

Regel-air®

Ventilate without opening windows.



ENGLISH
VERSION

Simple and safe
home ventilation.



Product overview

Regel-air® window rebate vents

Small flap, big effect

In addition to the functional tasks of a window, such as thermal insulation, driving rain tightness and noise protection, Regel-air® window vents can also make an important contribution to energy-saving and user-independent moisture protection ventilation to prevent damage to buildings and mould.

With Regel-air® window vents, windows take on a new significance.

Why user-independent moisture protection ventilation?

Due to the increasingly tight construction of today's building envelopes, the moisture generated in the home is no longer automatically removed. In older buildings, moist air could still escape via leaking window joints and other leaks. With today's construction methods, a functioning home ventilation system with an individually planned ventilation concept is a mandatory prerequisite for a healthy indoor climate.

The GEG (formerly EnEV) requires a minimum air exchange rate necessary for health and heating: this means that **"user-independent ventilation for moisture protection" must always be guaranteed in accordance with DIN standard 1946-6.**

The home should be supplied with sufficient fresh air without any influence from the occupants, so that room and wall humidity are automatically regulated and no mould can develop. Pollutants and odours are also removed by the continuous minimum air exchange.



Arrangement example system FFL

All Regel-air® systems are approved as user-independent ventilation.

How can user-independent moisture protection ventilation be achieved with Regel-air®?

Regel-air® window vents are used for user-independent moisture protection ventilation. They ventilate living spaces completely independently without residents opening the windows.

In a ventilation concept, which complies with the requirements of the GEG and DIN 1946-6, the windows and rooms to be equipped with Regel-air® window vents are individually determined. The aim of a ventilation concept is to prevent mould from developing due to excessive indoor air humidity and to create a healthy indoor climate. Regel-air® can also be used to ensure supply air for exhaust air systems or for combustion air supply.

Regel-air® provides free support in the making of ventilation concepts.

Alternatively, these can also be provided by planners, architects, energy consultants, etc.

Use the free Regel-air® calculation tool now!

www.regel-air.de/downloads/berechnungstool-lueftung/

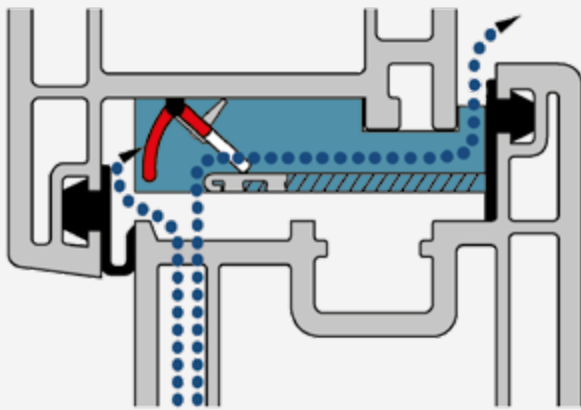
Functionality

The supply air is channelled to the window vents via specific openings between the sash and frame.

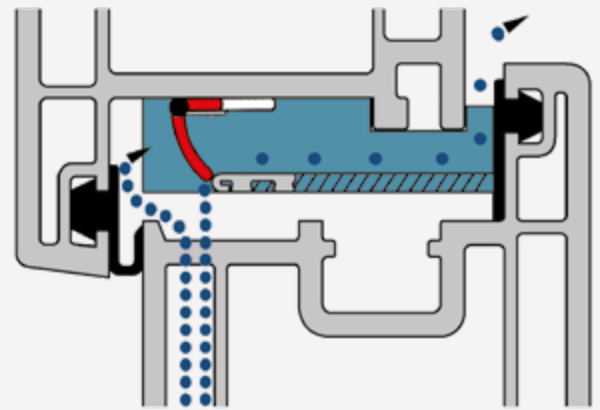
The air is channelled through the ventilation modules in the upper area of the window elements into the room below the flat ceiling.

If the wind pressure on the building becomes too high, the flaps automatically regulate the incoming air so that no draughts occur.

The mode of operation is purely mechanical and requires no electricity.



Regel-air® FFL
flap opened



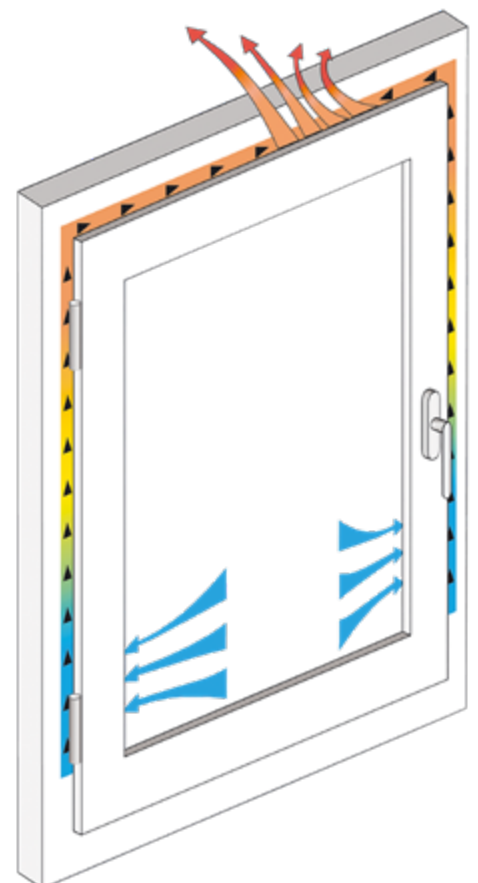
Regel-air® FFL
flap closed

Air preheating in the window rebate

The window rebate, which is used for the air supply in the Regel-air® system, has a rebate temperature of over 10 °C at an outside temperature of -5 °C, for example, and an inside temperature of +20 °C, for example.

