



VELFAC
CATALOGUE

2016

May onwards



VELFAC®

WINDOWS FOR LIFE

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WINDOWS FOR ALL PROJECTS

– leading edge design and industrial experience

Windows for all purposes. Whatever your requirements are, we have got the solution. Whether your focus is SBD, energy efficiency, sound reduction or price optimisation, we have the right windows and we will make sure you get the best possible solution for the lowest possible costs.

Quality. VELFAC windows are designed to give you flexibility to create the design to suit your building, and to provide the best functionality for a lifetime. With regular maintenance, we expect our windows to last 40 years or more.

Warranty. VELFAC offers a market leading comprehensive warranty of 12 years on windows including glazed units.

Wood. Frames, mullions and transoms are made of VACUMAT or Flow-coat-treated pine with water-based acrylic paint containing anti-mould fungicide. Thickness of final paint layer, when dry, is 60-80µm. Wood is treated with a clear lacquer to enhance the warmth of the natural grain, or painted in one of a range of RAL colours to match the interior decor.

Aluminium. External sashes are made of aluminium extrusion alloy EN AW-6060 or EN AW-6063, Polyester powder coated to a thickness of 60-120µm and a standard gloss level of 77%, or anodised to a thickness of 20µm. The finish of the external aluminium sash is either a hard-wearing Polyester-powder coat in a wide range of RAL colours, metallic finish in RAL 9006 & 9007, or anodised silver or gold.

Glazing beads are grey (RAL 7035), white (RAL 9010), or black (RAL 9005).

Configurations. Any VELFAC frame can be divided by mullions or transoms to create the aesthetic and function you require. Sashes with different opening functions can be mounted within the same frame. Each frame can be manufactured to 3.7m in height or width, or max. 230kg. If one side of the frame is greater than 2.4m, the other must be less than 2.4m.

Shapes. VELFAC windows can also be created in many different shapes. As a result, you can specify a window that suits the building style and architecture, or create a feature by combining different shapes and sizes. Most shaped windows are fixed although some can be made opening.

High
QUALITY
DESIGN **meets**
the ENERGY
DEMAND **of the**
future



PROFESSIONAL ADVISE

– 360 degrees consultancy

At VELFAC we are experts when it comes to windows, and we want to share this knowledge with you.

We advise you throughout the process from design to installation, so you get the best solution for any project related to design, functionality, energy and cost.

Please call us if you have any questions about the specification of windows for your project on 01223 897100.



SUSTAINABILITY

IN YOUR PROJECTS?

Opting for sustainable materials that can easily be re-used again is an obvious way to future-proof your project. This also limits your projects environmental impact.



The mark of
responsible forestry
FSC® C101947



At VELFAC, we use FSC®-certified and Danish Indoor Climate-labelled wood. In addition, our products have a long service life, which means that they should not need to be replaced for 40 to 60 years, after installation where our recommended maintenance regime is followed.



A video on VELFAC.co.uk/csr shows how easy it is to take apart and separate a VELFAC 200 ENERGY window into pure material parts. Up to 93% of the window's components can be reused.

VELFAC®
WINDOWS FOR LIFE

93%

So much can
be reused.
VELFAC 200 can
easily be
taken apart
and sorted.



Windows for Life

FREEDOM OF DESIGN

GIVES OPTIONS

Colours & Surface finishes

Create an impression by giving your façade the look you want by using the right colour and surface treatment for your windows.

Whether the look you are aiming for is metallic, with an anodised surface, or coloured in gloss or matt finish, you can get exactly what you want.

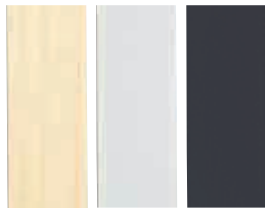
The spacer profile in the glazed unit and internal glazing beads are available in grey, white or black.



All RAL Classic colours



Glazing beads



Internal surface finish in clear laquer or painted to a RAL Classic colour.



Anodised in silver or bronze (from pale to dark).

Form & Shape

It is also possible to get windows with oblique or arched frames in a form and shape that would make your project simply one of a kind. We will help you with proportioning and design so you can easily bring your idea to life.



VELFAC WINDOWS ARE DESIGNED TO LAST

Our core product, the VELFAC 200 window system, has undergone constant product development and evolution in order to satisfy clients' demands as well as the increasing regulatory demands.

We develop and continually test our products to ensure that the quality meets the applicable requirements of the industry and demands of millions of users across Europe. In many cases, we provide higher requirements than current standards require.

Our development department employs 50 dedicated employees, constantly optimising our products so that they offer a 40-60 year design life for every unit.

**Please find our
TEST
RESULTS
on page 10-14**



VELFAC R&D Department develops most of our ironmongery, so they are adapted specifically for each window system. The ironmongery are regularly tested both internally and at test institutes. Here are ironmongery exposed to salty Westcoast wind and weather as part of internal test.



Window frames on a windswept hilltop. Our test department compares here the durability of different types of surface treatment.



Window façade exposed to water load test. Water nozzles are located directly in front of the façade and water pumps with a flow rate of at least 3.4 litres/m²/minute.



VELFAC 200 ENERGY casement door ready to open and close 20,000 cycles during an internal test at VELFAC, which is an integral part of the development process.

VELFAC WINDOWS TRIED AND APPROVED

Millions of VELFAC 200 windows are installed across Europe and thousands of people test them every day. Despite our highly successful track record, we maintain a demanding testing programme to ensure our windows continue to satisfy all necessary regulatory standards.

This inherent durability also results in a window which is built to last - VELFAC aluminium / wood windows have been assessed by leading construction industry consultants and a 40-60 year design life is expected.

All VELFAC windows and doors undergo a number of tests at some of Europe's most recognized testing institutions in the UK, Sweden and Denmark, and continually test the products as a natural part of the product development process.

A comprehensive test program

We test our windows and doors in a variety of areas, including:

Forced entry (SBD)

VELFAC windows and doors are Secured by Design certified. SBD certification includes testing of burglary resistance and general performance of the window.



Sound reduction test

We test our windows ability to reduce noise and to document the various window systems performance by different window types. Therefore, we can provide windows that meet the project's specific requirements.

General test (AWW)

VELFAC products are tested for repeated opening and closing, and air, wind and water exposure. Moreover expose our bracket for a Cyclic Corrosion Test (CCT), where VELFAC is testing according to the highest class (CCT evaluation value 10 jf. EN/ISO 10289), which is significantly above the market requirements.

The documentation is in place

You can read more about our extensive testing program and see the results in all test areas on VELFAC.co.uk, where you will also find Declaration of Performance documents (DoP) for all products in our range and our accreditation certificates.

Please call us if you have any questions about the testing, or test evidence of windows for your project on 01223 897100.



CWCT accredited. A 58m² large window screen tested for wind load. Part of the CWCT test includes an aircraft engine simulating very strong wind.



After the CCT test (CCT evaluation value 10 jf. EN/ISO 10289) all VELFAC brackets must still be without a trace of rust. The difference between a VELFAC corrosion protection (left) and corrosion protection for the industry's traditional demands are clear.

TEST INFORMATION – GENERAL TEST

OPERATING FORCES AND AWW TEST

General test. The Swedish State Test Institute has performed a comprehensive range of tests on the VELFAC 200 window, in order to analyse overall performance and indicate how well the window can cope with everyday use.

The tests performed for VELFAC 200 and VELFAC 200 ENERGY are:

- Air permeability
- Water tightness
- Wind resistance
- The strength and the stability of the construction

The weathering tests detailed are equivalent to BS6375-1.

VELFAC 200 - DGU

Property	Test / Classification standard	Result and classification
Vertical load	prEN 947-1 (EN 14608) / BS EN 13115	Class 2
Static torsion	prEN 948-1 (EN 14609) / BS EN 13115	Class 2
Operating forces	EN 12046-1 / BS EN 13115	Class 1
	BS EN 1191 / prEN 12400	Repeated open/close 10000 cycles - Class 2
Air permeability	BS EN 1026 / BS EN 12207	+/-600 Pa - Class 4
Water tightness	BS EN 1027 / BS EN 12208	600 Pa - Class 9A
Wind resistance	BS EN 12211 / BS EN 12210	1600 Pa - Class 4C

Test Institute: Teknologisk Institut, Aarhus, Denmark.

N.B. There may be limitations regarding function, type and size.

VELFAC 200 ENERGY - TGU

Property	Test / Classification standard	Result and classification
Vertical load	BS EN 14608 / BS EN 13115	Class 3
Static torsion	BS EN 14609 / BS EN 13115	Class 3
Operating forces	BS EN 12046-1 / BS EN 13115	Class 1
	BS EN 1191 / BS EN 12400	Repeated open/close 20000 cycles - Class 3
Air permeability	BS EN 1026 / BS EN 12207	+/-600 Pa - Class 4
Water tightness	BS EN 1027 / BS EN 12208	1500 Pa - Class E1500
Wind resistance	BS EN 12211 / BS EN 12210	1600 Pa - Class 4C

Test Institute: BM Trada

N.B. There may be limitations regarding function, type and size.

THERMAL PROPERTIES TEST + FIRE WINDOWS TEST

THERMAL PROPERTIES TEST

Thermal properties. The insulation capacity of a window is calculated using EN ISO 10077-2 and FEM Therm 5.2. Both are computer generated analyses which simulate a variety of test conditions and predict window performance within a range of thermal parameters.

The VELFAC 200 System achieves the results in the table below:

	1-leaf VELFAC 200 window - W x H: 1230 x 1480mm	U _w -value EN673
	double-glazed window - 4-16-4 with 1 low-e and argon*	1.55
	double-glazed window - 4-16-4 with 2 low-e and argon	1.47
	double-glazed window - 4-16-4 with 1 low-e and argon*	1.40
	double-glazed window - 4-16-4 with 2 low-e and argon	1.36
	triple-glazed window - 4-18-4-18-4 with 2 low-e and argon*	0.82
	triple-glazed window - 4-18-4-18-4 with 2 low-e and argon	0.79

* VELFAC standard glazing

FIRE WINDOWS TEST

Fire windows must be able to contain a fire so that exits or escape routes remain accessible for as long as possible. The fire test examines the window's resistance to fire. The test is stopped once the fire has breached the window for more than ten seconds.

