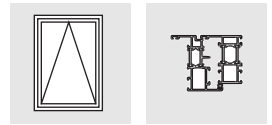# ALU 4200-K/ZV

*Clampable tilt-sash fitting for
aluminium windows*

*Further details and specifications/information regarding the product and liability (guidelines: VHBH, TBDK and VHBE) can be found in the aluminium planning manual (H4006.3042EN) and **must** be observed.*

The specified dimensions are finished dimensions after the surface treatment of the profiles e.g. painting, powder coating etc.!
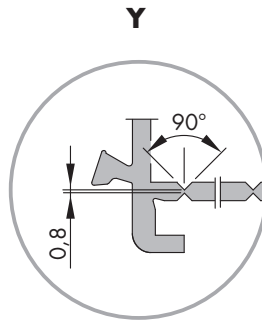
Intended use
Profile selection/alignment
Frame groove dimensions

A0004
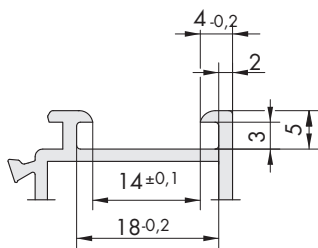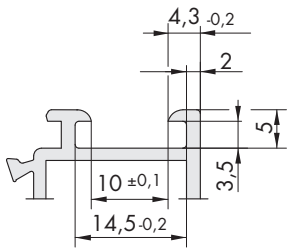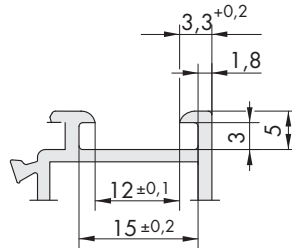
Sash- and frame dimensions

Y

A0006

A0022
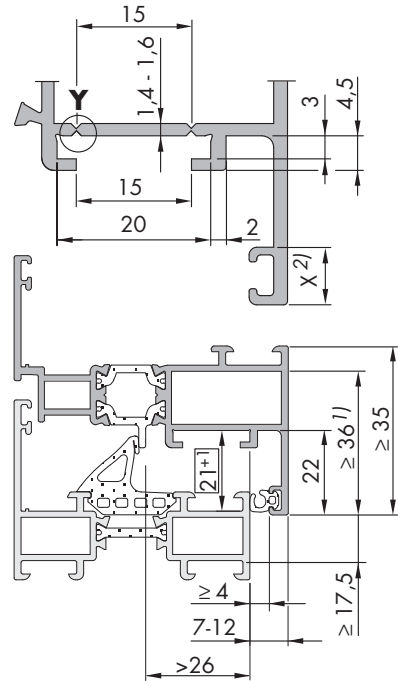
**Operating rod dimensions
min. - max.**
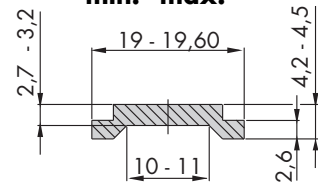
1) On gearbox M6
2) Refer to table on page 3

All dimensions in mm

		1 tilt-sash stay	2 tilt-sash stays
sash width	(a)	min. 535 - max. 935	min. 936 - max. 1600
sash height	(b)	min. 500 - max. 2000	min. 500 - max. 2000
sash weight	(⬚)	max. 40 kg	max. 100 kg
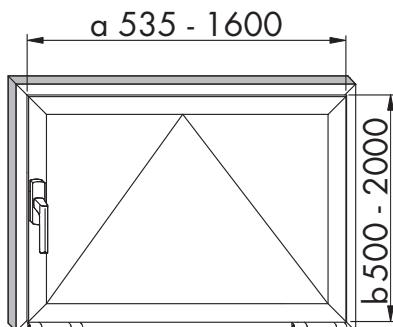
a 535 - 1600
b 500 - 2000

