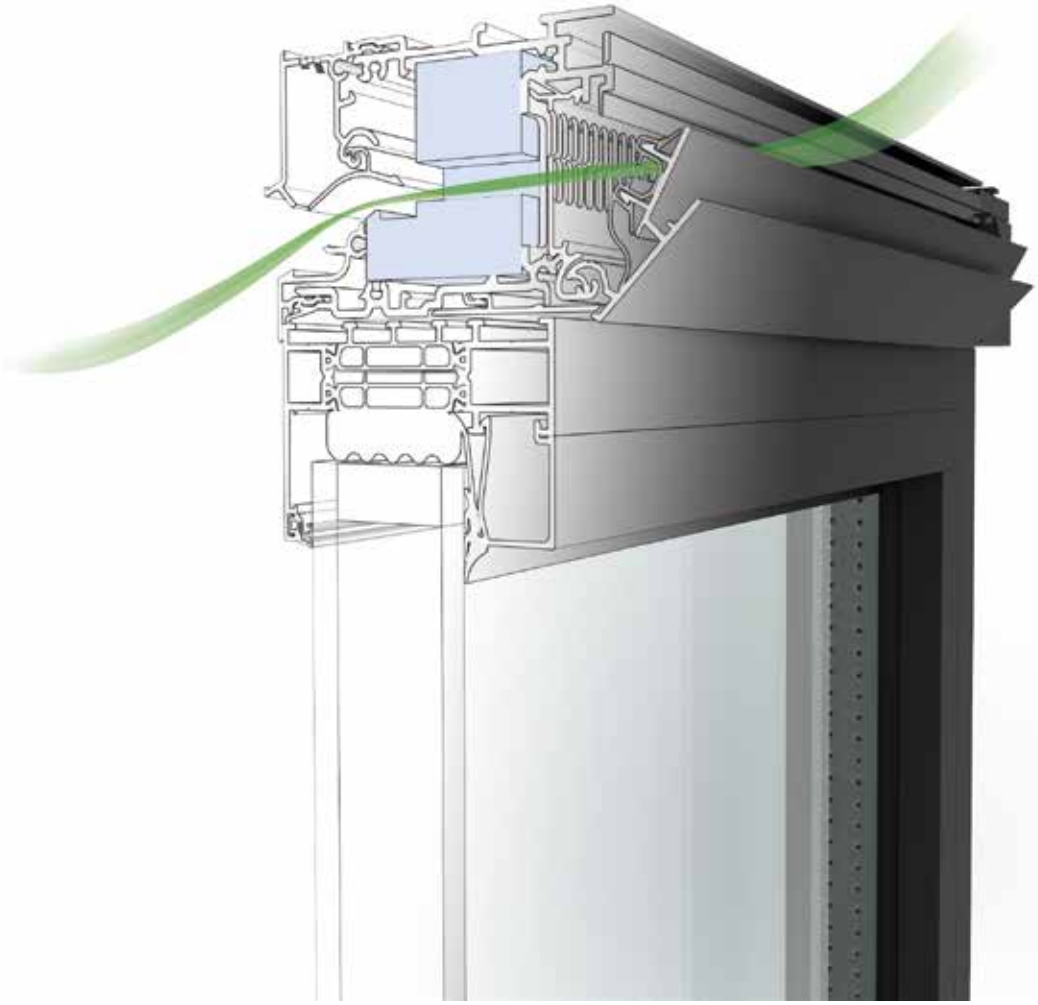
INVISIVENT® AIR & INVISIVENT® COMFORT

The ultimate comfort in natural ventilation



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RENSON®
Creating healthy spaces


Invisivent® COMFORT

WHY SHOULD YOU VENTILATE?

Contrary to popular belief, indoor air quality is 10 times worse, on average, than outdoor air quality. Cooking, showering, heating, cleaning, and even breathing and sweating contribute to polluted air. Too much moisture in the home also leads to odours, condensation, and the formation of mould, especially in well-insulated or insufficiently ventilated homes. And then there is the home itself, which, with the volatile organic compounds in the building materials used, does not have a good influence on indoor air quality.

Over the course of time, a poor indoor climate can adversely affect the health of the occupants. Difficulty in breathing, dry throats, eye irritation, headaches, allergies, loss of concentration, lack of energy, or sleepiness are just a few of the possible consequences. Therefore, it is extremely important to ensure thorough ventilation on a continuous basis.

GOOD FOR THE OCCUPANT AND THE HOME

Many people are convinced that occasionally leaving the windows open is sufficient to achieve the necessary ventilation. However, this only achieves a temporary and localised effect. Moreover, one cannot achieve controlled ventilation by simply opening windows, and the result is a waste of valuable energy. In addition, open windows also bring in noise and are an open invitation to burglars and annoying insects.

