



Essential for cognitive performance



Good for the environment



Healthy for your lungs



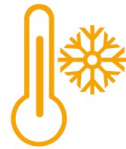
Saves lots of money



Demand-driven ventilation



Compact copper heat exchanger



Works below zero



Optional particulates filter



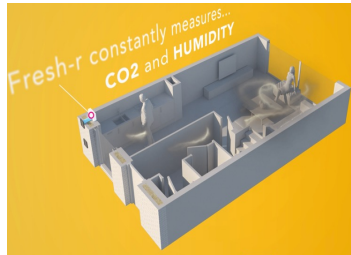
Easy installation and maintenance



Wifi-linked

**provide healthy indoor air quality  
in buildings  
with minimal loss of energy**





2014

2016

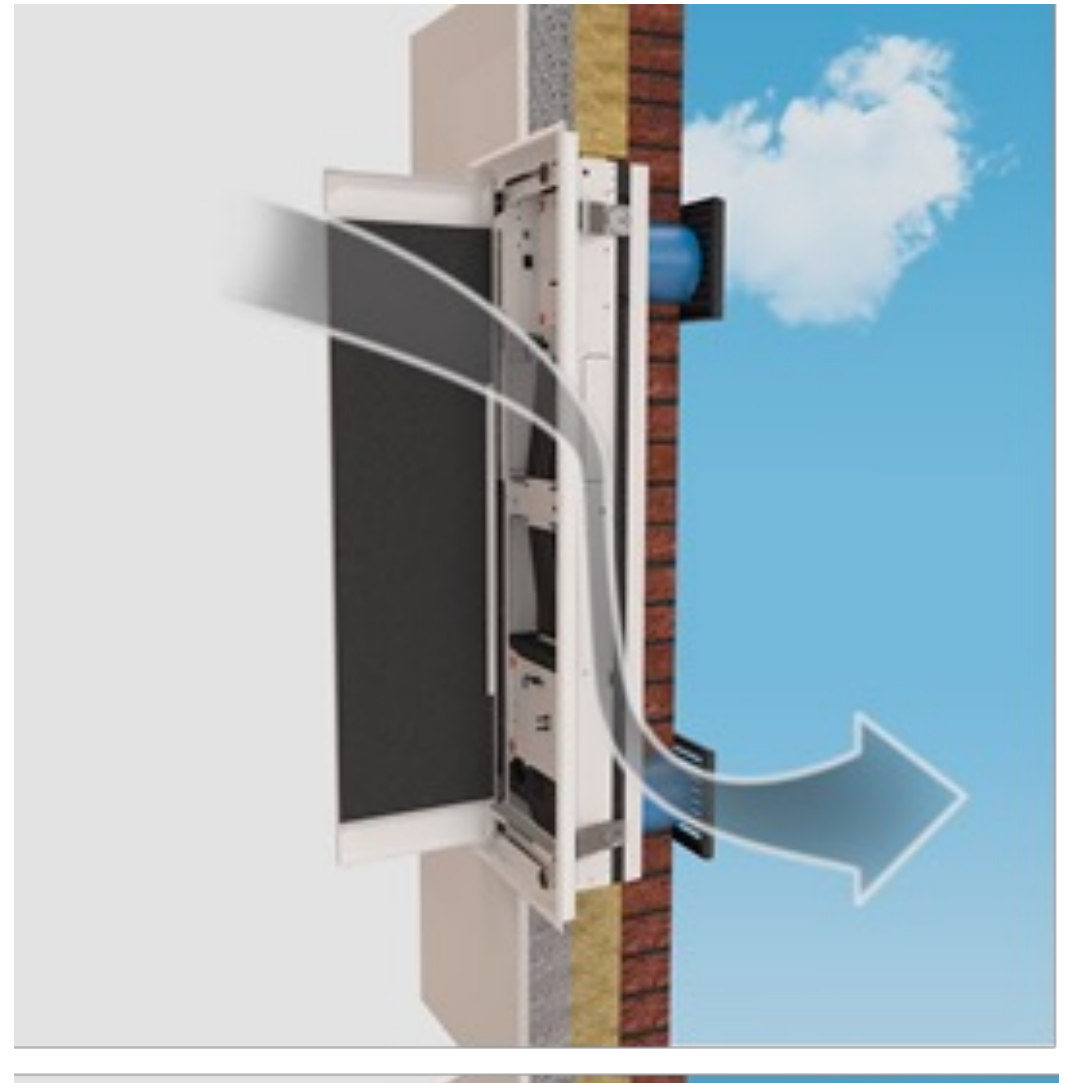
2018

2022

## 2. Fresh-r Concept

## ”Thru-wall ventilating”

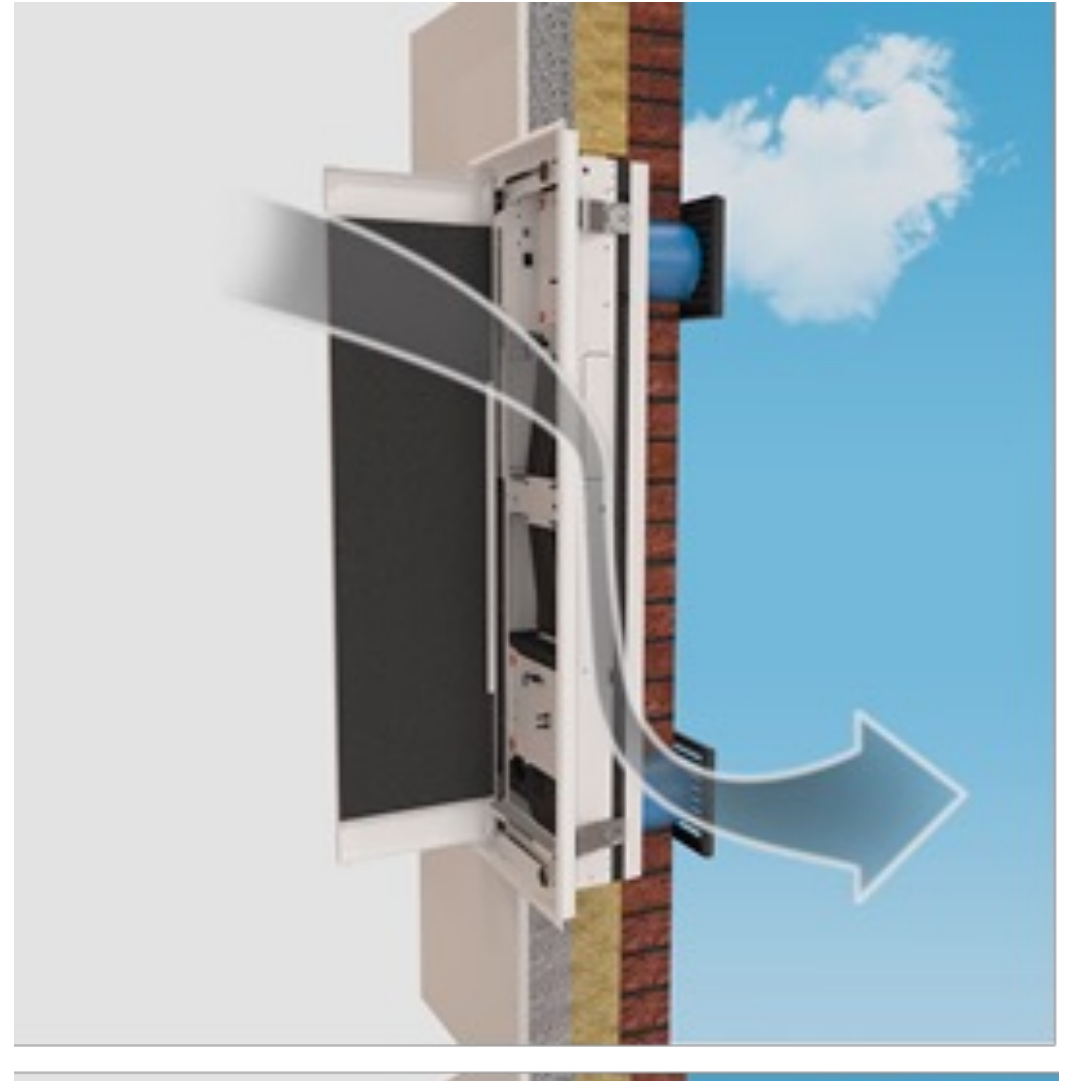
- Decentral



## 2. Fresh-r Concept

- Decentral
- In-the-wall / On-the-wall

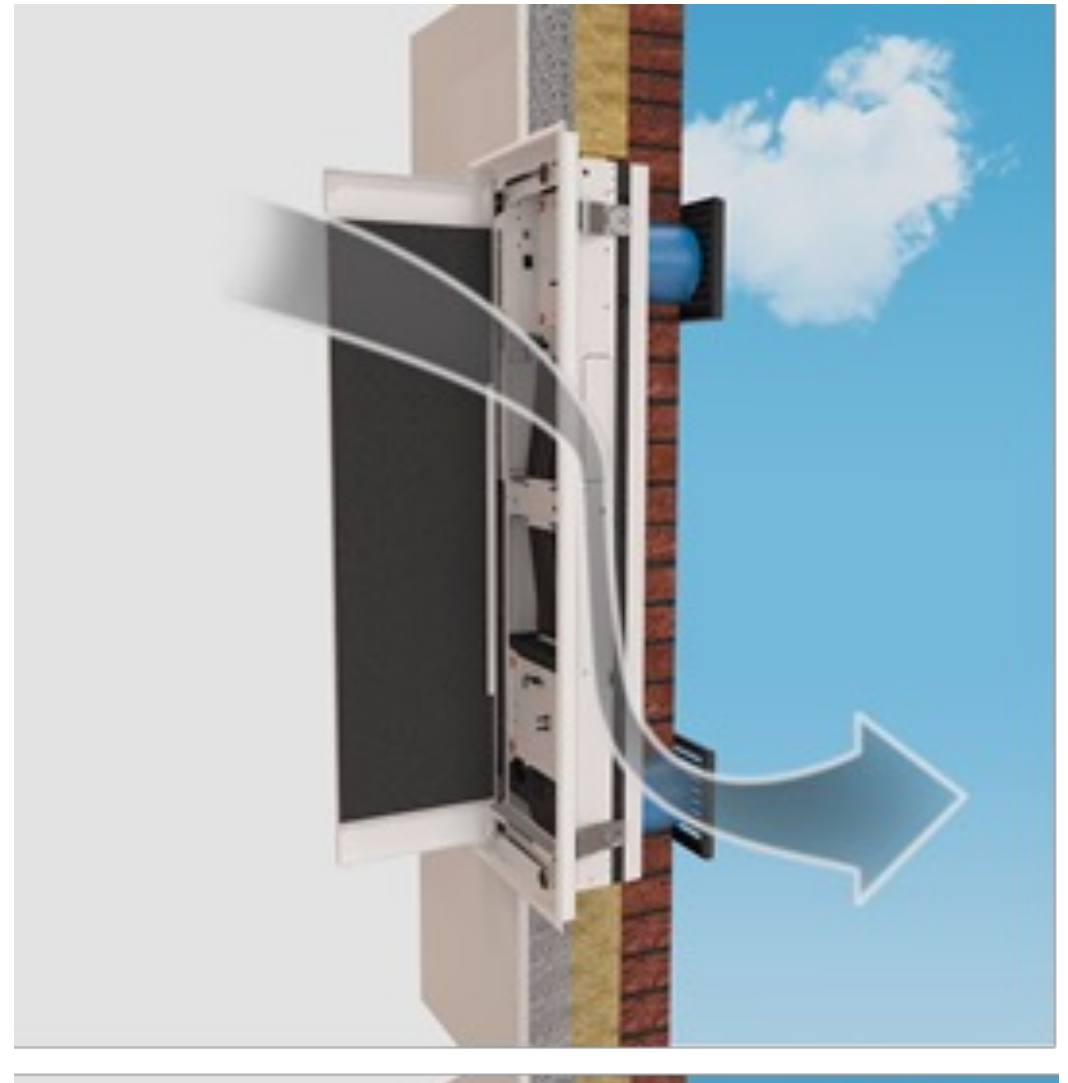
”Thru-wall ventilating”



## 2. Fresh-r Concept

- Decentral
- In-the-wall / On-the-wall
- **Heat-recovery (HRV)**

”Thru-wall ventilating”