VELFAC fire windows are flame retardant on the internal side for either 30 minutes or 60 minutes depending on the sash function (Integrity E). The ventilated panel has been tested for integrity and insulation (EI).

VELFAC fire windows are made to look exactly the same as the 200 System, ensuring that the sightlines remain identical.

Please notice, that fire windows and doors are only available as double glazed windows.

Property	Test / Classification standard	Result and classification
Fire resistance	BS EN 1363-1, BS EN 1363-2, BS EN 1364-1 and BS EN 1634-1 Boverket's General Advice 1993:2, edition 2. Guidelines for fire technical approvals.	Casement door - E30 Windows - E60 Ventilated fire panel - EI60

Test Institute: SP, Boraas

N.B. There may be limitations regarding function, type and size.

SOUND REDUCTION TEST + SAFETY FITTINGS TEST

SOUND REDUCTION TEST

Sound reduction. This test measures a window's capacity to reduce the levels of unwanted noise e.g. from heavy traffic. The noise level within most rooms of a family house should not exceed 30dB. If for example loud traffic noise amounts to 65-70dB, the building envelope must be able to reduce the noise level by 35-40dB.

VELFAC offers a variety of noise reduction solutions. Glazed units can be fitted with different types and thicknesses of glass. Please find examples of our glazing assortment for acoustic window solutions and of VELFAC 200 sound reducing windows on page 67.

Property	Test / Classification standard	Result and classification
Sound measurement	BS EN ISO 140-3 / BS EN ISO 717-1	VELFAC 200 DGU: $R_w = 32 - 38\text{dB}$ VELFAC 200 ENERGY TGU: $R_w = 33 - 43\text{dB}$

Test Institute: DELTA, Aarhus and BM Trada, Buckinghamshire
N.B. There may be limitations regarding function, type and size.

SAFETY FITTINGS TEST

CE-marking requires testing of the load bearing capacity of safety devices. All VELFAC window and door systems are CE-marked.

Child safety. The espagnolette with child-lock has been tested, and has passed the Scandinavian child safety test, which consists of two parts:

- In Stage 1, a group of at least 30 children are asked, individually, to attempt to open a window locked with a child-lock. They are given five minutes to complete the task. If a child fails, he/she is then shown how the lock is operated and asked to try again. 43 children took part in the VELFAC test, and less than the maximum percentage, 15%, of the children were able to open the VELFAC window.
- Stage 2 tests durability under stress: the lock and safety mechanism is required to maintain performance despite receiving repeated blows from a hammer.

Property	Test / Classification standard	Result and classification
VELFAC 200 DGU, Safety devices, CE marking ⁽¹⁾	BS EN 14351-1 (equivalent to BS6375-2)	Load 350N, 1 minute - Passed
VELFAC 200 ENERGY TGU, Safety devices, CE marking ⁽²⁾	BS 6375-3	Passed
Espagnolette with child-lock ⁽³⁾	NT CONS 018, SS 3587	As described above - Passed

Test Institute: ⁽¹⁾Teknologisk Institut, Aarhus, Denmark ⁽²⁾BM Trada and ⁽³⁾SP, Boraas, Sweden
N.B. There may be limitations regarding function, type and size.

CWCT ACCREDITATION TEST

CWCT ACCREDITATION TEST

VELFAC 200 Plus has been designed to perform exceptionally in large areas of window walling, tall buildings - up to 20 storeys, and in the most exposed locations - coastal sites, or high above sea level. Stunning façades can be created where opening and fixed lights have identical sightlines, and where the window wall maintains the visual appearance of all the other glazing in the project, providing a coherent aesthetic for the whole development.

VELFAC 200 Plus meets the challenge. Based on the established 200 System, VELFAC 200 Plus composite aluminium and wood windows feature new enhancements and installation details which take performance to the next level - these include:

- Additional sealing for frame corners, mullion and transom joints
- Additional sash retainers for opening lights, and sash fixings for fixed units
- Secondary weather seals
- Additional weather screen gaskets

These enhancements also contribute to the system's excellent U-values - far better than usually achieved by a conventional aluminium curtain wall system.

A real achievement. VELFAC and CWCT worked together to develop a test rig and testing sequence to ensure the system would perform. The test procedure was undertaken by Taylor Woodrow and overseen by CWCT and having worked so closely with CWCT, VELFAC 200 Plus achieved CWCT system certification on successful completion. This provides official CWCT accreditation of VELFAC 200 Plus, a greater achievement than simply gaining a successful test report from a testing house, thus ensuring specifiers an increased level of confidence in the performance of VELFAC 200 Plus within their own projects.

Please notice, that fire windows and doors are only available as double glazed windows.

Property	Test / Classification standard	Result and classification
Air permeability	BS EN 12152 / BS EN 12207	+600 Pa - Class A4
Water tightness	BS EN 12154 / BS EN 12154 Dynamic water test to ENV 13050 Hose test (AAMA 501.2)	Static water tightness: 600Pa - Class R7 Dynamic water tightness - Passed Hose test - Passed
Wind resistance	BS EN 12179 / BS EN 13116	Serviceability to ± 2000 Pa - Passed Safety to ± 3000 Pa - Passed
Impact	BS 8200	Passed

Test Institute: Chiltern Dynamics, Buckinghamshire

SECURITY + PART Q

SECURED BY DESIGN TEST

Secured by Design certification includes testing of burglary resistance and general performance of the window.

The testing of capabilities concerning burglary is aimed at replicating how a thief would work and includes:

- A 'burglar's tool kit' is used by a professional expert to try and force entry. One set of tools can be used for 3 minutes. The overall time limit is 15 minutes.
- An attempt is made to remove the glass pane externally - as VELFAC 200 windows are internally glazed, with an integral glazing bead, external removal is impossible.
- A mechanical loading test is made using parallel and perpendicular loads to gain entry. The test should simulate attempted forced entry by using crowbars. Before the mechanical loading is performed an identical window is attempted forced open with 2 crowbars to see if further weak points should be tested.

The following types are third party certified to PAS 24 for windows:

VELFAC 200 DGU:

- sidehung window
- fixed casement
- top-guided window

VELFAC 200 ENERGY TGU:

- sidehung window
- fixed casement
- top-guided window

The following types are third party certified to PAS 24 for doors:

VELFAC 231ES ENERGY

- Wood/aluminium Security Casement Door

VELFAC 500:

- Aluminium Security Door

VELFAC Ribo alu door:

- Wood/aluminium Security Door

Secured by Design



Official Police Security Initiative

All our relevant products are registered on the Secured by Design website, www.securedbydesign.com

WINDOW SYSTEMS

Property	Test / Classification standard	Result and classification
Secured by Design	PAS 24:	VELFAC 200 DGU - Passed VELFAC 200 ENERGY TGU - Passed

Test Institute: Chiltern Dynamics and BM Trada

N.B. There may be limitations regarding function, type and size.

DOOR SYSTEMS

Property	Test / Classification standard	Result and classification
Secured by Design	PAS 24:	VELFAC 231ES ENERGY - Passed VELFAC 500 - Passed VELFAC Ribo Alu Door - Passed

Test Institute: Chiltern Dynamics, Buckinghamshire

N.B. There may be limitations regarding function, type and size.

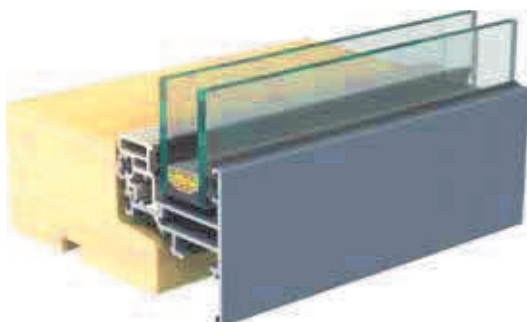
A WINDOW SYSTEM UNDER CONSTANT EVOLUTION

Design and industry expertise. VELFAC windows embody both leading edge design and years of industry expertise. As a window supplier we can proudly present more than 25 years of knowledge with composite windows.

Our core product, the VELFAC 200 window system, has undergone constant product development and evolution in order to satisfy clients' demands as well as the increasing legal demands.

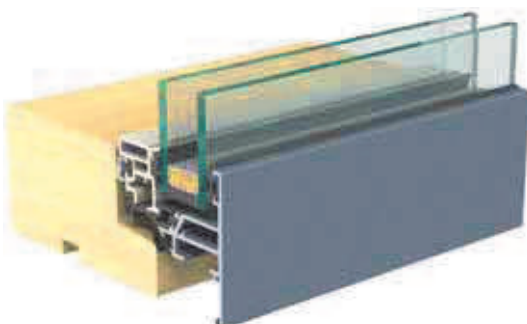
The VELFAC 200 ENERGY system is proven expertise. The new triple layer glazing solution combines unique insulation properties with strength and durability. And the new VELFAC 200 ENERGY profiles will maintain the clean, crisp sightlines that we are renowned for.

Being the third generation of VELFAC 200, the functionality within the new VELFAC 200 ENERGY windows are based on the same proven design as the original VELFAC 200 system launched in 1985. We know it works, we have optimized the design for 25 years, and this knowledge and experience has been used in our new enhanced system.