Continuous and controlled ventilation is your only guarantee of a healthy indoor climate. Contaminated indoor air is expelled and continuously replaced by fresh outdoor air. The home is 'rinsed' with fresh air, as it were.

CO_2 MONITOR

The CO_2 concentration is an important indicator for good indoor air quality and can be measured using the Renson® CO_2 monitor. The air quality is expressed in CO_2 parts per million (ppm) particles of air.

The absolute maximum is 1200 ppm of CO_2. If the CO_2 exceeds this limit, people could experience headaches, drowsiness, fatigue, or irritation of mucous membranes. Research has also shown that concentration capacity reduces at a CO_2 concentration exceeding 1000 ppm.

THE NEXT LEVEL IN NATURAL VENTILATION

With this new range, the focus – now more than ever – is on **energy, acoustic, and thermal comfort**. Furthermore, these new window ventilation systems are even more attuned to the intelligent Healthbox 3.0 ventilation unit, thus guaranteeing **optimum indoor air quality** at all times. Faster installation (monobloc principle), higher stability on the window, and a totally airtight finish are also priorities in the installation process.

INVISIVENT® AIR

Discreet and energy-efficient window ventilation
for a healthy and comfortable indoor climate

1 Acoustic comfort

2 No draughts and limited energy losses due to the self-regulating valve

3 Fast, stable, and airtight installation

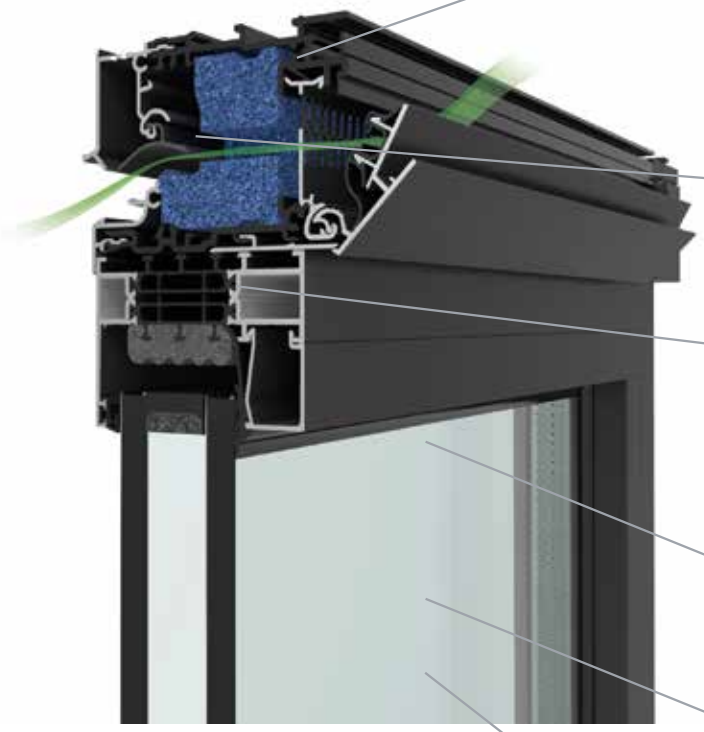
4 Flexible application, both in new-build and renovation projects

5 Discreet and sleek design, both inside and outside

6 Can be used in every project

INVISIVENT® COMFORT

The ultimate comfort in natural ventilation. Combined with an extraction point in the same room (Healthbox® 3.0 Smartzone) as standard



1 **Superior** acoustic comfort

2 No cross-ventilation and minimal energy losses due to the **self-regulating non-return valve**

3 Fast, stable, and airtight installation

4 Flexible application, both in new-build and renovation projects

5 Discreet and sleek design, both inside and outside

6 Always in combination with an extraction point in the same room

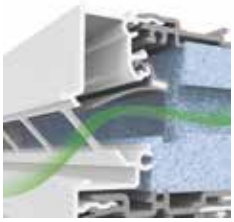
INVISIVENT® AIR

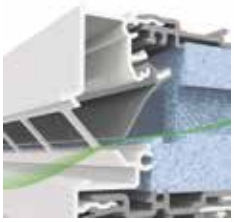
The Invisivent AIR is an acoustic, thermal, and energy-efficient window ventilation system. The Invisivent AIR can easily be used in any project, be it a new-build or renovation project.

