



WINDOW TECHNOLOGY
DOOR TECHNOLOGY
AUTOMATIC ENTRANCE SYSTEMS
BUILDING MANAGEMENT SYSTEMS



NATURAL SMOKE EXHAUST (RWA) AND VENTILATION

Manual fanlight opening systems
Electric drive and control solutions

Securing technology for you



Manual fanlight opening systems and electric drive and control solutions



Gretschn-Unitas Group

Ever since 1907, the Gretschn-Unitas Group has stood for safe and convenient opening and closing of windows. The group has sustainably shaped the development of the market with ground-breaking innovations and continuous further developments in opening systems.

Tested quality and modern technology

Products from Gretschn-Unitas have been highly prized for more than a century for their tested quality and safety. Mature technology and intelligent electronics do not just focus on single products but rather on individual system solutions.

More than just products: planning, installation, service

Expertise for window security. We assist you in all the phases of implementing your individual smoke exhaust and ventilation solution. Trained specialists with extensive knowledge of all the relevant standards and regulations as well as fast and reliable service allow for cost- and application optimised solutions for all types of buildings.

System solutions for individual requirements

In the area of natural smoke and heat extraction, we provide long-term security that not only functional reliability but also a high standard of planning and cost reliability will be provided with tested and certified system solutions.



ELTRAL K30 chain drive
Frame mounting, bottom-hung sash



ELTRAL K25 chain drive
Concealed mounting, bottom-hung sash



ELTRAL K35 chain drive
Sash mounting, bottom-hung sash



ELTRAL K35 chain drive
Installation on frame, Parallel-Projecting window

Ventilation systems

VENTUS F 200 fanlight opening system

Manual operation via hand lever or crank	6–9
Powered operation with ELTRAL S electric drive	10 – 11

Electric drive and opener systems (230 V)

ELTRAL K chain drives, spindle drives and rack and pinion drives	12 – 14
Technical data	15

Electrical controllers (230 V)

Components	16–17
------------------	-------

Smoke and heat exhaust ventilation systems (RWA)

Protection goals and mode of functioning	20
Functional principle	21

Electric drive and opening systems (24 V)

ELTRAL K chain drives, spindle drives and locking drives	22 – 25
Technical data	26–27

RWA air supply (24 V)

ELTRAL TA 60 door drive	28–29
-------------------------------	-------

Electrical controllers (24 V)

RZ compact control units and modular control units	30–31
Variants and components	32 – 33

Special solutions for facades

Parallel-Projecting, Projecting Top-Hung and Turn-Only windows	36–37
Motor-driven Tilt&Turn window	38–39
GU NSHEV system solutions	40–41

Exclusion of liability / Copyright notice / Image credits	43
---	----

Ventilation systems

Statutory measures regarding thermal insulation (e.g. the German Energy Saving Ordinance – EnEV) are leading to increasingly well-insulated building shells, thus largely preventing a climatic exchange through diffusion between the internal and external environments.

Sophisticated and effective ventilation systems are therefore extremely important in creating a climate that is as natural as possible and that supports health, even in energy-efficient buildings.

The Gretsch-Unitas Group offers you individual solutions for convenient, everyday room ventilation using different fanlight opening systems, chain drives and spindle drives. Whether it be an inward or outward-opening Top-Hung or Tilt-Only sash, pitched, triangular, round or segmental arched windows – the ventilation systems from the GU Group leave nothing to be desired.





VENTUS F 200 fanlight opening system

Manual operation via hand lever or crank



The VENTUS F 200 manual fanlight opening system from the Gretsche-Unitas Group allows an extremely wide range of window shapes to be opened and closed – irrespective of whether they are rectangular bottom-hung windows, with arched or segmental arched heads, or pitched or triangular windows.

Also, window projections and reveals are mastered with ease. Steplessly adjustable tilt positions guarantee perfectly controlled room ventilation and permit large opening widths.



Automatic locking in the stay

Advantages at a glance

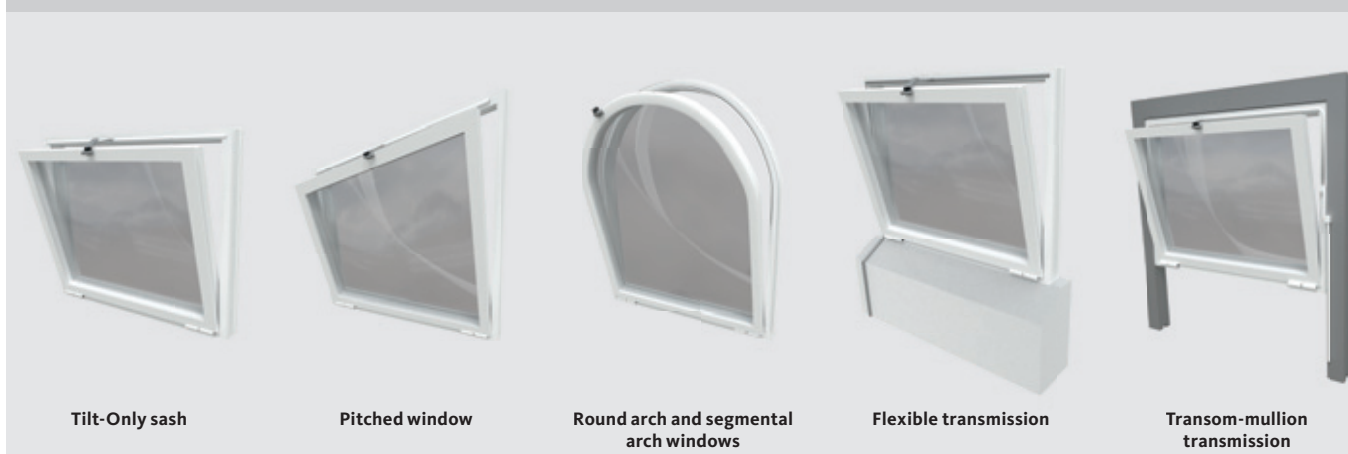
- Flat-form fanlight opening stay for vertically installed Tilt-Only windows
- Cost-efficient control of several sashes using a vertical or corner drive-gear with crank
- Ideally suited for windows offering limited mounting space
- The stay can be easily hinged and unhinged, e.g. for window cleaning



System features

- Intensive room ventilation because of large opening widths of up to 200 mm
- Ideally suited for small sash heights from 250 mm
- Suitable for sash weights of up to 80 kg
- Compact modules for fast and easy mounting
- Steplessly adjustable sash brackets for overlap heights from 0–25 mm
- A wide range of operation possibilities: hand lever, vertical or corner drive-gear with crank, transmissions (transom-mullion transmission / flexible transmission)
- Flat-form fanlight opening stay for vertically installed timber, PVC or metal Tilt-Only windows
- Individually adapted tilt position by reducing the opening widths
- Drilling jigs for all application ranges
- No visible fixing screws
- The internal locking device inside the stay ensures maximum surface pressure on the window, thereby meeting today's requirements for water tightness, acoustic insulation and energy savings

One system – many applications



VENTUS F 200 fanlight opening system

System design



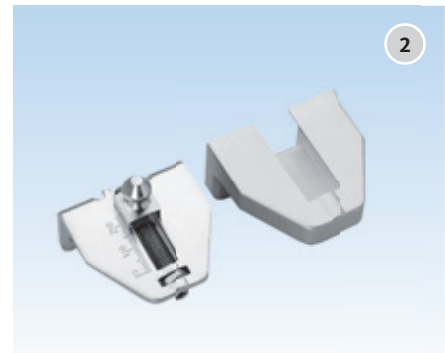
System design

The GU VENTUS fanlight opening system consists of:

- 1 F 200 fanlight opener stay
- 2 Sash bracket for attachment to the sash
- 3 Corner-drive for force transmission
- 4 Connecting rods and rod guides
- 5 Cover profiles
- 6 Hand-lever for opening and closing
*alternatively: hand lever operation
with vertical or corner drive-gear*
- 7 Additional restrictor and cleaning stays,
e.g. EURO-SOLID



