

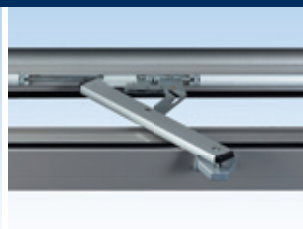
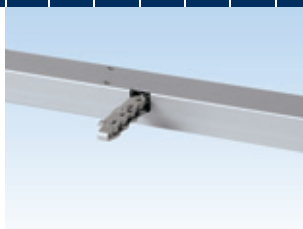


WINDOW TECHNOLOGY
DOOR TECHNOLOGY
AUTOMATIC ENTRANCE SYSTEMS
BUILDING MANAGEMENT SYSTEMS



NATURAL SMOKE EXTRACTION AND VENTILATION

Electric drive and control solutions / Manual fanlight opener systems



Securing technology for you



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Drive and opener systems for smoke extraction and everyday ventilation



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Extra safety and convenience

Drive and opener systems for smoke extraction and everyday ventilation



Modern drive and system solutions – individual configuration as easy as A, B, C

The Gretsch-Unitas Group

Ever since 1907, the Gretsch-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 Gretsch-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 extraction and ventilation solution. Trained specialists with extensive knowledge of all the relevant standards and regulations as well as rapid and reliable service make it possible to optimise building concepts in terms of costs and applications.

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.



Smoke and heat exhaust ventilation systems (RWA)

In applications where maximum reliability is required of a smoke exhaust installation in the event of a fire and fumes need to be removed quickly into the outside air, RWA systems ensure reliable opening of exhaust apertures. This means that escape and rescue routes will be kept clear and people's lives will be protected.



Natural smoke and heat exhaust ventilation devices (NSHEVs)

Only tested complete systems are still approved in accordance with the EN 12101-2 standard for smoke extraction in the facade. GU NSHEV system solutions for timber, timber/aluminium and aluminium profiles in various opening types offer the highest standards of security with individual flexibility.



Electric drive, opening and control systems

Electric motor drives are essential for opening and closing smoke extraction apertures as well as for everyday ventilation. An extensive range of RWA/ventilation central control units and accessories is available for activation, coordination and supply of the drives and components.



Natural ventilation with fanlight openers

Individually controllable supply of fresh air according to requirements. Fanlight opener systems from Gretsch-Unitas ensure ample room ventilation through all unaccessible fanlights. They are motor-driven or operated by hand lever.

Smoke and heat exhaust ventilation systems (RWA)

Tasks and goals



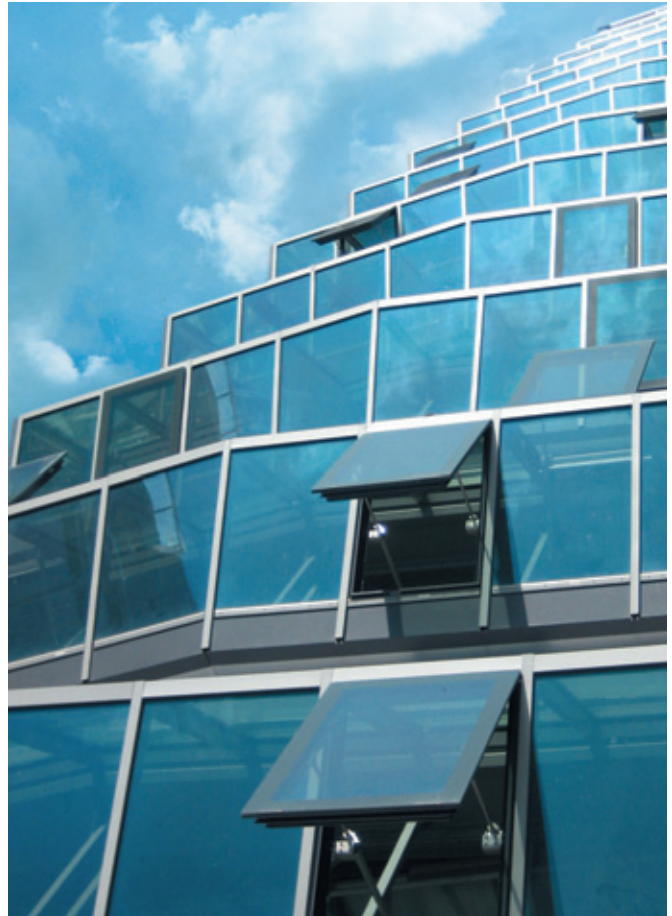
Smoke and heat exhaust ventilation systems as an important component of the preventative fire protection concept

Fires and the associated heat and smoke development are still the biggest threat to people and buildings. Every year, many people die in fire disasters, fires also cause enormous property damage. However, the threat to people and buildings not only comes from fire and heat, but especially from smoke and the arising toxic fumes.

For this reason, extracting the smoke quickly and reliably is highly important. This is where smoke and heat extraction systems as firm components of a preventative fire protection system play their most important role: evacuating fire gases, dangerous oxides and thermal energy into the atmosphere in case of a fire. In this way, smoke levels are kept low in escape and rescue routes, thereby permitting non-assisted and assisted rescue to take place!

Furthermore, this avoids the thermal load imposed on the building structure by hot fire gases leading to damage to the building.

The additional benefit should not be neglected however. Each electric motor-driven RWA system can be used in various combinations for automatic everyday ventilation. Furthermore, an RWA control unit can easily be connected to a higher-level building control system.



The task of RWA systems is defined as follows in DIN 18232:

The task of RWA systems is to extract smoke and heat from the building in case of fire. They contribute to reducing the effects of fire on the building structure.