With PVC windows, the fresh outside air is supplied in the lower vertical frame area.

It warms up continuously in the window rebate and rises over the long profile section through the top-mounted Regel-air® into the room interior.



Regel-air® ventilation systems for PVC windows

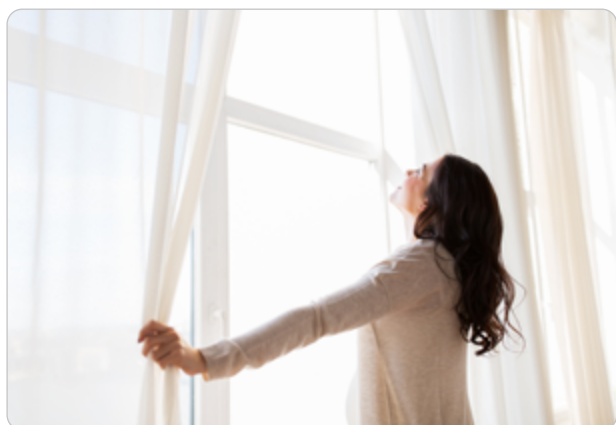


Regel-air® offers four ventilation systems for PVC windows: FFL, FFL-m, PLUS and FORTE

Depending on the planned ventilation requirements, precisely dosed, medium and high air volume flows can be achieved. All Regel-air® window rebate vents and ventilation systems for PVC windows do not require milling for air routing.

The vents are automatically controlled by two or more individual modules. At high wind speeds, the vent flaps regulate automatically and prevent draughts. An additional supply of electrical energy for the ventilation systems is not required, as the mode of operation is purely mechanical. The façade is not altered by the use of the vent modules.

The systems are low-maintenance. All Regel-air® window vents are suitable both for factory installation and for retrofitting to already installed windows. Most common window systems can be fitted or retrofitted with Regel-air® window rebate vents - even in tight fitting situations.



The tested systems are impermeable to driving rain and can also be used for properties with increased noise protection requirements up to noise protection class 4. Professional installation of Regel-air® ventilation systems guarantees continuous air exchange and reliable dehumidification of the living space.

For systems with an aluminium shell, a combination with a permanent exhaust air system is recommended (e.g. in the bathroom). In this case, the ventilation elements serve exclusively as supply air elements.

FFL - for precisely dosed air volume flows



The Regel-air® FFL ventilation system forms the basis for further ventilation systems and is an independently regulating window rebate vent made of PVC and has an automatic volume flow limiter.

The FFL system for PVC windows, which has been used millions of times, has been an integral part of the industry for decades.

It is installed in pairs in the upper area of the window frame, which is free of fittings. The appearance of the window is not changed. When the window is closed, the ventilation elements are not visible from the inside or outside.

As the wind pressure increases, the vent flaps regulate themselves and adjust the volume flow to effectively prevent draughts.

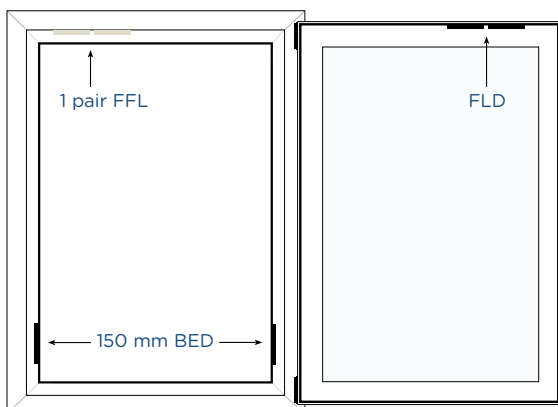
The ventilation flaps open again automatically as soon as the wind pressure decreases. In addition to the excellent noise protection properties, the system has also been tested with regard to driving rain and air volume.



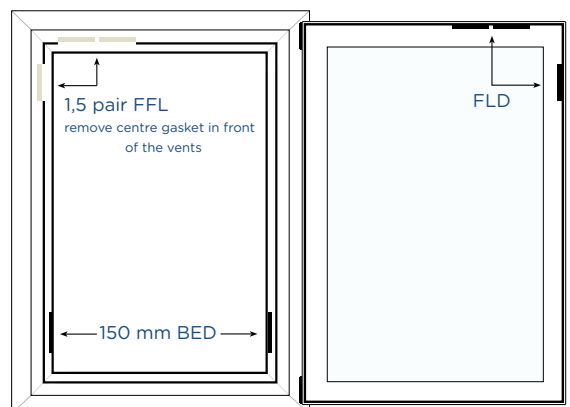
Thanks to the return spring included in the scope of delivery, the FFL ventilation system is suitable for both horizontal and vertical installation.