## 2. Fresh-r Concept

- Decentral
- In-the-wall / On-the-wall
- Heat-recovery (HRV)
- **Autonomous demand-driven**

## ”Thru-wall ventilating”

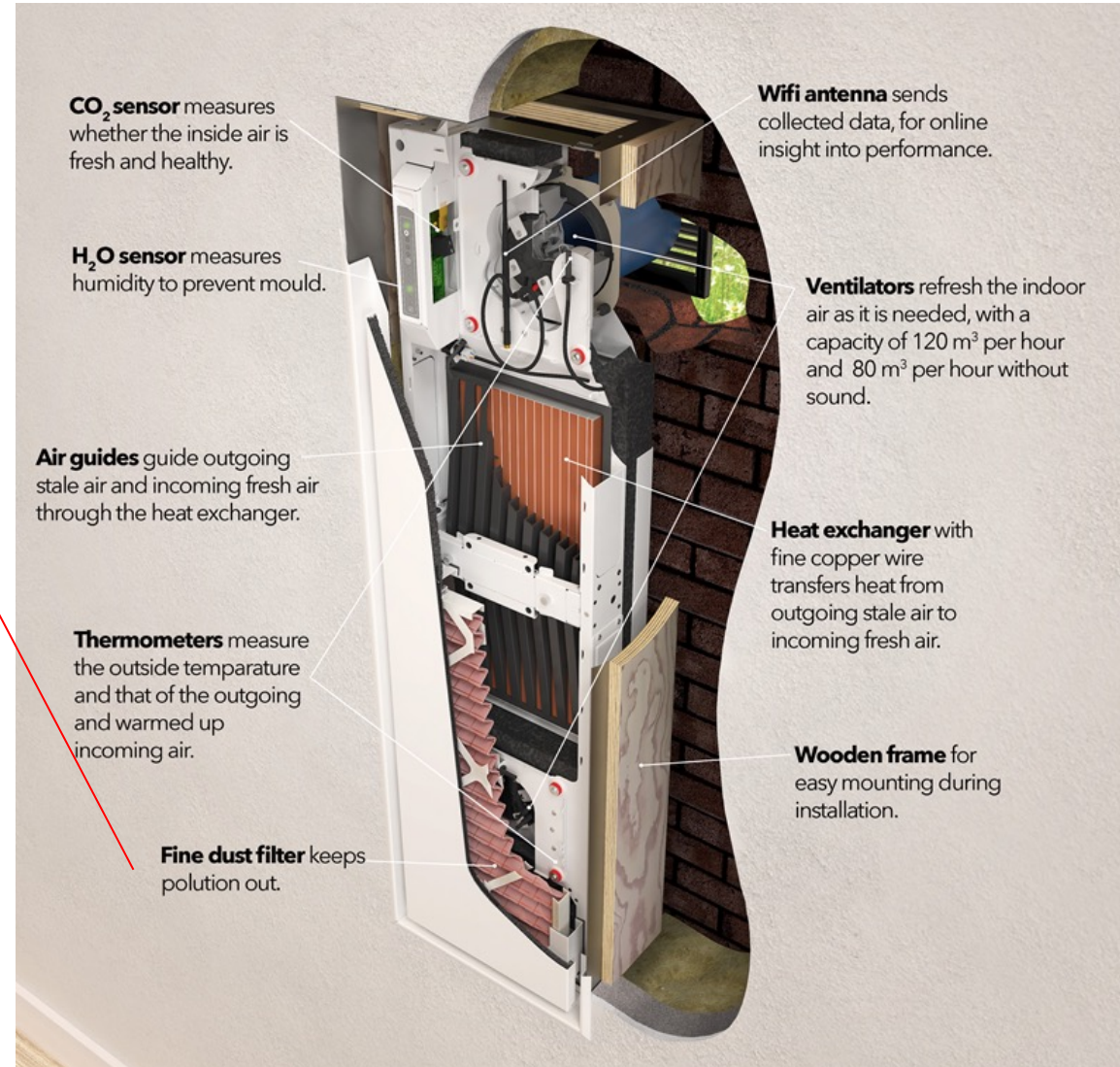




## 2. Fresh-r Concept

## ”Thru-wall ventilating”

- . Decentral
- . In-the-wall / On-the-wall
- . Heat-recovery (HRV)
- . Autonomous demand-driven
- . **Fine dust filter (optional)**





