WINDOW TECHNOLOGY
DOOR TECHNOLOGY
AUTOMATIC ENTRANCE SYSTEMS
BUILDING MANAGEMENT SYSTEMS

FOR ARCHITECTS & PLANNERS

PROJECT*compendium*

Securing technology for you

G-U BKS FERCO

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Photo: Getty Images

Securing technology for you

The Gretsch-Unitas Group is one of the world's leading suppliers of window and door technology, automatic entrance systems and building management systems. We are convinced: even the best products can only perform to their full potential if they function efficiently and harmoniously with one another. As a result, we offer system solutions, project solutions and product solutions from a single source. An extensive service for architects and planners rounds off what we have to offer – for example when it comes to doors in escape and rescue routes, individual facade solutions for projects, barrier-free construction or burglar protection. And what can we do for you?

Securing technology for you

Securing technology in the project.

Living and feeling good, working and learning, shopping and travelling: architecture is as multifaceted as life itself. The system solutions from the GU Group ensure that living and building projects dovetail perfectly – as well as meeting all requirements in terms of convenience and security, cost-effectiveness and aesthetics.

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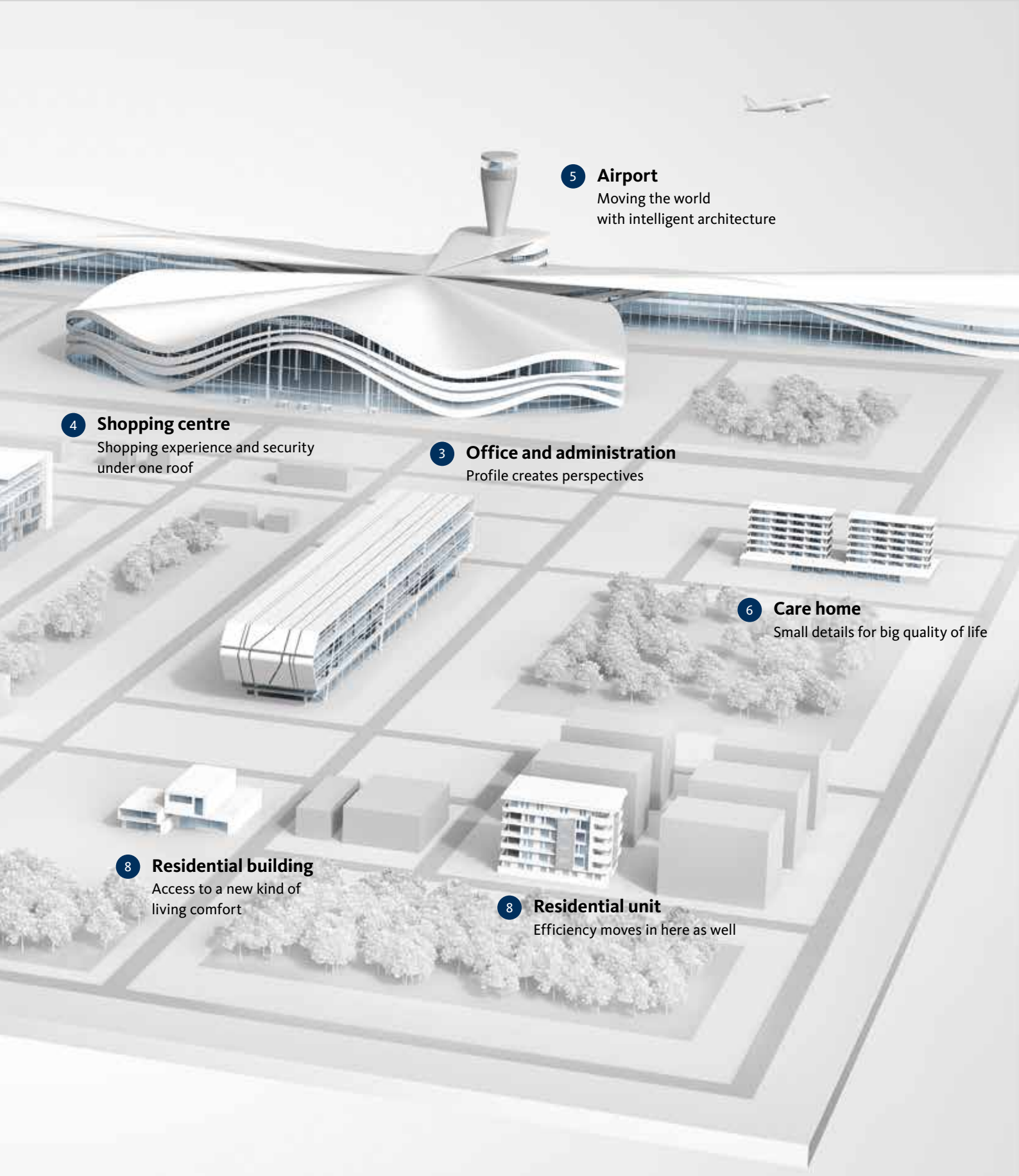

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Securing technology for you

Opening the door to the future.

The school as a place of learning and living for everyone: with solutions from the GU Group, inclusion becomes part of the built reality. At the same time, the most exacting require-ments are met in terms of safety, convenience and robustness, without sacrificing any aesthetic aspects.

Inclusion right from the entrance – school for everyone:
wind-break porch with swing door and compact*Master CM-F* automatic sliding door

In the school building, barrier-free access is a requirement for some – and convenient for all. Aspects such as security and protection against draughts must also be considered in the entrance area, for example with a wind-break porch consisting of a swing door and automatic sliding door: the swing door in front is open at the start of school, end of school and during break times. The sliding door behind it allows barrier-free access. In the remaining period, the swing door is securely and tightly closed.

Passage with maximum access comfort

Preventing amok – an essential feature:
radio battery lock

Schools should be safe, but not fortresses. It is all the more reassuring to know that even straightforward measures can protect human lives. For example, the electrically coupled radio battery lock that is exclusively available from the GU Group: in normal mode, the classroom doors are opened with the lever handle. In the event of an amok alarm, access from outside is prevented. It is possible to leave the room from the inside at any time. The radio battery lock is ideally suited for retrofitting without loss of certification, because no wiring is required in the door.

Locked from the outside, opened from the inside: the radio battery lock with alarm

Project hardware:
quality beyond the standard

Doors in school buildings are exposed to plenty of wear and tear, but are expected to function at all times. GU project hardware far exceeds the minimum requirements of the standard: the durability test according to EN 1906 demands the highest user category 4 (a test comprising 200,000 actuations) – GU project hardware is tested with 1.5 m actuations. This means the hardware is optimally suited to all doors in the school building.

Durable technology, aesthetic design. DIRIGENT lever handle

A good room climate is conducive to concentrated learning:
VENTUS fanlight openers

Fresh air to focus on learning with a high degree of safety for children at play – without any windows projecting into the room. The appropriate response to these requirements is the VENTUS fanlight opener. It allows individual ventilation requirements to be met: the electrical variants are preferred if comfort is a high priority; the manual variants are used if costs are decisory.

VENTUS also provides a breath of fresh air in terms of design

All-inclusive security and convenience.

Hotel guests appreciate a pleasant atmosphere with state-of-the-art convenience and comfort. Intelligent products offer the right solutions, allowing as they do impressive architecture combined with compliance with standards.

A friendly entrance as the calling card of the hotel:
***GGG* all-glass revolving door**

The *GGG* all-glass revolving door is the number one choice when it comes to maximum transparency in a draught-free entrance area. The drive is in the base, meaning that the *GGG* can also be equipped with a glass roof. Combined with the minimum profile widths, this creates an open feeling of space. A wide range of surfaces combined with different glass versions produces great freedom of design. An optional night shield protects against misuse outside of operating hours.

Photo: www.mirahample.de

For a friendly reception in the foyer

Open for a pleasant atmosphere:
Fold&Slide hardware

A connected indoor and outdoor area in summer and unrestricted visibility in winter in spite of closed rooms: Fold&Slide hardware provides flexible use of space in gastronomy. Large opening widths can be achieved with a large number of variants. When the sashes are open, they are parked at the side in a space-saving arrangement. Not only guests but also the staff will appreciate a passage without trip hazards.

Greater convenience at any time of year – for guests and for hotel staff

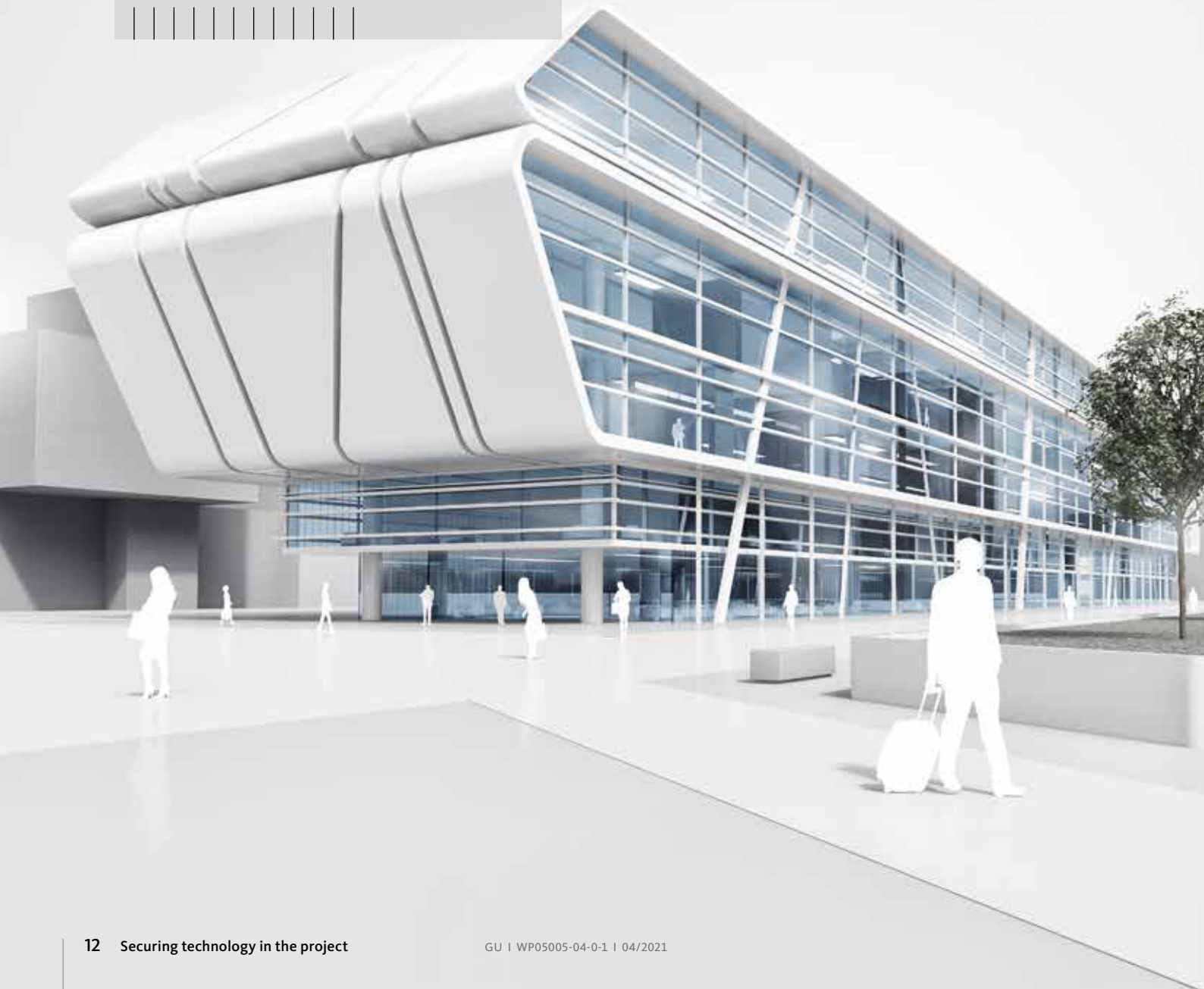
Aesthetic solution for inside doors:
integrated inside door for single and double-leaf doors

Security and elegance in one product solution: the concealed door closer is installed in the door leaf and door frame, and is not visible when the door is closed. The door is securely closed after being opened. At the same time, the double-heart curve technology guarantees ease of access. A mechanical hold-open device can be integrated as an option, and is easy to retrofit to closers that have already been installed.

Easy to access and aesthetic: inside door with concealed door closer

Profile creates perspectives.

More and more companies are relying on unmistakable architecture as a means of expressing their unique character in the market and displaying their profile: The GU Group combines this approach with great functionality – for a pleasant working atmosphere and cost-effective building operations.



Always harmoniously integrated:
compact*Master CMR / CMR-F* curved sliding door

A curved sliding door unites the attractive appearance of a cylindrical door system with the benefits of an easily accessible sliding door. Whether in the form of a segmental arch, a semicircle or a complete circle – the curved sliding door always blends harmoniously into the architecture of the building.

Photo: EYE-SCREAM, Hansjörg Riedel

Nicely rounds off the entrance

Individual window solutions for facades:
windows with Parallel-Projecting hardware

An elegant office facade is the calling card for the company. Parallel-Projecting windows are thus often the favourite choice for building owners. The homogenous appearance of the glass facade is retained even when the windows are in a different opening position. A high rate of air exchange permits individual ventilation according to requirements. The Parallel-Projecting hardware also carry large elements, so there is no obstacle to achieving great transparency. Another advantage: opened windows do not take up any space in the interior.

Photo: Sapa/WICONA

Homogeneous facade design and individual ventilation – combined in one solution

Access control solutions for all cases:
electronic locking systems and GEMOS management system

Flexibility, operating convenience and cost-effectiveness: our master key systems bring together all the various items. Mechanical, electronic or mechatronic master key systems are used, depending on the requirement. They are compatible with one another, can be expanded at any time, and are easy to manage in one system. Do you have even greater security requirements? Then it is worth considering our complete solution that networks and integrates everything: the GEMOS non-proprietary management system.

Central access control made easy

Shopping experience and security under one roof.

Inviting as many customers as possible to go shopping in normal mode – and allowing everyone to leave the building safely in alarm situations. Intelligent solutions are called for in shopping centres, solutions that combine both aspects elegantly with one another.

A significant feature for preventative fire protection:
compact and modular control units for RWA

Fires – and in particular the smoke that they generate – represent a major hazard for people in buildings. It is all the more important to achieve reliable smoke exhaust with flexible solutions. Thanks to a modular system, networking capability and many pre-integrated functions, it is possible to implement either compact control units for smaller projects or modular control units for large projects.

Flexible solutions for smoke-free and safe escape routes

Clever protection against unauthorised access:
EVP electrically-locking panic lock with FTNT escape door control unit

Most escape doors in shopping centres should not be used in normal mode. The EVP electrically-locking panic lock is a cost-effective compact solution for single-leaf doors. The EVP lock is combined with the FTNT escape door control unit and networked via a BKS-NET door-bus interface. This prevents misuse of the door, while granting free access in an emergency.

Effectively preventing improper use of a door

Invitation to customers:
shopMaster GSW-M all-glass sliding system

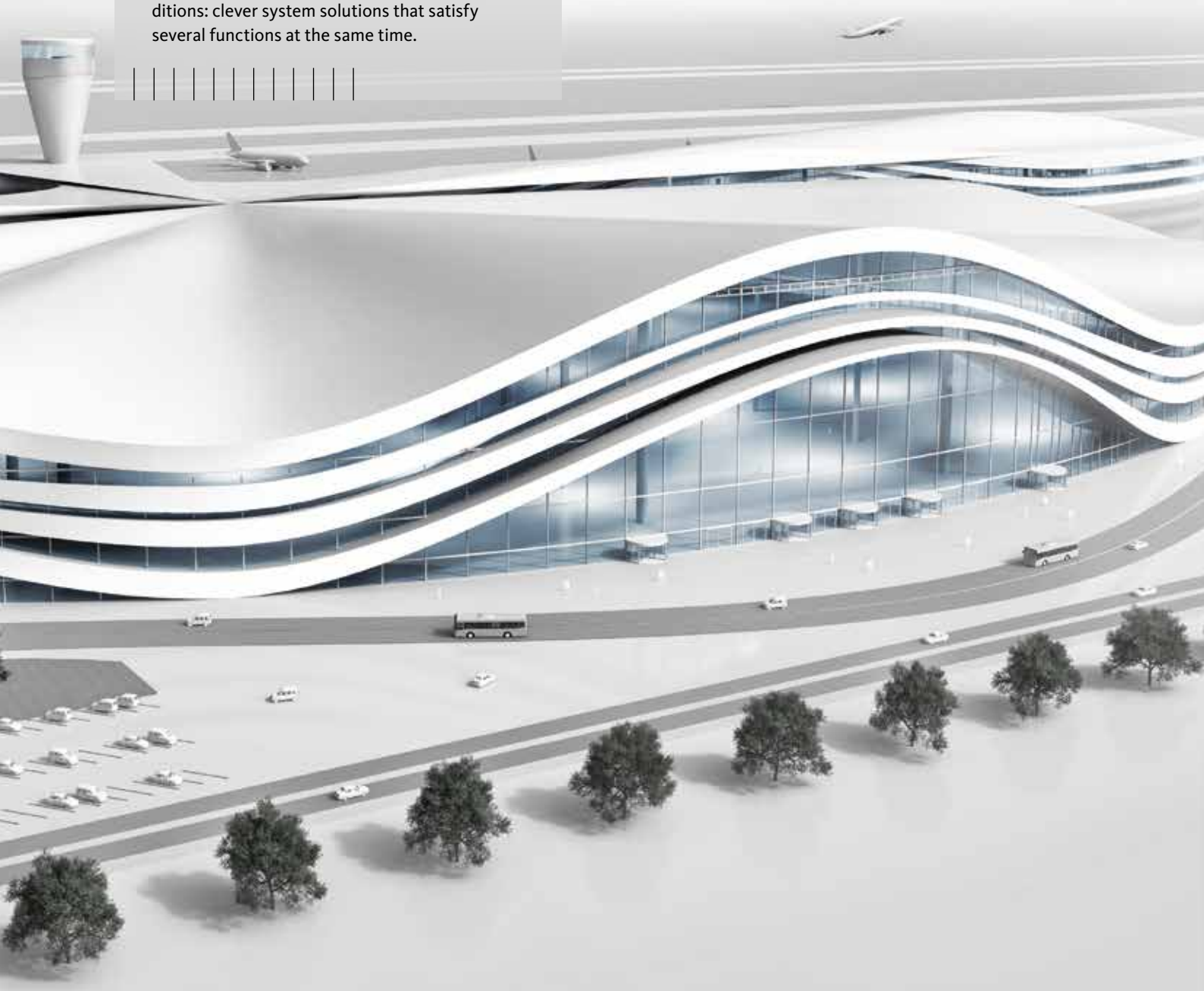
Providing an eye-catcher and inviting customers to stay and browse – because of transparency and flexibility: large-format all-glass sliding walls are often used in shops located in shopping centres. The manual shop***Master GSW-M*** all-glass sliding system enables the creation of a multitude of individual partition walls and shop fronts for shop-in-shop concepts. In this case, the elements are arranged flexibly and without a floor guide; when the shop opens, they are pushed to the side into parking niches. The compact design requires only minimal space.

Photo: EYESCREAM / Hansjörg Riedel

Multitude of individual partition walls and shop fronts for shop-in-shop concepts

Moving the world with intelligent architecture.

Nowadays, airports are much more than the gateway to other countries. They have long since developed into modern cities where the pace of life is set by the smooth rhythm of flight arrivals and departures, as well as the requirements of passenger safety. Preconditions: clever system solutions that satisfy several functions at the same time.



Representative entrance with a large capacity:
***GGR* large-capacity revolving door**

Travellers with their luggage should be able to enter the airport building conveniently. This task is achieved by large-capacity revolving doors – the energy-efficient solution for entrances with a high footfall. The fully automatic ***GGR*** large-capacity revolving door is secured according to DIN 18650 and EN 16005, it is TÜV type-tested and, thanks to the folding leaves, can be used in escape and rescue routes in Germany.

Photo: www.mirahample.de

Convenience and security for taking off

Intuitively identifiable escape routes with a system:
electrically-locking Touch Bar EVT

Free escape routes in case of danger and prevention of uncontrolled access: this is provided by the electrically-locking Touch Bar EVT. The function is extremely simple. The LED display signals the "locked" or "open" status unambiguously and is intuitively recognisable for the user. In a locked state, the door is secured by the locking points of the locking system.