F 200 opening stay



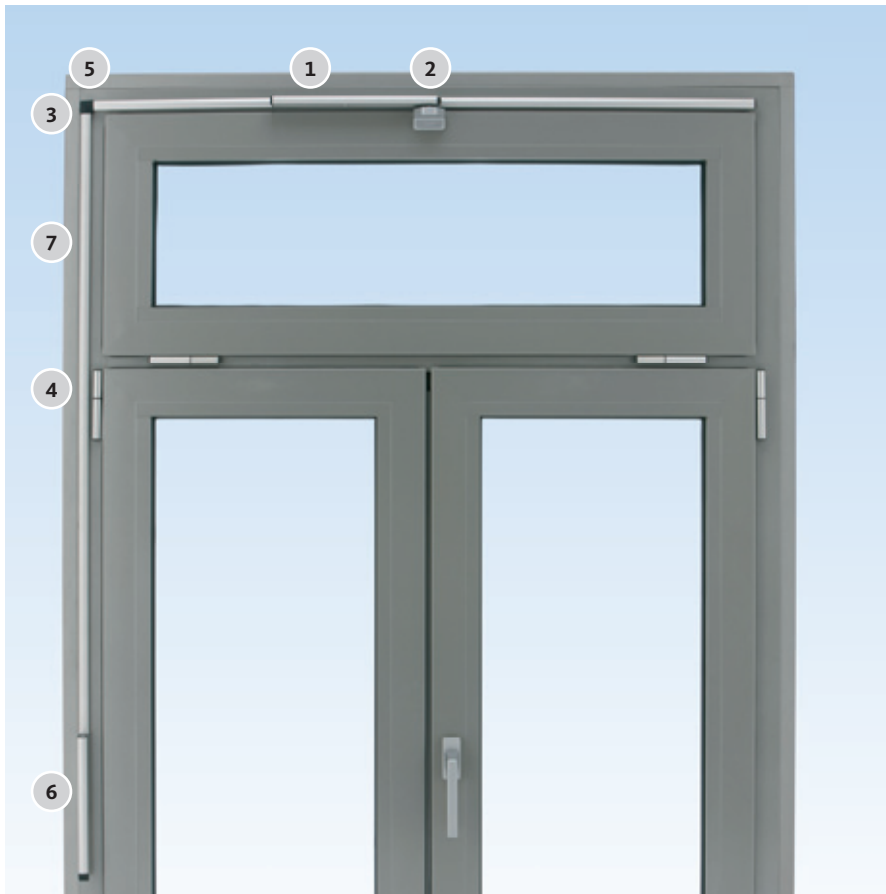
High gasket pressure
thanks to adjustable angular sash bracket



Lockable hand lever / standard hand lever



Crank



Special solutions

Top-Hung sash, outward-opening

Completely pre-mounted stay unit for all outward-opening Top-Hung windows with opening widths up to 200 mm.



Additional locks

Additional face-fixed, vertical locks for a secure, lateral gasket pressure with tall Tilt-Only sashes.

Optional locking with a catch engaging in the concealed UNI-JET central locking system. This provides a visually appealing solution for greater security and increased burglar inhibition.



EURO-SOLID restrictor and cleaning stay

As stipulated by the RAL directives:

In addition to the standard fanlight hardware, Tilt-Only sashes must be fitted with catch stays.

EURO-SOLID restrictor and cleaning stays prevent damage that might arise from incorrect attachment of the opening stays. Moreover, they provide great convenience when cleaning as the sash is held in the desired position.



Technical data

VENTUS F 200 | Operation via hand lever or crank | Tilt-Only window

Hardware	Sash width (mm)	Min. sash height (mm)	Opening width (mm)	Max. sash weight (kg)	Travel (mm)	Space requirement (mm)	
						lateral	top
VENTUS F 200 [1]	400 – 3600 [2] 400 – 3600	300 250	200 [2] 165 [3]	80	50 [2] 40 [3]	20	20

[1] For overlap heights 0 – 25 mm

[2] Factory setting

[3] Operation with special hand lever on request

VENTUS F 200 fanlight opening system

Powered operation with ELTRAL S electric drive



With the VENTUS F 200 fanlight opening system and ELTRAL electric drive, room ventilation is performed in a convenient and cost-effective manner.

Ideally suited for vertically installed, inward and outward-opening Tilt-Only or Top-Hung timber, PVC or metal windows, whether rectangular, oblique, round arched or segmental arched.

The steplessly adjustable tilt position guarantees perfectly adjusted room ventilation.

The control of several sashes with just one drive opens up an additional potential for economic savings.



High-performance drives ELTRAL S 230 L, S 230 E

Advantages at a glance

- Additional potential for economic savings thanks to controlling several sashes with just one drive
- Microprocessor for automatic, variable opening width setting
- Optimal motor protection thanks to electronic limit stop switch and overload cut-off



VENTUS F 200 fanlight opening system

System features, technical data



System features

- Simple mounting, horizontal or vertical (rh / lh)
- With position and function display
- Optional for increased security: actuation of the concealed UNI-JET central locking system via a connector
- Adjustable travel for variable opening widths
- Anodised aluminium housing
- Individual or group control via ventilation push-button
- ELTRAL S electric drive also suitable for use at louvre windows

Technical data

VENTUS F 200 | operation with ELTRAL S 230 electric drive | Tilt-Only window

Drive	Max. sash width (mm)	Min. sash width (mm)		Min. sash height (mm)	Max. sash weight (kg)	Max. weight of glazing (kg/m²)	Space requirement Drive (mm)		Max. number stays
		Drive installation					lateral	top	
		lateral	top						
ELTRAL S 230	3600	410	630	250 with travel 40 300 with travel 50	80	40 [1]	39	39	3

[1] Depending on "dimension S" (= distance from sash centre of gravity to middle of hinge) and sash width

ELTRAL S electric drives

Drive	Nominal voltage (V AC)	Nominal force (N)	Nominal current (A)	Adjustable stroke (mm)	Speed (mm/s)	Cut-off	Connection	Dimensions L x W x H (mm)
ELTRAL S 230 E	110-230	1200	0.15	50 / 70 mm [1]	0.9	Electronic	Connector plug for 2-core connecting cable	210 x 36 x 76
ELTRAL S 230 L						End position switch-off		

[1] Depending on "dimension S" (= distance from sash centre of gravity to middle of hinge) and sash width

Electric drive and opener systems (230 V)

ELTRAL K chain drives, spindle drives and rack and pinion drives

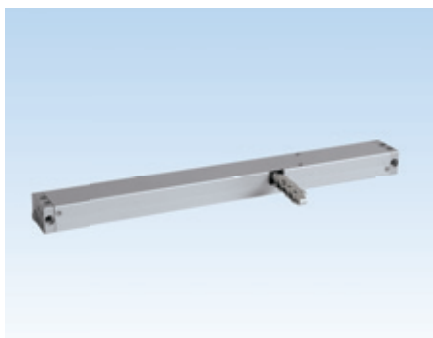


The range of different chain drives, spindle drives and rack and pinion drives for timber, PVC or metal windows offers individual solutions for comfortable everyday ventilation, when the windows are not accessible for the user.

The window type does not matter: whether rectangular, inward-opening Top-Hung or Tilt-Only sashes, outward-opening Top-Hung windows or special windows such as Parallel-Projecting and Projecting Top-Hung windows – virtually any application is possible with the solutions from the GU Group.

Modern chain drives perfectly harmonise with the facade architecture thanks to their appealing, compact and flat design.

Spindle drives ensure convenient, electromotor-driven room ventilation on heavy and large skylights.



ELTRAL K25 chain drive

Advantages at a glance

ELTRAL K chain drives

- Simple and fast installation – face-fixed or concealed
- An array of mounting styles enable virtually any installation situation on inward or outward-opening windows
- Variable opening width setting

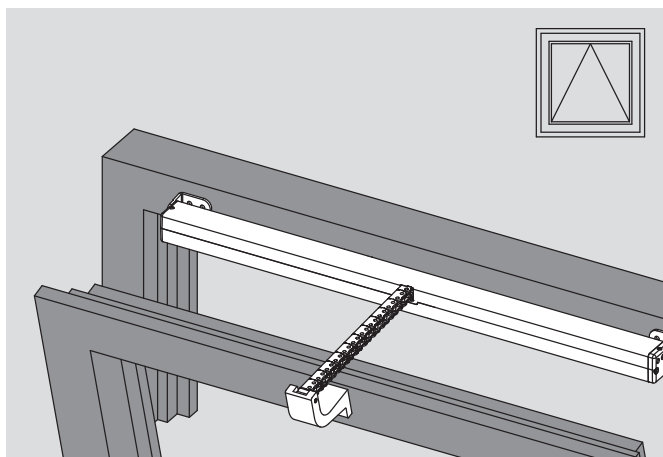


ELTRAL K chain drives – system features

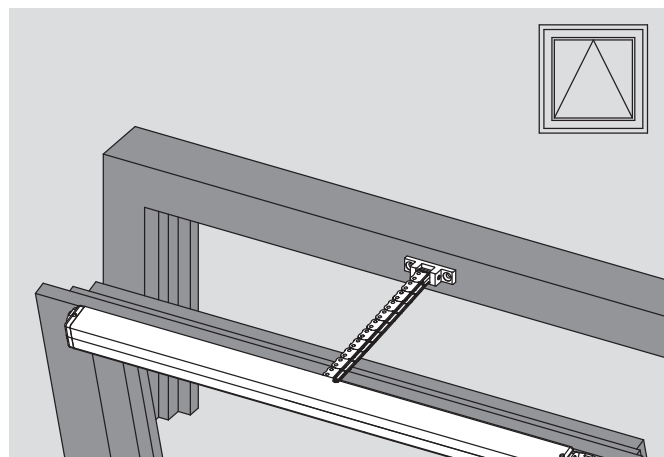
- Compact size
- The integrated electronics enables the synchronous control of several drives
- Suitable for use with all Turn-Only, Tilt-Only, Top-Hung, Parallel-Projecting, Projecting Top-Hung, Horizontal- or Vertical-Pivot windows and skylights
- Ideally suited for small sash heights from 250 mm
- With intelligent microprocessor controller
- With integrated limit stop and overload cut-off
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class SK3*

