Securing the quality of ventilation systems in residential buildings

A manufacturers’ point of view

Problems in the field
How innovative is the ventilation-industry?

Evolution in building technology + lifestyle
User behaviour

**SITUATION**

How is the air quality in your home?

**DETECTION**

Human body NOT equipped with good sensors to detect bad IAQ

**REACTION ???**

Absence

Presence

Activities: showering, cooking,....

**BE CAREFUL**

THIS MACHINE HAS NO BRAIN USE YOUR OWN
### Results use of ventilation system

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilation unit off</td>
<td>13%</td>
</tr>
<tr>
<td>Always position 1</td>
<td>27%</td>
</tr>
<tr>
<td>Position 1, shortly 2</td>
<td>20%</td>
</tr>
<tr>
<td>Position 1, shortly 3</td>
<td>30%</td>
</tr>
<tr>
<td>If present position 2</td>
<td>10%</td>
</tr>
<tr>
<td>If present position 3</td>
<td>0%</td>
</tr>
</tbody>
</table>

90% position 1 or out

**BE CAREFUL**

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USE YOUR OWN

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**Project OPTIVENT**

- **Position 1**: 70%
- **Position 2**: 20%
- **Position 3**: 0%

**System OFF (10%)**

**BE CAREFUL**

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USE YOUR OWN
Securing quality = Innovation!

Technical
Comfort
Design

Brain = Central Processing Unit

Securing quality: user

Easy maintenance
Securing quality: user

- Automatic operation: extraction rate adapted according to measured values and algorithm

- Control valve with integrated sensors (RH, VOC, CO₂)
  Sensor type selected for most important pollutant in room

Mechanical extract ventilation (MEV)
- Natural supply (window vent) habitable rooms
- Central mechanical extract (fan) wet rooms

SmartZone

Mechanical extract ventilation (MEV)
- Natural supply (window vent) habitable rooms
- Central mechanical extract (fan) wet rooms and bedrooms
Securing quality: user feedback
Securing quality: Installer

Auto Calibration

Securing quality: Installer

Training

Developing the skills, knowledge, employees need to perform, improve their performance, skills, and abilities, specifically.
Key factors

Easy to install
Easy to calibrate
Training

Easy to understand
Easy to use
Easy to maintain

High performance
Quality components
Durability

System
Performance

Legislation
driven

Installer

Designer

User

No Speedlimit on Innovation!