Green LEDs with a clear message: the path is clear

Virtuoso for ventilation and smoke exhaust:
S80 / S160 spindle drives

Automated ventilation and extraction, with fast, natural smoke exhaust in the event of fire; powerful push-pull forces, large opening widths and synchronous activation of several elements. Everything functions even with heavy skylights or facade openings – with spindle drives. The solution is perfectly rounded off in combination with the ELTRAL TA 60 door drive: this means swing doors can be used in entrance areas as an air supply for smoke and heat exhaust ventilation.

Photo: aumüller/aumatic gmbh, Augsburg

Heavyweight champion: ELTRAL S 80 can lift even large roof surface elements effortlessly

Working to promote airport security:
GEMOS building management system

Airports operate on 365 days a year, and round the clock. They need to cope with large numbers of people. Using the non-proprietary GEMOS management system, the security control centre can maintain an overview even at peak congestion levels – the highest standards of security are reliably maintained. All the individual trades that are required for this are combined in one system, and operated with only a single interface. Another advantage: an existing system can be expanded even while operations continue.

All trades under control

Small details for big quality of life.

Easy access to rooms, to light and fresh air increases the quality of life for senior citizens. The GU group solutions are perfectly suited for this. They combine barrier freedom and security for the benefit of all residents.

Innovative ventilation function and opening system:
SDF 100 Slide&Turn windows

In residential care homes in particular, open windows can pose a danger to residents. Slide&Turn windows provide an elegant solution. Their floor-to-ceiling sashes let plenty of daylight into the room, and improve the appearance of the facade. When opened, the sash is positioned in the centre. As a result, protection against falling is provided during ventilation.

Photo: Reinhard Zimmermann, Adliswil / CH

Opening windows without risks for the residents

Barrier-free access in spite of fire protection:
overhead door closers with free-swing function

A classic debate when it comes to planning care homes: for security reasons, door closers are essential although they can become an obstacle for the residents. The solution for this is provided by overhead door closers with an integrated electrical free-swing function: in normal operation, fully barrier-free access to the door is possible just as if there were no door closer in place. In the event of fire, the free-swing door closer ensures that the door is reliably closed.

Unrestricted access on day-to-day basis – closing force activated in the event of fire

Escape route even in locked condition:
automatic HM-F FT escape route sliding door

Using automatic doors is an obvious choice for barrier freedom in care homes. At the same time, a locking system must ensure that residents do not leave the building without being supervised at night, for example. Nevertheless, it must be possible to escape in emergency situations at any time. The automatic HM-F FT escape route sliding door represents an intelligent solution. It is the only sliding door that is also authorised as an escape door when locked: in an emergency, it becomes a swing door thereby providing a safe escape route. Separate escape doors are thus rendered superfluous.

Barrier-free access and a safe escape possibility even when locked

From the functional building to the modern health centre.

When it comes to planning hospitals, it is often the details that make the difference: the solutions from the GU Group support successful patient care and make the everyday work of the hospital staff easier.

Convenient access for staff and patients:
automatic swing-door drive

Easy access for patients with restricted mobility, simple transport of beds and, last but not least, consideration for hygiene aspects: the robust electromechanical DTR swing-door drive permits contact-free, convenient access even with large and heavy doors. Its quiet running properties make it particularly suitable for use in noise-sensitive areas of the hospital.

Swing-door drive: easily retrofittable for subsequent requirements – and for all installation types

Security meets aesthetics:
slide-rail closers with electromechanical hold-open device

Modular hold-open systems are essential in hospitals to ensure problem-free use of doors in everyday operation. At the same time, reliable closing is guaranteed in the event of a fire. The OTS 736 FER-SRI for double-leaf doors offers this flexibility by a steplessly adjustable hold-open range from 75 to 150°. Cost-effectiveness also plays a role: completely pre-mounted modular units make it quick and easy to install the system.

Secure and convenient access: slide-rail closer of the OTS 73x series

Convenient fresh air control:
chain drive KS 30/40 with integrated radio remote control

To allow good air circulation, it has got to be possible to open and close the windows. The KS 30/40 chain drive can be conveniently operated via radio remote control. The stepless setting of the opening width permits individual, demand-driven control of the fresh air supply. An optimum gasket pressure is achieved in combination with a locking drive – the best preconditions for effective heat and sound insulation as well as tightness against driving rain.

Individual fresh air supply according to need

Efficiency moves in here as well.

Dwelling units have never been as energy-efficient and secure as they are today. The GU Group ensures that this new standard is not achieved at the expense of cost-effectiveness – with sustainable solutions that ensure a high quality of living in the long term and thus contribute to retaining the value of the building.

The ignition lock for the main entrance door:
GU-SECURY A-Opener servo

Steadily growing requirements for burglar protection and energy efficiency demand many locking points and seals on house entrance doors. As a result, opening the door can become a major effort. In this case, a small door opening motor in the lock can provide a convenient remedy: with a minimum turn of the key on the outside or a light push of the lever handle on the inside, the latchbolt of the multi-point lock is withdrawn automatically – and the door can be opened with the greatest of ease.

Security and comfort

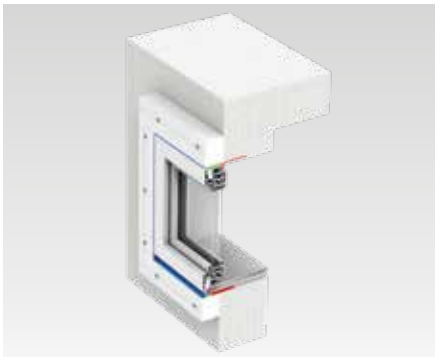
Precision and security:
mechanical and electronic locking systems

Mechanical locking systems, electronic locking systems or a combination of the two – handled by only one master key system software. They provide the level of flexibility, comfort and security that is expected by building owners nowadays. We are not exaggerating when we claim to have the appropriate solution available for every requirement. Even garage doors, letterboxes and garden gates can be integrated in the master key system if required.

From the main entrance door to the letterbox: the master key systems of the GU Group incorporate everything

Problem solver hidden within the facade:
frame for projecting installation of windows without thermal bridging

While insulation improves the energy balance of the building, this has structural implications: the installation planes of the windows are in the area of the insulating material, and no longer within the masonry. Our structure is required that can absorb these forces. The frame for projecting installation - a versatile solution valued by builders - can do this and much more.



GU frame for projecting installation –
a load-bearing and heat-insulating substructure

Access to a new kind of living comfort.

Real convenience comes when you don't have to worry about anything, but everything functions perfectly all the same. This wish is granted by products that make living easier, more pleasant and more secure. At the push of a button, by fingerprint or simply by an app.

Room and light – quality from the inventor:
Lift&Slide door

With the invention of the Lift&Slide system back in 1958, the GU Group set the standards that apply down to the present day. Thanks to its generous glass areas, this product is being used increasingly in modern residential construction. And it can do even more: optional security components improve the burglar inhibition. Meeting the strict requirements of the Energy Saving Ordinance also makes the Lift&Slide door into a prized element for passive houses.

Photo: Oliver Schuster, Stuttgart / baukunst philippaus GmbH

Expansive glass surfaces in modern residential buildings

Complete peace-of-mind package for the house entrance door:
the GU house entrance door concept

The GU house entrance door concept is configured for flexibility and security. It is based on the proven GU-SECURY Automatic multi-point lock with electromotive drive. Automatic latchbolts guarantee the convenience and security of being "insured with the door just pulled shut": no need for manual locking because the latchbolt extends by 20 mm and locks the door as soon as it is pulled shut. The preadjusted door only has to be connected to the electrical power supply in the building, and is controlled by a code or fingerprint. The house entrance door set comprising lock, power and data transmission unit and fingerprint scanner, has been certified as a grade B locking system by the VdS.

The key to the future: access by code or fingerprint

Smart convenience by app:
integration in building automation

By now, it is practically a standard feature for roller blinds and awnings to be electrically operated. Additional functions are often called for in building automation: the garage door, house entrance door, window and balcony-doors should be involved in the automation. The Somfy smartphone app allows motor-driven windows and doors to be controlled and monitored remotely. The solution jointly developed through collaboration between Somfy and the GU Group bridges the gap between building automation, security, barrier freedom and convenience.

Person photo: Getty Images

Activation and monitoring via the somfy smartphone app

Securing technology with system solutions.

Extensive requirements in standards and regulations give rise to complex, even contradictory requirements that increasingly curtail the scope for ideas. But it doesn't have to be like that: the system expertise of the GU Group offers comprehensive solutions to combine compliance with standards and your design requirements.

The GU Group – your partner for system solutions

System solutions for escape and rescue routes

Peoples' lives depend on the quality of an escape and rescue route system. The GU Group offers comprehensive escape door system solutions which go much further than just satisfying the relevant standards. This gives architects and planners certainty and peace of mind – from the design stage through to the finished building. For more information, refer to our "Escape and rescue routes" brochure.

Person photos: Getty Images

Barrier-free construction – universal solutions for greater convenience

The GU Group regards barrier-free construction as forward-looking construction. This ensures lasting freedom of movement and convenience for every building user: today, tomorrow and the day after. By collaborating closely with architects, planners and developers, all-encompassing solutions that are perfectly tailored to the target groups and protection objectives can be found – in public buildings just like in residential construction. More information can be found in our "Barrier freedom" brochure.

Optimum ventilation – good for people and buildings

The topic of ventilation has become increasingly important as building envelopes continue to increase in thickness to satisfy energy-saving regulations. With the solutions from GU, you can ensure user-independent ventilation for moisture protection. More information can be found in our "Manual ventilation systems" brochure.

Person photos: Getty Images

Security combined with convenience – intelligent solutions for access control

Basically, a good access control system works like a doorman. It ensures security and convenience by refusing access to unauthorised persons while extending a cordial welcome to those who are authorised. The GU Group has comprised BKS as one of its traditional brands for more than 100 years to ensure secure and convenient access to the building. More information can be found in our "Access control" brochure.

System solutions for escape and rescue routes

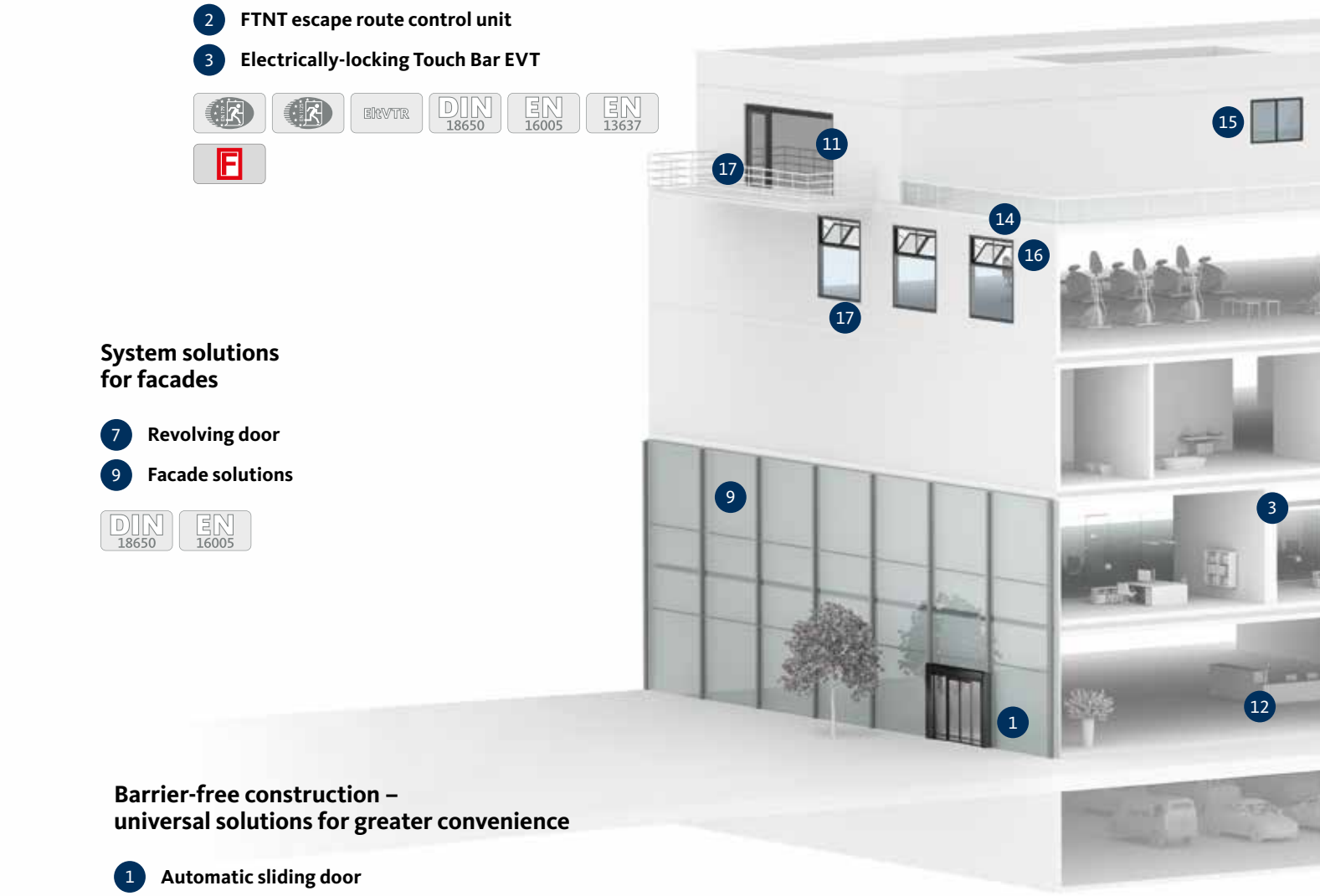
- 1 HM-F FT escape route sliding door
- 2 Lock and hardware solutions according to EN 179/EN 1125
- 2 FTNT escape route control unit
- 3 Electrically-locking Touch Bar EVT

Security combined with convenience – intelligent solutions for access control

- 12 GEMOS physical security information management system
- 8 House entrance door

System solutions for facades

- 7 Revolving door
- 9 Facade solutions

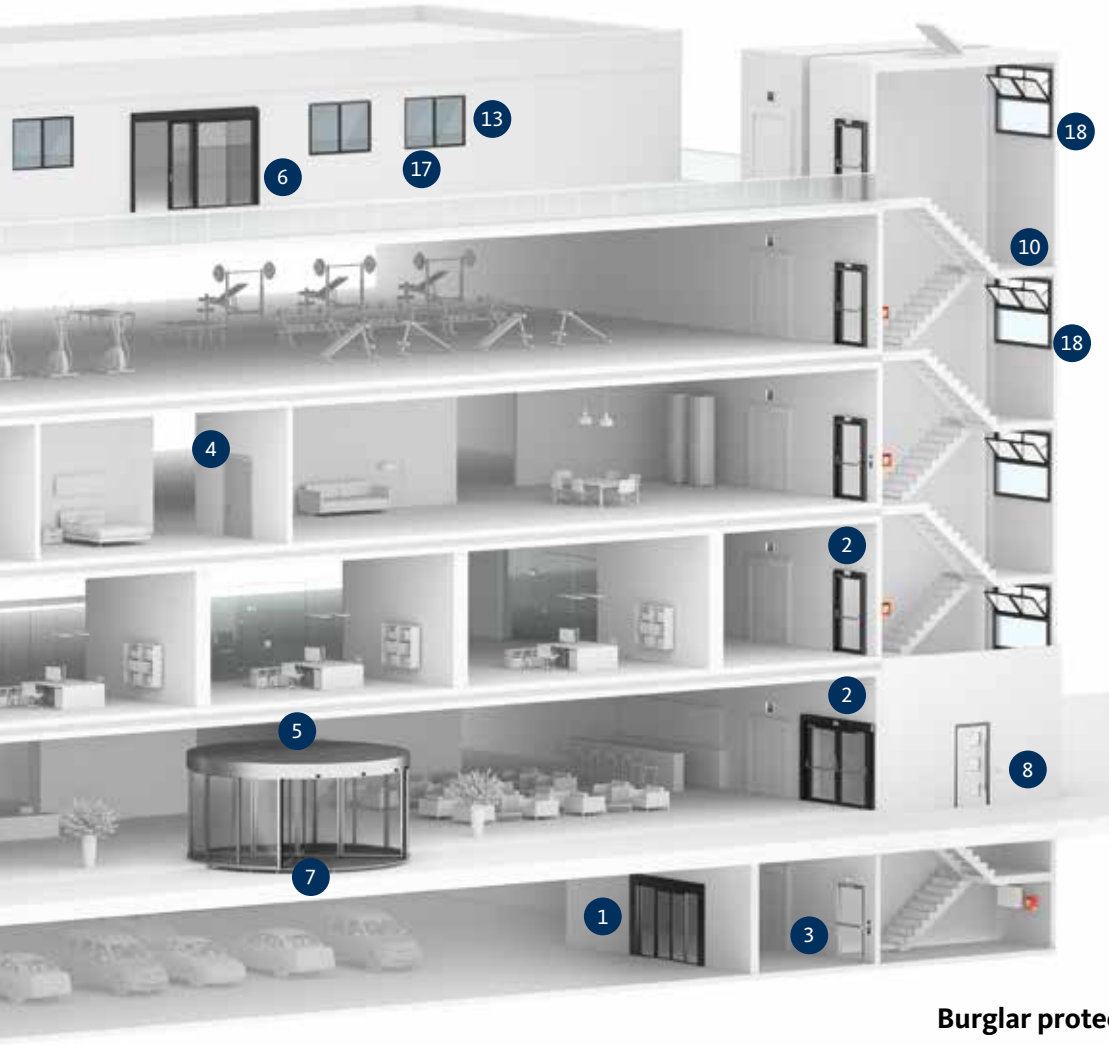


Barrier-free construction – universal solutions for greater convenience

- 1 Automatic sliding door
- 6 Motor-driven Lift&Slide door
- 4 Door closer with free-swing function

Components of preventative fire protection

- 10 RWA / NSHEV
- 5 Air vent opening
- 4 Door closer



Projecting installation

17 **Frame for projecting installation**

18 **Supporting consoles and retaining angles**

RC

Ventilation

15 **Humidity-controlled ventilation**

14 **Manual fanlight openers**

16 **Chain drives (with and without radio remote control)**

Burglar protection

8 **VdS-certified house entrance door**

13 **Tilt&Turn hardware up to RC4**

11 **Lift&Slide door up to RC 2**

14 **Fanlight openers up to RC 2**

RC VdS SKG

Burglar protection

Mechanical security devices can effectively thwart attempted break-ins: they prevent windows and balcony-doors from being pried open, for example. Burglar protection should be considered right from the start when planning a new building. Consulting with the building owner is an important factor in this, in order to arrive at appropriate solutions in terms of cost-benefit considerations. Furthermore, there are many possibilities for retrofitting the existing equipment. What is important is that tested and approved products should be used in all cases, and that reliable solutions are achieved through the interaction between individual components.

With kind permission of: Vogt+Partner GbR, Hildesheim

System solutions for facades

Special aesthetical solutions for sophisticated facade architecture are possible, despite the existence of countless standards and requirements. Windows are an important element in this. They should blend harmoniously into the overall creative imagery of the facade and also carry out tasks such as ventilation, thermal insulation and burglar protection. More information can be found in our "Project solutions for the facade" brochure.

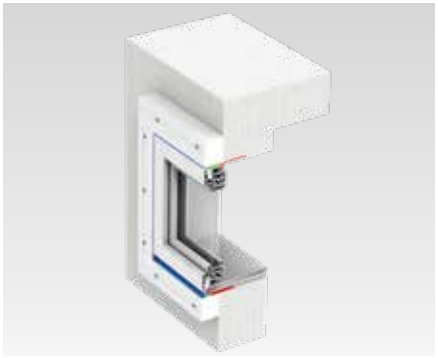
Photo: Yuanda Europe

Components of preventative fire protection

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. This is prevented by intelligent smoke and heat exhaust ventilation systems in line with the standards. For more information, refer to our brochures "Preventative fire protection" and "Smoke and heat exhaust ventilation systems (RWA), electrically-operated ventilation systems".

Approved systems for projecting installation

A projecting installation with suitable elements reliably solves the problem that windows in insulated facades are installed in the insulation plane instead of within the masonry: the structure absorbs the forces and transfers them to the masonry, which means the reveal is not subject to excessive tensile of compression loads. GU assembly systems are suitable for all profile depths and frame materials. More information can be found in our "Construction accessories – Fastening technology" brochure.



Securing technology for you

Securing technology with products.

Individually perfect. And truly strong together. Discover how our products deliver added value to the building – and how our product fields intermesh with one another harmoniously. So that everything will function perfectly in your building.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3

Window Technology

From individual hardware to the multifunctional facade solution

As far as we are concerned, modern window technology is all about meeting the challenge of catering for the traditional requirements of security and watertightness whilst at the same time satisfying contemporary demands for heat insulation, convenience and aesthetically pleasing design.

