

Slimline Fanlight Openers

Bottom-hung window fitting AK-210 / AK-300

Top-hung window fitting AKL-210

Individual components / accessories

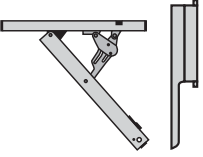
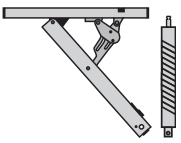
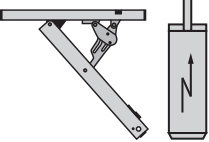


opening systems for bottom-hung
and top-hung windows –
manual and motorized

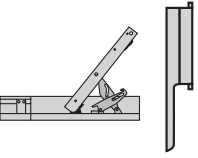
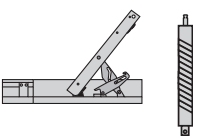
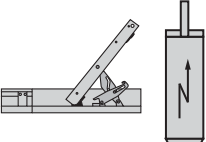
Product information

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Bottom-hung window fitting AK-210/AK-300

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Top-hung window fitting AKL-210

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Individual components / accessories

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Technical information

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WSS – Slimline Fanlight Openers



- **ALU-KIPP-210 (AK-210)** opening width 210 mm, RAL tested
- **ALU-KIPP-300 (AK-300)** opening width 300 mm
- **ALU-KLAPP-210 (AKL-210)** opening width 210 mm

Product features AK-210/AKL-210:

- **enlarged opening width 210 mm**
- frame overlap of 0-21 mm
- casement bracket continuously adjustable from the front
- adjustable corner transmission 75°-120° (also for AKL-210)
- for inclined-, triangular- and segmented round-arch bottom-hung windows (inclination $\pm 15^\circ$)





Opening scissor AK-210

- opening width 210 mm
- replaces opening scissors AK-170 / AK-230 / AK-300 L
- automatic locking mechanism
- detachable by a yellow safety button
- available with detachment blocker
- right and left hand usable



Opening scissor AKL-210

- opening width 210 mm
- replaces opening scissors AKL-170 / AK-230
- automatic locking mechanism
- detachable by a yellow safety button
- available with detachment blocker



Standard



with cover-cap, optional

Casement bracket AK-210

- replaces casement bracket AK-170
- for overlapping profiles of 0-21 mm
- standard for inclined-, trapezium- and segmented round-arch bottom-hung windows (inclination $\pm 15^\circ$)
- special version for all inclined-, trapezium- and segmented round-arch bottom-hung windows available
- cover cap, optional



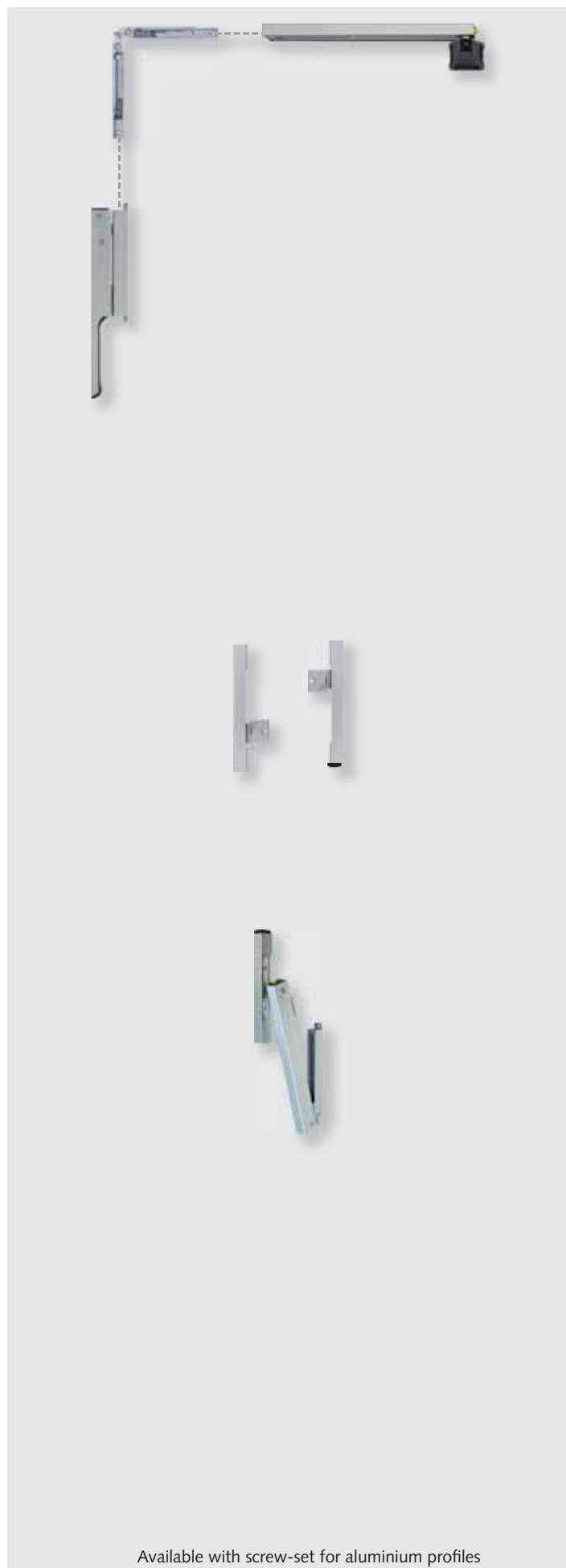
Corner transmission AK-210

- adjustable from 75° to 120°
- replaces corner transmission AK-170
- with safety connectors for replacement, no clamping screws
- with stainless steel spring band - no stroke loss



Hand lever AK-210

- replaces hand lever AK-170
- available with actuator lock
- available pivotable



Bottom-hung window fitting AK-210/AK-300 with hand lever

- for left and right deviation

consisting of:

opening scissor, casement bracket, corner transmission, hand lever, rod guides

Art.-N°	Fitting	Opening scissors	Sash width
11.070.1100.---	AK-210	1	440 - 1200
11.070.1200.---	AK-210	2	1201 - 2400
11.070.1300.---	AK-210	3	2401 - 3600
11.040.1100.---	AK-300	1	570 - 1200
11.040.1200.---	AK-300	2	1201 - 2400
11.040.1300.---	AK-300	3	2401 - 3600

Additional locking device - AK-210 / AK-300 for actuation with hand lever

- for window sash heights from 1500 mm - 2000 mm
- for left and right deviation
- for one and two opening scissors

Art.-N°	Fitting	sash width
11.280.9701.---	AK-210	640 - 2400
11.280.9401.---	AK-300	750 - 2400

Pillar-frame transmission - AK-210 / AK-300 for actuation with hand lever

- for pillar-frame depths of max. 90 mm or max. 170 mm
- for left and right deviation
- for one and two opening scissors

Art.-N°	Fitting	PT / RT max.	Mounting on
11.281.1090.---	AK-210	90	inner pillar side
11.281.1017.---	AK-210	170	inner pillar side
11.282.1090.---	AK-210	90	pillar front
11.282.1017.---	AK-210	170	pillar front
11.281.4090.---	AK-300	90	inner pillar side
11.281.4017.---	AK-300	170	inner pillar side
11.282.4090.---	AK-300	90	pillar front
11.282.4017.---	AK-300	170	pillar front

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----.--- p.29
	connection rod Art.-N° 11.175.----.--- p.30
	connection rod Art.-N° 11.177.----.--- p.31
	transmission variant Art.-N° 11.112 - 116.----.--- p.02

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

Available with screw-set for aluminium profiles



Bottom-hung window fitting AK-210 with hand lever and T-transmission

side-by-side bottom-hung windows:

- for centered deviation

consisting of:

opening scissors, casement brackets, hand lever, rod guides, T-transmission

Art.-N°	Fitting	Sash width
11.070.1271.---	AK-210	440 - 1200

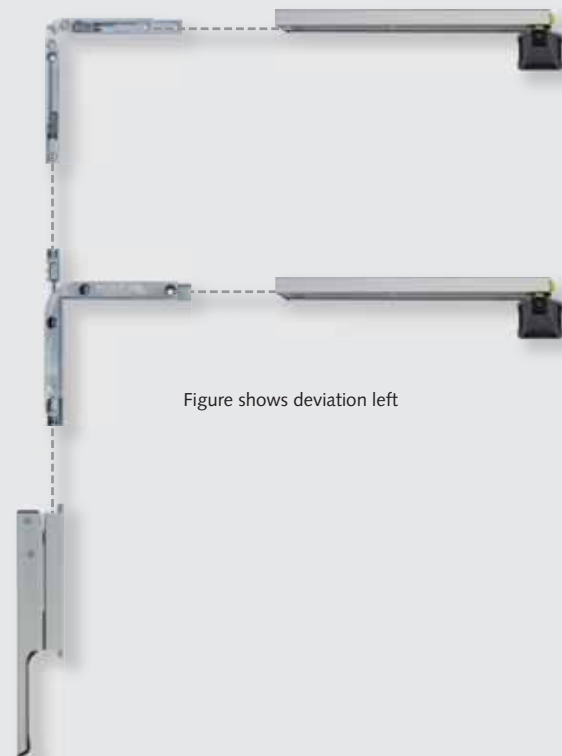


Figure shows deviation left

stacked bottom-hung windows:

- for left or right deviation

consisting of:

opening scissors, casement brackets, hand lever, corner transmission, corner cover cap, rod guides, T-transmission, rod connector

Art.-N°	Fitting	Deviation	Sash width
11.070.1272.---	AK-210	right	440 - 1200
11.070.1273.---	AK-210	left	440 - 1200

Available with screw-set for aluminium profiles

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Figure shows deviation left



Figure shows deviation left

Available with screw-set for aluminium profiles

Bottom-hung window fitting AK-210 / AK-300 with wide horizontal gear

- for **high** operation forces
- for left or right deviation

consisting of:

opening scissor, casement bracket, rod guides, horizontal gear, cover cap (AK.-210), coupling (AK-210)

Art.-N°	Fitting	Opening scissors	Deviation	Sash width
11.070.2100.---	AK-210	1	right	540 - 1200
11.071.2100.---	AK-210	1	left	540 - 1200
11.070.2200.---	AK-210	2	right	1201 - 2400
11.071.2200.---	AK-210	2	left	1201 - 2400
11.070.2300.---	AK-210	3	right	2401 - 3600
11.071.2300.---	AK-210	3	left	2401 - 3600
11.040.2100.---	AK-300	1	right	670 - 1200
11.041.2100.---	AK-300	1	left	670 - 1200
11.040.2200.---	AK-300	2	right	1201 - 2400
11.041.2200.---	AK-300	2	left	1201 - 2400
11.040.2300.---	AK-300	3	right	2401 - 3600
11.041.2300.---	AK-300	3	left	2401 - 3600

Bottom-hung window fitting AK-210 with narrow horizontal-compact-gear

- for **low** operation forces
- for left or right deviation
- concealed gear

consisting of:

opening scissor, casement bracket, rod guides, horizontal gear, corner cover cap, limiting piece

Art.-N°	Fitting	Opening scissors	Deviation	Sash width
11.070.3100.---	AK-210	1	right	540 - 1200
11.071.3100.---	AK-210	1	left	540 - 1200
11.070.3200.---	AK-210	2	right	1201 - 2400
11.071.3200.---	AK-210	2	left	1201 - 2400

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30
	connection rod Art.-N° 11.177.----- p.31
	cardan joint Art.-N° 11.225.----- p.37
	transmission variant Art.-N° 11.120 - 128.----- p.21

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Bottom-hung window fitting AK-210 with wide vertical gear

- for **high** operation forces
- for left and right deviation

consisting of:

opening scissor, casement bracket, corner transmission, rod guides, vertical gear, corner cover cap, gear cover cap

Art.-N°	Fitting	Opening scissors	Sash width
11.070.4100.---	AK-210	1	440 - 1200
11.070.4200.---	AK-210	2	1201 - 2400
11.070.4300.---	AK-210	3	2401 - 3600

Additional locking device - AK-210 for actuation with gear

- for window sash heights from 1500 mm - 2000 mm
- for left and right deviation
- for one and two opening scissors

Art.-N°	Fitting	sash width
11.280.9702.---	AK-210	640 - 2400

Pillar-frame transmission - AK-210 for actuation with gear

- for pillar-frame depths of max. 90 mm or max. 170 mm
- for left and right deviation
- for one and two opening scissors

Art.-N°	Fitting	PT / RT max.	Mounting on
11.281.9791.---	AK-210	90	inner pillar side
11.281.9711.---	AK-210	170	inner pillar side
11.282.9791.---	AK-210	90	pillar front
11.282.9711.---	AK-210	170	pillar front

Bottom-hung window fitting AK-210 with narrow vertical gear

- for **low** operation forces
- for left and right deviation

consisting of:

opening scissor, casement bracket, corner transmission, rod guides, vertical gear, corner cover cap

Art.-N°	Fitting	Opening scissors	Sash width
11.070.5100.---	AK-210	1	530 - 1200
11.070.5200.---	AK-210	2	1201 - 2400

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30
	connection rod Art.-N° 11.177.----- p.31
	cardan joint Art.-N° 11.225.----- p.37
	transmission variant Art.-N° 11.120 - 128.----- p.21

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

Available with screw-set for aluminium profiles



Bottom-hung window fitting AK-210 with vertical gear and T-transmission

side-by-side bottom-hung windows:

- for centered deviation

consisting of:

opening scissors, casement brackets, rod guides, T-transmission, rod connector, vertical gear, gear cover cap

Art.-N°	Fitting	Sash width
11.070.4271.---	AK-210	440 - 1200

stacked bottom-hung windows:

- for left or right deviation

consisting of:

opening scissors, casement brackets, corner transmission, rod guides, T-transmission, rod connector, vertical gear, corner cover cap, gear cover cap

Art.-N°	Fitting	Deviation	Sash width
11.070.4272.---	AK-210	right	440 - 1200
11.070.4273.---	AK-210	left	440 - 1200

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30
	cardan joint Art.-N° 11.225.----- p.37
	transmission variant Art.-N° 11.120 - 128.----- p.21

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Bottom-hung window fitting AK-210/AK-300 with horizontal electric spindle-drive

- with connecting piece
- for connection to 230 Volt/AC*
- suitable for up to four opening scissors
- for left or right drive connection

consisting of:

opening scissor, casement bracket, rod guides, electric spindle-drive, connecting piece¹⁾

Art.-N°	Fitting	Opening scissors	Sash width
11.070.7110.---	AK-210	1	610 - 1200
11.070.7210.---	AK-210	2	1201 - 2400
11.070.7310.---	AK-210	3	2401 - 3600
11.040.7110.---	AK-300	1	730 - 1200
11.040.7210.---	AK-300	2	1201 - 2400
11.040.7310.---	AK-300	3	2401 - 3600

1) opt., also avail. without connecting piece, sash width < 560 mm (AK-210)

Bottom-hung window fitting AK-210/AK-300 with vertical electric spindle-drive

- for direct connection to corner transmission (AK-210)
- for connection to 230 Volt/AC*
- suitable for up to four opening scissors
- for left and right drive connection

consisting of:

opening scissor, casement bracket, corner transmission, rod guides, corner cover cap, connection rod, connecting piece (AK-300), electric spindle-drive

Art.-N°	Fitting	Opening scissors	Sash width
11.070.8100.---	AK-210	1	440 - 1200
11.070.8200.---	AK-210	2	1201 - 2400
11.070.8300.---	AK-210	3	2401 - 3600
11.040.8100.---	AK-300	1	570 - 1200
11.040.8200.---	AK-300	2	1201 - 2400
11.040.8300.---	AK-300	3	2401 - 3600

*Information

Also available for connection to 24 V/DC or suitable for moist environments, on request.