* In accordance with Machine Directive 2006/42/EC

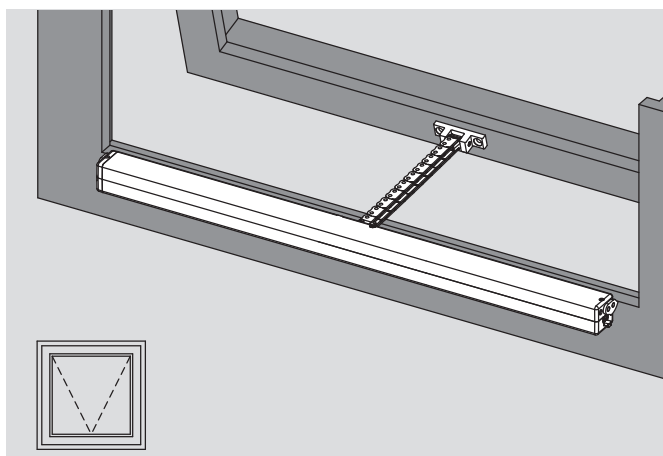
ELTRAL K chain drives – installation types



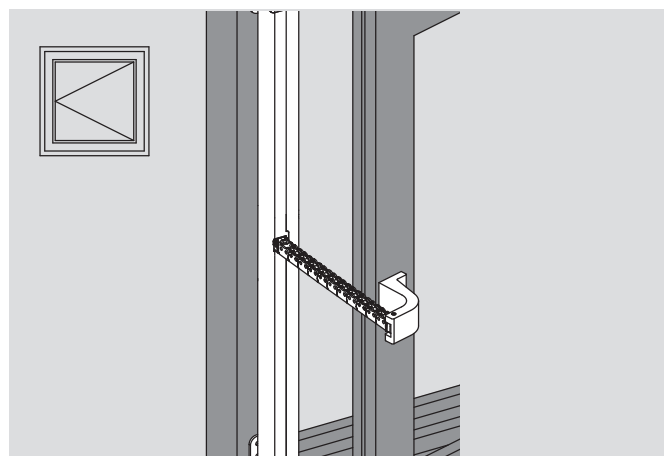
Tilt-Only sash, inward-opening, frame installation



Tilt-Only sash, inward-opening, sash installation



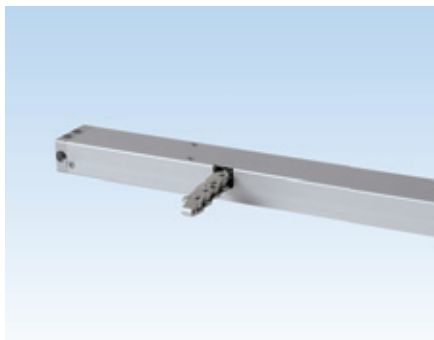
Top-Hung sash, outward-opening, frame installation



Turn-Only sash, inward-opening, frame installation

Electric drive and opener systems (230 V)

Overview of variants



ELTRAL chain drives

K25, K30, KS 30/40, K60

- Modern and visually appealing solutions due to optimum adaptation to the window architecture
- Versatile mounting variants:
 - On frame or sash
 - Face-fixed and concealed
- For inward and outward opening top-hung, bottom-hung, side-hung and skylights
- Solo and synchro variants
- Simple combination with locking drives



ELTRAL chain drive

KS 30/40 radio

- With integrated radio receiver
- Radio remote control
- Compact size
- Integrated microprocessor control unit
- Automatic limit stop switch
- Independent of overlap dimension
- Integrated overload cut-off
- Suitable for small sash heights from 250 mm
- Variable travel adjustment in 3 stages

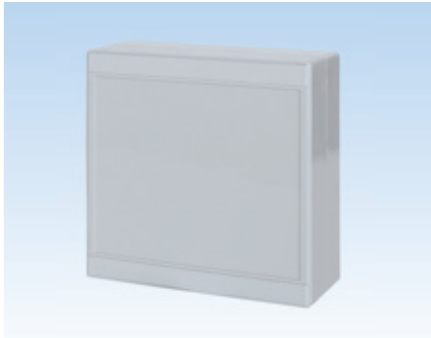


ELTRAL spindle drives / rack and pinion drives

S80, Z45

- Easy opening and closing of large, heavy skylights or facade openings
- Integrated limit stop and overload cut-off
- Slender drives
- High push forces up to 1600 N
- Solo and synchro variants

Designation	Chain drives					Spindle drives / rack and pinion drives	
ELTRAL	K25	K30	KS 30/40	KS 30/40 Radio	K60	S80	Z45
Operating voltage	230 V AC ± 15%	110/230 V AC ± 15%			230 V AC ± 15%		
Pull/push force (N)	250 [1]	300			600	800	450
Nominal current (A)	0.2	0.16	0.12	0.16	0.2	0.12	0.25
Travel speed (mm/s)	8.0	11.2	9.0	10.0	10.0	7.0	5.5
Opening width / travel (mm)	200 300 400	300 – 500 variable adjustable	200 – 400 variable adjustable	200 – 400 variable adjustable	250 400	300 500 750	230 350 550 [2]
Protection type (IP)	32		30		32	54	44
Duty ratio (%)	30						20
Locking force (N)	3000	2000	1000	1000	3000	3500	2000
Operating temperature (°C)	-5 to +75	-5 to +65			-5 to +75		-5 to +65
Suitable for skylights	–	■ [1]	■ [1]	■ [1]	■ [1]	■	■
Synchronous control	optional	optional	optional	–	optional	optional	[3]
Concealed installation	■	–	–	–	–	–	–
Dimensions LxHxD (mm)	Lx26x41	456x43x60	386x38x58	386x38x58	Lx40x56	Lx43x76	Lx54x115
Connecting cable	Silicone 3.0 m / 4-core	Silicone 2.0 m / 3-core (Solo) 2.5 m / 5-core (Synchro)	2.0 m / 3-core (Solo) 2.5 m / 5-core (Synchro)	2.0 m / 3-core	Silicone 5.0 m / 6-core	Silicone 1.0 m / 6-core	2.0 m / 3-core
<div>[1] Depending on travel / force-displacement curve</div> <div>[2] Larger travel widths available on request</div> <div>[3] Mechanical, up to 4 drives</div>							



Ventilation central control units

LZ1, LZ6

- Control of 24 V DC drives for the purpose of ventilation
- Combination of several ventilation functions and groups, such as wind/rain detector, time switch, building management technology via a central station
- For individual and/or several rooms
- Output current: 2.5 A / 24 A / 30 A



Ventilation push-button

- Stepless, manual operation of RWA drives and ventilation drives for daily ventilation
- Available as surface-mounted or concealed variant
- Different versions
 - OPEN – STOP – CLOSE
 - Rocker switch
 - Spring-operated key switch



Rain / wind control

- For weather-dependent, automatic ventilation control
- Automatic closing of windows in case of rain or wind
- Wind and rain sensor set including fixings



Room thermostat

- Automatic ventilation control based on the ambient temperature (via integrated thermostat)
- For connection to ventilation push-button input
- Operating voltage: 24 V DC ($\pm 5\%$)
- Adjustable; adjustment range: 0–30°
- Switch capacity: 230 V AC, 5 A
- Protection class: IP30
- Surface-mounted plastic housing, white (W x H x D): 74.5 x 74.5 x 25 mm



42 FH hand-held radio transmitter

- For 230 V AC electric drive



FAJ 6 UP radio actuator

- In conjunction with 42 FH radio transmitter
- For installation in flush-mounted boxes
- 230 V AC, 50 Hz



Timer

with day/week programme and power reserve

- Operating voltage: 230 V AC, 50 Hz
- For time-related opening and closing of ventilation sashes/leaves/flaps
- Potential-free changeover contact for connection to RWA central control units
- Contact rating: max. 16 A
- Suitable for combination with temperature-dependent control devices, e.g. for controlled night cooling (taking into account winter and summer time)



Power supply units

230 V AC / 24 V DC

- For connecting 24 V DC drives for room ventilation
- Power-up / connection possible (directional change)

The complete smoke and heat exhaust ventilation system as a one-stop service

Smoke and heat exhaust ventilation systems

Fires and the associated flames and smoke still pose the greatest threat to people and buildings. For this reason, it is extremely important that the smoke be extracted quickly and reliably. As part of fire prevention layouts to keep escape and rescue routes free from smoke, the Gretsch-Unitas Group offers a wide range of coordinated system components – from electric motor drives to RWA central control units plus an extensive range of accessories.





Protection goals and mode of functioning

Part of preventative fire protection



Protection targets of a smoke and heat exhaust ventilation system

Protection of persons (= unassisted rescue)

- ✓ Securing escape and rescue routes by smoke exhaust
- ✓ Clear visibility for people escaping
- ✓ Saving people's lives

Fire fighting (= assisted rescue)

- ✓ Low-smoke extinguishing routes
- ✓ Rapid and targeted extinguishing by the fire brigade
- ✓ Reduced risk for deployed personnel

Property protection

- ✓ Preventing full-scale fire and follow-on fires
- ✓ Reduction of massive building damage by smoke

Preventative fire protection does not fully guarantee the prevention of fires in buildings. However, it is possible to achieve protection targets through the use of smoke and heat exhaust ventilation systems.