Contemporary architecture often goes hand in hand with the desire for a sense of complete openness and transparency: Despite the fact that balcony-doors are constantly increasing in size, they still need to be easy to open and remain secure at all times. The GU Group offers Parallel-Slide and Tilt&Slide hardware, Lift&Slide and Fold&Slide hardware as well as Tilt&Turn hardware for the various requirements. The technical and creative solutions make easy operation possible even with large and heavy sashes – and with a high level of security guaranteed. All hardware has a high degree of corrosion protection with fer**GU**ard*silver surface sealing.

In the solutions for modern facades, we use innovative engineering to combine newly developed components with tried-and-tested standard hardware. With the hardware for Projecting Top-Hung, Parallel-Projecting, Horizontal-Pivot or Turn-Only windows, as well as special designs based on individual customer specifications, it is possible to satisfy demands for individual methods of opening and window shapes.

For a uniform design line throughout the building, the GU Group offers handles for window and large-format sliding elements, and lever sets for doors.

Smoke and heat exhaust ventilation systems (RWA and NSHEV) offer individual solutions that meet the requirements for reliable and fast smoke exhaust in the event of a fire. Everyday ventilation is provided by electromotive drive and opening systems. The manual ventilators and demand-driven window ventilation components ensure a healthy room climate.

All products marked with this icon are suitable for barrier-free construction to DIN 18040

System solutions for facades
Delivering real added value

520 West 28th Street
NYC, USA
Architect: Zaha Hadid
Photo: Tim Fisher Photography

System solutions for facades

The requirements on windows as facade elements are varied and are becoming ever more demanding. As well as the demanding aesthetic requirements on modern facades, planning needs to take account of aspects such as security (burglary deterrence and protection against falling), ventilation functions, natural smoke and heat exhaust ventilation (RWA / NSHEV) as well as heavy sash weights.

Skilled in the development of innovative opening mechanisms and specialised in every method of facade opening, Gretsch-Unitas has been a competent partner in facade construction for many years.

Our experts take project-related special parts developed exclusively for individual projects as innovative engineering work and combine them with elements from the tried-and-tested range of the GU Group.

With hardware for Projecting Top-Hung, Parallel-Projecting, Horizontal-Pivot or Turn-Only windows, as well as special designs based on individual customer specifications, it is possible to satisfy demands for new methods of opening and window shapes with unique aesthetic qualities.

The full range of services extends from technical planning and design through to production of the special parts, functional checks at the company's own test centre and handling of projects together with customers all over the world.

Photo: HUECK

Pivot fittings that can support sash weights of up to 350 kg

Photo: pjt3_CC

Lift&slide windows as façade elements

Photo: Tim Fisher Photography

Sash heights of up to 2,500 mm are possible with bottom-hung windows

Parallel-Projecting and Projecting Top-Hung hardware

No compromises on aesthetics and function

Musée d'Ethnographie
Genf, Switzerland
Architect: Graber Pulver Architekten
Photo: Musée d'ethnographie, Blaise Glauser

GU I WP05005-04-0-1 I 04/2021

Parallel-Projecting and Projecting Top-Hung hardware

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. The window sash is not swivelled, but is moved out in parallel to the glass facade. Furthermore, this opening type is also suitable for implementing natural ventilation concepts because of the steplessly controllable opening widths: compared to the tilted window, Parallel-Projecting windows achieve a much greater rate of air exchange with the same opening width. As with all outward-opening windows, Parallel-Projecting windows do not take up any space in the interior.

Thanks to a versatile range of friction stays, the window frames can be made from timber, PVC and aluminium.

The hardware is suitable for sash weights up to 300 kg, opening widths of 250 mm and sash heights up to 3000 mm.

In the 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 an all-glass facade can be made extremely homogenous by using this window.

The hardware range offers a number of different Projecting Top-Hung friction stays with an opening angle from 20° to 50°. Sash heights of up to 2,500 mm are no problem at all; Projecting Top-Hung windows can be fabricated with all frame materials, e.g. timber, PVC, and aluminium.

Foto: James D. Evans

With parallel-projecting windows, the homogeneous façade appearance is maintained

The window is opened parallel to the glass façade

Detail of the chain motor on a projecting top-hung window

Technical data	Projecting Top-Hung hardware	Parallel-Projecting hardware
	Multisystem	Multisystem
Version	Aluminium, timber, PVC	Aluminium, timber, PVC
Maximum sash weight (kg)	180	300
Sash height (mm)	267 – 2500	380 – 3000
Clearance (mm)	17 + / -1	21 + / -1
Handle version	Spacio standard / Spacio lockable / Spacio removable and other customary handles	Spacio standard / Spacio lockable / Spacio removable

Horizontal and Vertical-Pivot hardware

Delivering swing for the facade

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Horizontal and Vertical-Pivot hardware

Horizontal-Pivot windows make it easy to achieve heavy sash weights. This brings transparency to the facade and allows a lot of daylight into the rooms.

Horizontal-Pivot windows have a central horizontal rotation axis. They are easy to operate, save space in the interior and have outstanding ventilation properties.

Horizontal-Pivot windows can be equipped with a motor-driven control unit, and be conveniently moved by remote control.

Vertical-Pivot windows function according to the same principle, except that the sash pivots vertically. The eccentric rotation axis allows interior design requirements to be optimally satisfied.

The wide selection of shapes and materials provides great design freedom for Horizontal-Pivot windows

Vertical-Pivot hardware for sash weights up to 175 kg are easy to operate

Technical data of Horizontal-Pivot hardware

	UNITAS 5 Bo	UNITAS 7 Bo	UNITAS 8 Bo	UNITAS 10	UNITAS 10 Bo	UNITAS 4 (circular Wind.)	UNITAS 16	UNITAS 18/3
Use	Timber	Timber	Timber	Timber	Timber	Timber	PVC	Aluminium
Clearance (mm)	4	4	4 / 12	4	4 / 12	4		
Sash rebate width (mm)	576 – 2950	576 – 2950	576 – 2950	576 – 2950	576 – 2950		576 – 2950	FB 580 – 2800
Sash rebate height (mm)	700 – 2200	700 – 2200	700 – 2200	700 – 2200	700 – 2200		700 – 2200	FB 600 – 2200
Sash rebate diameter (mm)						424 – 2016		
Maximum sash weight (kg)	175	175	200	300	300	100	175	175
Horizontal pivot, screw-on (non-ferrous metal)	■	■	■		■		■	■
Horizontal pivot, mill-in (steel)				■	■	■ (NE-Metall)		
Central locking system	UNI-JET	UNI-JET	UNI-JET	UNI-JET	UNI-JET	UNI-JET	UNI-JET	ALU-JET 10 / 06
Sash thickness (mm)	56 – 92	68 – 110	68 – 110	68 – 110	68 – 110	56 – 68		
Integrated, adjustable sash brake	■	■	■	■	■	■	■	■
Integrated adjustable 22° ratchet				■	■			
Sash rebate (mm)	11 / 4 / 11 opt. 15 / 4 / 15	11 / 4 / 11 opt. 15 / 4 / 15	18 / 4 / 18	11 / 4 / 11	18 / 4 / 18	15 / 4 / 15		

Technical data of Vertical-Pivot hardware

	UNITAS 93 Bo Typ C	UNITAS 93 Bo Typ D	UNITAS 88 Typ C	UNITAS 88 Typ D
Use	Timber	Timber	Aluminium	Aluminium
Clearance (mm)	4	4		
Sash rebate width (mm)	782 – 1600	356 – 1600	FB 870 – 1600	FB 600 – 1600
Sash rebate height (mm)	800 – 2450	850 – 2850	870 – 2800	FH 600 – 2800
Max. sash weight(kg)	175	175	175	175
Vertical pivot, screw-on (non-ferrous metal)	■	■	■	■
Integrated, adjustable sash brake	■	■	■	■
Integrated, adjustable sash brake	bottom (horizontal)	lateral	bottom (horizontal)	lateral
Central locking system	UNI-JET	UNI-JET	ALU-JET 10 / 06	ALU-JET 10 / 06
Sash thickness (mm)	56 – 110	56 – 110		
Sash rebate (mm)	11 / 4 / 11	11 / 4 / 11		

DIN 18040

Tilt&Turn hardware

The UNI-versal principle

ILB, Potsdam
Potsdam, Germany
Architect: KSP Jürgen Engel
Photo: HUECK

Tilt&Turn hardware

Turning, tilting and closing windows. 1-sashed, multi-sashed and for all kinds of window shapes: the UNI-JET is a universally applicable range of Tilt&Turn hardware which meets the highest requirements – for PVC, timber, aluminium windows or a combination of materials.

The new face-fixed UNI-JET hinge-side is convincing due to its cohesive elegant design which blends harmoniously with modern window frames: the high-quality surface in e.g. white paint or ferGUard*-silver does not have any visible screws or pins.

The UNI-JET can carry sash weights up to 200 kg and floor-to-ceiling sashes up to a height of 2800 mm – without requiring any additional components and with identical visual appearance. Ease of movement when opening and closing is also ensured up to the security level RC 3. The functions are guaranteed for 10 years thus ensuring their long term reliability.

The wide range of concealed hinge-sides for PVC, timber and aluminium windows meets high design expectations and extends the scope of window design. The concealed hinge-sides emphasise clear architectural lines and offer the same degree of security and functionality as the surface-mounted hinge-sides.

Concealed hardware for ambitious design requirements

Surface-mounted hinge-side with elegantly shaped, closed design

The special kinematics of the UNI-JET SCF provides design freedom due to the free space on frame of 5mm

Technical data	Concealed hinge-side			Surface-mounted hinge-side					
	UNI-JET SCF	UNI-JET CC	ALU-JET CC	UNI-JET D	UNI-JET D	UNI-JET M	UNI-JET S	UNI-JET C	ALU-JET 10/06
Version	Timber/ PVC	Alumin-ium	Aluminium	PVC	Aluminium	Timber	Timber	Alumin-ium	Aluminium
Sash rebate width (mm)	300 – 1400	390 – 1400	500 – 1600	280 – 1600	280 – 1600	280 – 1700	280 – 1600	280 – 1600	410 – 1700
Sash rebate height (mm)	280 – 2800	280 – 2800	500 – 2800	280 – 2800	280 – 2800	280 – 2800	280 – 2800	280 – 2800	500 – 2800
Tested load-bearing capacity (kg)	130 **	130	150	150	130	200	130	130	130 (300***)
Automatic cams for optimum clearance	■	■		■	■	■	■	■	
Version for arched head window				■	■	■	■	■	
Version for arched head window				■	■	■	■	■	
Resistance class on the basis of various strikers up to	RC 2 / RC 3	RC 2	RC 2****	RC 2 / RC 3	RC 2*****	RC 2 / RC 3	RC 2 / RC 3	RC 2	RC 2****
Barrier-free version to DIN 18040*	Optional			Optional	Optional	Optional	Optional		

* Barrier-free version with higher bearings for balcony and patio doors available in conjunction with GU system threshold | ** With load transfer up to 160 kg | *** Only as side-hung sash in conjunction with hinge side ALU-JET S800 | **** Only possible in conjunction with central locking ALU-JET 10 | ***** RC 3 certifiable

DIN 18040

Lift&Slide hardware
Space and light

Photo: Oliver Schuster, Stuttgart / baukunst philipphaus GmbH

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Mechanical Lift&Slide hardware

Large-format Lift&Slide doors have been right at the top of the architectural wish list drawn up by demanding builders ever since Gretsch-Unitas invented the first hardware system for Lift&Slide doors back in 1958. This innovative solution set a trend in the industry at the time, and one that has continued down to the present day. This is because the elements appeal with their spatial effect just as much as their design.

We offer comprehensive solutions for high-quality Lift&Slide technology. With the large number of further developments and additional packages, it is possible to design and produce individual Lift&Slide solutions according to customers' requirements.

Existing elements can be easily retrofitted to meet specific requirements such as for barrier freedom and burglar inhibition.

Lift&Slide doors blur the boundary between the inside and outside and therefore convey a sense of distance and freedom.

All the hardware variants from Gretsch-Unitas for Lift&Slide applications share the same basic strengths and advantages: outstanding running smoothness and lightness of the sliding panels, pleasant easy operation – even with large and heavy door leaves – are just a few of the benefits.

Photo: Oliver Schuster, Stuttgart / baukunst philipphaus GmbH

Large-format Lift&Slide doors are once again right back in vogue

Photo: Oliver Schuster, Stuttgart / baukunst philipphaus GmbH

Lift&Slide elements allow rooms to be flooded with light

Photo: Reinhard Zimmermann

Lift&Slide windows combine a generous panorama look with convenient opening; moreover, no sashes project into the interior

Technical data for mechanical Lift&Slide hardware solutions

	GU-934 Lift&Slide	Lift&Slide GU-937
Use	Timber / PVC / metal	Timber / PVC / metal
Lift&Slide door, sash width (mm)	700 – 3300	700 – 3300
Lift&Slide door, sash height (mm)	850 – 3250	850 – 3250
Lift&Slide door, max. sash weight (kg)	400	300
2 to 6-sash elements	■	■
Can be combined with various thresholds from the GU modular threshold system	■	■
Turn handles in various materials and versions (for barrier freedom to DIN 18040 in special length 400 mm)	■	■
Can be used within context of “barrier-free construction” to DIN 18040	■	■

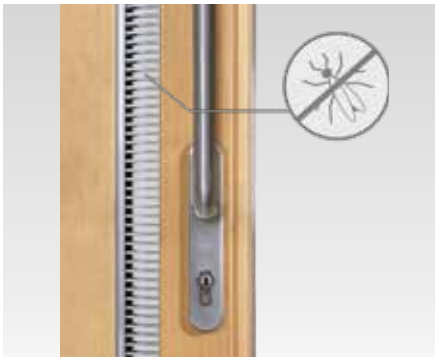
Extra equipment for Lift&Slide hardware

With the optional extras, a modular system is offered that meets the individual requirements of end users in terms of comfort, safety and functionality. Existing lift&slide elements can thus be brought up to the latest state of the art.

A high level of security against burglary is achieved through various components from the GU Group's range. For example, the anti-jemmy device prevents the sliding sash from being lifted in the closed position.

- The L&S night vent module combines burglar protection with optimum ventilation comfort. Elements with integrated L&S night vent module are RC 2-tested to DIN V ENV 1627, which means they are securely locked even in the ventilation position.
- Heavy sash – easy to lift: In order to noticeably reduce the operating force on the handle of a manual lift&slide door, GU has added the HS LiftUnit to its range. The HS LiftUnit makes operating the lift&slide door much easier, especially with heavy sashes, because the torque on the handle is reduced by half. Retrofitting in existing lift&slide doors is possible.
- HS SilentClose: The lift&slide sash brakes gently a few centimetres before reaching the end position and then moves automatically to the end position.
- HS StopUnit: The lift&slid sash stops safely before reaching the end position and is then manually pushed into its end position and locked.
- HS SpeedLimiter: uncontrolled acceleration of the sliding sash is prevented by limiting the speed to 0.2 m/s.
- The handle damper ensures a recoilless and controlled rotational movement of the twist handle.
- The rubber buffer brakes the sash in case of swinging opening to prevent damage to the lift&slide sash and frame.
- Tension spring in the lifting gear lock reduces the operating force on the turn handle. It is an alternative to the HS LiftUnit, which reduces the operating force considerably more.
- The lowering safety device ensures that light window sashes are closed tightly and in a controlled manner.
- With the RONDO handle extended to 400 mm, comfortable operation of the turn handle is also possible in a sitting position.
- The runners ensure that the lift&slide sashes can be moved smoothly.

High safety requirement fulfilled: anti-jemmy device prevents the sliding sash from being lifted



Comfortable ventilation for individual requirements: RC 2-tested and thus also securely locked in ventilation position

Maximum glazing lift&slide element with panoramic glazing

Technical data of the modular threshold system

	GU-thermostep 164	GU-thermostep 204	GU-threshold 47	GU-flatstep 164	GU-flatstep 222	GU-timberstep 164	GU-timberstep 204
Lift&Slide GU-934 / GU-937	■	■	■	■	■	■	■
Installation height (mm)	67	68	47	22	24	22	22
5, 10 and 15 mm roller track	■	■	■	■	■	■	■

Motor-driven Lift&Slide hardware

The HS ePOWER is a barrier-free comprehensive solution according to DIN 18040. The intelligent combination of tried-and-tested GU standard hardware, motor drive and barrier-free threshold establishes the prerequisite for comfortable and safe use.

Special characteristic: all components fully concealed. Only the manual operating element is visible. The three key panels of the control panel can be operated intuitively by lightly tapping on them. Alternatively, the sliding sash can be actuated via a remote control. Encrypted data transmission affords a high level of security. The HS ePOWER can also be integrated into many building automation systems.

When the door is closed, the batteries in the door leaf are charged automatically via wireless current transmission. Owing to the battery operating time, the door remains fully functional when left open for longer periods, or even in the event of a power failure.

A control unit quickly senses obstructions and reliably prevents jamming.

Motor-driven Lift&Slide door with completely concealed drive technology

The operating element has three key panels with self-explanatory symbols and can be operated intuitively.

Technical data of motor-driven HS-Master Lift&Slide hardware and HS ePOWER

	HS-*Master*, pattern A	HS-*Master*, pattern C	HS ePOWER
Use	Timber / PVC / Aluminium	Timber / PVC / Aluminium	Timber
Sash width (mm)	950 – 3300	950 – 3300	Up to 200 kg: SW min. 1150–3300 For barrier freedom: min. DLW 1230 201–300 kg: min. DLW 1600–3300 301–400 kg: min. DLW 2100–3300
Sash height (mm)	1855 – 2765	1855 – 2765	1196 – 3088
Max. sash weight (kg)	400	400	400
Installation height (mm)	100	100	Integrated
Handle and push-button actuation	■	■	–
Operation	Radio remote control	Radio remote control	Control panel Radio remote control Wall-mounted push-button Smarthome
Load cut-off	■	■	■
Radar or infrared pulse (contact-free operation), optional	■	■	–
Sensitive speed and force regulation	■	■	■
Retrofitting of existing Lift&Slide doors	■	■	–
Can be used within context of "barrier-free construction" to DIN 18040	■	■	■

Fold&Slide hardware

For maximum scope of architectural design

Hotel*** Milenij**
Opatija, Croatia
Architect: Carl Seidl
Photo: Gretsch-Unitas

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Fold&Slide hardware

Fold&Slide systems are more popular than ever before in projects as well as in private house building. They are ideal for use in rooms that require maximum opening widths where the sashes must be incorporated in a space saving manner and a light-filled, exclusive atmosphere is required. There is also increasing emphasis on barrier freedom, security and the combination of innovative technology with user-friendly operation.

Even with a total frame width of 6700 mm, the sashes weighing as much as 130 kg and with a width up to 1000 mm can be moved really easily and very quietly. The GU system threshold can be used for barrier-free applications in particular, depending on the system. The hardware system additionally provides burglar inhibition and security at the highest level.

This means the Fold&Slide hardware from the GU Group are currently the best performers on the market.