Contents

Installation instructions
H48.4200LS005en

a from 936 mm to1600 mm
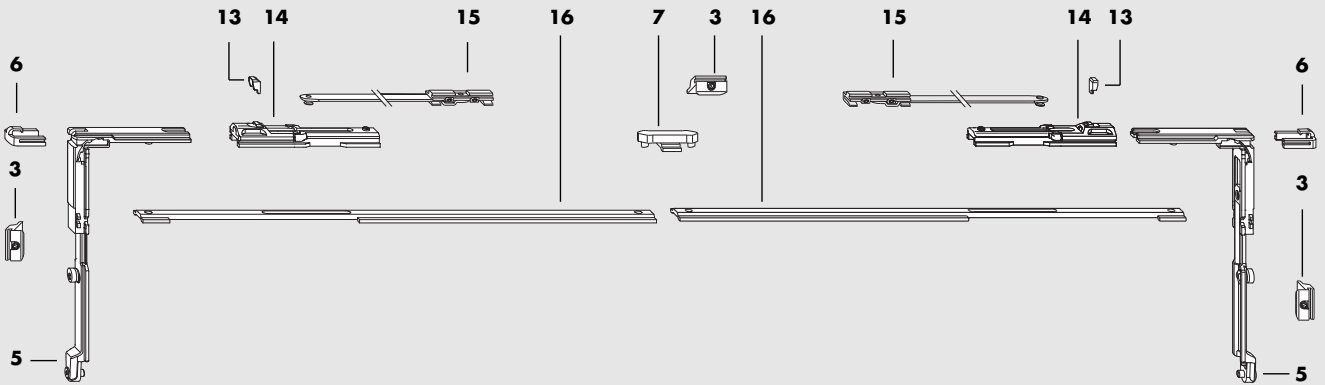
a from 535 mm to 935 mm
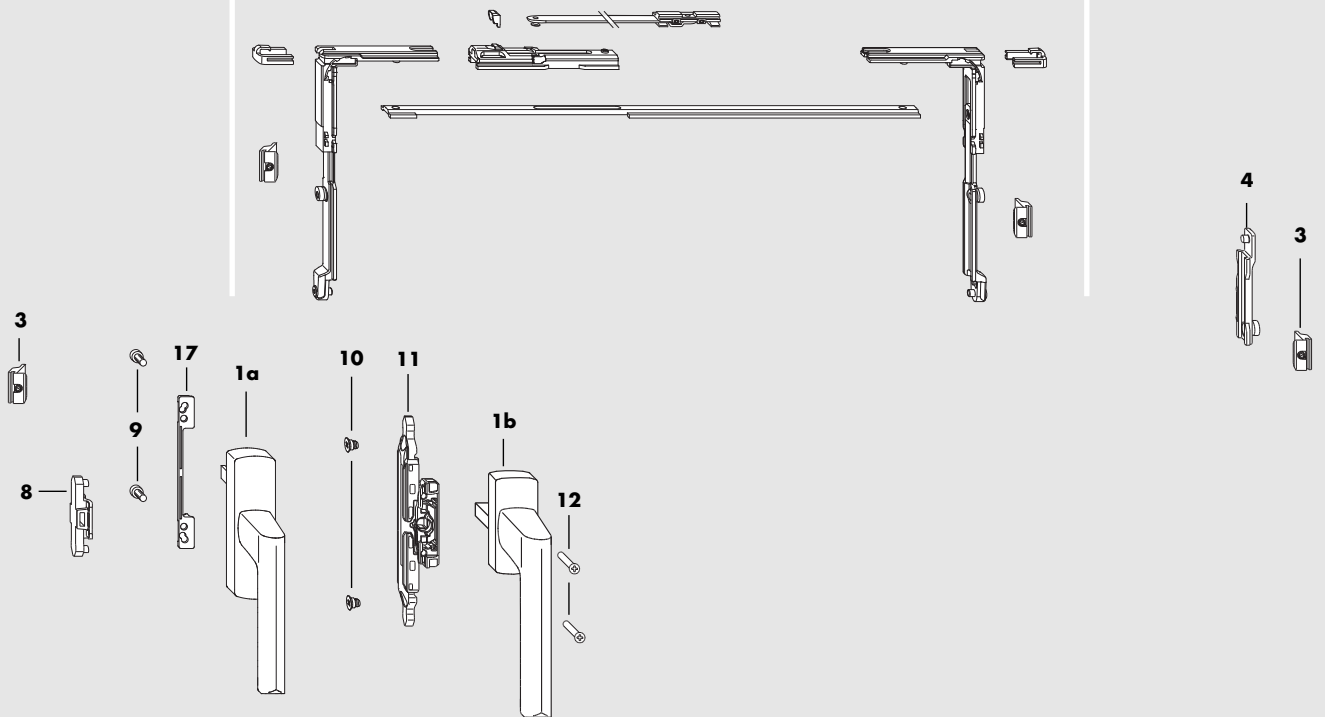
1a	Handle LM		**9**	Cheese head screw M5 x 12
1b	Window handle		**10**	Countersunk screw M6
2	Rebate hinge LM 4200		**11**	ESG LM M6
3	Striker		**12**	Csk screw M5 x 35
4	Slider		**13**	Locking piece
5	Corner drive VSU		**14**	Retainer
6	Clamping piece		**15**	Tilt sash stay
7	Coupling piece		**16**	Drive rod
8	Coupling bracket		**17**	Handle support LM
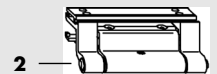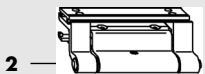
ALU 4200-K/ZV *Hardware list*