Self-regulating as from 2 Pa

Self-regulating valve

Acoustic comfort



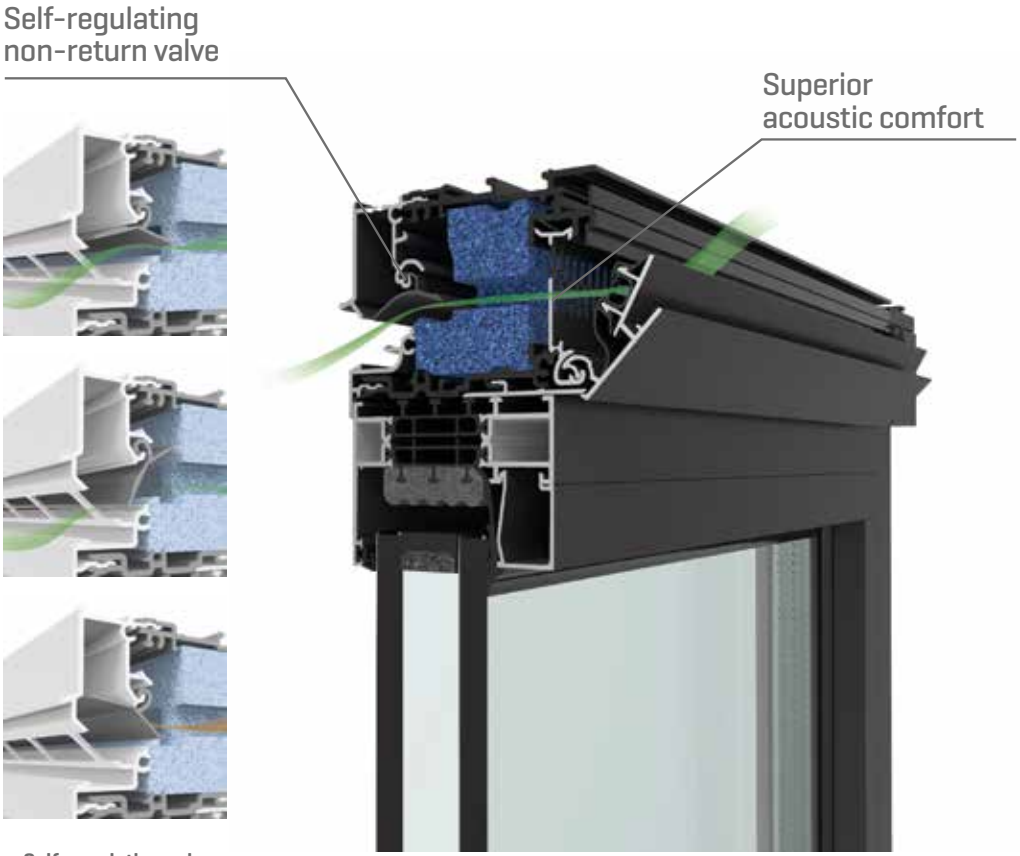


Self-regulating valve reduces the supply flow to avoid over-ventilation.

INVISIVENT® COMFORT

The Invisivent COMFORT goes a step further and guarantees even higher sound reduction and even more thermal and energetic comfort thanks to the integrated, self-regulating non-return valve. The Invisivent COMFORT is always combined with an extraction point in the same room (Healthbox 3.0, Smartzone configuration), thus limiting the loss of energy and uncontrolled ventilation even more.

Self-regulating as from 10 Pa



Self-regulating valve
reduces the supply flow to avoid over-ventilation.

Non-return valve
prevents energy loss from the inside out.


Invisivent® AIR

UNIFORM

Due to the same 'look and feel', both inside and outside, the Invisivent AIR and Invisivent COMFORT can be combined seamlessly within the same project. In addition, both can be perfectly applied in both new-build and renovation projects.

Invisivent® AIR

Invisivent® COMFORT

HIGHLY ACOUSTIC

The new Invisivent AIR and COMFORT window ventilation – even in the narrowest versions – are fitted with acoustic damping material as standard. Both window ventilation systems are available in different damping levels. Depending on the amount of noise outside or the amount of damping required inside, a higher or lower damping level can be chosen.
Finally, an acoustic leak to the cavity provides extra-strong acoustic performance.

Invisivent® AIR

***Light** version*
slight acoustic damping

***Basic** version*
high acoustic damping

***High** version*
very high acoustic damping

Invisivent® COMFORT

***Basic** version*
basic acoustic damping

***High** version*
high acoustic damping

***Ultra** version*
ultra-high acoustic damping

Type	Noise reduction in open position
Invisivent AIR Light	31 (-1:-2) dB
Invisivent AIR Basic	34 (0;-1) dB
Invisivent AIR High	40 (0;-2) dB

Type	Noise reduction in open position
Invisivent COMFORT Basic	35 (-1;-2) dB
Invisivent COMFORT High	39 (0;-2) dB
Invisivent COMFORT Ultra	42 (0;-2) dB

HIGH WIND LOAD

The new Invisivent AIR and COMFORT window ventilation systems are also available in a 'High Rise' version. This is the ideal solution for wind-impacted applications such as high-rise buildings and apartment buildings on the coast.