Additional locking device - AK-210 / AK-300 for actuation with electric spindle-drive

- for window sash heights from 1500 mm - 2000 mm
- right and left hand usable
- for one and two opening scissors

Art.-N°	Fitting	sash width
11.280.9703.---	AK-210	640 - 2400
11.280.9402.---	AK-300	750 - 2400

Information

components/ items required for completion:
 cover profile Art.-N° 11.170.----- p.29
 connection rod Art.-N° 11.175.----- p.30
 connection rod Art.-N° 11.177.----- p.31

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

Available with screw-set for aluminium profiles



Pillar-frame transmission - AK-210 / AK-300 for actuation with electric spindle-drive

- for pillar-frame depths of max. 90 mm or max. 170 mm
- for left and right drive connection
- for one and two opening scissors

Art.-N°	Fitting	PT / RT max.	Mounting on
11.281.9792.---	AK-210	90	inner pillar side
11.281.9712.---	AK-210	170	inner pillar side
11.282.9792.---	AK-210	90	pillar front
11.282.9712.---	AK-210	170	pillar front
11.281.9491.---	AK-300	90	inner pillar side
11.281.9411.---	AK-300	170	inner pillar side
11.282.9491.---	AK-300	90	pillar front
11.282.9411.---	AK-300	170	pillar front

Bottom-hung window fitting AK-210 with vertical electric spindle-drive and T-transmission

- to connection an 230 Volt/AC*

side-by-side bottom-hung windows:

- for centered deviation

consisting of:

opening scissors, casement brackets, rod guides, T-transmission, connection rod, electric spindle-drive

Art.-N°	Fitting	Deviation	Sash width
11.070.8271.---	AK-210	centered	440 - 1200

stacked bottom-hung windows:

- for left or right drive connection

consisting of:

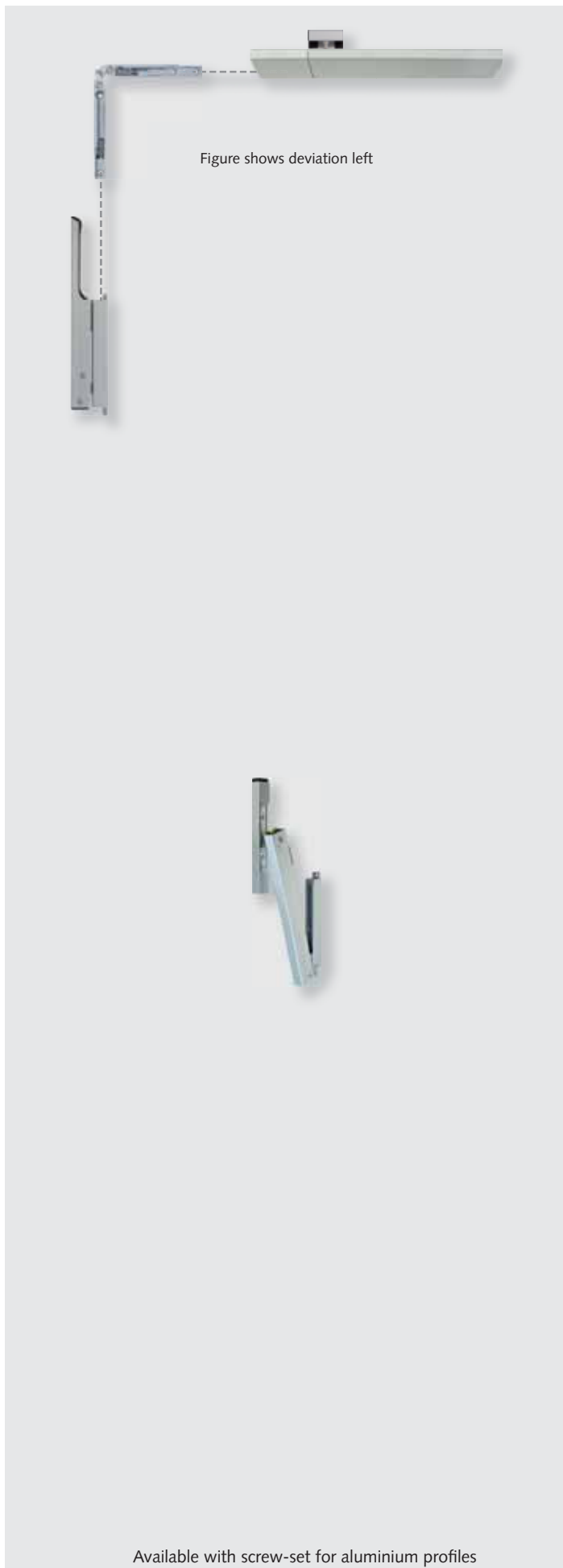
opening scissors, casement bracket, corner transmission, rod guides, corner cover cap, T-transmission, rod connector, connection rod, electric spindle-drive

Art.-N°	Fitting	Deviation	Sash width
11.070.8272.---	AK-210	right	440 - 1200
11.070.8273.---	AK-210	left	440 - 1200

*Information	Also available for connection to 24 V/DC or suitable for moist environments, on request.
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Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30
	connection rod Art.-N° 11.177.----- p.31

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Top-hung window fitting AKL-210 with hand lever

- concealed or visible screws
- for left or right drive connection

consisting of:

opening scissor, casement bracket, corner transmission, hand lever, rod guides, corner cover cap.

Art.-N°	Opening scissors	Mounting, Deviation	Sash width
11.080.1100.---	1	concealed, right	510 - 1000
11.081.1100.---	1	concealed, left	510 - 1000
11.082.1100.---	1	visible, right	510 - 1000
11.083.1100.---	1	visible, left	510 - 1000
11.080.1200.---	2	concealed, right	1001 - 2000
11.081.1200.---	2	concealed, left	1001 - 2000
11.082.1200.---	2	visible, right	1001 - 2000
11.083.1200.---	2	visible, left	1001 - 2000
11.080.1300.---	3	concealed, right	2001 - 3000
11.081.1300.---	3	concealed, left	2001 - 3000
11.082.1300.---	3	visible, right	2001 - 3000
11.083.1300.---	3	visible, left	2001 - 3000

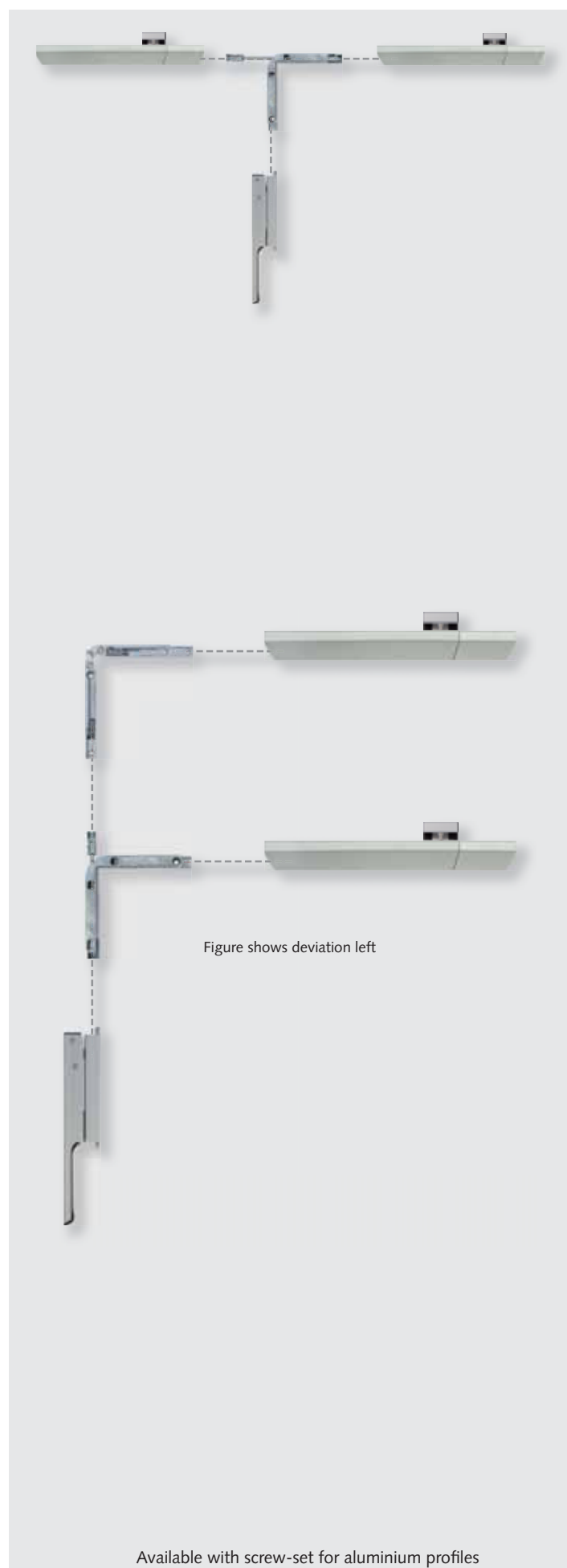
Pillar-frame transmission - AKL-210 for actuation with hand lever

- for pillar-frame depths of max. 90 mm or max. 170 mm
- for left and right drive connection
- for one and two opening scissors

Art.-N°	PT / RT max.	Mounting on
11.281.1090.---	90	inner pillar side
11.281.1017.---	170	inner pillar side
11.282.1090.---	90	pillar front
11.282.1017.---	170	pillar front

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----.--- p.29
	connection rod Art.-N° 11.175.----.--- p.30
	connection rod Art.-N° 11.177.----.--- p.31
	transmission variant Art.-N° 11.112 - 116.----.--- p.20

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Top-hung window fitting AKL-210 with hand lever and T-transmission

- concealed or visible screws

side-by-side top-hung windows:

- for centered deviation

consisting of:

opening scissors, casement brackets, hand lever, rod guides, T-transmission

Art.-N°	Mounting, Deviation	Sash width
11.080.1271.---	concealed, centered	510 - 1000
11.082.1271.---	visible, centered	510 - 1000

stacked top-hung windows:

- for left or right deviation

consisting of:

opening scissors, casement brackets, hand lever, corner transmission, rod guides, corner cover cap, T-transmission, rod connector

Art.-N°	Mounting, Deviation	Sash width
11.080.1272.---	concealed, left	510 - 1000
11.081.1273.---	concealed, right	510 - 1000
11.082.1272.---	visible, left	510 - 1000
11.083.1273.---	visible, right	510 - 1000

Information	scissor execution contrary to deviation direction
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Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Figure shows deviation left

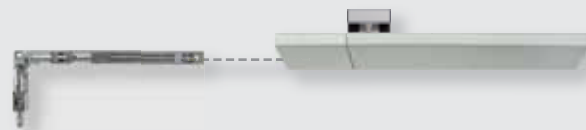


Figure shows deviation left

Top-hung window fitting AKL-210 with wide horizontal gear

- for **high** operation forces
- concealed or visible screws
- for left or right deviation

consisting of:

opening scissor, casement bracket, rod guides, horizontal gear, cover cap, Coupling

Art.-N°	Opening scissors	Mounting, Deviation	Sash width
11.080.2100.---	1	concealed, right	650 - 1000
11.081.2100.---	1	concealed, left	650 - 1000
11.082.2100.---	1	visible, right	650 - 1000
11.083.2100.---	1	visible, left	650 - 1000
11.080.2200.---	2	concealed, right	1001 - 2000
11.081.2200.---	2	concealed, left	1001 - 2000
11.082.2200.---	2	visible, right	1001 - 2000
11.083.2200.---	2	visible, left	1001 - 2000
11.080.2300.---	3	concealed, right	2001 - 3000
11.081.2300.---	3	concealed, left	2001 - 3000
11.082.2300.---	3	visible, right	2001 - 3000
11.083.2300.---	3	visible, left	2001 - 3000

Top-hung window fitting AKL-210 with narrow horizontal compact-gear

- for **low** operation forces
- concealed gear
- concealed or visible screws
- for left or right deviation

consisting of:

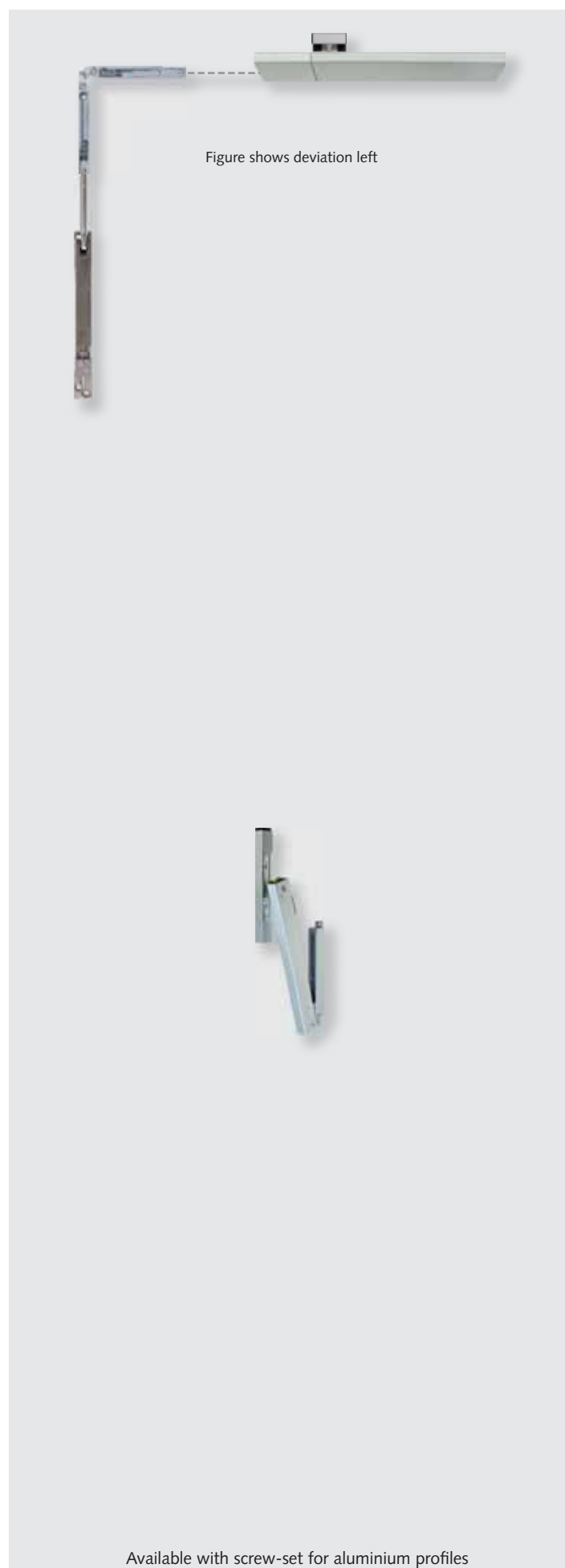
opening scissor, casement bracket, rod guides, horizontal gear, corner cover cap, limiting piece

Art.-N°	Opening scissors	Mounting, Deviation	Sash width
11.080.3100.---	1	concealed, right	630 - 1000
11.081.3100.---	1	concealed, left	630 - 1000
11.082.3100.---	1	visible, right	630 - 1000
11.083.3100.---	1	visible, left	630 - 1000
11.080.3200.---	2	concealed, right	1001 - 2000
11.081.3200.---	2	concealed, left	1001 - 2000
11.082.3200.---	2	visible, right	1001 - 2000
11.083.3200.---	2	visible, left	1001 - 2000

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30
	cardan joint Art.-N° 11.225.----- p.37
	transmission variant Art.-N° 11.120 - 128.----- p.21

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

Available with screw-set for aluminium profiles



Top-hung window fitting AKL-210 with wide vertical gear

- for **high** operation forces
- concealed or visible screws
- for left or right deviation

consisting of:

opening scissor, casement bracket, corner transmission, rod guides, vertical gear, corner cover cap, gear cover cap

Art.-N°	Opening scissors	Mounting, Deviation	Sash width
11.080.4100.---	1	concealed, right	510 - 1000
11.081.4100.---	1	concealed, left	510 - 1000
11.082.4100.---	1	visible, right	510 - 1000
11.083.4100.---	1	visible, left	510 - 1000
11.080.4200.---	2	concealed, right	1001 - 2000
11.081.4200.---	2	concealed, left	1001 - 2000
11.082.4200.---	2	visible, right	1001 - 2000
11.083.4200.---	2	visible, left	1001 - 2000
11.080.4300.---	3	concealed, right	2001 - 3000
11.081.4300.---	3	concealed, left	2001 - 3000
11.082.4300.---	3	visible, right	2001 - 3000
11.083.4300.---	3	visible, left	2001 - 3000

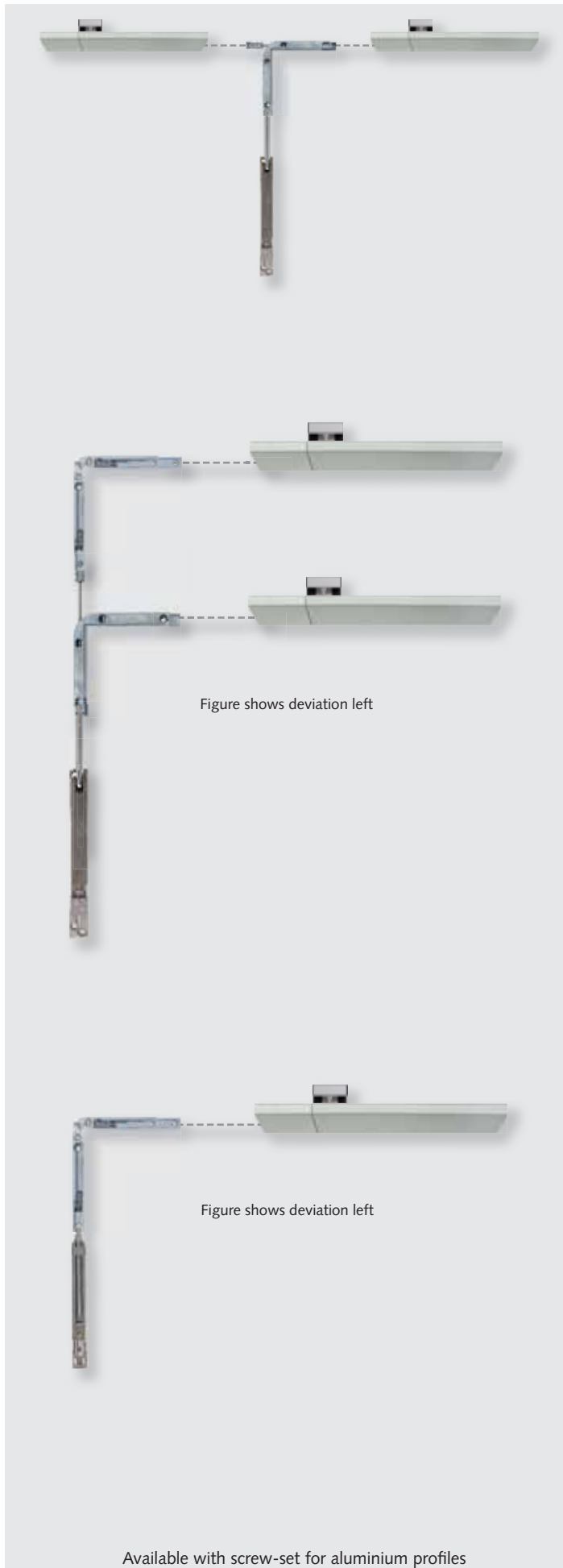
Pillar-frame transmission - AKL-210 for actuation with gear