Sash weights up to 130 kg

Generous access that is also barrier-free

Burglar inhibition: metal covering caps with concealed fastening screws for the sash hinges

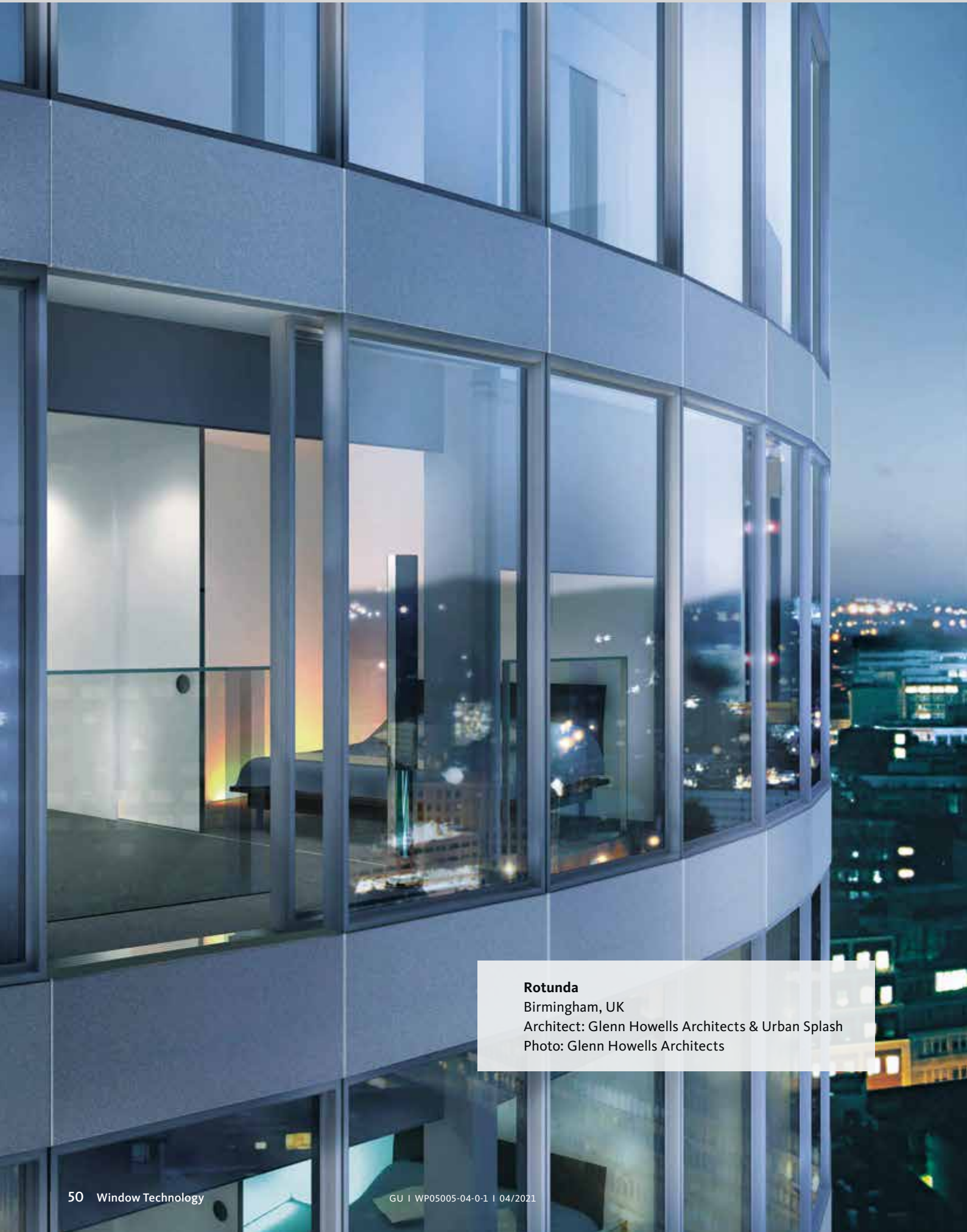
Technical data

	GU-923	GU-923	GU-823
Use	Timber	PVC	Metal
Sash width* (mm)	1000	1000	1000
Sash height* (mm)	2350	2350	2350
Sash weight* max. (kg)	130	80	80
2 to 7-sashed version*	■	■	■

* Depends on the processing guidelines of the profile manufacturer

Parallel-Slide hardware

Robust for a long service life



Rotunda
Birmingham, UK
Architect: Glenn Howells Architects & Urban Splash
Photo: Glenn Howells Architects

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Parallel-Slide hardware

Nowadays, access to terraces and balconies is often through large heavy patio doors that are made from standard window profiles. Here, architects wish for more creative scope and clients want more comfort and light. The trend is definitely towards always larger sized window elements.

In buildings with a high footfall, even large and heavy elements can be moved safely and easily. Parallel-Slide doors can be built with sash widths up to 2000 mm and sash weights up to 200 kg.

The hardware can be used universally in all the usual standard window profiles and, thanks to exceptional ease of operation, is ideal for projects with many users, such as hotels.

Parallel-Slide hardware is suitable for use in projects with frequently changing users

Easy operation thanks to scissor sliders with ball bearing-supported, plastic-coated rolls

Tried-and-tested bogie technology for very smooth running

Technical data

	GU-966 / 200 oZ			GU-968 / 200 oZ		
Use	Timber / PVC			Metal		
Sash width (mm)	720 – 2000	1050 – 2000	1050 – 2000	600 – 2000	1050 – 2000	1050 – 2000
Sash height (mm)	820 – 2350	820 – 2350	1050 – 2350	730 – 2400	730 – 2400	730 – 2400
Max. sash weight (kg)	130	131 – 180 [1][2]	181 – 200 [3]	130	131 – 180 [1][2]	181 – 200 [3]
2 or 4-sashed version	■	■	■	■	■	■
Locking monitoring set for connection to alarm systems	■	■	■	■	■	■

[1] From 131 kg with DIRIGENT-HL turn handle. An additional operating element is recommended (e.g. push/pull handle)
[2] From 131 kg with tandem scissor-slider at the top
[3] From 181 kg with tandem bogie (bottom) and tandem scissor-slider (top)

Tilt&Slide hardware

Virtuoso for convenience and security

Supplied courtesy of Eisen AG, CH-Oberriet

Tilt&Slide hardware

The tried-and-tested Tilt&Slide hardware offers all the advantages of a sliding door: the patio door can easily be moved to the tilt position for comfortable ventilation. The sash is held open by robust, storm-proof stays. The additional power-control feature of the hardware variants for large and heavy units ensures that the sash is pulled against the gasket evenly upon closing and returned to the tilt position upon opening. There is a special device to prevent mishandling, which ensures problem-free operation for the user.

An individual security concept is available in three grades for Tilt&Slide elements made of timber and PVC. Additional security components ensure that the locking mechanism is burglary-resistant on all four sash sides.

Supplied courtesy of Jansen AG, CH-Oberriet

Transparent dwelling architecture: domestic glass extension with Tilt&Slide elements

Technical data

	GU-966 / 200 mZ	GU-966 / 150 mZ	GU-966 / 150 oZ	GU-90 oZ	GU-968 / 200 mZ	GU-968 / 150 mZ	GU-968 / 150 oZ
Use	Timber / PVC	Timber / PVC	Timber / PVC	Timber / PVC / Metal	Metal	Metal	Metal
Sash rebate width (mm)	640 – 2000	720 – 1600	640 – 1600	640 – 1600	740 – 2000	740 – 1600	600 – 1600
Sash rebate height (mm)	700 – 2350	820 – 2350	700 – 2350	700 – 2350	895 – 2400	895 – 2400	730 – 2400
Max. sash weight (kg)	200	150	130	90	200	150	130
2 or 4-sashed version	■	■	■	■	■	■	■
Small and lightweight window elements				■			
Basic security	■	■	■	■			
Enhanced basic security	■	■	■	■			
EN V 1627–1630	■	■	■	■			
Locking monitoring set for connection to alarm systems	■	■	■	■	■	■	■
With power control	■	■			■	■	
Turn handle for all operating functions, lockable	■	■	■	■	■	■	■
Lockable door	■	■	■	■	■	■	■

Handles for windows and large-format sliding elements

Free design in the handle

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Handles for windows and large-format sliding elements

With the hardware solutions and lever handle series from the Gretsch-Unitas Group, you can plan and implement the entire building with consistent design. The series also includes hardware for large-format sliding elements such as Tilt&Slide and Lift&Slide hardware and even escape doors. You can meet all requirements from one source. A particular bonus: the design of handles for windows and sliding elements is coordinated with the lever handle range. This achieves a consistent look throughout the project.

The GU Group's window handles are tested on an ongoing basis to ensure correct functioning. This involves simulating the stressful product life of a window handle with continuous performance tests and static load tests. The test results achieved by the window handles exceed the requirements of the applicable standard.

The versions in stainless steel will attract customers with their clear shape and lines. The handles are easy to operate and provide a pleasant grip sensation.

Various versions of long handles: optimised for easy and barrier-free operation

Window handle: a delight to hold and easy to operate

The design of the handles for windows and sliding elements is harmonised with the lever handle range

Smoke and heat exhaust ventilation systems

Security with a system

Salzburg University
Architect: SEP Storch Ehlers Partner GbR,
BDA-registered architects, Hanover
Photo: Uni-Park Salzburg

Smoke and heat exhaust ventilation systems (SHEV)

The smoke emitted by fires represents the greatest threat to people and the building. For this reason, it is extremely important that the smoke be extracted quickly and reliably. This is where smoke and heat exhaust ventilation systems play the most important role as fixed components of preventative fire protection: in the event of fire, they conduct combustion gases, dangerous oxides and thermal energy out into the atmosphere. This means smoke levels in escape and rescue routes are reduced, thereby allowing assisted and unassisted rescues to be carried out. Furthermore, this avoids the thermal load imposed on the building structure by hot fire gases leading to damage to the building.

We offer you a wide assortment of mutually compatible system components – from electric motor-driven chain and spindle drives through to SHEV central control systems and an extensive range of accessories.

Complete opening systems for Tilt-Only, Top-Hung as well as inward and outward opening Turn-Only windows are also included.

SHEV systems are not only suitable for smoke exhaust in the event of fire, they can also be used for everyday ventilation which means they cover almost 100% of all possible application requirements.

The electrical control of the smoke and heat exhaust ventilation is performed by the SHEV compact control unit. This is equipped with extensive setting and application functions as well as offering clear status messages via LED displays. Windows, smoke flaps and light domes are opened or closed using electric drives.

The ventilation function is controlled via a ventilation push-button, rain/wind controller or time switch, and in the event of an emergency it is controlled manually via an SHEV push-button or automatically via smoke or heat detectors. In addition, alarm signals can be connected.

Photo: architektur-werk-stadt

Daily ventilation and smoke exhaust as and when required via chain drives

Photo: aumüller/aumatic gmbh, Augsburg

Skylight opening with spindle drive

Protection purposes 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 selective extinguishing by the fire brigade
- ✓ Reduced risk for emergency service personnel

Property protection

- ✓ Prevent fully-fledged fires and follow-on fires
- ✓ Reduce extensive building damage due to smoke

SHEV air supply

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.

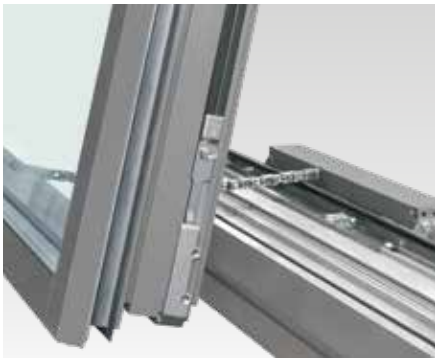
With the ELTRAL TA 60 door drive, this means swing doors can also be used in entrance areas as an air supply for smoke and heat exhaust ventilation. At the same time, escaping from inside is possible at any time.

Consideration is also given for convenient access: the doors can be opened without any counter force in everyday use, because the door drive is active in day-to-day operation.

Schematic view of the functional principle of a smoke and heat exhaust ventilation system with supply air, skylight and facade opening

Technical data

Drive	ELTRAL TA 60
Nominal voltage	24 V DC ±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



Natural smoke and heat exhaust ventilation devices (NSHEV)

In natural smoke and heat exhaust ventilaton devices (NSHEVs), the window element is tested and certified together with the drive as an entire system in accordance with EN 12101-2.

We offer NSHEV system solutions with tested, certified components for timber profiles and Euro-groove aluminium profiles from leading system suppliers in all conventional opening types.

According to EN 12101-2, an NSHEV consists of:

- a window with the corresponding components: system profile ❶, seals ❷, window hardware ❸
- the infill (e.g. glass, panels) ❹
- the drive system and corresponding attachment set ❺

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 door leaf 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, SHEV pushbuttons 'HSE', fire detectors and other components

Approved NSHEV systems

	Aluminium systems with standardised Euro-groove 15/20	**Timber / timber-aluminium systems**
Profile systems ■ With standardised Euro-groove 15/20 ■ With Euro-rebate ■ System profile	Heroal Gutmann Aluprof Kawneer Reynaers Alumil Sapa 	

Ventilation systems
Controlling the climate conveniently

The Crystal
London, UK
Architect: Wilkinson Eyre /
Pringle Brandon Perkins + Will
Photograph: www.siemens.com/presse

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Chain drives

Electric motor-driven chain drives allow individual solutions to be achieved for convenient room ventilation.

The concealed variants are integrated in the window frames and can be used in all frame materials. However, the surface-mounted variants blend very well into the window architecture with their compact, flat design.

A wide variety of fastening types allows configuration as inward and outward-opening Tilt-Only, Top-Hung and Turn-Only sashes as well as use on Parallel-Projecting, Projecting Top-Hung, Horizontal and Vertical-Pivot windows and skylights.

Several drives can be activated synchronously. Chain drives with an integrated radio receiver can be activated individually or in groups via remote control. Intelligent technology also permits straightforward integration into an existing building control system.

ELTRAL K25: concealed mounting, bottom-hung sash

ELTRAL K35: installation on frame, Parallel-Projecting window

ELTRAL K60 Synchro: inward opening Tilt-Only sash, installation on sash

Photo: aumüller/aumatic gmbh, Augsburg

Technical data

	ELTRAL K25	ELTRAL K30	ELTRAL KS30 / 40	ELTRAL K35	ELTRAL K60
Tilt-Only sash	■	■	■	■	■
Top hung sash	■	■	■	■	■
Skylight		■	■		■
Turn-Only window	■	■	■	■	■
Opening widths (mm)	200 / 300 / 400	200 – 300 / 400 – 500	110 / 200 / 300 / 400	100 – 800	250 / 400
Tensile/compressive force (N)	250	300	300	350	600
Current consumption 24 V (A) / 230 V (A)	0.8 / 0.2	0.9 / 0.16	0.9 / 0.12	0.9	1.2 A / 0.2
Dimensions (W x H x D in mm), 24 V Dimensions (W x H x D in mm), 230 V	335 x 26 x 41 (travel 200) 75 x 26 x 41 (travel 200)	456 x 43 x 60 456 x 43 x 60	386 x 37 x 59 386 x 37 x 59	35 x 35 x L	461 x 40 x 56 (travel 250) 37 x 40 x 56 (travel 250)

DIN 18040

Spindle drives / rack and pinion drives

Spindle drives are perfectly suited to opening and closing large and heavy skylights or facade openings.

They are particularly important for operating heavy skylights and light domes, because strong push forces are required there together with large opening widths. Other advantages concern the compact size and high protection type, and thus the weatherproof application.

For very wide and heavy skylights, the intelligent, integrated technology also enables synchronous control of up to eight drives.

Opening and closing large and heavy skylights

Synchronous control of several drives

Photos: aumüller/aumatic gmbh, Augsburg

Technical data	Rack and pinion drives	Spindle drives S	
	ELTRAL Z45	ELTRAL S80	ELTRAL S160
Tilt-Only sash	■	■	■
Top hung sash	■	■	■
Skylight	for light dome	■	■
Opening widths (mm), 24 V	–	300 – 1000	300 – 1000
Opening widths (mm), 230 V	230 – 750	300 – 750	–
Tensile/compressive force (N)	450	800	1600
Current consumption 24 V (A) / 230 V	– / 0.25	1.0 / 0.12	0.7 / –
Dimensions (L x ø in mm), 24 V Dimensions (L x H x D ø in mm), 230 V	– (135 + travel) x 54 x 115	(302 + travel) x ø 36 (190 + travel) x 43 x 76	(302 + travel) x ø 36 –

Manual and motor-driven fanlight opener systems

Fanlight opener systems allow everyday straightforward ventilation to be achieved in the case of fan lights that are not readily accessible to the user. Actuation is either manually with a hand lever or crank – or with the convenience of electric drive.

The VENTUS fanlight opening system with ELTRAL electric drive allows cost-effective electric motor-drive control of several sash units with one drive. The flat design makes the system suitable for vertically installed Tilt-Only, Top-Hung, pitched, segmental arch as well as arched windows made of PVC, timber or metal.

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

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 efficiency.

A surface-mounted additional lock increases burglar protection.

The stays can be conveniently unfastened for cleaning purposes. Restrictor and cleaning stays offer additional security.

Compact modules guarantee fast and easy mounting.

Highest gasket pressure on the window ensures tightness, acoustic insulation and energy efficiency

Several sash units can be controlled using one drive

Technical data

	VENTUS F 200
Use	Timber / PVC / Aluminium
For Tilt-Only sashes (vertical), inward-opening	■
For Top-Hung sashes, outward-opening	■
For pitched windows	■
For segmental arch windows	■
For arched windows	■
Sash width (mm)	400 – 3600
Min. sash height (mm)	250
Opening width (mm)	165 – 200
Max. sash weight (kg)	80

Humidity-controlled ventilators

This is how efficient fresh air supply works

Photo: Getty Images

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Humidity-controlled ventilators

Building construction with ever increasing impermeability, highly insulated exterior facades and windows with minimum air permeability provide outstanding thermal insulation in modern buildings.

However, this largely prevents the natural exchange of air. As a result, there are often increased levels of moisture, poor quality room air and mildew formation. However, good-quality room air is not only a requirement for human well-being, it is also an essential condition for the health of human beings and retaining the value of buildings.

The best solution for efficient room ventilation is a system that detects the requirement by itself. Humidity-sensitive ventilation means demand-driven ventilation. By adapting the ventilation to individual requirements in individual rooms, not only is it possible to avoid mildew and permanently optimise the indoor air, it is also possible to save a lot of energy compared to non-targeted ventilation. The result: adequate ventilation is provided, but not more than required.

We can offer you solutions for use in windows made of all kinds of frame materials, blinds and walls, for new builds and renovations as well as for retrofitting to existing systems.

Suitable for use with all frame materials: PVC, timber and aluminium; available in different colours

Humidity sensor of the ventilator: opens if the air humidity is too high A

With exceptionally slender compact dimensions, the GU roller shutter ventilator blends inconspicuously with the interior of the apartment

Technical data

	Free ventilation (shaft ventilation)	Ventilator-based ventilation
Air quality indoors		
Air quantity control	+	++++
Intensive ventilation possible	only possible manually	++++
Energy efficiency		
Minimisation of heat losses	++	++++
Low energy consumption	++++	+
Acoustic characteristics		
Low-noise operation	++++	+
Installation and maintenance		
Low costs	++++	+
Simple installation	++++	++
Simple retrofitting	++++	+
Simple maintenance / cleaning	++++	+

Door Technology

The complete range for all aspects of convenient and secure door functions

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With our precisely harmonised systems for doors, you can plan sustainably with scope for future expansion. The system solutions meet various requirements such as fire protection, burglar inhibition, suitability for use with escape doors, access control, barrier freedom, convenience and aesthetics – irrespective of whether in new builds, extensions or retrofitting to existing systems. In this way, a multifunctional project door can be flexibly adapted to changing requirements in the building.

The requirements on doors in the project – such as office doors, outside doors, doors in escape and rescue routes or doors that are integrated in access control systems – are highly diverse.

The mortise locks for inside doors should function as quietly as possible. For this application, we have developed silent latches which also reduce wear and tear on the door frame. They offer convincing performance as a durable and low-maintenance system, especially when there is a high frequency of use.

The range of hardware for project doors made of timber, steel and aluminium with quick-installation technology and a long service life, tested to EN 1906 in user category 4 with 1.5 million operations, meets the most demanding expectations.

Outside doors present special challenges with regard to burglar resistance, fire protection, tightness and accessibility. SECURY multi-point locking systems more than meet these ambitious expectations.

For planning doors in escape and rescue routes, we offer architects and planners high-performance and secure solutions that are precisely tailored to the requirements of the project and comply with current standards such as EN 179 / EN 1125 and EN 13637.

The access authorisation in projects must be securely set up, controlled and allow for flexible adaptation. Our intelligent solutions for access control – ranging from mechanical to electronic systems – cover all types and functions of doors in the building, and thereby ensure a high level of security and cost effectiveness.

The Gretsch-Unitas Group offers everything that ensures the smooth and trouble-free interplay between all components relating to the door: a broad selection of tested products, technical innovations, excellent quality and comprehensive services. This also of course includes competent, technical advice.

All products marked with this icon are suitable for barrier-free construction to DIN 18040

System solutions for escape and rescue routes

Escape door expertise from macro to micro levels of detail

RheinMain CongressCenter
Wiesbaden, Germany
Architect: Ferdinand Heide
Photo: Peter Krausgrill-Stadtleben

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System solutions for escape and rescue routes

Escape and rescue route systems do not permit stand-alone solutions. Maximum security of these systems can only be ensured if all components have been harmonised individually with the building situations and work perfectly together. We provide you with complete solutions from a single source: from the individual component to the complex overall system – from the simple escape door with panic lock to the central control of escape doors and smoke exhaust in the escape routes by smoke and heat exhaust ventilation systems.

We offer architects and planners high-performance and secure solutions that are precisely tailored to the requirements of the project – according to the current standards such as EN 179 / EN 1125 and EN 13637.