The Invisivent AIR and COMFORT HR are equipped as standard with a design exterior cover, which ensures optimal water resistance in even the most extreme weather conditions. Additional installation screws and clips guarantee a firm and stable anchoring to the window as well as a perfect closing force of the interior valve. Each High Rise contains acoustic material that muffles external noises to the extent possible, thereby increasing user comfort. The HR version is available in 5 different sound damping levels (Invisivent AIR Basic/High and Invisivent COMFORT Basic/High/Ultra).

Invisivent® AIR HR

***Basic** version*

***High** version*

Invisivent® COMFORT HR

***Basic** version*

***High** version*

***Ultra** version*

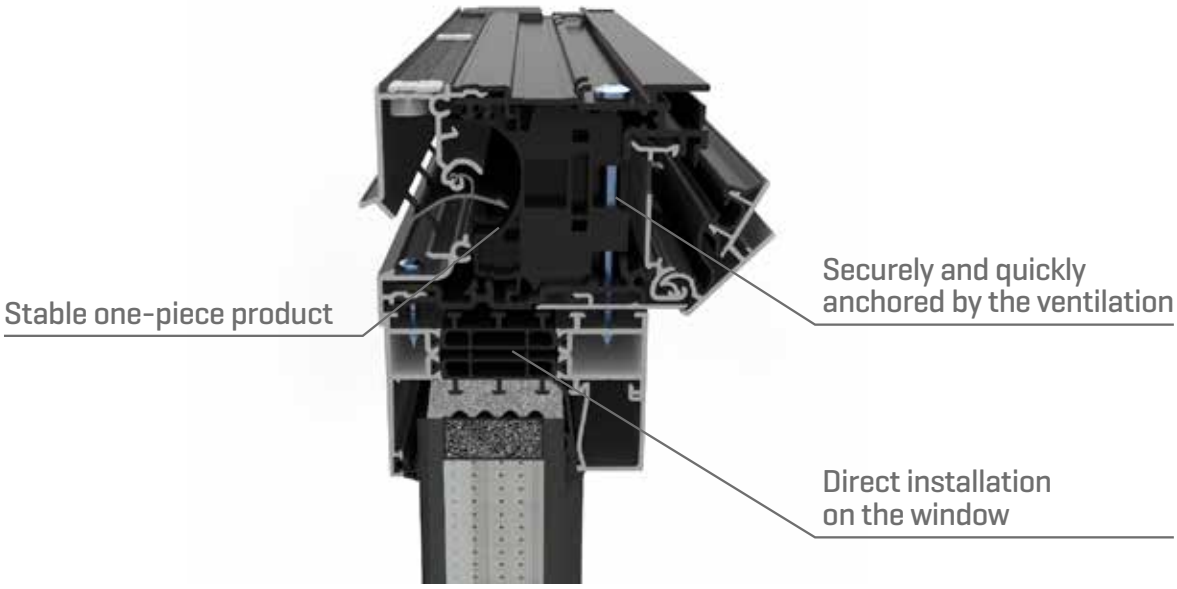
Type	Noise reduction in open position
Invisivent AIR HR Basic	34 (0;-1) dB
Invisivent AIR HR High	40 (0;-2) dB
Invisivent COMFORT HR Basic	35 (-1;-2) dB
Invisivent COMFORT HR High	39 (0;-2) dB
Invisivent COMFORT HR Ultra	42 (0;-2) dB

AIRTIGHT

The Invisivent AIR and COMFORT guarantee a perfectly airtight connection to the window profile. This is achieved using a coextruded flexible rubber seal that runs through the entire length of the window ventilation, including the endcaps.

STABLE

The Invisivent AIR and Invisivent COMFORT window ventilation systems are constructed according to the monobloc principle, which means that they are anchored to the window profile as a stable whole. The Invisivent can be mounted firmly and quickly because it is screwed directly into the window profile through the extra reinforcements in the PVC body. The indicated screw zones on the window ventilation also allow anchoring without damaging the thermal bridge of the window profile.



DESIGN INSIDE

The Invisivent AIR and Invisivent COMFORT are equipped with a removable stop, which allows them to be aesthetically finished in different ways on the inside. On the one hand, a plaster profile can be affixed to the stop for wet plastering; on the other hand, the stop can also be removed, which allows for an MDF board, plasterboard or PVC panel to be placed in the recess.

Wet plastering

Plasterboard, MDF, PVC panels

Plasterboard and finishing coat

DESIGN OUTSIDE

Renson's new window ventilation offer numerous architectural possibilities. It is important that the Invisivent window ventilation can be completely concealed, both on the inside and on the outside, making it completely invisible. It is also possible to fit an exterior cap or combine the Invisivent with Renson solar shading.