- for pillar-frame depths of max. 90 mm or max. 170 mm
- for left and right deviation
- for one and two opening scissors

Art.-N°	PT / RT max.	Mounting on
11.281.9791.---	90	inner pillar side
11.281.9711.---	170	inner pillar side
11.282.9791.---	90	pillar front
11.282.9711.---	170	pillar front

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30
	connection rod Art.-N° 11.177.----- p.31
	cardan joint Art.-N° 11.225.----- p.37
	transmission variant Art.-N° 11.120 - 128.----- p.21

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Top-hung window fitting AKL-210 with vertical gear and T-transmission

- concealed or visible screws

side-by-side top-hung windows:

- for centered deviation

consisting of:

opening scissors, casement brackets, rod guides, T-transmission, rod connector, vertical gear, gear cover cap

Art.-N°	Mounting, Deviation	Sash width
11.081.4271.---	concealed, centered	510 - 1000
11.083.4271.---	visible, centered	510 - 1000

stacked top-hung windows:

- for left or right deviation

consisting of:

opening scissors, casement brackets, corner transmission, rod guides, T-transmission, rod connector, vertical gear, corner cover cap, gear cover cap

Art.-N°	Mounting, Deviation	Sash width
11.080.4272.---	concealed, right	510 - 1000
11.081.4273.---	concealed, left	510 - 1000
11.082.4272.---	visible, right	510 - 1000
11.083.4273.---	visible, left	510 - 1000

Top-hung window fitting AKL-210 with narrow vertical gear

- for low operation forces
- concealed gear
- concealed or visible screws
- for left or right deviation

consisting of:

opening scissors, casement bracket, corner transmission, rod guides, vertical gear, connecting piece, corner cover cap

Art.-N°	Opening scissors	Mounting, Deviation	Sash width
11.080.5100.---	1	concealed, right	510 - 1000
11.081.5100.---	1	concealed, left	510 - 1000
11.082.5100.---	1	visible, right	510 - 1000
11.083.5100.---	1	visible, left	510 - 1000
11.080.5200.---	2	concealed, right	1001 - 2000
11.081.5200.---	2	concealed, left	1001 - 2000
11.082.5200.---	2	visible, right	1001 - 2000
11.083.5200.---	2	visible, left	1001 - 2000

Information	components/ items required for completion:
	cover profile Art.-N° 11.170.----- p.29
	connection rod Art.-N° 11.175.----- p.30
	cardan joint Art.-N° 11.225.----- p.37
	transmission variant Art.-N° 11.120 - 128.----- p.21

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Figure shows deviation left

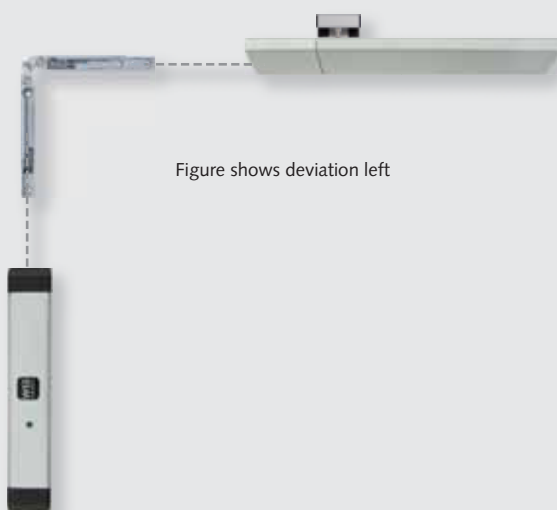


Figure shows deviation left

Available with screw-set for aluminium profiles

Top-hung window fitting AKL-210 with horizontal electric spindle-drive

- for connection to 230 Volt/AC*
- concealed or visible screws
- with connecting piece
- for left or right drive connection

consisting of:

opening scissor, casement bracket, rod guides, connecting piece, electric spindle-drive

Art.-N°	Opening scissors	Mounting, Deviation	Sash width
11.080.7110.---	1	concealed, right	690 - 1000
11.081.7110.---	1	concealed, left	690 - 1000
11.082.7110.---	1	visible, right	690 - 1000
11.083.7110.---	1	visible, left	690 - 1000
11.080.7210.---	2	concealed, right	1001 - 2000
11.081.7210.---	2	concealed, left	1001 - 2000
11.082.7210.---	2	visible, right	1001 - 2000
11.083.7210.---	2	visible, left	1001 - 2000
11.080.7310.---	3	concealed, right	2001 - 3000
11.081.7310.---	3	concealed, left	2001 - 3000
11.082.7310.---	3	visible, right	2001 - 3000
11.083.7310.---	3	visible, left	2001 - 3000

Top-hung window fitting AKL-210 with vertical electric spindle-drive

- for connection to 230 Volt/AC*
- concealed or visible screws
- for left or right deviation

consisting of:

opening scissor, casement bracket, rod guides, corner transmission, corner cover cap, connecting rod, electric spindle-drive

Art.-N°	Opening scissors	Mounting, Deviation	Sash width
11.080.8100.---	1	concealed, right	510 - 1000
11.081.8100.---	1	concealed, left	510 - 1000
11.082.8100.---	1	visible, right	510 - 1000
11.083.8100.---	1	visible, left	510 - 1000
11.080.8200.---	2	concealed, right	1001 - 2000
11.081.8200.---	2	concealed, left	1001 - 2000
11.082.8200.---	2	visible, right	1001 - 2000
11.083.8200.---	2	visible, left	1001 - 2000
11.080.8300.---	3	concealed, right	2001 - 3000
11.081.8300.---	3	concealed, left	2001 - 3000
11.082.8300.---	3	visible, right	2001 - 3000
11.083.8300.---	3	visible, left	2001 - 3000

***Information** Also available for connection to 24 V/DC or suitable for moist environments, on request.

Information components/ items required for completion:
 cover profile Art.-N° 11.170.----- p.29
 connection rod Art.-N° 11.175.----- p.30

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Pillar-frame transmission - AKL-210 for actuation with electric spindle-drive

- for pillar-frame depths of max. 90 mm or max. 170 mm
- for left and right deviation
- for one and two opening scissors

Art.-N°	PT / RT max.	Mounting on
11.281.9792.---	90	pillar front
11.281.9712.---	170	pillar front
11.282.9792.---	90	inner pillar side
11.282.9712.---	170	inner pillar side

Top-hung window fitting AKL-210 with vertical electric spindle-drive and T-transmission

- for connection to 230 Volt/AC*
- concealed or visible screws

side-by-side top-hung windows:

- for centered deviation

consisting of:

opening scissors, casement brackets, rod guides, T-transmission, rod connector, electric spindle-drive

Art.-N°	Mounting, Deviation	Sash width
11.081.8271.---	concealed, centered	510 - 1000
11.083.8271.---	visible, centered	510 - 1000

stacked top-hung windows:

- for left or right deviation

consisting of:

opening scissors, casement brackets, corner transmission, rod guides, corner cover cap, T-transmission, rod connector, electric spindle-drive

Art.-N°	Mounting, Deviation	Sash width
11.080.8272.---	concealed, right	510 - 1000
11.081.8273.---	concealed, left	510 - 1000
11.082.8272.---	visible, right	510 - 1000
11.083.8273.---	visible, left	510 - 1000

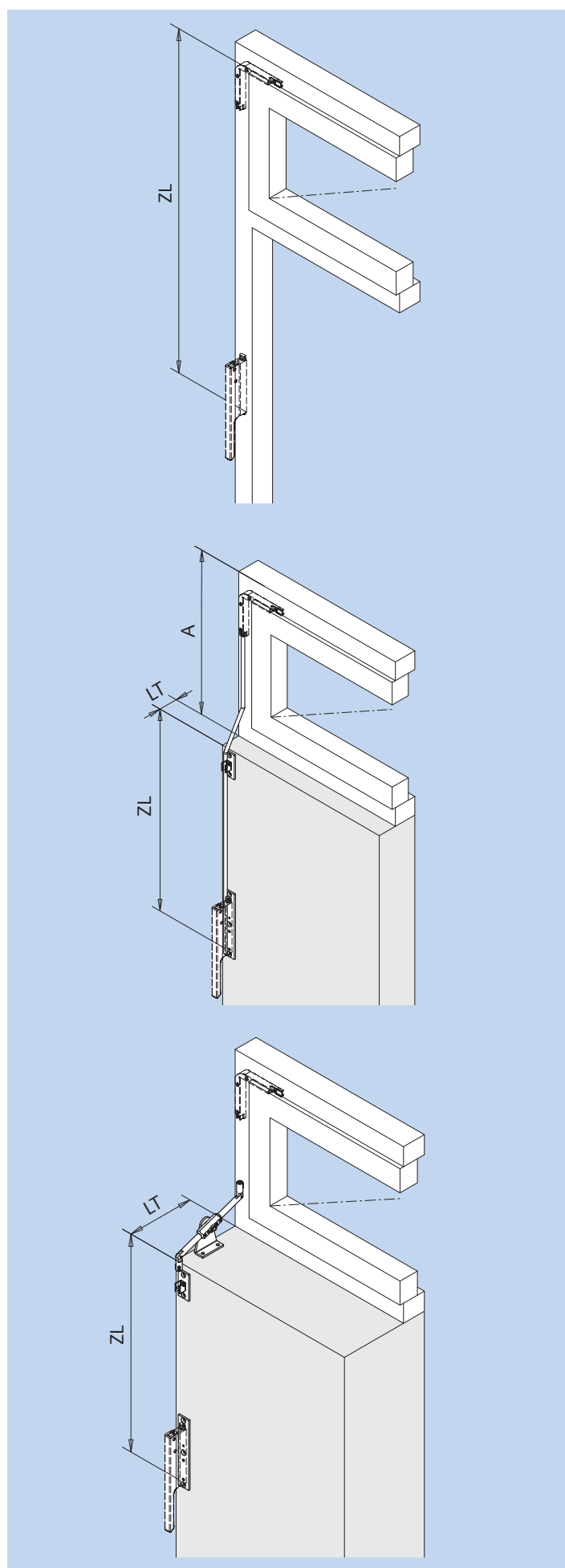
*Information

Also available for connection to 24 V/DC or suitable for moist environments, on request.

Information

components/ items required for completion:
cover profile Art.-N° 11.170.----.--- p.29
connection rod Art.-N° 11.175.----.--- p.30

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Transmission 0 rod for hand lever

- standard bottom-hung device:
hand lever pointing downwards in closed position
- standard top-hung devices:
standard hand lever pointing upwards in closed position
- horizontal connecting rod and cover profile must be ordered separately

Information In addition to the standard version the hand lever can be used pointing up on bottom-hung windows or pointing down on top-hung windows. Please refer to the assembly instruction!

Transmission 1 angled rod for hand lever

- to bridge window sills up to 75 mm
- horizontal cover profile must be ordered separately

consisting of:

angled rod with groove, mounting plate for rod guide, mounting plate for hand lever

Art.-N°	Fitting	Material/Surface
11.112.7000.010	AK-/AKL-210	Steel galvanized
11.112.4000.010	AK-300	Steel galvanized

Information To calculate the rod please give the following dimensions:
dimension A (top of window sash – window sill)
dimension LT (depth of window sill)
dimension ZL (rod length)

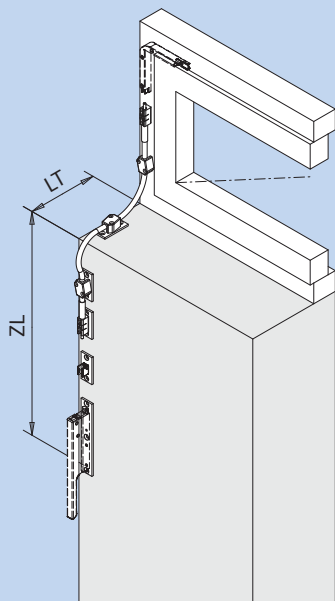
Transmission 2 sill transmission for hand lever

- space requirements on each side min. 26 mm
- to bridge sills from 120 mm – 400 mm, straight down
- not suitable for sloping window sills
- vertical rod and cover profile must be ordered separately

consisting of:

sill transmission, mounting plate for rod guide, mounting plate for hand lever

Art.-N°	Fitting	Material/Surface
11.114.7000.010	AK-/AKL-210	Steel galvanized
11.114.4000.010	AK-300	Steel galvanized



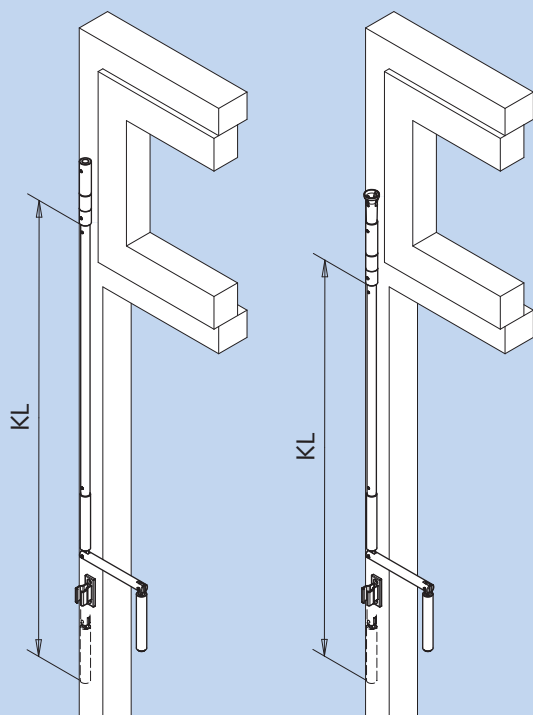
Transmission 3 bowden wire for hand lever

- only suitable for AK-210 and AKL-210
- space requirements on each side min. 30 mm
- to bridge sills of max. 500 mm
- to be used with max. two opening scissors
- vertical rod and cover profile must be ordered separately

consisting of:

bowden wire with accessories, mounting plate for rod guide, mounting plate for hand lever

Art.-N°	Bowden wire	for LT	Material/Surface
11.116.7011.010	white	up to 500	Steel galvanized
11.116.7012.010	black	up to 500	Steel galvanized
11.116.7071.010	white	up to 200	Steel galvanized
11.116.7072.010	black	up to 200	Steel galvanized



Transmission 4 crank transmission/gear

- to connect to an actuator or to a bearing
- fixed or detachable crank rod connector
- operating angle of the cardan joint up to 45°
- KL= 1500 mm or 2000 mm as standard (other lengths on request)

consisting of:

cardan joint adapter (only with detachable crank rod), overload protection, crank rod with crank handle, crank handle clip

Art.-N°	KL	Crank handle	Crank handle clip
11.120.0413.---	1500	fixed	grey
11.120.0414.---	1500	fixed	brown
11.120.0423.---	2000	fixed	grey
11.120.0424.---	2000	fixed	brown
11.120.0513.---	1500	detachable	grey
11.120.0514.---	1500	detachable	brown
11.120.0523.---	2000	detachable	grey
11.120.0524.---	2000	detachable	brown

Information Overload protection included – prevents gear damage and crank handle twisting. WSS delivers the overload clutch automatically. If you don't need the clutch, send us a short information.