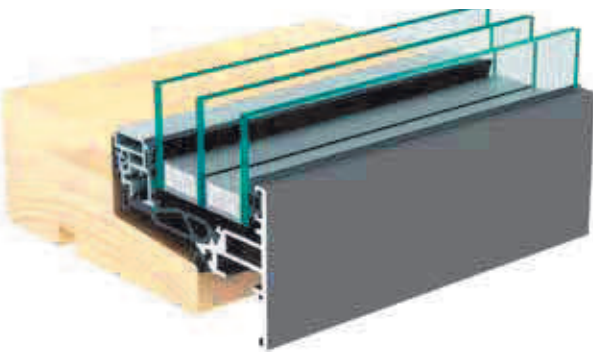
VELFAC 200, 24mm glazing

- Material: aluminium / wood
- U_w -value in 1985: 2.92
- U_w -value in 2011: 1.55
- Double glazed unit
- The optimal choice for most buildings



VELFAC 200i, 24mm glazing

- Material: aluminium with thermal break / wood
- U_w -value: 1.40
- Double glazed unit
- For buildings with low-energy targets



VELFAC 200 ENERGY, 48mm glazing

- Material: aluminium with thermal break / wood
- U_w -value: 0,8
- Triple glazed unit
- For buildings with low-energy targets

FULL MODULARITY AND WINDOW WALLING



WIDE RANGE OF SHAPED WINDOWS



WEATHER-RESTISTANT ALUMINIUM ON THE OUTSIDE



NATURAL WOOD ON THE INSIDE





MOTORISED WINDOWS WITH FULLY CONCEALED MOTORS



ESPAÑOLETTE HANDLE WITH ERGONOMIC DESIGN



CLEAN CRISP AND UNIFORM SIGHTLINES



MINIMALISTIC DESIGN AND FLOATING SASH



COMPREHENSIVE 12 YEARS WARRANTY



SLIM SASHES PROVIDE MAXIMUM DAYLIGHT



SECURED BY DESIGN ACCREDITED



BI-PARTING SLIDING DOOR OPENS UP TO 2.6 METRES

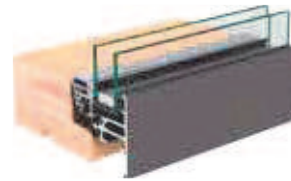


VELFAC 200 / VELFAC 200 ENERGY – OVERVIEW

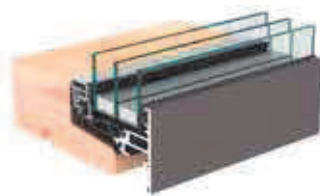
CHARACTERISTICS

- Minimalistic design - stylish and sophisticated
- "Floating" sash due to set back sealing
- Sealing protected against UV radiation and weather conditions
- Uniform sightlines regardless of opening function
- Weather-resistant aluminium on the outside and natural wood on the inside
- SBD accredited and Part Q compliant
- Meets requirements of NHBC 6.9 for curtain walling
- Extensive test programme
- A market leading comprehensive warranty of 12 years on windows including glazed units
- Uw values down to 0.8
- Available as 24mm double and 48mm triple layer glazing

SASH VARIATIONS



VELFAC 200
24mm double glazed unit



VELFAC 200 ENERGY
48mm triple glazed unit

GLAZING BARS AND WINDOWS



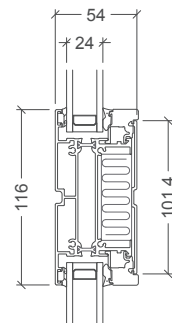
36mm



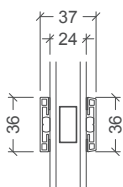
54mm



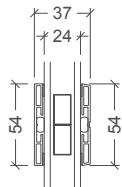
116mm



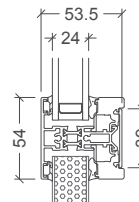
116mm glazing bar
24mm glazing



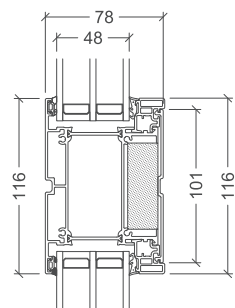
36mm energy glazing bar
24mm glazing



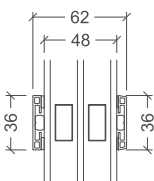
54mm energy glazing bar
24mm glazing



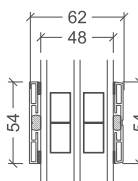
54mm glazing bar
24mm glazing



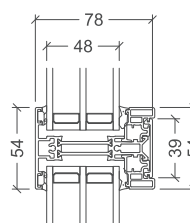
116mm glazing bar
48mm glazing



36mm energy glazing bar
48mm glazing



54mm energy glazing bar
48mm glazing



54mm glazing bar
48mm glazing

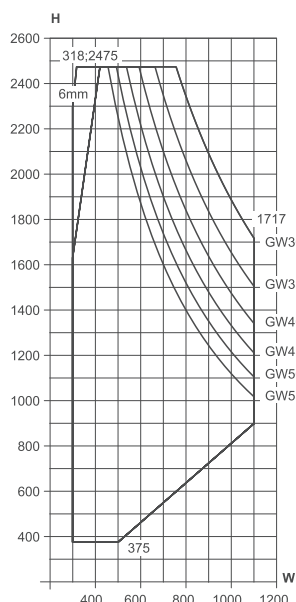
VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

SIDEHUNG WINDOW (201)

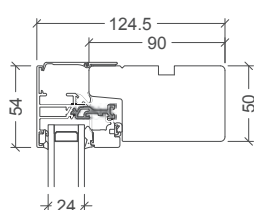
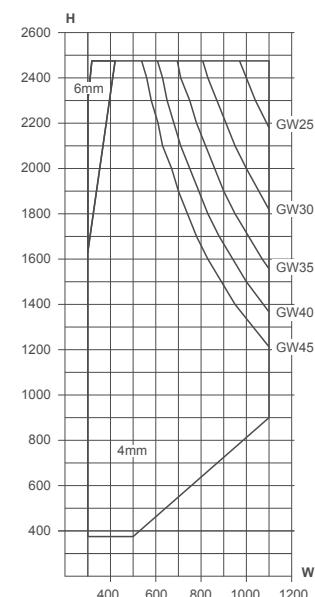


- The sash opens up to 90°
- Concealed hinges
- An adjustable friction brake allows random opening position
- The espagnolette has a built-in ventilation position

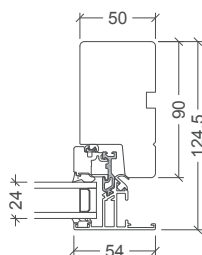
Min./max. sizes, 48mm glazing



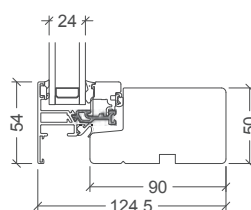
Min./max. sizes, 24mm glazing



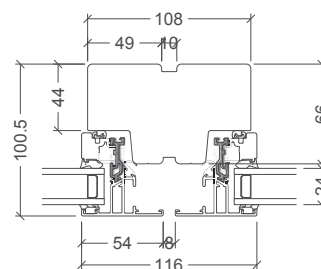
Head



Jamb



Cill



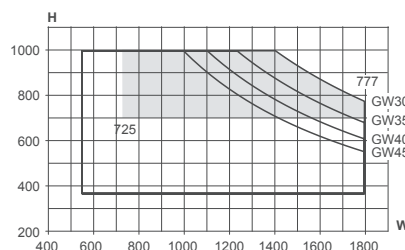
66mm mullion

BOTTOMHUNG WINDOW (203)

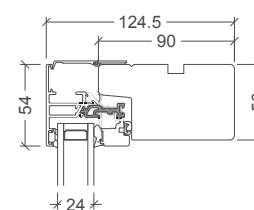
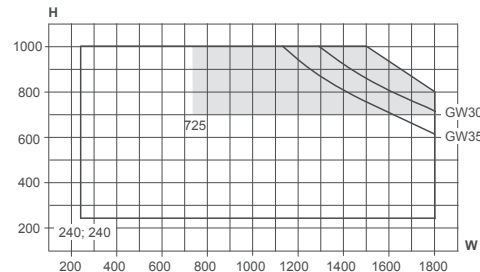


- Used for smoke ventilation (grey area)
- Supplied with electric motor for smoke ventilation

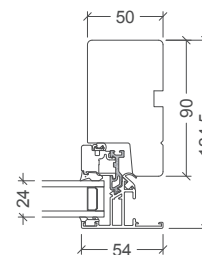
Min./max. sizes, 48mm glazing



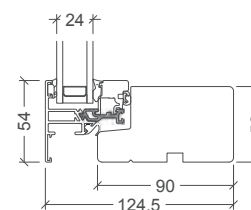
Min./max. sizes, 24mm glazing



Head



Jamb



Cill

GW = glass weight
(see page 63)

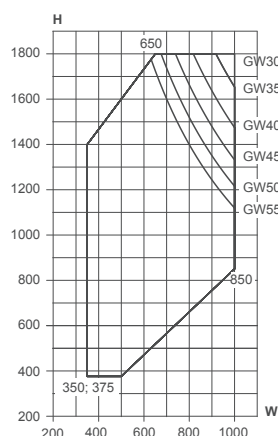
VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

SIDE-GUIDED WINDOW (207)

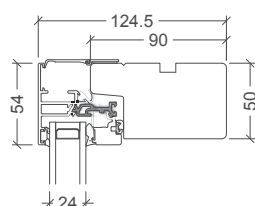
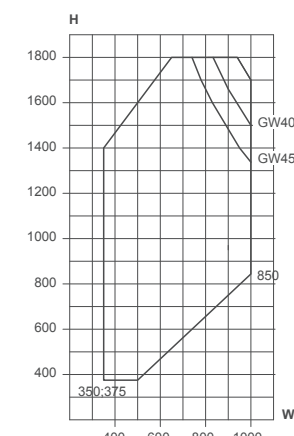


- To open, the sash moves on guide rails mounted on the head and cill
- The sash stops at approx. 90°
- When fully opened, a 15cm (minimum) gap allows cleaning from the inside
- The espagnolette has a built-in ventilation position

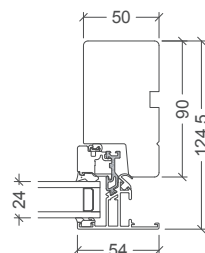
Min./max. sizes, 48mm glazing



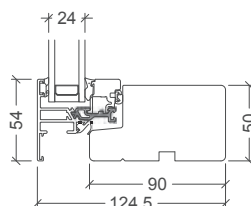
Min./max. sizes, 24mm glazing



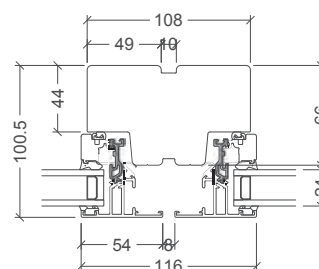
Head



Jamb



Cill



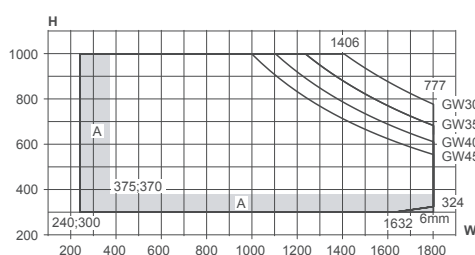
66mm mullion

TOPHUNG WINDOW (208)