Completely recessed – inside and outside

Completely recessed – outside

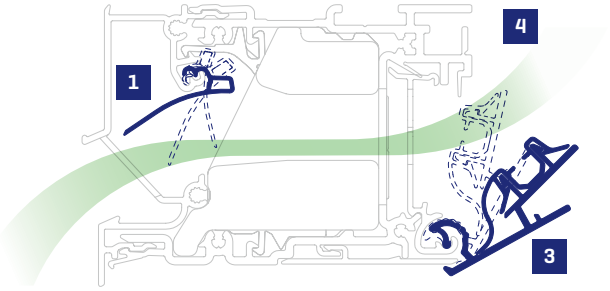
Combination with screen

With design exterior cover

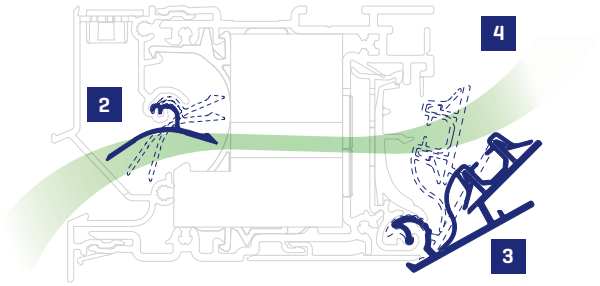

Invisivent® AIR

I-FLUX® TECHNOLOGY

Due to the application of the i-Flux technology, Renson® can guarantee maximum comfort with minimum energy loss with the window vents. i-Flux technology is based on the following three principles:



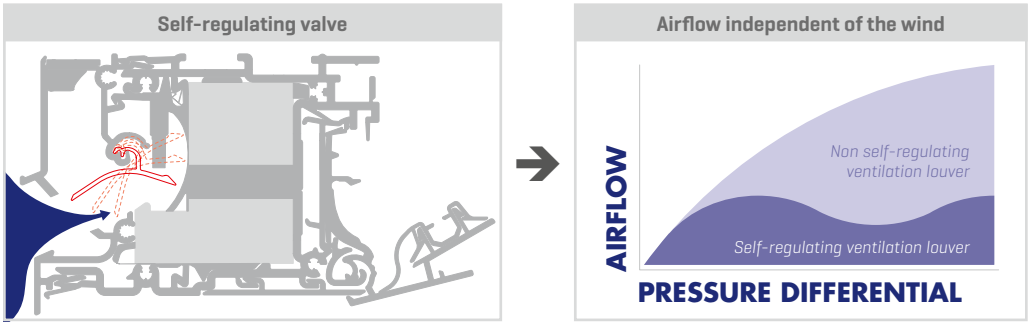
Invisivent® AIR



Invisivent® COMFORT

1. AIRFLOW INDEPENDENT OF THE WIND

The use of a self-regulating valve that reacts to changes in pressure makes it possible to maintain a constant airflow even in case of wind gusts, and keeps out draughts. Self-regulation is expressed in different classes, from class P0 (not self-regulating) to P4 (excellent self-regulating).



2. MINIMAL ENERGY LOSS DUE TO THE NON-RETURN VALVE

Because the valve of the Invisivent Comfort is a self-regulating non-return valve, any energy loss from the inside out is avoided.

3. AIRFLOW DETERMINED WITH MANUALLY ADJUSTABLE INNER VALVE

The user can determine the desired airflow, e.g. according to the number of people in the room.

4. UPWARD AIRFLOW FOR OPTIMUM COMFORT

The shape of the inner valve conducts the fresh air upwards, leading to optimal air distribution throughout the room and guaranteeing maximum comfort.


Invisivent® COMFORT

INVISIVENT® IS A PART OF THE ENERGY-EFFICIENT C+® VENTILATION SYSTEM

The advantages of a ventilation system with natural supply are numerous. It is first and foremost a healthy choice because fresh air is supplied directly into living spaces. This is where the energy efficiency comes in, since the natural supply of fresh air does not require energy. Due to its design simplicity, the system is also very easy to maintain.