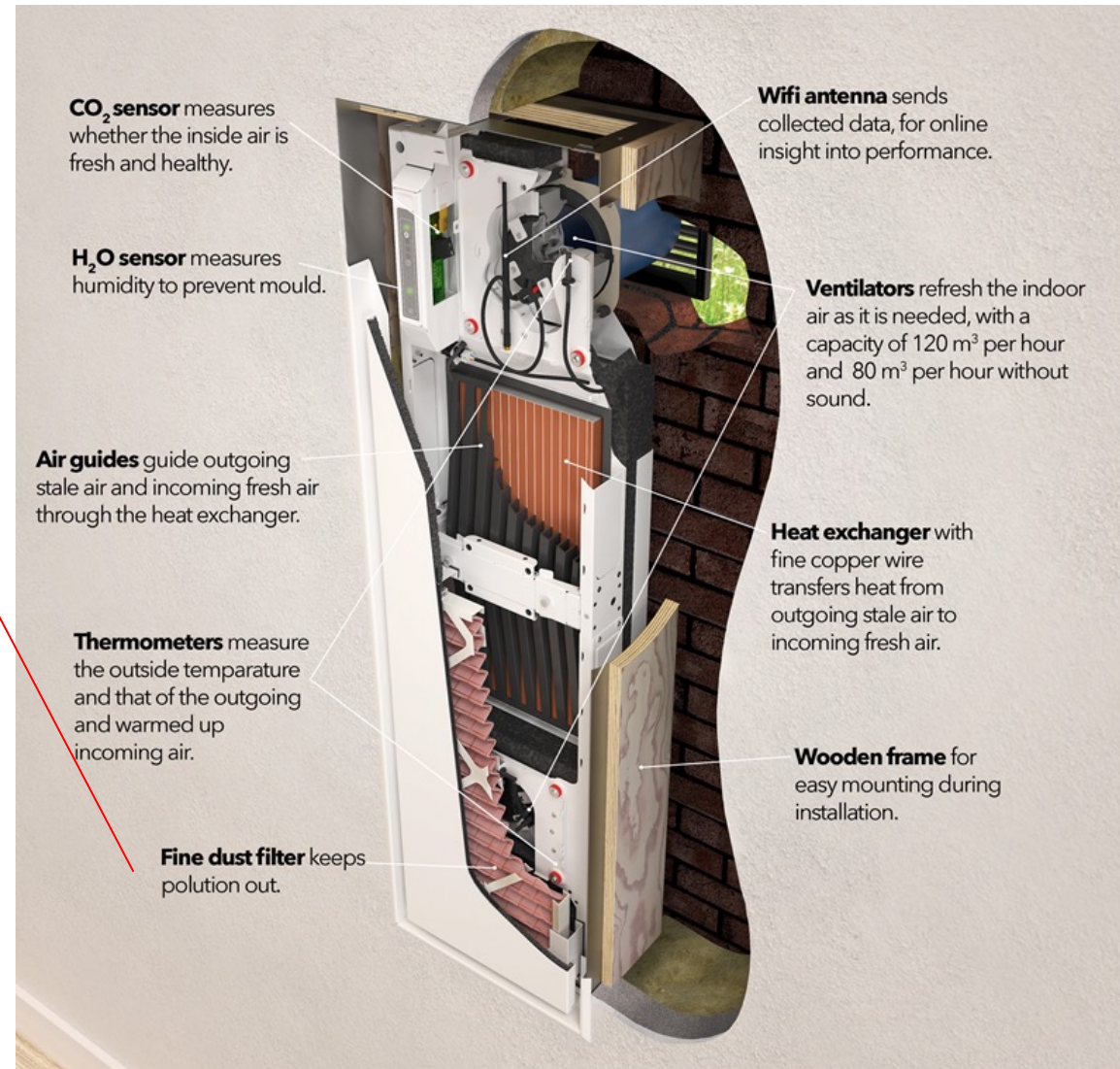
## 2. Fresh-r Concept

## "Thru-wall ventilating"

- . Decentral
- . In-the-wall / On-the-wall
- . Heat-recovery (HRV)
- . Autonomous demand-driven
- . Fine dust filter (optional)

### Sensors:

- . CO<sub>2</sub>
- . RH%
- . Temperatures
- . Fine dust



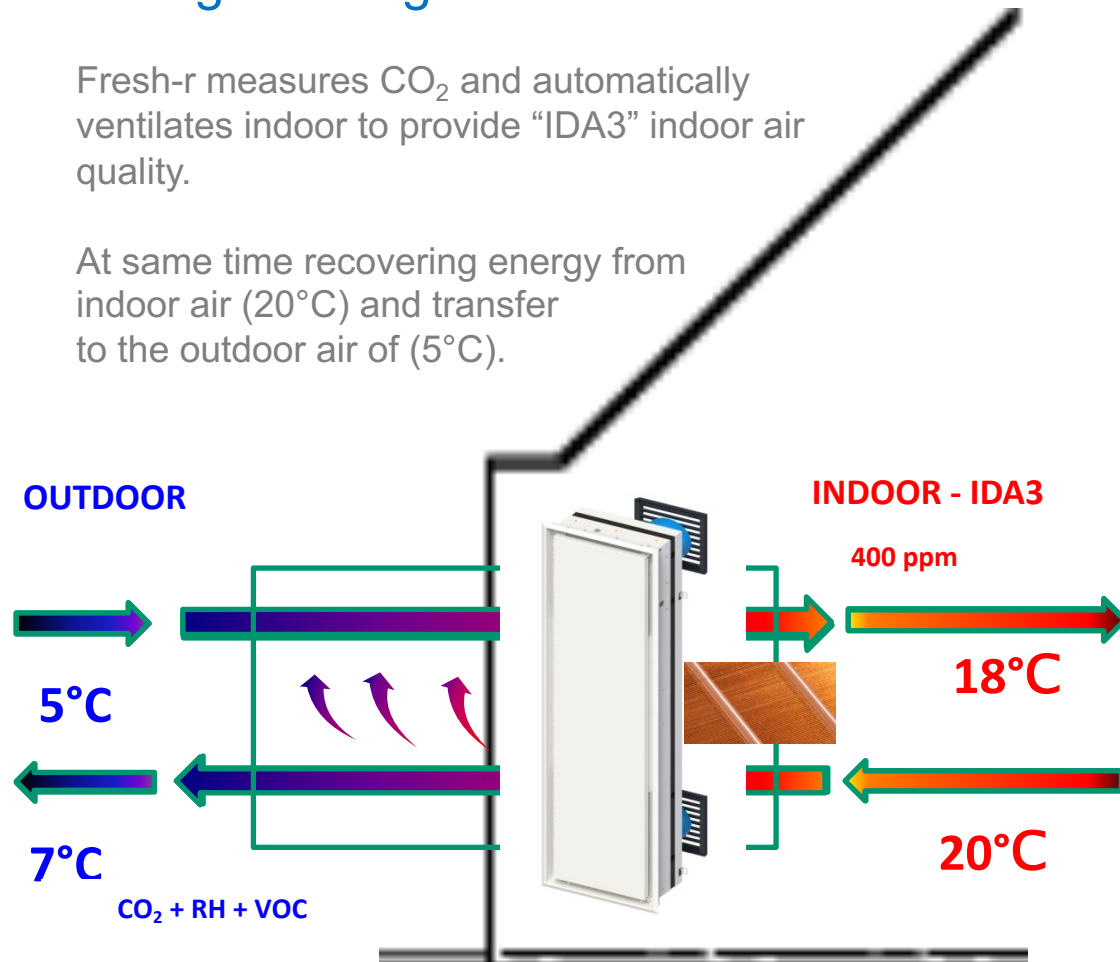
## 2. Fresh-r “Thru-wall ventilating”

## Heat Exchange

### Typical average temperatures during “heating” season.

Fresh-r measures CO<sub>2</sub> and automatically ventilates indoor to provide “IDA3” indoor air quality.