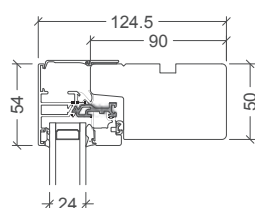
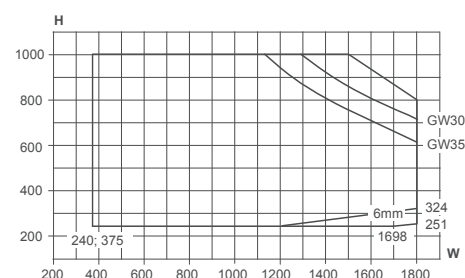


- The sash opens up to 85°
- The espagnolette has a built-in ventilation position
- Opportunity for rescue opening in low, wide windows, where the top-guided windows cannot fulfill the requirement

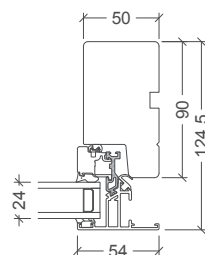
Min./max. sizes, 48mm glazing



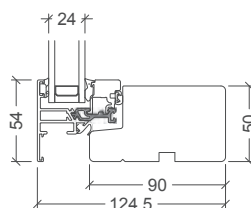
Min./max. sizes, 24mm glazing



Head



Jamb



Cill

GW = glass weight (see page 63)
A = With circular catch handle and friction brake

VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

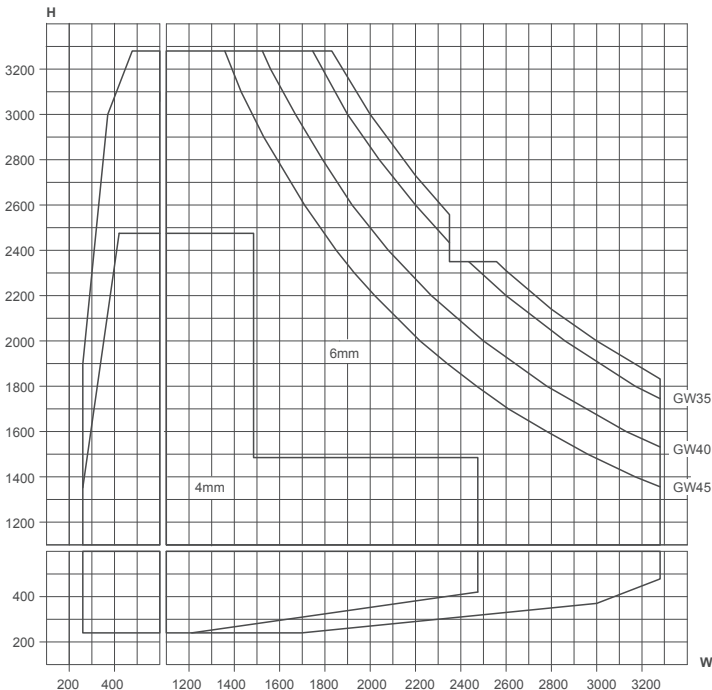
FIXED CASEMENT (210)



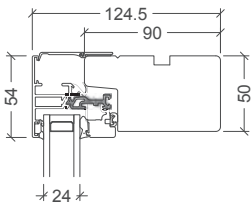
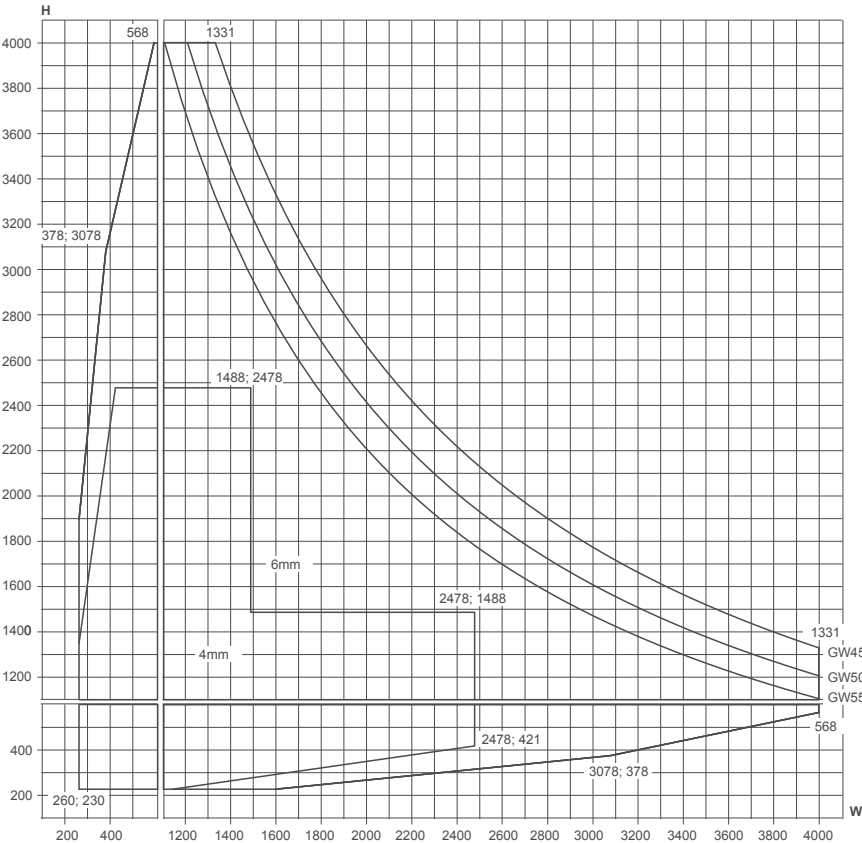
- The frame and sash are integrated
- Appears identical to all VELFAC 200 window types

GW = glass weight
(see page 63)

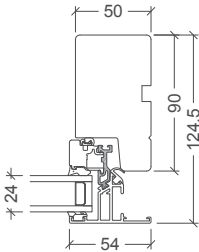
Min./max. sizes, 24mm glazing



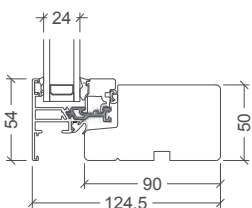
Min./max. sizes, 48mm glazing



Head



Jamb



Cill

VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

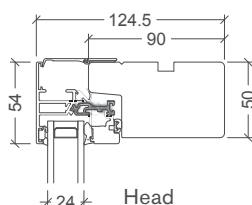
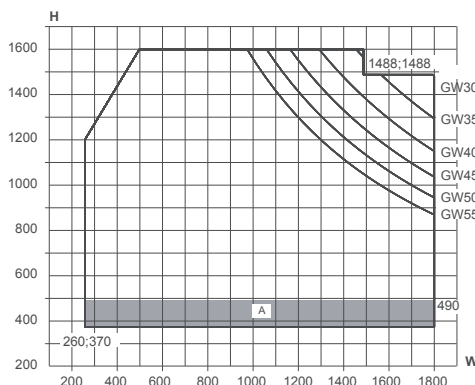
TOP-GUIDED WINDOW (212)



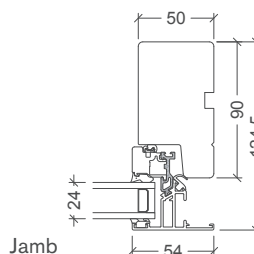
- When opened the sash provides a ventilation gap at the head
- The espagnolette has a built-in ventilation position
- The balance arms have built-in adjustable friction brakes allowing random opening position

GW = glass weight (see page 63)
A = With circular catch handle and friction brake

Min./max. sizes, 48mm glazing

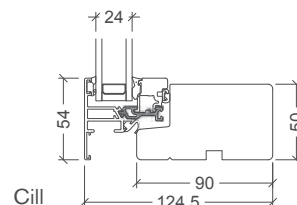
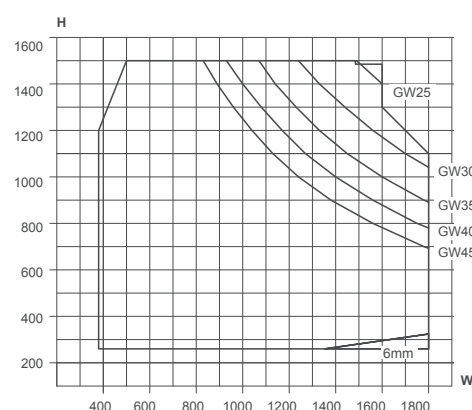


Head



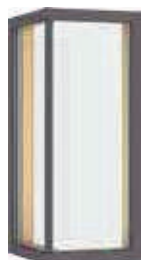
Jamb

Min./max. sizes, 24mm glazing

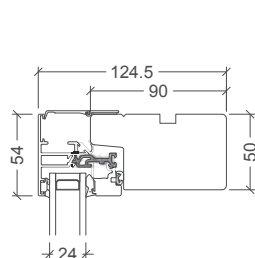
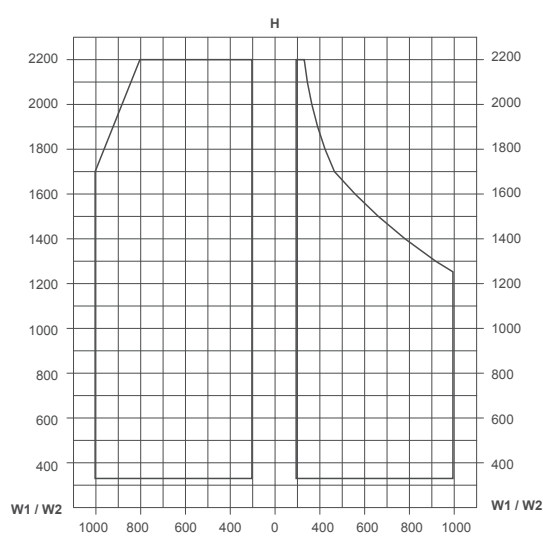
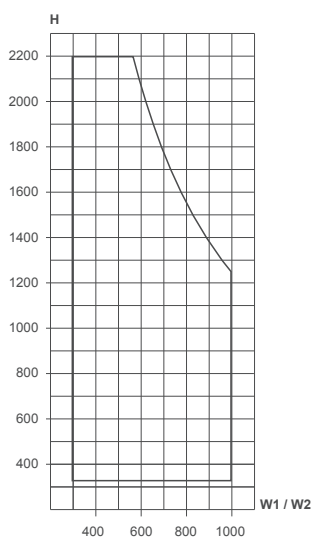