Invisivent® AIR + Healthbox® 3.0

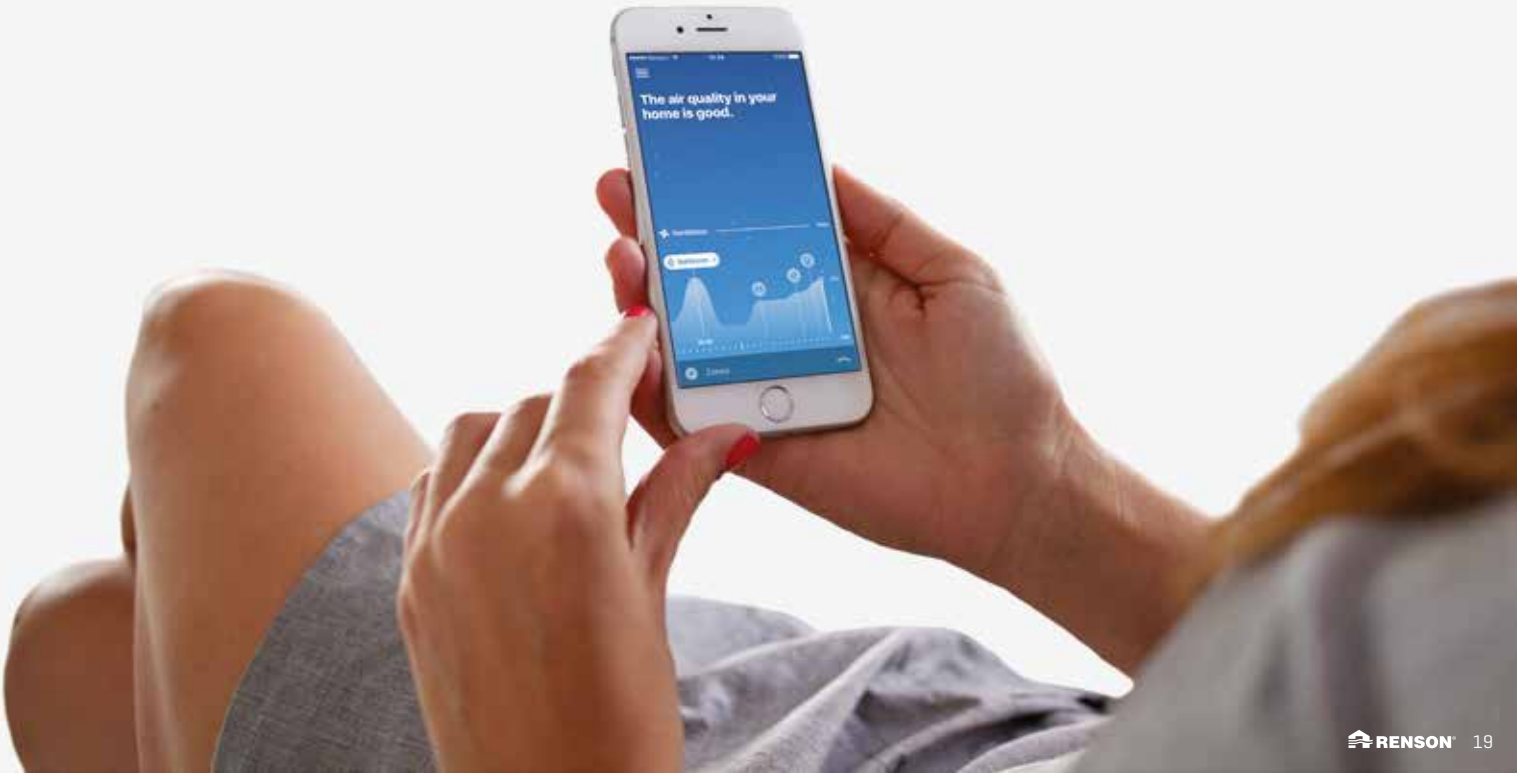
Supply in dry rooms
Extraction in wet rooms

- Feeling of fresh air in the home
- Good air quality
- Acoustic comfort
- Reduced energy losses due to demand controlled ventilation (Healthbox 3.0) combined with self-regulating valve (Invisivent Air).
- Energy-efficient and low-maintenance system

Invisivent® COMFORT + Healthbox® 3.0 Smartzone

Extraction in dry and wet rooms
Supply in dry rooms

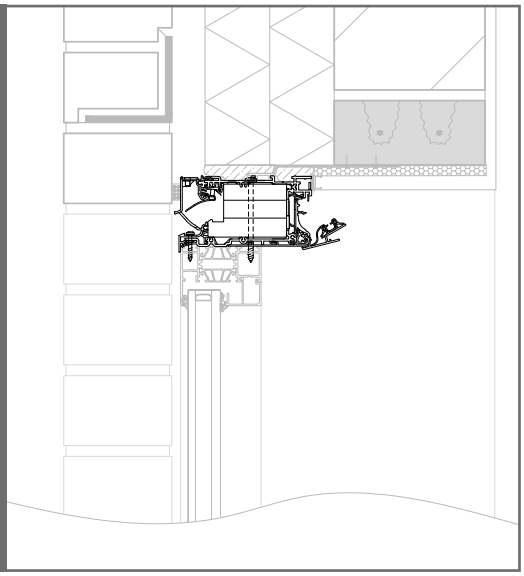
- Feeling of fresh air in the home
- Even better control of airflow and air quality
- Superior acoustic comfort
- Minimal energy losses due to demand controlled ventilation (Healthbox 3.0 Smartzone) combined with self-regulating non-return valve (Invisivent Comfort).
- Energy-efficient and low-maintenance system