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

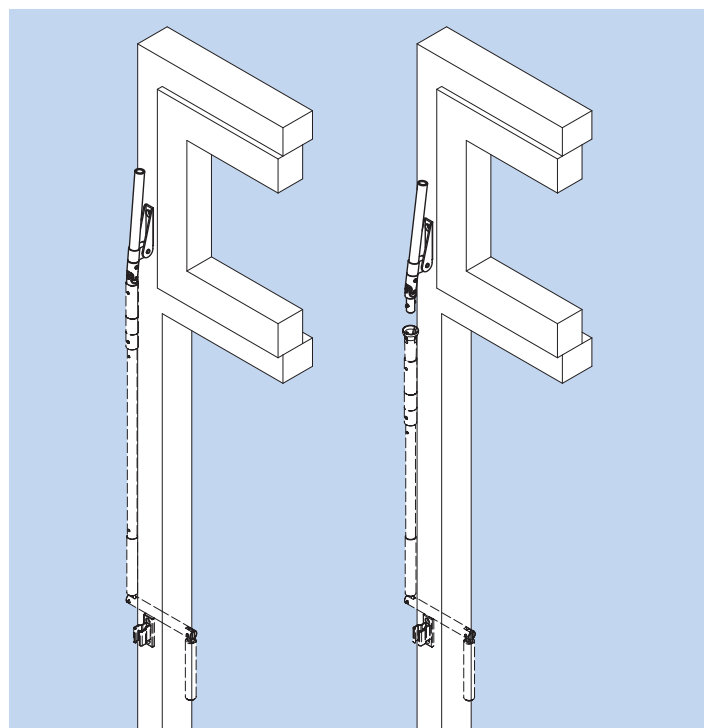


Figure shows pivotable version

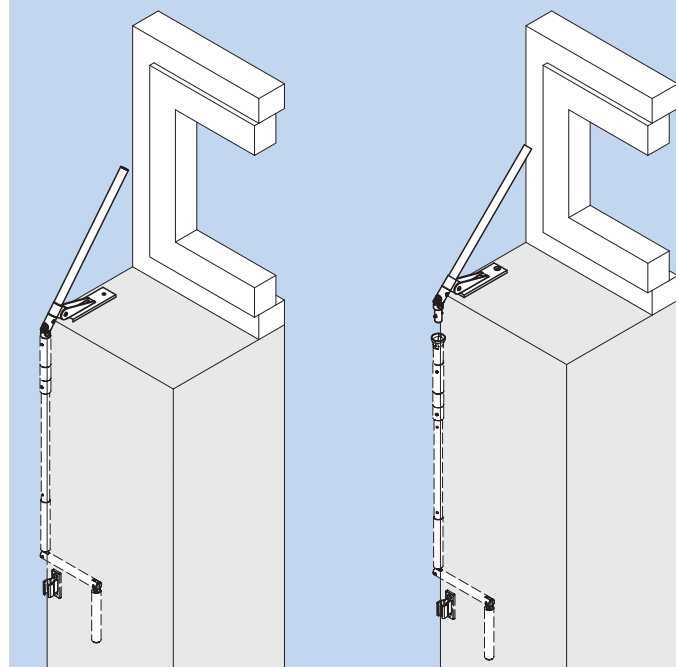


Figure shows pivotable version

Transmission 5 additional bearing

- two part transmission, connection tube 1000 mm long
- stainless steel angle for length adjustment on site, or pivotable
- detachable crank handle
- operating angle of cardan joint max. 45°
- crank handle must be ordered separately

consisting of:

connection tube, additional bearing

Art.-N°	Crank handle	Crank rod
11.122.0400.--	fixed	to adapt
11.124.0400.---	fixed	pivotable
11.122.0500.---	detachable	to adapt
11.124.0500.---	detachable	pivotable

Transmission 6 window sill transmission

- sill bridge, connection tube 1000 mm long
- stainless steel angle for length adjustment on site, or pivot-mounted
- detachable crank handle
- operating angle of cardan joint max. 45°
- crank handle must be ordered separately

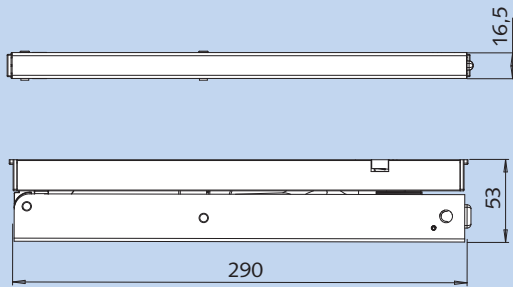
consisting of:

connection tube, window sill transmission

Art.-N°	Crank handle	Crank rod
11.126.0400.--	fixed	to adapt
11.128.0400.---	fixed	pivotable
11.126.0500.---	detachable	to adapt
11.128.0500.---	detachable	pivotable

Information	Overload protection included – prevents gear damage and crank handle over-twisting. WSS delivers the overload clutch automatically. If you don't need the clutch, send us a short information
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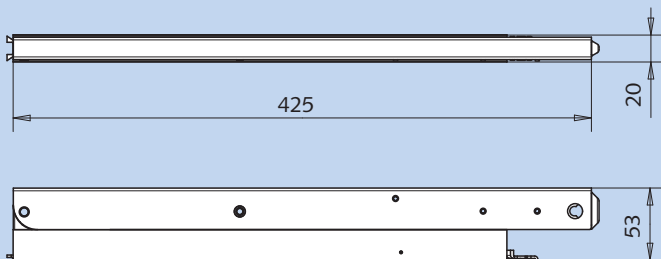
Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Opening scissor AK-210

- opening width 210 mm
- automatic locking mechanism
- safety button for detaching
- right and left hand usable
- with end cover caps

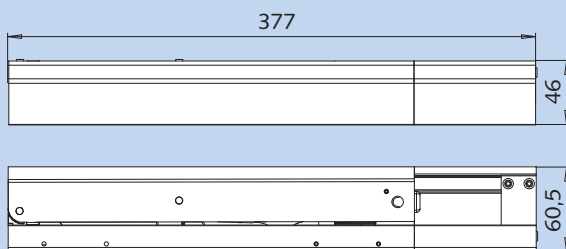
Art.-N°	Execution
11.150.7000.---	Standard
11.150.7001.---	Standard with automatic locking mechanism



Opening scissor AK-300

- opening width 300 mm
- automatic locking mechanism
- safety button for detaching
- right and left hand usable

Art.-N°	Execution
11.150.4000.---	Standard
11.150.4001.---	Standard with automatic locking mechanism



Opening scissor AKL-210

- opening width 210 mm
- automatic locking mechanism
- safety button for detaching
- left or right hand usable

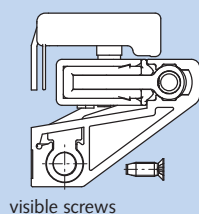
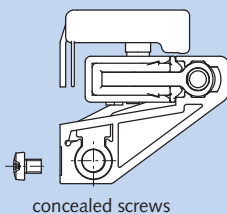
- without safety catch

Art.-N°	Screws	Deviation
11.150.8000.---	concealed	inwards right
11.150.8100.---	concealed	inwards left
11.150.8200.---	visible	inwards right
11.150.8300.---	visible	inwards left

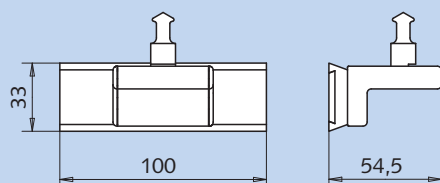
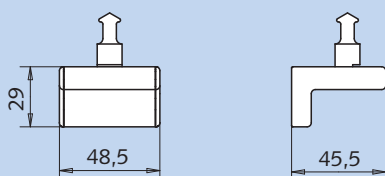
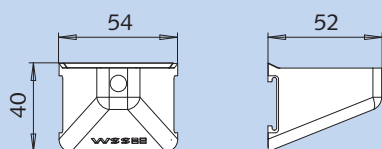
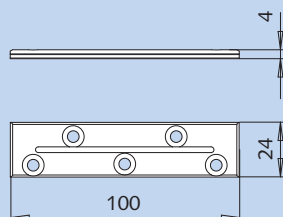
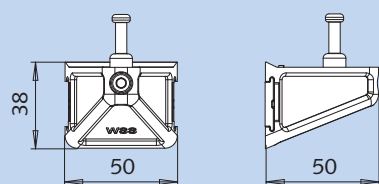
- with safety catch

Art.-N°	Screws	Deviation
11.150.8001.---	concealed	inwards right
11.150.8101.---	concealed	inwards left
11.150.8201.---	visible	inwards right
11.150.8301.---	visible	inwards left

Figure shows scissor deviation right



Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Casement bracket AK-210

- also for trapezium-, triangular windows, inclination +/- 15°
- for overlapping profiles up to 0 - 21 mm
- standard execution

Art.-N°	Material/Surface
11.151.7000.565	Plastic black

Base plate AK-210

- for trapezium-, triangular windows

Art.-N°	Material/Surface
11.152.7000.114	Aluminium C-0 silver
11.152.7000.159	Aluminium C-35 black

Cover cap AK-210

- to cover the casement bracket

Art.-N°	Material/Surface
11.153.7000.535	Plastic silver
11.153.7000.550	Plastic white
11.153.7000.599	Plastic special color

Casement bracket AK-300

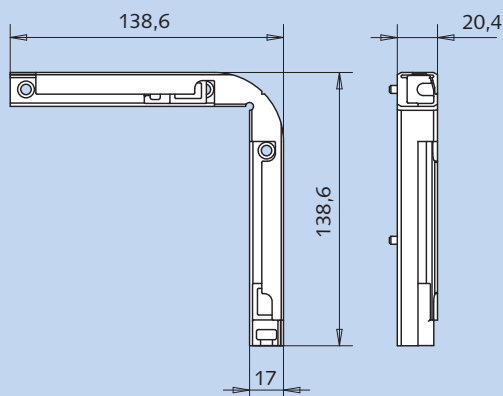
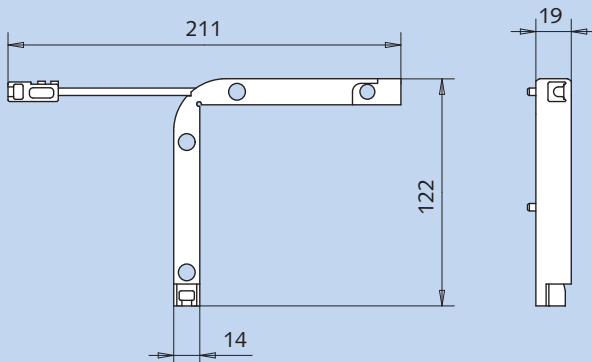
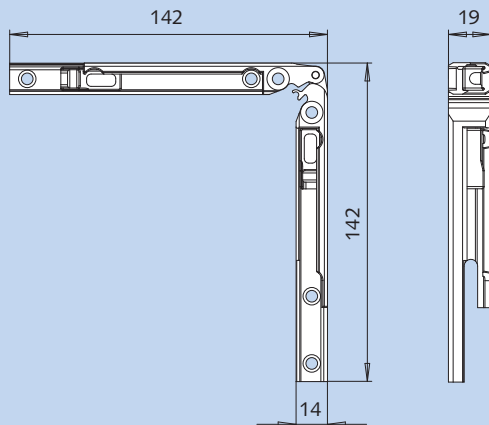
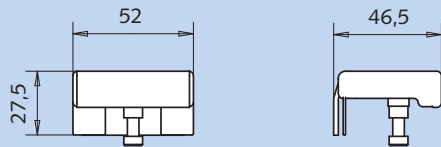
- with aluminium cover
- for overlapping profiles 0-25 mm

Art.-N°	Material/Surface
11.151.4000.114	Aluminium E6/C-0 silver
11.151.4000.255	Aluminium RAL 9016 traffic white
11.151.4000.299	Aluminium special coated

Trapezium casement bracket AK-300

- for inclined, trapezium or segmented arch windows, inclination max. 15°
- with aluminium cover
- with aluminium plate slide and slide rail
- for overlapping profiles max. 15 mm

Art.-N°	Material/Surface
11.151.4002.114	Aluminium E6/C-0 silver
11.151.4002.255	Aluminium RAL 9016 traffic white
11.151.4002.299	Aluminium special coated



Casement bracket AKL-210

- with stainless steel hinge
- with fixed stainless steel bolt

Art.-N°	Material/Surface
11.151.5000.114	Aluminium E6/C-0 silver
11.151.5000.255	Aluminium RAL 9016 traffic white
11.151.5000.299	Aluminium special coated

Corner transmission AK-210/AKL-210

- for Ø 8 mm
- adjustable from 75° to 120°
- with safety groove connection
- with stainless steel spring band - no stroke loss

Art.-N°	Material/Surface
11.155.7000.710	Zinc diecasting electroplated

T-transmission AK-210/AKL-210

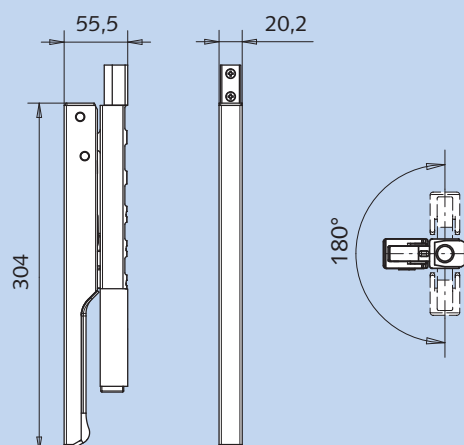
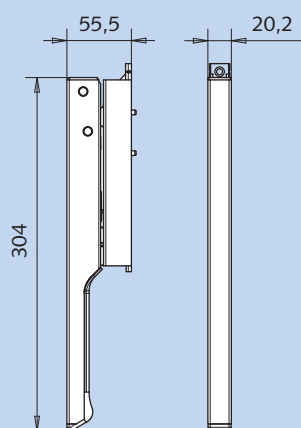
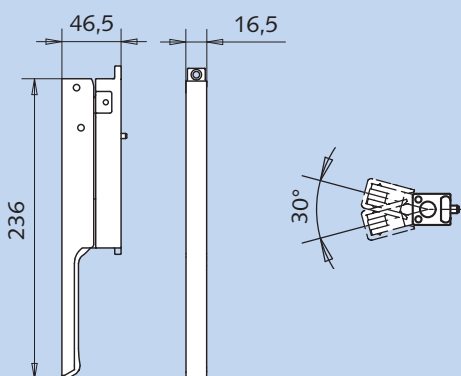
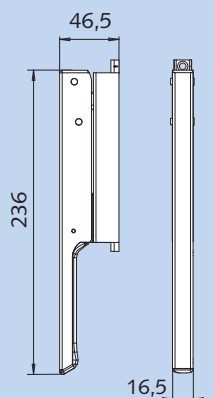
- for Ø 8 mm
- with safety groove connection
- with stainless steel spring band - no stroke loss
- for side-by-side or stacked windows
- with black corner cover cap

Art.-N°	Deviation	Material/Surface
11.156.1010.710	right	Zinc diecasting electroplated
11.156.1011.710	left	Zinc diecasting electroplated

Corner transmission AK-300

- for Ø 10 mm
- with predetermined breaking point for angle adjustment from 60° to 120°
- with safety groove connection
- with stainless steel spring band - no stroke loss

Art.-N°	Material/Surface
11.155.4000.710	Zinc diecasting electroplated



Hand lever AK-210/AKL-210

- for 62 mm stroke + Ø 8 mm
- with black plastic inlay

Art.-N°	Material/Surface
11.160.7000.114	Aluminium E6/C-0 silver
11.160.7000.255	Aluminium RAL 9016 traffic white
11.160.7000.299	Aluminium special coated

Information Also available with special stroke

Hand lever 30° AK-210/AKL-210

- for 62 mm stroke + Ø 8 mm
- with black plastic inlay
- pivotable (pivoting angle: 30°, lockable)

Art.-N°	Material/Surface
11.160.7004.114	Aluminium E6/C-0 silver
11.160.7004.255	Aluminium RAL 9016 traffic white
11.160.7004.299	Aluminium special coated

Information Also available with special stroke

Hand lever AK-300

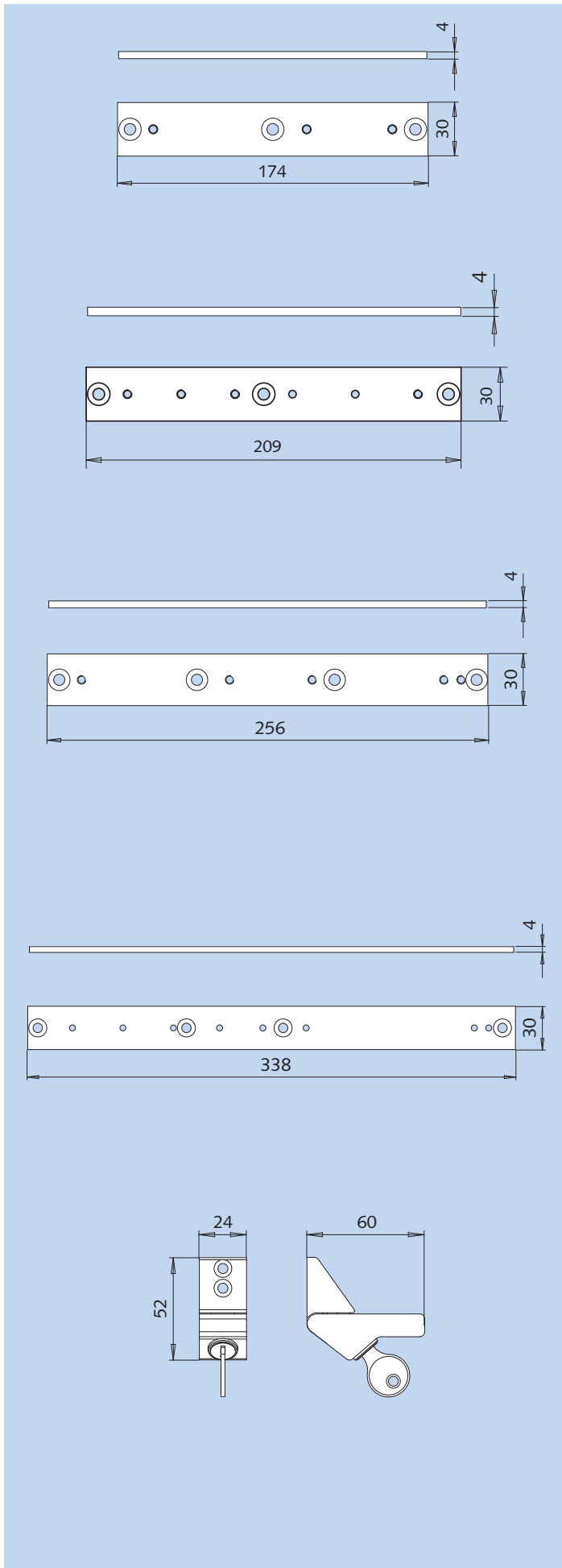
- for 68 mm stroke + Ø 10 mm
- with black plastic inlay

Art.-N°	Material/Surface
11.160.4000.114	Aluminium E6/C-0 silver
11.160.4000.255	Aluminium RAL 9016 traffic white
11.160.4000.299	Aluminium special coated

Hand lever 180° AK-300

- for 68 mm stroke + Ø 10 mm
- with black plastic inlay
- pivotable (pivoting angle 180°)
- with additional bearing and sealing plug

Art.-N°	Material/Surface
11.160.4005.114	Aluminium E6/C-0 silver
11.160.4005.255	Aluminium RAL 9016 traffic white
11.160.4005.299	Aluminium special coated