Protection targets of a smoke and heat exhaust ventilation system

Protection of personnel = unassisted rescue

Securing escape and rescue routes by smoke extraction ♦ Clear visibility for people escaping ♦ Saving people's lives

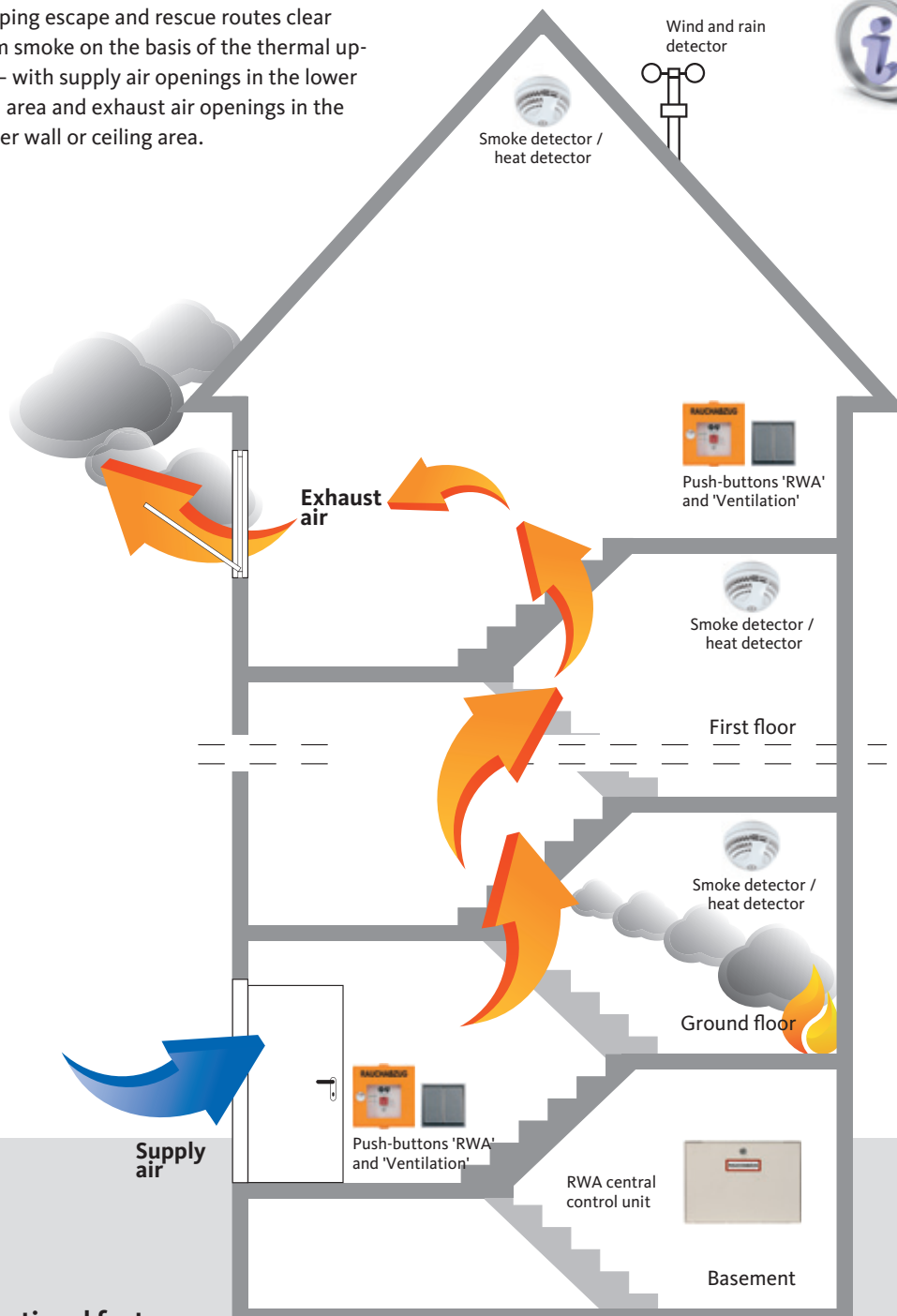
Fire fighting = assisted rescue

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

Keeping escape and rescue routes clear from smoke on the basis of the thermal up-lift – with supply air openings in the lower wall area and exhaust air openings in the upper wall or ceiling area.



Requirements of the Model Building Regulation (MBO) §14

"Building installations are to be laid out, built, altered and maintained in such a way that the occurrence of fire and the spreading of fire and smoke is prevented and in the event of a fire, it will be possible to save people and animals and fight the fire effectively."

Requirements of the regional building ordinances (LBOs)

- Number and position of the triggering devices
- Position and geometrical opening aperture of the necessary smoke extraction openings
- Overall system consisting of:
 - Electrical control devices (RWA central control unit)
 - Electromechanical drives
 - Manual control devices (RWA pushbutton 'HSE')
 - Automatic alarm release (smoke/heat detectors)*

Functional features

- Max. 60 seconds until achieving full opening
- In case of a power failure, the RWA system remains functional for at least 72 hours
- Reliable manual triggering via RWA pushbutton 'HSE'
- Rapid automatic triggering via smoke or heat detector
- Triggering via existing fire alarm system 'BMA'
- Forwarding messages (alarm, malfunction, etc.)
- Continuous monitoring of the functional readiness
- Simultaneous daily ventilation function without additional components

* The use of smoke or heat detectors is not mandatory in legislation, but we do recommend it.

Smoke and heat exhaust ventilation systems (RWA)

System structure and planning notes



Planning notes

The questions listed below are intended to make it easy for potential buyers to select the appropriate RWA system components.

Drives:

- 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?

Central control units:

- 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?
- Should alarm or failure reports 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!



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

RWA air supply – ELTRAL TA 60 door opening drive

Functional reliability and passage convenience in a system



Adequately sized supply air openings are always required for a reliable function of the smoke and heat extraction system. 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 ELTRAL TA 60 door drive makes it possible to use swing doors in entrance areas for RWA supply air as well, at the same time as maintaining escape route security. In combination with a GU-SECURY Automatic A-opener or motor lock, this drive solution not only achieves the main "door" function but also other functions such as complying with safety and fire protections requirements whilst not impairing passage convenience during everyday operation.

