



WINDOW TECHNOLOGY  
DOOR TECHNOLOGY  
AUTOMATIC ENTRANCE SYSTEMS  
BUILDING MANAGEMENT SYSTEMS



PROJECT SOLUTIONS FOR FACADES

Hardware systems for opening, moving and  
closing within the facade

Securing technology for you



# Planning – development – implementation

## Everything from a single source!



Skilled in the development of innovative opening mechanisms and specialised in every method of facade opening, we have been a competent partner for many years when it comes to **making your visions come true.**

By bringing the complex requirements of ventilation elements in the building envelope in line with the demands of aesthetical architecture and with the instructions of planners, metal designers and profile system suppliers, **we find the best solution for you.**

Together with all leading system suppliers, planning offices and fabricators, we have developed and implemented solutions for a multitude of window opening methods.

For example, we further improved the parallel offset window, a window type which has been known for years. For the first time, floor-to-ceiling window elements up to 5,000 mm can be opened manually. The fall protection, integrated in the hardware, makes the use of the elements possible without having to provide extra safety measures on the outside or inside.

New legal requirements (e.g. the German Energy Saving Regulation EnEV) demand a glass construction which, together with modern architecture, will lead to higher sash weights. Ventilation elements weighing over 400 kg are no longer an exception. Therefore, projecting top-hung, parallel offset, horizontal-pivot or Turn-Only hardware has been developed to take more weight. Our newly developed Up&Over windows allow for the use of the entire space, without compromising aesthetic in the facade, safety and energy balance.

**As a hardware manufacturer enjoying a world-wide reputation, complex solutions are our speciality. They are based on our tried-and-trusted standard products which we supplement with new components to meet special requirements. Here too, after-sales service is a matter of course.**



Parallel offset hardware

The special solution for sash weights up to 400 kg, opening clearances up to 250 mm and sash heights up to 5,000 mm. Parallel offset windows can be created with a comprehensive range of GU stays for all frame materials, such as timber, PVC and aluminium.



Turn-Only hardware

Today's facades, with their floor-to-ceiling windows, present a challenge for standard hardware. In order to meet these enhanced requirements, Gretsche-Unitas develops special Turn-Only hinges, either in stainless steel or in a concealed version, which carry sash weights up to 350 kg.

We can adapt our constructions to fit your desires, including all requirements.



Projecting top-hung hardware

This hardware range offers a number of different projecting stays with an opening angle from 20° to 50°. Sashes can be made to a height of 2,500 mm. Projecting top-hung windows can be made with GU stays for all frame materials, such as timber, PVC and aluminium.



Special constructions

Our specialists have developed innovative opening mechanisms to meet individual customer requirements regarding ventilation elements in building envelopes. We draw on our many years of experience and creative ideas to produce solutions tailored to each project.

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# Homogenous glass facades





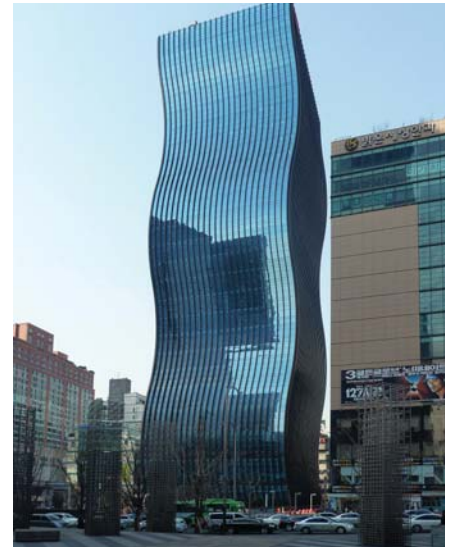
Trump Tower, TR-Istanbul · Brigitte Weber Architects, TR-Istanbul

**Products:** Parallel offset sashes, drives, locking systems  
**Opening type:** Motor-driven parallel offset window  
**Solution:** Newly developed parallel offset stays for 60 kg, concealed chain drives



Bahnhof Aarau, CH-Aarau · Theo Hotz Partner AG, CH-Zürich

**Products:** Parallel offset stays, drive gears  
**Opening type:** Manually operated floor-to-ceiling parallel offset window  
**Solution:** Parallel offset stays for 100 kg, concealed rebate drive gear



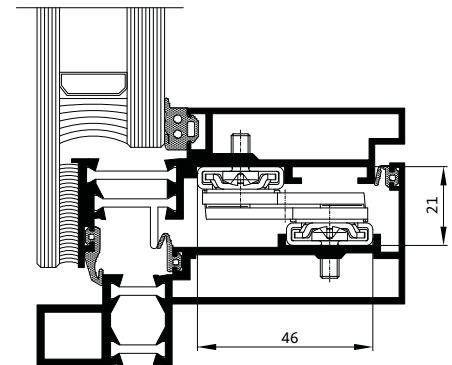
GT Tower East, KR-Seoul · ArchitectenConsort (Peter Couwenbergh / Edgar Bosman), NL-Rotterdam

**Products:** Parallel offset stays, drives  
**Opening type:** Motor-driven parallel offset window  
**Solution:** Newly developed parallel offset stay for the "parallelogram" window form, concealed chain drives

## Elegant, homogenous facades

Parallel offset windows are used where the elegant visual effect and homogenous appearance of a glass facade should be retained even when the windows are opened in different ways. The window surface, as opposed to conventional Tilt-Only or Tilt&Turn windows, is not swung, in relation to the frame, but placed parallel to the glass facade.

