

OVERVIEW OF RWA HARDWARE SYSTEMS																					
RWA hardware system	Rated voltage	Locking drive			Opening drives	Accessories			Casement dimensions						Required mounting space	Use			Location		
		Type	Number of VP	Length		Control modules Accessories	Frame bracket	Casement bracket	Bottom-/top-hung			Side-hung				Natural ventilation	RWA	NSHEV	Facade		Roof
									FAB	FAH	max. weight	FAB	FAH	max. weight					inward	outward	
[VDC]				[mm]	[A]			[mm]	[mm]	[Kg]	[mm]	[mm]	[Kg]	[mm]							
1000	24	FV3	1 (*1)	450	PL6	(B20-1)	K15	F11	500 - 1200	600 - 1500	50	600	500 - 2400	90	40	●	●	●	●	■	■
					PL10						90	- 1500		150		●	●	●	●	■	■
		OFV (*3)	(*2)	PL6	50	500	90	●	●	●	●	■	■								
				PL10				90	- 1500	150	●	●	●	●		■	■				
1000-TE	24	FV1	2; 3	1200	2x PL6	USKM	2x K15	2x F11	1250 - 2400	600 - 2000	90	600	1250 - 2400	130	40	●	●	●	●	■	■
					2x PL10						160			- 2400		200	●	●	●	●	■
			3	2000	2x PL6	50	500	90	●	●	●	●	■	■							
					2x PL10				160	- 2400	200	●	●	●		●	■	■			
		OFV (*4)	(*2)	2x PL6	50	500	90	●	●	●	●	■	■								
				2x PL10				90	- 1500	150	●	●	●	●		■	■				
1100	24	FV3 (*3) (*2)	1 (*1)	450	PL6	B21-1	K15 (K37)	F11	500 - 1200	800 - 1600	70	600	500 - 2400	90	40	●	●	●	■	●	■
					PL10						120	- 1500		150		●	●	●	■	●	■
1100-TE	24	FV1 (*4) (*2)	2; 3	1200	2x PL6	USKM (B20-2)	2x K15 (2x K37)	2x F11	1250 - 2400	800 - 2000	130	600	1250 - 2400	130	40	●	●	●	■	●	■
					2x PL10						200			- 2400		200	●	●	●	■	●
		3	2000	2x PL6	130	- 1500	130	●	●	●	■	●	■								
				2x PL10				200	- 2400	200	●	●	●	■		●	■				
1050	24	FV3 (*3) (*2)	(*2)	450	PL6	K97 (re/li)	F11	500 - 1200	500 - 1500	500 - 2400	90	22	●	●	●	●	■	■			
					PL10						130		- 1250	130	●	●	●	●	■	■	
		OFV (*3)	(*2)	PL6	90	- 1250	130	●	●	●	●		■	■							
				PL10				130	- 1500	130	●		●	●	●	■	■				
1050-TE	24	FV1 (*1)	(*1)	450	2x PL6	USKM	K97 re+li	2x F11	500 - 1500	500 - 2400	130	22	●	●	●	●	■	■			
					2x PL10						150		- 1500	150	●	●	●	■	■		
		OFV (*4)	(*2)	2x PL6	130	- 1500	130	●	●	●	●		■	■							
				2x PL10				150	- 2400	150	●		●	●	■	■					

### LEGEND

● suitable ■ not recommended

(\*1) On the main closing edge of side-hung windows use of FV with 2 or 3 locking points (VP) is possible

(\*2) Window specific multi-locking system

(\*3) Use of FVR3 / FVB3 possible

(\*4) Use of FVR4 / FVB4 possible



RWA 1000

**RWA 1000**

- Model 24 V DC
- Application Bottom-/Top-/Side-hung inward opening windows
- Opening drives PL6 S1 (600 N) / PL10 S1 (1000 N)  
on the side closing edge (NSK)
- Locking drives FV3 / OFV / FVR3 / FVB3 / (FV1 with USKM)  
on the main closing edge (HSK)
- Frame brackets K15 (H = 150 mm), B20 für FV3 (FM)
- Casement brackets F11
- Version Opening drives SOLO / TE = Tandem (with USKM)
- Protection rating IP32