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

Convincing in detail

- **Smoke extraction:** fast and reliable smoke extraction via the extraction apertures by the automatic supply air opening in the door in case of fire
- **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 security by GU-SECURY Automatic multiple locking with A-opener or motor lock series 19
- **Panic function:** escaping from inside is possible at any time (emergency exit doors EN 179 / panic doors EN 1125)



ELTRAL TA 60 door opening drive

Security and ventilation functions in one system



BKS push bars

Panic exit devices in accordance with EN 1125

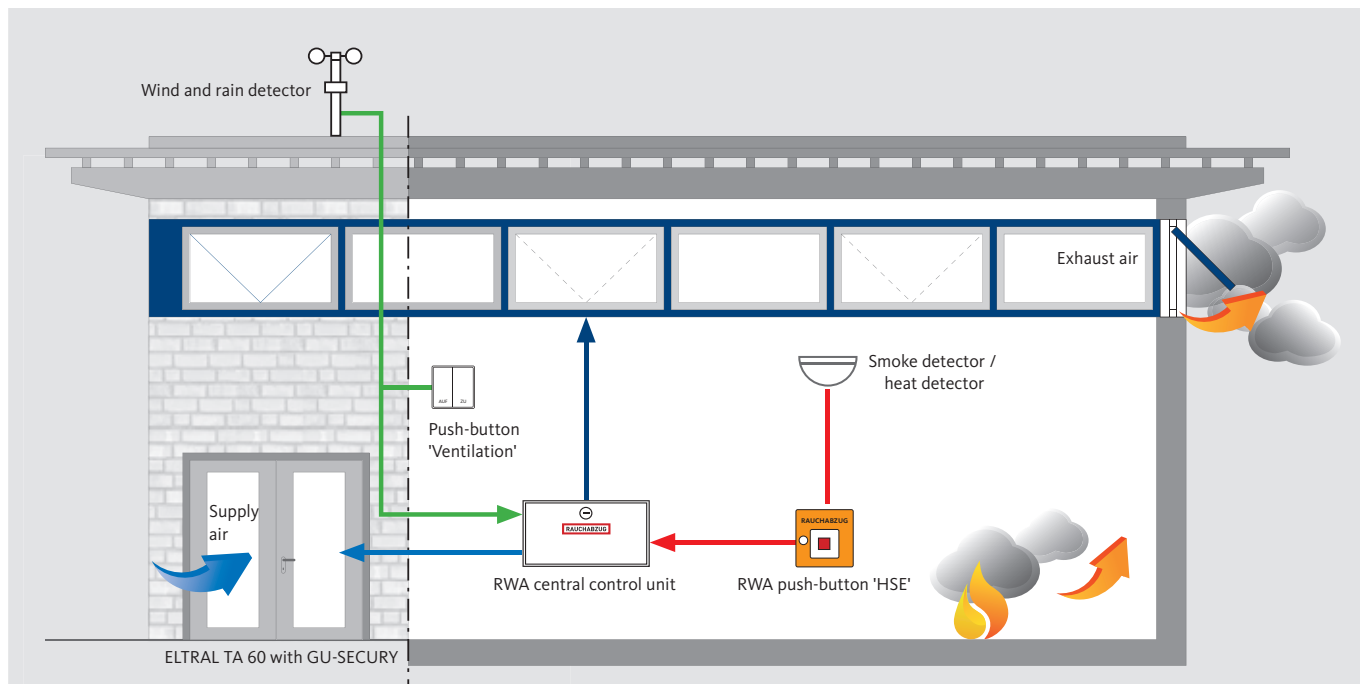


GU-SECURY Automatic with A-opener

Self-locking locking system

Natural smoke and heat exhaust ventilation devices (NSHEVs)

Definition, legal notes and components



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 extraction 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.

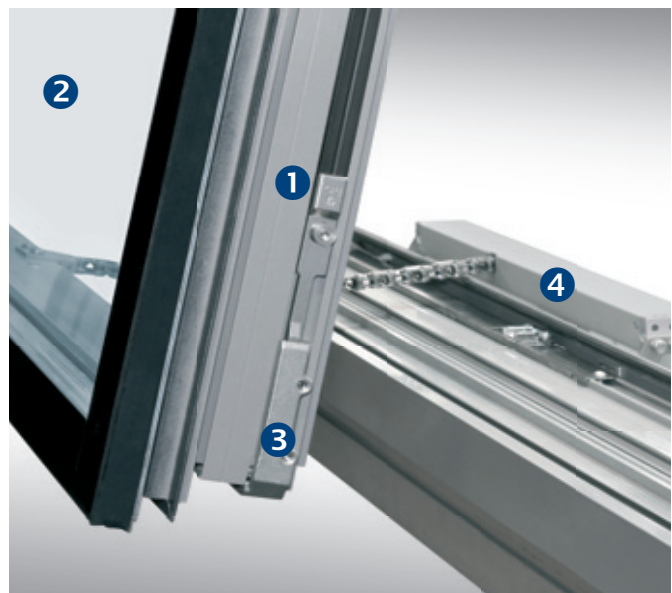


DIN EN 12101-2: Building products acc. to building regulation list B, part 1 of the German Institute for Building Technology (Deutsches Institut für Bau-technik, DIBt):

Since September 2006, only EN 12101, part 2 has been applicable throughout Europe as the basis for testing natural smoke and heat exhaust ventilation devices (NSHEVs). From that point onwards, it has been necessary to provide a proof of usability acc. to EN 12101, part 2 for all smoke extraction 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:

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





The Gretschi-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.**

This is what GU NSHEV system solutions offer you:

- Application ranges for inward and outward opening top-hung, bottom-hung and side-hung windows as well as projecting top-hung windows
- Dimensions up to 3000 x 3000 mm
- Sash weights up to 250 / 150 kg (aluminium / timber)
- Best aerodynamic efficiency values: C_v 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 chain drives, spindle drives and locking drives as well as RWA opening systems.