Cill

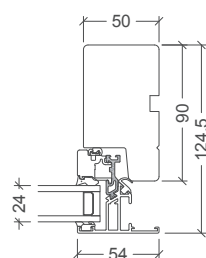
GLASS TO GLASS CORNER WINDOW (220)



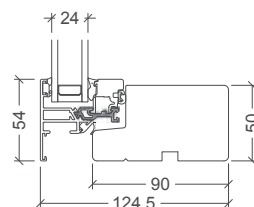
- Can be used where an external view is required without disruption from corner posts
- The window allows maximum light to enter and can be used as an architectural feature

Min./max. sizes, 48mm glazing and 24mm glazing
Symmetric Asymmetric

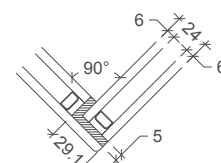
Head



Jamb



Cill



Glass to glass corner

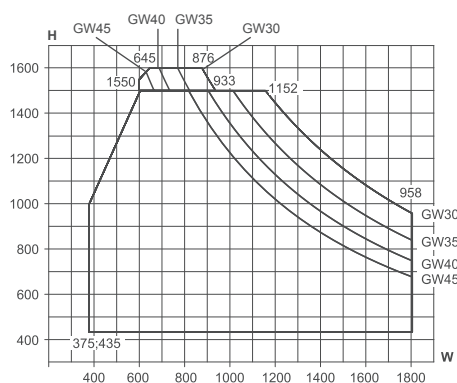
VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

TOPHUNG FULLY REVERSIBLE WINDOW (229)

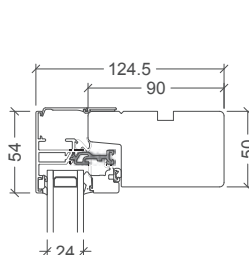
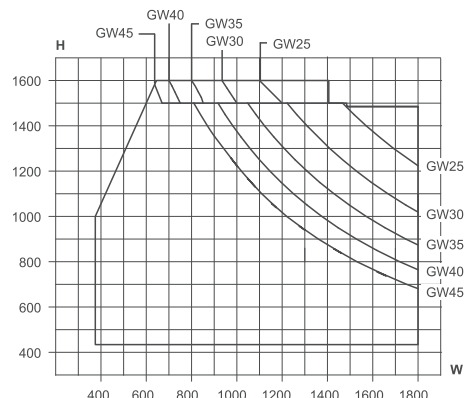


- The sash can be rotated by up to 170° to allow cleaning from the inside
- A safety restrictor is triggered when the window is opened approx. 5cm
- The window can be reversed to the cleaning position where an automatic catch keeps the window in place
- The espagnolette has a built-in ventilation position

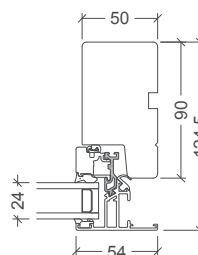
Min./max. sizes, 48mm glazing



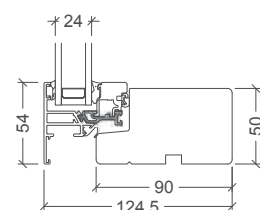
Min./max. sizes, 24mm glazing



Head



Jamb



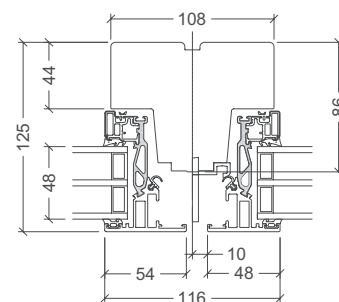
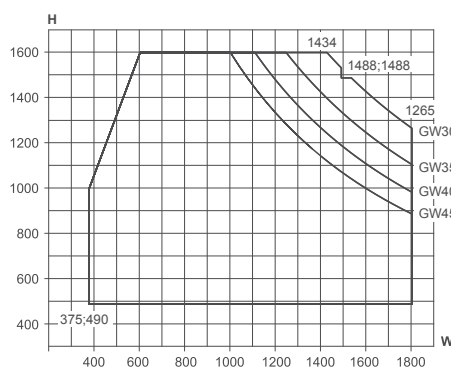
Cill

TOPHUNG FULLY REVERSIBLE WINDOW (228)

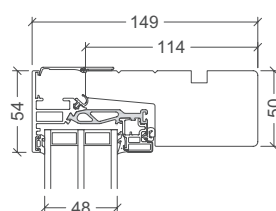


- For very large and heavy reversible windows, we can offer VELFAC 228. Please contact VELFAC for further information
- NB.: due to the rotating arms a sealing of minimum 15mm is required

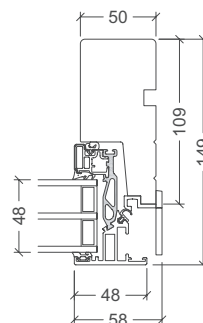
Min./max. sizes, 48mm glazing



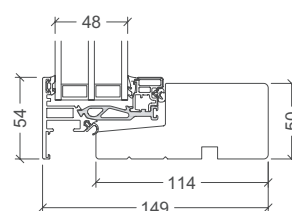
Mullion with VELFAC 200 and VELFAC 228



Head



Jamb. NB. the sash is 4mm slimmer in both sides than the standard sash



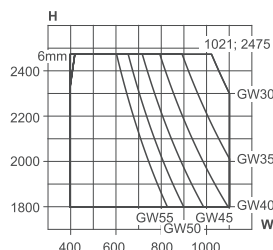
Cill

VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

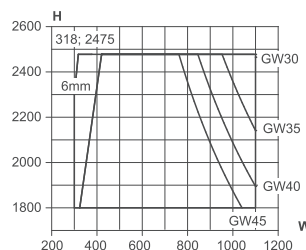
CASEMENT DOOR, 1-LEAF (231-1)



Min./max. sizes, 48mm glazing

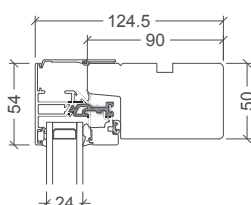


Min./max. sizes, 24mm glazing

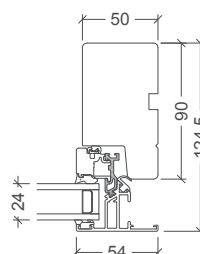


- The sash opens up to 90°
- Concealed hinges
- An adjustable friction brake allows random opening position
- Can be supplied to allow 180° opening but is then not fitted with friction arm
- The espagnolette has a built-in ventilation position
- Supplied with 15mm or 52mm threshold

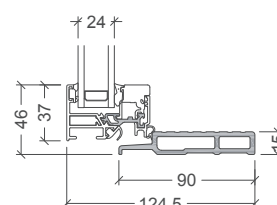
GW = glass weight
(see page 63)



Head



Jamb

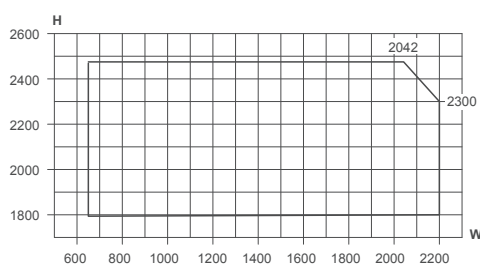


15mm threshold

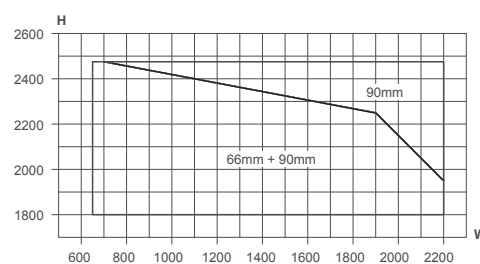
CASEMENT DOOR, 2-LEAF (231-2)



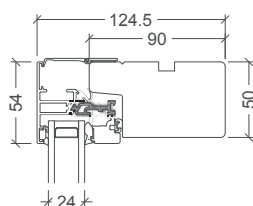
Min./max. sizes, 48mm glazing



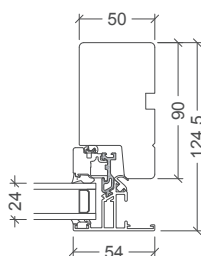
Min./max. sizes, 24mm glazing



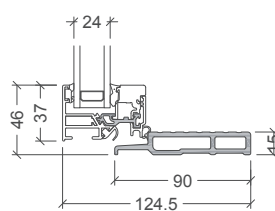
- Please refer to Casement door, 1-leaf for information
- Freeing the flushbolt in the French casement mullion allows the slave door to be opened



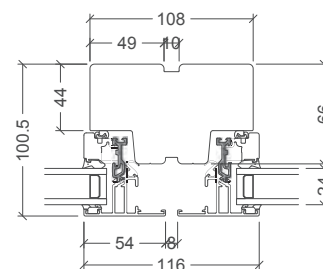
Head



Jamb



15mm threshold



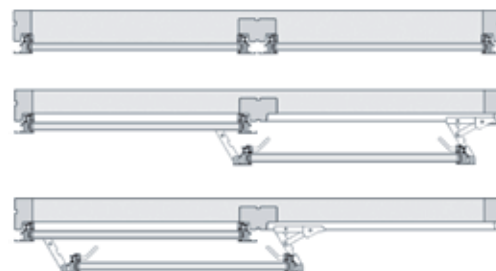
66mm mullion

VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

SLIDING CASEMENT DOOR, 1-LEAF (237-1)

