändert und mit sämtlichen Anlagen vervielfältigt werden. Während der Gültigkeit des Zertifikates muss das Qualitätsmanagementsystem der Organisation stets die Forderungen der Zertifizierungsgrundlagen erfüllen. Dies wird durch VdS Schadenverhütung regelmäßig begutachtet.

Jegliche Werbung mit dem Zertifikat muss den Inhalt korrekt wiedergeben und darf nicht auf wettbewerbsrechtswidrige Art und Weise erfolgen.

Zertifizierungsgrundlagen:

DIN EN ISO 9001
Qualitätsmanagementsysteme
Anforderungen
Ausgabe Dezember 2008
Qualitätsmanagementhandbuch des Zertifikatsinhabers

Köln, den 10.10.2014



Reinermann
Geschäftsführer

ppa. Urban
Leiter der Zertifizierungsstelle

VdS Schadenverhütung GmbH
Zertifizierungsstelle
Amsterdamer Str. 174
D-50735 Köln

Ein Unternehmen des Gesamtverbandes der Deutschen Versicherungswirtschaft e.V. (GDV)

Akkreditiert als
Zertifizierungsstelle für
Qualitätsmanagementsysteme von
der DAkkS - Deutsche
Akkreditierungsstelle GmbH

TRANSLATION OF THE ORIGINAL INSTRUCTIONS (GERMAN)

Once the assembly and commissioning has been completed, the installer of a machine „power-operated window and door“ shall hand these instructions over to the end-user. The end-user shall store these instructions in a safe place for further reference and use, if required.

Important note:

We are aware of our responsibility, which is why we present life-supporting and value-preserving products with greatest possible conscientiousness. Although we make every effort to ensure that the data and information are as correct and up-to-date as possible, we still cannot guarantee that they are free from mistakes and errors.

All information and data contained in this document are subject to alterations without prior notice. Distribution and reproduction of this document as well as the use and disclosure of its content is not authorized unless expressly approved. Offenders will be held liable for the payment of damages. All rights reserved in the case of a patent award or utility model registration.

Basically the General Terms and Conditions of Aumüller Automatic GmbH apply to all offers, supplies and services.

The publication of these assembly and commissioning instructions supersedes all previous editions.

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