	Pos.	Qty.	Description			Material no.		Material no.
always necessary	1	0...1	**Handle LM**			*Refer to handle overview LM Drawing no.: LMen1337 in the Aluminium Specifiers Manual*		
	1	0...1	**Window handle** (□ 7mm x 25, lugs ∅ 10 mm)					
	2	2...3[1]	**Rebate hinge LM 4200**	**silver**	1	MMKB0020-525010	20	MMKB0020-525030
				brown	1	MMKB0020-533010	20	MMKB0020-533030
				white *RAL 9010*	1	MMKB0020-503010	20	MMKB0020-503030
				white *RAL 9016*	1	MMKB0020-504010	20	MMKB0020-504030
				black *RAL 9005*	1	MMKB0020-523010	20	MMKB0020-523030
				EV1	1	MMKB0020-524010	20	MMKB0020-524030
				ESLG	1	MMKB0020-800010	20	MMKB0020-800030
				mill	1	MMKB0020-500010	20	MMKB0020-500030
	3-7	1	**ZV LM-K Var. Set**		1	MMZV0030-100010	20	MMZV0030-100030
	8-9	0...1	**Coupling set LM A0156**	*for 1a*	1	MMKL0060-100010	20	MMKL0060-100030
	10-12	0...1	**Gear set M6 Trial/RR**	*in conjunction with (**1b**)*	1	MMGI0090-100010	20	MMGI0090-100030
	13-15	1...2	**Tilt sash stay LM**	*from a 936 mm 2 tilt-sash stays LM*	1	848876	50	239155
	16	1...2	**Drive rod**	*from a 936 mm 2 drive rods*	1	848913	20	239162
	17	0...1	**Handle support LM**		–	–	200	*see table*

1) *from a 1201 mm it is recommended to use an additional turn and rebate hinge LM 4200 as MV*

Handle support versions (17)

USH	Z	X < 7 mm	X 7,1 - 8,5 mm
7 - 10 mm	< 2 mm	MFHA0010-100200	MFHA0010-100200
7 - 10 mm	2,1 - 3 mm	MFHA0010-100200	MFHA0020-100200
7 - 10 mm	> 3 mm	MFHA0010-100200	-
12 mm	-	MFHA0030-100200	-
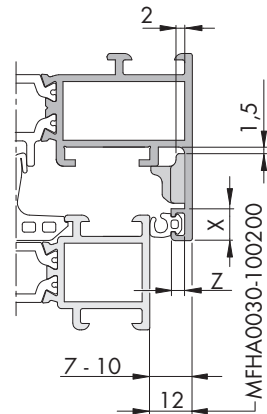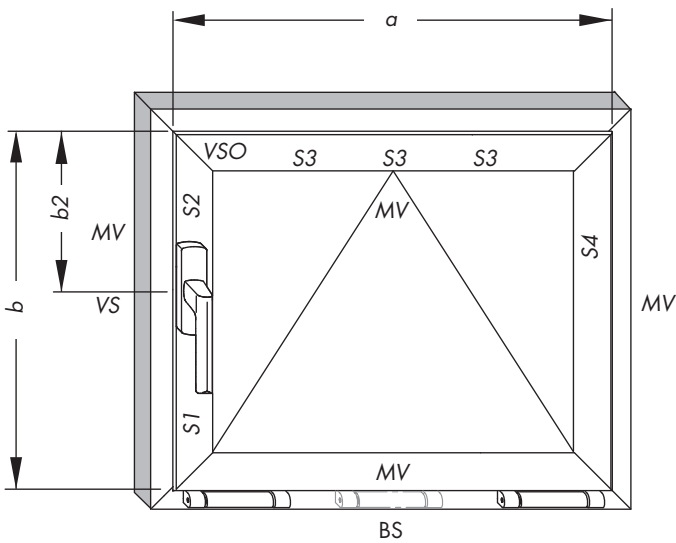
Abbreviations