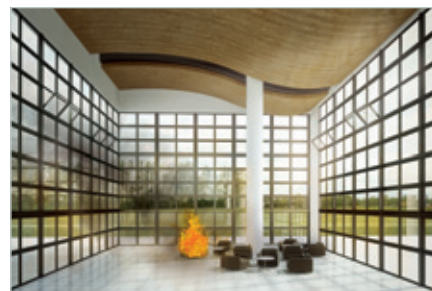
Smoke generation without smoke and heat exhaust ventilation

If smoke and heat is not removed, the resulting accumulation of combustion gases and dangerous oxides put the health of the building occupants severely at risk. In addition, an excessive build up of heat can block emergency exits and escape routes and in the worst case cause the building to collapse.



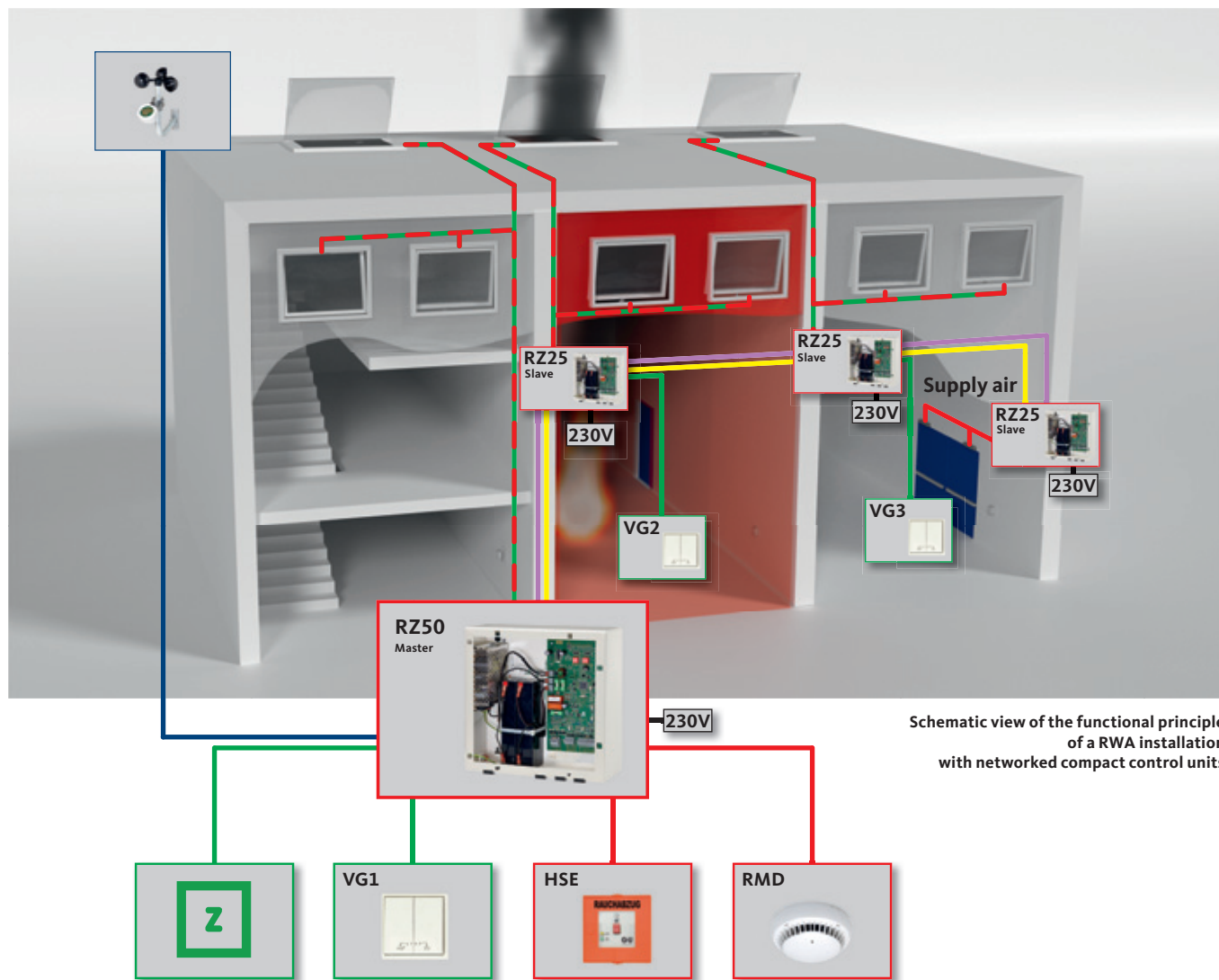
Smoke emission with smoke and heat exhaust ventilation

A smoke and heat exhaust ventilation system removes smoke and heat by drawing it upwards. A low-smoke layer forms above the floor through which fleeing building occupants and rescue workers can move. This also reduces damage to the building by heat.



Controlled extraction

The removal of smoke is based on the principle of thermal uplift: supply air openings in the wall and exhaust air openings in the upper part of the wall or ceiling area ensure that smoke is removed in a reliable and controlled manner.



Advantages at a glance (networked RWA)

Economic solution through easy and secure connection (cascading) of up to five RWA central control units:



- Five physically separate ventilation groups
- Networked ventilation push-button function for all RWA central control systems
- Line monitoring via internal data bus
- Small cable cross-sections due to local assignment

Legend

- RWA 24V line
- Ventilation 24 V line
- Internal bus line
- Line monitoring
- Wind and rain sensor line
- z Central ventilation push-button
- VG1 Ventilation group 1
- VG2 Ventilation group 2
- VG3 Ventilation group 3

Electric drive and opening systems (24 V)

ELTRAL K chain drives, spindle drives and locking drives



RWA drives and RWA opening systems guarantee reliable smoke exhaust in the event of a fire and provide natural everyday room ventilation. With the GU range of chain drives, spindle drives and locking drives and combined opening and locking systems, there is a hardware solution for any individual application.

With their compact design and pleasant appearance, chain drives from the Gretsch-Unitas Group are an ideal solution for the fast, electromotor-driven opening of exhaust air apertures and for room ventilation.

The drives are surface-mounted and perfectly suited to any window type and style thanks to their flat design. Depending on the window profile, the drives can also be installed in a concealed manner.

The wide range of drives and mounting bracket sets enables virtually any installation situation and installation type.

Advantages at a glance

ELTRAL K chain drives

- Simple and fast installation – face-fixed or concealed
- An array of mounting styles enable virtually any installation situation on inward or outward-opening windows
- Compact, requiring little space
- Large opening width even with small sash heights
- Small dimensions
- Variable opening width setting



ELTRAL K35 chain drive

ELTRAL K chain drives – system features

- Face-fixed or integrated solutions individually adapted to window size, weight and material
- The integrated electronics enables the synchronous control of several drives. This means that even large and heavy window elements can be moved easily
- The combined use of chain drives and locking drives (in conjunction with the UNI-JET central locking system) offers additional weather protection and optimal tightness for large-format windows
- Reduced closing speed (max. 5 mm/s) for the last 50 mm – corresponds to protection class SK3
- Integrated microprocessor control unit
- Small dimensions
- With integrated limit stop and overload cut-off
- Suitable for use with all Turn-Only, Tilt-Only, Top-Hung, Parallel-Projecting, Projecting Top-Hung, Horizontal- or Vertical-Pivot windows and skylights

Planning notes

The following questions and planning notes are intended as a decision-making help for selecting the proper system components of an RWA installation.

- How large is the floor area of the room or staircase to be equipped with an RWA system? In other words, which geometrically or aerodynamically efficient opening area is demanded by the building authority? Are there any obstacles such as lintels or special profile thicknesses to be taken into account?
- Which type, size and number of window(s) and which opening direction are to be considered when planning the RWA installation?
- How large and how heavy are the windows? Are the drives and fastening elements suited to resist the forces arising on the windows and to achieve the opening widths required?
- Which mounting method is preferred (face-fixed or concealed assembly)?
- Are the supply and exhaust air openings freely accessible, thus requiring extra safety (burglary preventing) installations?
- What other influences are to be expected?

RWA systems are an imperative necessity in public buildings for saving people's lives!