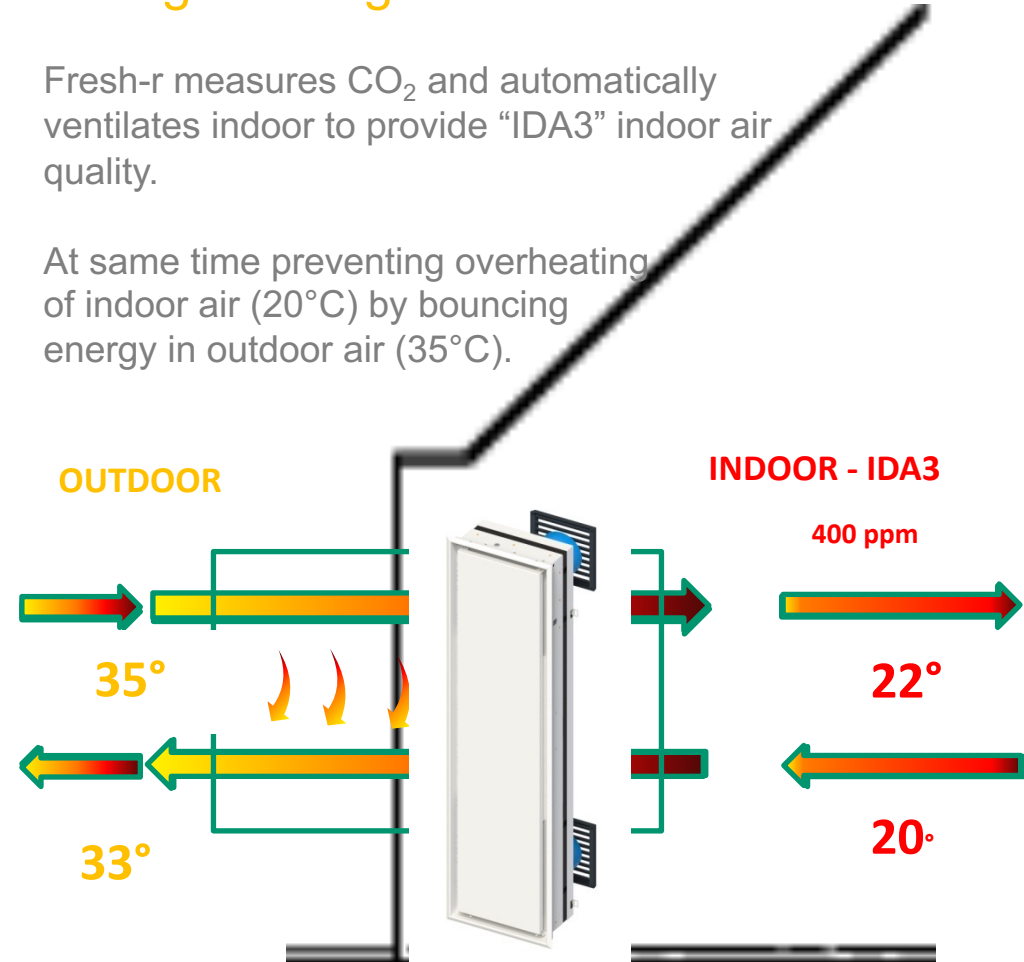
At same time recovering energy from indoor air (20°C) and transfer to the outdoor air of (5°C).



### Typical average temperatures during “cooling” season.

Fresh-r measures CO<sub>2</sub> and automatically ventilates indoor to provide “IDA3” indoor air quality.

At same time preventing overheating of indoor air (20°C) by bouncing energy in outdoor air (35°C).