The following abbreviations are used in this installation instruction

a	sash width
b	sash height
BS	hinge side
ESG	routed-in gear
b2	upper handle position
MV	centre lock
VS	locking side
VSO	top locking side
S1	drive rod, top locking side (ESG)
S2	drive rod , top horizontal
S3	drive rod , top horizontal
S4	drive rod opposite to locking side

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Installation Instructions

Preparation	**A**	Prepare the handle LM (**1a**) / handle (**1b**) holes.
	B	Open the drive gear grooves.
	C	If neccesary remove the over rebate seals in the area of the hinges or re-work sash profiles according to the detail on page 6
	D	Prepare the drive rods S1 and S4 according to the details on page 6.

Sash		For sash width between **535 mm and 935 mm:**
	A	Slide in stop (**14**) using the drive rod S3 (**16**) horizontally at the top.
	B	Slide-in coupling bracket (**8**) with drive rod S2 and corner drive VSU (**5**) on the VS (locking side).
	C	Connect together the corner drive VSU (**5**) and drive rod S3 (**16**) and secure using clamping piece EUL (**6**).
	D	Position the stop (**14**) according to the dimensions on page 6 and lock in place with the punching screws (Torque 2.5 ± 0.25 Nm).
For LM gears	**E**	Insert ESG LM M6 (**11**) into the intended opening (See Page 6, figure 3).
For LM gears	**F**	Connect the ESG LM M6 (**11**) using the M6 coupling screws (**10**) to the S1 and S2 drive rods (PZ 2, Torque 2.75 ± 0.25 Nm).
For LM gears	**G**	Screw on handle (**1b**) using countersunk-head screws PZ M5 x 35 (**12**) (PH 2, Torque 2.5 ± 0.25 Nm).
		For sash width between **936 mm to 1600 mm**:
	C	Insert stop (14) with drive rod S3 (**16**), locking bolt (**7**) and drive rod S3 (**16**) with stop (**14**) in the top horizontal.
	D	Slide in coupling bracket (**8**) with drive rod S2 and corner drive VSU (**5**) on the VS (locking side).
	E	Connect the corner drive VSU (**5**) with the drive rod S3 (**16**) and secure using clamping piece EUL (**6**).
For LM gears	**H**	Insert ESG LM M6 (**11**) into the intended opening.
For LM gears	**I**	Connect the ESG LM M6 (11) using the coupling screws M6 (10) to the S1 & S2 drive rods (PZ 2, Torque 2.75 ± 0.25 Nm).
For LM gears	**F**	Screw on handle (**1b**) using countersunk-head screw PZ M5 x 35 (**12**) (PZ 2, Torque 2.5 ± 0.25 Nm). Position the stop (**14**) according to the dimensions on page 6 and lock in place with the punching screws (Torque 2.5 ± 0.25 Nm).
		For sash width between **535 mm to 1600 mm**:
	J	Connect the slider (**4**) with the drive rod S4 and corner drive VSU (**5**) and slide in opposite the VS (locking side), connect to drive rod S3 (**16**) and secure using clamping piece EUL (**6**).
	K	Screw on handle LM (**1a**) using cylinder-head screws M5 x12 (**9**) (Torque 2.5 ± 0.25 Nm).
	L	Position tilt-only hinge LM 4200 (**2**) according to the specifications on page 6 and fasten using countersunk-head screw M5 x 7 (Torque 2.5 ± 0.25 Nm).

Frame		Position strikers (**3**) as specified on page 7 and clamp each with grub screws (threaded pins) (Torque 1.5 ± 0.25 Nm).

Final assembly LM	**A**	Insert sash into the frame.
	B	Insert hinge part into the frame groove.
	C	Laterally align sash. Open sash and tighten the cylinder-head screws on the top hinge (Torque 2,5 ± 0,25 Nm).
	D	Check window for operation.
	E	If necessary, adjust the closing pressure using the eccentric locking cams.