Approved NSHEV systems	Aluminium systems	Timber / timber-aluminium systems
Profile systems <ul style="list-style-type: none"> ■ With standardised Euro-groove 15/20 ■ With Euro-rebate * System profile (projecting top-hung windows)		
Application ranges		
Opening methods	Top-hung, bottom-hung and side-hung windows, inward/outward-opening Projecting top-hung windows	Top-hung, bottom-hung and side-hung windows, inward-opening
Sash widths (mm)	350 – 3000	400 – 2900 (top and bottom-hung windows) 400 – 1500 (side-hung windows)
Sash heights (mm)	200 – 3000	550 – 1900 (top and bottom-hung windows) 400 – 2800 (side-hung windows)
Opening widths (mm)	up to 600	up to 600
Sash weights (kg)	250 (bottom-hung windows) 200 (top-hung windows)	150
Permitted drives		
Chain drives	ELTRAL K25, K30, K35, K60 in solo and synchro version optionally in combination with a locking drive	
Locking drives	ELTRAL OA, VA25, VAN	
Opener systems	RWA 1000, RWA 1050, RWA 1100	–

Natural smoke and heat exhaust ventilation devices (NSHEVs)

Planning notes



The planning, dimensioning and installation (position and size of the smoke extraction apertures or supply air apertures) of natural smoke extraction systems are determined by many national codes of practice as in the past – in Germany by the DIN 18232, part 2 standard.

In general, the planning and configuration should always be carried out in consultation with the local fire protection authorities.

The EN 12101-2 test standard imposes the following test requirements on NSHEVs, and divides them up into classes:

- Aerodynamic effectiveness of the smoke extraction aperture
- Heat resistance up to 300 °C
- Durable functional safety (11,000 cycles, with simultaneous daily ventilation and air extraction)
- Stability under wind load

The following are essential for manufacturing a tested and certified NSHEV:

- Use of components (profiles, corner connectors, gaskets, hinges, hardware and drives) that have also been tested as part of the classification and are listed in the product passport as well as in the documents from the system supplier
- Training by the Gretsche-Unitas Group
- External monitoring
- Compliance with the maximum/minimum sizes and weights specified in the product passport and the technical documents
- Compliance with the GU NSHEV system documents and installation drawings
- Compliance with the installation documents of the corresponding system company



Procedure: From planning to implementation

1. Selection of the drive:
 - Application area, opening type, sash weight, lift
 - Wind loads
 - Locks
 - Space requirement of the drives
2. Determining the opening angle based on the opening type and the ratio between the clear width / clear height for achieving the aerodynamic opening aperture
3. Proof of the aerodynamically effective opening aperture A_a
4. Definition of the number of sashes
5. Manufacture of the NSHEV in the workshop
6. Marking with the NSHEV type plate
7. Correct mounting on site
8. Start-up
9. Documentation:
 - Requirement form
 - Risk assessment (danger of shearing and crushing)
 - Declaration of conformity



Initial type test (ITT) by GU (System supplier)

- Results of the initial type test are grouped together by the test institute into a product passport
- Proof of the performance classes achieved
- Confirmation of the design of a NSHEV

RWA expert
NSHEV training
GU NSHEV licensee

Factory production control (FPC)

- QM system for producing NSHEVs and for safeguarding product properties and a stable production process in the long term
- Representation or transfer of the initial type tests into production
- Checking the NSHEVs for compliance with the product passport

FPC acc. to ISO 9001 of
the NSHEV licensee acc. to
FPC checklist

External monitoring by notified body (NB) (e.g. ÜGs, ift, ift)

- Test and monitoring institute notified by DIBt
- Carries out initial monitoring of the production processes for compliance with the FPC
- Issues the CE certificate for the manufacture of NSHEVs
- Extends the validity of the CE certificate by annual audits

QM / QA acc. to ISO 9001
First inspection/annual audit
of the licensee with ÜG

Manufacture NSHEV (Licensee)

- Configuration and planning of the required performance classes and installation conditions
- Window production
- Installation of drives
- FPC check list
- Attachment of type label

Supply, mounting and
start-up of the NSHEVs

Electric drive and opener systems (24 V)

Technical data



Designation	Chain drives							Spindle drives	
ELTRAL	K20	K25	K30	KS 30/40 [1]	K35	K60		S80	S160
Tested and approved acc. to EN 12101-2	–			–				–	–
Operating voltage	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%		24 V ±15%	
Pull / push force (N)	200 [2]	250 [2]	300 [2]	300 [2]	350 [2]	600 [2]	300 [2]	800	1600
Current consumption (A)	0.5	0.8	0.9	0.9	0.95	0.8		1.0	0.7
Breaking current (A)	0.6	1.0	1.2	1.2	1.2	1.2	1.0	1.4	2.5
Lifting speed (mm/s)	8.0	8.0/12.5 [3]	12.5	10.0	7.4 / 11.6	9.0	13.1	10.0/9.0 [3]	7.2
Opening width / lift (mm)	200 300 400	200 300 400 500 600	200 – 500 variable adjustable	110 – 400 variable adjustable	200 / 300 400 / 500 600 / 800 variable adjustable	250 400 500 600 800 1000	500 600	300 500 750 1000	
Protection class (IP)	32	32	30	30	32	32		65	
Duty ratio (%)	30	30	30	30	30	30		30	
Locking force / break-loose force (N)	3000	3000	2000	1000	3000	3000		12000	
Operating temperature (°C)	-5 to +75	-5 to +75	-5 to +65	-5 to +65	-5 to +65	-5 to +75		-5 to +75	
Suitable for skylights	–	–	■ [2]	■ [2]	■ [2]	■ [2]		■	
Synchronous control	–	optional	optional	optional	optional	optional		optional	
Concealed mounting	■	■	–	–	■	–		–	
Dimensions LxHxD (mm)	Lx26x41	Lx26x41	456x43x60	386x38x58	Lx35x35	Lx40x56		ø 36 x (342 + lift)	
Connecting cable	Silicone 3 m 2-core	Silicone 3 m 3-core	Silicone 2.5 m 3-core (solo) 5-core (synchro)	2.5 m 3-core (solo) 5-core (synchro)	Silicone 2 m 3-core (solo) 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!