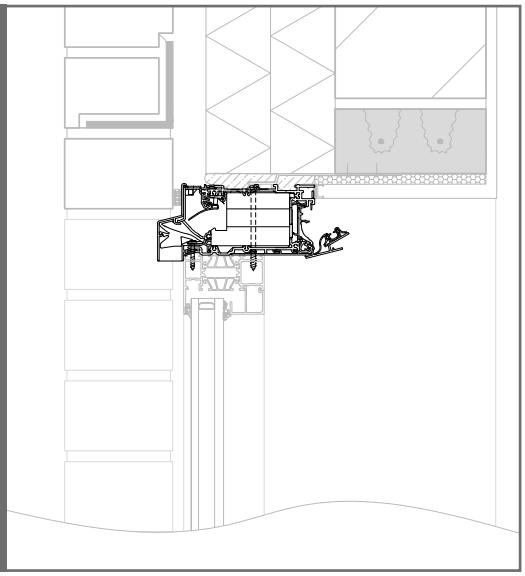

Invisivent® AIR

TECHNICAL DRAWINGS

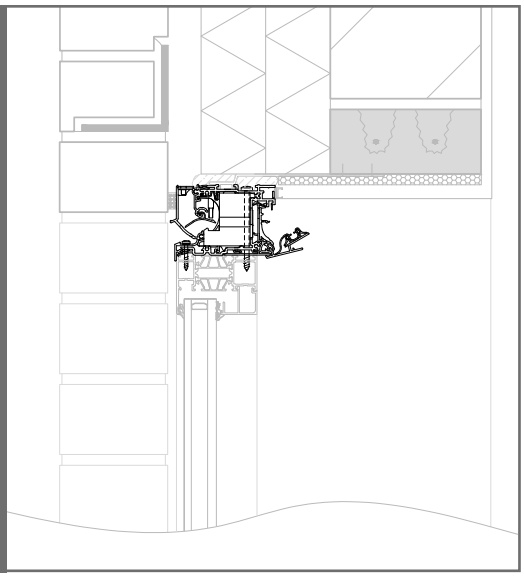
Detail Invisivent AIR Basic



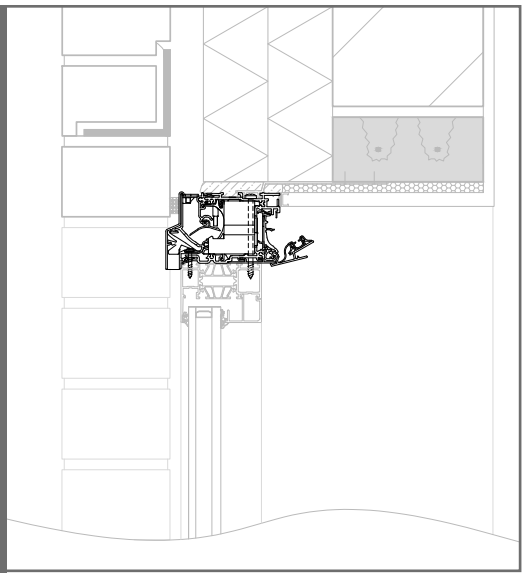
Detail Invisivent AIR Basic with design exterior cover



Detail Invisivent COMFORT Basic



Detail Invisivent COMFORT Basic with design exterior cover



Technical drawings of all Invisivent AIR and COMFORT types can be found on www.renson.eu