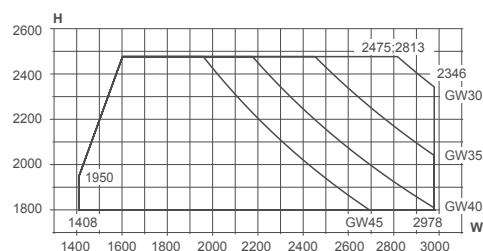


- The sliding door provides up to 1.3m free opening
- The frame profile of the door matches that of the VELFAC 200 window series
- When opened, the master door moves outwards from the frame, and then slides across the adjacent fixed sash (with 24mm glazing 96mm out, with 48mm glazing 116mm out)

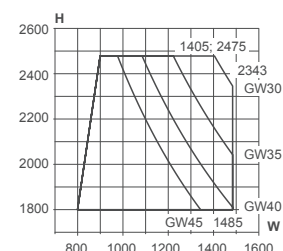


How to open the sliding casement door
(shown here as 1-leaf)

Min./max. sizes, 48mm glazing Complete unit

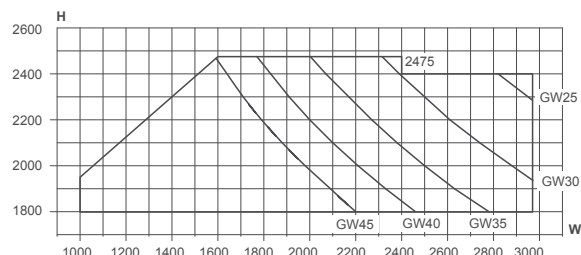


Min./max. sizes, 48mm glazing Opening sash



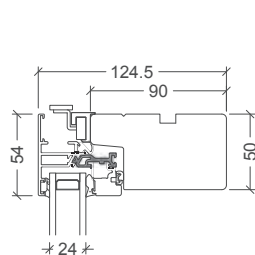
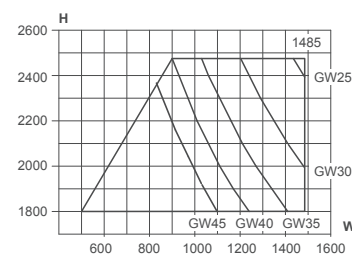
N.B. All asymmetric sashes and large symmetric sashes will be supplied separately and must be fixed on site.

Min./max. sizes, 24mm glazing Complete unit

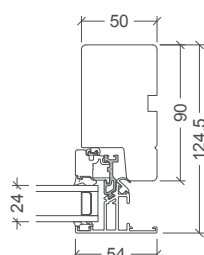


GW = glass weight
(see page 63)

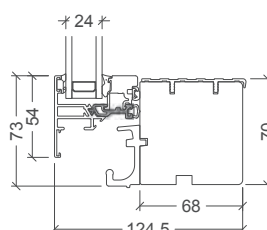
Min./max. sizes, 24mm glazing Opening sash



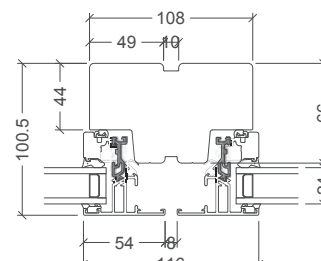
Head



Jamb



Threshold



66mm mullion

VELFAC 200 / VELFAC 200 ENERGY – OPENING FUNCTIONS

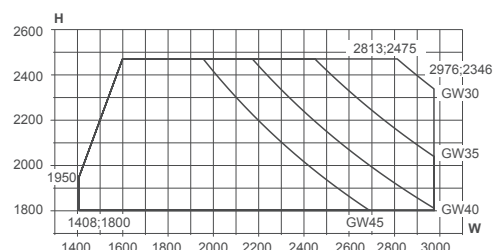
SLIDING CASEMENT DOOR, 2-LEAF (237-2)



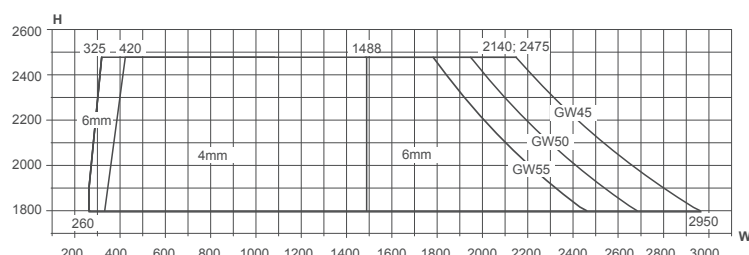
- The sliding door provides up to 2.6m free opening
- Max. width 6m for total screen including sidelights
- The frame profile of the door matches that of the VELFAC 200 window series
- When opened, the master door moves outwards from the frame, and then slides across the adjacent fixed sash (with 24mm glazing 96mm out, with 48mm glazing 116mm out)
- Freeing the flushbolt in the French casement mullion allows the slave door to be opened similarly

GW = glass weight
(see page 63)

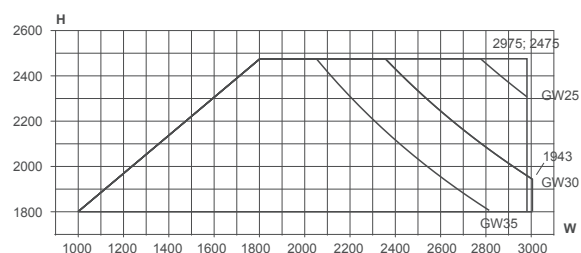
Min./max. sizes, 48mm glazing 2 opening sashes with French casement



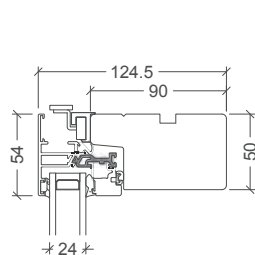
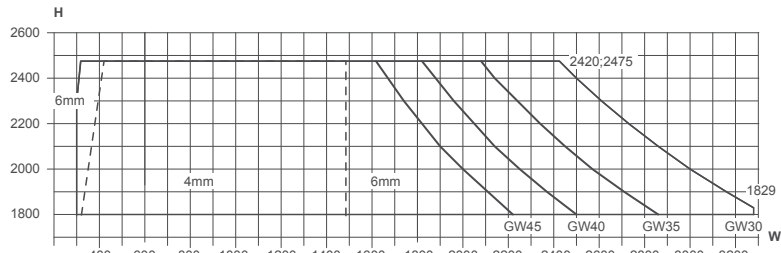
Min./max. sizes, 48mm glazing Fixed sash for sliding door and side light



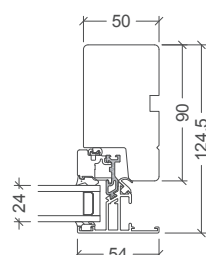
Min./max. sizes, 24mm glazing 2 opening sashes with French casement



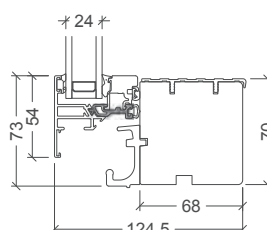
Min./max. sizes, 24mm glazing Fixed sash for sliding door and side light



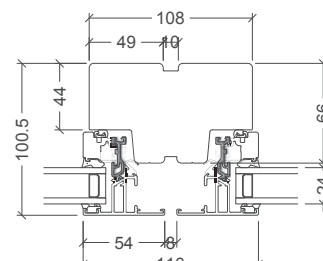
Head



Jamb



Threshold



66mm mullion

VELFAC 200 – FIRE WINDOWS AND CASEMENT DOORS

SASH FUNCTIONS, MIN./MAX. SIZES, CLASSIFICATION

Sash functions and classification

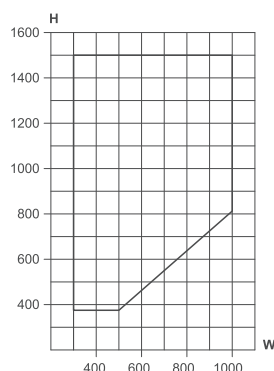
- Sidehung opening light, Class E60
- Fixed light, Class E60
- Tophung projecting light, Class E60
- Reversible opening light, Class E60
- Casement door, Class E30
- Ventilated fire panel, Class EI60

Application. VELFAC fire resistant windows maintain the identical sightlines of the VELFAC 200 system, and can therefore be used in combination with other window units without affecting the uniform external façade.

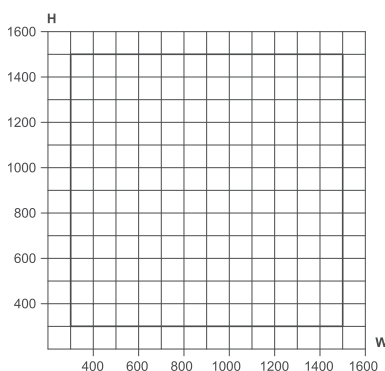
Function. VELFAC fire windows are flame retardant on the internal side for either 30 minutes or 60 minutes depending on the sash function (Integrity E). The ventilated panel has been tested for integrity and insulation (EI).

Glazing. Fire windows and doors are only available as double glazed units (always 6-14-4, glass weight 25 kg/m²).