It enables controlled air exchange and safe dehumidification without draughts, thus preventing mould growth.

The FFL system fulfils normal and increased noise protection requirements up to 42 dB. Due to the purely mechanical mode of operation, no additional energy supply is required.



1 pair FFL
window with stop gasket



1,5 pair FFL
window with centre gasket

Examples of the installation options are shown here. The arrangement of the elements may vary depending on the size of the window and the position of the fittings. You can find precise details on installation and all other technical information in the Regel-air® technical folder.

FFL-m - for variable air volume flows



Just like the well-known Regel-air® FFL ventilation system, which has been tried and tested in practice for decades, the Regel-air® FFL-m is also concealed in the window rebate.

However, this window vent does not have a self-regulating flap, but a manually operated lever. The vent is easy to operate using the small lever.

The Regel-air® FFL-m is suitable for all standard PVC windows with a glazing bead catch of up to 15 mm and recessed glazing bead catch (smooth rebate). The vent can also be operated when the window is closed.

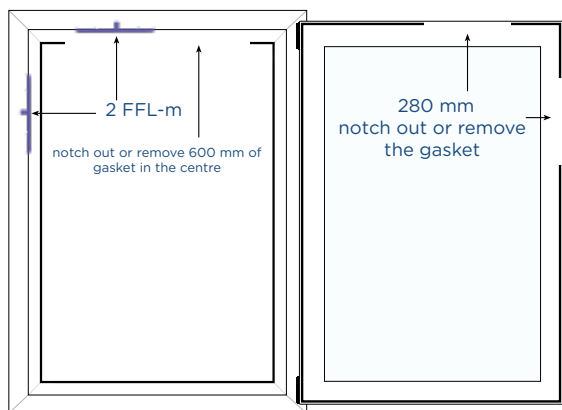
The Regel-air® FFL-m is characterised by its flexible areas of application. It offers two mounting options: The vent offers the option of mounting it so that it can be completely closed by the user. Alternatively, it can be installed to provide basic ventilation to prevent mould when closed. This can be achieved by a defined removal of the sash gasket to excess length or by combining it with the familiar Regel-air® FFL window rebate vents.



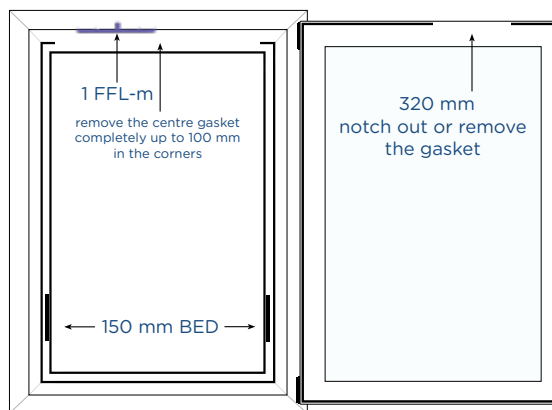
The FFL-m window rebate vent is designed for quick installation. It is fixed in the glazing bead groove of the window frame with just 3 screws.

As standard, the gasket is removed or notched 150 mm on the left and right of the frame, 100 mm from the bottom edge. Depending on the desired variant, the sash gasket must be removed or notched in accordance with the installation instructions.

The Regel-air® FFL-m type 40 is available in white and anthracite.



2 FFL-m - High volume flow with basic ventilation window with stop gasket



1 FFL-m - Basic ventilation window with centre gasket

Examples of the installation options are shown here. The arrangement of the elements may vary depending on the size of the window and the position of the fittings. You can find precise details on installation and all other technical information in the Regel-air® technical folder.

PLUS - for medium air volume flows



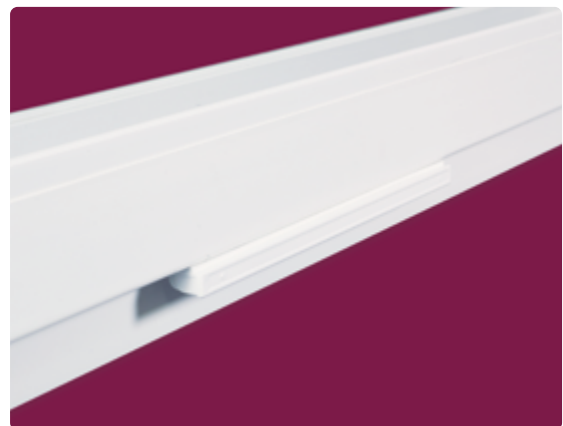
The Regel-air® PLUS ventilation system is based on the FFL system and is supplemented by the Regel-air® overlap vent to increase the air volume flow.

The FFL system is continuously active, while the user can operate the overlap vent manually as required.

The overlap vent is preferably installed on the lower sash overlap. Depending on the desired air volume, it can be combined with 1 pair, 1.5 or a maximum of 2 pairs of FFL.

The air is supplied to the vent modules through the side air inlet via the frame inflow gasket (BED). Depending on the vent combination, up to 16 m³/h can be realised.