Mounting plate for hand lever AK-210/AKL-210

- for wall fixing
- with three fixing screws M5 x 6

Art.-N°	Material/Surface
11.161.7000.010	Steel galvanized

Mounting plate for hand lever AK-300

- for wall fixing
- with four fixing screws M5 x 8

Art.-N°	Material/Surface
11.161.4000.010	Steel galvanized

Mounting plate for hand lever with lock AK-210/AKL-210

- for wall fixing
- with five fixing screws M5 x 6

Art.-N°	Material/Surface
11.162.7000.010	Steel galvanized

Mounting plate for hand lever with lock AK-300

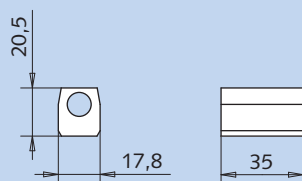
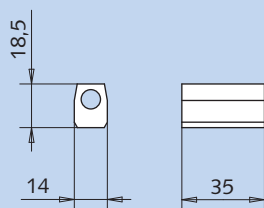
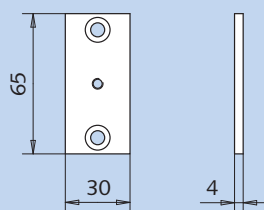
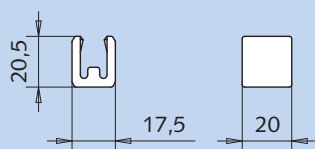
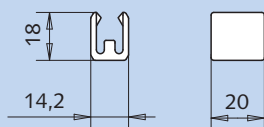
- for wall fixing
- with six fixing screws M5 x 8

Art.-N°	Material/Surface
11.162.4000.010	Steel galvanized

Lock for hand lever

- rupture force 1500 N
- same keys for all locks
- cylinder lock with two keys

Art.-N°	Fitting	Material/Surface
11.163.7000.114	AK-/AKL-210	Aluminium E6/C-0 silver
11.163.7000.255	AK-/AKL-210	Aluminium RAL 9016 traffic white
11.163.7000.299	AK-/AKL-210	Aluminium special coated
11.163.4000.114	AK-300	Aluminium E6/C-0 silver
11.163.4000.255	AK-210	Aluminium RAL 9016 traffic white
11.163.4000.299	AK-210	Aluminium special coated



Rod guide AK-210/AKL-210

- for Ø 8 mm
- to clamp on cover profile

Art.-N°	Material/Surface
11.165.1000.570	Plastic grey

Rod guide AK-300

- for Ø 10 mm
- to clamp on cover profile

Art.-N°	Material/Surface
11.165.4000.565	Plastic black

Mounting plate for rod guide

- with fixing screw M5 x 6 (AK-210 / AKL-210)
- with fixing screw M5 x 8 (AK-300)

Art.-N°	Fitting	Material/Surface
11.166.1000.010	AK-/AKL-210	Steel galvanized
11.166.4000.010	AK-300	Steel galvanized

Additional guide AK-210/AKL-210

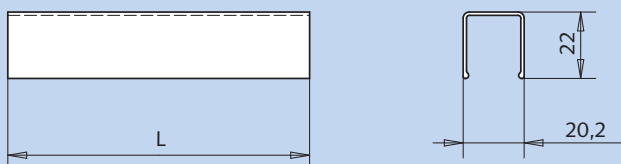
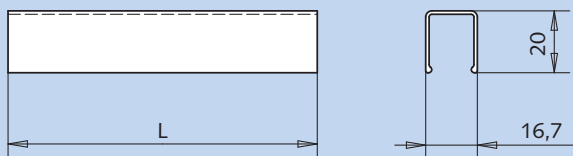
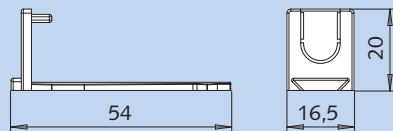
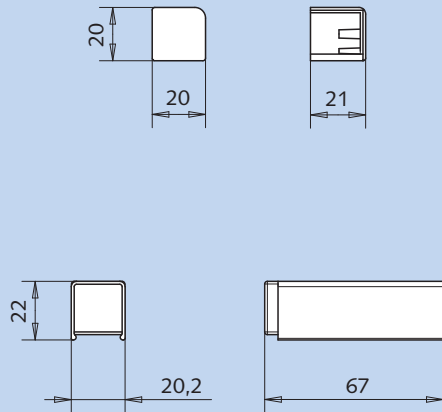
- for Ø 8 mm
- for **high** operation forces
- to clamp on cover profile

Art.-N°	Material/Surface
11.167.1000.112	Aluminium E4/C-0 silver

Additional guide AK-300

- for Ø 10 mm
- for **high** operation forces
- to clamp on cover profile

Art.-N°	Material/Surface
11.167.4000.112	Aluminium E4/C-0 silver



Corner cover cap AK-210/AKL-210

- to cover the angle of the corner transmission
- in combination with cover profiles only

Art.-N°	Material/Surface
11.168.7000.565	Plastic black

End cap AK-300

- to cover the end of the scissor mounting plate
- with sealing plug

Art.-N°	Material/Surface
11.169.4000.114	Aluminium E6/C-0 silver
11.169.4000.255	Aluminium RAL 9016 traffic white
11.169.4000.299	Aluminium special coated

End cap AK-210/AKL-210

- to cover the opening-scissor base
- to arrest the scissors catch

Art.-N°	Material/Surface
11.169.7000.565	Plastic black

Cover profile AK-210/AKL-210

- to cover rod, corner transmission and gear

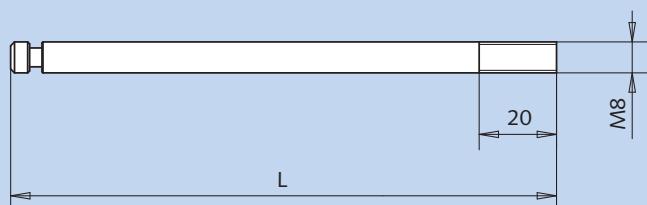
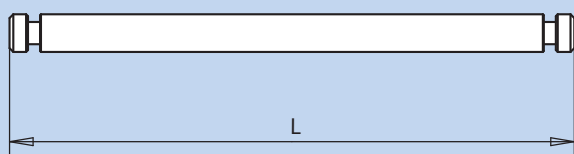
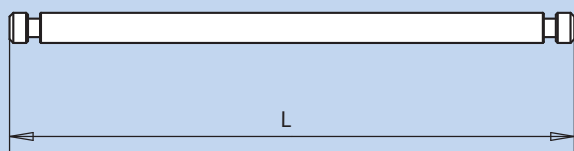
Art.-N°	Length L
11.170.1005.---	500
11.170.1010.---	1000
11.170.1015.---	1500
11.170.1020.---	2000
11.170.1025.---	2500
11.170.1030.---	3000
11.170.1035.---	3500
11.170.1040.---	4000

Cover profile AK-300

- to cover rod and corner transmission

Art.-N°	Length L
11.170.4005.---	500
11.170.4010.---	1000
11.170.4015.---	1500
11.170.4020.---	2000
11.170.4025.---	2500
11.170.4030.---	3000
11.170.4035.---	3500
11.170.4040.---	4000

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Connecting rod AK-210/AKL-210

- Ø 8 mm
- rod end: groove/groove
- length 210 mm and 1000 mm with groove
- to adjust on site

Art.-N°	Length L	Material/Surface
11.175.0210.010	210	Steel galvanized
11.175.1010.010	1000	Steel galvanized
11.175.1015.010	1500	Steel galvanized
11.175.1020.010	2000	Steel galvanized
11.175.1025.010	2500	Steel galvanized
11.175.1030.010	3000	Steel galvanized
11.175.1035.010	3500	Steel galvanized
11.175.1040.010	4000	Steel galvanized

Connecting rod AK-300

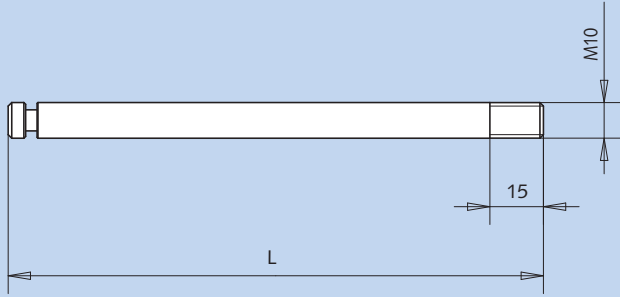
- Ø 10 mm
- rod end: groove/groove
- length 1000 mm with groove
- to adjust on site

Art.-N°	Length L	Material/Surface
11.175.4010.010	1000	Steel galvanized
11.175.4015.010	1500	Steel galvanized
11.175.4020.010	2000	Steel galvanized
11.175.4025.010	2500	Steel galvanized
11.175.4030.010	3000	Steel galvanized
11.175.4035.010	3500	Steel galvanized
11.175.4040.010	4000	Steel galvanized

Connection rod AK-210/AKL-210

- Ø 8 mm
- rod end: groove/thread M8

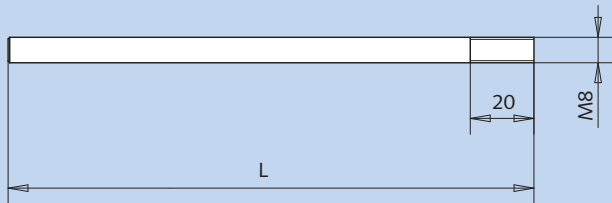
Art.-N°	Length L	Material/Surface
11.176.9005.010	108,5	Steel galvanized
11.176.1005.010	500	Steel galvanized
11.176.1010.010	1000	Steel galvanized
11.176.1015.010	1500	Steel galvanized
11.176.1020.010	2000	Steel galvanized



Connection rod AK-300

- Ø 10 mm
- rod end: groove/thread M10

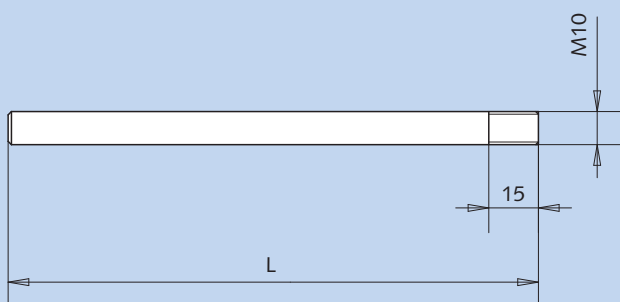
Art.-N°	Length L	Material/Surface
11.176.4009.010	92	Steel galvanized
11.176.4005.010	500	Steel galvanized
11.176.4010.010	1000	Steel galvanized
11.176.4015.010	1500	Steel galvanized
11.176.4020.010	2000	Steel galvanized



Connection rod AK-210 / AKL-210

- Ø 8 mm
- rod end: straight/thread M8

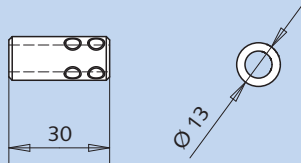
Art.-N°	Length L	Material/Surface
11.177.1002.010	205	Steel galvanized
11.177.1010.010	1000	Steel galvanized
11.177.1015.010	1500	Steel galvanized
11.177.1020.010	2000	Steel galvanized
11.177.1025.010	2500	Steel galvanized
11.177.1030.010	3000	Steel galvanized
11.177.1035.010	3500	Steel galvanized



Connection rod AK-300

- Ø 10 mm
- rod end: straight/thread M10

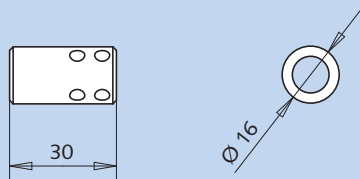
Art.-N°	Length L	Material/Surface
11.177.4003.010	340	Steel galvanized
11.177.4010.010	1000	Steel galvanized
11.177.4015.010	1500	Steel galvanized
11.177.4020.010	2000	Steel galvanized
11.177.4025.010	2500	Steel galvanized
11.177.4030.010	3000	Steel galvanized
11.177.4035.010	3500	Steel galvanized



Rod connector AK-210/AKL-210 clamping/doweling

- for rod Ø 8 mm

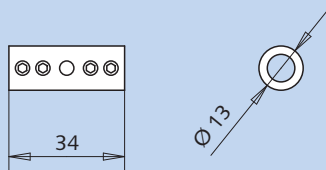
Art.-N°	Material/Surface
11.180.1000.010	Steel galvanized



Rod connector AK-300 clamping/doweling

- for rod Ø 10 mm

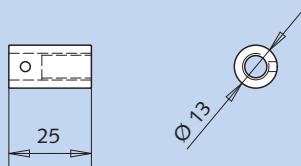
Art.-N°	Material/Surface
11.180.4000.010	Steel galvanized



Rod connector AK-210/AKL-210 clamping/clamping

- for rod Ø 8 mm

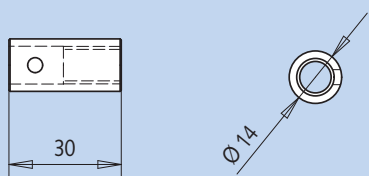
Art.-N°	Material/Surface
11.181.1000.010	Steel galvanized



Coupling AK-210/AKL-210 thread/doweling

- for rod Ø 8 mm
- to connect opening scissor to hand lever, additional locking device or pillar-frame transmission

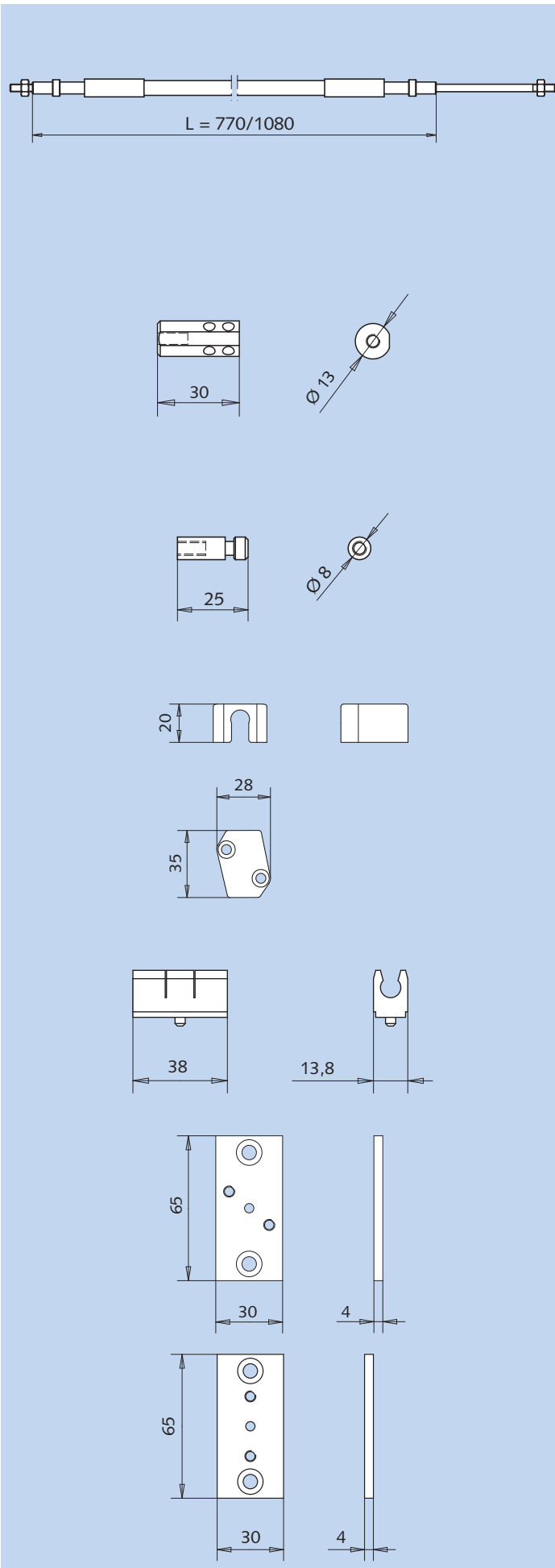
Art.-N°	Material/Surface
11.182.1000.010	Steel galvanized



Coupling AK-300 thread/doweling

- for rod Ø 10 mm
- to connect opening scissor to hand lever, additional locking device or pillar-frame transmission

Art.-N°	Material/Surface
11.182.4000.010	Steel galvanized



Bowden wire AK-210 / AKL-210

- for rod Ø 8 mm
- to bridge sills up to 500 mm

Art.-N°	Length L	Material/Surface
11.190.1070.550	770	Plastic white
11.190.1070.565	770	Plastic black
11.190.1010.550	1080	Plastic white
11.190.1010.565	1080	Plastic black