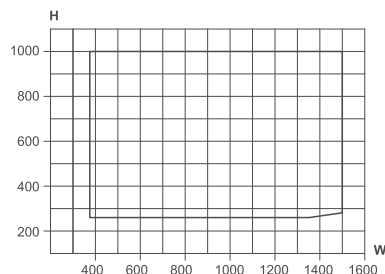
VELFAC 251, min./max. sizes Sidehung window



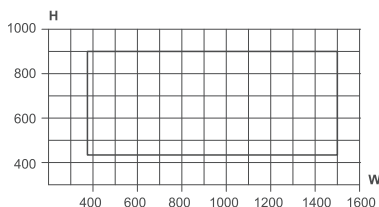
VELFAC 250, min./max. sizes Fixed casement



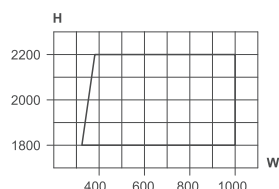
VELFAC 272, min./max. sizes Top-guided window



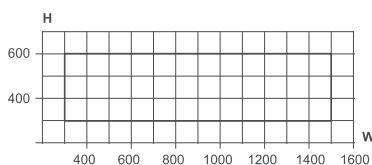
VELFAC 279, min./max. sizes Tophung fully reversible window



VELFAC 261, min./max. sizes Casement door

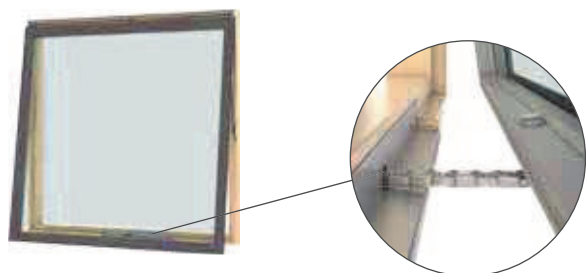


VELFAC 200, min./max. sizes Ventilated fire panel



VELFAC 200 – MOTORISED SMOKE VENT

SASH FUNCTIONS, MIN./MAX. SIZES, CLASSIFICATION



Sash functions

- Sidehung window (DGU + TGU)
- Bottomhung window (DGU + TGU)
- Side-guided window (DGU)
- Tophung window (DGU)
- Top-guided window (DGU + TGU)
- Tophung fully reversible window (DGU)
- Casement door (TGU)

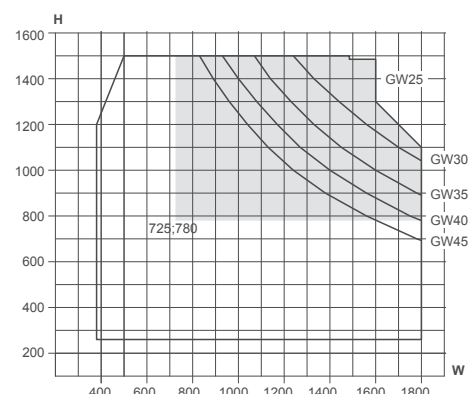
Application. VELFAC motorised smoke vents maintain the identical sightlines of the VELFAC 200 system, and can therefore be used in combination with other window units without affecting the uniform external façade.

Function. VELFAC smoke vents are tested and CE marked in accordance with EN12101-2:2003. Smoke vents are programmed to open on receipt of a signal from smoke detectors via a central computer. All VELFAC smoke vents are operated using 500mm chains, providing a clear opening of 440mm at the opening side. Aerodynamic free area calculations are made in combination with opening function and window size - please call VELFAC for accurate figures.

Min./max. sizes shown are for DGU opening functions. There will be limitations regarding max. sizes and glass weight limits for TGU opening function. Please refer to min./max. sizes under the opening function.

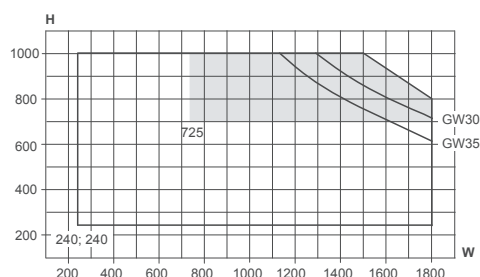
VELFAC 212

Top-guided window

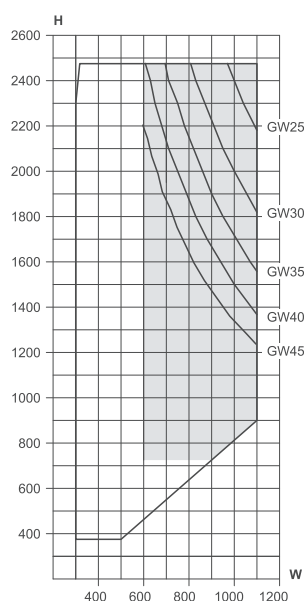


VELFAC 203/208

Bottomhung/tophung window

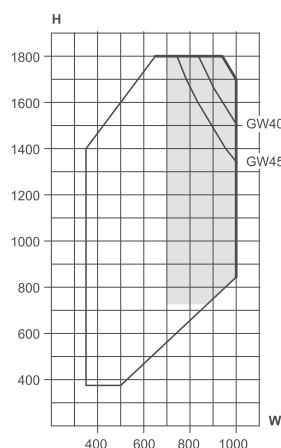


VELFAC 201 Sidehung window



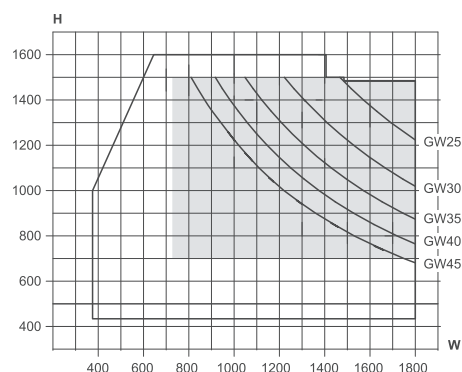
VELFAC 207


Side-guided window



VELFAC 229

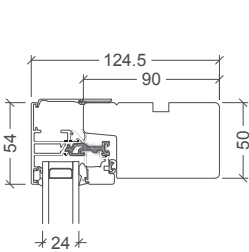
Tophung fully reversible window



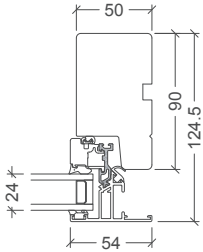
 = Min./max. sizes for smoke vent

VELFAC 200 – FRAMES, MULLIONS AND TRANSOMS

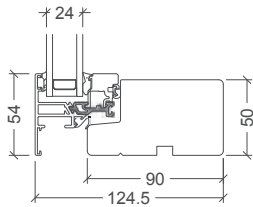
FRAMES, 24MM GLAZING



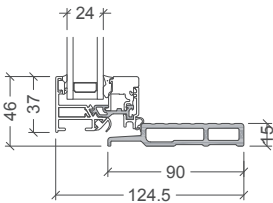
Head



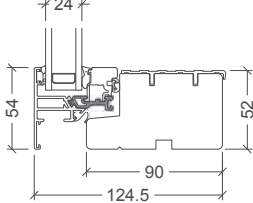
Jamb



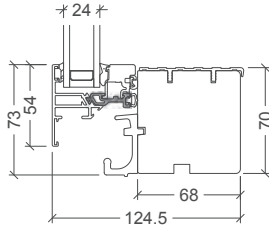
Cill



15mm threshold, casement door

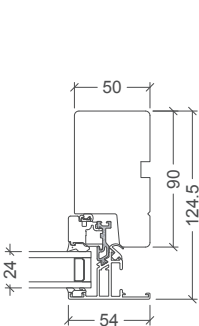


52mm threshold, casement door

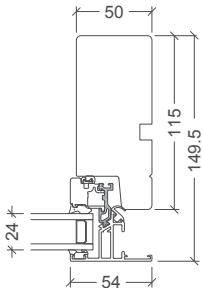


Threshold, sliding casement door

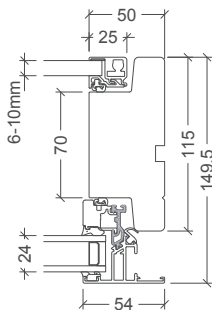
FRAME VARIATIONS



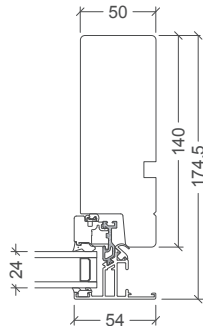
90mm frame



115mm frame

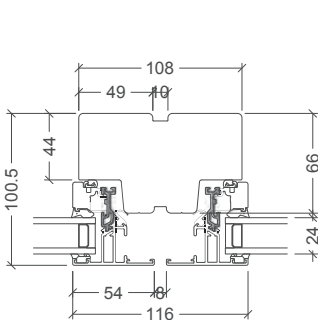


115mm frame with internal sash

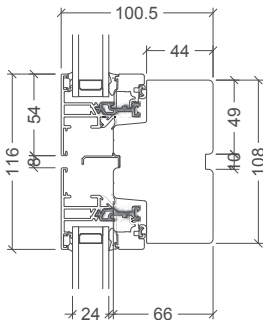


140mm frame

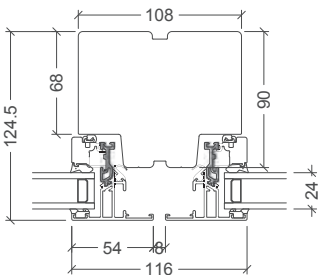
MULLIONS AND TRANSOMS



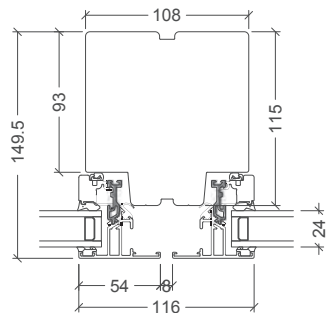
66mm mullion



66mm transom



90mm mullion (transom)

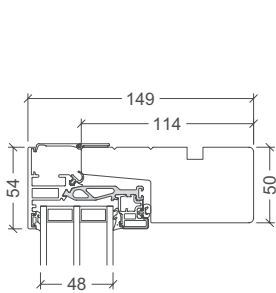


115mm mullion (transom)