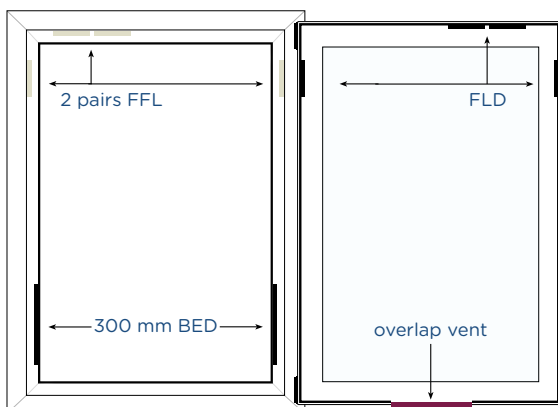
The window rebate vents can be installed in the window factory and can also be retrofitted on site to windows that have already been installed. The PLUS system is also suitable as an external air diffuser for arched and special windows. The façade appearance is not changed when the vents are used.



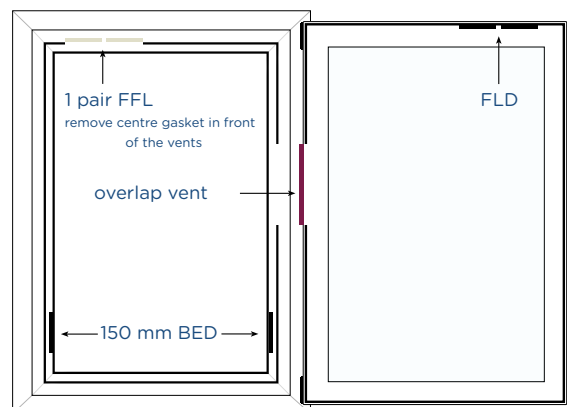
As with all Regel-air® ventilation systems for PVC windows, the PLUS system does not require any milling or additional energy supply.

In addition to the good air passage values, very good noise protection values have been tested despite the higher volume flows.

As a comfort ventilation system, the PLUS system is suitable for moisture protection ventilation and extended ventilation requirements through to reduced ventilation and nominal ventilation.



2 pairs of FFL + 1 overlap vent
window with stop gasket



1 pair of FFL + 1 overlap vent
window with centre gasket

Examples of the installation options are shown here. The arrangement of the elements may vary depending on the size of the window and the position of the fittings. You can find precise details on installation and all other technical information in the Regel-air® technical folder.

FORTE - for high air volume flows

The Regel-air® FORTE ventilation system is a comfort ventilation system that covers both the proven moisture protection and a high air requirement.

This Regel-air® system is also based on the FFL system. A pair of FFL, which constantly ensures a fine air exchange, is combined with a pair of slide vents, which are mounted on top of the window sash. The slide vents can be adjusted via the sliders depending on the desired supply air volume.

The external appearance of the window is not changed during installation.

The Regel-air® FORTE ventilation system was specially designed for high air volume flows. The air flows in directly above head height so that the user does not feel any draughts.

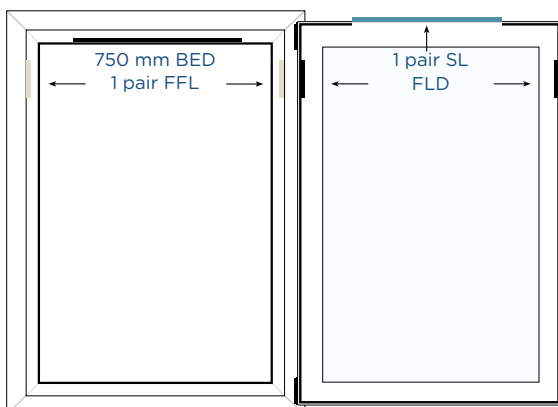
Noise protection and driving rain have been tested, as have the very good air passage values. With the Regel-air® FORTE system, over 20 m³/h of air can be transported per window sash without opening the window.



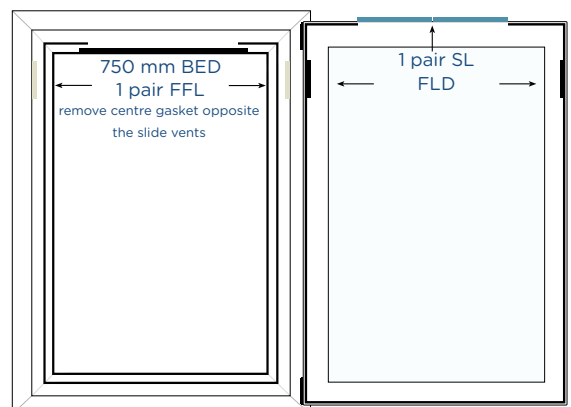
This ventilation system is also ideal for high air volume flows in conjunction with exhaust air systems.

The Regel-air® FORTE system is therefore also ideal for preventing and combating the causes of mould growth due to excessive humidity.

No milling work is required to install the window vents. The mode of operation is purely mechanical and no additional power supply is required.