RWA 1100

**RWA 1100**

- Model 24 V DC
- Application Bottom-/Top-/Side-hung outward opening windows
- Opening drives PL6 S1 (600 N) / PL10 S1 (1000 N)  
on the side closing edge (NSK)
- Locking drives FV3 / FVR3 / (FV1 with USKM)  
on the main closing edge (HSK)
- Frame brackets K15 (H = 150 mm) / K37 (H = 250 mm) / B20
- Casement brackets F11
- Version Opening drives SOLO / TE = Tandem (with USKM)
- Protection rating IP32



RWA 1050

**RWA 1050**

- Model 24 V DC
- Application Side-hung inward opening windows
- Opening drives PL6 S1 (600 N) / PL10 S1 (1000 N)  
on the side closing edge (NSK)
- Locking drives FV3 / OFV / (FV1 with USKM)  
on the main closing edge (HSK)
- Frame brackets K97 right hand / left hand
- Casement brackets F11
- Version Opening drives SOLO / TE = Tandem (with USKM)
- Protection rating IP32

OVERVIEW OF SPINDLE DRIVES																	
Opening drives	Version		Stroke	Force		Speed		Stroke in	Cut-off current	Use			Location		Function		
	Cut-off switch	Rated voltage	up – to	Pulling force	Pushing force	OPEN	ZU	60 s	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
		[VDC]	[mm]	[N]	[N]			[mm]	[A]								
PL6	S1	24	100–300	600	600	5,8	5,8	350	0,8	●	●	●	●		○		○
