
THINBREEZE

World's Thinnest Ventilation System

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Booth 7578

What would be the ultimate ventilation?



Powerful

Capacity and reliability

Ventilate as much as is needed,
always

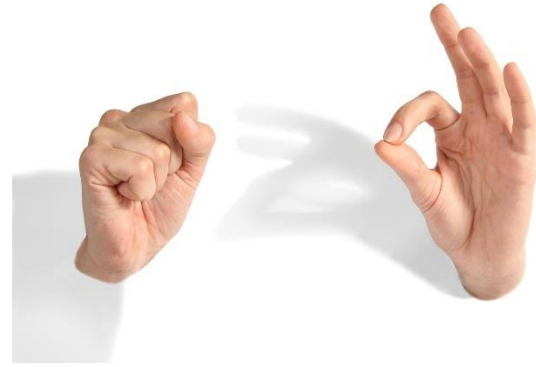
Energy and humidity recovery

High efficiency

Clean and healthy air

Clean the new air (particles,
smell and pollution)

Removes indoor pollutants



Right fit

Smart

Ventilating the right air at the
right time.

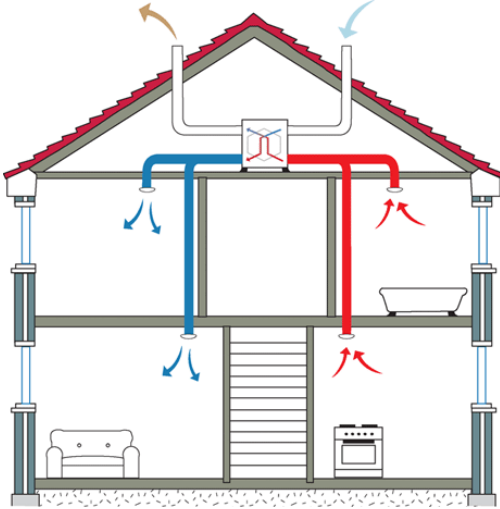
Nonintrusive

Silent and invisible

Inexpensive

Low cost, no wasted space and
high payback in savings

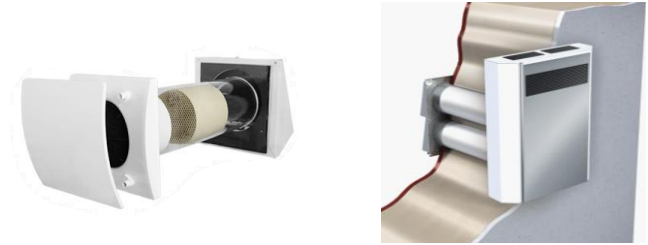
How are current systems?



**Central systems are
Powerful**

But ...

- **Too bulky**
- **Too expensive**
- **Ventilate often too much**



**Single room systems
are a neat fit**

But ...

- **Not powerful enough**
 - **Less energy saving**
 - **Less clean air**
- **Ventilate one room**
- **Ventilate often too much**

Solving the dilemma with thin approach

The ventilation dilemma

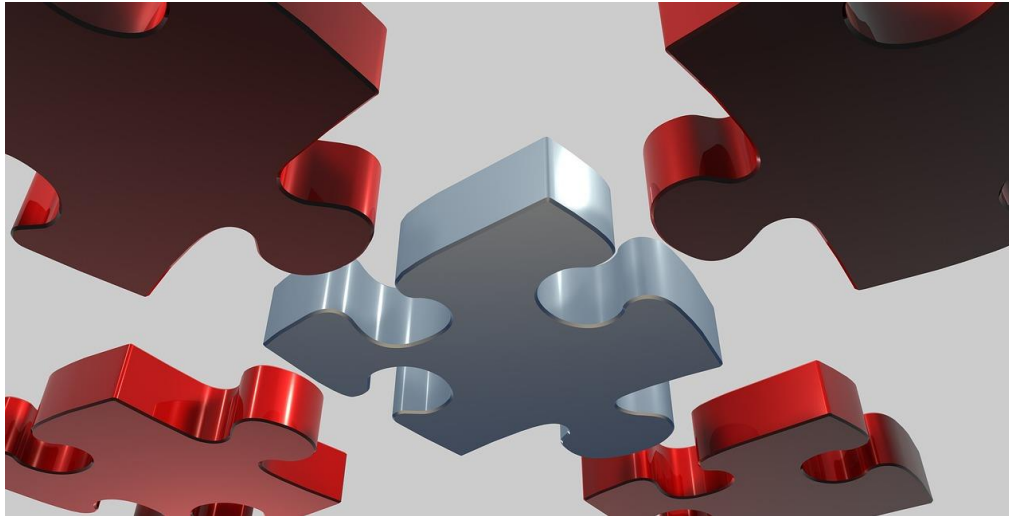
- The powerful systems are too bulky
- The neat systems lack power



Solving the dilemma with thin approach

The ventilation dilemma

- **The powerful systems are too bulky**
- **The neat systems lack power**



The benefits of thin approach

- **Creates space for more powerful, blowers, filters, heat exchangers and ducts**
- **Wall insulates sound**
- **Elegant subtle design**
- **Saves indoor space and minimizes cost**

Solving the dilemma with thin approach

How?