1 pair of FFL + 1 pair of slide vents
window with stop gasket



1 pair of FFL + 1 pair of slide vents
window with centre gasket

Regel-air® ventilation system for all materials

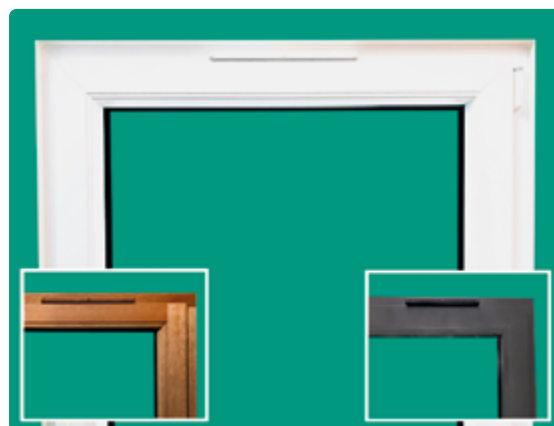
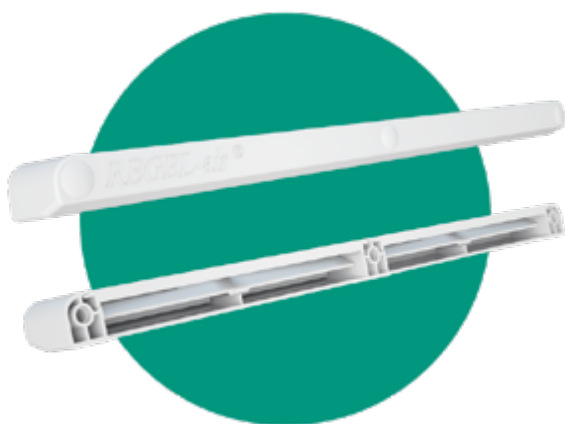
FFL-uni



The universal ventilator for PVC, wooden, wood-aluminium and aluminium windows

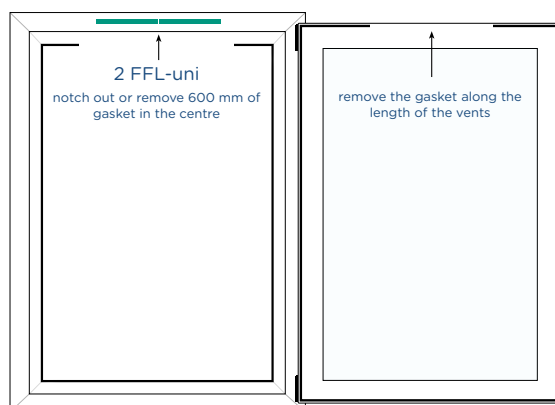
The Regel-air® FFL-uni ventilation system is an independently regulating window rebate vent that is ideal for retrofitting. Factory installation is also possible.

The universal window vent fits all windows and window materials with sash rebate. To prevent draughts, the FFL-uni has a completely new flap technology that regulates the incoming air. The flaps open and close automatically depending on the wind conditions on the building. The Regel-air® FFL-uni is screwed to the upper frame. A drilling and cutting template included in the scope of delivery facilitates installation.

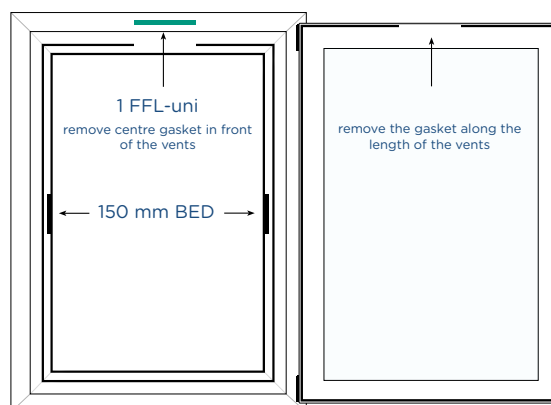


By using the FFL-uni, controlled air exchange and reliable dehumidification can be realised. For systems with an aluminium shell, the combination with a permanent exhaust air system is recommended (e.g. in the bathroom). In this case, the ventilation elements are used exclusively as supply air elements.

The Regel-air® FFL-uni type 88 is available in white, clay brown and anthracite.



2 FFL-uni - High volume flow
window with stop gasket



1 FFL-uni - Standard
window with centre gasket

Regel-air® ventilation systems for wooden and wood-aluminium windows



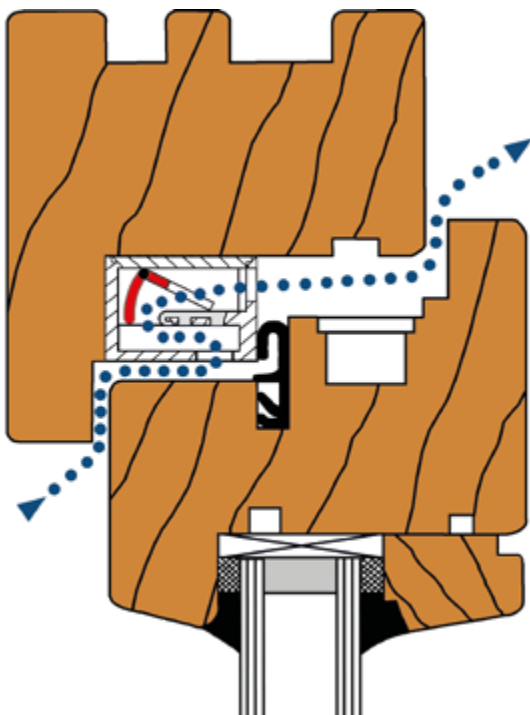
Regel-air® offers three ventilation systems for wooden and wood-aluminium windows: FFLH, FFLHmax and FFLHA

The basis for the window rebate vents for wooden and wood-aluminium windows is the flap function of the FFL ventilation system.