Connecting piece AK-210/AKL-210

- rod Ø 8 mm to bowden wire
- connection: clamping/thread M5

Art.-N°	Material/Surface
11.191.1000.010	Steel galvanized

Connecting piece AK-210/AKL-210

- corner transmission to bowden wire
- connection: groove/thread M5

Art.-N°	Material/Surface
11.192.1000.010	Steel galvanized

Bowden wire guide AK-210/AKL-210

- to fix bowden wire

Art.-N°	Material/Surface
11.193.1000.565	Plastic black

Bowden wire fastener AK-210/AKL-210

- to arrest bowden wire

Art.-N°	Material/Surface
11.194.1000.565	Plastic black

Mounting plate for bowden wire guide AK-210/AKL-210

- with two fixing screws M5 x 25

Art.-N°	Material/Surface
11.195.1000.010	Steel galvanized

Mounting plate for bowden wire fastener AK-210/AKL-210

- with two fixing screws M5 x 8

Art.-N°	Material/Surface
11.196.1000.565	Plastic black

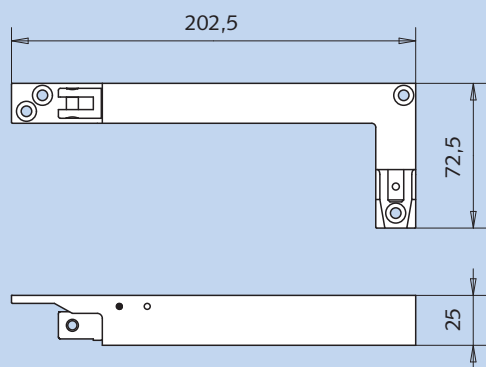


Figure shows horizontal gear deviation right

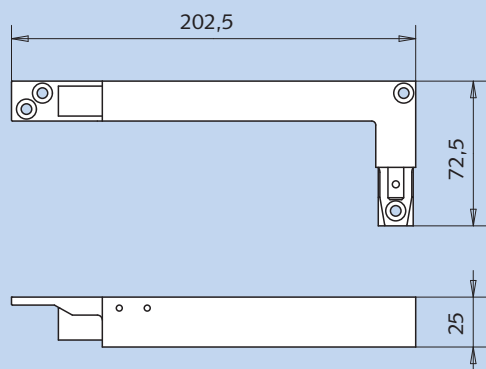
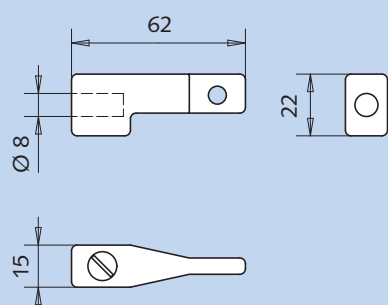
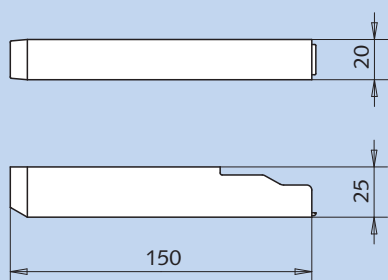


Figure shows horizontal gear deviation right



Horizontal gear AK-210/AKL-210

- 62 mm stroke, for rod Ø 8 mm
- for **high** operation forces
- with bevel gear transmission
- to connect to cardan joint and to coupling
- for right or left deviation

Art.-N°	Deviation	Material/Surface
11.200.1000.730	right	Zinc diecasting silver coated
11.200.1000.755	right	Zinc diecasting RAL 9016 traffic white
11.200.1000.799	right	Zinc diecasting special color
11.200.1001.730	left	Zinc diecasting silver coated
11.200.1001.755	left	Zinc diecasting RAL 9016 traffic white
11.200.1001.799	left	Zinc diecasting special color

Horizontal gear AK-300

- 65 mm stroke, for rod Ø 10 mm
- for **high** operation forces
- with bevel gear transmission
- to connect to cardan joint and direct connection
- spindle concealed by cover profile (no cover cap needed)
- for right or left deviation

Art.-N°	Deviation	Material/Surface
11.200.4000.730	right	Zinc diecasting silver coated
11.200.4000.755	right	Zinc diecasting RAL 9016 traffic white
11.200.4000.799	right	Zinc diecasting special color
11.200.4001.730	left	Zinc diecasting silver coated
11.200.4001.755	left	Zinc diecasting RAL 9016 traffic white
11.200.4001.799	left	Zinc diecasting special color

Cover cap AK-210/AKL-210

- to conceal the spindle

Art.-N°	Material/Surface
11.201.1000.730	Zinc diecasting silver coated
11.201.1000.755	Zinc diecasting RAL 9016 traffic white
11.201.1000.799	Zinc diecasting special color

Coupling AK-210/AKL-210

- coupling of gear to rod Ø 8 mm
- to connect to rod Ø 8 mm with groove and straight to gear

Art.-N°	Material/Surface
11.202.1000.730	Zinc diecasting silver coated
11.202.1000.755	Zinc diecasting RAL 9016 traffic white
11.202.1000.799	Zinc diecasting special color

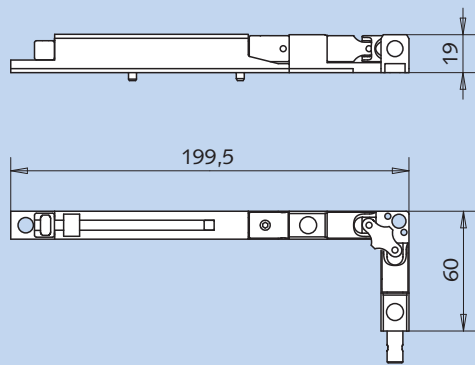
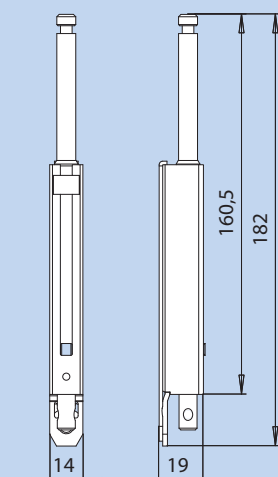
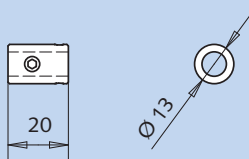
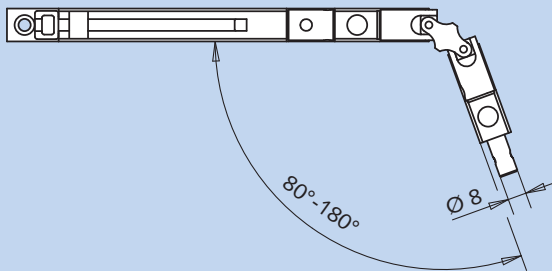


Figure shows horizontal gear deviation right



Horizontal compact gear AK-210/AKL-210

- 62 mm stroke, for rod Ø 8 mm
- for **low** operation forces
- with cardan transmission
- to connect to cardan joint and to Ø 8 mm rod
- gear concealed by standard cover profile
- for right or left deviation

Art.-N°	Deviation	Material/Surface
11.205.1000.710	right	Zinc diecasting electroplated
11.205.1001.710	left	Zinc diecasting electroplated

Horizontal compact gear AK-210/AKL-210

- 62 mm stroke, for rod Ø 8 mm
- angle adjustable from 80° to 180°
- for **low** operation forces
- with cardan transmission
- to connect to cardan joint and to Ø 8 mm rod
- gear concealed by standard cover profile
- for right and left deviation

Art.-N°	Material/Surface
11.206.1000.710	Zinc diecasting electroplated

Limiting piece AK-210/AKL-210

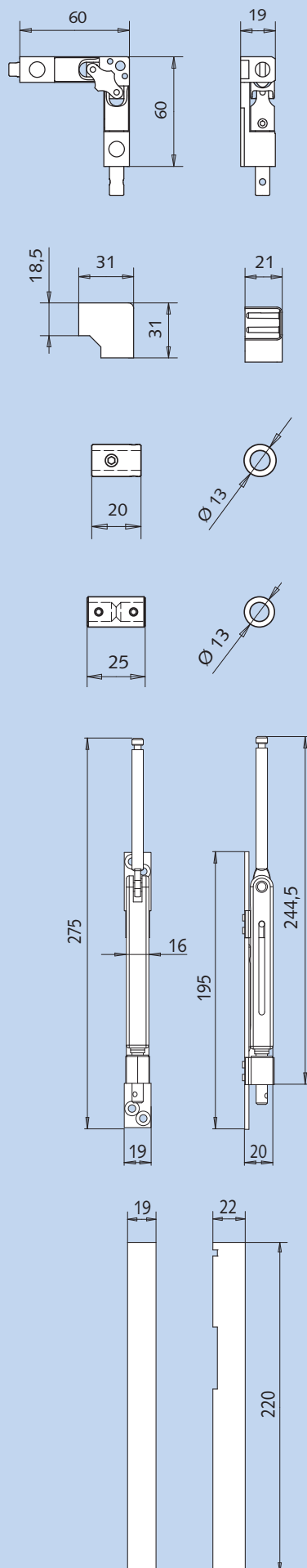
- for rod Ø 8 mm

Art.-N°	Material/Surface
11.207.1000.010	Steel galvanized

Vertical gear AK-210/AKL-210

- 62 mm stroke, for rod Ø 8 mm
- for **low** operation forces
- with Stainless steel mounting plate
- to connect to cardan joint, rod Ø 8 mm or corner transmission
- gear concealed by standard cover profile

Art.-N°	Material/Surface
11.210.7000.710	Steel galvanized



Corner transmission AK-210/AKL-210

- for **low** operation forces
- transmission concealed by cover profile
- for connection to cardan joint and vertical gear

Art.-N°	Material/Surface
11.211.1000.710	Zinc diecasting electroplated

Cover cap AK-210/AKL-210

- to cover the angle of the corner transmission
- only in combination with cover profile

Art.-N°	Material/Surface
11.212.1000.565	Plastic black

Connecting piece AK-210/AKL-210

- to connect gear and corner transmission

Art.-N°	Material/Surface
11.213.1000.010	Steel galvanized

Connecting piece AK-210/AKL-210

- for connection to 8 mm rod straight and 8 mm rod with groove

Art.-N°	Material/Surface
11.214.1000.010	Steel galvanized

Vertical gear AK-210/AKL-210

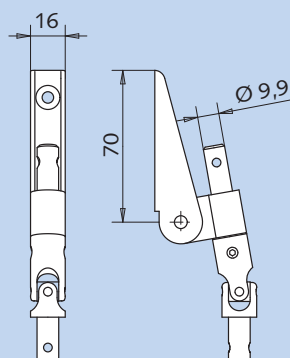
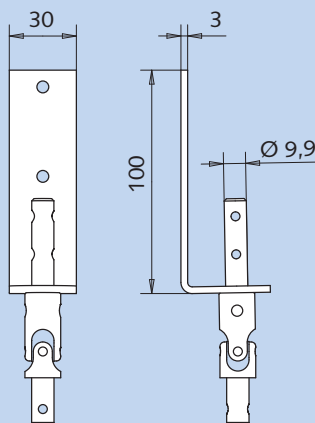
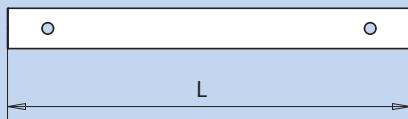
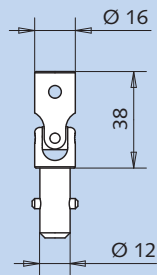
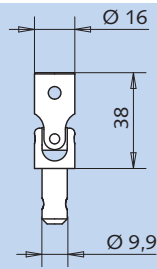
- 62 mm stroke, for rod Ø 8 mm
- for **high** operation forces
- to connect to cardan joint and corner transmission
- with coupling rod: groove/straight
- only applicable with cover cap 11.211.1000.---

Art.-N°	Material/Surface
11.220.7000.710	Zinc diecasting electroplated

Cover cap AK-210/AKL-210

- for vertical gear Art.-N° 11.220.1000.710
- to cover gear

Art.-N°	Material/Surface
11.221.1000.114	Aluminium E6/C-0 silver
11.221.1000.255	Aluminium RAL 9016 traffic white
11.221.1000.299	Aluminium special coated



Cardan joint

- for direct connection
- for fixed connection to crank-/connection tube

Art.-N°	Material/Surface
11.225.0400.114	Aluminium E6/C-0 silver

Cardan joint

- for detachable crank rod
- to connect to cardan joint adapter

Art.-N°	Material/Surface
11.225.0500.114	Aluminium E6/C-0 silver

Connection tube

- in conjunction with sill transmission and additional bearing

Art.-N°	Length L
11.230.0010.---	1000
11.230.0020.---	2000
11.230.0030.---	3000
11.230.0060.---	6000

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

Additional bearing

- connection 1: cardan joint for direct connection
- connection 2: cardan joint to cardan joint adapter
- with adaptable stainless steel hinge

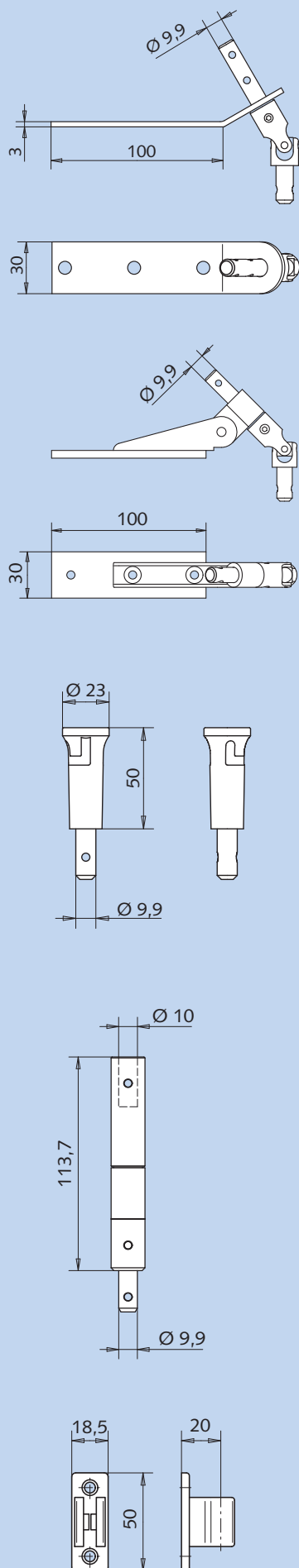
Art.-N°	connection	Material/Surface
11.235.0400.405	fixed	Stainless steel mill finish (bright)
11.235.0500.405	cardan joint adapter	Stainless steel mill finish (bright)

Additional bearing

- connection 1: cardan joint for direct connection
- connection 2: cardan joint to cardan joint adapter
- pivotable

Art.-N°	connection	Material/Surface
11.236.0400.010	fixed	Steel galvanized
11.236.0500.010	cardan joint adapter	Steel galvanized

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



Window sill transmission

- connection 1: cardan joint for direct connection
- connection 2: cardan joint to cardan joint adapter
- with adaptable stainless steel hinge

Art.-N°	connection	Material/Surface
11.237.0400.405	fixed	Stainless steel mill finish (bright)
11.237.0500.405	cardan joint adapter	Stainless steel mill finish (bright)

Window sill transmission

- connection 1: cardan joint for direct connection
- connection 2: cardan joint to cardan joint adapter
- pivotable

Art.-N°	connection	Material/Surface
11.238.0400.010	fixed	Steel galvanized
11.238.0500.010	cardan joint adapter	Steel galvanized

Cardan joint adapter

- for detachable crank rod

Art.-N°	Material/Surface
11.240.0000.725	Zinc diecasting, flat nickel plated

Overload protection

- to prevent gear damage

Art.-N°	Material/Surface
11.241.0000.114	Aluminium E6/C-0 silver

Crank handle clip

- for crank handle
- crank rod arrested by clamping

Art.-N°	Material/Surface
11.242.0000.560	Plastic brown
11.242.0000.570	Plastic grey

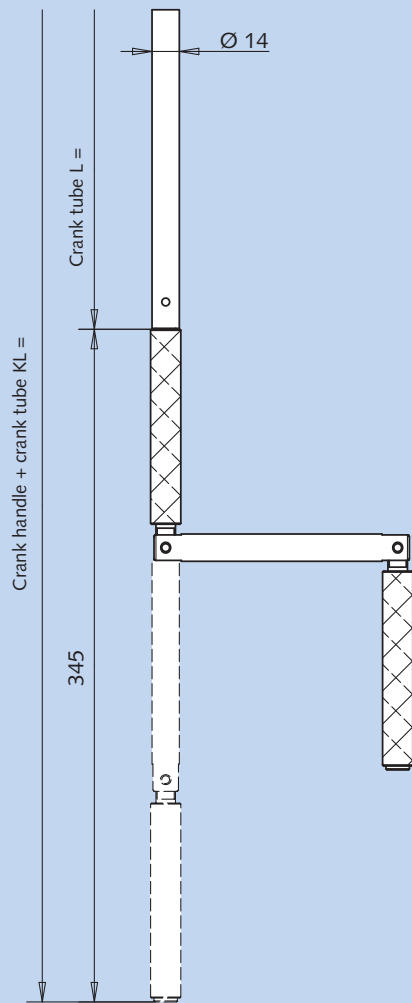
Crank handle

■ Dimension KL = length of crank handle with crank tube

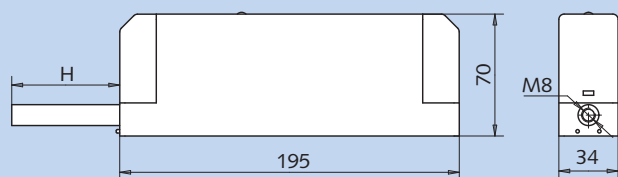
Art.-N°	Dimension KL*	Color of crank handle
11.245.0053.---	500	grey
11.245.0054.---	500	brown
11.245.0073.---	750	grey
11.245.0074.---	750	brown
11.245.0103.---	1000	grey
11.245.0104.---	1000	brown
11.245.0123.---	1250	grey
11.245.0124.---	1250	brown
11.245.0153.---	1500	grey
11.245.0154.---	1500	brown
11.245.0173.---	1750	grey
11.245.0174.---	1750	brown
11.245.0203.---	2000	grey
11.245.0204.---	2000	brown
11.245.0253.---	2500	grey
11.245.0254.---	2500	brown

* crank handles also available in customized lengths.