ELTRAL K chain drives – technical data

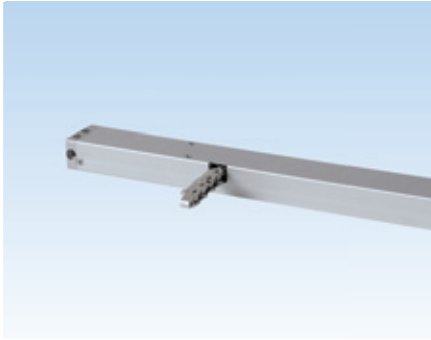
ELTRAL chain drives						
Drive	Nominal voltage (V DC)	Push/pull force (N) [1]	Current consumption (A)	Opening width (mm)	Concealed installation	Protection class
ELTRAL K25	24	250	0.8	200 – 800	■	Class 3 [2]
ELTRAL K30		300	0.9	300 – 500	–	
ELTRAL K35		350		100 – 800	■	
ELTRAL K60		600	1.2	200 – 1000	–	

[1] Depending on lift/force-displacement curve

[2] For power-operated windows in accordance with Machinery Directive 2006/42/EC

Electric drive and opening systems (24 V)

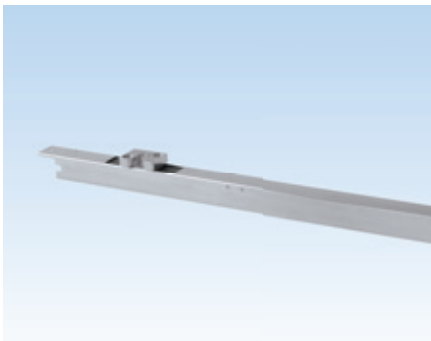
Overview of variants



ELTRAL chain drives

K25, K30, KS 30/40, K35, K60

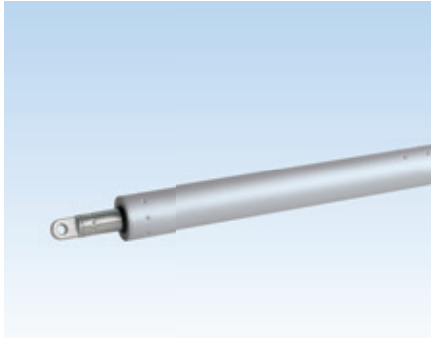
- Modern and visually appealing solutions due to optimum adaptation to the window architecture
- Versatile mounting variants:
 - Installation on frame or sash
 - Face-fixed and concealed
- For inward and outward opening top-hung, bottom-hung, side-hung and skylights
- Solo and synchro variants
- Simple combination with locking drives



ELTRAL locking drives

VAN, VA25, OA, VA35, VA 1, VA 2

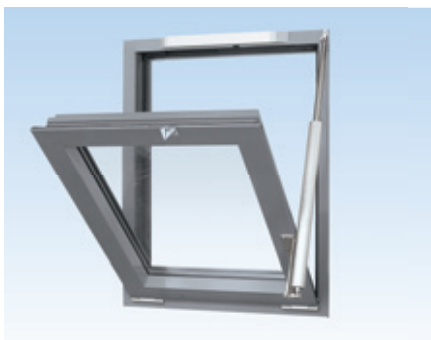
- Higher holding force in larger windows due to additional locking point
- Concealed and face-fixed mounting solutions
- Increased tightness against driving rain
- Additional protection against unauthorised access
- In conjunction with the UNI-JET central locking system: any number of locking points possible for secure opening, closing and locking of large window sashes
- With integrated closing sequence control



ELTRAL spindle drives

S80, S160

- Easy opening and closing of large, heavy skylights or facade openings
- Integrated limit stop and overload cut-off
- Slender and aesthetic drives
- High push forces up to 1600 N
- Solo and synchro variants



RWA opening systems



1000, 1050

- Automatic opening and closing of inward and outward opening top-hung, bottom-hung and side-hung sash systems
- Large opening widths with small travel distances even for small-height sashes
- With integrated closing and opening sequence control
- With electromechanical sash locking (locking and unlocking)
 - Face-fixed, single or double
 - As square-spindle drive
 - Driven by electric motor via the internal central locking system
- Solo and synchro variants

Electric drive and opening systems (24 V)

Technical data






Designation	Chain drives						Spindle drives	
ELTRAL	K25	K30	KS 30/40 [1]	K35	K60		S80	S160
Suitable for use in facades	■	■	■	■	■		–	–
Tilt-Only sash, inward-opening	■	■	■	■	■		–	–
Top-Hung sash, outward-opening	■	■	■	■	■		■	■
Turn-Only sash, inward-opening	–	■	■	■	■		–	–
Suitable for use with skylights	–	■ [2]	■ [2]	■ [2]	■ [2]		■	■
Tested and approved according to EN 12101-2			–			–		
Operating voltage	24 V ±15%						24 V ±15%	
Push force (N)	250 [2]	300	300 [2]	350 [2]	600 [2]	300	800	1600
Pulling force (N)	250	300		350	600	300	800	1600
Nominal force/torque (N)/(Nm)	–	–	–	–	–	–	–	–
Nominal current (A)	0.8	0.9			0.8		1.0	0.7
Breaking current (A)	1.0	1.2				1.0	1.4	2.5
Travel speed (mm/s)	8.0/12.0/13.5 [2]	8.9	9.0	9.6	8.0/12.0/13.5 [2]		10.0/9.0 [3]	4.0/3.8 [3]
Opening width / travel (mm)	200 300 400 500 600 800	300 – 500 variable adjustable	200 – 400 variable adjustable	100/200/300 300/400/500 600/700/800 variable adjustable	200 400 500 600 800 1000	500 600	300 500 750 1000	
Protection type (IP)	32		30	32			65	
Duty ratio (%)	30						30	
Locking force / locking moment (N)/(Nm)	3000	2000	1000	3000			5000 [4]	
Operating temperature (°C)	-5 to +75	-5 to +65			-5 to +75		-5 to +75	
Synchronous control	optional						optional	
Concealed installation	■	–	–	■	–		–	
Dimensions LxHxD (mm)	Lx26x41 [2]	456x43x60	386x38x58	Lx35x35 [2]	Lx40x56 [2]		ø 36 x (342 + lift)	
Connecting cable	Silicone 3 m / 3-core	Silicone 2 m / 3-core (Solo) 2.5 m / 5-core (Synchro)	2 m / 3-core (Solo) 2.5 m / 5-core (Synchro)	Silicone 2 m / 3-core (Solo) 2.5 m / 5-core (Synchro)	Silicone 5 m / 5-core		Silicone 2.5 m / 3-core	

[1] Due to its plastic case, the ELTRAL KS 30/40 drive is not approved for RWA use within the EU!

[2] Depending on travel / force-displacement curve

[3] Solo / Synchro

[4] Depends on fixing

Locking drives						RWA opening systems	
VAN	VA25	OA	VA35	VA-1 R/4 VA-1 L/4	VA-2/12 VA-2/20	RWA 1000 with S100	RWA 1050 with S60
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	–
■	■	■	■	■	■	–	–
■	■	■	■	■	■	■	■
–						–	
			–				
24 V ±15%						24 V ±15%	
–						–	
–						–	
600 / –		– / 10	600 / –			1000 / –	600 / –
1.5	0.4	0.8	0.6			0.8	
1.5	0.4	1.1	0.8			1.4	1.2
6.0	2.8	20°/s	3.2	4.2		2.6	5.8
18 / 35 adjustable	17 / 36 adjustable	90° / 180° adjustable	18	–		100 200 300	100 150 200 250
43	32					65	
30						20	
850	1000	22	1000			5000 [4]	
-5 to +75			-5 to +65			-5 up to +75	
–	optional	–	optional			electric	
■	■	–	–	–	–	–	–
353x25x25	473x25x25	156x40x83.5	420x35x35		1200/2000x 35x35	(256+travel) x ø 36	
Silicone 2 m / 3-core	Silicone 3.0 m / 2-core	Silicone 3.0 m / 4-core		Silicone 2.5 m / 4-core		Silicone 2.5 m / 2-core	



Adequately sized supply air openings are always required to ensure that the smoke and heat extraction system functions safely and reliably. By means of a kind of "chimney effect", these boost the thermal uplift and thus ensure that smoke gases are drawn upwards and extracted more quickly.

The supply air opening must be 1.5 times larger than the area of all exhaust air openings in the space concerned. The supply air opening must also be fully located in the low-smoke layer.

The ELTRAL TA 60 door drive makes it possible to use swing doors in entrance areas for SHEV supply air as well, at the same time as maintaining escape route security.

Functions at a glance

- Smoke exhaust: fast and reliable smoke exhaust in the event of fire via the extraction apertures by the automatic supply air opening in the door
- Passage convenience: the doors can be opened without any counterforce in everyday use, because the ELTRAL TA 60 door drive is inactive in everyday use
- Burglar protection: high degree of security through the use of SECURY automatic multi-point locks, the series 19 motor-driven lock or MTRS motor-driven shoot-bolt lock
- Panic function: escaping from inside is possible at any time (EN 179 / EN 1125)



ELTRAL TA 60

System features

- Compact size
- Integrated microprocessor control unit
- Potential-free contact to release the A-opener or motor lock
- Integrated limit stop and overload cut-off
- For door leaf widths from 450 mm
- EV1 anodised aluminium housing



Functional principle

In conjunction with the multi-point locks SECURY 19 or GU-SECURY Automatic with A-opener, or with the series 19 motor-driven lock (or MTRS motor-driven shoot-bolt lock for 2-leaf doors), this drive solution not only achieves the main "door" function but also other functions such as compliance with safety and fire protection requirements, without impairing passage convenience during everyday operation.

The ELTRAL TA 60 door drive is suitable for use on 1- and 2-leaf doors – also at emergency exit or panic doors according to EN 179 / EN 1125.