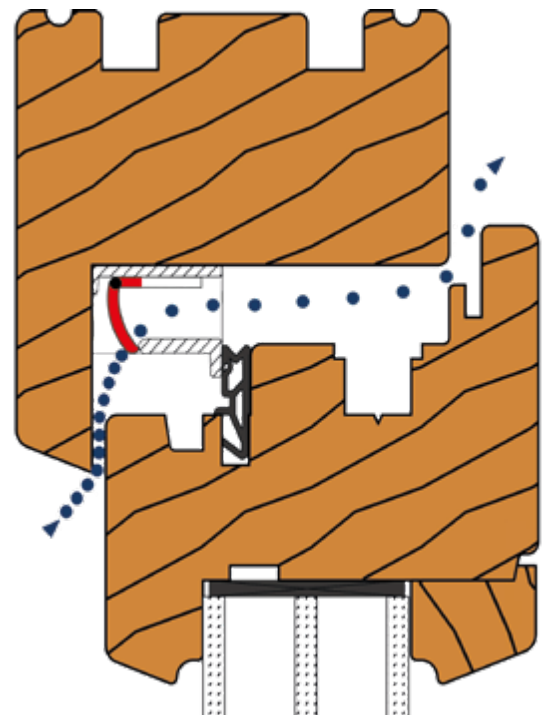
The ventilation flaps are inserted into a housing that is milled into the window frame. The advantage of this installation method is that the centre gasket in the sash is completely retained and you are independent of the hardware.

As with the FFL ventilation system, the flaps in the vent modules react to wind pressure and regulate the volume flow as the wind pressure increases.

For systems with an aluminium shell, the combination with a permanent exhaust air system is recommended (e.g. in the bathroom). In this case, the ventilation elements are used exclusively as supply air elements.



Regel-air® FFLH - flap open



Regel-air® FFLHmax - flap closed

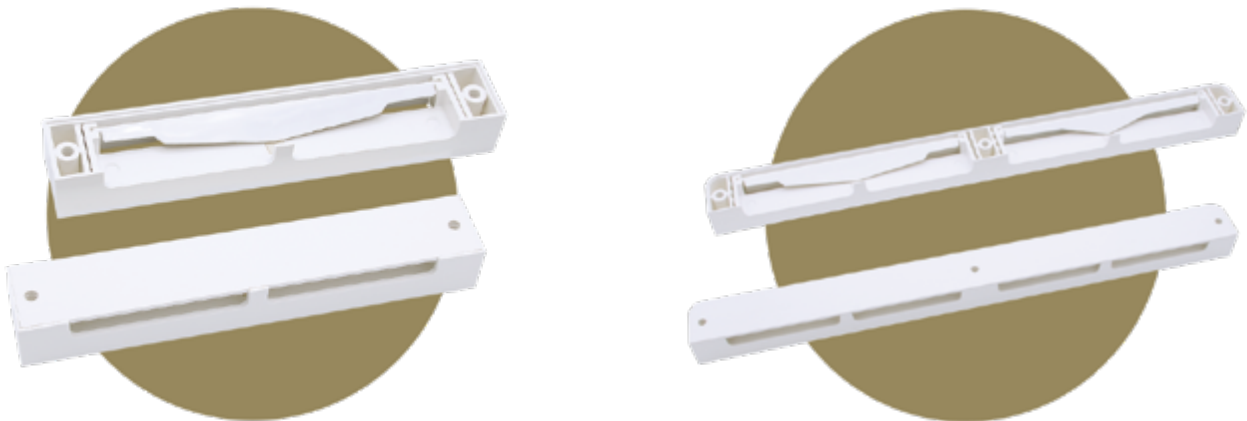
FFLH - for wooden and wood-aluminium windows



The Regel-air® FFLH ventilation system is available for two different areas of application. The Regel-air® FFLH type 24 FL is preferably intended for factory installation in new windows. The Regel-air® FFLH type 14 FL is suitable for retrofitting in already installed wooden windows. Installation is concealed in the window rebate.

Both vents are based on the classic Regel-air® FFL. In wooden and wood-aluminium windows, the window rebate vents are installed in a housing that is milled into the window frame. The advantage of this installation method is that the centre gasket in the sash is completely retained. As with the FFL ventilation system, the flaps in the vent modules react to wind pressure and close when the wind pressure increases.