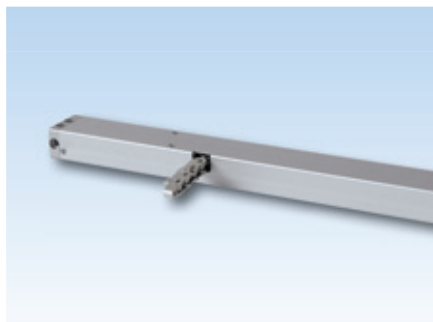
[2] Depending on lift / force-displacement curve

[3] Synchro drive

Locking drives						RWA opener systems			Fanlight opener system VENTUS F 300		Door opening drive
OA	VA25	VA35	VAN	VA-1 R/4 VA-1 L/4	VA-2/12 VA-2/20	RWA 1000 with S100	RWA 1050 with S60	RWA 1100 with S100	S 24 L	300/24	TA 60
		–		–	–				–	–	–
24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%	24 V ±15%
–	600	600	600	600	600	1000	600	1000	1200	3000	200 / 600
1.1	0.7	0.7	1.5	0.9	1.2	0.8	0.6	0.8	0.7	0.8	1.4
–	–	–	–	–	–	1.4	1.2	1.4	0.9	Limit stop switch	–
20°/s	2.8	4.2	6.0	4.2	4.2	2.6	5.8	2.6	0.9	1.0	3°/s
90° / 180° adjustable	17 / 36 adjustable	18	18 / 35 adjustable	–	–	100 200 300	100 150 200 250	100 200 300	50 or 70 adjustable	40 – 70 adjustable	93°
32	32	32	43	32	32	65	65	65	54	54	32
30	30	30	30	30	30	20	20	20	20	20	30
22 Nm	1000	2000	850	2000	2000	12000	12000	12000	–	–	–
-5 to +75	-5 to +75	-5 to +65	-5 to +75	-5 to +65	-5 to +65	-5 to +75	-5 to +75	-5 to +75	-5 to +75	-5 to +75	-5 to +75
–	–	–	–	–	–	–	–	–	–	–	–
–	optional	optional	–	optional	optional	electric	electric	electric	–	–	–
		–		–	–	–	–	–	–	–	–
156x40x83.5	473x25x25	420x35x35	353x25x25	420x35x35	1200/2000x 35x35	(256+stroke) x ø 36	(256+stroke) x ø 36	(256+stroke) x ø 36	210x36x76	270x55x102	421x40x101
Silicone 2.5 m 4-core	Silicone 2.5 m 2-core	Silicone 2.5 m 4-core	Silicone 2 m 3-core	Silicone 2.5 m 4-core	Silicone 2.5 m 4-core	Silicone 2.5 m 2-core	Silicone 2.5 m 2-core	Silicone 2.5 m 2-core	Plug 2-core	1.5 m 2-core	Silicone 5 m 5-core

Electric drive and opener systems (24 V)

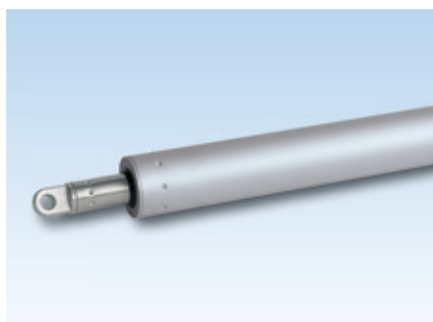
Product features



Chain drives ELTRAL

K20, K25, KS 30/40, K30, K35, 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 and side-hung windows and skylights
- Solo and synchro variants
- Simple combination with locking drives



Spindle drives ELTRAL

S80, S160

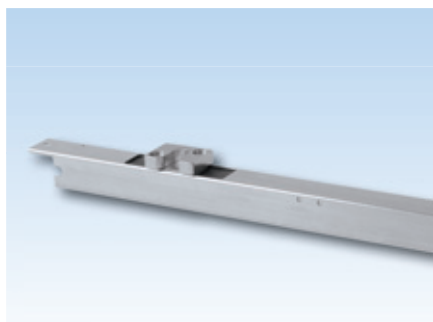
- Easy opening and closing of large, heavy skylights or facade openings
- Especially for shopping centres, theatres, airport terminals and conservatories
- Slender and aesthetic drives
- High push forces up to 1600 N
- Solo and synchro variants



RWA opener systems

1000, 1050, 1100

- Automatic opening and closing of inward and outward opening top-hung, bottom-hung and side-hung sash systems
- Large opening widths with small lifts 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 actuator
 - Driven by electric motor via the internal central locking system
- Solo and synchro variants



Locking drives ELTRAL

OA, VA25, VAN, 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 combination with the central locking system, any number of locking points for secure opening, closing and locking of large window sashes
- With integrated closing sequence control



RWA compact central control units RZ2, RZ5

- Control unit for drive and opener systems
- For use in stairwells
- With 2 A or 5 A output current
- Signal reception from the fire detectors (automatic/manual) for immediate opening of the smoke extraction 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 withdrawable central control units

RZ10/2, RZ24/4, RZ24/8,
RZ 48/8, RZ 72/8

- Control unit for drive and opener systems
- For use in large and complex buildings such as airports, production halls, sports facilities and convention centres
- For individual project-specific solutions
- Varied RWA and ventilation group possibilities
- With 10 A, 24 A, 48 A or 72 A output current



RWA pushbutton 'HSE'

- Electric manual control device for manual alarm release
- Surface-mounted plastic housing, lockable
- Signaling the operating statuses via illuminated indicators
 - Stand by
 - Alarm
 - Fault



Smoke detectors / heat detectors

- 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

Electric drive and opener systems (230 V)