TECHNICAL SPECIFICATIONS

	Invisivent® AIR			Invisivent® COMFORT		
	Light	Basic	High	Basic	High	Ultra
Airflow						
Airflow Q at 1 Pa	10.6 l/s/m	10.6 l/s/m	8.9 l/s/m	3.4 l/s/m	2.3 l/s/m	1.9 l/s/m
	38.1 m³/h/m	38.0 m³/h/m	32.2 m³/h/m	12.2 m³/h/m	8.3 m³/h/m	6.7 m³/h/m
Airflow Q at 2 Pa	17.2 l/s/m	17.2 l/s/m	12.1 l/s/m	6.0 l/s/m	4.7 l/s/m	3.3 l/s/m
	62.0 m³/h/m	62.0 m³/h/m	43.4 m³/h/m	21.6 m³/h/m	16.8 m³/h/m	11.8 m³/h/m
Airflow Q at 10 Pa	16.4 l/s/m	17.6 l/s/m	11.9 l/s/m	18.8 l/s/m	12.4 l/s/m	10.0 l/s/m
Airflow Q at 20 Pa	19.2 l/s/m	17.3 l/s/m	14.3 l/s/m	24.0 l/s/m	18.2 l/s/m	14.4 l/s/m
Equivalent Area	13,479 mm²/m	13,429 mm²/m	11,364 mm²/m	4,311 mm²/m	2,936 mm²/m	2,356 mm²/m
Comfort						
Acoustic insulation $D_{n,e,w}$ (C,C_{tr}) in open position	31 (-1;-2) dB	34 (0;-1) dB	40(0;-2) dB	35 (-1;-2) dB	39 (0;-2) dB	42 (0;-2) dB
Acoustic insulation $D_{n,e,w}$ (C,C_{tr}) in closed position	51 (-1;-3) dB					
Technical details						
Control	manual, cord, rod					
Position control	5 positions					
U value	2.0 W/(m²K)	1.8 W/(m²K)	1.8 W/(m²K)	1.8 W/(m²K)	1.8 W/(m²K)	1.7 W/(m²K)
Self-regulating	At 2 Pa			At 10 Pa		
Leakage rate at 50Pa	< 15% (in closed position)					
Insect-proof	Yes					
Waterproof in closed position	900 Pa					
Waterproof in open position	150 Pa (without design exterior cover) 250 Pa (with design exterior cover)					
Burglar-resistant	Class RC 2					
Thermally interrupted	Yes					
Dimensions						
Glass reduction	0 mm					
Construction height	65 mm					
Minimum depth	50 - 82 mm	83 - 112 mm	143 - 172 mm	50 - 82 mm	83 - 112 mm	113 - 142 mm
Compatible window thicknesses	from 50 to 202 mm and thicker on request					
Max. length	6000 mm					
Finish						
Aluminium profile	E6/EV1, RAL, bicolour					
Endcaps	Same colour as the aluminium profile (coated or mass coloured)					

TECHNICAL SPECIFICATIONS

	Invisivent® AIR HR		Invisivent® COMFORT HR		
	Basic	High	Basic	High	Ultra
Airflow					
Airflow Q at 1 Pa	10.6 l/s/m	8.9 l/s/m	3.4 l/s/m	2.3 l/s/m	1.9 l/s/m
	38.0 m³/h/m	32.2 m³/h/m	12.2 m³/h/m	8.3 m³/h/m	6.7 m³/h/m
Airflow Q at 2 Pa	17.2 l/s/m	12.1 l/s/m	6.0 l/s/m	4.7 l/s/m	3.3 l/s/m
	62.0 m³/h/m	43.4 m³/h/m	21.6 m³/h/m	16.8 m³/h/m	11.8 m³/h/m
Airflow Q at 10 Pa	17.6 l/s/m	11.9 l/s/m	18.8 l/s/m	12.4 l/s/m	10.0 l/s/m
Airflow Q at 20 Pa	17.3 l/s/m	14.3 l/s/m	24.0 l/s/m	18.2 l/s/m	14.4 l/s/m
Equivalent Area	13,429 mm²/m	11,364 mm²/m	4,311 mm²/m	2,936 mm²/m	2,356 mm²/m
Comfort					
Acoustic insulation $D_{n,e,w}$ (C,C_{tr}) in open position	34 (0;-1) dB	40(0;-2) dB	35 (-1;-2) dB	39 (0;-2) dB	42 (0;-2) dB
Acoustic insulation $D_{n,e,w}$ (C,C_{tr}) in closed position	51 (-1;-3) dB				
Technical details					
Control	manual, cord, rod				
Position control	16 positions				
U value	1.8 W/(m²K)	1.8 W/(m²K)	1.8 W/(m²K)	1.8 W/(m²K)	1.7 W/(m²K)
Self-regulating	At 2 Pa		At 10 Pa		
Leakage rate at 50Pa	< 15% (in closed position)				
Insect-proof	Yes				
Waterproof in closed position	1200 Pa				
Waterproof in open position	250 Pa				
Burglar-resistant	Class RC 2				
Thermally interrupted	Yes				
Dimensions					
Glass reduction	0 mm				
Construction height	66,5 mm				
Minimum depth	83 - 112 mm	143 - 172 mm	50 - 82 mm	83 - 112 mm	113 - 142 mm
Compatible window thicknesses	from 50 to 202 mm and thicker on request				
Max. length	6000 mm				
Finish					
Aluminium profile	E6/EV1, RAL, bicolour				
Endcaps	Same colour as the aluminium profile (coated or mass coloured)				

RENSON®
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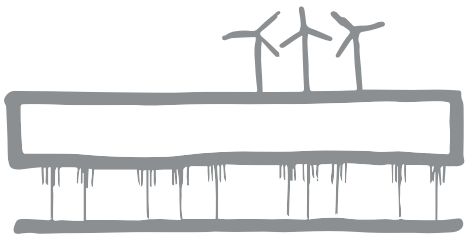

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