Hanging the tilt stay	**A**	Slide back the retainer (**14**) as shown in figure 1.	
	B	Attach the tilt sash stay (**15**), figure 1.	*Figure 1*
	C	Release the retainer (**14**) as shown in figure 2.	
	D	Slide in locking piece (**13**), figure 2.	*Figure 2*

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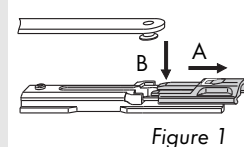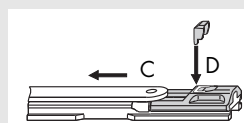
ALU 4200-K/ZV   *Sash Dimensions*

sash width from **936** to **1600**

$S3 = a/2 - 71$

sash width from **936** to **1600**

$S3 = a/2 - 71$

10   10

5,2

108   108

sash width from **535** to **935**

$S3 = a - 116$

10

5,2

handle position **b2** ≥ 280

$S2 = b2 - 200$ [1]

$S2 = b2 - 235$ [2]

All measurements (in mm) and information for:

aluminium windows
euro groove in sash   15/20 mm
fitting cavity 21^{+1} mm
over rebate width   22 mm

$S4 = b/2 - 258$

X

Tilt

Closed

∅ 5,2

5,2

98   78

14,5

11,5

∅ 10

43

23

72

R5

R5

15

b (sash height)

Figure 1 [1]

Figure 2 [2]

Figure 3 [2]

$S1 = 35$ [2]

(Gear set LM)

handle position **b1** ≥ 220

1) Processing size for
   handle LM (1a) figure 1.
2) Processing for vent handle (1b)
   figure 2 and 3.
3) Remove the rebate seal in the area
   through which the hinges pass and
   rework the sash profiles.
   Min. passage 4 mm.

X

20

15

21^{+1}

22

min. 4   3)

min. 16   min. 16

min. 93 3)   min. 93 3)

a (sash width)

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a/2+20

Tilt sash stay
329

Tilt sash stay
329

85

125

centre
(from FH ≥ 1200)

All measurements (in mm) and information for:

aluminium windows
euro groove in frame 10 to 14 mm
fitting cavity 21^{+1} mm
groove axis 10 mm

10

21 +1

min. 17,5
outer frame free
measurement

handle position b1 + 28 (Coupling set LM A0156) (1a) (b ≥ 1200)
handle position b1 + 76 (Gear set M6) (1b) (b ≥ 1200)

3,3 to 4,3

1,5 to 2

3 to 3,5

5

10 to 14

Basic safety notes

Intended use

The hardware described in this document is intended to be installed in an aluminium window frame by a certified window construction specialist in accordance with these instructions. The windows must only be installed vertically.

The certified window construction specialist must ensure that the hardware is suitable for the application based on the specifications in these instructions and in the other documents specified.

Avoid excessive strain

Bearing components can break if they are exposed to excessive strain. If this happens, the window sash may fall out, leading to serious injuries. If the hinge parts may be subject to excessive strain under certain conditions (use in schools, nursery schools, etc.), appropriate measures must be taken to prevent this from happening, such as using turning locks or tilt-before-turn opening (TBT).

• If in any doubt, please contact your SIEGENIA sales consultant.

Do not mix hardware components

The hardware components are designed to work with one another. If they are mixed on a window with hardware components from other systems or manufacturers, it is not possible to guarantee that they will operate safely.

Hardware components may break and cause accidents.

• Only use the hardware components listed in these instructions together on a window.

Only treat window surfaces prior to assembly of hardware

• Treating window surfaces after assembling the hardware may affect the components' operational reliability.

Avoid damage caused by corrosion and debris

Corrosive materials, dirt and moisture may damage hardware components and cause hazards.

• Do **not** use acetic or acid-releasing sealants.
• Do **not** use the hardware components in environments where the air contains aggressive or corrosive components.
• Keep all rebates free of debris and dirt, especially cement and plaster residue.
• Keep the hardware dry.

Clean hardware gently

• Only clean the hardware with a soft cloth and mild, diluted pH-neutral cleaning agents.
• The hardware must not be exposed to abrasive cleaners or aggressive, acidic cleaning agents.
• Leave the hardware to dry after cleaning.

Pass on information to the user of the window

• Attach the user information order no. 05083 to the installed window or door element so that it can be seen easily.
• Pass on the following leaflets to the user:
  - Maintenance and cleaning instructions   SI-AU order no. 17772
  - Operating instructions   SI-AU order no. 05766

Exclusion of liability

• We assume no liability for functional disorders and damage to the hardware, or to the windows and French doors equipped with the hardware, where such malfunctions and damage are the result of insufficient tendering information, failure to follow these installation instructions or forceful impact (e.g. due to improper use).

SIEGENIA-AUBI KG
Industriestraße 1-3, 57234 Wilnsdorf, Germany
Tel. +49 271 39 31-0 · Fax +49 271 39 31-3 33

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