Above and beyond that, this type of opening can also be used when realising natural ventilation concepts, due to infinitely variable opening widths. In comparison to conventional Tilt-Only windows, parallel offset windows can obtain a much higher rate of air exchange with the same opening width. As with all outwardly opening windows, this type of opening does not take up any room inside.



Example of construction: Parallel offset window

## Possible constructions/solutions with parallel offset windows:

Description	Sash weight <sup>(1)</sup> (max. in kg)	Sash height (min. in mm)	Sash width (min. in mm)	Sash height (max. in mm)	Sash width (max. in mm)	Opening width (mm)	
						manually	motor-driven
PAS350 parallel offset stay	100	350	350	750	2000	150	180
PAS450 parallel offset stay	100	450	450	1000	2000	180	250
PAS670 parallel offset stay	200	670	670	1500	2000	150	180
PAS930 parallel offset stay	200	930	930	2000	2000	180	250
PAS1135 parallel offset stay	200	1400	1400	2100	2000	180	250

(1) Higher weights possible if required







Sportarena Luzern, high rise residential buildings  
HOCHZWEI, CH-Luzern · Marques AG & Architektur-  
büro Iwan Bühler GmbH, CH-Luzern

- Products:** Concealed Turn-Only hinges, drive gears, locking systems
- Opening type:** Inward-opening Turn-Only window
- Solution:** Newly developed, concealed Turn-Only hinges for 120 kg sash weight



St. Giles Court, GB-London · Renzo Piano Building Workshop, architects in collaboration with Fletcher Priest Architects (London)

- Products:** Turn blockers, profile-specific stainless steel roller hinges
- Opening type:** Turn-Only sash
- Solution:** Turn blocker with locking mechanism



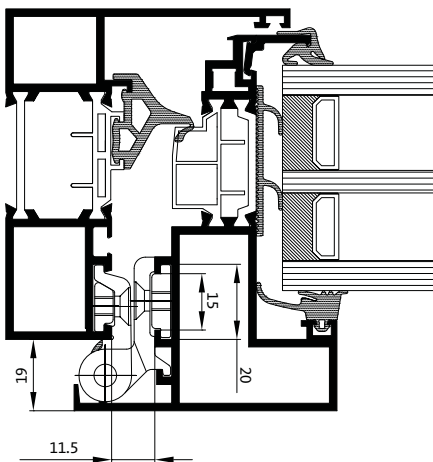
Mobimo Tower, CH-Zürich · Diener & Diener Architekten, CH-Basel

- Products:** Turn blockers
- Opening type:** Turn-Only window
- Solution:** Turn blocker in special version

Every dimension of window is possible

New requirements regarding the weight and measurements of Turn-Only windows require creative solutions.

The challenge is to harmonise the new window dimensions with the aesthetic requirements of the architect. Solutions such as with concealed hardware or even delicate, high load-capacity hinges are called for in the demanding building envelope nowadays.



Example of construction: Turn-Only Window

Possible constructions/solutions with Turn-Only windows:						
Description	Sash weight (max. in kg)	Sash height (min. in mm)	Sash width (min. in mm)	Sash height (max. in mm)	Sash width (max. in mm)	Opening width (degrees)
Concealed Turn-Only hinge, small	120	350	350	2500	1000	95
Concealed Turn-Only hinge, large	350	425	350	3500	1600	95
Stainless Turn-Only hinge	200	430	450	2800	1400	180









Neckar Tower, DE-Villingen-Schwenningen ·  
JSK Architekten, DE-Düsseldorf

**Products:** Projecting stays, rebate drive gears  
**Opening type:** Manually operated projecting top-hung window  
**Solution:** Special construction for inclined facades, projecting stays, detent stays



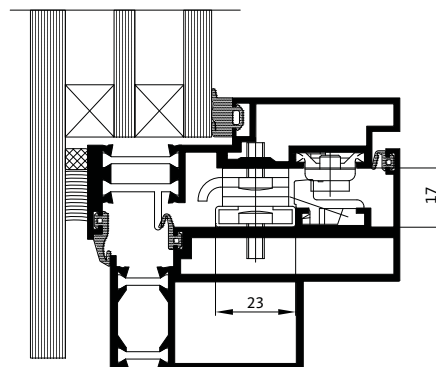
La Taverna, CH-Ascona · Gerber Architekten,  
DE-Dortmund

**Products:** Projecting stays and drives, Lift&Slide elements  
**Opening type:** Motor-driven projecting top-hung window, Lift&Slide element  
**Solution:** Projecting top-hung window for NSHEV / EN 12101-2

## Functional advantages

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 a full-glass facade can be made extremely homogenous by using this window. With a projecting top-hung window system, you have a variety of possibilities to create aesthetic facades.