Technical data



Designation	Chain drives				Spindle drive	Fanlight opener system VENTUS F 200 / F 300	
ELTRAL	K25	KS 30/40	K30	K60	S80	S 230 E S 230 L	300 E1
Operating voltage	230 V $\pm 15\%$	110/230 V $\pm 15\%$	110/230 V $\pm 15\%$	230 V $\pm 15\%$	230 V $\pm 15\%$	110/230 V $\pm 15\%$	230 V $\pm 15\%$
Pull / push force (N)	250 [1]	300	300	600 [1]	800	1200	3000
Current consumption (A)	0.2	0.12	0.16	0.2	0.12	0.15	0.1
Lifting speed (mm/s)	8.0	12.0	12.5	10.0	7.0	0.9	1.0
Opening width / lift (mm)	200 300 400	110 – 400 variable adjustable	200 – 500 variable adjustable	250 400	300 500 750	50 or 70 adjustable	40 – 70 adjustable
Protection class (IP)	32	30	32	32	54	50	54
Duty ratio (%)	30	30	30	30	30	20	100
Locking force (N)	3000	1000	2000	3000	3500	–	–
Operating temperature (°C)	-5 to +75	-5 to +65	-5 to +65	-5 to +75	-5 to +75	-5 to +75	-5 to +75
Suitable for skylights	–	–	■	■	■	–	–
Synchronous control	optional	optional	optional	optional	optional	–	–
Concealed mounting	■	–	–	–	–	–	–
Dimensions LxHxD (mm)	Lx26x41	386x38x58	456x43x60	Lx40x56	Lx43x76	210x36x76	270x55x102
Connecting cable	Silicone 3.0 m / 4-core	2.0 m / 3-core (solo) 2.5 m / 5-core (synchro)	Silicone 2.0 m / 3-core (solo) 2.5 m / 5-core (synchro)	Silicone 5.0 m / 6-core	Silicone 1.0 m / 6-core	Connection plug 4-pin	1.5 m / 4-core
[1] Depending on lift / force-displacement curve							



ELTRAL 230 V drives

- Chain drives
 - Face-fixed mounting or concealed
 - Solo and synchro variants
- Spindle drives
 - High push forces
 - Solo and synchro variants
- Fanlight opener system VENTUS
 - Variable opening width setting
 - With position and function display
 - Horizontal or vertical mounting



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
- With 6 A and 30 A output power
- Switching contacts with adjustable ascending priority



Ventilation switches

- Stepless, manual operation of RWA drives and ventilation drives for daily ventilation
- Available as surface-mounted or concealed variant

Radio transmitter

- For wireless control of 230 V AC electric drives
- Suitable for controlling several receivers



Rain / wind control

- For weather-dependent, automatic ventilation control
- Automatic closing of windows in case of rain or wind

Manual fanlight opener systems

Product overview VENTUS F 200 / F 300



Wide variety of products for individual daily ventilation

The VENTUS range from the Gretsch-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 or reveals requiring other opening methods are mastered with ease.

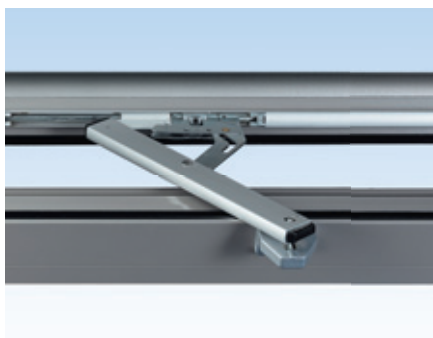
The GU VENTUS fanlight opener system consists of:

- F 200 or F 300 fanlight opener stay
- Sash bracket for attachment to the sash
- Corner drive for force transmission
- Connecting rods and rod guides
- Cover profiles
- Hand-lever operation for opening and closing
- Additional catch and cleaning stays, e.g. EURO-SOLID safety stay



Flatform fanlight openers

A large number of variants with a high standard of quality and RAL seal of approval. Internal locking in the stays and steplessly controllable sash brackets ensure optimum gasket pressure and, as a result, a high tightness on the window.



Manual operations

A variety of possibilities for convenient and easy operation. Optionally with hand lever (also lockable) or with vertical or corner gear with crank (fixed or loose) for stepless control of the opening width.

Product features

- Intensive room ventilation because of large opening widths of 200 / 300 mm (F 200 / F 300)
- Compact modules for fast and easy mounting
- 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
- Steplessly adjustable sash brackets for overlap heights from 0 – 25 mm
- A wide range of operation possibilities: hand lever, vertical or corner gear with crank, transmissions (transom-mullion transmission / flexible transmission) or ELTRAL electric drives



- Individually adapted tilt position by reducing the opening widths
- Compact, requiring little space
- Drilling jigs for all application ranges
- Convenient engagement and disengagement of stays for cleaning purposes



Top-hung sash, opening outward with VENTUS F 200

Completely pre-mounted stay unit for all outward-opening top-hung windows with opening widths up to 200 mm. Simple mounting of the stay and the linkage from the front. All functions and operating methods are transferred from the standard delivery range. Locking in the stay guarantees reliable sash locking.



Additional locking devices

Additional face-fixed, vertical locks for a secure, lateral gasket pressure with tall bottom-hung sashes. Optionally also with bracket engaging in the concealed UNI-JET central locking system. RC-tested, visually appealing solutions for greater security and increased burglar inhibition.



EURO-SOLID safety stay

The EURO-SOLID safety stay prevents the sash from falling down in case it has not been engaged correctly. Furthermore, it permits convenient window cleaning and provides a reliable, automatic and stepless hold in the required cleaning position.

Motorised fanlight opener systems

Product features



Maximum operating and ventilation comfort

With the VENTUS fanlight opener 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 bottom-hung and top-hung PVC timber or metal windows, whether rectangular, pitched, arched or segmental arched.

The lockable, 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.

Product features

- Differently powered electric drives for individual window sizes
- Microprocessor for automatic, variable opening width setting
- Optimal motor protection thanks to automatic limit stop switch and overload cut-off
- With position and function display
- Simple mounting, horizontal or vertical (rh / lh)
- Optionally with increased security by operating the concealed central locking system



VENTUS F 200 with ELTRAL S 230

Bottom-hung sash closed / drive mounting at top



VENTUS F 200 with ELTRAL S 230

Bottom-hung sash opened / drive mounting at top



Manual fanlight opener systems

VENTUS F 200 / VENTUS F 300 – operation with hand lever, crank							
Hardware	Sash width (mm)	Sash height (mm)	Opening width (mm)	Sash weight (kg)	Travel (mm)	Space requirement (mm)	
						lateral	top
VENTUS F 200 [1]	400 – 3600 [2] 400 – 3600	min. 300 min. 250	200 [2] 165 [3]	max. 80	50 [2] 40 [3]	20	20
VENTUS F 300 [1]	620 – 3600	min. 350	300 [2] 220 [3]	max. 200	70 [2] 50 [3]	26	26