Suggested components

- 1 ELTRAL TA 60 door drive
- 2 Push bar
- 3 SECURY multi-point lock
- 4 Door handle

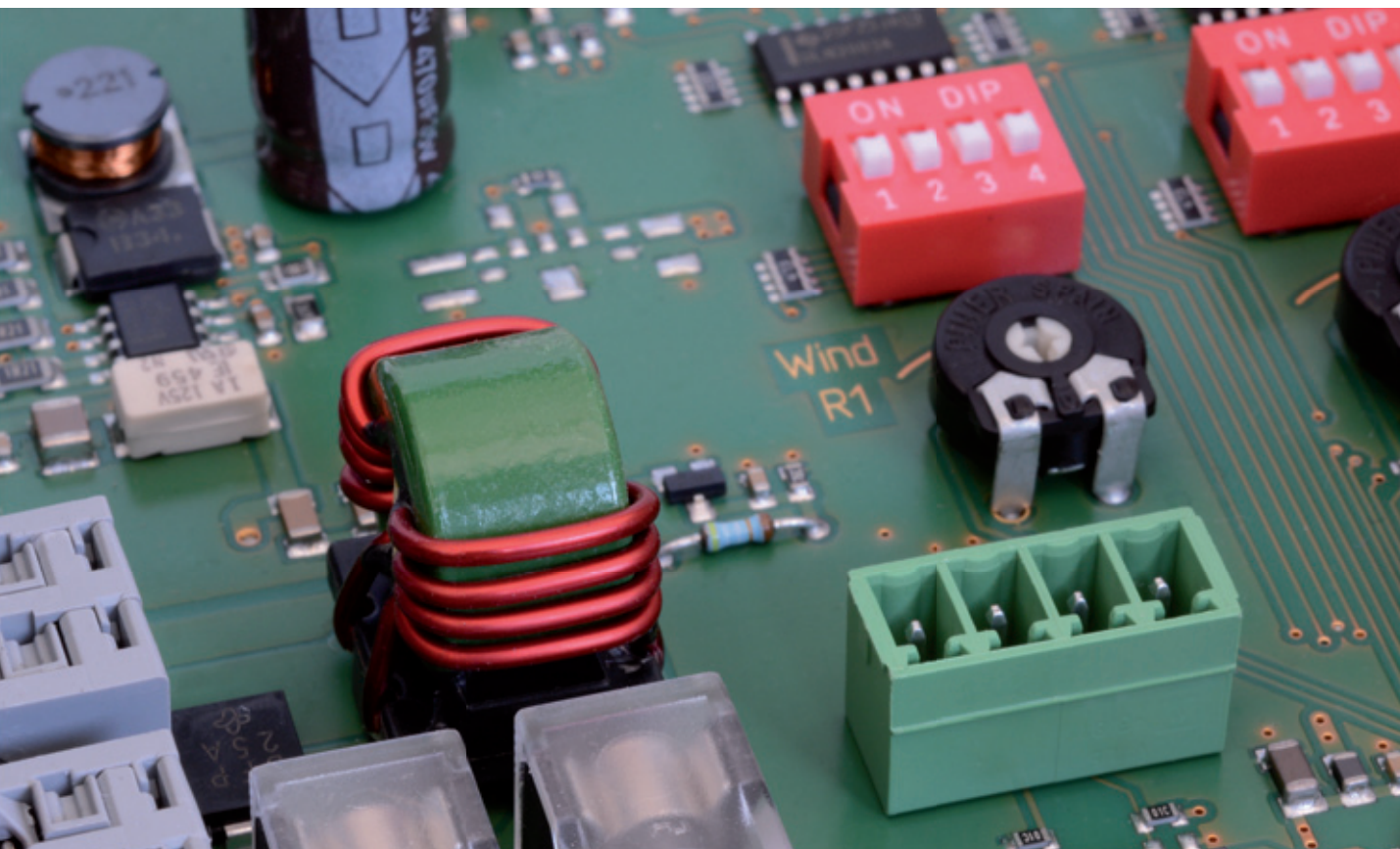


Technical data

ELTRAL TA 60 door drive	
Drive	ELTRAL TA 60
Nominal voltage	24 V DC \pm 15%
Pull/push force	200 N / 600 N
Nominal current	0.8 A
Max. switching current	3 A
Opening angle related speed Runtime	3°/s approx. 30 s
Opening torque	180 Nm / 216 Nm (continuous / maximum)
Closing torque	72 Nm

Electrical controllers (24 V)

RZ25 / RZ50 / RZ75 compact control units and modular control units



RWA central control units reliably control and monitor all connected ventilation and fire protection components (e.g., automatic detectors, manual alarms, electric drives) and supply them with power.

In the event of a fire, the central control units ensure the fast opening of smoke exhaust apertures in order to evacuate toxic fumes. They are therefore of central importance in preventative fire protection.

The GU Group offers a wide range of RWA central control units, from compact control units to expandable modular control units. Accessories and enhancements offer a high degree of planning flexibility.

Advantages at a glance (compact control units)

- Straightforward reliable connection of up to five control units to form five physically separate ventilation groups
- Comfortable and clear status, error and fault signalling via LED indicators
- Wide range of adjustment and application functions
- RZ50 / RZ75: with integrated evaluation of rain and wind detectors



RZ25 / RZ50 / RZ75 compact control units

RZ compact control units – system features

- Compact, robust steel housing
- Regulated output voltage
- Relay outputs for alarm and faults
- Can be used for both smoke exhaust and everyday ventilation
- Integrated backup batteries guarantee 72-hour operation in the event of a power failure
- Electronic monitoring of cables leading to drives and alarm devices
- Wide range of adjustment and application functions:
 - Automatic ventilation <CLOSE> with programmable time selection
 - Dead man's switch function in <OPEN> and <CLOSE> direction
 - Runtime limitation for ventilation, adjustable
 - Integrated, acoustic alarm signalling device with switch-off function
 - Automatic closing of windows in case of power failure
 - Selection of the drive running direction in the event of an alarm

Planning notes

The following questions and planning notes are intended as a decision-making help for selecting the proper system components of an RWA installation.

- Have the current consumption values of all drives to be controlled by the central control unit been added together? This total motor current must be provided by the central control unit.
- Is it necessary to configure ventilation groups? If yes, how many?
- Is automatic triggering through temperature rise or smoke formation useful in addition to manual operation?
- Should inputs from rain / wind detectors be considered?
- Are alarm or failure reports to be transmitted elsewhere?
- Have the cross-sections of the supply lines been adapted to the required mass flows?

RWA systems are an imperative necessity in public buildings for saving people's lives!

RZ compact control units – technical data

RZ compact control units					
Control unit	Nominal voltage (V DC)	Nominal/output current (A)	Ambient temperature range (°C)	Maximum number RWA push-button 'HSE'	Smoke and heat detector
RZ25	24	2.5 / 3.2	-5 up to +40	10	10
RZ50		5.0 / 6.5			
RZ75		7.5 / 8.4			

Electrical controllers (24 V)

Overview of variants



RWA compact control units

RZ25, RZ50, RZ75

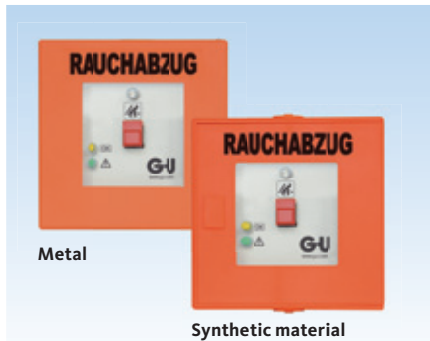
- Control unit for drive and opener systems
- For use in stairwells
- With 2.5 A / 5.0 A and 7.5 A nominal current
- Signal reception from the fire detectors (automatic/manual) for immediate opening of the smoke exhaust apertures
- Monitoring and coordination of functions as well as possible faults
- Emergency power supply on power failure for at least 72 hours
- Control of the daily ventilation function



RWA modular control units

RZM240, RZM480

- Control unit for drive and opener systems
- For use in large and complex buildings
- For individual project-specific solutions
- With 24 A or 48 A nominal current
- Varied RWA and ventilation group possibilities



Available in the colours:



RWA push-button 'HSE'

- Electric manual control device for manual alarm release
- On-wall, lockable plastic housing or on-wall metal housing
- Signaling the operating statuses via illuminated indicators
 - Stand by
 - Alarm
 - Interference



Smoke detector / heat detector

RMD / WMD

- Smoke or heat detectors for automatic alarm release
- Smoke detectors (scattered light detector) acc. to EN 54, part 7
- Wide variety of applications and monitoring range
- High level of functional reliability

New opening types and window shapes to cater for the special aesthetics of the facade

Special solutions for facades

Gretsch-Unitas combine special components, exclusively engineered for individual projects, with components from their standard product range. In this way, the requirements for novel opening types and shapes of windows can be met whilst retaining unique aesthetic appeal, while the costs for the fabricator remain totally competitive.