PL10	S1	24	100–300	1000	1000	2,6	2,6	150	0,8	●	●	●	●		○		○

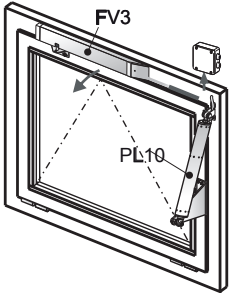
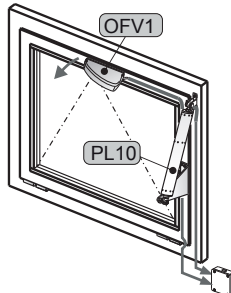
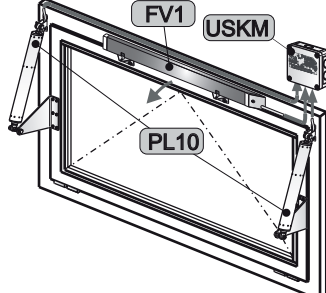
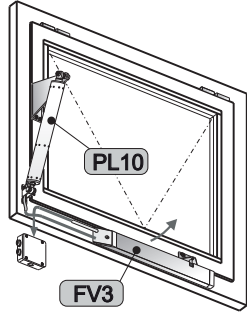
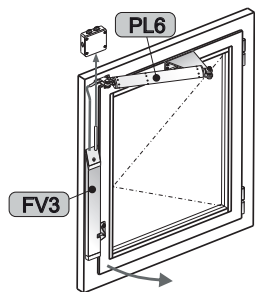
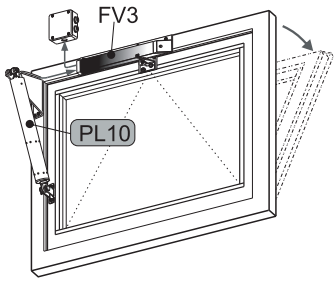
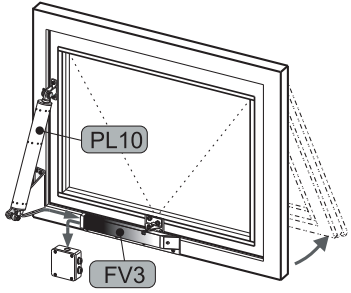
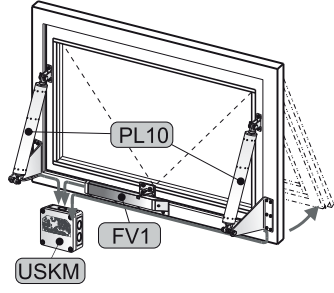
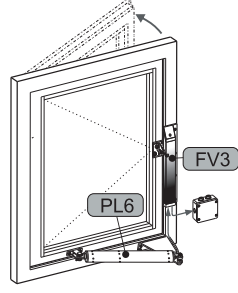
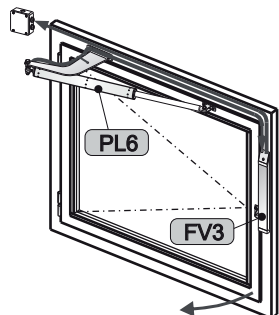
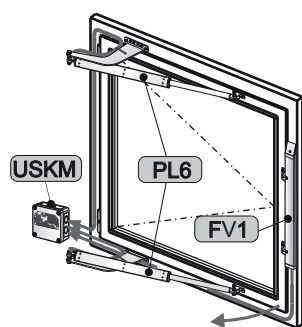
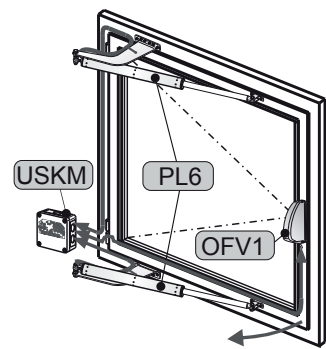
OVERVIEW OF LOCKING DRIVES																	
Locking drives	Locking stroke (Rotating angle)	Rated voltage	Force (Torque)		Runtime	Close circuit current	Opening drives		Use			Location		Functions			
			Pulling/Pushing force	Initial force (torque)			Model	Cut-off current	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control	
	[mm]	[VDC]	[N]	[N]	[s]	[A]		[A]									
FV1		24	600	1000	5,0	0,3	○	○	●	●	●	●					○
FV3		24	600	1000	5,0	0,3	S1	0,8	●	●	●	●					●
FVR3	18	24	600	1000	5,0	0,3	S1	0,8	●	●	●	●					●
FVB3	16/22	24	600	1000	5,0	0,3	S1	0,8	●	●	●	●					●
OFV	90° – 180°	24	10 Nm	22 Nm	4,5/9,0	0,3	S1	0,9–3,0	●	●	●	●					●