[1] For overlap heights 0 – 25 mm / [2] Stock version / [3] Operation with special hand lever on request

Motorised fanlight opener systems

VENTUS F 200 – operation with ELTRAL S 230 / ELTRAL 300 E1 electric drives										
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 of stays
		Drive mounting		Drive mounting				lateral	top	
		lateral	top	lateral	top					
ELTRAL S 230	3600	400	620	300	300	80	40 [1]	39	39	4
ELTRAL 300 E1	3600	–	650	–	300	80	40 [1]	–	57	4
[1] Depending on “dimension S” (= distance from sash centre of gravity to middle of hinge) and sash width										

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

VENTUS F 300 – operation with ELTRAL S 230 / ELTRAL 300 E1 electric drives										
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 of stays
		Drive mounting		Drive mounting				lateral	top	
		lateral	top	lateral	top					
ELTRAL S 230	3600	620	850	468	350	200	70 [1]	39	39	4
ELTRAL 300 E1	6000	605	850	400	350	200	70 [1]	57	57	5
[1] Depending on “dimension S” (= distance from sash centre of gravity to middle of hinge) and sash width										

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



VENTUS F 300 with ELTRAL S 230

Bottom-hung sash closed / drive mounting at top



VENTUS F 300 with ELTRAL S 230

Bottom-hung sash opened / drive mounting at top

Special solutions in the facade

Bottom-hung, side-hung, projecting top-hung and parallel offset windows



As a specialist in every method of facade opening, the Gretsch-Unitas Group has been a competent partner for many years when it comes to developing innovative opening mechanisms, and is thus an expert partner for making your visions come true. It is our job to meet the complex requirements of ventilation elements in the building envelope whilst taking into account the demands of modern architecture and complying with the specifications of the planner, the profile system supplier and the metal constructor.

Together with all leading aluminium system suppliers, planning offices and metal construction enterprises we developed and implemented solutions for a multitude of new opening methods. For example, we further improved the parallel offset windows, a window type which has been known for years. For the first time, ceiling-high window units can be opened manually up to 5000 mm.

New legal requirements (e.g. the German Energy Saving Regulation EnEV) specify a glass structure which involves higher sash weights, especially in the context of modern architecture. Ventilation units weighing over 400 kg are no longer an exception. Thus, we developed our hardware for window types such as projecting top hung, parallel offset, horizontal pivot or side-hung windows to support heavy weights.

As a hardware manufacturer enjoying a world-wide reputation, complex solutions are our speciality. They are based on our tried-and-trusted standard products which we supplement with new components to meet special requirements. Here too, after-installation servicing is a matter of course. Our test centre offers you as a customer the security that you expect from our products.

With kind permission from WICONA Hydro Building Systems GmbH

Parallel offset windows

Parallel offset 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. Compared to the tilted window, parallel offset windows can offer a much greater air exchange rate for 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.



Ceiling-high – new dimensions for side-hung windows

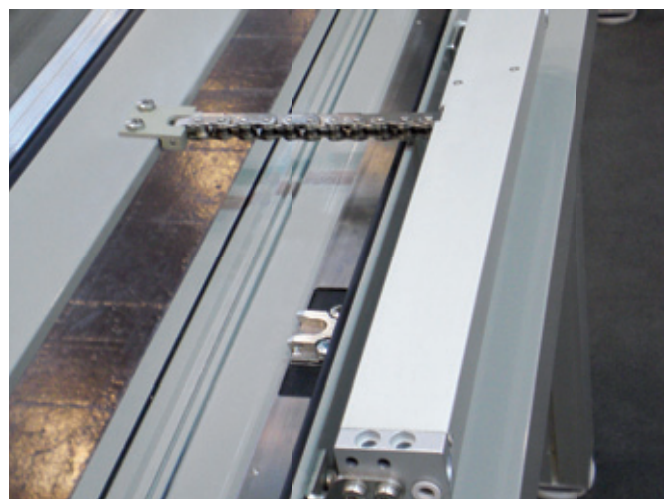
Increased requirements on the weight and dimensions of side-hung windows demand new, creative solutions.

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.



Facade design with projecting top-hung windows

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.





Successfully certified



The test institutes confirm in the test certificates and the product passport that the requirements of the relevant standards and directives have been complied with.

As well as good planning and consulting, another decisive factor is the functional reliability of the technically prepared system, in order for people and property in the building to be protected.

For this reason, special attention must be paid to start-up and the function test.

The Gretsche-Unitas Group offers:

- Individual advice
- Qualified project handling
- Correct mounting
- Reliable service

This ensures that commissioning takes place without unpleasant surprises. All required safety components are taken into account and need only be tested for proper functioning at start-up.

Safety in the building

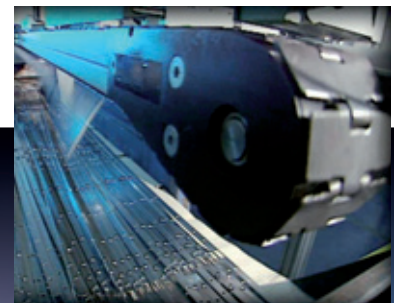
The requirements on smoke and heat exhaust ventilation systems (RWA) are regulated in the model building regulations (MBOs), regional building regulations (LBOs) and in the standards DIN 18232-2 and EN 12101-2 (NSHEV). Furthermore, there may be regulations imposed by the responsible building supervision authorities, the trade supervisory authority, the fire brigade, the technical inspection ordinances of the German Federal States or special ordinances which have to be complied with.



Advice right from the planning stage



NSHEV system supplier



Security through quality manufacturing

More than 100 years of experience

Worldwide presence

System solutions in the project

Reducing the risk of damage by regular and prescribed maintenance

Regular, professional maintenance is the best guarantee of maintaining the value and functional safety of smoke and heat extraction systems over the years.

In Germany, GU Service GmbH & Co. KG can install smoke and heat extraction systems and electrical ventilation systems on request, and can take them into operation.