Information	Overload clutch included in all crank handles - prevents gear damage and crank handle over-twisting
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Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.154	Aluminium E6/C-34 dark bronze
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated



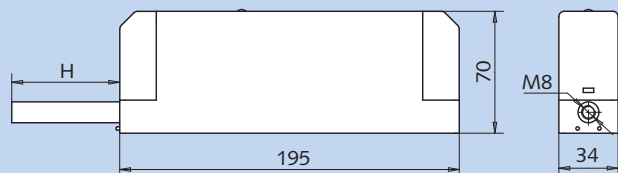
Electric spindle-drive 230V/AC

- with built-in relays for parallel connection of up to 12 drives
- End-switch in OPEN+CLOSE position, indicated by LED
- built-in motor capacitor
- motor winding protected by thermo-protector and switch lock (duty cycle approx. 20 Min.)
- connecting plug for 4-wire cable (incl. ground conductor)
- not suitable for moist environments

Technical Data:

Nominal voltage:	230 Volt / AC 50Hz
Current:	0,2A
Power consumption:	44W
Only short activation:	KB 3 / 12 min.
Drag- and compressive force:	2000N
Time for stroke 65 mm	90 Sek.
Protection	IP 54

Art.-N°	Stroke H	Suitable for fitting type
11.250.0154.---	54	special stroke
11.250.1062.---	62	AK-210/AKL-210
11.250.4065.---	65	AK-300



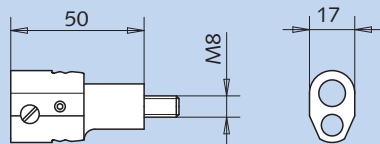
Electric spindle-drive 230V/AC for moist rooms

- board and motor armature specially laquered
- identical in construction with Art.-N° 11.250.----.---
- protection IP 54

Art.-N°	Stroke H	Suitable for fitting type
11.251.0154.---	54	special stroke
11.251.1062.---	62	AK-210/AKL-210
11.251.4065.---	65	AK-300

*Information	Also available as 24 V/DC version. 17.270.5062.--- (AK-210) 17.210.5062.--- (AK-300)
---------------------	--

Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

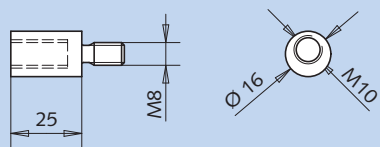


Connecting piece AK-210/AKL-210

- adjustable
- to connect electric spindle-drive to rod $\varnothing$ 8 mm

Art.-N°	$\varnothing$ rod	Suitable for fitting type
11.257.0001.---	8	Standard
11.257.1000.---	8	AK-210/AKL-210
11.257.5200.---	10	classic WSS fanlight openers
11.257.5300.---	12	classic WSS fanlight openers

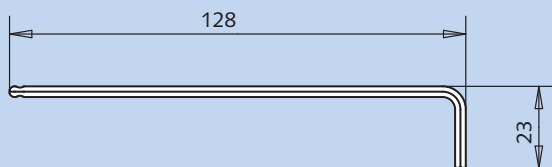
Surface key	Material/Surface
---.730	Zinc diecasting silver coated
---.755	Zinc diecasting RAL 9016 traffic white
---.799	Zinc diecasting special color



Connecting piece AK-300

- to connect electric spindle-drive to rod $\varnothing$ 10 mm

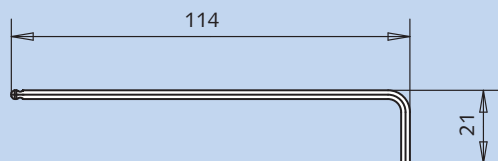
Art.-N°	$\varnothing$ rod	Material/Surface
11.258.4000.010	10	Steel galvanized



Allen key SW 2,5 mm

- angled, with ball head

Art.-N°	Material/Surface
11.265.0025.015	Steel black chromated



Allen key SW 3 mm

- angled, with ball head

Art.-N°	Material/Surface
11.265.0030.015	Steel black chromated



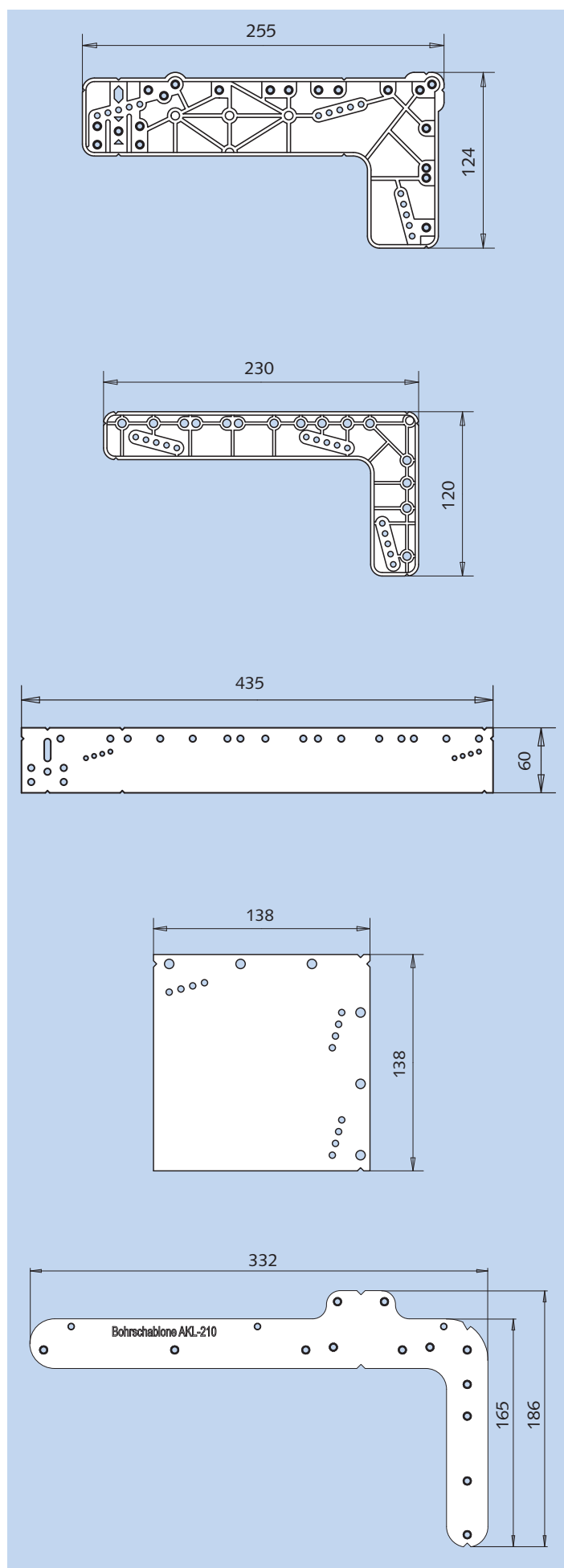
Countersunk Phillips head screw M5 x 13,5

- thread cutting
- with small head (like M4)
- for blind rivets
- standard screw for AK-210/AKL-210 and AK-300

Art.-N°	Material/Surface
11.268.8590.405	Stainless steel mill finish (bright)

other screws (without illustration)

Art.-N°	Typ	Material/Surface
11.268.8591.405	Countersunk screw M5 x 21	Stainless steel mill finish (bright)
11.268.8790.405	Cylinder head screw M5 x 6	Stainless steel mill finish (bright)
11.268.8691.405	Lens head screw M5 x 12	Stainless steel mill finish (bright)



Drilling jig AK-210

- adjustable
- for installation of opening scissor, casement bracket, corner transmission, hand lever and horizontal gear

Art.-N°	Drill Ø	Material/Surface
11.270.1010.570	4,2	Plastic grey

Drilling jig AK-210

- adjustable
- for installation of gear and corner transmission

Art.-N°	Drill Ø	Material/Surface
11.270.1050.565	4,2	Plastic grey

Drilling jig AK-300

- adjustable
- for installation of opening scissor, casement bracket and hand lever

Art.-N°	Material/Surface
11.270.4020.570	Plastic grey

Drilling jig AK-300

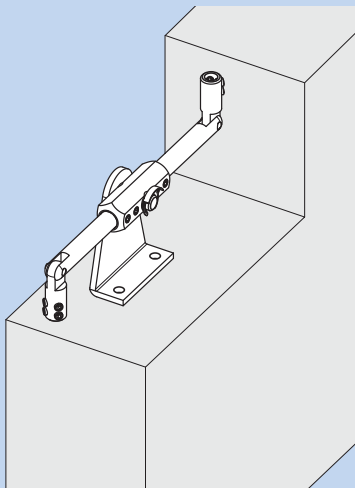
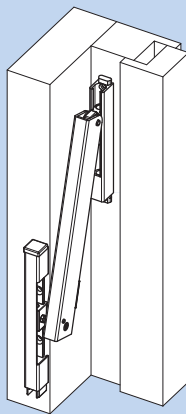
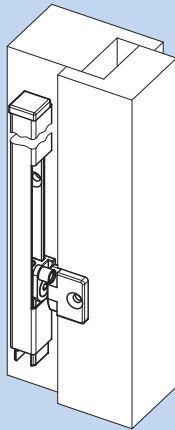
- adjustable
- for installation of corner transmission

Art.-N°	Material/Surface
11.270.4030.570	Plastic grey

Drilling jig AKL-210

- adjustable
- for installation of opening scissor, casement bracket, corner transmission and hand lever

Art.-N°	Material/Surface
11.270.8000.505	Plastic raw



Additional lock

- right and left hand usable
- for AK-300 with additional connecting piece

Art.-N°	Fitting	rod Ø	Material/Surface
11.280.1000.114	AK-210	8	Aluminium E6/C-0 silver
11.280.1000.255	AK-210	8	Aluminium RAL 9016 traffic white
11.280.1000.299	AK-210	8	Aluminium special coated
11.280.4000.114	AK-300	10	Aluminium E6/C-0 silver
11.280.4000.255	AK-300	10	Aluminium RAL 9016 traffic white
11.280.4000.299	AK-300	10	Aluminium special coated

pillar-frame transmission

- right and left hand usable
- mounting inwards or on front of the pillar
- for AK-300 with additional connecting piece

Art.-N°	Fitting	Mounting	PT / RT	rod Ø
11.281.1090.---	AK-/AKL-210	Inwards	max. 90	8
11.281.1017.---	AK-/AKL-210	Inwards	max. 170	8
11.281.4090.---	AK-300	Inwards	max. 90	10
11.281.4017.---	AK-300	Inwards	max. 170	10
11.282.1090.---	AK-/AKL-210	Front	max. 90	8
11.282.1017.---	AK-/AKL-210	Front	max. 170	8
11.282.4090.---	AK-300	Front	max. 90	10
11.282.4017.---	AK-300	Front	max. 170	10

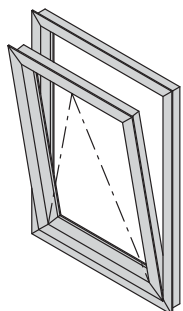
Surface key	Material/Surface
---.114	Aluminium E6/C-0 silver
---.255	Aluminium RAL 9016 traffic white
---.299	Aluminium special coated

Window sill transmission

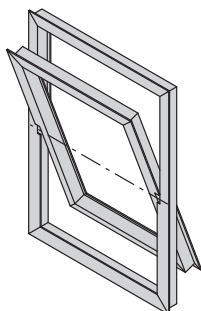
- for sill depths of 120 - 400 mm

Art.-N°	Fitting	rod Ø	Material/Surface
11.284.1000.010	AK-210	8	Steel galvanized
11.284.1000.015	AK-210	8	Steel black chromated
11.284.1000.099	AK-210	8	Steel special color
11.284.4000.010	AK-300	10	Steel galvanized
11.284.4000.015	AK-300	10	Steel black chromated
11.284.4000.099	AK-300	10	Steel special color

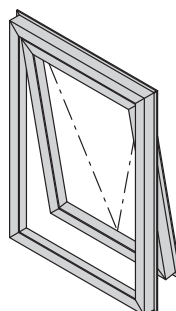
Sash types



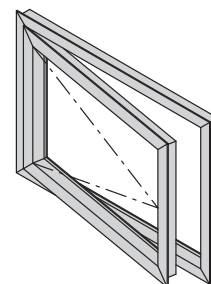
bottom-hung window



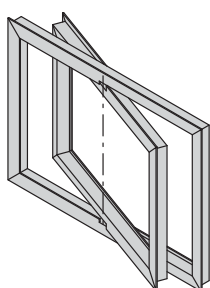
horizontally-pivoted window



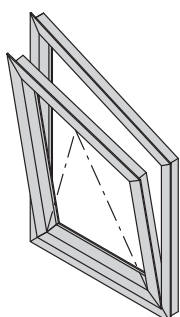
top-hung window



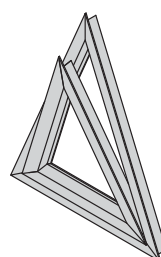
side-hung window



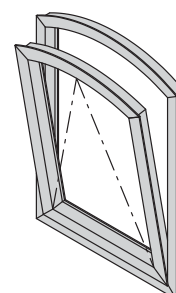
vertically-pivoted window



inclined window



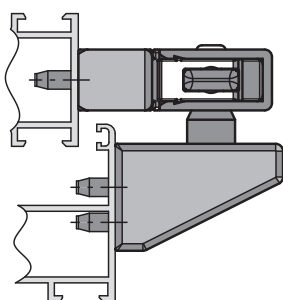
triangular window



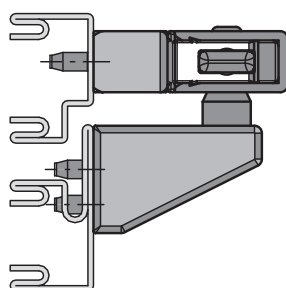
segmented round arch
bottom-hung window

Profile types

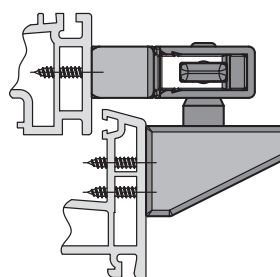
bottom-hung window



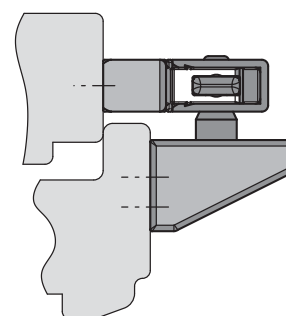
Aluminium



Steel

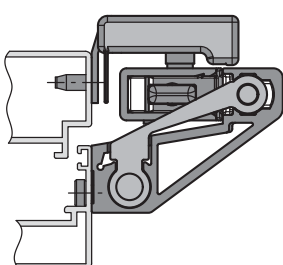


Plastic

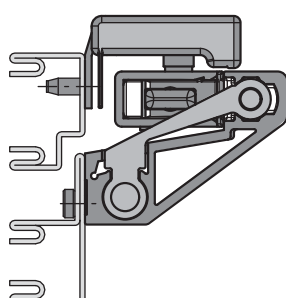


Timber

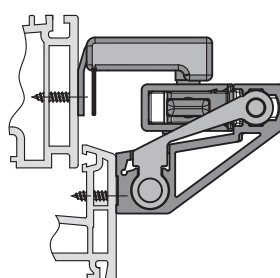
top-hung window



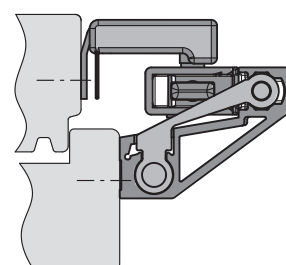
Aluminium



Steel



Plastic



Timber

AK-210		Sash width (mm)	Sash height (mm)	Sash weight max. (kg)	Clearance side (mm)	Clearance above (mm)	Stroke (mm)	Rod Ø (mm)
Type of actuation								
Hand lever		440 - 3600	300 - 1500	80	21,5	21,5	62	8
	with additional lock	640 - 2400	1500 - 2200		28			
	with pillar-frame transmission	440 - 2400	300 - 1500		21,5			
	with T-transmission	440 - 1200	300 - 1500		24			
Horizontal gear, wide		540 - 3600	300 - 1500	80	24	22		
Horizontal gear, narrow		540 - 2400	300 - 1500	60	24	21,5		
Vertical gear, wide		440 - 3600	300 - 1500	80	24	21,5		
	with additional lock	640 - 2400	1500 - 2200		28			
	with pillar-frame transmission	440 - 2400	300 - 1500		21,5			
	with T-transmission	440 - 1200	300 - 1500		24			
Vertical gear, narrow		440 - 2400	300 - 1500	60	24	21,5		
Electric spindle-drive, horizontal		560 - 4000	300 - 1500	80	0	37		
	without connecting piece							
Electric spindle-drive, horizontal		610 - 4000	300 - 1500	80	0	37		
	with connecting piece							
Electric spindle-drive, vertical		440 - 3600	300 - 1500	80	38	21,5		
	with additional lock	640 - 2400	1500 - 2200		28 / 38			
	with pillar-frame transmission	440 - 2400	300 - 1500		21,5			
	with T-transmission	440 - 1200	300 - 1500		40			