Innovation and expertise also feature in the smallest part of a system: for example, the self-locking BKS mortise locks and self-locking SECURY multi-point locking systems with panic function for escape doors offer the best security.

The interaction between products from the Gretsch-Unitas Group as tested units is unique to the market. For you, it means complete compatibility of all functions and consistent fulfilment of aesthetic demands.

Overview of our special solutions:

Large-capacity revolving doors
Impressive prelude for a public building: our large-capacity revolving doors combine an elegant appearance with maximum escape route widths: without requiring any separate escape door (national, country-specific directives must be complied with).

Escape route sliding doors
Sliding doors are convenient, impressive and barrier-free. They are also suitable for use in escape routes in day mode. Up till now, sliding doors were not approved as an escape door when locked in night mode. The HM-F FT escape route sliding door rises to this challenge: in night mode, the door converts into a swing door with escape door control.

Electrically-locking Touch Bar EVT
The electrically-locking Touch Bar EVT is a locking system characterised by a reduction in the number of individual components and intuitive operation.

Electrically-locking panic lock
Specially for single-leaf emergency exit and panic doors: the electrically-locking panic lock is a compact solution which combines a self-locking panic lock with electric escape door locking.

Emergency exit device to EN 179
Specially for areas not accessible to the public: the tested and approved unit comprising panic lock and hardware effortlessly satisfies the requirements of the EN 179 standard.

Approved as an escape door: the leaves of the large-capacity revolving door can be folded back

Functionality and aesthetics rolled into one: The HM-F FT sliding door that becomes a swing door

Concealed installation for visible aesthetics: the EVP electrically-locking panic lock

Escape door packages

The new EVT (electrically-locking Touch Bar) and EVP (electrically-locking panic lock) in combination with the FTNT escape door control unit ensure that personal safety during a panic situation and maximum security for material property is not a contradiction. They accomplish this while also cutting the number of system components to a minimum.

The **EVT solution** combines single and double-leaf panic hardware and escape door locking technology in accordance with EltVTR and EN 13637 into one system.

The integrated LED display in the touch bar clearly signals whether the system is in "locked" or "unlocked" status.

No additional locking elements are required in the **EVP solution for single-leaf doors**. The combination of self-locking panic lock and electrically controlled escape door lock provides a compact solution which significantly reduces the planning time for architects and door fabricators.

Both the **EVT and EVP escape door packages** are used in combination with the **FTNT escape door control unit** and can be networked via the BKS-NET door bus interface.

The planners are thus provided with high-performance and safe solutions according to current standards such as EN 179 / EN 1125 and EN 13637 which are precisely tailored to the requirements of the project.

Electrically-locking Touch Bar EVT: more safety in modern design

Escape door strike and EVP panic lock available as mortise lock and multi-point lock

Suggested components

1. EVP electrically-locking panic lock as mortise lock or multi-point lock for timber, steel and narrow stile doors
2. FTNT AP escape door control unit - on-wall version
3. Push bar
4. Overhead door closer OTS 736
5. Benefit: escape door strike with latch lock is not required

FTNT10 / FTNT20 escape door control units

The escape door control unit is mounted next to the door, and releases it reliably using the emergency push-button. The built-in control unit offers many adjustable functions to network and monitor the door.

The innovative signalling concept clearly displays the following statuses: release, alarm and locking. Further components are the key switch for short-term release for authorised access and for acknowledgement, a push-button for door control in the Off / Night operation mode as well as an emergency push-button label.

The modular design permits tailor-made solutions for all kinds of requirements. In this way, the escape door control unit can be combined with switch series and connected with many other BKS-NET compatible products by means of an integrated bus interface. The control units fulfil the high demands of EltVTR and EN 13637 and come as sets with frames, covers or power supply unit on request.

Compared to other systems, the FTNT is also especially compact in its surface-mounted version (AP).

FTNT escape door control system with innovative signalling concept

FTNT AP escape door control unit - on-wall version: particularly compact

Suggested components

1. Electrically-locking Touch Bar EVT
2. Escape door terminal FTNT10
3. SECURY 19 multi-point lock, self-locking with panic function (optionally B/C/E)
4. Shoot-bolt lock series 19
5. OTS 736 SRI overhead door closer, slide rail system with integrated door leaf coordinator
6. Carrier bar
7. Detachable cable link

Lock expertise

Safety and operating convenience in any situation

School Altenburg, Mensa
Stuttgart, Germany
Architect: ORANGE BLU building solutions
Photo: Kai Loges – die arge lola

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Lock expertise

Numerous individual customer requests have prompted us to expand the lock range to meet all kinds of requirements over the course of the years. Whether burglar-inhibiting, with smoke and fire protection, as a panic or convenience solution – there are no limits on the possible applications.

This also prompted the GU Group to revise its entire range of BKS mortise locks and GU multi-point locking systems, and to offer the market a modular system with GU-SECURY system technology and the striker concept.

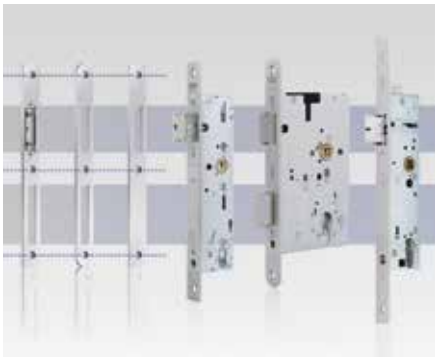
Not only can the uniform product range be used for all aluminium, timber, PVC or steel door systems, but also flexibly with standard, convenience and panic versions.

In parallel to this, we offer a large number of motor-driven locks that meet the requirements ranging from additional convenience to barrier freedom. After all, the trend is moving towards ever taller and heavier doors, representing a greater force application when opening.

If a GU-SECURY Automatic with A-opener has been installed, the door can be opened from the outside merely with a short turn of the key to trigger the electric motor drive. To open the door from the inside, the lever handle only has to be touched gently for the motor to do its job straight away.

The consistency and range of applications for our locks is unparalleled in the market!

GU-SECURY A-opener servo: maximum operating convenience



Uniform latch&deadbolt striker: for additional cost-effectiveness

Make 1 out of 8 and 8 out of 1: the panic lock series 21 and 23 for timber and steel doors can be used in eight different variants

Motor-driven locks

Motor-driven locks are used if automatic unlocking of the door is required. If maximum comfort is the objective, then combination with a swing-door drive is recommended. The latchbolts of the self-locking motor locks are retracted by means of a motor in the case of single and double-leaf doors. Mortise lock and multi-point lock solutions are available for use on timber, steel and PVC doors. Built-in monitoring contacts are possible, such as latchbolt or locking cam monitoring, for example. As a self-locking system with panic function it is ideally suited for use in fire protection, smoke protection and escape doors.

Electrical lock monitoring
Self-locking locks with electrically coupled outside levers are used with single or double-leaf project doors with access control systems. Access is electrically controlled via the outside lever. The status of the individual lock elements such as latchbolt, inside and outside lever, follower or cylinder cam can be electrically interrogated by built-in switch contacts.

Radio-controlled electrically coupled lock
The radio-controlled electrically coupled battery lock combines the benefits of a self-locking panic lock with wireless control by outside lever. Without any wiring and installation effort, access authorisation control can be achieved with confidence on single or double-leaf timber and steel doors. The lock can also be installed in existing fire doors without invalidating the door's fire approval.

The electrically coupled radio lock constitutes a novelty which convinces not only with its mature technology but also through sophisticated design and profitability.

EVP electrically-locking panic lock
The EVP is the compact combination of self-locking panic lock and electrical escape door locking – approved for single-leaf emergency exit doors to EN 179 and panic doors to EN 1125.

The integrated latch is placed in the area of the deadbolt, so the electric locking point is located optimally in the lock area.

The panic lock is also available with multi-point locking for increased burglar protection.

Electrically coupled locks: fundamental for access control systems

Electrically coupled radio battery lock: no cabling and installation work

EVP electrically-locking panic lock: the panic lock is also available with multi-point locking for increased burglar protection

Mechanical and mechatronic locking systems

Solutions for barrier freedom must also reflect the exacting security requirements to be met in public buildings. We developed the motor-driven shoot-bolt lock precisely for this application. All necessary functions are implemented in conjunction with a swing-door drive.

The motor-driven shoot-bolt lock for narrow stile doors features a particularly fast-acting motor and performs three functions: motor-driven movement of the lower and upper locking rods, (if required) a permanently-open function for the daily pass-through operation and finally the electric strike function which holds the passive leaf closed and only allows the active leaf to open.

The familiar slogan of "make 1 out of 4 or 4 out of 1" from the narrow stile area is outdone in the new timber and steel door series 21 and 23 with the new slogan "make 1 out of 8 and 8 out of 1".

The BKS self-locking series 21 and manual-locking series 23 provide the possibility to use one lock in eight different variants on single and double-leaf escape and fire protection doors. The top-locking feature can be retrofitted individually to each mortise lock of Series 21 and 23. The reversible panic function and latch also ensure outstanding flexibility and cost-effectiveness of panic exit devices for timber and steel doors.

Adaptable top-locking feature for series 21 and series 23 locks

The virtuoso: motor-driven shoot-bolt lock

Technical data

	Series 18	series 19	series 21	series 23	SECURY 19 and 21 multi-point lock
Use	Narrow stile doors	Narrow stile doors	Timber and steel doors	Timber and steel doors	Narrow stile, timber and steel doors
Single and double-leaf doors	■	■	■	■	■
Approval in accordance with EN 179 and EN 1125	■	■	■	■	■
No need to lock the door manually (self-locking)		■	■		■
Fire/smoke protection approval	■	■	■	■	■
VdS approval, mechanical		■	■		
With top-locking feature for tall doors	■	■	■	■	
Panic functions	B, C, D, E	B, C, E	B, C, E	B, C, D, E	B, C, E
Permitted in combination with electric strike	■			■	
External lever, electrically coupled		■	■		■
Motor-driven release		■			■
Monitoring contacts (e.g. latch, deadbolt, follower)	■	■	■	■	■

Standard mortise locks for inside doors

Whether for a timber, steel, aluminium, PVC or glass door: the extensive range of BKS locks surely offers the right mortise lock for your particular application.

BKS mortise locks are designed specifically for timber or steel doors – with large backsets and flat faceplates with rounded ends. The locks are perfectly complemented by appropriate strikers for the door frame. Performance features such as burglary protection, suitability for fire protection and escape doors, and possible integration into access control systems enable you to use BKS mortise locks for timber or steel doors in many areas.

The BKS mortise locks for aluminium or PVC doors have been designed especially to meet the requirements of narrow stile doors: the slim and differently reinforced profiles demand locks with smaller backsets. Just select from our variety of locks the types you need for your additional requirements – the product programme includes burglar inhibition, fire and escape door suitability and integration into access control systems.

For inside doors, it is above all important to have the quietest possible opening and closing. As a result, silent latch locks with integrated pulley for silent closing of the door are used. They offer convincing performance as a durable and low-maintenance system, especially when there is a high frequency of use.

Project and heavy duty locks

Silent latch locks with integrated roll for silent closing of the door

Technical data

	0515	0615	1206	1311	1314
Use	Timber and steel doors	Timber and steel doors	Timber and steel doors	Narrow stile doors	Narrow stile doors
Project lock	■			■	■
Heavy duty lock		■	■		
To DIN 18251	grade 3	Grade 5	Grade 5	Grade 3	Grade 3
Deadbolt, 1-turn (20 mm)				■	■
Deadbolt, 2-turn (20 mm)	■	■	■		
Profile cylinder lock	■	■	■	■	■
Bathroom lock	■	■			
CE marking to EN 12209			■	■	
Fire/smoke protection approval DIN 18250			■	■	
Hole distance (distance in mm)	72, 74	72, 74	72, 74	92, 94	92, 94
Backset (mm)	55 – 100	55 – 100	55 – 100	35 – 65	25 – 65

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Multi-point locks

Outside doors present special challenges with regard to burglar resistance, fire protection, impermeability and accessibility.

The SECURY multi-point locking systems more than meet these ambitious expectations. With additional locking elements in the upper and lower door area as well as individual solutions for all kinds of installation situations.

The mechanical self-locking locking systems dispense with the need to lock manually by key.

The GU-SECURY Automatic locking system for house and apartment doors is very convenient. Simply allow the door to close in the lock: the Automatic latchbolts automatically move out by 20 mm when the door is pulled closed, and lock it. "Insured with the door just pulled shut!" always applies to GU-SECURY Automatic multi-point locking

These locking systems can be opened at any time via the lever handle from the inside and with one turn of the key from the outside.

With GU-SECURY multi-point door locks you receive a security system customised to your individual entrance situation, regardless of whether it is for timber, PVC, aluminium, steel, facade, outside or inside doors.

GU-SECURY multi-point locking: close the door – enjoy security

The SH (SH bolt) locking type and automatic latchbolt

Technical data

	GU-SECURY SH	GU-SECURY Automatic	SECURY 19	SECURY 21
Use	Narrow stile, timber and steel doors	Narrow stile, timber and steel doors	Narrow stile doors	Timber and steel doors
Single-leaf doors	■	■	■	■
Double-leaf doors	■	■	■	■
RC approval (in combination with door system)	■	■	■	■
Approval in accordance with EN 179 and EN 1125		■ (Automatic Panic variant)	■	■
No need to lock the door manually (self-locking)		■	■	■
Fire/smoke protection approval	■	■	■	■
VdS approval		Grade A		
Panic functions		E (Automatic Panic variant)	B, C, E	B, C, E
External lever, electrically coupled			■	■
A-opener (motor-driven)		■	■	■
Monitoring contacts (e.g. latchbolt monitoring)	■	■	■	■

Project door hardware

For narrow stile, timber, steel and PVC doors

Project door hardware

GU project hardware far exceeds the minimum requirements: the durability test according to EN 1906 demands only 200,000 actuations in the highest user category 4. Our project hardware is tested by performing more than 1.5 million actuations.

In addition to the timeless door handle models Belcanto, Tremolo and Rondo, you can also choose from our elegant design models Dirigent, Office and Legato with fast installation technology, all of course maintenance-free and available in a range of surface finishes.

All models in combination with rosettes, short backplates, long backplates as well as wide backplates are certified and continuously monitored by the MPA material testing office in Dortmund, Germany. They comply with the requirements and test methods of DIN 18273 and can be used on fire and smoke protection doors.

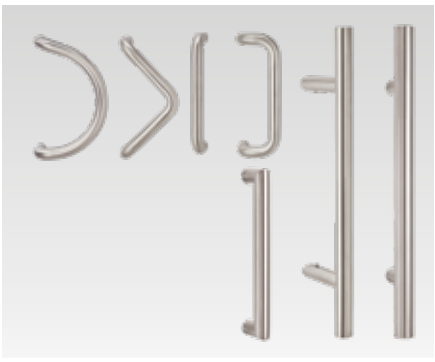
Security hardware to DIN 18257 and EN 1906 is available in grade ES 1 and ES 3 as a lever handle and entrance set.

The project lever handles are made from high-quality steel and are characterised by their durability, corrosion resistance, acid resistance, abrasion resistance, environmentally friendliness and high level of safety in terms of human health.

Our hardware solutions and lever handle series make it possible to maintain a consistent design throughout a building for both windows and doors. Ranging from standard hardware to burglar-inhibiting variants through to versions for fire protection, smoke protection and escape doors – there are all variants to choose from.

Durable convenience with durable maintenance-free lever bearing technology: tested in user category 4 to EN 1906

Lever handle series and hardware in a matching design for windows and doors



Push/pull models in various shapes and sizes

Project hinges
Certification and security according to EN 1627-1630

Elbphilharmonie
Hamburg, Germany
Architect: Herzog & de Meuron, Basel
Photo: Ulrich Stock

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Project hinges for doors in escape and rescue routes

The purpose of escape and rescue routes is to protect and save people. The stringent requirements in relation to functionality and safety require a permanent rotatable connection between door frame and door leaf. We complement the intelligent combination of mechanics and electronics of the locks and hardware for emergency exit and panic doors with innovative hinge technology for use on elements made of timber, PVC, and metal. Perfectly compatible components from one source guarantee utmost security.

Certification and security

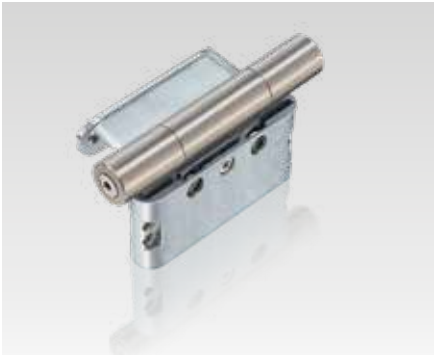
Safety is not only the first priority at escape doors. Our hinges for particularly high loads meet the high requirements up to resistance class RC 3 in different systems tests to EN 1627-1630. Our screw-on hinges for PVC or metal doors fulfil the SKG certification for outward-opening doors required in the Netherlands up to three stars.

Design requirements for the hinge-side

Not only the door construction but also the door hinge design decisively contributes to the appearance of a door. GU offers hinge solutions ranging from roll-type hinges through to concealed hinges in various finishes.

GU R 816 3D: Slender and round – hinge diameter of only 22 mm

GU C 616-18 FD 3D: concealed door hinge facilitates a modern linear door design, so the clean lines of the door are not interrupted



GU M 516 3D: stainless steel barrel hinge with increased burglar resistance due to closed hinge-roll

GU A 316 3D: delicate but strong, can be used universally for metal doors in commercial and residential buildings

Touch bars and push bars

Project hardware to EN 1125

Louvre Museum
Abu Dhabi, VAE
Architects: Jean Nouvel
Photo: Department of Culture and Tourism – Abu Dhabi Mohamed Somji

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Touch bars and push bars

The GU Group offers you a wide selection of push bars and touch bars for use on single or double-leaf fire protection, smoke protection or project doors up to 300 kg.

Even with very large, double-leaf doors, it only takes the slightest pressure on the touch bar during a panic situation to open the entire door element safely and quickly. Even children, elderly people or people with disabilities will be able to open the door safely and quickly in the event of danger. The door system closes again automatically after passage.

In conjunction with BKS mortise locks and accessories, the touch bars and push bars are approved to EN 1125. We have tested the durability with 1 million closing operations.

The series are available in stainless steel, aluminium or PVC versions.

Push bar: for use to EN 1125

Touch bar: elegant shape and protected against vandalism

Push bars

	B 71xx 5100	B 71xx 5101	B 71xx 5141
Use	Narrow stile, timber and steel doors	Narrow stile, timber and steel doors	Narrow stile, timber and steel doors
Single and double-leaf doors	■	■	■
Approval in accordance with EN 1125	■	■	■
Approval for heavy doors up to 300 kg	■	■	■
Approval for wide doors up to 1500 mm	■	■	■
Fire/smoke protection approval	■	■	■
Hole distance in mm	72, 74, 92, 94	72, 74, 92, 94	72, 74, 92, 94
Black PVC version	■		
F1 aluminium version		■	
Stainless steel version			■

Touch bars

	B-7441	B-7442
Use	Narrow stile doors	Timber and steel doors
Single and double-leaf doors	■	■
Approval in accordance with EN 1125	■	■
Approval for heavy doors up to 300 kg	■	■
Approval for wide doors up to 1500 mm	■	■
Fire/smoke protection approval	■	■
Hole distance (distance in mm)		72, 74
F1 aluminium version	■	■
Stainless steel version	■ Hole distance: without PC hole	■

Door closers with slide rail

Convenience and design – as simple as that

Envoy Hotel
Belgrad, Serbia
Architect: Ornament investinzenjering
Photo: Envoy

Door closers with slide rail

The use of overhead door closers to automatically close doors plays an important role in public and private buildings. With comparatively exceptionally compact dimensions, the OTS 73x series of slide-rail closers combines attractive design with straightforward opening – in compliance with the standards DIN SPEC 1104 and DIN 18040 for barrier-free construction. The high level of opening convenience is achieved using the double-heart curve technology and optional free-swing function.

All product types – even the freewheel door closers – have uniform dimensions, hole patterns and appearance, which ensures that when different door closers are used, the resulting overall impression is harmonious.

The covers and the slide arm are available in different materials and finishes and can thus be selected to fit the door and the surrounding architecture.

To meet the highest expectations in terms of design and functionality, the new generation of door closers also includes a concealed model.

The OTS 73x FL freewheel slide-rail closer has been tested to EN 1155 and is perfect for barrier free situations at fire protection doors in kindergartens, residential homes for the elderly, etc. The electrical freewheel function allows unrestricted movement and therefore allows the user to pass easily through the door as if no door closer were installed – but still allows the door to be shut securely in the event of fire.