After-sale service directly from the manufacturer with its own personnel, optimal product knowledge and use of original replacement parts ensures the greatest functional availability of opening and control systems. Short travel times are ensured due to a comprehensive network of service installers.

Annual maintenance and inspection are essential for a correct, trouble-free interplay between all devices and long-term operating security. As well as testing the detectors, pushbuttons and central control units, all drives, fastenings and hardware components on the opening system are tested.

The result and time of the checks and maintenance must be documented and stored at the owner's premises.

The service contract

A service contract for smoke and heat extraction systems offers many advantages:

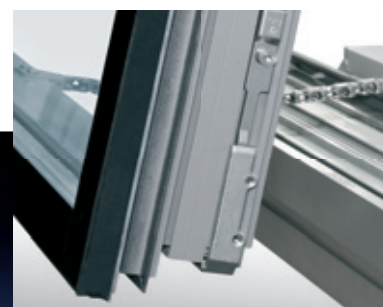
- Early recognition of wear ensures operational and personal safety
- Unplanned service work is markedly reduced
- Regular inspection of safety components minimizes the operator's potential liability risk
- Provision and updating of a system-specific inspection book
- Possible hazards resulting from a change in use are recognized and can be eliminated



Correct installation and service



Logistics – just-in-time wherever you are



Guarantee and aftersales service

Special solutions development

Modular system technology

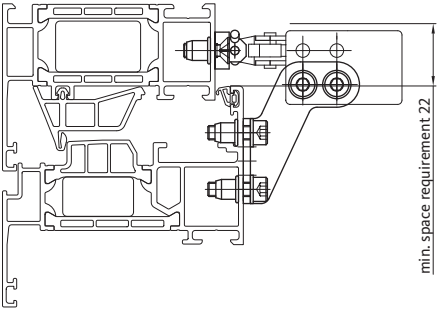
Products in stock around the globe

Application examples

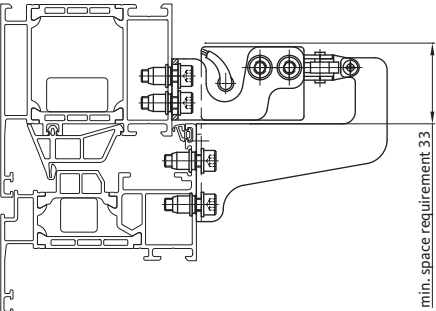


ELTRAL K25 chain drive

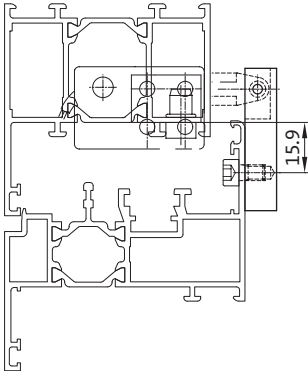
Bottom-hung sash, sash mounting



Bottom-hung sash, frame mounting

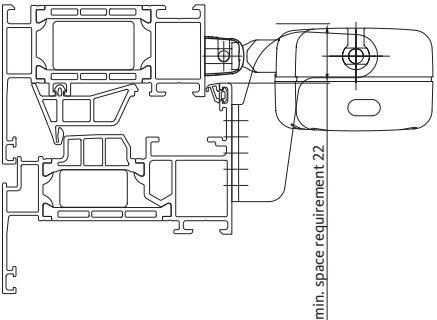


Bottom-hung sash, concealed mounting



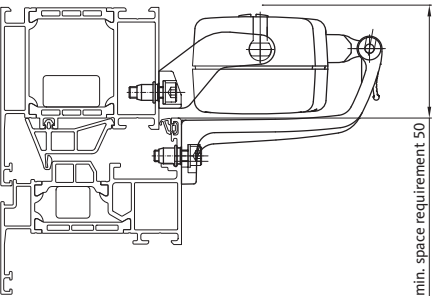
Chain drive ELTRAL KS 30/40

Bottom-hung sash, sash mounting



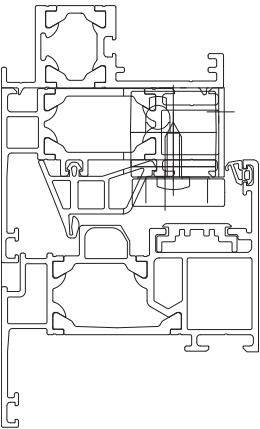
ELTRAL K30 chain drive

Bottom-hung sash, frame mounting



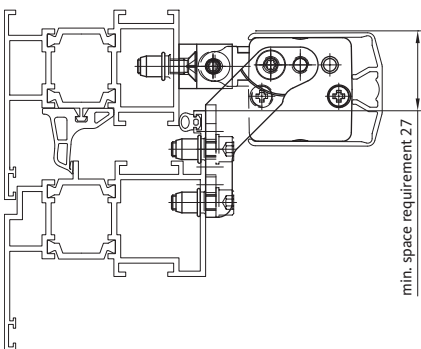
ELTRAL VAN locking drive

Concealed mounting

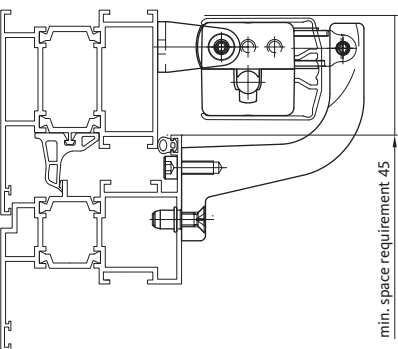


ELTRAL K35 chain drive

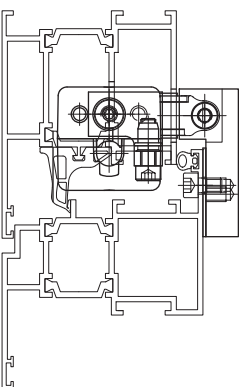
Bottom-hung sash, sash mounting



Bottom-hung sash, frame mounting



Bottom-hung sash, concealed mounting







WINDOW TECHNOLOGY
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BUILDING MANAGEMENT SYSTEMS

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