Example of construction: Projecting top-hung window

## Possible constructions/solutions with projecting top-hung windows:

Description	Sash weight (max. in kg)	Sash height (min. in mm)	Sash width (min. in mm)	Sash height (max. in mm)	Sash width (max. in mm)	Opening width (degrees)
SKS40 projecting stay	40	276	450	640	2500	50
SKS50 projecting stay	50	640	450	800	2500	50
SKS65 projecting stay	65	800	450	1100	2500	50
SKS65H projecting stay	100	600	450	1100	2500	30
SKS100 projecting stay	100	1100	520	1500	2500	45
SKS100H projecting stay	100	1500	520	2000	2500	20
SKS180 projecting stay	180	2000	520	2500	2500	20







Zentrum Leue, CH-Männedorf · Stücheli Architekten, CH-Zürich

**Products:** Bogies, roller tracks  
**Opening type:** Horizontally slidable Turn-Only sash  
**Solution:** Turn-Only sash with built-in fall protection

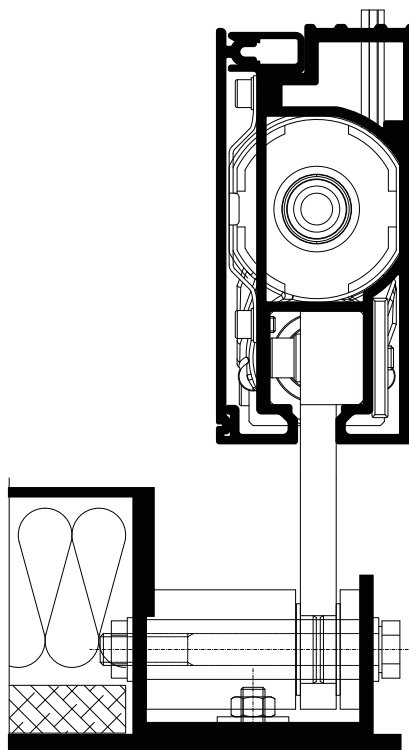


Bürgerhaus Unterföhring, DE-Unterföhring · WerkGemeinschaft Guttenberger, DE-Stuttgart

**Product:** Horizontally folding sun and noise protection  
**Opening type:** Steplessly adjustable, motor-driven shading element  
**Solution:** Special construction with synchronised motors integrated into the mullion

## Visionary and trend-setting

Gretsch-Unitas develops innovative, mechanical or electronically controlled opening systems for building contractors who expect that special extra and for architects with vision. The scope of services also includes the development of a hardware solution and, if required, testing and durability testing on test windows, and project management. The diverse number of projects with Gretsch-Unitas special hardware solutions pays proof to the competence of our experts. The same solutions can be applied to windows made of aluminium, steel, timber or PVC.



Construction example: Shading element

# Building project consulting and planning for tailored solutions



Consulting and planning



Solutions tailored to the project



The most different types of projects

## Our services in building project consulting

Our building project consultants can offer you support when creating drafts, door lists, concept drafts with function description, invitation to tender and with wiring plans. Well thought through and coordinated system solutions guarantee you the realisation of your wishes and expected functionality, after taking the necessary standards and guidelines into account. In cooperation with the development and applications technology department, we can also find well-tailored solutions for special constructions.

Naturally, we will keep you up-to-date with new, innovative product ideas and relevant standards and guidelines, and what specific consequences they have for the building contractors in planning and construction. Above and beyond that, we can provide you with a comprehensive offer of seminars, including individual seminars in your offices.

Building contractors like to convince themselves of the quality and functions of the services offered. We can organise and manage the complete sampling process at the project and, if desired, we can provide different versions and functions – or you can use our global references and convince yourself of our services.

Securing technology for you



More than 100 years of experience

Worldwide presence

System solutions in the project





Security through quality manufacturing



Tendering tool



Logistics – everywhere just in time

## The advantages for you and your clients

Together with you, we will work out the necessary requirements for the desired functionality, if required, and create an individual overall concept. Comfort and safety are our top priorities when opening, closing and monitoring doors and windows. To that end, we do not merely concentrate on individual products, but design a complete solution, taking into account multiple equipment interfaces. Building security, protection of life and valuables, barrier freedom and ease of use are often at opposites in terms of individual requirements. We will find the optimal solution for you.

The spectrum of services we offer includes ascertaining the requirements for functionality, the conception and creation of different multiple equipment solutions up to the handover to your customers. Our main thought and guiding principle is always the product with its use. Our customers and the end user, who has been waiting for a reliable and functional solution, are, primarily, our top priority. This is why we have become a reliable partner for people across the globe.

## We are always exactly where you need us to be

Our company is at your side where ever you are in the world and are your person of contact for planning, construction and fabrication. Short distances and a fast, reliable service make technical and cost-optimised solutions possible, perfectly in tune with the needs of the people in their environment.

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Or email us to:  
**objektberatung@g-u.de**

Further contact addresses can be found at  
**www.g-u.com**

Special solutions development

Modular system technology

Products in stock around the globe

# The GU Group worldwide



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Sportarena Luzern, high rise residential buildings HOCHZWEI, CH-Luzern  
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