The series covers all applications with its innovative modular system: the components are simply combined to meet requirements and adjusted individually. This not only makes planning, but also installation and retrofitting, easier.

Compact and elegant design

Straightforward opening and sophisticated appearance

Overhead door closer with slide rail	Surface-mounted		With free-swing function	
Model	**OTS 736 / OTS 736 BG**	**OTS 735 / OTS 735 BG**	**OTS 736 FL / OTS 736 FL BG**	**OTS 735 FL / OTS 735 FL BG**
Application range				
Single-leaf	■	■	■	■
Double-leaf	■	■	■	■
Approved for use on fire and smoke protection doors	F	F	F	F
Maximum door leaf width, single-leaf (mm)	1400	1250	1400	1250
Adjustment functions				
Closing force sizes in accordance with EN 1154	EN 3 – 6	EN 2 – 5	EN 6	EN 5
Closing speed	■	■	■	■
Latch action / Latching speed	■	■	■	■
Backcheck [2]	■	■	–	–
Hold-open variants				
Electromechanical hold-open in slide rail	Optional	Optional	–	–
Mechanical hold-open [1]	Optional	Optional	–	–
Max. door opening and closing angle	180° [3] / 120° [4]	180° [3] / 120° [4]	180° [3] / 120° [4]	180° [3] / 120° [4]
Suitable for barrier-free construction				
according to DIN SPEC 1104	■	■	■	■
according to DIN 18040	■	■	■	■

[1] Not approved for fire and smoke protection doors
[2] Not with transom installation on side opposite to hinges
[3] Standard installation on hinge-side (OTS 73x)
[4] Standard installation on side opposite to hinges (OTS 73x BG); depending on installation situation

Concealed door closer

The concealed door closers emphasise clear architectural lines and offer the same degree of security and functionality as the face-fixed overhead door closers by GU Group.

The VTS 735 model for single and double-leaf doors is concealed within the door leaf, which means the door closer and slide rail cannot be seen when the door is closed. The door closer thus meets the highest expectations in terms of function and design.

- Tested in accordance with EN 1154
- EN 3–5 for door leaf widths up to 1250 mm
- With heart curve technology, thus in compliance with DIN SPEC 1104 and suitable for barrier-free construction according to DIN 18040
- Smallest dimensions (L x H x D): 240 x 45 x 32 mm
- Valve functions
  – Closing speed
  – Latching speed
  – Backcheck
- For door leaf thicknesses of 40 mm or more

Concealed door closer: satisfies extremely high functional and design expectations

The concealed door closer for single and double-leaf doors

Concealed overhead door closer with slide rail

Model	VTS 735	VTS 735 FL
Application range		
Single-leaf	■	■
Double-leaf	■	■
Approved for use on fire and smoke protection doors	F	F
Maximum door leaf width, single-leaf (mm)	1250	1250
Adjustment functions		
Closing force sizes in accordance with EN 1154	EN 3 – 5	EN 5
Closing speed	■	■
Latch action / Latching speed	■	■
Backcheck [2]	■	–
Hold-open variants		
Electromechanical hold-open in slide rail	Optional	Integrated
Mechanical hold-open [1]	Optional	–
Max. door opening and closing angle	120° [5]	120° [5]
Suitable for barrier-free construction		
according to DIN SPEC 1104	■	■
according to DIN 18040	■	■

[1] Not approved for fire and smoke protection doors
[2] Not with transom installation on side opposite to hinges
[3] Standard installation on hinge-side (OTS 73x)
[4] Standard installation on side opposite to hinges (OTS 73x BG); depending on installation situation
[5] Depending of the door situation. Use door stop for max. door opening angle

Overhead door closers with scissor-action arm

Overhead door closers with stay-arm can be used on single-leaf inside and outside doors on the hinge side and side opposite the hinges and also on fire and smoke protection doors.

The are easy to install, and can be flexibly adjusted.

Plastic valves with optimum thermal characteristics guarantee a consistent closing speed also with changes in temperature.

Appealing look and safe function

Overhead door closer for single-leaf doors

Technical data

Type	OTS 536	OTS 430	OTS 210	OTS 134
Application range				
Single-leaf	■	■	■	■
Approved for use on fire and smoke protection doors	F	F	–	F
Maximum door leaf width, single-leaf (mm)	1400	1250	1100	1100
Adjustment functions				
Closing force sizes according to EN 1154	EN 2 – 6	EN 2 – 5	EN 2/3/4	EN 2/3/4
Closing speed	■	■	■	■
Latching speed	■	■	■	■
Backcheck	■	Type BC	–	–
Delayed action	Type SV	–	–	–
Hold-open variants				
Electromechanical hold-open [1]	Optional	Optional	–	Optional
Mechanical hold-open [2]	Optional	Optional	Optional	–
Max. door opening and closing angle	180°	180°	180°	180°

[1] Only with hold-open magnet
[2] Not approved for fire and smoke protection doors

Intelligent solutions for access control

All doors, all functions, one system

Uni Münster Geo Science
Münster, Germany
Architect: agn
Photo: Jörg Albano-Müller

GU I WP05005:04-0-1 04/2021

Intelligent solutions for access control

The GU Group has comprised BKS as one of its traditional brands for more than 100 years to ensure secure and convenient access to the building.

Mechanical keys are the most direct form of access control.

Irrespective of the locking system used: every registered key bitting is unique; the security card ensures that only authorised persons can copy a key.

In commercial buildings, master key systems are the preferred choice. Depending on the type of project, an appropriate mechanical system can be selected from a wide range. All systems are characterised by flexible expansion options and high future-proofness due to long patent terms.

Electronic locking systems are ideal for combining the flexible use of space with high building security. The BKS systems are outstanding, due to their cost-effectiveness and energy efficiently thanks to the particularly high battery life.

In the interest of cost-effectiveness, it may make sense to combine electronic and mechanical cylinders in one locking system. These combined systems can also be centrally managed in a straightforward manner using software.

The field of expertise is rounded off at the higher end of the market by GEMOS, the non manufacturer-specific physical security information management system by ela-soft, a company of the GU Group.

Mechanical locking system

Electronic locking system (battery operated)

With kind permission of: Vogt+Partner GbR, Hildesheim

Access control with cables in real time

Mechanical locking system

Efficient access control in next to no time

Photo: Frank Boston / Shutterstock

GU I WP05005-04-0-1 I 04/2021

Mechanical locking system

Long-lasting, robust and permanently authorised: mechanical keys are the most direct form of access control. BKS satisfies the most stringent quality and security demands with high quality mechanical door protection solutions.

The modern reversible keys are equipped with key duplication protection, and can only be applied for by authorised people with a security card.

The future needs of the keys and locking cylinders are ensured by long patent terms and flexible expansion possibilities for the systems. Mechanical access control can be supplemented and combined with electronic systems.

Security is the name of the game: bumping protection, featured as standard, takes care of this as well as the emergency function that prevents blocking by inserted keys. The janus system also features drilling/picking protection to prevent forced opening, and a completely new copy-protection feature.

We offer extensive services for planning, ordering, management and programming of lock systems, precisely like the perfectly organised delivery of cylinders and quick dispatch of duplicate keys. The responsible handling of security-related data is of central importance here: the data are held by BKS and protected against unauthorised access.

Additional locks: including everything in one solution

Long patent terms and flexible expansion possibilities

Technical data

	reversible key systems			Conventional locking systems	
Locking variants	**janus**	**livius**	**helius**	**detect3**	**PZ 88**
Electronic access points can be ideally combined with mechanical master key systems to form an economical overall system	■	■	■	■	
Registered key bitting	■	■	■	■	
Functions					
Standard function	■	■	■	■	■
Emergency function	■	■	■	■	■
Freewheel function	■	■		■	
Standard design					
Cylinder body, nickel-plated brass	■	■	■	■	■
Cylinder body, chrome-nickel	■				
Anti-bump feature	■	■	■	■	■
Modularly changeable	■				
Key duplication protection	■	■	■	■	
Optional features					
Seawater protection	■	■		■	
Drilling/picking protection	■	■		■	
SKG version	■	■		■	■
VdS version	■			■	
Performance features					
Patent protection/ trademark protection	■	■	■	■	
Compatible with janus SE cylinders	■				
Can be ordered through MKS	■	■	■	■	
Key combinable with SE transponder	■	■	■	■	
Management via KeyManager	■	■	■	■	

ixalo electronic locking system

Outstanding security with a system

BallsportARENA
Dresden, Germany
Architect: Sebastian Fest, Kai Michel, ARCHIprocess
Photo: Michael Moser

GU I WP05005-04-0-1 I 04/2021

ixalo –
The electronic locking system | SE technology

Locking systems from BKS offer a variety of solutions for securing individual doors and for planning modern master key systems. Individual designs can be created conveniently, reliably and cost-effectively by combining mechanical, mechatronic and electronic locking systems. With this system, all cylinders, keys and transponders are administered jointly within one software.

Whoever opts for an electronic locking system can expect outstanding security in addition to a high degree of comfort. ixalo – the electronic locking system satisfies the highest security requirements of the EN 15684 standard for mechatronic locking cylinders by using extremely reliable encoding and communication mechanisms. The security is certified by the VdS.

Thanks to the SE technology by BKS, the products consume a particularly low amount of energy – one of the fundamental criteria to be met by battery-operated systems. This is the only way to ensure a large number of locking cycles (up to 600,000) and long standby times (up to 10 years).

Convenient operation and individual door design does not necessarily have to be mutually exclusive. With the ixalo lock | SE, the emphasis is on compact, visually appealing security as the entire system technology is integrated into the lock. Any door hardware can be chosen.

Secure closing and particularly low energy requirement

Software for administration and programming of mechanical and electronic locking systems

Technical data

	Mechatronic	Electronic			
	janus cylinder I SE	**ixalo knob cylinder | SE**	**ixalo wall reader | SE**	**ixalo lock | SE**	**ixalo door hardware | SE**
Integrated event recorder	■	■	■	■	■
Can be combined with panic bars in accordance with EN 1125	■	■	■	■	■
Recommended for exterior areas that are prone to vandalism	■			■	
Suitable for escape doors	■	■ *	■	■	■
Compatible with conventional detect3 locking system		■	■	■	■
Compatible with reversible key system	■	■	■	■	■
Management/programming via BKS KeyManager	■	■	■	■	■
Drill protection / variants available with VdS BZ or SKG*** roval	■	■			
Control of barriers, gates and automatic doors			■		
Upgradable firmware	■	■	■	■	■
Flexible time zone management	■	■	■	■	■
Wireless installation	■	■		■	■
Contactless programming with SE programming device	■	■	■	■	■
Web-enabled via radio and TCP/IP or RS485	■	■	■	■	■
Energy-efficient (number of locking cycles per standard battery)	600,000 / 10 yrs. in standby mode	350,000 / 10 yrs. in standby mode		400,000 / 10 yrs. in standby mode	120,000
Multi-level low-battery alarm	■	■		■	■
Integral time switch including daytime release	■	■	■	■	■

* in combination with lock series 19 / 21 or by using the panic version

ixalo electronic locking system

One system – two technologies

Technikum (Werner-Hartmann-Bau), TU Dresden
Dresden, Germany
Architects: ARGE Neubau Technikum AWB Architekten + Scholze Ingenieurgesellschaft
Photo: Michael Moser

ixalo –
The electronic locking system | RFID technology

ixalo – in the context of RFID technology, the BKS electronic locking system is impressive due to the particularly low energy consumption of its products – one of the main criteria to be met by battery-operated systems. This is the only way to ensure a very large number of locking cycles (up to 70,000).

Regular changes to space utilisation concepts require a high degree of flexibility not only in terms of electronic access rights administration, but also in terms of the products themselves. Many different variants and lengths of the ixalo knob cylinder are available to order. Due to their modular construction, their overall lengths can be individually adapted on-site.

Equipped with RFID technology: MIFARE® (MIFARE® Classic®, MIFARE® DESFire® EV1), ixalo offers many possible applications to satisfy individual requirements.

The ixalo hardware has a attractive design and fits seamlessly into the modular overall system. It offers an exceptionally convenient solution for access organisation and can be combined with a wide variety of lever handles. Also suitable for use in escape and rescue routes (EN 179 / EN 1125).

Ingenious combinations: ixalo – the electronic locking system

Design and function are not mutually exclusive: ixalo hardware, cylinders and wall readers

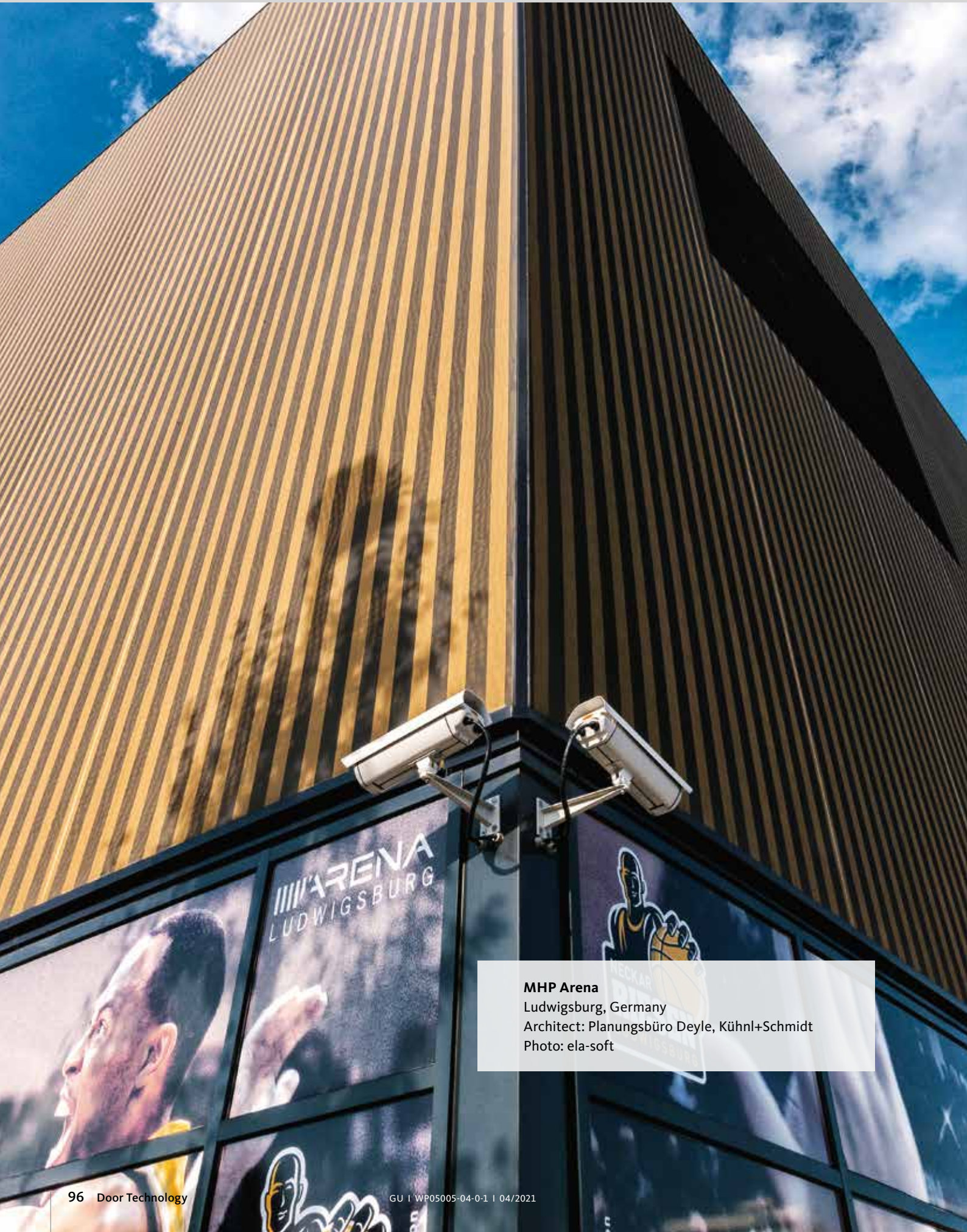
Technical data

	ixalo knob cylinder | RFID	ixalo wall reader I RFID	ixalo door hardware | RFID
Integrated event recorder	■	■	■
Can be combined with panic bars in accordance with EN 1125	■	■	■
Modular design	■	■	■
Suitable for escape doors	■ *	■	■
Compatible with conventional detect3 locking system	■	■	■
Compatible with reversible key system	■	■	■
Management/programming via BKS KeyManager	■	■	■
Drill protection / variants available with VdS BZ or SKG*** approval	■		
Control of barriers, gates and automatic doors		■	
Upgradable firmware	■	■	■
Flexible time zone management	■	■	■
Wireless installation	■		■
Contactless programming with SE programming device	■	■	■
Web-enabled via radio and TCP/IP or RS485	■	■	■
Energy-efficient (number of locking cycles per standard battery)	70,000		120,000
Multi-level low-battery alarm	■		■
Integral time switch including daytime release	■	■	■

* in combination with lock series 19 / 21 or by using the panic version

GEMOS *access*

Integral solution for large and small



MHP Arena
Ludwigsburg, Germany
Architect: Planungsbüro Deyle, Kühnl+Schmidt
Photo: ela-soft

GU I WP05005-04-0-1 I 04/2021

GEMOS *access*

This is how adaptable access control functions from small to large – free scalability forms the basis for cost-effective use of GEMOS *access*: for small projects with one or two access points, just as for large-scale facilities with up to 10,000 access points and as many as one million users.

The safe system architecture and consistently encrypted data communication from the reader via the controller to the server provide reliable protection against manipulation attempts.

The open interface architecture enables the connection of many customary card readers, e.g. via bus and Wiegand protocol – independently of the applied reading technique (e.g. Legic, Mifare, or HITAG). Various credential types and reader types can be combined effortlessly with one another in one facility.

The program core and database are based on the GEMOS software philosophy that has undergone continuous further development and refinement for years: clear menu structures, predefined settings for typical applications as well as hardware recognition assistants allow for fast and therefore cost-effective handling both during installation and operation.

It is possible to implement numerous security requirements that have to do with the door with GEMOS *access*. This means that access control, escape route control, burglar alarm system and electronic locking technology, for example, can be logically and intelligently interconnected directly at the door.

GEMOS *access* provides planning security, since possible upgrades can be integrated directly on the door. Overlaps between trades are avoided, costly duplications of work are ruled out.

Photo: Roland.h.bueb

Reference: Stadtschloss Landtag Potsdam

Photo: dontworry

Reference: BHF-Bank in Frankfurt am Main

Left: bus reader with escape door terminal;
Right: vein scanner

House entrance door concept and house automation

Dwelling comfort at the highest level

House entrance door concept and house automation

Thanks to the combination of multi-point locking, data transmission and door control with fingerprint scanner or code keypads, which is unique on the market, the GU house entrance door concept sets new standards for increased security and convenience in house entrance doors.

Interplay of components
The concept is based on the proven **GU-SECURY Automatic** multi-point lock with electromotive drive. The Automatic latchbolts offer the "Insured with the door just pulled shut" convenience and security feature. No manual locking is necessary with the automatically locking GU-SECURY Automatic. With the VdS approval, this locking system is ideally suitable for burglar-inhibiting doors.

Power supply unit, lock control and cable links are not necessary because these functions are integrated in the SECURE-***connect 200*** power and data transmission unit. Dispensing with a cable link does not impose any restrictions on the opening angle of the door leaf, or give rise to scratched profiles. The complete system can be assembled in the workshop and tested as an assembly group. The door leaf can be uninstalled at any time.

Biometric fingerprint detection or the individual access code permit convenient access. They are especially suitable for entrances and secondary entrance doors in residential buildings occupied by several parties, families with children, medical practices and law firms.

For the secure door with biometric access, we also offer our complete solution as a VdS-certified grade B locking system.

The modular principle guarantees the adaptability of further components such as access control technologies, without any changes to the door.

The proven GU house entrance door concept offers plug-and-work complete packages with an extremely wide range of solutions: from the individual door through to complex systems, with or without cables, via radio or smartphone.

Intelligent home automation with Internet connectivity
The GU Controller io is a control unit that integrates our motor-driven windows and doors in the Somfy home automation. This means doors, Lift&Slide doors and windows can be opened and closed by a smartphone app.

The GU Controller io allows the GU house entrance door concept to be integrated into the home automation system from Somfy. With the locking monitoring and checkback function, you are informed at all times whether your doors and windows are locked.