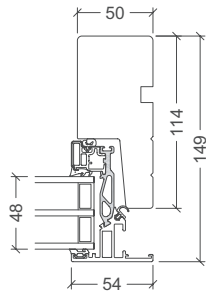
MULLION AND TRANSOM VARIATIONS

VELFAC 200 ENERGY – FRAMES, MULLIONS AND TRANSOMS

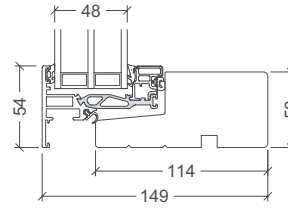
FRAMES, 48MM GLAZING



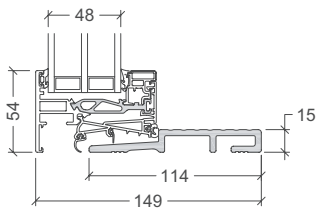
Head



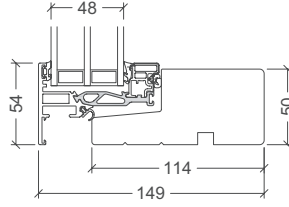
Jamb



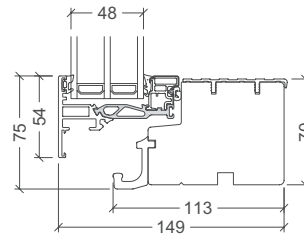
Cill



15mm threshold, casement door

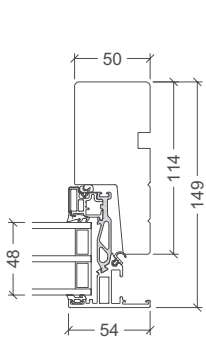


52mm threshold, casement door

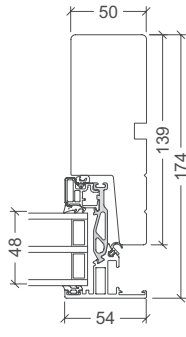


Threshold, sliding casement door

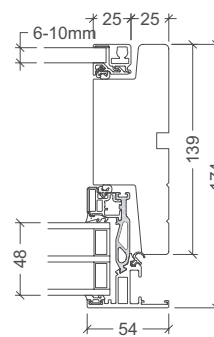
FRAME VARIATIONS



114mm frame

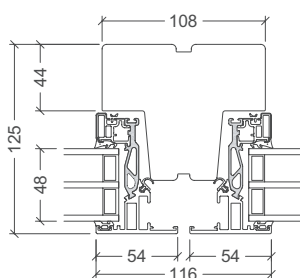


139mm frame

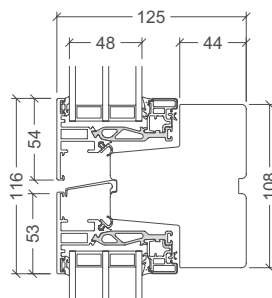


139mm frame with internal sash

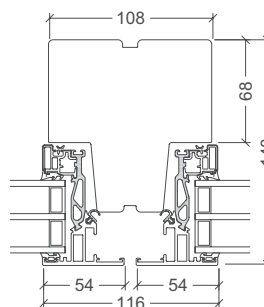
MULLIONS AND TRANSOMS



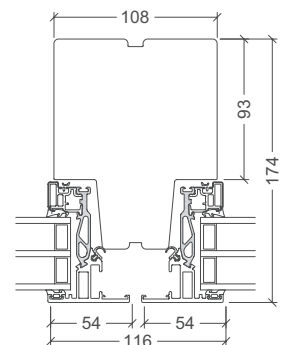
90mm mullion



90mm transom



114mm transom (mullion)



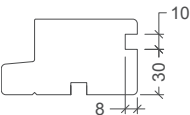
139mm transom (mullion)

MULLION AND TRANSOM VARIATIONS

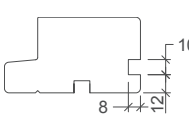
VELFAC 200 / VELFAC 200 ENERGY – FRAME OPTIONS

VELFAC 200 - GROOVES, REBATES AND PACKERS

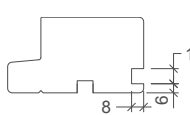
Please note that the grooves, rebates and packers are shown in 90mm, but are also available with 115mm and 140mm frames.



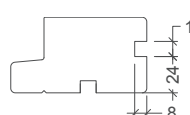
Groove type 1



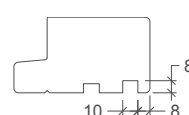
Groove type 2



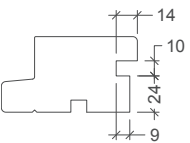
Groove type 3



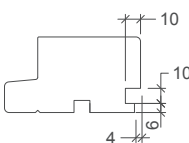
Groove type 4



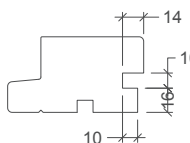
Groove type 40



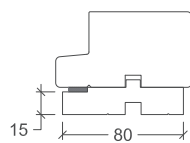
Cill groove type 5



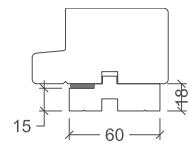
Cill groove type 6



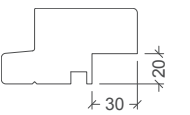
Cill groove type 26



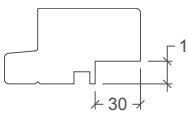
Packer type 100-885



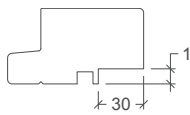
Packer type 100-886
Also available for sliding casement doors



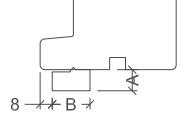
Rebate type 11



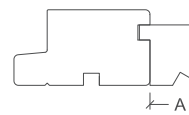
Rebate type 12



Rebate type 13



Packer type 50




Packer type 01

50-800	A = 14	B = 25
50-801	A = 20	B = 35

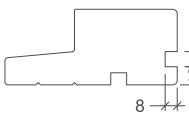
1	A = 40
2	A = 60

VELFAC 200 ENERGY - GROOVES, REBATES AND PACKERS


Please note that the grooves, rebates and packers are shown in 114mm, but are also available with 139mm frame.




Groove type 1



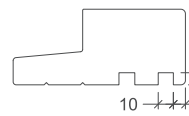
Groove type 2



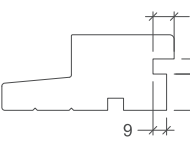
Groove type 3



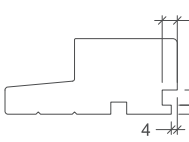
Groove type 4



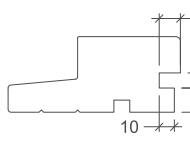
Groove type 40



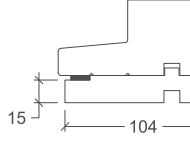
Cill groove type 5



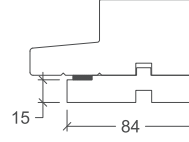
Cill groove type 6



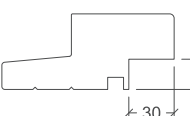
Cill groove type 26




Packer type 300-128




Packer type 300-130
Also available for sliding casement doors



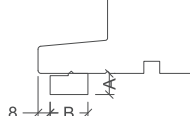
Rebate type 11



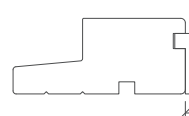
Rebate type 12



Rebate type 13



Packer type 50



Packer type 01

50-800	A = 14	B = 25
50-801	A = 20	B = 35

1	A = 40
2	A = 60

VELFAC 200 / VELFAC 200 ENERGY – ACCESSORIES

ESPAGNOLETTES, SECURITY FITTINGS AND ACCESSORIES



Espagnolette. Standard in all open functions.



Espagnolette with lock. Supplied with lock and key for extra security.



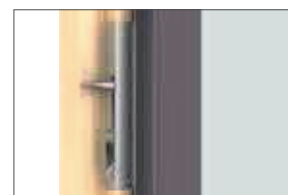
Espagnolette with child-lock. Supplied with child-lock button.



Espagnolette for cylinder lock. Supplied with or without lock and key.



External handle for VELFAC 231 and 237. Supplied separately.



Flushbolt for operation of the mullion in 2-leaf elements.



Standard restrictor. Not available for VELFAC 237.



Lockable restrictor. Not available for VELFAC 237.



Ventilation position. The striking plate allows a 5mm ventilation opening for all espagnolette handles.



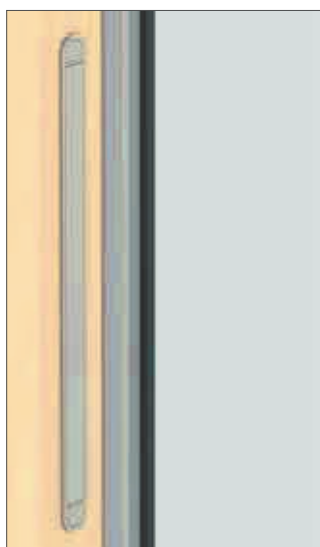
VELFAC maxi-handle. For all espagnolettes. The warm and non-slip surface makes life easier for disabled. Supplied separately.



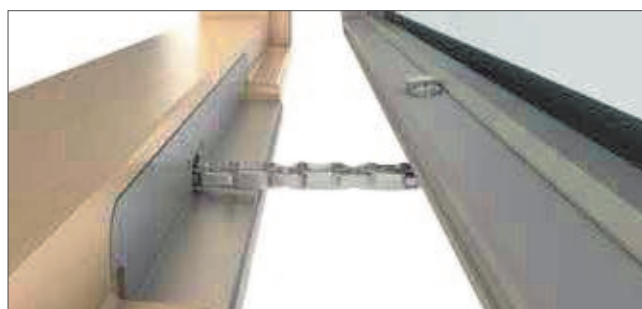
Friction brake. Standard in VELFAC 201, 207, 212, 229 and 231. Not possible with 180° hinge.



180° hinge for VELFAC 231. Not available with friction brake. Will influence the glass weight restrictions of the casement door.



Click vent. Anodized surface finish. Fully concealed. Free ventilation opening in elements with 24mm glazing: 4000mm². Free ventilation opening in elements with 48mm glazing: 3000mm².



Electric opener for remote operation. For VELFAC 201, 203, 207, 212 and 229. Can be computer controlled for fully naturally ventilated projects. Fully concealed in the frame. Three chain lengths offering 60mm, 210mm and 440mm clear opening.



Acoustic trickle vent. The vent is machined into a timber packer with an external aluminium profile in the same colour as the window sashes. Documentation on air flow can be requested. Achieves a sound reduction value of $D_{n,e,w}$ 40 dB.

VELFAC IN – OVERVIEW

CHARACTERISTICS

- Inward opening windows and balcony door in wood/aluminum
- Great for window cleaning in multi-storey buildings
- Ideal for basement windows
- The tilt function provides effective ventilation
- Available with safety barrier preparation
- Uw values down to 0.8
- Available with 48mm triple layer glazing

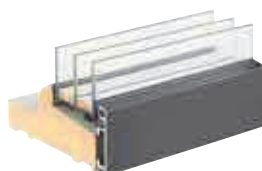


Inward opening system with tilt function

SASH VARIATIONS



48mm triple glazed opening unit



48mm triple glazed fixed unit