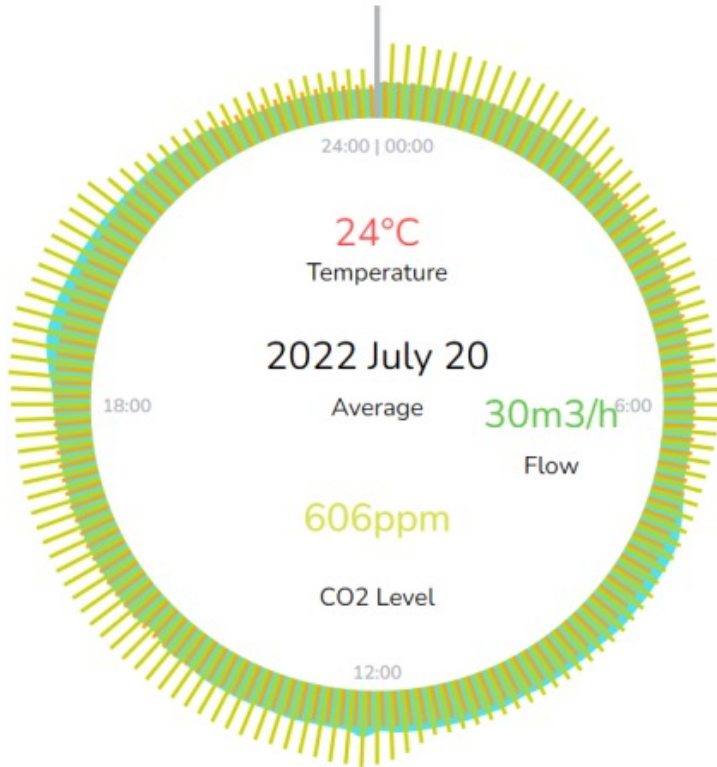
towards less energy & better health

# 2. Fresh-r “Thru-wall ventilating”

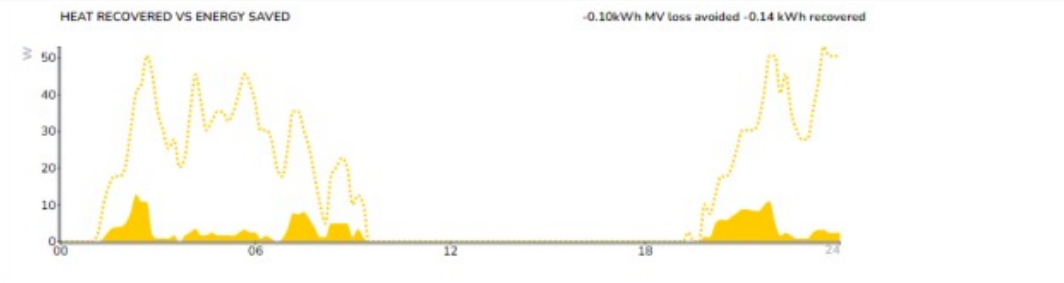
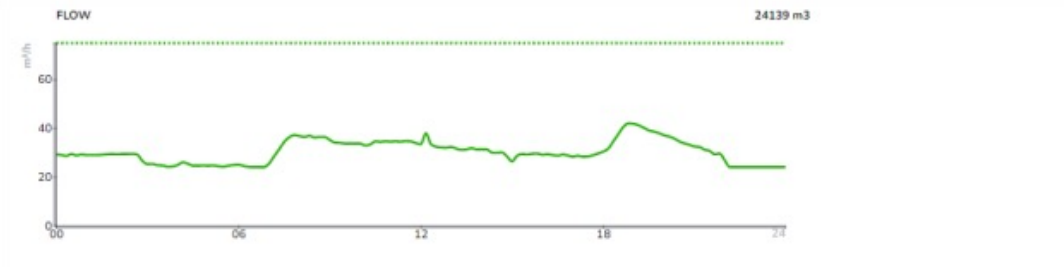
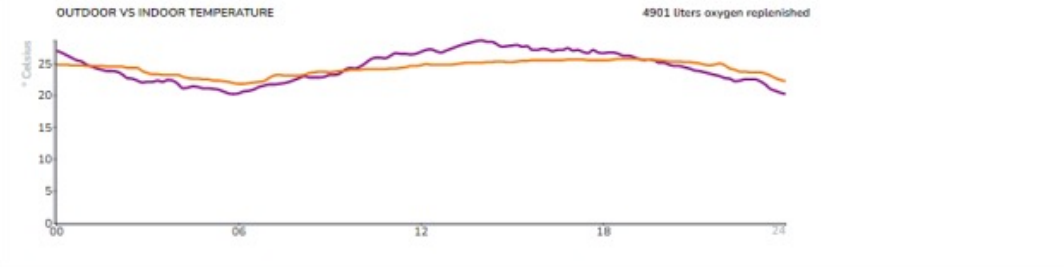
# Monitoring



oxygen humidity aerosol Report Export July 20, 2022



Room: Woonkamer Type: Fresh-r ITW Everywhere Info Devices Rene

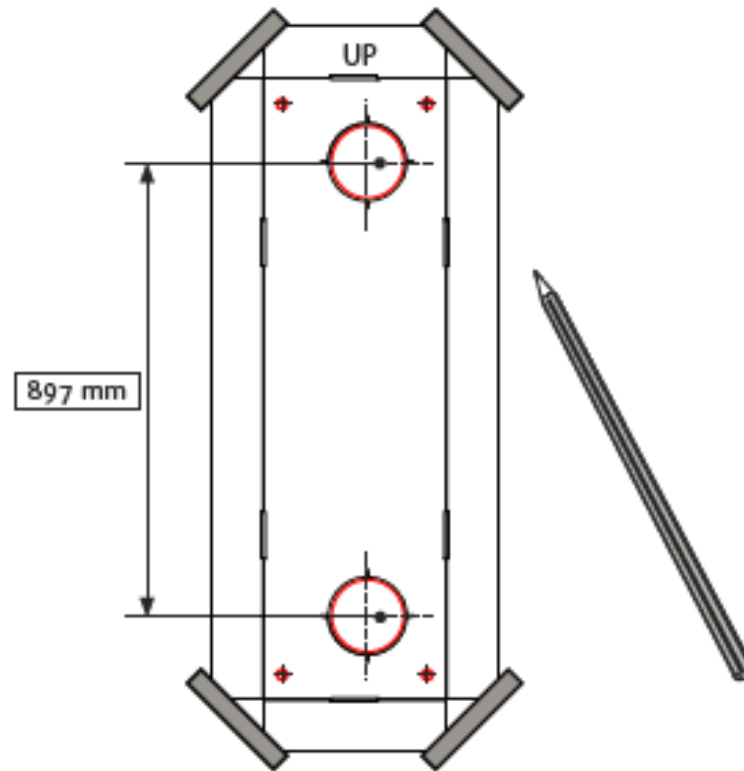


## 4. Total cost of ownership

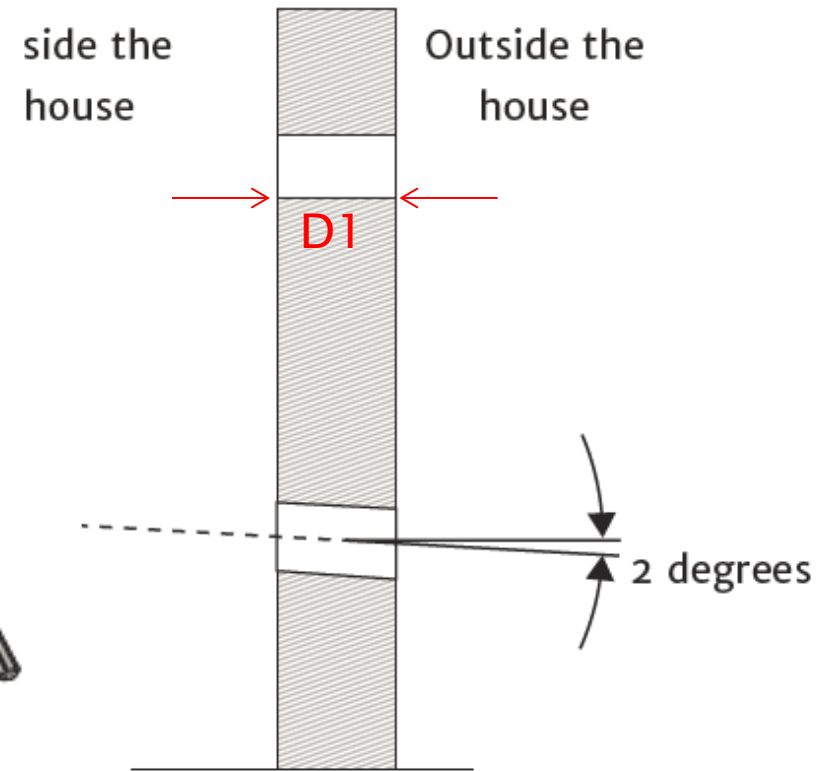
## Installation

Tools needed:

Core drill 60 mm  
Masonry drill 8 mm  
Drilling machine



STEP 1:  
Choose the place  
Use drilling template  
Mark the holes



STEP 2:  
bore 160 mm holes  
Drill 8 mm holes  
Insert wall plugs



## 4. Total cost of ownership

## Installation



center fix  
align vertical



corner holes (4x)



core drill (2x)



NB. vacuum cleaner attached



## 4. Total cost of ownership

## Installation

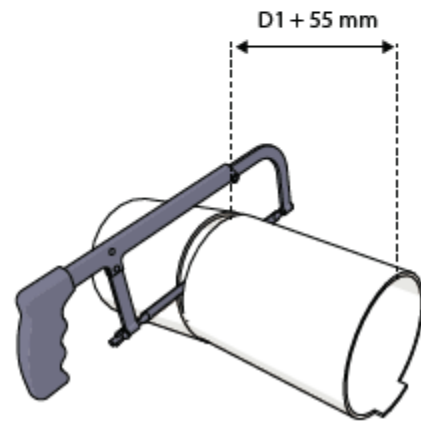
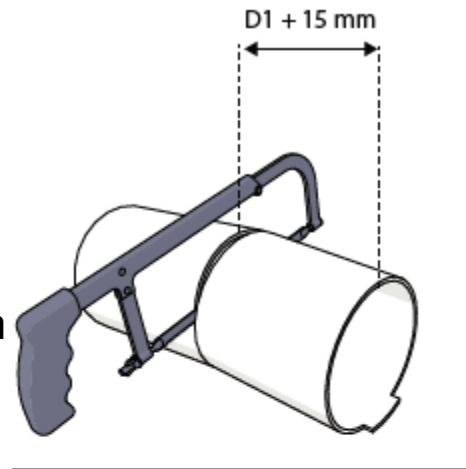
Tools needed:

Stanley knife

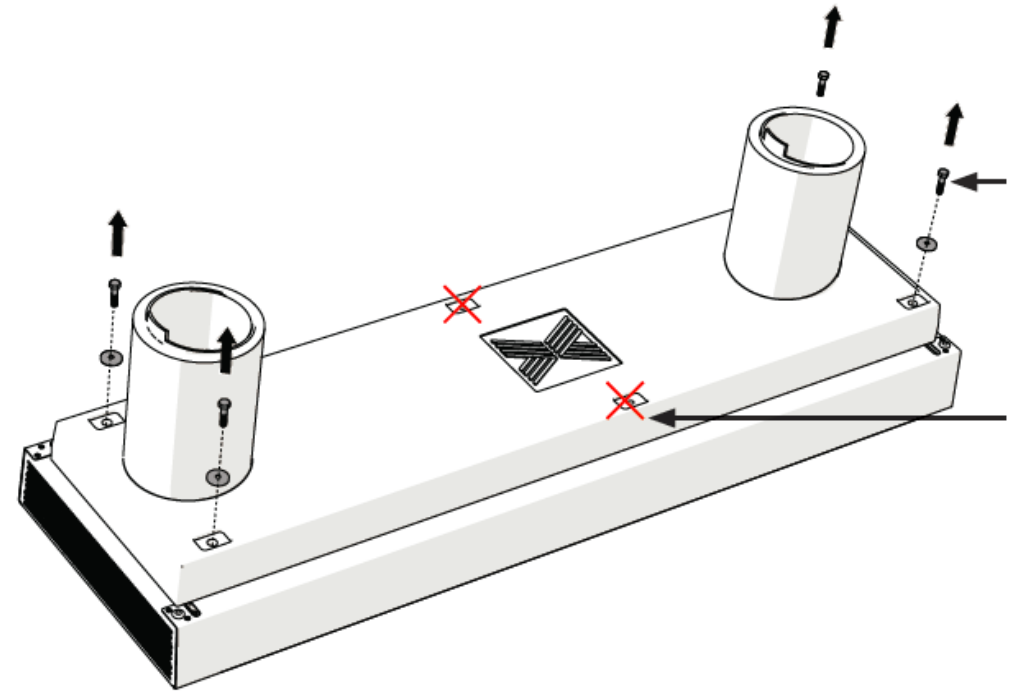
Saw

PVC Glue

PUR-expanding foam



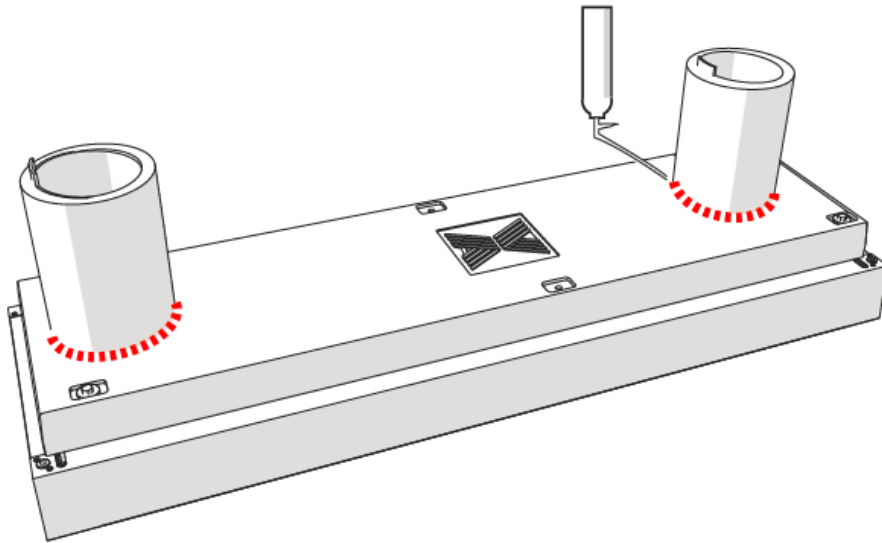
STEP 3:  
Cut the pipes to length



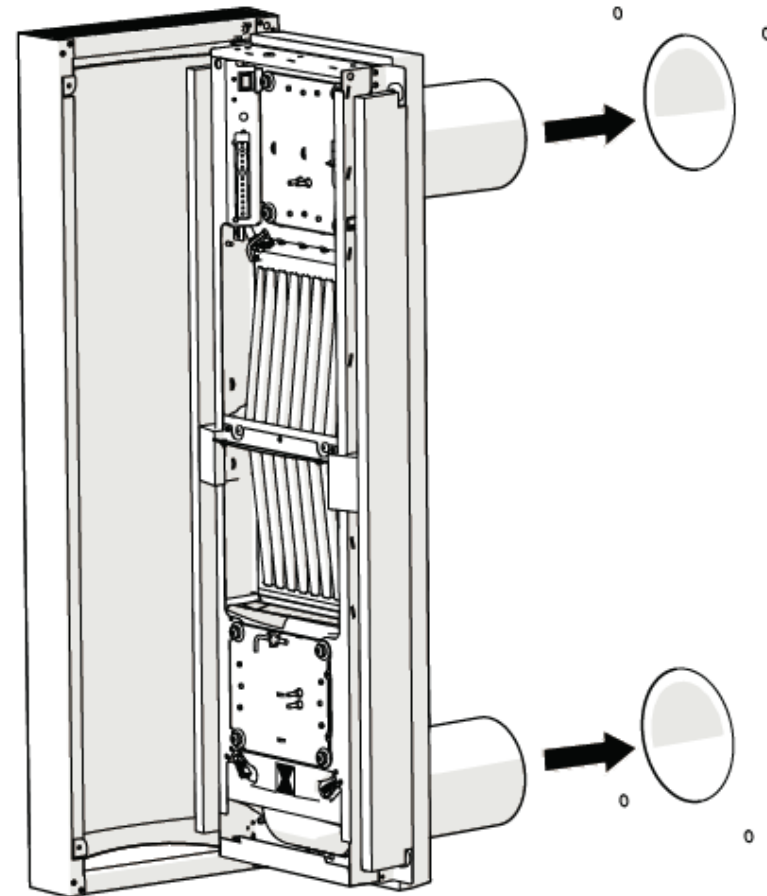
STEP 4:  
Glue the lower pipe  
Push fit the upper pipe  
Fit the insulation tube  
Remove the 4 bolts

## 4. PHI - Total cost of ownership

## Installation



STEP 5:  
Seal off with PUR  
Install the unit onto the wall



STEP 6:  
Secure with 4 screws

## 4. Total cost of ownership

## Maintenance Heat Exchanger

### Step Description

- 1 Remove Filter – if fitted (2 thumb screws)
- 2 Remove Sealbar (2 screws)
- 3 Remove Heat exchanger
- 4 Inspect
- 5 Clean – rinse
- 6 If greasy etc – first soak
- 7 Shake dry and reassemble
- 8 NB. take care not to trap wires



## 5. Fresh-r References

## Germany, Augsburg government





## 5. Fresh-r References

## Vroomshoop, NL



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## 5. Fresh-r References

## Vroomshoop, NL

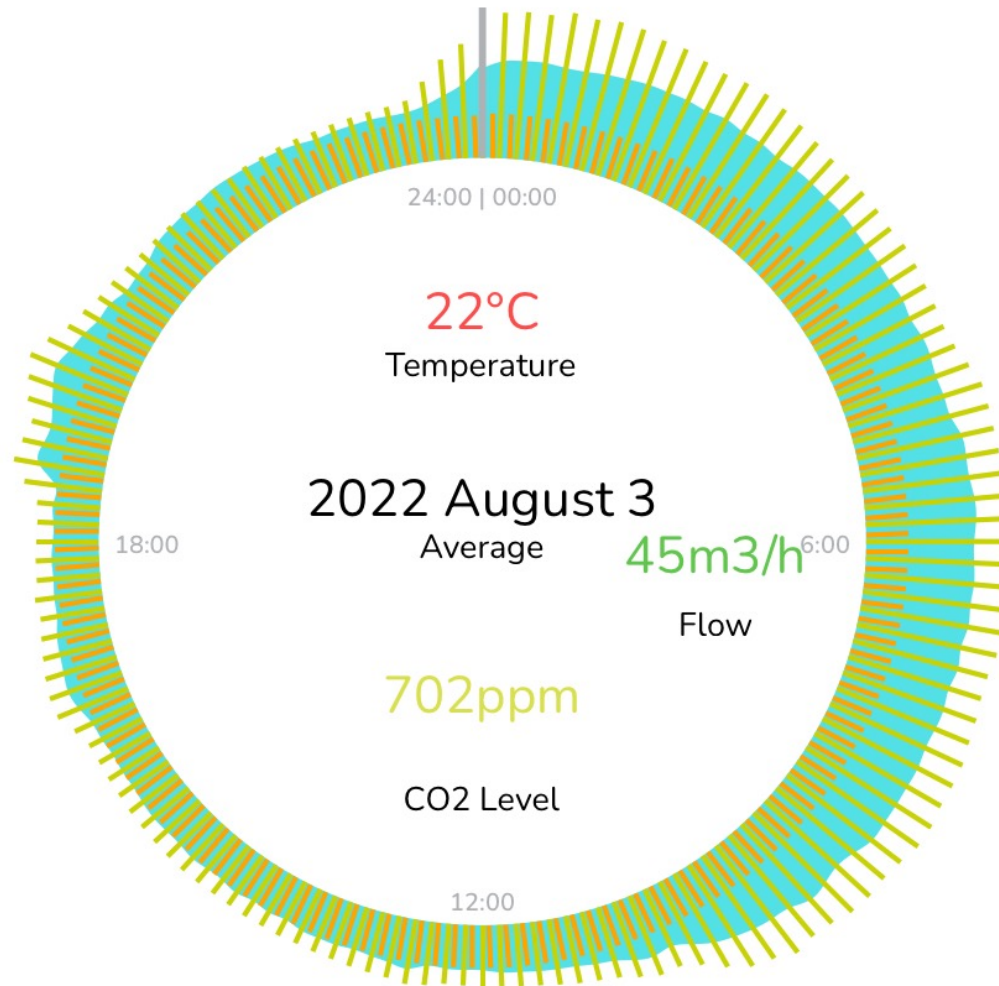


towards less energy & better health



# 5. Fresh-r References

Kilkenny, IR



# 5. Why Fresh-r?



Essential for cognitive performance



Good for the environment



Healthy for your lungs



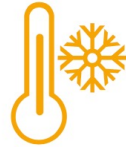
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