Photo: Oliver Schuster, Stuttgart / baukunst philipphaus GmbH

Automatic opening and closing of Lift&Slide doors

Person photo: Getty Images

Control of the house entrance door using the Somfy smartphone app

Photo: aumüller/aumatic gmbh, Augsburg

Chain drives with an integrated radio receiver can be activated individually or in groups via remote control

Automatic entrance systems

Greater opportunities for challenging architectural solutions

GU I WP050005-04-0-1 I 04/2021

Automatic entrance systems perform many functions: they are the friendly reception to a building. With contact-free opening, they provide greater convenience in all everyday situations. They control to whom access is granted, they safeguard escape routes and provide barrier-free access. When it comes to facade design, automatic doors also make it possible to implement challenging architectural solutions. The most appropriate system can be selected as required from a multitude of technical and creative possibilities.

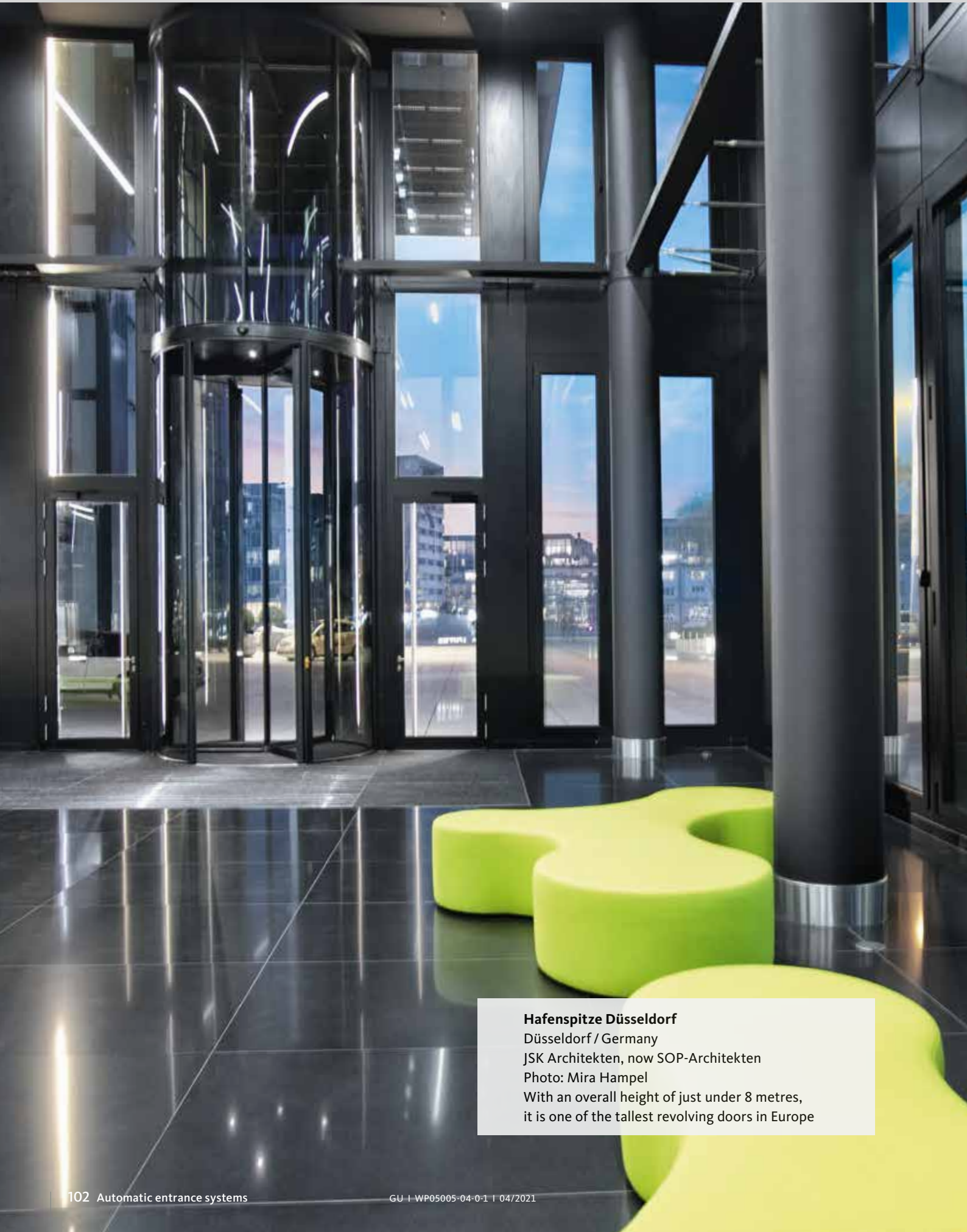
Our escape route sliding door guarantees a secure escape route, even when locked. Tested and approved, it resolves the conflict between standards – no need for individual certification. An elegant revolving door represents an impressive entrance for any building, combined with the advantage of a draught-free entrance area. The systems for controlled physical access such as 3-arm turnstiles or security curved sliding doors permit access control and entitlement control. All-glass sliding walls – manual or automatic – permit flexible use of space with compact dimensions.

Irrespective of which entrance system is used: for us, it is important to meet each of the customer's application and configuration requests, as well as taking account of the architect's design ideas. With the large assortment of products, we offer the greatest possible flexibility and individuality when it comes to variants, shapes, dimensions and materials. The innovative technology behind our products ensures maximum reliability – even when the systems remain in constant use.

In addition to advice and the product itself, we also offer services such as installation, inspection, maintenance and repairs – as a one-stop shop.

All products marked with this icon are suitable for barrier-free construction to DIN 18040

Revolving doors
Making a bold statement



Hafenspitze Düsseldorf
Düsseldorf / Germany
JSK Architekten, now SOP-Architekten
Photo: Mira Hampel
With an overall height of just under 8 metres,
it is one of the tallest revolving doors in Europe

Revolving doors

Hotels and banks, insurance companies and airports – revolving doors give buildings an impressive entrance without draughts, and are also suitable for a high footfall.

If the attractive architecture should remain free from additional escape doors, the fully automatic ***GRA-F*** and ***GGR*** revolving doors which are approved for use in escape and rescue routes offer a tested and secure solution. Note: Observe country-specific directives.

Not only draught-free entrance areas but also burglar protection are guaranteed with the revolving doors: they are securely locked outside the building's opening hours.

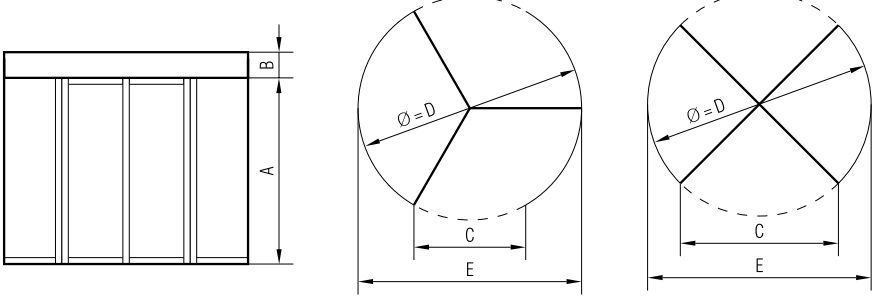
The large number of revolving door variants permits individual entrance solutions. Irrespective of the variant, you can rely on TÜV type-tested quality to DIN 18650 / EN 16005.

Revolving doors are elegant, energy-saving and effective

Revolving doors with folding leaves are suitable for use in escape and rescue routes

Individual solutions and special designs provide plenty of leeway and flexibility

Photos: www.mirahampel.de



Technical data

	***GRA / GRA-F* standard revolving door**	***GGG* all-glass revolving door**	***GGR* large-capacity revolving door**
Suitable for escape routes	■		■
Increased burglar inhibition	***GRA RC 3 / GRA-F RC 3***		
D* (mm)	1800 – 3800	1800 – 3000	3600 – 6000
A* (mm)	2100 – 3000	2100 – 3000	2100 – 2500
B* (mm)	175 – 800	16 – 18**	410 – 800
C/3-leaf (mm)	≈ 830 – 1690	≈ 830 – 1375	≈ 1630 – 2830
C/4-leaf (mm)	≈ 1220 – 2490	≈ 1220 – 2030	≈ 2408 – 4105
E (mm)	1860 – 3860	1860 – 3060	3720 – 6120
Max. no. of persons (per minute)	50 – 90***	50 – 90***	110 – 170***

* Special dimensions available on request
** Or according to structural requirements
*** For detailed information on the passage capacity, refer to the revolving door brochure WP00450-04-4-2

Sliding doors
Transparency on track

Grand Hyatt Santiago de Chile
Santiago, Chile
Architect: ABWB (Alemparte Barreda, Wedeles Besancon)
Photo: Pablo Wilson Leon

Sliding doors

Whether in-line, telescopic, prismatic or curved: automatic sliding doors are the aesthetic solutions for impressive building entrances. They are so easy and convenient to pass through, without representing a barrier, that they are scarcely noticed by those using the building. This means they are ideally suited to modern entrance solutions in public buildings.

When combined with the appropriate technical equipment, sliding doors can be used in escape routes in day mode. Buildings such as hotels, airports, hospitals as well as residential care homes for the elderly and disabled must always provide an escape option in night mode. Up till now, sliding doors were not approved as escape doors when locked in night mode.

Our HM-F FT escape route sliding door answers this twin challenge with an intelligent double function: when the escape door control unit is actuated, the sliding door is converted into swing door and the sliding panels can be pivoted out in the escape direction even when the door leaves are subjected to loading. This means the escape route sliding door guarantees a safe escape route.

This opens up new possibilities in designing entrances in accordance with the AutSchR and EltVTR directives as well as the DIN 18650 and EN 16005 standards.

Automatic sliding doors offer aesthetics, security and convenience

The swing function means the sliding door is converted into a swing door and therefore authorised for use as an escape door even when locked

Technical data

	compact *Master* CM/CM-F	**compact *Master* CMR/CMR-F**	**compact *Master* CMW/CMW-F**	**econo *Master* EM/EM-F**	**econo *Master* EMT/EMT-F**	**heavy *Master* HM/HM-F**	**HM-F FT**
Version	In-line sliding door	Curved sliding door	Prismatic sliding door	In-line sliding door	Telescopic sliding door	Sliding Door	Escape route sliding door
Version for escape routes (-F)	■	■	■	■	■	■	■
Increased burglar inhibition	***CM WK2/ CM-F WK2***	***CMR RC3/ CMR-F RC3***					
Drive height (mm)	100	115	100	130	145	130	130
Clear passage width, single-leaf (mm)	800 – 2000	800 – 1250		800 – 2000	800 – 2000	800 – 2000	800 – 1300
Clear passage width, double-leaf (mm)	800 – 3000	800 – 2500	900 – 2000	800 – 3000	900 – 2500	1000 – 3000	1200 – 2600
Clear passage width, 4-leaf (mm)					1400 – 3800		
Max. passage height (mm)	3000	2700	2750	3000	3000	3000	3000
Max. door weight per leaf (kg)	100	100	100	130	2-leaf 100 4-leaf 80	200 / 160	100
Min. radius (mm)		2000					
Minimum drive length, double-leaf (mm)	2 x CPW + 115			2 x CPW + 100	2 x CPW + 100	2 x CPW + 115	2 x CPW + 130
Single glazing with slim profile	TSG / LSG	LSG	TSG / LSG	TSG / LSG		TSG / LSG	TSG / LSG
ISO glazing with slim profile	TSG		TSG	TSG	TSG / LSG	TSG	TSG

Note: In the case of escape routes, the specified passage widths and heights (building law) must be observed.
LDB: clear opening width
ESG: toughened safety glass
VSG: laminated sheet safety glass

DIN 18040

Swing-door drives

Barrier-free and extremely quiet

GU I WF0500[illegible]4-0-1 I 04/2021

Swing-door drives

Fire and smoke protection doors must close securely and automatically in the event of a fire. However, it is also desirable for inside and exterior doors or doors in the facade to close automatically. However, a closed or difficult to open door is an obstacle and not barrier-free. This is where swing-door drives are used, which open and close automatically, thus ensuring freedom of movement and security. The DTN 80 swing-door drive features a patented double-spring system that closes the door securely, quietly and completely even under challenging building conditions, which could include situations where draughts or excessive pressure is present or where a multi-point lock system is used.

The product range offers a large number of options: swing-door drives are available as single and double-leaf variants. Large passage widths up to 2800 mm can be implemented in this case.

The swing-door drive is suitable for all frame materials and can also be retrofitted to existing elements.

High-performance on standard and fire protection doors

Freedom of movement and security with contact-free passage

DTN 80 has a patented double-spring system that ensures that the door closes securely, quietly and completely

Technical data	
Swing-door drive DTN 80 / DTN 80-F	
Height x Depth x Length	85 x 145 x 680 mm [1]
Weight	11 kg
Leaf width (single-leaf)	700 – 1600 mm
Closing force sizes for fire protection doors	EN 3 – EN 7
Distance between hinges (double-leaf)	1450 – 3200 mm
Mass inertia, max.	190 kg/m² [2]
Torque, max.	260 Nm
Door leaf weight, max.	600 kg
Current consumption for external devices, max.	24 V DC/2.5 A
Opening angle, max.	135°
Lintel depths, scissor-action arm	0 – 300 mm
Lintel depths, slide rail	+10/-10 mm
Axle extensions	30, 60 and 90 mm
Power consumption, max.	80 W
Standby operation	7 W
Temperature	-15 °C up to +50 °C
Protection code	IP20
Test cycles according to DIN 18263-4	500,000
Test cycles according to EN 16005	1,000,000

[1] Drive height also with double-leaf doors with integrated closing sequence control
[2] Depending on scissor-action arm

All-glass sliding wall systems

Flexibility with transparency

All-glass sliding wall systems

The advantages of all-glass sliding walls come into play above all when rooms are used for changing requirements or have to be adapted to varying numbers of people, for example as a partition wall in an office or a shop-in-shop solution for shopfitting.

Individual solutions can be implemented for almost any floor plan with all-glass sliding wall systems. In addition to a wide range of design options, they offer maximum convenience for users and operators alike.

As a floor guide is not required with the manual all-glass sliding wall system, there is no threshold at the transition which means it is barrier-free. Slim-profile ISO sliding panels are used with the GSW-M G30 version. This means that the clearances can be considerably reduced, compared to our standard GSW-M.

Appropriate for any floor plan: manual all-glass sliding wall system for shop-in-shop solution

Exclusive and convenient: the automatic all-glass sliding wall system offers a wide range of design possibilities

Photos: EYE-SCREAM / photographer Hansjörg Riedel

Technical data

	shop*Master* GSW-M	**shop*Master* GSW-A**
Version	All-glass system, manual	All-glass system, automatic
Maximum number of elements	on request	32
Travelling speed (mm/s)		50 – 150
Obstacle recognition		■
Type-tested in accordance with BGR 232, UVV and VDE regulations		■
Max. element height* (mm)	3500	3500
Max. element width* (mm)	1250	1250
Max. element weight (kg)	150	150
Possible glass thicknesses (mm)	10 / 12, with the version GSW-M G30: ISO 22 mm	10 / 12
Linear roller track version	■	■
Angled roller track version	■	■
Curved roller track version	■	■
Continuous floor guide	Optional	■
Surfaces	silver colour E6 / EV1 anodised RAL on request (powder coating) stainless steel appearance	silver colour E6/EV1 anodised RAL on request (powder coating) stainless steel matt**

* Special solutions on request
** Module cladding anodised similar to stainless steel

Security revolving doors and security curved sliding doors

All-round security

Photo: EYE-SCREAM / Hansjörg Riedel

Security revolving doors and security curved sliding doors

Highly secure without aesthetic compromises: security revolving doors and security curved sliding doors are the compact and secure access solution for impressive areas. Available in an extremely wide range of dimensions, materials and surfaces, they can easily be integrated into the project architecture.

Despite the tight security measures, the entrance is still spacious and conveys a sense of openness and transparency thanks to the large amount of glass. Using delicate profile systems offers plenty of scope for design in addition to keeping people safe.

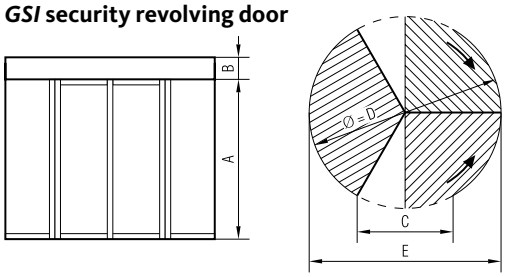
In conjunction with an access control system, the controlled physical access can provide reliable control in buildings or building areas with sensitive security requirements. Whether with a chip, card or fingerprint scanner: the security revolving doors and security curved sliding doors can be flexibly adapted to our access control systems or other systems on the market. This means they offer maximum flexibility in new builds and for retrofitting.

GSI security curved sliding door: controlled physical access and transparency in a highly compact design

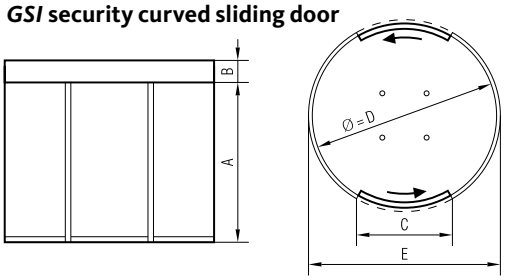
Photos: EYE-SCREAM / photographer Hansjörg Riedel

Security revolving door for secure access control: unauthorised people are channelled out of the door opposite to the pass-through direction

***GSI* security revolving door**



***GSI* security curved sliding door**



Technical data of *GSI* security revolving door (mm)

D*	A*	B*	C / 3-leaf	C / 4-leaf	O
1800 – 2200	2100 – 3000	350 – 800	≈ 859 – 1050	≈ 1239 – 1514	1860 – 2260
Resistance to tampering	high				
Access comfort	medium–high				
Frequency of persons	low–medium				
* Special dimensions available on request					

Technical data of *GSI* security curved sliding door (mm)

D*	A*	B*	C	O
1000 – 1500	2100 – 3000	350 – 800	≈ 500 – 700	1060 – 1560
Resistance to tampering	high			
Access comfort	medium–high			
Frequency of persons	low–medium			
* Special dimensions available on request				

Controlled physical access

Everything on the right path

Controlled physical access

Controlling access to the company building, automatically checking entrance tickets and directing people into the building along orderly paths: high-quality products for controlled physical access such as 3-arm turnstiles, vertical turnstiles, sensor barriers and full-height turnstiles make a reliable contribution of security in buildings and user safety.

The wide range of solutions, variants and equipment means there is a tailor-made and visually appealing solution for each application and each customer requirement.

Controlled physical access systems in sensitive security areas satisfy the most exacting demands for security, access and convenience: from safeguarding the facade through to controlled physical access in the building and the complete solution in conjunction with an access control system as part of an additional escape and rescue route or as barrier-free access. The controlled physical access can be conveniently controlled from the reception area via a user-friendly control panel.