Special solutions for facades

Parallel-Projecting, Projecting Top-Hung and Turn-Only windows



Modern architecture places very high demands on the design and function of facades. We make the corresponding solutions happen in partnership with planners, system houses, metalworkers and fabricators – by using our worldwide tried-and-tested GU standard hardware with innovative components developed in-house for individual projects by our engineers, for example.

Using our system solutions for the facade, aesthetic customised solutions can not only be implemented but also reliably and cost-effectively brought in line with the applicable standards and regulations.

After all, individually designed facades incorporating Gretsch-Unitas technology are not just architecturally appealing, they also satisfy the highest of expectations with respect to functionality, ventilation, thermal insulation and burglar protection.

Parallel-Projecting windows

Parallel-Projecting windows are used where the elegant visual effect and homogenous appearance of a glass facade should be retained even when the windows are opened in different ways. In contrast to conventional bottom-hung or Tilt&Turn windows, the window surface is not swivelled in relation to the frame, but is moved out in an orientation that is parallel to the glass facade.

Furthermore, this opening method is also suitable for achieving natural ventilation concepts because of the steplessly controllable opening widths.

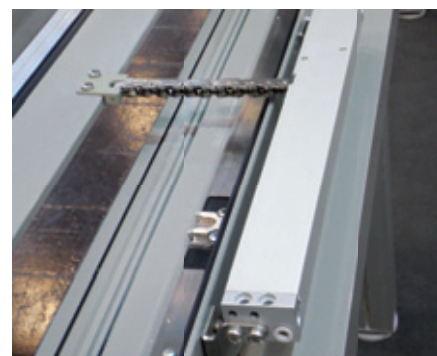
In comparison to conventional Tilt-Only windows, Parallel-Projecting windows can obtain a much higher rate of air exchange with the same opening width. It is advantageous that this opening method – like all outward-opening windows – does not take up any space in the interior.

Projecting top-hung window

The window sash dips downward slightly when opening outward and remains in any opening position. The projecting top-hung function in windows offers considerable functional and aesthetic advantages in many building projects. The external appearance of the full glass facade can be made extremely homogenous by using this window.



Parallel-Projecting windows
Homogeneous facade design
and individual ventilation



Projecting top-hung window
Functional and aesthetic aspects

Turn-Only window

Increased requirements on the weight and dimensions of side-hung windows demand new, creative solutions.

The challenges concerns implementing these new window dimensions in accordance with the aesthetic requirements of the architect. Solutions such as with concealed hardware or even delicate, high load-capacity hinges are called for in the demanding building envelope nowadays.



Turn-Only window
Large weights and aesthetic requirements

Note

All drive and opening systems presented on pages 14 and 15 (ventilation) / pages 24 and 25 (smoke exhaust) can be used for window solutions shown above.

Motor-driven Tilt&Turn window

Barrier-free construction in accordance with DIN 18040




The role played by barrier-free living in new-build and conversion projects is increasing in significance, which places high demands on planning and execution. In response, Gretsch-Unitas supplies coherent system solutions that combine a high degree of comfort and intelligent security with the objectives of barrier-free living.

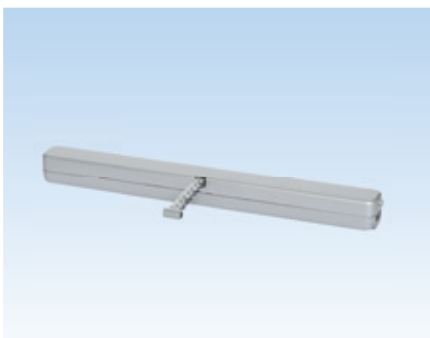
Windows are tilted for ventilation. Already with standard-sized windows, the opening and closing (especially of a tilted window) requires some physical effort, which is not 'barrier-free'. The new K18 DK system solution from GU enables comfortable, electrically powered ventilation via a Tilt&Turn window. This means electrically powered tilting and closing of the window via push-button or hand-held transmitter.

The window can be opened to the Turn-Only position manually at any time, e.g. for cleaning or inrush airing, through the use of an intelligent controller and decoupling mechanism.

The hardware and locking elements are not visible due to combination of the new UNI-JET SCF fully-concealed Tilt&Turn hardware with the ELTRAL K18 DK chain drive and VAN DK locking drive with concealed mounting.

Advantages at a glance

- No visible hardware and locking elements 
- When the button is pressed, the window opens to the tilt position, and when the button is held pressed, the chain of the drive decouples to allow the window to be opened manually to the Turn-Only position
- Can be used for all timber, PVC and metal windows independently from the profile system
- The optional add-on module can be used to ensure that the Turn-Only function can only be triggered by authorised users (e.g. via transponder)
- Optionally with locking and opening monitoring striker (VdS class B)



ELTRAL K18 DK chain drive



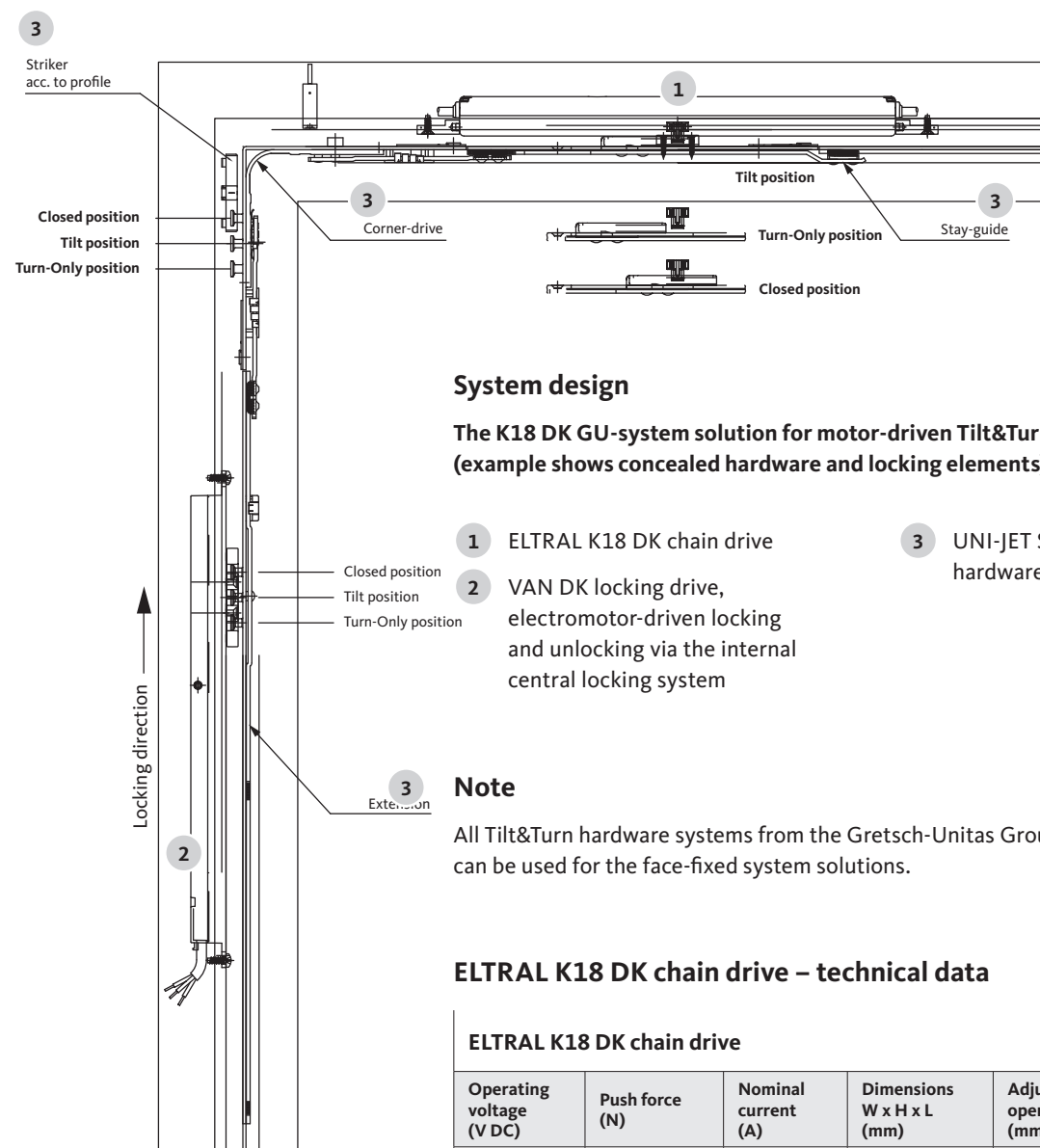
Motor-driven Tilt&Turn window

System features, system design, technical data



System features

- No visible hardware and locking elements due to combination of the new UNI-JET SCF fully-concealed Tilt&Turn hardware with the ELTRAL K18 DK chain drive and VAN DK locking drive with concealed mounting
- Adjustable opening widths, also for subsequent travel adjustments (chain length)
- With superordinated control usable for night-time cooling
- The VAN DK locking drive provides secure gasket pressure
- From inside the room, the drives can be released from their closed position via mechanical emergency release at any time and in a non-destructive manner (e.g. in the event of a power failure)
- Intelligent decoupling mechanism and controller for authorised users: the chain can be disengaged at the push of a button to switch from the Tilt-Only to the Turn-Only position and open the window manually
- Sash weights up to 200 kg