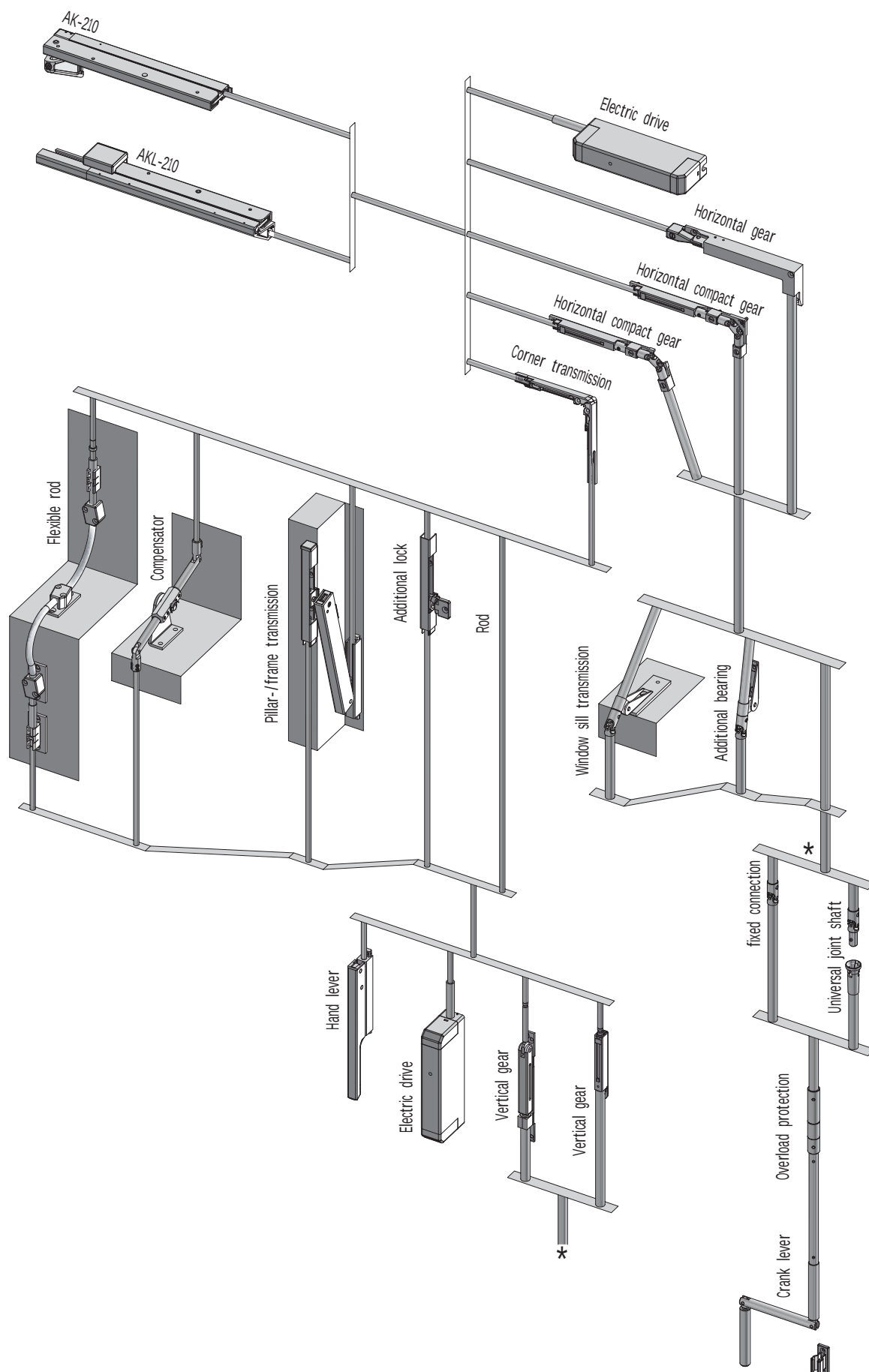
AKL-210		Sash width (mm)	Sash height (mm)	Sash weight max. (kg)	Clearance side (mm)	Clearance below (mm)	Stroke (mm)	Rod Ø (mm)
Type of actuation								
Hand lever		510 - 3000	300 - 1200	80	21,5	21,5	62	8
	with pillar-frame transmission	510 - 2000	300 - 1200		21,5			
	with T-transmission	510 - 1000	300 - 1200		21,5			
Horizontal gear, wide		650 - 3000	300 - 1200	80	24	22		
Horizontal gear, narrow		630 - 3000	300 - 1200	60	24	21,5		
Vertical gear, wide		510 - 3000	300 - 1200	80	24	21,5		
	with pillar-frame transmission	510 - 2000	300 - 1200		21,5			
	with T-transmission	510 - 1000	300 - 1200		28			
Vertical gear, narrow		510 - 2000	300 - 1200	60	24	21,5		
Electric spindle-drive, horizontal		690 - 3000	300 - 1200	80	0	38		
	with connecting piece							
Electric spindle-drive, vertical		510 - 3000	300 - 1200	80	37	21,5		
	with pillar-frame transmission	510 - 2000	300 - 1200		21,5			
	with T-transmission	510 - 1000	300 - 1200		40			

AK-300 Type of actuation		Sash width (mm)	Sash height (mm)	Sash weight max. (kg)	Clearance side (mm)	Clearance above (mm)	Stroke (mm)	Rod Ø (mm)
Hand lever		570 - 3600	350 - 1500	120	25	25 / 29	65	10
	with additional lock	750 - 2400	1500 - 2200	120	30 / 30	25		
	with pillar-frame transmission	570 - 2400	350 - 1500	120	25	25 / 29		
Horizontal gear, wide		670 - 3600	350 - 1500	120	25	25 / 29		
Electric spindle-drive, horizontal		730 - 2000	1500 - 2200	120	0	38		
	with connecting piece							
Electric spindle-drive, vertical		570 - 2400	350 - 1500	120	38	25 / 29		
	with additional locking device	750 - 2400	1500 - 2200	120	30 / 38	25		

WSS – Slimline Fanlight Openers

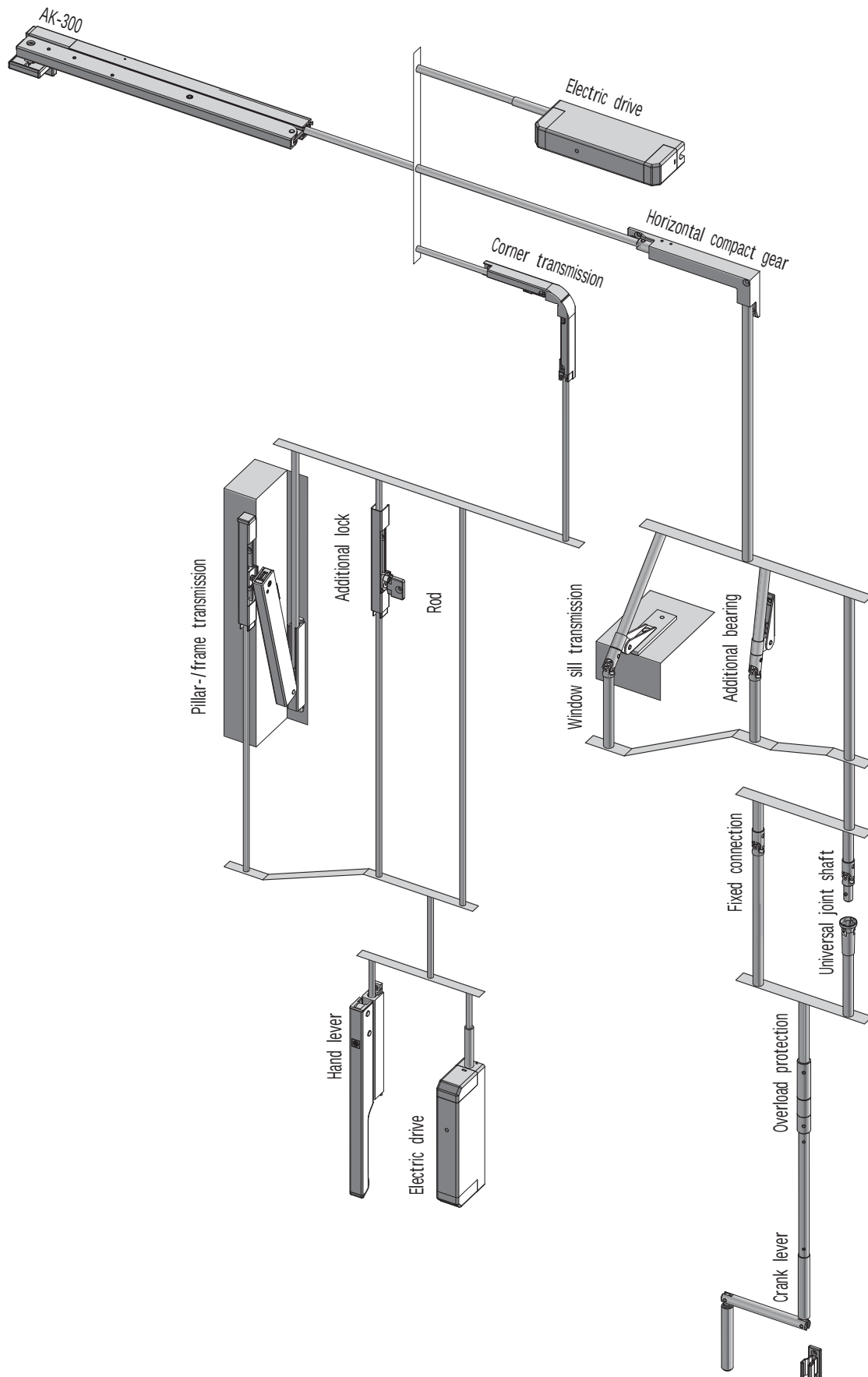
Assembly drawing of main components AK-210 and AKL-210

210 mm opening width



■ Guidings, couplings, bushings, rods and cover profiles are not shown

300 mm opening width



■ Guidings, couplings, bushings, rods and cover profiles are not shown

- For an easy and rapid assembly drilling jigs can be ordered separately.
- Additionally installed safety- and opening limiters prevents damages which can be caused by incorrect fitting of the fanlight opening-scissors.
- For fanlight bottom-hung windows, from a height of 1500 mm, we recommend the application of a sidewise additional lock.
- When mounting the gear you have to make sure that the spindle is blocked in the final position (open/closed). The gears stroke shouldn't be higher than the opening scissors stroke.
- All gears in this catalogue are shown with overload protection. This application prevents the violent damage of the gear and the twisting of the crank rods.
- For all types of applications, our assembly- instructions and the electrical connection diagrams should be considered. Alternatively, all drawings can be downloaded from our homepage (DXF, DWG, PDF). Always pay attention to our assembly instructions.
- In case of using timber- or plastic profile window-screws with an diameter of maximum 7,5 mm (for plastic-profiles preferably with HILO-thread) screws must be supplied on site. In this case please do not drill with 4,2 mm but note the processing requirements of the screw manufacturer. Please consider our screw-sets. Screws have to be ordered separatly.
- Special applications for bottom-hung fanlights which are not shown in this catalogue (e.g. operating of larger or parallel windows with more than three opening scissors) must be calculated separately. Values (sash width, weigth and height) have to be provided. Please send us your inquiry.
- Points, between window sash and frame up to a height of 2,5 m wich can cause injury must be secured by measures which stops the window movement automatically in case of touching or interrupting. Guidelines for power-operated windows, doors and gates of have to be followed.
- For a quick handling of your order or request, please send us the filled-in order / request form.

Order ☐

Request ☐

Fax: +49 (0) 2056 / 51-42

E-Mail: wss@wss.de

Required information

If vertical or horizontal cross sections, containing the required information, are available, these can be provided to WSS.

Global information

Quantity	_____ pcs.	profile series: _____
Sash type	inwards opening ☐ outwards opening ☐ bottom-hung ☐ top-hung ☐ horizontally-pivoted ☐ side-hung ☐ vertically-pivoted ☐ rectangular ☐ triangular ☐ inclined ☐ round arch ☐ segmented round arch ☐ aluminium ☐ steel ☐ plastic ☐ timber ☐	
Installation situation	Single window sash? yes ☐ no ☐ Position if multiple sashes: side-by-side ☐ stacked ☐ Sill below window? yes ☐ no ☐ Pillar-Frame-facade? yes ☐ no ☐ Deviation on: pillar ☐ frame ☐ Deviation of rods on: profile ☐ wall ☐ Additional locking device desired (commended for FH >1500 mm)? yes ☐ no ☐	
Actuation	hand lever ☐ horizontal gear ☐ vertical gear ☐ electric spindle drive vertical ☐ electric spindle drive horizontal ☐	
Color	surface anodized ☐ laquered ☐ powder coated ☐ electroplated ☐ Please enter desired special color: _____	

Building Information

Sash dimensions	sash width FB: FB1= _____ mm FB2= _____ mm FB3= _____ mm FB4= _____ mm sash height FH: FH1= _____ mm FH2= _____ mm FH3= _____ mm FH4= _____ mm sash weight FG: FG1= _____ kg FG2= _____ kg FG3= _____ kg FG4= _____ kg	
Installation space	sash top edge ⇔ wall: = _____ mm between sash top edge and frame: = _____ mm sash side edge ⇔ frame: = _____ mm between sash side edge and wall: = _____ mm between sash edges with centered deviation: = _____ mm	
Opening width	desired opening width: = _____ mm	
Embrasure depth	window frame ⇔ wall front edge: = _____ mm	
Pillar/frame depth	window frame ⇔ pillar / frame front edge: = _____ mm	
Deviation length	sash top edge ⇔ pivot point hand lever: = _____ mm between sash top edge and frame: = _____ mm center hor. rods ⇔ hand lever bottom edge: = _____ mm between sash side edge and wall: = _____ mm desired length of the crank tube: = _____ mm	
Base height	finished floor top edge ⇔ hand lever bottom edge = _____ mm	

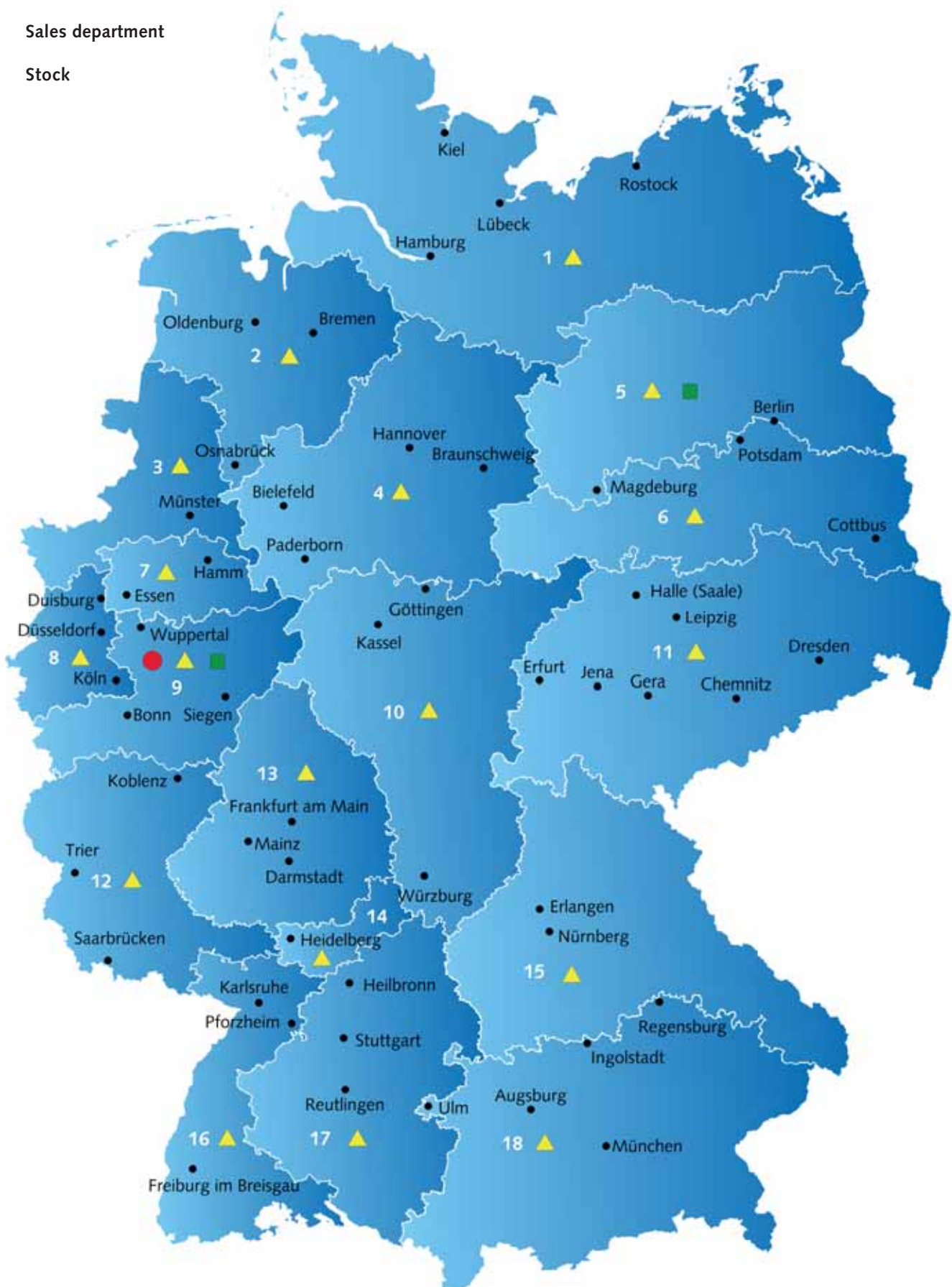
Contact information

Company:	_____	Stamp field
Contact person:	_____	
Tel.-N°:	_____	
E-Mail:	_____	

WSS – Slimline Fanlight Openers

Sales regions Germany

- Developement & Production
- ▲ Sales department
- Stock



For contact information visit www.wss.de

- Developement & Production
- ▲ Sales department
- Stock



For contact information visit www.wss.de



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