Controlled physical access systems must satisfy the highest of expectations because people pass through them thousands of times and they are rarely handled gently. Our systems are a cost-effective investment thanks to their long service life, low maintenance requirements, high energy efficiency and high-quality workmanship

3-arm turnstile in toughened design with servo drive for convenient access

Sensor barriers for contact-free access convenience and high passage capacity, in either open or closed operation mode

Technical data

	GU-MC2*/GU-MC3 three-arm turnstile	GU-GT1000 vertical turnstile	GU-IT 1000 swing gate	GU-DF 550 sensor barrier	GU-EHE 120 full-height turnstile
Passage (mm)	550	615	980	550	640
Height (mm)	1025	1000	1000	1052.5	2250
Width (mm)	280	1500	1055	1150	1618
Duo version	■			■	
Material	Stainless steel 1.4301	Stainless steel 1.4301	Stainless steel 1.4301	Stainless steel 1.4301	Aluminium, powder-coated
Material of locking elements	Stainless steel 1.4301	Safety glass	Safety glass	Acrylic glass	Stainless steel 1.4301
Installation of access control systems	optional in reader post				
Installation in unprotected outdoor area	Optional				■
Motor-driven	■	■	■	■	■
Pedestrian guiding bar	Material CrNi-V2A steel, safety glass / acrylic glass as accessory				
Resistance to tampering	medium	medium	Low	medium	medium–high
Access comfort	medium	medium–high	high	high	medium
Frequency of persons	medium–high	medium	high	medium–high	low–medium

* Suitable for access solutions to supplement escape routes

Building management systems

Security is our concern

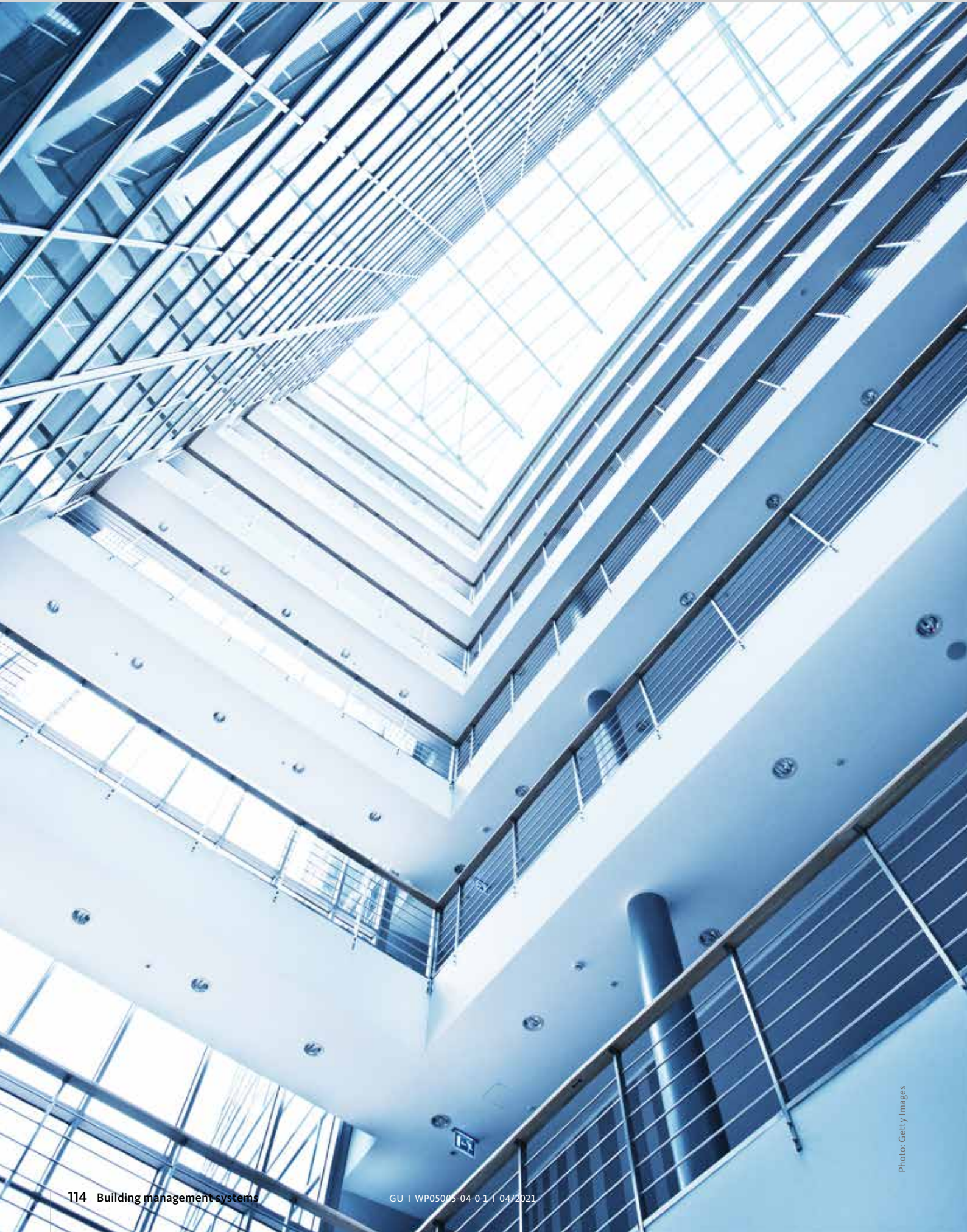


Photo: Getty Images

GU I WP05005-04-0-1 I 04/2021

Building management systems have been the state of the art in many areas for some time now. They will become increasingly important in future. Not only is the trend moving towards multimedia networking, it is also affecting different trades on a non-proprietary basis. The requirements are highly individual and vary greatly from project to project and from operator to operator.

It is good when there is only one point of contact for this topic, who is able to offer everything from the small networking solutions through to the non-proprietary management system.

In addition, there are additional components such as the lock, escape door control unit, hardware and much else besides – and all from the same company. Not only does this offer the advantage that all components are perfectly technically attuned to one another, it also reduces the number of interfaces and simplifies communication.

The BKS-NET building bus connects electromechanical systems – such as escape door systems, mechatronic closing and locking systems – to make a networked system. An overview of the doors can be shown at a central location, allowing them to be monitored and controlled from there. This offers extra security.

The GEMOS management system combines all technical facilities across trades and on a non-proprietary basis in one central and easy-to-operate interface; this delivers benefits to the customer through integration. Each system is individually tailored to the customer's utilisation profile. The structure is modular and extremely flexible.

BKS-NET building bus

One software for all systems

Stadtbibliothek am Mailänder Platz in Stuttgart
Stuttgart, Germany
Architect: Eun Young Yi
Photo: pjt3_CC

BKS-NET building bus and system software

BKS-NET connects the electromechanical products of the GU Group into a networked system.

All BKS-NET-capable products – such as escape door controls, mechatronic locking and locking systems – can be parameterised and visualised via a uniform software interface.

Commissioning is quick because the software is self-configuring. All connected products are recognised fully automatically. The user interface can be operated intuitively.

Visualisation takes place via a module on the PC. Floor plans and graphics can be integrated as desired. A password-protected login with several authorisation levels ensures the security of the system.

For example, all door statuses of a building can be displayed in an overview from a central location. Doors or door groups can be centrally unlocked and locked. Display, processing and acknowledgement of alarms is also done centrally.

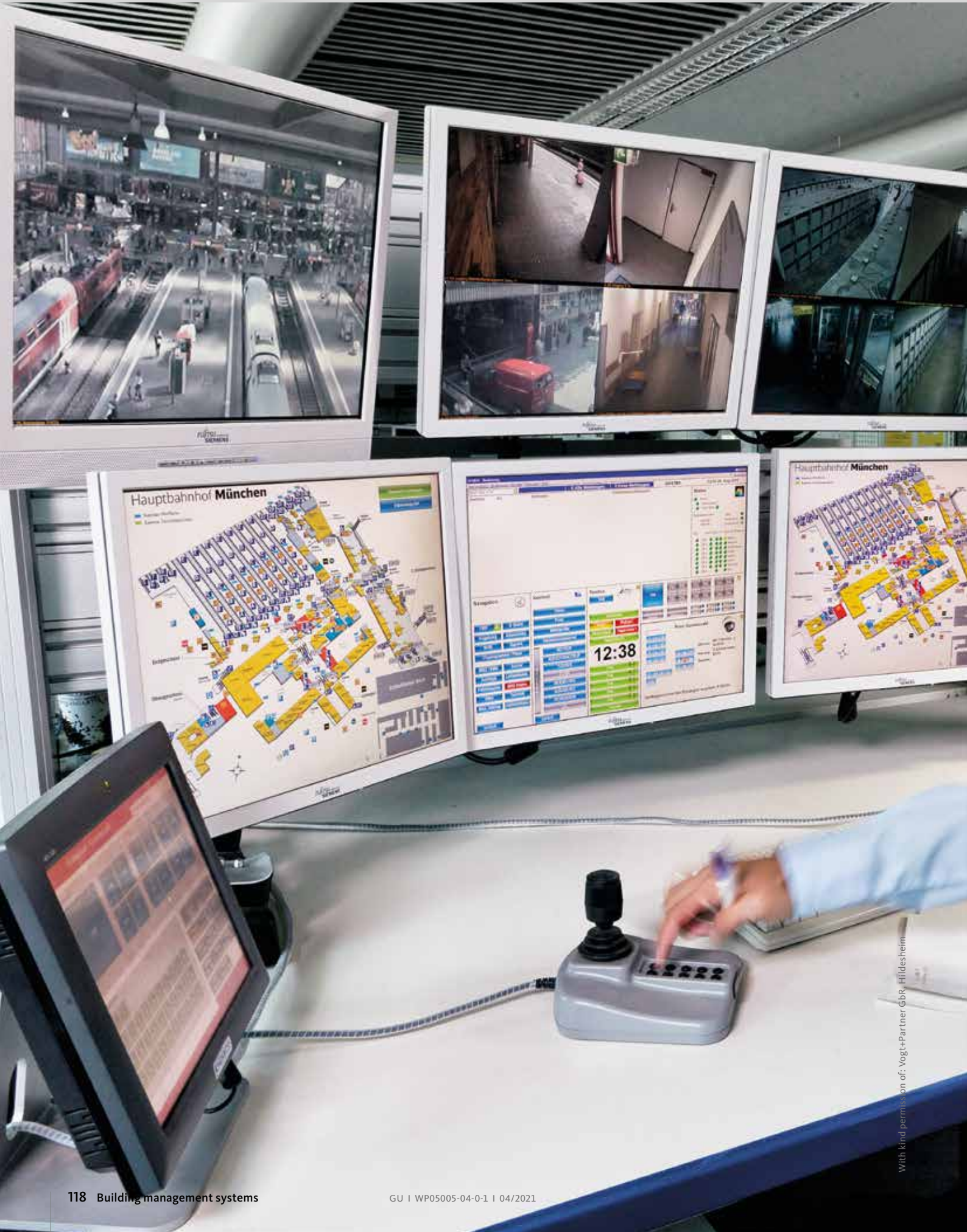
Decentralised parameterisation via network (TCP/IP) or building bus is also possible as an alternative.

FTNT escape door control unit can be integrated into the visualisation as a BKS-NET-capable product

Technical data

	CF10 configuration software	OV10 online visualisation	BKS-NET panel user interface
Automatic configuration of all bus participants	■	■	■
Real-time display of door statuses		■	■
Display of floor plans		■	
Local parameter setting for the company's own products via USB	■		
Central parameter setting for the company's own products via bus/network	■	■	
Network interface (TCP/IP) to GU-BKS building bus	■	■	■
Modern browser interface (kiosk mode)	■	■	■
Defines/switches switching groups		■	■
Control of the company's own products		■	■
Integral alarm processing		■	■
Multi-level user rights	■	■	■
Multi-user system (client/server)	■	■	
BKS-NET interface	■	■	■

GEMOS
All trades under control



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GEMOS

The effectiveness of a hazard management system significantly depends on its ability to communicate with various systems of the safety and building technology.

The more information a hazard management system receives, the more it can pass onto its users, and thus the more interaction it can achieve between the individual systems.

GEMOS makes is possible to manage numerous media, communication and security systems in a non-proprietary manner.

The physical link can be made via simple contacts, serial interfaces or TCP/IP. Data connection is effected with native proprietary interfaces or via standard bus systems such as OPC, BACnet, LON or EIB.

The following have been adapted to date:

- Fire alarm systems
- Burglar and assault alarm systems
- Video monitoring systems
- Access control systems
- Fire extinguishing and RWA systems
- Escape door and sluice door controllers
- Intercommunication systems
- Electrical loudspeaker systems
- Telephone systems (TK, Voice over IP)
- Building control systems
- Personal emergency response systems
- Radio installations
- Media technology (audio, video, control)
- Hazard alert systems, failure report systems, alarm systems
- IT hardware over SNMP
- Elevator control
- Event-controlled autonomous drone flight

A higher-level hazard management system "understands" and translates the information from all trades. It combines all information under a clearly laid out user interface and consolidates trade alarms and other alarms into one point. The user only uses one interface.

The web-based interface makes it possible to design customised user interfaces in accordance with customer needs.

The modular design of a current hazard management system allows for versatile solutions – from individual workstation systems to cross-company multiple workstation systems.

Event-controlled autonomous drone flight with interactions with security systems

The user-friendly user interface ensures simple handling

Penal facility sample integration

Requirements:

- Very high security requirements
- Preventing absconding (escape)
- Preventing violence against other inmates and prison staff
- Preventing dealing and distributing prohibited items
- Preventing prohibited gatherings and meetings between inmates
- Checking on failure to comply with rules and regulations
- Preventing riots and organised resistance

GEMOS solution:

With GEMOS, all electronic security technologies can be visualised, operated and intelligently linked together on a non-proprietary basis by means of an intuitive and web-based interface, down to peripheral level! The individually designed user interfaces allow all the security technologies used to be operated easily and intuitively:

- All components can be visualised in CAD floor plans
- Video system with live image display of video streams on the web interface, message processing of video detection, cameras can be switched through to any monitors, start, stop and manage recordings
- Fire detector technology
- Electroacoustic system
- Personal emergency response systems and radio
- Cellular call communication
- Fence or wall top detection
- Monitoring of door contacts, sluice door control, evacuation
- Telephone system
- Monitoring the key safe
- Interactions across trade boundaries and event-driven controls
- Individually designable measures and documentation of all events, messages and controls in one database
- High availability through a consistent redundancy concept (GEMOS HA agent) of workplace, server, network and interfaces
- Connection of existing databases with inmate information, eg BASIS-Web
- Alarm messages via email, SMS, voice, fax, etc.

This GEMOS solution can also be adapted to:

- Forensics and forensic clinics
- Involuntary treatment institutions
- Youth offender institutions
- Psychiatric hospitals

Photo: Getty Images

Meeting high security requirements

Photo: Getty Images

High level of availability and consistent redundancy concept

Computer centre sample integration

Requirements:

- Guaranteeing high availability of managed data
- Ensuring building security, even at different locations
- Physical data backup: hardware presence check, checking individual 19-inch racks with 3D status overview whether doors are open, closed or locked
- Temperature monitoring as well as display and control of the ambient temperature in individual rooms
- Control and visualisation of cabinet locking systems, smoke exhaust systems, access control and video systems
- Changeover / expansion to other manufacturers / systems possible without difficulty
- Own hardware as simple interface module for analogue and digital information, for example temperatures, counters, fault messages possible

GEMOS solution:

Various individual subsystems have been integrated into a complete system with consistent operation, visualisation and alarm functions that can be conveniently controlled via the web browser.

- Time-driven switch-off monitoring and message verification for the fire alarm system
- Arming/disarming the burglar alarm system independently from real security areas
- Linking recording sequences of the video system to alarms
- Analog value displays, counter values and graphical evaluations of the building control system
- Access control system with sluice door control, anti-passback, passage monitoring and dual-control principle
- Public sound system with dynamic zone creation and targeted search in layout diagrams with a mouse click
- As-is analyses and evaluations of the control centre data as the basis for decisions on measures to improve security and organisational sequences

Photo: Getty Images

Physical data security: an important aspect of computer centre security

Photo: Getty Images

Access is only allowed to be granted to authorised persons

Logistics sample integration

Requirements:

- Requirement to verify certifications, international standards, in case of loss of goods
- Preventing crime
- Support in meeting exacting requirements for cost-effectiveness and quality
- Combining a large number of technical trades
- Cross-location networking

GEMOS solution:

Non-proprietary management system with open interfaces and an operating concept matched to customer-specific processes, combined with a uniform operating philosophy.

Greatest possible optimisation of process sequences by automation. Integrated consistency check to minimise inconsistencies in the logistics process, including verification of incorrect loadings. This can result in a reduction in insurance premiums.

- Cross-system reporting
- Vehicle checking by incorporating number plate recognition, driver identification, barrier controls, registration of suppliers in the system, automatic ticket issue, matching the data with the materials planning system
- Issuing directions on the company premises, assignment of loading positions, automated SMS notification, audio announcements and large-format LED displays
- Integration of weighing procedures
- Balancing (Who? Which truck is still located on the premises?)
- Integration of the video system
- Integration and visualisation of the fire alarm system
- Monitoring and control of the electronic master key system
- Visualisation of all relevant layout diagrams, subsystems and system processes in a common interface, localisation of vehicles and containers, routing card production
- All data from the different sources can be merged and processed jointly. Individual measures plans can be defined for each message or even groups of messages.

Photo: Getty Images

Efficient logistics processes demand the highest standard of intelligent networking

Photo: Getty Images

GEMOS supports the most exacting requirements on quality and cost-effectiveness

Traffic sample integration

Requirements:

Increase in efficiency of operational procedures to reduce costs:

- Merging technical security systems that are on different technological levels as a result of different ages
- Optimisation of process control and process monitoring
- Designing processes efficiently
- Prompt situation assessment and passenger information in the event of an incident
- Increased efficiency through the targeted use of personnel

GEMOS solution:

Setting up a modular information, communications and application platform.

- Integration of existing systems via standardised interfaces
- Integration of emergency telephones
- Efficient situation assessment by tracking people and vehicles for a quick and targeted response to incidents
- Access to all communication systems via a central IP communication server for quickly passing on information in the form of voice services, SMS, email, etc.

Photo: Getty Images

Smooth procedures, rapid information and response in the event of an incident

With kind permission of: Vogt+Partner GbR, Hildesheim

Technical security systems with different technologies can also be merged and visualised in one interface

Systematic Service

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Planning support

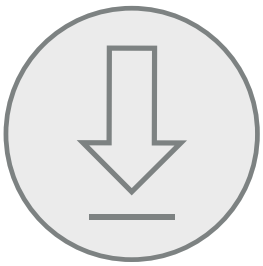
The basis for successful construction projects: GU Group provides architects and planners with comprehensive support. Comprehensive cross-trade concepts tailored to the individual building requirements are developed in close collaboration with the customers. These take into account the safety of the building and occupants and barrier-freedom comfort and aesthetics in equal measure.

Building project consulting

Facilitates everyday work: project consulting supports architects and planners in all questions and in each project phase – from planning support and contributory work in the bid invitation through to implementation. Well thought out and coordinated system solutions guarantee functionality and compliance with the relevant standards and directives.

Door engineering

Step-by-step to the appropriate door solution: with door engineering, the GU Group has developed an efficient method for project-specific door planning that also represents solutions covering more than one trade. Maximum planning security is provided by documentation using schematic door drawings, component lists and functional description.

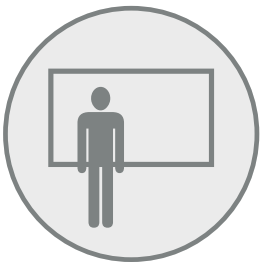


Free download

To make planning easier: information on the products and applications is available to download from the company website to the local hard drive quickly, conveniently and free of charge: from product documents and installation drawings to Declarations of Performance through to software solutions.

Customer Information System

Available at the click of a mouse: the Customer Information System (CIS) is an ordering and information system for all GU Group products. Customers can use the online platform 24 hours a day 7 days a week to access important information: from preparing a quotation through to performing an availability check in real time, from placing the order to tracking the order.



Seminars and training courses

Practical knowledge based on first hand experience: with around 160 events annually GU Group offers an extremely wide range of seminars and training courses. The programme includes product innovations and their applications, for example, or standards and directives. Several seminars and training courses are certified and recognised as advanced training courses by the chamber of architects and civil engineers in Germany.

Tender-Text-Manager

Comprehensive and technically up-to-date: with the Tender-Text-Manager, the GU Group is offering architects and planners a convenient online tool that allows them to effortlessly compile tender specifications; existing tenders can be uploaded to the Tender-Text-Manager and processed via an integrated import function.

Provision of samples

Impressive not just for builders: quality and functionality are best experienced live on site. The GU Group therefore organises the provision of samples for the project and can also present different variants and functions if required. As an alternative, GU Group offers visits to reference projects worldwide.

confiGUrator

The right products in the right quantity: the practical confiGUrator is an online platform where part lists and hardware sets can be precisely determined. Based on the specifications for the particular project, a technically correct part list is generated within seconds. The data is determined based on current conditions and fundamental technical principles.

Licences and CE

Maximum security as standard: the GU Group is a CE licenser for windows and balcony-doors and can undertake the CE certification on your behalf thus saving you time and effort in your day-to-day business.

Installation, commissioning, service, maintenance

All from a single source: along with consulting and the products themselves, there are also service activities – individually tailored to customer's requirements. Installation and commissioning by specialists ensures compliance with standards and safety for users. Subsequent regular maintenance upholds the value and the functional reliability of a product. And if anything does go wrong, a comprehensive network of customer service fitters will soon provide the remedy.

A product on its own is not a solution. The correct level of security, function and cost-effectiveness can only be achieved with the right planning and by ensuring correct application. The GU Group therefore also applies the systematic thought processes demonstrated in its product range to its service offering. Close interlinking of one-to-one expert advice, free online support and a comprehensive programme of technical seminars aims to make the day-to-day work of architects and planners easier.

Person photo: Getty Images

Opening, moving, closing, securing: expert assistance on all aspects of the all-encompassing product range of the GU Group

Gretsch-Unitas image film

The GU Group worldwide

The GU Group is at home all over the world: because we speak your language. Because we are on your doorstep anywhere in the world. We secure technology every day and everywhere for every project – in over 50 production and sales companies in more than 35 countries. For more information: www.g-u.com

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Awarded 1st prize in bba competition "Planner communication" in the category "Detailed documents".

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