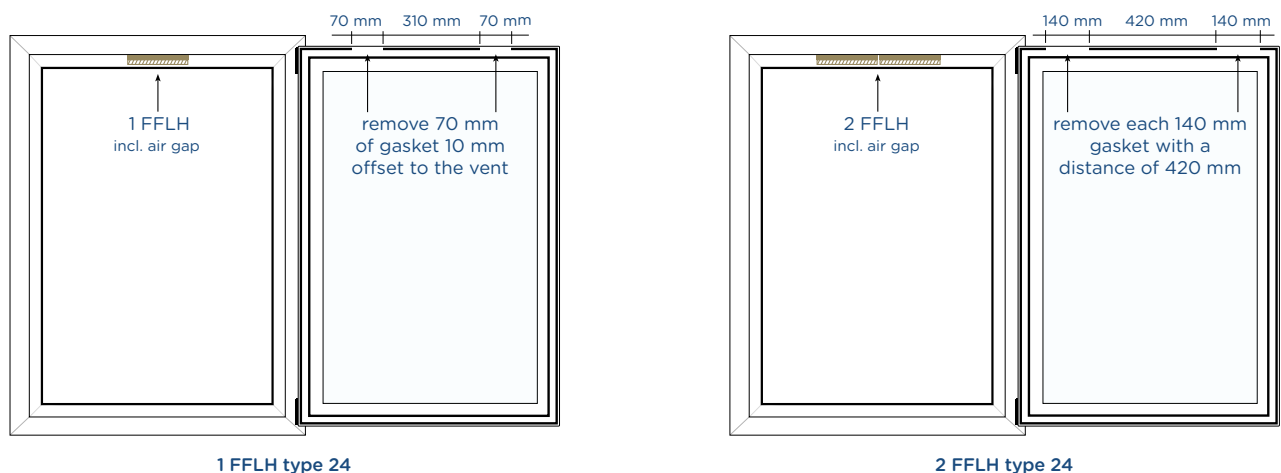
The ventilation systems can also be installed vertically to realise the minimum air change in special constructions, such as arched windows. The 24 RF and 14 RF vents are suitable for this. A return spring in the flaps of the window rebate vents ensures that the flaps open again automatically after closing.



The Regel-air® FFLH system is suitable for normal and increased noise protection requirements up to 42 dB. The mode of operation is purely mechanical, no additional energy supply is required.

Both type 24 and type 14 are suitable for all standard wooden windows with a centre gasket in the sash.

The Regel-air® FFLH type 24 is available in white, light grey, clay brown and anthracite.



Examples of the installation options are shown here. The arrangement of the elements may vary depending on the size of the window and the position of the fittings. You can find precise details on installation and all other technical information in the Regel-air® technical folder.

FFLHmax - for wooden and wood-aluminium windows

The Regel-air® FFLHmax* ventilation system is an independently regulating window rebate vent and the systematic further development of the Regel-air® FFLH type 24. The same routing pattern means that installation can be carried out as usual.

As with the FFL ventilation system, the flaps in the vent modules react to wind pressure and regulate the incoming air. The vent is designed for horizontal installation.

The FFLHmax ventilation system is suitable for high volume flows thanks to its open housing. The ventilation channels are visible and even easier to clean. The ventilation elements are not visible from the inside or outside.

The Regel-air® FFLHmax has been tested in different variants for air volume, noise protection and driving rain.

In addition to its excellent ventilation properties, the window vent also fulfils increased noise protection requirements without any problems.

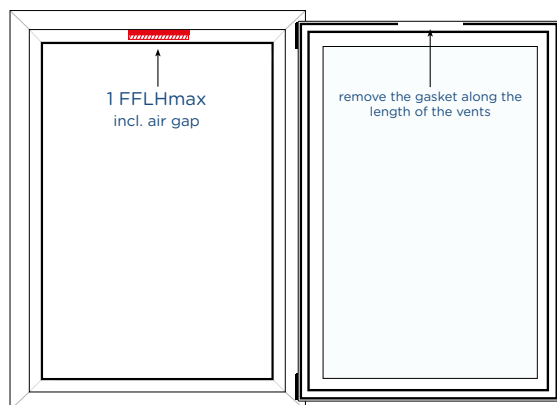


Not only can air volume flows of over 15 m³/h at 8 Pa be realised, but noise protection values of 42 dB can also be achieved, depending on the combination and arrangement.

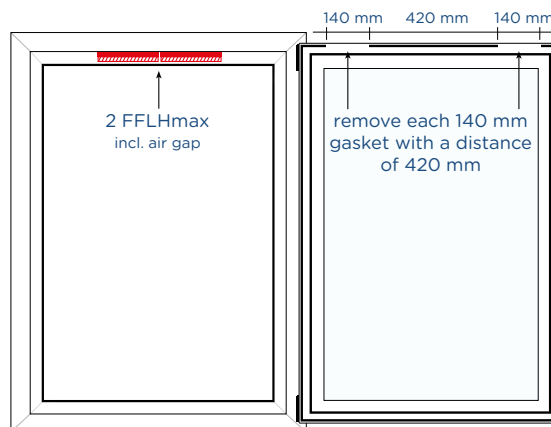
The FFLHmax ventilation system is suitable for factory installation in new windows and for retrofitting in already installed wooden and wood-aluminium windows.

The vent is also suitable for supplying combustion air to fireplaces.

* The Regel-air® FFLHmax is available in white, light grey, clay brown and anthracite.



1 FFLHmax - High volume flows



2 FFLHmax - Standard

FFLHA - for wood-aluminium windows



The Regel-air® FFLHA ventilation system is suitable for wood-aluminium windows with the centre gasket in the frame.

The basis for this is the FFL ventilation system with the flap function. Type 23 can be installed both horizontally and vertically.

Type 23 RF with return spring is used for vertical installation.

The ventilation modules are milled into the frame and are not visible from the inside or outside.