The Cross Flow Blower

Cylindrically shaped cross flow blower

- Large surface airflow with low pressure and high air volume



The Cross Flow Blower

Cylindrically shaped cross flow blower

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Disk shaped cross flow blower (provisional patent filed)

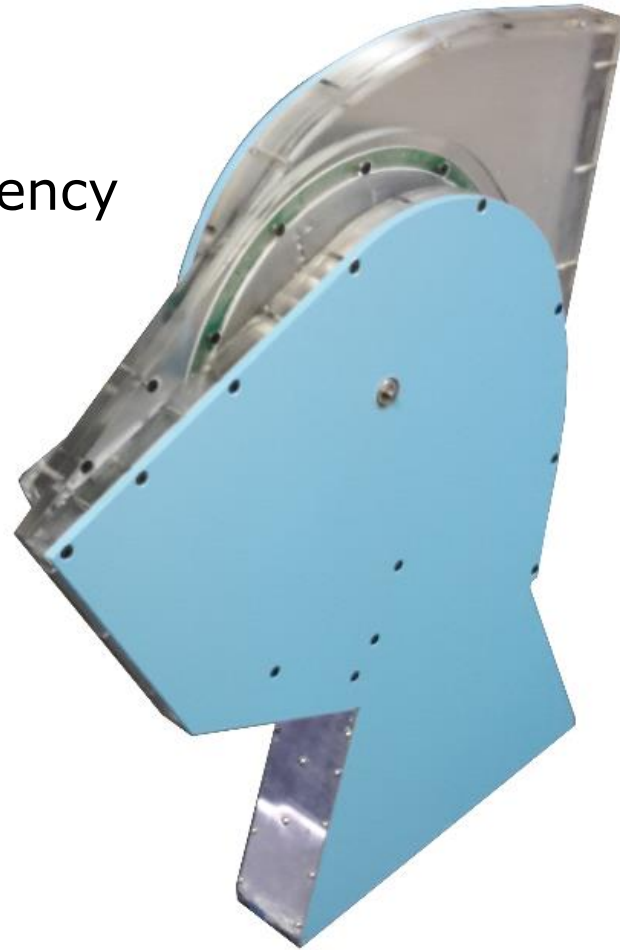
- High pressure application
- Compact (uses only two dimensions)



The Countercurrent Blower

One motor – two blowers (Patent pending)

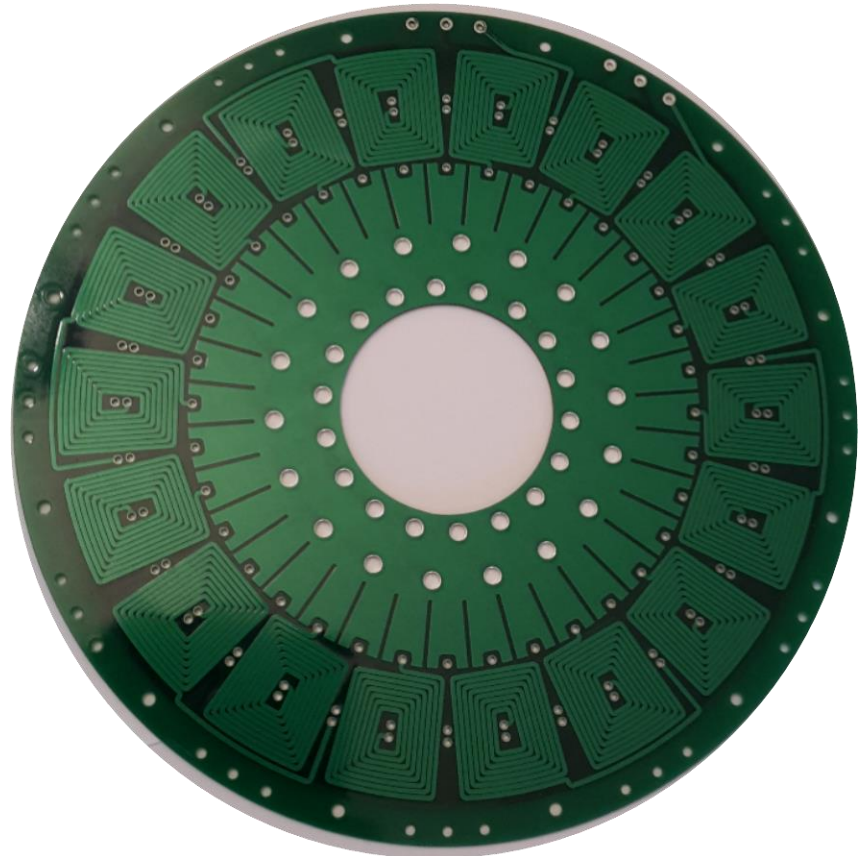
- Best alignment for flat system
- Higher motor and blower efficiency



The Printed Motor

New type of motor (US patent)

- Overlapping coil principle that four folds the electrical force resulting in very high efficiency (75%)
- Stator printed on a PCB-board:
 - ➔ High accuracy method
 - ➔ Low manufacturing cost



THINBREEZE: Flat Ventilation Revolution



Ceiling Solution

- Flat solution (5-10 cm thin)
- Subtle design (angle, lighting)
- Simple and inexpensive
- Saves valuable space

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Ceiling Solution

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Integrated solution

- Elegant solution
- Saves valuable space
- Improves sound
- Prefabricated ventilation building elements

THINBREEZE: Flat Ventilation Revolution



Small solutions with ducts

- Cost effective
- Efficient air circulation
- Only ventilate most important rooms

Larger systems

- When space is limited
- Good pressure characteristics

Other integration

- Cladding
- Window frame

When can you buy THINBREEZE?

Still fine tuning the design

First products could be available in 2019

Looking for licensing opportunities and manufacturing partners

New category of ventilation system with several opportunities

Breather Ventilation – Booth 7578

Heating has never been cheaper



Air has never been cleaner