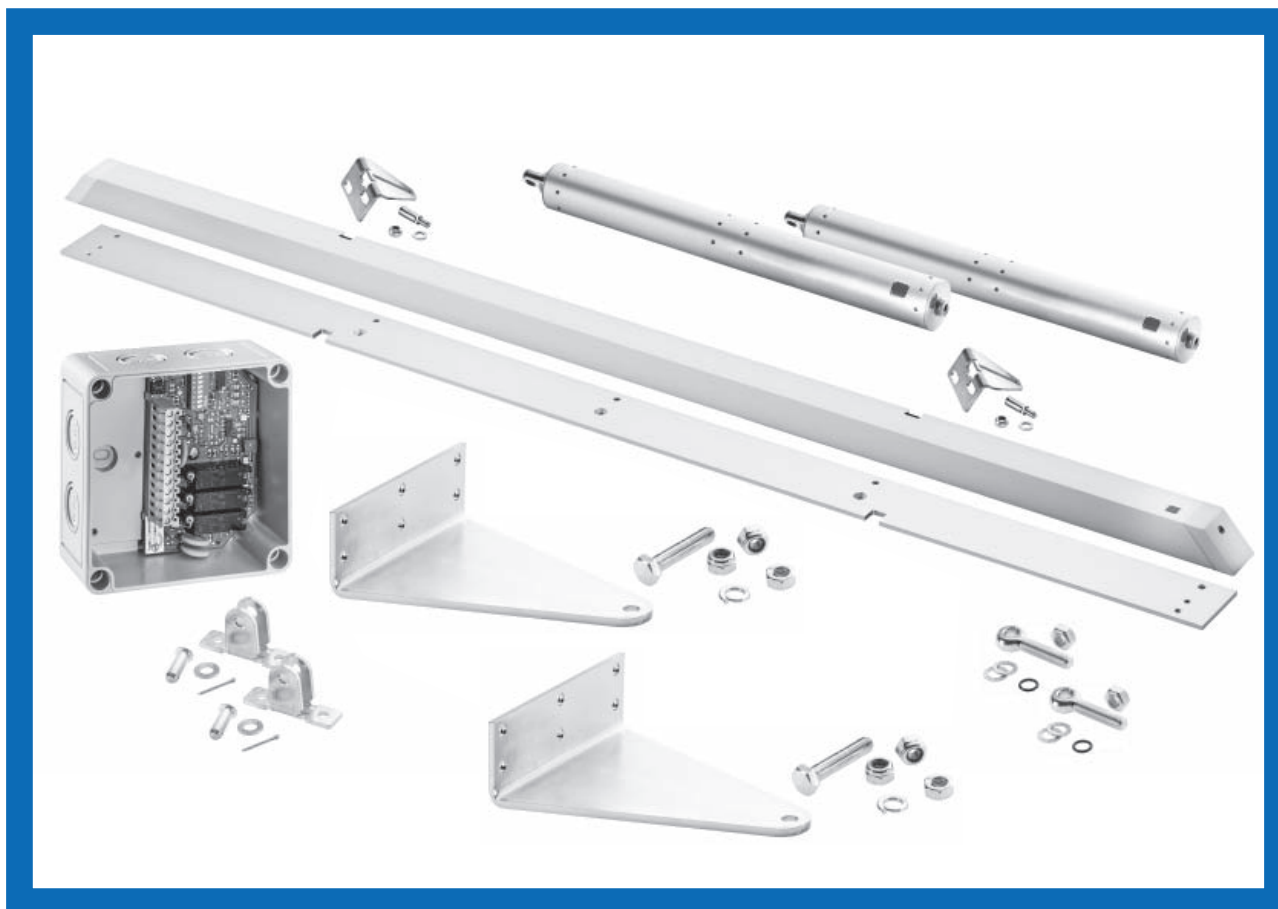
### LEGEND

● suitable    ■ not recommended

S1 without internal cut-off switch for operation with RWA1000-, RWA1100-, RWA1050-systems

○ only with external cut-off switch or control module USKM

TYPICAL APPLICATION		
<p>RWA1000 – inward opening</p>  <p>View on bottom-hung window</p>	<p>RWA1000 – inward opening</p>  <p>View on bottom-hung window</p>	<p>RWA1000 TE – inward opening</p>  <p>View on bottom-hung window</p>
<p>RWA1000 – inward opening</p>  <p>View on top-hung window</p>	<p>RWA1000 – inward opening</p>  <p>View on side-hung window</p>	<p>RWA1100 – outward opening</p>  <p>View on bottom-hung window</p>
<p>RWA1100 – outward opening</p>  <p>View on top-hung window</p>	<p>RWA1100 TE – outward opening</p>  <p>View on top-hung window</p>	<p>RWA1100 – outward opening</p>  <p>View on side-hung window</p>
<p>RWA1050 – inward opening</p>  <p>View on side-hung window</p>	<p>RWA1050 TE – inward opening</p>  <p>View on side-hung window</p>	<p>RWA1050 TE – inward opening</p>  <p>View on side-hung window</p>



### SPECIAL FEATURES RWA1100

- 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

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage [www.aumueller-gmbh.de](http://www.aumueller-gmbh.de).

**MOUNTING DIMENSION OF RWA1100 FOR BOTTOM-/TOP-HUNG OUTWARD 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	NSK	HSK		
				PL6	PL10						PL6	PL10						
			[DEG]	[N]	[N]	[mm]					[mm]	[DEG]	[mm]	[DEG]	[N]	[N]	[Kg]	
RWA 1100 (*3)	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 (\*4)

(\*1 Mounting measure „X“ = distance F11 to hinge side (≥ 1/3 FAH)

(\*2 Other mounting measure and wing heights on request.

(\*3 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.

(\*4 FV1 – 1x = 450 mm  
FV1 – 2x = 1200 or 2000 mm  
FV1 – 3x = 2000 mm