System design

The K18 DK GU-system solution for motor-driven Tilt&Turn windows consists of (example shows concealed hardware and locking elements):

- 1 ELTRAL K18 DK chain drive
- 2 VAN DK locking drive, electromotor-driven locking and unlocking via the internal central locking system
- 3 UNI-JET SCF concealed hardware system

Note

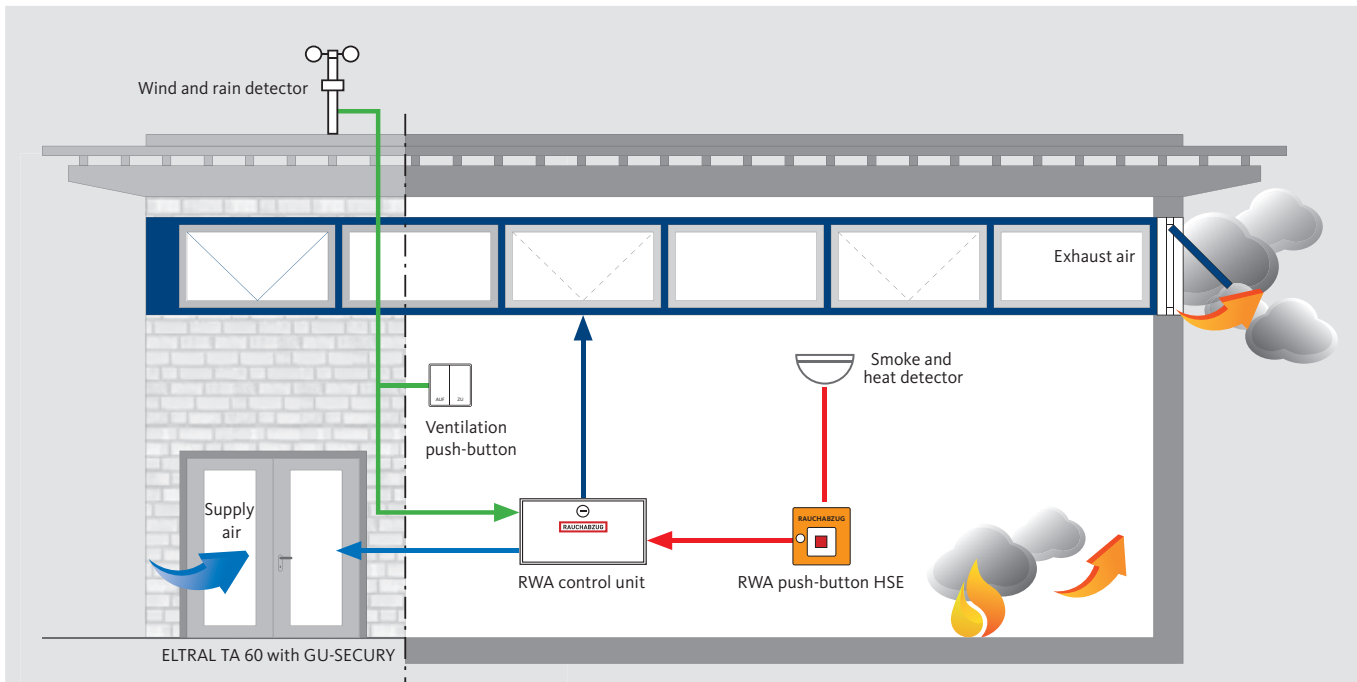
All Tilt&Turn hardware systems from the Gretsch-Unitas Group can be used for the face-fixed system solutions.

ELTRAL K18 DK chain drive – technical data

ELTRAL K18 DK chain drive					
Operating voltage (V DC)	Push force (N)	Nominal current (A)	Dimensions W x H x L (mm)	Adjustable opening widths (mm)	Connection cable (m)
24	up to 180	0.32	28x28x310	80, 100, 160, 210	2.0

Natural smoke and heat exhaust ventilation devices (NSHEV)

according to EN 12101-2



Rely on tested and certified security!

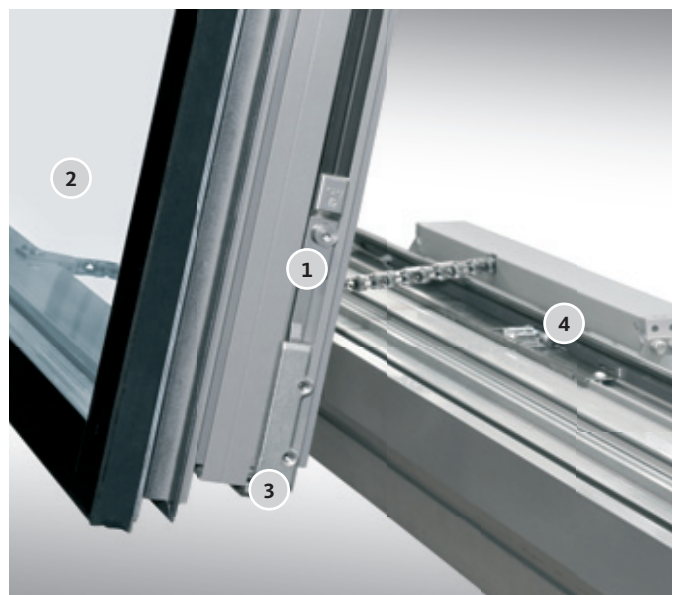
Natural Smoke and Heat Exhaust Ventilation devices (NSHEVs) acc. to EN 12101-2 as part of an RWA system offer additional reliability in smoke exhaust from buildings.

As important components of a rescue route safeguarding concept, GU NSHEV system solutions make a reliable and efficient contribution to reducing smoke levels in escape and rescue routes in the event of a fire.

Since 2006, EN 12101, part 2 has been applicable throughout Europe as the basis for testing natural smoke and heat exhaust ventilation devices. A proof of usability acc. to EN 12101, part 2 must be provided in Germany for all smoke exhaust systems that are required under building regulations (regulated building products = approved under building regulations and carrying the CE mark).

As a result, only **completely tested system solutions** – referred to as NSHEVs – are allowed to be used in vertical facades, comprising:

- 1 Window system profiles
- 2 Glazing and gaskets
- 3 Window hardware (stays, hinges, etc.)
- 4 Drive unit incl. fixing material





The Gretsch-Unitas Group provides you with a wide selection of **NSHEV system solutions for aluminium profiles** from well-known system suppliers based on the standardised Euro-groove, **as well as timber and timber-aluminium systems.**



Application ranges of GU NSHEV system solutions

- Inward and outward opening Tilt-Only, Top-Hung, Turn-Only and Projecting Top-Hung windows
- Sash dimensions up to 3000 x 3000 mm (W x H)
- Sash weights up to 250 / 150 kg (aluminium / timber)
- Best aerodynamic efficiency values: Cv values
- High resistance (wind loads); depending on sash format up to 3000 Pa
- Can also be used for everyday ventilation
- Everything from a single source: drives, hardware and an extensive product range comprising central stations, RWA pushbuttons 'HSE', fire detectors and other components

Select the appropriate solution from an extensive range of approved chain drives, locking drives and RWA opening systems.

GU NSHEV system solutions for facades



Approved aluminium systems and profiles with standardised 15/20 Euro-groove



Approved timber / timber-aluminium systems and profiles with Euro-rebate



Exclusion of liability

The information provided in this publication consists of product descriptions. This is general information based on our experience and tests and therefore does not take any specific application into account. No claims for compensation can be made on the basis of the product descriptions.

Although we have made every attempt to ensure the information provided here is accurate, it is non-binding. It should be adapted to the respective construction projects, usage and specific on-site demands.

The publication has been compiled to the best of our knowledge. The Gretsch-Unitas Group accepts no liability for any errors. The document is subject to modifications during the course of technical developments.

The product images shown in the publication may differ from the actual product.

Copyright notice

© All illustrations and texts in this publication are protected by copyright. Unless otherwise stated in the image credits, the rights belong to the Gretsch-Unitas group. Any use of copyright protected materials without the consent of the holder of the rights is prohibited.

Image credits

Page 4/5 Photo: architektur-werk-stadt

Page 34/35 Photo: Musée d'Ethnographie, Genève, Blaise Glauser

Publisher
Gretsch-Unitas GmbH
Baubeschläge
Johann-Maus-Str. 3
71254 Ditzingen
Germany
Tel. +49 71 56 3 01-0
Fax +49 71 56 3 01-2 93
www.g-u.com



WINDOW TECHNOLOGY
DOOR TECHNOLOGY
AUTOMATIC ENTRANCE SYSTEMS
BUILDING MANAGEMENT SYSTEMS

Gretsch-Unitas GmbH
Baubeschlge
Johann-Maus-Str. 3
D-71254 Ditzingen
Tel. +49 7156 301-0
Fax +49 7156 301-77980

BKS GmbH
Heidestr. 71
D-42549 Velbert
Tel. +49 2051 201-0
Fax +49 2051 201-9733

www.g-u.com

Securing technology for you