FFLA - for aluminium windows



The Regel-air® FFL system is also used for aluminium windows. Solutions have been developed with various system houses and profile manufacturers in which the rebate vent is inserted into a moulded part. The moulded part replaces the centre gasket in the area of the vent so that the gasket level is not interrupted.

Please contact us and we will be happy to put you in direct contact.



If no solution for the right profile is available, the Regel-air® FFL-uni can also be used. This allrounder fits all windows with sash rebate.

For systems with an aluminium shell, the combination with a permanent exhaust air system is recommended (e.g. in the bathroom). In this case, the ventilation elements serve exclusively as supply air elements.

Functionality and areas of application

Cross ventilation

On the side facing the wind (windward side), the fresh outside air flows into the flat via Regel-air® window vents and infiltration. This creates a suction on the side facing away from the wind (leeward side). This suction removes stale air and pollutants. Ideally, every room in the utilisation unit should be equipped with Regel-air®. The air exchange is determined by various parameters such as building position, façade design, wind speeds and much more.

All Regel-air® systems can be used for this purpose.



Shaft ventilation

Shaft ventilation is an older form of home ventilation that is still frequently found in old buildings. Thermal buoyancy is utilised in the shaft to remove stale air. This effect creates a negative pressure in the home, which ensures that fresh air flows in via the Regel-air® window vents. Nowadays, the ducts are often used to install a centralised exhaust air system.

All Regel-air® systems can be used for this purpose.



With exhaust air systems

Exhaust air systems transport stale air out of buildings. To ensure that sufficient fresh outside air can flow into all rooms, external component air diffusers (ALD) are required. Regel-air® window vents are recognised external component air diffusers and are very well suited in combination with an exhaust air system. By using an exhaust air system, DIN 1946-6 and DIN 18017-3 can be easily implemented.

All Regel-air® systems can be used for this purpose.



Combustion air supply

It is important that sufficient fresh air is supplied for combustion in room-sealed gas boilers or wood-burning stoves. The combustion air supply is usually provided via external component air diffusers (ALD) such as Regel-air®. This is important to ensure that no toxic gases escape during combustion in the home. Talk to your local chimney sweep about this.

The Regel-air® FFL, FFLH, FFLHmax, FFLHA, FFLA and FFL-uni systems can be used to supply combustion air.



RegelDichtung

by Regel-air®

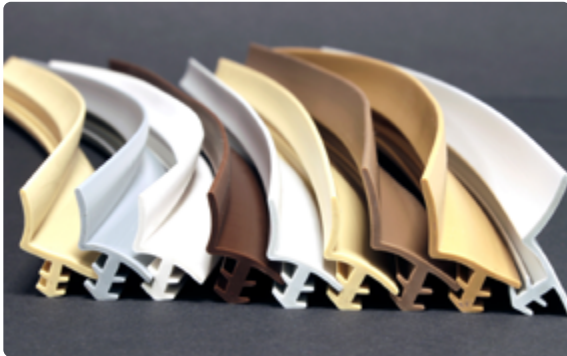
Overflow gasket

For a functioning room air system

A prerequisite for well-planned home ventilation is a functioning room air system. One of the most cost-effective variants is the Regel-air® overflow gasket.

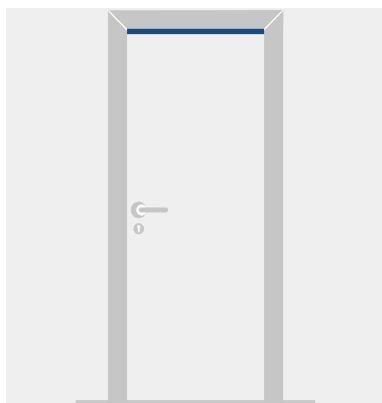
The overflow gasket is available in three sizes and different colours. The standard gasket on the door frame is replaced by the overflow gasket. This ensures better air flow behaviour inside the home.

In order to create an optimum indoor air system, all interior doors should be fitted with the overflow gasket wherever possible. Shortening the door leaves or unsightly door cut-outs can therefore be dispensed with under certain circumstances.

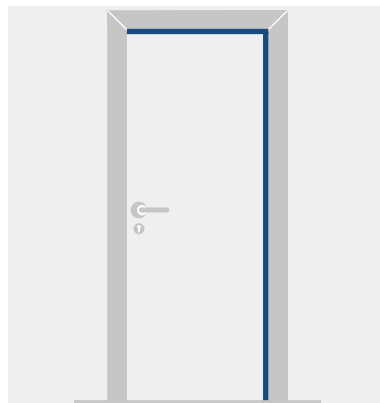


The perfect solution

The Regel-air® window vents serve as a supply air element and the overflow gasket ensures the required room air circulation. Correct use and planning ensure adequate ventilation for moisture protection or combustion air supply.



Basic equipment



Full equipment

Advantages

- discreet look
- low costs
- simple installation
- good noise protection
- no need to shorten the door leaves

Regel-air®

Ventilate without opening windows.



The window rebate vent is a quality product
from Regel-air®

Regel-air Becks GmbH & Co. KG · An der Seidenweberei 12 · 47608 Geldern

☎ +49 2831-97799-0

✉ kontakt@regel-air.de

🌐 www.regel-air.com